

mSupply User Guide

Simple. Powerful.

Pharmaceutical Management.

Whether you run a pharmaceutical distribution warehouse, or are a manufacturer needing dozens of connected users, or a small dispensary, mSupply is a valuable partner.



Why mSupply?

This brief paper outlines the main areas of functionality that mSupply covers, along with something of the approach and ethos of Sustainable Solutions.

People

- Our aims are to serve developing countries with solutions that provide real benefit.
- That means that we are driven by a desire to serve, rather than by profit.
- That said, we are a profitable company with no debt and a commitment to stay in business for as long as we are needed.
- We have a balanced mix of expatriate and Nepali staff who work on mSupply.

Experience

- We've been doing mSupply since 1998, and full-time as Sustainable Solutions since 2001. In that time we've done hundreds of days of trainings, converted hundreds of thousands of records from other systems to mSupply, and installed mSupply in hundreds of locations.
- Our experience in Nepal as a developing country, and in the many other developing countries that we've worked in, gives us a unique perspective and understanding of the challenges and opportunities involved in working in similar environments.
- We're committed for the long term. We know that a decision to install mSupply is a big one. We're planning to be here decades from now.

Ease-of-use

- There is always a balance between features and usability, and while we know we don't always get it right, we try to make sure we don't add features that aren't really needed, and we make sure that features only needed by one client don't clutter up the interface for everyone.
- mSupply is very easy to install- 10 minutes and a whole department is up and running.
- mSupply uses an easy-to-use graphical interface that makes adding Purchase Orders, Patient Prescriptions, Tenders, etc a breeze!
- The system is also made with high usage warehouses and busy pharmacy departments in mind. When fine-tuned, the system automates item purchases, receipts and sales for the warehouse administrator and also provides features such as abbreviated directions entry for quick prescribing of medicines.

Stability & Reliability

- The initial mSupply server installations in 2002 have run since then without ever crashing.
- We have more than ten years of experience in keeping mSupply installations running in developing countries, so we know what it takes to make a reliable system. All multi-user mSupply systems we have installed are still running.
- mSupply includes an automated internet backup system, so backups are automatically transferred to a remote secure site.
- Server backups are automatic with configurable frequency.
- mSupply keeps a log of every action you make, and if there is a power failure then the log can be used to restore all unsaved data on the server.

Security

- We do not know of any instances of a security breach of an mSupply server
- There is a full password protected login and permissions system, allowing each user's access to functions to be

controlled and recorded.

- A user log records all significant user interactions, allowing an audit of which user performed which actions.

Local or Cloud or Both!

- mSupply can run in many different ways, depending on whether you want to run a local or cloud-based service:
 - Local server with client connecting over your local network
 - Cloud based server with clients connecting via a special application or a web browser (e.g. Citrix)
 - If you have several sites and want to manage them centrally, but the internet does not support a cloud-based service, then mSupply also supports running individual servers at multiple locations that then synchronise their data back to a central server when communications are available.

mSupply mobile

- On Sept 2nd 2013 we officially released mSupply mobile. It allows you to run a small medical store using a tablet computer (iPad or Android or Windows). An internet connection is required, but users in developing countries are successfully using mSupply mobile over an EDGE (2g) mobile network.

As of mid 2016, the internet connection does not need to be there all the time! See Mobile (Android) user guide - new, featuring offline operation

- mSupply mobile can give stock visibility and automated replenishment for hundreds or thousands of stores connected to a single server, which may be hosted on your premises or be cloud-based.

Scalable

- The same data file can grow from being used in a single-user system to having hundreds of concurrent users with millions of transactions.

Customisation

- Many mSupply users have unique needs requiring some customisation of the standard mSupply software. mSupply allows customised versions that can still be easily upgraded as new releases are made. Often customisation is done at no extra cost if the client has a current up-to-date contract.

Specially designed for pharmaceuticals

- mSupply is built from the ground up to handle batches and expiry dates.
- There are multiple ways of classifying medicines, and mSupply supports ATC coding, WHO's EDL¹⁾ categories and the user's own custom categories.
- Many of the reports are specific to the needs of pharmaceutical distribution

Reporting

- The in-built reports have been developed since the beginning in response to user requests.
- Users can easily create their own custom reports and save them for use again. Saved reports are available from a menu in the custom report window.
- Items, Names, and transactions all have lots of spare fields that users can use to store custom data, and then use those fields in reports.
- mSupply dashboard allows managers in remote locations to log on with a web browser and view reports.

Mistake tolerance

- mSupply provides easy merging of duplicate items.

- Easy adjustment of inventory errors (but with a full audit trail!)
- Most fields allow entry by name or code, and allow partial entry of as much of the name or code as the user knows.
- Easily find transactions you've entered, by number, by customer/supplier name, by a list of recent transactions or by a custom search.
- If the user's hardware is powerful enough, fuzzy find searches allow finding data even if the search terms are incorrectly entered.

Backorders

- Items that you are unable to supply to customers are put onto backorder. A report of all backordered items is easily generated. When the stock for the backorder becomes available a customer invoice is automatically created awaiting your confirmation.

Web interface for customers

- mSupply allows customers to remotely log in via a web browser and place orders, view order status, stock status and transaction history. This system is in daily use.

Customer stock history / indent ordering.

- mSupply supports a unique system of centralised supply where the distribution point submits current stock on hand figures, and mSupply calculate a rational quantity to supply, knowing the historic stock on hand, the ordering cycle, and the amount supplied during the previous cycle.
- mSupply also supports the simpler imprest system where the amount given to customers is based on a fixed level of stock, as is commonly done when supplying wards in hospitals.

Quantification

- mSupply uses a powerful ordering system that allows accurate real-time analysis of how much stock should be ordered, based on historic consumption, order lead time, the ordering frequency, desired "buffer" stock levels and current stock levels. Unmet demand from customers, backorders, and stock on order are also taken into account.
- This system has proven reliable, and requires little user intervention, unlike systems that require you to set minimum and maximum stock levels. mSupply still allows minimum stock to be set if really needed.

Procurement

- mSupply handles purchase orders in multiple currencies, and allows split deliveries.
- The goods receipt module allows full or partial receipt of each purchase order plus addition of stock not ordered.
- Ad hoc quotes from suppliers can also be handled.
- The quantification, tender management and purchase order systems all tie together so data flows from one to the other without requiring re-entry.

Tender management

- The Tender Management module provides detailed production and management of tenders including using mSupply data to determine quantification, printing invitation letters, comparing tender submissions and automatically producing Purchase Orders for the winning tender supplier.
- The Remote Tender Management Module provides posting of tenders by suppliers to <https://tenders.msupply.org.nz> (<https://tenders.msupply.org.nz>) secure web site. You download and automatically import completed tenders to mSupply for easy comparison of supplier responses, choosing the winning supplier and creation of purchase orders.
- Supplier Registration functionality is planned to be developed as part of the Tender management module.

Dispensing

- mSupply integrates well into hospital pharmacies, providing easy breakdown of bulk packs for dispensing.
- Prescribers are recorded, and prescriber reports allow analysis of prescribing trends and costs.
- Drug interactions are handled, as is repeat dispensing.
- Patient history is recorded and easily accessible.
- Customisable abbreviations allow rapid entry of patient instructions on to printed labels.
- Medicine labels are produced using specialist label printers. Busy sites using mSupply produce hundreds of thousands of labels per year.

Multiple sites from one server

- mSupply is able to handle multiple virtual stores within a single data file. A common use for this is a hospital, where several stores may be present, but each needs to run independently.
- Stores can run in either dispensary or store mode, so one server can handle both a hospital pharmacy and a warehouse store simultaneously.
- Using Citrix and a DSL internet connection you can run a whole country's medical distribution system from a single server, greatly reducing infrastructure requirements while dramatically improving availability and reliability.

Stock control

- Because mSupply tracks each batch separately, full FEFO ²⁾ can be maintained for every item.
- There is a full audit trail for each stock line.
- Each stock line has a record of warehouse location, enabling easy warehouse management
- If stock lines have the same batch number, expiry and pack size, they can be split and combined.
- Stock lines can be re-packed to different pack sizes for convenience. Warehouses will find it easier to handle cartons with a pack size of, say, 12,000 tablets while dispensaries will be dispensing individual tablets, and so will want a pack size of 1.

Warehouse management

- Full Location management
 - mSupply allows volume based calculations of available storage, that is especially critical for cold chain items.
 - Volume information is used to provide either reports or a graphical depiction of how full each section of the warehouse is.
 - Alerts are given when placing purchase orders if there will not be enough space to hold the incoming goods.
- Basic bar-coding functionality is planned to be developed soon.

Vaccines monitoring

- mSupply allows recording of VVM³⁾ status for batches, and allows sorting available stock by VVM status rather than by expiry.

Mobile communications

- mSupply integrates with Frontline SMS to provide an interface for using SMS messaging to submit information such as stock levels and goods receipt confirmations to mSupply.

Hospital Information System

- A simple hospital information system has been developed as part of mSupply. It is designed to provide a basic service to record critical data:
 - Recording a hospital's wards and beds.
 - Recording inpatient admissions (admitting a patient, assigning them to a ward and bed).

- Recording ICD⁴ 10 disease codes for each patient admission. You can assign multiple disease codes, and prioritise them (primary, secondary, etc..).
- Moving patients to different wards/beds.
- Recording discharge data (patient status at time of discharge)
- Reporting on bed occupancy rates as a whole and by ward, and other useful statistics e.g. average length of stay, ICD10 statistics.
- The mSupply HIS is a cost effective alternative to large commercial installations.

Product / Medicine Registration

- mSupply's Registration module allows mSupply to manage registration of suppliers and their products on a per brand, dose, and form basis.
- mSupply will record and track the status of supplier's registrations and stores the documentation for easy retrieval.

No data lock-in

- All data in mSupply can be exported as industry-standard XML or as an SQL dump, allowing use by other systems as needed.
- A public API (Application Programming Interface) has been developed, allowing any system to retrieve and submit information from/to mSupply.

Cross-platform

- mSupply is available for Windows and Macintosh.
- We recommend Windows servers, but client computers can be either Windows or Macintosh.

Interaction with other systems

- mSupply can either query other systems or provide data in real time via XML web services and other industry standard connectors.
- mSupply provides automated seamless integration with Moneyworks accounting software and general export files which can be easily customisable for import to other systems.

All of these features and qualities go together to make a very powerful medical inventory chain management system, which has been tried and tested in dozens of locations around the world. We believe it has a unique set of features that means there is no other product that is comparable for managing medical supplies in developing countries

For full information, visit <http://www.msupply.org.nz> (<http://www.msupply.org.nz>) A demo version is available here (<http://www.msupply.org.nz/download>)

The user guide is available here (http://www.msupply.org.nz/files/mSupply_user_guide.pdf)

The home page for the documentation wiki is here (<http://docs.msupply.org.nz>)

Next: Who uses mSupply?

- 1) Essential Drug List
- 2) First Expiry, First Out
- 3) Vaccine vial monitor (http://www.who.int/immunization_standards/vaccine_quality/vvm_10years_index/en/)
- 4) International Classification of Diseases

Who uses mSupply?

This list isn't exhaustive

All sites are multi-user with the number of sites x number of concurrent users at each site in brackets unless denoted by **SU** (=“Single User”) after the name

Africa

Nigeria

- Six Government state stores (6 x 3)
- Ten Government stores managed by Axios (10 x 2)
 - Axios HQ, Abuja (4)
 - Axios uses mSupply synchronisation to connect sites that don't have full time internet access. This system has been in use since 2010, and continues to function well.
- FCMS Store, Lagos (5)
- Jigawa CMS (Content Management System)
- From March 2016: 20 new users spread over 6 states (Kaduna, Katsina, Zamfara, Kano, Jigawa, Yobe)
- Private non-pharmaceutical supplier, Lagos (STIL)(SU)

Democratic Republic of Congo

- Cordaid (3)

Ghana

- Central Medical Stores (5)
- Status 2015: CMS (Content Management System) was destroyed in a fire in 2014, and the project has been on hold since then.

Liberia

- Axios: 1 site synchronising to a central server
- Liberia MoH: 11 sites being consolidated to a single mSupply installation Dec 2016

Sierra Leone

- MRC (SU)
- Crown Agents Ebola Response and Free Health care distribution (20) - several stores around Freetown running from a single cloud server.
- National Pharmaceutical procurement unit (2017). Central server with 18 users, 13 regional sites, et al.
- LSMTH Ebovac (2017). Server with 5 users.

Gambia

- Gambia Central Medical Stores (14)

Malawi

- Orant Charities (SU). From 2017.

Tanzania

- Haydom Hospital

Sudan

- Medair (SU)

South Sudan

- Medair (SU)
- Central Medical Stores (SU)
- UNDP Juba (5)

Zambia

- Churches Health Association (4)

Zanzibar

- ZILS (5)
 - This system employs an EDI interface to pick up orders sent to a dropbox folder from the Zanzibar LMIS system and incorporates it into mSupply.

Pacific

Kingdom of Tonga

- Central Pharmacy Medical Stores (3)
- Vaiola Hospital (4)
- Haapai Hospital (SU)
- Vava'u Hospital (SU)
- 'Eua Hospital (SU)

Republic of Nauru

- Central Hospital and Stores (4)

Solomon Islands

- National Medical Stores (7 + Web server + Tender module)
- National Referral Hospital (4)
- mSupply mobile- 8 Second Level Medical Stores (phased installation from October 2016)

Republic of Kiribati

- Tungaru Hospital (9)
- 3 26 sites using mSupply mobile

Marshall Islands

- Ministry of Health/Majuro Hospital (2)

Tuvalu

- Princess Margaret Hospital (2)

Vanuatu

- Central Medical Stores (2)

- Vila Central Hospital Pharmacy and Store (3)
- Lenekel Hospital (2)
- Norsup Hospital (2)
- Luganville Hospital (2)

Papua New Guinea

- 44 user system across the country:
 - Cloud system (12) serving
 - National Department of Health, Medical Supplies Procurement Department - Installed June 2013
 - Daru TB Unit - Installed Sept 2015
 - Badili (Port Moresby) AMS (8) - Installed June 2013
 - Port Moresby General Hospital (10) - Installed November 2014
 - Hagen AMS (4) - Installed October 2015
 - Hagen General Hospital (4) - Installed October 2015
 - Lae AMS (4) - Installed May 2015
 - Lae General Hospital (4) - Installed May 2015
 - Alotau General Hospital (4) - Installed Sept 2015
 - Wewak Area Medical Store (4) and Hospital
 - Vanimo Hospital (4) - 2016
 - Goroka Hospital (5) - 2016
 - Kundiawa Hospital (5) - 2016
 - Kokopo AMS - 2017
 - Nonga Hospital - 2017

Federated States of Micronesia

- National Hospital and medical store (7) - October 2015

Asia

India

- Meyer Free Clinic

Nepal

- INF (3 sites- SU)
- MSMT (SU)
- Patan Hospital (SU)
- Lal Gadh Hospital
- Gurkha Welfare scheme (26 sites, SU) Funders: DFID, GWT

Afghanistan

- Six NGOs responsible for medicine distribution in provinces synchronise data back to a management server in Kabul (July 2016). Includes automated generation of a multi-workbook Excel spreadsheet that includes macros that submit data to a Ministry of Health database.

South-East Asia

East Timor

- SAMES (10)
- Hospital Nacionale Guido Valedares (5)

- Dili Central Medical Services (Mobile)
- 23 mSupply mobile sites in Dili district
- National Laboratory, Dili
- Baro Pite Clinic, Dili

Laos

- 28 sites spread over the country connecting to a cloud server running mSupply.
- 10 sites using mSupply synchronisation

Myanmar

- 31, no 42 50 62 sites using synchronisation to connect to a cloud server
- 6 sites using remote access to connect to the same server
- Central Medical Store (10) from January 2016
- RSCS program - 70 synchronising sites from November 2016 (by end of Jan 2017 mSupply was storing almost 4 million data points for the project)

Cambodia

- World Mate Emergency Hospital
- WMEH Warehouse

Americas

USA

- Iowa Prescription drug corporation
 - users: 2
 - Web server: clients from all over Iowa place orders using the mSupply web interface

Europe (and the United Kingdom!)

United Kingdom

- UK Microbiological Products supplier (Private company). Since 2012
- CAIPA
 - Specialist system with 20 users running emergency Ebola Response Programme for DFID, including management of a UK based warehouse with air freight deliveries to Africa.

Previous: Why mSupply? Next: Which One?

Which one?

Introduction

Since its creation in 1998, mSupply has grown and multiplied as it has been applied to different challenges. The original Free-user (Windows or Mac based) application continues to be downloaded and used regularly. In fact, it comes packed with (almost) all the bells and whistles of some of our most sophisticated installations, but is only suitable for a small, single concurrent user facility.

We need two servers!!!???

The ICT industry is plagued by the practice of using the same term to refer to software, hardware or both combined! As it relates to mSupply in multi-user environments, there is often confusion over two of these:

- The term '**Server**' can refer to:
 - The mSupply computer software which runs the mSupply database,
 - The hardware which the server software is installed on, *and*;
 - Both the hardware and the software acting together. This is possibly the most common usage. When we say something like “send to the server” we mean send data to the server software operating on the server hardware.

The server hardware can actually be a cloud hosted 'service' rather than physical hardware that you own and try to manage. Sometimes the server hardware is referred to as a '**file server**', and this can help to avoid confusion. In any case, for any multi-user mSupply installation, including mSupply mobile, *both* server software and server hardware are needed, and both of them cost money.

- Similarly, the term '**Client**' can refer to:
 - The mSupply computer software which accesses the mSupply server (software) database on the server (hardware),
 - The hardware which this client software operates on, *and*;
 - Both the hardware and the software acting together.

Sometimes the client hardware is referred to as a '**client PC**' (Mac or Windows) and this can help to avoid confusion. Again, for any multi-user mSupply installation, including mSupply mobile, both client software and client hardware are needed. For mSupply mobile, the client hardware is an Android Tablet - refer Mobile (Android) user guide - new, featuring offline operation.

We are a software company, so when we use these terms, we will almost certainly be referring to our software, but sometimes not. The context normally helps, but please forgive us if we fail to distinguish between these meanings!

System configuration comparison

So which is the right mSupply product / configuration for you? The key differences between the configurations basically comes down to how the user(s) interact with the database. We hope this table helps in making that decision.

Product / configuration	Description	Software price implications - refer Pricing (http://msupply.org.nz/pricing/)
Free-user	PC or Mac application - Download here (http://msupply.org.nz/downloads/). The database resides on the computer that the application has been installed on. It can be used by only one user at any one time.	Free! You still need to register mSupply with Sustainable Solutions, but we don't charge you for it - and we don't sell your contact details either!
Single-user	Same as PC or Mac application, but for users who wish to make use of Support ¹⁾ and Up-to-Date (UTD) ²⁾	A software license needs to be procured, generally for about 1/3 of the price of a multi-user client, and then Support and UTD on top of that.
Multi-user	For situations where more than one user needs to access the database at one time. The database is hosted on a file server and mSupply server software is installed on that hardware. Users have access to this data through mSupply client software installed on client PCs that communicate to the server through a Local Access Network (https://en.wikipedia.org/wiki/Local_area_network) (<u>LAN (Local Area Network)</u>). Remote users can access the server through Remote Desktop Protocol (https://en.wikipedia.org/wiki/Remote_Desktop_Protocol) (RDP) or similar.	A software license/ needs to be procured for each concurrent client. Support and UTD is optional, but highly recommended. Most of our customers are very happy to pay for these services.
Synchronised Multi-user	If the internet connection to remote users in a Multi-user configuration is inadequate, then Remote Synchronisation allows a Primary - Satellite configuration to be deployed. 'Satellite' multi-user servers are installed at remote sites where users operate mSupply on their local store without worrying about the internet connection. In the background, these 'satellite' servers will synchronise their local store data with a 'Primary' server when the internet connection becomes adequate.	A software license needs to be procured for each concurrent client for each server. Synchronisation and Web server modules are required.
Synchronised Single-user	There are situations where the remote sites (with poor internet access) are just single-operator stores needing to manage and report their stock using the fully featured mSupply client. Procuring the minimum multi-user satellite server configuration for each of these sites would be expensive. A solution was developed that entails installing single-user clients at these remote locations and then synchronising them to the primary server much like the Synchronised Multi-user configuration.	Lower cost than conventional synchronised multi-user as the single-user client license is less costly than multi-user client licenses. Synchronisation and Web server modules are required.

Product / configuration	Description	Software price implications - refer Pricing (http://msupply.org.nz/pricing/)
Mobile	This is a Synchronised Single-user configuration, but the users operate with mSupply Mobile (client) software on Android tablets. This apps has a reduced feature set, but is more than adequate for most Last-Mile needs. Local stock details are synchronised back to the Primary server, and can be monitored and reported on there.	Pricing is even lower than for Synchronised Single-User. We see this as the way forward for the medical supply chain in small and remote facilities. Synchronisation and Web server modules are required.
mSupply Customer Interface	Allows staff of Customers in your mSupply system to report their stock levels and order stock from a Virtual store in mSupply system. It runs on a browser on any device: tablet, smartphone, net-book, desktop computer etc.	Depends on your situation - contact us. Web server module is required.
FrontlineSMS integration with 2G mobile phone	mSupply has the ability to integrate with a FrontlineSMS installation. This allows a customer to send their current stock levels to mSupply using an SMS (text) message from any mobile phone. This is particularly useful if, for example, you are a mobile or remote health post or dispensary which doesn't have internet access and only needs to send in information about a few items at a time.	SMS module is required

Other modules

Other modules are available for addition to the basic mSupply application:

Module	Comments	Software price implications - refer Pricing (http://msupply.org.nz/pricing/)
FrontlineSMS	Allows users to send their current stock levels to mSupply using an SMS (text) message from any mobile phone. This can then be used by mSupply to determine how much stock to send to the facility.	Equal to the price of 1 client license.
Product (drug) Registration	Allows integration of product registration (control of what products can be supplied by authorising particular suppliers and products) by recording and tracking the status of supplier's registrations and storing the documentation for easy retrieval.	Equal to the price of 2 client licenses.
Web Server Module	Allows you to access mSupply data on the server from any networked computer that has internet access. This module is a prerequisite for several other modules.	Equal to the price of 2 client licenses.

Module	Comments	Software price implications - refer Pricing (http://msupply.org.nz/pricing/)
Synchronisation Module	Maintains data integrity between a 'primary' mSupply server and 'satellite' mSupply servers. It therefore only applies to situations where there is a multi-mSupply server setup. Requires the Web Server.	Equal to the price of 2 client licenses.
Tender Management	Allows execution of a full tender process including publishing of the tender through a web site, and so allowing tenderers to submit tenders on-line. Requires the Web Server.	Equal to the price of 1 client license.

Previous: Who Uses mSupply? Next: Mobile (Android) user guide - new, featuring offline operation

- 1) Remote support - almost 24/7. We aim to provide a first response within 2 hrs
- 2) Gives you access to the latest software updates, including assistance with upgrading if needed.

Mobile (Android) user guide - new, featuring offline operation

1. Getting Started

Hardware Requirements

Recommended Specifications:

- Display: 800 × 1280 pixels
- Mobile Data enabled (3G minimum)
- Android 4.4.4 or higher
- 1.5 Gb Ram
- Quad-core 1.3 GHz (Gigahertz)

Minimum:

- Display can be 768 × 1024 pixels

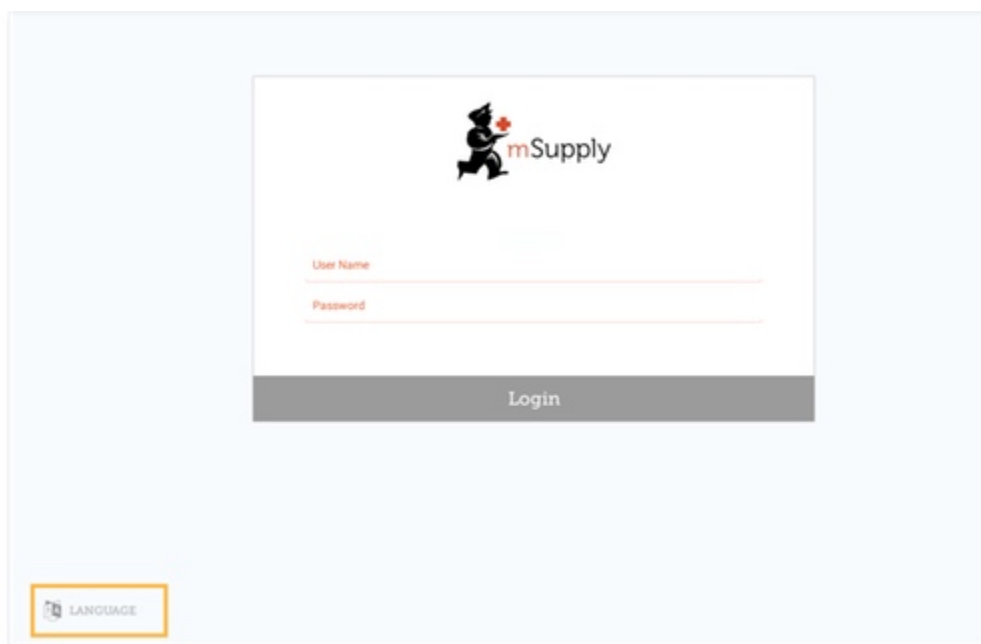
Installation

You can get the latest version from the Google play store

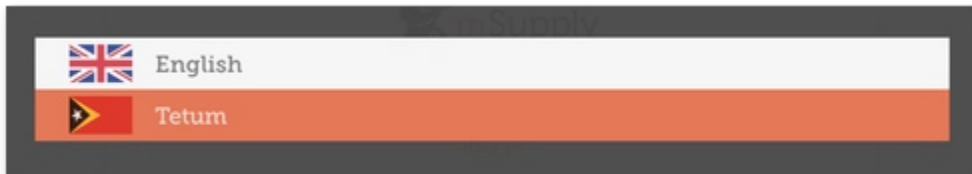
OK. Here we go!

This is the login screen. You will be given a User Name and Password when your tablet computer is installed at your clinic. Your tablet computer can only log in to one facility.

The first thing you will need to do is to choose your preferred language, by clicking 'language' at the bottom left of your screen, as outlined in orange below:



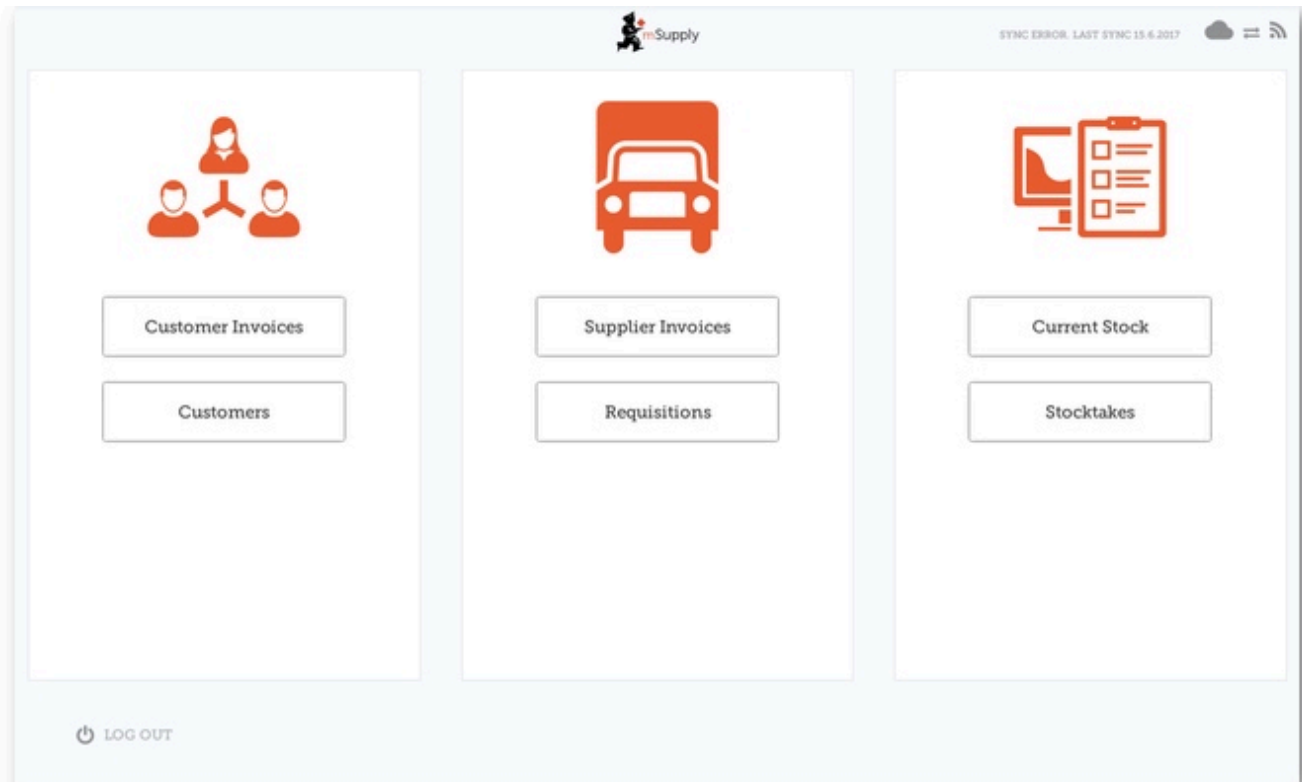
For example, if your first language is Tetum, then you're in luck!



So, once you have selected the language of your choice, enter your User Name and Password and click 'Login'!



This brings us to the main screen, we will be returning to the main screen a lot as we use mSupply Mobile, so it's important to understand the main functions. Let's go through them one by one.



CUSTOMERS



The '**Customers**' area is for all the stock that goes OUT of your facility. It contains a list of customers and customer invoices. Customers can be **other facilities** you supply, **doctors and nurses** doing outreach tours, or **individual patients**.

Customers

The **Customers** button will bring up a list of your Customers. From there, you can click on an individual customer and see their details and invoices.

Customer Invoices

The **Customer Invoices** list will bring up a list of the most recent customer invoices (orders TO customers) and allow you to create new ones.

SUPPLIERS



The '**Suppliers**' area shows orders that you have sent for your own stock. Usually, you will only have ONE supplier (a medical store or other healthcare facility) and this will be pre-programmed for you. The Suppliers area allows you to place orders (**Requisitions**), see a list of your pending orders, and shows the stock you have already been sent or are waiting to receive (**Supplier Invoices**).

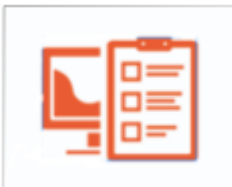
Supplier Invoices

The **Supplier Invoices** button will bring up a list of the orders *you have been sent* or are waiting to receive.

Requisitions

The **Requisitions** button allows you to place an order and shows you a list of orders you have already placed.

STOCK



The '**Stock**' section shows you a list of your current stock and allows you to do stocktakes. You can also use this area to search for an individual item ("*how many paracetamol tablets do I have?*") or to update the stock levels for each item when you realise there is a mistake, or you are doing your regular stocktake.

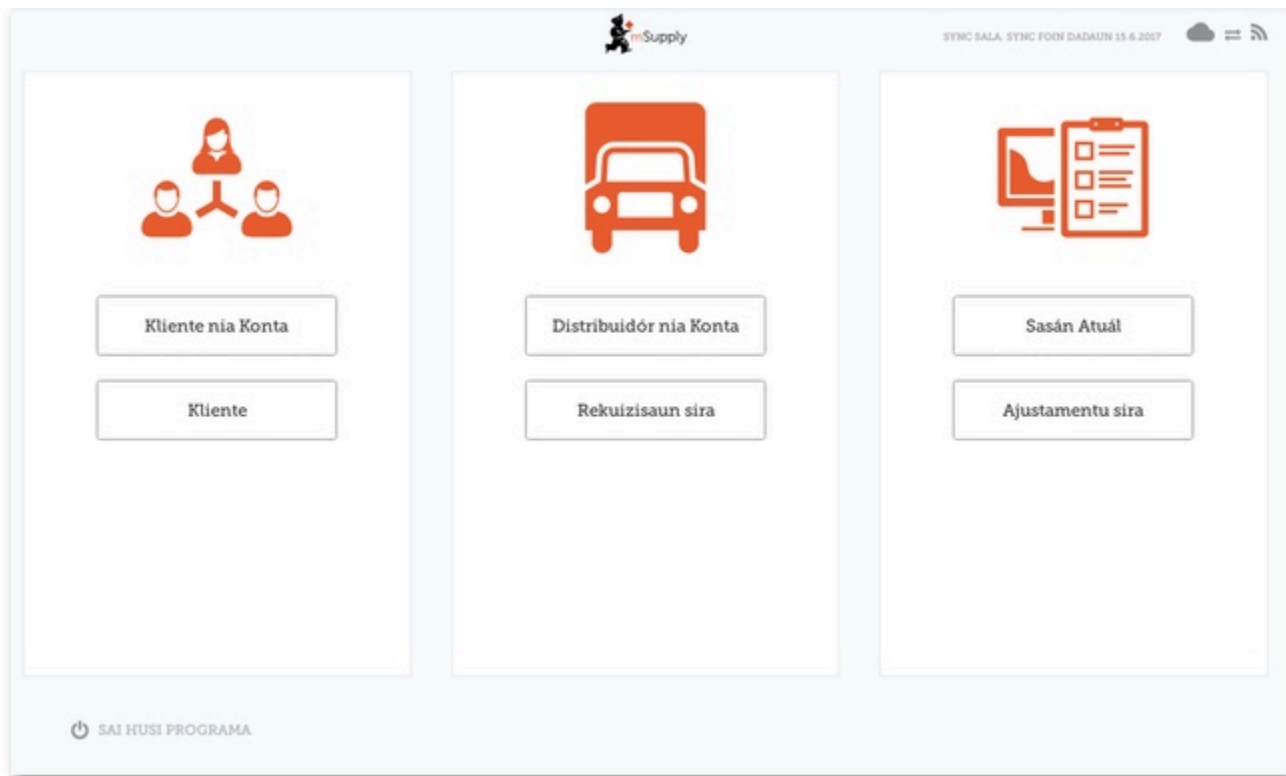
Current Stock

The **Current Stock** button allows you to easily see how much stock you have on hand, search for an individual item, or check expiry dates.

Stocktakes

The **Stocktakes** button allows you to do a stocktake on all items or a small selection of items and shows you a list of all previous stocktakes.

(and here's the main screen in Tetum!)



2. Customer Invoices

Aspen Medical Centre sends an order to your facility. They are doing an outreach tour to households in a nearby village and would like to collect some items to take.

The CUSTOMER is Ami CHC

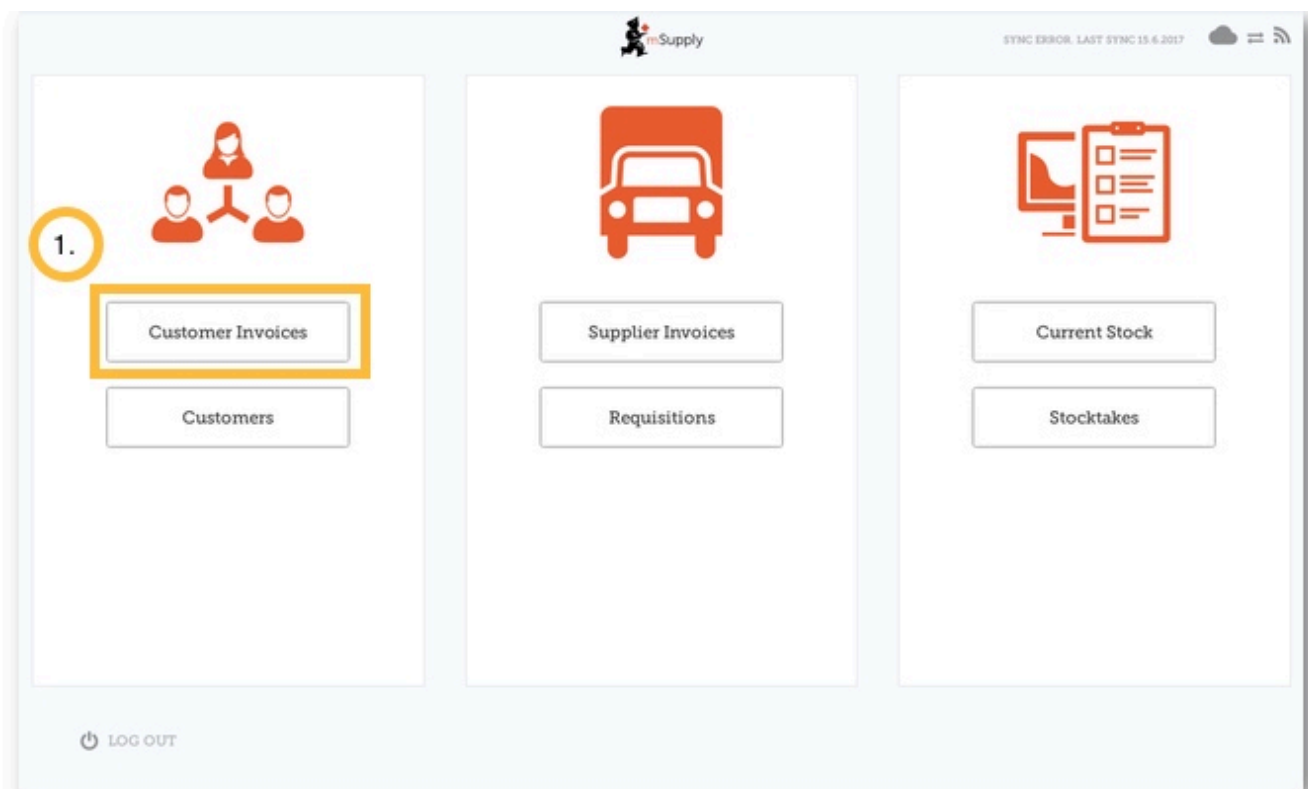
They have ordered:

Amoxicillin 500mg tabs x 11 Paracetamol 500mg tabs x 100 Diazepam Injection 5mg/ml Amp/2ml x 50

Let's create a Customer invoice...

1. Click on 'Customer Invoices'

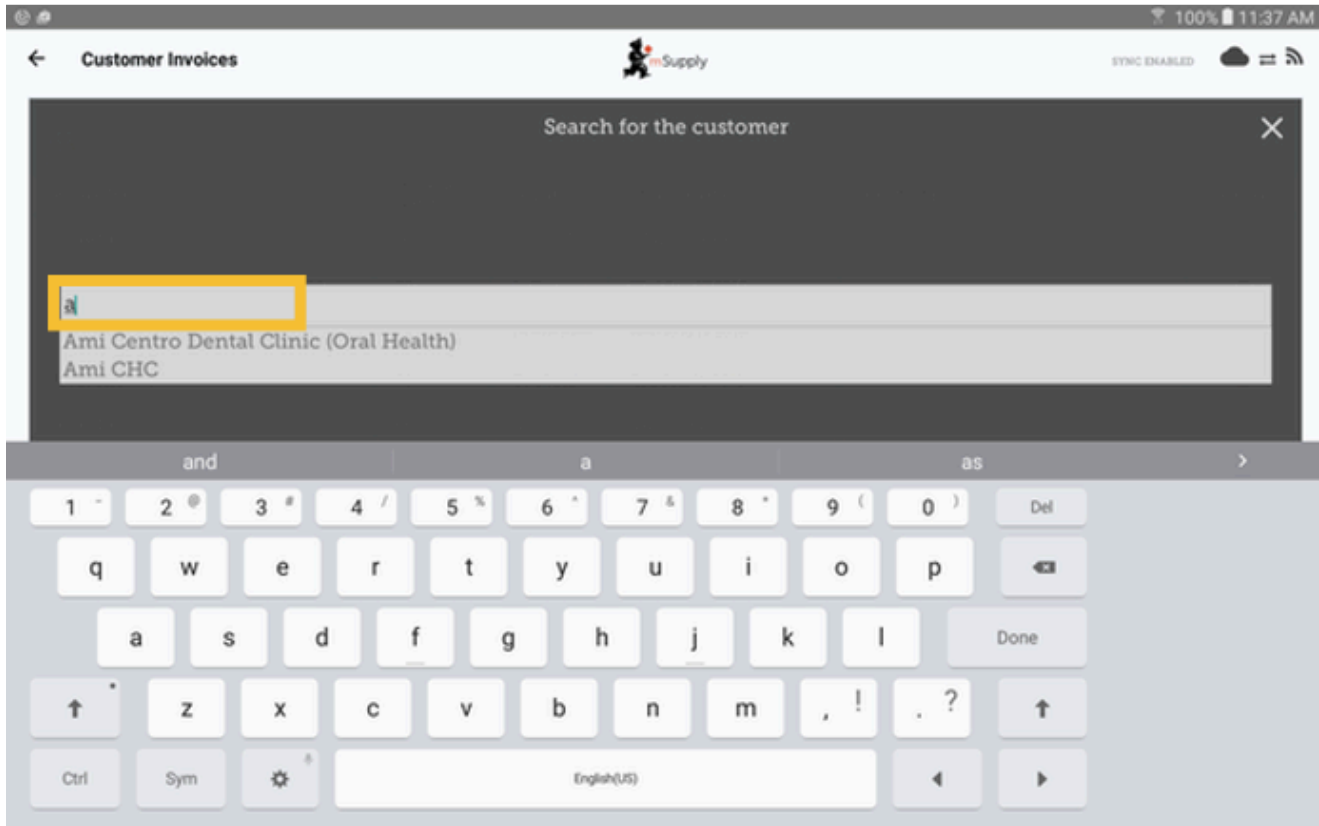
The Customer Invoice button will bring up a list of invoices. If you haven't finished working on an invoice and you have not confirmed it, you can click on it now to bring it up and keep working on it.



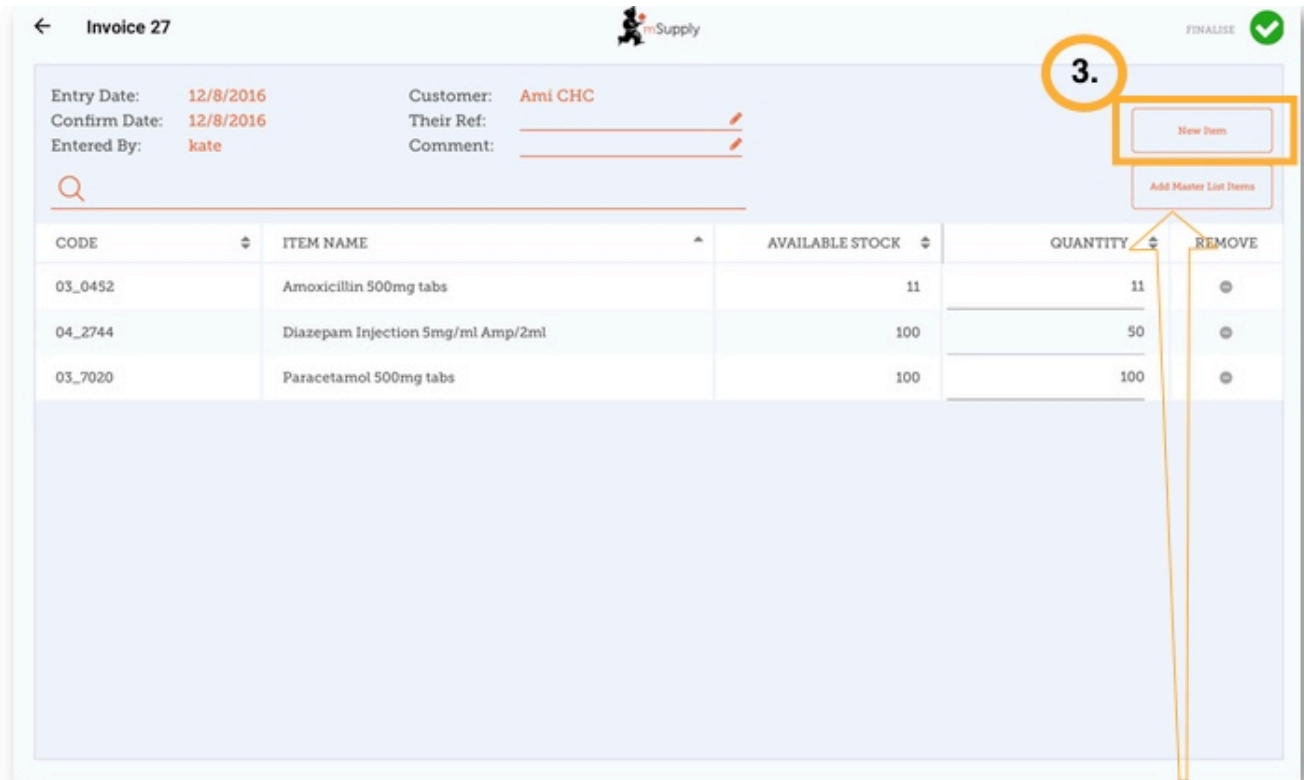
2. To start a new Customer Invoice, click 'New Invoice'!



Add the customer you are ordering for..



3. You can add items to the customer invoice one by one. To do this, click on 'New Item'.



If you have a lot of items to add to the invoice, it can be slow to add them one by one. To add a lot of items at once, **click 'Add Master List item'**.

Here you can see we have completed this invoice by adding the 3 items we need.

4. When you have finished, **click the 'FINALISE'** button at the top, and then **CONFIRM**.

What is a Master List?

The Master List is a list of all the items available to you at your facility. The list is set by your supplier, and/or the Ministry of Health.

3. Supplier Requisitions

You would like to order some stock from your supplier (Medical Stores). You need to place an emergency order for Ampicillin injections and Co-Trimoxazole tablets.

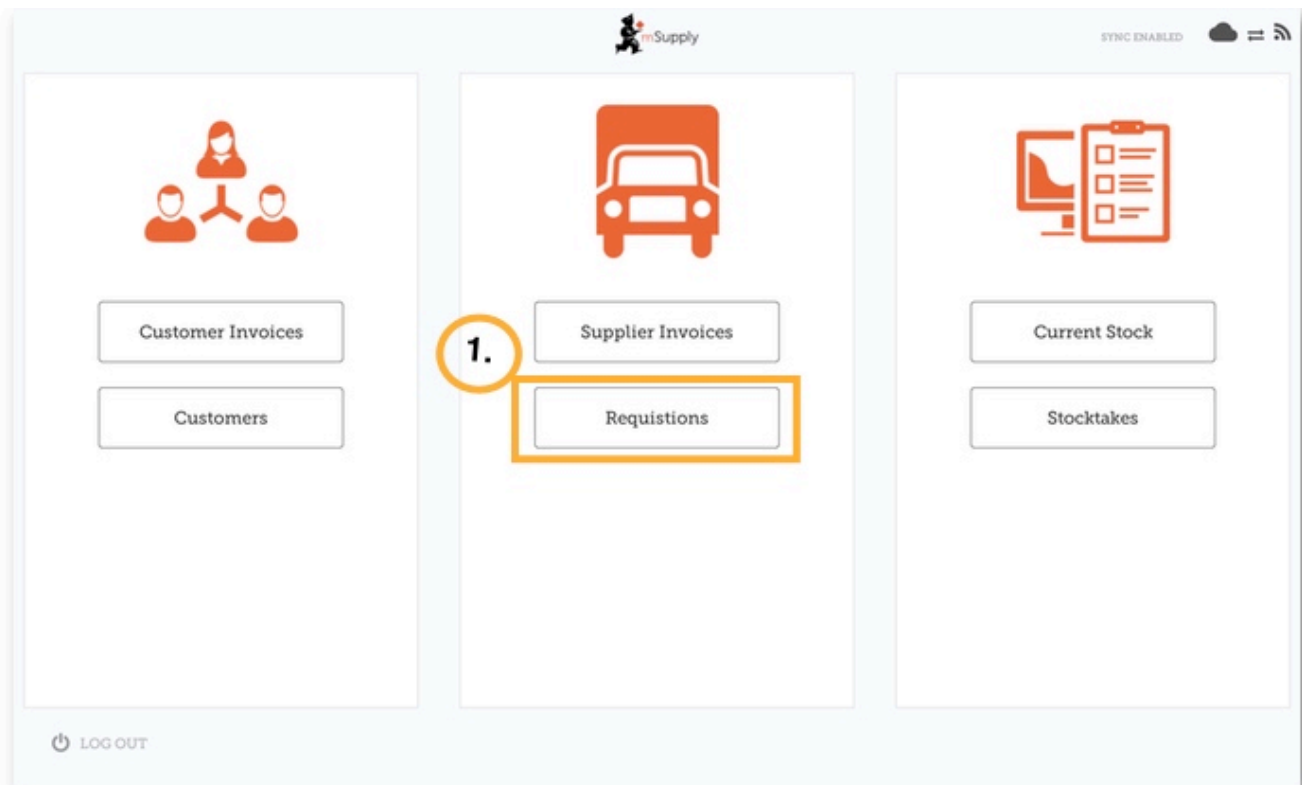
To do this, you must send a 'Requisition' for:

Ampicillin 1g inj x 300

Co-Trimoxazole 480mg tabs x 500

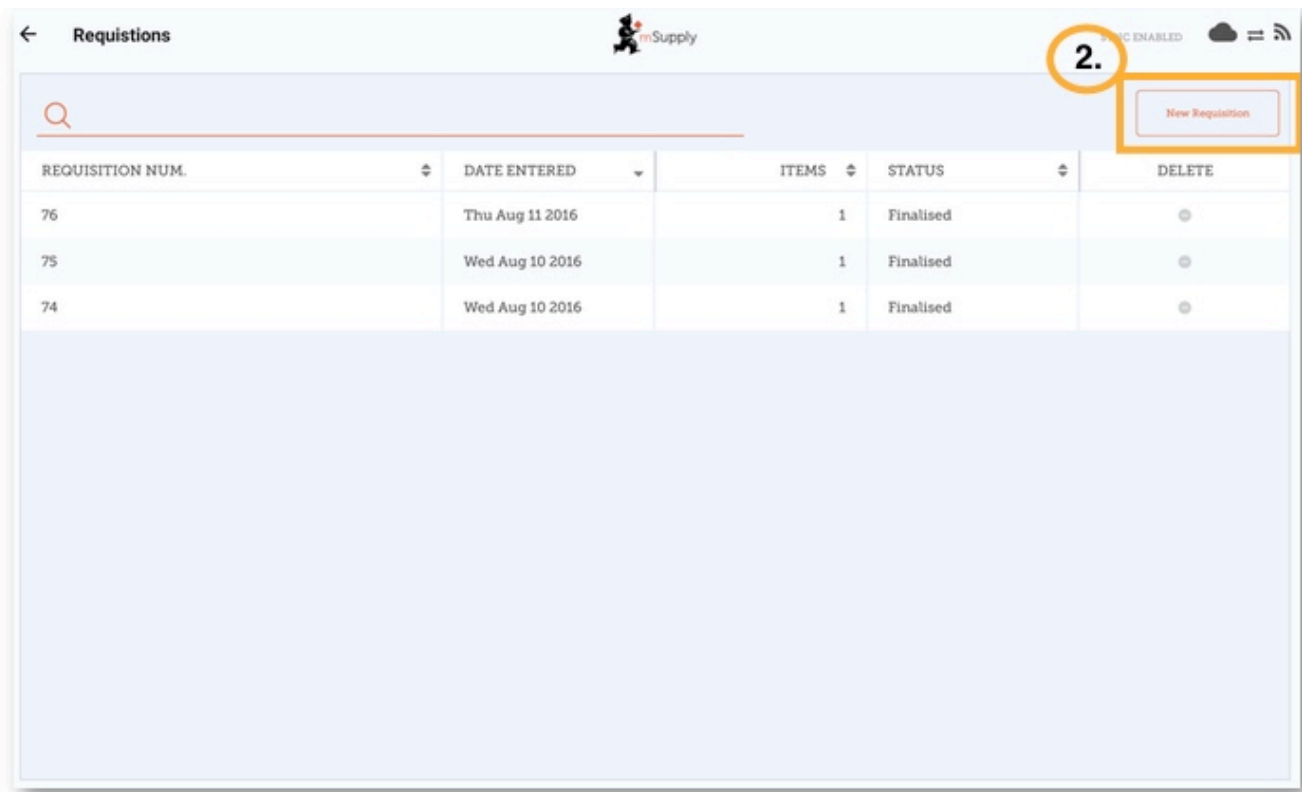
So let's do it!

1. Click on 'Requisitions'



This will bring up a list of recent requisitions you have placed. If you have started working on the requisition previously, it will display in the Status column as 'In Progress'. If you haven't finalised it, you can click on it and keep working on it.

2. Now click on 'New Requisition'.



These are the two ways to add items to the requisition.

To add a lot of items (for example, when you are placing your main order), click 'Add Master List item'.

If you only have a few items, click 'New Item'. This is the best option for small orders.



3. We only have two items, so click 'New Item'.

Add in the details for the items:



Ampicillin inj x 50

Co-Trimoxazole 480mg tabs x 100



Make sure your quantities are correct. If you want to change them, click on the 'Requested Quantity' column and change the number.

← Requisition 14  3. FINALISE 

Entry Date: 12/8/2016 Months Stock Required: 1
 Entered By: kate Comment: _____

CODE	ITEM NAME	CURRENT STOCK	MONTHLY USE	SUGGESTED QTY	REQUESTED QTY	REMOVE
04_0505	Ampicillin Injection Powder Vial/1gm	81	33	0	50	
03_2381	Cotrimoxazole (Sulfamethoxazole/Trimethopr...	100	0	0	100	

4. You can click on 'Use Suggested Quantities', or 'Create Automatic Order' if you are certain that you are not ordering an item which you have not previously ordered. By choosing one of these options, mSupply will automatically calculate the amounts of each item you require, once it builds up a history of how much stock you're using.

← Requisition 27  4. FINALISE 

Entry Date: 18/8/2016 Months Stock Required: 1
 Entered By: kate Comment: _____

CODE	ITEM NAME	CURRENT STOCK	MONTHLY USE	SUGGESTED QTY	REQUESTED QTY	REMOVE
------	-----------	---------------	-------------	---------------	---------------	--------

5. When you are completely sure that everything is correct, click the 'Finalise' button, then 'Confirm' and your order will go to the supply store.

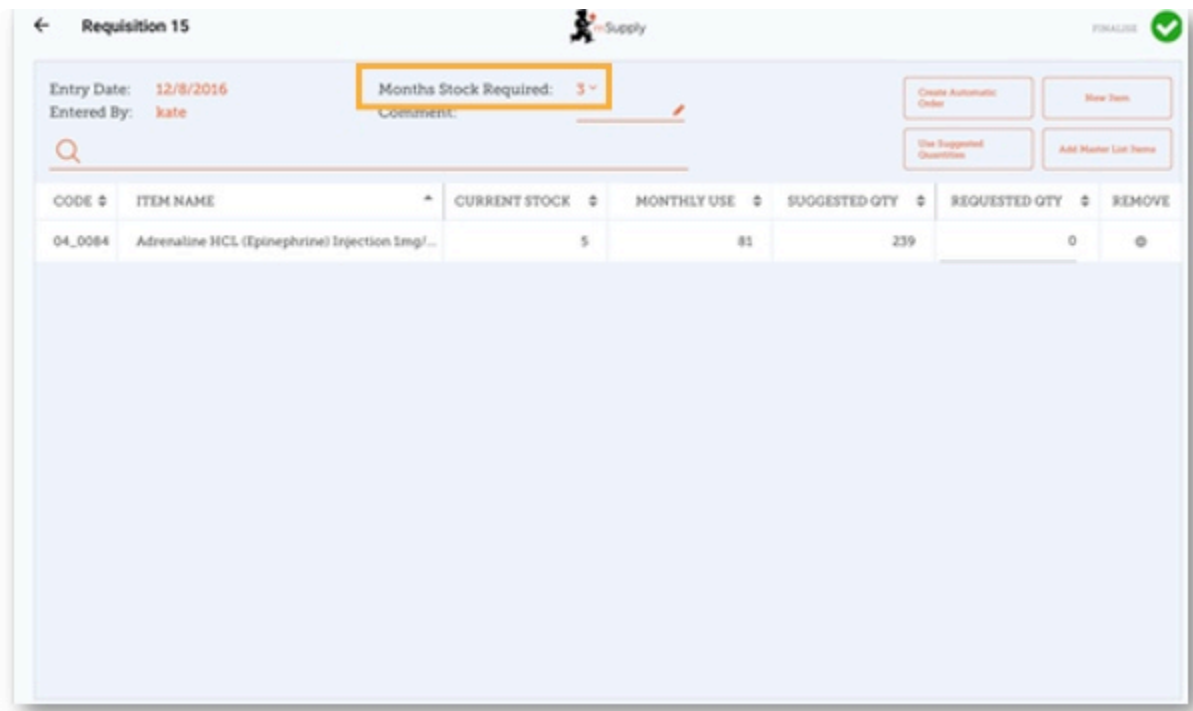


Even if you don't have internet at the time, it's Ok! The order will send automatically when you do have internet later.

What is the difference between a requisition and a supplier invoice?

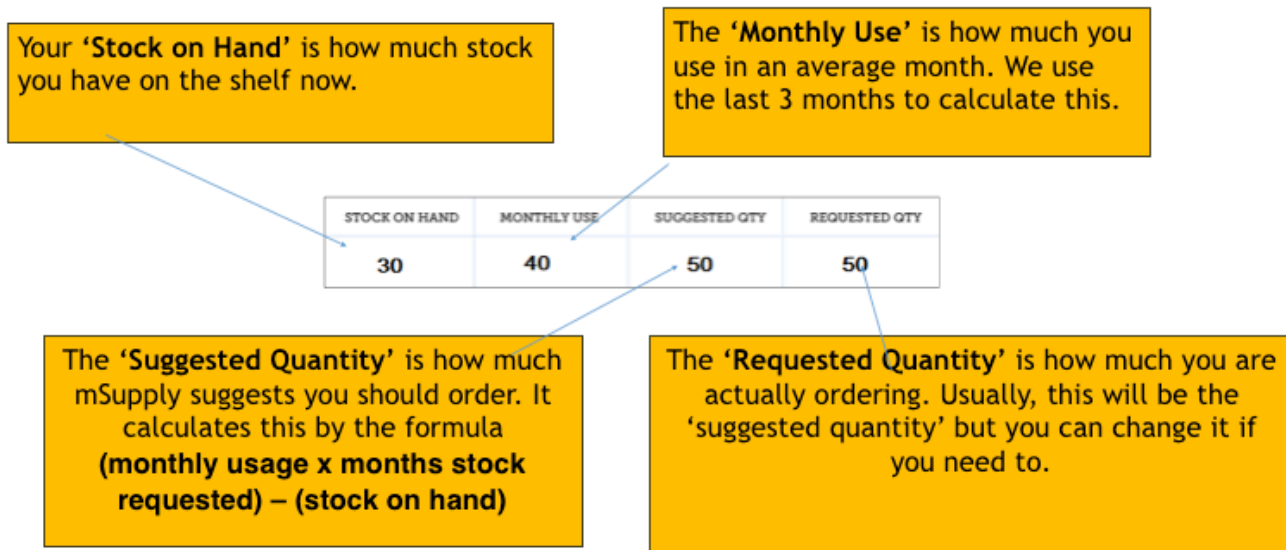
A **Requisition** is an order that YOU have placed to the Medical Stores. A **Supplier Invoice** is a record of what they have sent you. These are not always the same, as Medical Stores might not have had enough stock to fill your requisition, or they might have sent you some stock that you didn't order. When stock arrives at your facility, check it off against the **Supplier Invoice** - as this is what you were supposed to receive.

Calculating quantities on your requisitions...



When you are creating a new requisition, mSupply Mobile now has a tool to help you work out how much stock you need to order! In the past, you had to use a calculation formula to work out how many of each item, and you needed to do this for EVERY item in your order.

Now, simply select the 'Months Stock Required' and mSupply Mobile will calculate your order quantities automatically. You can even check the amounts and change them if you require.



4. Supplier Invoices

After you've sent your requisition to your supply store, you then wait for your order to arrive.

And wait and wait and wait.....

Then finally your order will be on the way!

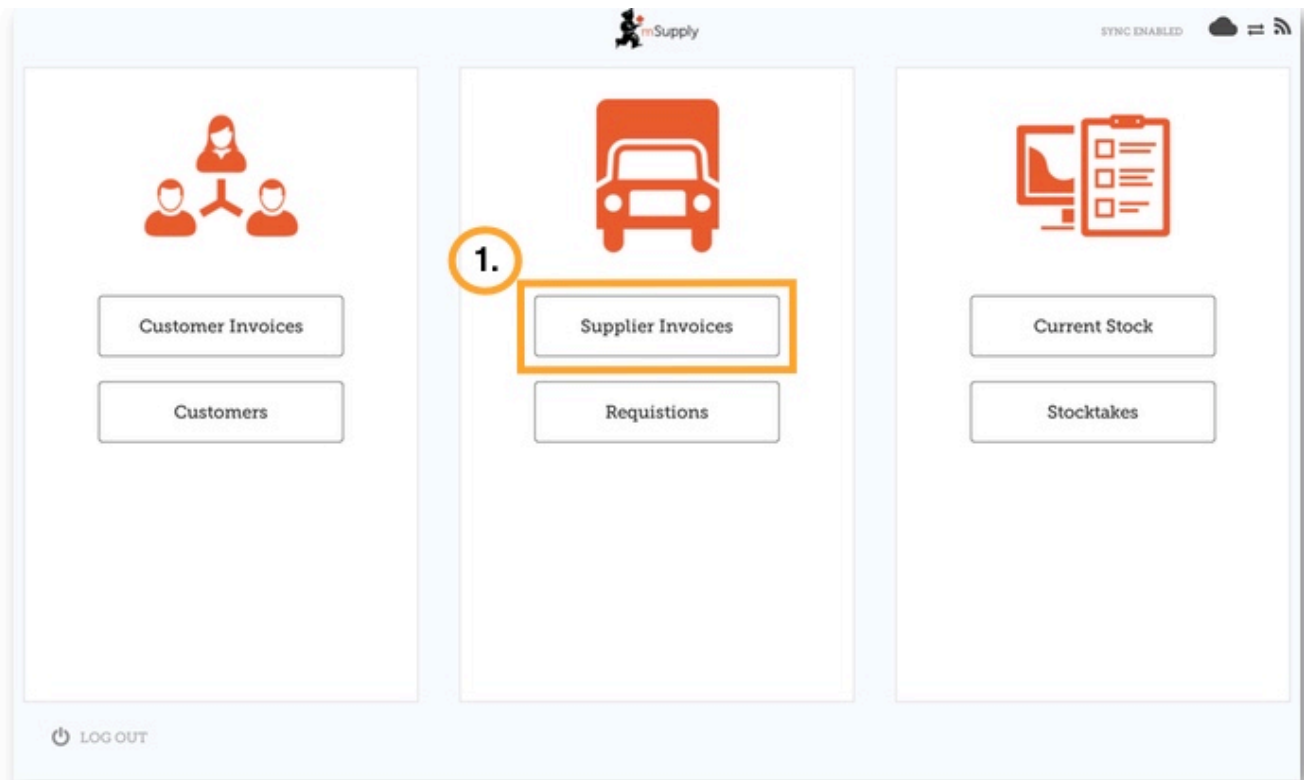
When your order has been prepared by your supply store, you will see a Supplier Invoice. This is exactly like the hard-copy (paper) invoice you would usually receive with your order.

You may still continue to receive a paper invoice when your order arrives, but it is very important you check everything against the electronic invoice on mSupply Mobile when you order arrives.

Remember: The supplier invoice will not always match the requisition you sent.

Also remember that the supplier invoice SHOULD match the stock you are receiving, but it may not. You must always check your order when it arrives. You can make changes to the Supplier Invoice on mSupply Mobile, or you can confirm everything is correct. When you are satisfied that the Supplier Invoice matches the stock you have received, you can 'Finalise' the order and accept it into your stock. Your 'Stock-On-Hand' numbers will automatically update!

Let's go through each step...





1. Click on 'Supplier Invoices'

A list of Supplier Invoices will appear. You can use the 'Status' column to check which one you have been sent but has not yet been received.


INVOICE NUM.	STATUS	ENTERED DATE	COMMENT
8	In Progress	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
9	In Progress	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
10	Finalised	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
7	Finalised	Tue Aug 02 2016	Stock transfer (Invoice from customer stock history)
6	Finalised	Mon Aug 01 2016	Stock transfer (Invoice from customer stock history)
2	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
3	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
4	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
5	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
1	Finalised	Wed Jul 27 2016	Stock transfer (Invoice from customer stock history)

2. Click on the Supplier Invoice you have been sent.

This will bring up your Supplier Invoice. You can see the two items that we entered on the requisition earlier.

← Invoice 10  FINALISE 

Entry Date: 16/8/2016 Their Ref: From invoice number: 117...
Confirm Date: 16/8/2016 Comment: Stock transfer (Invoice fro...



ITEM NAME	CODE	NUM. SENT	NUM. RECEIVED
Ampicillin Injection Powder Vial/1gm	04_0505	50	50
Cotrimoxazole (Sulfamethoxazole/Trimethoprim) 400/80mg tabs	03_2381	100	100

3. Once you are happy that the 'Number Received' column is correct, click 'Finalise', and then 'Confirm'.

Invoice 10

Entry Date: 16/8/2016 Their Ref: From invoice number: 117...
 Confirm Date: 16/8/2016 Comment: Stock transfer (Invoice fro...)

3.

FINALISE ✓

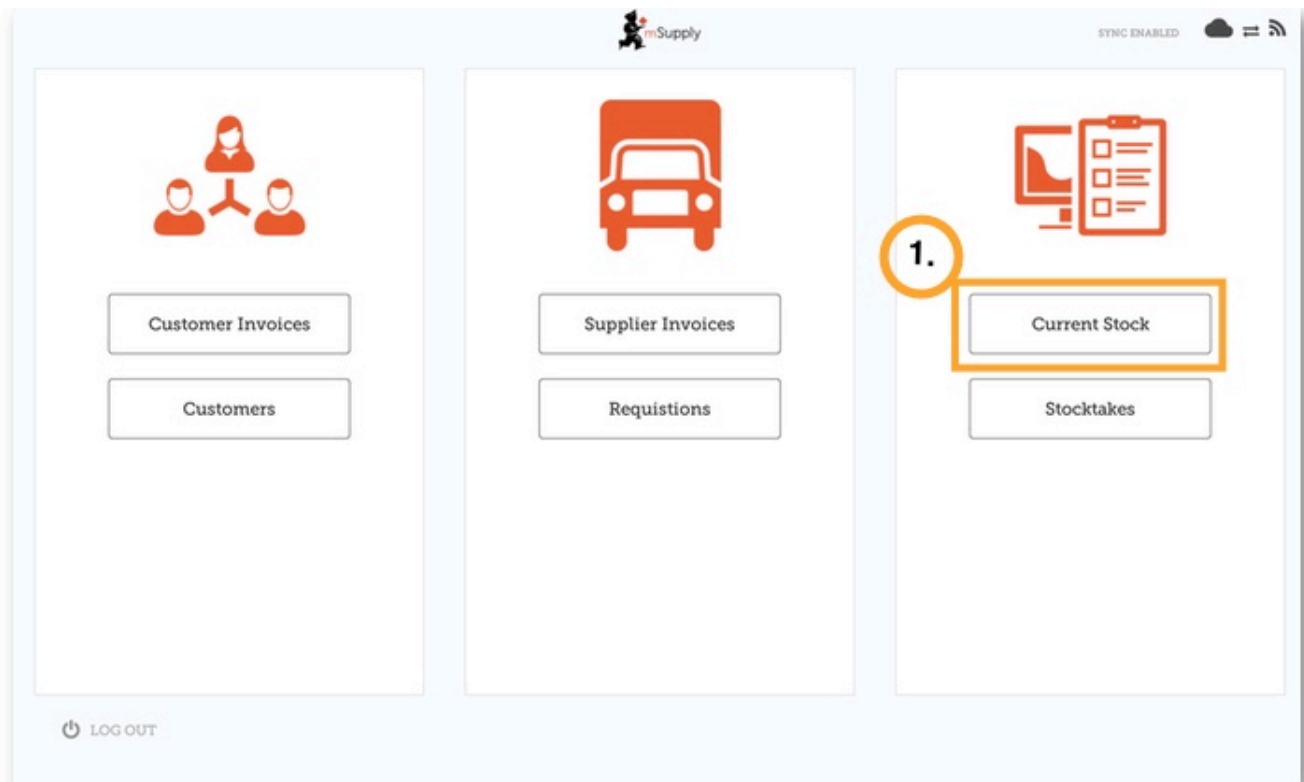
ITEM NAME	CODE	NUM. SENT	NUM. RECEIVED
Ampicillin Injection Powder Vial/1gm	04_0505	50	50
Cotrimoxazole (Sulfamethoxazole/Trimethoprim) 400/80mg tabs	03_2381	100	100

5. Current Stock

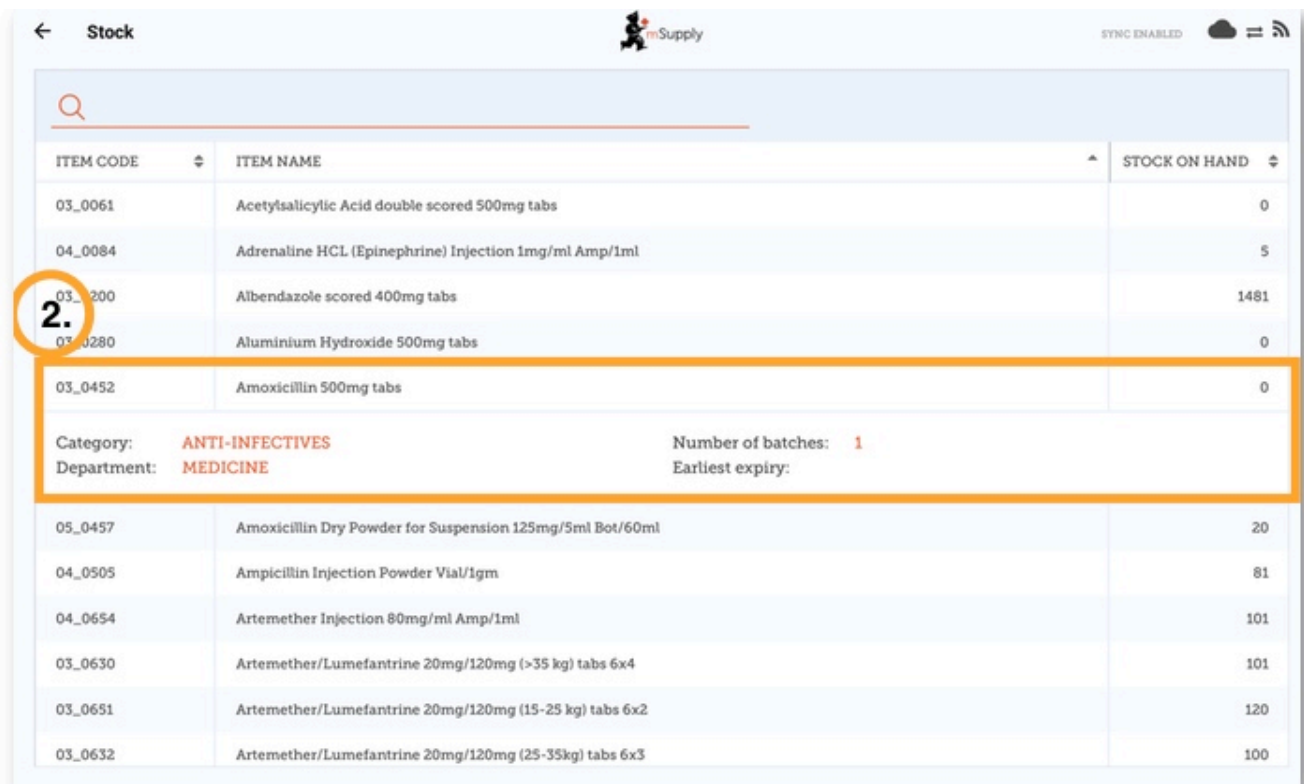
One of the most important - but easiest - tasks in mSupply Mobile is to check how much stock you have on hand. When you create a Customer Invoice and add an item, mSupply Mobile will tell you if you have enough stock. But at many other times, you might want to quickly check, and it is very simple to do so.

Let's try!

1. Click on 'Current Stock'



This will bring up a list of your current stock-on-hand. You can scroll through this list and quickly see each item's name and 'Stock-On-Hand' (amount of each item you currently have in stock).



2. If you want to know a little more about an item, click on the item and it will bring up more information, such as the Category, Department, and closest expiry.

If you want to search for a specific item, without having to scroll through, just enter the first few letters into the search bar at the top.

6. Stocktakes

mSupply Mobile will automatically keep track of your stock levels for you, as you receive stock and give it out. But sometimes data gets entered incorrectly or stock goes out without anyone making an entry in the system. Of course, we try not to let that happen - BUT if it does happen, we can make corrections. The easiest way to correct mistakes is to do a stocktake.

With mSupply Mobile, you can easily do the data entry for a full stocktake, OR you can choose to do a stocktake on a limited range of items (such as all your anti-malarials). You can even do a stocktake on a single item, if you notice that the quantity on your shelves is wrong.

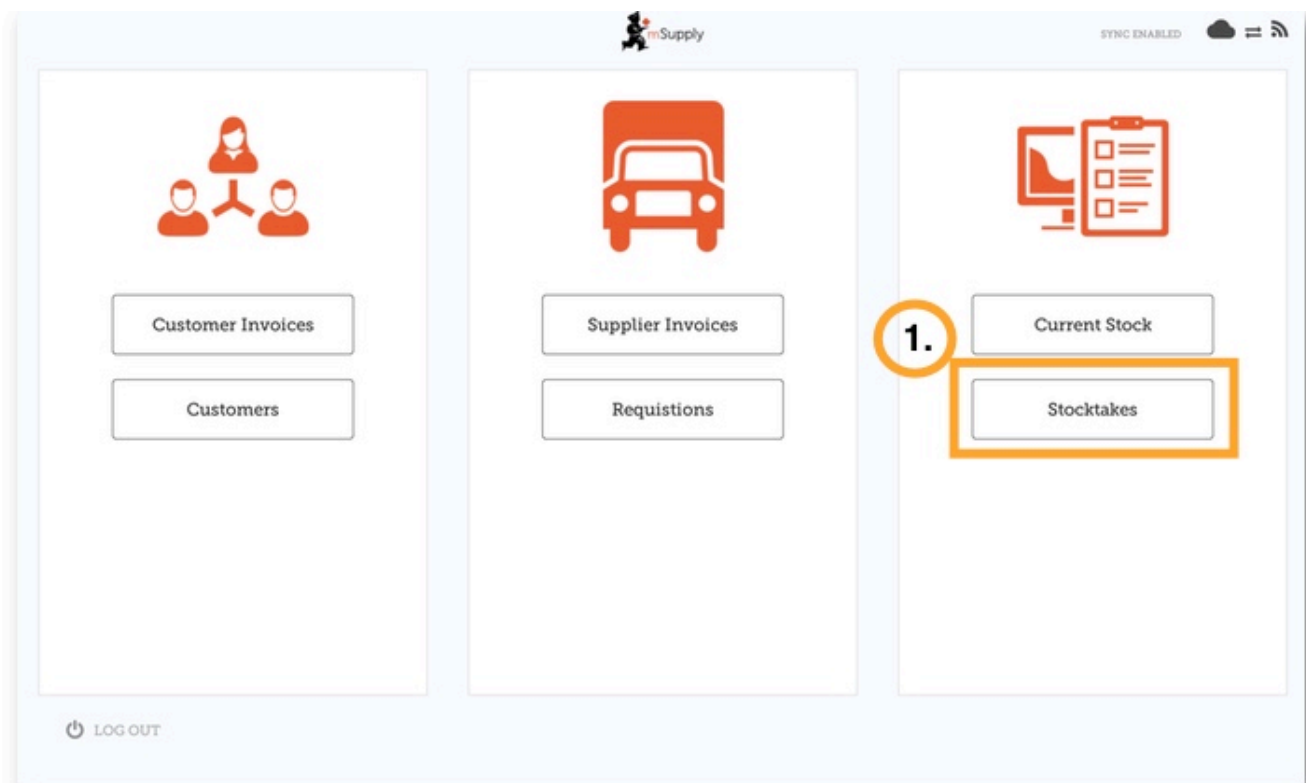
Stocktakes

You should already be doing stocktakes with your current ordering systems.

Stocktakes are a very important way to ensure that the orders we are placing are accurate and that the stock will be correct if anyone checks!

Ideally, you should be doing a physical stocktake of each item **EVERY** time you place a main order- but this depends on your local policies and procedures (and it may not be possible in larger facilities).

Let's learn how to do a stocktake... using mSupply Mobile makes doing stocktake a LOT easier than before.



1. In the main screen, click on 'Stocktakes'

This brings up a list of all your previous stocktakes. The description of each Stocktake will be shown, with its date and 'Status'.

There are two stocktake statuses: **In Progress (Current)** and **Finalised (Past)**.

An 'In Progress' stocktake is one you are still working on. If you want to keep working on an 'In Progress' stocktake, double click on it.

'In Progress' Stocktakes

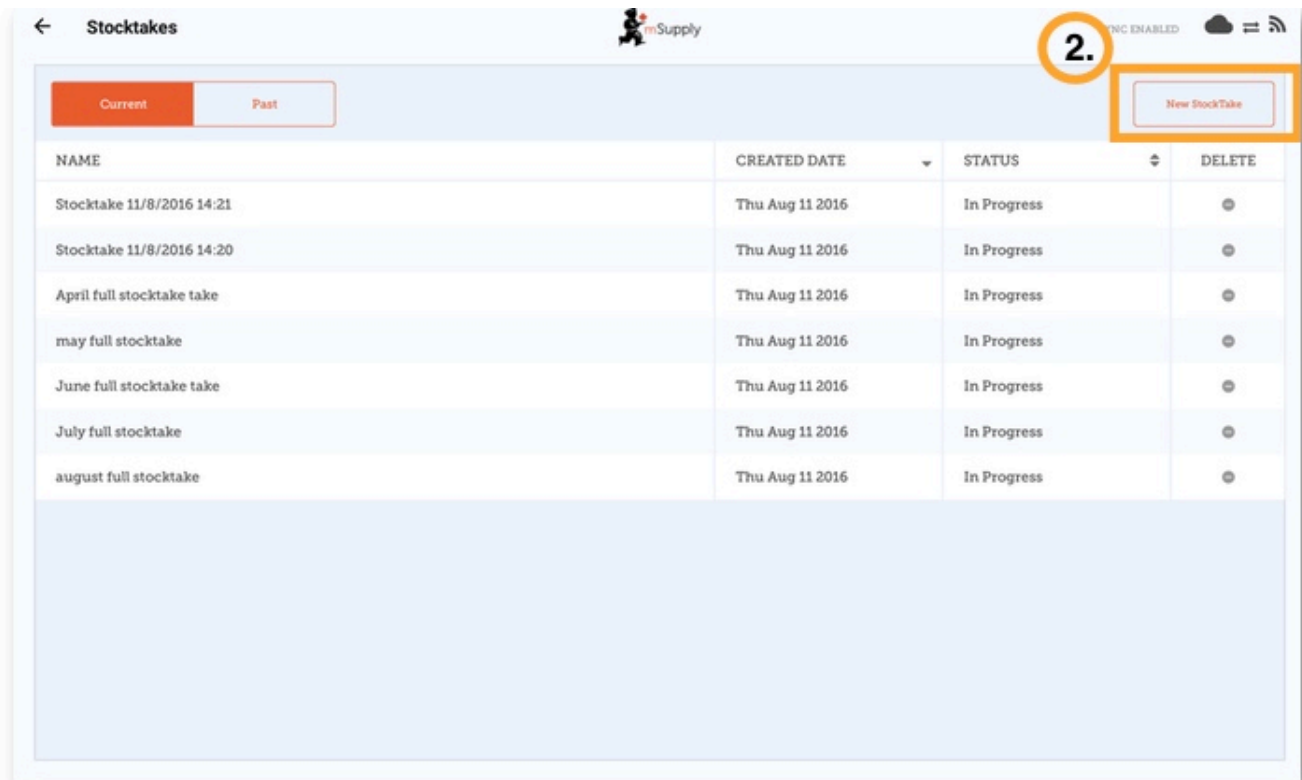
'In Progress' Stocktakes are the stocktake you are still working on, and haven't finalised.

We **strongly** recommend only having one In Progress Stocktake at any time. This will prevent mistakes when moving between them.

Finalise or delete old stocktake before starting new ones!

Let's start a new stocktake now...

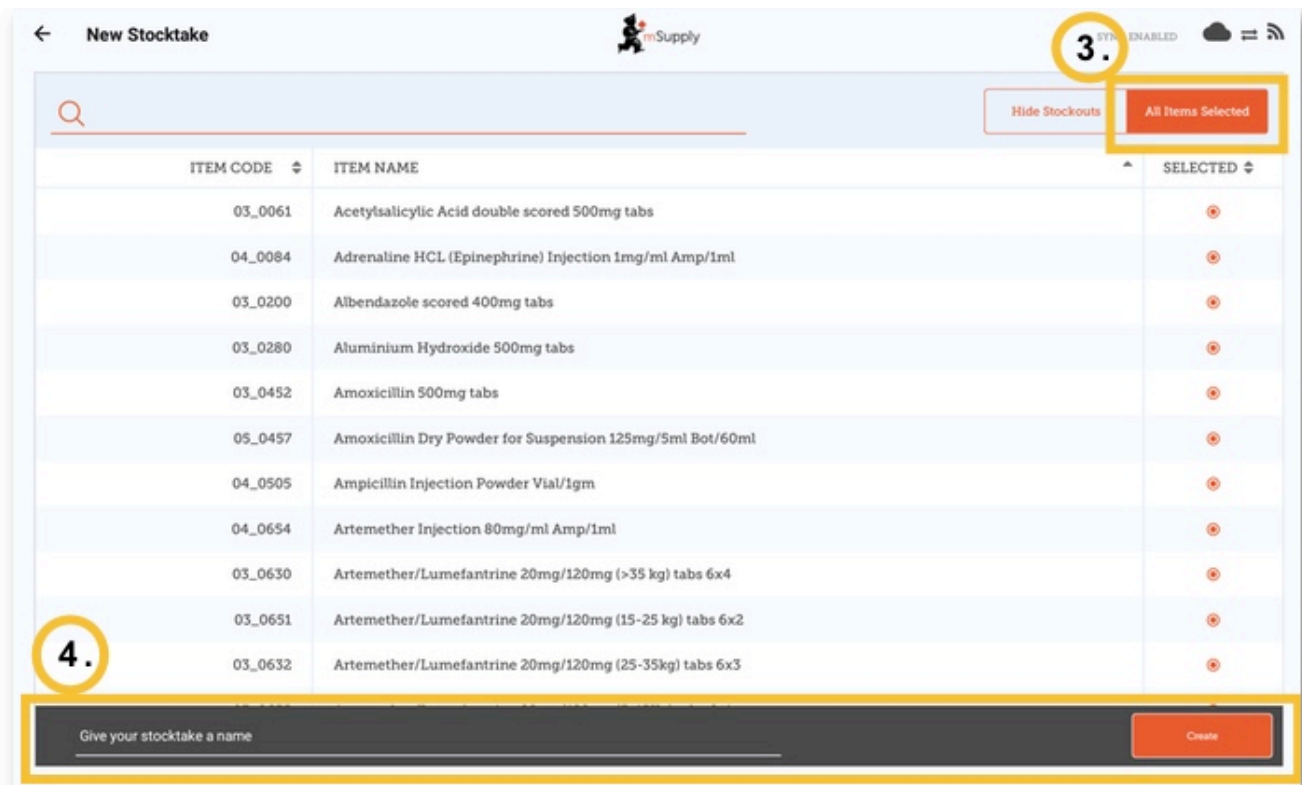
2. Click on 'New Stocktake'



3. Select the items that you wish to count by highlighting them in the far right column.

If you want to include EVERY item or most items, click 'All Items Selected'.

4. Give your stocktake a logical name, such as "April Full Stocktake'., and click CREATE.



5. This will bring up the stocktake editor. This lists each item, its 'Snapshot Quantity' and its 'Actual Quantity' (from the physical count). The Snapshot Quantity is what the system THINKS you have. If it is correct (when compared with your physical count), you don't need to do anything!

The Actual Quantity is what you have actually counted. You can change this by clicking in that column and typing in the correct quantity.

6. Go through each item and compare your physical count with the Snapshot Quantity. Change each one you have to by clicking in the 'Actual Quantity' column. If you change the amount of stock you have in the **Actual Quantity** column, this variation will now show in in the **Difference** column.

This can take some time but remember - if the Snapshot Quantity is correct, you don't need to do anything!

Stocktake 25/10/2016 12:09

ITEM CODE	ITEM NAME	SNAPSHOT QUANTITY	ACTUAL QUANTITY	DIFFERENCE
ace250t	Acetazolamide 250mg tab	9500	9480	-20
ace100t	Acetylsalicylic acid 100mg tab	30	No change	0
ace300t	Acetylsalicylic acid 300mg tab	0	No change	0
aci200t	Aciclovir 200mg tab	7650	No change	0
aci250t	Aciclovir sodium 250mg inj	100	No change	0
alb400t	Albendazole tab 400mg	300	No change	0
alb25i	Albumin, human injectable sol, 25%	500	No change	0
abi5i	Albumin, human injectable sol, 5%	5000	No change	0
alc110	Alcuronium chl 10mg/2ml inj	5000	No change	0
all100t	Allopurinol 100mg tab	2000	No change	0
alu13s	Aluminium diacetate solution, 13%	9000	No change	0
alu500s	Aluminium hydroxide 320mg/5ml oral susp	9950	No change	0
alu500t	Aluminium hydroxide 500mg tab	420	No change	0

7. When you are finished, click 'Finalise'.



This will update all your stock levels to match the quantities you have entered in the 'Actual Quantity' column.

Like always with mSupply Mobile, you don't need internet to do this - the information will sync in the background when internet becomes available.

Previous: Which one? Next: Tutorial Introduction

mSupply mobile API

**

What is it?

This document describes an application programming interface for communicating with mSupply.

Basics

- Communication is over HTTP protocol
- All data is submitted and returned as JSON

Authentication

- All requests must have standard HTTP basic authentication headers
- You **must** use SSL to secure your communications unless you want to tell the world your password.

GET - Getting data from mSupply

For all calls

- The basic syntax

```
http://server_ip_address/resource/id_of_resource
e.g. http://example.com/mobile/name/524
will retrieve the complete record for name whose ID=524
```

- or

```
http://server_ip_address/resource?field=blah,field2=blah2&sortby=+foo,-bar
e.g. http://example.com/mobile/name?name=foo@,customer=true&sortby=+name
will retrieve all names whose name starts with "foo" and who are customers, sorted by name i
n ascending order (a to z)
```

Note that a "/" is also allowed before the "?" in the URL e.g. `http://example.com/mobile/name/?name=foo@,customer=true&sortby=+name`

- Method: GET
- Note that all price data will be returned rounded to 2 decimal places.

Paging

- If you want a range of items, pass an HTTP header named "range" with a "from" and "to" value separated with a hyphen. See the following example to find out the right format for the "range" header.
 - e.g. to return the first 15 items:

```
range bytes=1-15
```

- The server will reply with a header containing the item range and the total number of items found:

```
items 1-15/568
```

Query notes

- For string searches you can use “@” as a wildcard, as in the example above
 - ?name=@foo@ will return all names containing “foo”
 - ?name=foo@bah will return all names starting with “foo” and ending with “bah”
- Allowed query operators are:
 - =
 - # (not equal to)
 - >=
 - <=
 - <
 - >
- A query operator must be followed by a query value
- All resources returned are first filtered by the server to only return valid results for the store the user is logged in to.
 - Transactions: only transactions created in that store
 - Items: only items visible in that store
 - Customers (names): only names visible in that store
 - More on stores here (http://docs.msupply.org.nz/other_stuff:virtual_stores)
 - There is a full list of field names here (http://docs.msupply.org.nz/admin:tables_fields) but note that as of Wednesday 31 October 2012 they haven't been updated for mSupply v3.2

Available resources

Items

Resource name	item
Fields you can query	any
Returns by default JSON array containing:	id code item_name stock_on_hand_tot
When a single item ID is requested	department category category2 stock_on_hand stock_available An array with a key of “lines” containing pack_size, available_quantity, batch, expiry_date, sell_price

Transactions

Resource name	transaction
Fields you can query	any

Returns a JSON array containing:	<p>id</p> <p>name (i.e. the name of the customer/supplier the transaction is to/from)</p> <p>entry_date</p> <p>confirm_date</p> <p>status (a two letter code denoting the status of the transaction)</p> <p>comment (the user-entered comment)</p>
If you only request a single ID (e.g example.com/mobile/transaction/558)	A JSON object containing every field for that record
Special case one: Getting An ID to use when submitting a new transaction; submit example.com/mobile/transaction/new_id Returns:	JSON object containing: new_transaction_id

Names

Resource name	name (a name can be a customer, a supplier, a manufacturer or a donor or a combination of these)
Fields you can query	any
Returns by default JSON array containing	<p>id</p> <p>code</p> <p>name</p> <p>bill_address1</p>

Invoice

Resource name:	invoice
Fields you can query	<p>none. Just call the ID number like this</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p>http://example.com/mobile/invoice/578</p> </div>

Returns by default JSON array containing

id
 name_id
 name_name (The actual name of the customer or supplier)
 total
 their_ref
 type
 entry_date
 confirm_date
 comment
 entered_by (username not ID)
 store (name not ID)
 hold
 lines: contains an array containing the lines on the invoice. Each array row contains:
 item_id
 item_name
 quantity (no. of individual items i.e. pack size x quantity in a pack)
 stock:
 contains an array of all stock lines used on the invoice, and also any other stock lines for items on the invoice whose quantity is greater than zero. This means that for a "normal" invoice line editing operation (where you are not changing the item) you already have all the information that you need without a further call to the REST server when a line is edited)

Example

```
{
  "id" : 587,
  "name_id" : 79,
  "invoice_num" : 256,
  "status" : "fn",
  "total" : 824.5,
  "their_ref" : "GIZ05",
  "type" : "ci",
  "entry_date" : "2012-09-30",
  "confirm_date" : "2012-10-30",
  "name_name" : "ZIGO HOSPITAL",
  "lines" : [ {
    "id" : 6396,
    "item_key" : 973,
    "item_line_key" : 960,
    "item_name" : "CLOXACILLIN TABS 250MG BOT/1000",
    "quantity" : 5,
    "pack_size" : 1000,
    "sell_price" : 161.61,
    "price_extension" : 808.05
  }, {
    "id" : 6397,
    "item_key" : 120,
    "item_line_key" : 14,
    "item_name" : "ATENOLOL TABLETS 50MG BOT/100",
    "quantity" : 5,
    "pack_size" : 100,
    "sell_price" : 3.29,
    "price_extension" : 16.45
  } ],
  "stock" : [ {
    "id" : 22126,
    "quantity" : 162,
    "batch" : "AD 1002",
    "expiry_date" : "2014-09-30",
    "pack_size" : 1000,
    "sell_price" : 147.09
  }, {
    "id" : 22307,
    "quantity" : 12,
    "batch" : "3026844",
    "expiry_date" : "2014-03-30",
    "pack_size" : 1000,
    "sell_price" : 139.3
  } ]
}
```

Stock

Resource name	stock
Fields you can query	any in the items table or for all the items of a particular invoice with the field "trans_id"

<p>Typically, having located an item to add to an invoice you will want to locate the total stock available for that item</p>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p><code>http://example.com/mobile/stock?ID=123 // stock for item.ID 123</code></p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p><code>http://example.com/mobile/stock?trans_id=123 // stock for transaction.ID 123</code></p> </div>
<p>Returned: an array of match records containing the item ID and the total stock quantity like this</p>	<pre>[{ "id" : 5265, "quantity" : 30, }, { "id" : 5275, "quantity" : 100, }, { "id" : 5274, "quantity" : 50, }]</pre>

Stocktakes

<p>Resource name</p>	<p>stocktake</p>
<p>Fields you can query</p>	<p>any</p>
<p>Fields returned from a query</p>	<p>ID description stocktake created date status</p>
<p>You can filter on type of stocktake by querying the status e.g.</p>	<div style="border: 1px solid #ccc; padding: 5px;"> <p><code>http://example.com/mobile/stocktake?status=sg</code></p> </div>
<p>Requesting a particular stocktake returns the following fields for the stocktake itself</p>	<p>description stocktake created date stocktake entered date status comment An array whose key is "lines" containing an these fields for each item in the stocktake: item code item name quantity (the pack size is assumed to be one) snapshot quantity</p>

Example	<p>the following request would return the information for the stocktake with an id of 123:</p> <pre>http://example.com/mobile/stocktake/123</pre>
Special Case: Creating a stocktake	<p>First you need to get a stocktake id that you can use by requesting the resource "new_id"</p> <pre>http://127.0.0.1:8081/stocktake/new_id</pre>

A note on creating stocktakes: the recommended process is:

1. Get a new stocktake id
2. Get items- this will also return the current stock on hand.
3. Display this, along with a column for the user to enter current stock on hand
4. When ready to save, post the data (below). Wasn't so hard!

Categories

Use this resource to return lists of different types of categories in mSupply.

Resource name	category
Fields you can query	any
Fields returned from a query	<p>id - the id of this category (unique only among categories of the same level)</p> <p>description - the descriptive name of the category</p> <p>type - the category's type. Can be one of 1level1, 1level2, 1level3, 2 or 3</p> <p>parent_id - the id of the category which is the parent of this one. 0 means the category has no parent</p>
You can filter on type of category by querying the type (which can take the values "item", "purchase_order", "transaction" and "name")	<p>The following query will return all the categories for items</p> <pre>http://example.com/mobile/category?type=item</pre>

Catalogue Items

Resource name	cataloguelitem
First URI (Uniform Resource Identifier) segment	catalogue

Fields you can query	any
Fields returned from a query for each item	<p>id - the item's unique id code</p> <p>Item - the item's code</p> <p>item_name - the item's descriptive name</p> <p>indic_price - the catalogue price of the item</p> <p>description - the lowest level category (category 1, level 3) that the item belongs to</p> <p>units - the units the item is provided in e.g. Amp (ampule)</p> <p>Tab (tablet), report_quantity - the pack size of the item in the catalogue, e.g. the following query would return all items with an id greater than -1 and a name beginning with "a"</p>

* You can filter on the category that items belong to by querying the category number and level. There are 3 categories (1-3) but please note that category 1 is hierarchical; it has 3 levels - level 1 is the parent, level 2 categories are children of level 1s and level 3 categories are children of level 2s. So, altogether you can query category1level1id, category1level2id, category1level3id, category2id and category3id. Note that all queries by category will return items that belong to that category and those which belong to all its child categories e.g. this query will return all items assigned to the level 2 category 1 which has an id of 4 **and all items belonging to category 1 level 3 categories that are children of it:**

Example	<code>http://example.com/catalogue/catalogueItem?category1level2id=4</code>
----------------	---

Customer Stock History Items

Resource name	customerstockhistory
Fields you can query	any
Fields returned from a multiple query	id, date_entered
Fields returned from a single id	<p>id, date_entered, stock_take_date, lines (array)</p> <p>The lines object array contains:</p> <p>id (the id of the line, [name_s_h_line]id)</p> <p>item_id (the id of the item, [name_s_h_line]item_id)</p> <p>item_name (the name of the item - [item]item_name using [name_s_h_line]item_id)</p> <p>item_code ([item]code using [name_s_h_line]item_id)</p> <p>store_stock (the amount of stock (number of items not packs) the supplying store has of this item)</p> <p>stock_on_hand (the stock on hand entered by the user, [name_s_h_line]stock_on_hand)</p> <p>usage (this store's daily usage of this item. Calculated as (stock on hand last stocktake + stock received last stocktake - stock on hand this stocktake)/number of days between this and the previous stocktake. Use new [name_s_h_line]previous_stock_on_hand and [name_s_h_line]previous_received_from_us fields in the calculation)</p> <p>comment (the line's comment - [name_s_h_line]comment)</p>

Version

Resource name	version
Fields you can query	none
Returned	the current mSupply mobile version
Example:	<code>http://example.com/mobile/version</code>

Master List

Resource name	masterlist
Fields you can query	name_id, type (the type of list to return)
Returned	JSON containing the items for the associated masterlist belonging to the name of the specified type
Example	<code>http://example.com/mobile/masterlist/name_id="123"&type=weborder</code>

Settings

Resource name	settings
Fields you can query	none. Precisely.
Returned	A JSON object with three entities: timeout, name_id, name- This is the id and name of the customer or supplier or store
Example	<code>http://example.com/mobile/settings</code>

Purchase orders

Resource name	po
Fields you can query	id
Returned	JSON containing the Purchase Order details for the ID you queried
Example	<code>http://example.com/mobile/po/id="123"</code>

Reports

Resource name	report
Query	type with one of three options: type=currentstock or type=expiringstock or type=orderedvsreceived
Query parameters	type=currentstock: none type=expiringstock&nummonths=xx where nummonths is the number of months in advance of the current date to compare expiry dates with type=orderedvsreceived&from=yyyymmdd&to=yyyymmdd where the from and to dates in yymmdd format are entered.
Returned	JSON containing the "Successfully sent" or any errors encounters
Example	<div style="border: 1px solid black; padding: 5px; width: fit-content;">http://example.com/mobile/report/type=currentstock</div>

POST/PUT - Sending data to mSupply

- Must include authentication header
- Data in HTTP body as JSON
- Two types of POST/PUT: **New** and **Update**
- For **New** records:
 - Must use POST method without 'If-Match: *' header.
 - Append the id of the record to be created to the resource: e.g. POST http://example.com/mobile/transaction/134 (http://example.com/mobile/transaction/134)
- For **Updates** to an existing record:
 - Must use either POST method with 'If-Match: *' header or PUT method (headers ignored). e.g. PUT http://example.com/mobile/transaction/134 (http://example.com/mobile/transaction/134)

Available resources

Invoices

resource name	invoice
Submit JSON containing	

Transactions

- Resource name: transaction
- Create a transaction
 - Submit a JSON object containing:
 - new_transaction_id (you must have already requested this from the server - see above)
 - comment
 - name_id
 - lines (contains a JSON array:)
 - item_id
 - quantity
 - Payload.

```
{
  "id": 34592,
  "comment": "test 1",
  "name_id": 3,
  "lines": [
    {
      "item_id": 19697,
      "quantity": 2
    },
    {
      "item_id": 22845,
      "quantity": 1
    }
  ]
}
```

- successful completion returns a JSON object with “invoice_num” and a number
- Assumed data: The following data is assumed and can not be submitted (will be ignored if you try)
 - The transaction type: it's a customer invoice (“ci”)
 - The store ID: it's the store you're logged in to.
 - The user: it's the user who is logged in.
 - The entry_date: it's today.
 - The confirm_date: it's today.
 - The status: will always be “cn” (confirmed).
- Updating a transaction:
 - for supplier invoice we are editing only hold status for now. So json payload would be:

```
{
  "id": 1002,
  "hold": "true"
}
```

- for customer invoice we can also update line quantity

```
{
  "id": 34592,
  "comment": "test 2",
  "lines": [
    {
      "transline_id": 19697,
      "quantity": 20
    },
    {
      "transline_id": 22845,
      "quantity": 10
    }
  ]
}
```

- Delete transaction lines:

```
{
  "id": 34592,
  "comment": "test 2",
  "lines": [<all_lines>]
}
```

Stocktakes

Resource name	stocktake
Method	POST
Submit a JSON object containing	id (you must have already requested this from the server - see above)
Finalising a stocktake	body: include an item “status” with value “fn”
Assumed fields	stock_take_created_date created_by_id finalised_by_id store_id

<p>example 1</p>	<p>Submit a stocktake and finalise http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> { "status": "fn", "id": 123, "stock_take_date": "2013-02-08", "description": "8/2/2013 Stocktake, Comment: 'test'", "lines": [{ "id": 123, "item_id": 234, "item_line_id": 345, "item_name": "test_item1", "snapshot_qty": 300, "stock_take_qty": 310 }, { "id": 222, "item_id": 232, "item_line_id": 212, "item_name": "test_item2", "snapshot_qty": 400, "stock_take_qty": 300 }] } </pre> <p>if the previous status was "sg", the mSupply server will now create the appropriate inventory adjustments, as well as changing the status of the stocktake.</p>
<p>example 2</p>	<p>Submit a stocktake with status "sg" http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> { "new_stocktake_id": 34592, "description": "stocktake test", "status": "sg", "lines": [{ "item_id": 19697, "stock_take_qty": 100 }, { "item_id": 22845, "stock_take_qty": 80 }] } </pre>
<p>example 3</p>	<p>Finalise an existing stocktake http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> {"status": "fn"} </pre>

Customer Stock History

Resource name	customerstockhistory
Method	POST
Submit a JSON object containing an array with 3 fields	id requested_quantity user_comment

DELETE - Delete Records

Available resources

Stocktake

- Deleting a stocktake

- e.g. `http://127.0.0.1:8081/stocktake/123` (`http://127.0.0.1:8081/stocktake/123`)
- Method: DELETE
- Returns a JSON object containing a Description field with the value “stock take id xxx is deleted.” where xxx is the id of the stocktake deleted.

Invoice

- <add here>

Item

- <add here>

Errors

- Errors are returned as a JSON object with one item “error” whose text content is the error message
- e.g.

```
{"error": "we can't take you seriously while you insist on wearing that cardy"}
```

- Here is a list of error messages you might see. Most are self-explanatory:
 - “No search parameter specified”
 - “No query parameter specified”
 - “Invalid resource specified”
 - “Invalid sort field specified”
 - “Invalid range header specified”
 - “No transaction with that ID found”
 - “Invalid transaction ID specified” (Different to above, in that you specified a non-numeric or negative ID)
 - “Yikes! Multiple transactions with same ID found” (you'll never see this error, or we'll be eating hats).

Previous: The Online Catalogue Next: Currencies

mSupply sync API

*

What is it?

There are multiple ways to configure an mSupply installation. Where the internet is good, or you are using a local area network, you can have real-time communication with an mSupply server. Where internet access is poor or non-existent, we have mSupply sync. You can have a local application that saves all the changes the user makes to a local database - this can be a mobile app, a single user application on a PC or a tablet, or a client-server application on a local LAN (Local Area Network).

The machine on which the data is stored, which we call a *satellite*, then periodically communicates with a central mSupply server, which we call the *primary* - this may be in a central location in the country, or it may be a cloud-based server. The REST API (Application Programming Interface) described here is used to send and receive data from the primary server to keep both satellite and primary sites up to date with data additions, modifications and deletions. See Remote Synchronisation for more details on how sync works.

Basics

You might want to read about our mSupply Mobile API, as the basics are the same. That is:

1. The SYNC API (Application Programming Interface) is a subset of the mSupply REST API (Application Programming Interface).
2. All calls to the sync API (Application Programming Interface) use a pseudo-resource of “sync”.
3. The second URI (Uniform Resource Identifier) segment is the API (Application Programming Interface) version.
Allowable values:

Value	Release Date
v1	25 Jan 2016
v2	01 Mar 2017

Our Android mobile app uses v2 exclusively to communicate with the primary mSupply server, whereas mSupply itself uses v1 for synchronisation between different instances of mSupply. For example, you call “https://example.com/sync/v1/somewhere” (https://example.com/sync/v1/somewhere”).

Server requirements

You will need to be querying an mSupply standalone or server that:

1. Has a fixed IP address.
2. Ideally has a domain name and a valid SSL certificate - we rely on SSL for stopping your communications and password(s) being acquired. You should use it.
3. Is reachable from the machine you are using these APIs on.

Authentication

We use basic HTTP authentication:

1. v1 of the API (Application Programming Interface) only supported a simple *username:password*, with each satellite sharing the same credentials for a single special sync user on the primary server.

2. v2 expects the password part to be SHA256 encoded i.e. *sitename:SHA256_encoded_password*, and each satellite can have its own individual site name and password credentials on the primary server.
3. v1 now also supports SHA256-encoded passwords and individual satellite site credentials.

Available calls (v1)

Note that each site has a unique integer ID, and that the ID for the primary server (running a web server) is always set to 1.

HTTP GET

```
https://example.com/sync/v1/queued_records/count?from_site=4&to_site=1
```

will retrieve the number of sync records in the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1.

```
https://example.com/sync/v1/queued_records/?from_site=4&to_site=1&limit=10
```

will retrieve the first 10 sync records in the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1. If *limit* is missing, it will only retrieve a single record from the head of the queue.

```
https://example.com/sync/v1/queued_records/?from_site=4&to_site=1&sync_id=GSHJDJKSKS
```

will retrieve a single sync record from the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1, where the sync record ID=GSHJDJKSKS (UUID).

```
https://example.com/sync/v1/initial_dump/?from_site=4&to_site=1&type=full
```

will request the sync site with ID=1 to regenerate all sync records for the sync satellite site with ID=4 (the requesting site). This is used to (re)initialise a new satellite. If *type* is missing, or has any other value, then only the subset of sync records necessary for a mobile store will be generated.

HTTP POST

```
https://example.com/sync/v1/acknowledged_records/?from_site=4&to_site=1
```

will inform the server that the sync records whose IDs (UUID) are specified (as JSON) in the HTTP BODY have been consumed from the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1.

```
https://example.com/sync/v1/queued_records/?from_site=4&to_site=1
```

will apply the sync record data specified (as JSON) in the HTTP BODY from the sync satellite site with ID=4 (the requesting site) to the sync site with ID=1. Multiple sync records can be sent in one packet.

Format of a record

- The format is JSON.
- If there is more than one record returned or to be sent, each record is an element of a JSON array.
- v1 uses internal field numbers and table numbers.
- Text ID fields are always UUIDs.
- Blobs, pictures etc. are BASE64 encoded.
- Example for v1:


```
[
  {
    "SyncID": "asdlkfj",
    "TableNumber": 3,
    "RecordID": "dkfaadj",
    "KeyFieldID": 5,
    "SyncType": "U",
    "StoreID": "knvslkj",
    "fields": [9, 11, 3],
    "values": ["sadflkj", "Trinity", "12"]
  }
]
```

Available calls (v2)

The v1 [API \(Application Programming Interface\)](#) calls above behave in exactly the same way for v2, except that the format of any sync records transferred is different. The extra v2-specific [API \(Application Programming Interface\)](#) calls below are used to retrieve the necessary parameters for our mobile app, which is designed to host a single store.

HTTP GET

```
https://example.com/sync/v2/queued_records/count?from_site=4&to_site=1
```

will retrieve the number of sync records in the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1.

```
https://example.com/sync/v2/queued_records/?from_site=4&to_site=1&limit=10
```

will retrieve the first 10 sync records in the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1. If *limit* is missing, it will only retrieve a single record from the head of the queue.

```
https://example.com/sync/v2/queued_records/?from_site=4&to_site=1&sync_id=GSHJDJKSKS
```

will retrieve a single sync record from the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1, where the sync record ID=GSHJDJKSKS (UUID).

```
https://example.com/sync/v2/initial_dump/?from_site=4&to_site=1&type=full
```

will request the sync site with ID=1 to regenerate all sync records for the sync satellite site with ID=4 (the requesting site). This is used to (re)initialise a new satellite. If *type* is missing, or has any other value, then only the subset of sync records necessary for a mobile store will be generated.

```
https://example.com/sync/v2/site/?site_name=Satellite4
```

will retrieve the site ID (integer) and the corresponding store ID (UUID) and store-name ID (UUID) for the sync satellite site with name=Satellite4 on the primary sync site.

```
https://example.com/sync/v2/user/?store=CVCBNXNSHSH
```

will retrieve the user ID (UUID) for the sync satellite site having store ID=CVCBNXNSHSH (UUID, returned by the above REST call) on the primary sync site.

HTTP POST

```
https://example.com/sync/v2/acknowledged_records/?from_site=4&to_site=1
```

will inform the server that the sync records whose IDs (UUID) are specified (as JSON) in the HTTP BODY have been consumed from the outgoing queue for the sync satellite site with ID=4 (the requesting site) on the sync site with ID=1.

```
https://example.com/sync/v2/queued_records/?from_site=4&to_site=1
```

will apply the sync record data specified (as JSON) in the HTTP BODY from the sync satellite site with ID=4 (the requesting site) to the sync site with ID=1. Multiple sync records can be sent in one packet.

Format of a record

- The format is JSON.
- If there is more than one record returned or to be sent, each record is an element of a JSON array.
- v2 uses field names and table names as described in the Field descriptions chapter.
- Text ID fields are always UUIDs.
- Blobs, pictures etc. are BASE64 encoded.
- Example for v2:

```
[
  {
    "SyncID": "kjhkljg",
    "RecordType": "trans_line",
    "RecordID": "dsfhjd",
    "SyncType": "I",
    "StoreID": "klsvnsl",
    "Data": {"item_name": "hello", "quantity": "95555", "cost_price": "65.5"}
  }
]
```

Introduction

Thank you for choosing mSupply.

Before you launch in (if you haven't already!), we suggest you plan to take the following steps.

- Read the rest of this introduction.
- Read the setup, tutorial and license chapters in this manual.

Please note that installation requires basic computer skills:

- You need to be able to locate a file using the “open” and “save” windows.
- If you are not sure, why not try, and email us if you get stuck.

mSupply is designed to handle the following tasks:

- Recording quotations received from various suppliers in a way that makes for easy comparison of true cost prices.
- Create tenders for suppliers to respond to.
- Ordering (Purchasing) of items from a particular supplier, using actual usage figures to calculate the required quantities.
- Entering of incoming goods into inventory.
- Manufacturing items. That is, building new items from raw materials in your stock.
- Tracking Accounts Payable and Accounts Receivable
- Issuing of invoices for customers, and recording the transaction against inventory.
- Customers are able to order on-line via the internet, and can view stock status and the status of their orders.
- Exporting purchase and invoice data for import into an accounting program.
- Reporting on transactions and other data in almost any manner you want!
- If you need help with installing mSupply please feel free to email us at info@msupply.org.nz
(<mailto:info@msupply.org.nz>)

About this user guide

The latest and most authoritative version of this User Guide is located on-line at <http://docs.msupply.org.nz/> (<http://docs.msupply.org.nz/>). You can export the chapter you're viewing in PDF format by clicking the **export:pdf** tab to the right. It may then be viewed off-line within Acrobat Reader or other PDF viewer. To obtain the whole user guide in PDF format, visit <http://www.msupply.org.nz/download> (<http://www.msupply.org.nz/download>)

If you are reading a PDF version, it is likely that a more up-to-date version is available on-line.

The software is under constant development as new features and facilities are added. We strive to ensure that the user guide and the graphics that it contains reflect these developments, but occasionally you may find that there are differences between the program itself and the guide or its graphics, where the updating of the guide has not quite kept pace with the development of the software. These are usually of a minor nature, but should you have any difficulties, do please send us an e-mail with details of your problem.

It should also be noted that with the considerable range of preferences and user permissions, a particular user's window may have features included or omitted (according to their preferences and their permissions) when compared with the screenshots appearing in the guide.

As mSupply is compatible with both Windows OS (Operating System) and Apple Mac OS (Operating System), there is a mix of screenshots in the manual taken from each operating system.

About us

Sustainable Solutions was established in 2001 with the primary aim of supplying and supporting mSupply software in developing countries. We are committed to producing software that enables excellence in health care delivery. We take pride in looking after people who choose to use our services.

We are based in Kathmandu, Nepal

We can be contacted at:

- email: info@msupply.org.nz (<mailto:info@msupply.org.nz>)
- or info@sussol.net (<mailto:info@sussol.net>)
- phone: +977 1 5548021,
- fax: +1 (815)572-9431
- post:
 - PO Box 8975, EPC 355,
 - Kathmandu,
 - Nepal

Please feel free to request more information.

Thanks

Juliet has always been encouraging and more, and has put up with me thinking about mSupply when I shouldn't have been.

This software grew out of necessity at the Medical Supply Department, Kathmandu, Nepal. We learnt a lot from Jaap Zipp's software "Bhandari", and from the staff at MSD where *mSupply* was originally developed and tested.

Ujwal Khatry has stuck with Sustainable Solutions for ten years, including the startup period where our company name could well have been a misnomer.

Jim Staples of 4D inc. <http://www.4D.com> (<http://www.4D.com>) kindly arranged an initial donation of the superb development environment we use.

Thanks to those people in the 4D tech mailing list who have helped for no benefit to themselves.

John Ross, Pharmacist of Patan Hospital, Kathmandu, believed in the quality of mSupply enough to use it long before it was fully ready.

David Adams kindly donated his superb texts on 4D.

The moderators of the E-Drug mailing list have been gracious in letting us use that list for occasional announcements.

Copyright

mSupply software is copyright Sustainable Solutions, 2006, UMN/INF/Interserve 1996 to 1999. You may only use the software in accordance with the accompanying licence agreement.

Licence Agreement and Costs

Commercial users or any user wanting multi-user functionality enabled must obtain a licence from Sustainable Solutions.

Please view our web site <http://www.msupply.org.nz> (<http://www.msupply.org.nz>) for up-to-date pricing.

A free version of mSupply is available for Non-commercial use

- You may use mSupply software in single user mode for free as long as it is used:

- in an approved not-for-profit organisation
- in a developing country.
- Sustainable Solutions shall be the sole arbiter of those qualifying for free use.
- All users (free and paid) must register with Sustainable Solutions to obtain a registration code. Information supplied will not be used for any purpose other than generation of registration code.
- Users who have obtained a free licence number are not eligible for free support.

Please contact us for quotes regarding customised versions and installation and training packages.

Changes in recent versions

The mSupply version history is available here (<http://msupply.org.nz/history>)

Conventions used in this user guide

If you aren't familiar with using a computer, you should read this chapter, and also work through the tutorial.

Menus: Choose *New item...* from the *Item* menu (sometime also written as *Choose Items > New item...* means ... Click on the word *Item* in the menu bar, then choose *New item...* from the menu that drops down.

Keyboard keys: A handful of keys on the keyboard are used extensively and are indicated in *italics* font. The most common are: *Tab*, *Shift*, *Ctrl*, *Alt*, *Enter* and *Backspace*.

Field: An area where you can make an entry, either text or numbers - usually a white coloured box.

Typed data: Anything that must be typed into a field is shown in `monospace` font . For example: Type `100` and press *Enter*.

Check box: is a box that changes from having an “X” in it to being blank each time you click in it. To “check” a check box means to click it so that an “X” appears (if there is not one already present). Check boxes have text beside them explaining what the box is for.

Tab & Shift: You can generally move the “focus” (the active area) from field to field in a window by using the *Tab* key. Holding down the *Shift* key while pressing the *Tab* key will move the focus from field to field in the reverse order to normal. Note that on Windows, some buttons are “tabable”- that is, pressing the *Tab* key moves the “focus” to a button. Pressing the *Return* or *Enter* key then activates that button.

Highlight button: Pressing the *Enter* key will operate the highlighted button in a window, which is usually the OK button.

Double-click: In lists (e.g. of Names or of Items), double click the left mouse button on a line to edit or view more details.

Insertion point: is the blinking line in a field that indicates which field is currently accepting typed input.

OK button: The OK button can be operated by pressing the *Enter* key.

Cancel button: The cancel button can be operated by holding down *Ctrl* key (*cmd* on Macs), and pressing the period key (full stop).

Path to a file (or document): is a way of describing where a document is stored on your hard disk. It is written as “hard disk:folder 1: folder 2:document”, which is the same as “C:\folder 1\folder 2\document”.

Modifier keys: Windows and Macs have different modifier keys. We've tried to list both in the manual, but sometimes one might slip through, so

- The Windows *Ctrl* key does the same as the *cmd* (command) key on Macs
- The Windows *Alt* key does the same as the *opt* (option) key on Macs.

Column headings: Column headings can be clicked to sort the list by that column.

Stock: Also called “inventory” - an entry in mSupply that represents physical stock (inventory) in your store.

Item: An “ item ” in mSupply is a particular product. An item may or may not have stock lines at any given time. For example: In the example data file provided with mSupply, “Amoxicillin 250mg tab/cap” is an item. When you first start to use the example data file it has 2 stock lines. (You can view them under the “stock” tab of the *Item details* window (more on that later!).

Item lines (or “stock lines”) represent different batches of the same item in your store.

Negative values: In general, there is no need to enter negative values in mSupply. Even when you are entering returned goods from customers, or returned goods to suppliers, you must enter positive values. mSupply automatically converts the invoice total to a negative amount when it is a credit to a supplier or from a customer.

Supplier invoice: A supplier invoice is the same as a “bill” or a “purchase”

Build: A transaction that records the manufacturing of an item by turning raw materials into a finished product - refer Building (Manufacturing) Items.

Setting up mSupply

Hardware requirements:

Windows

Hardware requirements vary widely depending on what you want to use mSupply for

Here's a rough guide.

Absolute minimum	Windows 7,XP, Vista or Windows 2000 computer with a 500 Mhz Pentium processor or equivalent.
Suggested single user or Client machine for use with server.	Win 2000 or later, 800 Mhz or faster Pentium processor or equivalent, 256Mb RAM
Suggested server	Win 2003 or XP or Win 7 or later, 1.8Ghz Core 2 duo or equivalent, minimum of 1Gb RAM. 4Hard disks. 3 configured as RAID5, Attached to Uninterruptible Power Supply (UPS) unit with software to shut down server if battery power is about to run out.

Macintosh

- Mac OS (Operating System) X 10.5 or later.
- 50Mb hard disk space.

Backup system

Once you start using mSupply, it is of crucial importance that you have a method of backing up your data. mSupply stores all its data in a file that rapidly becomes large. You need, therefore, to have a high capacity removable storage device. We strongly recommend the use of an external hard disk using either firewire (IEEE 1394) or USB2 to facilitate off-site storage of backups.

- See the section in Preferences that covers mSupply's built-in backup features that allow backup to another disk, and to an internet backup site... you'll find it here: Backup
- If not using our internet backup service, you need to be able to store backed up data off-site to prevent the risk of loss by fire, theft, etc.

Sustainable Solutions will not be able to help you recover lost data in the event of hardware failure if no backup is available.

Antivirus

Windows based operating systems are particularly prone to malware if precautions are not taken. We recommend the following precautions:

- Install a reputable anti-virus program, including web protection if the computer has access to the internet. We recommend F-Prot (<http://www.f-prot.com/>).
- Disable USB ports - refer to this site (<http://www.thewindowsclub.com/disable-enable-usb-windowunlock-pen-drive-at-office-or-school-computer>) for suggested methods.

Ensure that access to passwords to allow exceptions to the above two measures are kept secure.

Hardware recommendations:

- A connected printer is not absolutely necessary in every situation, but for most situations it is a requirement. A dot-matrix printer may be used, but an ink-jet or laser is preferable.
- Buy hardware for which you are able to obtain good support.
- Buy brands with a reputation for quality (even if it means buying a slower/older machine).
- We have clients running mSupply on a wide range of hardware. We are happy to discuss hardware options further via email or phone.

Upgrading from previous versions

If you open a data file that was created with a previous version, it will automatically be updated to the new format. Please note that this process may take some time.

Note that if you are using a version earlier than v1.96 you must upgrade to v1.96 and then to version 2 or 3.

IMPORTANT! Always make a backup of your data file before upgrading, and preferably keep a copy off-site. We will not be able to help you in the event of some unexpected disaster if you haven't followed this advice!

Installation

We are assuming you have obtained mSupply via the Internet or on a CD.

If you have downloaded the file you need, and you have saved it to your desktop, it is important that you saved the file with an “.exe” extension or it will not run (You can rename a file by right-clicking on it). The default name for the file is “mSupply_installer.exe”

If you are using the CD, it should automatically run when inserted. Otherwise, locate the file “mSupply.....exe” on the CD using Windows Explorer.

It is strongly recommended that users who are not familiar with program installation adhere to these directions.

- Double-click “mSupply_installer.exe”, and it will automatically run the mSupply installer.
- The installer will do the following:
 - Create a folder on your chosen drive called “mSupply”

- In Windows XP & 2000, create in the mSupply folder a sub folder called “Database” containing an example data file.
- In Windows Vista and Windows 7, the example data file is installed in the My Documents/mSupply/Example sub folder.
 - NOTE: You can use this data file for practice. (Or use the tutorial at the start of the manual to learn the basics quickly)
- Install the “mSupply.exe” application and associated files. Double-clicking this file will do the same as double-clicking the “start mSupply” icon on your desktop.
- Install “readme.txt” - information on licensing and using mSupply.
- Install “mSupply manual....pdf” - this document (CD version only).
- Create two shortcuts on your desktop: “ start mSupply” and “ mSupply manual” (CD version only)
- Create a “mSupply folder” entry in the “programs” section of your “start” menu.

Now you are ready to begin! Proceed to the section below on starting the example database.

Example data file

The mSupply installer treats Example data files in a special way. Re-installing mSupply on a previous installation will replace all the files except the Example data file. This is to prevent valuable data from being deleted as users may have started entering actual stock into the Example data file.

To install a fresh copy of the Example data file on Windows you can carry out one of the options described below:

- Un-install mSupply using the Windows menu *Start > Program Files > mSupply > Uninstall mSupply* . This will remove all installed files of mSupply which includes the Example data files. Re-installing mSupply now will install a fresh copy of the Example data file.
- You can manually delete the Example data file and re-install mSupply. The mSupply installer will install a fresh copy of the example database as the previously installed file has been deleted.

On Macintosh machines, simply replace the *Example* folder from the mSupply installer image.

Notes for Windows users

- In the *regional settings* in Control Panel, we recommend that the short date format is set to display only 2 digits for the year (YY, not YYYY).mSupply lists are set up to allow only enough space for 4 digits with most font sizes, but occasionally 4 digit years may be truncated. Having the wrong setting here will only affect display, not the actual data. It does *not* matter if you use DD/MM/YY or MM/DD/YY or YY/MM/DD
- If the display of lists in mSupply overlaps the separator lines, turn off *large font* in the *display* control panel.

Starting mSupply for the first time

To start mSupply, either

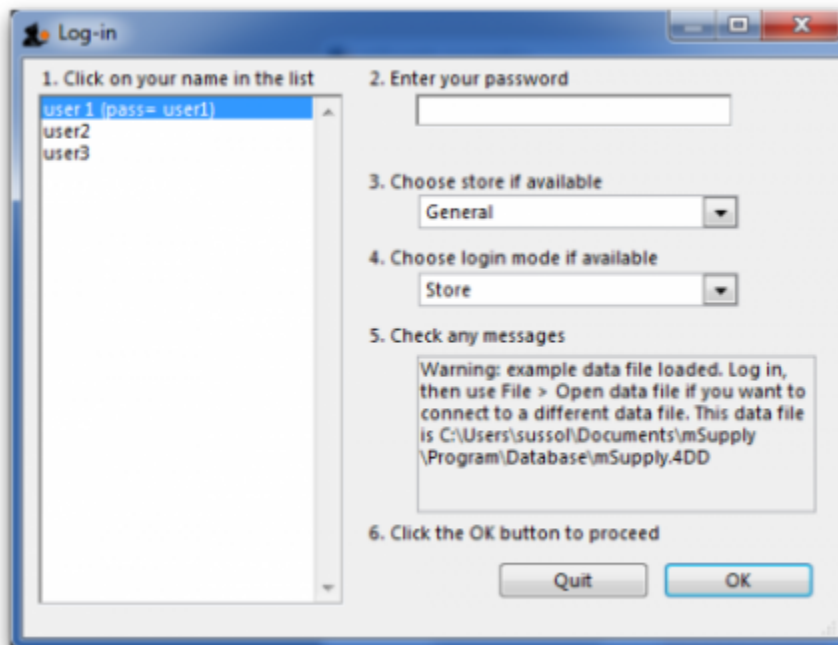
- double-click the *start mSupply icon* on your desktop, or
- choose the *start mSupply* item from the mSupply menu in the programs section of the Start menu (on Windows). If this is the first time mSupply has been started after installation, then an example data file will be opened allowing you to follow the mSupply tutorial. mSupply will present you with a log in window.

Note that mSupply will “remember” the last data file used, and automatically present the log-in window for that file unless you move or rename your data file. If you do this, mSupply will show you a standard open/save window for you to choose the new name/location of your data.

Creating a new data file

If you would like to create a new data file now, then log in to the example data file and from the mSupply menu do the following.

- *File > New Data File...* Navigate to a convenient location. Assign a name to your data file and click the save button. mSupply will now start creating a new data file.
- You will be presented with a login window. See below for instructions



- Start entering your data.

Alternative method for creating a new date file

Here is an another way to create a new data file.

- Quit mSupply if it is running.
- Start mSupply and then immediately hold down the “alt” key (You will now be shown the following which has a number of radio buttons with the different options available.

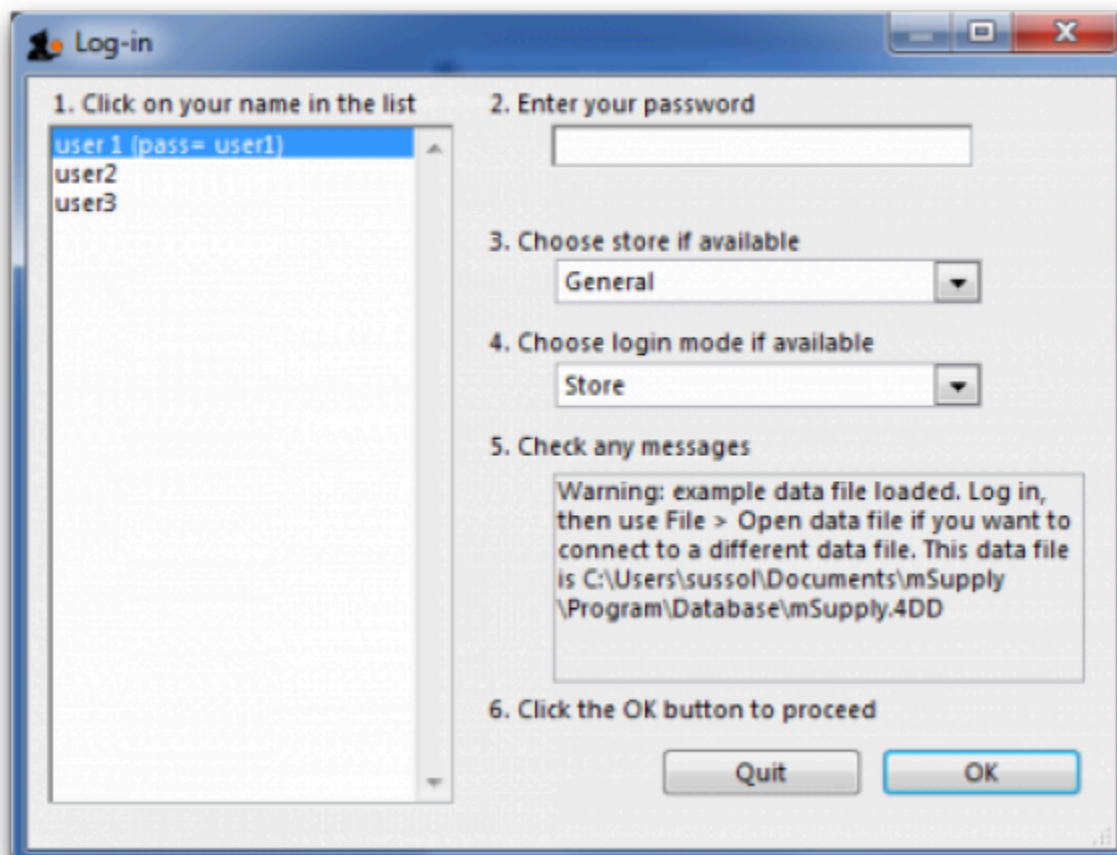


- Choose the 3rd radio button *Create a new data file* . Another window will open where you can choose the location and name of your new data.

Once mSupply has opened up a particular data file, that file becomes the default file which is opened automatically on restarting mSupply. To use a different file, it must be chosen, as described later. If the default data file is renamed or moved to a different location, it must be opened using its new name or location.

Log-in to mSupply

The first time you use mSupply, you will be presented with the log-in window like this:



mSupply® ships with three users. “user 1” and “user 2” are the designer and administrator - these two users cannot be deleted, but they can be edited, allowing the use of appropriate names and making changes to their passwords and permissions.

1. You should select *user 1 (pass=user1)* from the list
2. Enter the password “user1” (without the quotes). When different users with their own level of access have been set up, you will then log-in by selecting your user name and typing your own password.
3. From the drop down list, select the store with which you are working. Most mSupply users will be operating with a single store, but for users operating with more than one store, the login screen allows you to select any of the stores to which you have access. After selecting the desired store, all transactions will relate to that store until you return to the login screen and select a different store from the drop down menu.
 - Supervisors and other Level 1 users will have an additional menu item, *Supervisor - All stores* . In this mode, all stores are accessible, and you would use this mode, for instance, when placing an order for supplies which will be distributed to a number of stores. Further information is available here: [Show stores](#)
4. Choose login mode, you have the option to select *Store mode* or *Dispensary mode* ; the default can be set in your *Preferences*

Finally, click *OK* to login

Preparing mSupply for actual use

The following 2 steps are necessary to start mSupply for the first time.

- Create a new data file
- Prepare the new data file for use

Create a new data file

In order to create a new data file, see above

Save the data file in a location that you can easily find for doing backups. We suggest you create a folder called “mSupply data” inside the *My Documents* on Windows PC or the *documents* folder on a MAC to store your data file.

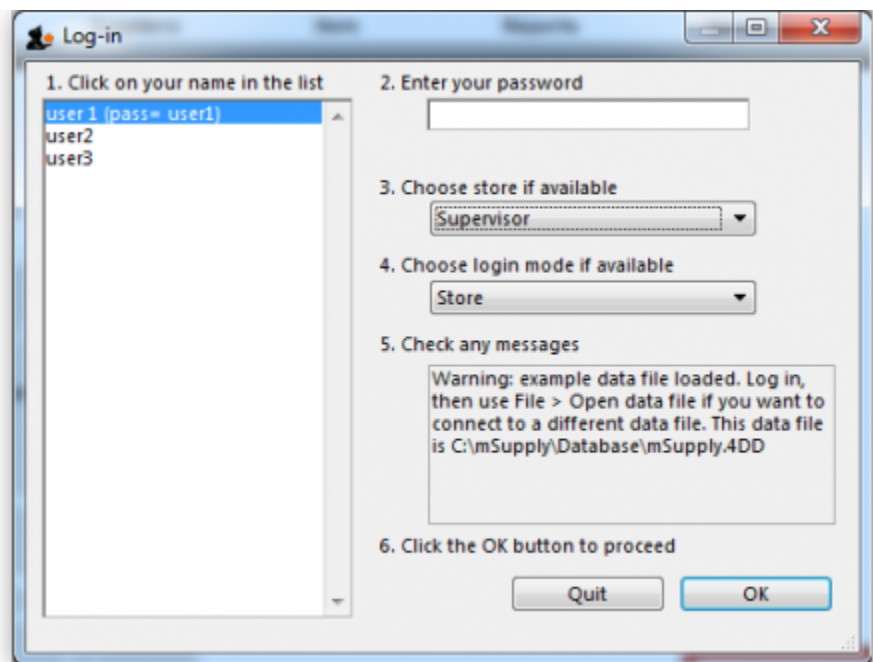
Prepare the new data file for use

1. Choose your home currency. Currencies are used when you are calculating cost prices for orders, and when you are comparing quotations from suppliers. Choose *Special > Currencies*. If your currency is not already shown, click the *New* button at the top of the window and choose from the pick-list the three letter code abbreviation of the currency you will use to operate your database (e.g. “INR” for Indian Rupees, or “SAR” for South African Rands, or “USD” for US dollars). Set the “Rate” to “1”.
2. Enter your Preferences. Choose *File>Preferences* to do this. Read the chapter of the manual on Preferences to learn what the different Preference settings do. You will find the Preferences section here
3. Enter your Suppliers and Customers.
4. If you have a computer file holding your customer and/or supplier details, it can be imported directly into mSupply. See [Importing Customers, Suppliers, Patients](#).
5. You can also do this as you go along simply by entering a customer or supplier the first time you create an invoice or order from them.
6. Enter the items you keep in stock. There are a number of ways you can do this:
 - If you have a computer file holding details of the items you stock, it can be imported directly into mSupply. For more information see [Import items](#)
 - A file containing the WHO essential drug list is available from the download page of the mSupply web site. You are encouraged to use this file should you have no computer file of your own.

- You can enter each item using the *New item* Command from the item menu.
- Enter your stock figures.
- If you have a computer file holding both details of the items you stock and your current stock figures, it can be imported directly into mSupply. See: Import items and stock
- Your opening stock may be entered manually; choose *Item>Inventory adjust - add stock* , and enter the required details.
- If you intend to record the location of each item, you should define the locations that your store contains. See Locations - Defining locations.

About Stores

At the log in window you have the option to log into a specific store or to log in as 'Supervisor' by choosing option 3 shown in the below window.



Unless you intend to use multiple virtual stores in mSupply you can ignore this option. More information will be found here: [Virtual stores](#)

About Dispensary Mode.

mSupply allows you to log in in two different modes, *Store mode* or *Dispensary mode* . Each user can have his/her permissions set to allow or disallow each mode.

Each mode presents the user with a different menu bar and different windows, depending on whether you are issuing stock to an organisation or an individual

See Dispensary Mode.

Previous: Mobile (Android) User Guide Next: Logging in

The tutorial like no other

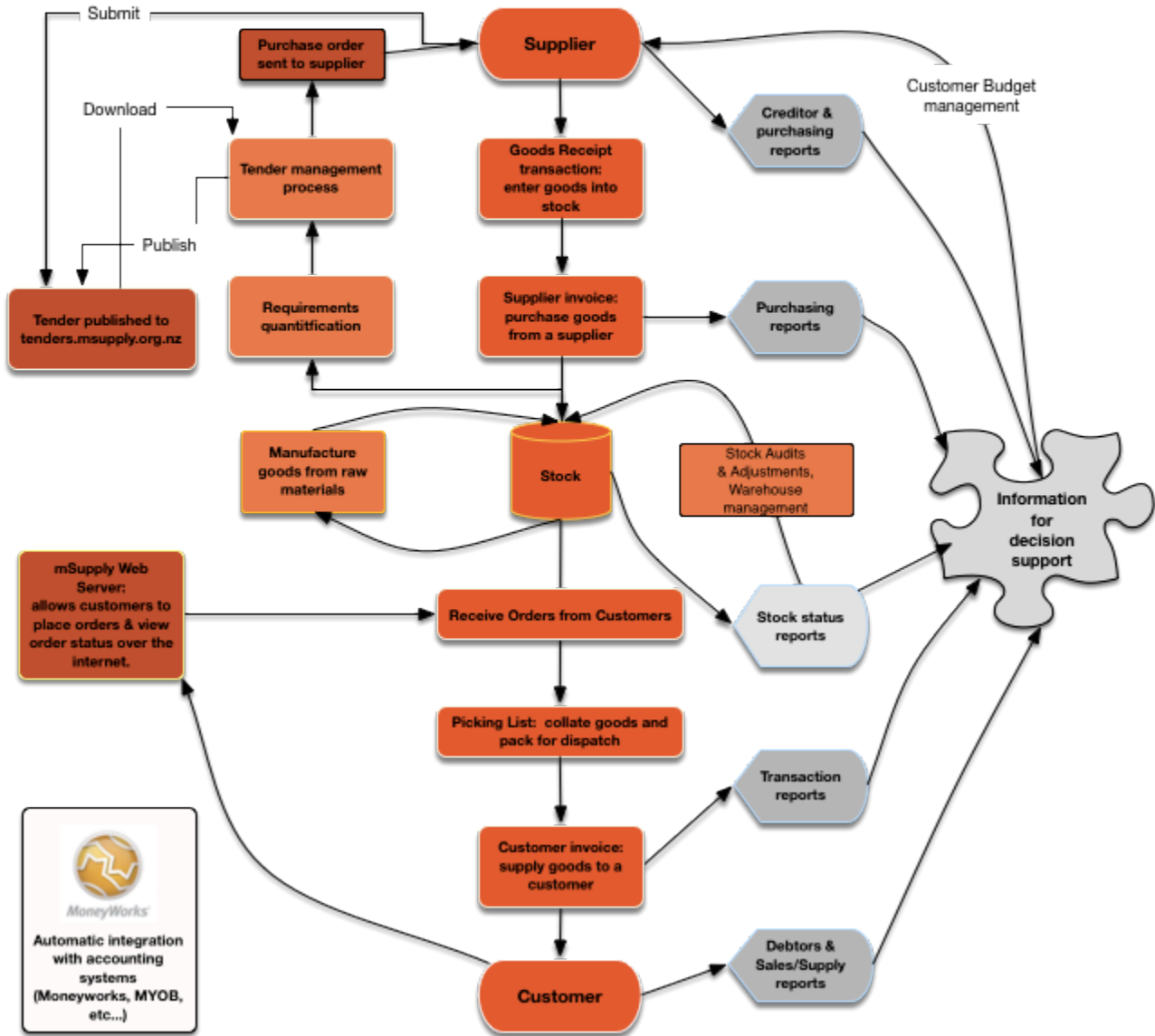
If some of the terms used below are not clear, please see Conventions used in this user guide.

Only mSupply®'s basic features are covered in the Tutorial; its many enhanced features are covered in depth in appropriate chapters in the User Guide.

mSupply Explained

This chart shows the common steps in most pharmaceutical supply processes. (Of course, the manufacturing step only applies to manufacturers!)

mSupply work flow diagram



The two most common transaction types in mSupply® are the **supplier invoice (si)** and the **customer invoice (ci)**. These transactions record stock purchases from suppliers, and stock supplies to customers. mSupply® records a full audit trail by only allowing stock adjustments by way of a transaction. Therefore, given an opening balance of stock for the year, mSupply® can show a series of transactions that result in the recorded closing stock.

Of course, there is much more to it than that, but these two transactions are the core of the system.

Note that mSupply® has dozens of preference settings (**File>Preferences**) which change the behaviour of many aspects of the software. If you have customised Preferences from their default settings, some aspects of this tutorial may not be as stated below. To work through the tutorial, we recommend you start with a fresh copy of the example data to ensure the Preferences are set correctly.

Before starting the tutorial, you will need to have installed mSupply®, and opened the example database. If you haven't done so, see Installation

mSupply® runs best with a screen resolution of 1024 or 768 or greater. If you have your screen set to 950 x 850 or lower, some windows will not fit on the screen. To change screen resolution:

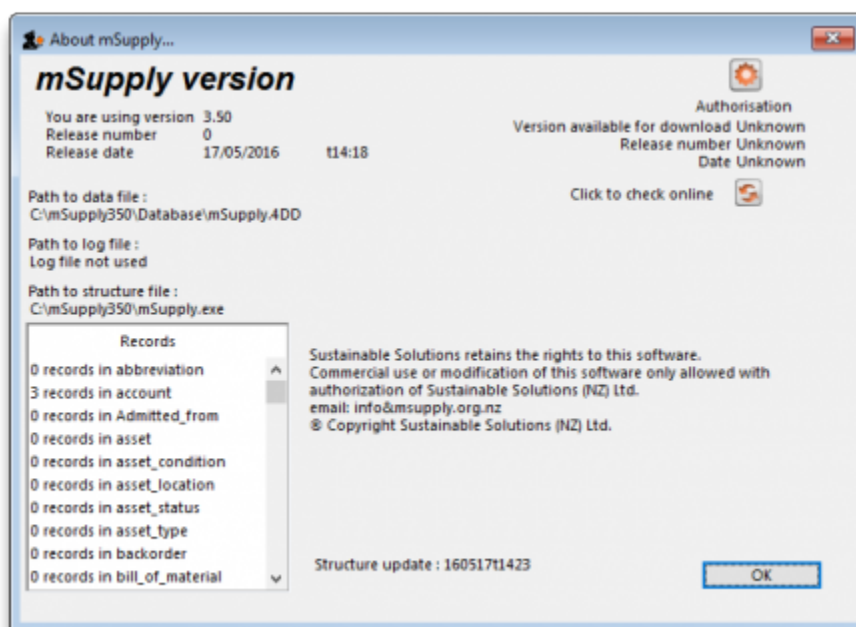
- Windows: Right click anywhere on the desktop, select **Properties > Settings** , and make the necessary changes.
- Macintosh: Choose **Apple > System Preferences...** then click on the **Displays** icon and set a new resolution

Opening the example data file

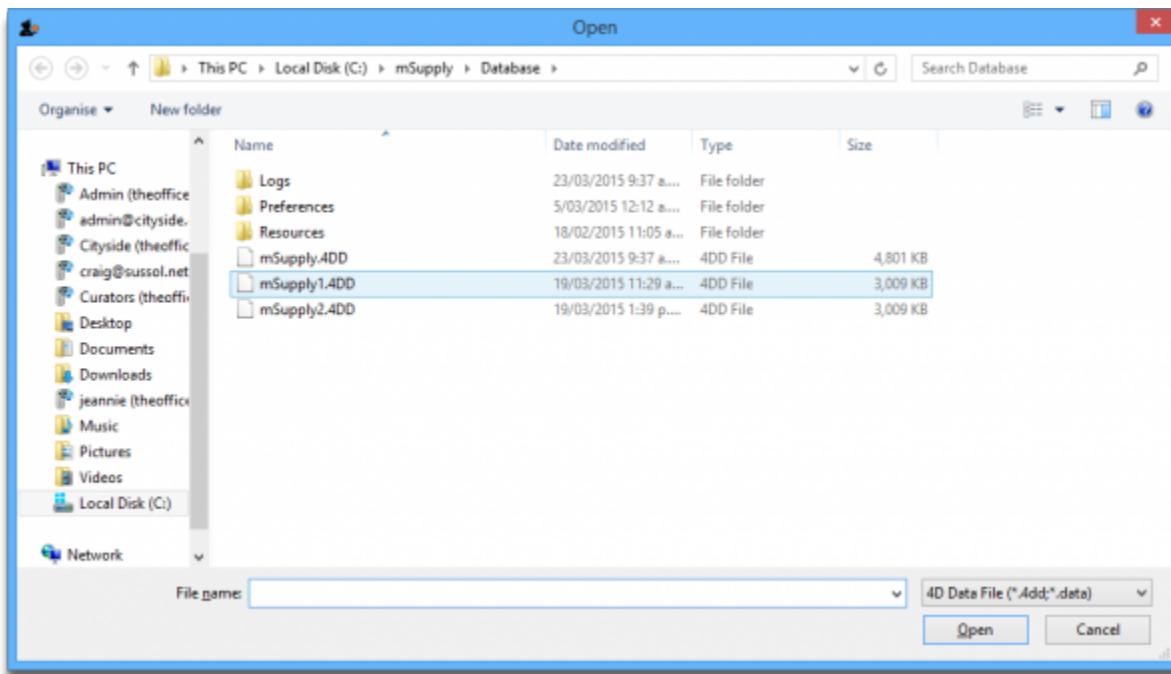
You will have two icons on your desktop - double-click the **mSupply** icon.

If you are opening mSupply® for the first time, the program should automatically open the example data file.

The full path to the data file is displayed, along with other useful statistical information by clicking on **Menu >Help>About mSupply**:

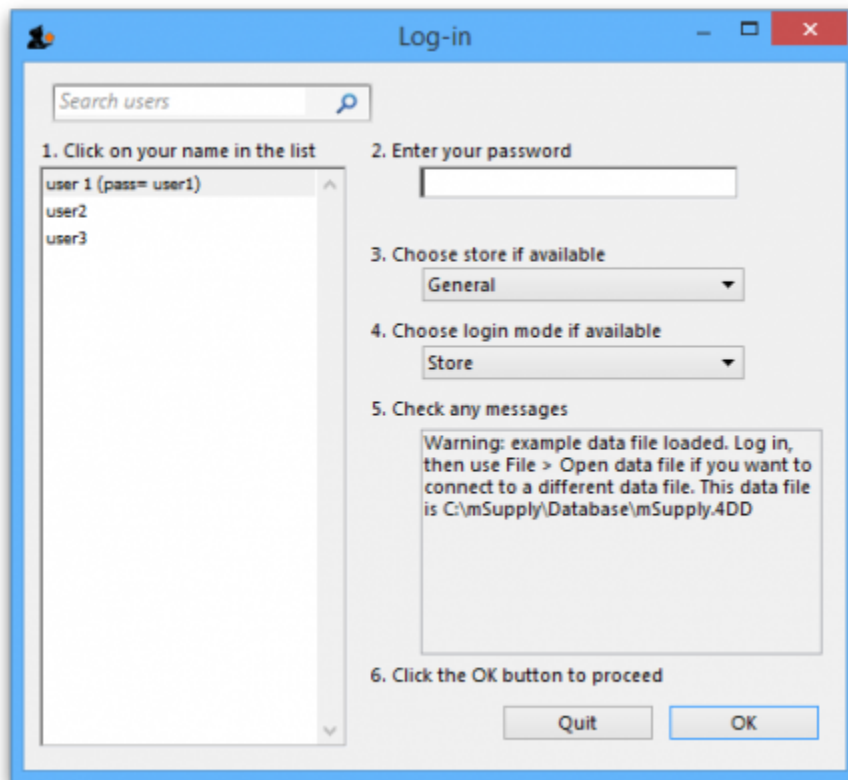


If you have already been using mSupply® and have another data file open, but would like to open the example data file for use with this tutorial, then you can use the mSupply® menu **File > Open data file...** to open the example data file. In Windows, by default the example data folder is stored inside **c:\mSupply/database/**; navigate to the location and open the data file.



If you have chosen a different location from the one suggested by the installer, the example folder will be in your chosen location.

A password entry window is presented as mSupply® opens up a data file. The message panel informs the user that the example data base is in use.



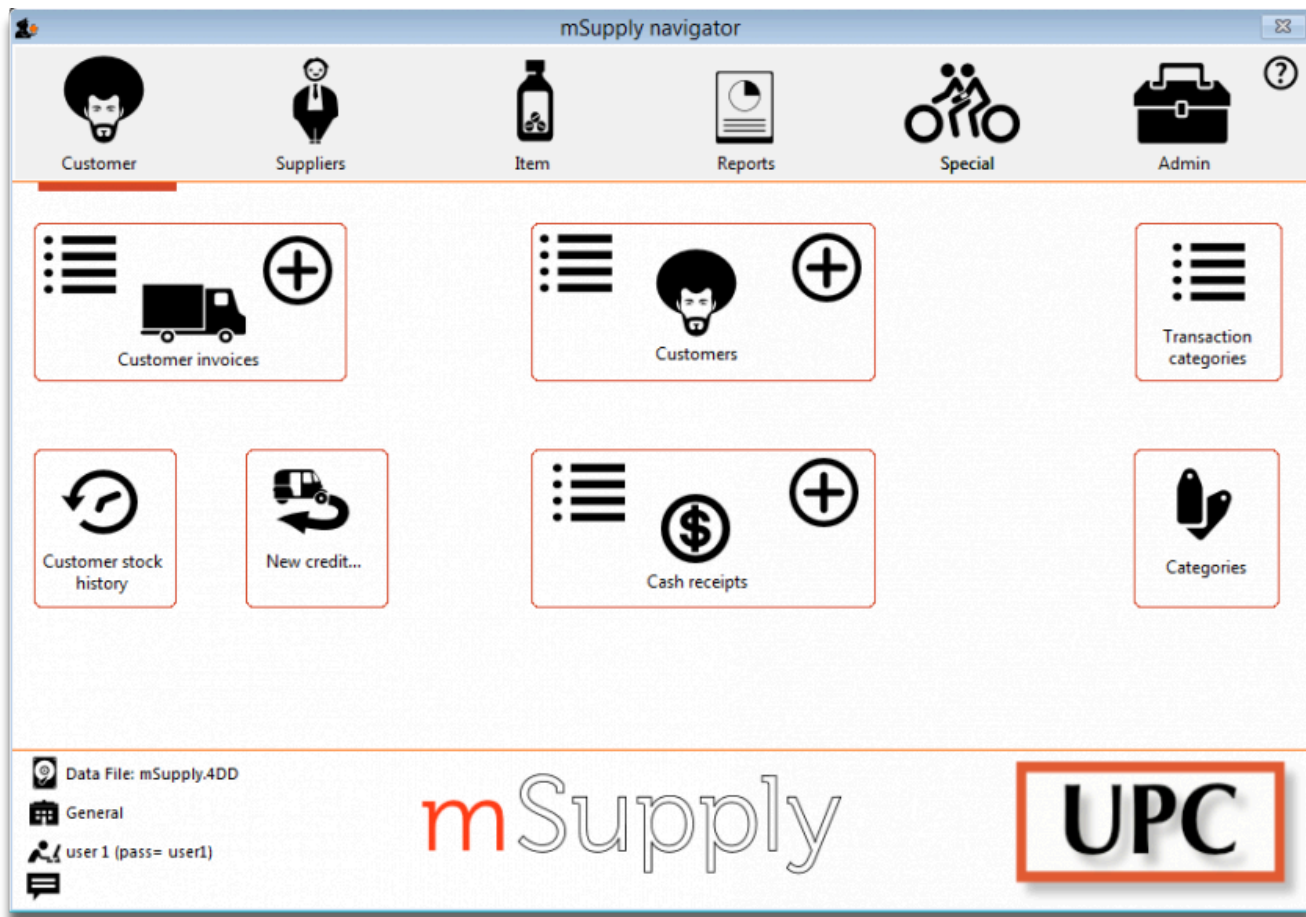
The “**User 1**” (pass= “**user1**”) entry should be highlighted, but if it is not, it should be selected. Enter “user1” (without the quotes) at **2. Enter your password**.

The **Choose store** drop-down list will display **General**, and the **Choose login mode** ... drop-down list will display **Store** - these should not be changed. Click the **OK** button. After you have logged on, the Navigator screen appears:

The Navigator

Overview

The mSupply® Navigator provides access to most of the functions you will be using regularly in mSupply®. You will learn that many of these functions may also be opened with shortcut key sequences from the various **Menu items**, and once you have gained some experience, you may find it quicker to use the shortcuts.



The Navigator always opens at the **Customers** screen in Store mode, shown above, or the **Patients** screen in Dispensary mode, shown below:



Displayed along the top of the screen are four items of information:

- the **mode** selected at logon (store or dispensary),
- the **store** in which you are working - for most users, “General”,
- the active **data file**,
- the **user** currently logged on.

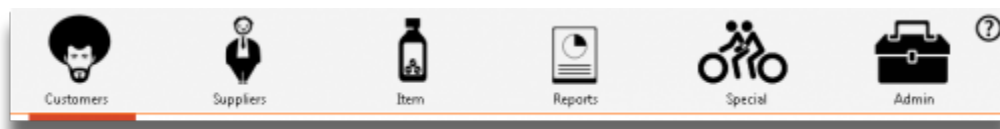
Immediately below this, there are six large icons, **Customers or Patients, Suppliers Admin** .“ Click on the icon appropriate to the task you are performing, and you will be presented with a panel displaying annotated icons listing the available functions and procedures; these are in turn selected either by clicking on the icon of your choice with the mouse, or by advancing through the icons with the right or left arrow keys and pressing the **Enter** key. You will be using the **Items** panel of the Navigator in the next step in the tutorial, and as the same procedures are common to all panels, you will quickly become familiar with them.

The bottom right area of the Navigator screen is available for displaying your own logo - the logo of “Acme Medical Supplies” is displayed in our example. The placing of your logo is performed by choosing **File > Preferences > Logo**. You can also read how to do it here.

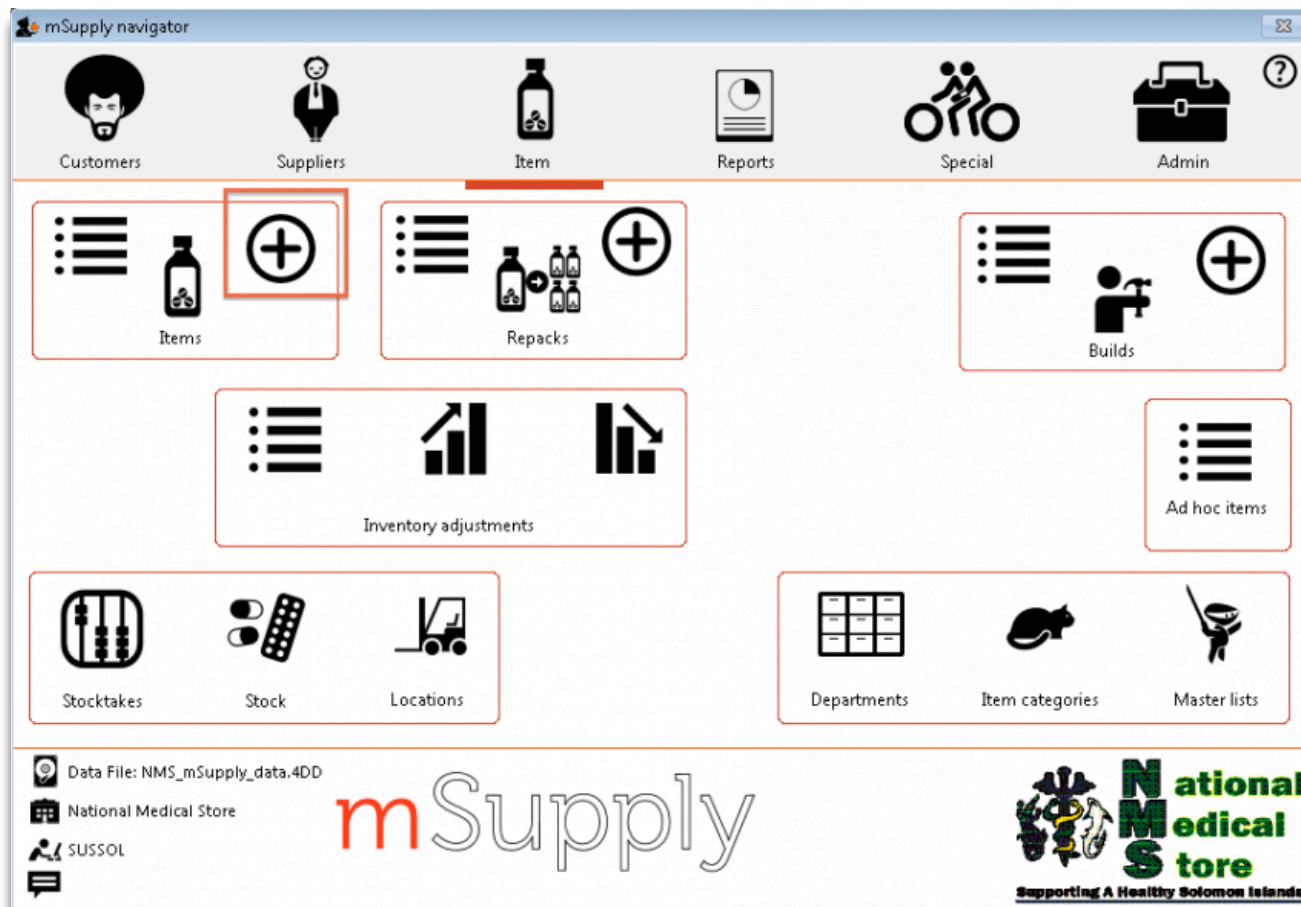
Creating and viewing items

Creating a new item

For this section of the tutorial, we are going to add two new items to our mSupply® database. From the Navigator's opening screen, click on **Item**, the 3rd of the large icons near the top of the screen



and the following screen appears:



- Click on the **New item** icon
- You are presented with a window with a number of fields to enter:

Below is a list of fields and the text to be entered into each field. Use the Tab key to advance from field to field or, using the mouse, click on the field you want to edit.

Type: The default entry **normal** is shown in the drop-down list, and should not be changed.

Item code: Enter **amo500c** then press the Tab key to advance to the next field.

Item name: Enter **Amoxicillin 500mg tab/cap** then press the Tab key to advance to the next field

Continue to use the *Tab* key for the rest of the tutorial when you need to advance to the next field.

Units: “None” is displayed by default. The options are: *unit*, *ea* (for each), *gm* and *ml*.

Price list: Click in the box so a check appears in it. This means that when we export a price list, the price for this item will be included.

Shelf location: Enter **a3**. Amoxicillin is stored on shelf 3 in the “a” section of our imaginary store. Note that “A” is interpreted differently from “a”, so it is recommended to be consistent and use either all upper case or all lower case letters for entering shelf locations.

Preferred pack size: Enter **100**. This means we want a 100 unit pack to be our standard for comparing prices of this item.

Category: If a list of categories has been defined, this field allows the item which is being added to be placed in its appropriate category.

Normal stock, Critical stock, Essential drug, ATC category, DDD value, DDD factor, Weight, Non stock item, Default customer: For this tutorial, ignore these fields and leave them blank.

Click the **OK & Next** button to add this item to mSupply®. The window's fields will clear allowing you to add a further item.

If you have no more items to add, click the *OK* button to add only the item just added and exit. If you accidentally click *OK & Next* and then want to exit, just click the *Cancel* button. The Amoxicillin 500mg tab/cap would still be entered, as it was saved when you pressed the *OK & Next* button.

Proceed to add a further item with the following details:

Note that if you make a mistake, you can click in a field and edit the value.

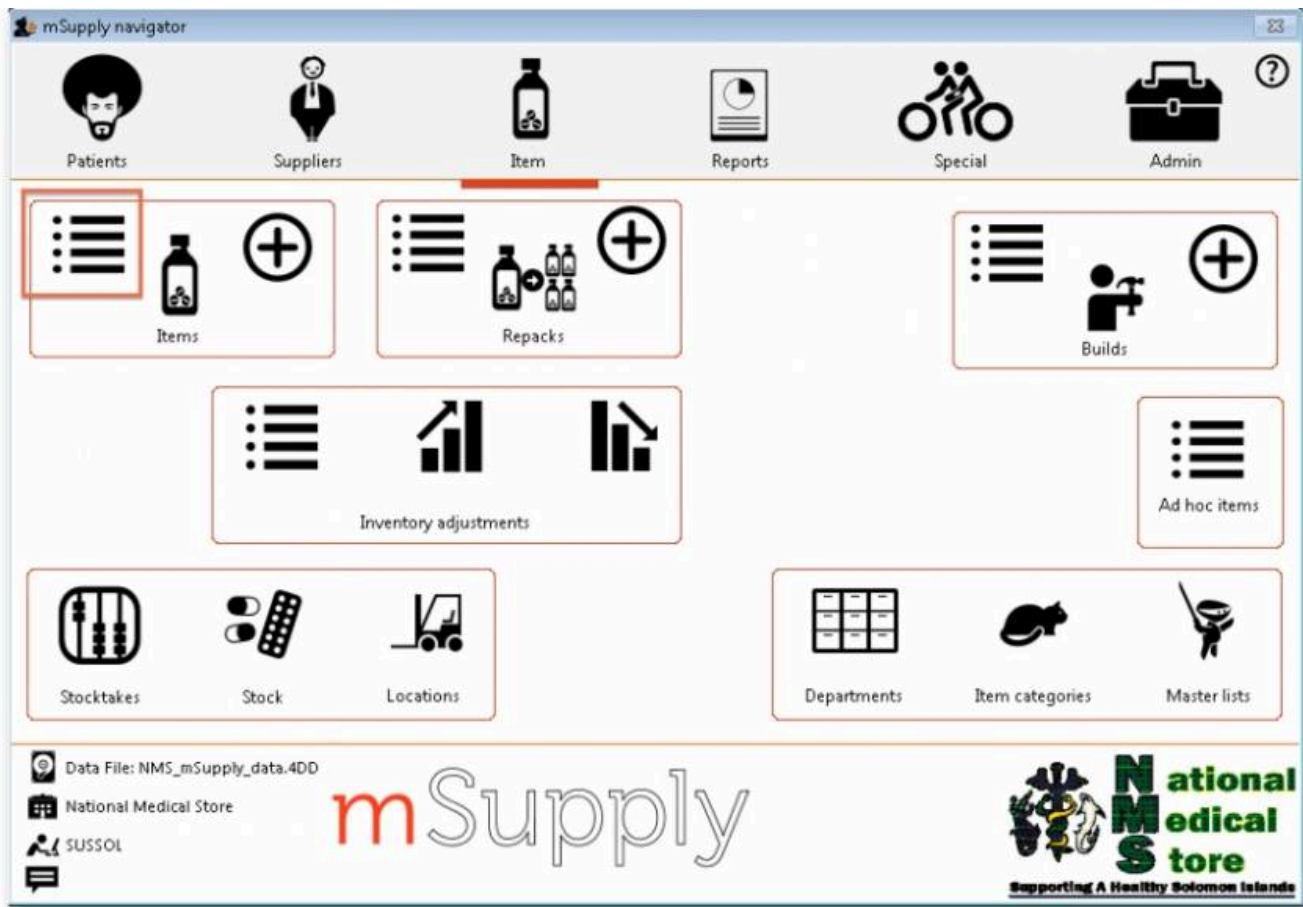
Field	Enter....
Item code	“amo125s”
Item name	“Amoxicillin 125mg/5ml syrup”
Units	“mL”
Price list	check the check box.
Shelf location	enter “a7”.
Preferred pack size	enter “60”.

Click *OK* now that you have added the item, then click *Cancel* to exit the window.

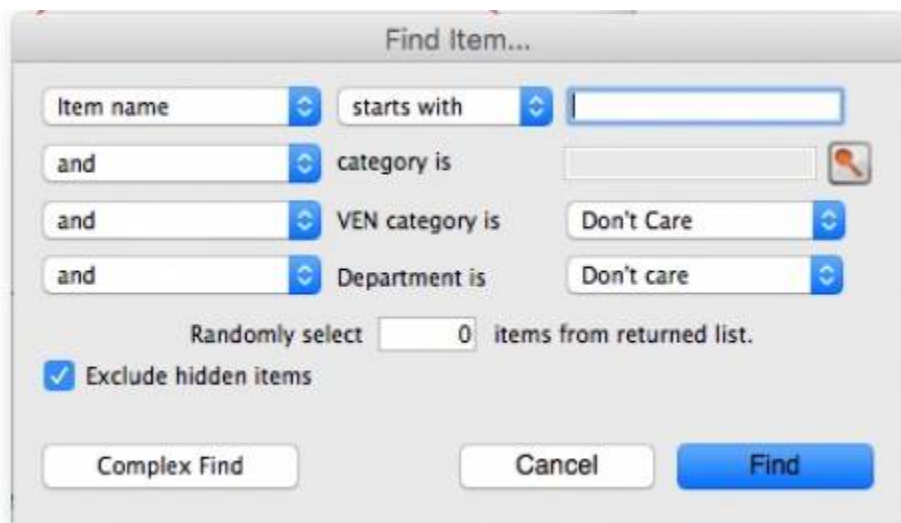
Congratulations! You have now added 2 items to our example data file. Let's go and see how to find them.

Viewing item details

Click on **Show items** from the Navigator's Item screen.



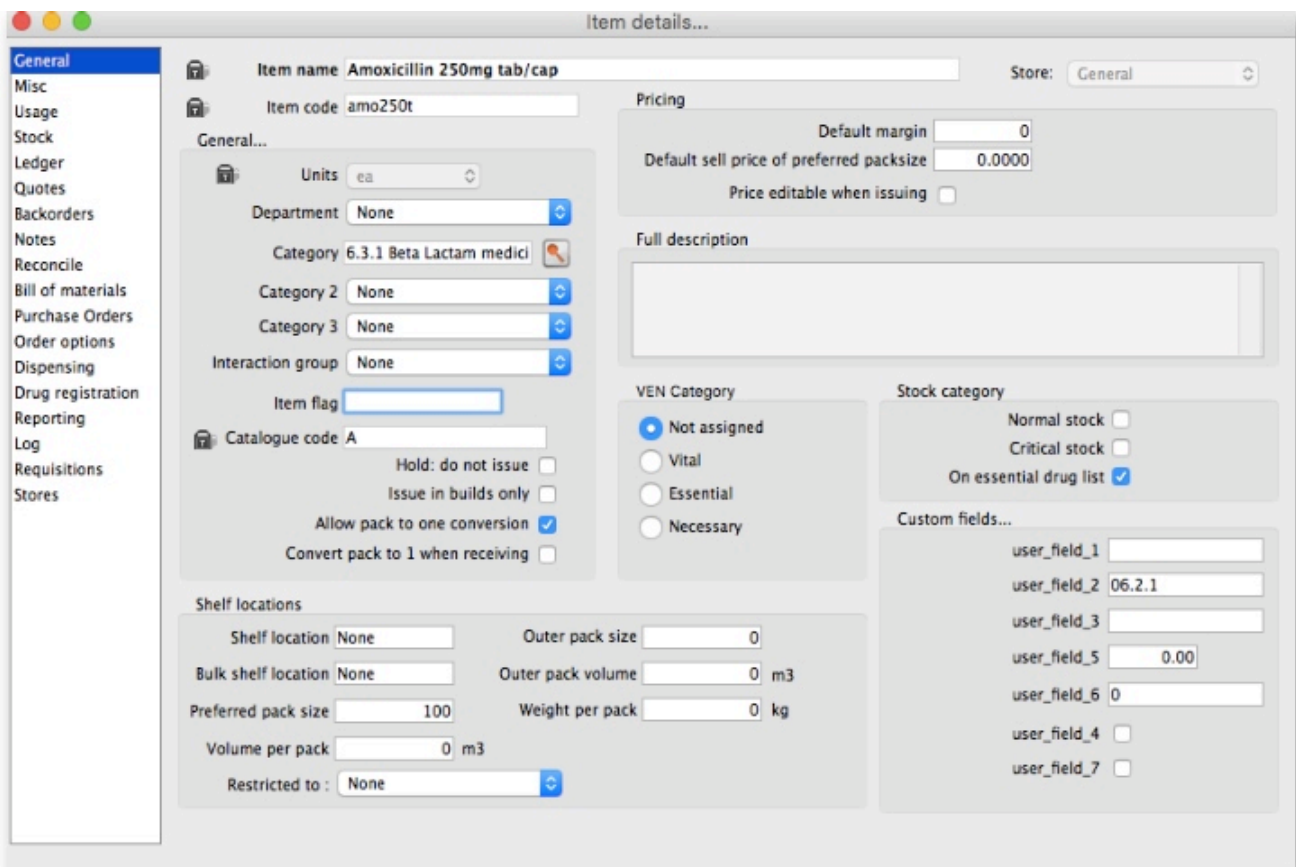
You will be presented with a window to find items:



- Type “a” into the text entry area, then click the *Find* button.
- A list of all the items whose name or code starts with “a” is shown.

Item Code	Item name	Default pack	Stock on hand	Flags
aci200t	Aciclovir 200mg tab	100	5000	
alb400t	Albendazole tab 400mg	100	800	
amo125tab	Amoxicillin 125mg Tab	100	28	
amo250t	Amoxicillin 250mg tab/cap	100	119500	
amo500t	Amoxicillin 500mg tab/cap	100	8000	

- We will choose the Amoxycillin 250mg tabs/caps - an item that was already in the example data file. To choose the item, double-click anywhere on its line in the window.
- You will now be presented with a window that displays a lot of information about “Amoxycillin 250mg tab/caps”. From this window you can see stock on hand, view and edit supplier quotations, view usage for this item for the last 24 months, view backorders, view, add and edit notes for this item. Phew!



- At this stage, we only want to know how to view the information. For an explanation of all the information displayed see Item Edit - General Options
- When you have finished viewing the information, click the *OK* button to return to the list of items.
- If you want to view a different item, you can double-click its line. Otherwise click the X button in the top right corner (on Windows) or the top left corner (on a Mac) to exit to the **Navigator**.

Customers, Suppliers, and Contacts

Adding a Customer or Supplier

For this tutorial example, we will first add a new supplier, then add a new customer.

Adding a Supplier

From the Navigator's opening screen, click on the 2nd of the large icons, **Suppliers** tab, then on the **New Supplier**

You will be shown this window to enter the details:

You can now enter the details for your new Supplier.

Field	What to do....
Code	Enter "Acme" to identify the Supplier (Acme Pharmaceuticals). You need to choose a unique code for each name. Try to choose a logical system, as the code is used to look up the Supplier (or Customer) when you are entering invoice data. (for example, try to start the code with at least the first three letters of the Supplier name)
Charge to	Enter "Acme" again. This field is only used when exporting data to an accounting program - this code must match the code you use for the supplier in your accounting program.
Name	Enter "Acme Pharmaceuticals" - the name of our supplier.
Master ID	Ignore for now
Category	
Customer check box	Leave this box unchecked, as we are entering a new Supplier.
Supplier check box	As you chose "new supplier" this box is already checked.
Manufacturer	Leave unchecked
Benchmark	Leave unchecked

Field	What to do....
Contact	
Email, Web site etc.	Fill in with the appropriate details
Status	
Hold checkbox	If this box is checked for supplier or customer, that particular supplier or customer can neither supply nor be supplied with items.
Preferred checkbox	Leave unchecked
Price Category	This applies to customers. It is possible to assign multiple sell prices to customers. Leave it set to "A".
Supplier details	
Currency	The field is automatically filled in with "Nrs" (=Nepali rupees - the default currency in our example data). This is the currency that this supplier will use to bill us.
Margin	Enter "10". Items purchased from this supplier will have a 10% margin added to calculate the selling price.
Freight factor	Enter "1". Acme Pharmaceuticals does not charge any freight to us. Their prices are "CIF"(Cost, Insurance & Freight to named port). This field is only used for comparing quotations from suppliers - it is not used for actual invoices.
Other	
Category 1-6	Ignore for now
Custom 1-3	Ignore for now
Flag	Ignore for now
Comment	You can enter a brief note here (Ignore it for now)
Print invoices	Ignore for now
Address	
Address, Main & Postal address.	You can complete these with appropriate values.

If you are satisfied with the details, click **OK** . You will be returned to the mSupply® startup screen.

Adding a Customer

From the Navigator's opening screen, click on the 1st of the large icons, *Customers*, near the top of the screen, and then click on "New Customer" from the Navigator screen that appears. You will be presented with a window similar to the *New Supplier* one above to enter the details:

Fill in the fields as follows:

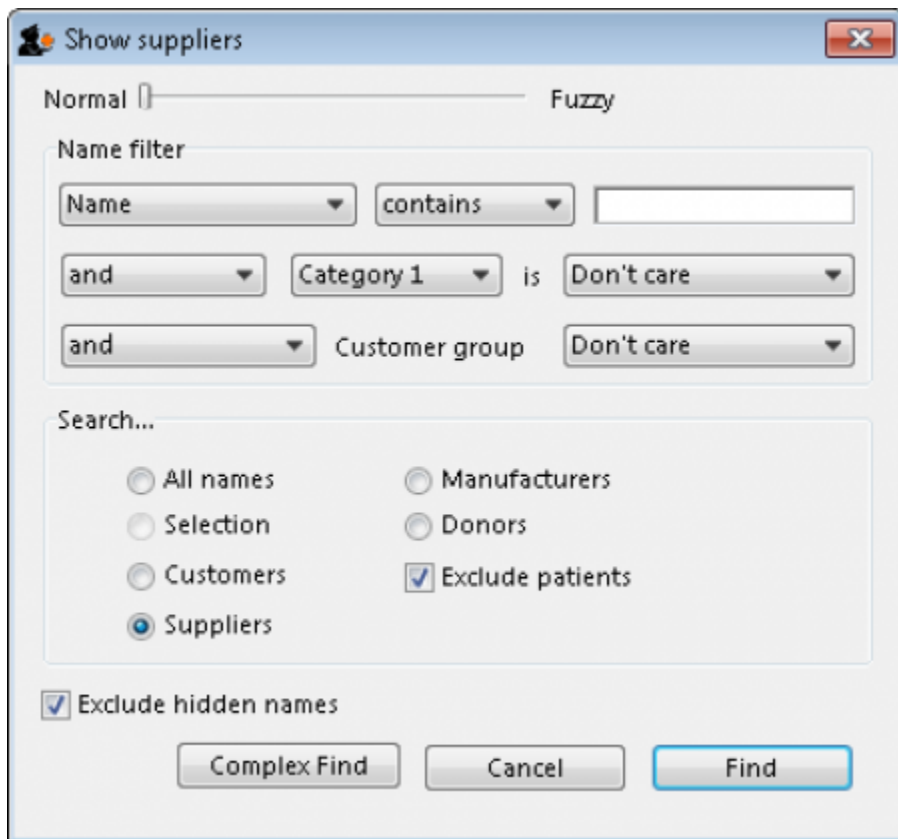
Field	What to do
Code	Enter "bluec"
Charge to	Enter "bluec"
Name	Enter "Blue Cross Hospital" - the name of our customer.
Master ID	Ignore for now
Category	
Customer check box	As you chose "new customer" this box is already checked.
Supplier check box	Leave this box unchecked, as we are not entering a new Supplier.
Manufacturer, Benchmark check boxes	Leave these unchecked too
Status	
Hold checkbox	If this box is checked for supplier or customer, that particular supplier or customer can neither supply nor be supplied with items.
Price Category	This applies to customers. It is possible to assign multiple sell prices to customers. Leave it set to "A".
Contact	
email, web site, etc.	You can complete these with appropriate values.
Other	
Category 1-6	Ignore for now
Custom 1-3	Ignore for now
Flag	Ignore for now
Comment	You can enter a brief note here (Ignore it for now)
Print invoices	Ignore for now
Addresses	
Address, Main, Postal and Shipping address.	You can complete these with appropriate values.

Click the *OK* button to save the details and exit the window.

Editing a Customer or Supplier

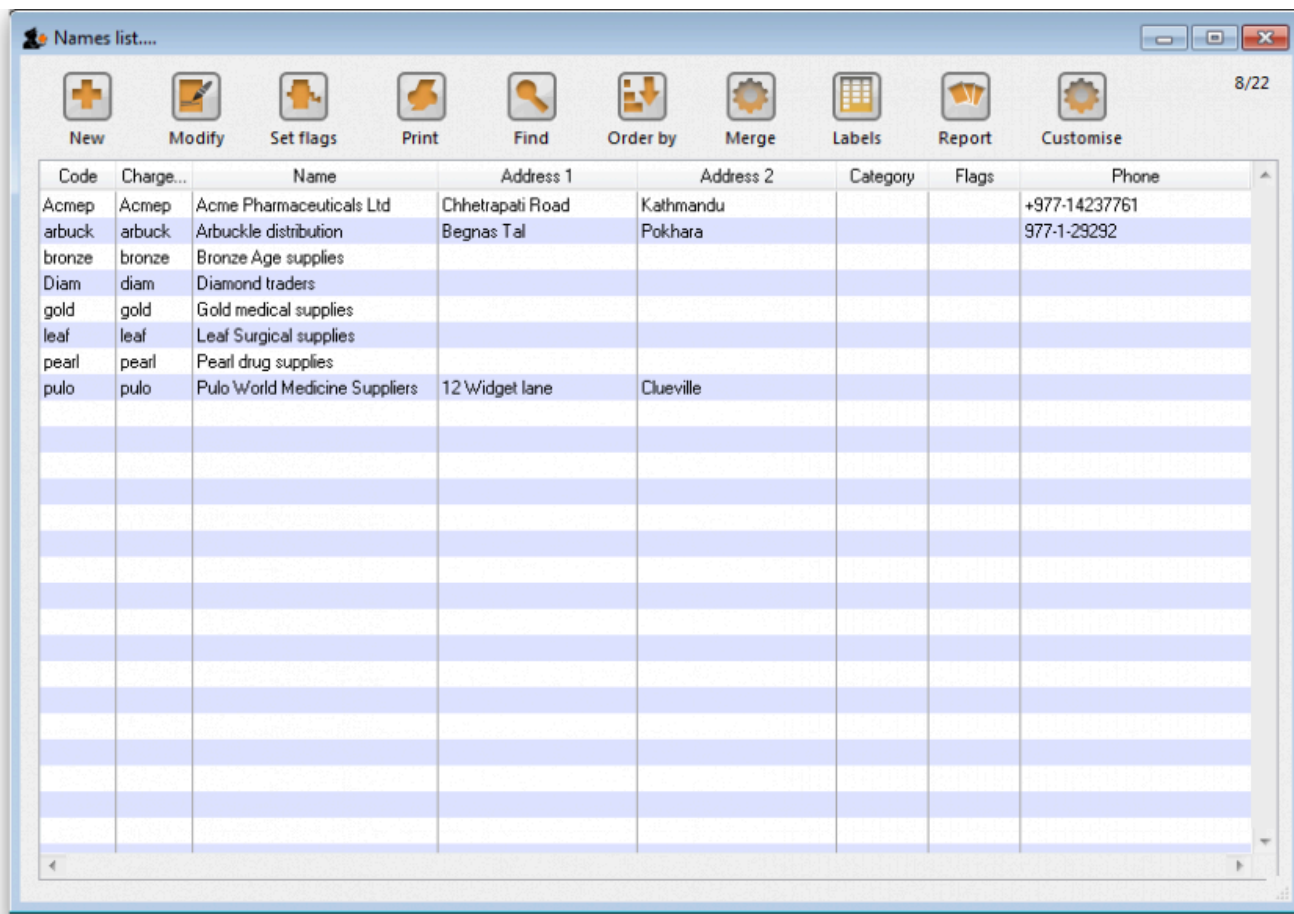
Let's now look up "Acme Pharmaceuticals"

- Choose *Show suppliers ...* from the Navigator's *Supplier* screen. You are presented with a window to enter as much of the Supplier name or the code as you know.

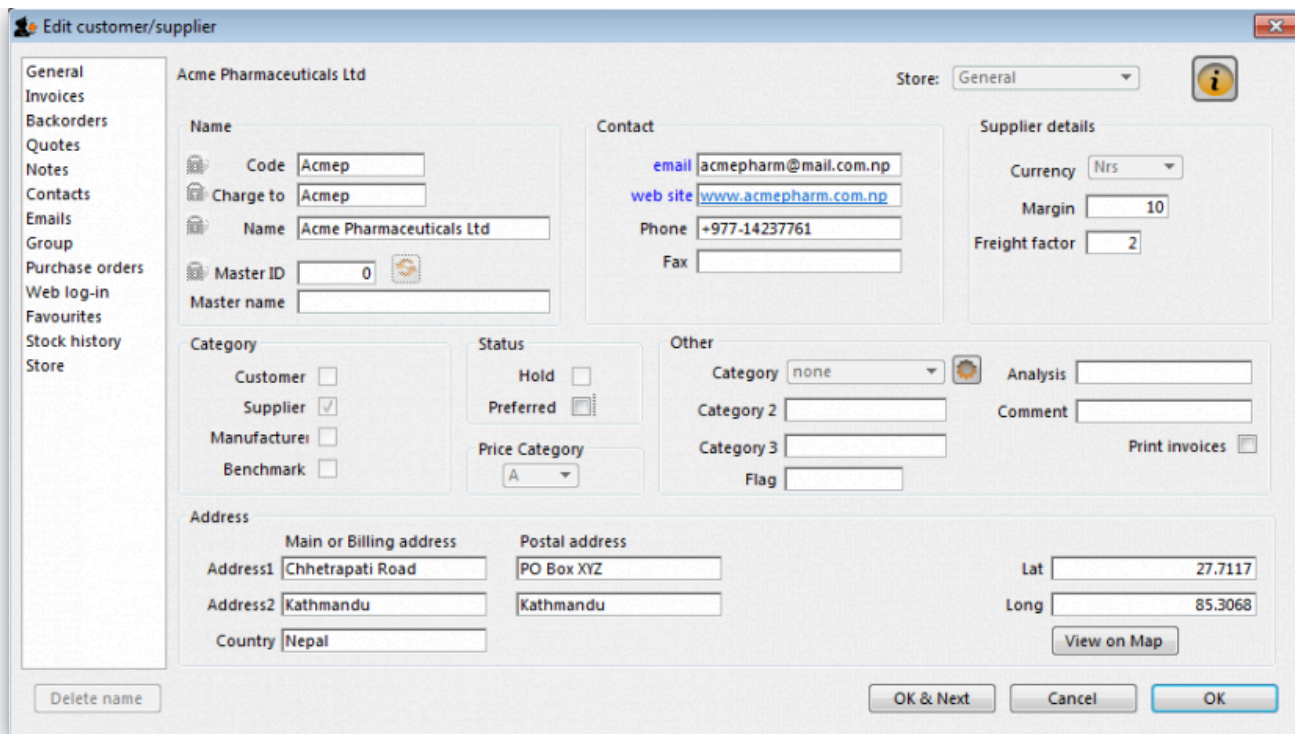


For this tutorial, just click the *Find* button - you will get a full list of all suppliers.

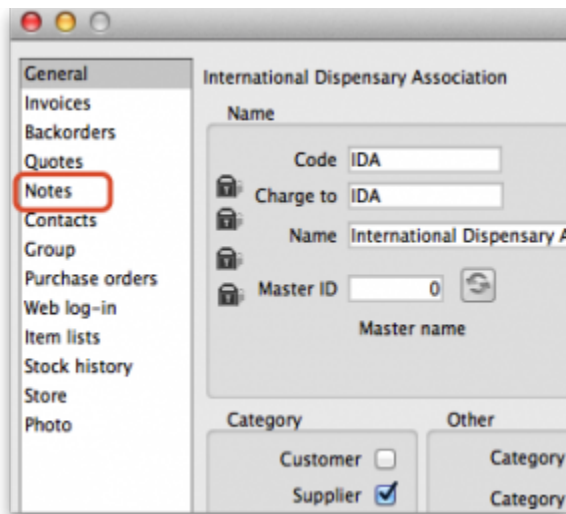
For information on the Normal - Fuzzy slider, see [Editing a Customer, Supplier or Manufacturer](#)



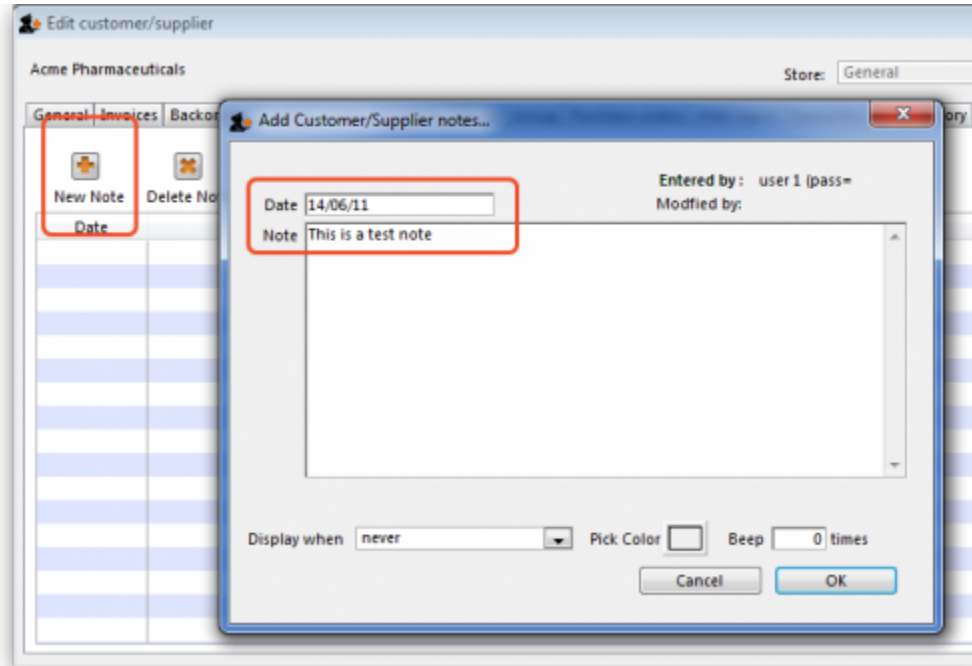
- Double-click the “Acme Pharmaceuticals” entry in the list. You will be shown a window the same as you used to enter “Acme Pharmaceuticals” as a new supplier.



- Note the window has “Tabs” down the left side in the sidebar: “General”, “Invoices”, “Backorders”, “Quotes” and “Notes”, etc. Let's add a note for Acme pharmaceuticals:
- Click on the “Notes” tab.



- Click on the *New Note* button. Today's date is entered automatically and highlighted. Click inside the Note Entry field.
- Enter “This is a test note” then click the *OK* button.



- The first line of your note text will appear in the list of notes.
- Click **OK** to exit viewing/editing the supplier, then click **OK** again to exit the list of suppliers.

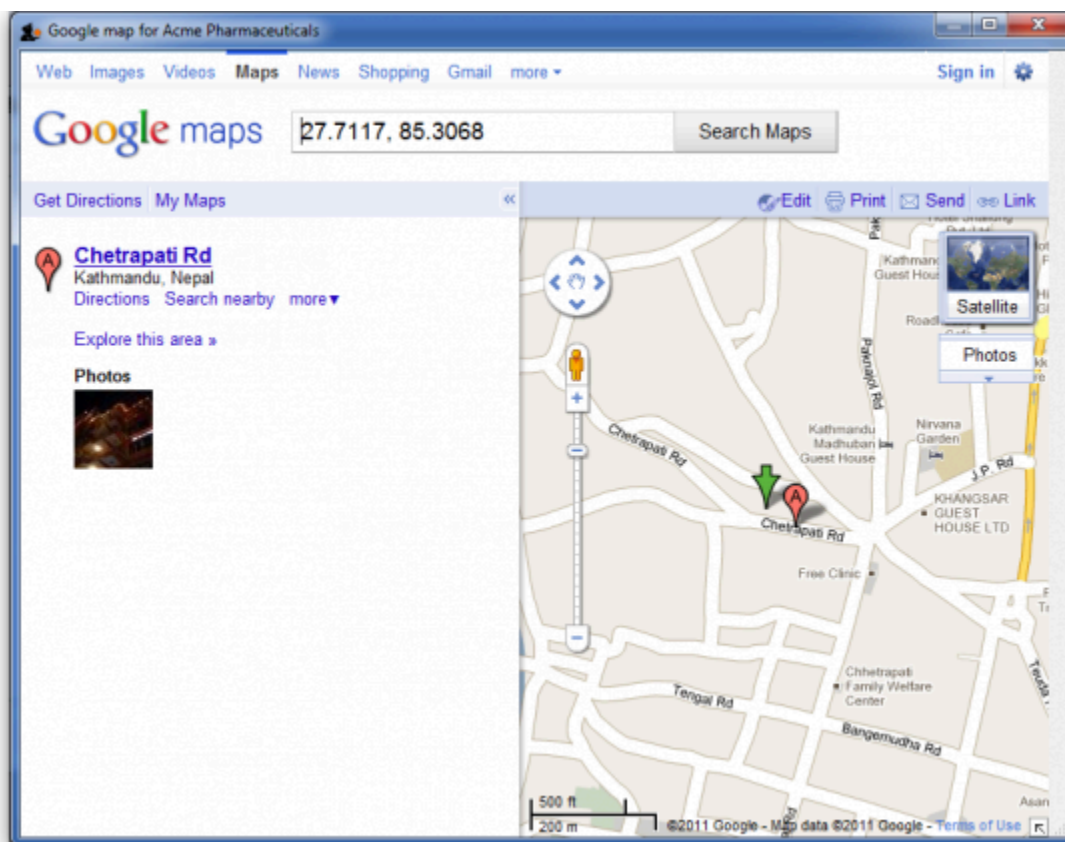
Viewing location in Google maps

If the precise geographical location of the supplier or customer is known, the **Lat** and **Long** fields can be completed in the *Photo* tab. Entries are made in these fields thus:

- decimal degrees, and not degrees, minutes and seconds
- in the **Lat** field, locations south of the Equator are entered as negative - i.e. the number is preceded by a '-' sign
- in the **Long** field, locations west of the Prime meridian are entered as negative - i.e. the number is preceded by a '-' sign

Don't know a precise location? Using Google Maps find the desired location and place the cursor on it. Right click and select **What's here** from the drop down list. The geographical co-ordinates are displayed at the top of the screen. These should be noted and copied to the appropriate **Lat** and **Long** fields in mSupply®

In our example, the location of the imaginary Acme Pharmaceuticals is on Chetrapati in Kathmandu. Click on the **Google Maps** button to display a map of the vicinity, with the precise location pinpointed by a green arrow.



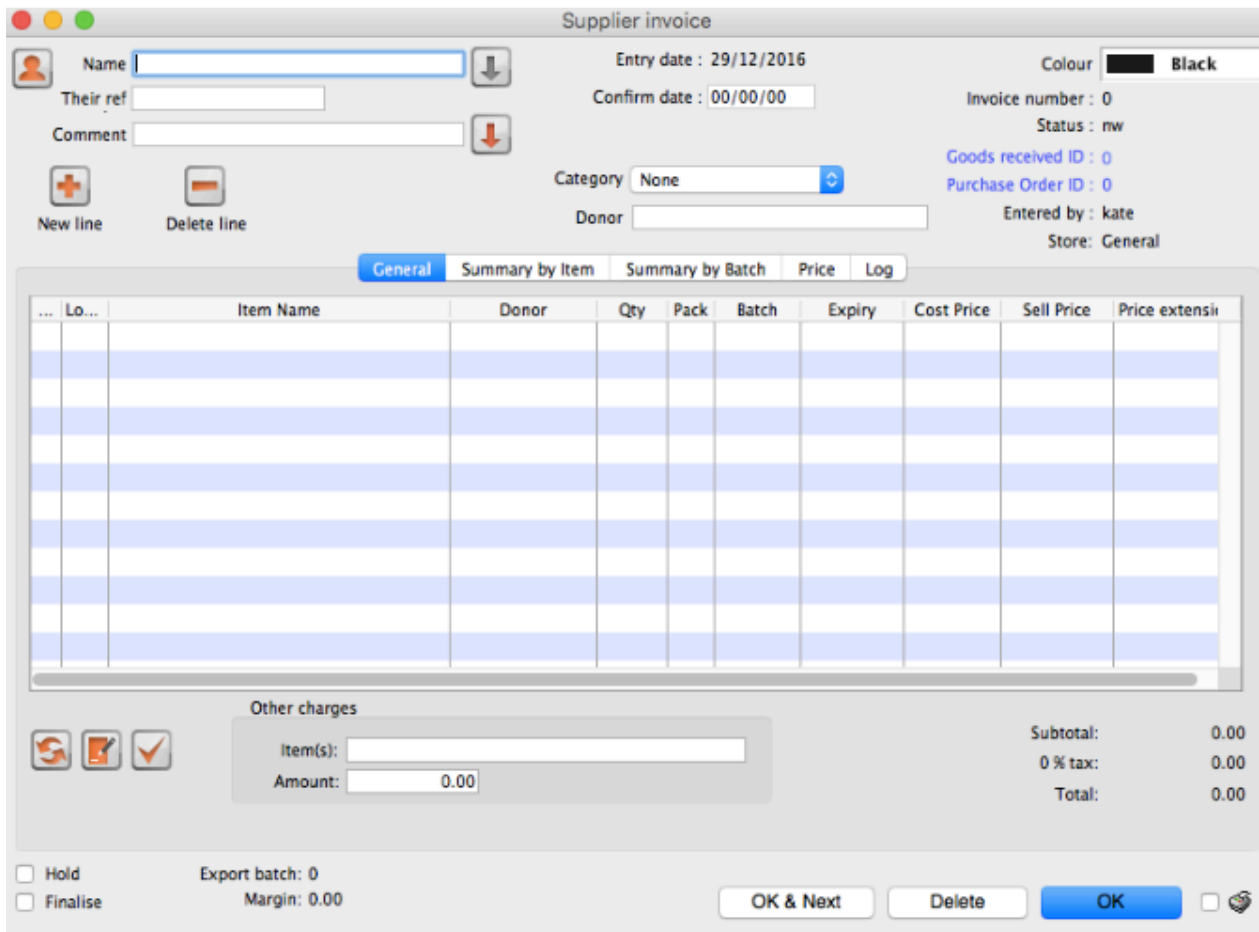
Enter incoming goods (a supplier invoice)

In some countries an invoice for incoming goods is referred to as a “bill”- we use “supplier invoice” to mean the same thing.

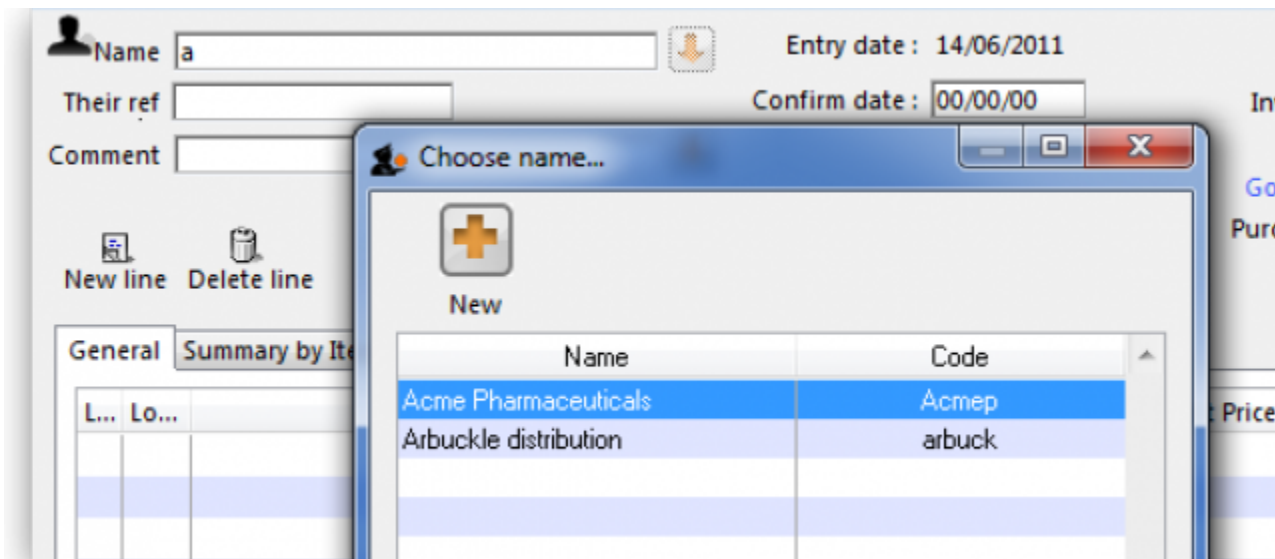
Let's suppose we have just received a shipment containing two items from Acme Pharmaceuticals, and we want to enter these goods into stock. The invoice looks like this:

From: Acme Pharmaceuticals Bill no.:A939						
Item	Quan	Pack	Batch	Expiry	Price	Extension
Amoxicillin Caps 250mg	1000	100	b93333	31/12/2015	344	344,000.00
Cotrimoxazole 240mg/5mL susp	65	60	bb23d	31/10/2015	21	1,365.00
Cotrimoxazole 240mg/5mL susp	100	60	bb22d	31/01/2016	21	2,100.00
Total:						347,465.00

Choose **Supplier > New invoice** from the menu or navigator.



The cursor will be positioned in the *Name* field. Type “a” and then press the tab key. If there is only one supplier whose name starts with “a”, the details will automatically be filled in.



In our case the supplier “Arbuckle distribution” was already present, so you are presented with a window listing the suppliers starting with “a”. Double-click the line containing “Acme Pharmaceuticals” to choose them for this invoice. The insertion point will jump to the *Their ref.* field.

Type “A939” into the *Their ref.* field. Press the Tab key to advance to the *Comment* field.

In the *Comment* field you can type a comment or information to identify the invoice.

Note that the margin is showing as 10 percent (the percentage that will be added to your cost price to obtain the selling price).

Click the *New line* button to add the first invoice line. You will be presented with the window for adding invoice lines.

- The cursor will be positioned in the *Item* field. Type “a”, then press the Tab key. You will be presented with a window listing all items whose name starts with “a”. Double-click the “Amoxicillin 250mg tab/cap” entry to choose it. The cursor will now be positioned in the “Quantity” field.
- Enter the number of packs received in the *Quantity* field: “1000” (Note that this is the number of packs, not the total quantity of capsules). Press Tab to advance to the next field.
- Enter the pack size: “100.” Press Tab to advance to the next field.
- The cursor will now be in the location field. Ignore this for now and press Tab again.
- You can also ignore the Volume per pack field and press Tab to keep going.
- Enter the batch number: “b93333.” Press Tab to advance to the next field.
- Enter the expiry date: “31/12/2014” (Presuming you have dates set up to enter as dd/mm/yy. If your dates are set to the USA's mm/dd/yy format, enter “12/31/14”). You only have to enter 2 digits for the year, as long as the year is in the range 1961 to 2060. Dates outside this range must have the year entered as four digits. Press Tab to advance to the next field.
- In the “Invoice line cost” field enter the pack cost price: “344”
- The table shown in the picture at the bottom appears if you have *Show previous purchases* checked in your preferences. It will show purchases you have made of this item in the past.
- *Donor* is the donor who provided funds for the goods on this invoice. You can create donors by activating donor tracking in File/Preferences/Suppliers/New Supplier and then check the donor check box.

As we have another line to add, click the *OK and Next* button. The entry is recorded, and the window is now blank to accept your second invoice line.

- Enter “c” into the *item name* field and press tab. In the list of items showing, you will find “Cotrimoxazole 240mg/ 5mL susp”. Double-click the entry.
- Enter the remaining invoice details for “Cotrimoxazole 240mg/5mL susp”:
- num units: “65”
- pack size: “60” (Note that it is better to record the actual volume of most packs, unless the volume is not important- for example with an eye-drop, where you could record the pack as “1”)
- batch: “bb23d”
- expiry: “31/12/2013”
- price: “21.00” (You can just enter “21”)

Click the *OK & Next* button to save the details and start to enter another item.

Now enter the third item on the supplier invoice from the example invoice from Acme Pharmaceuticals example invoice above.

When you have finished, click the *OK* button to take you back to the main list of invoices.

Our invoice will now have 3 items added to it. The invoice total should read “347,465”, and should appear like this:

Supplier invoice

Name: Acme Pharmaceuticals Entry date: 14/06/2011 Colour: Black

Their ref: A939 Acnep Confirm date: 00/00/00 Invoice number: 12

Comment: Status: nw

Category: None Goods receive ID: 0

Purchase Order ID: 0

Entered by: user 1 (pass= user1)

Store: General

L...	Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1		Amoxicillin 250mg tab/cap	1000	100	B93333	31/12/15	344.00	344.00	344,000.00
2		Cotrimoxazole 240mg/5ml susp	65	60	BB23D	31/10/15	21.00	21.00	1,365.00
3		Cotrimoxazole 240mg/5ml susp	100	60	BB22D	31/01/16	21.00	21.00	2,100.00

Other charges: Subtotal: 347,465.00

Item(s): 0 % tax: 0.00

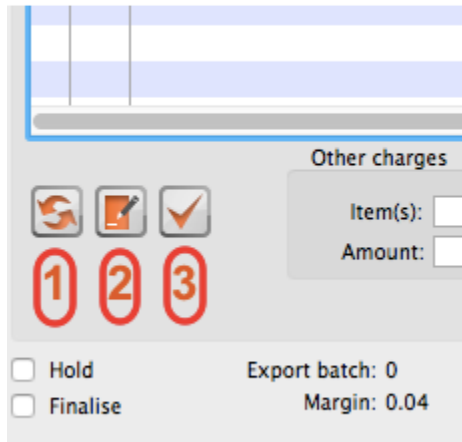
Amount: 0.00 Total: 347,465.00

Hold Export batch: 0

Finalize Margin: 0.00

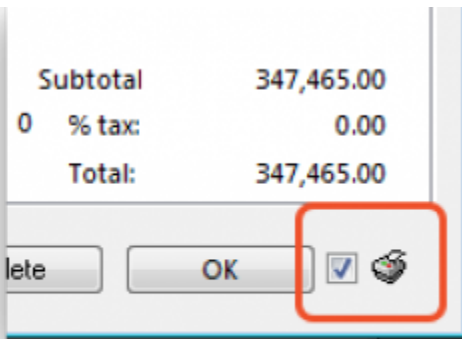
Buttons: OK & Next, Delete, OK

If you have made a mistake, click on the relevant line, which will now be highlighted; double-clicking on it allows you to edit it. You will be shown the line details again, and you can then make corrections and click the *OK* button to save your changes. There are 3 icons in the lower left corner of the invoice window.



1. This allows you to rearrange the order in which the lines are shown on the invoice
2. Here you can make a note of anything relevant to this invoice
3. This will copy the details of the invoice to the clipboard

Now click the *OK* button. As long as you have left the “print” check box (bottom right corner) checked, you will be asked if you want to print the invoice (you may do so). Note that when you print, you are shown two windows. The first window is the page setup for your printer, the second window allows you to specify how many copies to print, etc. (The second window also has “preview” check box, where you can preview the print job).



As this invoice is a “supplier invoice” it has been “confirmed” when you clicked the *OK* button in the invoice entry window. You can view and edit the invoice details until the invoice is finalised. Note that if you issue some of the stock you have just entered to a customer, some fields relating to that stock will no longer be edit-able.

NOTE - As of mSupply® v190, a more precise alternative for entering received goods has been implemented. See Viewing and editing supplier invoices created via Goods Receipts

Enter outgoing goods (a customer invoice)

Now let's suppose we have just received an order as follows:

From:	Blue Cross Hospital
Order number:	PO882
Delivery: Express courier please	
Item	Quan
Amoxicillin 250mg tab/caps	10,000
Cotrimoxazole 240mg/5mL susp	120

Choose New Invoice from the Customer menu, and the following window appears:

Type “b” into the *Name* field, and press the Tab key. You will be presented with a list of customers whose name starts with “b”. Double-click the “Blue Cross Hospital” entry to select it.

- In the **Their ref** field enter “PO882”.
- In the **Comment** field enter “This afternoon by courier”
- Click the **New line** button to add a line to the invoice. You are presented with the “Add item” window.

Enter the following details:

- Type “a” into the *Name* field then press the Tab key. In the list you are presented with, double-click the “Amoxicillin 250mg tab/cap” entry.

Item name	Item code	Stock on Hand
Aluminium diacetate solution, 13%	alu13s	0
Aluminium hydroxide 320mg/5ml oral susp	alu500s	0
Aluminium hydroxide 500mg tab	alu500t	0
Amiloride hydrochloride 5mg tab	ami5t	0
Amoxicillin + clavulanic ac 500mg tab	amoc500t	0
Amoxicillin 125mg Tab	amo125tab	78
Amoxicillin 250mg tab/cap	amo250t	120000
Amoxicillin 500mg tab/cap	amo500t	4000
Amphotericin b 50mg inj	amp50i	0
Ampicillin sod 500mg inj.	amp500i	0
Anti-d immunoglobulin (human) 250mcg inj	antd250i	0
Antiscorpion sera inj	antsi	0
Antitetanus immunoglob (human) 500IU inj	anttt500i	0
Antivenom serum	antvi	0
Artemether 80mg/ml inj	art80i	0

Double-Click the item you want..

- You will see that a list of available stock has appeared in the window, and the cursor has moved to the **Line number** field. Enter “2” to choose line 2. (The list is sorted so batches with the shortest expiry date are at the top - usually you would choose the shortest expiry batch, but today we’re being different!).

Item: Amoxicillin 250mg tab/cap amo250t New item

Line: **1**

Quan: 100 of 190

Pack: 100 ea Bulk/Outer pack size: 0

Add Place holder

Li...	Issue	Availa...	Tot in st...	Pack	H...	Batch	Expdate	Supplier	Location	Cost Pr...	Sell pr...	Status
1	0	190	200	100	<input type="checkbox"/>	b99399	01/01/12	arbuck	A	343.00	343.00	
2	0	1000	1000	100	<input type="checkbox"/>	893333	31/12/15	Acnep		344.00	344.00	

Total quantity issued: 0
Total quantity available: 119000

Buttons: Cancel, OK, OK & Next

- Quantity field - the line we have chosen has a pack size of “100”, so we need to enter a quantity of “100” to make a total of 10,000

Click the **OK & next** button to add the second line of the order.

This time enter “c” and press the tab key. Double-click the “Cotrimoxazole 240mg/5mL susp” entry. The window will close and the list of available batches and quantities will be completed.

Item: Cotrimoxazole 240mg/5ml susp cot240s New item

Line:

Quan: 0 of 65

Pack: 60 ml Bulk/Outer pack size: 0

Add Place holder

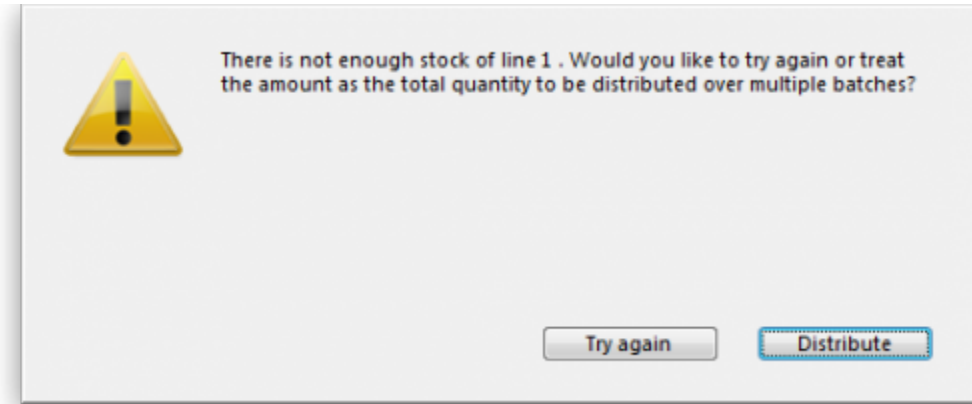
Li...	Issue	Availa...	Tot in st...	Pack	H...	Batch	Expdate	Supplier	Location	Cost Pr...	Sell pr...	Status
1	0	65	65	60	<input type="checkbox"/>	BB23D	31/10/15	Acnep		21.00	21.00	
2	0	100	100	60	<input type="checkbox"/>	BB22D	31/01/16	Acnep		21.00	21.00	

Total quantity issued: 0
Total quantity available: 9900

Buttons: Cancel, OK, OK & Next

Note that in the list of available stock, the second line we entered from “Acme pharmaceuticals” is now at the top of the list - this is because the list is sorted so that the item with the shortest expiry date comes to the top of the list.

Line 1 is selected, despite the fact that there is insufficient stock of line 1 to meet the order of 120. Nevertheless, you should enter “120” in the *Quantity* field, press **Tab**, and the following message will appear:



For this tutorial, choose **Distribute** (which is likely to be your normal choice), and the necessary stock to complete the order will be drawn from another batch/other batches, starting with the batch which will be the first to expire. There will be occasions, however, when you wish to override this automatic means of distribution, and in this event you would select *Try Again* and manually select the batches from which you wish to meet the order.

Click the *OK & Next* button

Because the invoice has not been confirmed, the “available” amount for the line has been reduced, but the “total stc” (total stock) is still showing as “100”. mSupply® includes these lines in the list so you can see stock that has been allocated to an invoice but has not yet left your store. You can then edit the other invoice if stock is urgently needed on the current invoice.

Click *OK* as we are finished entering lines. You will be returned to the main Customer invoice window.

Name: Blue Cross Hospital Confirm date: 00/00/00 Colour: Black
 Their ref: PO882 bluec Invoice: 16
 Comment: This afternoon by courier Category: None Entry date: 16/06/11
 Goods receive ID: 0
 Status: nw
 Entered by: user 1 (pass= user1)
 Store: General

New line Delete line(s) Backorders History Confirm

General Summary by Item Summary by Batch Transport details

...	L...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
	1	A	Amoxicillin 250mg tab/cap	100	100	b39399	01/01/12	343.00	34,300.00
	2		Cotrimoxazole 240mg/5ml susp	65	60	BB23D	31/10/15	21.00	1,365.00
	3		Cotrimoxazole 240mg/5ml susp	55	60	BB22D	31/01/16	21.00	1,155.00

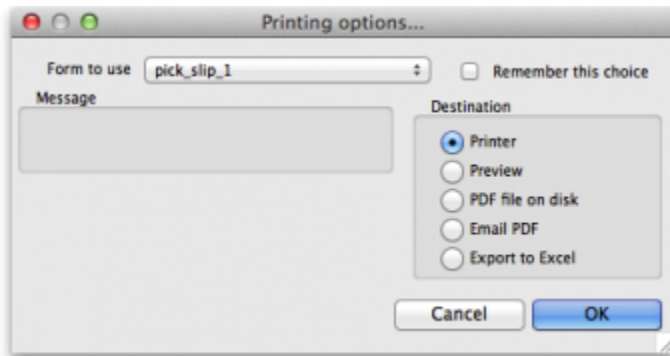
Other charges Item: Courier charge Amount: 200.00
 Subtotal: 37,020.00
 0 % tax: 0.00
 Total: 37,020.00

Hold Finalize Export batch: 0

At the bottom right of the invoice you will see the invoice total.

- As the customer has requested an express courier, we will charge them Rs200 for the service (Rs = “rupees” the currency in our tutorial). At the bottom of the window you will see the *Other charges* field:
- There, enter “Courier charge” and press the **Tab** key
- In the “amount” field enter “200” and press the **Tab** key. The new total should be “37,020.00”

Now we are ready to print a packing slip. Make sure that **Print** is checked in the bottom right corner, and click **OK**; a window appears displaying your print options:



We want to print a packing slip, so the default settings suit our purpose. You will notice the packing slip printed has a column where you can write down the actual quantity packed.

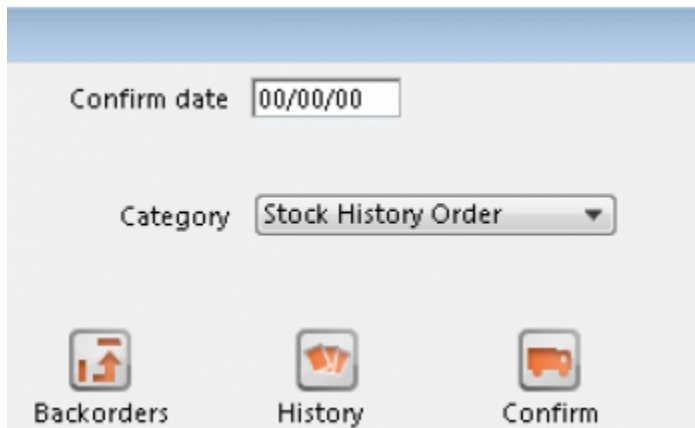
Confirming the invoice:

Let's suppose the order was successfully packed according to the packing slip, and you now want to confirm the order and print an invoice to pack with the goods. (We're in a hurry - the express courier is on her way!)

First, we need to look up the invoice. Here's an easy way to look up the last invoice you have entered:

- Choose **Show invoices..** from the **Customer** menu.
- If you know the invoice number (printed on the packing slip) you can enter it. To bring a list of the most recent invoices, you enter the number of invoices to view. As we know the invoice we want is the last one to be entered, we just type “1” and click **OK** - you will be taken straight to the invoice.

Click the **Confirm** truck icon,

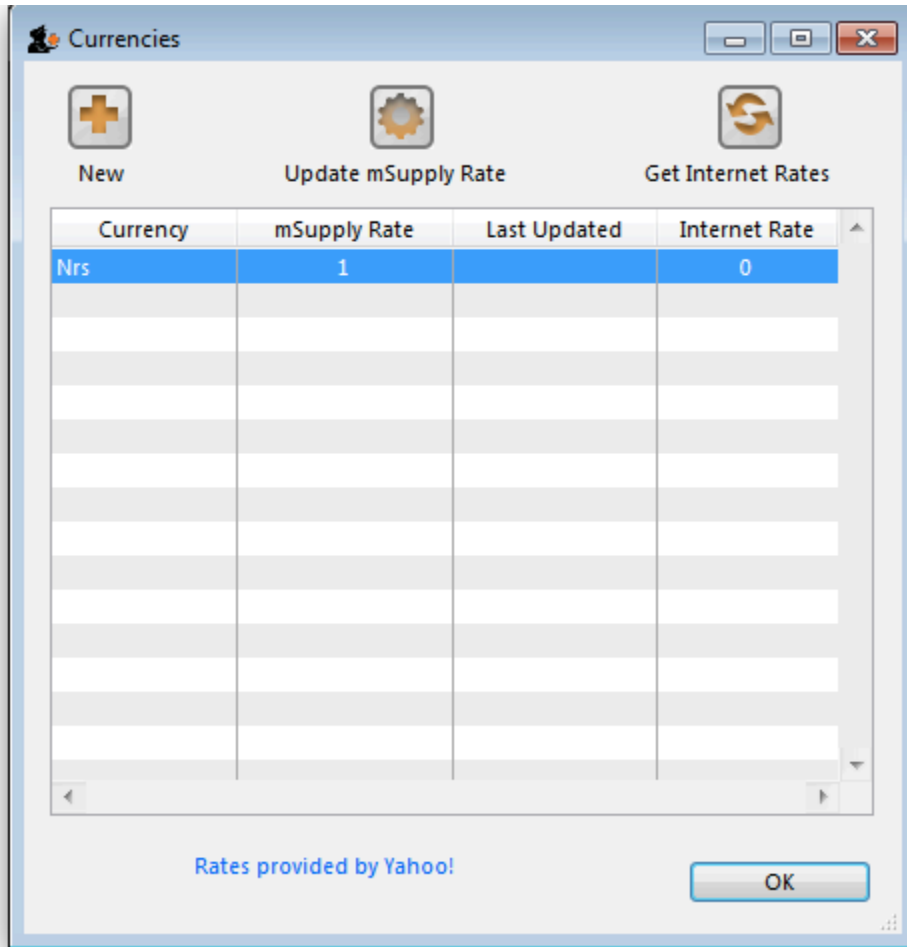


and today's date will appear in the **Confirm date** field. Click **OK** to confirm you want to proceed.

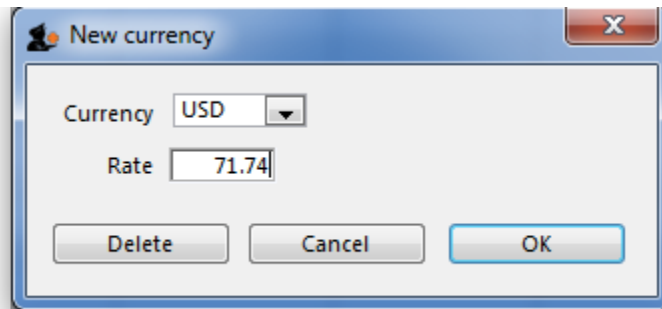
The invoice is confirmed, and you are given the opportunity to print an invoice.

Entering Quotations

mSupply® allows you to keep a record of prices that suppliers have quoted to you. Let's assume that you have just received 2 quotations for Amoxicillin 250mg capsules; one of the companies has used US dollars for their quotation, and the other has used British pounds, so before entering the details of the quotations, it is necessary that both of these currencies are recognised. To achieve this, choose the menu item **Special > Currencies**, and this window appears:

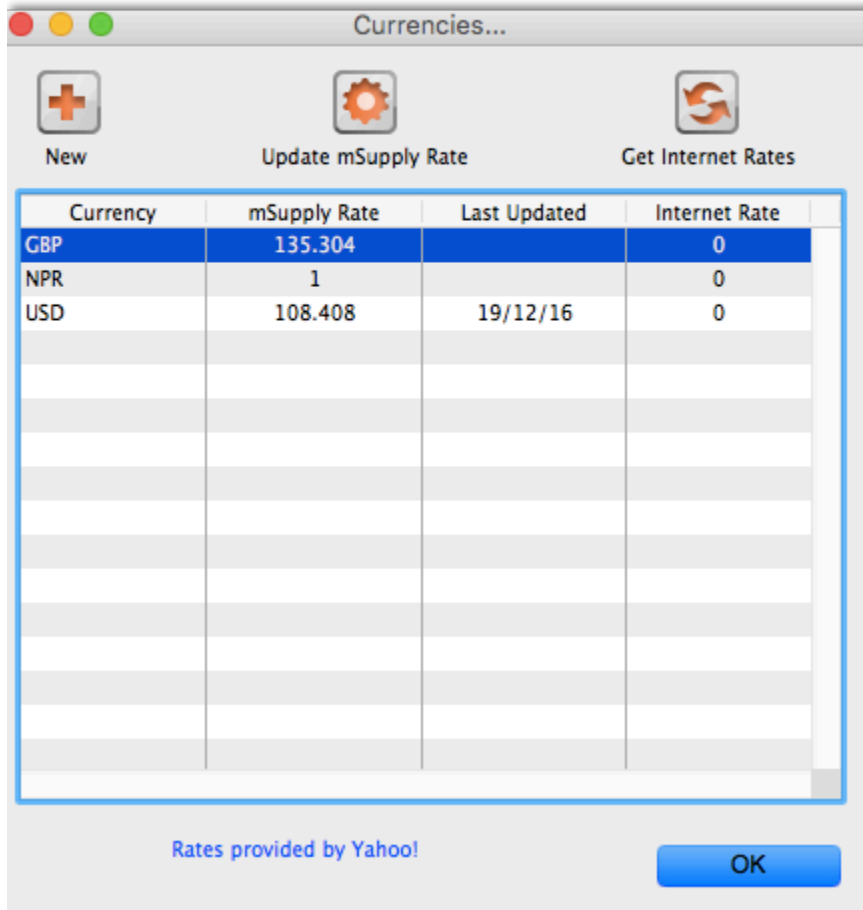


Click on the New button, and a window appears which allows you to enter another currency:



Enter “USD” in the Currency field; in the Rate field you should enter the number of units of the default currency - in this case Nepali Rupees - equivalent to 1 US dollar; at the time of compiling this tutorial, the rate was 71.74 N.Rs. to US \$1, so “71.74” is entered in the **Rate** field. Click on the **OK** button, and repeat the exercise for British pounds, the rate presently being 116.36.

Once you have performed this, the Currencies window should look like this:



We're now ready to proceed.

To enter a quotation:

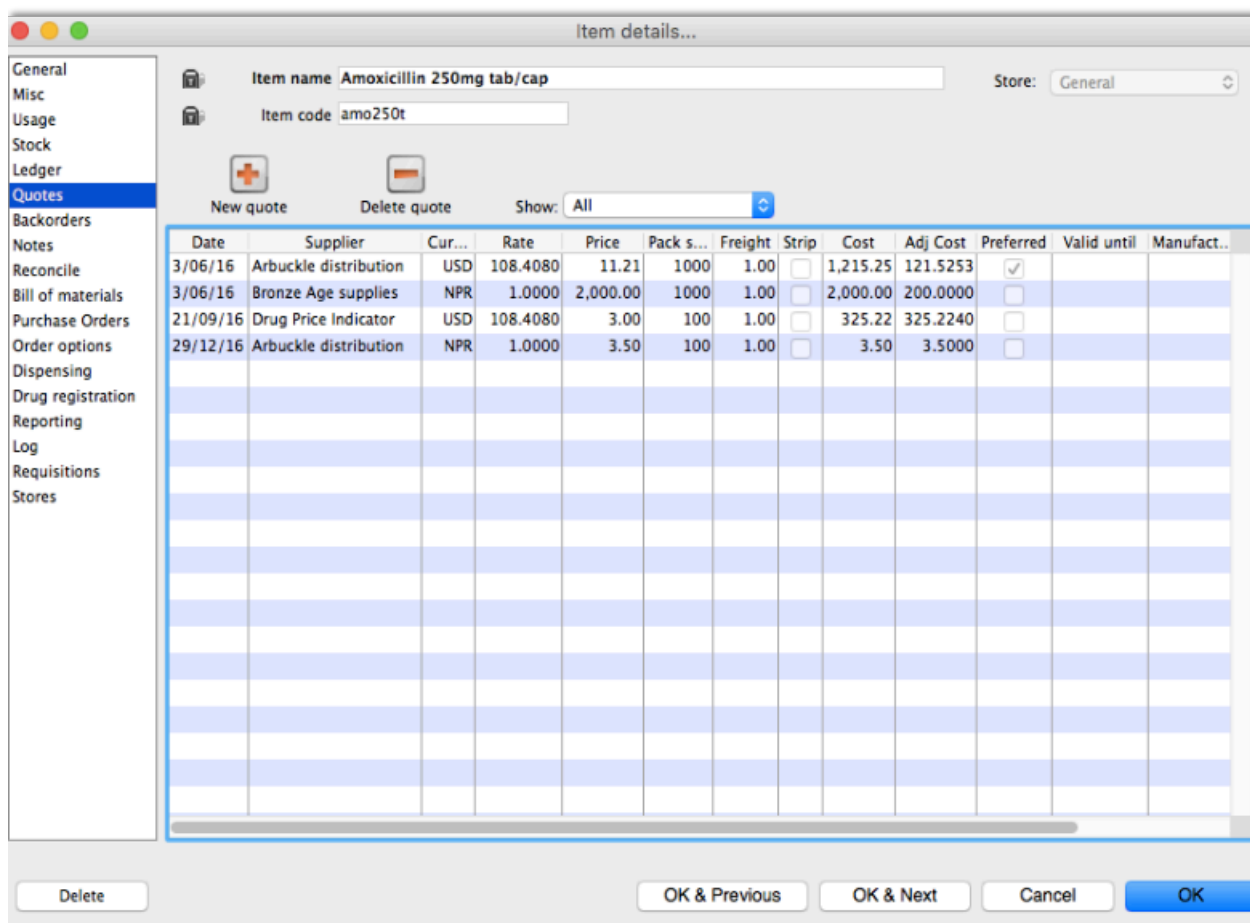
1. Choose **Items > Show items**
2. Type "Amox" then press Enter.
3. Double-click the "Amoxicillin 250mg caps" entry from the list.
4. The item view window, on the left, has vertical content list (General, Usage, Quotes). Click the **Quotes** line.
5. Click the "New Quote" button.
6. Note that the item is entered for us. We need to choose a supplier and enter their price details.
7. Enter "Arb" in the supplier field and press tab. Arbuckle distribution is automatically chosen. They have quoted in US dollars, so choose "USD" from the currency menu.
8. Their price is US \$3.50 per 100 capsules, so enter "3.5" in the price field and "100" in the pack size field.
9. Click **OK** to save the entry
10. Now click "new quote" again and enter the following details:

Supplier	Gold Medical Supplies
Currency	Sterling [GBP]
Price	20.00

Supplier	Gold Medical Supplies
Pack size	1000

Click **OK** when you are done.

Now we can see the list of quotes, which should look like this:



Notice how the adjusted price takes into account differences in pack size and currency, so you can easily compare suppliers.

Thanks for working through the tutorial. We hope you learnt something useful, and now feel confident to start using mSupply@!

Where to now?

- Use the example database to experiment with different commands as you read about them in the user guide.
- Have a “dummy run” at starting a new data file and using it.
- Return to our main documentation page at www.docs.msupply.org.nz

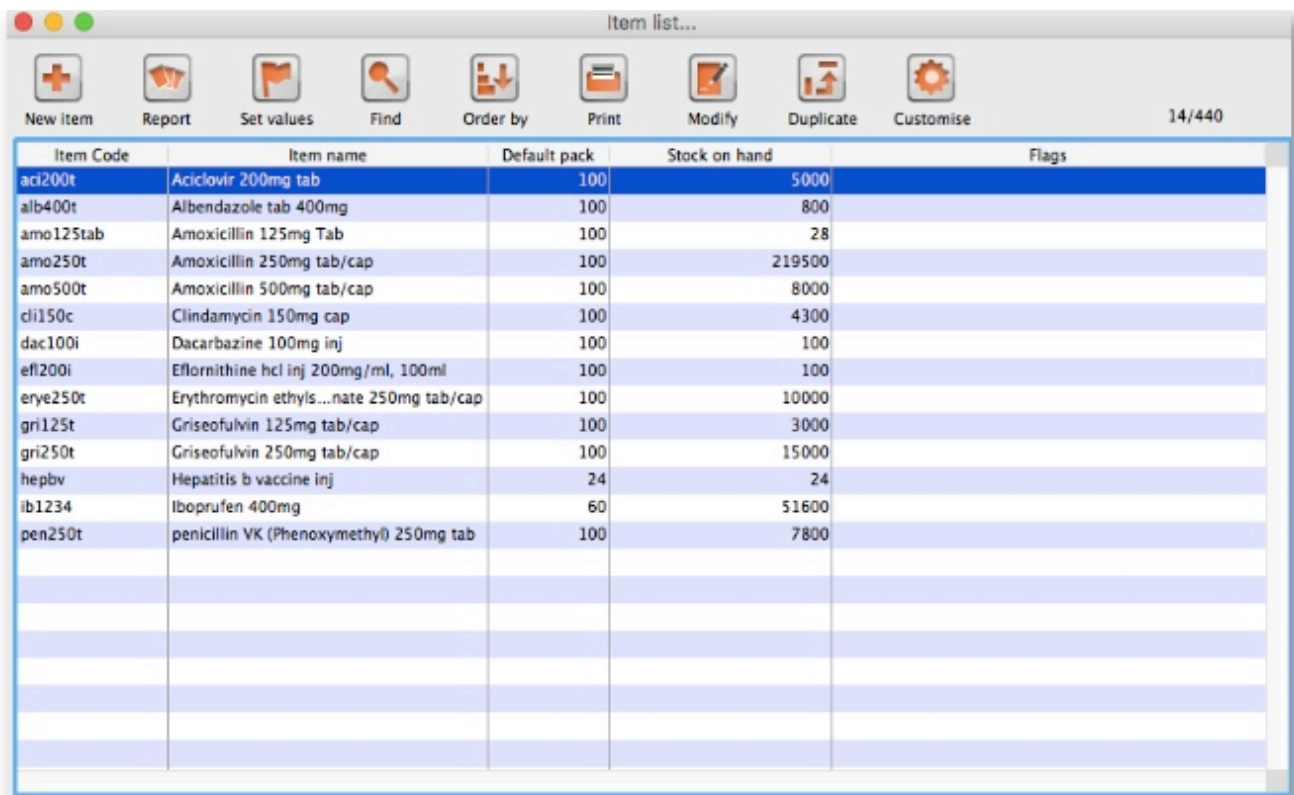
Previous: Logging in Next: Working with lists

Working with lists

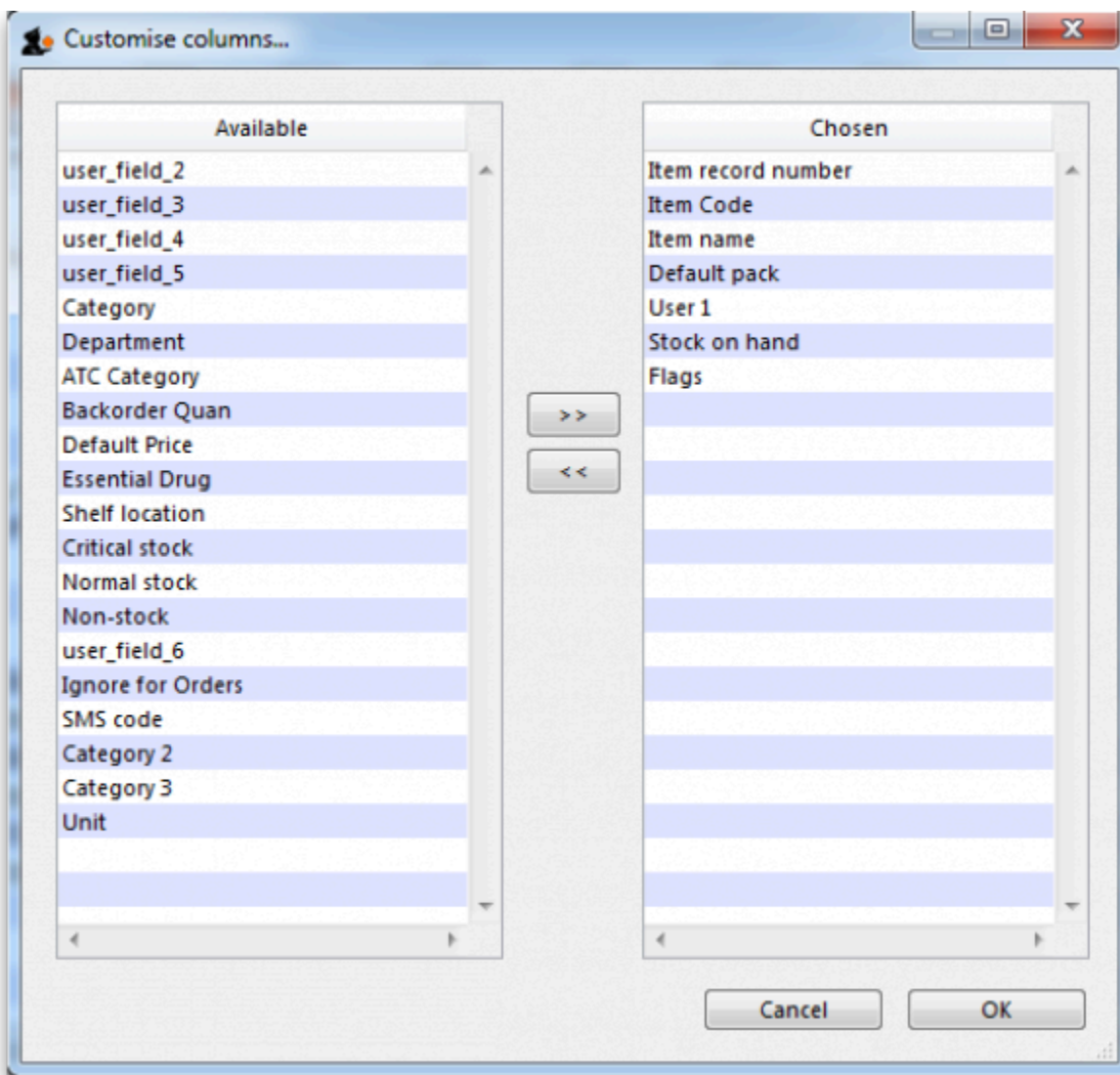
Whenever you perform a search in mSupply resulting in more than one item being found, you will be presented with a list of records (be they items, names, contacts or another list) that matches the criteria you entered.

mSupply uses two types of list display. Shorter lists, such as those you see when you view an invoice, or view the stock for an item employ a list with a striped background. These lists have resizable and moveable columns, and have an indicator to show the sorted column. Their use is discussed in the next chapter. In this chapter we are concerned with tools for handling lists of names and items and transactions, which run into hundreds of thousands or millions of records.

When these lists are displayed, a series of buttons are present along the top of the window, as shown:



Customising the columns viewed: Clicking the **Customise** button in the toolbar will display this window:



On the right is a list of columns you are currently using.

On the left is a list of available columns. To add a column to the view, click on the item in the left-hand list, then click the right-pointing button in between the lists. You can control-click to add multiple columns at the same time.

To remove a column select the column(s) to remove from the right-hand list, and click the left-pointing button to move the columns back to the available list. You can not remove the first column in chosen list, as it is a hidden key column to identify each row uniquely.

Renaming columns: By clicking twice on a field name in the right hand list you can change the column title.

Column widths: The easiest way to set column widths is to drag the dividers between the columns in the list view..

Note that if the total column width is too wide for the window, a horizontal scroll bar is added to the list allowing you to view columns to the right of those displayed.

Choosing the column order: To change the sequence of the columns in a list, drag a column header to a new location. This is done when viewing the *Item list* window, not in the *Customise columns* window.

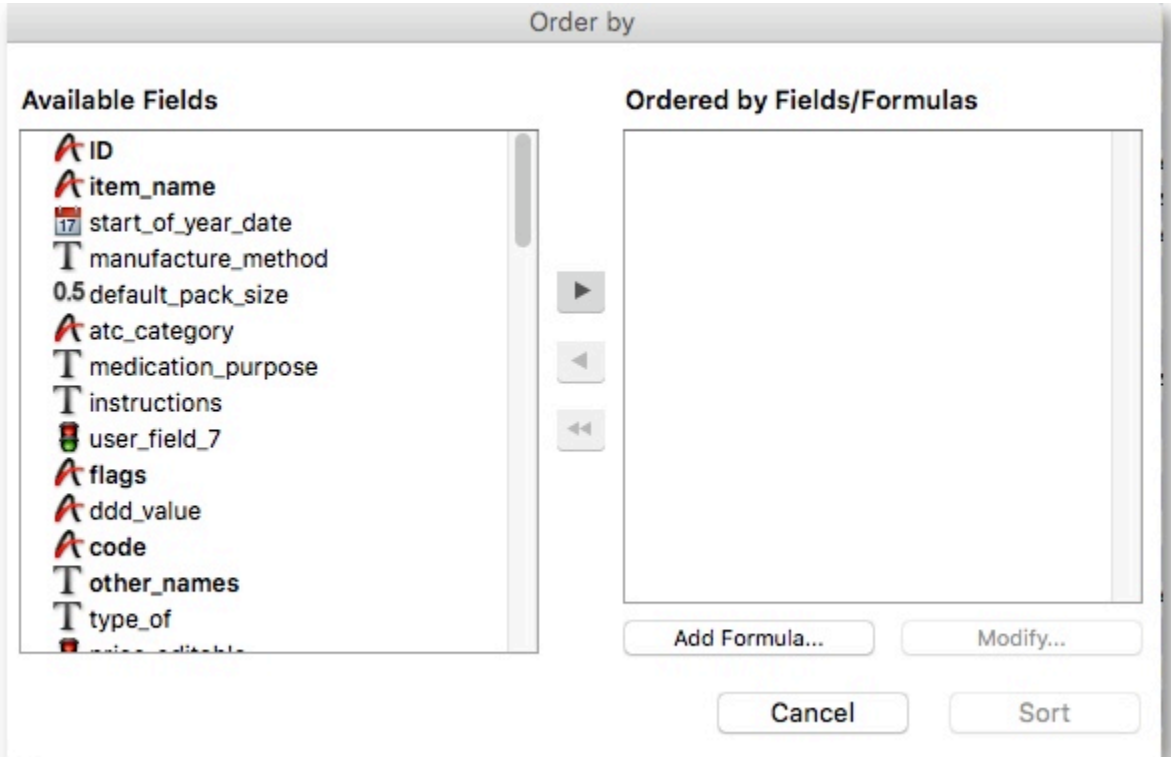
Viewing or editing a particular record: To view or edit a record, double-click the row in the list you wish to view. A new window will open showing the details of the record you clicked.

Ordering (Sorting) lists: Ordering a list is the same as sorting it. Frequently a column may be ordered by clicking on the column heading. The column will be sorted in ascending order. **Ascending** means:

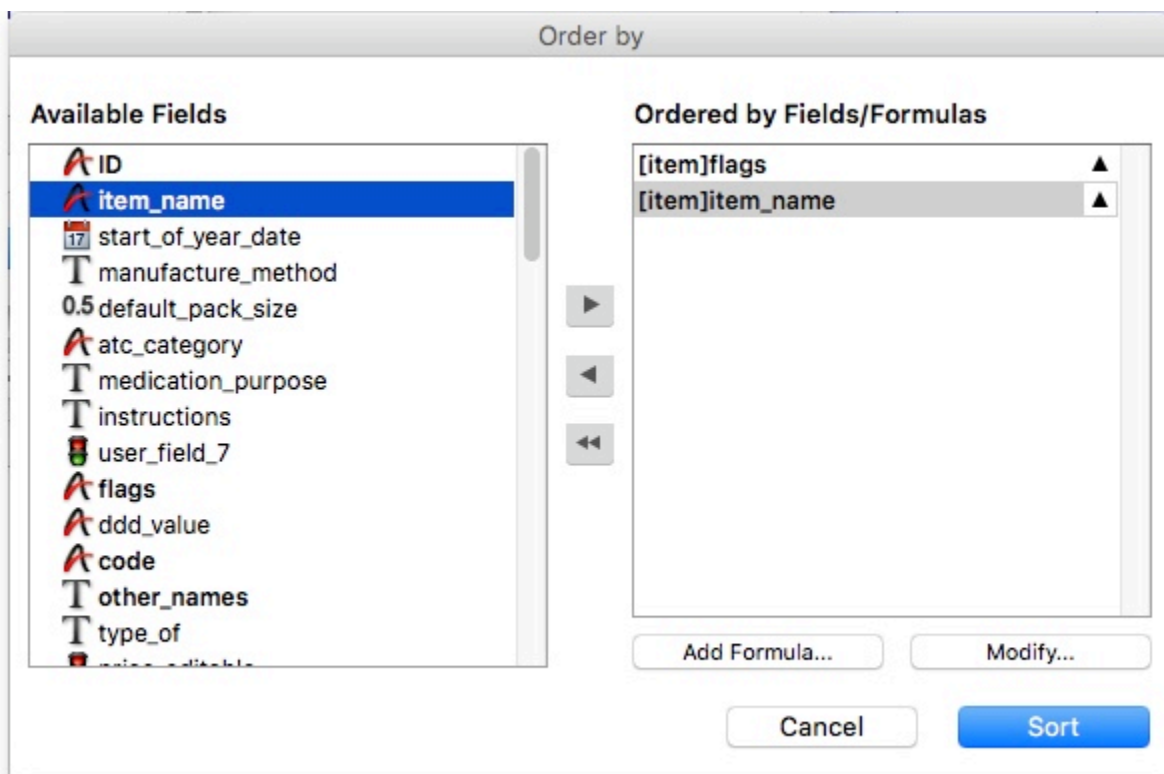
- A > Z (upper and lowercase are not considered different)
- 1 > 2 > 3 for numbers
- earlier dates to later dates

Descending means the opposite of **Ascending** .

Note that ordering a list does not add or remove any records from the list. It simply changes the order in which the records are displayed. Should you require two (or more) sort parameters, clicking the **Order by** button shows the **Order by** window:



The **Available Fields** list will reflect the type of records you are viewing. The list shown is for **Items** . To order by a particular field, double-click it in the left-hand list; double-clicking on the “flags” and “item name” fields results in this window:



(You can also drag fields to the right, or click the right-pointing arrow after highlighting the field on the left)

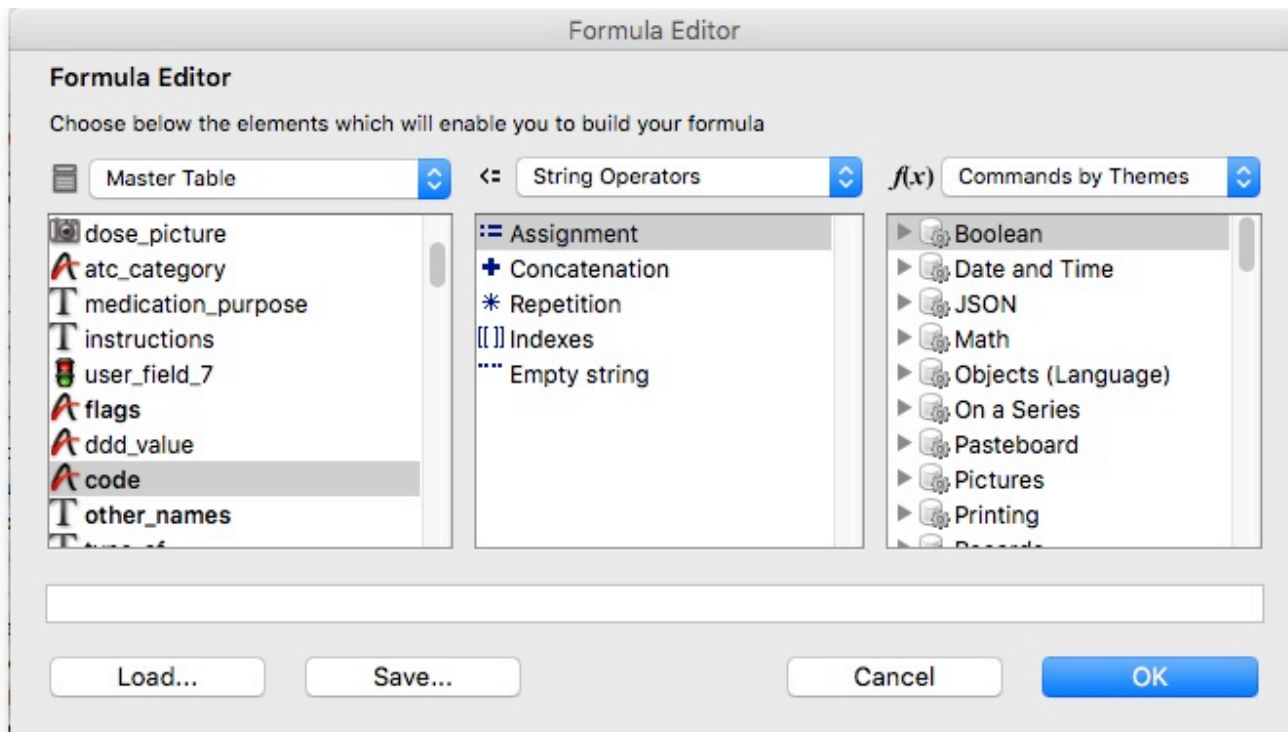
You can order by multiple fields by adding further fields to the right-hand list.

To change to ascending/descending ordering: Each item in the “Ordered by Fields” list has a small triangle to the right. If pointing up, the ordering will be ascending. If pointing down, descending.

To change the direction, click on the triangle.

To remove a field: Highlight the field in the right-hand column, then click the red single left-pointing arrow between the two lists. The double left-pointing arrow will clear the “Ordered by Fields” list

Using formulae: If you want to order by a formula, click the **Add formula** button. Here the formula window is shown, and the formula “Length([items]code)” has been entered.



Using this formula would allow you to identify items whose item code is shorter/longer than your organisation's specifications.

Click the OK button to close the window.

Once the details are entered, click the **Order by** button to order the list.

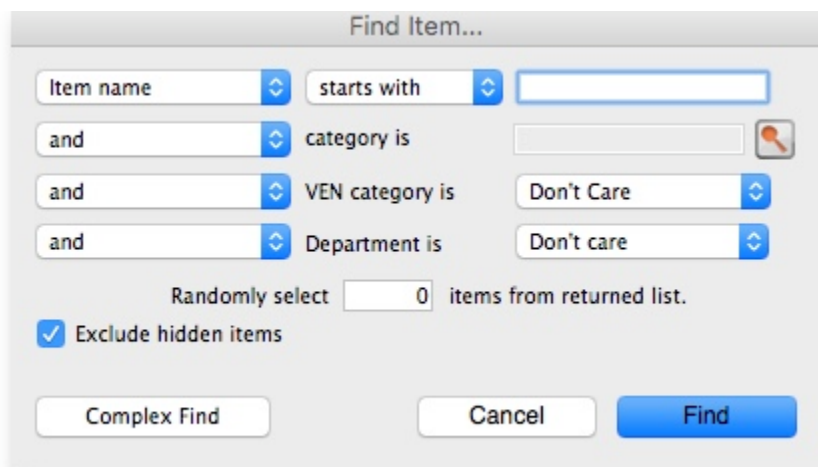
Printing Lists

You can press the print icon to send the list to Excel. The list will display in Excel with the column headings you have selected.

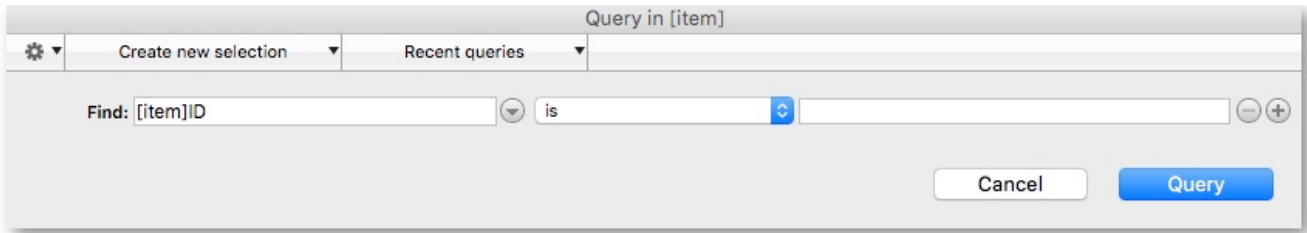
Finding records

In the item list shown above there is a *Find* button.

This button shows a simple find window where you can enter the start of the item name or code.



Complex finds: The window shown above has a *Complex find* button. This allows you to perform a search using multiple criteria. Clicking this button shows the query editor



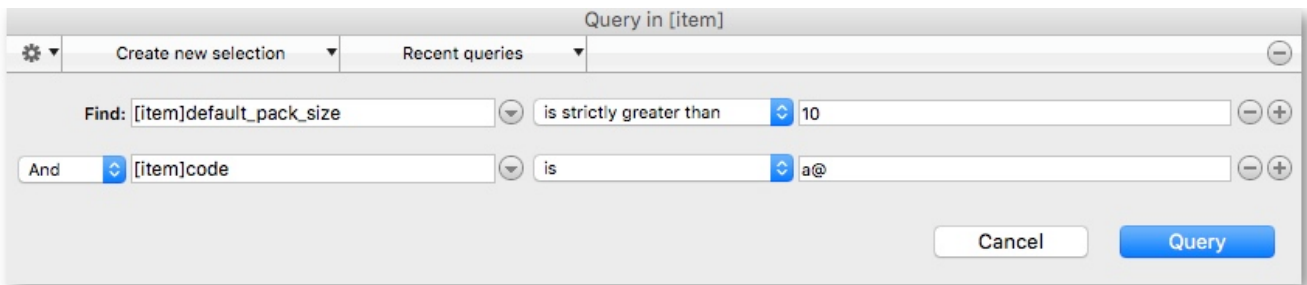
Within this window there are four areas from which you have to choose or set a value for each line of a query.

1. Available fields, from where you make your selection
2. Operands, from where you select the one appropriate
3. Value, where you enter your specific criterion
4. For queries with more than one criterion, click **Add line** , then
5. Click the appropriate conjunction.

For example, if you want to find all items whose default pack size is greater than ten and whose code starts with "A" these are the required steps:

1. Click on "default_pack_size" in the available fields list.
2. Click on "is strictly greater than" in the Comparisons list
3. Enter "10" (no quotes) in the value field.
4. Click the **Add line** button
5. Scroll down the available fields lists then click on "code" in the available fields list.
6. Click on "is" in the Comparisons list
7. Enter "a@" (no quotes) in the value field.
8. Click the **Query** button to perform the query.

Before step 8, the window would look like this



The upper area of the query editor shows a summary of the query that is about to be performed.

Note that the wildcard character "@" has been used following "a" to find all items whose code has "a" as the first character

This example will return a list of items where both the search criteria are met, because the conjunction **And** was used. If you wanted to find items that matched only one of the criteria entered, you would click on the second line in the large upper panel to select it, and then click on the *Or* button where the conjunctions are displayed.

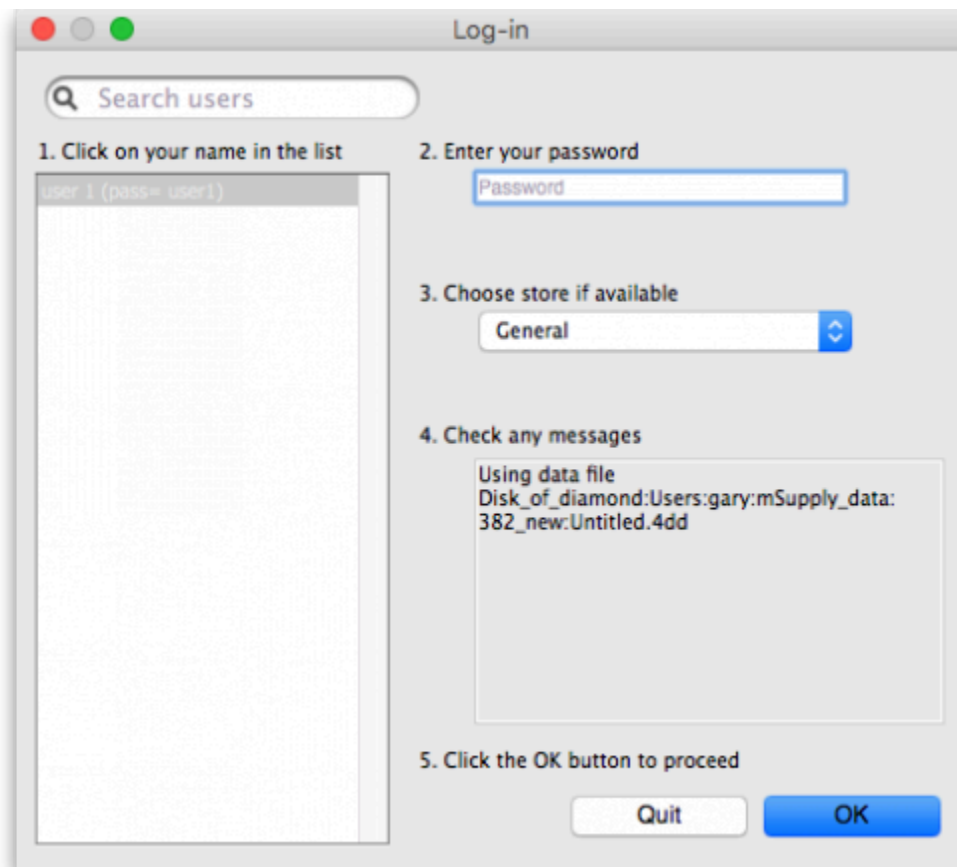
Saving and Using saved queries: If you have spent time on developing a particular query , and you are likely to use the same query in the future, click the **Save** button. You will be asked to choose a name and location to save the query. The saved file is very small.

When a blank query window is first shown, you can re-use a previously saved query by clicking the **Load...** button and locating the query file.

Previous: The Tutorial Next: Understanding Items

Logging in

When mSupply starts you will be presented with the log-in window:



This is the way the window appears when mSupply is started for the **first time**

1. You should select your user name from the list. If you're just opening mSupply for the first time after installing it, select *user 1 (pass=user1)*. If the list is long you can type the first few characters of your user name in the *Search users* field to shorten the list to usernames that begin with what you have typed. On subsequent logins mSupply will default to the last logged in user.
2. Enter your password. The password for the *user 1 (pass=user1)* user is "user1" (without the quotes - the hint is in the user name!).
3. From the drop down list, select the store which you want to login to. Most mSupply users will be operating with a single store, but for users operating with more than one store, the login screen allows you to select any of the stores to which you have access. If you have been working with one store and want to change to another one see *Switching stores*. After selecting the desired store, all transactions will relate to that store until you return to the login screen and select a different store from the drop down menu.
 - Supervisors and other Level 1 users will have an additional menu item, *Supervisor - All stores*. In this mode, all stores are accessible and you would use this mode, for instance, when placing an order for supplies which will be distributed to a number of stores or for reporting over more than one store.

Further information is available here: [Virtual stores](#).

- If you have enabled the Hospital Info System (HIS) in the user login permission settings (see `foreign_keys`), and at least one license is allocated to HIS (see HIS preferences), then you will also see *Hospital Info System* in the list of stores. If you select this, the login mode automatically changes to *HIS mode*.
4. View any messages that might be displayed
 5. Finally, click *OK* to login. If login is successful you will be taken to the navigator.

There are various options that can be set that cause a successfully logged-in user to be taken to other screens or shown other information. For example, Reminders or Invoices preferences.

Previous: Introduction Next: Tutorial

About items

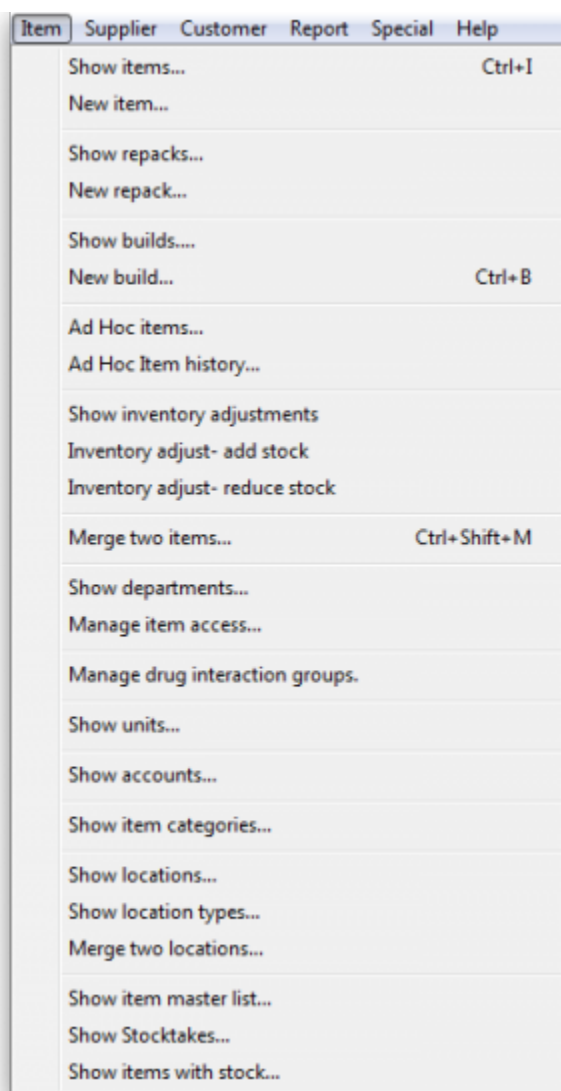
An item in mSupply is usually a product that you purchase from a supplier, hold in stock and supply to a customer. However, there are also other types of items:

- A service item has no stock, but can still be added to customer invoices and charged for. Service item examples are a freight charge, a consultation fee, an express delivery fee, etc.
- A cross reference item points to another item, so that when it is chosen in a list, it is substituted with the item to which it refers. This allows you to have items in your system that are referred to by trade name, but are only issued according to their generic name.

Managing items is mostly done from the **Item** menu or **Item** tab on the Navigator. The item menu also contains commands for managing lists related to items such as accounts, drug interactions and units.

For how to add a new item, see Adding a New item.

The Item Menu



Show items....

Use this command for viewing or editing just about any information about an item.

First you are presented with a window asking you to enter search criteria to find the items you are interested in:

If you click on the **Find** button (or press the Enter key on the keyboard) without changing anything you will be shown a list of all the visible items in your store. But you can refine the search by entering and selecting different values in the different filter lines shown in the window. If you enter no value for a filter then that filter is ignored.

Randomly select x items from returned list text box: If you enter a number in here mSupply will randomly select that number of items from the items which match the search criteria you have entered in the filters above. Beware: if there are less items returned from the search than the number you enter in here mSupply will return all the items it found with no random selection.

Exclude hidden items checkbox: This is checked by default and means that only items that are visible in the store you are logged into are included in the search. If you uncheck this box then all items in all stores in your datafile will be included in the search.

If only one item is found by your search then its details are displayed, otherwise you will be shown a list of matching items.

The **Complex find** button gives you access to a more powerful query editor where you can find a very specific set of items. A tutorial on using the query editor is to be found in the custom reports section.

To do a “contains” search, use the wildcard character '@'; e.g. entering “@250” will find all items with “250” anywhere in their name.

Here's an example of a list of items displayed after clicking the **Find** button:

Item Code	Item name	Default pack	Stock on hand	Flags
DORAA8002	Abacavir/Lamivudine, 600/300mg, tab	1	0	
DORAAAL004	Albendazole, 400mg, tab	1	0	
DORAAAL006	Aluminium Hydrox...Hydr.), 500mg, tab	1	0	
DORAAAM008	Amlodipine, 10mg, tab	1	0	
DORAAAM010	Amlodipine, 5mg, tab	1	0	
DORAAAM012	Amoxicillin + Flucl...n, 250/250mg, cap	1	0	
DORAAAM014	Amoxicillin Syrup,...mg/5ml, 60ml, bot	1	0	
DORAAAM016	Amoxicillin, 250mg, tab/cap	1	0	
DORAAAM018	Amoxicillin, 500mg, tab/cap	1	0	
DORAAAM020	Amoxicillin/Clavul...g/5ml, 100ml, bot	1	0	
DORAAAM022	Amoxicillin/Clavulanic acid, 625mg, tab	1	0	
DINJAM002	Ampicillin, inj, 500mg, vial	1	0	
SMSUAP002	Apron, plastic, disposable, pce	1	0	
DORAAAR028	Artemether / Lume...0mg, 12 tabs, strip	1	0	
DORAAAR026	Artemether / Lume...0mg, 18 tabs, strip	1	0	
DORAAAR024	Artemether / Lume...0mg, 24 tabs, strip	1	0	
DORAAAR030	Artemether / Lume...20mg, 6 tabs, strip	1	0	
DINJAR004	Artemether, inj, 80mg/ml, 1ml, amp	1	0	
DINJAR005	Artesunate, inj, 60mg, vial	1	0	
DORAAAS032	Ascorbic acid (Vitamin C), 100mg, tab	1	0	
DEXTAS002	Aseptol, 500ml, bot	1	0	
DINJAT008	Atropine sulphate,...1mg/ml, 1ml, amp	1	0	

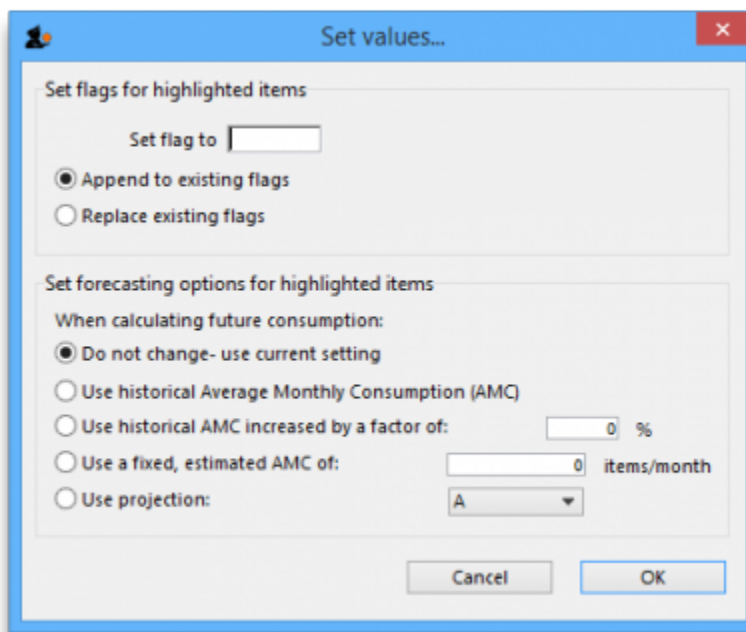
Double-click the item in the list to view its details.

The Items list view

New item: Click this button to enter the details of a new item you are adding to your inventory. You can find out how to do this here

Report: Click this button to open a report editor window where you can design a report. The report will use the currently displayed records (not the highlighted records).

Set values: A flag is a quick way of identifying a group of items for use in a report.



* You can set and remove flags for multiple items at the same time. To do so, hold down the control key (command key on Mac) and click on the lines you wish to flag. They will become highlighted. Then click the “set flags” button. You will be shown a window like this:

We recommend you use a single character (or two) as the flag.

If you choose **Append to existing flags**, any items with existing flags will have the new flag added to the end of the flag. If you choose **Replace existing flags**, then the selected items will have their flags cleared. Note that you can clear all flags for all items by selecting all items (control - A) then leaving the **Set flag to.** field blank, clicking “Replace existing flags”, and then clicking the **OK** button.

Find: Clicking this button displays the **Find** window, the same as if you had chosen **Items > Show items.**

Order by: Clicking this button will bring up the standard Order by window, where you can choose fields by which to sort the displayed items

Print: Click this button to print the items currently displayed in a list.

Modify: Click this button to show details for the first record that is highlighted. Clicking the **OK and Next** button in the item details window will jump to the next highlighted record. To select multiple records, hold down the control key (command on Mac) while you click on the records you wish to select.

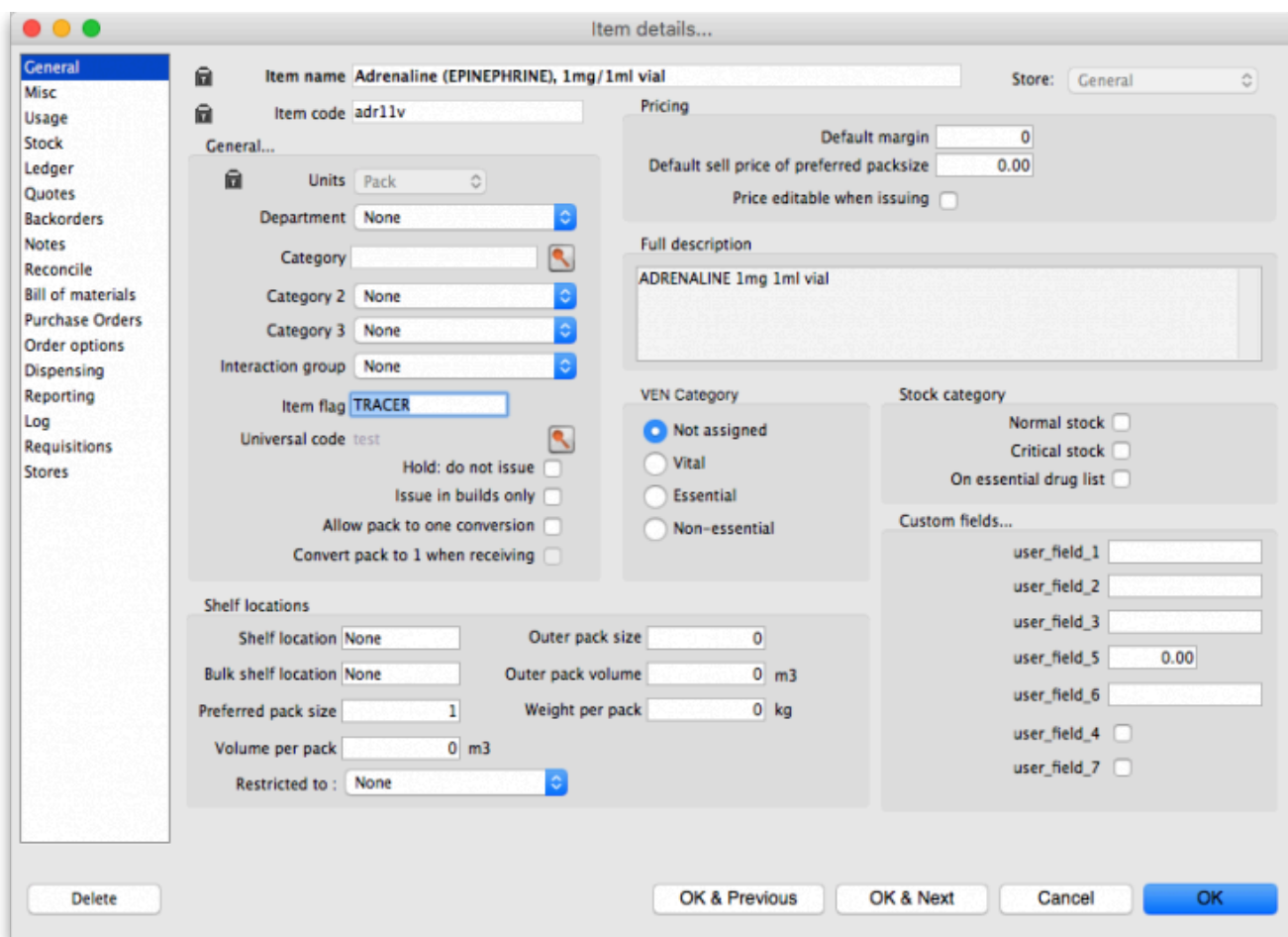
Duplicate: Click this button to create a new item with the same details as the selected item. A message box like the one below will appear. Click on button **Duplicate** to confirm creating the duplicate. Note that the only difference you will see between the existing item and the newly created item is the name of the new item ends with the text '(copy)'. The new item will be added to the end of the currently displayed list of items.



Note that for recording and audit purposes a Log event is created when an item is duplicated. For more information on log events see The Log

Customise list: Clicking this button will show a window where you can choose which fields from the items table are shown in the list view. See Working with lists.

The Item Details Window



Buttons in the item details window

Delete: Provided that an item has no transactions, quotes, order lines or backorder lines, it can be deleted, and this button performs that action.

Once you have received stock for an item, it cannot be deleted. You can delete an item immediately after you have created it or imported it. Note that if you have imported an item and stock, you can delete it, and its associated stock will be deleted too (but not once it has been used in a transaction such as an invoice or build).

OK & Next: Saves changes, exits the window, then brings up the next item in the item list. If you did not have an item list open, or if you have reached the last item in the list, you will be returned to the list or the initial menus, depending on your starting point.

Cancel: Exits the window without saving changes.

Changes you have made to quotes, notes and backorders will be saved, even if you click **Cancel** .

OK: Saves changes then exits the window.

Tabs on the Item Details Window

The item details window displays a vertical list of 'tabs' down the left side. Click on the appropriate item to view a 'tab' displaying particular information about an item. The Item Details Window normally opens at the **General** tab.

The General tab

What are those lock icons? To minimise the chance of accidental amendment, some critical fields have a lock icon to the left of it. To change any of these fields, you must click on the lock icon first, and then enter the new value in the field.

Item name: This is the name by which mSupply will refer to the item.

Store: The store which you are using is displayed here. For mSupply systems that are only using a single store, this field is not relevant. For users managing more than one store, the desired store may be selected from the drop down menu. For users having access to all stores, and wishing to work with the cumulative data from them all, one of the options displayed will be " Supervisor - All stores " - refer Miscellaneous topics, Supervisor Mode.

- You should avoid changing the name of an item to that of another item. If you have accidentally created two copies of the same item, these should be merged - refer Merging two items.
- Historical records will still record the original name, but future invoices and invoices in process will pick up the new name when you add or edit an invoice line.

Item code: This is the code assigned to the item. This should be a unique code, and ideally, should not be a part of another code. For example, 1034 is unique, but is a part of 1034a, and so these two codes should ideally not coexist in an mSupply system.

General


Units: Choose the unit you use for this item. It is useful to distinguish items you issue by pack (eg eye drops) from items you issue by volume (eg oral liquids)

Department: You can assign each item to a department by choosing from the list of departments here. To set up departments, refer Managing Item Access....

Category: Provided that you have defined item categories, the appropriate category should be selected using the drop down list which displays your defined categories - refer Item categories.

Interaction group: Here you can choose the interaction group for the item - refer Manage drug interaction groups.

Item Flag: The item flag field is designed for bulk editing, where you use the list view to update many items at once. You can enter or edit an individual item's flag(s) here, though it can be easier to do so using .

Universal Code: mSupply has the ability to look up and store a Universal Code for each item. Click on the select button  to look up a universal code. mSupply will look up on the first three letters of the item code. Ensure you carefully select the correct Universal Code when using this feature.

Catalogue Code: Frequently organisations may apply a second code to an item - e.g. one for auditing purposes, in addition to one for general use. This field allows the entry of such a code.. Provided the **Include catalogue code for each item** box is checked under **Preferences > Misc**, a report on Catalogue codes may be produced.

Hold: do not issue: If this box is checked, the item will not be available to be issued on invoices. It will still appear in lists, but you will get a warning if you choose it when issuing stock, and will be required to choose a different item.

Putting the Item on hold applies to *all* batches of the item in your system. If you wish to hold selected batches only, you should do that through by editing the individual stock lines using Show items with stock.

Issue in builds only: Checking this box will mean that the item cannot be issued on customer invoices. This is useful in situations like where an item which by law can not be sold in an unprocessed state, but is used to 'build' (refer Building (Manufacturing) Items) another item which is legal for distribution.

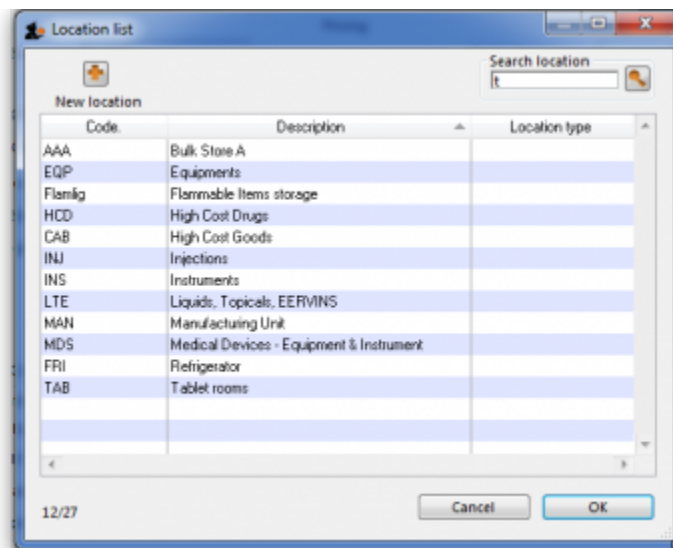
Allow pack to one conversion: Checking this box allows stock of the item to be repacked to " 1 ".

Convert pack to one when receiving: If this box is checked, when you receive items the pack size will automatically be converted to " 1 ". This is primarily for use in dispensary mode, but may be useful in other situations too.

For example: say you receive 50 x 100 boxes of paracetamol tablets, but you issue variable amounts of paracetamol tablets on invoices. If this option is checked, as you receive the stock on a supplier invoice, it will be converted to 5000 (quantity) x 1 (pack size). You will now be able to issue any quantity you like. The cost and sell price are automatically adjusted for the new pack size.

Shelf locations

Shelf Location: The *default* shelf location for this item *in this store*. When you receive items into stock, they will be given the shelf location you enter here unless a different location is chosen. Type as much of the location (ie the first few characters) or code as you know, then press the *Tab* key. If only one location code matches your entry it will be filled in automatically, otherwise you will be shown a standard choice list like this:



Select the location you want by double-clicking a line or by clicking once on the line and then clicking **OK**

Each batch of stock can have its own shelf location, or can share a location with another item.

Bulk Shelf Location: Similar to shelf location but it is used to store bulk quantities of goods/items. You can enter a code here in the same manner as for the Shelf Location.

Preferred pack size: This is the *default* pack size that will be chosen when receiving new goods or adding an item to a purchase order. It will also be used for comparison of quotations from suppliers (i.e. the *adjusted price* used when comparing quotations is the price if all quotes for for the pack size defined here.

Restricted to Here you can choose from a list of Location types. For example, all cool store locations could have been given a type of “cool” and then if the item you are editing should be kept in a cool store, choose that type here, and you will only be able to receive that item into a cool store location.

Volume per pack: If you are using available volume tracking in your warehouse, then fill in the default volume for one pack of the preferred packsize of the item here.

mSupply® always stores volumes as m3 (cubic metres), but you can enter a volume as millilitres (mL), litres (L) also.

You enter	Value displayed	mSupply® stores
30ml	30ml	0.00003 m3

You enter	Value displayed	mSupply® stores
1500L	1.5 m3	1.5 m3
600 L	600 L	0.6 m3
1500 ml	1.5 L	0.0015 m3

Outer pack size: The number of *default* packs per *default* outer pack

Outer pack volume: The volume for the *default* outer pack. This may be different to an exact multiple of the volume per *default* pack you entered above, as outer packs may have their own packing. (For example, vaccine packs may come in an insulated container.)

Weight per pack: The weight of a *default* pack in kg.

Pricing

Default margin: This is the margin that will be applied to this item on supplier invoices to calculate the selling price. Note that if a supplier margin is also set, there is a setting in the **Preferences > Invoices 1** that determines which margin will be used. Note also that if a default selling price is set, this price will take priority and be used rather than the margin.

Default sell price of preferred pack size: Only enter a price here if you want a fixed selling price for this item. Enter the price for one unit (eg 1 capsule or 1 gm). A price entered here will override any margins you have specified for either the supplier or the item.

Price editable when issuing: Check this box to enable this feature

Full description

This field may be used for entering a fuller description of the item should the item name alone be insufficient.

VEN Category

Like all categorisations, this one is used for reporting. VEN category options available are:

- *Not assigned*
- *Vital*
- *Essential*
- *Necessary*

You can select one of the options only and *Not assigned* will be selected for all items by default.

Authorities, including the WHO, are inconsistent on whether N should stand for Necessary or Not Essential. It makes no difference to mSupply, but if you want this changed in your installation of mSupply, talk to Sustainable Solutions

Stock Category

These categorisations are used for reporting and you can check as many as are appropriate. You don't have to check any, they are entirely optional.

Custom fields

These are 7 fields available for users to store information appropriate to their operation. These fields may be queried when performing a search or producing a custom report. Their default names are **user_field_1**, **user_field_2**, etc..., but these labels may easily be edited to more descriptive ones as required..

Field types:

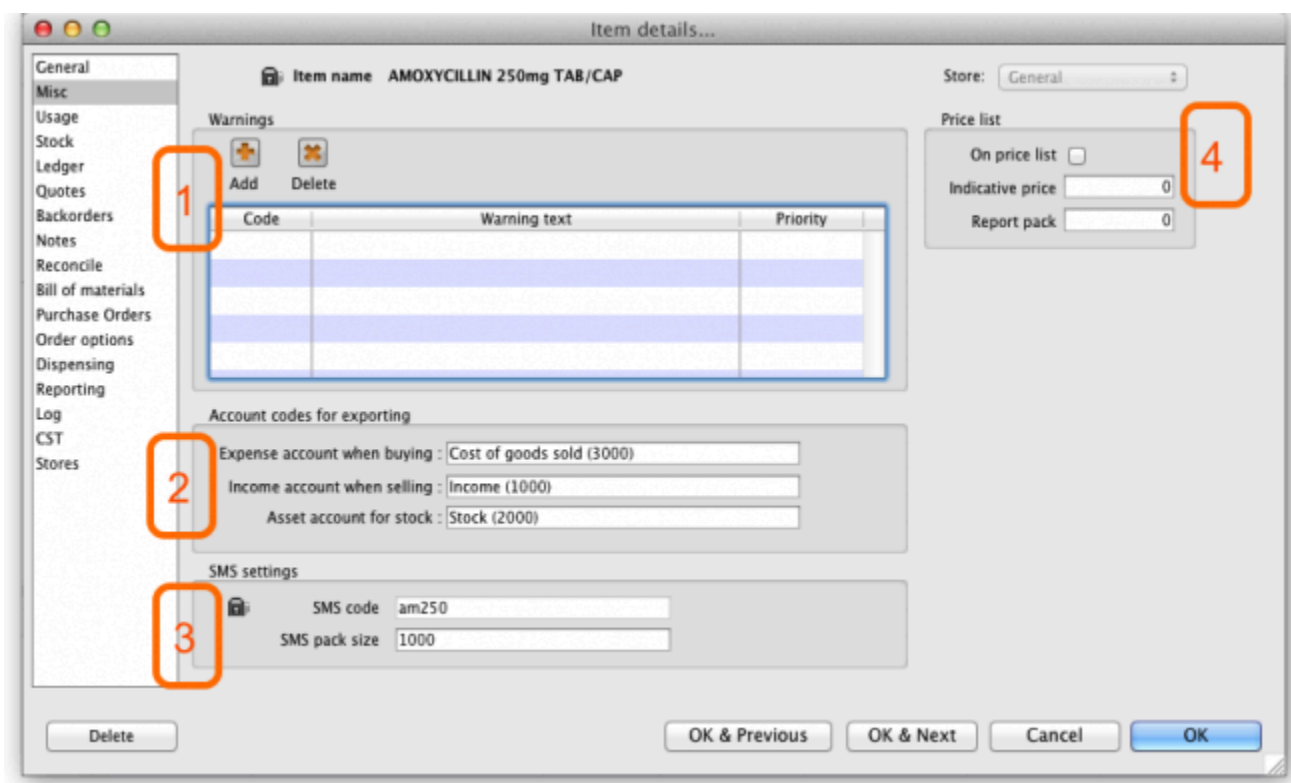
- Fields 1,2,3 & 6 are text fields
- Field 5 is a numerical field
- Fields 4 & 7 are boolean - True/False (Yes /No) entry.

To set the names of the user fields, refer General Preferences, Miscellaneous tab.

The Misc(ellaneous) tab

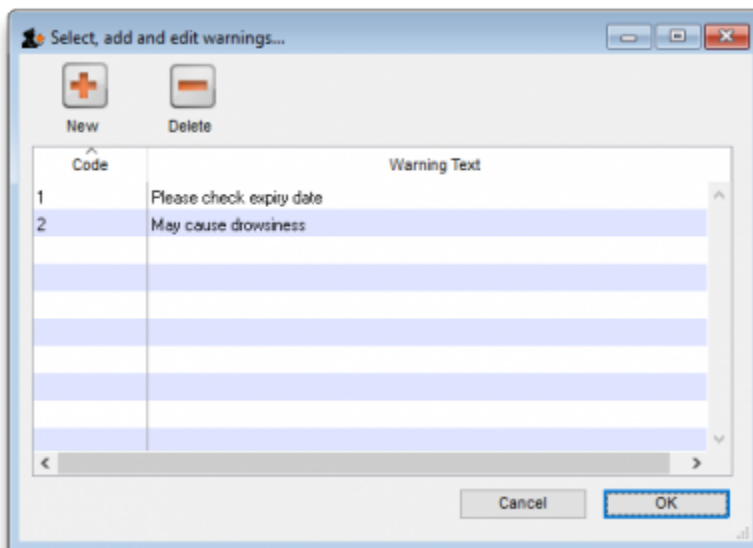
This window has settings for:

1. cautionary warnings used when dispensing medicines
2. accounts used when exporting transaction information
3. SMS (text) messaging
4. Price list



Warnings: Warnings which apply to this item are chosen from a standard list. This list is set up using the *Special > Warnings* menu.

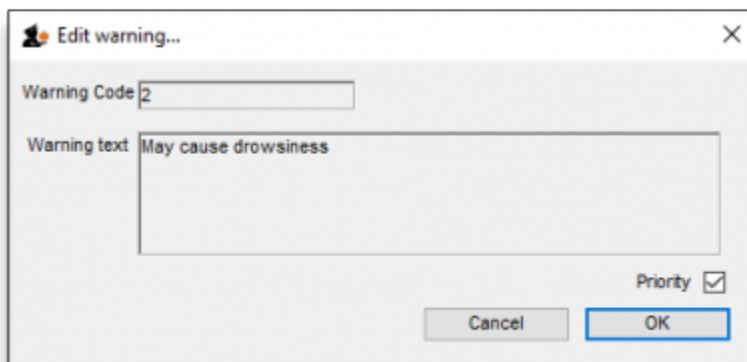
Use the **Add** button to add a warning for the item. This will open the below window where you can choose the warning from a list. Double click on the warning you want to use. You may also add new warnings to the list by clicking the **new** button.



To delete a warning, click on its line then click the **Delete** button.

When an item has more than one warning, the warning that has priority will be automatically printed on the label. You can add other warnings as part of the label directions if required.

To give a warning priority, double-click its line in the list and check the *Priority* box:



A warning's text may only be edited by choosing **Warnings** from the **Special** menu

Accounts: You can set the general ledger account to be used for exporting purchase and supply transactions involving this item here.

To set each account enter a portion of the account description or code and press the *Tab* key. You will be shown a standard choice list if more than one account matches what you typed.

SMS settings: These settings concern the item and SMS messages from mobile phones.

SMS code: This is the code that will be entered in an SMS to refer to the item. Keep the code short and unique! If you change this code you must notify all the users who send SMS messages to mSupply about the new code, otherwise they will not know how to refer to this item in their SMS messages. Because of this, you can only change this item after you 'unlock' the padlock next to it by clicking on it. When you unlock the padlock you will be shown a warning that SMS users must be told about the new code.

SMS pack size: The pack size to use to convert the pack size quantities entered in an SMS message into item quantities. You must enter a value greater than or equal to 1 for this if you have entered an SMS code. Otherwise this field is ignored.

Price List

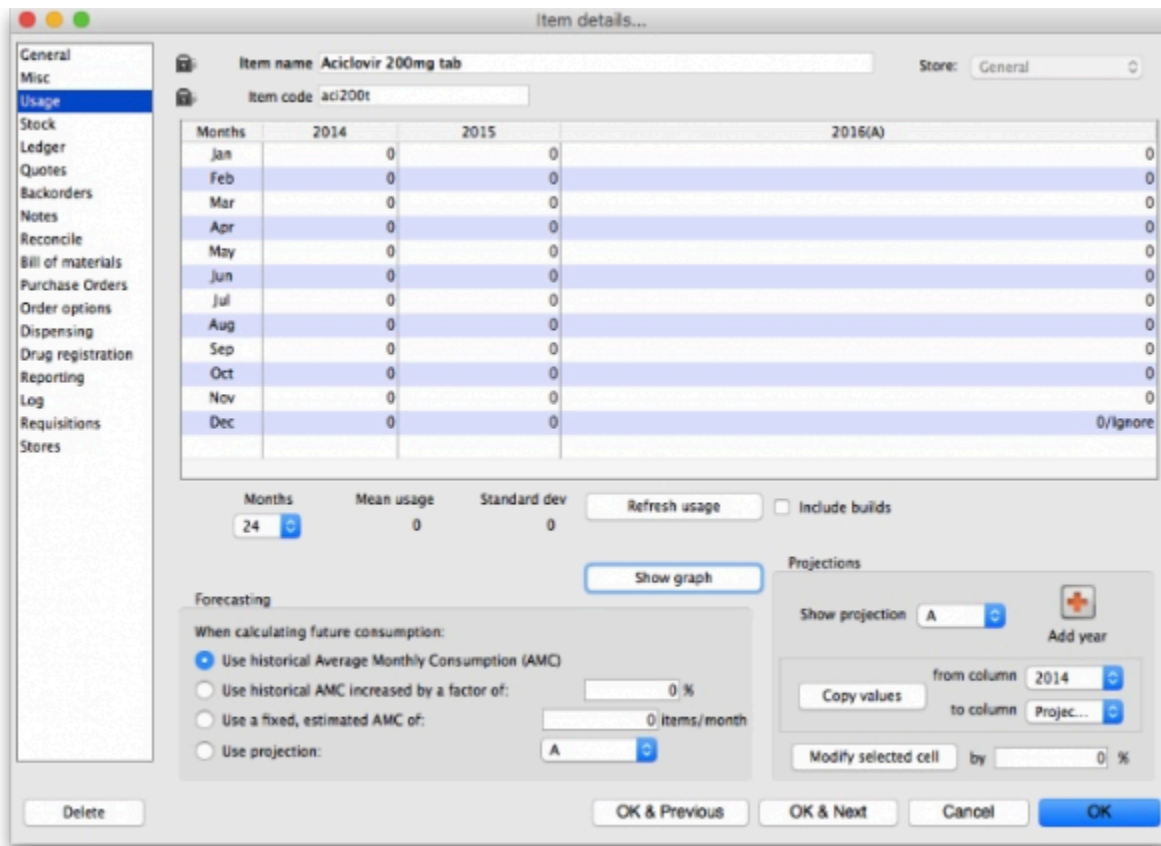
On Price list: If this box is checked, this item will be included when the price list is produced - refer Other Reports.

Catalogue price: The price for the item that will be used when you produce the price list

Catalogue pack size: The pack size for the item that will be used when you produce the price list

The Catalogue pack size can differ from the preferred pack size on the

The Usage tab

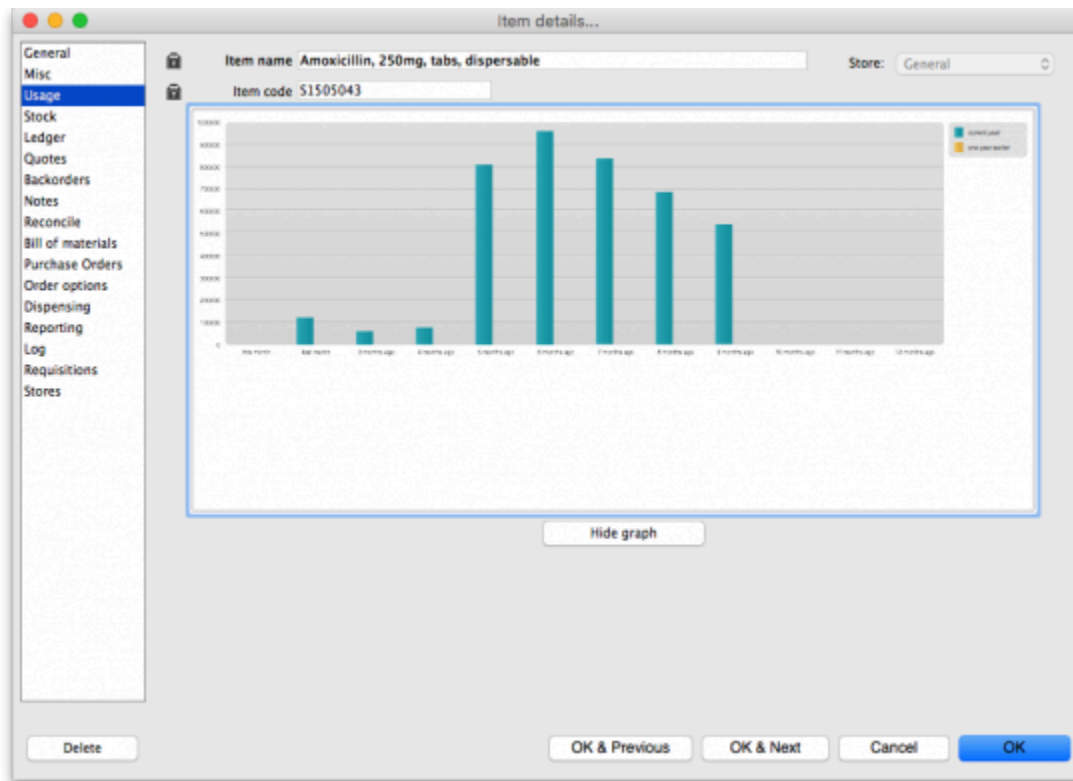


The Usage tab allows you to view the item usage per month for the previous 24 months. This information is very useful for quickly spotting a trend in usage for a particular item.

Below the list of usage for each month there is a drop down list to choose from 1 to 24 months. After choosing a value, the **Mean** (average) **usage** and **Standard deviation** figures will be updated to give the figures for the period chosen (the period is from the selected number of months ago to the current day).

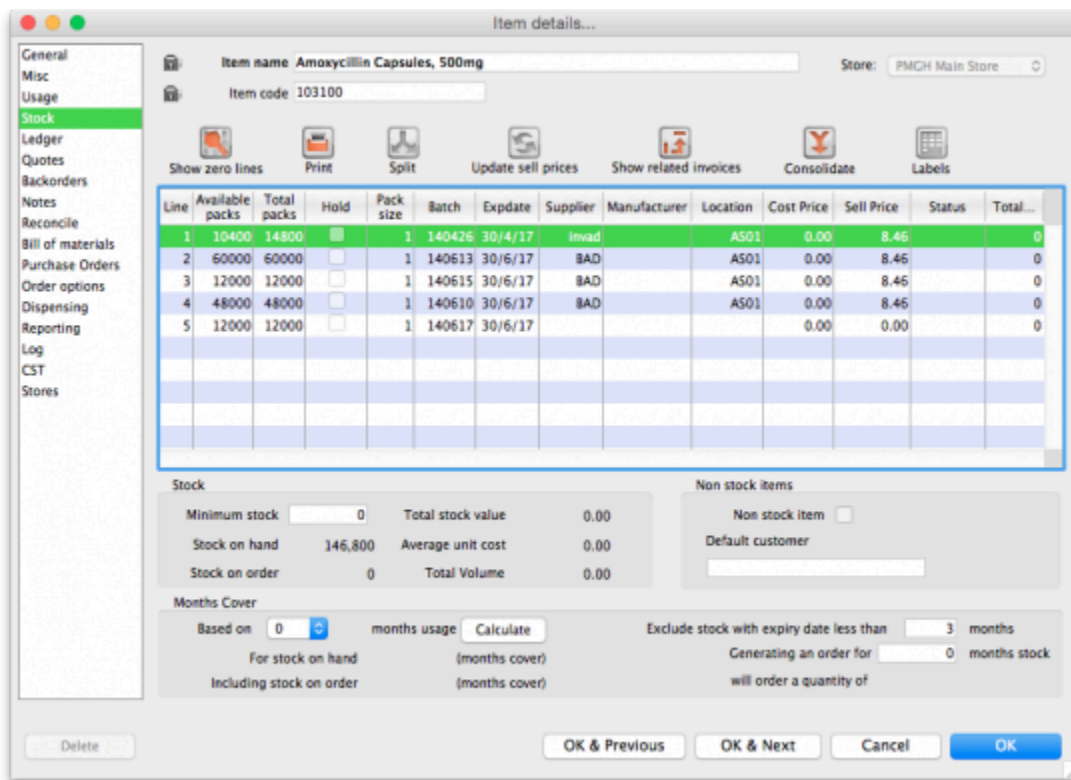
Refresh usage button: This button allows you to update the usage with transactions that were added since you opened the window (this applies to multi-user mode). It also allows you to show the usage with or without build transactions included in the totals, depending on whether or not the **Include builds** checkbox is checked.

Show Graph button: Clicking this button shows the same information in a graphical format:



One coloured set of bars shows the usage for the current year, another coloured set shows the usage for the previous year (if data is available).

The Stock tab



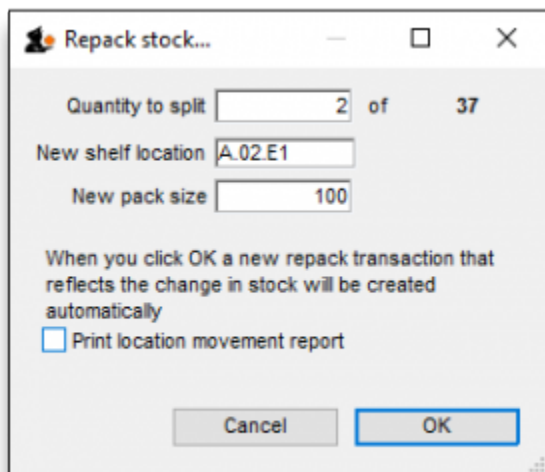
The “Stock” window shows the lines of stock for this item together with the stock on hand. mSupply® will calculate how many days this stock will last, based on your usage over a number of months - you can specify how many months.

If you have turned on any of the custom stock fields in store preferences they will be displayed as columns (between the Supplier and Manufacturer columns) in the list of stock lines on this tab and the information you entered for these fields when the stock was received will be shown in the appropriate cells.

Show zero lines: This button will show all the lines that are still in your data file, but which have no stock on hand. If you can think of a use for this information, please let us know! When you click the button the button title changes to “hide zero lines”, which allows you to get back to the info you really wanted.

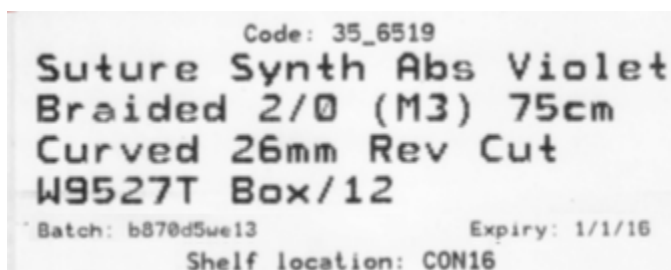
Splitting: There may be occasions when you need to split your stock- e.g. if you are moving it, say, from a store to a dispensary or clinic, or when you are repacking some stock; select the line to be split, and click on the Split icon to show a window allowing you to enter the quantity to be split, the new location, and - if applicable - the new pack size.

In the example shown, 2 packs of 1,000 Erythromycin tablets are being transferred to a new location, and the ‘outer’ of 1,000 (actually 10 x100 shrink wrapped together) is being opened to yield 10 individual packs of 100.



Update sell prices: Clicking on this icon will update the selling prices of the highlighted line(s). mSupply® will use the figure entered in the **Default sell price of preferred packsize** field in the **General** tab, which must show the updated price before this will take effect. If you make use of the **Default margin** field, and you update this figure, then Supply® will calculate the updated sell price using it. Note that mSupply® looks first in the **Default sell price ...** field, and any figure entered there takes precedence.

Labels: Clicking this button will print shelf labels for the highlighted batch(es). The shelf label includes the location, the item name and code, and the batch and expiry. Here's a (bad) example



Show related invoices

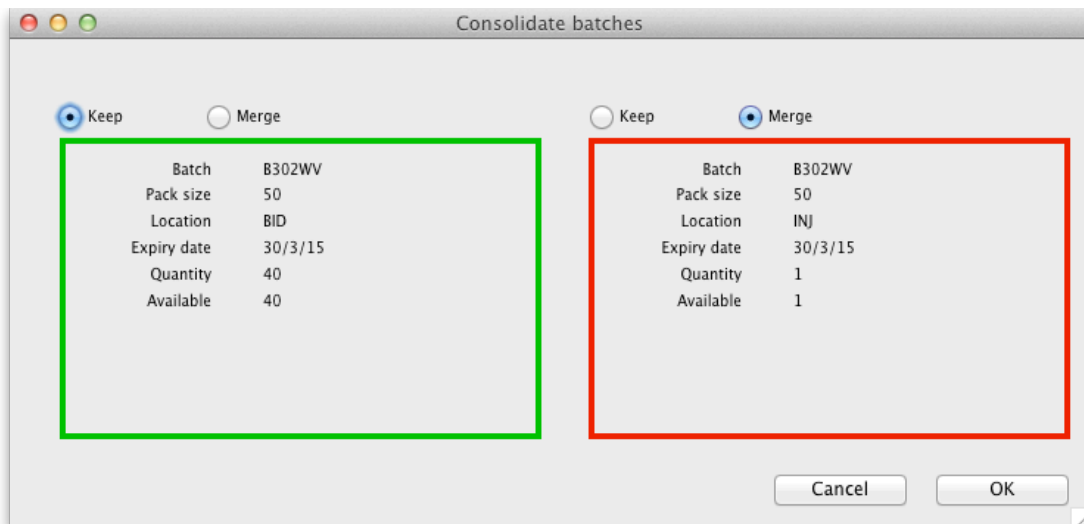
Highlight a line then click on this button to display a list of transactions which used this particular line.

Consolidate

You can consolidate (join 2 batches together) if they have

- The same batch #
- The same expiry
- The same pack size
- Are at the same location.

1. Hold down the control key (command on Mac)
2. Click on the two lines you want to consolidate
3. Click **consolidate**
4. If the two batches are at different locations you'll be warned and asked if you want to continue.
5. You're shown this window



6. Choose which batch to keep.
7. Click **OK**

An example:

- Before:

Line	Available	Total	Pack	Hold	Batch	Expdate	Supplier	Manufac...	Location	Cost Price	Sell Price	Status	Total Volume
1	13550	14000	1	<input type="checkbox"/>	1004103	30/4/13	bouchm	YXKP	INJ	0.12	0.12		0
2	399	399	50	<input checked="" type="checkbox"/>	B302WV	30/3/15	bouchm	dochemie	BID	32.96	32.96		0
3	40	40	50	<input type="checkbox"/>	B302WV	30/3/15	bouchm	dochemie	BID	32.96	32.96		0
4	1	1	50	<input type="checkbox"/>	B302WV	30/3/15	invad	dochemie	INJ	0.00	0.00		0

- After:

Line	Available	Total	Pack	Hold	Batch	Expdate	Supplier	Manufac...	Location	Cost Price	Sell Price	Status	Total Volume
1	13550	14000	1	<input type="checkbox"/>	1004103	30/4/13	bouchm	YXKP	INJ	0.12	0.12		0
2	399	399	50	<input checked="" type="checkbox"/>	B302WV	30/3/15	bouchm	dochemie	BID	32.96	32.96		0
3	41	41	50	<input type="checkbox"/>	B302WV	30/3/15	invad	dochemie	BID	32.96	0.00		0

Other information on the stock details page

Stock

Minimum stock: The minimum stock you wish to keep on hand. Note that you do not need to enter a quantity here for mSupply®'s ordering system to work. In fact, it is better in most cases to leave this number set to zero. This field should only be filled in if you absolutely must keep a minimum on hand. For example, if you stock naloxone for narcotic over dosage reduction, and even if you only use 1 vial every year, you have decided you need to keep five vials on hand, you would enter "5" as the minimum quantity for naloxone.

Stock on hand: The total stock of this item on hand.

Stock on order: The total quantity of stock of this item on order from suppliers

Non-stock items

If this is a non-stock item, you can check this check box. If there is one, you can specify the default customer for the item, otherwise leave this box blank. For more on this topic see Non-stock items

Months Cover

You can use this calculator to estimate the time left until the stock of this item runs out. The values which appear estimating the time it takes to use the stock on hand (and on order) are calculated from the average usage of the last few months. You can choose the number (from 1 to 24) of months used to calculate this in the drop down list.

You can also exclude stock that will expire soon. Enter a number of months and any stock that expires before your chosen time frame will be excluded from the calculation.

If you would like to know how much stock to order so that you have enough for the next few months, enter the number of months you would like stock for. After entering or changing any or all of these values, click **Calculate** to see the results.

Editing a stock line or viewing more stock line details

To edit the cost price and selling price for an item line, double-click the line you wish to edit.

The **Item stock line details window** is displayed:

Item stock line details...

Item code 2012 Item name ACYCLOVIR TABS 400MG

General Ledger Status Reference documents

Quantity according to stock

Total Quantity 38 Available 37

Cost price 29.15 Hold Volume per pack 0 m3

Sell price 32.07 Location U.05.C1

Expiry date 28/02/2016 Pack size 100 Start of year quan 0

Batch 210313 Quan per inner 0 Initial quantity 0

Supplier SOUTH AUSTRAL P/L Inners per Outer 0

Note

Custom stock fields

Cancel OK

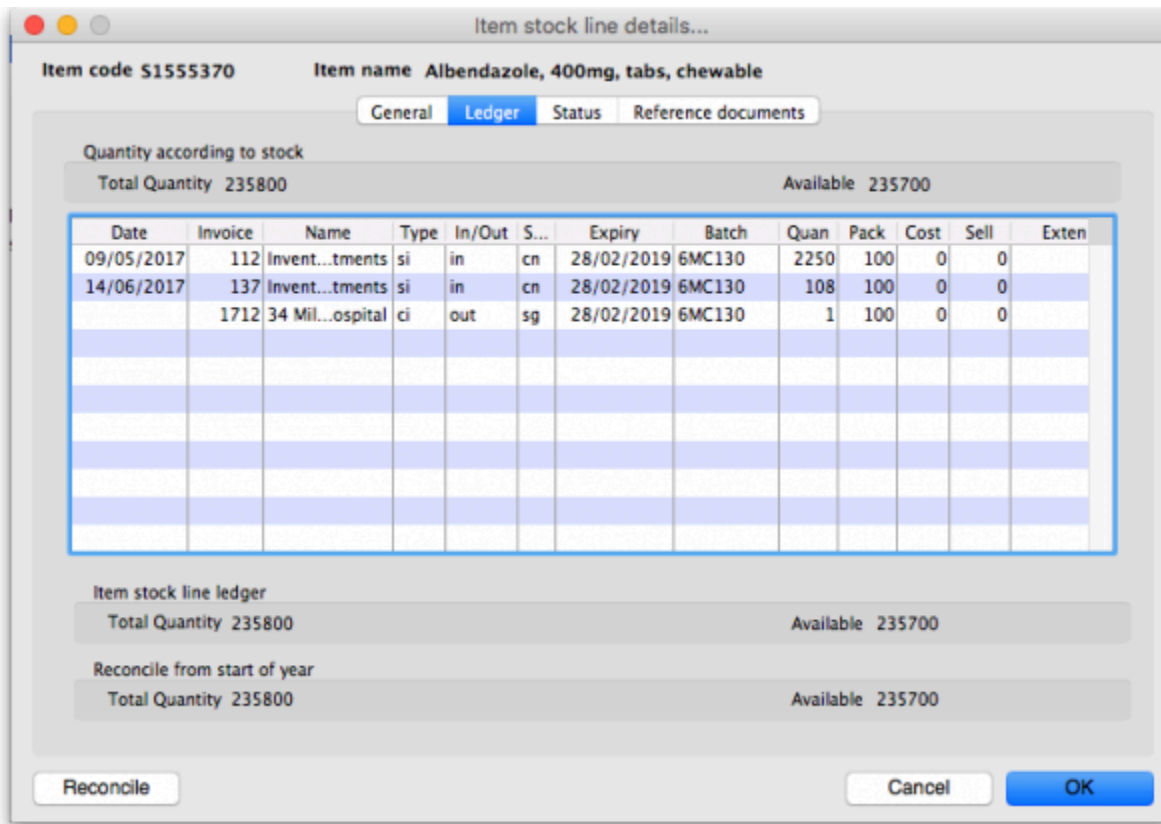
The Stock lines > General tab

This tab shows the details of a stock line. It also gives you total and available quantity of that stock line.

Hold checkbox: To hold a batch check the *Hold* check-box. Once an item is held, it cannot be issued. It will still appear in the available stock window, but held lines will have a check box in the hold column, and if a user attempts to issue the line they will be informed that the line is on hold. Note that the *Hold: do not issue* option in the General options takes precedence, and if that option is checked, then no stock may be issued, regardless of batch.

The Stock lines > Ledger tab

This tab shows a list of transactions (supplier and customer invoices, inventory adjustments etc.) for the item batch being viewed. You can use this window to view immediately see a list of customers who have been supplied with this particular batch:



The *In/Out* column tells you whether the transaction on that line brought stock into or took stock out of mSupply.

The Stock lines > Status tab (Vaccine vial monitoring)

A window appears with 4 columns:

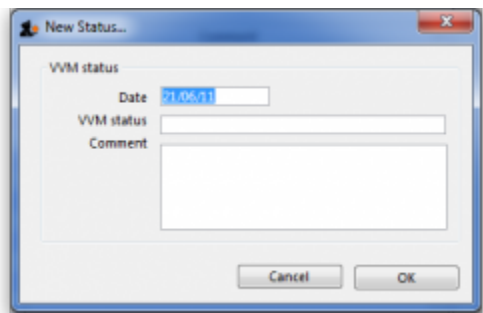
- Date
- VVM status
- Entered by
- Comment

There are two buttons:

- New
- Delete.

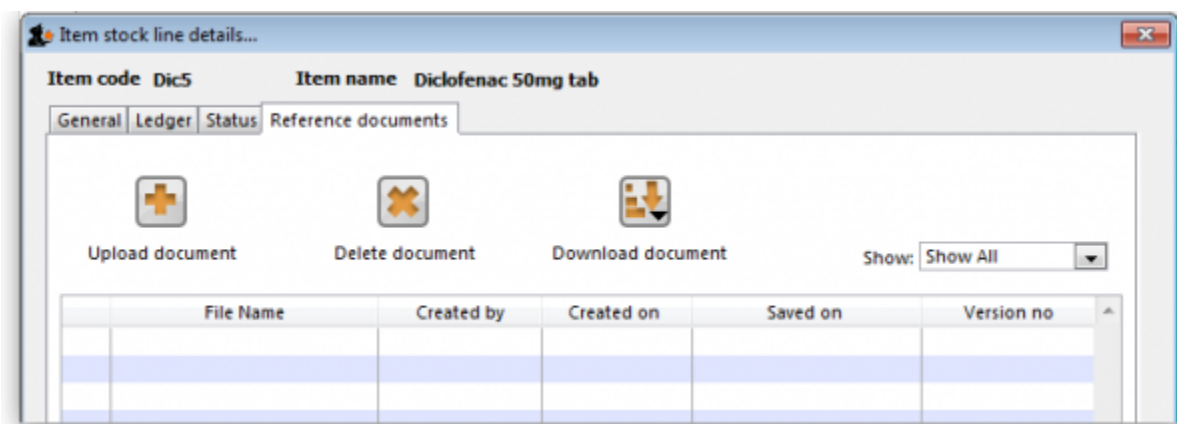
This has been specifically designed to use the Vaccine Vial Monitoring (VVM) feature. All vaccines requiring cold storage bear a VVM label which registers cumulative heat exposure over time; the combined effects of heat and time cause the inner square of the label to darken gradually and irreversibly. A comprehensive description of VVM is available in the WHO's pdf document accessible here (<http://tinyurl.com/n2mge23>).

Batches of vaccines should have their status VVM labels regularly checked, and assigned to the relevant status; Clicking on the *New* button allows the details to be recorded.



Should a batch of vaccines have the status 3 (or 4), the Hold checkbox under the **General** tab should be checked.

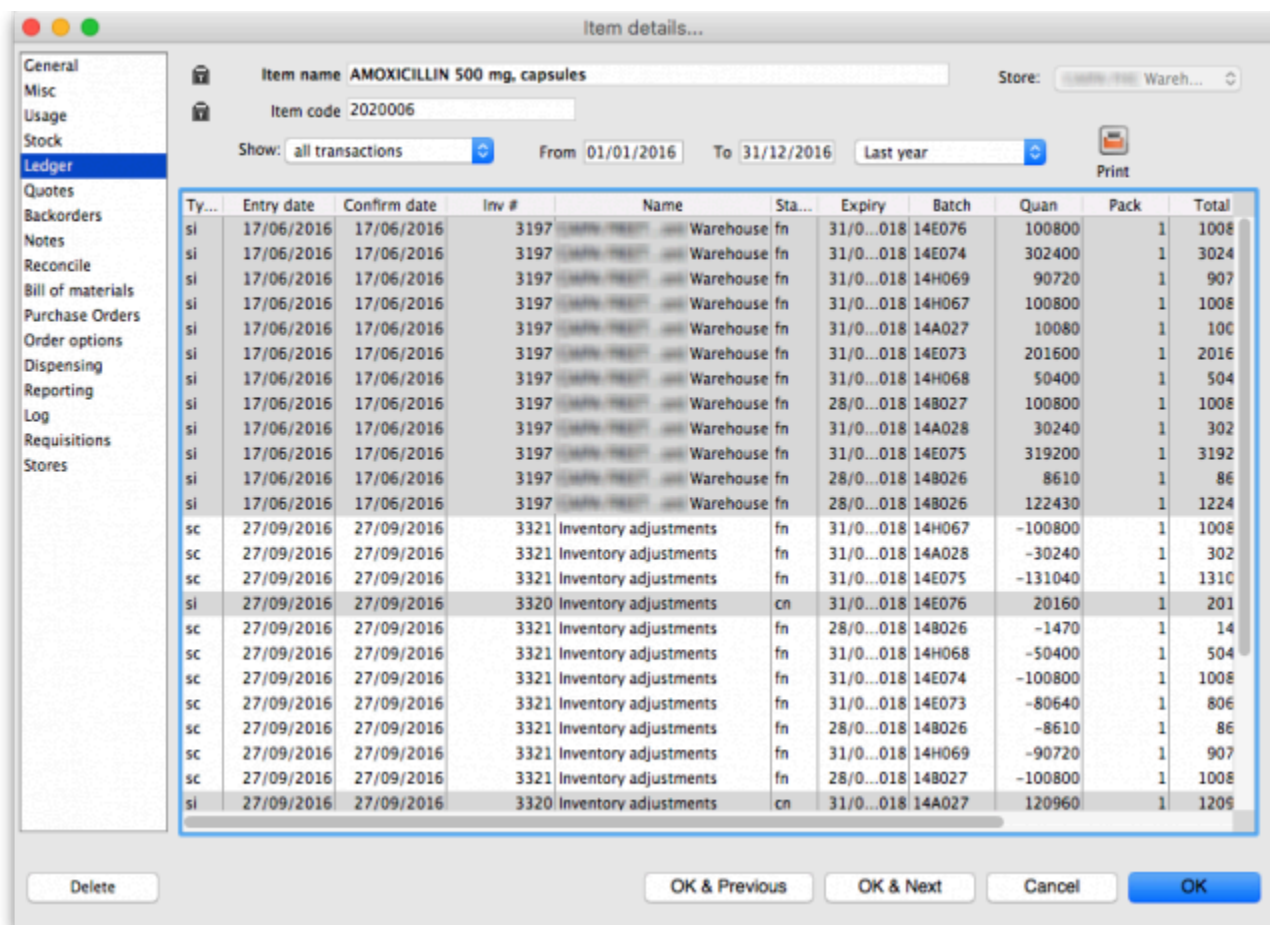
The Stock lines > Reference Documents tab



The standard Document Management window appears. See Reference documents for more information on the use of such documents.

The Ledger tab

The item **Ledger** tab lists individual transactions for the item in question. By default is shows all transactions for the current year:



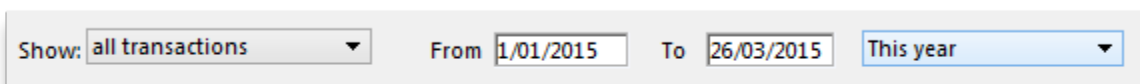
The **Type** column has a shorthand label for the type of transaction:

- si = supplier invoice and inventory adjustment to increase the amount of stock
- ci = customer invoice column describe
- sc = supplier credit or inventory adjustment to reduce the amount of stock
- cc = customer credit

The **Quan** column shows the number of packs of pack size shown in the **Pack** column that were involved in the transaction.

As a quick indicator, if the transaction reduced the amount of stock in mSupply then the number is negative.

Filtering the ledger list



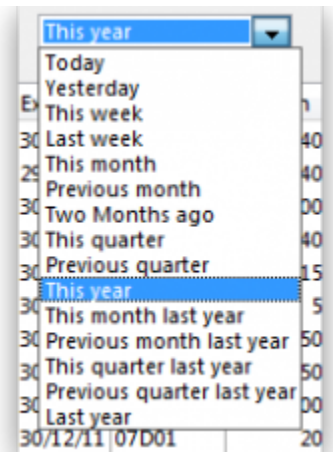
Two drop down lists are available to filter the transactions you see in the table:

You can use the **Show....** drop-down list to show:

- All transactions (the default)
- Only supplier transactions (supplier invoices)
- Only customer transactions (customer invoices)
- Inventory adjustments
- Repacks

- Transactions whose status is `New`
- Transactions whose status is `Suggested`
- Transactions whose status is `New or suggested`
- Transactions for just one name (click on a transaction line for the name you are interested in)
- Transactions for one particular item line. This will show the supplier invoice on which the item line was received, and all subsequent issues of that item line to customers.
- Same batch as selected - this will show all the supplier invoice on which the batch was received, and all subsequent issues of that batch to customers. This can be useful for tracing a particular batch of medicines.

The other drop down list allows selection from a variety of periods during which transactions occurred.

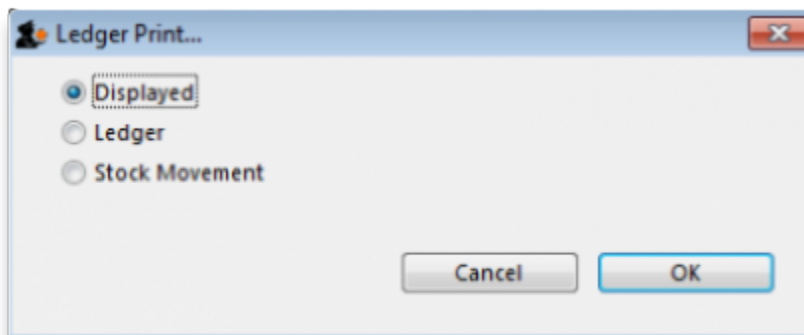


Tip: Clicking on the column headings of the transaction list will sort the list by the information in that column. The column header will be underlined to show by which column the list is sorted.

Note: If the cost price column is blank, this is because the current user does not have permission to view cost prices. (This option can be turned on or off for each user from the “File > edit users...” menu item).

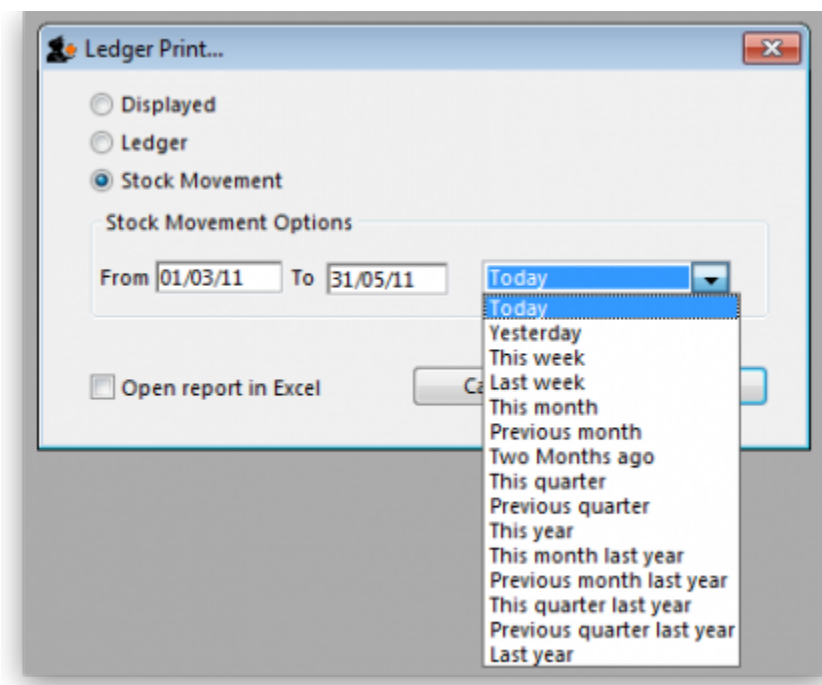
If you want to view an invoice for one of the displayed lines, simply double-click the line you are interested in. The invoice (or payment, as the case may be) will be shown in a new window.

Printing the ledger list

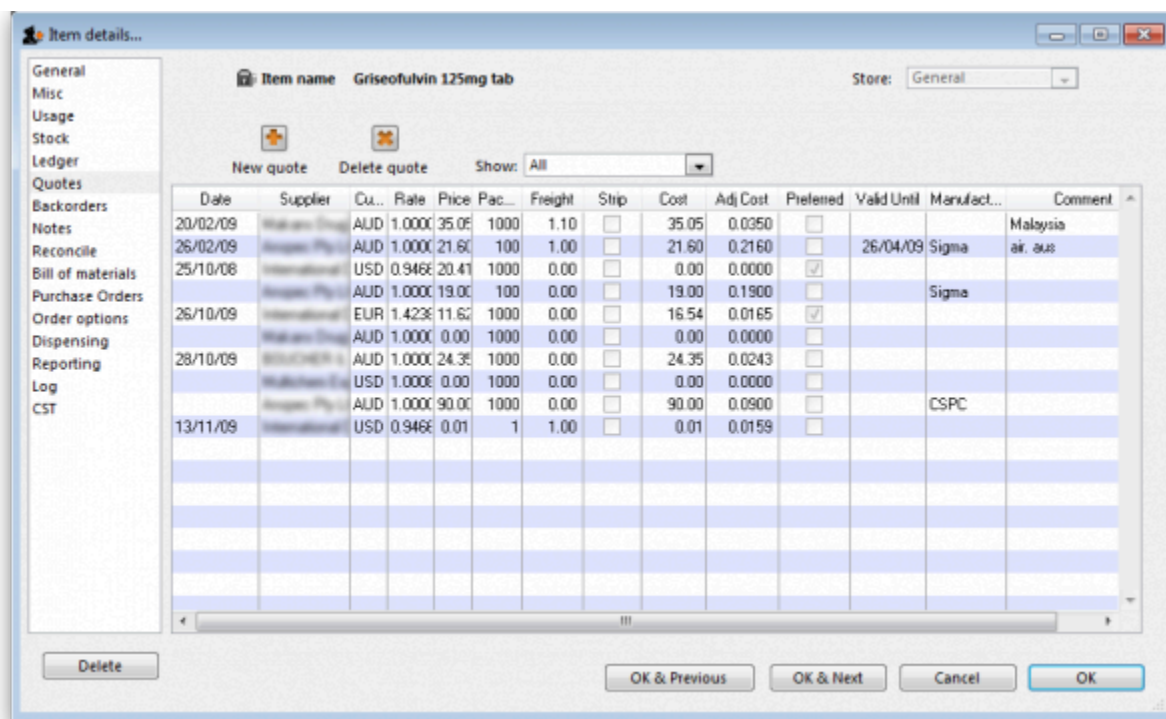


Clicking this button will give you the following printing choices:

- the information currently displayed in the window
- a complete ledger from the start of your year
- stock movement for a specific period or between two dates of your choice



The Quotes tab



A quotation is a record of a price you have been given by a supplier. For each item you can have multiple quotes recorded, reflecting different prices you have been quoted from different suppliers, or even different prices from the one supplier for different pack sizes.

When you come to compare quotes, there are several factors that need to be taken into account. By entering the information in mSupply® you are able to find the best price once these factors have been taken into account, and you build a history of quotations from each supplier.

The date until which the quote is valid is displayed, and you can choose to display all quotes, or currently valid quotes.

There may be occasions when a supplier has quoted for an item from two or more manufacturers, and in such cases, the manufacturer's name will appear in the column headed *Manufacturer*.

Cost: Cost is the price for that pack size in your local currency, taking into account the freight factor and the exchange rate.

Adjusted cost: Adjusted cost is the price for your “preferred pack size” you have entered for that item. This second price allows for a direct comparison between suppliers. Note that if you change the “preferred pack” for an item, all your quotes will be updated to reflect the new pack size.

Comparing quotes:: Click “Adj cost” heading in the list of quotes to bring the cheapest quote to the top of the list.

Add a new quote

Click the “new quote” button. The quotes input window will open

- Type as much of the supplier code as you know, then press the **Tab** key- you will be presented with a list of suppliers if there is more than one to choose from.
- Enter the price and the pack size in the currency you have been quoted.
- Note that the currency and freight factor are filled in with the information you have entered for the supplier.
- If the supplier has quoted in a different currency to the supplier's default currency, you can change the currency for this quotation from the drop-down list on the right.
- The freight factor is the factor you need to add to the supplier's prices to account for delivery costs. If your supplier includes these costs in the quoted price (i.e. prices are “CIF”), the freight factor for the supplier should be set to “1”. If your supplier adds freight that amounts to about 15% of the invoice price, set the freight factor to 1.15.

Strip pack: This check box allows easy identification of quotes that are for strip/blister packed items (as opposed to “loose” items).

Preferred: This check box allows you to identify one (or more) suppliers as the preferred supplier for the item. One of the ordering methods uses the “preferred” check box to indicate which items should be considered for ordering from a particular supplier. See Ordering from suppliers for more details.

Supplier code: If you are using electronic invoice transfer, you must use this field to record the code for the item that this supplier uses on their electronic invoices.

Supplier bar code: Here you can record the bar code identifier for this product.

Price Break: Enter the quantity that generates a price break along with the percentage discount that will apply once this quantity is reached.

Freight: Enter the value for the preferred pack (outer pack) and the freight for that pack provided by the supplier.

Click OK to accept the details, or cancel if you decide not to add a quote for this item.

To modify a quote:

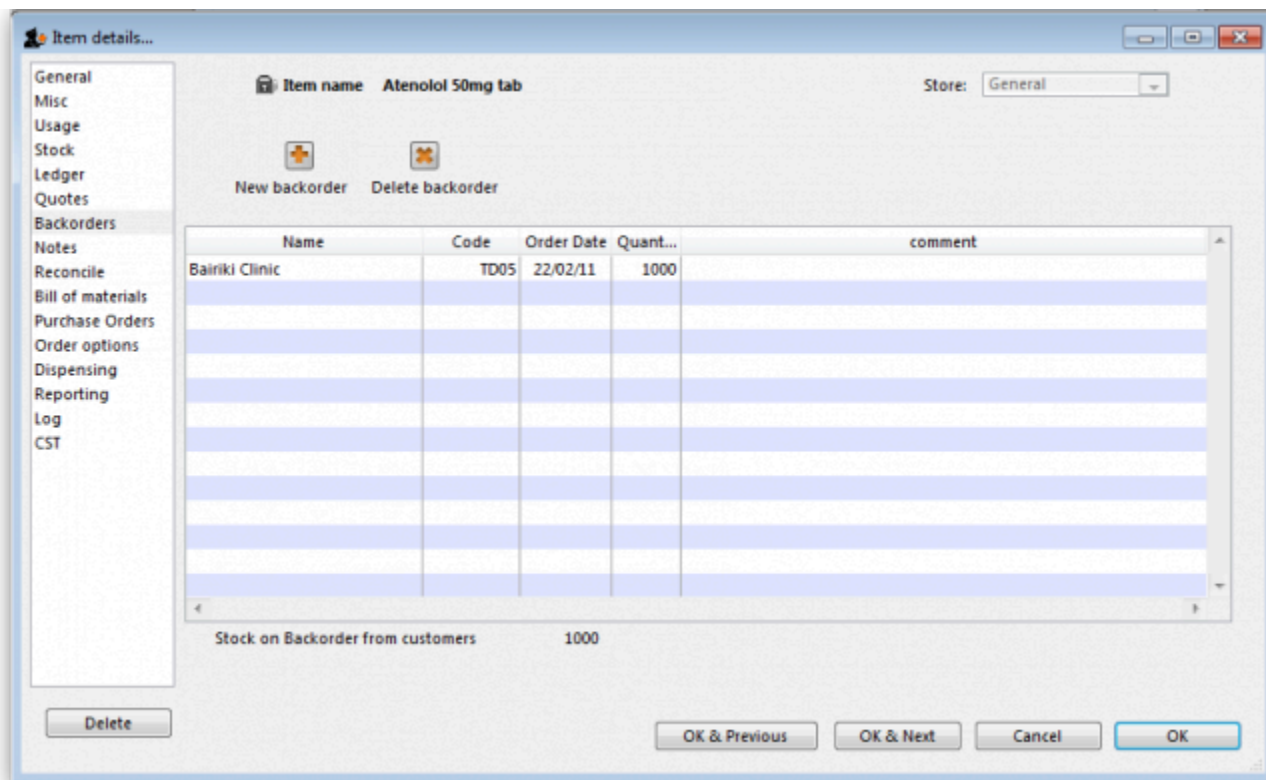
Double-click the line you want to edit.

In the window that appears you can change the date, the supplier, the price, the pack size, the **Strip** check box, or the **Preferred** check box.

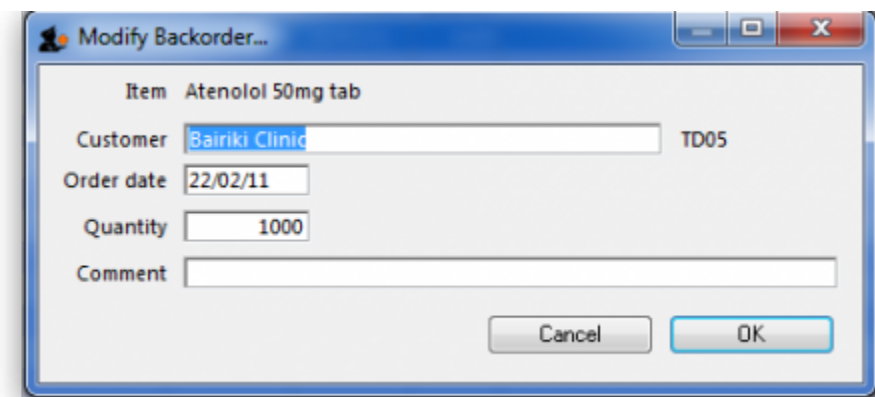
To delete a quote:

- Click on the quote line you wish to delete
- Click the **Delete quote** button
- Confirm that you want to proceed

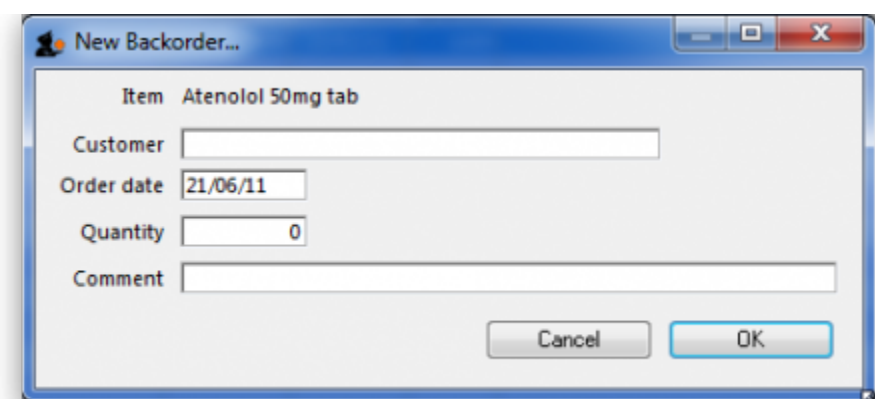
The Backorders tab



You can view the backorders for an item here. To edit a backorder, double-click the line you wish to edit.



To add a new backorder for this item, click the **New backorder** button. This window will be shown:

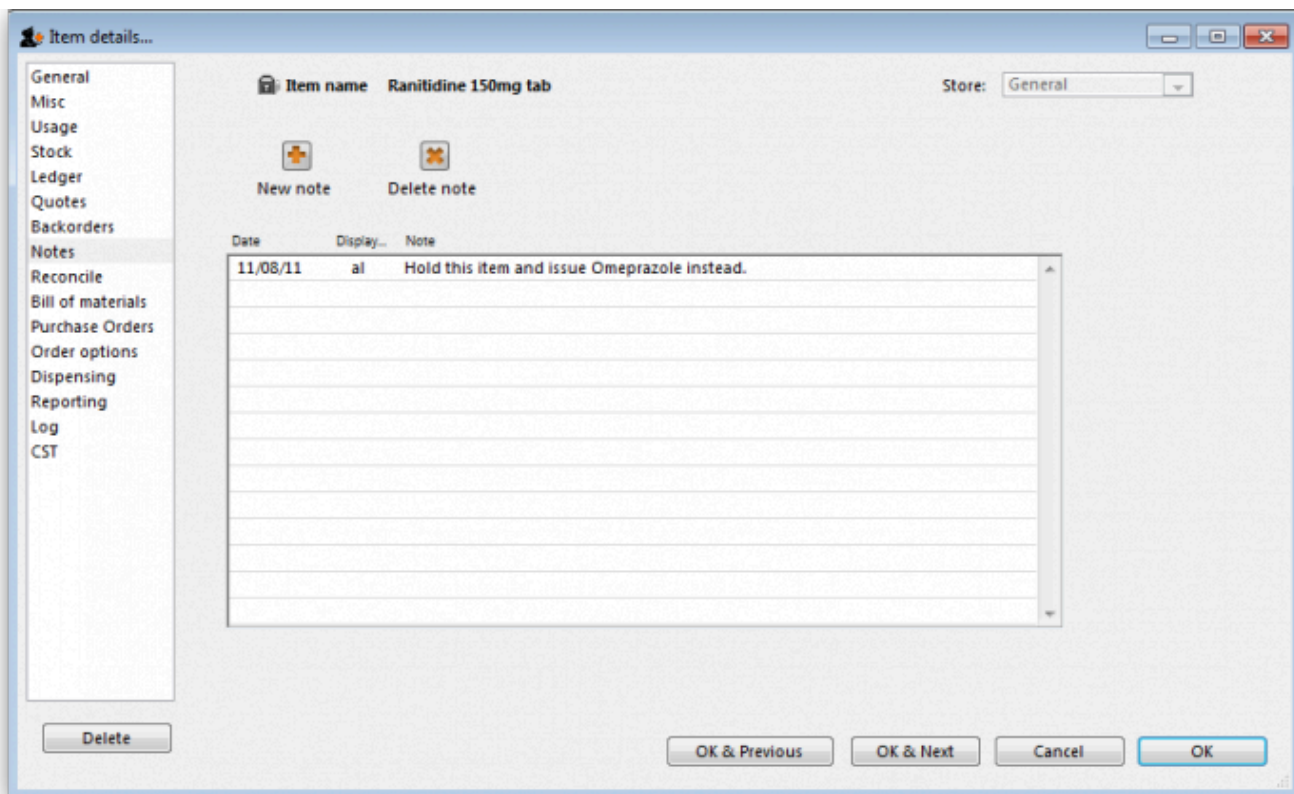


- Enter part of the customer name, then press **Tab** to search for the customer.
- Enter the order date, quantity and any comment, then click **OK** to save the new backorder entry.

To delete a backorder, click the line you wish to delete, then click the **Delete backorder** button.

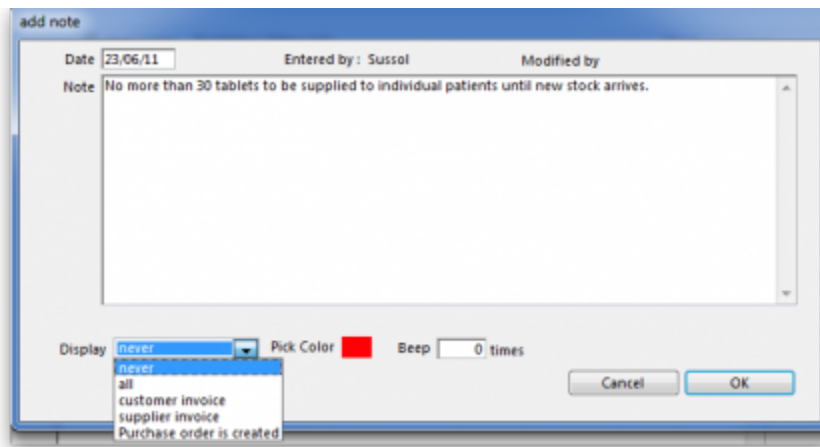
The total stock on backorder is shown below the list.

The Notes tab

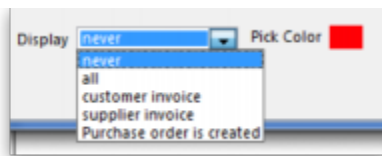


You can add and edit notes for an item here.

Click the **New note** button to add a note. A note can be up to 32,000 characters.



The date on which you are entering the note is already completed, and in the main panel you should type in the wording of the note itself. In the lower left of the window is a drop-down list offering various choices concerning the displaying of the note on screen; it may appear as an alert when this item is issued on a customer invoice, received on a supplier invoice, or, if **all** is chosen, it will display for both customer and supplier invoices.

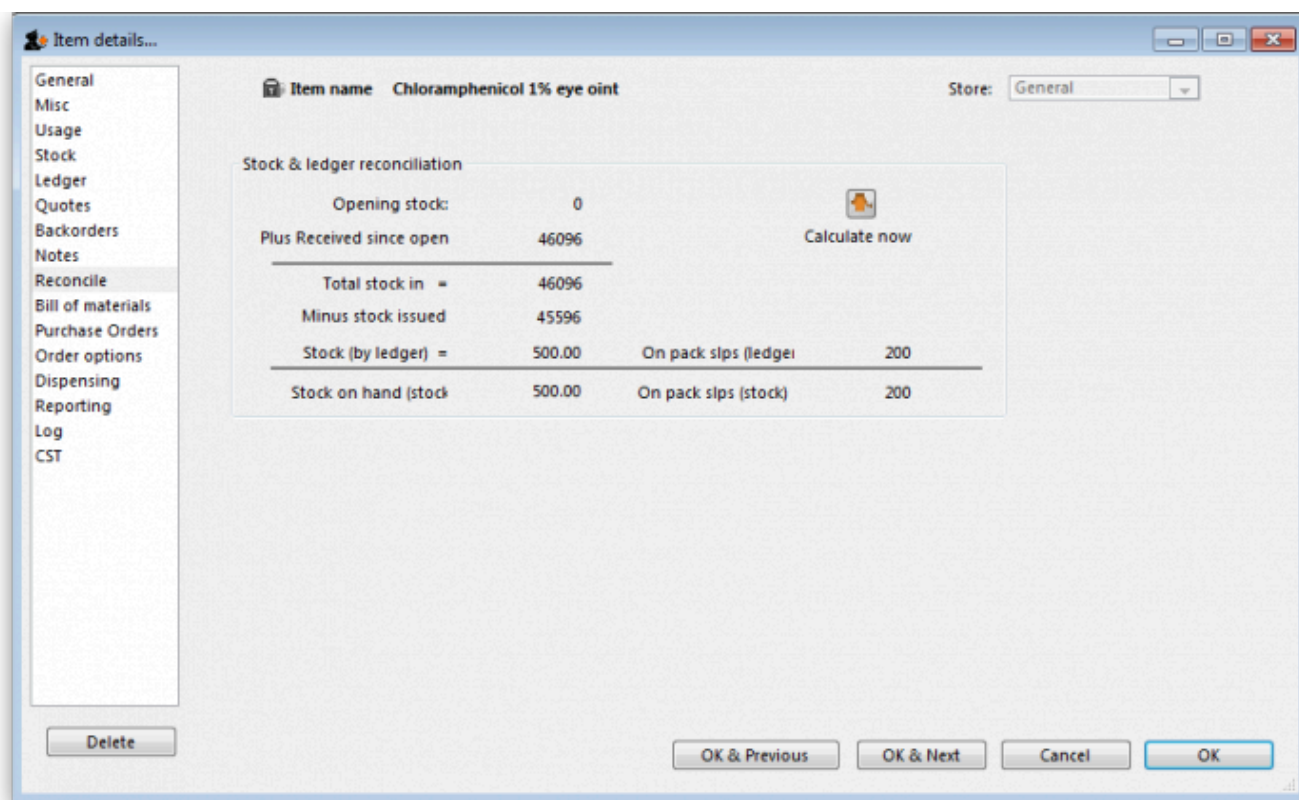


You may also set the background colour of the note, but as the text is always black, dark colours should be avoided. A further option allows you to have one or more audible 'beeps' sound when the note is displayed. Each note will display according to the attributes set for it, independently of other notes defined for the same item.

Subsequently, when the item is selected (depending on the specified display settings), the note will appear on screen; be aware that the note does not disappear automatically - you must close it/them manually.

To edit a note, double-click the note in the list you want to edit.

The Reconcile tab

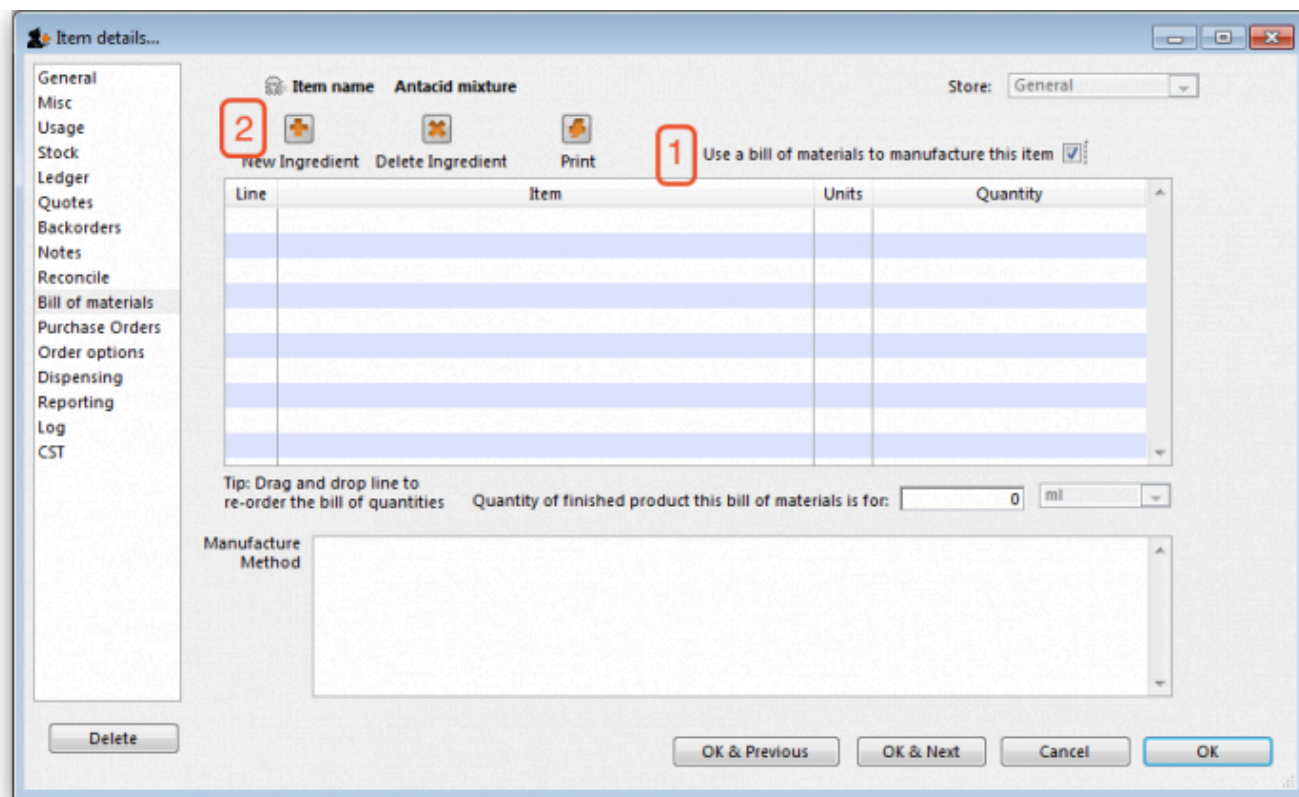


Clicking the **Reconcile** button will give a summary of usage.

It is useful for checking mSupply® is working as it should be! If you get an error here it is most likely due to your using mSupply® when a power failure occurred. In multi-user versions we are able to provide you with a log file that will allow you to incorporate transactions entered even if a power failure has occurred. In normal use, with a UPS, mSupply® will automatically save data and you will not see an error here.

The Bill of Materials tab

This may not be showing if you do not have a registration for mSupply® that enables manufacturing, or the buttons may be dimmed so you can not make entries if your user permissions do not allow you to view Bills of Materials.

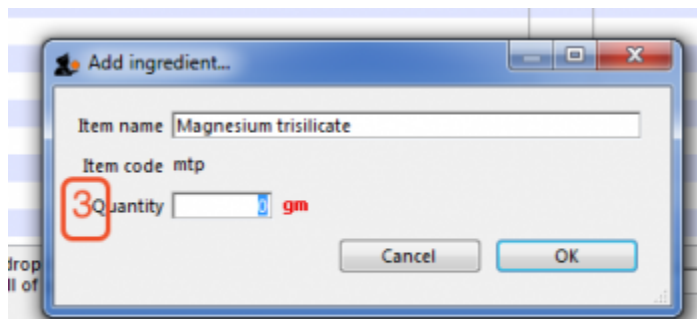


Here you can specify a Bill of Materials for the item if it is a manufactured item. Once you have done so, and have checked the **Use a Bill of Materials to manufacture this item** check box, when you enter a new build, it can be automatically filled out with the correct materials (ingredients) and the correct quantities for the total to be manufactured.

Use a bill of materials to manufacture this item: If this check box (1) is **not** checked, the bill of materials (if one has been entered) will not be used when manufacturing builds.

New ingredient: This button(2) allows you to add items to the bill of materials.

You will be shown a window like this:



Enter the start of the item name or code then press the **Tab** key. If only one matching entry is found, you can then enter the quantity. otherwise you will be shown a list of matching items. Double-click the item you wish to use.

Click the OK button when you have finished, and the item will be added to the bill of materials for the item you are editing.

Note: (3) Be careful to enter quantities corresponding to the units you have specified for the item.

Delete ingredient: To delete an ingredient, first click on the ingredient you wish to delete so that it is highlighted, then click this button.

Print: This button allows you to print the bill of materials that is displayed.

Quantity of finished product this bill of materials is for: This is the total quantity of this item that will be produced by the bill of materials that is entered for the item. Be careful to set this quantity and the units correctly.

Manufacture Method: This panel may be used to record the steps in the manufacturing process. When you are entering a build you have the option to print the manufacture method along with the build ingredient list. For more information see Building (Manufacturing) Items

The Purchase Orders Tab

Item details...

Item name: AMOXYCILLIN 250MG TAB/CAP Store: CMS Store

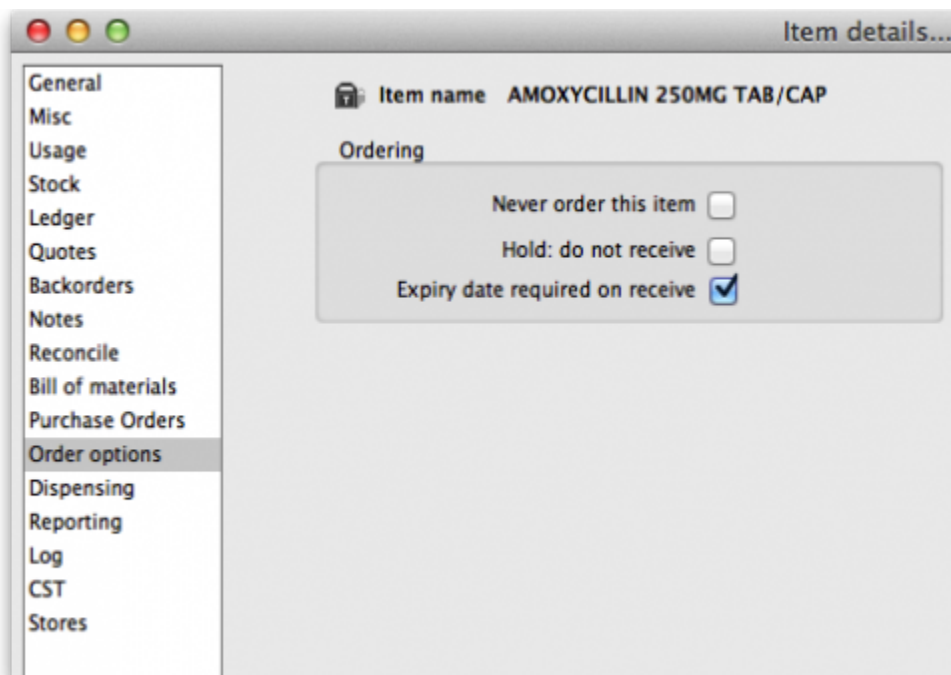
Show: all orders

Supplier	Order	Sta...	Creation D...	Confirm...	R D Date	E D Date	Org Quan...	Adj Quantity	Recv Qua...	P S Orde
IDA PACIFIC	302	cn	8/01/13	8/01/13	8/01/13		100000	100000	100000	
IDA PACIFIC	265	cn	1/05/12	1/05/12	25/05/12		2000000	2000000	2000000	
IDA PACIFIC	227	cn	16/01/12	16/01/12	30/01/12		414000	414000	414000	
IDA PACIFIC	204	fn	10/08/11	11/08/11	11/08/11		600000	600000	600000	
IDA PACIFIC	204	fn	10/08/11	11/08/11	11/08/11		50000	50000	50000	
IDA PACIFIC	204	fn	10/08/11	11/08/11	11/08/11		11000	11000	11000	
IDA PACIFIC	204	fn	10/08/11	11/08/11	11/08/11		25000	25000	25000	
IDA PACIFIC	164	fn	26/04/11	26/04/11	26/04/11		200000	200000	200000	
IDA PACIFIC	94	fn	9/01/11	9/01/11	9/01/11		1300000	1300000	1300000	
International Dispensary Associati	74	fn	22/12/10	22/12/10	22/12/10		500000	500000	500000	
South Austral PTY Ltd.	33	fn	26/11/10	26/11/10	26/11/10		88000	88000	88000	
IDA PACIFIC	32	fn	25/11/10	25/11/10	25/11/10	15/12/10	200000	200000	528000	
IDA PACIFIC	30	fn	25/11/10	25/11/10	15/12/10	15/12/10	516000	516000	516000	
JAPANESE GOVERNMENT	23	fn	23/11/10	23/12/10	23/11/10	1/04/11	3368000	3368000	3368000	

Buttons: Delete, OK & Previous, OK & Next, Cancel, OK

- The **Show** drop down list beside allows filtering the display of Purchase Orders according to their status - All, Suggested, etc. -
- If you double-click a row the Purchase order will be opened in a new window.

The Order Options tab



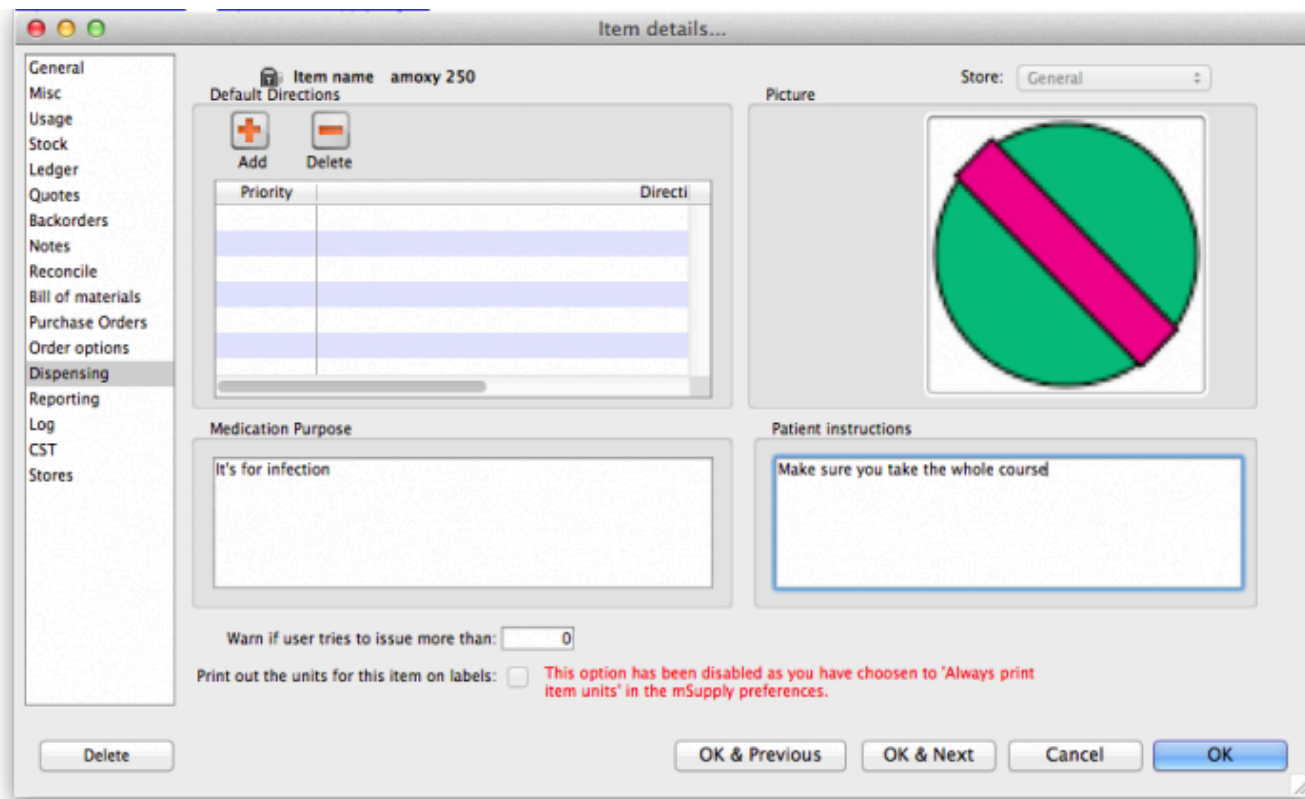
Never order this item: If you have items that are “one-offs” or have been discontinued, use this check box to stop them appearing in orders.

Hold: do not receive: If this check-box is checked, you can not receive this item. This can be useful if you have changed to using a different item, and you do not want people to accidentally use the redundant item.

Expiry date required on receive: When this is checked, you will be unable to receive this item unless an expiry date is entered for it. Therefore it is best to check this box for items that will always have an expiry date such as oral medicines and to leave it unchecked for items that will never have an expiry date such as surgical instruments.

- You will be warned if you try to add or edit an item on a goods receipt or a supplier invoice that has no expiry date entered. Also, you will not be able to finalise a goods receipt that contains items which have no expiry date entered.

The Dispensing tab



Default directions

A feature of mSupply® which can reduce the time taken to dispense a prescription is its use of abbreviated patient directions, which allows the entry of a short sequence of characters that expand to meaningful text. This is where you can set an item's default directions which will be used at the time of dispensing. When there is more than one entry, priority is given to the direction that is ranked at no.1 under **Priority**, and it will be automatically suggested for the item when you dispense it. Further information on the use of abbreviations will be found in the section Dispensing, Abbreviations

In cases where multiple abbreviated directions have been defined, the required one(s) will be available from a drop-down list when dispensing the item. Note that even if you set up default directions, you can override these at the time of dispensing, either with longhand text or by editing the abbreviation that has been entered.

Warning: If you choose to use this option be very careful to:

- Inform other users that default directions have been entered.
- Ensure the directions are appropriate.
- Check each prescription dispensed, and change the directions if the prescription has different directions to the default set.
- Update the default directions if you change any of the abbreviations.

Add button: Click this button to show a window where you can add directions. You can enter any combination of directions and text. (Abbreviations are managed by choosing **Special > Abbreviations**)

Delete button: Click a line, then click this button to delete directions you no longer need, or if you have made an error.

Picture, Instructions and Purpose

These fields provide default information to be used with the Patient medication records system.

Item Picture: You can drag and drop or past a picture into this field. Common file formats such as JPG and PNG are accepted.

When you add a picture, the size is shown to the left- we suggest pictures are less than 200KB each.

To clear a picture, click on the field and paste it.

Purpose: Enter the purpose of the medication here. This will be available to add to patient medication records

Instructions: Enter the medication instructions here. For example, you might want to explain about sensitivity to sunlight with long term use, or that certain foods should be avoided. This will be available to add to patient medication records. Note this is separate to the medication warnings system, which will print on dispensing labels.

Other fields

Warn if user tries to issue more than field: You can enter a number here and have the user warned if they try to dispense more than this quantity.

The Reporting tab

The screenshot shows a software window titled "Item details...". On the left is a vertical menu with the following items: General, Misc, Usage, Stock, Ledger, Quotes, Backorders, Notes, Reconcile, Bill of materials, Purchase Orders, Order options, Dispensing, Reporting (highlighted in blue), Log, and CST. The main area of the window displays the item name "Chlorpheniramine 4mg tab". Below this, there is a section titled "Reporting..." which contains four input fields: "ATC Category", "DDD value", "DDD factor" (with the number "0" entered), and "ABC category".

ATC Category: This field is intended for the ATC code. The use of ATC codes and DDD values is discussed in detail here.

DDD value: The DDD value is the defined daily dose of the item. For example, doxycycline's DDD value is 100mg., while that of Amoxicillin is 1g. DDDs are a means of quantifying the issue of medicines by doses rather than by the raw number of units dispensed.

DDD factor: Defined Daily Dose factor- this is the number of units of the item that make up the DDD value. In the case of amoxicillin 250mg capsules the DDD factor is 4, while amoxicillin 500mg capsules have a factor of 2. For Doxycycline 100mg tablets the DDD factor is 1

ABC category: This option allows you to mark items that are commonly used and then report on only those items. For Reports using this category, see Items and Stock reports

The Log Tab

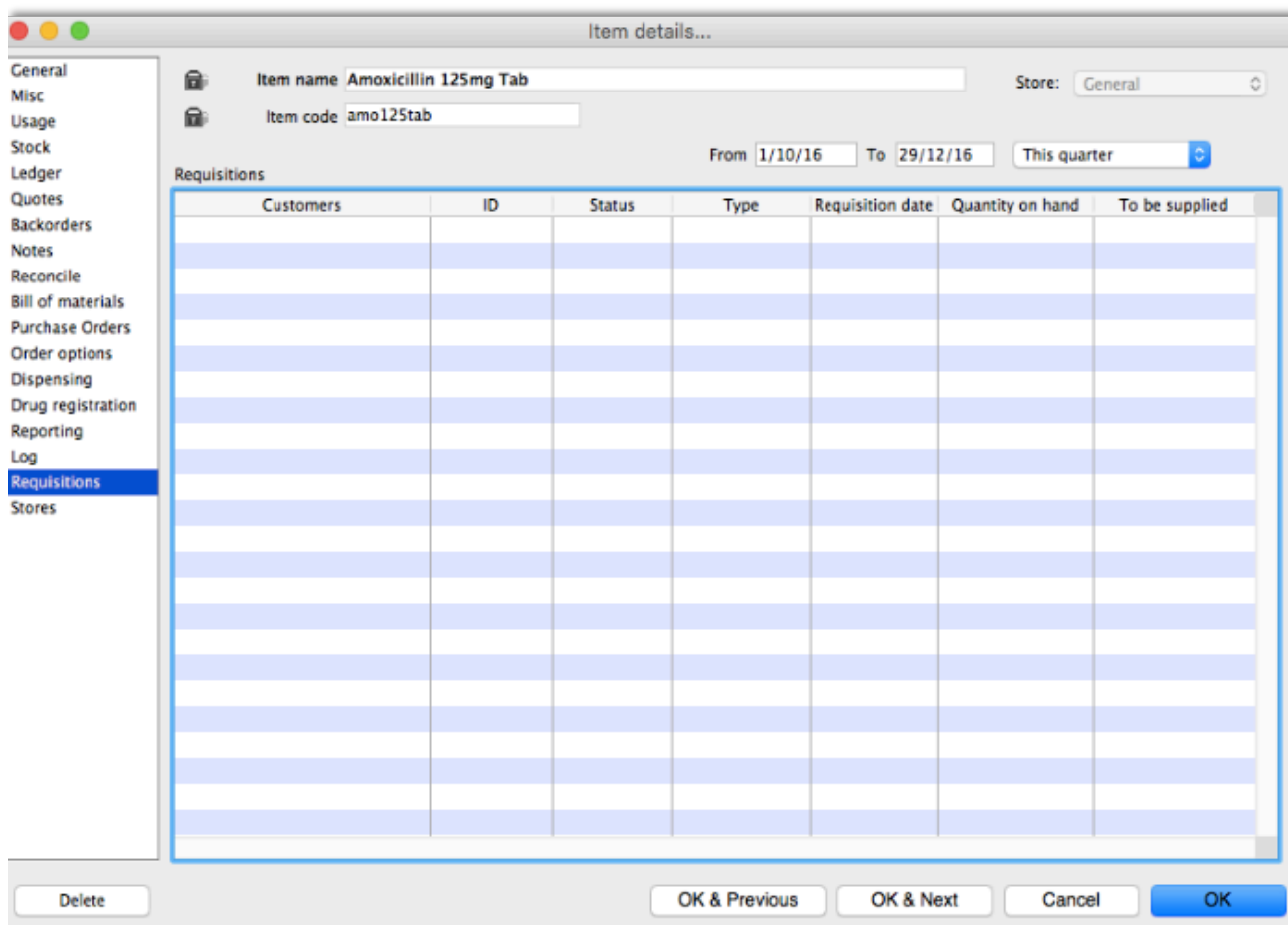
mSupply® maintains a record of any changes to an item's details - name, code or units. The log window displays a list of such changes, under the headings:

- Date
- Time
- User and Event
- Event Type

Requisitions

Selecting Requisitions shows the stocktakes featuring this item,

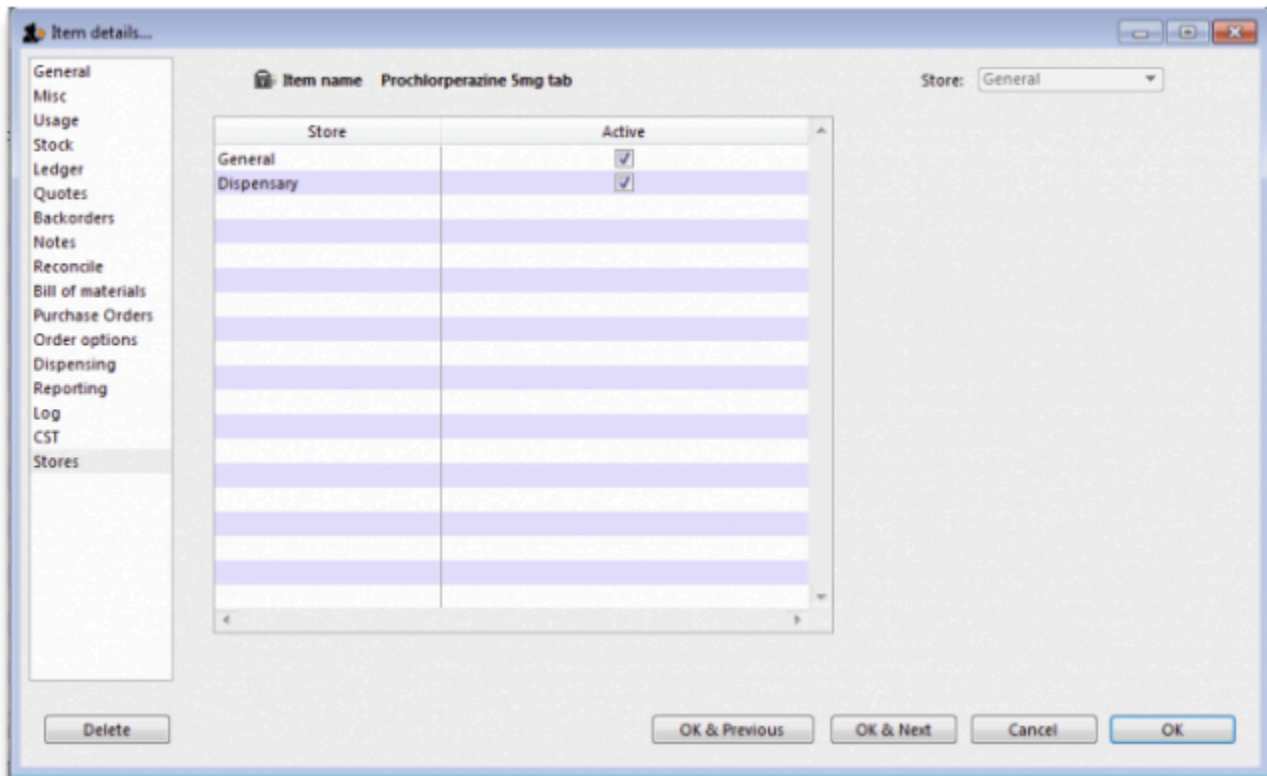
- Choose a date range from the drop-down list to show custom stocktakes within that range.
- Double-click a row to view the customer stocktake in question.



The Stores tab

Only users who have Admin privileges may access this feature. See Managing Users

Selecting this item shows the stores where this item is visible, and allows these stores to be set to **Active** using the checkbox.



If the Active checkbox is unchecked, the item will not be visible when logged in to that store

Note that

1. you can only change the visibility of an item for the store you're logged in to.
2. you can not make an item invisible in a store if it has stock on hand in that store.

Seeing an invisible item

Once an item has been made invisible it will no longer show up in your items list when performing a normal find items task. To include invisible items when finding items, untick the *Exclude hidden items* box:

Find Item...

Item name starts with

and category is Don't Care

and VEN category is Don't Care

and department is Don't care

Randomly 0 items from returned list.

Exclude hidden items

Complex Find Cancel Find

The items list will now display any invisible items and you will be able to make them visible again in the store tab.

If your mSupply system is a Primary - Satellite synced system, you can only change visibility of items on the Primary server.

Previous: Working with lists Next: Adding items

Adding a new item

There are different types of item in mSupply but this is the function you use to add them all. The different types are:

- **Normal:** This is the one you will nearly always use and is something which you can receive, distribute and hold stock of.
- **Cross reference:** This type of item is a pointer to a normal item. Whenever you select a cross reference it will be replaced with the normal item that it points to. In this way, you can use cross reference items to represent brand names (e.g. Panadol) or familiar names (e.g. “Cetamol” is used to refer to “Paracetamol” in Nepal) that actually refer to generic items.
- **Service:** These are items which do not have physical stock such as consultancy fees or other charges.

To add any type of item choose **Item > New item** from the menus (Note: this is **not** for adding actual stock, just details of the items themselves - to add stock see Receiving goods (goods receipt function) or Receiving goods - a supplier invoice).

Don't be put off by the number of fields appearing on these windows! mSupply will operate satisfactorily after entries have been made in just the **Item code** and **Item name** fields for any item type. All the other fields can be regarded as optional extras, some or all of which you may use at some later date, or never. mSupply is very versatile!

Normal items

Type: Select the type of item you want to add here. The field always defaults to *normal*.

Item code: This field is mandatory and is a short way of referring to and finding the item throughout mSupply

Item name: This field is also mandatory and is the name that the item will be known by throughout mSupply. It will appear in reports and displays, wherever the item is referred to.

Barcode: Enter the text value of the item's barcode in here. Not used at the moment but will be in the future - mSupply is ready for the time when barcodes contain batch and expiry information and therefore become useful for managing pharmaceuticals.

These 4 fields are available to be filled in for every type of item.

You should decide on a clear scheme for item names and codes. This can be a tricky process but is worth persevering with. You can change your mind later but changing the codes of all the items and names in your datafile could be a time-consuming business.

We would recommend that the item code is systematic and can be worked out from the item's details e.g. first 3 letters of the item's name, 3 figures for the strength, a letter for the formulation then a letter or number for disambiguation if necessary. e.g. the code for Amoxicillin 500mg capsules could be amo500c.

For item names we would recommend again that you use generic names (no brands or familiar names - use cross reference items for those), be systematic and start with the broadest part of the name. For example, “Brody forceps” would be entered as “Forceps, brody”, “Aqueous iodine” would be entered as “Iodine, aqueous”. For pharmaceuticals we would recommend the name followed by the strength then the formulation e.g. Amoxicillin 500mg capsules.

You are, of course, free to choose your own schemes, these are just our recommendations and one way of doing it. There are many reasons for adopting other schemes and it is not necessary to know or remember item codes while using mSupply!

General tab

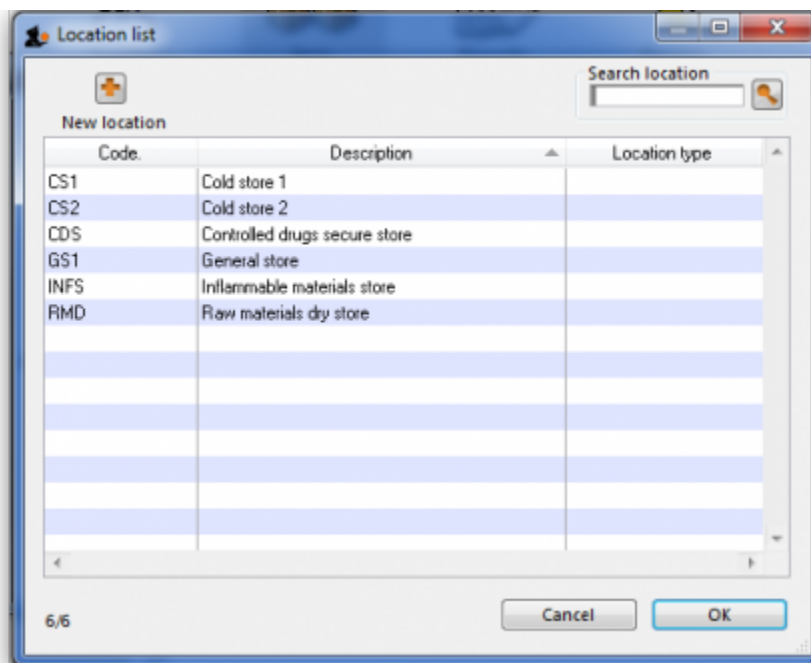
Units: The drop down list allows you to choose the appropriate units for the new item ; mSupply comes with a limited list of pre-defined units, but it is recommended that users define their own list. You will find more information here.

Category 1: Click on the magnifying glass to select the category 1 this item belongs to. Category 1 is hierarchical and needs to be setup before you can select them here. See Item categories for details on setting them up.

Category 2 and 3: Select the category 2 and 3 that this item belongs to. You must setup these categories before you can select them here - see Item categories for details on doing that.

Department: Select the department the item belongs to. Departments are not a way of categorising items (use the other categories for that) but are for restricting access to items for different customers and are described in detail in Managing item access.

Default shelf location: This is the location in the store that the item is normally stored. It will be offered by default when the item is received into stock. Type as much of the location code or description (e.g. the first few characters) as you know, then press the *Tab* key. If only one location code matches your entry it will be filled in automatically, otherwise you will be shown a standard choice list like this:



Select the location you want by double-clicking its line or by clicking once on the line and then clicking *OK*.

Default pack size: This is the standard pack size that you use for comparing quotes from suppliers.

Default weight: The weight of the preferred pack size in kg.

Price list: If this box is checked, this item will be included when you produce price lists. If checked the item will also be included in the online catalogue.

Non stock item: If the item is something you do not normally keep in stock, but is passed straight to a customer, this box should be checked.

Default customer: This is the customer the item is sent to by default - used for non-stock items only. Type the first few characters of the customer's name and press the *Tab* key on the keyboard to select the customer you want.

VEN category: Select which WHO VEN category the item belongs to (one only) - used for reporting.

Stock category: Check each one of these that apply to your item (used for reporting):

- **Normal stock:** For practically all new entries this box should be checked; at a later date, should the item be removed from your formulary for instance, you would remove the check from this box.
- **Critical stock:** Should it be a requirement that you must never be out of stock of this item, this box should be checked.
- **Essential drug:** Check this box if the item is on your Essential Drugs List.

When you have added all the details for your new item, click on the **OK** button or, if you want to add another new item, the **OK & Next button**.

If you have clicked **OK & Next** but don't want to add more items, press **Cancel**. Items previously added are still saved - just the details showing on the screen are not saved.

Stores tab

On this tab, you select which stores the item will be visible in.

The screenshot shows the 'Add item...' dialog box with the 'Stores' tab selected. The 'Type' is set to 'normal' and the 'Item code' is '271'. The 'Item name' and 'Barcode' fields are empty. The 'Stores' tab contains a table with the following columns: 'Store name' and 'Visible in store'. The table lists several store names, each with a checkbox. An 'All/None' checkbox is located at the top right of the table. At the bottom of the dialog are 'Cancel', 'OK & Next', and 'OK' buttons.

Simply check the *Visible in store* checkbox against each store in the list you wish the item to be visible in (if an item is visible in a store then it can be sued in that store). You can use the *All/None* checkbox to toggle selection of all stores or no stores.

If the preference *Automatically update item visibility to match the master lists used by each store* preference (see General preferences) is turned on then the table in this tab will be replaced with some text telling you that visibility is controlled by master lists and not selecting store visibility directly. Use the *Master lists* tab (details below) in that case.

Master lists tab

On this tab, you select which master lists the item should be added to.

The screenshot shows the 'Add item...' dialog box. At the top, there are three buttons: a minus sign, a maximize button, and a close button (X). Below the title bar, there are four input fields: 'Type' (a dropdown menu set to 'normal'), 'Item code' (a text box containing '271'), 'Item name' (an empty text box), and 'Barcode' (an empty text box). Below these fields are three tabs: 'General', 'Stores', and 'Master lists'. The 'Master lists' tab is selected. Inside this tab, there is a section titled 'Select the master lists to add the item to' with an 'All/None' checkbox to its right. Below this is a table with two columns: 'Master list name' and 'Add to list'. The table contains several rows, each representing a master list. The 'Add to list' column contains checkboxes. At the bottom of the dialog, there are three buttons: 'Cancel', 'OK & Next', and 'OK'.

Master lists can be used for many things in mSupply (e.g. controlling visibility of items in stores or determining which items appear on requisitions). See [Item master lists](#) for details of how to set them up and use them.

To add the new item to a master list simply check the *Add to list* checkbox against the particular master list in the table. Note that any master lists that have the *Automatically add new items to this master list* option checked will have their *Add to list* checkbox checked and you will not be able to uncheck it.

Cross reference items

To create a cross reference item select *cross reference* in the **Type** drop down list. The window changes slightly:

The **Item code**, **Item name** and **Barcode** fields are the same as for a normal item (described) but remember you're entering the details of the brand or familiar name in here!

Cross reference item tab

When this item is chosen in a list, use: Type the first few characters of the normal item you always want to replace the brand/familiar name with in this field. Then press the *Tab* key on the keyboard and select the item you want.

That's it, all done. After clicking the **OK** or **OK & Next** buttons, every time a user chooses the item you entered in the **Item name** / **Item code** fields it will be replaced with the item you entered in the **When this item is chosen in a list, use** field.

Stores tab

You select the stores the cross reference item will be visible in on this tab. It operates exactly the same as the Stores tab described for normal items.

Note: cross reference items cannot be added to master lists so there is no Master lists tab. Their visibility cannot therefore be controlled by master lists but only by directly selecting the stores they are visible in on this stores tab.

Service items

To create a service item select *service* in the **Type** drop down list. **PLEASE NOTE:** the service option will not be available in this drop down list if the preference to allow service items has not been set. Please see General preferences for details.

The window changes slightly:

The **Item code**, **Item name** and **Barcode** fields are the same as for a normal item (described).

Service item tab

Cost price: Enter the cost you buy this service (e.g. getting an oxygen cylinder refilled) for.

Sell price: Enter the price you charge when selling the service.

Neither of these fields is compulsory.

Stores tab

You select the stores the service item will be visible in on this tab. It operates exactly the same as the Stores tab described for normal items.

Note: service items cannot be added to master lists so there is no Master lists tab. Their visibility cannot therefore be controlled by master lists but only by directly selecting the stores they are visible in on this stores tab.

Previous: Understanding Items Next: Item categories

Item categories

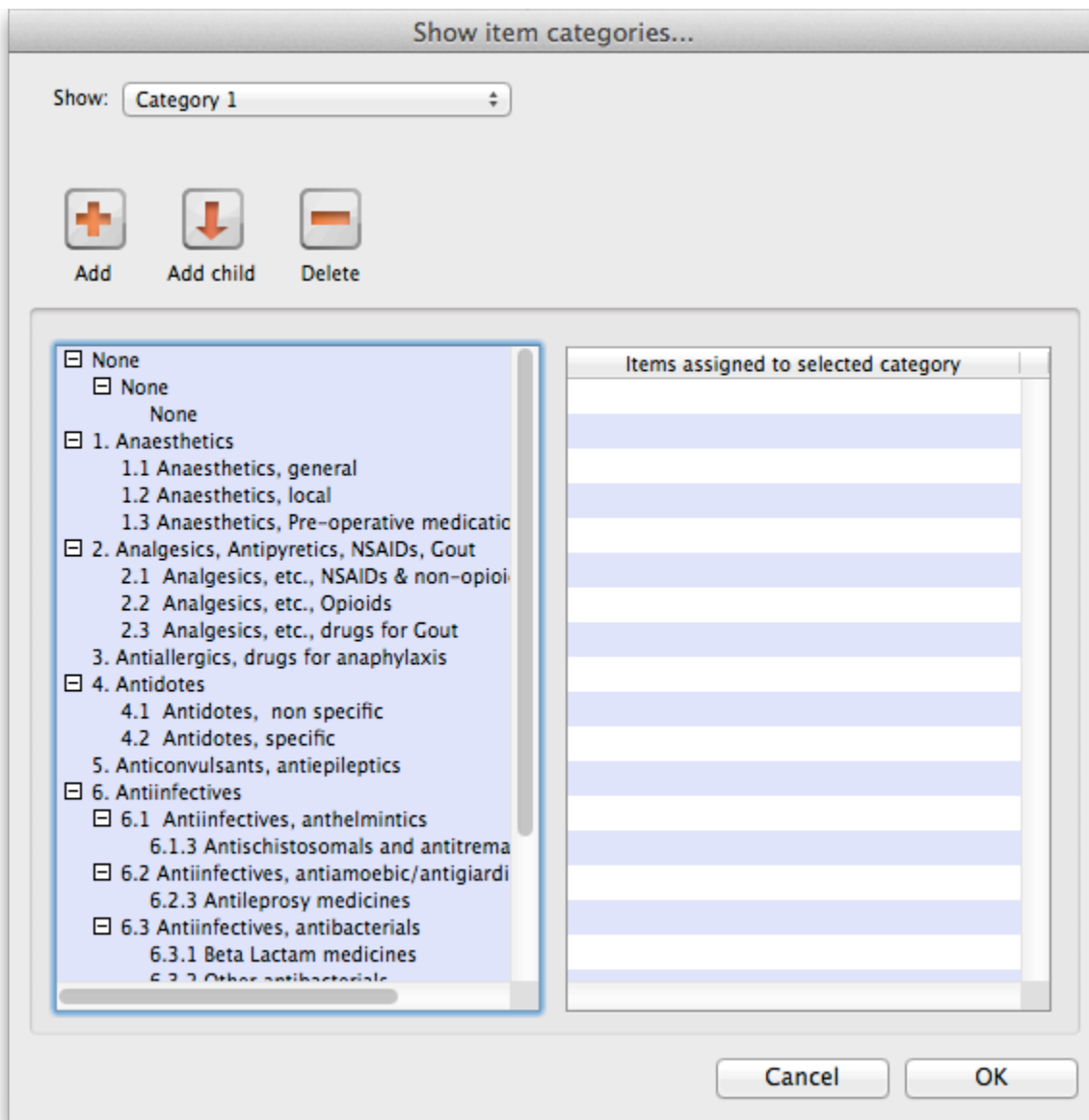
Item categories are a great way of grouping your items. This enables you, for example, to report on specific groups of products by filtering by item category. This can be extremely helpful.

mSupply provides 4 different categories (called category 1, category 2, category 3 and VEN) for you to use. Category 2 and 3 are normal categories but 1 is a bit special - it's hierarchical and has 3 levels (level 1, 2 and 3. Level 1 is the top level, level 3 is the bottom). VEN refers to the WHO categories of Vital, Essential and Nonessential.

Be careful not to get mixed up between the levels of category 1 (1, 2, and 3) and the different categories (1, 2, 3 and VEN) themselves here!

Category 1 categories

Selecting **Show Item Categories** from the **Item** menu opens the window appearing below, showing all the category 1 categories in their 3 levels by default (Note that the 3 “None” categories are default categories and cannot be renamed or removed):



In the screenshot you can see that "6.Antiinfectives" is a top level (level 1) category 3 category. It has 3 level 2 child categories: "6.1 Antiinfectives, anthelmintics", "6.2 Antiinfectives, antiamoebic/antigiardics" and "6.3 Antiinfectives, antibacterials". And level 2 category "6.2 Antiinfectives, antiamoebic/antigiardics" has a single level 3 category "Antileprosy medicines".

Clicking on any of the categories will show you which items are assigned to that category in the panel on the right hand side of the screenshot.

Adding category 1 categories

To add a category at level 1, 2 or 3, click on another category at the same level you want the new one to be, click on the *Add* button (or the *Add child* button if you want the new category to be a child of the category you selected) shown in the screenshot and the new level will appear at the bottom of the categories pane called "Click to edit" and already selected. Click on it once and type the category's name. When you're done click outside the category and that's it!

Editing category 1 categories

Renaming a category is simple. Click once on the category you want to rename to select it then click on it again to edit the name: the category will become a text box and you can type the new name. When you've finished editing the name, simply click outside the textbox (but inside the category pane) and the new name will be saved.

Changing the parent of a category is almost as simple. You simply click on the category once to select it then click on it again, drag it onto its new parent (or a sibling of the new parent) and let go of the mouse button. Two things to note here:

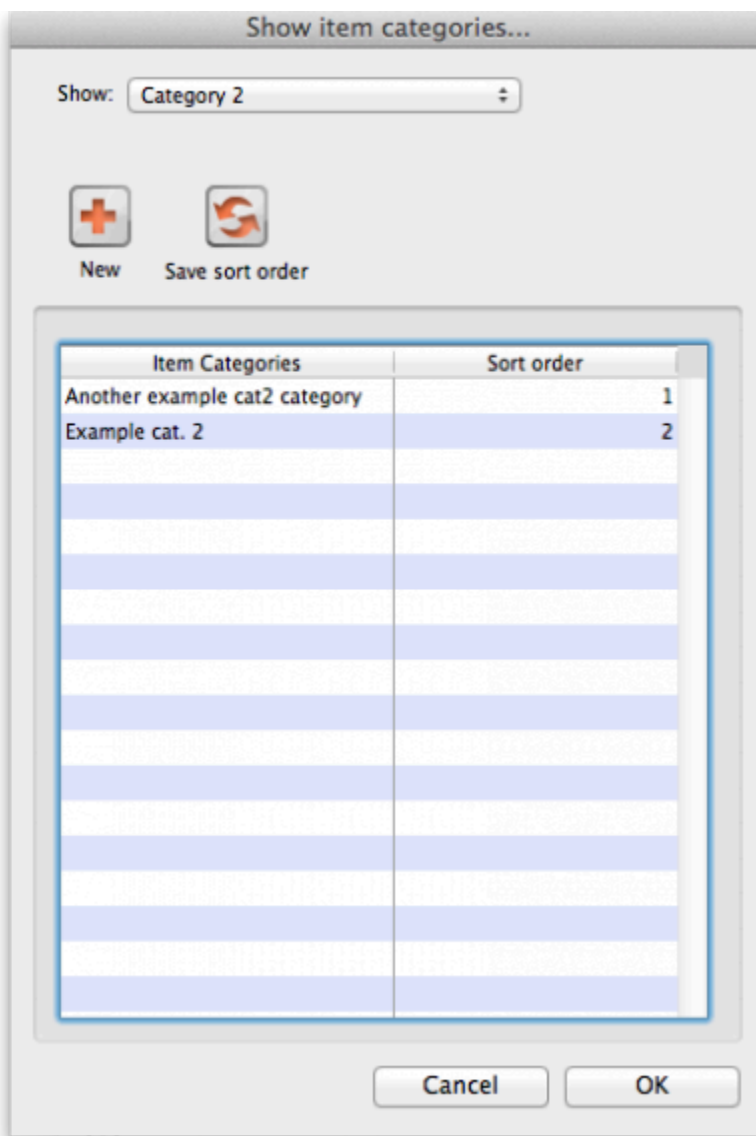
1. You can only move a category to a position at the same level. If it's a level 3 category then you can only drop it onto a level 2 category or another level 3 category. If you drag a level 3 category onto a level 1 category nothing will happen. For example: in the screenshot you could drag category "6.1 Antiinfectives, anthelmintics" onto category "1. Anaesthetics" or onto category "4.2 Antidotes, specific" and it would move (to become a child of category "1. Anaesthetics" or "4. Antidotes"). But if you dragged it onto category "6.2.3 Antileprosy medicines" it would not move (this is a level 3 category, 1 level below "6.1 Antiinfectives, anthelmintics" so the move is not allowed).
2. If you move a category which has any child categories, all the child categories will be moved too. For example: in the screenshot you could drag category "6.1 Antiinfectives, anthelmintics" onto category "4.2 Antidotes, specific" and it would move to become a child of category "4. Antidotes". It's child ("6.1.3 Antischistosomes...") would remain its child and become a grandchild of "4.2 Antidotes, specific".

Deleting category 1 categories

This is the simplest of all. Select the category you want to delete by clicking on it and then click on the *Delete* button. After confirming you want to delete the category it will be deleted. mSupply will not allow you to delete categories that have items assigned to them - it will warn you that you have to remove the items from the category first. See the Assigning items to categories section below for details on how to do this.

Category 2 and 3 categories

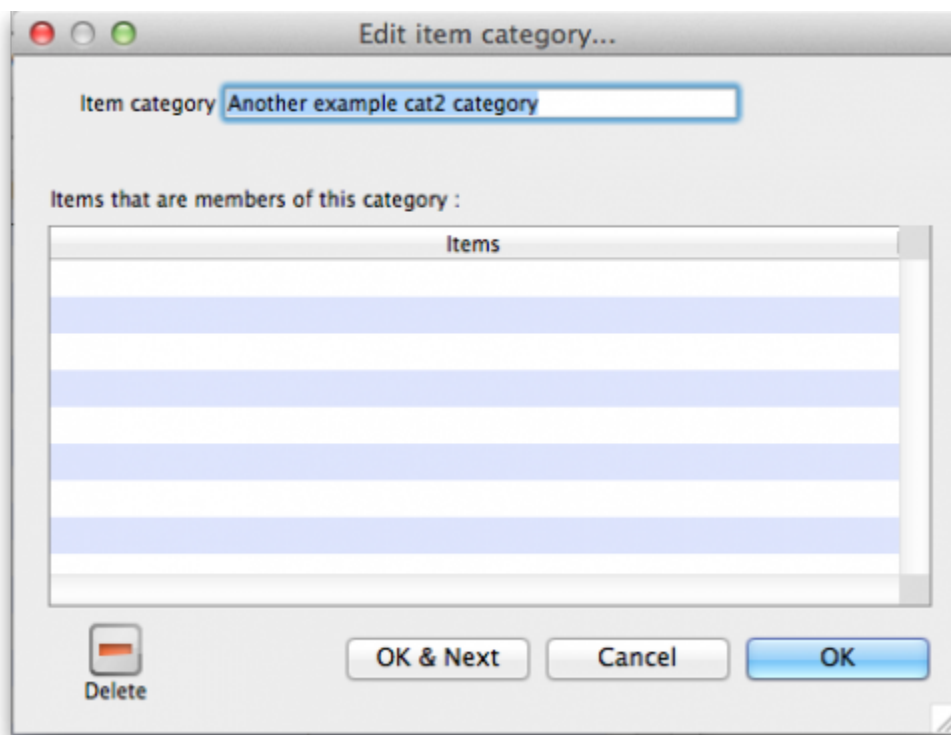
Category 2 and 3 categories are simpler - they are not hierarchical. To view the category 2 or 3 item categories select **Show Item Categories** from the **Item** menu and change the *Show* drop down list at the top of the window to "Category 2" or "Category 3" and the window will change to look like the screenshot below:



The window shows a list of the existing categories of this type.

Save sort order button: The sort order of the categories is the order they will appear in the list when you are assigning items to the categories (see the Assigning items to categories section below) or when you're selecting them in a filter e.g. for a report. You can drag the categories up and down the list to give them the order you want them to appear in. When you are happy with the order, click on the **Save sort order** button and the order will be saved.

New button: Clicking on this will take you to the edit category window shown below:



Simply type the name of the category shown in the *Item category* textbox and click on the *OK* button to create the new category

If you double click on a category in the list you will also be taken to the edit category window where you can edit the category's name, see which items have been assigned to the category, delete the category (click on the *Delete* button).

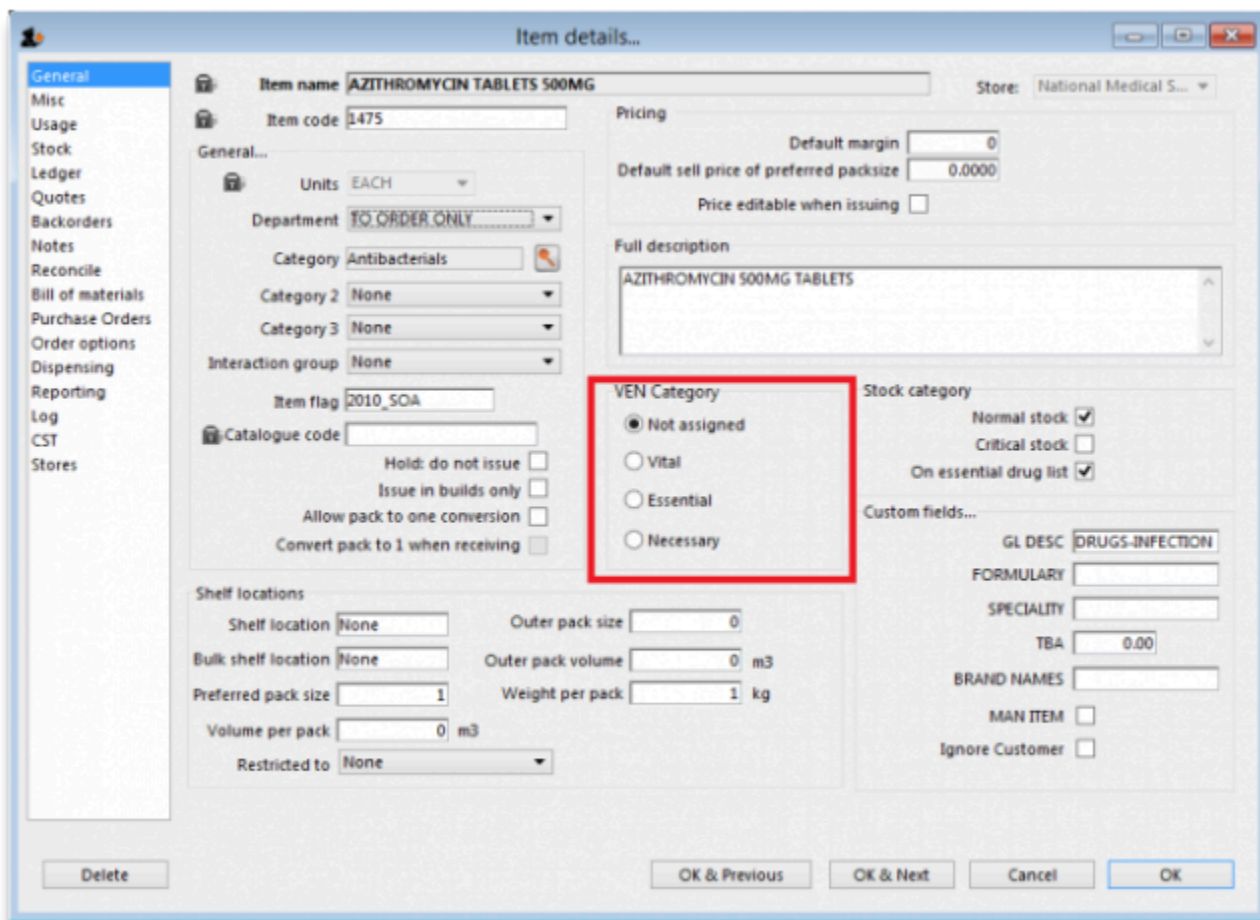
VEN Categories

mSupply allows you to categorise items according to the World Health Organisation categories of:

Vital - medicines are potentially lifesaving, have significant withdrawal side effects (making regular supply mandatory), or are crucial to providing basic health services.

Essential - medicines are effective against less severe but nevertheless significant forms of illness but are not absolutely vital to providing basic health care.

Necessary - this group of drugs is used for minor, or self- limiting illnesses, and those which have a comparatively high cost for additional therapeutic value. It includes drugs which are prescribed but which provide useful alternative therapy.



You can use these categories to make purchasing decisions using reports such as the Suggest Order Quantities report.

Assigning items to categories

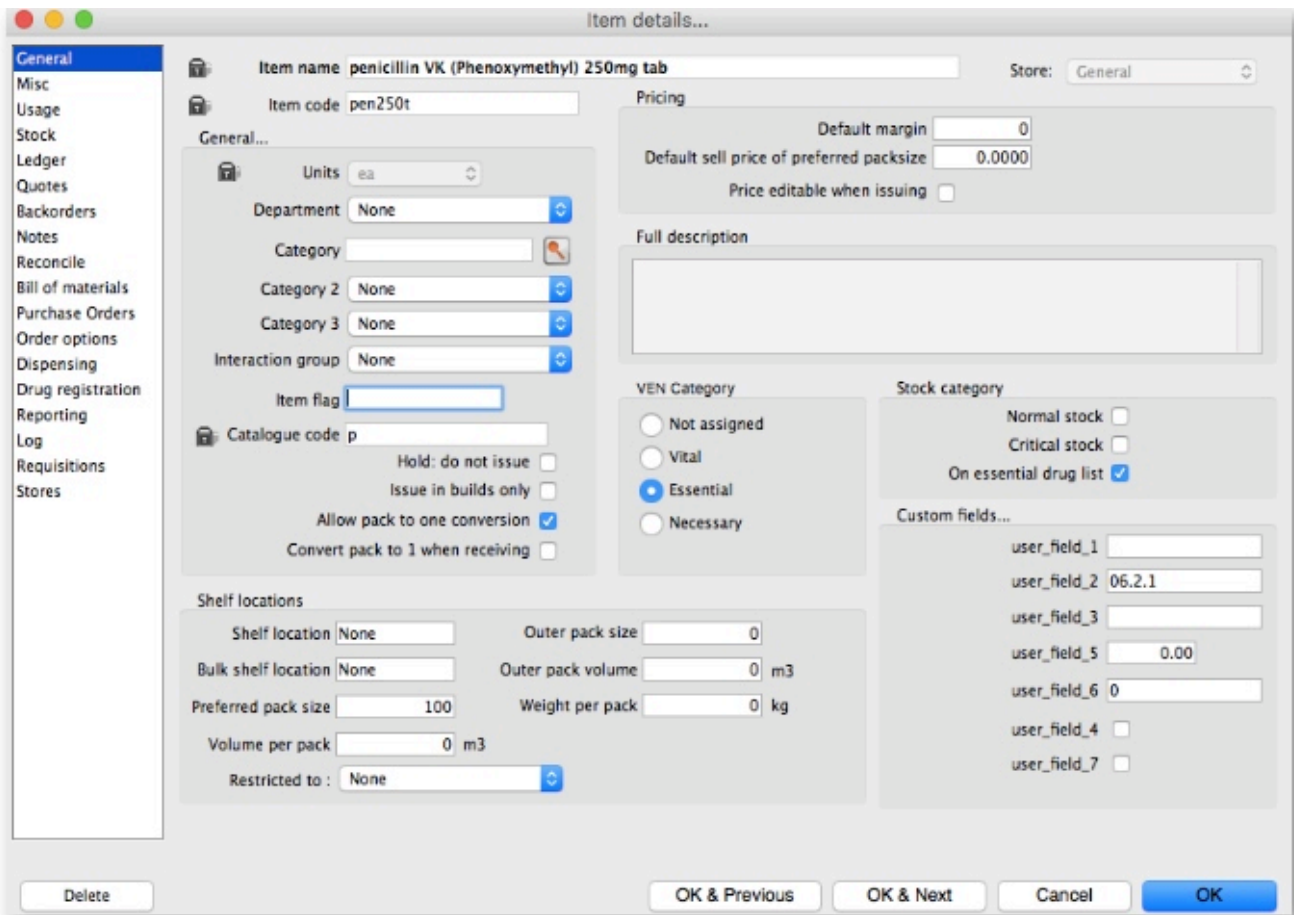
Once you have set up the categories, all items can be assigned to their appropriate category. This is performed on the *Item details* window under the *General* tab (get here from File > Show items, click on the *Find* button and double click on the item you want to add to a category):

The screenshot shows the 'Item details...' window with the following fields and values:

- Item name: Dexamethasone 4mg tab
- Store: General
- General...
 - Item code: dex4t
 - Units: ea
 - Department: None
 - Category: None
 - Category 2: None
 - Category 3: None
 - Interaction group: None
 - Item flag:
 - Catalogue code: D
 - Hold: do not issue
 - Issue in builds only
 - Allow pack to one conversion
 - Convert pack to 1 when receiving
- Shelf locations
 - Shelf location: None
 - Bulk shelf location: None
 - Preferred pack size: 100
 - Volume per pack: 0 m3
 - Restricted to: None
 - Outer pack size: 0
 - Outer pack volume: 0 m3
 - Weight per pack: 0 kg
- Pricing
 - Default margin: 0
 - Default sell price of preferred packsize: 0.00
 - Price editable when issuing
- Full description:
- VEN Category
 - Not assigned
 - Vital
 - Essential
 - Non-essential
- Stock category
 - Normal stock
 - Critical stock
 - On essential drug list
- Custom fields...
 - user_field_1:
 - user_field_2: 3
 - user_field_3:
 - user_field_5: 0.00
 - user_field_6: 0
 - user_field_4:
 - user_field_7:

To assign the item to a category 2 or category 3 category, select the correct category from the *Category 2* or *Category 3* drop down lists.

To assign the item to a category 1 category click on the magnifying glass next to the *Category* box. The following window will open:




- If the item is already assigned to a category then that category is highlighted in the list
- If you want to change the item's category, simply select the level 3 (bottom level) category you want to assign the item to, and click on the OK button
- If you want to *remove* the item from all category 1 categories, select the level 3 "None" category in the list.

You can assign an item to a category 1, 2 and 3 category at the same time.

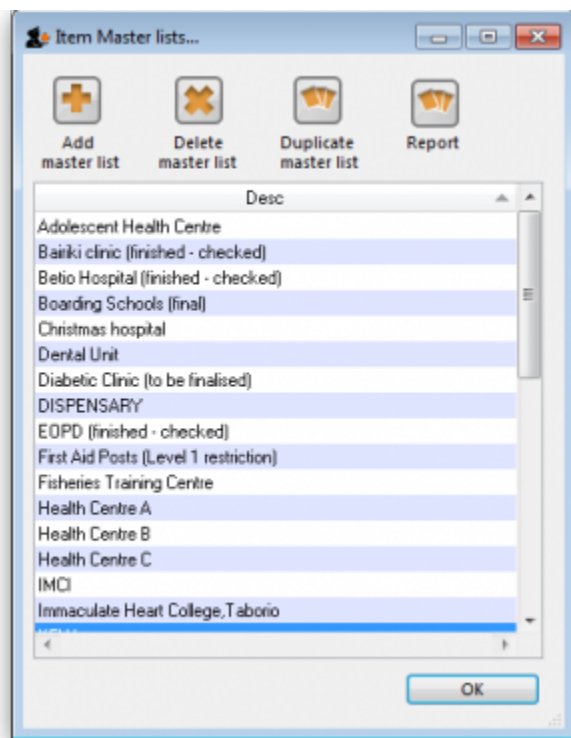
Previous: Adding items Next: Items - Master lists

Item master lists

Master lists are standard lists of items you would supply to wards, clinics, etc. on a regular basis. Once set up, a master list can be assigned to customers or Virtual stores, and then used to support Stock Control including imprest orders. Master Lists are useful to stores which have a number of customers or virtual stores that they supply whose lists of stock items are either identical or very similar.

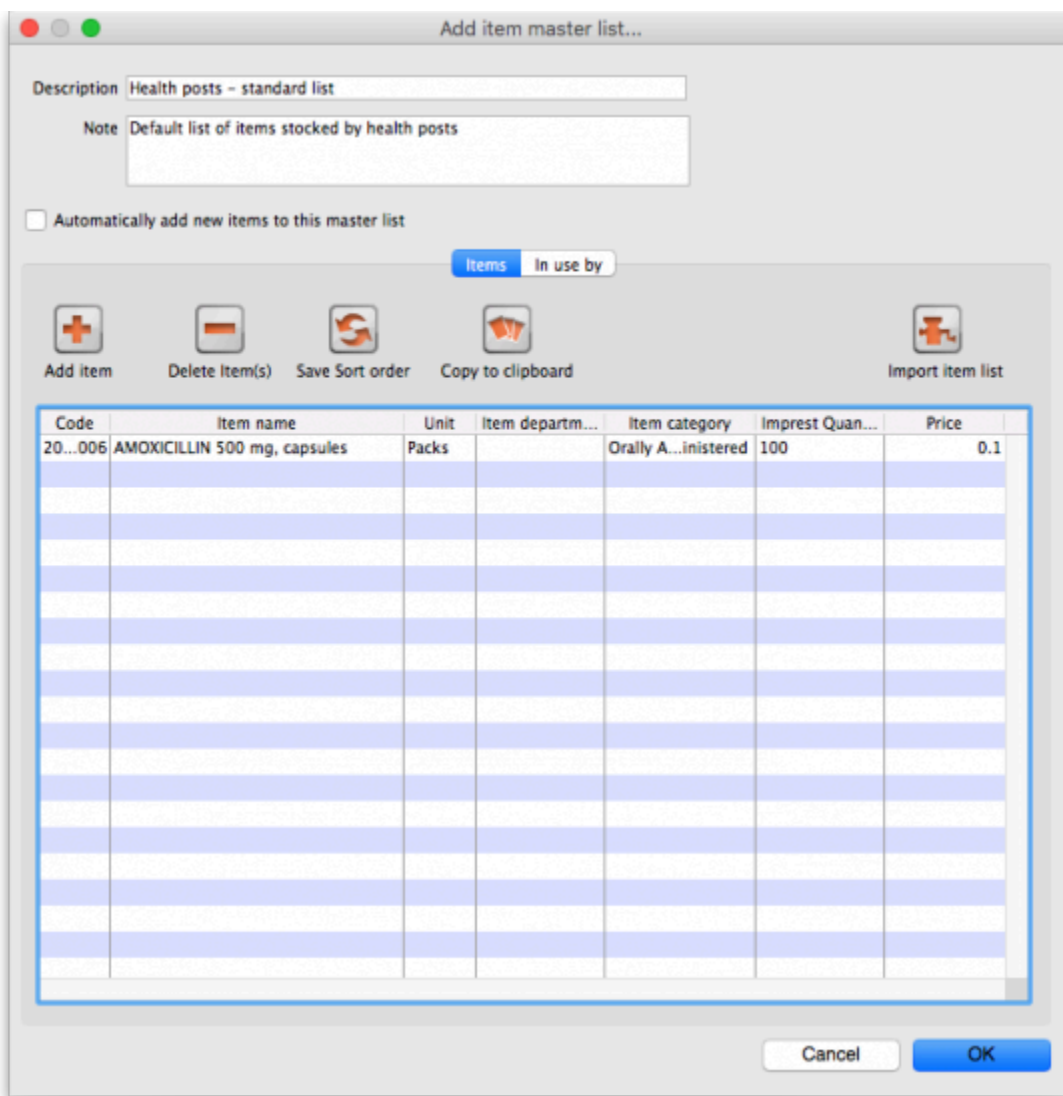
Choosing the **Item > Show item master lists...** menu item or clicking on the *Show master lists* icon () on the *Item*

tab of the navigator displays this window:



Adding (and importing) a master list

Click on the *Add Master List* icon and you are presented with this window:



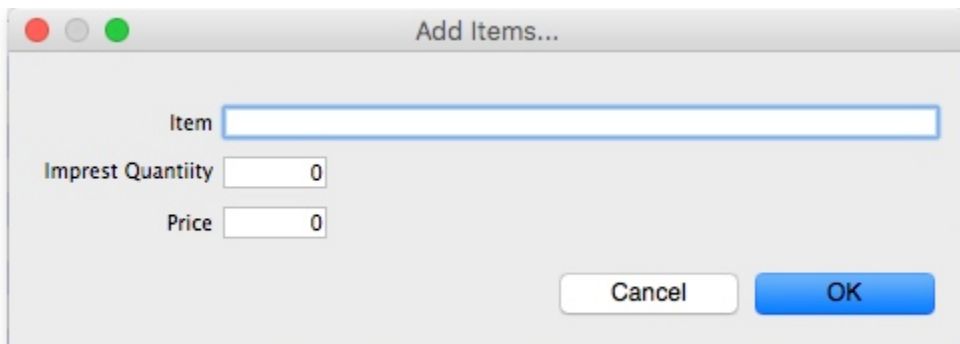
Description field: Enter the name of the master list here - this is the list name that everyone will see e.g. Health Posts - Standard List .

Note field: Add any note or information here that will help you and others understand what the list is for.

Automatically add new items to this master list checkbox: If you check this, any new items created, whether manually or during import, will be added to the master list. This is a particularly helpful setting when you are using master lists to control the visibility of items in stores.

The *Items* tab shown in the screenshot shows the list of items on the master list. The *In use by* tab shows which customers the master list has been assigned to (see below).

You then populate the list with the required items by clicking the *Add Item* icon:

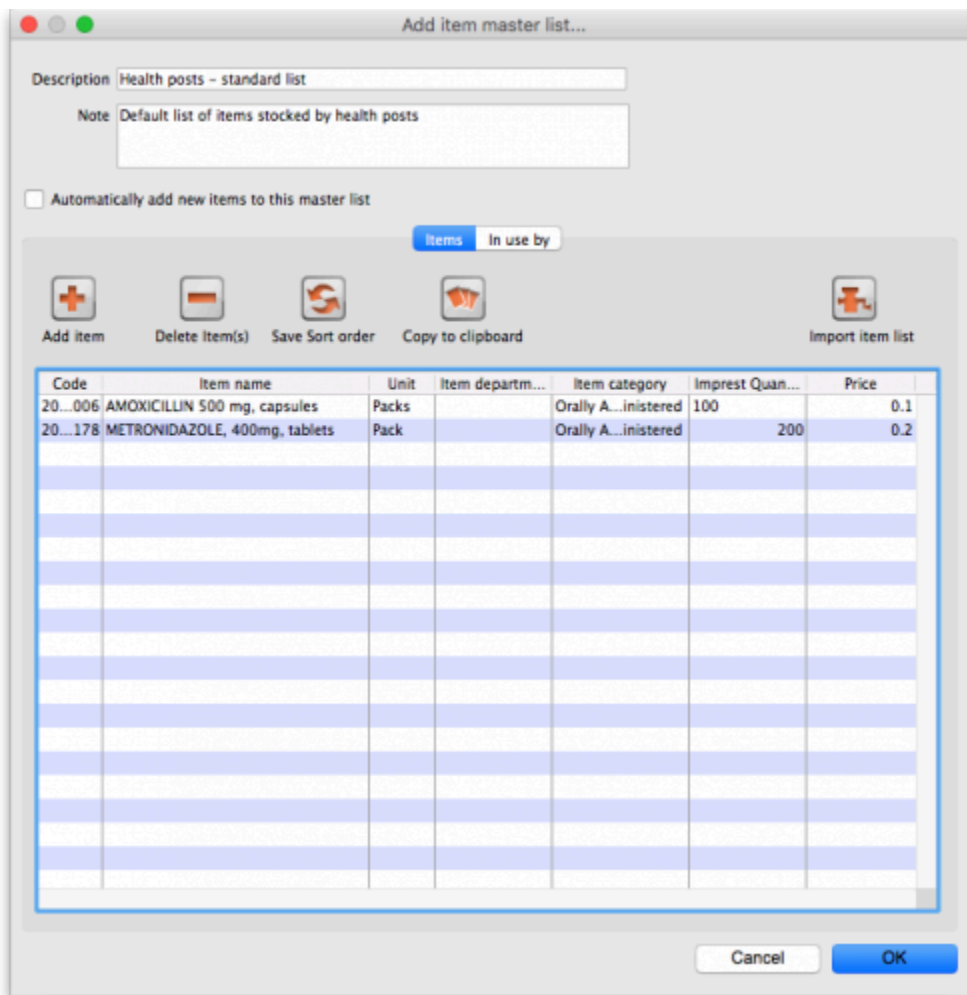


On entering the first few characters of the item to be ordered and pressing the Tab key, the (by now!) familiar list will appear from which the desired item is selected by double clicking.

If the imprest system is used in your organisation, the quantity is entered in the *Imprest Quantity* field. If the imprest system is not being used, you don't have to enter anything in this field.

If you want this list to determine the price of this item for customers using it, the price is entered in the *Price* field. If not, no entry is required in this field.

In our example, a number of master lists have been created. A sample *Health Posts – Standard List* master list is shown below.



Sorting: Clicking on any of the column headings allows you to sort the list according to that heading; you also have the ability to click on an item in the list, and drag it to a new position; once the list is sorted to meet your requirements, you can click on the *Save Sort Order* icon, and mSupply® will retain the list in the order in which you have set it, and display it in that order next time it is accessed.

Copy to clipboard: The master list is copied to the clipboard when this button is clicked so that you can paste it into other applications on your computer e.g. a word processor or spreadsheet application.

Import Item List

You can import a list of items created elsewhere e.g. an accounting application or a spreadsheet. This can save you a lot of time! The file to be imported must be tab delimited text and must contain the item code, item name and imprest quantity (in that order) for each record. Records in the file are, of course, separated by the end of line character. For example:

code	item	imprest quantity
amo250t	amoxycillin 250mg tab	800
amo500t	amoxycillin 500mg tab	300

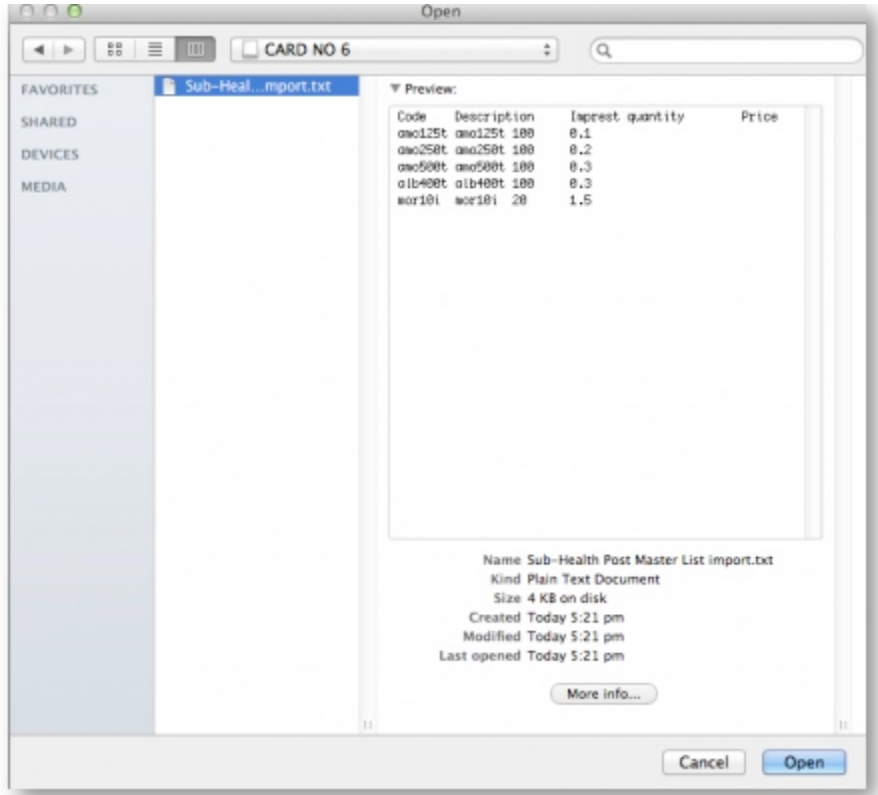
Note that:

- The item code must match an existing item code,
- The item name is for information purposes only and is not actually imported (you can leave a blank column in its place if you like)
- The imprest quantity is also optional and can be left blank (you would leave it blank if the master list is not going to be used for an imprest)

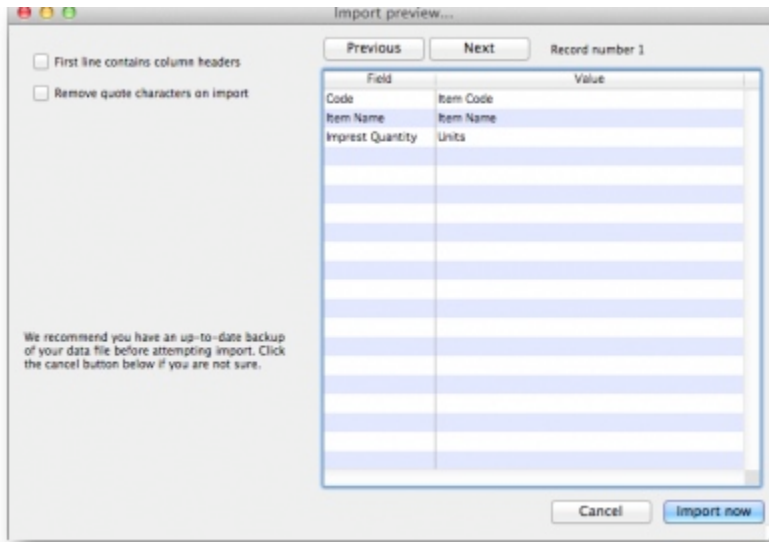
Clicking on the *Import item list* button takes you to a prompt:



after which you can select the file:



And then the import preview dialogue box is displayed:



On this screen you use the *Next* and *Previous* buttons to move through the records and see what details will be imported for each. The *First line contains column headers* tells mSupply whether to ignore the first record in the import file (checked = ignore first line of file). The first record in the import file often contains headers describing the fields in each record, not actual data.

The *Remove quote characters on import* checkbox, if checked, tells mSupply® to strip all " characters from the data. This is recommended. In fact, this option can be selected anyway without detriment to the import.

The imported items are added to the master list, nothing is overwritten by the import.

Clicking the *Import now* button executes the import with the settings you made and takes you back to the master list screen with the imported items now showing in your master list.

The *Cancel* button also takes you back to the master list screen but, obviously, does not execute the import.

Editing imprest quantities or price: If you click once on the row you wish to edit, and then click on the imprest quantity or price, it becomes editable. Enter the new value, and you can then use the <tab> key to advance to editing the next imprest quantity or price field.

The *In use by* tab: Under this tab you'll find the list of customers who have been assigned to this master group (i.e. are using this master list).

Deleting a master list

From the *Item Master lists* window, selecting the *Delete Master List* icon allows you to delete a list which is no longer required. **This action has significant consequences for any customers who are users of the list. So to prevent accidental deletion, this action cannot be completed until any customers who are users of it have their association with it removed.**

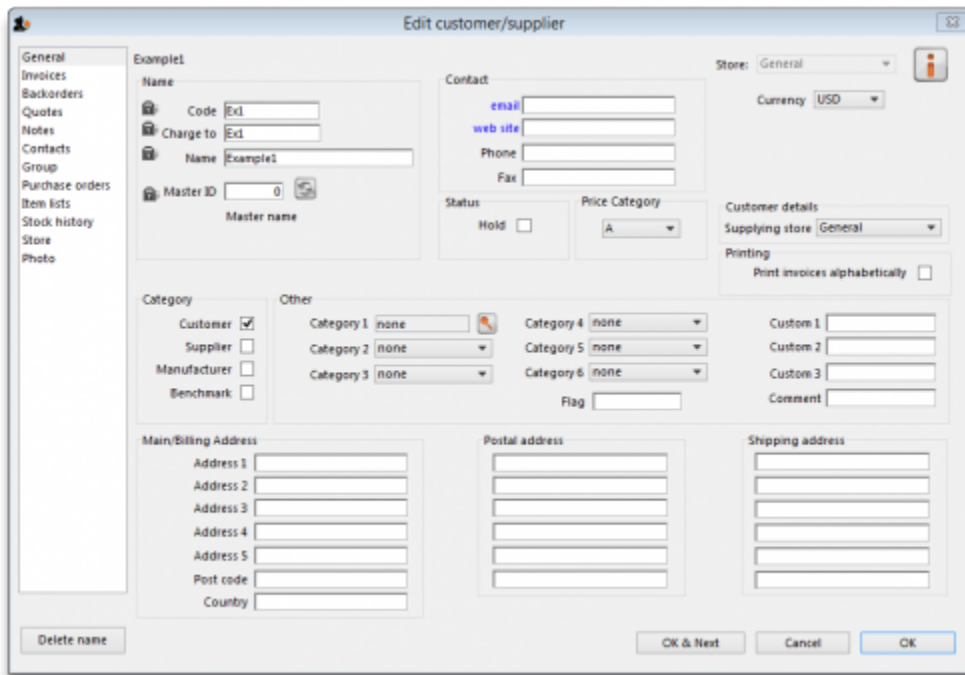
Duplicate a Master list

Should you wish to create a Master list which is very similar to an existing one, click on this icon, and a new Master list entitled '*Duplicate of*' is created; this can then be edited and renamed to suit your requirements.

Assigning a list to a customer

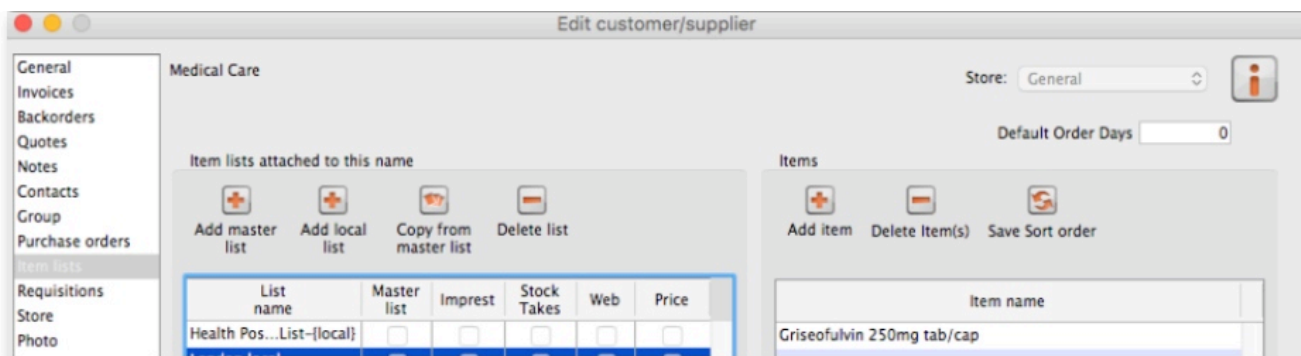
To assign a list to a customer, the customer's details need to be on screen; Choose **Customer > Show customers** , or using the Navigator, select *Show customers* , fill in the appropriate details, and press *Find*, or just press *Find*, then double click the entry required on the *Names* list

Once the desired customer's *Edit Customer/Supplier* window appears click on the *Item Lists* tab.



Buttons in the **Item Lists** section:

- **Add Master list:** From the list of master lists which have been created, double click on the name of the desired list.
- **Add Local list:** This serves to cater, for example, for the situation where a patient with a rare disease requiring medicines not normally stocked, collects these medicines from the local Health Centre. In this example, a patient attending London Dispensary requires tetracosactide, and so a local list (London local) has been created with a single entry, *Griseofulvin*



- **Copy from Master list:** This feature would normally be used where a specific customer's drug needs differ to a minor degree from the drugs listed in one of the Master lists, or under the Imprest system where the stock levels are different from those defined on a Master list; first click on the *Add Master list* icon, select the appropriate Master list, add it, and it will appear under List name. With that list highlighted, click on the *Copy from Master* icon, and a new entry appears displaying the name of the Master list followed by '(local)'. The Master list may then be deleted, and the local copy modified and renamed as appropriate.
- **Delete list:** Two distinct functions are performed, depending on whether a Master list or a Local list is selected
 1. if applied to a Master list of which the present customer is a member, it has the effect of removing that list from this customer's Favourites. The Master list remains in mSupply.

2. If applied to a Local list, it allows deletion of the list, but only after all the items have been removed from the list by making use of the *Delete Lines* feature.
- **Add item:** Once you have selected a list, this allows you to add an item to that list.

You can only add items to a local list. If there are no buttons visible above the item list, it is because you don't have any local lists for this customer (or if you do, you haven't clicked on that local list to highlight it first)

When operating multiple stores in mSupply, you can sometimes have difficulty with item visibility: an item might be on a master list for a particular customer but if the item is not visible in the store you are logged into when using the list, then the item will not appear.

A temporary fix can be achieved by setting the item visibility in a particular store to match an item list - refer the Visibility tab. This is only a temporary fix. If you add a new item to a master list, the visibility of that item in the stores using that list will not be updated.

To avoid this problem, you can set a preference (see here for details) to have the visibility of items on lists altered to match the visibility of the name for which the lists are made.

- **Printing:**
 - Before printing, choose either *Sort by Group* or *Sort by department*
 - Choose whether to send to Excel® or your printer.
 - Click **Generate**

Items

Note that these icons appear only when a local list is selected; for obvious reasons, Master lists cannot be edited here:

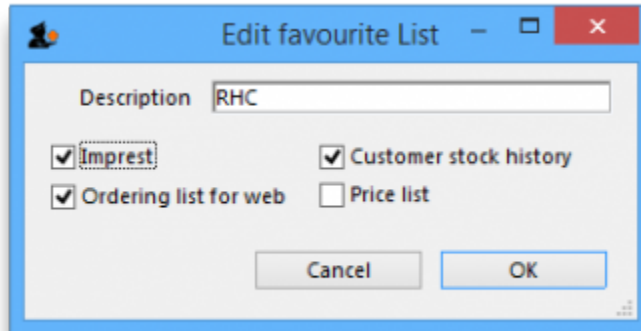
Add Item Self explanatory! Allows you to add required lines to the local list.

Delete lines Lines may be deleted, either singly or, by selecting multiple lines, several lines may be deleted together.

Save sort order . Allows you to save the list according to how you have sorted it.

Information button:

Edit favourite lists: The attributes of a list are set by double clicking on the name of the list shown under *Favourite List(s)*. This window is displayed:



The options should be checked as appropriate:

- **Imprest:** If checked, this list will populate an imprest customer stock history created for the customer.
- **Customer stock history:** If checked, this list will populate a customer stock history created for the customer.
- **Ordering list for web:** Means that the list represents all items that the customer can order using the mSupply Customer interface. If a customer who uses the customer interface for ordering stock does not have a list with this option checked, they will not be able to order any items.
- **Price list:** Means that the prices on this list will be used for these items when they are being distributed to this customer on a customer invoice. The price on this list will override any sell prices that individual stock lines have. Only one list can have this option checked for each customer.

Using Master Lists to control Item visibility in Stores

You can use master lists to control item visibility in each store, by checking the Items preference box '*Automatically update item visibility in all stores to match master lists used by each store*'. This will make the items visible in each individual store match exactly the items included in the master list(s) selected for that store.

Example

There are 100 satellite stores, and you want all of them to have the same item visibility:

1. Create a master list and add some items
2. Go to each store and make sure that the master list is selected
3. Turn on the preference '*Automatically update item visibility in all stores to match master lists used by each store*'

This preference can drastically affect item visibility.

A temporary list is created for each store containing items that cannot be removed from visibility when the master list preference is activated.

Do not turn it on unless you know what you are doing! It affects **ALL** stores in the system.

Now whenever an item is added or removed from this master list, the preference will automatically update the visibility for all of the 100 stores, so that the items visible for each individual store matches the items included in the master list.

- Adding an item to a master list will automatically add that item to visibility for all stores using that master list
- Deleting an item from a master list will automatically remove that item from visibility for each store using that master list, given it is not included in another master list in use by each store respectively.

When deleting items from a master list, mSupply will first check all stores using the master list to make sure it is safe to remove that item. It is unsafe if the item has *stock on hand and isn't included in another master list* for any stores using master list you are editing.

To create a large master list, you can export all items to be added to mSupply, and then import them to the master list - .

Previous: Item categories Next: Item locations

Locations and location types

Keeping track of where items are in your store is an important part of good warehouse practice. You don't want to have to go hunting through your whole store for an item, wasting time and energy when mSupply can tell you exactly where it is!

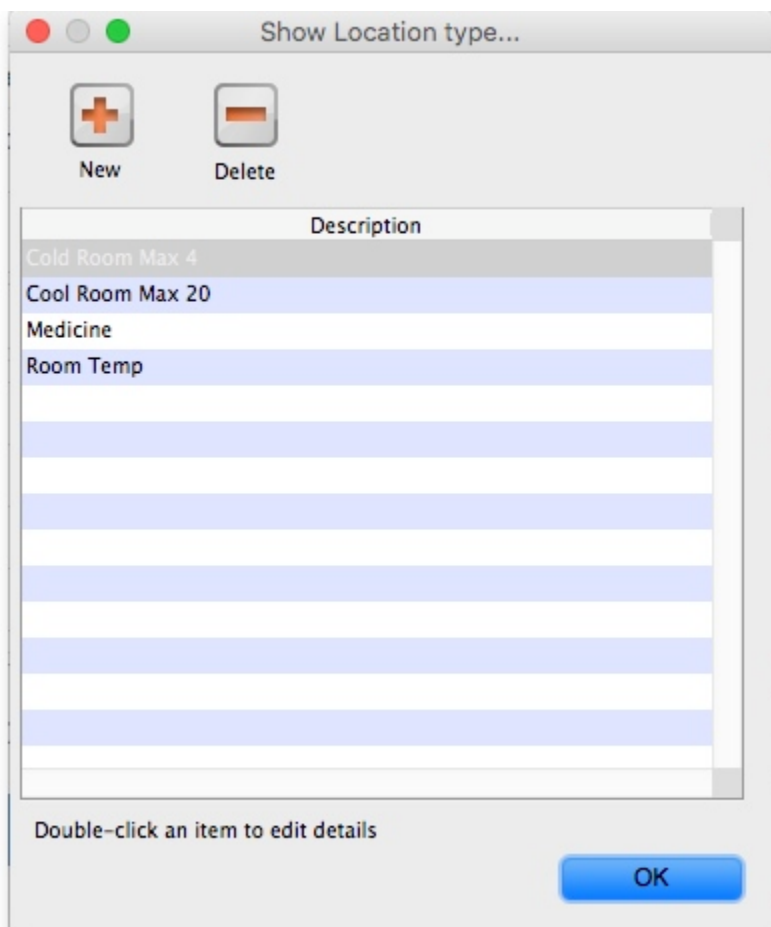
Locations in mSupply are the places you store items. Locations can have types (e.g. normal, cold, bulk...) to help you categorise them, you can define parent/child relationships between locations to help you manage them effectively and you can even create a line drawing plan of the location to pictorially show the layout of your store.

If you use **location types** it will help you if they are defined before the **locations** that belong to them otherwise they won't be available to select when defining a location - and you'll have to go back later and edit the locations. What a waste of time! So this section explains location types first and goes on to explain about locations.

Location types

Location types give you the ability to categorise your locations. They can be used for reporting on a group of locations, but also to restrict the locations that can be used for a particular item. For setting the location type for an item, see Item basics

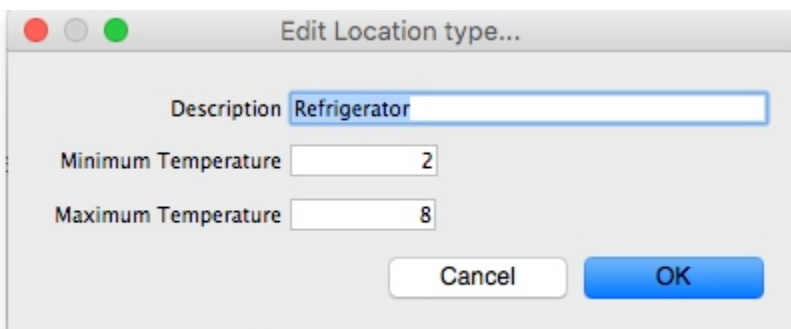
Choose *Item* > *Show location types* to define or show a list of available location types.



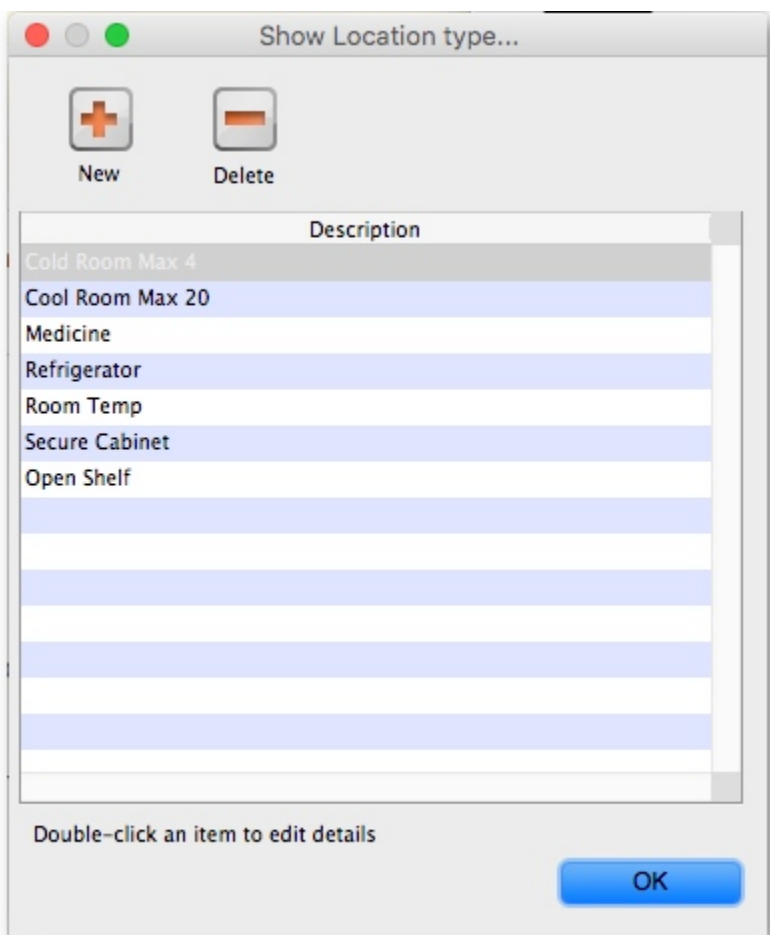
The window that appears allows you to define the criteria for the various types of location in your store - e.g. the permitted temperature range, whether location must be dark, etc.

Adding a location type

Click on *New* , and the window that appears allows you to enter a name for the storage type, and the permitted conditions pertaining to that storage type.:



In the above example, a storage type “Refrigerator” has been defined, the permitted range of temperature being 2° C - 8° C. Having defined your storage types, the *Show location types* window might look like this:



It is worth emphasising that the list does not show the actual store locations, but the types of locations.

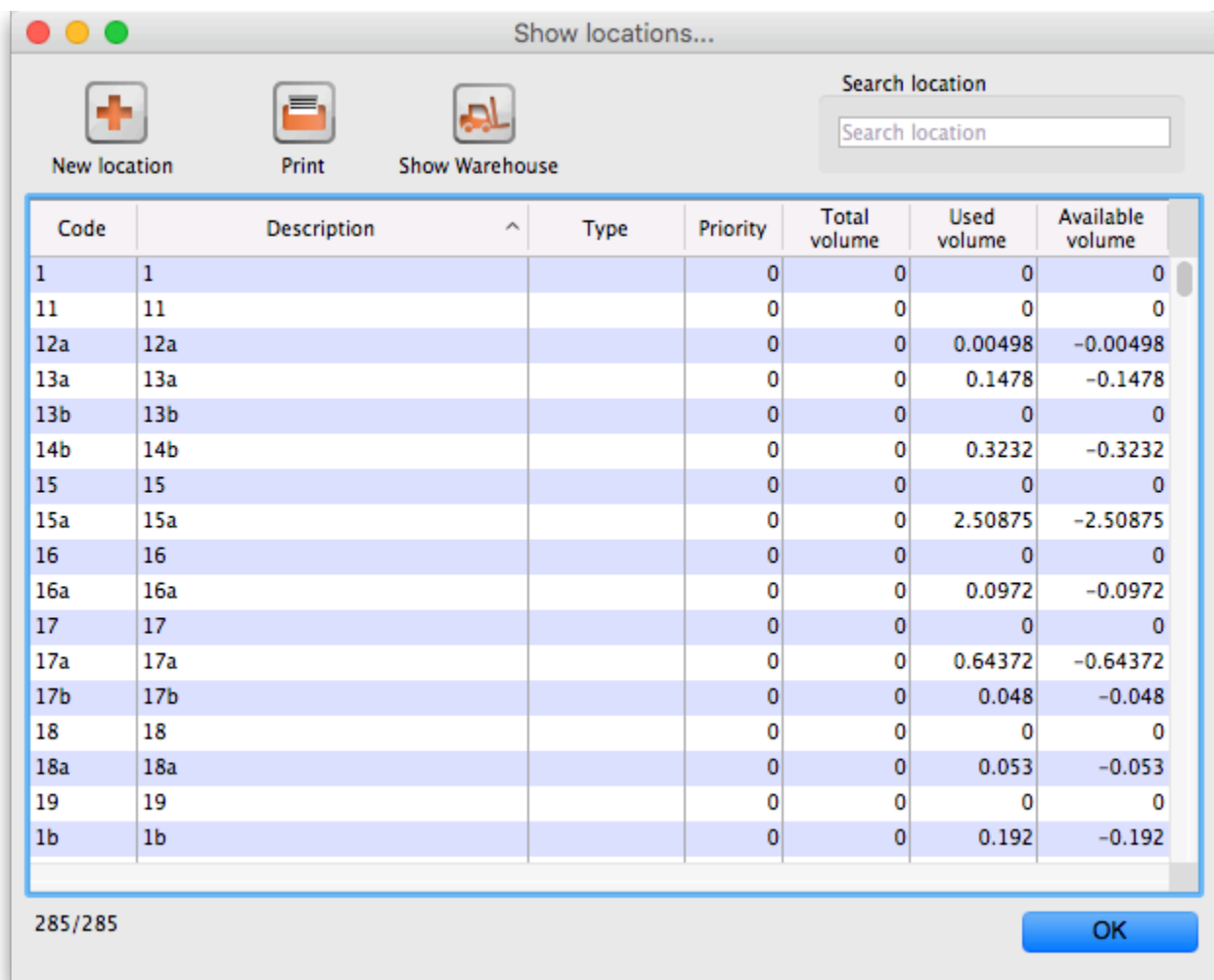
Editing a location type

Should you wish to edit the details of any location type, double click on it in the list and change the details in the window which appears.

Locations

Viewing locations

To view the locations you have defined choose *Item > Show locations* and you will see a list of location codes and descriptions:



From this window you can view, edit and remove locations and their details - this is the 'location management' window. Here are the various functions of the window:

New location icon: Click this to add a location (see 'Adding a location' below).

Print icon: Click this to print the list of locations displayed in the window (see 'Printing the locations list' below).

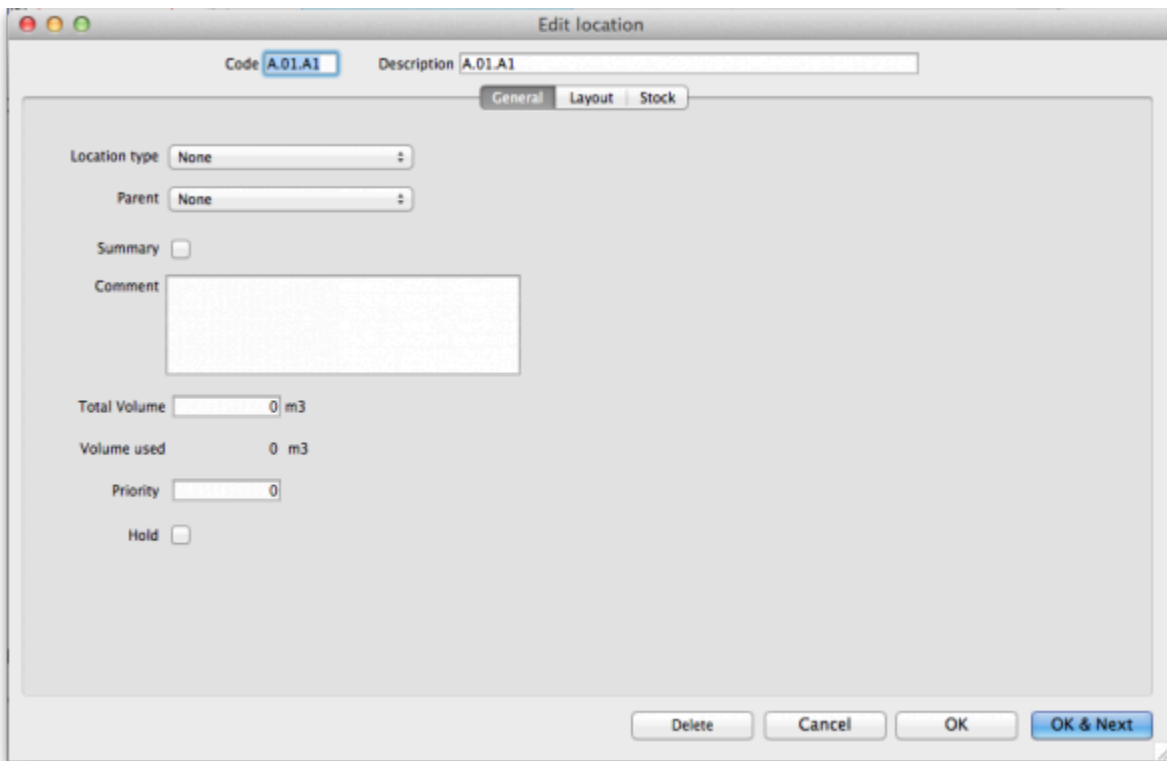
Show warehouse icon: Click this to see a graphical representation of your warehouse. This representation shows all the layouts of the individual locations that you have created in the layout tab when adding a location (see 'Adding a location' below).

Search location: Enter some text in the text field and the list is updated as you type to show only the locations whose code or description starts with the text you have entered.

view and edit a location's details: Double click on a location in the list - see 'Viewing and editing a location' below. All the details are editable. See the 'Adding a location' section below for the meaning of the individual details.

Adding a location

Before you can associate an item with a specific location (e.g. Shelf D4, Refrigerator 2, etc.) you must define the locations in mSupply. To add a new location, click on the *New location* icon in the View locations window shown above. You will be shown the following window, where you can enter the details of the new location:



Code: This is how you refer to the location in mSupply and, for example, what you will select when you set an item's location.

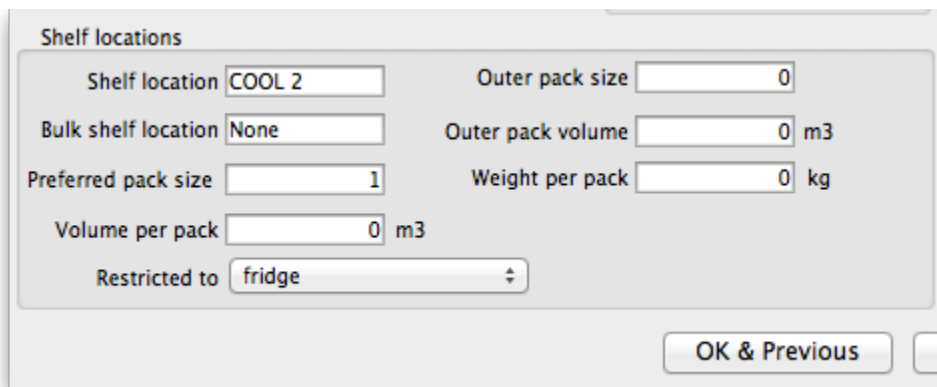
Description: This is a description of the location e.g. "Top shelf of refrigerator 3" or "3rd shelf up in rack E" to help you identify it or remember something important about it. You will only see this in the list of locations shown above.

General tab

Under this tab, you enter the location's main details:

Location Type: Select one from the location types you have already entered (see Location types section above).

- Each item can have a *Restricted to* Location type set, and then you will only be able to store that item in a location with that type:
- You can set the location type for an item by viewing the item's general tab, and choosing the type from the drop-down list (*Items/Show Items/Find Items - double click applicable item*):



Parent: Select one from the locations already entered in mSupply. This is the location to which the location you are adding belongs. This is for descriptive purposes and does not have any functional effect in mSupply, except when viewing the warehouse layout.

Summary: Checking this means that the location is a summary location only and cannot be used for storing items. This is normally checked for all locations that are parents of others.

Comment: You can note anything you need to remember or indicate to others in here. It is only visible if you view the location's details (*Item > Show locations*, double click on the item in the list) later.

Total volume: The total volume of goods that you can store at the location. Volumes are stored in cubic metres [m³] but other volumes e.g. litres (l) may also be entered, provided the appropriate unit is entered following the number e.g. 5l for 5 litres. See the entry **Volume per pack** in Item edit - General options. Note that whatever you enter will be converted to and displayed in m³.

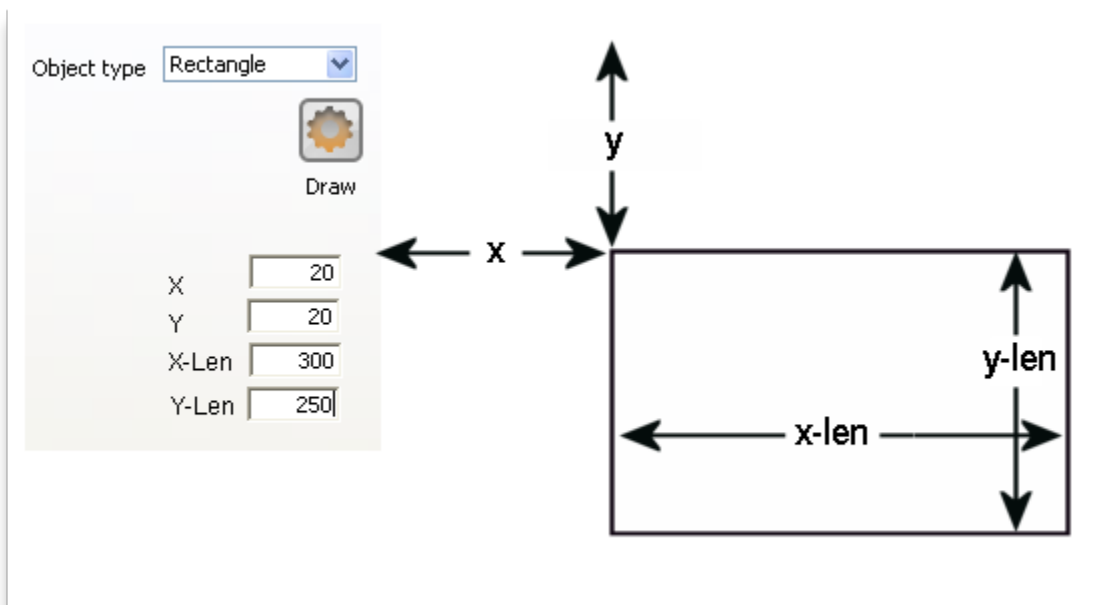
Knowing the volume of a location is important if, for example, you are replenishing your stock of vaccines, and you need to know if there is enough space available in the refrigerator in which you store vaccines to accommodate a new order (obviously, you would also need to know the volume of the vaccines that you are ordering).

Priority: This is used when printing a picking slip. Setting a priority for a location will override the default alphabetical ordering of shelf locations in a picking list. A location with a lower priority number will be printed before a location with a higher priority number. All locations with 0 priority are counted as having no priority and will be printed, in alphabetical order, after all locations with a priority.

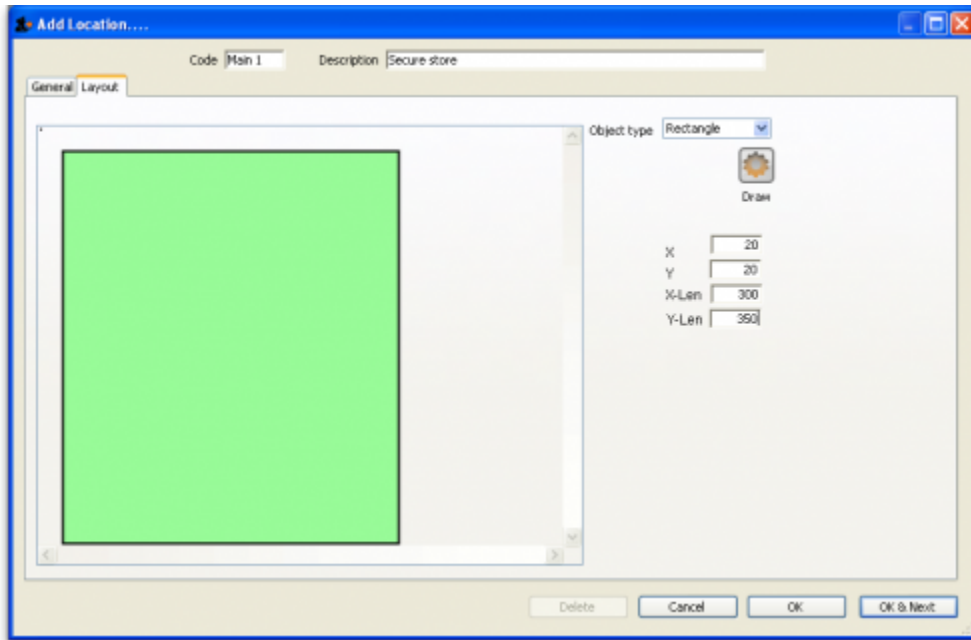
Hold: If this is checked then goods in this location cannot be issued to customers. Goods can be put into the location but they cannot be issued. You could use this as a simple way of providing a permanent or temporary quarantine location.

Layout tab

Under this tab you can create a graphical plan view of the location in your store. This is useful for helping people to quickly locate any given location and presenting a graphical layout of your whole store. Locations are drawn as either rectangles (for which you enter the top left coordinate and the lengths of the 2 sides) or polygons (for which you enter a number of sequential coordinates which are connected with straight lines). Here's what the various input items mean for a rectangle, the rest we'll show you by the way of an example:

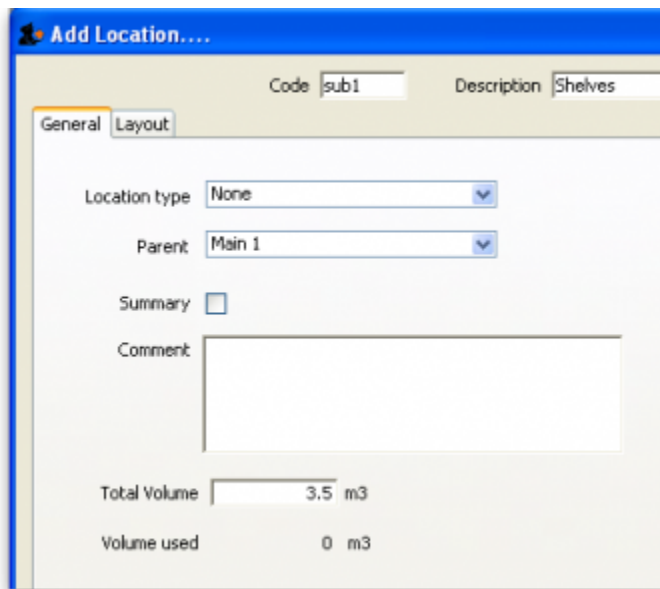


So, as an example, the coordinates are entered as above in the appropriate boxes, then the *Draw* button is clicked to produce the following display under the layout tab:

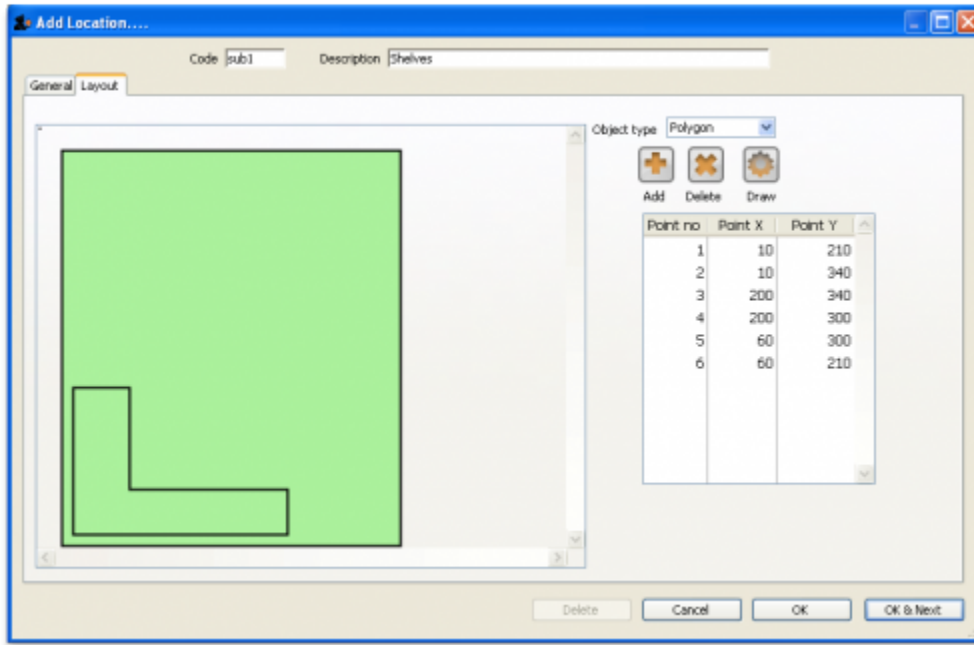


This has created a picture of location main1. This is the whole store or warehouse. You can't see the settings but this location will have no parent and will have its *Summary* checkbox checked (no items can be located here - it's just a summary location for descriptive purposes).

In our imaginary warehouse we have a set of open racking which is 'L'-shaped. We want to draw it in the warehouse so we create the location, call it 'sub1' and set its parent as Main1. If this set of shelves also has other locations in it we would also check its *Summary* checkbox.



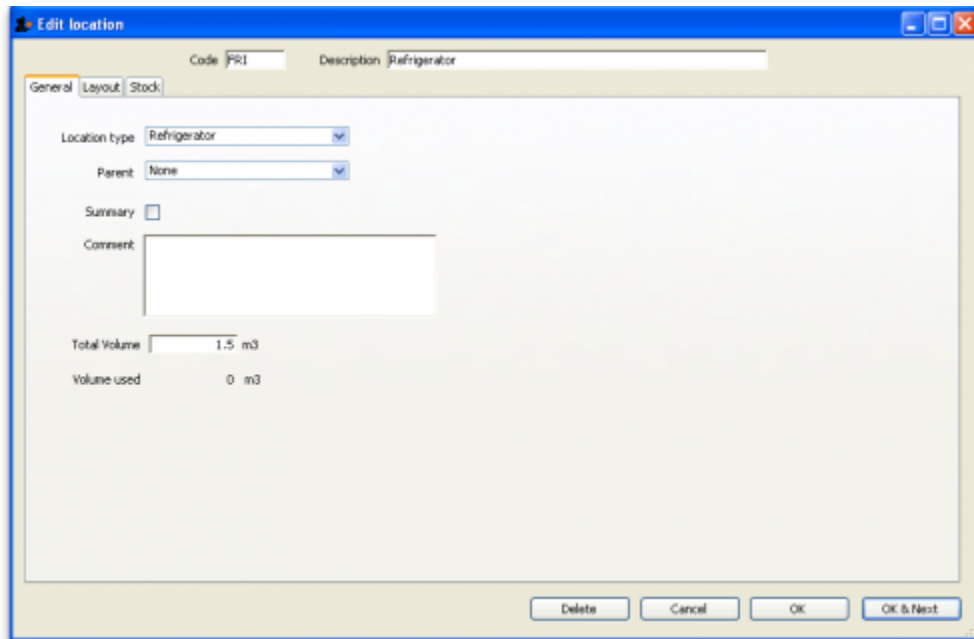
To draw this location we click on the Layout tab and select *Polygon* as the object type. Click on the *Add* button to add a coordinate and then overwrite the zeros in the X and Y columns to give the correct coordinates. If you make a mistake, click on the set of coordinates in the list that is wrong and click on the *Delete* button to delete it. When all six co-ordinates have been entered, click on the *Draw* button to produce the layout displayed below:



You can do this same thing for all locations so that anyone can easily locate them in your store.

Viewing and Editing a location

As you already know from above, to view all the locations you have defined select *Item > Show locations*. To view and edit the details of a particular location, double click on that location in this list. You will be shown the following window:



General tab

This is the same as the General tab for adding a location (see the 'Adding a location' section above) except that its details are filled in with the details of the location you selected. To edit the details simply overwrite the current value with a new value or select another option as appropriate.

Layout tab

This is the same as the Layout tab for adding a location (see the 'Adding a location' section above) except that the current graphical representation of the location is displayed (if you've already created one). You can edit the plan view of the location if required by changing, adding or deleting co-ordinates.

Stock Tab

The Stock tab shows a list of existing stock lines stored in that particular location. A lot of information regarding the stock is displayed in the list and, as with most mSupply lists, it can be sorted on any column by clicking on the column heading:

Line	Item code	Item Name	Available	Total	Total Volume	Pack	Hold	Batch	Manufac...	Expdate	Supplier	Location	Cost Price
1	Inssio	Insulin Isophane (Protaphi	51	51	0	1	<input type="checkbox"/>	ts62662		28/02/2010	invad	FRI	6.82
2	Inssol	Insulin soluble (Actrapid) 1	74	78	0	1	<input type="checkbox"/>	V560221		30/05/2010	invad	FRI	6.82
3	Inssol	Insulin soluble (Actrapid) 1	17	17	0	1	<input type="checkbox"/>	vs60221		31/05/2010	invad	FRI	6.82
4	Pancinj	Pancuronium Bromide 4mg	5	5	0	50	<input type="checkbox"/>	304948	astra	30/08/2010	Ansp	FRI	192.00
5	Pancinj	Pancuronium Bromide 4mg	50	50	0	1	<input type="checkbox"/>	304948		30/08/2010	Ansp	FRI	3.84
6	Insmix	Insulin mixed 70/30 (Milita	148	150	0	1	<input type="checkbox"/>	V563904	nowo	31/08/2010	Novo	FRI	6.72
7	Tub5	Tuberculin, purified protei	199	199	0	1	<input type="checkbox"/>	C291148	san	30/11/2010	Ansp	FRI	30.00
8	Oxytinj	Oxytocin 5IU/ml amp	13	13	0	5	<input type="checkbox"/>	50208	nov	30/05/2013	Mult	FRI	6.00

If you want to know more information about any particular batch in the list, simply double click it and you'll be shown another window with lots of information about the batch, arranged in four tabs:

Item code: Pancinj Item name: Pancuronium Bromide 4mg/2ml amp

General Ledger Status Reference documents

Quantity according to stock
 Total Quantity 5 Available 5

Cost price \$ Hold Volume per pack 0 m3
 Sell price 192 Location FRI
 Expiry date 30/08/2010 Pack size 50 Start of year quan 0
 Batch 304948 Quan per Inner 0 Initial quantity 0
 Supplier Anspec Pty Ltd Inners per Outer 0

Note

Id 1845

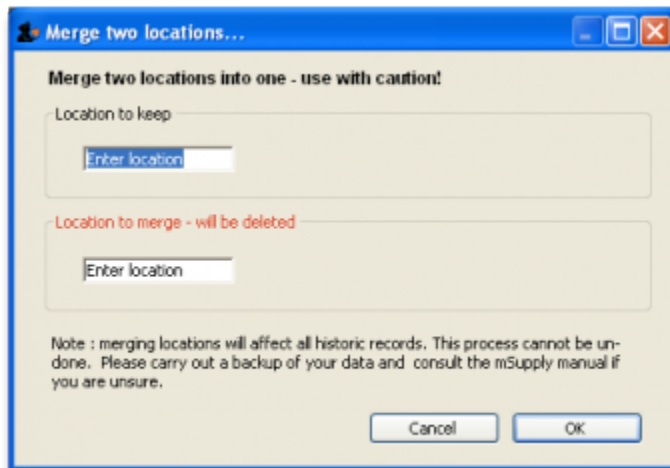
Deleting a location

To delete location you select *Item > Show locations* to view the list of locations, double click on the location you want to delete (as if you wanted to view all its details) and then click on the *Delete* button at the bottom of the window. If you confirm the deletion, the location is removed.

Merging two locations

If you want to remove a location from further use in mSupply (for example, you might have accidentally double-entered a location) this command can be used.

When you Choose *Item > Merge two locations* , this window is shown:



Use extreme caution! This operation will affect all historical records of the location you delete. They will be moved to the location you are keeping. The operation can only be undone by reverting to a backup copy of your data file.

In the window displayed enter the location to keep, and then the location to merge. When you have checked that the information is correct, click the *OK* button.

Previous: Item master lists Next: Manufactured items

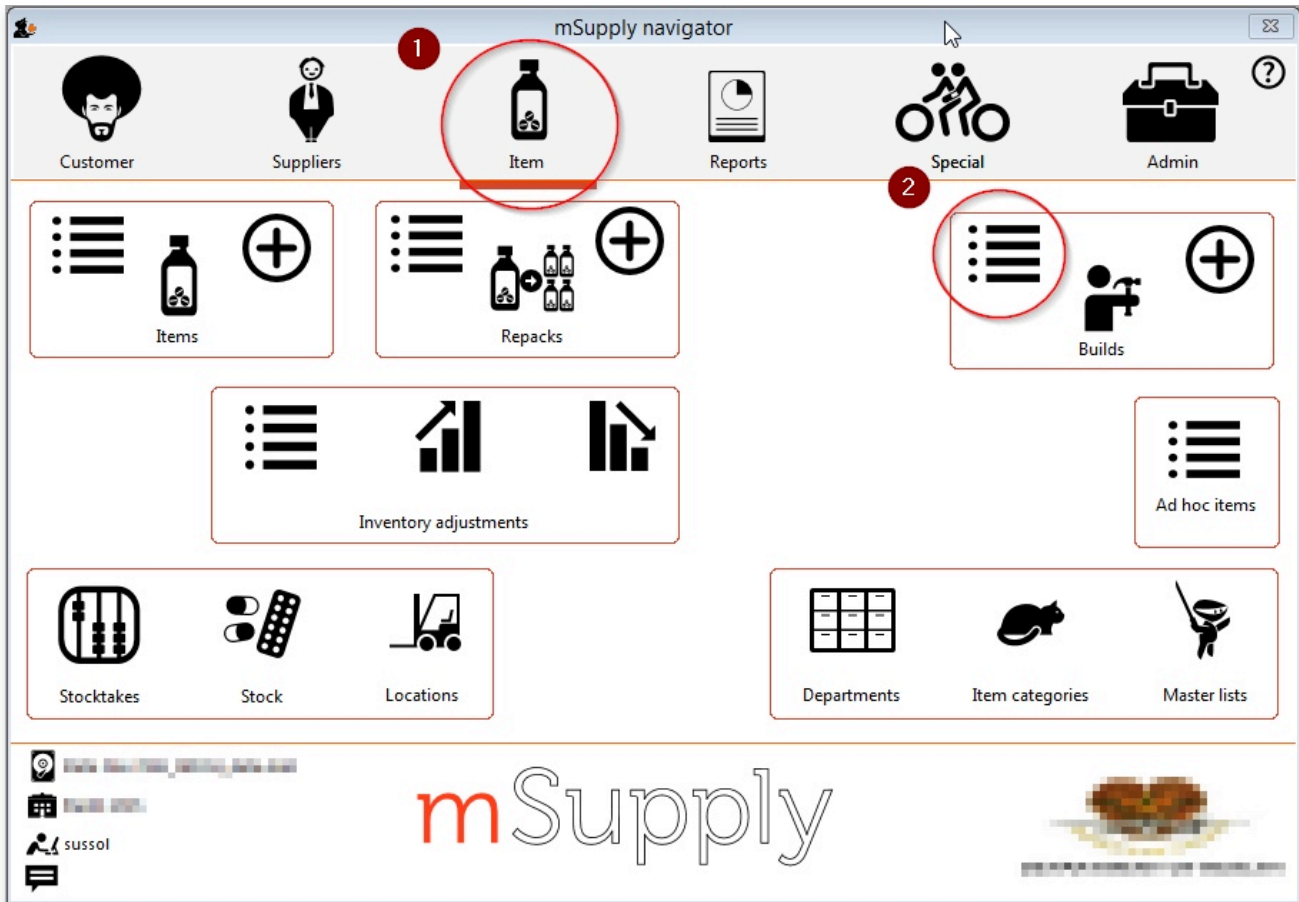
Building (manufacturing) items

mSupply provides for a mechanism to manufacture (build) a new item from two or more existing items. A build is a way of recording items you have manufactured. That is, raw materials that are in your stock are used (taken out of stock), and a new stock item is created.

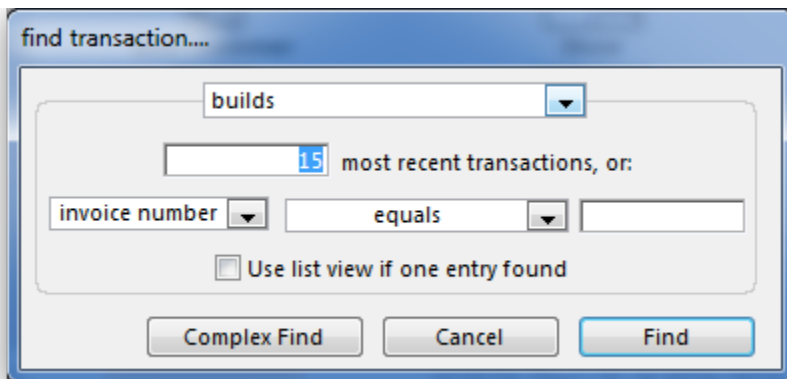
Note that you must have a version of mSupply® that allows use in manufacturing for this feature to be enabled.

Show builds...

From the Items page of the Navigator, click on the Show Builds button:



You will be shown the standard find window to enter either the number of recent builds to display, or a particular build number.



You will then be shown a list as shown below:

Name	Type	St.	Entered	Confirmed	Invnum	Total	Their ref	PS printed dt.	Comment
build	bu	cn	12/10/10	12/10/10	59	0			paracetamol syrup 120mg/
build	bu	sg	13/10/10		60	0			Dhani lotion 10%
build	bu	cn	20/10/10	20/10/10	61	0			Acillevin 0.1% spirit
build	bu	cn	26/10/10	23/11/10	62	0			paracetamol elixir 120mg/5
build	bu	cn	17/11/10	17/11/10	63	0			paracetamol elixir
build	bu	cn	17/11/10	17/11/10	64	0			syrup, simple
build	bu	cn	17/11/10	23/11/10	65	0			ectillevin 0.1%
build	bu	cn	23/11/10	23/11/10	66	0			phenobarbitone elixir 15mg
build	bu	cn	23/11/10	23/11/10	67	0			benzoic acid
build	bu	cn	23/11/10	23/11/10	68	0			paracetamol elixir
build	bu	cn	02/12/10	02/12/10	69	0	2/12/10		simple, syrup
build	bu	cn	02/12/10	02/12/10	70	0	011210		Chlorhexidine mouth wash
build	bu	cn	22/12/10	22/12/10	71	0	221210		folc acid syrup
build	bu	sg	10/01/11		72	0			folc acid
build	bu	sg	07/02/11		73	0	form 10%		Formalin solution 10%

From this list you should select the required build by double-clicking on it.

Edit build...

Reference Comment Colour Invoice 69

Category Date 02/12/10

Item to build or to edit Print labels Store General

Item to build (double-click to edit)

Item name	Quan	Pack	Units	Batch	Expiry	Price	Price Exten
Syrup, Simple	20000	1		021210	02/12/11	0	0

Ingredients Bill of materials Manufacturing Method

New ingredient Delete line This is a projected build

Line	Item name	Qty	Pack	Batch	Expiry	Price	Price Exten
1	Water distilled	20000	1			0.00	0.00
2	Sugar BP powder gm	4800	1			0.00	0.00
3	benzoic acid solution	800	1	1001	06/11/10	0.00	0.00

Current status: Change status to:

Print manufacturing method

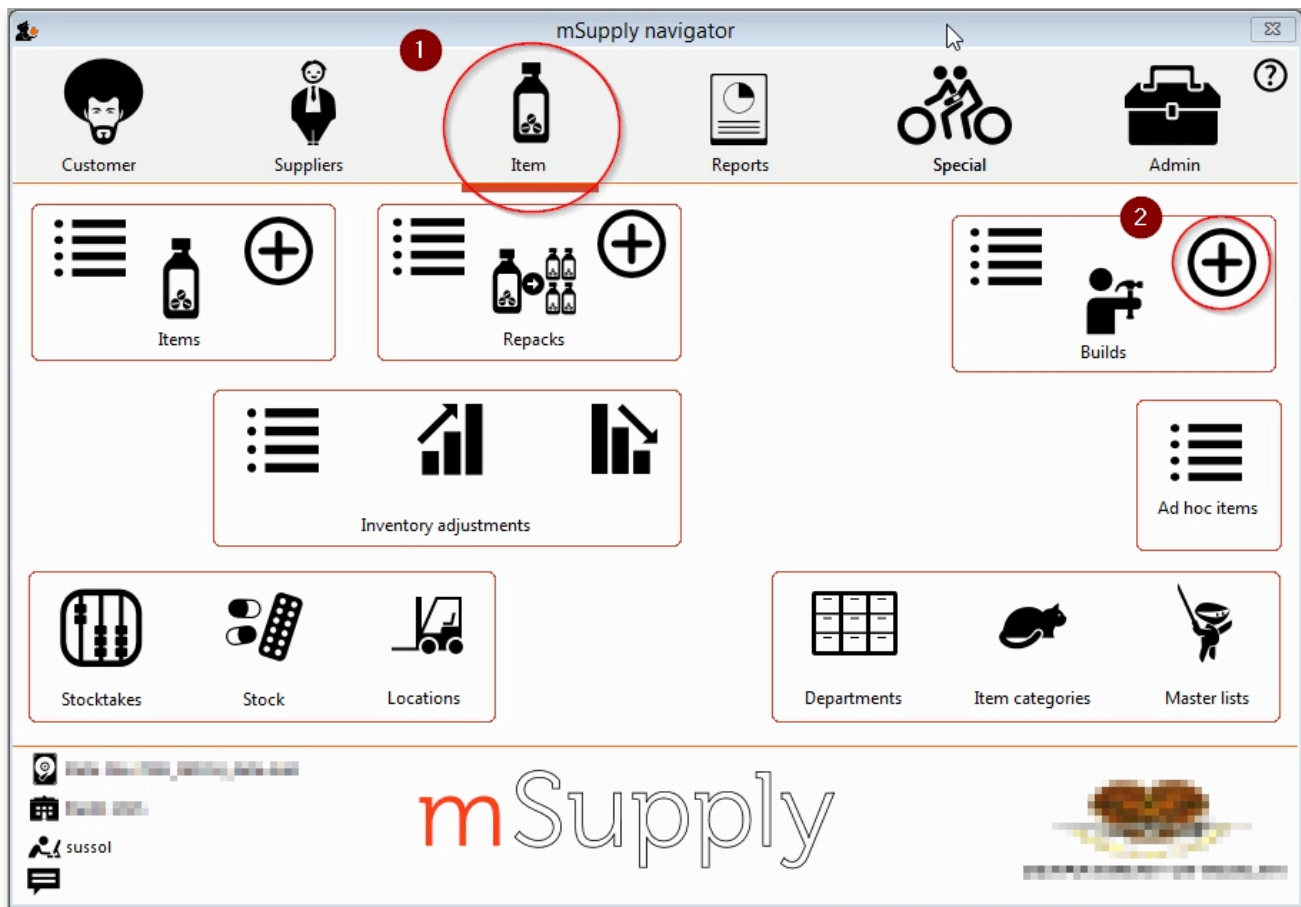
Printing form

Summary

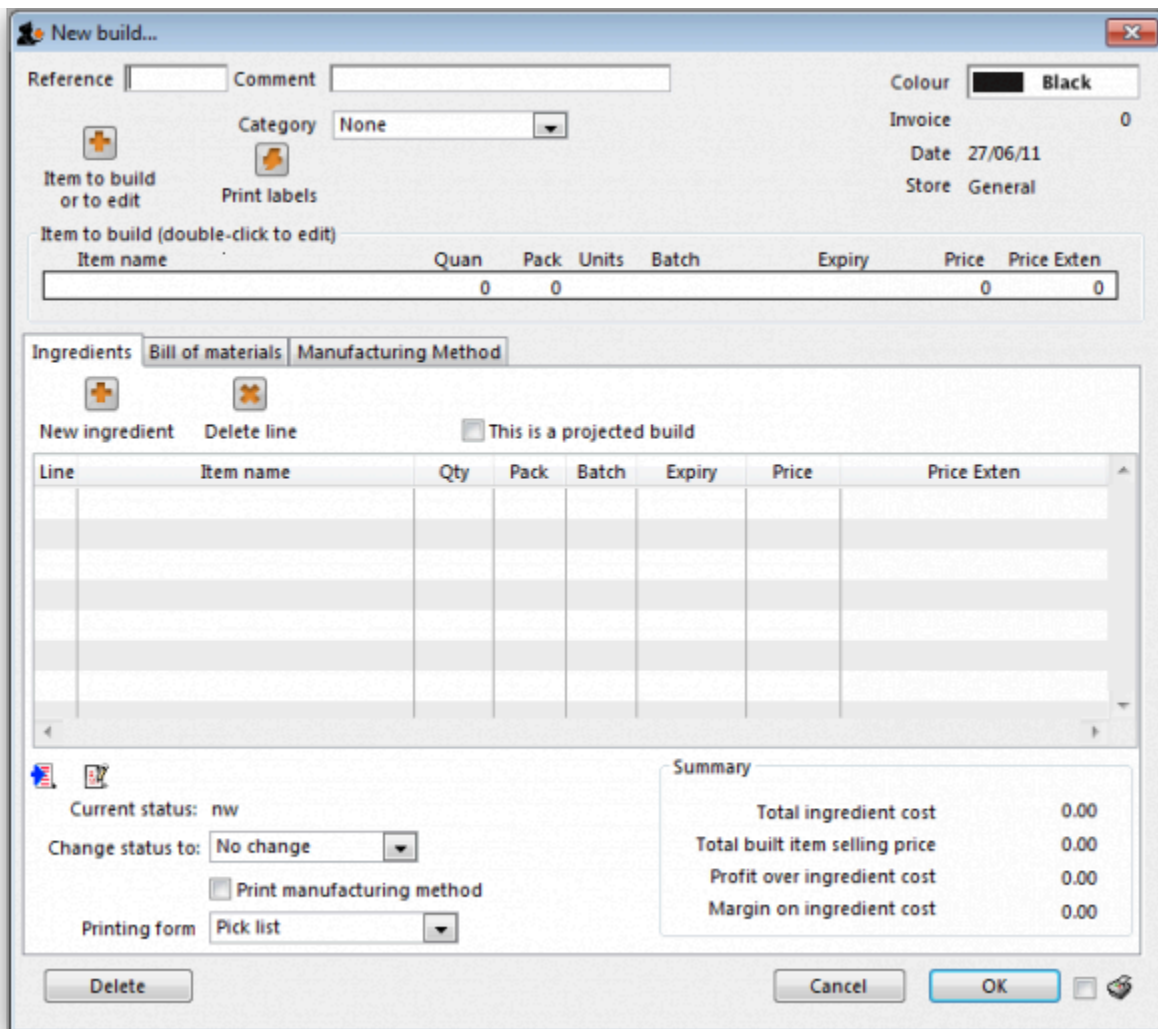
Total ingredient cost	0.00
Total built item selling price	0.00
Profit over ingredient cost	0.00
Margin on ingredient cost	0.00

New build...

From the Items page of the Navigator, click on the New Builds button:



On choosing this menu item you are shown the build entry window:

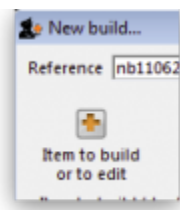


If you have restricted access to builds, you will not be able to see cost prices or the profit summary window at the bottom.

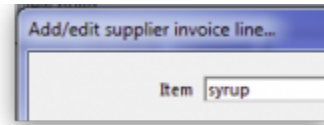
The build window has two parts:

- The top part of the window records the details of the item to be built
- The lower part lists ingredients that are used in the manufacture of the product.

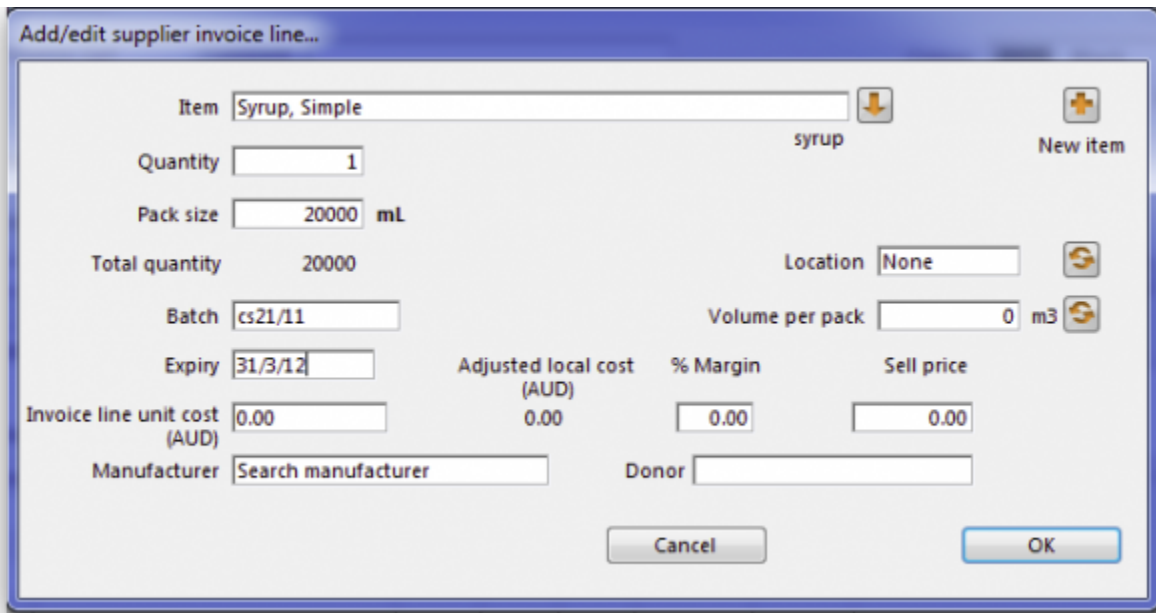
click the **Item to build or to edit** icon



and in the next window enter the name of the product you're manufacturing (Syrup in our example)



and this window is displayed where you should complete the appropriate fields:

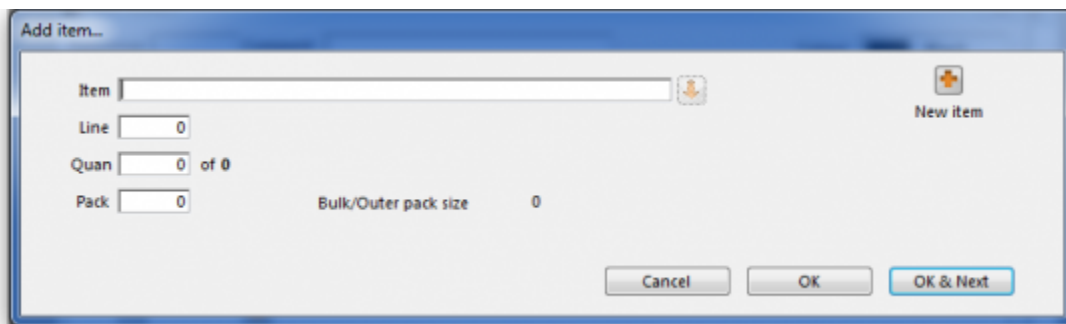


Adding ingredients manually

Note that ingredients can be added automatically from the *Bill of materials* tab. If you regularly build the same item, we recommend that you enter a **Bill of Materials** for the item being built, and use the method outlined under the **Using a Bill of Materials** heading below.

First, if you are entering a projected build (one that you expect to perform in the future), check the **This is a projected build** check box. If checked, all items added will be placeholder lines rather than actual stock. Doing this allows you to enter your manufacturing schedule in advance of ordering raw materials. The schedule will be taken into account when ordering to ensure that you will have enough materials in stock when the time comes to manufacture.

- To add a new ingredient, click the **New ingredient** button. You will be shown the standard window for issuing goods from stock:



- Enter ingredients just as you would for entering a customer invoice.
- Once you have finished entering ingredient lines, click *OK* to return to the main window.
- If you wish to edit a line, double-click it, and change the details.

- To delete a line, double-click it, set it's quantity to zero, then click the *OK* button.

Adding the item to be built.

- To add the item to build, click *Item to build or edit* button. You will be shown the *Add/edit supplier invoice line* window below for receiving goods.

- The cost price for the item is automatically calculated for you. You may enter the margin or the selling price as you prefer.
- Once you have entered the item to build, click *OK* to return to the main window.
- If you wish to edit the item, simply double-click inside the “item to build” rectangle.
- At the bottom right of the window in *Summary* section is a summary of the cost, margin and selling prices for the build.
- Once you are satisfied with the details, click *OK* to enter the build into the system. You will be asked if you want to enter the details into stock. If you say *yes* , the newly created item will immediately be available for issuing to customers. If you click *later* then the stock will not be available until you open the build window at a later date and enter it into stock.
- Note that the ingredients used in a build are considered to have been “sold” for re-ordering purposes, and will be counted in your usage.

Finishing build entry

- Understanding build status codes enables you to know what stage each build is at. The codes are the same as for other transactions.

Each build transaction has a status code:

Code	Meaning
nw	A new build is being entered, but has not been saved.

Code	Meaning
sg	“Suggested”. A build has been entered, but has not yet been confirmed. If stock lines have been entered, raw material stock is reduced so that it is no longer available for other invoices, but the new item is not yet entered into stock. You should leave builds with this status while manufactured items are “in process” , or if it is a projected build for a future date.
cn	“Confirmed.” The item to build has been entered into stock.
fn	“finalised.” The build can no longer be edited

- When you click the **OK** button you may be asked if you want to enter the build into stock. You should only do so once the manufacturing and Quality Assurance (QA) process is complete. You will not be asked this question if there are any placeholder lines (those with a batch of “none”) entered as an ingredient. Such builds are presumed to be for projected manufacturing, and are kept with status **sg** automatically.
- To finalize builds, choose **File > Finalize builds** when the splash screen is showing.

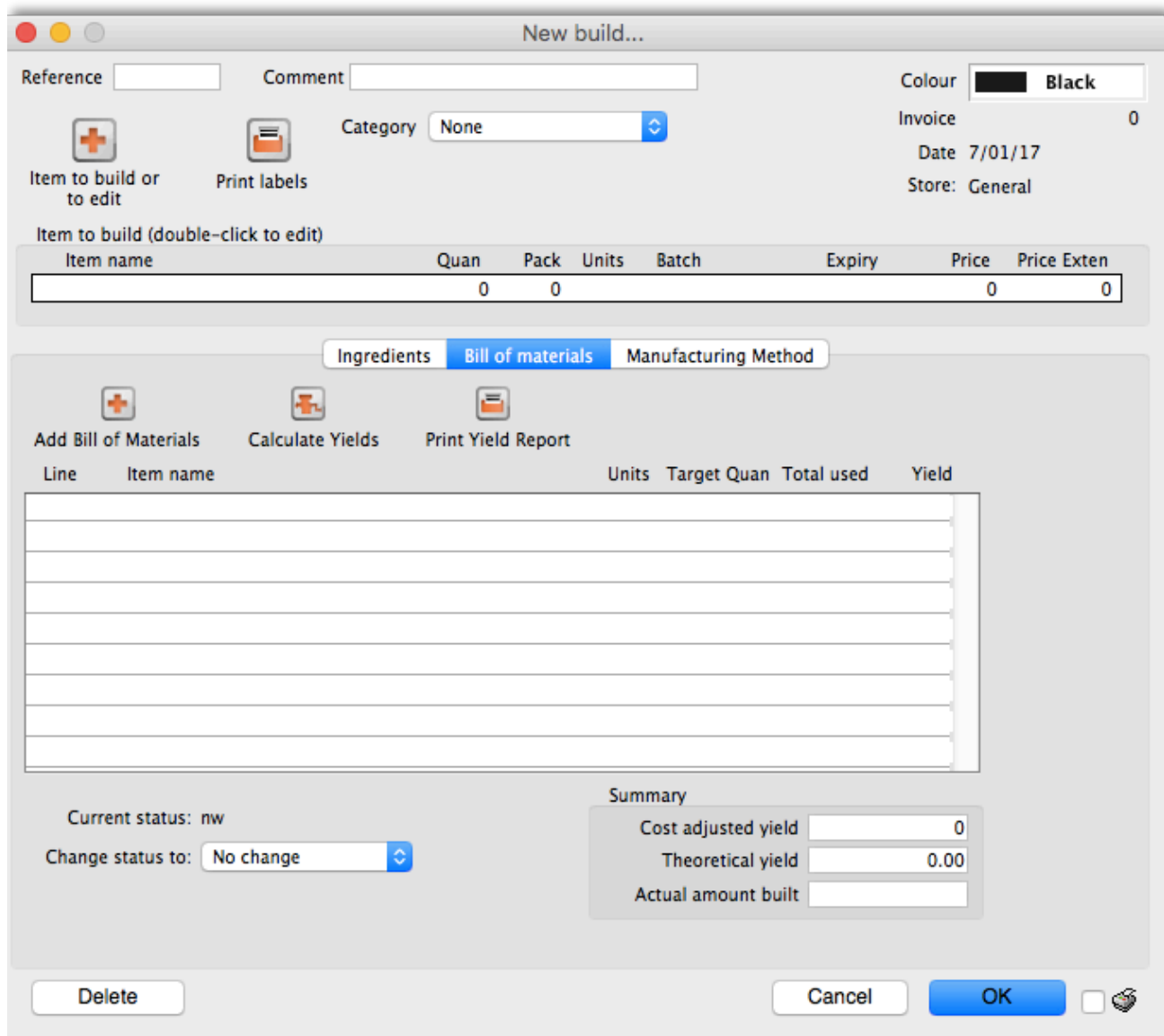
Converting projected builds into an actual build.

- Once your manufacturing of a projected build is about to take place, choose *Item > Show builds ...* to locate the build you want to edit.
- For each line whose batch is equal to “none” (a placeholder line) you will have to double-click it and choose an actual stock line from the item issue window (either by entering the line number or double-clicking the line you wish to use). Once you have done this, the stock you have chosen will be reserved, and manufacturing can take place.
- mSupply® calculates the number of items that will result from your build, and clicking on the *Print labels* icon prints the correct number of labels.

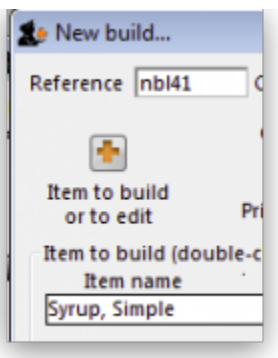
Using a Bill of Materials

A Bill of materials can be thought of as a “recipe” or “formula” for building an item. It records the ingredients, and the quantity of each required to make the finished product. You should create a bill of materials for an item before you come to this screen. This is done in an item's *Item details window*: see here for details. Screenshots in this section are using Simple Syrup as an example, and for this product a Bill of Materials has already been created.

When you click the “Bill of materials” tab in the build window, this window appears:



First you need to choose the item to be manufactured:



in the next window you need to specify the quantity to be manufactured and other details:

Add/edit supplier invoice line...

Item: Syrup, Simple New item

Quantity: 1

Pack size: 20000 mL

Total quantity: 20000

Batch: cs21/11

Expiry: 31/3/12

Location: None

Volume per pack: 0 m3

Invoice line unit cost (AUD)	Adjusted local cost (AUD)	% Margin	Sell price
0.00	0.00	0.00	0.00

Manufacturer: Search manufacturer Donor:

Cancel OK

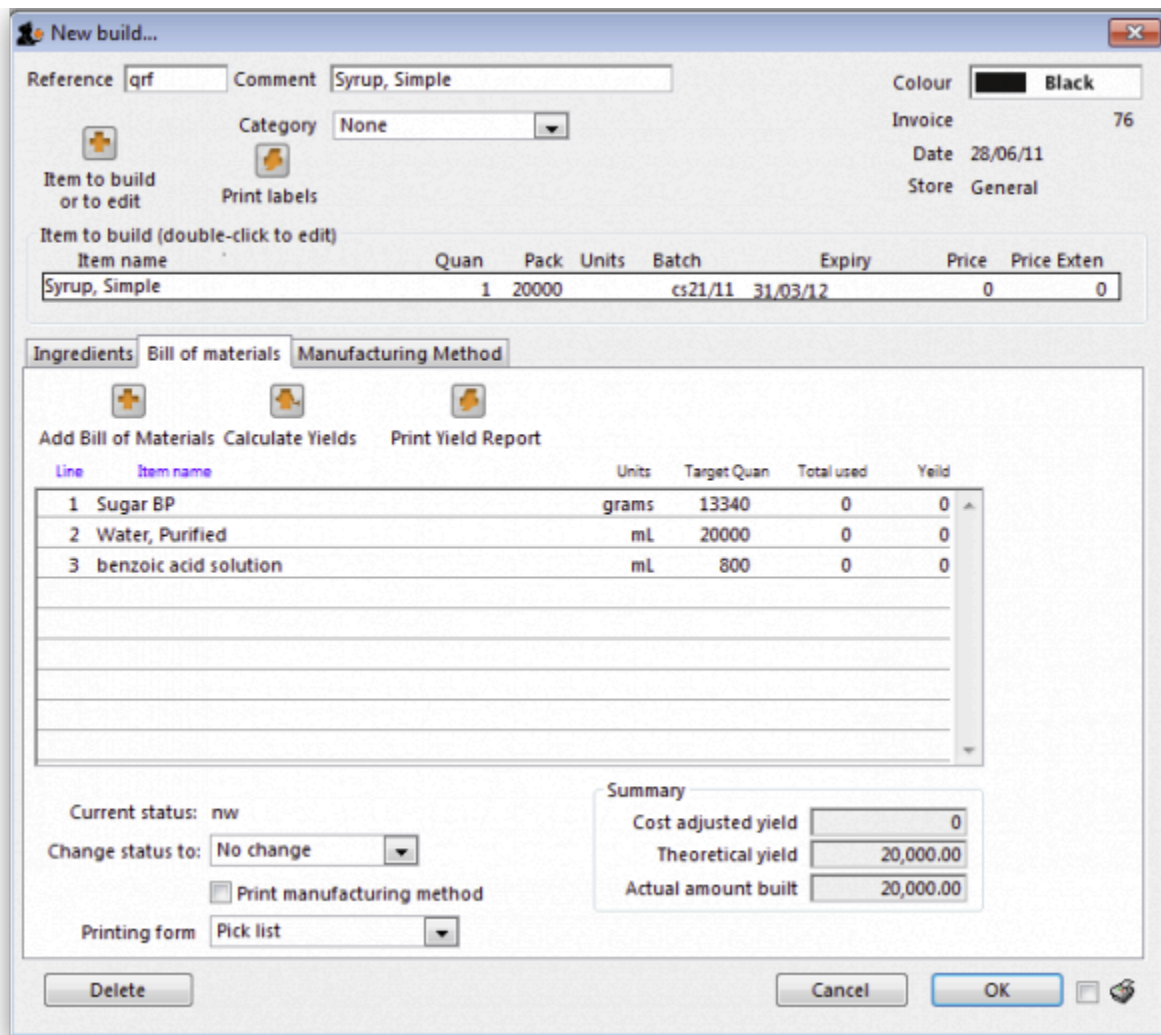
When you click **OK**, you are returned to the **New Build** window, and when you click the **Add Bill of Materials Button**, a window appears where you can confirm or cancel the quantity to be manufactured:

Confirm

You are going to create ingredients for a quantity of 20000 .

Cancel Ok

Assuming the quantity is correct, click **OK**, and you are returned to the **New Build** window, where the open tab is the **Bill of materials** tab. Click the **Add Bill of Materials** button, and the details on the Bill of Materials according to the formula previously entered for Simple Syrup is displayed:

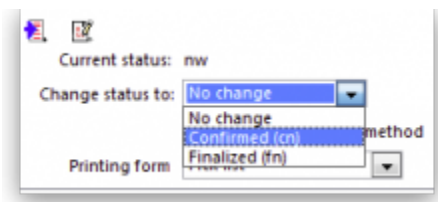


Now click the **Ingredients** tab, where the ingredients are listed, but no stock is attached to any item - they are placeholder items (displayed in red). This is done as mSupply® cannot take into account all the factors that go into choosing an appropriate batch to use for each manufacturing run (The expiry, amount on hand, etc). click each line in turn to select the quantity and batch number of available stock lines for each ingredient. Note that there is a button displayed **Re-distribute all**. Clicking this button will take the “total quantity issued” figure and re-distribute it over the available batches, making it easy to move from using a placeholder line to issuing actual stock. The ingredient is repeated in black with appropriate details displayed. At this time (or later) you can also adjust the amount issued to reflect actual issued quantities and the actual batches of raw materials used, as opposed to the theoretical quantities that are initially entered.

Item name	Quan	Pack	Units	Batch	Expiry	Price	Price Exten
Syrup, Simple	1	20000		bat256	31/12/12	0	0

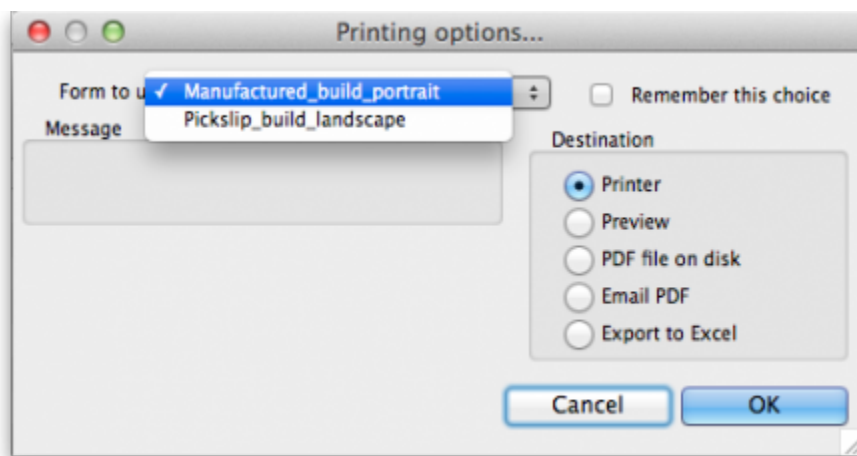
Line	Item name	Qty	Pack	Batch	Expiry	Price	Price Exten
1	Sugar BP	13340	1	none		0.00	0.00
2	Water, Purified	20000	1	none		0.00	0.00
3	benzoic acid solution	800	1	none		0.00	0.00
2	Sugar BP	13340	1			0.00	0.00
3	Water, Purified	20000	1	ZM2377	31/07/12	0.00	44.00
4	benzoic acid solution	800	1	BI2310	23/11/11	0.00	2.64

If you are manufacturing the product immediately, the status of the build transaction should be changed to **Confirmed** on completion of the manufacturing process.



Print options:

It's possible to print either a Pick list, detailing the ingredients and quantities, or a summary of the manufactured product. To achieve this, check the print icon in the bottom right hand corner of the window and click the *OK* button. The printing options window will appear and you can choose which document to print:

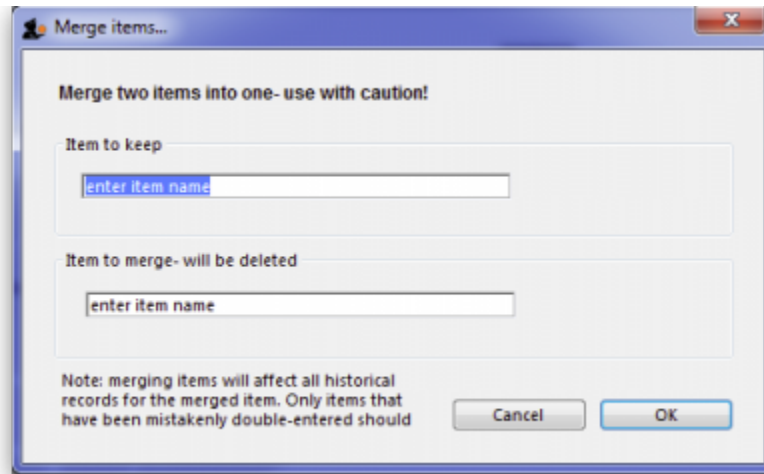


Calculate Yields button: This button (on the **Bill of materials** tab) compares the actual quantities issued and the actual final quantity manufactured with the theoretical amounts that should have been used and made. This allows you to monitor production efficiency. Use the **Print yield report** button to print the yield information if required.

Previous: Locations and Location types Next: Merging items

Merging two items

If an item has inadvertently been added twice, with slightly different descriptions, here is your safety line! Choose **Merge two items...** from the **Item** menu. This window is displayed:



In the *Item to keep* box type the first few characters of the item you want to keep and press the Tab key. Then select the correct item from the list displayed (if only 1 item matches what you have typed it will be put in the box for you without the need for selection).

Now do the same in the *Item to merge - will be deleted* box. The item you select here will be completely replaced with the one in the *Item to keep* box.

Note that when selecting these items you are selecting from all of the items in your datafile, not just those visible in the store you are logged-in to.

When you are ready, click on the OK button. BUT BEWARE:

If you merge two items that are, in fact, different, you will really mess things up. There is no undo function for this operation, so you will be begging us to help you fix the mess, and we charge a special penal rate for people who do things after having been warned 😊

Notes:

1. Merging replaces all the instances of the item selected to delete with the item selected to keep throughout everywhere your datafile.
2. Merging items affects all historical records except for item names on finalised transactions, which will retain the original name for safety reasons.
3. Items that either have a bill of materials or are used in a bill of materials cannot be used for the item to delete/merge. If you try to do so, you will be warned.
4. If the item you are merging/deleting has stocktake lines associated with it, these stocktake lines will be deleted, as you can't stocktake a non-existent item (except if you're Harry Potter).

Previous: Building (Manufacturing) Items Next: Ad hoc items

Ad hoc items

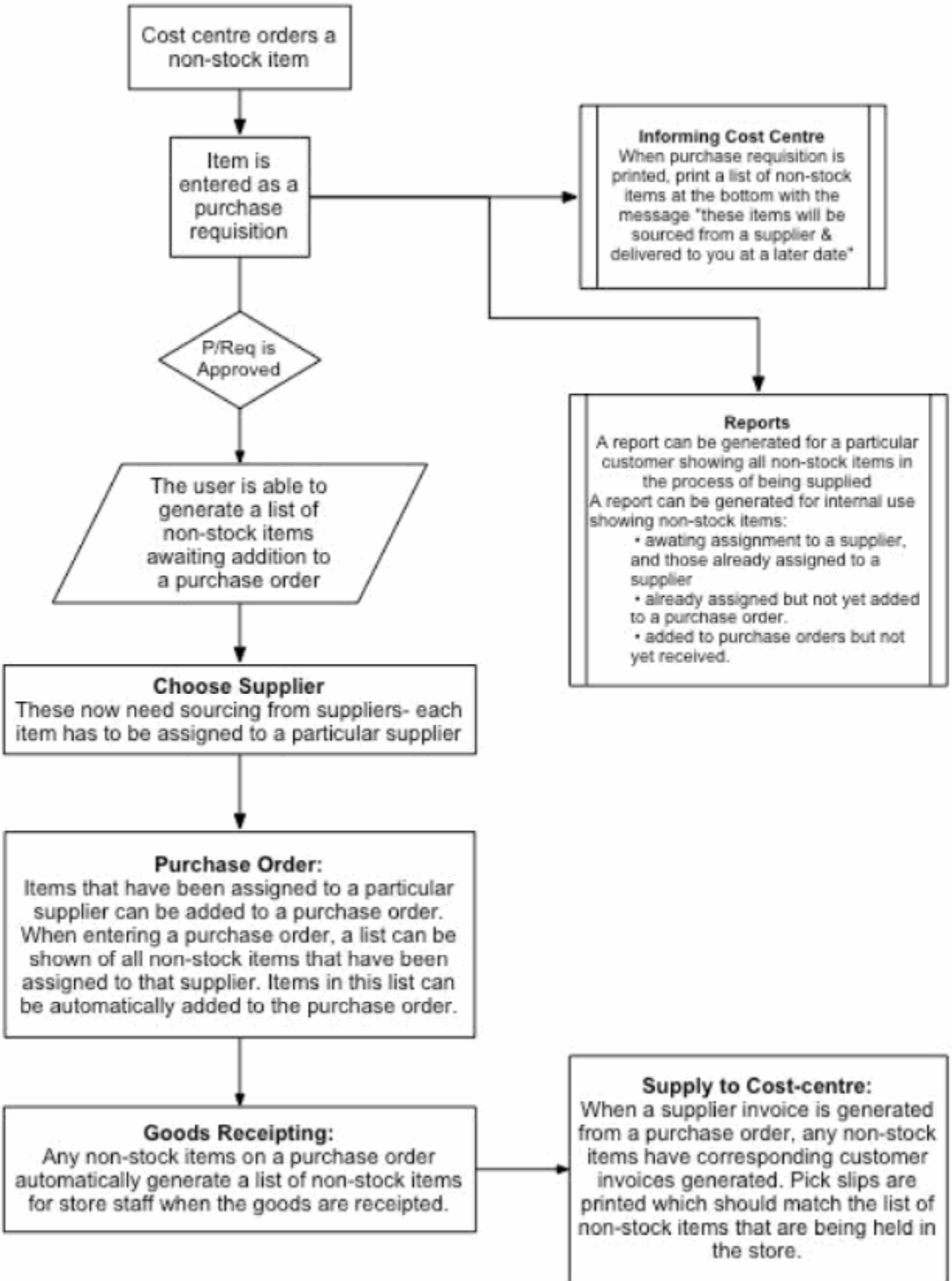
From the **Item** menu, choose **Ad Hoc items...**

This feature requires activation in **Preferences > Invoices 1**

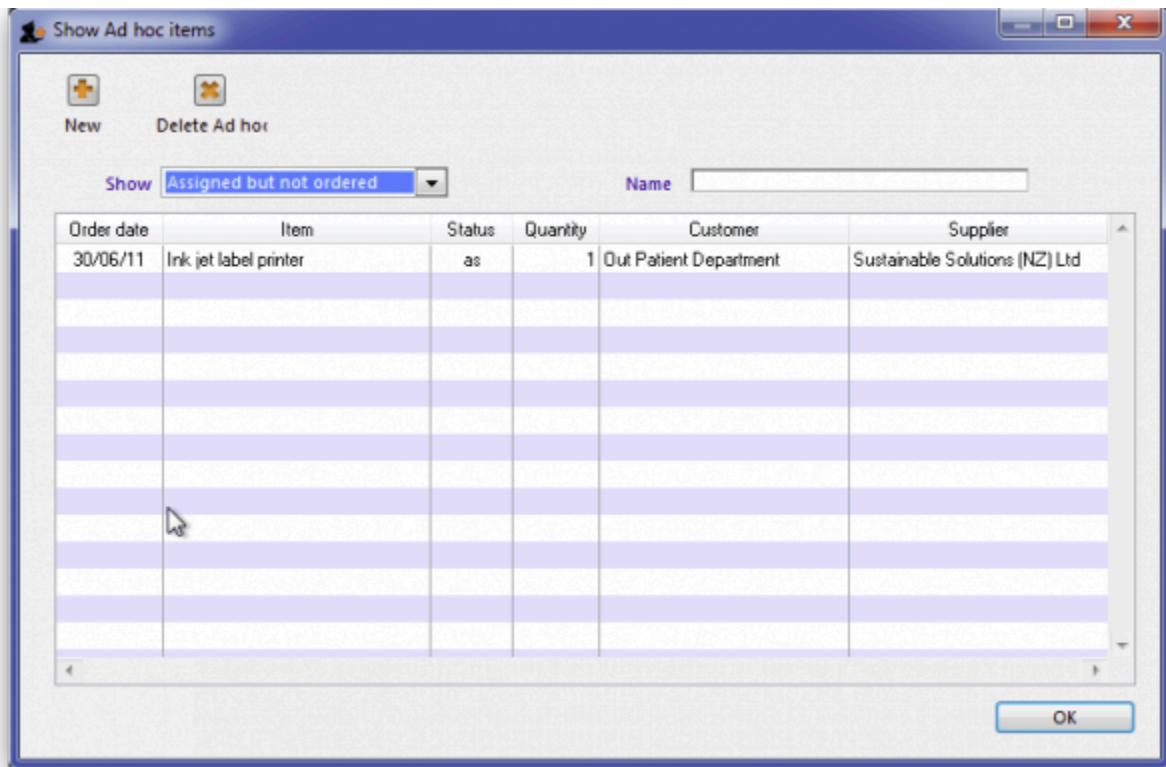
mSupply® defines Ad Hoc items as items that you don't keep in stock, and that you never will keep in stock. An example of an Ad Hoc item is a specialised item of diagnostic equipment which you would purchase on one occasion only. When a customer orders an item that you decide will be a “one-off” purchase, you can enter it as an Ad Hoc item.

Ad Hoc items differ from non-stock items in only one respect; they are purchased once. Non-stock items are items which, although they do not feature in your stock list, may be purchased with some degree of regularity.

The following diagram outlines the work flow for Ad Hoc items:



When you choose *Items > Ad Hoc items*, the following window is displayed:



From this window you can view Ad Hoc items, add new items, delete items and edit existing items.

The "Show" Drop-down list

This drop-down list allows you to view Ad Hoc items by their status. Ad Hoc items can have the following status codes:

Status code	Meaning
== un ==	The item has not yet been assigned to a supplier- think of this as your "to-do" list
== as ==	The item has been assigned to a supplier, but has not been placed on a Purchase Order. These items also need action.
== po ==	The item has been added to a Purchase Order, but the goods have not arrived.
== fn ==	The item has arrived from a supplier and been invoiced to the customer

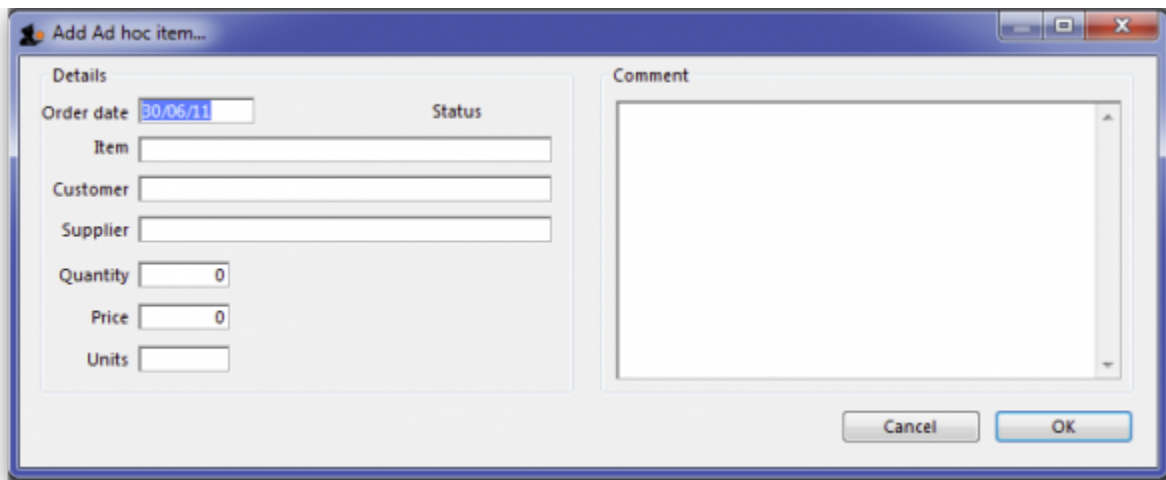
The "Name" field

Enter part of a customer or supplier name in this field and press *Tab* to show a list of matching names. Choosing a supplier will show items assigned to that supplier. Choosing a customer will show items supplied or to be supplied to that customer.

Once you have chosen a name you can fine-tune the list displayed for that name.

The "New" button

Clicking the "new" button displays this window:

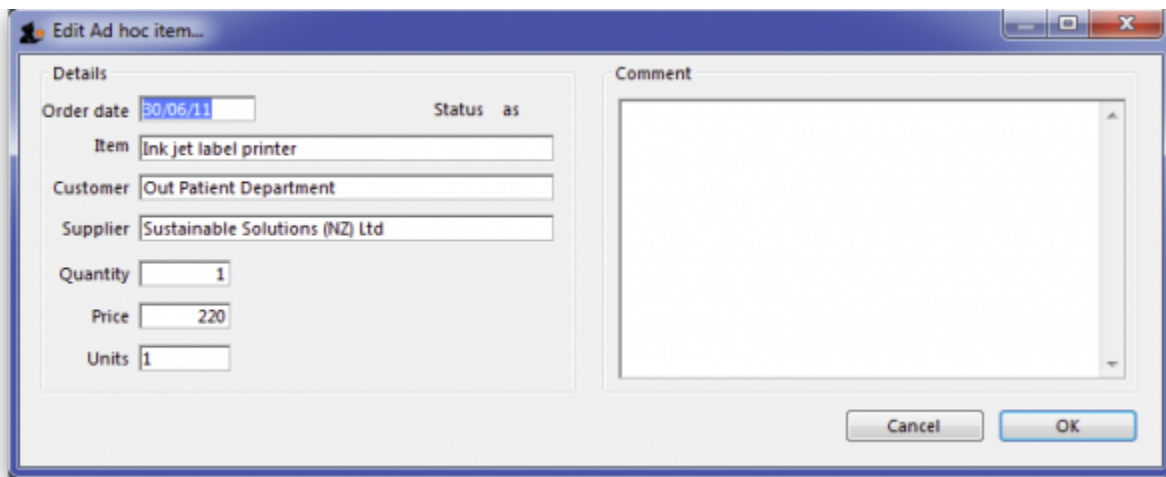


From this window you can add an item name, the name of the customer, then name of the supplier, the quantity to order, and add a comment.

When the customer orders an item, you may not know who the supplier is. You can just leave the supplier name blank.

Editing an Ad Hoc item

To edit an item, double-click it in the list to display the item details, and a window **Edit Ad hoc item**, almost identical to the **Add Ad hoc item** :, appears where you can edit the required details.



Adding Ad Hoc items to a Purchase Order

When you are making a Purchase Order for a particular supplier, you can click on the **Ad Hoc items** Tab to view a list of Ad Hoc items you have assigned to that supplier, allowing you to add them to the Purchase Order. More information is available here - The Ad Hoc items tab.

Previous: Merging two items Next: Non stock items

Non-stock items

There are occasions when you need to order an item that you wish to add to your stock list, but which you currently do not wish to keep in stock. mSupply® treats such an item as a **Non-stock item**. Although you do not hold any stock of a non-stock item, it is quite likely that you may place regular orders for it.

Note that **Ad hoc items** are different in that:

- they do not display in your list of items
- it is likely that an ad hoc item will be ordered once and once only

The procedure for dealing with non-stock items is:

Step 1

The example used here to demonstrate this is for non-stock item Penicillamine 250mg tablets.

From the **Item** menu, select **New item**, and enter the particulars as you normally do, only this time check the **Non-stock item** box. In the box immediately below, select the customer from the list of customers held in mSupply®.

The screenshot shows the 'Add item...' dialog box with the following fields and values:

- Type: normal
- Item code: pcmine
- Item name: Penicillamine 250mg tablets
- Units: each
- Price list:
- Shelf location: SPA
- Preferred pack size: 100
- Category: None
- Normal stock:
- Critical stock:
- Essential drug:
- ATC Category:
- DDD value: 1
- DDD factor: 1
- Weight: 1
- Non stock item:
- Default customer: Dispensary

Buttons at the bottom: Cancel, OK, OK & Next.

- To place an order for a non-stock item, a customer must be identified, and this customer becomes the **default customer** for the item.
- Should you need to order the same item for a different customer at a later date, the new customer is entered at the time the Purchase Order is being created.

Step 2

Create the Purchase Order which will include the non-stock item. (from the navigator - *Suppliers/+Purchase Order/+new line*)

Edit order line...

General Usage Quotes Receipt history Ledger

Item: Griseofulvin 250mg tab/cap Store: General gri250t

Location: Volume per pack: 0 m3 Shelf location: None

Original order

Number of packs	Pack size	Total Quantity	Units (ea,kg,ml)	Supplier item code
50	100	5000	ea	to711g

Pricing for this item

Price before discount	discount (%)	Price after discount	Extension
42.0000	0	42.0000	2,100.00

Requested delivery date: 00/00/00 Expected delivery date: 00/00/00

Stock

On hand	On backorder	On order	Received on previous deliveries
15,000	0	0	5,000

Adjusted order

Number of packs: 50 Pack size is same as for original order Total Quantity: 5000

Comment (will print on purchase order)

Notes

Show notes on Goods Received

Cancel OK OK & Next

Step 3

On receiving the order, proceed as usual to the **New Goods receipt** form.

In our example, we have ordered 2 items from IDA, one of which is our non-stock item, Penicillamine 250mg tablets, and it appears in blue.

The Goods Received must be finalised in order to create the Supplier invoice:

Supplier invoice

Name: International Dispensary Association Entry date: 30/06/2011 Colour: Black

Their ref: ida Confirm date: 00/00/00 Invoice number: 1,823

Comment: goods received ID : 909 Period: Unconfirmed or none Status: nw

Goods receive ID: 909

Purchase Order ID: 432

Entered by: Sussol

Store: General

Category: None Default Donor: Entered by: Sussol

New line Delete line

General Summary by Item Summary by Batch Price

L...	Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1	SPA	Penicillamine 250mg tablets	1	100	GZ202-6	31/08/01	0.00	0.00	0.00
2	LTE	Tetracycline 1% eye oint	20	50	tro8411	30/09/13	11.25	11.25	225.00

Other charges

Item(s): Amount: 0.00

Subtotal: 225.00

0 % tax: 0.00

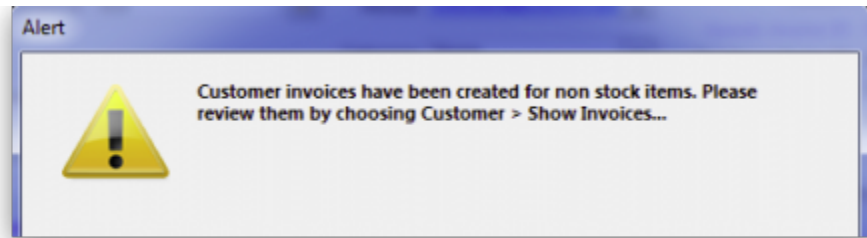
Total: 225.00

Hold Export batch: 0 Margin: 0.00

Finalize

OK & Next Delete OK

Uncheck the *Hold* box (bottom left corner) then click on OK, and this *Alert* message is displayed:



advising you that 'Customer invoices have been created for non stock items.....': From the main menu, choosing **Customer > Show invoices** allows us to select and process the invoice which has been created automatically for the non stock item for our customer, the Dispensary.

Customer invoice

Name: Confirm date: Colour:

Their ref: MH01 Period: Invoice: 64,606

Comment: Category: Entry date: 30/06/11

Goods receive ID: 909

Status: cn

Entered by: Sussol

Store: General

New line Delete line(s) Backorders History

General Summary by Item Summary by Batch Transport details

...	L...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
	1	SPA	Penicillamine 250mg tablets	1	100	GZ202-6	31/08/14	0.00	0.00

Other charges Item: Amount:

Subtotal: 0.00
0 % tax: 0.00
Total: 0.00

Hold Finalize Export batch: 0

Previous: Ad Hoc items Next: Managing drug interaction groups

Manage drug interaction groups

This feature is chosen from the **Item** menu

The examples given in this section are included only for the purpose of familiarising the user with the interactions feature of mSupply and how to use it. Use of this feature is the responsibility of the user, and Sustainable Solutions® bears no liability whatsoever for any consequence of inappropriate use.

Drug interaction groups allow you to specify groups of items that interact with each other, and then prepare a warning message to be displayed if these items from interacting groups are issued to the same patient.

You can set up interactions in store mode, but warnings will only appear in dispensary mode.

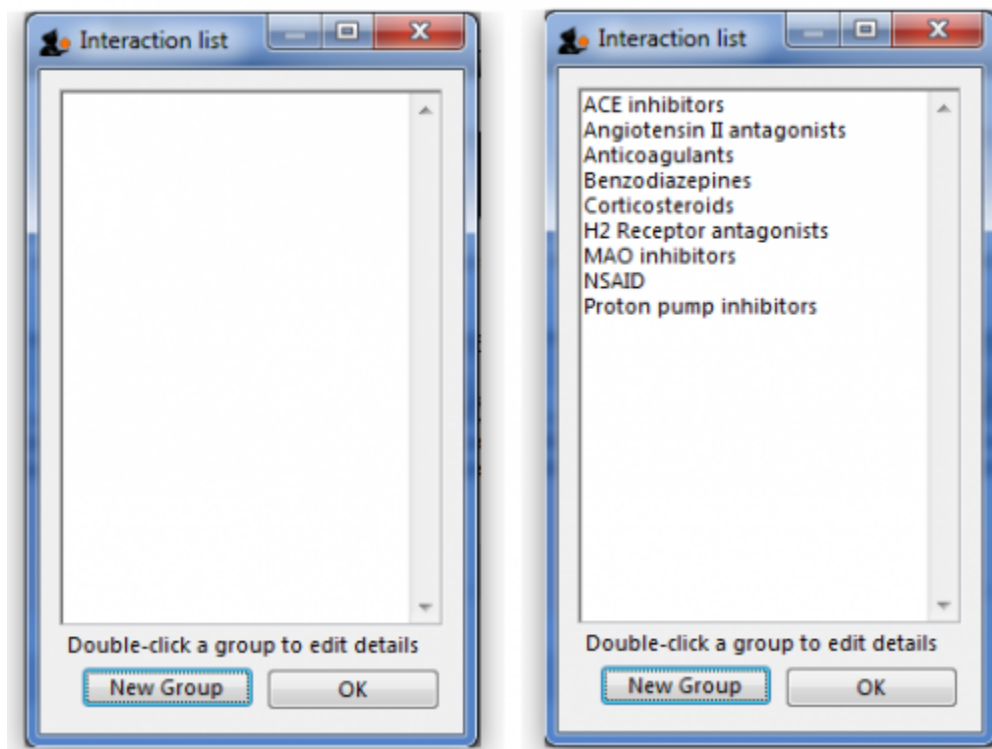
To use this feature, it must be set up, and these are the steps:

1. Choose a way of defining interaction groups. A number of systems are in use or are under development, and the internet is a useful resource for further investigation.
2. Define which items are in which groups.
3. Add interactions between groups.

Let's look at each of those steps in turn

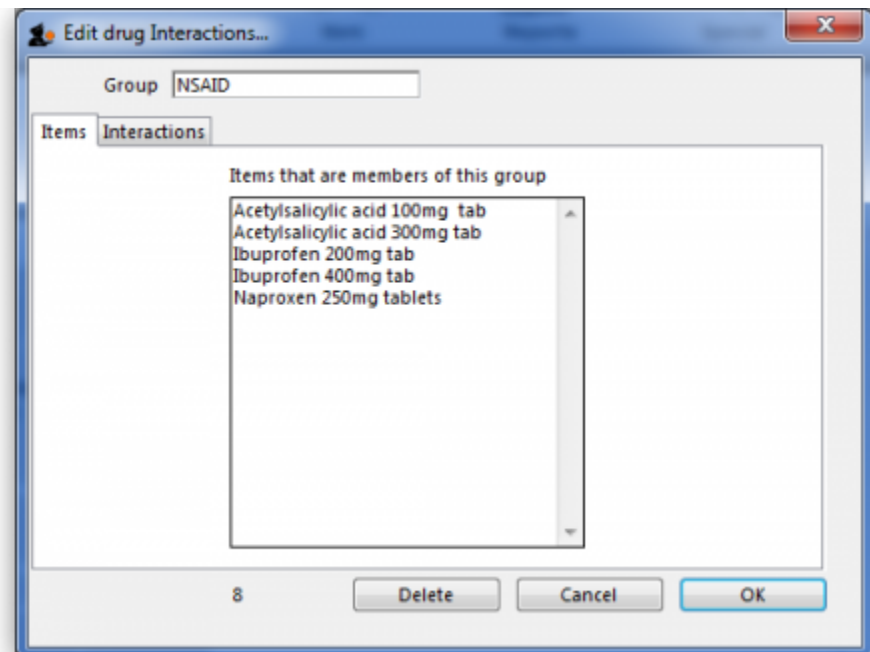
Defining interaction groups

Choose *Items > Drug interaction groups ...* Until you have set up some groups, the list will be blank; a number of groups have been set up for the purposes of this guide, shown below right:



Click the *New Group* button to add a new group, or double-click an entry to edit it.

Double clicking on *NSAID* displays this window:



The window has two tabs.

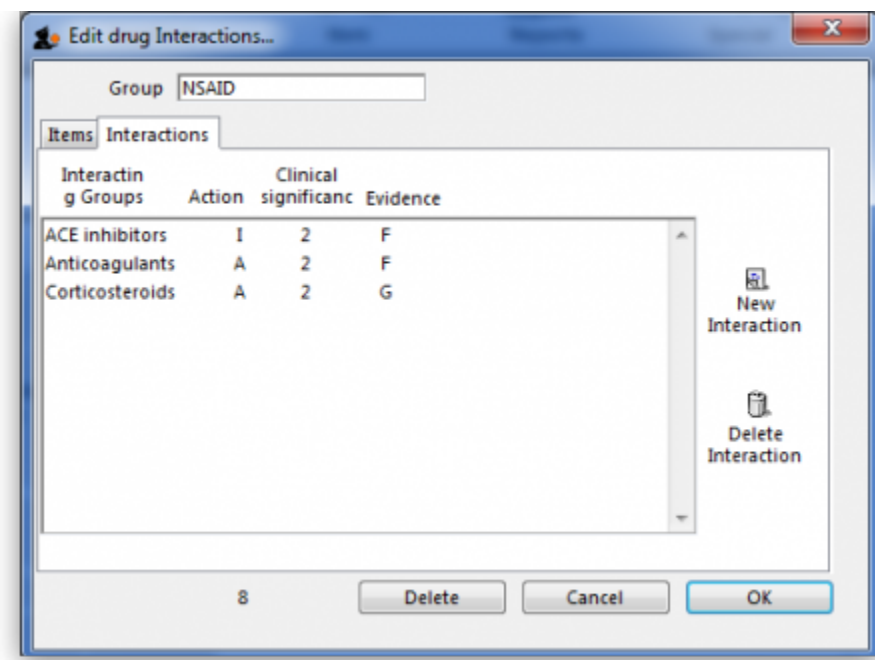
The *Items* tab shows a list of items that have been assigned to the group.

Define which items are in which groups

You assign an item to a group by viewing the item details (Choose *Items* > *Show items*), and setting interaction group from a drop-down list.

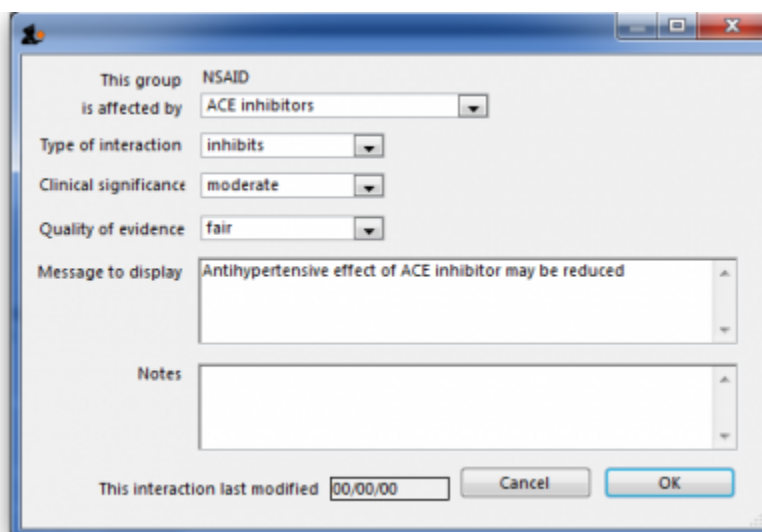
Add interactions between groups

The **Interactions** tab shows a list of groups that the current group interacts with.



This tab has two buttons allowing you to add or delete a drug interaction. (To delete an interaction click on the line you wish to delete before clicking the *Delete interaction* button).

To edit an interaction double-click on the one to be edited. This window appears::



You choose the group that affects the current group, and then enter details about the interaction by choosing from the drop-down lists.

The choices available are:

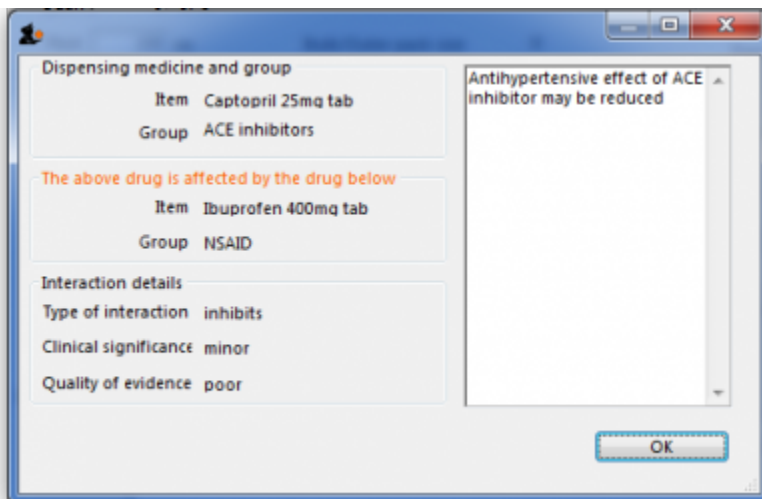
- Type of interaction
 - Inhibits (I)
 - Augments (A)
 - No effect (N)
 - Conflicting evidence (C)
- Clinical Significance

- Minor (1)
 - Moderate (2)
 - Major (3)
 - Unknown (?)
- Quality of evidence
 - Poor (P)
 - Fair (F)
 - Good (G)
 - Unknown (?)

You can enter a message to be displayed when an interaction occurs, and any notes you may want to record. These fields are optional.

When you are issuing items in dispensary mode, in order to display a warning:

- the **Alert when there are drug interactions** checkbox must be checked in **File > Preferences > Drug Interactions**. The warning as shown will be displayed if the patient is being issued with interacting items:
- **Number of days of patient history..** must be set. We recommend setting it to 180, so that any items dispensed in the last six months that interact with the item you are currently dispensing are found.



Previous: Non-stock items Next: Managing Item access

Managing item access

Introduction

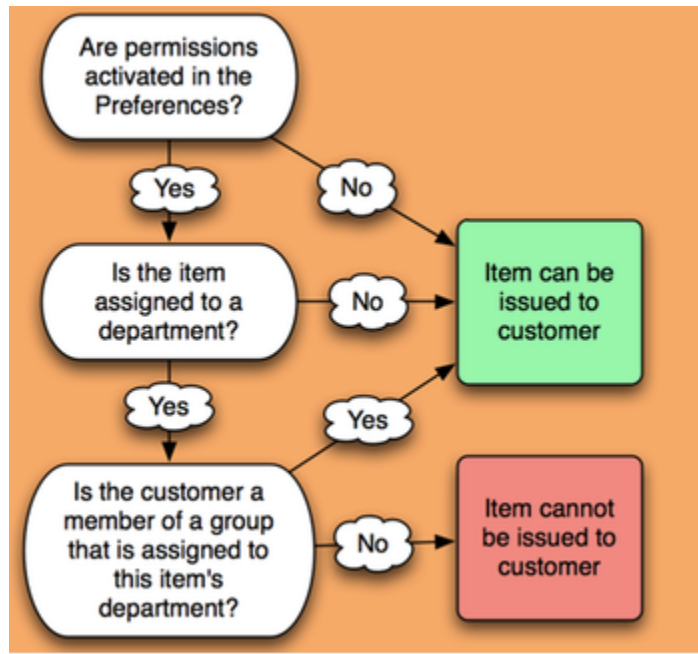
Item departments are a mechanism by which you can restrict item availability to certain customers only.

Item departments are a bit complicated. Here's what you need to remember:

- Each customer can be a member of only one group.
- Each item can be a 'direct' member of only one department. However, a department can be a member of another department, so an item can, in effect, be a member of more than one department
- Each group can have access to items from *multiple* departments.

The **Activate restricted item access by customer group** option must be turned on in **Preferences>Invoices2** before this option to work.

- Here is a summary of how department groups affect whether or not an item can be issued.

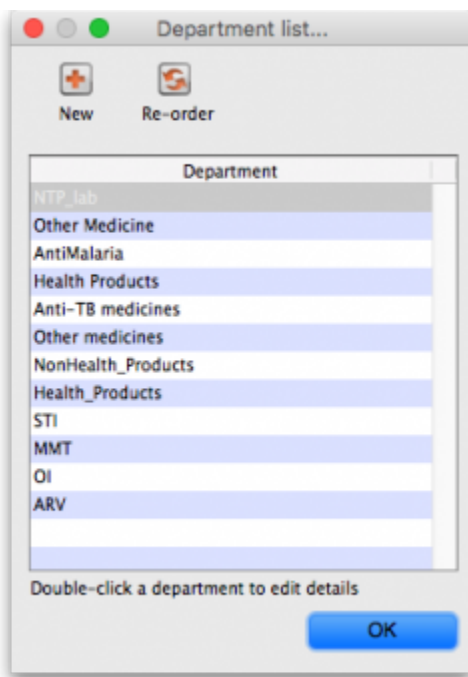


- When you attempt to issue stock to a customer whose group does not have access to the department of the item you are issuing, either a warning will be displayed or mSupply® will not allow you to issue the stock - depending on how your preferences are set.
- Items that are *not* in any department can be issued to *any* customer

- Items that *are* members of a department can *not* be issued to any Customers that are *not* members of a group.

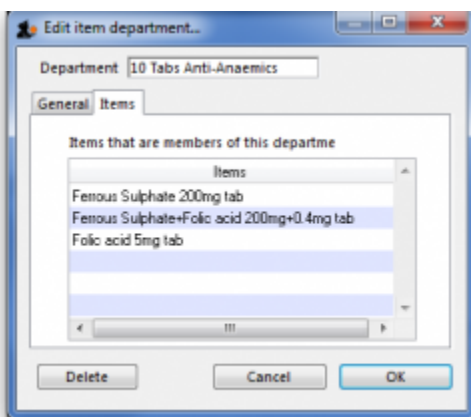
Creating and editing item departments

Choose **Show departments** from the **Item** menu displays the **Edit departments...** window. This is where you are able to create and edit item departments. Once you have created departments the window might appear something like this, and you are now ready to assign items to a department:



View item departments

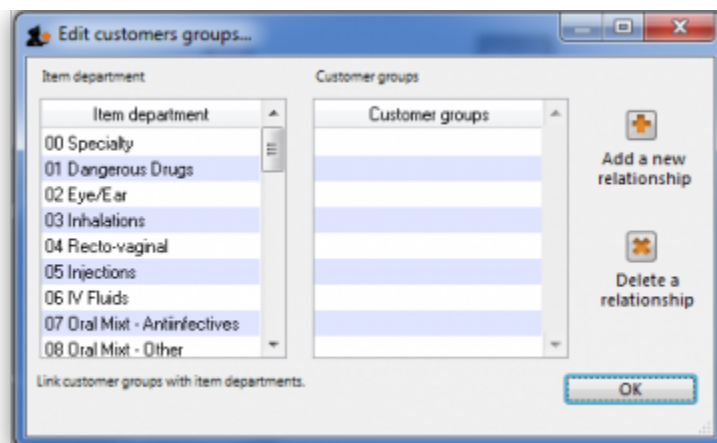
Taking as an example the department **Anti anaemic tablets**, the items in the department are shown by clicking **Show item departments** on the **Item** menu, and then double clicking on the Anti anaemic tablets department:



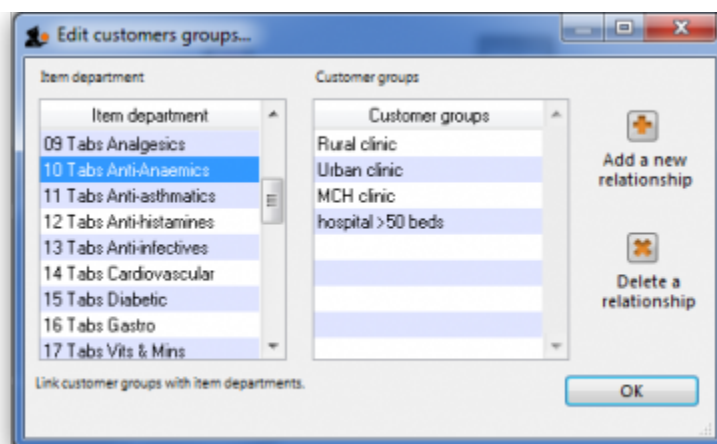
- Each department can have any number and combination of items and departments in it.

Setting up access from customer groups to item departments

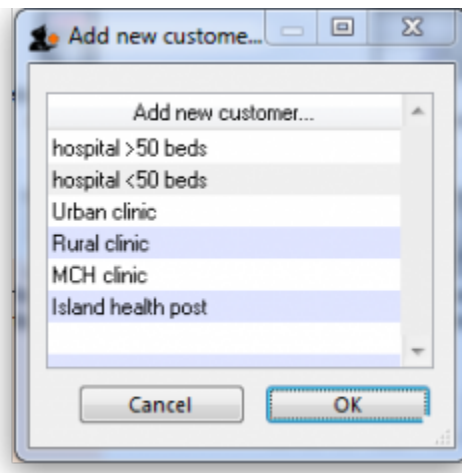
- From the **Item** menu, choose **Manage item access...**, and this window is displayed:



- The left hand list shows the available departments
- The right hand list shows the customer groups that presently have access to the department which is highlighted on the left hand side.
- The example shown identifies the four customer groups which are linked to the Anti-anaemic item department:



- The icons on the right side allow you to add and/or remove groups that have access to the highlighted department.
- Clicking the **Add a new relationship** button shows a list of groups you can add:



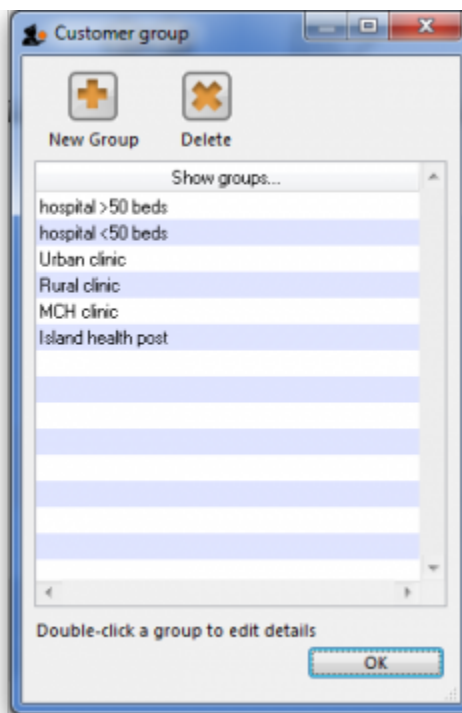
- Double-click (or click and then click OK) to add a group to the current department. You will be given a warning if you try to add the same group twice.

Show groups...

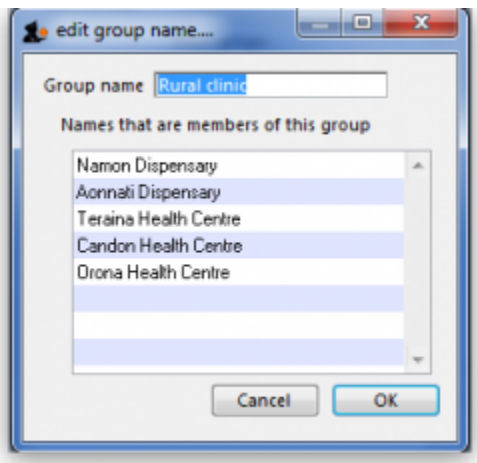
Customer groups can be used to group customers (or suppliers) together for reporting purposes, and also to set up an item restrictions scheme, allowing some items to be issued only to certain customers.

An explanation of how to set up a restriction scheme is in .

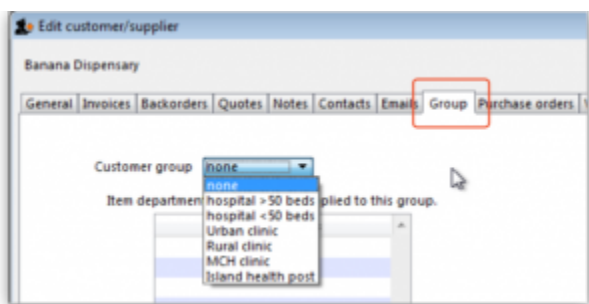
The groups window allows you to set up group names:



- Click the **New group** button to add a new group.
- Double-click an entry to edit its name:



- You can enter or edit the group name in the top field.
- The list displays all names which are members of this group.
- Click the **Delete** button to delete a group. You can only delete groups that have no names as members. You can remove group members from the **Groups** tab of the name viewing window (From the **Customer** menu, choose **Show Customers** and find the required customer in the usual way.)

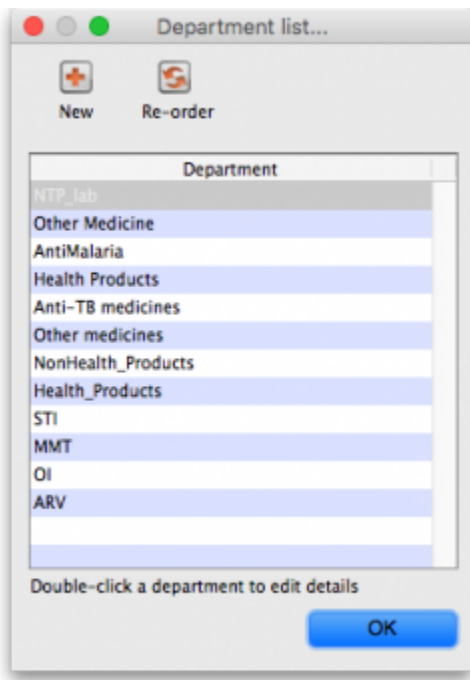


- The drop down list displays the group to which this customer belongs, and to remove the customer, make sure **none** is selected from the drop down list; to assign the customer to a different group, highlight the new group in the drop down list.
- Click **OK** to leave the window.

Departments

Overview: A manufacturer might create departments for raw materials, packing materials, and quality control reagents. A drug store or hospital might create departments according to dose form or according to pharmacological classification, etc.

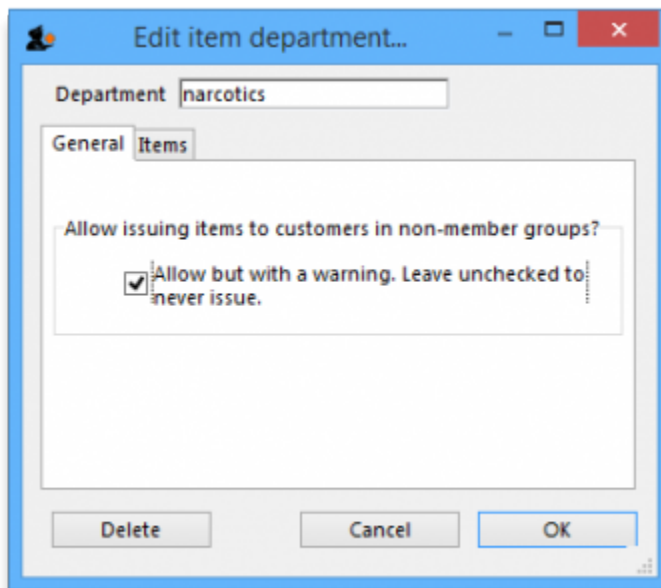
From the **Item** menu, choose **Show departments ...**; you are shown a list of departments:



By default the list displays in alphabetic order; clicking on **Departments** toggles between alphabetic order and reverse alphabetic order; you may also drag and drop individual departments to any position in the list to suit your own requirements, and on clicking OK you will be asked whether or not you wish to save the list in the order you have specified.

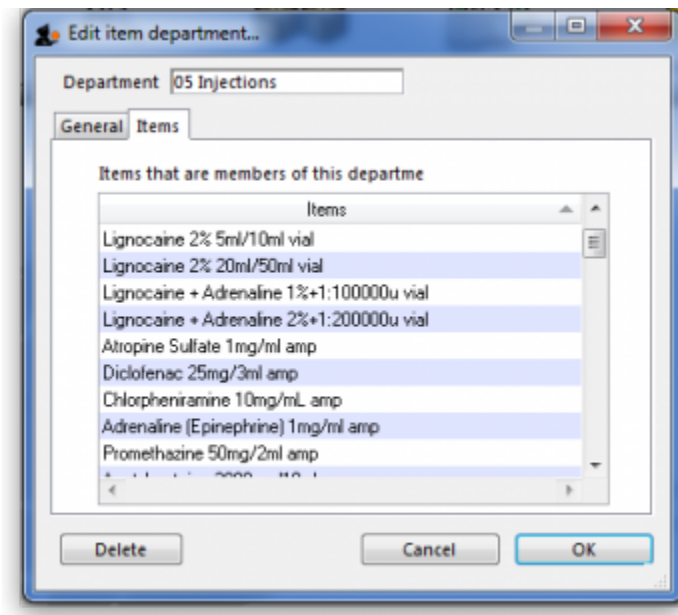
To add a new department, click the **New dept** button.

To edit a department, double-click the department you want to edit. You are shown a window allowing you to edit the department name:



The radio buttons allow you to choose what will happen when you attempt to issue an item to a customer who is not a member of a linked group. Either the user can be warned or the issue can be disallowed. This only applies if you have **Activate restricted item access by customer group** turned on in the Preferences - otherwise you can ignore this setting.

The **Items** tab displays a list of items that are members of the group you are viewing:



To delete a department

Double-click it to display the entry window, then click the **Delete** button. Note that you can not delete a department that has item members. You will be warned if you try to do this. To delete a department with Items, click the items tab and note the items that are members, then edit those items (using the **Items > Show items ...** menu command) and set their departments to either none or a different department. You will then be able to delete the department.

Previous: Managing drug interaction groups Next: Prices in mSupply

Prices in mSupply

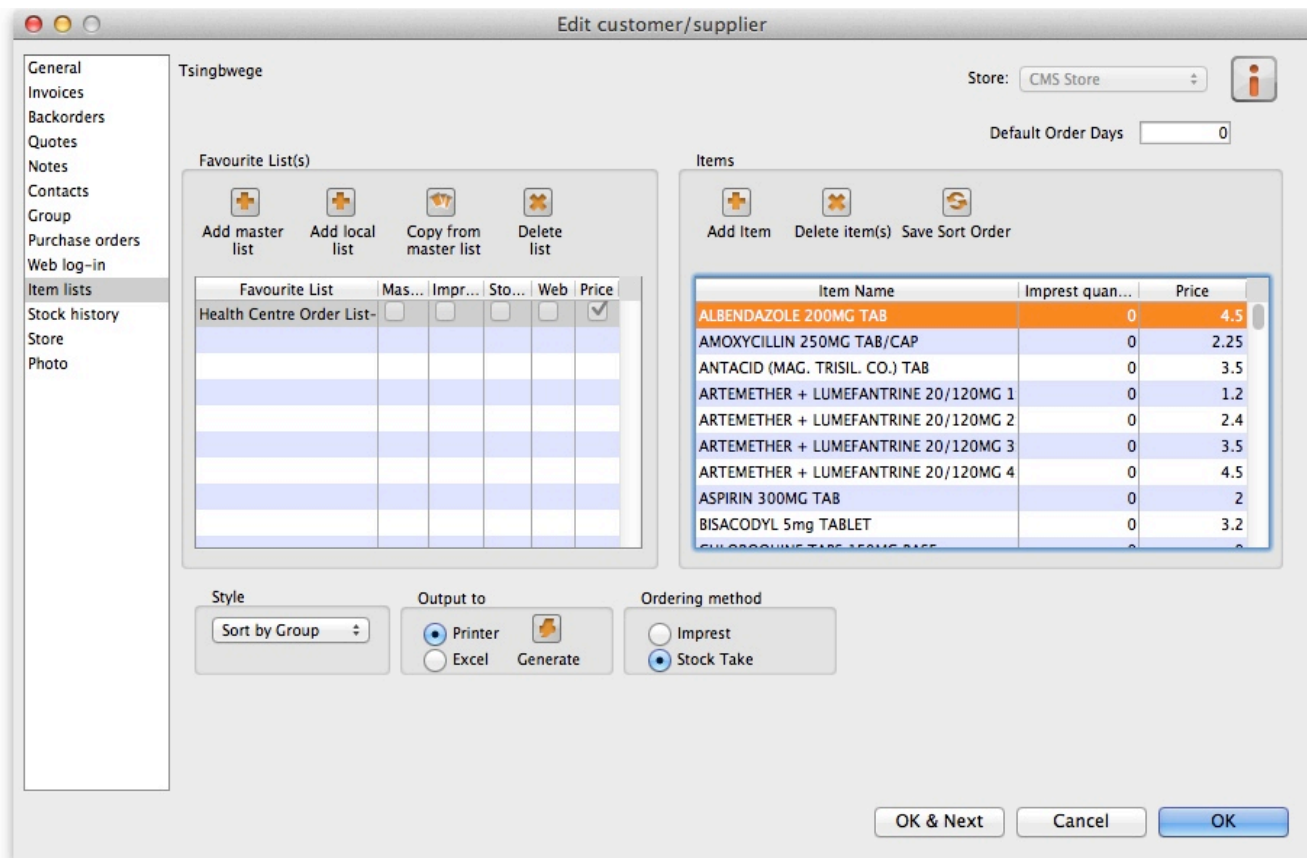
The price you charge customers for your goods is, of course, very important. mSupply provides you with several different ways to set the selling price of your goods. Here they are:

- Each supplier has a margin field that determines how much to add on to the cost price when buying from that supplier
- Each item has a margin field that determines how much to add on to the cost price when buying that item
- There is a preference (**File > Preferences > Invoices 1**) which controls how these 2 margins relate:
 - **Item margin overrides supplier margin on supplier invoices**
 - If this preference is ticked then the item margin will be used instead of the supplier margin. If it is unchecked then the supplier margin will be used instead of the item margin.
- You can set custom margins for each customer group (**File > Preferences > Invoices 2**)
 - **Allow editing selling price on customer invoice lines**
- You can fix the item price under the **General** tab in the **Item details** window.
 - **Default sell price of preferred packsize**
 - Note that setting an item price here will set the price of **new stock** as you receive. It will not affect the price of existing stock- you can change existing prices if you have permission to do so by viewing an item and going to the “Stock” tab.
- You can set item prices when setting up a data file by importing an item list. (see below)

Per customer pricing

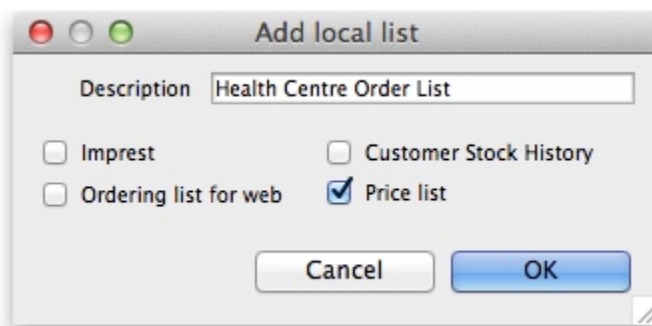
Alternatively, individual prices can be set for each customer. This can be done in the **Edit Customer/Supplier** window which you can find by:

- going to the **Customer** tab of the Navigator
- click on the **Show Customers** button
- find the customer you wish to customise prices for
- double click the customer line
- choose the **Item Lists** tab (see below)



To customise the pricing, add a list to the **Favourite Lists** column (either by clicking **Add master list**, **Add local list** or **Copy from master list**) or edit an existing list by double-clicking on it. Check the **Price list** checkbox from the window that comes up and any other checkboxes that you require.

- You only need the Price list check box marked to customise prices
- Only one list per customer can be price customised



Make sure the list is selected and then go to the **Items** section of the window. Enter the corresponding prices that you would like to assign to each item for that customer by clicking on the item and then clicking on the price ("0" by default). You can also add items to the list by clicking **Add item** and entering the item name and the price in the window that appears. The customer will now be charged the prices set in the list instead of any other price set.

Previous: *Managing Item Access* Next: *Repacking items*

Splitting a stock line

The Split feature of mSupply provides us with the ability to break down stock into smaller pack sizes, consolidate it into larger pack sizes or move part or all of a stock line to a new location. Here's how to use it:

- From the **Item** menu choose **Show items** to find the item to be split
- Enter the start of the item name and click **Find**
- Once the **Item details** window is displayed, choose **Stock** from the side bar list and you will see this window:

Item details...

Item name: Amoxicillin 250mg cap Store: General

Show zero lines Print **Split** Update sell prices Show related invoices Consolidate

Line	Available	Total	Pack	Hold	Batch	Manufacturer	Expdate	Supplier	Location	Cost Price	Sell Price	Status	Total Volume
1	0	200	1	<input type="checkbox"/>	1005108		29/5/13	bouchm	TAB	0.02	0.02		0
2	27750	27950	1	<input type="checkbox"/>	1005108		29/5/13	bouchm	TAB	0.02	0.02		0
3	0	1001	1	<input type="checkbox"/>	1005108		30/5/13	bouchm	TAB	0.02	0.02		0
4	1490.669	15.869	1000	<input type="checkbox"/>	1005108	YXKP	30/5/13	bouchm	AAA	16.29	16.29		0

Stock

Minimum stock: 0 Total stock value: 25,276.52

Stock on hand: 1,545,020 Average unit cost: 0.01

Stock on order: 0 Total Volume: 0.00

Non stock items

Non stock item:

Default customer: None

Days Cover

Based on: 12 months usage:

For stock on hand: 929 Generating an order for: 0 days stock

Including stock on order: 929 will order a quantity of: 0

Delete OK & Previous OK & Next Cancel OK

- Click on the line you want to split, then click **Split**:

Repack stock...

Quantity to split: 1 of 2566

New shelf location: L.03.B2

New pack size: 1

When you click OK a new repack transaction that reflects the change in stock will be created automatically

Print location movement report

Cancel OK

- In the **Quantity to split** field enter the number of packs you want to move/split (if you're repacking the whole lot, then enter the total quantity - the number to the right of the word 'of')
- In **New location** enter the new location for the packs that are being split (leave it alone if you're not changing the location)
- In the **New pack size** field enter the The new pack size for the split items (leave this as it is if you're not changing the pack size!).
- Click **OK** and you're done - the changes will be immediately visible in the item stock details window.

So, to summarise, you can use the split command to perform these actions:

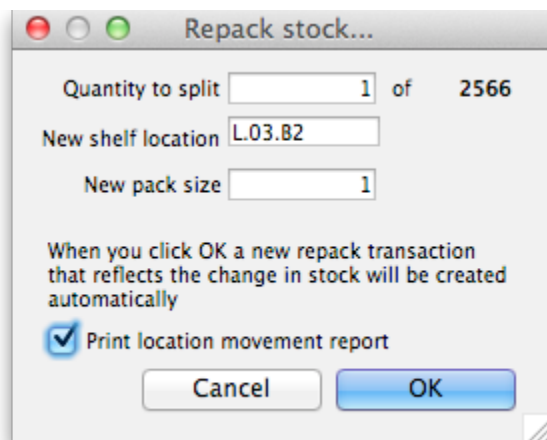
- Change the location of some or all of a stock line
- Repack some of a stock line into a different pack size
- Both of the above at the same time!

Produce a Movement report

mSupply provides a feature to produce a 'Movement report' for stock that you have moved to a different location using the split function. It's useful for printing off and giving to the person who is going to physically move the stock in the store.

Here's how to create one:

- Once you have entered the details of your split/new stock location, click on the checkbox labelled **Print Location Movement report** and click **OK**:



- The following report is displayed:

National Medical Store
Supporting a Healthy Solomon Islands
Kukum Highway Ranadi, Honiara, Solomon

Our ref: _____

Page 1 of 1

Item code 2011
Item name ACRIFLAVINE 0.2% IN SPIRIT 70% BOT/50ML

Original			
Location	Pack	Batch	Quantity
L.03.B2		541/542	

--->>

New			
Location	Pack	Batch	Quantity
		541/542	
M.01.A1		541/542	

From this location **To this location**

- Note that the original and new locations are clearly identified so a printed version of this report can be easily referred to when physically carrying out the move in the warehouse.

Previous: Show items with stock Next: Stocktakes

Repacking items

Creating a New repack

The command **Items > New repack** will display a window where you can repack a particular item into smaller or larger packs and/or move all or part of a batch to another location. It is a more complex version of the split functionality and will allow you to handle several batches at a time.

1. Choose Item to be repacked....

AMOXICILLIN 250mg TAB/CAP

Invoice : 0
Entry date : 08/08/2013
Entered by : sussol
Store: General

2. Double-click a line to choose a batch

L...	Available	Total	Pack	Hold	Batch	Expiry date	Supplier	Location	Cost pri...	Sell price
1	0	2700	1	<input type="checkbox"/>	ANTUV000	30/06/2014	CMS	TAB	1.86	1.86
2	0	2400	1	<input type="checkbox"/>	ANTUV000	30/06/2014	CMS	TAB	1.86	1.86
3	160100	165100	1	<input type="checkbox"/>	ANTUV000	30/06/2014	CMS	TAB	1.86	1.86
4	116500	116500	1	<input type="checkbox"/>	677120417	30/04/2015	CMS	TAB	1.86	1.86

3. Enter Quantity to be repacked

Quan of 0 Pack size 0 Total quantity used 0

4. Enter details of new line(s) to be created

Quan	Pack	Total	Sell	Batch	Location

Total Sell price 0 Total quantity created 0

Category: None
Comment:
Status: nw
Change status to: Suggested (sg)

Delete Cancel OK

There are 4 steps for creating a repack. The window is numbered from top to bottom to help you follow the correct steps:

1. **Choose item to be repacked:** At [1.] type the first characters or code of the item to be repacked, then press the *Tab* key. If only one item text or code matches your entry, it will be filled in automatically, otherwise you will be shown a standard choice list from where you can select the item.
2. **Choose a batch:** At [2.] double click a line to choose the batch; for repacking, batches cannot be mixed, and a single batch must be used.
3. **Quantity to be repacked:** At [3.] enter the quantity which is to be repacked; the pack size field is automatically completed.
4. **Details of new line(s) - i.e. the repacks:** At [4.] click the **New line** icon to bring up this window calling for the details of the repacks, and enter the details as appropriate.

Note that repacks of different sizes may be created at this stage - e.g. 5,000 Paracetamol tablets may be repacked into 40×50 and 30×100. The **Sell price**, the **Batch number** and the **New Location** are automatically completed, but all these fields may be edited as required.

Not infrequently, because some tablets may be broken, for example, the total quantity of the item re-packed will be less than the quantity selected for re-packing at [2.]. To maintain the accuracy of your stock record, an inventory stock adjustment should be performed - see the stock adjustments section here for this.

Printing a repack

While the status of the repacking transaction is suggested (sg), checking the box beside the print icon will produce a picking slip of the number and size of packs of the original item; once the status is finalised, the same operation will give you the choice to produce a detailed record of the re-packs or a stock movement report (for when you're moving stock - perfect for giving to the people physically moving the stock in the warehouse because it shows what is to be moved to which location).

On clicking the OK button, a transaction is created showing the original line taken out of stock, and the new line(s) put into stock. The total value of the transaction is always zero.

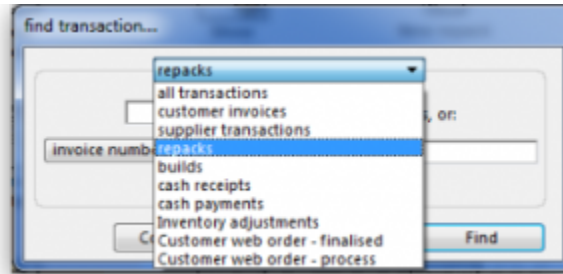
You cannot edit a repack transaction after you have clicked the **OK** button, so get it right the first time! (Tip: You can always “re-repack” an item to adjust a mistake however!)

Deleting a repack

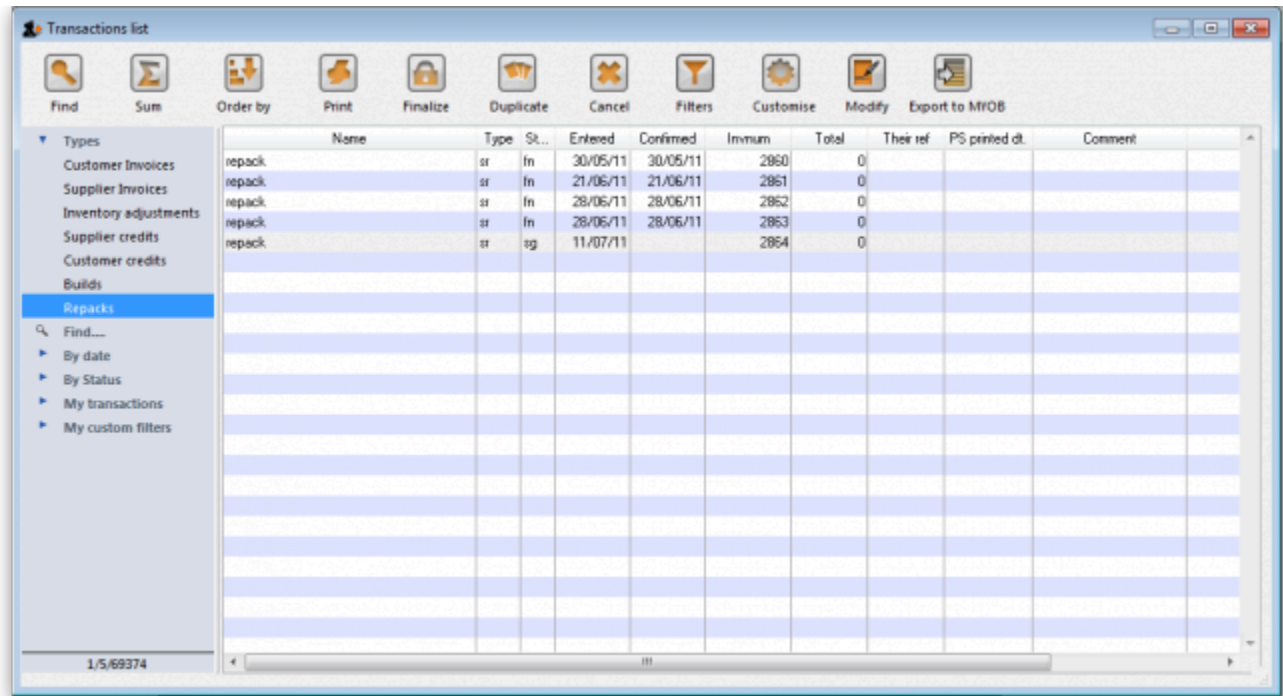
If you click on the **Delete** button, then the repack will be deleted. Only repacks whose status is “sg” (suggested) or “nw” (new) can be deleted.

Viewing repacks

Repacked items can be viewed in the normal transaction list window - (**Item > Show repacks**) and select **Repacks** from the drop down list



Note that repacks created with versions of mSupply® prior to v1.4 will not show up using the “recent transactions” section of the window- you will have to enter the number directly.



Name	Type	St...	Entered	Confirmed	Innum	Total	Their ref	PS printed dt	Comment
repack	sr	fn	30/05/11	30/05/11	2860	0			
repack	sr	fn	21/06/11	21/06/11	2861	0			
repack	sr	fn	28/06/11	28/06/11	2862	0			
repack	sr	fn	28/06/11	28/06/11	2863	0			
repack	sr	sg	11/07/11		2864	0			

Previous: Prices in mSupply Next: Show items with stock

Stocktakes

General

Traditionally, during a physical stocktake, the store is closed, and no transactions may take place until the exercise is completed.

The inconvenience caused by closure of the store varies from minor to significant. The benefit of using mSupply's stocktake module, while requiring that the store is closed while the physical stock check is in progress, is that the store may be opened immediately after the physical count is completed. Entry of the adjusted figures into mSupply® may be made at any convenient time over the next few days.

Having said that normal operation can occur immediately after the stocktake, it is important to note that:

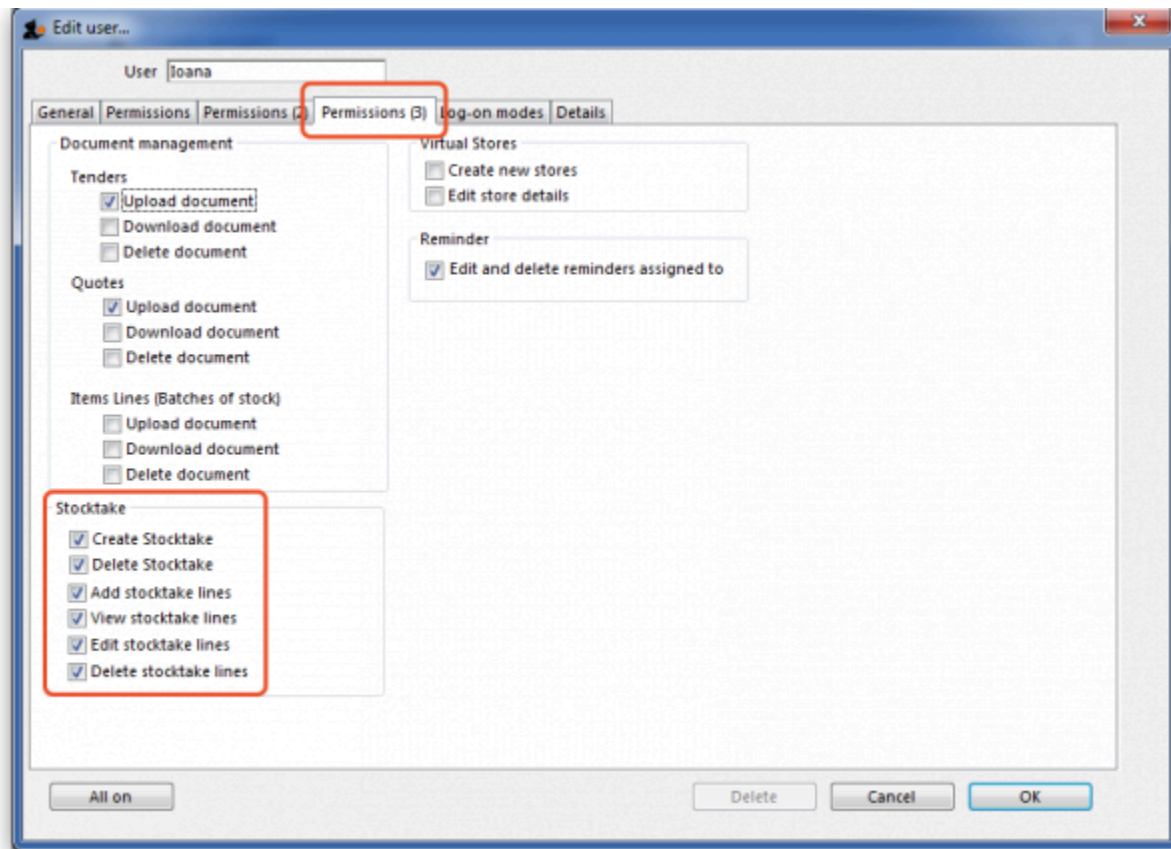
- mSupply will not allow stock that is on a Customer Invoice with status = “sg” to be taken out of stock by any other transaction process, including an inventory adjustment flowing from a stocktake - refer .
- It is therefore highly recommended to process (take the stock off the shelves) and confirm any Customer Invoices with status = “sg” *before* doing a stocktake - refer Issuing Goods to a Customer (Customer Invoices), Confirming an invoice, and
- Process the inventory adjustments from the stocktake as *soon as possible after* the physical count - refer

A stocktake makes a list of your stock, providing you with a 'snapshot' of your stock at a point in time. mSupply® enables you to automatically create custom printed lists of your stock items from which you and your staff can do the physical stocktake. The items included can be customised to focus on particular location(s), particular items, or your entire store.

The default list produced (i.e. the one where you don't change any settings) will:

- be in alphabetical order
- omit items whose stock level is zero

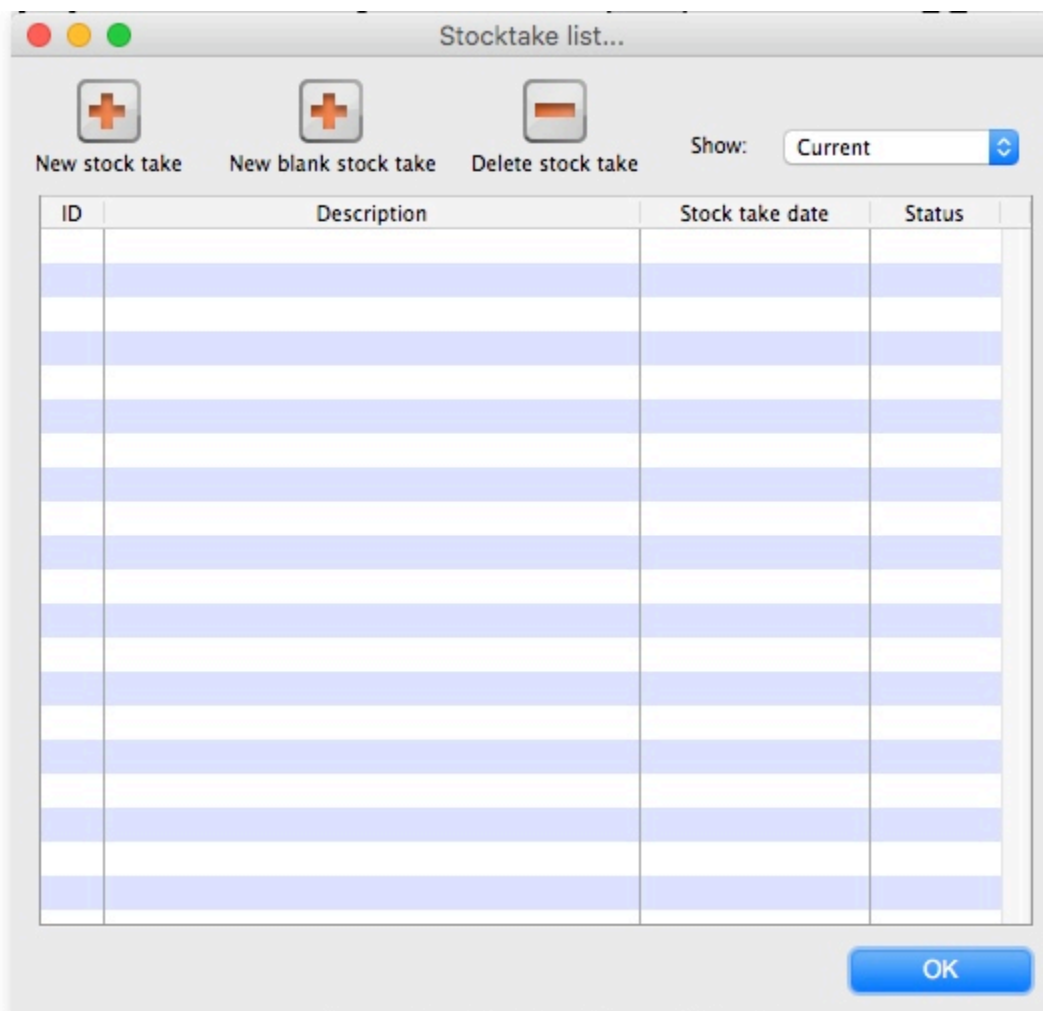
Lines on a stocktake may be edited provided the user's permissions are appropriately set. [File > Edit user > Permissions]



As of version 3.1 mSupply also has a web stocktake module, that allows entering stocktake results from a laptop or tablet on the warehouse floor.

Displaying stocktakes already performed

Select **Show Stocktakes...** from the **Items** menu to display any stocktakes already created or performed. This displays the following screen:



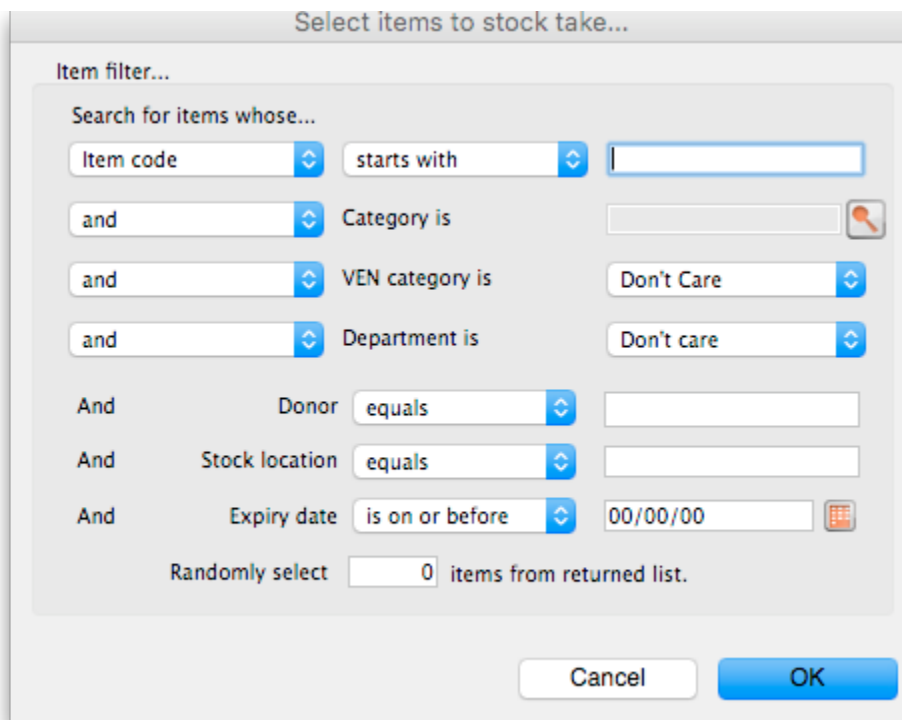
The *Show:* filter allows you to choose which stocktakes are displayed in the list. Options are:

- **All:** shows all stocktakes in the current store with any status for all time. Could be many of them!
- **Current:** selected by default when the window is displayed and shows all stocktakes with a status of **Suggested (sg)**.
- **This year:** shows all stocktakes of any status that have been created in the current year.
- **Last year:** shows all stocktakes of any status that were created in the year before the current one.

There is little point in keeping old stocktakes with status = "sg", especially if you are about to create a new stocktake containing the same items. If time has passed since the stocktake was created, then the snapshot and actual quantities are almost certainly incorrect. For good housekeeping reasons, it is good to delete old "suggested" stocktakes (status = "sg").

Creating a new stocktake

After viewing the current stocktakes, click on the **New stock take** icon, and the following window will appear:

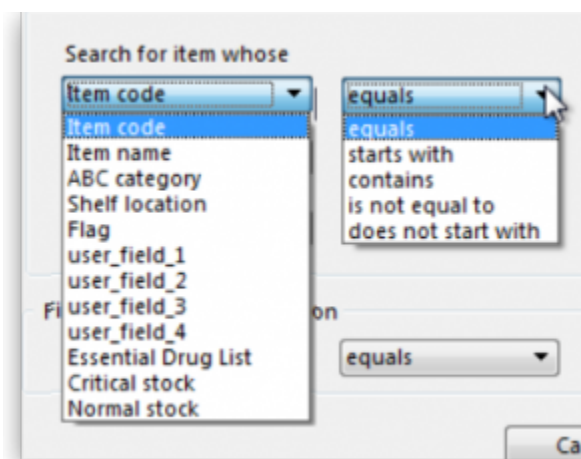


Choose the items to be included

You can produce a stocktake for all items in your store by clicking **OK** without entering any criteria. If you want to narrow the items your are stocktaking, you can do this in a number of ways (note that, whatever you do, ad-hoc or non-stock items will **never** be included in a stocktake):

- Search for items by Donor (e.g.items that have been donated by an organisation) NB. this filter needs to be set in Preferences:Invoice Preferences.
- Search for items by some criteria (item name, code, category).
- Search by actual shelf location.
- Search for items whose expiry is before a particular date. This allows you to easily remove all expired items from stock.
- Select a number of items randomly chosen by mSupply.

The two drop-down lists allow you to customise the stocktake list you are producing, while the filter allows you to specify a particular location



To find stock at a particular location

Note that the “Shelf location” in the top left drop-down list is the **default shelf location** of the item, which is where the item is usually stored. To search by actual shelf location- where the stock has actually been stored- use the “Actual shelf location” panel.

In our example, only the location filter has been set to **equals**, and the entry in the box is **A** (so only stock in shelf locations called “A” will be included in the stocktake):

The screenshot shows a dialog box titled "Select items to stock take...". It contains an "Item filter..." section with the following fields and values:

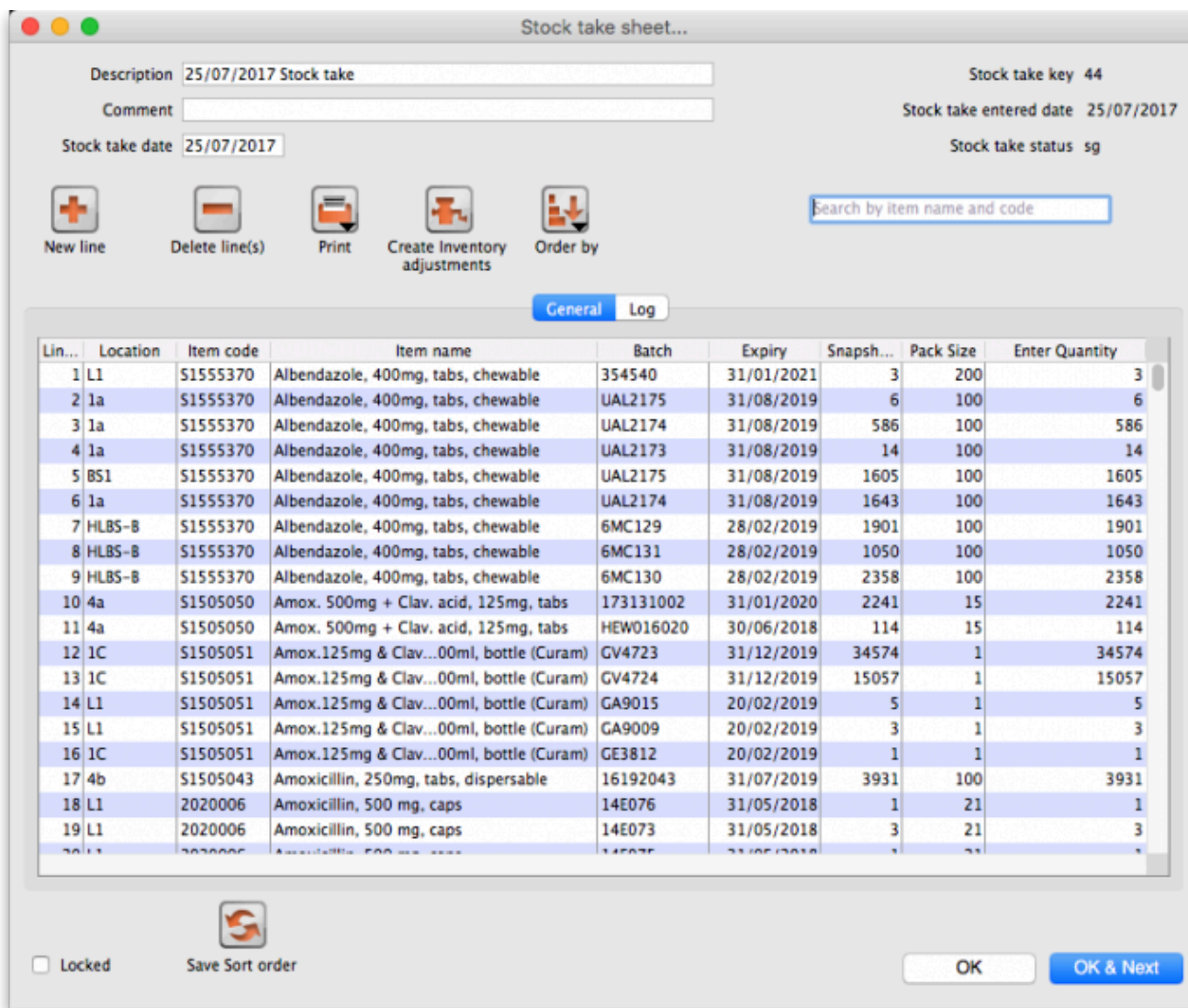
- Search for items whose...
 - Item code starts with
 - and Category is
 - and VEN category is Don't Care
 - and Department is Don't care
- And Donor equals
- And Stock location equals A
- And Expiry date is on or before 00/00/00

At the bottom, there is a "Randomly select" option with a value of 0 and the text "items from returned list." Below this are "Cancel" and "OK" buttons.

The stocktake list shown below, with items listed in alphabetical order is the result.

Such a list is, of course, dependent upon locations having been defined, and items allocated to specific locations

At this point the status of the stocktake is **sg**, i.e. suggested:



Now fill in the information at the top of the stocktake:

- **Description:** A default description is filled in for you. You might want to edit it to make it more memorable. For example, add “Annual stocktake” or “Monthly check” so that you can easily see what the stocktake was for when you look back at your records later.
- **Comment:** Put any other information you need to record about the stocktake in here.
- **Stock take date:** This is the date you performed the stocktake and is set to the date the stocktake was created by default. Users will only be able to edit this if they have the *Can edit stocktake dates* permission set (see *Managing users* for more information). They will also be able to set the confirmation date of the inventory adjustments created from the stocktake when it has been finalised (but you can never change the date to before the *Stock take date* set in this field).

Just a quick word about the read-only (non-editable) information displayed at the top of the stocktake:

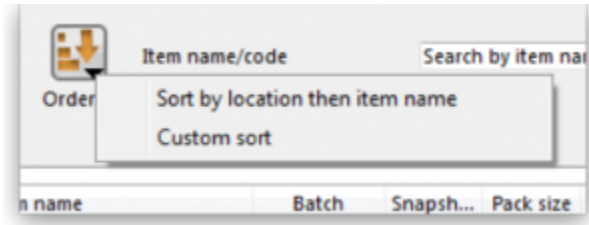
- **Stock take key:** The stock take number. This is an automatically generated number which increments by 1 for each new stocktake. It is **unique within a store** only so it is possible for stocktakes from different stores to have the same number.
- **Stock take entered date:** The date the stocktake was created in mSupply.
- **Stock take status:** The current status is the stocktake:
 - sg = suggested, the stocktake is still being worked on and is editable - new lines can be added or

deleted and values can be edited etc.

- fn = finalised, the stocktake is complete and cannot be edited (inventory adjustments have been created from it)

Print sheets to do the stocktake

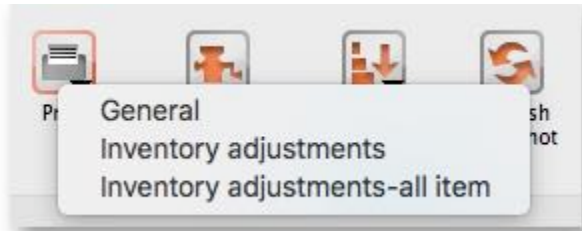
Before printing you need to ensure that the order in which items are displayed is appropriate. By default the list is alphabetical, but for stocktaking purposes, it may be more appropriate to sort the list by location and then by item name; this is achieved by clicking on the **Order by** button and choosing **Sort by location then item name**



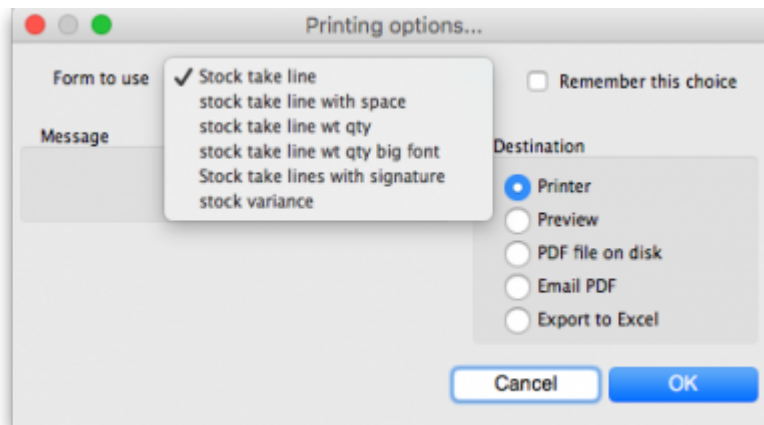
If you want another sort order, click a column heading for a simple sort, or choose the **Custom sort** option from the Order by button.

You can filter a stock list by entering the item name - or the first few characters of the name - or the item code in the box **Item name/code** in the top right area of the window, then clicking the **Find** button

Clicking on the **Print** icon displays the available options:



- **General:** contains several options. Click on it and you are presented with a further window:



The Form to use drop down list contains these options:

- *Stock take line* - prints out all the lines on the stocktake, including their quantity, with a space to write the actual counted quantity. It looks like this:

Stock take sheet :2/06/17 Stock take Stock take number :8151

Page 1 of 40

Location	Code	Item Name	Batch	Expiry Date	Pack	Quan	Actual Stock
13-3-1	27_8091	Gloves Examination powdered latex small	1502910315	31/03/20	100	59	.....
RM3 2-2-1	10_7885	Abacavir 60mg tabs	PAS1540	30/04/17	1	360	.....
RM3-C	10_9899	Abacavir/Lamivudine 600mg/300mg tablets	PA60718	31/01/18	1	96	.....
RM3 2-2-2	10_7887	Abacavir+Lamivudine 60mg+30mg Tablets for	PB51459	07/06/17	1	224	.....
RM3 2-1-4	10_7887	Abacavir+Lamivudine 60mg+30mg Tablets for	PB60836	30/06/18	1	120	.....
10-2-4	20_2056	Absorbable Gelatin Sponge	0715002	30/06/18	1	50	.....
OXY 02 RM	03_0050	Acetazolamide 250mg tabs	T-5150	31/10/19	1	1,000	.....

- *Stock take line with space* - is the same as the one above but with no quantity and 5 lines of space under each line. Useful if you know there's a lot of stock in the warehouse that isn't in mSupply.
- *Stock take line wt quantity* - is the same as *Stock take line* but with no quantity. This is the one we recommend you normally use to give to the people carrying out the physical count. This helps to ensure that the quantity of stock on the shelves is actually counted and not just guessed!
- *Stock take line wt quantity big font* - is the same as the one above but printed landscape as a table in a bigger font
- *Stock take lines with signature* - same as *Stock take line wt quantity* but the stocktake signature entered in the printing preferences is printed at the end.
- *Stock variance* - this shows the items that were adjusted after the stocktake was finalised. Similar to the *Inventory adjustments* option below but a slightly different format.
- **Inventory adjustments:** prints information about all the items that had their quantities adjusted because of the stocktake after the stocktake has been finalised (see finalise section below).
- **Inventory adjustments-all items:** prints information about inventory adjustments made after finalisation but includes all items, not just those which have had their quantities adjusted.

There is, of course, a further option - you may provide the staff performing the stocktake with blank sheets, requiring them to list the items, batches, expiry dates, locations, pack sizes and quantities manually. We don't recommend you use this option unless your printer is broken 😊

Perform the stocktake

Allocate staff to perform the stocktake, instruct them in the process you wish to follow, and issue the sheets to them.

Enter quantities into the system

Once the physical stocktake has been completed, you are ready to make entries to record any differences in stock levels into the system. Remember that any item which mSupply calculates as having zero stock will not appear on the stocktake sheet.

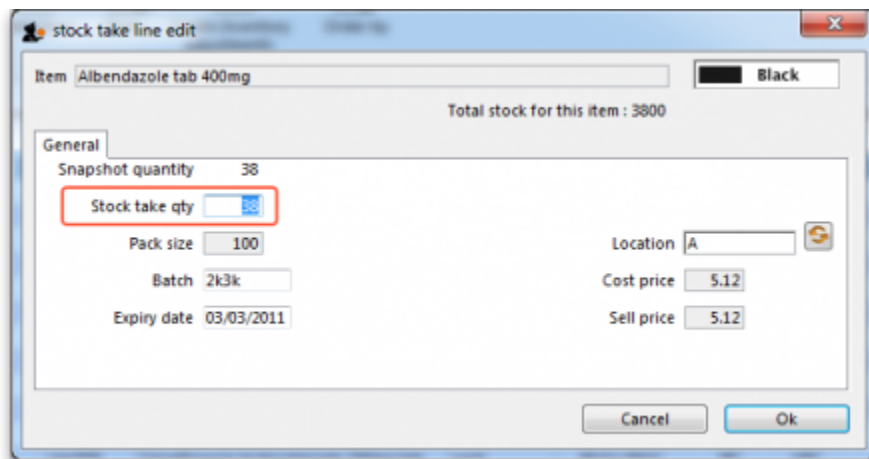
Filtering the list by item name or code

To help quickly find any item you want to make any adjustments to, you can enter the first few characters of its name or its code in the **Search by item name and code** field. The displayed list of items will be changed each time you enter a character to show only the items whose name or code matches what you have entered so far. To return to the full list just delete everything in this field.

Making Adjustments

If there is a discrepancy between the amount mSupply says you have in stock (the figure which appears in the **Snapshot quantity** column) and the physical amount counted or between the batch, expiry date or location of the stock and what is shown in mSupply, you need to make an adjustment as follows:

1. Double click on the row you wish to edit, and the **Edit stock take line** window appears, with the figure in the **Stock take quantity** field highlighted.
2. Enter the figure from the completed stock sheet in the **Stock take qty** field (just type the new figure, and the currently highlighted figure will be replaced).
3. change the batch, expiry date or location fields also if needed.



Tip to make things fast!: If you only need to change the quantity for a particular stocktake line then click on the value in the **Enter quantity** column and type the correct value directly into the stocktake sheet. Use the Tab key on the keyboard to move to the cell below that one or shift+Tab to move to the cell above it.

Adding items not in the stocktake list

In the event of an item being physically present in the warehouse, but not on the list then it needs to be added to the stocktake in mSupply:

1. Click the **New line** button and this window will appear:

Add stocktake lines

Item Black

Total stock for this item : 3199800

Existing stock lines


Batch	Expiry	Pack size	Cost price	Sell price	Stock on hand	<input type="checkbox"/>
rtyu567	30/09/2022	1000	3.5	3.5	3000000	<input type="checkbox"/>
fghjk98	31/10/2020	100	2	2	199800	<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>


New stock line

Stock take qty

Pack size


Batch

Expiry date 

Location 

Cost price 12 month average

Sell price

 Use details of line selected above

2. If you want to add a line of stock that already exists in mSupply then, in the *Existing stock lines* table at the top, check the checkbox for the line you want to add and then click on the *Add selected* button. You can add more than one line if you wish - just check all the lines you want to add. If you check the checkbox in the header of the checkbox column this will check all the boxes for you (and uncheck them again if you uncheck it).
3. If you want to add a new line of stock that doesn't exist in mSupply then enter its details in the *New stock line* section at the bottom and click on the *Add new* button to add it.
 - Stock take qty: the number of packs you found in the warehouse.
 - Pack size: the number of items in each pack that you found in the warehouse.
 - Batch: the batch number of the item you found.
 - Expiry date: the expiry date of the item you found (click on the calendar icon to select it or enter it manually).
 - Location: the shelf location in the warehouse where you found the item (if you don't know the exact location then type the first few characters of the location label, press the Tab key on the keyboard and select the location from the list that appears).
 - Cost price: if you know it, enter it in the currency you are using in your datafile. If you don't know it, you could check the *12 month average* checkbox and mSupply will enter a weighted average price of all the stock of this item you received over the last 12 months.
 - Sell price: if you know it, enter it in the currency you are using in your datafile.
 - *Use details of line selected above* button: this is a shortcut to save typing values in all the fields in this section. If the details are similar to a stock line that is shown in the *Existing stock lines* table above then click on the line in the table to select it then click on this button. mSupply will copy the details of the line into the fields in this section and you can then edit the ones that aren't quite right.

- You can also select a colour for the line in the stock take using the colour picker in the top right hand corner (set to black by default, as shown in the screenshot).

After clicking on either the *Add checked* or *Add new* button you are returned to the **Stocktake sheet** window, where the new line entered will now appear in the colour selected; note that the new line(s) appear at the bottom of the stocktake and they have a value of zero in the *Snapshot* column.

All details of a new line added may be edited, but only the **quantity** or the **location** of existing lines on the sheet may be edited; this is performed by double clicking on the row you wish to edit.

The *Delete item* button will only work to delete lines which you have added yourself (i.e. lines with a snapshot quantity of zero).

Create inventory adjustments

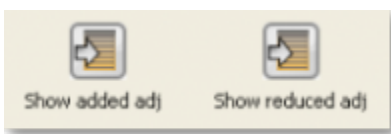
When all necessary adjustments have been entered, you are ready to create the inventory adjustments; this is easily performed by:

- clicking on the **Create inventory adjustments** button
- confirming your intention in the window which appears

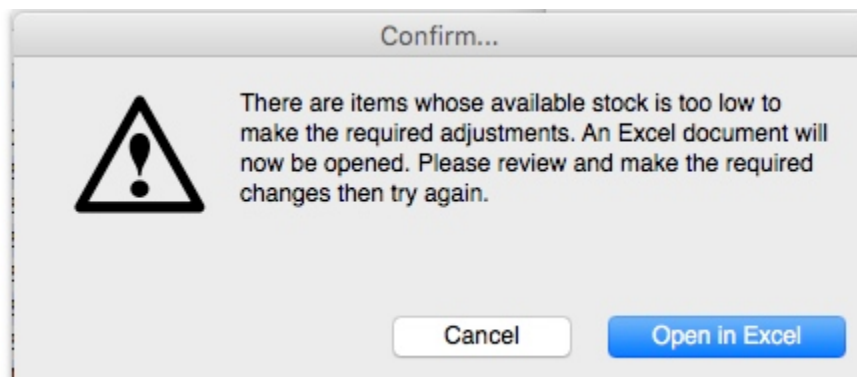
Creating inventory adjustments (finalising the stocktake) is not reversible, so you have to be quite certain you've finished making all the changes you want to the stocktake.

Once inventory adjustments have been created, the status of the stocktake changes from suggested (**sg**), to finalised (**fn**). You will now observe a change in the buttons appearing on the Stocktake sheet:

- in the upper area, only the **Print** button is present
- while at the bottom two new buttons are present; **Show added adjustments** and **Show reduced adjustments**. Click on either button to display the related inventory adjustment transaction. Note that if you have the *Can edit stocktake dates* permission (see Managing users) then you will be able to edit the confirmation dates of the inventory adjustments to match the stock take date.



If an item has limited stock and that stock is allocated to an invoice during stocktake, when you try to adjust the stock the following window will display.



Click "Cancel" to return to inventory adjustment. Press "Open in Excel" to open a spreadsheet to analyse the invoices to which the stock is allocated. The highest invoice number is likely to be the one entered during stocktake.

A	B	C	D	E
Invoice	Type	Status	Item	Amount on invoice
2 of Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml batch 1608-28-96 needed to complete stocktake, view ledger:				
13121	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	17
13228	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	3
of Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml batch 16204026 needed to complete stocktake, view ledger:				
12928	ci	fn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	240
12976	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	1120
12981	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	250
12982	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	1280
13095	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	480
13121	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	450
13228	ci	cn	Amoxicillin Dry Powder for Suspension 125mg/5ml Bot/100ml	20

Obviously closing off transactions until stocktake is complete and avoiding these kinds of issues is best practice.

Print the report

Clicking on the **Print** button and clicking on **Inventory adjustments** will print this information:

Inventory Adjustment : 2/08/17 Stock take Stock take number : 8155										
<input type="checkbox"/> code	Item nam	category	Count	Add	Reduce	Net	Add Value	Reduce Va	Net Value	
10_7885	Abacavir 60mg tabs		1	0	1	-1	0	-5	-5	
10_7887	Abacavir+Lamivudin		1	30	0	30	150	0	150	
10_9899	Abacavir/Lamivudine		1	0	7	-7	0	-89.25	-89.25	
27_8091	Gloves Examination		1	0	100	-100	0	-3.1	-3.1	
	Total		4				150	-97.35	52.65	

In this example, three adjustments have been made:

- Magnesium carbonate: present at the physical check but not on the sheet, has been added
- Peppermint oil has had its stock increased
- Sodium bicarbonate has been reduced in stock

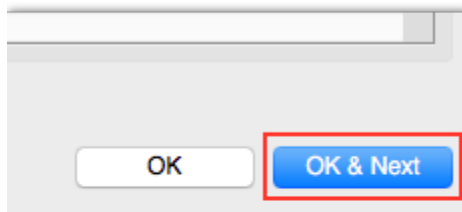
Items that weren't changed don't show in the report - if you want to see all items, including those that weren't changed then click on the **Print** button and select the **Inventory adjustments - all item** option.

Some points to note:

- When you have created the stocktake sheet, it's like 'taking a snapshot'; the physical stock at that location should not be removed until the stocktake has been performed; nor should stock be added.
- New transactions can however, be entered into the system.
- the Log tab on the **Stocktake sheet** will list any anomalies. An anomaly may occur if a transaction has been entered after the stocktake that issued more stock than you physically counted. Obviously someone has made a mistake in such a situation.
- There is on the stocktake window (lower left corner) a checkbox **Locked**, which, if checked, will allow neither deletion of the stocktake nor any changes to be made to it.




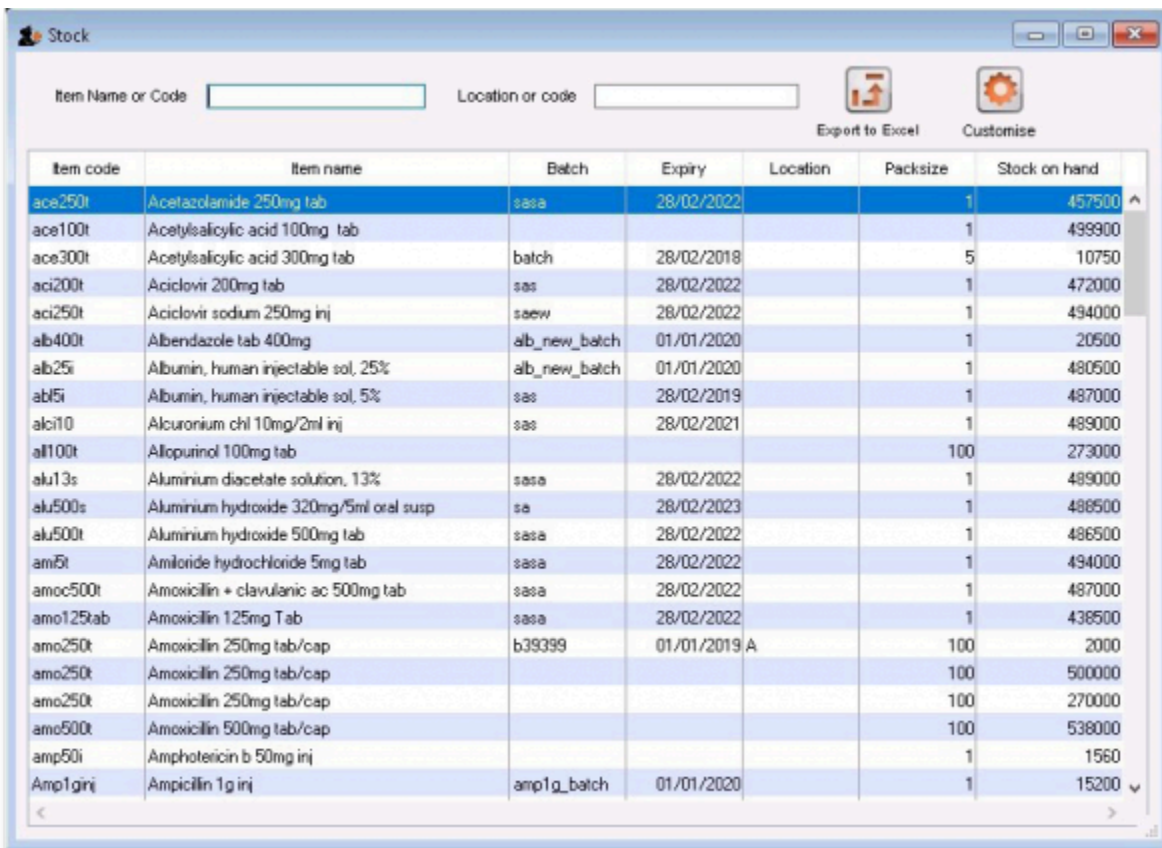
- **Ok and Next** - if you have no more stocktakes to add, click the 'OK' button, to add only the stocktake just completed. To add a further stocktake, click the 'OK & Next' button and proceed to add your next stocktake.



Previous: Splitting a batch Next: Inventory adjustments

Show items with stock

This can be accessed by choosing **Show items with stock** from the **Item** menu or by clicking on the **Stock** icon () on the *Item* tab of the Navigator. Either of these options will display this window:



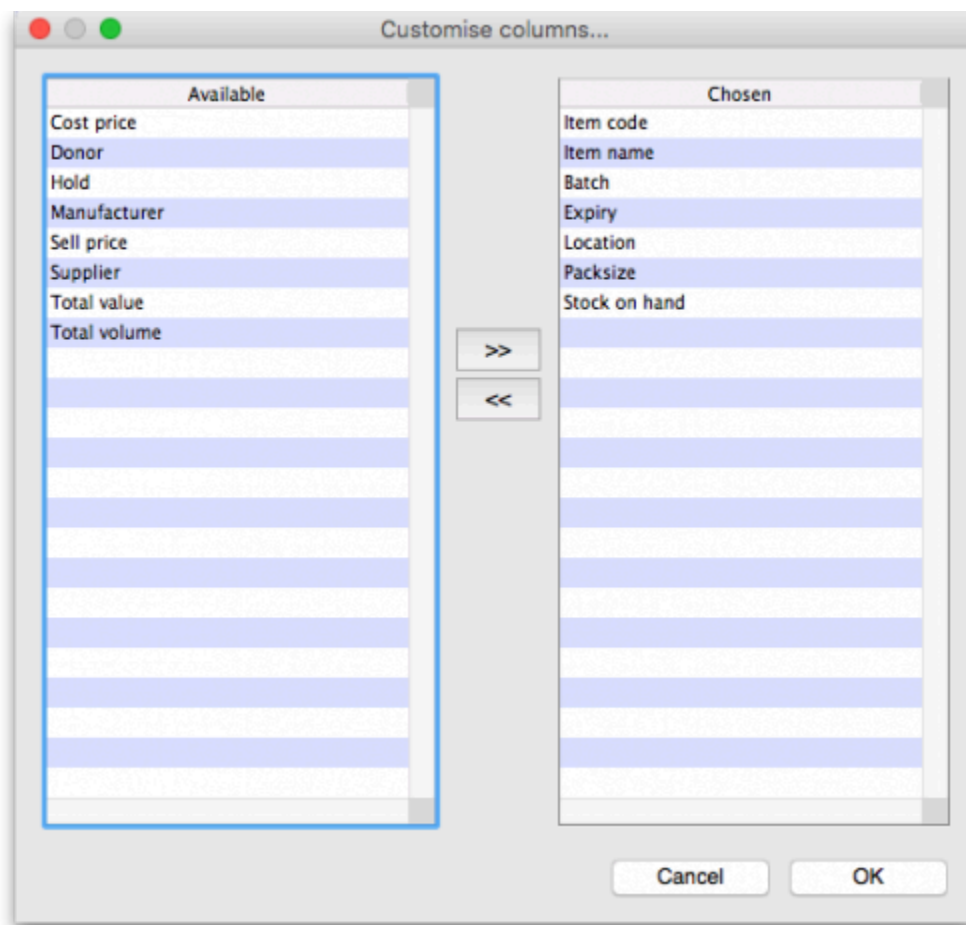
Item code	Item name	Batch	Expiry	Location	Packsize	Stock on hand
ace250t	Acetazolamide 250mg tab	sasa	28/02/2022		1	457500
ace100t	Acetylsalicylic acid 100mg tab				1	499900
ace300t	Acetylsalicylic acid 300mg tab	batch	28/02/2018		5	10750
aci200t	Aciclovir 200mg tab	sas	28/02/2022		1	472000
aci250t	Aciclovir sodium 250mg inj	saew	28/02/2022		1	494000
ab400t	Albendazole tab 400mg	alb_new_batch	01/01/2020		1	20500
ab25i	Albumin, human injectable sol, 25%	alb_new_batch	01/01/2020		1	480500
ab5i	Albumin, human injectable sol, 5%	sas	28/02/2019		1	487000
alc10	Alcuronium chl 10mg/2ml inj	sas	28/02/2021		1	489000
all100t	Allopurinol 100mg tab				100	273000
alu13s	Aluminium diacetate solution, 13%	sasa	28/02/2022		1	489000
alu500s	Aluminium hydroxide 320mg/5ml oral susp	sa	28/02/2023		1	488500
alu500t	Aluminium hydroxide 500mg tab	sasa	28/02/2022		1	486500
am5t	Amloride hydrochloride 5mg tab	sasa	28/02/2022		1	494000
amoc500t	Amoxicillin + clavulanic ac 500mg tab	sasa	28/02/2022		1	487000
amo125tab	Amoxicillin 125mg Tab	sasa	28/02/2022		1	438500
amo250t	Amoxicillin 250mg tab/cap	b39399	01/01/2019 A		100	2000
amo250t	Amoxicillin 250mg tab/cap				100	500000
amo250t	Amoxicillin 250mg tab/cap				100	270000
amo500t	Amoxicillin 500mg tab/cap				100	538000
amp50i	Amphotericin b 50mg inj				1	1560
Amp1ginj	Ampicillin 1g inj	amp1g_batch	01/01/2020		1	15200

By default all stock is listed, and where the stock of an item is present in different batch numbers, each one is displayed.

Just like nearly all the other tables of information in mSupply, you can order the information by any column by simply clicking on the column header. Reverse the sort order by clicking on the same column again.

Customising the list

You can choose the columns displayed by clicking on the **Customise** button to display this window:



Listed under **Available** are the columns not presently displayed, and under **Chosen** are the columns presently displayed. Changes are made by highlighting your chosen column on this window, and moving it using the buttons in the centre to add or remove it from the display.

You can drag the items in the *Chosen* column into the order of your choice to change the order they are displayed in the list (top of the list is displayed on the furthest left, bottom of the list is displayed the furthest right).

Printing/exporting the contents of the table

You can export the stock information on the items displayed in the table by clicking on the *Export to Excel* button. Only the items displayed in the table will be exported and a fixed set of columns will be exported - this set is not affected by any changes you make to the displayed columns using the *Customise* button described above.

In your spreadsheet application you can manipulate or print the data as you please.

Filtering the list

Entering the item name or code in the box will filter the list; entering the first few characters of an item name will display only those items which begin with those letters (or numbers).

Item code	Item name	Batch	Expiry	Location	Pack size	Stock on hand
AMOXT	AMOXYCILLIN 250MG TAB/CAP	AA0001	30/11/13	06 B	1	50000
AMOXL	AMOXYCILLIN 125mg/5mL SYRUP	11132059	30/9/13	14 02 1A	1	29
AMO+CLAT	AMOXYCILLIN + CLAVULANIC ACID 500/125MG TA	LA1004	1/4/13	05 01 5C	1	16700
AMOXL	AMOXYCILLIN 125mg/5mL SYRUP	ASABV0037	30/9/14	14 02 1A	1	1320
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0007	30/6/14	06 B	1	1344000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0006	31/5/14	06 B	1	1000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0008	30/9/14	06 B	1	51000
AMO+CLAT	AMOXYCILLIN + CLAVULANIC ACID 500/125MG TA	ATBBV0053	31/12/13	05 01 5C	1	26800
AMOXT	AMOXYCILLIN 250MG TAB/CAP	677120417	1/4/15	06 B	1	1400000

To display a specific item, either the item code or the full name should be entered.

To find all items containing **ran** enter **@ran** which will display all items which include the characters entered, not only those items where the characters entered are at the start of the item name - e.g. this will not only display any Ranitidine in stock, but will also display 'Py**rantel**', 'Nitrofu**rantoin**', Pro**pranolol**', etc..

Filtering by location

Alternatively you can filter by location. Leave the first search box blank and enter a location into the second search box. This will show only the items with that location.

Items & stock

Item Name/Code Location/code

Item code	Item name	Batch	Expiry	Location	Pack size	Stock on hand
AMOX	AMOXICILLIN 250MG TAB/CAP	AA0001	30/11/13	06 B	1	50000
AMOX	AMOXICILLIN 250MG TAB/CAP	ANTUV0007	30/6/14	06 B	1	1344000
AMOX	AMOXICILLIN 250MG TAB/CAP	ANTUV0006	31/5/14	06 B	1	1000
AMOX	AMOXICILLIN 250MG TAB/CAP	ANTUV0008	30/9/14	06 B	1	51000
AMOX	AMOXICILLIN 250MG TAB/CAP	677120417	1/4/15	06 B	1	1400000
CLOX	CLOXACILLIN 250MG TAB	DA2004	28/2/15	06 B	1	876000
CLOX	CLOXACILLIN 250MG TAB	DA2005	28/2/15	06 B	1	251000

Even more specific

To view an even more specific selection of stock you can filter by both item name and location. By entering your criteria into both boxes, only the stock which matches your specified name and location will appear.

Items & stock

Item Name/Code Location/code

Item code	Item name	Batch	Expiry	Location	Pack size	Stock on hand
AMOXT	AMOXYCILLIN 250MG TAB/CAP	AA0001	30/11/13	06 B	1	50000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0007	30/6/14	06 B	1	1344000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0006	31/5/14	06 B	1	1000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	ANTUV0008	30/9/14	06 B	1	51000
AMOXT	AMOXYCILLIN 250MG TAB/CAP	677120417	1/4/15	06 B	1	1400000

Previous: Repacking Items Next: Splitting a batch

Inventory adjustments

Choose **Items > Show inventory adjustments**

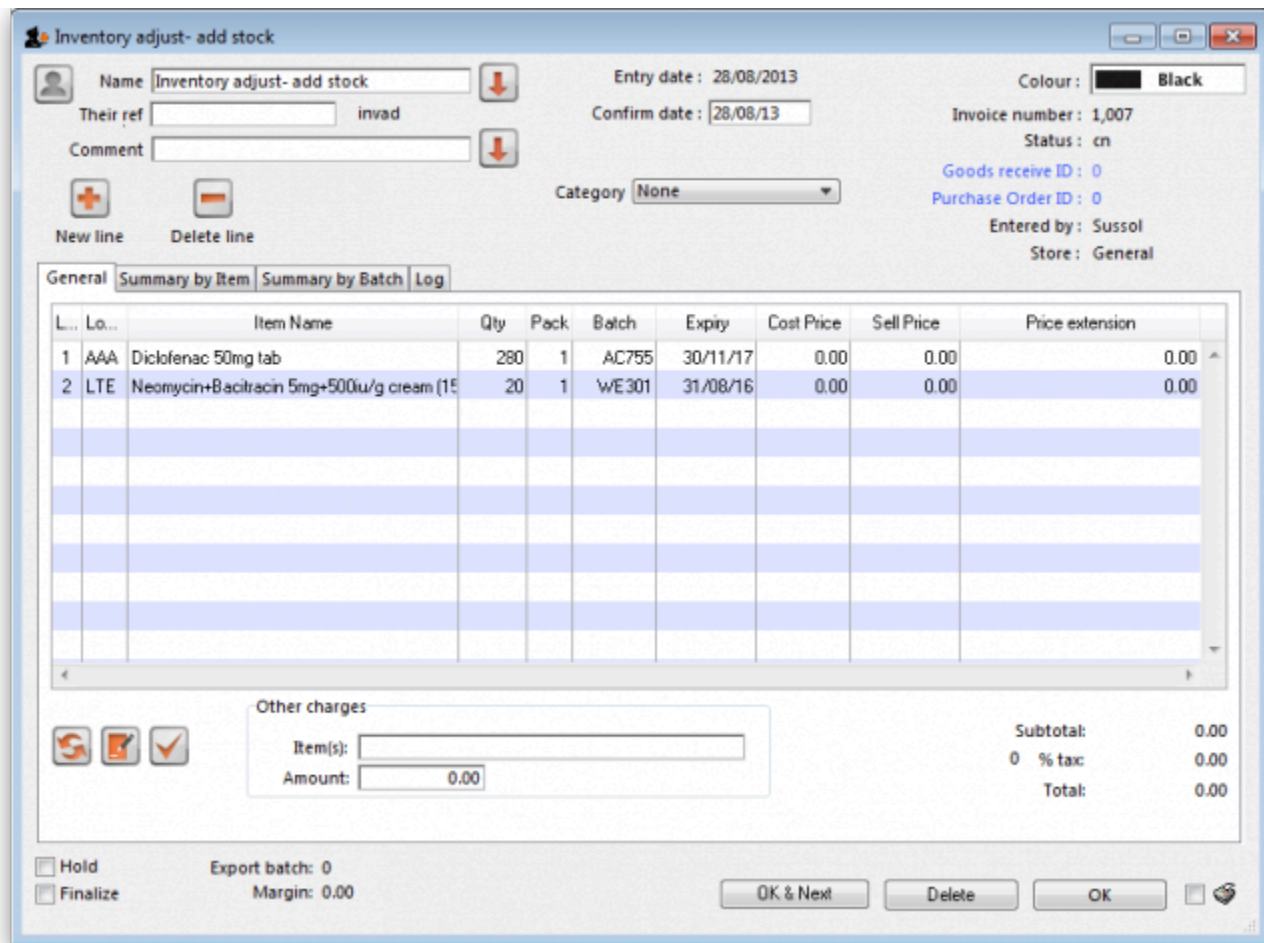
Inventory adjustments allow you to increase or decrease the stock of an item that is recorded in mSupply®. You will need to adjust the inventory if:

- Stock is discarded (due to damage or expiry)
- You do a Stocktake and find that physical stock is different to the stock recorded in mSupply®. In this case the first thing to do is to see if you can find out where a mistake may have been made in issuing stock. For example, you may be able to retrieve extra stock mistakenly given to a client, or may need to ask a supplier for an order that has been entered but never actually received.
- Stock has been stolen.
- As a general rule, consider using a regular invoice to account for any transactions with a customer or supplier. Only use an inventory adjustment as a last resort.

If you are doing a “normal” stocktake, it's better to use the stocktake module described here as it will create the needed inventory adjustments automatically.

Inventory adjust - add stock...

Choose **Items > Inventory adjust (Add stock)** Use this function when you have performed a stocktake and find that the physical stock of an item or items exceeds the amount recorded in mSupply®.



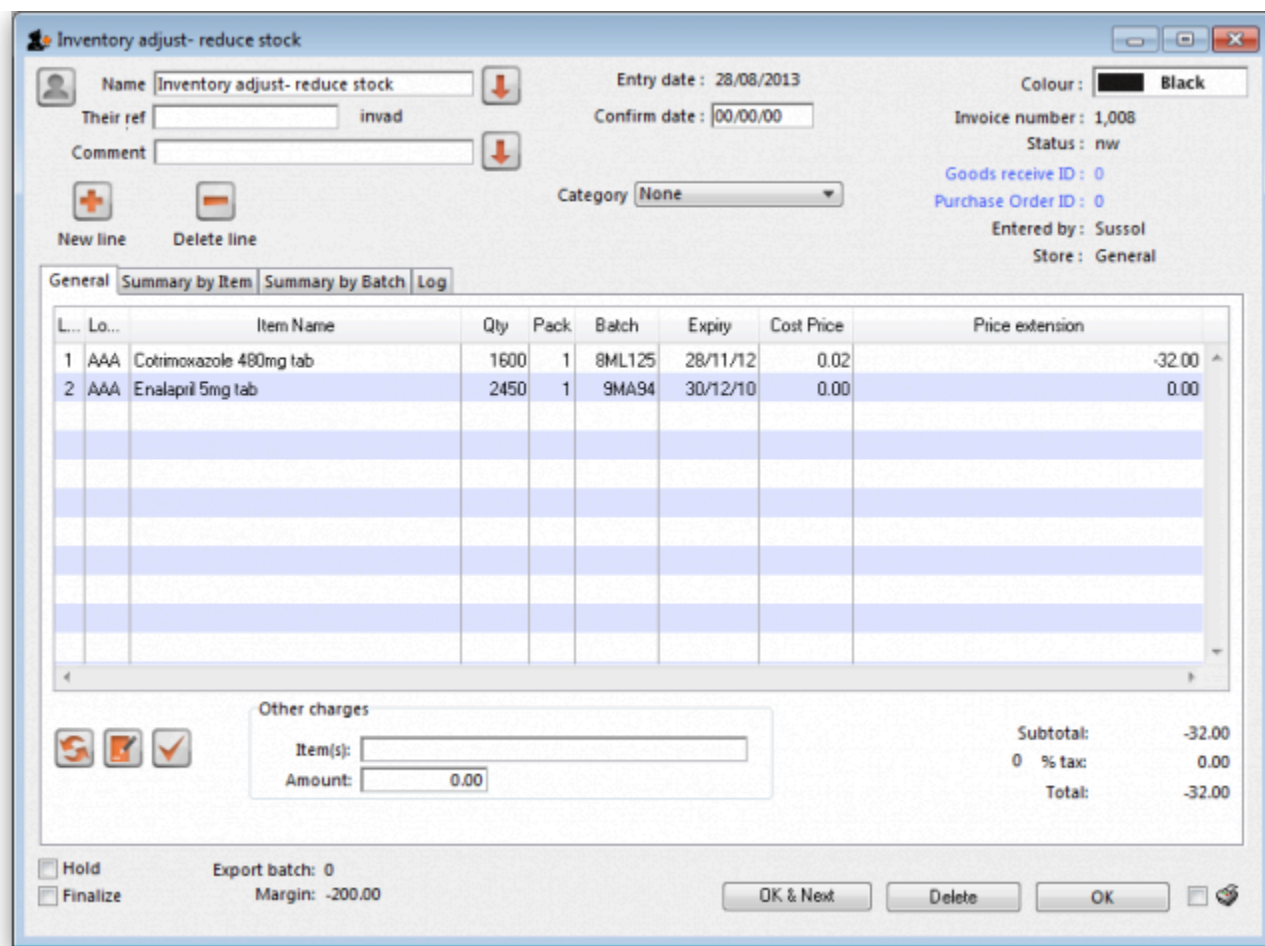
A transaction that is like a supplier invoice will be created. Enter the details in just the same way you would as if you were receiving goods from a supplier, except that mSupply® fills in the **Name** field for you automatically, and does not allow you to edit it.

After a stocktake, this can be used to adjust any stock lines where the stock recorded in mSupply® is less than the physical stock.

You will be asked to enter the margin when starting this transaction. For a normal inventory adjustment, set this to zero. If you are using this procedure to enter stock when starting to use mSupply® for the first time, enter the percentage to apply here.

Inventory adjust - reduce stock...

Use this function when you have done a stocktake and find that the physical stock of an item or items is less than the amount recorded in mSupply®. A transaction that is just like a customer invoice will be created, except that you do not choose the customer. The section on entering customer invoices describes the entry procedure. See the section on Issuing goods - Customer invoices here

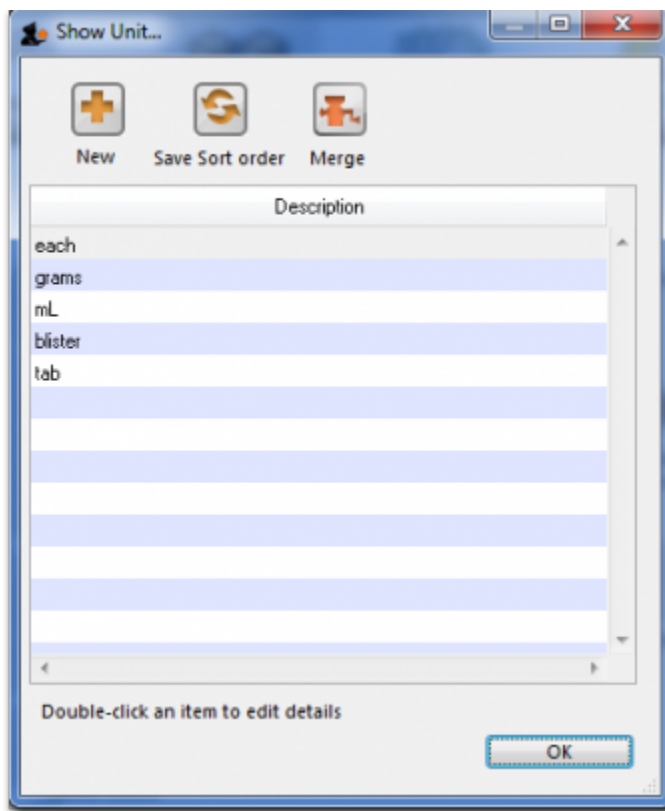


Inventory adjustments are treated by mSupply as a kind of Supplier invoice (or credit). To view or edit an inventory adjustment, Choose the “Show inventory adjustments” option from the “Item” menu.

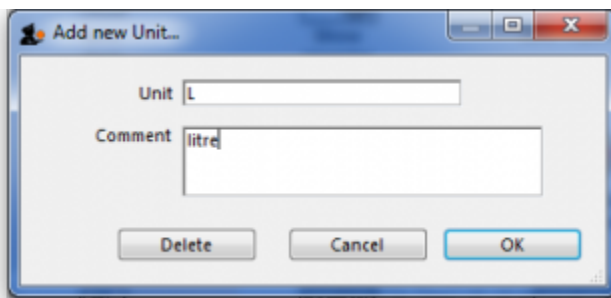
Previous: Stocktakes Next: Units

Units

Choose **Show units** from the **Items** menu. When you have defined your units, a list is displayed:



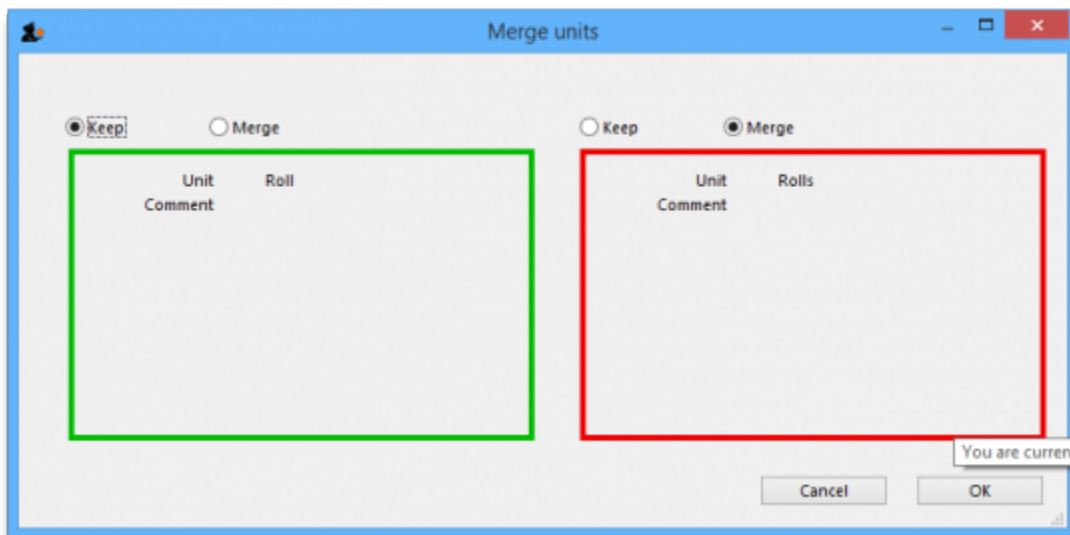
Click the **New** button to add a new unit.



Note that you will need to have sufficient user permissions to use this function.

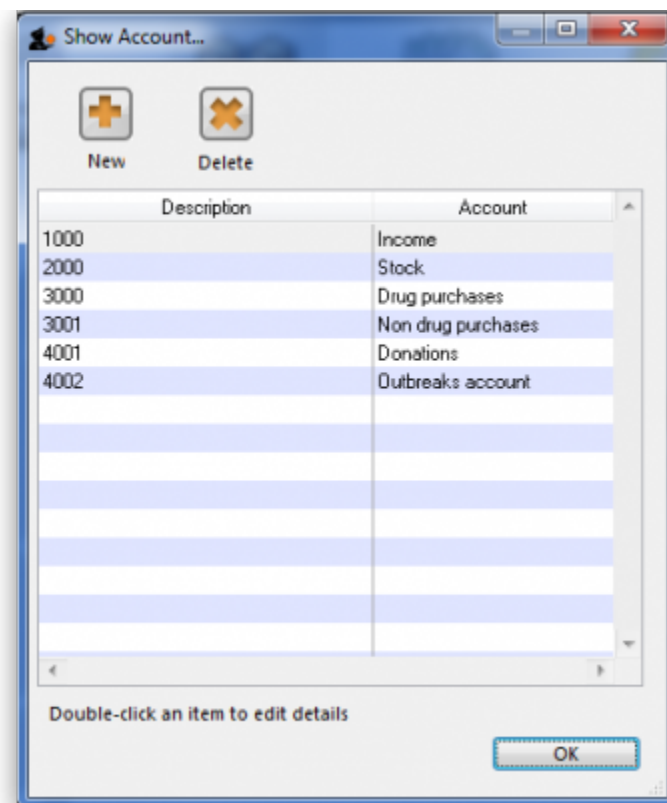
Do not change the record for one unit into a different unit, as all items using that unit will be updated.

Click the **Merge** button to merge two units. Note that duplicated units can occur on import of units or a user may duplicate a unit being unaware of one existing already. The below window appears to merge the units. The green boxed unit is the one that will be kept, the red boxed unit will be deleted.



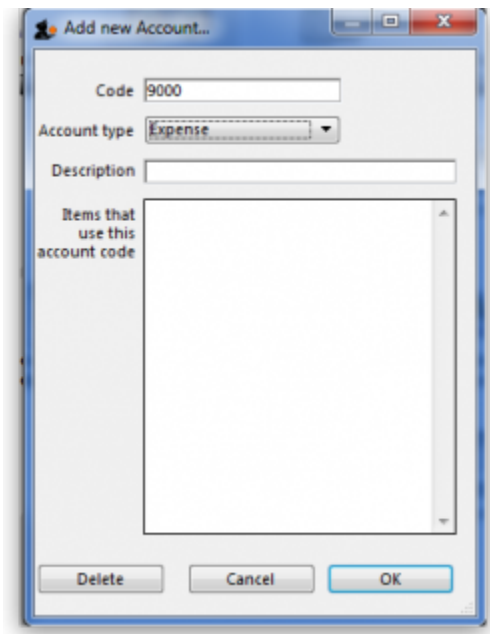
Accounts...

Choose **Show accounts** from the **Items** menu. This window allows you to manage the range of accounts that can be assigned to items.



Account codes are used when exporting transaction data from mSupply® to external accounting software. Double-click a line to edit its details. Changing an account code or description will affect all items that are assigned to that account.

Click the **New** button to add a new account.



Fill in the code, description field and select the account type. The field **Items that use this account code** will display such items for each account code. Account types are **Expense, Income** and **Asset** .Click on **OK** button to add a new account, and **Delete** button to delete an account.

Previous: Inventory adjustments Next: Names: Using, adding and editing

Forecasting

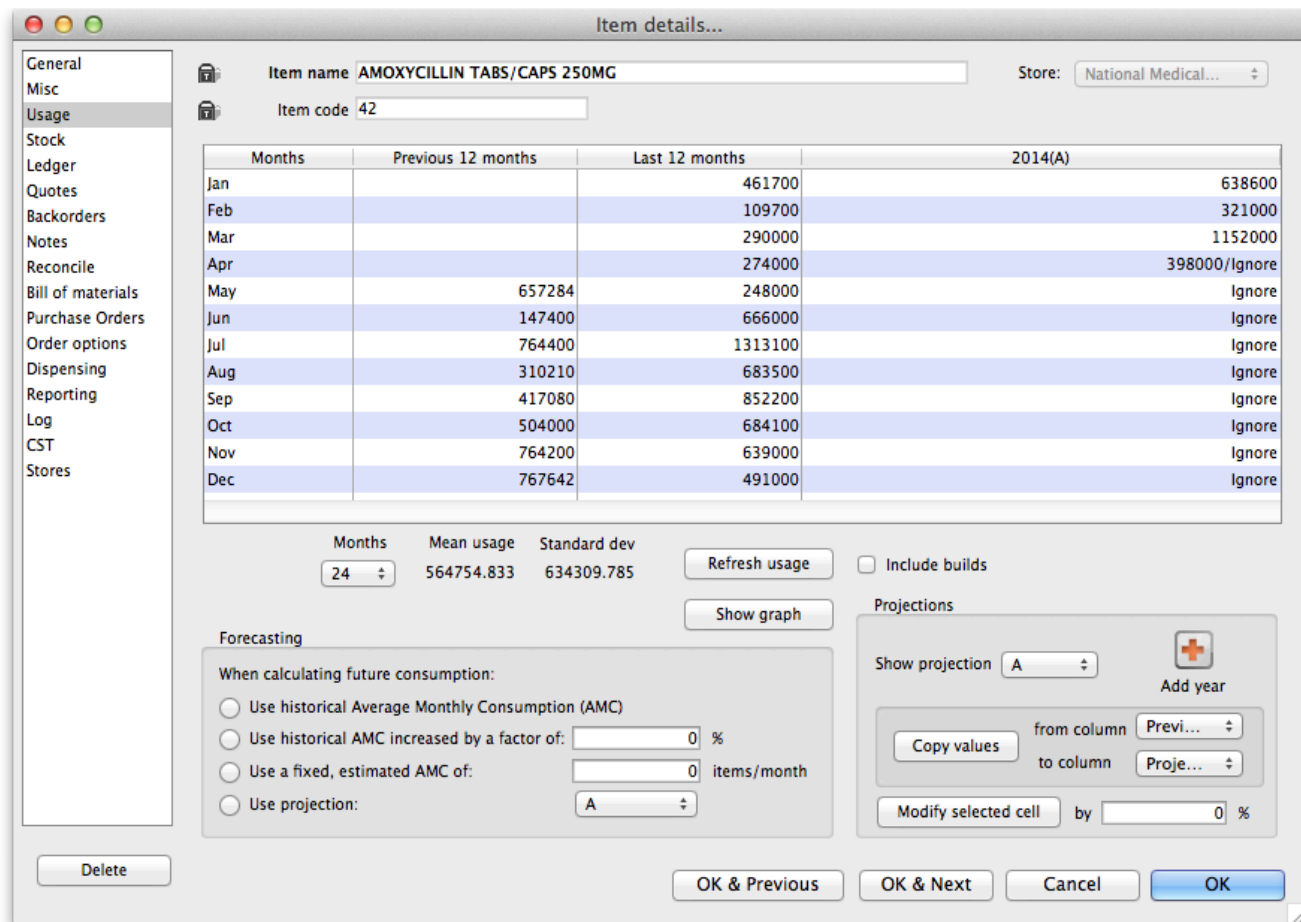
Updated: version 3.2, May 2014 (This functionality not available in earlier versions)

In mSupply, consumption is defined as stock that is *issued*. Stock lost due to damage, expiry, etc. (managed through Inventory Adjustments) are not included in consumption. During the later quantification calculation, there are options to include or exclude Stock Transfers and Builds in the consumption calculation.

By default, mSupply uses the assumption that future consumption will continue at the same level as consumption over a given historic period. Our experience is that in 99% of situations the results obtained using this method are between very good and excellent. However, in certain situations you may want to provide your own forecasts. Reasons for this could include factors such as:

- Natural population increase
- An epidemic causing increased demand
- Historical usage being inaccurate due to operator error or out of stocks.
- A change to Standard Treatment Guidelines meaning a new treatment is being introduced, and there is no historical data
- Morbidity and mortality data has been obtained and used to calculate requirements. mSupply provides a number of alternative methods for making a forecast of future consumption. These other methods are detailed in sections following below.

mSupply allows you to choose to use from a range of forecasting methods on a per item basis. To choose a different forecasting method for any given item, find the item you are interested in, then open it's details view, and choose the **Usage** tab:



In the **Forecasting** section of the window shown above there are four options:

Use Historic AMC

This is the default option, and is the recommended method. During the later quantification stage (creating a new tender, creating a new purchase order or the suggested order report), there is an opportunity to provide the number of months of historical data to use to calculate the forecast.

For our worked example, we will use the Historic AMC method, based on 12 months of historic data.

Use historical AMC increased by a factor of X %

Using this option, mSupply will still calculate requirements based on historical AMC, but increased by the percentage you have entered.

BEWARE! Once set, this option will continue to govern for every forecast generated by mSupply for this item until you re-set forecasting to the default (use of historical AMC).

Use a fixed, estimated AMC of

This option allows you to specify a particular amount that will be applied to all future months. For example, you might have calculated a target consumption for an oral contraceptive based on fixed population and coverage targets.

BEWARE! Once set, this option will continue to govern for every forecast generated by mSupply for this item until you re-set forecasting to the default (use of historical AMC).

Use Projection (A or B)

With this option, mSupply allows you to maintain an **A** and a **B** projection, and easily swap between them. Of course you must enter projections for this to be of any use!

Entering Projections

You can enter projections in a number of ways

Manually entering projections

If you click once on a cell that contains a projection (as opposed to a cell containing historical data), then you can click again to edit the cell's value.

Don't double-click: you need to click once, wait for a second or two, then click again

Copying a projection

You might want to copy historical data as a starting point for your projection. You can do this by choosing a column for **from column** and **to column** in the **Projections** section, then clicking **Copy values**.

Modifying a projection

You can use the **Modify selected cell** button to increase or decrease a column or some cells in a column by a certain percentage.

For example, you might have entered values for 2016, and then decide your 2017 values should be the 2016 values plus 8%. To do this

1. Fill in your 2016 column values
2. Add a column for 2017 if one doesn't already exist
3. Use the **Copy values** button to copy 2016 to 2017
4. Drag to highlight all rows in the 2017 column
5. Enter 8 in the percentage field, then use the **Modify selected cell** button to increase the 2017 values by 8%.

If you are using projections, you are responsible to fill in future values for the period to be covered by your ordering. Leaving future projections at zero will have potentially serious consequences.

BEWARE! Once set, this option will continue to govern for every forecast generated by mSupply for this item until you re-set forecasting to the default (use of historical AMC).

Where does mSupply use forecasts?

Any time mSupply produces a suggested order quantity, it will consider each item and use the forecast options for that item to produce a forecast. This includes:

- Creating a new tender
- The suggested order report
- Creating a new purchase order

Names: using, adding and editing

About names

In mSupply a “name” can be a:

- customer: a recipient of your goods
- supplier: someone who sends your store goods
- manufacturer: someone who makes the goods that you receive, store and distribute
- donor: an entity that donates goods to you (you can track donated stock)
- patient: someone you dispense goods to
- others: you'll find other types e.g. benchmarks mentioned through out the documentation

Adding a Customer, Supplier, Manufacturer, Benchmark or Donor

Adding a new Customer

- To add a new customer, choose *Customer > new customer* from the menu.
- The form shown below will come up.
- The customer checkbox will be checked and disabled (from editing).

The screenshot shows the 'New customer' form with the following fields and options:

- Name:** Code, Charge to, Name, Master ID (0), Master name.
- Contact:** email, web site, Phone, Fax.
- Status:** Hold (checkbox).
- Price Category:** A (dropdown).
- Printing:** Print invoices alphabetically (checkbox).
- Category:** Customer (checked), Supplier, Manufacturer, Benchmark (all unchecked).
- Other:** Category 1-6 (all 'none'), Flag.
- Main/Billing Address:** Address 1-5, Post code, Country.
- Postal address:** (multiple lines).
- Shipping address:** (multiple lines).

Buttons at the bottom: Delete name, OK & Next, Cancel, OK.

Adding a new Supplier

- To add a new supplier, choose *Supplier > New supplier* from the menu (makes sense really!)
- The window will look the same as for adding a customer, except the supplier checkbox will be checked and disabled (from editing).

Adding a new Manufacturer

- To add a new manufacturer, choose *Supplier > New manufacturer* from the menu.
- The window will look the same as for adding a customer, except the manufacturer checkbox will be checked and disabled (from editing).

Adding a new Donor or Benchmark

- Select *Customer > new customer* or *Supplier > New supplier* from the menu.
- The same window for adding a new customer or supplier will open and you should check the *Donor* or *Benchmark* checkbox in the Category section.

Items in the names entry window

Name Code: The unique code to identify this customer, supplier or manufacturer.

Charge to: mSupply is made to work in tandem with an accounting program (although it will also function just fine by itself). The “Charge to” code is what is exported with each invoice. Generally you should make the charge code and name code the same (If you want, there is an option in the Preferences > Misc tab to make sure this is the case). For example:

- If you have 3 hospitals you supply, but you send the bills to one centre for payment, you may want to enter each hospital with its own name code, and all of them with the same charge code. In your accounting program you would just enter one debtor (customer) with a code the same as the charge code. eg.

Customer	Name code	Charge code
Fred H Hosp	fhosp	bluehos
Mary P Hosp	mphosp	bluehos
Sam Q Hosp	sqhosp	bluehos

- In your accounting program you would enter “Blue Hospitals Assoc” with the code “bluehos”
- For a supplier, if you have entered a default currency and margin these will be entered, but you can override them. Every supplier should have its currency entered (The currency it uses for your invoices). If the currency isn't yet in your system, close the name entry window and choose *Currencies* from the *Special* menu to add it.

- if you do not wish to use different name codes and charge codes, check the “supplier name code and charge must match” and “customer name code and charge must match” check boxes in the mSupply Preferences. If you do this, the charge code will automatically be identified with the name code.
- spaces are not allowed in name codes and charge codes

Either the “customer” or “supplier” check box will be checked as appropriate, depending on whether you have chosen “new supplier” or “new customer” from the menus to produce this window. However, you can still alter things here without upsetting mSupply.

Name: The customer/supplier name. (Remember you can use the *Tab* key to move from field to field)

Master ID & Master name: These are used when using the remote tender module to link suppliers with their master ID on the remote tender server and maintained by Sustainable Solutions.

To link a supplier to the remote tender server, login to the tender server using the login details sent to you by Sustainable Solutions, and find the supplier and find its ID. When you have that, copy it down (or copy it to the clipboard) then click on the padlock to make the **Master ID** field enterable in mSupply. Now enter the ID (or paste it in) and click on the **synchronise** button next to the **Master ID** field. mSupply will then contact the tender server and search for a supplier with the ID you have entered. If the search is successful, the name the supplier has on the server will be put in the **Master name** field and you're finished. If it's unsuccessful, you'll be given an appropriate message.

Type: In the main entry screen, there are 4 check boxes to mark each entry as a customer, a supplier, a manufacturer and an additional *Benchmark* category. This last category is a feature of the Tender Management module, and is fully explained in that section, under Using Benchmark prices

Status - Hold checkbox: If this is checked this name can not be used for receiving or issuing goods.

Donor checkbox: (Applicable to suppliers only) There are two situations in which this box should be checked:

1. If this supplier/organisation provides goods free of charge (either in whole or in part).
2. If this supplier/organisation provides funding (either in whole or in part) for purchasing.

Price Category: Selection of any of the categories will fix a certain price margin for that Supplier or Customer. The price category value is entered in *File > Preferences > Prices* . When goods are being issued to this customer, the selling price is increased/decreased by the percentage specified in the Preferences for this price category.

- Eg: Consider customer XYZ, who is in category B, and in the preferences category B is assigned a value of 50. If an item is issued to customer XYZ with a normal selling price of \$10, the selling price on this invoice will be \$15.

Address and contact details: These should be completed with relevant details

- For customers, you can enter separate delivery and billing addresses as necessary.

Other section - Categories: There are 6 category fields available for selecting as required. Each category has its own drop down list containing the categories which have been defined using the menu item **Supplier > Show categories...** or **Customer > Show categories...** (see Name Categories for more details). The labels of these 6 categories can also be changed in the preferences (see General preferences, Names tab for details).

These category fields are used for reporting and are available for you to make whatever entries are appropriate in your situation. For example, you might wish to subdivide your Hospital category by number of beds, or your Clinics by the number of patients seen daily, etc. Or you may wish to identify your customers by their geographical location (region, district, state etc.) or by location type - urban, city centre, rural, remote, etc. The choice is yours - the main point to remember is that these fields are searchable, enabling you to produce reports relating to very specific criteria.

Analysis: You can use this field to group together certain types of customers or suppliers. You can filter the report by selecting the group in the *Analysis* field.

Postal address: Here you can enter a postal address if it is different to the physical address of the supplier.

Mapping a customer's location

You can use the coordinates

If you locate a customer on *Google Maps* and then click the link button at the top right corner of the window, you can copy a google map link. If you copy and past the link into a text editor or word processor you will see a section that looks like this

```
ll=-21.261901,-175.140309
```

The first number after "ll" is the longitude, and the second number is the latitude. If you enter these numbers into the provided fields in mSupply, you can then view the customers location by clicking the **Google maps** button.

If the US President suddenly becomes your customer then his location would be :

- Latitude : 38.897669
- Longitude : -77.03655

Hiding Names on a per-store basis

If you check the **Hide in this store** checkbox, the customer/supplier you are currently viewing will no longer be shown in the store your are now logged in to.

- This allows you to have customers that are specific to each store.
- To find a name that is hidden, you can use the **Complex find** button in the window that is shown when you choose **Names > Show customers** or **Names > Show suppliers**

Extra information for customers only

Shipping address: If the name is a customer, shipping address fields will be shown.

Extra information for suppliers only

Currency: Enter the currency code of the currency this supplier uses for invoicing you.

Margin: Enter the percentage margin to apply to items received from this supplier.

Freight factor: Enter the amount to add to quotations from this supplier to adjust quoted prices for freight. For example: a physical check on invoices from IDA reveals that freight to Nepal generally amounts to about 15% of the net value of the invoice. Therefore we would enter "1.15" in this field for IDA. Note that if suppliers quote you "CIF" prices, then you should enter "0" here.

About Manufacturers

When you are receiving goods, you can optionally specify the manufacturer of each item. Manufacturers can be chosen from a list that is made up of names which have the *Manufacturer* checkbox checked.

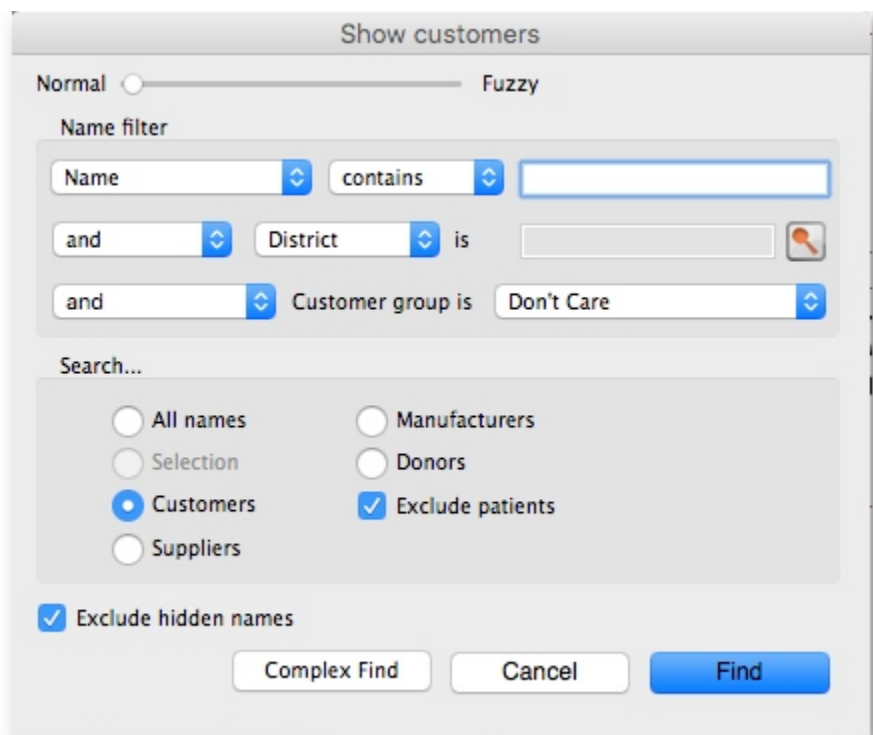
For the manufacturer field to be shown, the option must be turned on going to **Special > Show stores > [choose your store and double-click] > Preferences tab** and checking the **Able to specify manufacturer when receiving, ordering or quoting for items** checkbox

Editing a Customer, Supplier or Manufacturer

Finding a name

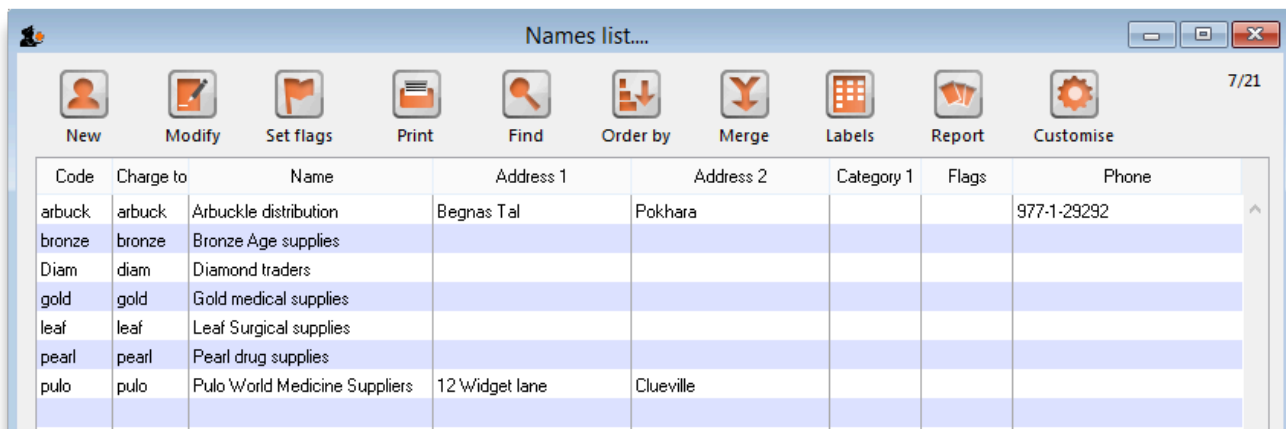
Before you can edit a name, you have to find it and display its details! For this example we will edit a customer. Editing a supplier is just the same, except that you start by choosing *Show supplier* from the *Supplier* menu.

Choose *Customer > Show Customer*. You are presented with a window to enter as much of the Customer name or code as you know:



- The **slide bar** at the top of the window may be set to Normal, at the left, or at intermediate points towards the Fuzzy end (right); this determines the accuracy of matching your entry; when set to Normal, the search will only match exactly what has been entered; when set at Fuzzy the search will list entries which are approximate matches to what has been entered. The accuracy with which the list matches the entry is determined by the position of the slider.
- If you leave the **Name/Code** text field empty, clicking the **Find** button will produce a full list of all customers.
- You can enter values for the other filters too (or them only!) if you want to refine your search.
- Note that the window has a series of radio buttons to select the target of your search - *All names*, *Customers*, *Suppliers*, *Manufacturers*, etc. So even if you start this search from, say, **Customer > Show Customers...**, by selecting the *Suppliers* radio button, you can search in suppliers rather than customers.
- The **Exclude patients** checkbox is checked by default and means that any patients you have in your datafile will not be included in the search. If you uncheck it, any patients in the current store will be included in the search.
- The **Exclude hidden names** checkbox is checked by default and means that any names hidden in your store (but probably visible in other stores) will not be included in the search. If you uncheck this box then the search will include all names in all stores, and their visibility will be ignored.

If the search finds only one name that matches the filter criteria you entered, its details window will be displayed. If more than one name matches then you are shown a list of them all:



Buttons in the names list window

New: This button allows you to enter the details of a new customer

Modify: This button opens a window displaying the details of the highlighted customer, allowing their details to be modified.

Set Flags: This button allows you to mark certain names with a flag.

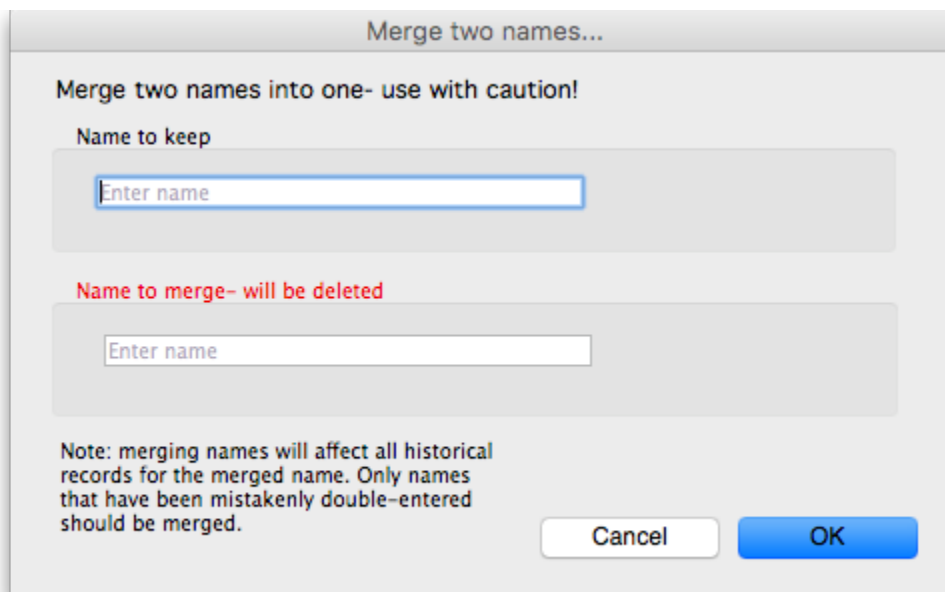
- First, highlight the names you wish to flag by holding down the control key (command on Mac) and clicking the names in the list you wish to use. Then click the Flags button to show a window where you can enter the flag you wish to add, and decide whether to replace any existing flags or append the new flag to the old one.

Print: Clicking this button will print a list similar to the one displayed on screen.

Find: This button shows the same find window as choosing the menu item did so you can find a different group of names.

Order by: This button allows you to sort the displayed list by the criteria you choose. The Labels and Print buttons will use the order that is displayed. By default, names are displayed alphabetically based on the name column.

Merge: This button allows two customers to be merged into one; highlight the two entries click on the Merge button to display this window:

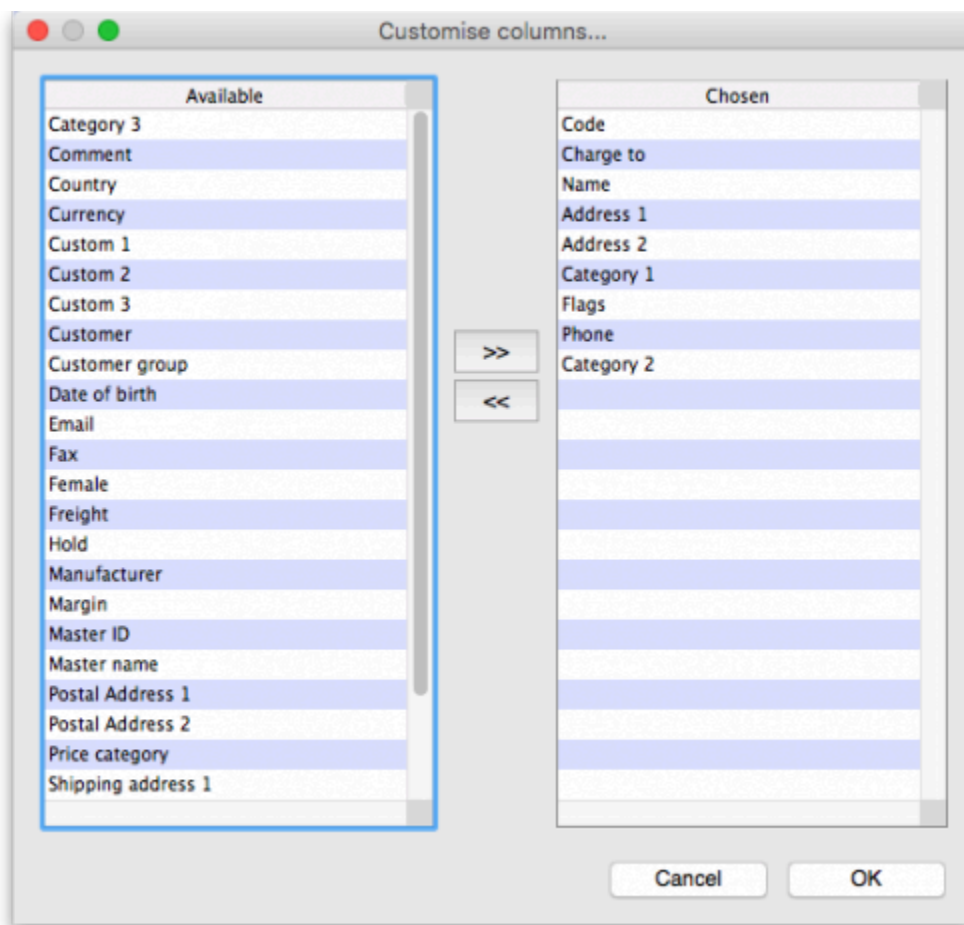


Choose the record you wish to keep and click on *OK* ; the data from the deleted record is then merged with the data of the record being kept. If you change your mind, click on the *Cancel* button, and the merger will be cancelled.

Labels: Clicking this button allows you to print address labels for the names in the list. The label editor is displayed.

Report: Click on this icon to open the Quick Report editor window. Use of the Quick Report is discussed elsewhere in the guide. See Custom Reporting Tutorial

Customise: Allows you to choose which columns to display using this window (Note: this only affects the columns you see in this list, it won't affect what other users see):



Columns on the left are available. Columns on the right are the ones in use in your names list. Click a row in either column then click the move left or right button to transfer it to the other column. Click **OK** when you're done, or **Cancel** if you want to stick with what you've got. Your choice of columns to display will be remembered for the next time you display a list of names (customers, suppliers etc.).

OK Button: Closes the window

Editing or viewing a name

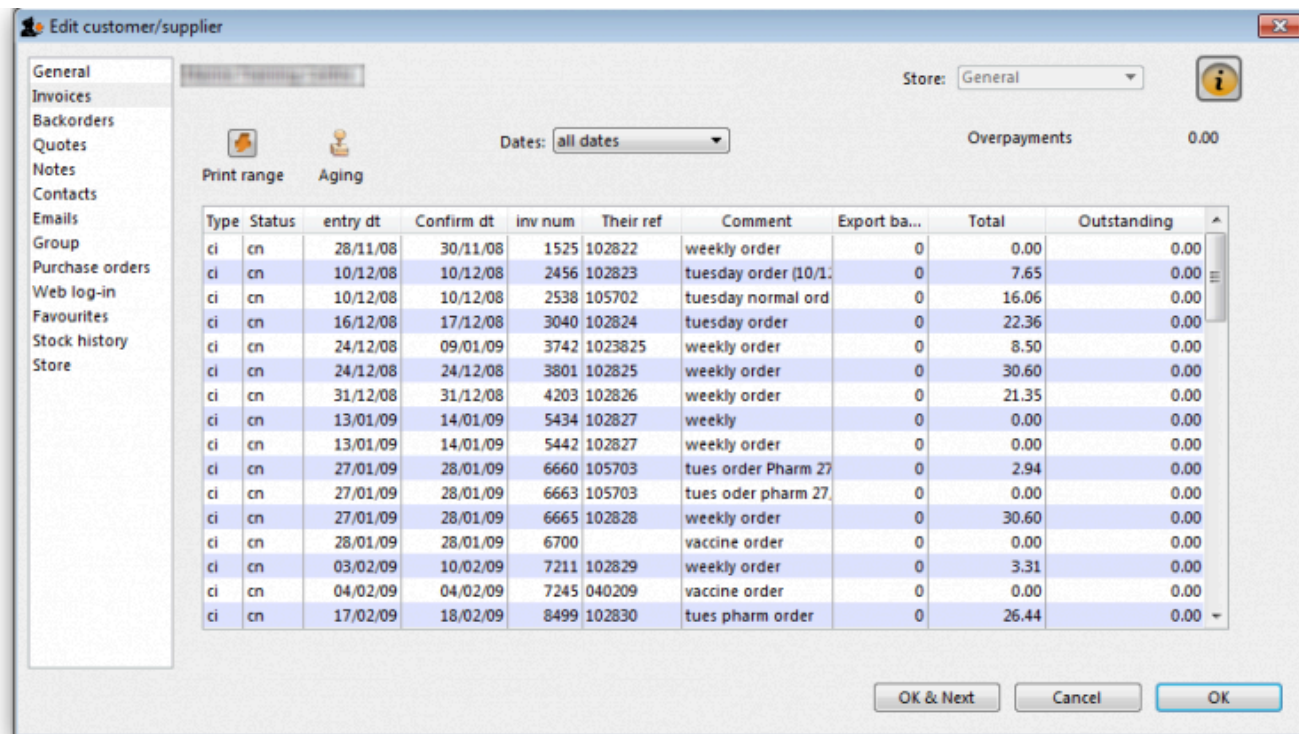
To edit/view a particular name, if you are looking at a list of names double-click the name you want to edit on the list (no need to do this if you are already looking at the name's details page because only 1 name was returned from your search).

You will be shown the name's detail window which has a sidebar showing several tabs, *General*, *Invoices*, *Backorders*, *Quotes* etc. and opens at the *General* tab:

The screenshot shows the 'Edit customer/supplier' window. The sidebar on the left lists various tabs, with 'Invoices' being the focus of the subsequent text. The main window is divided into several sections for data entry. The 'Name' section includes fields for Code, Charge to, Name, and Master ID. The 'Contact' section includes fields for email, web site, Phone, and Fax. The 'Status' section has a 'Hold' checkbox. The 'Price Category' section has a dropdown menu. The 'Customer details' section includes a 'Store' dropdown and a 'Printing' checkbox. The 'Category' section has radio buttons for 'Customer', 'Supplier', 'Manufacturer', and 'Benchmark'. The 'Other' section includes dropdown menus for 'Category 1-6' and a 'Flag' field. The address sections include 'Main/Billing Address', 'Postal address', and 'Shipping address', each with multiple text input fields. At the bottom, there are buttons for 'Delete name', 'OK & Next', 'Cancel', and 'OK'.

The Invoices tab

Here you can view the invoices for a customer or supplier.



You are able to edit an invoice directly from this window by double-clicking the one you wish to edit. A new window will open with the invoice details displayed.

Customer invoice

Name: Confirm date: 17/12/08 Colour:

Their ref: 102824 CS04 Period: 01/01/08 - 31/12/08 Invoice: 3,040

Comment: tuesday order Category: None Entry date: 16/12/08

Goods receive ID: 0

Status: cn

Entered by: Pharmacy assistant

Store: General

New line Delete line(s) Backorders History

General Summary by Item Summary by Batch Transport details

...	L...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
	1	TAB	Condom male unit	5	144	6J107	30/09/11	0.00	0.00
	2	NON	Gauze swab 8ply 10cmx10cm	3	1			4.58	13.76
	3	NON	Gauze swab 8ply 5cmx5cm	5	1			1.72	8.60
	4	NON	Examination Gloves large	1	100			0.00	0.00
	5	AAA	Amoxicillin 500mg cap	1000	1			0.00	0.00
	6	VAC	Hep B 10 dose vial	20	1	WVA0602	26/11/09	0.00	0.00
	7	LTE	Chlorhexidine 1% solution (mL)	1	5000	80356	30/03/12	0.00	0.00

Other charges Item: Amount: 0.00

Subtotal: 22.36

0 % tax: 0.00

Total: 22.36

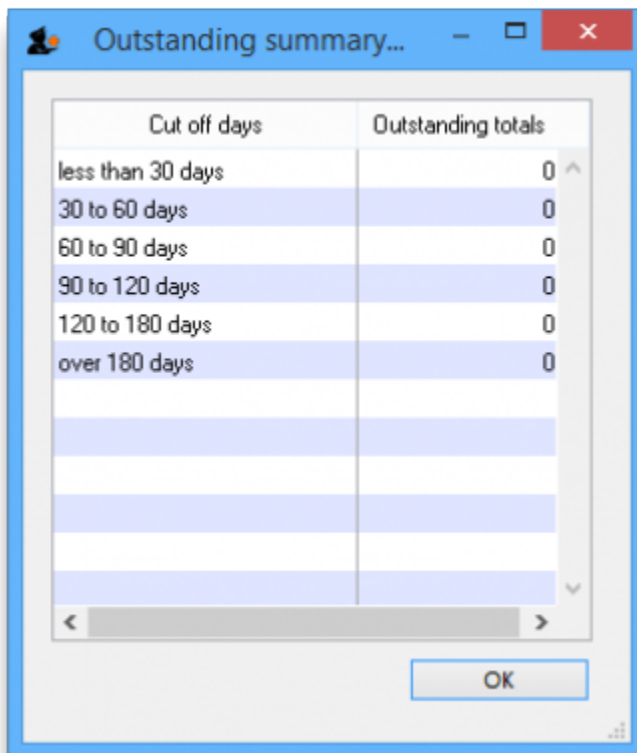
Hold Finalize Export batch: 0

OK & Next Delete OK

Buttons on the Invoices tab

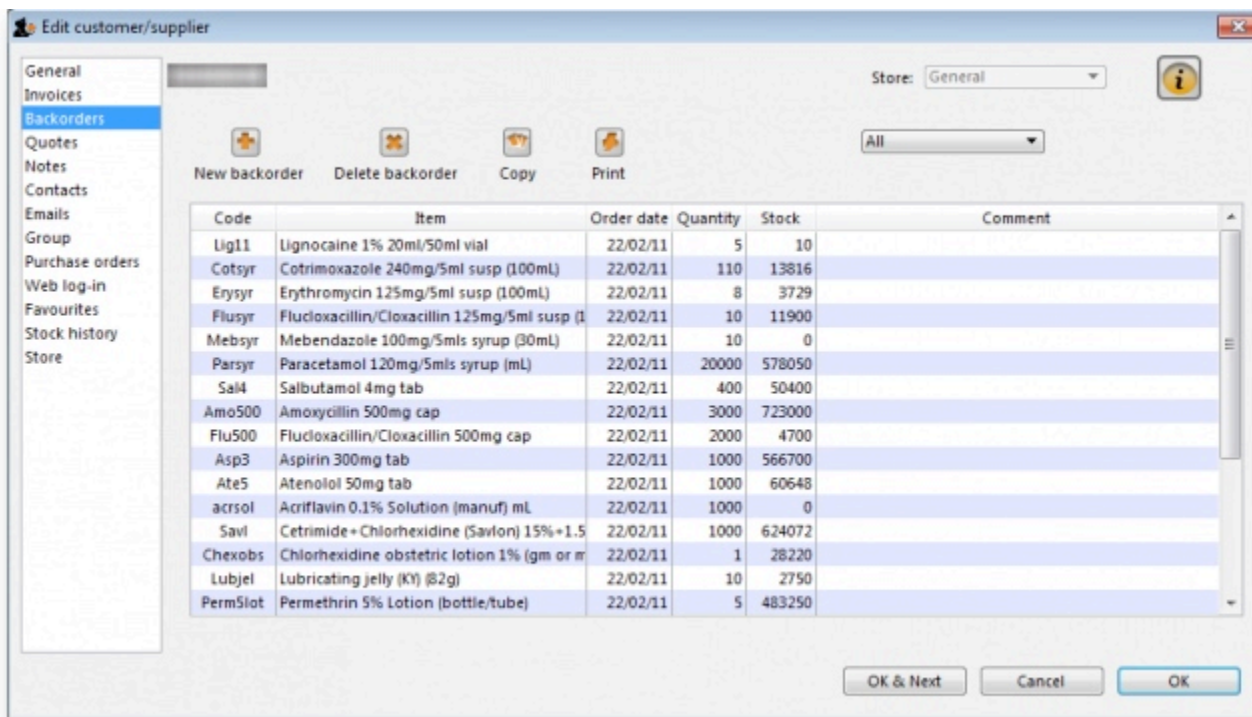
Print Range: Click this button to print a range of invoices for a customer. You will be asked to enter the first and last invoice numbers to be printed.

Aging: Click this button to display a list of aging categories and the outstanding unpaid balance for each invoice in each category.



Dates: Choose a date range from this menu to show quickly recent invoices, or to revert to showing all invoices

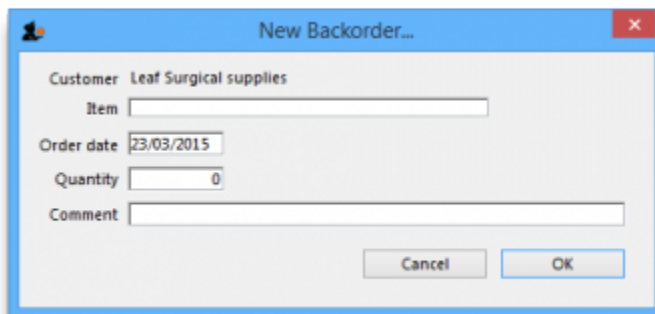
The Backorders tab



- Here you can view, add and edit the backorders for a customer. mSupply allows entry of backorders against suppliers as well, but we are not sure why you would want to do this!

Buttons on the backorders tab

New backorder: Clicking this button presents you with a window where you can add a backorder line for this customer.



- Type at least a portion of the item code or item name, then press the Tab key.
- Today's date is automatically entered. You can change the date if you like
- Enter the total quantity owing.
- Enter a comment (e.g. an expected arrival date)
- Click OK to save changes and exit the window.

Delete backorder: Click a backorder line to highlight it, then click this button to delete the line.

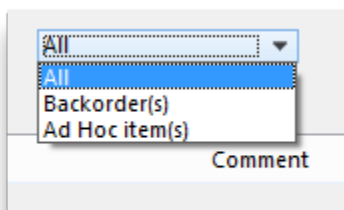
Copy: This command copies the backorder to the clipboard, allowing you to paste the report into an email message, word processor or spreadsheet document.

Print: The list of backordered items for the customer is printed.

Viewing Backorders

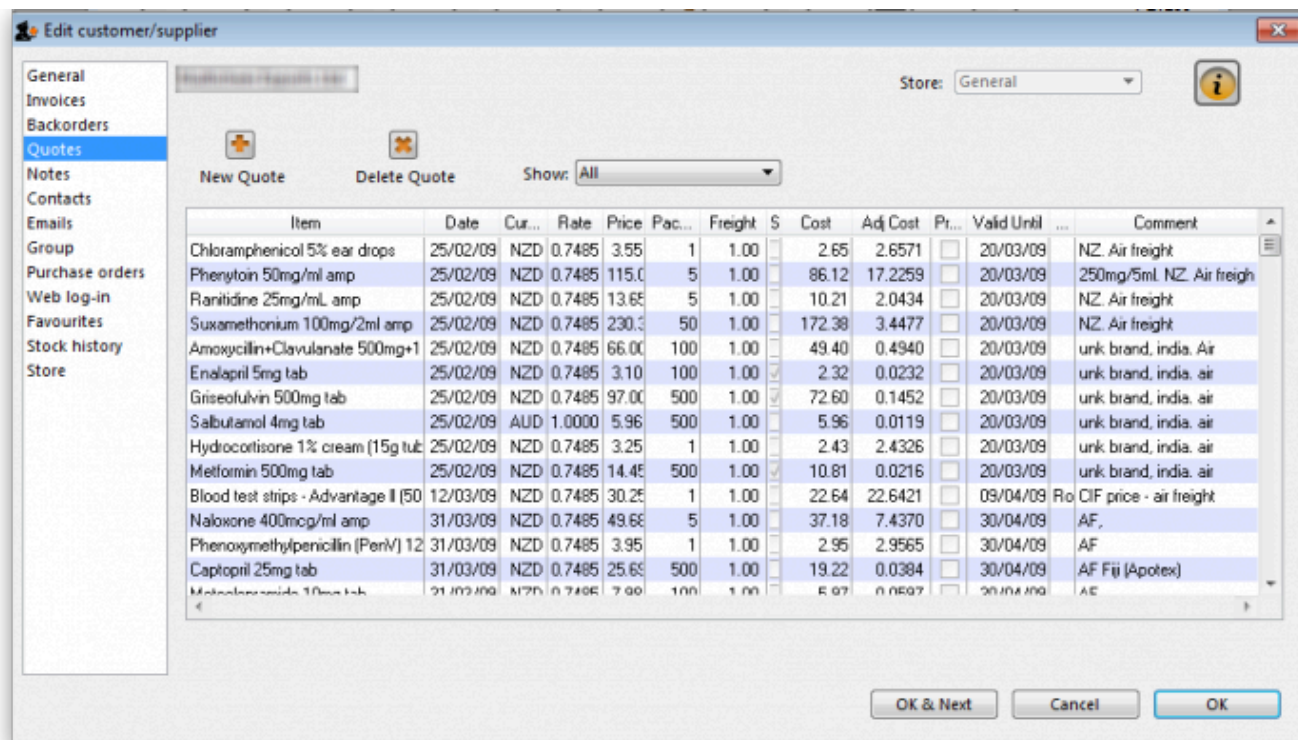
Double-click a backorder line to edit the line. You will be shown the backorder entry window, where you can change any details you wish.

Show: This drop-down list allows you to choose which backorders to display.



- Backorders are normal items that have not been supplied to customers.
- Ad Hoc items are items that customers have ordered but which you do not want to add to your stock list, rather making a special order just for that customer.

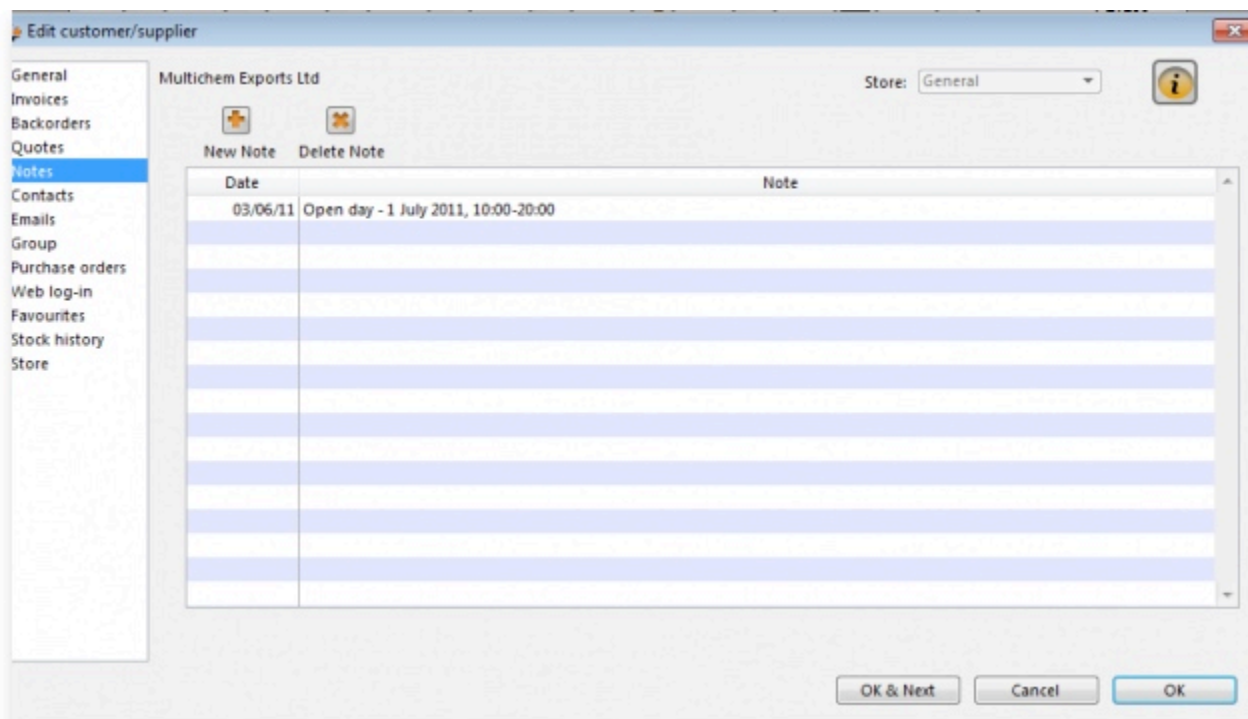
The Quotes tab



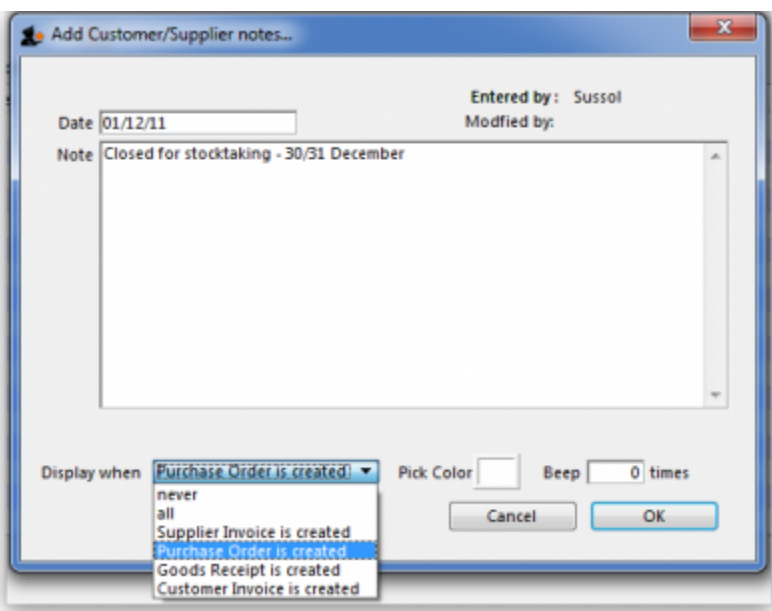
You can view the quotations you have entered in mSupply for this supplier.

The Notes tab

To add, edit or delete a note, click on the *Notes* tab, and this window displays:



Click on *New note* to create a note, or select an existing note and double click on it to view, edit or delete it.



- The date on which you are entering a new note is already completed, and in the main panel you should type in the wording of the note itself.
- In the lower left of the window is a drop-down list offering various choices concerning the displaying of the note on screen; it may appear as an alert when a Supplier invoice is created, when a Purchase Order is created, etc..

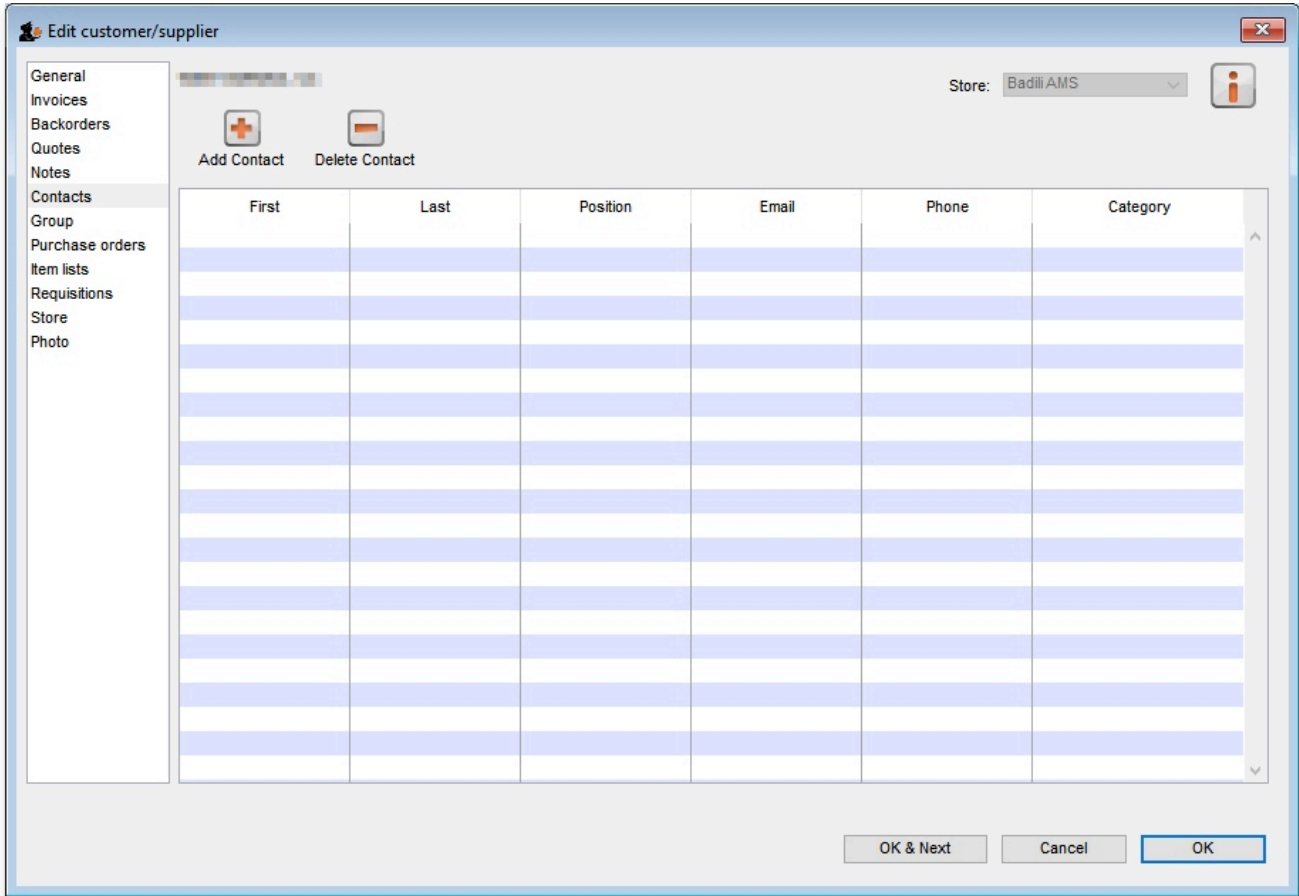
If **never** is chosen, the note will never be displayed on screen, and if *all* is chosen, it will display for all events for this customer/supplier. You may also set the background colour of the note, but as the text is always black, dark colours should be avoided. A further option allows you to have one or more audible 'beeps' sound when the note is displayed. Each note will display according to the attributes set for it, independently of other notes defined for the same customer/supplier.

Subsequently, when this customer/supplier is selected and depending on the display settings made, the note will appear on screen; be aware that the note does not disappear automatically - you must close it/them manually.

The text of a note can be up to 32,000 characters.

Click **OK** when you are finished.

The Contacts tab



Adding a Contact

To add a contact for this customer or supplier, click the **Add contact** button , then enter the details in the window that appears.

Add a contact...

Last

First

Position

Phone

Email

Address 1

Address 2

Country

Comment

Category

Category 2

Category 3

Info if related to a customer or supplier...

Name

Web Login



Can login to the web interface

Username

Password

Groups

This contact belongs to the following groups:

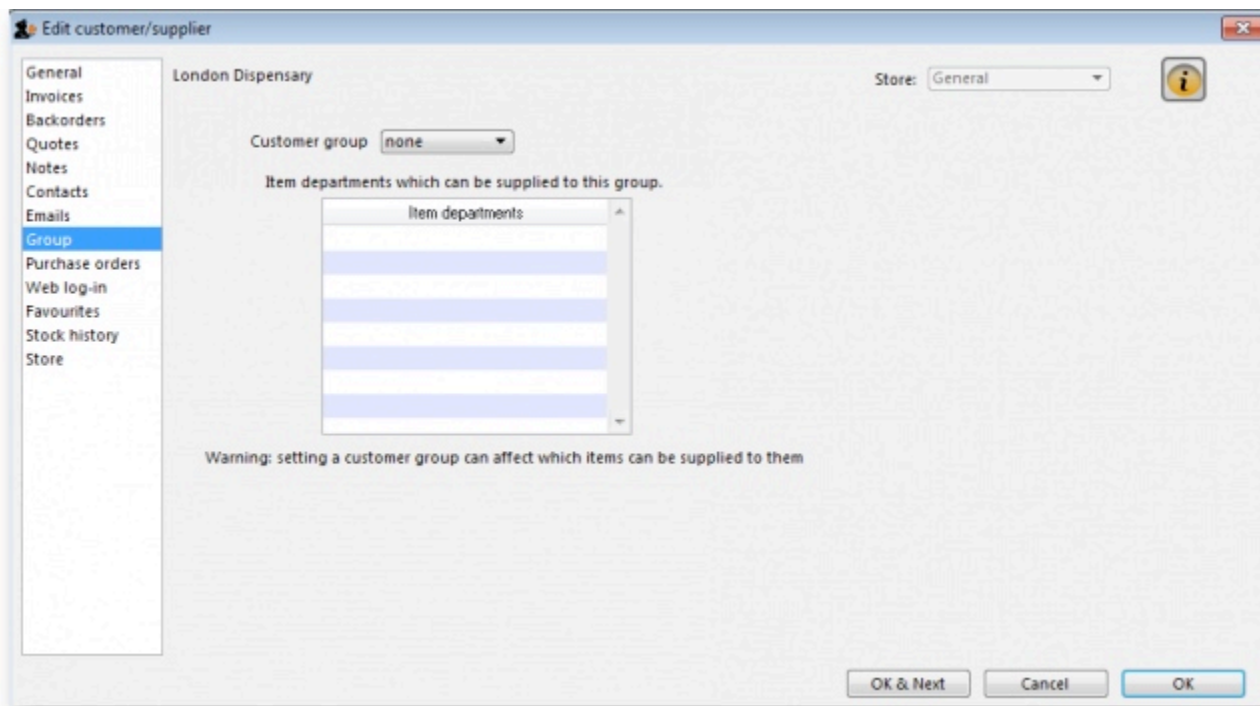
Add Group Remove Group

Cancel OK

Deleting a Contact

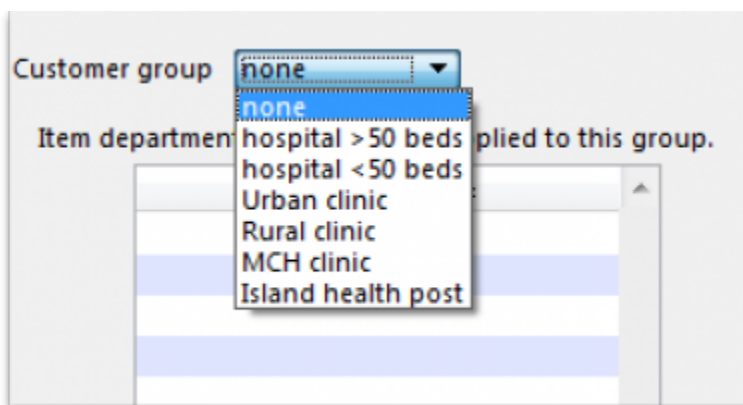
To delete a contact, click on the contact you wish to delete, then click the **Delete contact** button.

The Group tab



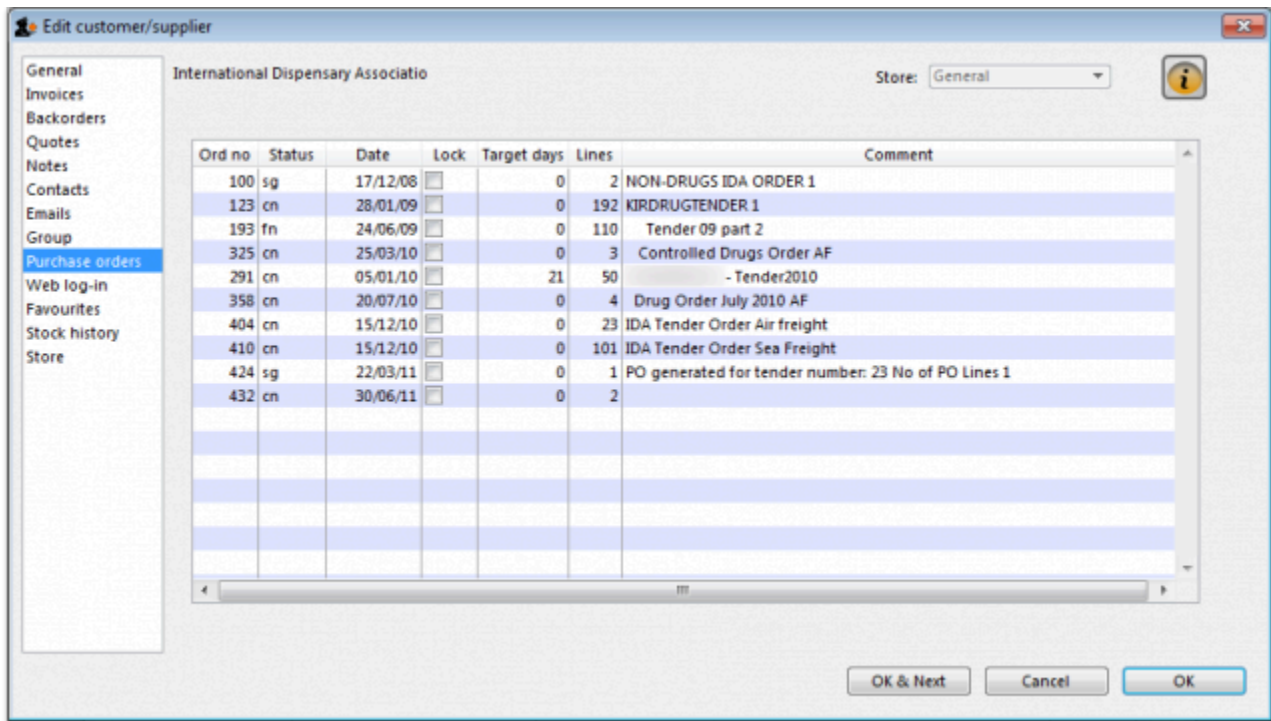
Groups are only relevant to customers, not suppliers.

If this customer has been added to a group, this tab displays the name of that group. An explanation of groups and how to work with them will be found here: [Show groups...](#)



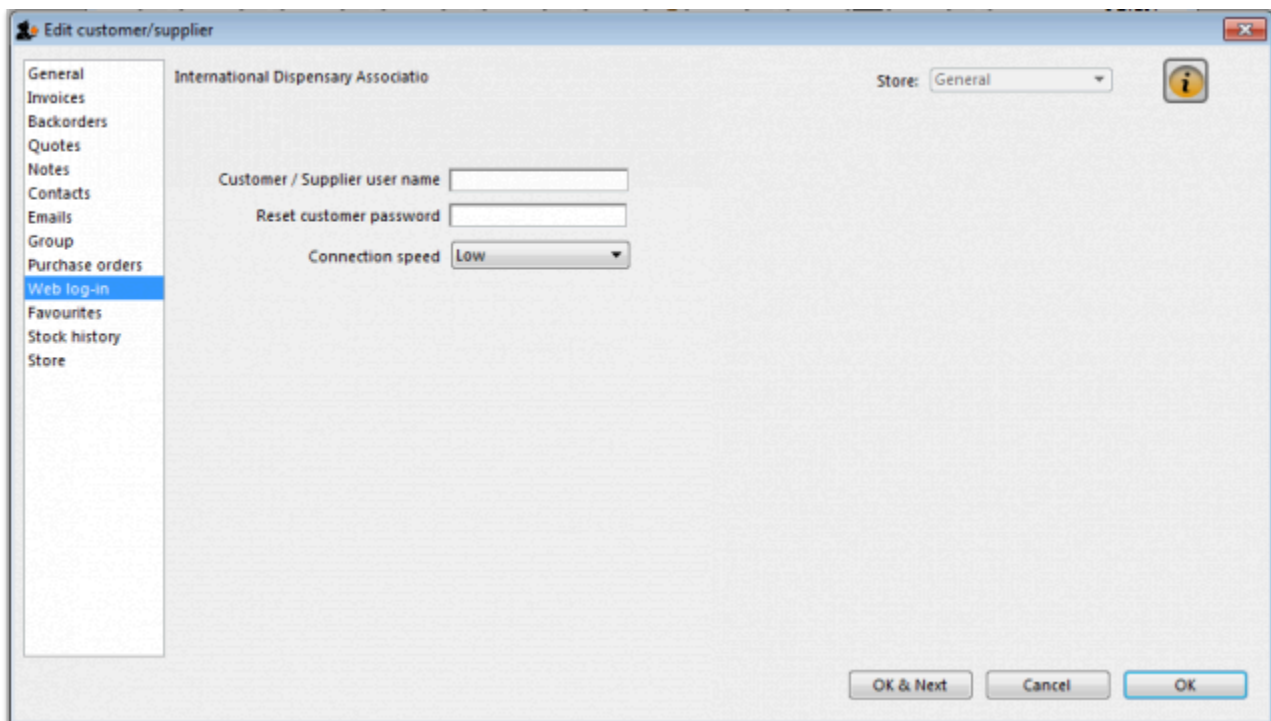
Here you can select the group of which a customer is a member. When you choose a group, you will be shown a list of item departments which are linked to the chosen group. Once the group system is activated in the Preferences, only items belonging to one of the listed departments (or items with no department) may be supplied to that customer.

The Purchase Orders tab



This tab shows a view of Purchase Orders for the current name, and applies to suppliers only.

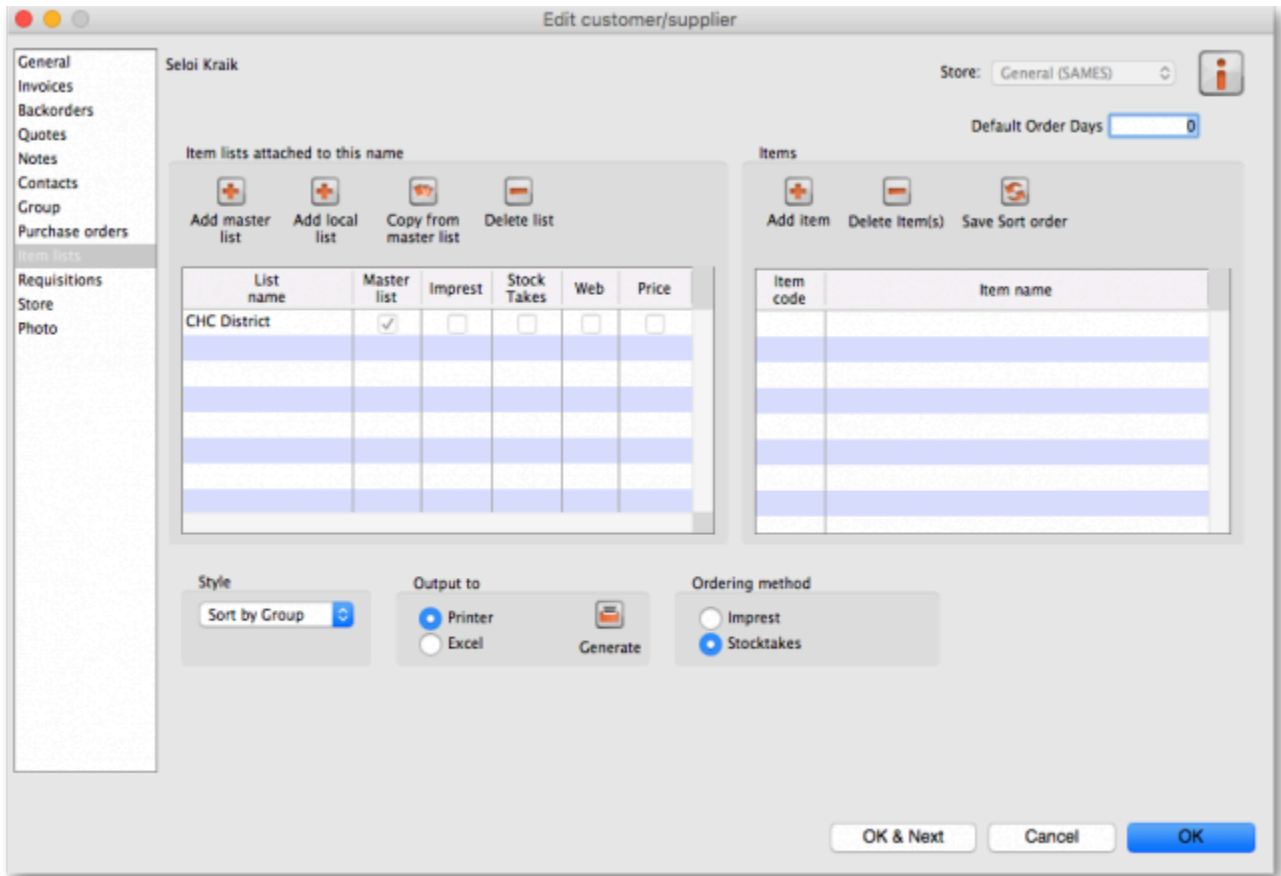
The Web log-in tab



If you are allowing customers to access their order information using the mSupply web server, this is the window where you assign a logon name and password to a customer.

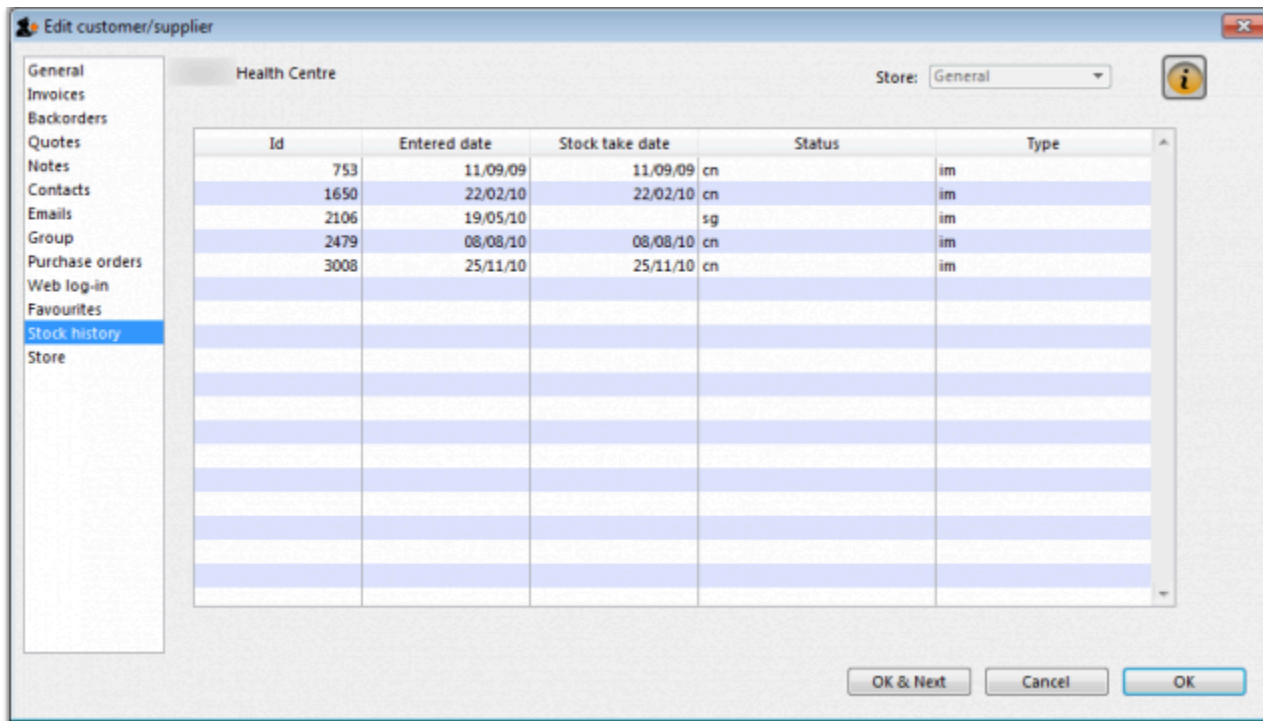
Also displayed on this tab is the internet connection speed. It should be noted that this value is derived from your network settings, and may not be edited manually.

The Item lists tab



This tab is used to assign master lists to customers for use in requisitions and mSupply mobile. For more information, see Item master lists.

The Stock history tab

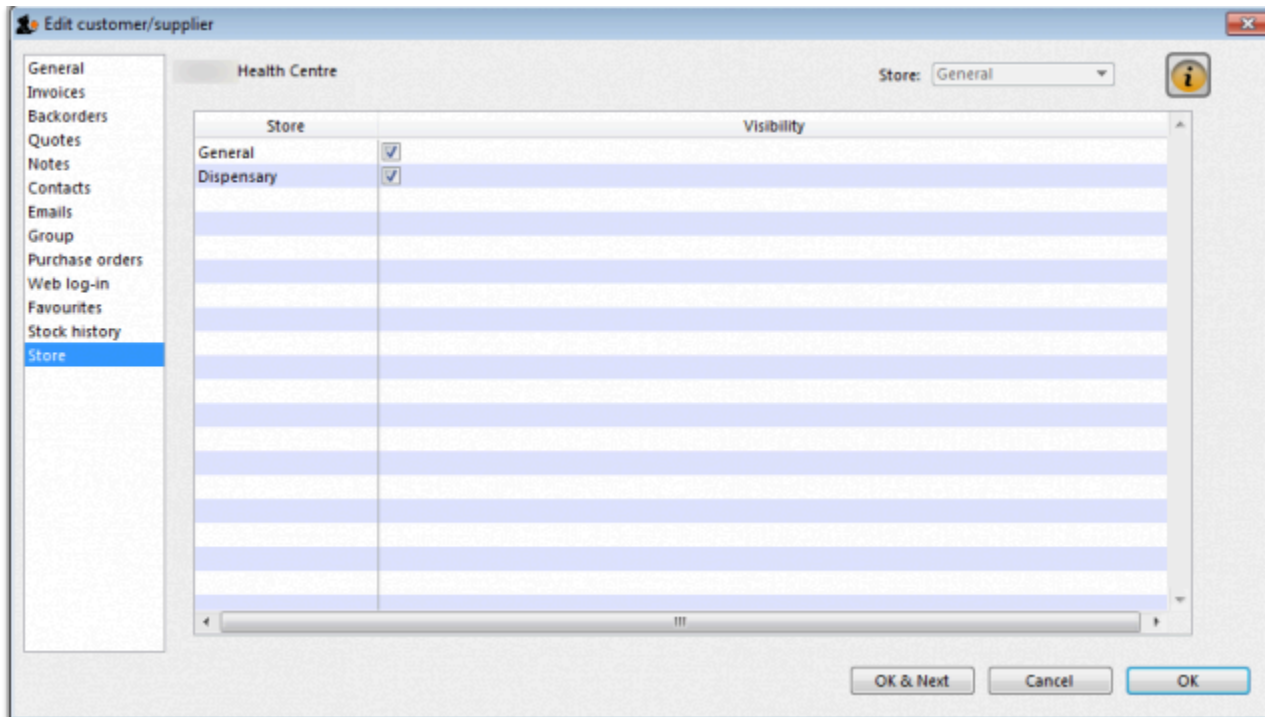


A list of stock histories, showing dates of both the stock take and the date of entry into the computer, the ID reference, the status and the type, is displayed.

The Store tab

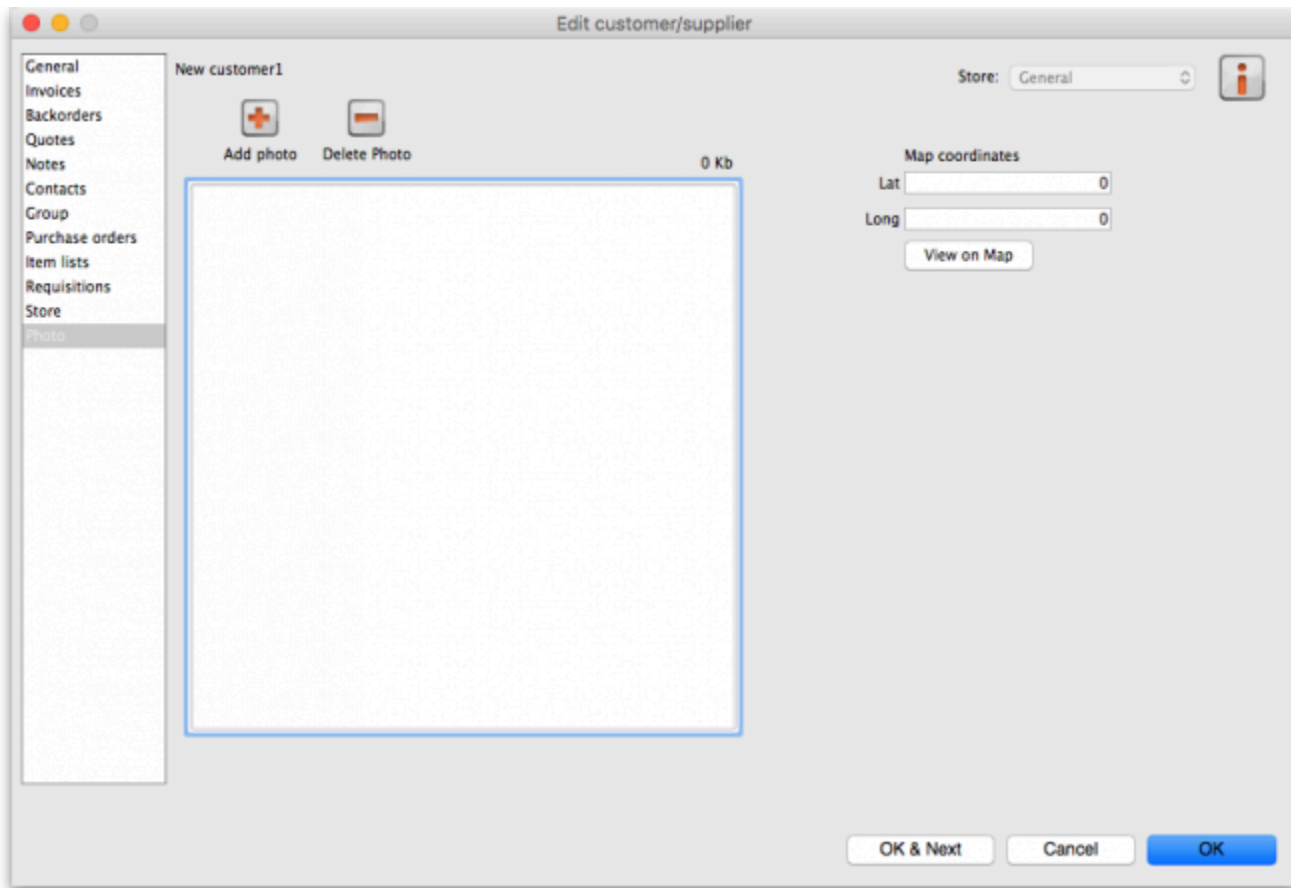
Only users who have Admin privileges may access this feature. See Managing users

When the *Store* tab is chosen, this window appears.



The window shows which stores the customer/supplier is visible in i.e. which stores it may be used in. Only when the visibility checkbox is checked, is the customer/supplier visible (and able to be used for receiving and/or issuing goods) in that particular store.

The Photo tab



On this tab you can assign a photo of the customer or supplier and set their world map coordinates. Both of these can be used in reports.

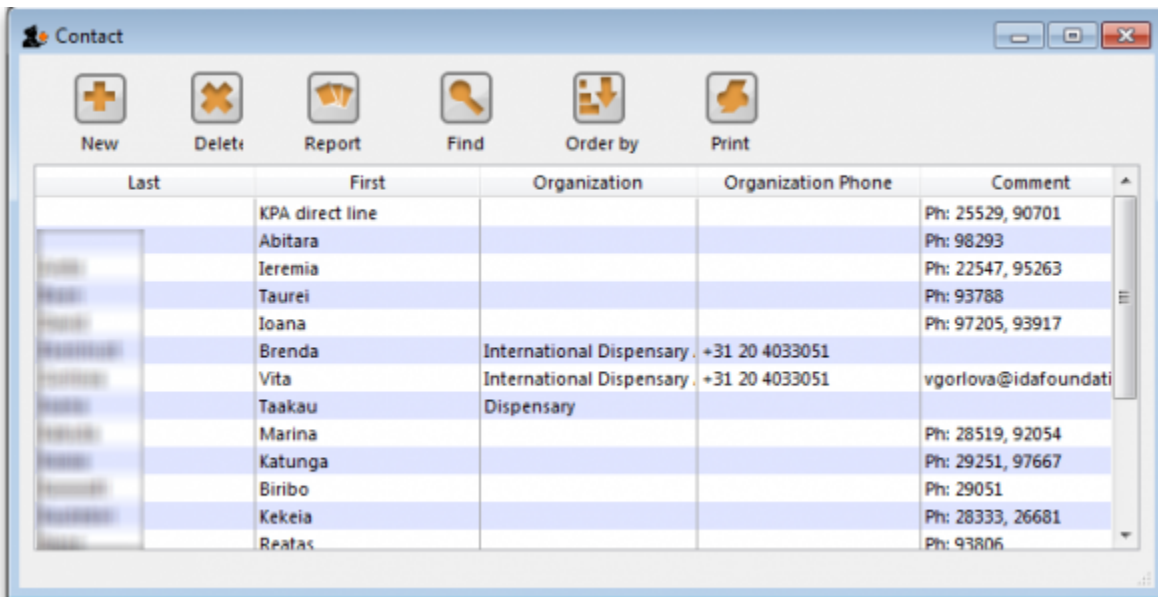
To add a photo, either copy the contents of a file to the clipboard and paste them into the image area or click on the **Add photo** button and select the picture file (png, jpg, bmp or gif files supported).

To delete a photo either click on it in the image area and press the delete key on your keyboard or click on the **Delete photo** button.

Previous: Units Next: Contacts

Contacts

This command from the *Special* menu displays a window where you can edit contacts.



Contacts are usually associated with a name (a customer or supplier), and it is easier to edit such contacts using the “show suppliers...” or “show customers...” command.

If a contact is not associated with a name, you can edit details for that contact using this command.

Buttons in the contact list window:

New: Use to add a new contact.

Report: Presents the Quick report editor window. See Using the Query Search editor

Find: Use to find an individual contact

Order by: sort the contacts

Print: clicking this button will present you with a dialog with two choices:

- If you click *list* a list will be printed of the records in the window.
- If you choose *labels*, you will be shown the label editor, allowing you to print a set of address labels for the current list of contacts. Note that you can save a particular label layout and then use the *load* command in the label editor to restore your layout.

New: To edit a contact, double-click on the line you want to edit. You will be shown the contact details:

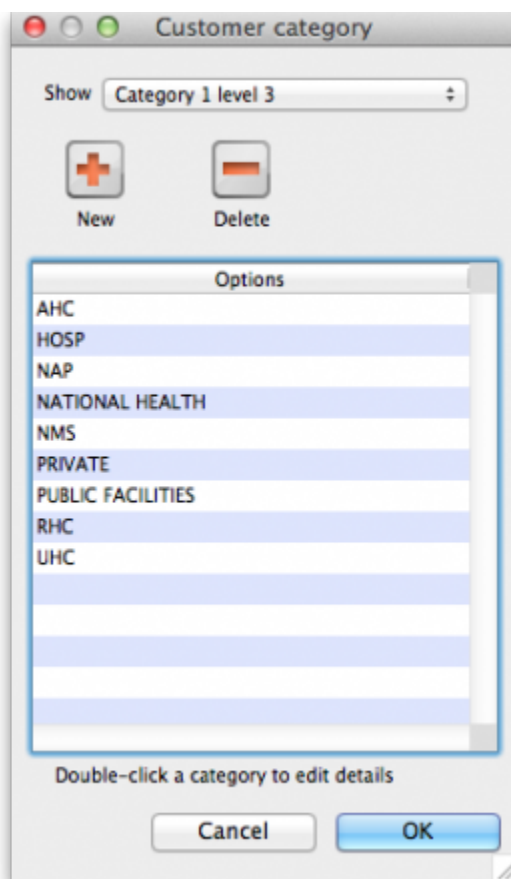
The image shows a standard Windows-style dialog box titled "Edit contact...". It features a blue title bar with minimize, maximize, and close buttons. The main content area is white and contains several text input fields. The "Last" field contains "Stewart", the "First" field contains "Bill", the "Position" field contains "Director of Pharmacy Services", and the "Comment" field contains "Ph: 97488, 93216". Below these is a section titled "Info if related to a customer or supplier..." which includes a "Name" field that is currently empty. At the bottom of the dialog are two buttons: "Cancel" and "OK".

Previous: Names: Using, adding and editing Next: Merge two names....

Name categories

You can categorise names in mSupply with 6 different categories. This is very helpful for producing detailed reports. You can apply one or all or some of these categories to a name. Categories 2-6 are standard categories but category 1 is special - it's hierarchical and has 3 levels, level 1 is the top and level 3 is the bottom (similar to item categories).

Suppliers and customers have their own sets of categories. To view and edit them you choose *Show categories* from the *Customer* or *Supplier* menu and that brings up this window:



Here you can add and edit categories for your suppliers or, in this case, your customers.

Show drop down list: This determines which category type is shown in the list and which type of category will be created if you click on the *New* button. Note that the Category 1-6 labels in the drop down list will be replaced with any custom labels you have defined in the category label preferences in the General preferences, Names tab.

Delete button: Deletes the category you have selected in the list. You'll be asked to confirm the deletion first of course!

New button: Opens up the new category window which looks like this (Note that double clicking on a category in the list opens up this window too but it will be populated with the current settings for the category you double clicked so that you can edit them all):

The image shows a standard macOS-style dialog box titled "New category...". It has a title bar with red, yellow, and green window control buttons. The dialog contains the following elements from top to bottom:

- A text input field labeled "Description".
- A text input field labeled "Category_user_field_1".
- A text input field labeled "Category_user_field_2".
- A dropdown menu labeled "Parent Category" with "None" selected and a small arrow icon on the right.
- Two buttons at the bottom: "Cancel" (light gray) and "OK" (blue).

Description: This is the category name and will be seen everywhere when assigning names to categories or filtering on name categories in reports.

Category_user_field_1: This is a user-defined field. If a label has not been entered in the preferences then the default *Category_user_field_1* shown here is used. The information you enter here is used in some reports.

Category_user_field_2: A second user-defined field, same rules as for *Category_user_field_1* apply.

Parent category drop down list: This only appears if you're editing a category 1 level 2 or 3 category because they are the only ones that can have parent categories. A parent category is the category to which this category belongs. If the category you are creating or editing is level 3 then you will be able to choose one of the level 2 categories as a parent. If you are editing a level 2 category then you'll be able to select one of the level 1 categories.

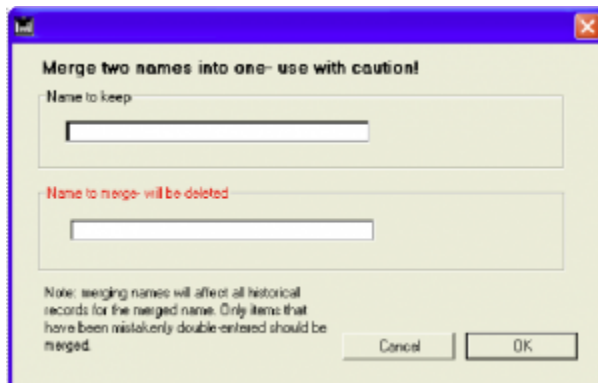
Previous: Contacts Next: Suppliers: Adding and Viewing

Merge two names

If you accidentally enter two names into *mSupply* that identify the same organisation, you can use this command to combine them.

Use extreme caution: This operation will move all historical records from the name you delete to the name you are keeping. The operation can only be undone by reverting to a backup copy of your data file.

In the window displayed enter the name to keep, and then the name to delete. When you have checked then checked again that the information is correct, click the **OK** button. You will be given one last chance, and then.....



You can also merge a name into a virtual store (the store must be the name to keep). This is particularly useful if, for example, you have a customer which you now want to turn into a store to manage their stock more fully. This has the benefit of moving all the transactions connected with the customer into the store so that you don't lose any historical transaction information. Note that when you carry out such a merge you must finalise all transactions belonging to the customer first (mSupply will tell you to do this if you have not already).

If the virtual store is 'Active' on a satellite server in a synchronised system (refer Remote Synchronisation) then the merging needs to take place on the primary server.

Previous: Contacts... Next: Name Categories

Suppliers: adding and viewing

New Supplier

To add a supplier, choose this item.

Note- if this supplier will have invoices entered against it and you are exporting invoice data to an accounting program, a new “creditor” must be made in your accounting software with the same code, or you will get an error when you import! (You can usually make the code when you get the error in your accounting software when you try to import!)

The window for viewing/editing a supplier contains basic information. Fields that especially relate to suppliers include:

Currency: If you are using currencies, enter the currency used by this supplier. This value will be filled in with the value set in the “default currency” option of the Preferences.

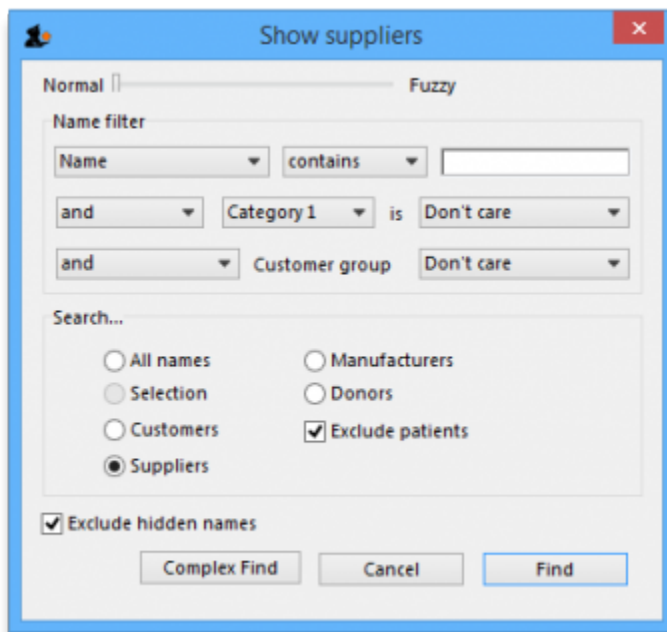
Margin: The amount (as a percentage) that will be added to the cost price to calculate the sell price when you enter an invoice. For example, if you enter “10”, items from this supplier that are bought for 30 dollars will have their value increased by 10% (i.e. 3 dollars) and will be sold for 33 dollars.

Category: You will note that the Supplier box is already checked. The special Benchmark category is discussed fully in the section on Tender management, which you can access here.

Freight factor: The amount to multiply supplier quotations by to account for freight charges. (If their quotations are “CIF” you should set this to zero).

Show suppliers

This item allows... you guessed it - you to view suppliers. This window is displayed.



In the field, type as much of the supplier name or code as you want to. If there is only one matching item, the details will be displayed, otherwise a list will be displayed from which you can choose the name you want by doubling clicking it.

Note that if a supplier has invoices entered against it, you will not be able to uncheck the “supplier” check box, and you will not be able to delete the supplier.

Previous: Merge two names Next: Introduction to Tender management

Introduction to tender management

Introduction

In order to achieve the best value for available funds, it is common practice to seek out the best prices for the medicines that will be required, usually for the forthcoming year, by publishing a tender. Normally, the full tender process creates a lot of work which can be very time consuming and error prone. The mSupply tender module is designed to make the process as simple as possible, to minimise the work involved and to reduce the chance of errors.

As usual in a tender process, forward planning is necessary, as the process must be started several months before the goods will be on site and available for use.

The work flow for using the tender module is:

1. Prepare list of items and quantities. See . When all items have been added to the tender, it should be set to *confirmed* status.
2. Distribute list to suppliers. See Adding suppliers to a tender
3. Create benchmark prices. See Using Benchmark prices
4. Evaluate received quotations. See Receiving Quotations from suppliers
5. Select preferred suppliers. See Accepting tenders. After selecting the preferred suppliers for all items, the tender should be set to *finalised* status.
6. Create Purchase Orders. See Supplier responses & Creating Purchase Orders

From your usage history, mSupply can prepare a list of items and anticipated quantities. This list is distributed to suppliers, who are invited to submit, after a reasonable period of time, their quotations, inclusive of all additional charges., e.g. freight.

The list may be uploaded to the web, and interested suppliers invited to submit their quotations online; conventional methods of submitting quotations are also available. We recommend the online method, as it reduces paper consumption, and is less labour intensive.

Once all the quotations have been received, mSupply will assist in processing them, comparing quotations, performing necessary currency conversions where appropriate, applying freight charges etc. mSupply will mark the lowest item price blue. If two lines are the same price and are the lowest price both will be coloured blue.

The user then has all the relevant information enabling informed choices to be made in selecting which supplier for which item.

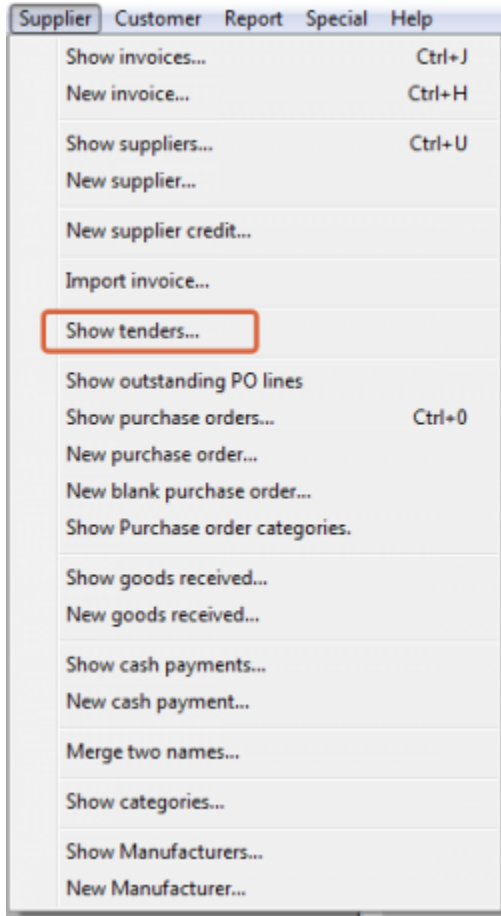
Finally mSupply will create Purchase Orders for the successful bidding suppliers. While mSupply can perform all these tasks from stored usage data, it will allow users to change supplier and/or quantities, should special circumstances prevail in particular situations.

Preferences: There are preferences that can be set for the tender process, see tender preferences.

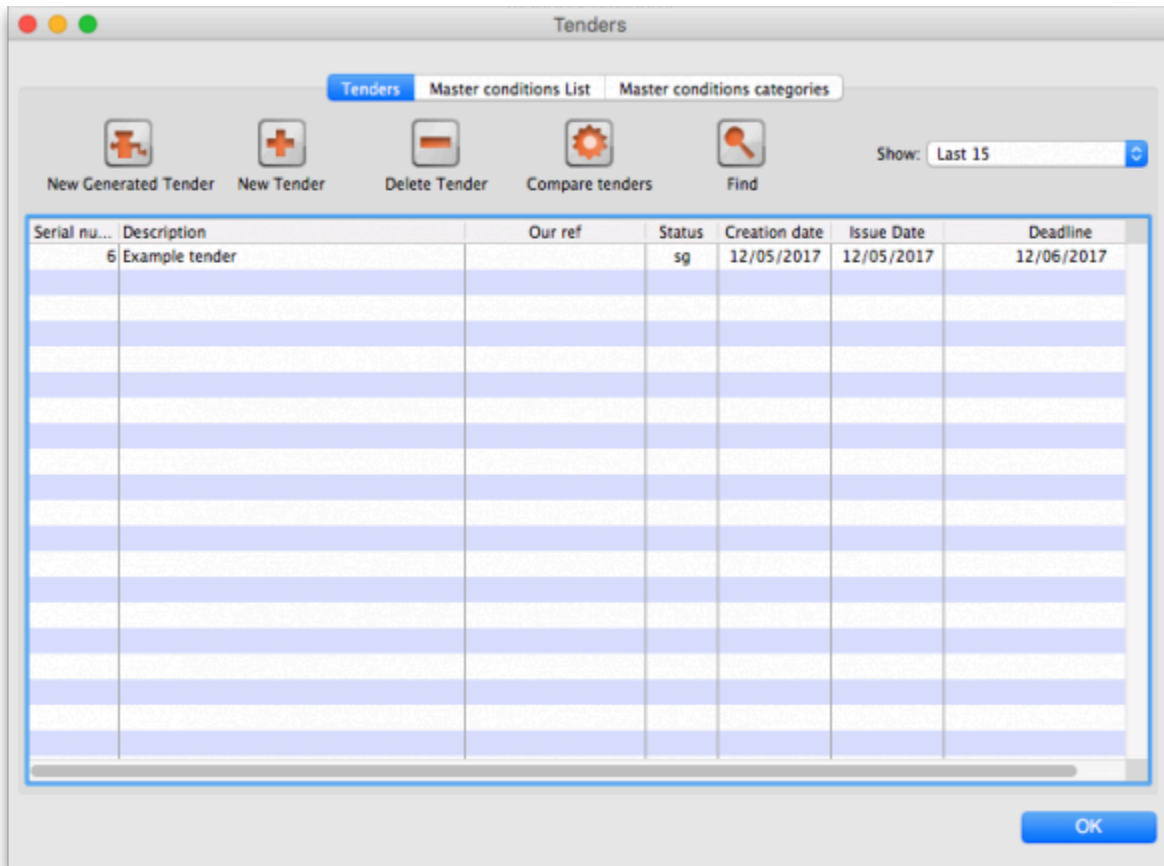
Note that for multi-user installations, Tender management activation requires payment of a fee. Please see the website here (<http://www.msupply.org.nz/index.php?s=pricing>) or contact Sustainable Solutions for more information.

Getting started

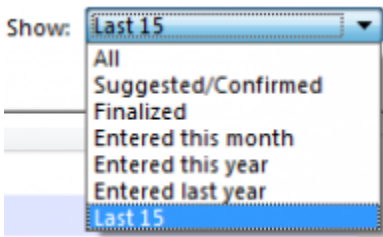
Select *Show tenders...* from the supplier menu or from the Navigator's Suppliers tab.



A window is shown with a list of current tenders (if any) and some options:



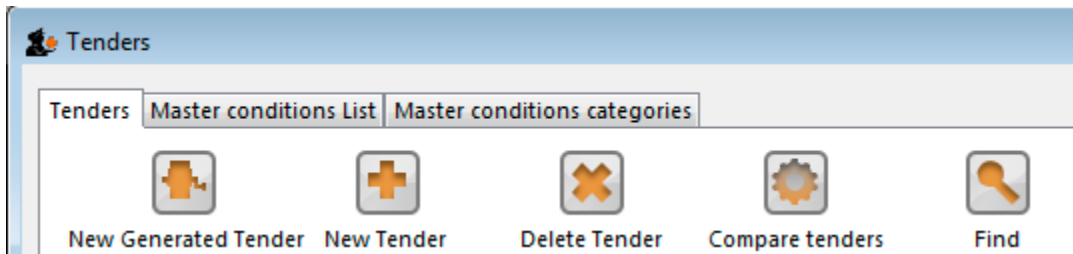
The *Show* drop down list is a filter which allows the list of tenders displayed to be changed:



Creating a new tender

Two options are available :

- *New Generated Tender* Once you have been running mSupply for a year, and providing that year is fairly typical of your overall usage, the *New Generated Tender* is recommended; this option will suggest quantities based on actual usage, having regard to seasonal fluctuations, thus eliminating any guesswork. Note, however, that quantities are suggested only, and may be amended as required.
- *New Tender* - allows you to create the tender manually and is a more labour intensive process.



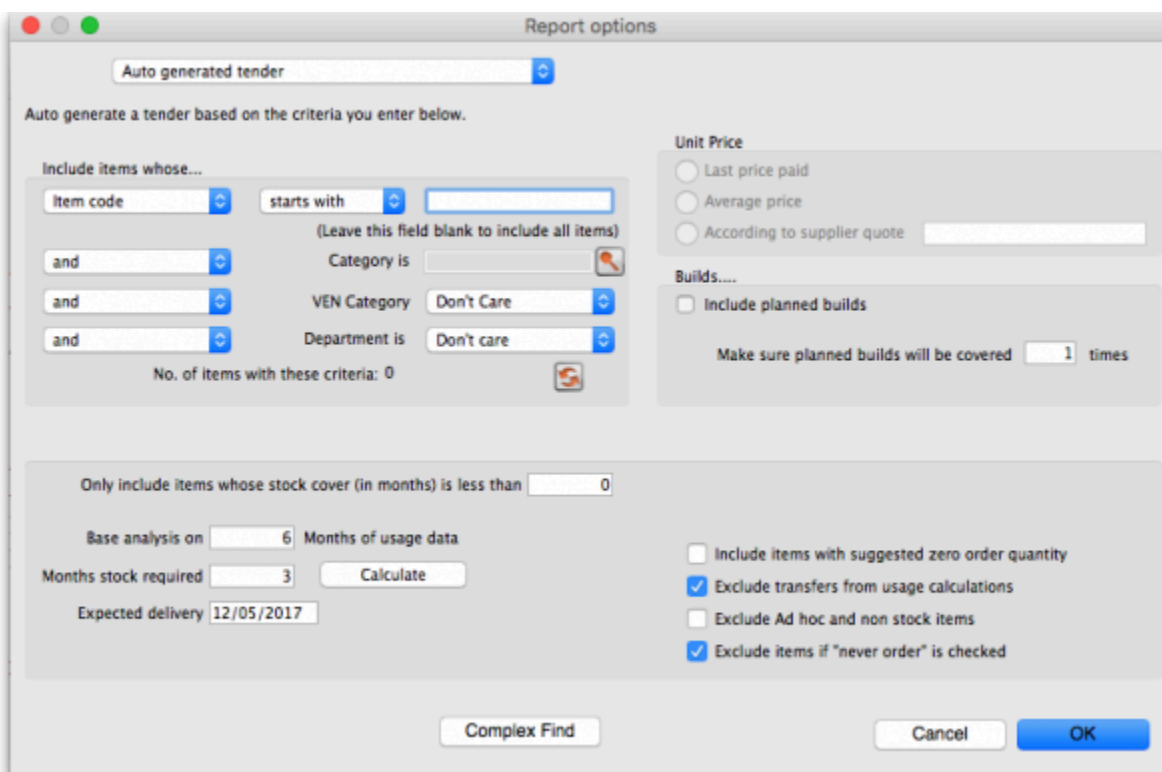
Note that the creation (or deletion!) of a new tender will be logged by mSupply.

Also note that all tenders belong to the store they are created in and will not be accessible in other stores (but supervisor mode users can view tenders in all stores). This also means that you can only access items visible in the store the tender is created in, whether you manually create or auto-generate your tender.

New Generated Tender (Auto-generation)

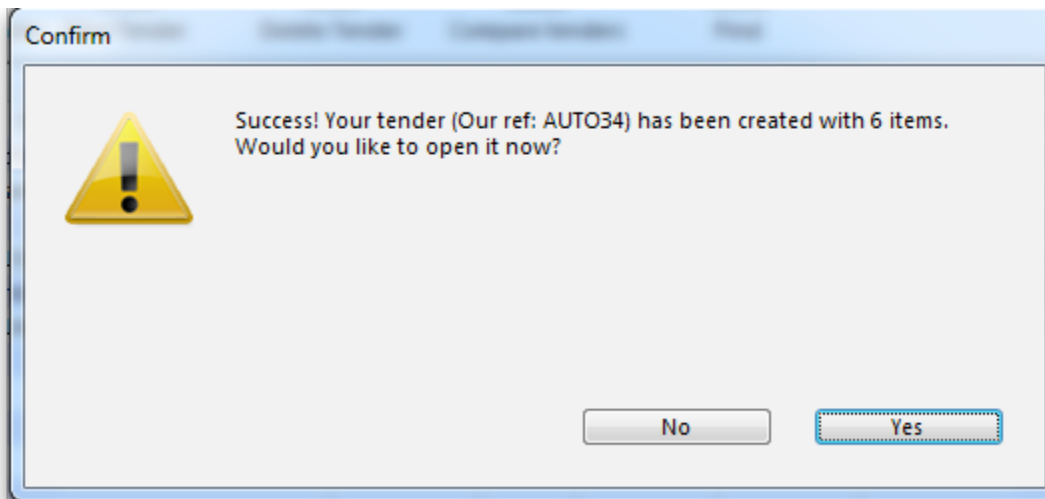
To have mSupply automatically create a suggested tender based upon your projected demand, click on the New Generated Tender button, and confirm your intention by clicking *Yes* on the *Confirm* window.

This window will appear. You may recognise it from the Item usage report, suggested order report and the Managing Purchase Orders, creating a Purchase Order - it uses much of the same functionality:



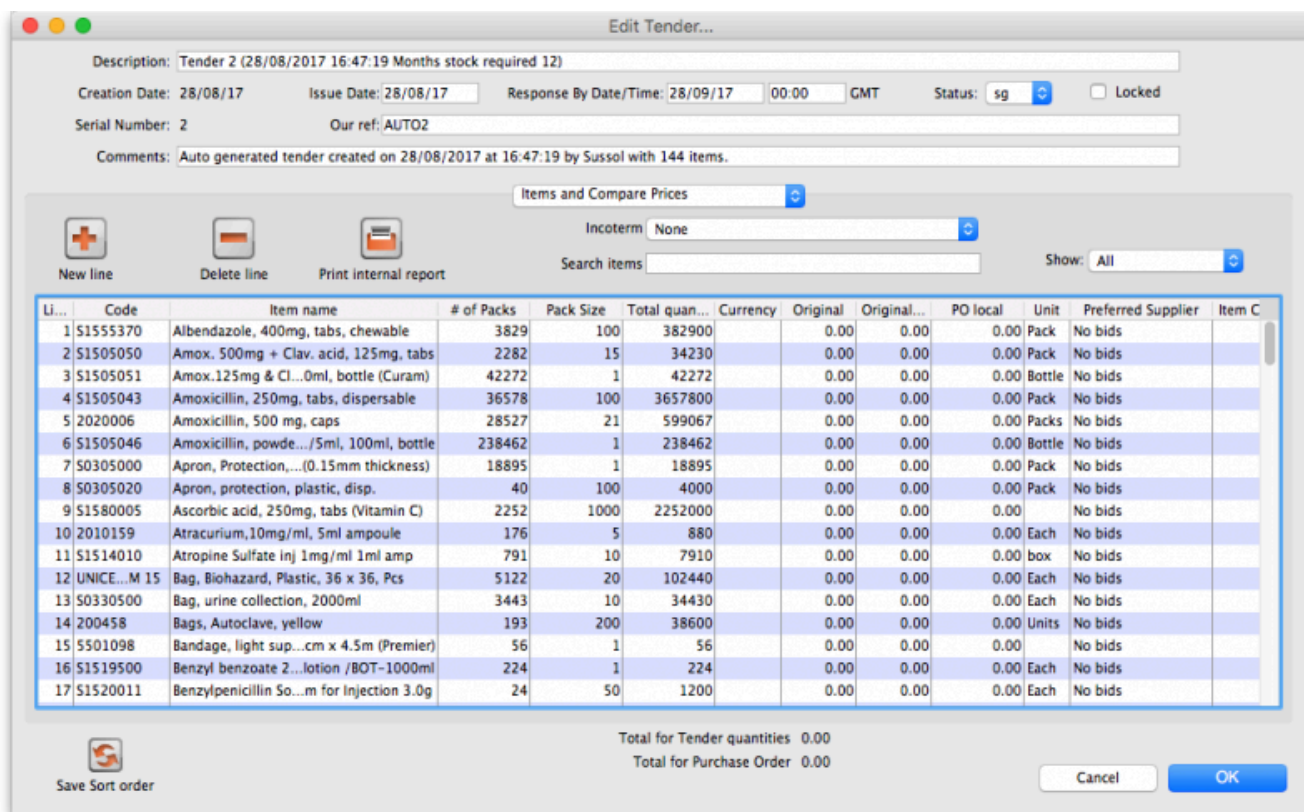
You can tailor your search by item in the usual way. Clicking the refresh button (double arrows near the centre) shows an estimate of how many items will be processed. Further refinements can be added. It is recommended to use the *Calculate* button to refine the *Months of stock required* figure by entering *Lead time*, *Ordering Cycle* and *Buffer stock* values directly.

Processing all this data may take some minutes if you have a lot of stock items recorded in your system, so mSupply will ask you if you've got the time to do it. If you do, click 'Yes'. A progress indicator will show you how much work is left to be done. When mSupply has finished processing everything, it will let you know:



Auto-generated tenders may be rather large, so you may wish to process several tenders with more specific criteria rather than one huge one at once.

You can choose to look at your tender immediately, or return to it later. If you click 'Yes', you'll see something like this:



Points to note here:

- Several default values have been entered for the **Description** (made up of the tender number, date and time of creation and number of months stock required), **Issue** (the current date) and **Response by** (one month from the current date) dates and **Our ref** (AUTO followed by the tender's number) fields at the top that you're going to want to change.
- There are no units chosen for any of the tender items.

A pack size of 1 is usually assumed because mSupply looks for the default pack size and default unit for each item as it creates the tender (these values are set when editing Items - see Item Basics). If it does not find a default unit, it leaves units blank, but enters a 'Check units!' warning into the comments. The same goes for pack size - although if you don't tell it otherwise, mSupply assumes a default pack size of 1. Tender auto-generation will therefore be most useful if these default values are set for items. (A default pack size of 1000 shows here as this was loaded at the time of item creation).

New Tender [manually entered]

To create a new tender manually, having opened the *Tenders* window by clicking on *Show tenders* on the menu, click the *New Tender* button.

This window opens:

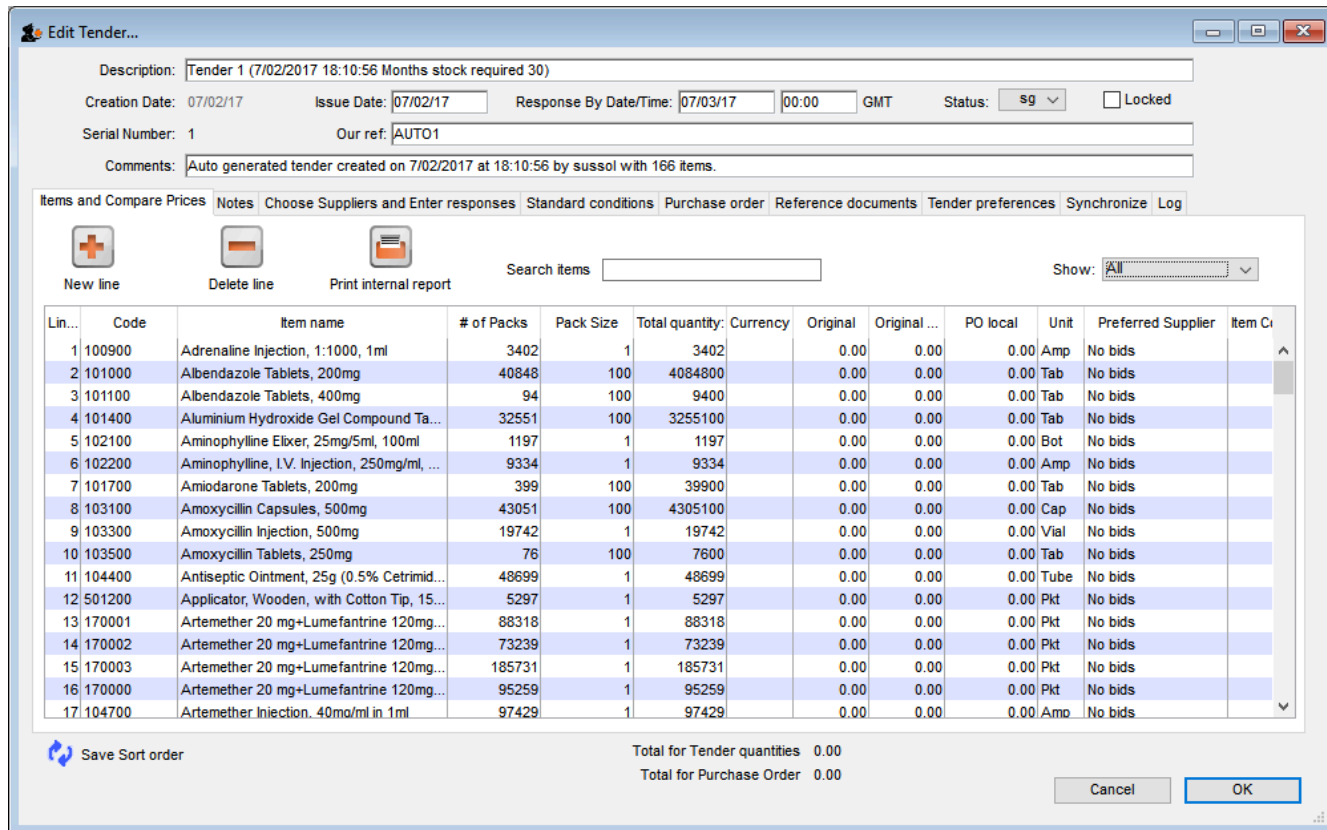
Here you can fill in basic information about the tender.

- *Creation date*: The date the tender was created. This defaults to today's date.
- *Issue date*: The date the tender is/was sent to suppliers. This also defaults to today's date, but can be changed.
- *Response by date*: The date by which suppliers must respond to the tender. The default is set to one month from the creation date, but can be changed.
- *Status*: Tenders can have a status of sg/cn/fn (suggested, confirmed or finalised), which signifies its passage through the overall tender process. To change the status of the tender, simply select the new status from the drop down list and click on the **OK** button to save all changes. You will be asked to confirm a change because it has a significant impact on the editability of the tender. These are what the statuses mean:
 - Suggested status - tender is still being built. Everything is editable.
 - Confirmed status - list of items & quantities is complete and can no longer be edited. Suppliers invited to provide quotations may be added, and, once received, their responses may be added. Decisions may then be taken regarding which quotation is preferred for each tender item.
 - Finalised status - no further editing may be performed, and the tender can now be used as a basis for purchasing
- *Locked checkbox*: Check this box to ensure the tender is not accidentally deleted.

- *Our ref:* This field may be used to enter a short reference code to appear in tender-related correspondence.
- *Comment:* The comment field is for your internal use. It is not printed on any tender documents.

Tabs on the Tender Details window

Details of the tender are managed through the tabs on the Tender Details window:



Items and compare prices

- This tab displays by default when you open a tender for editing. It displays the items currently included in the tender, and by selecting 'All', 'Filled' or 'Unfilled' from the drop-down list above and to the right of the list, you can select which items are displayed.
 - *New line* button: click this to add a new item line to the tender. The addition of the new line will be logged by mSupply.
 - *Delete line* button: select an item line from the list and click this button to remove it from the tender.
 - *Print internal report* button: click this to select one of several reports to print out or export to a spreadsheet. There are several to choose from and will give you the information you need to help evaluate or analyse a tender:
 - Preferred suppliers only
 - Winning tender lines
 - All supplier responses
 - Supplier quotes with adjusted price
 - Supplier quotes for each item
 - Tender lines with predicted cost
 - Tender lines where the lowest price was not chosen.
 - *Incoterm* drop down list: Allows you to select an incoterm (<https://en.wikipedia.org/wiki/Incoterms>) to apply to the tender
 - *Search items* text box: as you type in this text box, only items whose names start with what has been

typed will be displayed in the table. You can use the “@” character as a wildcard to represent anything. For example, typing “@ol” will display only items with names which end in “ol”. This box is helpful for quickly finding a specific item. Overrides any selection made in the *Show* drop down list (see below).

- *Show* drop down list: is another way to change what items are displayed in the table. Selecting one of these options will override anything typed in the *Search items* text box:
 - *All* - display all items without filtering
 - *Filled* - display only those items for which a bid has been accepted
 - *No bids* - display only those items for which no suppliers have made a bid
 - *Lowest cost not chosen* - display only those items where the lowest offered cost price was not chosen as the preferred bid

Note that changes to tender lines will be logged by mSupply.

Notes

- This tab shows a field where you can add notes about your tender. This will not print on the documentation sent to suppliers.
- To start a new line (as with any text box), press Shift+Enter (although any long lines will wrap). See below for an example:

Choose suppliers and enter responses

- The use of this tab is used to manage sending of the tender to suppliers, and entering their responses - see Receiving Quotations from suppliers

Standard conditions

- The use of this tab is described here: Standard conditions

Purchase Order

- The use of this tab is described here: Creating Purchase Orders

Reference Documents

- The use of this tab is described here: Reference Documents

Tender Preferences

- The use of this tab is described here: Setting up purchase order preferences.

Synchronise

- This tab will only appear if you are using the remote tender module have set up your remote tender preferences. The process and use of this tab is described in Uploading and Downloading Web Tenders.

Log

- This tab shows recent events relating to this particular tender. It will show, for example, changes in prices or other significant events. You cannot edit the details on this tab. If an event fails to be logged for any reason while the tender is being processed, you will be given an appropriate warning message.

Adding items to a tender

To add an item to a tender, click the *New line* button on the *Items and Compare Prices* tab. You will be shown a window like this, which opens at the *Set tender item criteria* tab:

1. Type as much of the item name or code as you know, then press the *Tab* key. If only one item matches your entry, it will be filled in. If multiple items match, you will be shown the standard item choice list to choose the item you want. Any details completed in the *Full description* under the *General* tab of the selected item are displayed (Description). Should you wish to identify a line (or lines) for any reason, clicking on the *Colour* button presents you with a selection of colours available for the type on that line.
2. Fill in the number of packs you wish to purchase, and the pack size. The total quantity of individual units will be calculated. The *Round quantities* button will round the number of packs to the nearest reasonable number of whole packs (most useful for auto generated tenders when the number of packs can sometimes be set to a decimal number).
3. Choose the units you wish to use.
4. You may optionally enter a price per pack figure in the *Estimated price* field.
5. Entries in the *Comment* field are for your internal use, and won't be printed on the tender documents you present to suppliers.
6. In the *Conditions* field, enter any conditions which are *specific to this item* of the tender, but NOT applicable to the tender as a whole. These conditions will be printed on the tender letter with the item details.
7. Click on *OK & next* to add the next item to the tender, and when you are finished, click on *OK*.
8. The addition of a new line will be logged by mSupply.

It is perfectly possible to add the same item more than once to a tender. Each entry will be treated separately. This allows for the same item to be added, for example, in different pack sizes.

The second tab *Compare supplier responses*, is for use after suppliers have responded to the tender - refer Receiving quotations from suppliers - Comparing quotations from different suppliers.

Deleting tender items

Click the line you wish to delete so that it is highlighted, then click the *Delete line* button. If a supplier has already quoted on a tender item, you will be warned before deletion. The deletion of any tender lines will be logged by mSupply.

Editing tender items

From the *Items and compare prices* tab, double-click the tender line you wish to edit. The 'Edit tender item' window will open, allowing you to edit the details in the same way as entering a new tender item, above. Note: you cannot edit or delete lines on finalised tenders.

The *Search item* field allows you rapid access to any item in the tender - just enter the name (or first few letters of the name) of an item in the tender, and it will be displayed.

Here's how the *Edit tender* window looks when the item Ranitidine 25mg/mL injection has been selected; the automatically generated tender has calculated that 1023 ampoules are required; here you can edit the quantity to conform with, say a pack size of 10, so you would adjust the pack size to 10, and the quantity to 102 or 103.

The screenshot shows the 'Edit Tender Item...' dialog box. At the top, the 'Item Name' is 'Ranitidine 25mg/mL amp' and the 'Description' is 'Ranj'. The 'Original Generated quantity' is 1023. Below this, there are three tabs: 'Set tender item criteria', 'Compare supplier responses', and 'Purchase order'. The 'Set tender item criteria' tab is active. It contains several input fields: 'No. of packs' (1023), 'Units' (each), 'Multiplied by pack size' (1), and 'Estimated price' (0). Below these is a 'Comment' field with the text 'Automatically generated as part of a tender' and a 'Conditions' field which is empty. At the bottom left, there is a 'Round Quantities' checkbox. At the bottom right, there are three buttons: 'OK & Next', 'Cancel', and 'OK'.

Note that any changes to a tender line are logged by mSupply.

Previous: Suppliers: Adding and Viewing Next: Standard conditions

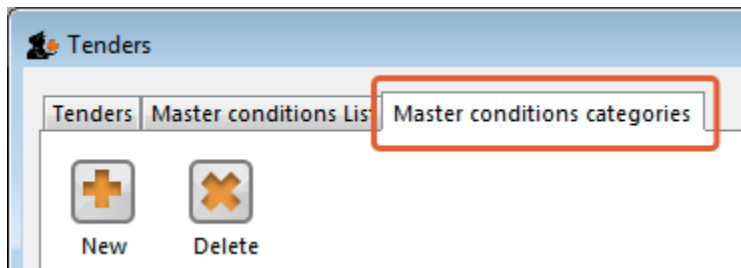
Standard conditions

mSupply allows you to set up a list of standard tender conditions called master conditions. These are all the conditions you will apply to tenders from year to year. Each time you create a tender you can copy the master conditions you want to your tender as required - these form the standard conditions list for that one tender. These instructions cover managing master conditions and applying them to individual tenders as standard conditions.

When you print your tender invitation letter, you can choose to have the list of standard conditions print (not all the master conditions!), followed by the list of items for which you are requesting prices.

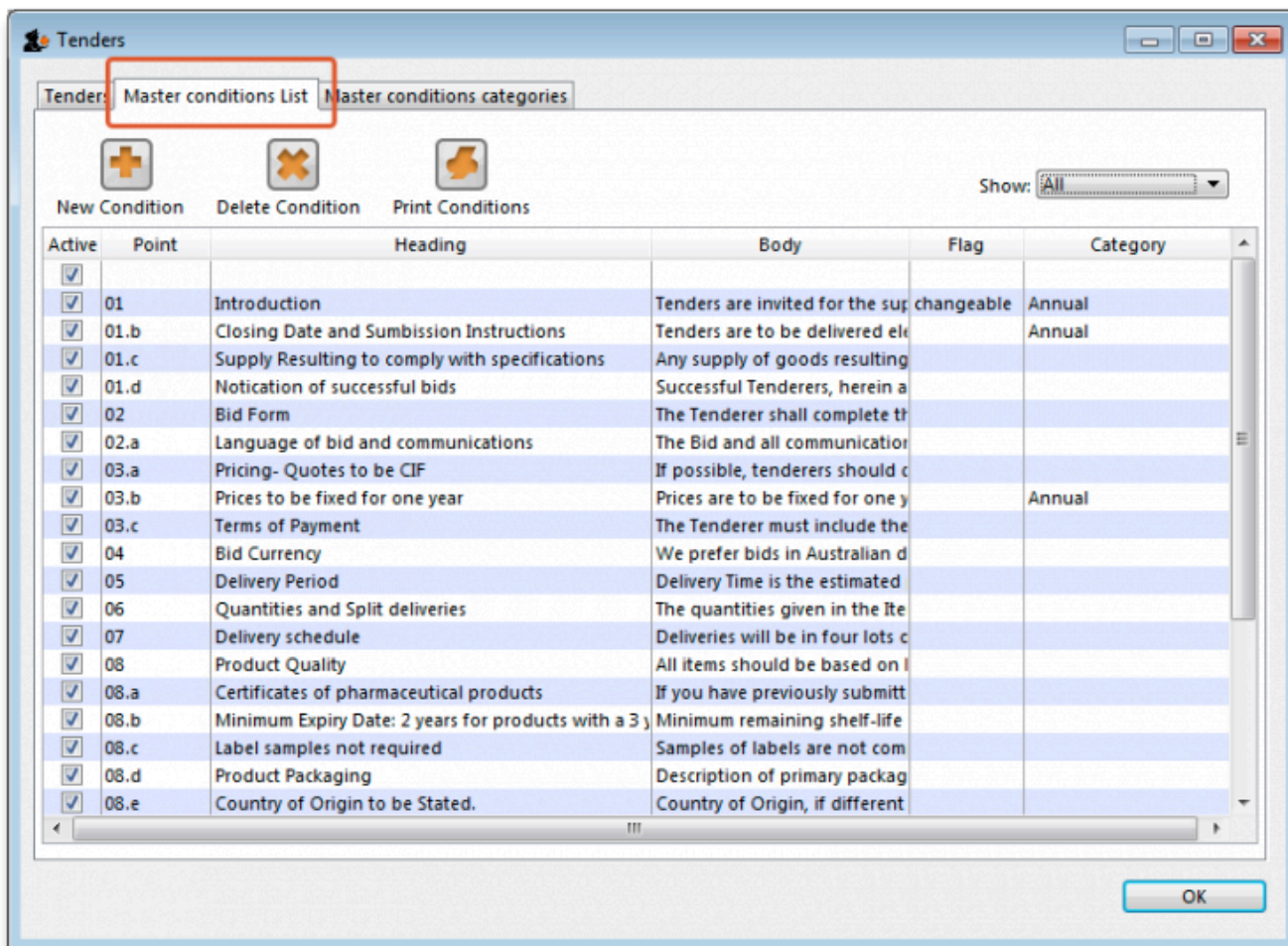
Setting up conditions and their categories

Choose *Suppliers > Show tenders*, and open the *Master Conditions categories* tab



Here you may define categories for your master conditions. Examples shown above are *Annual*, *Supplementary* and *Emergency*. Subsequently you can restrict the display to a single category by selecting that category from the *Show* drop down list.

Choose *Suppliers > Show tenders*, and open the *Master Conditions List* tab:



You can print a master condition selected in the list by clicking on the *Print conditions* button. To add a new master condition, click on the *New Condition* button. This window opens:

Point: The conditions will sort by their point entry when printed. We suggest you label your points 1.1, 1.2, 1.3, 2.1, 2.2 etc.

Note that if you have more than 9 points in one of the levels, you should add a leading zero so that they sort properly (01.1, 01.2, etc)

Heading: Enter the Heading.

Body: The body can be as long as you like for each entry.

Category: If you have defined categories, they will be displayed in the drop down list, and you may select the appropriate one.

Flag: Say you have some entries that need changing after copying to an individual tender (e.g. a closing date). You can enter a value in the flag field to identify such entries.

Print heading and body: Use this drop-down list to choose what will print. Normally you'll want to print both heading and body, but near the top of a tender form you may want several headings together.

Click **OK & Next** to add further conditions.

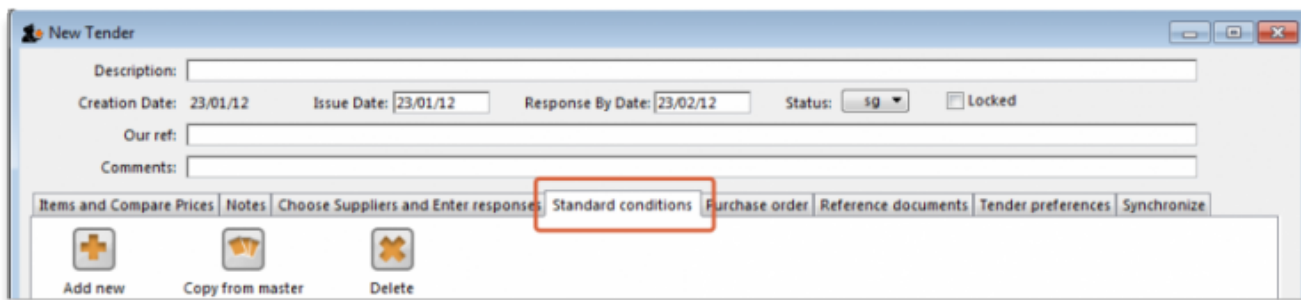
Editing and deleting conditions

Double-click an entry to edit it.

To delete a condition click on it to highlight it, then click the *Delete condition* button.

Copying master conditions to a tender

When you enter a new tender, go to the *Standard conditions* tab.



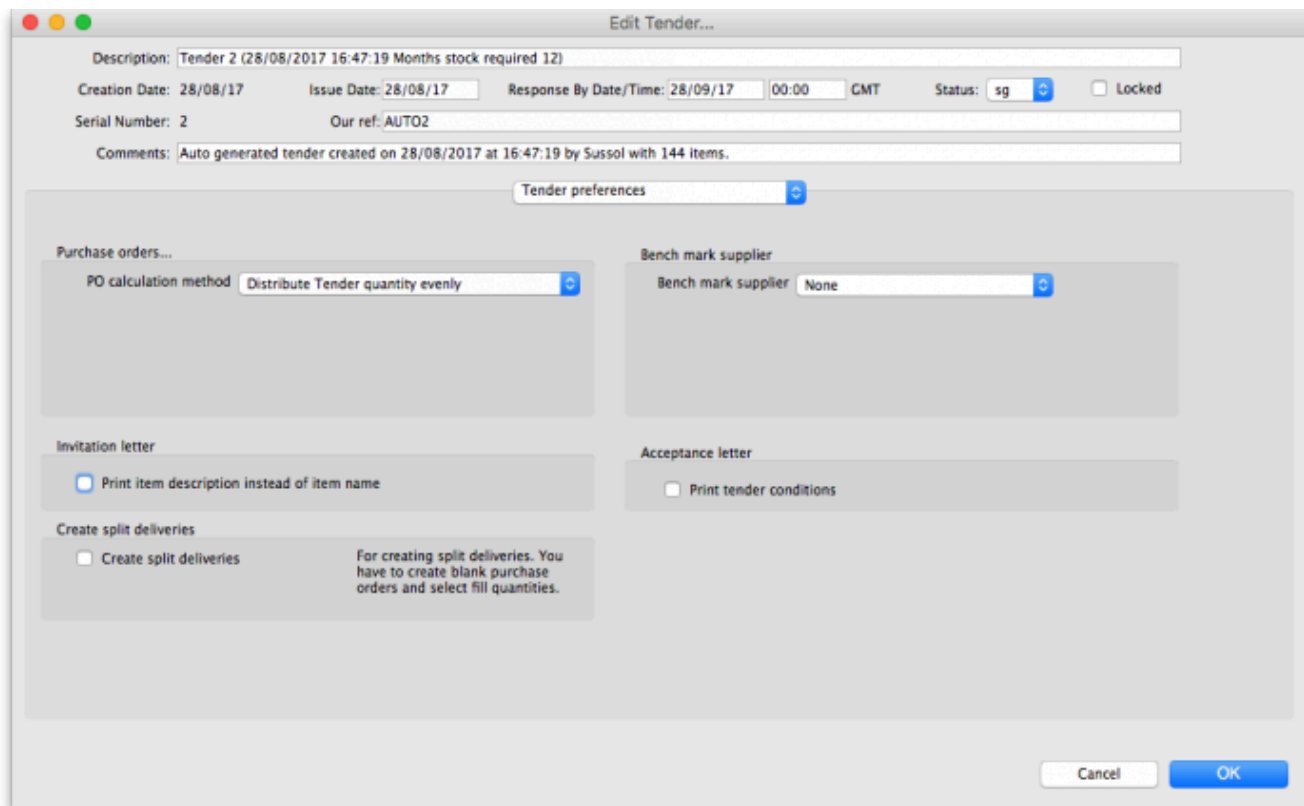
Click the *Copy from master* button to copy conditions from the master list

Once you have copied conditions, you can add, edit and delete them in the normal way.

when deleting rows you can highlight multiple rows by holding down the control key (command key on Mac) as you click rows, or press control + A to highlight all rows.

Printing the standard conditions with the invitation letter

To have the standard conditions printed at the end of the suppliers' tender invitation letters, go to the tender's *Tender Preferences* tab:



In the *Acceptance letter* section, check the **Print tender conditions** checkbox. That's it, all done!

Previous: Introduction to Tender management Next: Adding suppliers to a tender

Adding suppliers to a tender and inviting responses

*

To add suppliers to the tender, click the *Choose suppliers and enter responses* tab to open this window, where the suppliers to whom your tender will be sent may be added, or subsequently deleted:

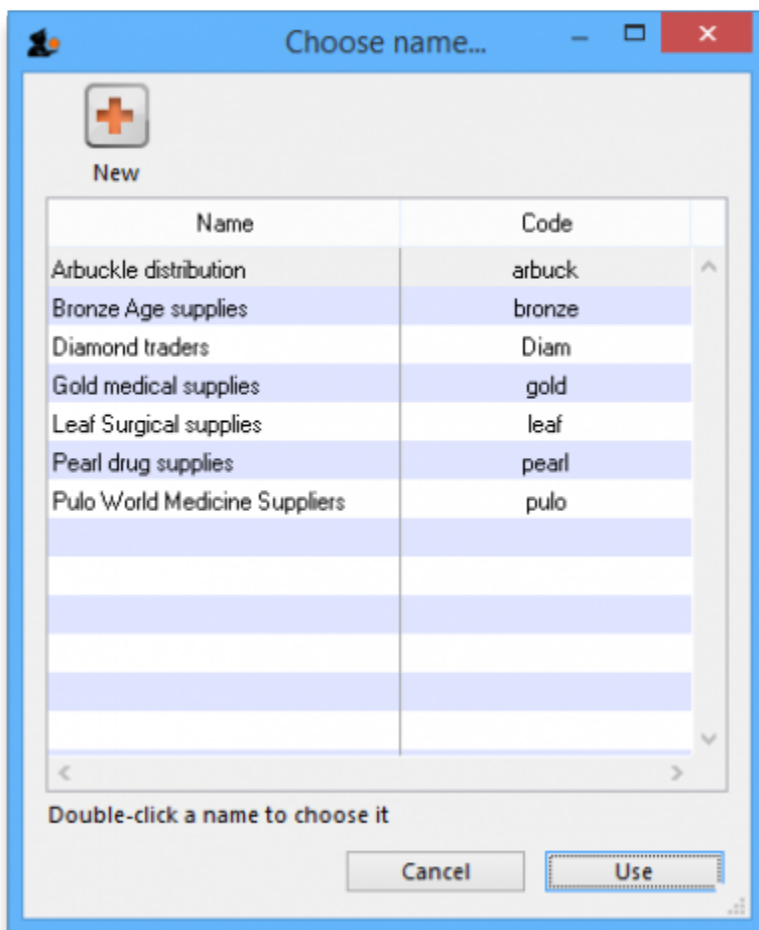
Supplier Name	Supplier's code	Date Sent	Date Respond...	Supplier ref	C...	Total on PO	RTM Link
Arbuckle distribution	ar buck				NPI	0	<input type="checkbox"/>
Bronze Age supplies	bronze				NPI	0	<input type="checkbox"/>
Gold medical supplies	gold				NPI	0	<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

Total PO for all Suppliers 0.00

Note: The *RTM Link* column in the table shows whether the selected supplier has been linked with the Remote Tender Module (checked if it has)

To add suppliers to the list, click the *Add Suppliers* button.

A list of all suppliers is shown:



You can add multiple suppliers by holding down the control key (command key on Mac) and clicking on those suppliers you wish to add. Once you have selected a supplier or suppliers, click the *Use* button to add them to the list. To create a new supplier, click the *New* button.

Once suppliers are added, they will appear in the list:

Description:

Creation Date: 26/03/15 Issue Date: 26/03/15

Our ref:

Comments:

Items and Compare Prices Notes Choose Suppliers and Enter r

Add Suppliers Delete Supplier Print Invitation

Supplier Name	Supplier's code
Arbuckle distribution	arbuck
Bronze Age supplies	bronze
Gold medical supplies	gold

Double clicking a supplier will open a window for adding and editing quotations - see below.

If there are any suppliers listed that do not have a tick in the RTM Link column and you intend to publish the tender to the web, you will need to contact mSupply Support: support@msupply.org.nz (mailto:support@msupply.org.nz)

Deleting a supplier

Highlight the supplier you wish to remove from the tender, then click the *Delete supplier* button. This will remove the supplier from the tender - it will *not* delete the supplier from mSupply. Note: you cannot remove a supplier from a finalised tender, or if the supplier has quoted on one or more tender items. If you want to remove a supplier for which quotations have been entered, delete the quotations first, then you can delete the supplier.

Inviting quotations from suppliers

Print Invitation letter

Clicking this button prints an "Invitation to tender" letter ready for dispatch to the highlighted supplier; the letter includes all the items, quantities, etc. as specified in the tender. The default date for a response is one month after the date of the letter, but this can be amended to a date of your choosing.

If the default format of the Invitation letter does not meet your requirements, please let us know and we will customise the print format to meet your individual requirements.

Email Selected button

Clicking this button produces email documents for each of the highlighted suppliers. A PDF document (the same as the printed document) is produced, attached to an email and stored in the email queue. This option will work only if you have entered email addresses for the chosen suppliers.

Whichever method you choose, you will be given the option for the **Date sent** field to be filled automatically with today's date.

To Spreadsheet

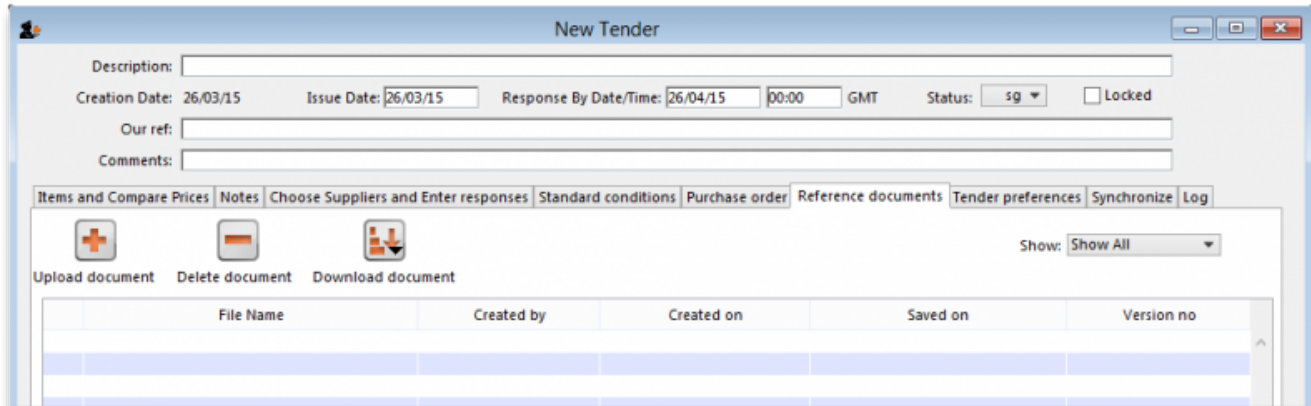
Clicking this button opens your spreadsheet application, with all the items and quantities required on the tender document already entered in appropriate rows and columns. This may be saved and sent to the supplier along with the tender letter. Appropriate columns are already in place for suppliers to enter their responses.

Previous: Standard conditions Next: Reference Documents

Reference documents

While managing a tender, several documents may be consulted - for example, the quotations received from bidding suppliers, quality assurance documents, or prequalification documents. These documents, provided they are in electronic form (or have been scanned into electronic form if they were supplied as paper copies), may be uploaded and conveniently stored so that they may be readily consulted.

To access this functionality, open a tender by choosing **Supplier > Show Tenders...** from the menus and double-click on the tender you want (or create a new one) to add reference documents to. Finally, click on the **Reference documents** tab:



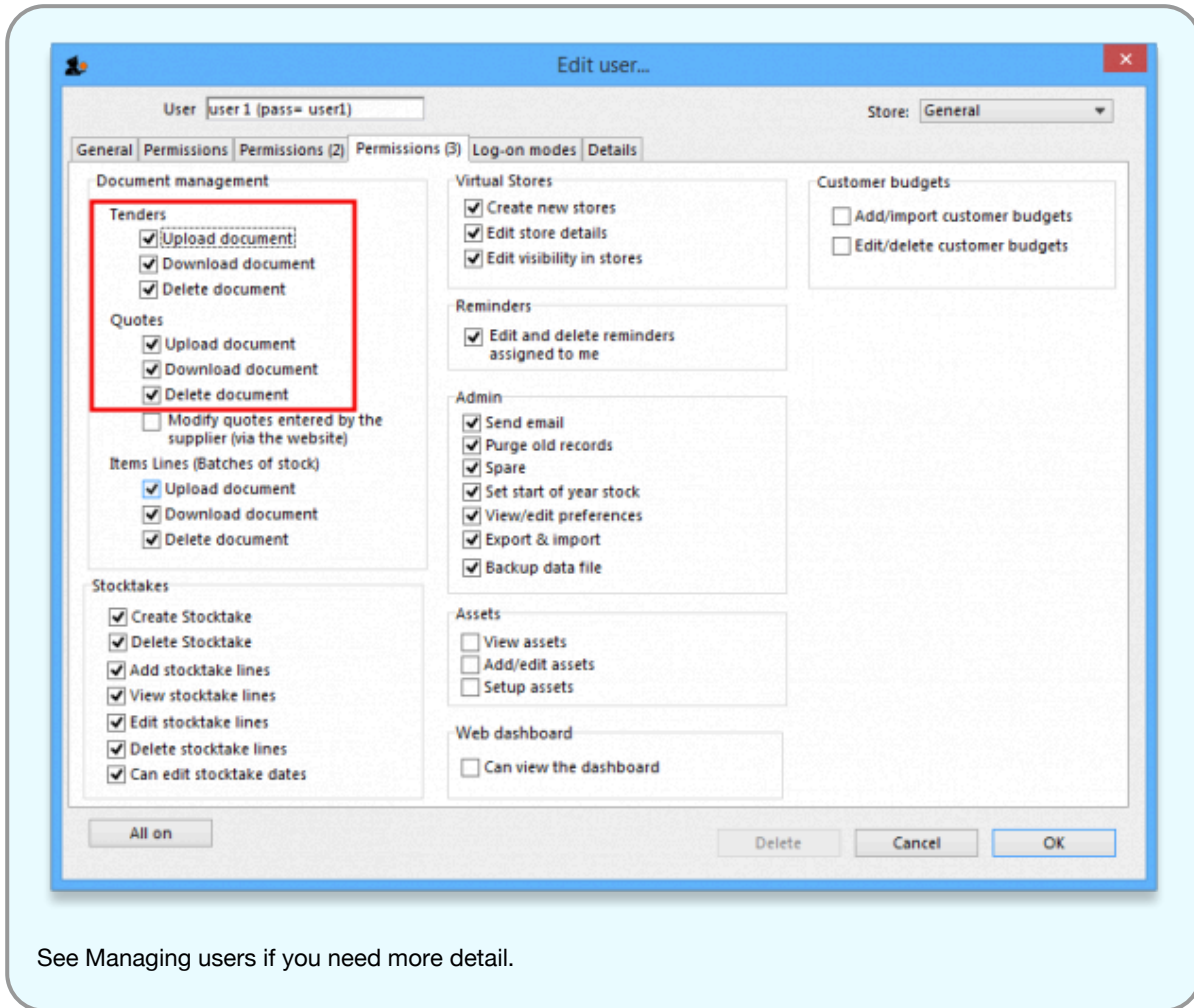
Upload document button: Click on this to store a document in the tender. You will be shown a window allowing you to browse to the required document. Double-click on the document or click on it and click the **Open** button to add it to the tender (called “uploading” it). Once it has been successfully uploaded it will appear in the list of documents below the buttons.

Delete document button: Click on a document in the list to select it and click on this button to delete the file and remove it from the tender. You will be asked to confirm the deletion.

Download document button: This will allow you to save one of the files in the list to your computer (called “downloading” it) so that you can view or edit it. Click on the file you want to view or edit to select it in the list then click on the **Download document** button. You will be shown two options: click on *Download* to just save the file on your computer or *Download and open* to save the file on your computer and open it for viewing or editing. A window will open for you to select the location to save the file on your computer. Browse to the folder you want to save it in then either double-click on the folder or click on it to select it then click on the **Open** button. The file will be saved in the location you chose. If you selected the *Download and open* option the file will also be opened for you to view or edit.

If you want any edits you make to the document to be saved to the tender, when you have finished editing, you must upload the edited version to the tender using the **Upload document** button. Don't forget or your edits will only exist on your computer, not on the tender! It is not necessary to change the document's name so that you don't overwrite the original, as mSupply will recognise that changes have been made, and will save it as a new version (and keep the old version too). The file's version number will appear in the *Version no* column. The **Show** drop down list above that column allows all versions to be displayed, or only the latest one.

The ability of users to upload and download documents to and from tenders is covered by permissions. To set these permissions choose the **File > Edit users...** menu item, double-click on the desired user, and set their permissions on the *Permissions(3)* tab:



See Managing users if you need more detail.

Previous: Adding suppliers to a tender Next: Using benchmark prices

Adding supplier responses to a tender

Suppliers respond to your invitation to respond to a tender with quotations. To process a quotation from a supplier, open a tender (choose **Supplier > Show Tenders...** from the menus and double-click on the tender in the list) and go to the *Choose suppliers and edit responses* tab. Now double-click the supplier name you want to enter a response for. The *Edit Quote* window will appear:

{{ :tender_management:tend_edit_quotes.png?600 }}

The **Date sent** field may be edited if necessary. You should enter the date the supplier responded, and in the **Valid till** field, the expiry date of the quotation. Also, enter the reference that the supplier is using for their own records (to be quoted in future correspondence) in the **Their reference** field, and, importantly, the currency in which the supplier has responded (on the *Edit Quote* tab). If you have previously set a default currency for this supplier, this drop-down list will already be set to that currency. Otherwise, your own default currency will appear.

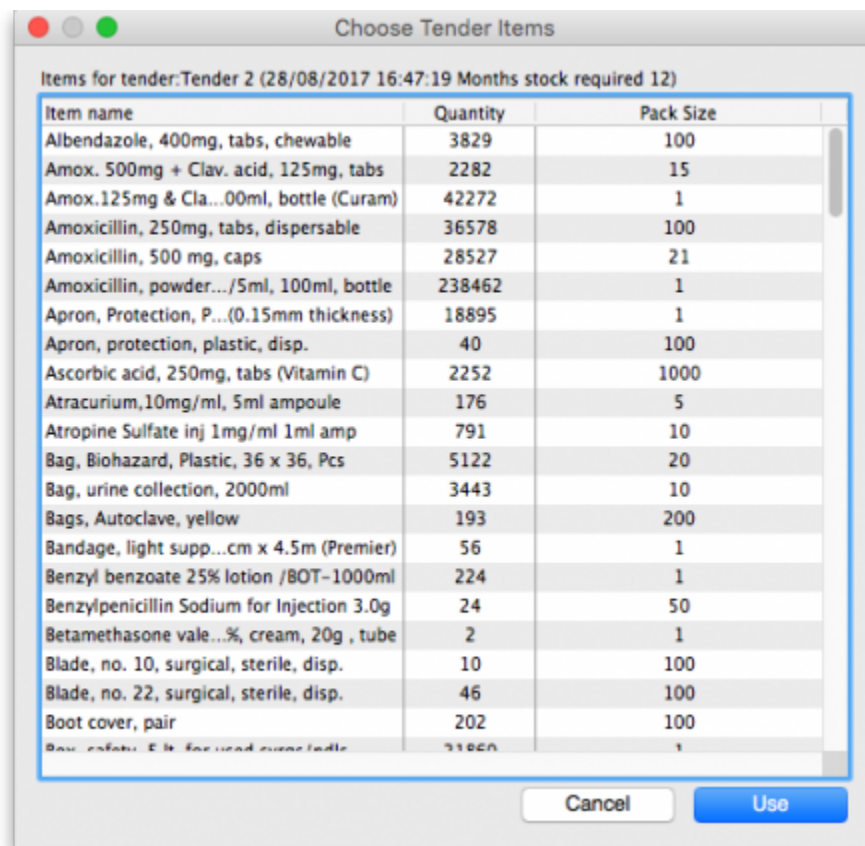
The freight charge per cubic metre [m³] should be entered; if the volume of each item's pack is known, this can also be entered (at a later stage), allowing a more accurate total cost of each item to be evaluated.

Multiple currency tender quotations

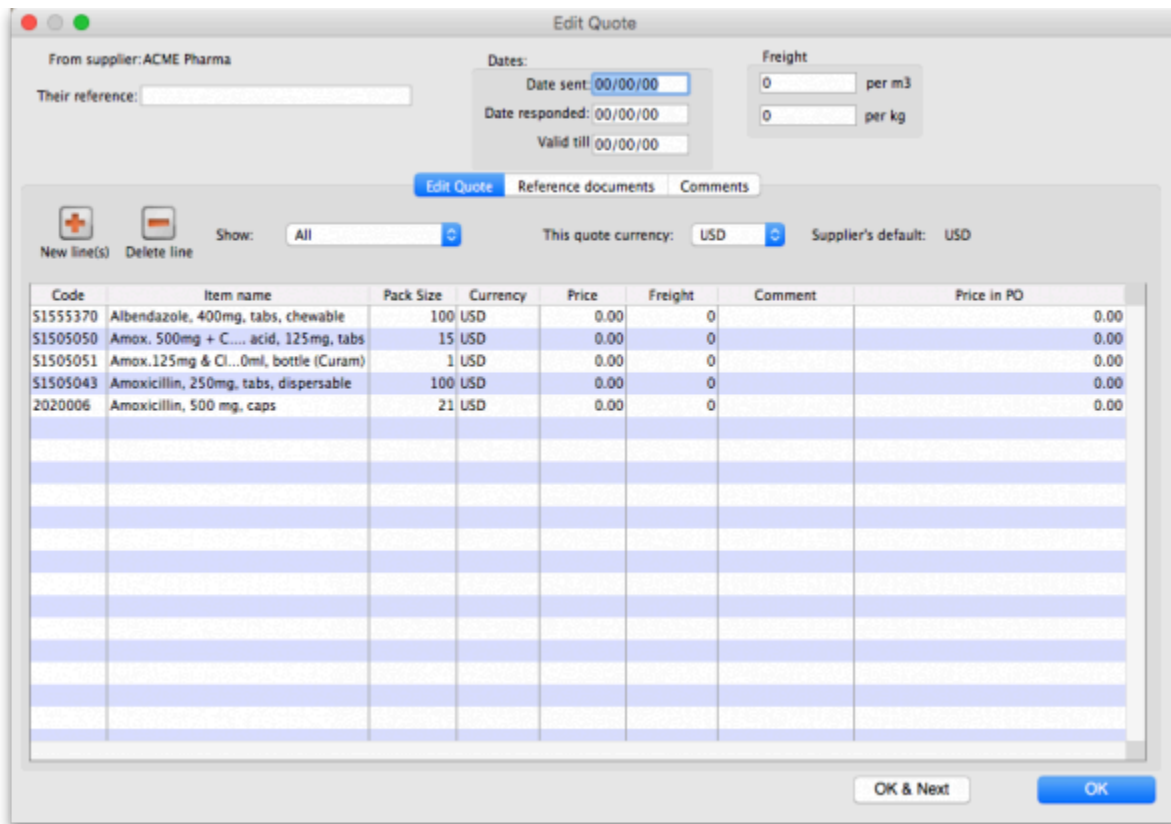
A quotation may be received from a supplier which has used one currency for some items, and another currency for others; or has submitted more than one quotation for the same item, each one in a different currency (e.g. Euros and US dollars). Should this occur, it is strongly recommended that you process the quotation as two or more separate quotations, each one restricted to a single currency. That is, enter the supplier twice in the list of suppliers, then add a comment to the quotations to distinguish which quotation is in which currency. We have designed mSupply like this so that when Purchase Orders are created, a single Purchase Order only uses one currency. Mixing currencies on a Purchase Order is likely to cause confusion and errors.

Adding quotation lines

Now you can add the supplier's quotation line by line. On the *Edit Quote* tab, click on the **New line(s)** button. A window will open showing you a full list of all the items on the tender:



Select from the list all the items you want to enter quotes for. You can use the usual Control+click (Cmd+click on Mac) to add/remove an item to your selection, Shift+click to add/remove a range of items from your selection or Control+A (Cmd+A on Mac) to select all items. Now click on the **Use** button and all the items you have selected are added to the quotation with zero cost. In this example we chose to add the first 5 items in the tender:



To add the same item twice to a quotation from a supplier, click the **Add lines(s)** button and choose the item a second time. You will be shown a warning that the item is already on the quotation, and be asked if you want to add it again. You might need to do this if the supplier has supplied two prices for the same item based on differences in packaging or other specifications. Note that if you entered an item twice in a single tender to account for such differences, it will appear twice in the list and you won't need to carry out two selections.

In the event that the currency of the quote from the supplier is not the same for each line, mSupply allows each line's currency to be edited, and the appropriate one selected.

Entering prices for each quotation line

When you have added all the items you want to the quotation, it's time to add the prices and other details of the supplier's quotation. To do this, double-click on the first quote line to open the *Edit Tender Response Item* window:

You will note that this form is very similar to the form for ad-hoc quotes; the related tender is shown at the top, and the item and supplier fields are filled in automatically. Enter the price and other details the supplier has provided - enter as much as you can because you'll use this information when comparing quotes from different suppliers.

Manufacturer: Type the first few characters of the manufacturer's name and press the Tab key on the keyboard to see a list of matching manufacturers. Select the one you want.

Price: Very important, the price you enter is the price for **ONE PACK** of the packsize shown in the **Pack** field.

Valid until: The date this quote will expire.

Pack: The pack size (number of single items in one pack) this quote is for.

Currency: The currency the **Price** is in.

Rate: The rate used to convert the **Currency** of this quote line to the currency you are using in your datafile.

Rate to use: You can use a different rate to convert the **Currency** of this quote line to the currency you are using in your datafile if you like - just enter it here.

Disqualified: Check this if the quote line is disqualified for any reason (excluded manufacturer, for example).

Preferred: Check this if this is the quote you want to accept as the best - see later sections on comparing quotes from different suppliers for more on this.

Cost Local/Pack: The quoted cost per pack in your local datafile currency when converted from the quote line currency using the rate entered in the **Rate to use** field.

Comment: Enter anything you need to remember or need others to know when comparing this quote with those from other suppliers.

Price breaks: You can also add price break information that the supplier has provided you in the *Price break* section. A price break is a reduction in price when you order over a certain quantity. The **Price Break quantity** is the number of items at which the reduction occurs and **Discount** is the percentage reduction that will apply to the price entered in the **Price** field once the **Price break quantity** is reached.

Freight: If you are calculating freight based on volumes or weight, or using a freight factor, enter that information in this section.

Supplier: Enter any extra details about the supplier in this section.

When you have finished entering details for the quote for this item, click on the **OK & Next** button to move to the next item or **OK** to save the current quotation line, close the window and go back to the *Edit Quote* window.

When you have finished adding all suppliers' quotes to the tender we recommend that you set the tender's status to confirmed (on the *Edit tender* window at the top).

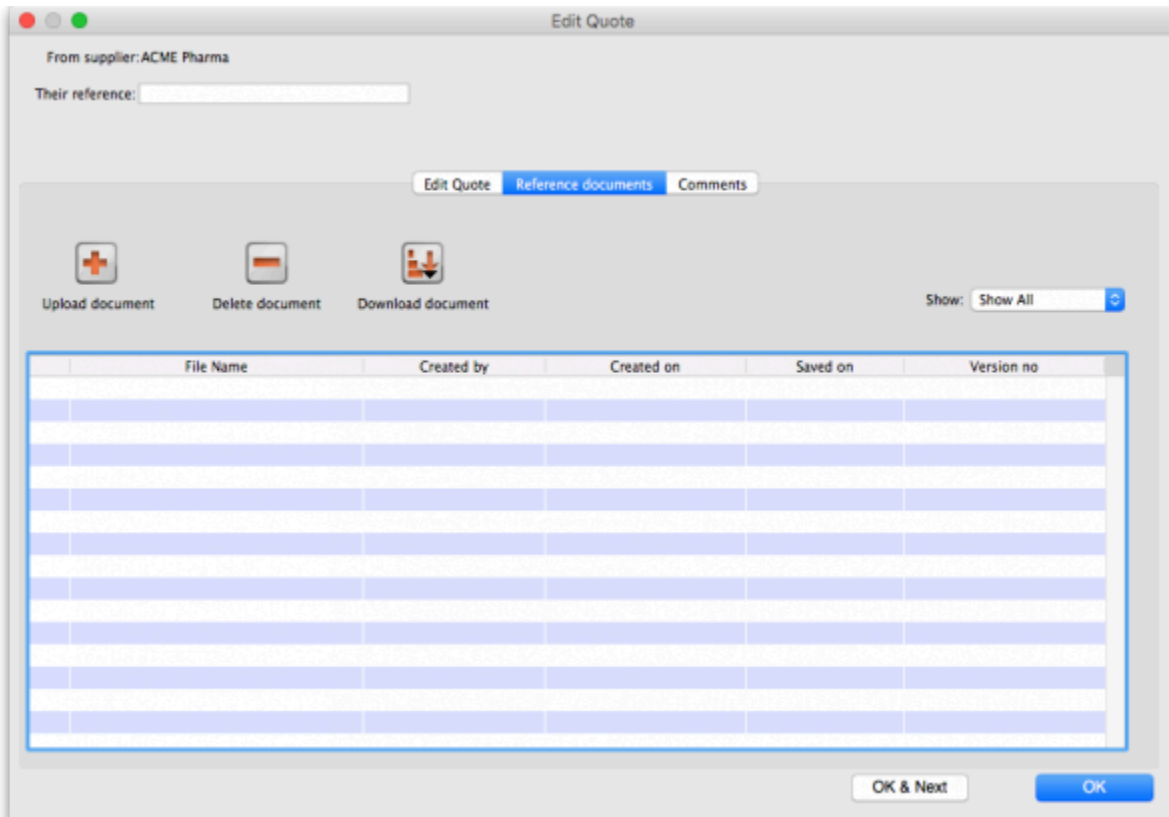
If you're finding that entering all the supplier's quotes is too much work then there's help for you! The remote tender module is what you need, where the suppliers all enter their own quotations and, when the tender closing date has passed you can simply download them to mSupply. See [Uploading and downloading web tenders](#) for details and give Sustainable Solutions a call if you're interested.

Deleting an item from a supplier's quotation

If you wish to delete an item from the quotation, click on the line to highlight it, then click the **Delete line** button. Note that this action deletes the selected item from the quotation only, not from the tender!

The Reference documents tab

This is used for saving documents which refer to the Supplier's quote, not the whole tender - use the Reference documents tab on the *Edit tender* window to do that (see [Reference documents](#) for more details). You might want to use this to save a scanned version of a paper copy of the supplier's quotation, for example.



Upload document button: Click on this to store a document with the quote. You will be shown a window allowing you to browse to the required document. Double-click on the document or click on it and click the **Open** button to add it to the quote (called “uploading” it). Once it has been successfully uploaded it will appear in the list of documents below the buttons.

Delete document button: Click on a document in the list to select it and click on this button to delete the file and remove it from the quote. You will be asked to confirm the deletion.

Download document button: This will allow you to save one of the files in the list to your computer (called “downloading” it) so that you can view or edit it. Click on the file you want to view or edit to select it in the list then click on the **Download document** button. You will be shown two options: click on *Download* to just save the file on your computer or *Download and open* to save the file on your computer and open it for viewing or editing. A window will open for you to select the location to save the file on your computer. Browse to the folder you want to save it in then either double-click on the folder or click on it to select it then click on the **Open** button. The file will be saved in the location you chose. If you selected the *Download and open* option the file will also be opened for you to view or edit.

If you want any edits you make to the document to be saved to the quote, when you have finished editing, you must upload the edited version to the quote using the **Upload document** button. Don't forget or your edits will only exist on your computer, not on the quote! It is not necessary to change the document's name so that you don't overwrite the original, as mSupply will recognise that changes have been made, and will save it as a new version (and keep the old version too). The file's version number will appear in the *Version no* column. The **Show** drop down list above that column allows all versions to be displayed, or only the latest one.

The Comments tab

This is used for adding comments from you or the supplier, things that need to be remembered or considered later.

Simply type the comments you want to save in the appropriate box. When you click the **OK** or **OK & Next** button the comments (and all other changes to the tender) will be saved.

To view comments saved on the quote, simply view this tab.

Previous: Reference Documents Next: Using Benchmark prices

Using benchmark prices

A benchmark price can be considered to be a standard price to which other prices can be compared once you are at the stage of evaluating quotations. mSupply provides the ability to set up benchmark prices to help you make such a comparison. This section describes how to set them up and how to use them.

The International Medical Products Price Guide, published and maintained by MSH, is available on their website (<http://mshpriceguide.org/en/home/> (<http://mshpriceguide.org/en/home/>)) and is a good source of information on medical products from a range of international distributors.

Setting up

You need to create a dummy supplier, that is to say a 'virtual' supplier, whose only purpose is to store benchmark prices.

From the menu, or the Navigator, choose **Supplier > New supplier**

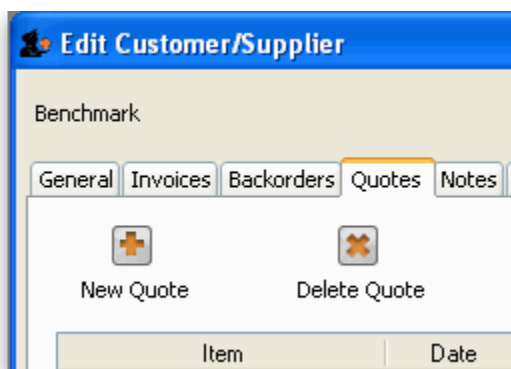
mSupply® requires that the Code, Charge to and Name fields are completed, so you should choose appropriate entries. In the Category section, the checkbox *Supplier* should already be checked, and you must check the *Benchmark* checkbox.

You may set up more than one benchmark 'Supplier'

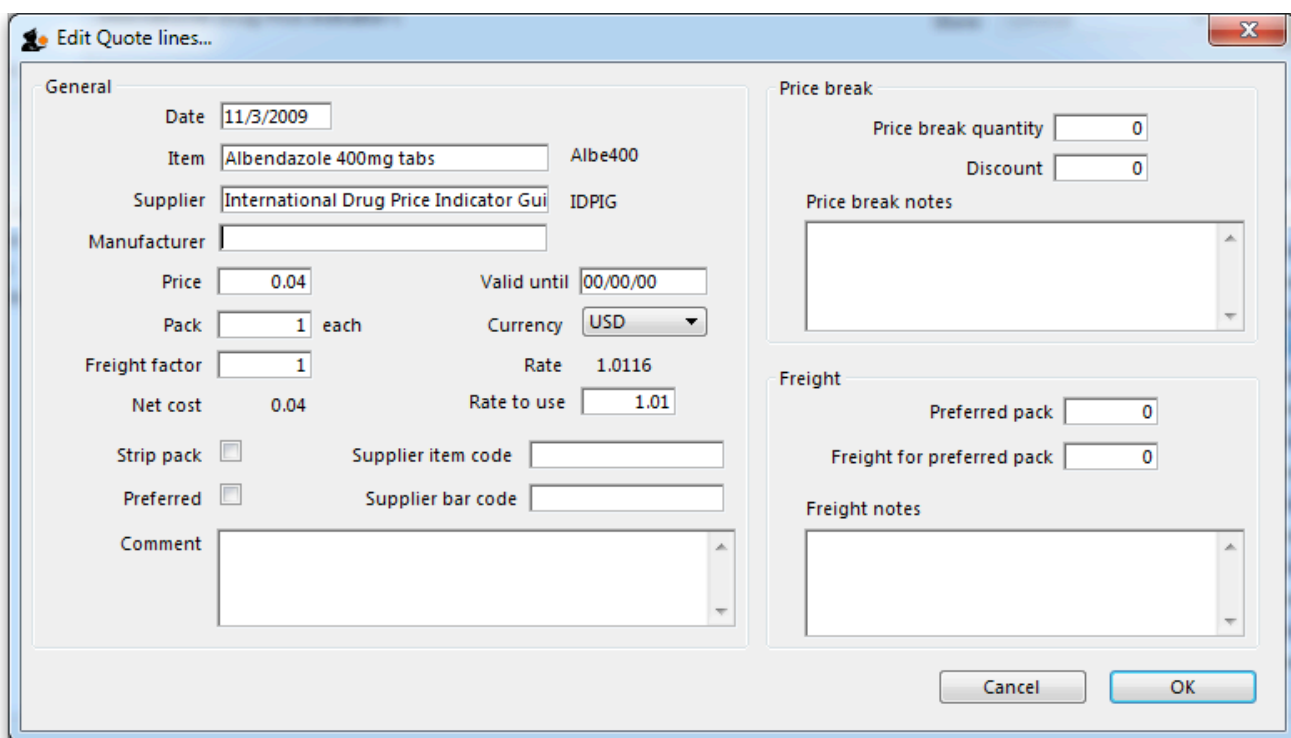
Entering benchmark prices

Once you have the required benchmark prices, they should be entered into mSupply, and here's how to do it:

Open the *Edit supplier window* for the Benchmark supplier and click on the *Quotes* tab



Click on the *New Quote* button to enter the benchmark figure for each item - in our example we're entering the details for Albendazole 400mg tablets:



Points to note:

- If the figure you have is for a single tablet, we suggest you multiply it by 100 and change the pack size to 100 to avoid working with very small figures.
- Make sure that the currency used for the entry is correct, remembering that it might be different from your default currency.
- Make sure that your pack size matches the pack size of the benchmark figure.

Once a number of entries have been made, the window may appear like this:

The screenshot shows a web application window titled "Edit Customer/Supplier". At the top right, there is a "Store:" dropdown menu set to "General". Below this is a navigation bar with tabs: "General", "Invoices", "Backorders", "Quotes" (which is active), "Notes", "Contacts", "Emails", "Group", "Purchase Orders", "Web log-in", "Favourites", and "Stock history".

Below the navigation bar, there are two buttons: "New Quote" (with a plus icon) and "Delete Quote" (with a minus icon). To the right of these buttons is a "Show:" dropdown menu set to "All".

The main content area contains a table with the following columns: Item, Date, Cu..., Rate, Price, Pac..., Freight, Strip, Cost, Adj Cost, Preferred, Valid Until, and Manufact... The table lists several items with their respective prices and costs.

Item	Date	Cu...	Rate	Price	Pac...	Freight	Strip	Cost	Adj Cost	Preferred	Valid Until	Manufact...
Amoxicillin 250mg cap	26/08/2010	USD	1.3890	2.00	100	1.00	<input type="checkbox"/>	2.77	0.0277	<input type="checkbox"/>	31/10/201	
Ciprofloxacin 250mg tab	26/08/2010	USD	1.3890	2.50	100	1.00	<input type="checkbox"/>	3.47	0.0347	<input type="checkbox"/>	31/10/201	
Ferrous Sulphate 200mg tab	26/08/2010	USD	1.3890	0.20	100	1.00	<input type="checkbox"/>	0.27	0.0027	<input type="checkbox"/>	31/10/201	
Gentamicin 80mg/2ml amp	26/08/2010	USD	1.3890	0.10	1	1.00	<input type="checkbox"/>	0.13	0.1389	<input type="checkbox"/>	31/10/201	
Ibuprofen 200mg tab	26/08/2010	USD	1.3890	0.55	100	1.00	<input type="checkbox"/>	0.76	0.0076	<input type="checkbox"/>	31/10/201	
Metronidazole 200mg tab	26/08/2010	USD	1.3890	0.50	100	1.00	<input type="checkbox"/>	0.69	0.0069	<input type="checkbox"/>	31/10/201	
Prednisolone 5mg tab	26/08/2010	USD	1.3890	0.60	100	1.00	<input type="checkbox"/>	0.83	0.0083	<input type="checkbox"/>	31/10/201	
Salbutamol 100mcg/puff aerosol	26/08/2010	USD	1.3890	1.80	1	1.00	<input type="checkbox"/>	2.50	2.5002	<input type="checkbox"/>	31/10/201	

You will note the difference for each item in the Price column and the Cost column; the explanation is that the default currency in this example is AUD (Australian dollars), while the benchmark figures are in US dollars; the Cost (and Adjusted cost) columns show the figures converted by mSupply to their AUD equivalents.

Using the benchmark figures when evaluating submitted quotations from suppliers is discussed here

Previous: Reference documents Next: Analysing supplier responses and creating purchase orders

Analysing supplier responses & creating purchase orders

Review

At this stage you should already have performed the following:

1. Created a new tender
2. Quantified how much you need to order and added these lines and quantities to the tender
3. Decided which suppliers should be invited to tender, and added them to the tender
4. Sent out the tender and invitation to take part to the suppliers you selected
5. Entered responses to your tender (quotations) from suppliers

Having performed these steps, your tender should be set to confirmed status and you are ready to compare the prices quoted, and decide upon a preferred supplier for each item.

Benchmark supplier

Before analysing the various responses to your tender, you may wish to set one of the suppliers to be a benchmark (or maybe you had specifically added a dummy benchmark supplier to the tender and added benchmark prices in their quote). If you do this, mSupply will indicate how much higher or lower than the benchmark supplier's quote, all the other suppliers' quotes are. It can be a handy indicator to help the analysis process.

To set a benchmark supplier, open the tender (choose **Supplier > Show Tenders...** from the menus and double-click on the tender in the list) and on the *Tender preferences* tab, in the *Benchmark supplier* section select the desired benchmark supplier in the Benchmark supplier drop down list:

The screenshot shows the 'Edit Tender...' window with the 'Tender preferences' tab selected. The window displays the following information:

- Description: Tender 2010 -- Tender 7(26/08/09 15:17:10)
- Creation Date: 26/08/09 Issue Date: 01/09/09 Response By Date: 15/10/09 Status: SG Locked
- Our ref: JoribatPharm2103
- Comments: Tender 2010 -- Auto-generated tender created on 26/08/09 at 15:17:10 by Isara with 251 items.

The 'Tender preferences' tab is active, showing the following settings:

- Purchase order: PO calculation method (dropdown menu)
- Based on: 12 months usage
- Bench mark supplier: Benchmark (dropdown menu)

For more details on using benchmark price see Using benchmark prices.

Analysing the responses

Once you have the tender open (choose **Supplier > Show Tenders...** from the menus and double-click on the tender in the list), select the **Items and compare prices** tab:

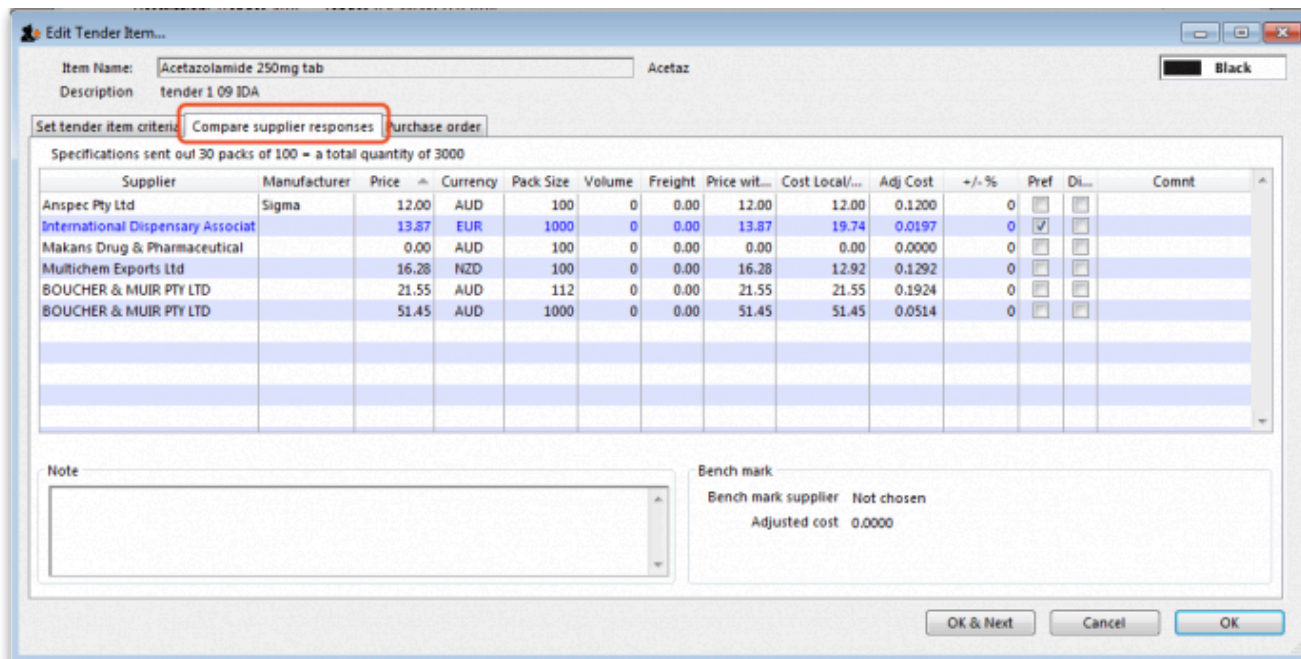
Items and Compare Prices | Notes | Choose Suppliers and Enter responses | Standard conditions | Purchase order | Reference documents | Tender preferences | Synchronize

Li...	Code	Item name	Pack	Pack Size	Total quan...	Currency	Original	PO local	Unit	Preferred Supplier	Item Con...
1	Acetaz	Acetazolamide 250mg tab	30	100	3000	EUR	59.24	36.94	each	International Disper	
2	Acyeo	Acidovir 3% eye oint	5	1	5	EUR	4.84	18.13	each	International Disper	
3	Aciraw	Acriflavin powder BP powder (g)	2	5000	10000		0.00	0.00	grams	Not chosen	
4	All1	Allopurinol 100mg tab	130	100	13000	AUD	288.47	0.00	each	BOUCHER & MUIR P	
5	Amosyr	Amoxicillin 125mg/5ml susp (100mL)	67000	1	67000	AUD	38,190.00	33,060.00	each	BOUCHER & MUIR P	
6	Amo250	Amoxicillin 250mg cap	1534	1000	1534000	AUD	24,988.86	31,276.80	each	BOUCHER & MUIR P	
7	Amo500	Amoxicillin 500mg cap	1270	1000	1270000	EUR	38,045.07	33,090.40	each	International Disper	
8	Amclav	Amoxicillin+Clavulanate 500mg+125m	160	100	16000	EUR	2,774.70	883.99	each	International Disper	
9	Amp5	Ampicillin 500mg vial	85700	1	85700	AUD	10,284.00	12,372.72	each	BOUCHER & MUIR P	
10	Haemoint	Antihemorrhoid 30g oint	1200	1	1200	AUD	36.00	2,997.00	each	Anspe Pty Ltd	
11	Asp3	Aspirin 300mg tab	652	1000	652000	EUR	2,060.86	1,797.47	each	International Disper	
12	nAut19m	Autoclaving tape 18mmx50m	50	1	50	EUR	207.16	255.76	each	International Disper	
13		Bandage Adhesive Elastic 10cm x (1m -	100	1	100		0.00	0.00	each	Not chosen	
14	nBcrp84	Bandage crepe 8cm x 4m	200	1	200		0.00	156.84	each	Not chosen	
15	nBcrp755	Bandage crepe elastic 7.5cm x (1m - 5m)	3000	1	3000	AUD	1,475.00	1,180.00	each	Anspe Pty Ltd	
16	nBcrp105	Bandage crepe elastic 10cm x (1m - 5m)	5000	1	5000		0.00	0.00	each	Not chosen	
17	nBqz755	Bandage gauze 7.5cm x (1m - 5m)	300	1	300		0.00	0.00	each	Not chosen	

Total for Tender quantities :00
Total for Purchase Order 521,051.91

Note that mSupply will remember any changes you make to the widths of the columns on this tab. This can be very useful if you want to minimise columns you are not interested in to make room for other, more important columns over several sessions to select the winning bids.

Then double-click the first item in the list, which in our example is Acetazolamide 250mg tablets, to bring up the *Edit tender item window*, which opens at the *Compare supplier responses* tab:



In our example, 5 suppliers have been invited to tender, and 4 have submitted tenders, one supplier having submitted prices for two different pack sizes. One supplier has not submitted a quotation, so all the entries for that supplier are zero.

The important column is the *Adj Cost* column, this allows you to compare prices which have been evened out to cater for differences in pack sizes, currencies and freight costs. mSupply makes it easy to identify the lowest price quoted because it appears in blue type. Clicking the *Adj Cost* column header will sort the entries so that the cheapest one appears at the top of the list.

If a benchmark supplier had been selected then the +/- % column would display what percentage above or below the benchmark supplier's quote that particular quote was. A negative value indicates that the quote is below the benchmark quote, a positive value that it is above. e.g. a figure of -2.78% would mean that the quote was 2.78% less than the benchmark quote.

If you want to highlight any particular line for any reason, you can change its colour by clicking on it in the list to select it then selecting the desired colour from the **colour** drop down list (currently showing "Black" in the screenshot) in the top right hand corner.

Note that if you want historical data of all previous stored quotes for an item, including those from previous tenders, this is available by choosing **Items > Show items...** from the menus, locating the item, then viewing the *Quotes* tab.

Before marking the supplier of the cheapest item as the preferred supplier, there are other factors to be considered, including:

1. Has the supplier met all the tender conditions?
2. Is the proposed delivery schedule acceptable?
3. Is the product being supplied by a reputable manufacturer?

The **Disqualified** column allows you to disqualify the quotation from a particular supplier if required by checking the box in the relevant row.

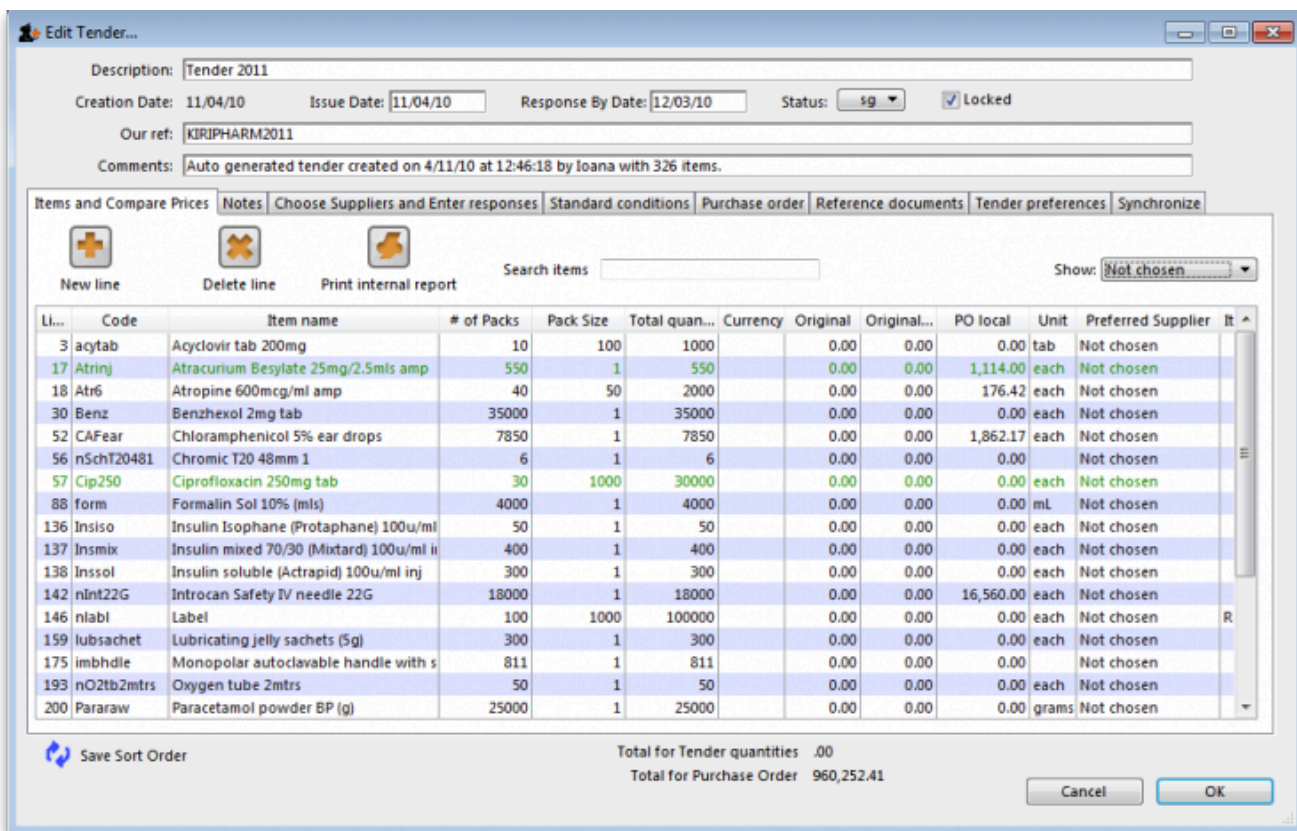
If you want to see more information about a particular quote line, double-click its row to open the *Edit quote line* window to view all the details of the quotation (and edit it too - useful if you discover a data entry error, for example). You may want to fill out the Quote Comment to record any decisions you made e.g. reason for disqualification.

When you have decided on a supplier for an item, check the box in the **Preferred** column in the row for that supplier. Proceed to the next item by clicking the **OK & next** button and repeat the process. When you have finished, click the **OK** button to return to the *Edit Tender* window.

It is, of course, not necessary to complete the selection of preferred suppliers at one session on the computer; it can be done in stages. Actually, you don't have to select preferred suppliers for all items before you complete the tender; you may want to wait for more favourable market conditions before purchasing some items, for example.

Please also note that all changes to tender lines are logged by mSupply.

Here is an example of a tender that has been partially processed, looking at the *Items and Compare prices* tab:



Two of the lines have been changed to a green colour and the **Show** drop down list just above the list of items has been changed to "Not chosen" so that it displays all the items for which a preferred supplier needs to be chosen - helpful for seeing what still has to be done!

If the **Show** drop down list is changed back to "All", all items will be displayed in the list, with the name of the Preferred supplier column for each line shown in the *Preferred Supplier* column.

Back to the Items and compare prices tab

Once you have finished editing, click **OK** (or **Cancel** if you want to close the window without saving changes to the current tender line).

The column **Preferred Supplier** will now display either the name of the supplier you have chosen or **Not chosen** where you have not yet processed the item.

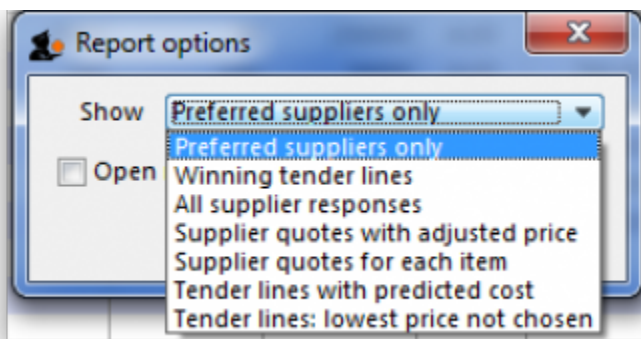
The **Original** column will display the cost of that line if you purchase the tender quantity of that item from the preferred supplier in the currency quoted (The **Original Local** column displays the cost in the local (default or home)currency you are using in mSupply). Note that you might end up editing the quantity on the purchase order to a different value, and then the **PO local** column will have a different value.

Back to the Choose Suppliers and Enter responses tab

Just before you create purchase orders for the winning suppliers you might like to see the value that each supplier has won. To do this, click on the *Choose Suppliers and Enter responses* tab and the total value that each supplier has won (i.e. the total value of all the lines where they were selected as the preferred supplier) will be shown in the *Tender value* column. The total amount that each supplier bid will be displayed in the *Total bid* column.

Reports

You might need to provide reports to a tender board, or for internal records. The tender module has several reports built in, accessed by clicking on the **Print internal report** button on the *Items and compare prices* tab of the tender details window. Clicking on the button displays this window with a drop down list of reports to choose from:



Winning tender lines: Shows all the items in the tender which have been allocated a preferred supplier and the costs of those lines. This is an example:

Winning item prices for tender id :14 - last interim order for 2013

Tendered item	Num of Packs	Packsize Name	Quoted packsize	Supplier currency	Quoted price	Total fc	Total local currency
ALLOPURINOL 100MG TAB	40	100 Multichem Export NZ	100	NZD	2.89	115.8	9321.9
AMIODARONE 50mg/1ml INJ	2	5 Multichem Export NZ	5	NZD	41.55	83.1	6689.55
FRUSEMIDE 40mg TABLET	80	1000 Multichem Export NZ	1000	NZD	18.68	1494.4	120299.2
GLYCERYL TRINITRATE 5mg PATCH	15	20 Multichem Export NZ	20	NZD	20.11	301.65	24282.83
SCALPEL BLADE 20	20	100 Multichem Export NZ	100	USD	5.00	100	10114
SCALPEL BLADE 22	12	100 Multichem Export NZ	100	AUD	5.00	60	5502
TUBE ENDOTRACHEAL 3.5mm	60	1 Multichem Export NZ	1	USD	1.63	97.8	9891.49
TUBE ENDOTRACHEAL 4.0mm	60	1 Multichem Export NZ	1	USD	1.63	97.8	9891.49
TUBE ENDOTRACHEAL 7.0mm	100	1 Multichem Export NZ	1	USD	1.63	163	16485.82
TUBE ENDOTRACHEAL 7.5mm	200	1 Multichem Export NZ	1	USD	1.63	326	32971.64
X-RAYS GAUZE ROLL	7000	1 Multichem Export NZ	1	USD	0.57	3990	403548.6
						Total Local	648998.52

Supplier quotes for each item: Shows quotes from all suppliers for all items, grouped by item. Handy for a summary of all received quotes.

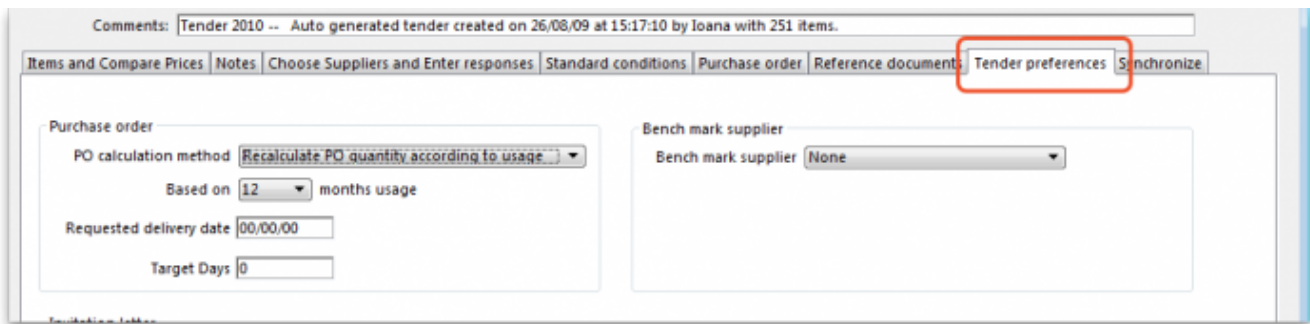
Tender lines with predicted cost: Can be used to give an approximate cost of the tender before choosing preferred suppliers for all items has been completed. Where items have not been allocated a preferred supplier, mSupply will use previous purchase costs as an estimate of what the cost will be in this tender.

Tender lines: lowest price not chosen: Shows all tender lines which have been chosen as the winning bid when their price was not the lowest. Summary detail shows how much more you will pay than choosing the cheapest lines.

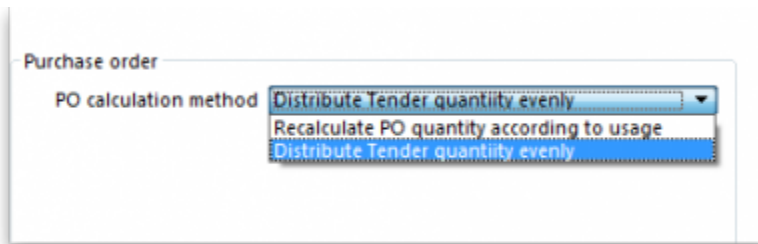
Setting up Purchase Order (PO) preferences

Once the choice of preferred supplier has been made for all the items you want to purchase in the tender, the next stage is to generate the Purchase Orders.

Click on the **Tender Preferences** tab on the **Edit Tender** window:



mSupply offers two options for creating Purchase Orders:



1. *Recalculate PO quantity according to usage* should be chosen if you wish mSupply to take into account the usage during the period since the tender was generated; this may be significant depending on the length of that period of time.
2. *Distribute Tender quantity evenly* should be chosen if you wish to make no changes to the quantities calculated at the time the tender was generated.

For our example, we are choosing *Distribute Tender Quantity evenly* because we are content with the quantities which mSupply has calculated and we do not want to make any adjustments. In this case, the **Based on** field should be ignored.

Split deliveries

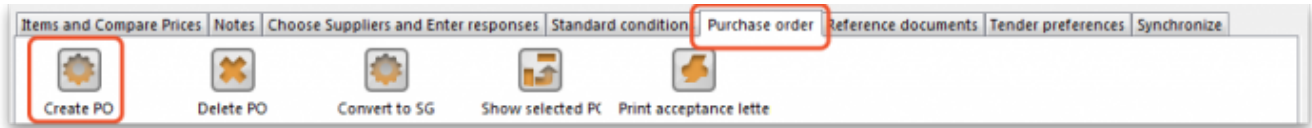
If you want to receive split deliveries, then mSupply will create multiple purchase orders for you, each with a different requested delivery date.

mSupply will behave differently when creating Purchase Orders depending on whether this option is checked or not.

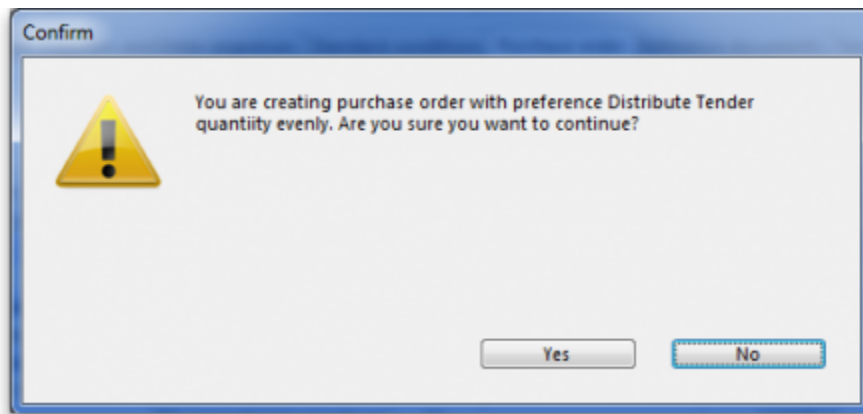
Note that the creation of purchase orders from tenders will be logged by mSupply.

Creating Purchase Orders with split deliveries

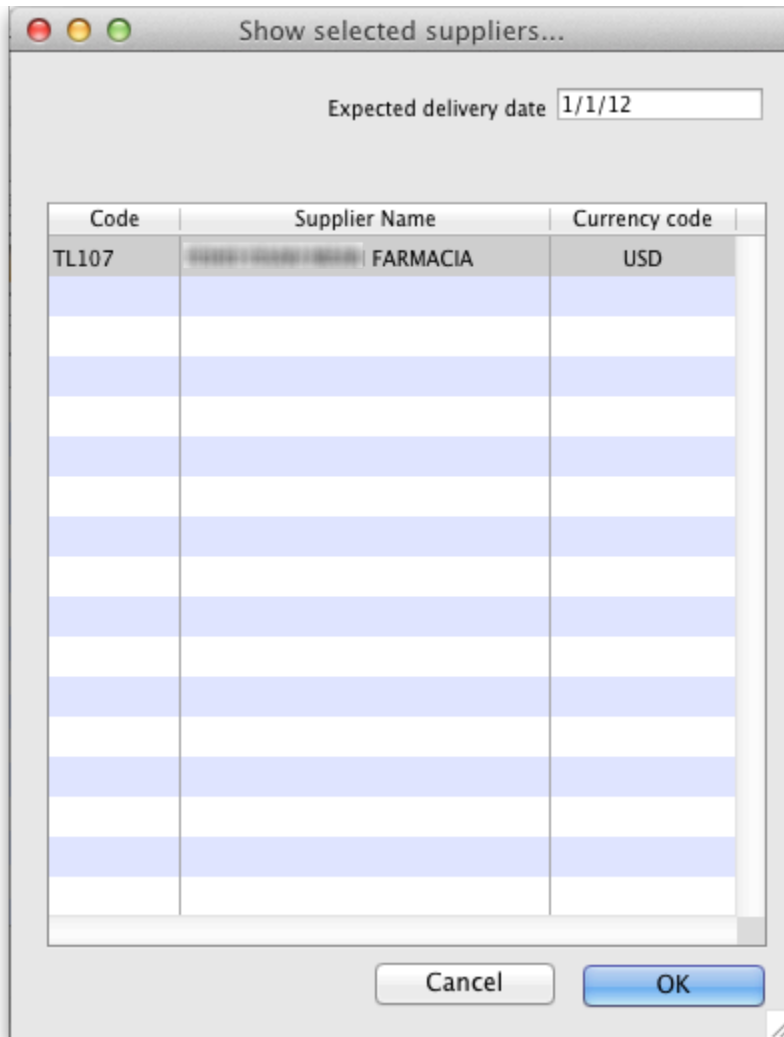
1. Go to the **Purchase Orders** tab
2. If you have checked the “Split deliveries” checkbox in the preferences for this tender, the first button on the toolbar will be **Create blank POs**.



You will need to confirm that this is what you want to do by clicking the **Yes** button on the confirmation window which appears:



You are then shown a list of suppliers:



Click on the supplier(s) you want to add, and enter the requested delivery date, then click **OK**.

You will need to add each supplier twice if there are to be 2 deliveries, or 3 times for 3 deliveries (etc) Make sure you get the delivery date right for each one.

You can double-click an already entered line to change the delivery date.

Use the **Delete PO** button to remove a purchase order (highlight to one(s) to delete before clicking the button).

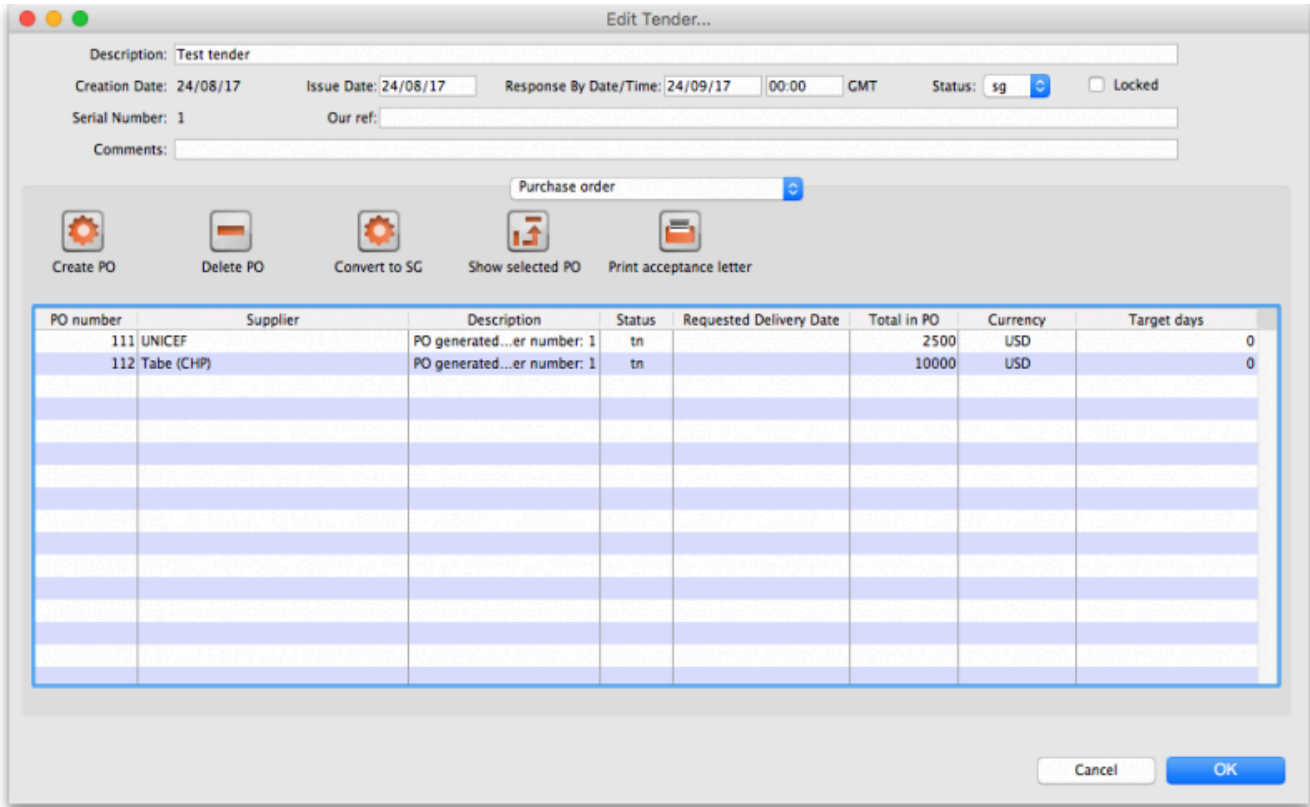
Creating Purchase Orders without split deliveries (single delivery)

If you aren't creating split deliveries, the first button will be labelled **Create PO**

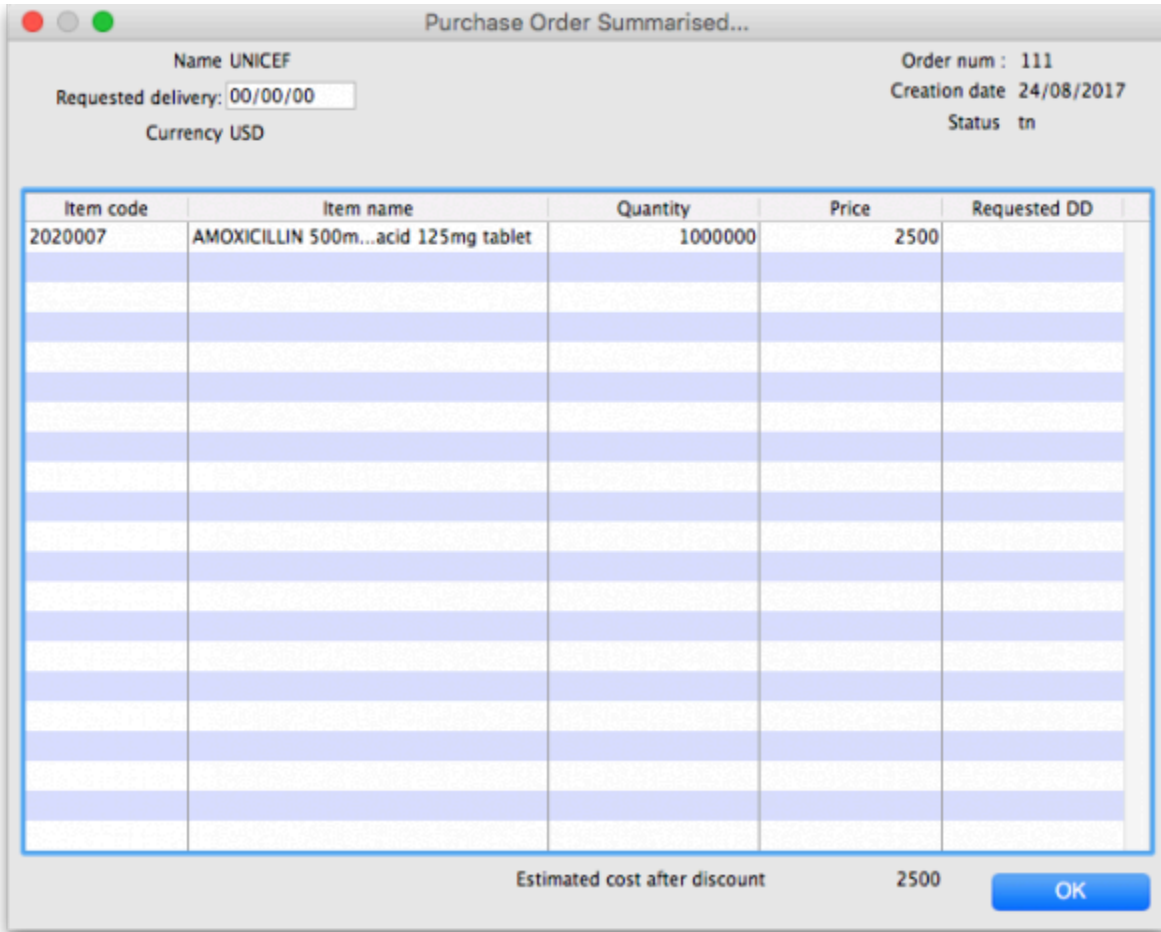
1. Click this button, and the needed Purchase orders will be created.
2. Double-click a row to see the order.
3. Return to the "Suppliers" tab if you want to see the value of the purchase orders in total.

Viewing tender purchase orders

When you have created purchase orders in a tender you can view them at any time by clicking on the **Purchase order** tab which will look like this:



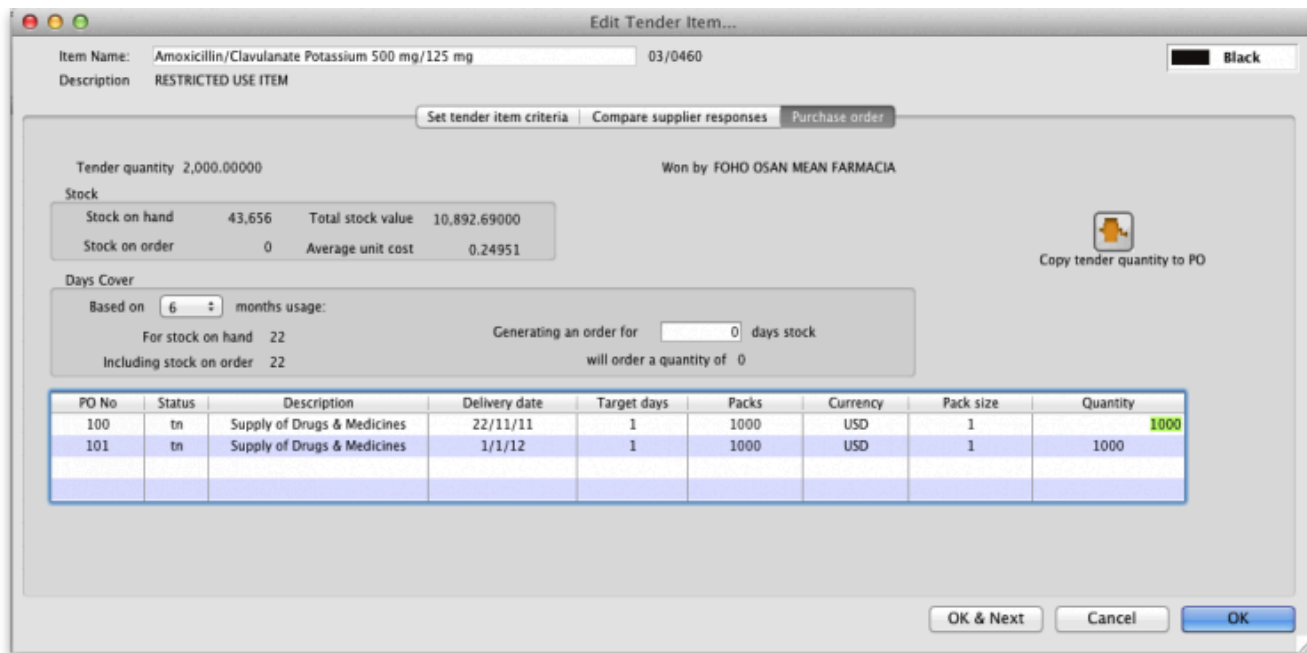
To see the details of the items on any of the the purchase orders in the list, simply double-click on the purchase order's line in the table and you will be shown the details in a window which looks like this:



Editing Purchase Order Quantities

Once you have created Purchase orders you might want to edit some quantities (for example, you might want the first of two purchase orders for a supplier to have 60% of the total order, and the second purchase order only 40%)

1. Go to the "items and compare prices" tab
2. Double-click a line to edit
3. Go to the **Purchase Order** tab.
4. You will see your purchase orders for that item.
5. To edit the first row, click once on the quantity, wait 2 seconds and click again.
6. You can now change the quantity.
7. Use the tab key to advance to edit the quantity of the second row, etc.



Converting to a "normal" purchase order

While a purchase order is being created and edited inside the tender module, it has the status of “tn” and isn't visible in the same way that purchase orders created outside the tender module are. Purchase orders that are visible in the main mSupply system have a status of “sg” (or “cn” or “fn”). Once you are satisfied with your purchase order in the tender module do this:

1. Go to the purchase orders tab
2. Click on a purchase order to convert (only one at a time at the moment, sorry)
3. Click **Convert to SG**
4. Confirm the warning window, and the purchase order will now:
 - a. no longer be editable in the tender module
 - b. be available using **Suppliers > Show Purchase orders** from the mSupply menu or navigator.
5. Repeat the process with other purchase orders that are ready to send to a supplier.

You can now view the purchase order, confirm it, and send to a supplier - see Purchasing: Ordering from Suppliers: Viewing a purchase order.

Finalising a tender

This should be done when all processing of the tender is complete and the purchase orders have been created and sent to the suppliers. The tender will not be editable after this so PLEASE make sure you are sure that all processing is complete!

When you finalise a tender you will be warned if there are no Purchase orders associated with it because you won't be able to create them later!

Previous: Using benchmark prices Next: Supplier instructions for using the tender submission web interface

Supplier instructions for using the tender submission web interface

Introduction

This user guide explains how to use the web site at <https://tenders.msupply.org.nz> (<https://tenders.msupply.org.nz>) that is used by mSupply users to publish tenders. It is only relevant if you are a supplier who is being invited to tender by a user of this system. If you have been invited to tender and have questions that are not answered in this document, you may request support by emailing tender_support@msupply.org.nz.

How it works - a summary

1. The Client prepares tender document and distributes by email to suppliers.
2. Each Supplier receives details, including a username and password, for accessing the secure website where the tender is to be found.
3. The password provided is valid only for the first time the website is accessed, so the supplier's first action will be to change it.
4. During the period between receiving the tender document and the tender's deadline, the supplier decides on the quotations to be submitted, and enters the details on line. This may be done over multiple sessions.
5. Before the deadline, the supplier finalises the quotation; this action is not reversible and prevents any further changes being made. The status is changed from SG (suggested) to FN (finalised).
6. Once the deadline is passed, the client may access all quotations which have been finalised, evaluate them, and notify successful suppliers.

How it benefits suppliers

- Accuracy: you can be confident that the information entered by you will be accurately transferred. Manual systems are prone to transcription errors in the price, pack size, currency, etc.
- Speed: while the tender process may be slightly slower for the supplier, the time between tender closing and bid evaluation is dropped from weeks to one or two days. This means tender closing dates can be moved closer to the date on which suppliers are notified of winning bids, benefiting all involved.

Costs

- There is no charge to suppliers to use the system. Development and maintenance costs are covered by software support contracts with mSupply users.
- If you pester us with frivolous support requests (i.e. things that are answered in this document), this policy will be reviewed.

Charges to suppliers

Due to a steady stream of requests for help for issues that are covered in this guide, or issues that are not our fault (e.g. password reset requests), the review mentioned above has been carried out and we now often charge for these kinds of support requests.

Security

- We take the security of this module **VERY** seriously.
- Only https (secure) website access is allowed: observe the closed padlock icon in the corner of your browser. This

means that no-one can read the interactions between you and the tender server.

- Automatic disconnection: should there be no activity after a short time, you are required to confirm that you are still working on the website. In the absence of such confirmation you are disconnected and the login screen reappears.
- One-time password: the password provided for the first time you access the website is valid only for that first occasion. You must change it to a password of your own choosing for continued access to the website.
- The server running the Tender Management System is managed by Sustainable Solutions and is accessible by us alone. We know this system will only be successful if we maintain the highest standards of ethical, impartial behaviour and keep your data secure and accessible only to authorised parties.
- Restricted access by IP address: if you wish to limit access to your online account to users within your office, let us know an IP address or subnet that you will use and we will put this restriction in place until you instruct us to remove it.
- We track the IP address of all log on attempts. Repeated attempts from the same IP address will be blocked.
- We have coded the software carefully to ensure that supplier information entered is only available to that supplier and to the customer (obviously once the customer downloads the submitted bids, we can not control the information flows outside of our system).
- All emails sent by the tender module are sent by SSL (Secure Socket Layer) for added security.

First logon

Log on to <https://tenders.msupply.org.nz> (<https://tenders.msupply.org.nz>) and this is the window which appears when you log on



The screenshot shows the login interface for the mSupply Tender Web Interface. At the top, there is a logo featuring a stylized figure holding a red cross, followed by the text 'mSupply'. Below the logo, it says 'mSupply Tender Web Interface' and 'Please enter your code and password'. There are two input fields: 'Supplier Code:' and 'Password:'. At the bottom, there are two buttons: 'Clear' and 'OK'.

You should enter your supplier code and password, both of which were sent to you by email.

You will immediately be shown the window for changing your password:

In the Old Password field you should enter the password sent to you by email. You must then enter a password of your own in the New Password field, re-entering it in the Confirm Password field; when you have done this, and clicked on OK, the standard log on window appears again, and you should enter your user name and the password which you have just created. You will now be logged on to the system, and these are the details you will use for logging on in future..

Note that the web site uses a large Javascript library, so will take a few moments to load the first time you use it. In return you get a fast and easy-to-use interface.

If you have chosen to do so in the preferences, each time you log in, you will be sent an email saying that you logged in to the web interface - this means if someone else was to log in to your account, you would know about it.

Staying logged on

If no user activity is detected for a few minutes, as a precautionary measure to restrict unauthorised access, a window appears. You need to click **Keep Working**, otherwise you will be logged out.

Once you have logged on, you will be shown a list of tenders for which you have been invited to submit quotations.

Customer	Closing Date	Description	Tender Status	Quote Status	Message from Client
<input type="checkbox"/> Namaste Medical St...	Tue, 21 Dec 10 18:15:00 GMT	tender for practice only	sg	SG	
<input type="checkbox"/> Namaste Medical St...	Tue, 11 Oct 11 18:15:00 GMT	practice tender	sg	SG	
<input type="checkbox"/> Namaste Medical St...	Tue, 11 Oct 11 18:15:00 GMT	practice tender_110912	sg	SG	
<input type="checkbox"/> Namaste Medical St...	Thu, 17 Nov 2011 18:15:00 G...	Local Test - Paul	sg	SG	

The example shows that 4 tender documents from client Namaste Medical Stores, have been uploaded and await the supplier's attention.

The My Information button

Clicking the **My Information** button displays this window:

User Information [Close]

General Information | Show my quotes | Log

Supplier Information

Master Code:

Name:

Default Currency:

Inactivity Time: min

Send e-mail notification on successful log-in

User Info

User Name:

Current Password:

New Password:

Confirm Password:

Address

Address 1:

Address 2:

Country:

Contact Address

Email:

Phone:

Mobile:

WebSite:

The above window may not display properly using the Google Chrome web-browser. If this is the case, then please use Firefox.

This is where the supplier's details held on the server are entered and stored, and this is also where they can be edited. Those details include name, address, contact details, and the default currency for this supplier.

Default currency The default currency is that currency in which the you normally supply quotations - in the example shown, it is Singapore dollars, and this will normally remain unchanged for a particular supplier; suppliers located in another country are likely to use their own country's currency as their default one.. In the case where a supplier submits a quotation with one or more lines quoted in another currency - e.g. Euros or US dollars - the particular currency used is entered on the appropriate line of the quotation Note that changing your default currency will affect new quotations, and won't have any affect on existing quotations.

Inactivity time This is the length of time in minutes after which you will be logged out if there is no activity. 10 minutes is the default but you can choose from between 1 and 60 minutes.

Email me manufacturer list As the name suggests, this will email a tab-delimited text file with the complete list of manufacturer names and their corresponding codes to the email address specified. If you want to take advantage of the new facility to upload a quotation as a tab-delimited text file, you will need to use the manufacturer codes specified in this list.

Saving your settings and closing the window Click the **OK to update** button to save your settings. Click on the close box in the top right of the window to close it when you are finished.

Viewing the tender list and individual tenders

The window which appears when you log on is the Current Tender List, and it shows all of the tenders for which the supplier has been invited to submit a quotation; it also shows the status of the tender, which is set to SG (= suggested), and should remain at this status until all work has been completed, and the quotation is ready to be finalised. Access to a particular tender document is achieved by double clicking on the line. The tender and the items involved in it are then displayed in a window which looks similar to the following:

The screenshot shows a window titled "Tender Item List" with several sections:

- Quote Information:** Description: SOA 2012_01, Customer: [redacted], Currency: NZD, Status: SG.
- Dates:** Date Finalized: 00/00/00, Closing Date: Fri, 17 Aug 2012 14:00:00 GMT.
- Comments:** Customer: [input field], Supplier: [input field].
- Tender Items:** A table with columns: Item Co..., Item Name, Quantity, Pack S..., Price/P..., Currency, Expiry Date, Delivery Time, Manufacturer, Comment.

Item Co...	Item Name	Quantity	Pack S...	Price/P...	Currency	Expiry Date	Delivery Time	Manufacturer	Comment
2011	ACRIFLAVINE 0.2% IN SPIRIT 70% BOT/50ML	8,200.00	1.00	0.00	NZD				
2013	ACYCLOVIR OPHTHALMIC OINTMENT 3% T...	50.00	1.00	0.00	NZD				
1110	ADRENALINE INJ 1MG IN 1ML	6,500.00	1.00	0.00	NZD				
539	ALBENDAZOLE TABS 200MG	62,000.00	1.00	0.00	NZD				
539	ALBENDAZOLE TABS 200MG	62,000.00	1.00	0.00	NZD				
20	ALLOPURINOL TABS 100MG	110,000.00	1.00	0.00	NZD				
20	ALLOPURINOL TABS 100MG	110,000.00	1.00	0.00	NZD				
2015	AMETHOCAINE EYE DROPS 0.5% MINIMS	1,200.00	1.00	0.00	NZD				
1120	AMINOPHYLLINE INJ 250MG IN 10ML	100.00	1.00	0.00	NZD				
30	AMITRIPTYLINE TABS 50MG	12,800.00	1.00	0.00	NZD				
39	AMOXYCILLIN SUSP 125MG IN 5ML BOT/10...	15,000.00	1.00	0.00	NZD				
42	AMOXYCILLIN TABS/CAPS 250MG	7,000.00	1.00	0.00	NZD				
1125	AMPICILLIN INJ 500MG DP	270,000.00	1.00	0.00	NZD				
2030	ANTISEPTIC SOAP	3,000.00	1.00	0.00	NZD				
4030	APPLICATOR STICKS,SINGLE,WOOD,COTT...	3,600.00	1.00	0.00	NZD				
4036	APRON, PLASTIC DISPOSABLE 810 x 1600...	15,000.00	1.00	0.00	NZD				
1133	ARTESIMINATE SUPPOSITORY 200MG	2,000.00	1.00	0.00	NZD				

Description: This is the description or title of the tender. Use this whenever you refer to the tender so that everyone knows you're talking about the same one!

Customer: This is the name of the organisation who created and published the tender and then invited you to respond to it.

Currencies drop down list and Set currencies icon: This sets the default currency for your quote. Use the set currencies icon to change the currency for all items currently entered. If you struggle to find the correct currency, type the first letter of the one you want and you will be taken to the first currency beginning with that letter. The list is in alphabetical order so it should make it easier to find.

Show button: displays the whole of the customer's comment if they've entered one. May contain useful information for you.

Edit button: Displays a window to enable you to enter or edit a longer tender comment for the customer (the one who invited you to tender). Any information you want to convey to the customer about your quotes can be put in here. Note: you also have the opportunity to enter comments on individual quote lines. See Entering prices section below.

Duplicate button: Duplicates a selected quote line. Will put the new quote line at the top of the quote. Helpful if you want to enter a quote for the same item but with slightly different details. If you need to do this for many items, use the Upload button mentioned below.

Show totals button: Shows the total value of your quote for each currency you've included in your quote.

Reset lines button: Removes any changes you have made to the selected quote lines.

Email me this quote button: Sends you a copy of your quote as it currently stands. It will be sent to you a tab-delimited text file attachment to an email.

Email me a quote template button: Sends you a copy of the tender with all items included with no price or other information added. This is the perfect thing to use as a base for your quote if you are going to create it in a spreadsheet and upload it using the upload button (see below).

Browse button: Allows you to select the tab-delimited text file to upload as your quote.

Upload button: Uploads the selected text file as your quote (see the Uploading prices section below).

Entering prices

To enter the details for a line, double click on the line.

The screenshot shows a software interface titled "Tender Item List". It is divided into several sections:

- Quote Information:** Includes fields for Description (SOA 2012_01), Customer (blurred), Currency (NZD), and Status (SG).
- Dates:** Includes Date Finalized (00/00/00) and Closing Date (Fri, 17 Aug 2012 14:00:00 GMT).
- Comments:** Includes fields for Customer and Supplier, with Show and Edit buttons.
- Tender Items:** A table with columns: Item Co..., Item Name, Quantity, Pack S..., Price/P..., Currency, Expiry Date, Delivery Time, Manufacturer, and Comment. The table contains several rows of data, including items like ACRIFLAVINE, ACYCLOVIR, ADRENALINE, and ALBENDAZOLE.

Buttons for Duplicate, Show totals, Reset lines, Email me this quote, Email me a quote template, Select a file to upload..., Browse, and Upload are visible above the table. A Save and Cancel button is also present below the table.

Details should be entered in each of the columns:

Item code, name and quantity These are fixed by the tender and cannot be changed.

Pack size The pack size requested by the customer is already on the form; if needed, it can be changed.

Price per pack The unit price of the pack you are offering to supply in the chosen currency.

Expiry date and delivery time When completing these fields, it is suggested that a series of abbreviations be used:

- min = minimum
- max = maximum
- w = week
- m = month
- y = year
- So for example, if you want to indicate a delivery time of 3 months, enter "3m"

Delivery times should be specified from when you receive the purchase order, so must also include the time for order compilation by the supplier

The tender document is likely to specify minimum expiry dates, but it is important that there should be no misunderstandings. Delivery time is understood to mean the estimated period of time between the consignment leaving the supplier's premises and delivery to the customer.

Currency: The relevant currency should be selected from the drop down list - it doesn't have to be the same as the default currency. If you're struggling to find the right currency from the list, type the first one or 2 letters of the currency you want - should make it easier to find.

Manufacturer: The name of the manufacturer should be chosen from the drop-down list. Typing the first few characters of the manufacturer's name will show a list of matching manufacturers. Click to select one.

Manufacturers are not linked to suppliers in our system, so multiple suppliers who source goods from the one manufacturer do not cause a problem.

Adding new manufacturers into the tender module

Due to the desire of mSupply users to collate manufacturer data, you cannot enter manufacturer names yourself. If you want to have a manufacturer added to the list, please email to tender_support@msupply.org.nz (mailto:tender_support@msupply.org.nz) and we will add the name(s) within 24 hours.

Please submit Manufacturers in the following manner:

The country where the manufacturer is based must be specified. The address column is optional.

If you have more than 5 manufacturers to add then it may be worth creating and a spreadsheet with the column headings described below, then sending to us as an attachment:

Manufacturer	Country	Address (optional)
John Western Pharmaceutical	US	32 Obama Road, Virginia
Jürgen Klinsmann Group	Germany	Göppingen, West Germany
Universal Supplies	Great Britain	

If you do not want to or cannot specify the manufacturer, choose the entry 'Not specified' from the list. You may wish to add a comment to that quote line to explain your entry.

Country of Origin: Some tenders require you to specify country of origin instead of manufacturer. Common countries are specified in the Manufacturer list, so you can just choose a country rather than a specific manufacturer if you wish.

Comment: Use this column for entering any comment or note you may wish.

Once you have made all the entries for a row, click **Save** to update the tender document with the details you have entered. It is quite possible that you will not have all the necessary information to complete a tender document at a single session; this is not a problem - just close the document at the stage you have reached and later, once you have the further information you require, reopen the document and continue with the process.

Submitting multiple quotations for the one item If you wish to do this, then select the line you wish to submit a second (or third) price for and click the 'Duplicate' button in the toolbar. Fill in the details of the second quotation.

Tender conditions Some tenders may have more restrictive conditions than the web site allows for. For example, a tender may specify only one currency, or that multiple quotations for the same item are not allowed. Currently the web site will NOT reflect such conditions, and it is your job to read the tender conditions and respond accordingly.

Uploading prices

This facility allows you to upload a specially formatted tab-delimited text file containing a header line and one or more item lines for your quotation.

Preparing the quotation file

The file should be in plain text format, having the following 10 columns, each separated by a tab, and without using any kind of quote characters as a text delimiter around individual fields:

- Item code
- Item name
- Quantity
- Pack size
- Currency
- Price per pack
- Expiry date
- Delivery time
- Manufacturer code
- Comments

This is very similar to the file format you will get if you select the 'Email me this quote' button on the tender items window, but with the manufacturer name replaced by the manufacturer code (less likely to make mistakes as the code is shorter). You can download a manufacturer list from the 'My information' page (see the 'My Information button' section above). Note that the Item Name and Quantity columns are only included for the sake of human readability, and will be ignored.

If you wish, you can download a suitable template for uploading by clicking the 'Email me a quote template' button on the top-right of the tender items window. This will have the first four columns pre-filled for your convenience and is the best way to start if you intend to upload your quotes.

- If opening using Excel, save it in **Text(Tab delimited)** format before uploading.
- If opening this template using OpenOffice, select **Tab** as the separator and set the text delimiter to nothing (i.e. delete the quotes). Save it in text/CSV format before uploading.
- The header line, with the column titles, is included for the sake of human readability, but will be ignored during import. But make sure the header row is there, otherwise your first quote line will be ignored.

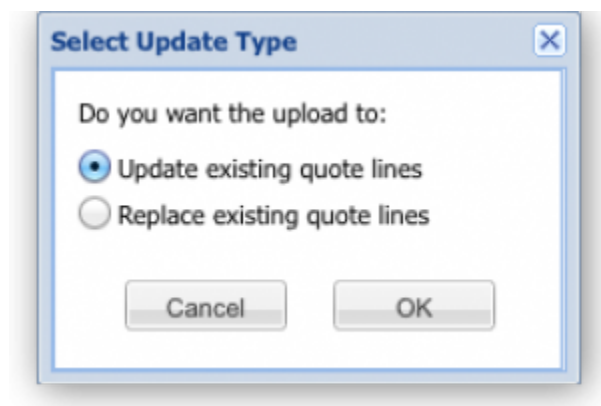
Please note that:

- The text file must be in tab-delimited format (**not** comma separated)
- The end-of-line character is a carriage return- you must not have any carriage returns (end of lines) in the comment or manufacturer fields of a row, or the upload will fail, thinking it has reached the end of a row.
- The decimal point separator must be a period (“.”) not a comma.
- the upload process will ignore the first line of the file. This line is reserved for the column headings so that the text file remains human-readable. So, whether you use the

template sent to you via email or whether you manually create an upload file make sure the first line of the file contains column titles and not quote information.

Uploading the quotation file

First of all, you need to select the file that you wish to upload by using the Browse button on the far right of the tender items window. The selected filename will then be visible in the text field to its left. Then click on the Upload button and you will be presented with the following window:



Update existing quote lines: Select this if you want the contents of the file to update quote lines already in the tender. Note that information will only be updated for items in the tender where the current price for the line is 0. If a line in the tender has a non-zero price any line in the file with details for that item will be ignored. So, if you want item lines to be updated by the contents of the file reset their prices to 0 before you carry out the upload. Note also that if there is more than one matching zero-price tender item line with the same item code, then it will select the first match it comes to i.e. the system will cope with multiple quote lines for the same item. Therefore, if you want to upload multiple lines for an item, you need to duplicate that line in the tender first (using the *Duplicate* button on the toolbar) before uploading the file.

Replace existing quote lines: Select this if you want the contents of the file to replace everything already in the tender. All your existing lines will be deleted from the tender and the contents of the upload file will be entered into the tender. Note that if there are multiple lines in your upload file with the same item code this method will put them all into the tender. This is helpful if you keep your text file as a master copy and use it to update your quotes. And also means that you can easily input multiple quotes for the same item (with different pack sizes or manufacturers, for instance - but mSupply won't check so the multiple lines could be identical if you wish).

Click on the *Cancel* button to cancel the upload or the *OK* button to continue.

Having clicked on the *OK* button you will, after a short while, get a confirmation that the upload was successful and the list of displayed tender items will be updated to reflect the data that has just been uploaded.

Please note the following points regarding the file upload process:

- Only text files (extension of '.txt' or '.csv') smaller than 1Mb are accepted.
- Currently, the only web browsers which fully support file upload are Firefox and Chrome. The next versions of Internet Explorer, Safari and Opera are also planned to include support for this new HTML5 feature.
- A successful upload message does NOT imply that the contents of the file are valid, simply that it has been processed. An email will be sent to your email address, with two attachments:
 - A text file which contains the output generated from the upload process i.e. the number of records which were successfully processed, and any error messages generated during the upload process.
 - A tab-delimited text file in the same format as produced by the 'Email me this quote' button, which will

include the updated tender items - you should check that this reflects the changes you are expecting.

- Any blank lines in the uploaded file will be ignored.
- Any lines which do not contain the expected number of columns, or with data in the wrong format will generate an error message and will not be imported.
- Any lines with an invalid item code or an invalid currency code will generate an error message and will not be imported. We use the standard 3-character currency codes - see here (<http://www.xe.com/iso4217.php>) for a complete list.
- Any lines with an invalid manufacturer code will still be imported but will be given a manufacturer of 'Not specified'.

Note also that it is possible to perform as many file uploads as you like.

Finalising a tender

Firstly, be warned: Finalising means what it says, and can not be undone. Only when you are satisfied that you have completed the details on all the lines for which you are quoting should you finalise your tender entry.

Email it to yourself first

We strongly recommend you use the button in the tender window to email yourself the tender, and then check that the entries in the online tender module match your intended entries.

To email a quotation to yourself, open the tender you wish to email, and then click the “Email it to me” button at the top-right of the window.

What finalising does

Clicking on *Finalise* does two things:

1. It locks the tender document, changing its status to FN (finalised) and you can make no further changes to it.
2. It makes the finalised tender submission accessible to the customer once the tender has closed. Only finalised quotations will be accepted by the customer.

Finalising the tender submission, therefore, must be performed before the closing date as specified by the customer.

How to Finalise

1. You need to be viewing the list of tenders, **not** the particular tender you have just entered.
 - a. If you are not logged in: Log in and you will be shown the list
 - b. If you are editing your tender, close it to return to the list of tenders.
2. Check the checkbox in the left-hand column next to the tender you have completed
3. Click on the Finalise button.
4. You're done

Closing date and time

Note that closing date and time is specified as GMT (Greenwich Mean Time). This is **NOT** likely to be the same as your local time. Please take this into account when planning for when you will finalise your prices.

Results notification

The client will notify successful suppliers directly by submission of a purchase order. The web site will not show you any information about you or any other supplier's success or otherwise

Obtaining support

Please email tender_support@msupply.org.nz if you have any problems. We are based in Nepal, but provide support 18 hours per day Monday to Friday while there are open tenders in the system.

Note that you should only communicate with us regarding technical matters. For all matters relating to tender conditions, pricing, etc., communicate directly with the client who published the tender.

The future

- We hope you appreciate both the concept and the hard work we've put into making this system work for both clients and suppliers.
- The system is used by several mSupply users, and is being taken up by more each year.
- We have lots of our own ideas on how to improve the system, and we'd love to hear your criticisms, compliments or ideas as well. Use the email address above.

Warranty

There is none. Our software is provided "as is". We take the responsibility to act fairly and carefully very seriously. We are replacing manual systems that are prone to gross errors, so even when our system experiences the odd (very rare) issue, it remains a vast improvement on what has gone before.

Infrequently asked questions

- **Q:** What if your server failed just before a tender closed.
 - **A:** Our advice is: This isn't an auction. There is no need to submit at the last minute. However, if there was more than a few minutes of downtime in the last 24 hours of a tender, we would ask the customer's permission to extend the closing date. Also, our server has been running for several months. Should the tender module prove popular we will transfer it to a data centre.
- **Q:** Can we phone you for support.
 - **A:** Yes.
 - Nepal: +977 1 5548021
 - New Zealand: +64 9 889 4486 or +64 225 44 4486

Thanks

Thanks to the staff of Republic of Kiribati's Ministry of Health & Medical Services Pharmacy Department who pioneered the use of this feature! 😊

Previous: Analysing supplier responses & creating purchase orders Next: Uploading and Downloading Web Tenders

Uploading and downloading web tenders

A web tender is one that is uploaded to our remote tender server and is made accessible to suppliers to enter their responses. This greatly reduces the load on you to input all the responses from all suppliers and means there will be far less data entry errors.

Setup

To use web tenders, there are several setup steps that only need to be done once:

1. Contact Sustainable Solutions to arrange a user account. We'll send you your account details.
2. In **File > Preferences...**, on the Tender tab, enter the account details Sustainable Solutions sent you. See General preferences, Tenders section for details.
3. Link each of your suppliers with the Supplier's master record on the tender web site. For further information see Adding and editing names, Master ID and Master name fields.
4. Tell Sustainable Solutions about any of your suppliers that are not in the tender web site list. We will then add them, and you can link the remaining suppliers.

The process

The following steps describe the whole remote tender process:

1. Carry out the setup steps given above.
2. In mSupply, create a new tender.
3. Set up tender name, reference number, opening and closing date.
4. Add items to the tender. Make sure you add a quantity and pack size for each item.
5. Add suppliers to the tender.
6. Go to the *Synchronise* tab on the tender details window and click on the **Upload tender to web site** button to upload the tender to the tender server. You will be given an error message if the upload is not successful. If you get stuck, contact Sustainable Solutions for further assistance. For a tender to upload successfully:
 - Each supplier must be linked. You will be warned if they aren't.
 - Your internet connection must be working.
 - You must have entered the user name and password correctly in the mSupply preferences Tender preferences (see above).
7. Inform suppliers by sending physical or electronic tender documents (both can come from mSupply).
8. The suppliers enter their bids into their part of the remote tender server web site.
9. After the tender has closed, download tender by going to the *Synchronise* tab on the tender details window and clicking on the **Download tender from web site** button. You will be given an error message if the download is not successful. If you get stuck, contact Sustainable Solutions for further assistance. For a tender to download successfully:
 - Your internet connection must be working.
 - The tender closing date must have passed.
10. Compare prices and print appropriate reports for the tender committee or others.
11. Award each item to a supplier.
12. Create purchase orders.
13. Send the purchase orders to the suppliers.
14. Sit back, relax and give yourself a pat on the back. Nice going.

After uploading

mSupply records when a tender has been uploaded, and will no longer allow the editing or deletion of tender lines on that tender. So make sure your tender is correct and complete before you upload it!

Previous: Supplier instructions for using the tender submission web interface Next: Ordering Items From Suppliers

Ordering items from suppliers

Introduction to Ordering

mSupply provides ways for you to generate a Purchase Order with manually or automatically calculated quantities. Each organisation tends to have different requirements for their ordering process, so we have tried to strike a balance between providing different methods and making the ordering module so complex that it is of little use to anyone. mSupply has two general methods for generating a purchase order:

- . We recommend that you use this method since it will save you time and avoid mistakes.
- . This method allows you to create a purchase order based on manual calculations of quantities.

However you create a purchase order, the purchase order window looks like this:

There is some read-only information at the top of the window which cannot be edited:

- *Order num*: This is the purchase order's number. It is automatically generated and increments by 1 for each new purchase order. It is **unique within a store** only so it is possible for purchase orders in different stores to have the same number.
- *Confirm date*: The date the purchase order was confirmed. If it has not been confirmed yet, this will be "00/00/00".
- *Status*: The current status of the purchase order:
 - sg = suggested, the purchase order is still in the process of being completed and can be edited. No goods can be received against it yet
 - cn = confirmed, the purchase order is complete and cannot be edited. Goods can now be received

against it

- fn = finalised, the purchase order cannot be edited and goods can no longer be received against it
- *Store*: The name of the store the purchase order belongs to.

Creating a new (calculated) Purchase Order

Before launching into creating a new (calculated) Purchase Order, it is important to understand the logic that mSupply uses.

Logic used for calculating Purchase Order quantities

There are three distinct steps required to arrive at Purchase Order quantities for each line of stock:

mSupply uses this methodology to produce a suggested order quantities in a number of other places including:

- Creating a new tender
- The suggested order report

To assist in understanding these calculations, an example will be developed through the following sections. **Amoxicillin 250mg tabs/caps** is being ordered at the end of December 2015. Historical consumption data is as follows:

Month	2013	2014	2015
Jan	200	1,000	1,000
Feb	250	1,050	1,100
Mar	300	950	900
Apr	350	1,000	1,000
May	400	1,200	1,400
Jun	450	800	600
Jul	500	1,000	1,000
Aug	550	1,150	1,300
Sep	600	850	700
Oct	650	1,000	1,000
Nov	700	1,100	1,200
Dec	750	900	800

From this data, the following AMC (Average Monthly Consumption) calculations can be made.

Period	AMC
Last 36 months (Jan 2013 - Dec 2015)	825
Last 24 months (Jan 2014 - Dec 2015)	1,000
Last 12 months (Jan 2015 - Dec 2015)	1,000

Period	AMC
Last 6 months (Jul 2015 - Dec 2015)	1,000

A more detailed analysis of this historic consumption shows a steady increase through 2013, and then the AMC sits at 1,000 per month in 2014 and 2015. In this case, we have an AMC of 1,000 per month regardless of whether we look at 6, 12 or 24 months of historic consumption data.

Forecast future consumption

By default, mSupply uses the assumption that future consumption will continue at the same level as consumption over a given historic period. mSupply has a number of other options for making a forecast of future consumption. All of these methods are documented in the Forecasting section .

Calculate required stock quantity

mSupply does not use set “minimum” & “maximum” stock levels as its primary means of determining order quantities. Conventional minimum and maximum stock levels are calculated using the methods described here, but it is problematic to try and fix these values, because:

- The parameters will keep on changing,
- It takes a lot of manual work to calculate,
- The assumptions made in calculating them are often lost.

Be assured that the system that mSupply uses will give you much better inventory control!

Having said that, mSupply does allow for minimum stock levels so as to allow you to ensure a minimum quantity of rarely used items. e.g. essential emergency supplies - refer Other information on the stock details page. These minimum stock levels should **not** be used for most items.

The amount of stock you require to have is based on the forecast of future consumption (previous section), modified by a range of factors including:

- The **Lead time**: The time delay between ordering stock and its delivery to your store.
- The **Ordering cycle**: How often you order from this supplier
- How much “**buffer**” **stock** you want on hand just before your next order arrives.

All of these are measured in months.

Some agencies recommend the buffer stock to be double the Ordering cycle. However, if your ordering cycle is long (say 12 months) then this means keeping two years worth of stock as a buffer. This could become a problem with expiry dates.

For example:

- Lead time = 3 months
- Ordering cycle = 6 months
- Buffer stock = 12 months

From the equation above, Stock required is calculated as:

- = Lead time + Ordering cycle + buffer stock
- = 3 + 6 + 12
- = 21 months.

So, 21 months worth of stock is required.

The amount of stock required is almost certainly **NOT** the amount of stock to be purchased! See the next section: for an explanation.

Calculate purchase order quantity

Purchase Order quantities are based on the amount of stock required, normally expressed as a number of months of AMC, modified by factors including:

- The current stock level.
- The amount of stock on backorder to customers ((if you are running the backorder feature).
- The amount of stock already on order from Suppliers, but that has not yet arrived in your store.
- The months of anticipated stock-out before the order arrives (more on this below).

mSupply makes an important assumption as to how to handle **anticipated stock-out**. That is, the situation of running out of stock before the order arrives. mSupply assumes that the consumption that you forecast to happen between you running out of stock, and the purchase order stock arriving **should not** be provided under this purchase order. The basis for this are two further assumptions:

- You will either obtain the shortfall through another purchase order (an emergency order, or from another supplier), or you will simply run out of stock.
- Your customers will **not** increase their demand in the time immediately after you receive the stock *from this purchase order* to compensate for the stock being unavailable prior to the new order arriving.

Therefore, mSupply reduces the purchase order quantity by the anticipated stock-out amount.

It can be seen that

- Anticipated Stockout = the Lead time - Current stock level + stock on backorder to customers - stock on backorder from suppliers

If the above equation produces a negative number, this means that there will be no stock-out, and the anticipated stock-out will have no impact on the Purchase order quantity. So, for the purposes of this mSupply calculation, Anticipated Stockout = *maximum of zero and the above expression*. This is expressed mathematically as:

Continuing our worked example, suppose:

- Current stock levels = 5 months
- Stock on backorder to customers = 3 months

- Stock already on order from Suppliers = 2 months

Then, Anticipated stock-out is calculated as:

- = $\max(0, \text{Lead time} - \text{Current stock levels} + \text{stock on backorder to customers} - \text{stock on backorder from suppliers})$
- = $\max(0, 3-5+3-2)$
- = $\max(0, -1)$
- = 0

and Purchase order quantity is calculated as:

- = $\text{stock required} - \text{current stock level} + \text{stock on backorder to customers} - \text{stock on backorder from suppliers} - \text{months of anticipated stock-out}$
- = $21-5+3-2-0$
- = 17

So **17** months worth of stock *to be ordered*. Compare this with the **21** months worth of *stock required* calculated in the previous section!

To demonstrate the impact of a stock-out, let us suppose that we have only **1 month's** worth of stock on hand:

- Current stock levels = **1 month**
- Stock on backorder to customers = 3 months
- Stock already on order from Suppliers = 2 months

Then, Anticipated stock-out is calculated as:

- = $\max(0, \text{Lead time} - \text{Current stock levels} + \text{stock on backorder to customers} - \text{stock on backorder from suppliers})$
- = $\max(0, 3-1+3-2)$
- = $\max(0, 3)$
- = **3**

and Purchase order quantity is calculated as:

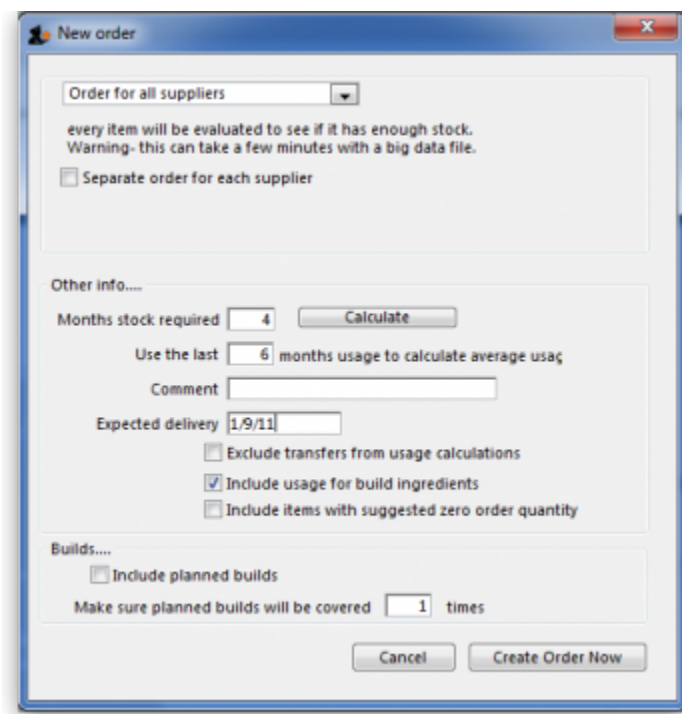
- = $\text{stock required} - \text{current stock level} + \text{stock on backorder to customers} - \text{stock on backorder from suppliers} - \text{months of anticipated stock-out}$
- = $21-5+3-2-3$
- = **14**

So, due to the **3** month anticipated stock-out, only **14** months worth of stock are to be ordered.

To Create a Purchase Order

Choose *Supplier > New Purchase Order*.

In most instances the following window will be displayed:



This window allows for a number of factors to be entered.

Types of order available from the popup menu

Firstly, you have the opportunity to select the order types:

Order for all suppliers.

- All items in the database will be evaluated to see if they need ordering. This is the default option
- If you have a large number of items, this may take a few minutes.
- By default, a single order will be generated. You have the option to generate a separate order for each supplier by checking the *Separate order for each supplier* box. In this case, mSupply will
 - For each item, look to see whether a supplier has been identified as **preferred** on a current quote
 - Create a separate order for each supplier.
 - Items without a **preferred** quotation will all be placed together in a single order.

Order for some items only

- Either click on the *Query items* box, to bring up the *Query Editor* window, and enter the required parameters, or select one or more criteria by placing check marks as appropriate in the three boxes; use of the *Query Editor* is described in detail in the Reports chapter. See Using the Query Search modifier

Order for one supplier

- This method is the best method to use for ordering from a particular supplier (you might have guessed that!)
- Enter the supplier code, and press the tab key. The supplier name will be filled in, or you will be given a list to choose from.
- Any items that have a quotation from that supplier that is marked as “preferred” will be evaluated to see if they need reordering.

Calculate Forecast

Secondly, the forecast of future consumption will be calculated in accordance with each item's settings as documented in the Forecasting section. The only forecasting factor that can be adjusted here is the number of months of historical consumption data that will be used to calculate historical AMC.

- The bigger the number you enter here, the more accurate mSupply is likely to be, *provided that consumption has been reasonably stable over that period*. Entering a large number will slow down the calculation.
- Also, beware of extending this time period to a time in the past when data is inaccurate or non-existent. This will be detrimental to the quality of the forecast.

From our worked example above, consumption has been stable at 1,000 per month for the last two years (2014 and 2015), but was significantly lower in 2013. Putting 36 months would result in a lower AMC than has been the case for 2014 and 2015.

The number of months of historical consumption data to be used to calculate historical AMC **will be ignored** for those items that are configured not to use AMC in the forecast - refer Forecasting.

Calculate quantity required

The quantity of stock required can be entered directly into the **Months of stock required** field. However, as demonstrated in the section above, a more reliable way of getting to this figure is to use the Lead time, order cycle and buffer stock parameters. Clicking on the *Calculate* button brings up a window allowing you to enter these values, from which mSupply will calculate the quantity required.

Using the same figures as in our worked example above:

Months stock required

Lead time Month(s)

Ordering cycle Month(s)

Orders will cover until 10/12/2016

with buffer stock Month(s)

Months stock required 21 Month(s)

Cancel OK

- Orders take three months to arrive from your supplier - (Lead time = 3 months)
- You order every six months. (Ordering cycle = 6 months)
- We want a buffer stock of at least 12 months when a Purchase Order arrives.

- The **Lead time** figure will generate an **Expected delivery** date, and the **Lead time / Expected delivery** date can have a significant impact on actual Purchase order quantities - refer above.
- **BEWARE** of manually entering in a date that is unrealistically far into the future - this will **REDUCE** the quantity ordered!

Other settings in the create order window

Comment

Add a comment (note) to the order should you so wish.

Exclude transfers from usage calculations

This option is only applicable if you are running multiple (virtual) stores. If you have more than one store, this option controls whether inter-store transfers are taken into account when calculating historic consumption. The default setting is *not* to exclude transfers. That is, stock transfers will be *included* in the calculation.

Include usage for build ingredients

Selecting this option ensures that any items that were used in builds (i.e. manufactured items) will be taken into account when calculating historic consumption.

Builds can be entered with placeholder lines to reflect a projected manufacturing schedule. If the *Include usage for build ingredients* check box in the “new order” window is checked, the proposed order quantity for each item will be adjusted by the amount of the item that is required for all projected builds, multiplied by the “times covered” value you have entered.

Using our worked example:

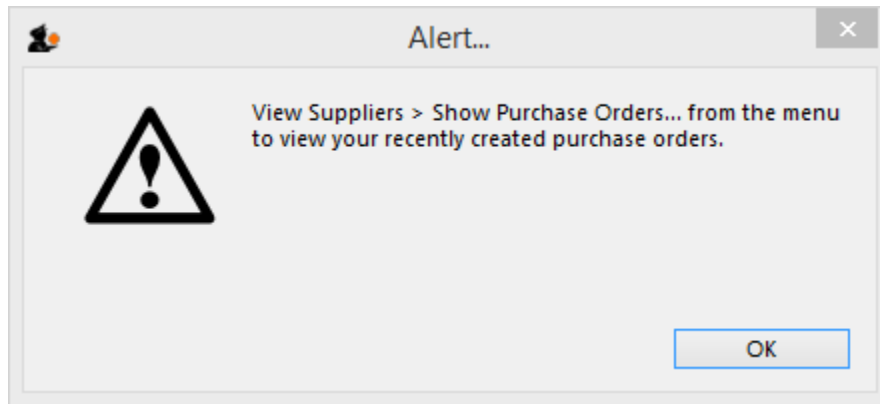
- Let us say that we wish to 'build' a kit which includes 100 x Amoxicillin 250mg tabs/caps.
- We have a projected build for 200 of these kits.
- This will consume 20,000 Amoxicillin 250mg tabs/caps.
- We enter 1.5 in the *times covered* box
- Then the additional quantity of Amoxicillin 250mg tabs/caps that will be added to the order will be:
 - = $100 \times 200 \times 1.5$
 - = 30,000 tabs/caps
- In our worked example, ignoring projected builds, 14 months usage was to be ordered.
- The AMC is 1,000 per month.
- Without taking into account projected builds, this would result in an order of 14,000 tabs/caps.
- When we add the usage of the projected builds, the amount to be ordered will be:
 - = $14,000 + 30,000$
 - = 44,000 tabs/caps

Include items with suggested zero order quantity

If mSupply calculates that any of the lines from the supplier are not required, when this box is checked such lines will appear on the Purchase Order, the order quantity being 0.

Create Order Now button

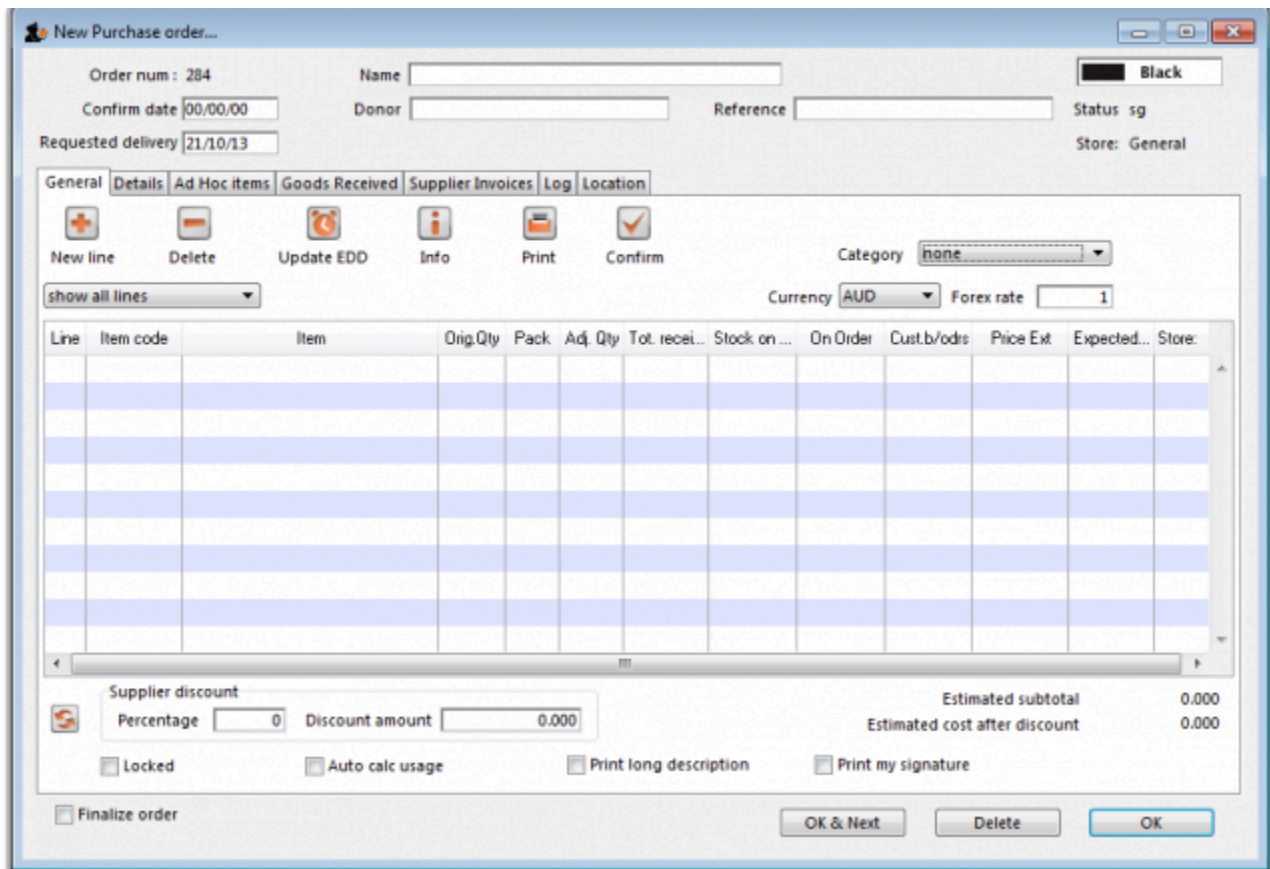
Once you have entered the details, click the *Create order* button. Order generation may take a couple of minutes, depending on how many items need to be evaluated. You will then be presented with the following Alert box:



Clicking on *OK* will close the Alert box and return you to the Navigator.

Creating a blank Purchase Order

Choose *Supplier > New blank Purchase Order* . You are presented with a blank order form, to which you can add items. This form only allows the choice of one supplier.

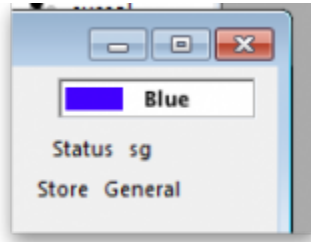


The **name** field is where you choose the supplier you are ordering from.

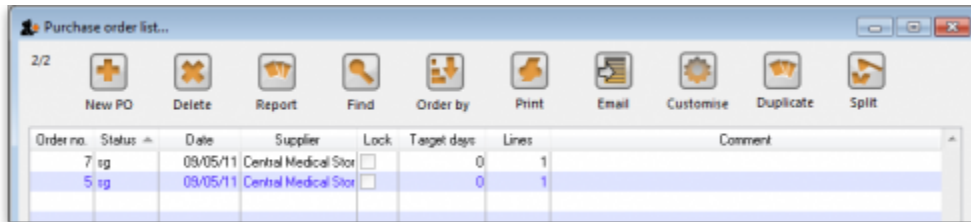
If it has been set in *Preferences*, the **Donor** field will appear, and the donor details may be entered here. Setting this preference is described in *Supplier Invoices*.

The **Reference** field allows you to enter any relevant information.

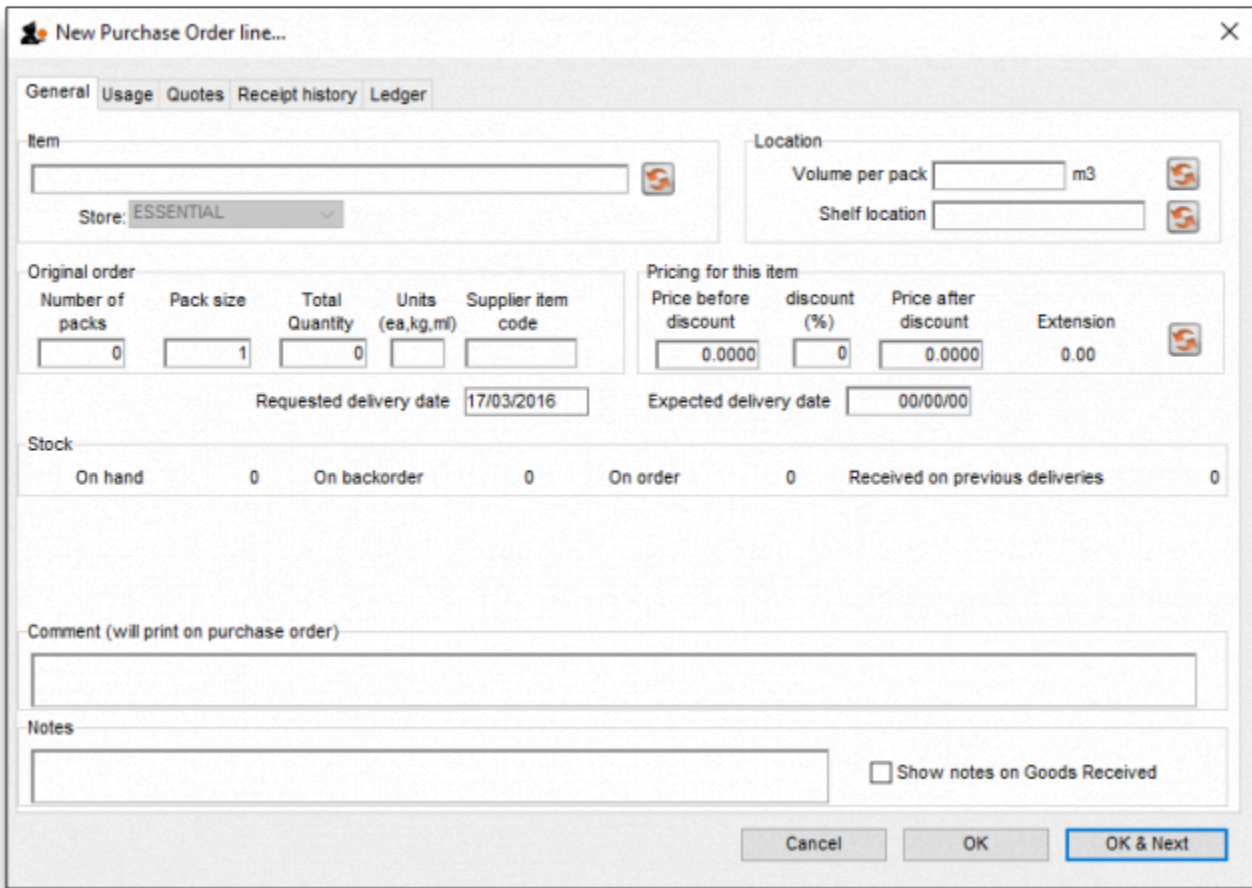
In the top right hand corner, there is a box where you may select a particular colour from a range of colours - in the window shown below, *blue* has been selected.



The purpose of this is to distinguish this particular Purchase Order in the Purchase Order list - see the example below where PO number 5 is shown in the selected colour (blue):



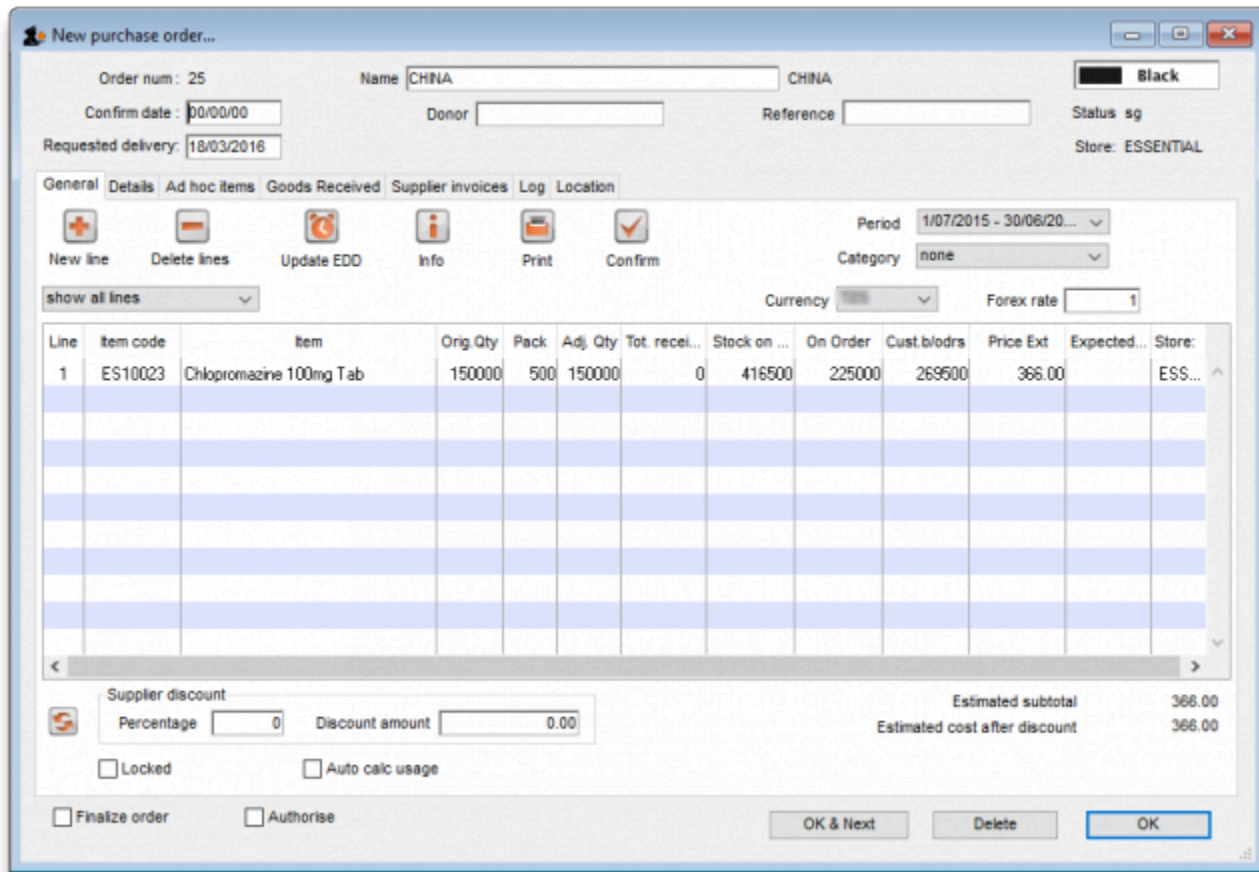
Once a supplier(**Name**) has been chosen you may enter the item you are ordering by clicking the **New Line** button.



In the **Item** field type the beginning letter of the item you want and hit the *Tab* button. You may then choose the item from the displayed list. If you want to see the entire list of items available type @ and then *Tab*.

From more information on the other tabs in this window see

Once you have chosen the Item and entered the appropriate details clicking OK will return you to the Edit Purchase Order screen where you will see the line you have created. Below I have ordered 300 Packs of Chlopromazine.

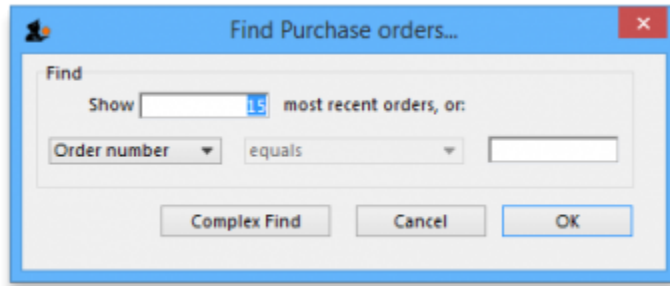


The Original and Adjusted Quantities columns show the number of packs you ordered multiplied by the number of units in the pack.

Viewing a Purchase Order

To view a recently created order choose *Show Purchase Order...* from the *Supplier* menu.

Choosing this menu item shows a window where you can enter either the number of recent orders to display or the order number (this is printed on an order if you have printed it out). If you click OK without changing any information you will be shown a list of the 15 most recent orders.



You will then be shown a window with a list of Purchase Orders. (If you entered a Purchase Order number you will be taken straight to the Purchase Order details window, bypassing the Purchase Order list, as shown above).

Buttons in the Purchase Order list Window

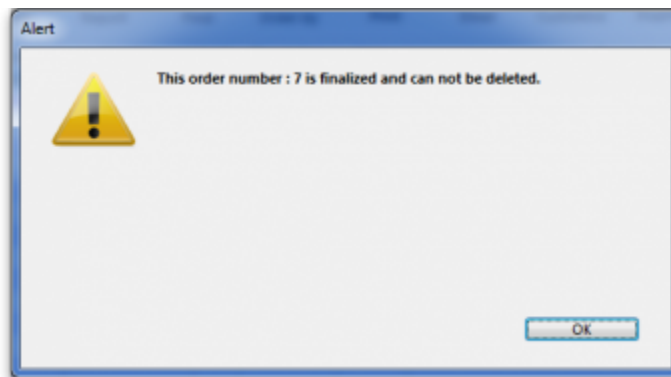


New Purchase Order

When you click the *New PO* button, a Purchase Order details window is displayed . See “New Purchase Order” below.

Delete

Any highlighted orders will be deleted by clicking this button. You can delete multiple Purchase Orders by highlighting more than one line. To do so, control-click (command-click on Mac) the lines you wish to highlight. If your orders are finalised, those can not be deleted. If you attempt to delete a finalised order, you will receive an alert message:

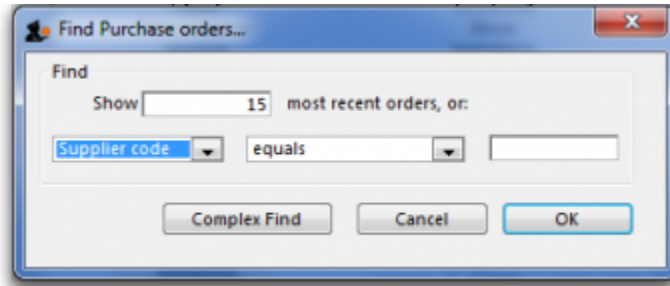


Report

Clicking on the **Report** button presents you with the quick report modifier window, from which a simple report can be constructed. This report can be viewed, saved to disk or printed.

Find

This button is very useful for quickly finding a group of Purchase Orders. when you click on the *Find* button, you will be presented with a window with the same functionality as if you chose the Menu item Supplier > Show Purchase Orders (above).



Order by

The *Order by* button allows you to sort the orders by multiple fields. Otherwise simply clicking on an individual column will also sort the order list by that column.

Print

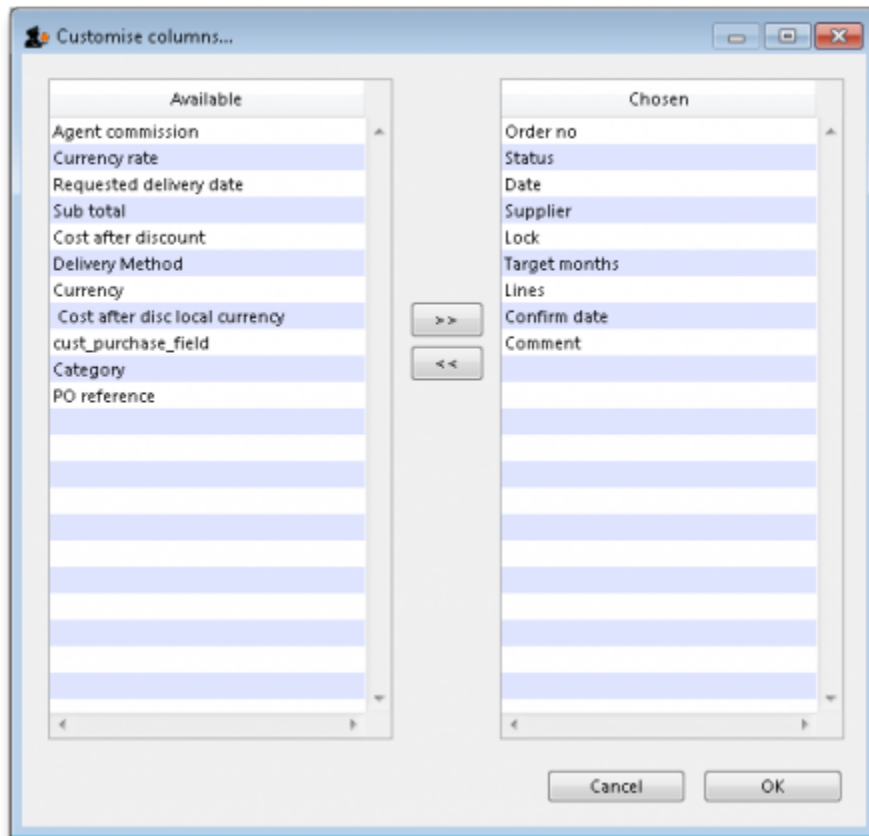
This allows you to print the displayed list of purchase orders. When you click on the **Print** button, it shows two windows. The first is the page setup for your printer, the second allows you to specify how many copies to print. The column sizes set in the list window are reflected in the printed output.

E-mail order(s)

Any highlighted orders will be converted to queued emails.

Customise list

This button allows you to change the columns that are displayed in the list and what order they are displayed in:



See Working with lists for more details.

Duplicate

If you wish to duplicate any orders, highlight desired orders from list and click the “Duplicate” button.

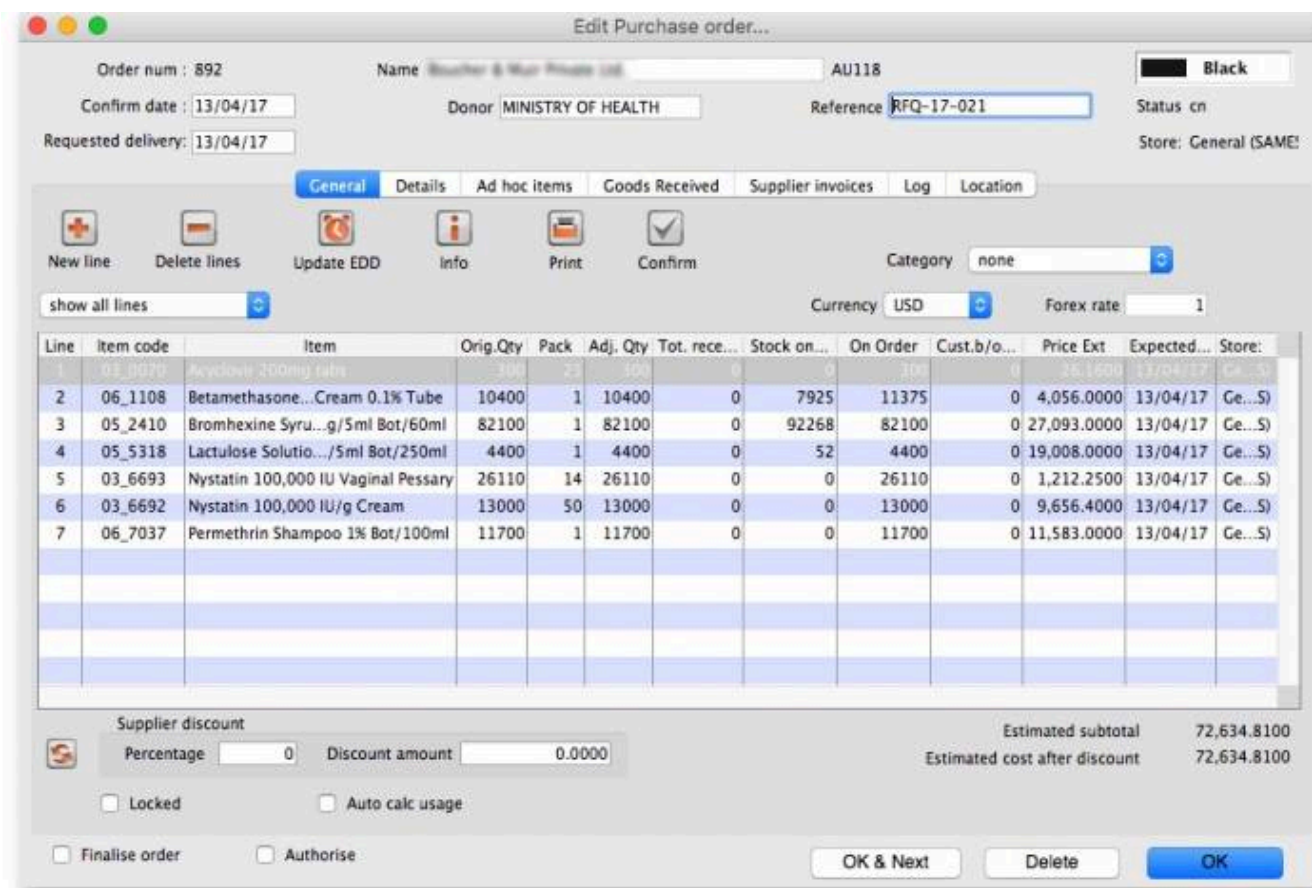
Split

This button allows you to split the selected order between two or more suppliers, and may be used only on orders with a status of sg.

Editing a Purchase Order

Double-click the order in the list you want to modify.

You will be presented with the Edit Purchase Order window:



If the entire order qualifies for a discount, either the discount percentage should be entered at 1, or the cash value of the discount should be entered at 2.

Split Deliveries

There may be occasions when you want to arrange for split deliveries - for instance if you are placing a single order for a year's supply, but you want certain items to be delivered in, say, four consignments, at three monthly intervals. The order as generated lists the total quantity to be ordered, and you need to modify this; what you are actually doing is modifying a Purchase Order line. The procedure is described in *Split deliveries* in

Editing Purchase Order lines

To modify an order line, double click on the line you wish to modify.

Note: you can resize the order modifying window to show more lines, or to show more of the item name. To do so, drag the handle in the lower right corner to a new position.

When you double-click an order line (or when you click on the *New line* button) you will be presented with a window allowing you to modify the item, quantity and pack size:

Information in the Edit Order Line window

Item

Here you can modify the item that is being supplied. To change the item, type as much of the item name as you know, then press the tab key. If only one item matches your entry, it will be filled in automatically, otherwise you will be presented with a list where you can double-click the item you wish to enter.

Comment

You can enter any information you wish to record about this order line here. Comments will be added to order lines when you email an order to a supplier.

Original quantity

The original quantity ordered from the supplier. This information is not modifiable once you have confirmed an order.

Pack size

This is the pack size the supplier prefers.

Units

The units that the pack is measured in.

Price

The quoted price for this item

Price extension

The price multiplied by the quantity ordered.

Volume per pack

In this field, you can define the volume per pack for the pack size chosen. If you are entering a new line the volume and pack size you have entered for the item will be used.

Note the mSupply always stores volumes as m3 (cubic metres), but you can enter a volume as millilitres (ml), litres (L) or cubic metres (m3)

Shelf location

Type the first few characters of location name or code as you know, then press the *Tab* key. If only one location code matches your entry, it will be filled in automatically, otherwise you will be shown a standard choice list.

Adjusted quantity

The total quantity you now expect to receive from the supplier in all consignments. You can adjust this figure so that the amount received is reduced or increased due to changes in what the supplier actually sends.

Refresh Buttons

The refresh button (to the right of Volume per pack), on clicking, displays the default volume of the selected item if it has been set previously. Similarly the refresh button next to Shelf location displays the default location.

The refresh button in the "Pricing for this item" frame reloads the price data from a preferred quotation. The price from the most recent quote is used if there are no preferred quotations. If you have received an updated quotation after generating the original price, use this button to apply the updated details to this line.

Comment

Put anything you need to have recorded for this purchase order line in here. It will print against the line when the purchase order is printed out.

Notes

Any important notes you need to make about this purchase order line should go in here. These notes will not print out when the purchase order is printed but, if you check the *Show notes on Goods Received* checkbox, the note will be displayed on the goods received note line and the line will be coloured red when the goods are received into mSupply - see Goods receipts for details.

Other information in the Order line details window:

On hand: This is the quantity of stock on hand of the item

On order: This is the quantity of stock in other confirmed orders awaiting delivery.

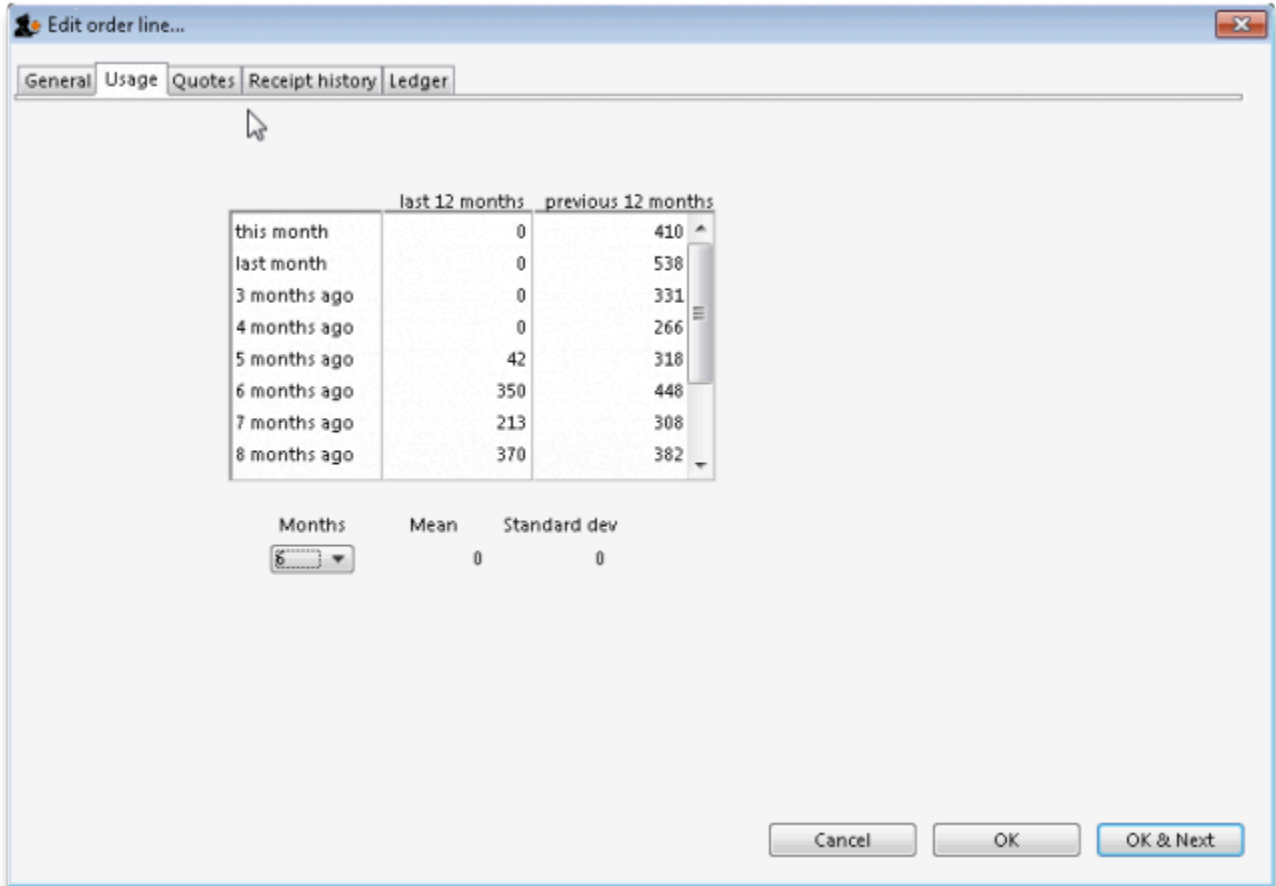
On backorder: The quantity of stock you owe to customers on backorders

Quantity received: The total quantity of this line that has already been received on this order.

Tabs in the Order line details window

The usage tab

This tab shows the usage for the last 24 months of the item being viewed. This is useful for deciding if reported usage is consistent from month to month, or is due to one or two very large supplies to clients.



The quotes tab

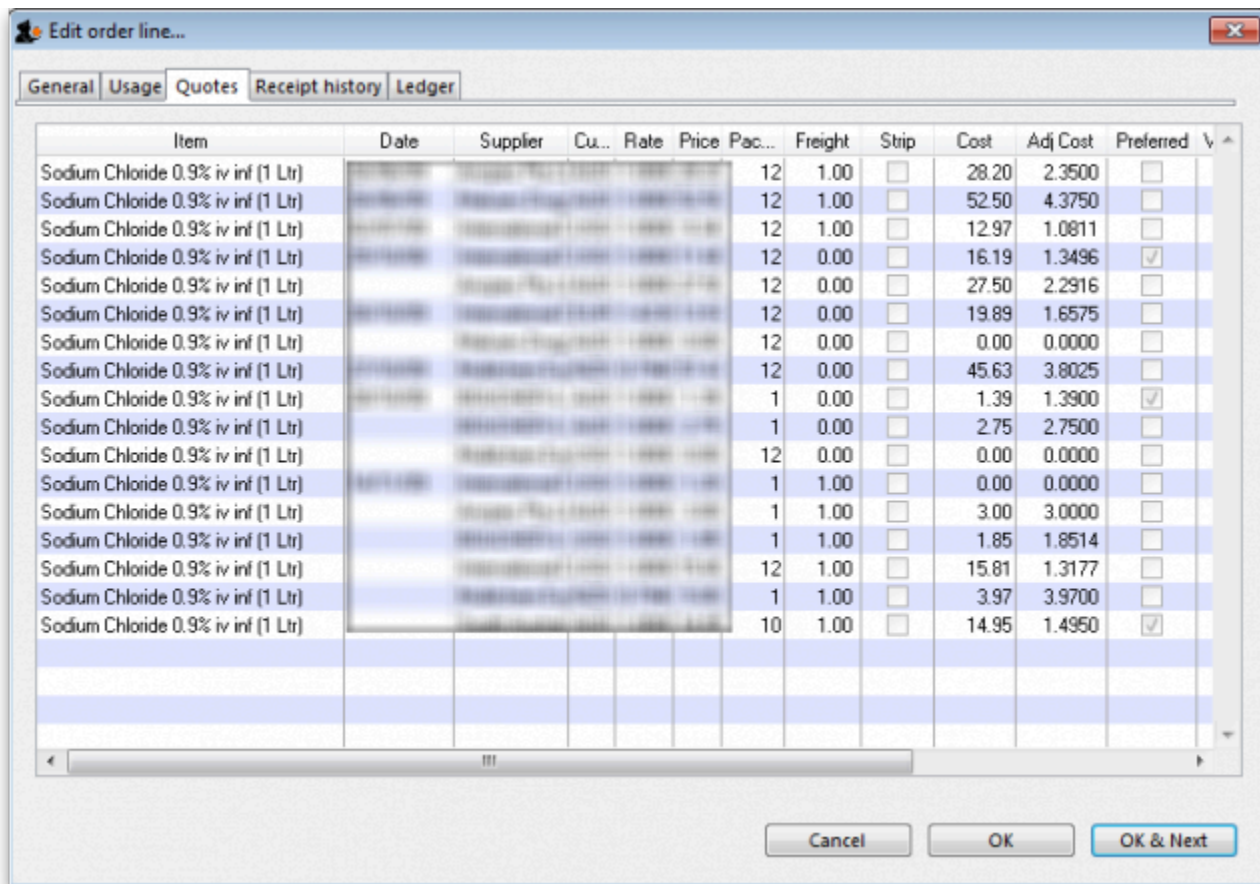
This tab shows quotes from suppliers for the item being viewed.

You can double-click a quote to view and/or modify details.

View quotations for the item in question. You can double-click a quotation to modify its information.

Note that the supplier of the quotation that is marked as “preferred” will be the supplier selected when using the “split” command to break a general order into orders for each supplier.

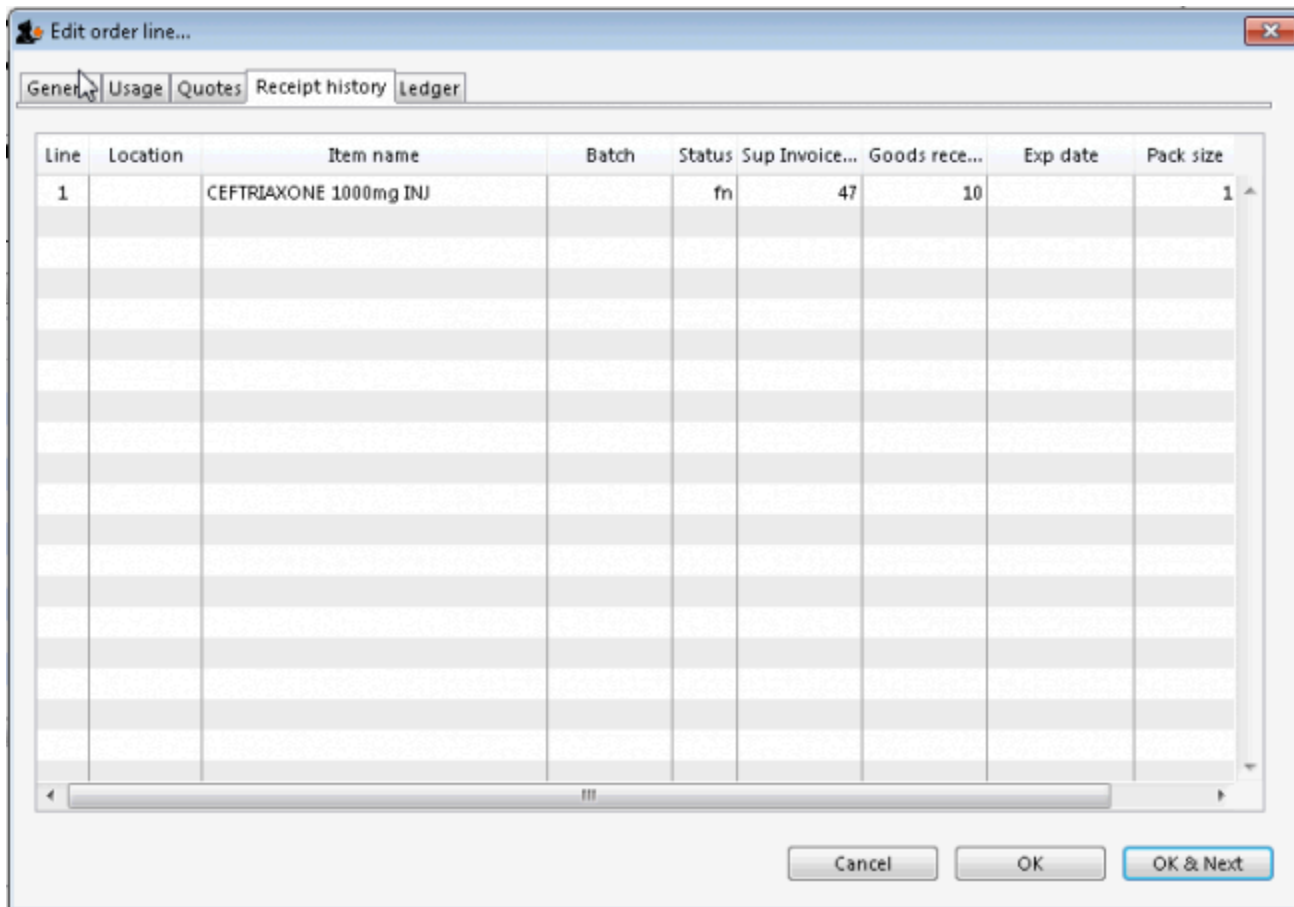
The **New** button allows you to add a new quotation.



The receipt history tab

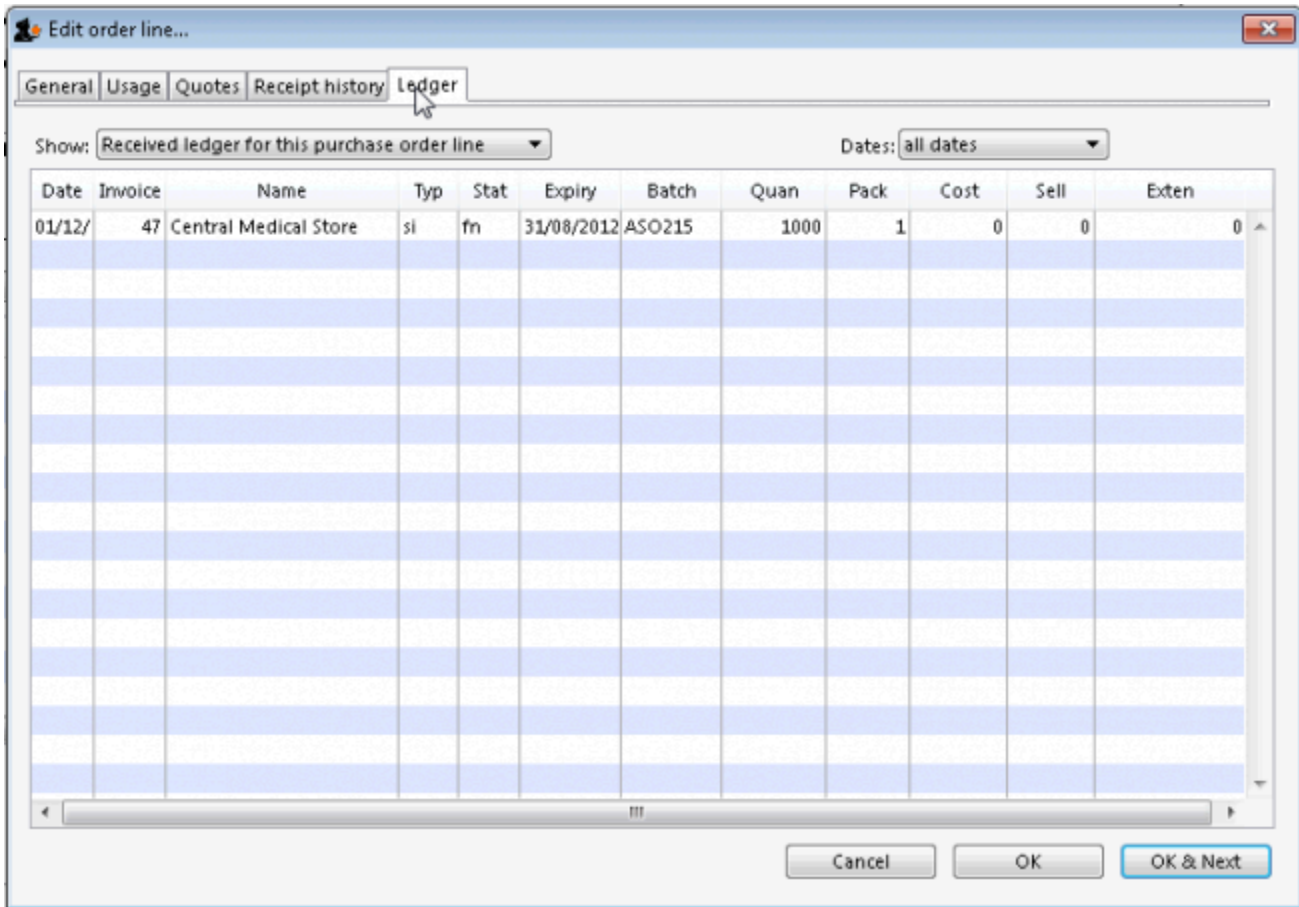
This tab shows all goods receipts for the item being viewed.

If you double-click a line the associated goods receipt transaction will open in a new window.

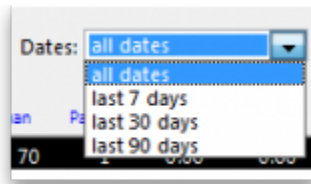


The Ledger tab

- This tab shows supplier and customer invoices for the item being viewed.



- You can display a sub-set of the transaction lines by choosing options from the drop-down lists.
- The option *Received ledger for this Purchase Order line* shows all supplier invoice transactions for the current Purchase Order line item. This is particularly useful if you want to see the history of prices paid for this item.
- Goods receipts are shown on .
- Unordered List ItemThe **Dates** drop-down list allows you to show only recent transactions....



- If you double-click a ledger line, the associated invoice will be opened in a new window

Buttons in the Edit Purchase Order Line window

OK & Next

This button will take you to the next order line, unless you have reached the last line in the order, in which case you will be taken back to the order modifying window.

OK

Will exit the window saving changes to the current window.

Delete

If you click the **Delete** button, the order will be deleted and the order number will be reused for the next order.

Purchase Order status explained:

- When a purchase order (PO) is first created it has status “sg” (for “suggested”)
 - POs with status sg can be modified in almost every way, including changing the supplier.
- Once there are no more lines to add to a PO, it can be confirmed and sent to the supplier. A PO is confirmed by clicking on the **Confirm** button.
 - Once a PO is confirmed, it has status “cn” (for “confirmed”) and an appropriate log entry is created.
 - Confirmed POs have the order amount added to the “on order” field for each item, so that if another PO is created for the same item, this quantity already on order will be taken into account.
 - Confirmed POs can not have new lines added to them. However, details of existing PO lines can be amended.
- Once no more stock is to be received against a PO, it can be finalised. An order becomes finalised by clicking on the *Finalise order* tick-box at the bottom left of the PO window.
 - POs that have been finalised have status “fn” (for “finalised”) and an appropriate log entry is created.
 - Finalised POs can no longer be modified in any way.
 - No more goods can be received against a finalised PO. The ‘unsupplied’ lines will not appear when you look for outstanding PO lines (*Supplier>Show outstanding PO lines*) and the ‘unsupplied’ quantities are ignored in any of mSupply's subsequent *Stock on order* calculations.

Estimated order costs explained

From version 1.7 onwards, mSupply displays a new column (Price Ext) in the order modifying window that shows the cost of the order line.

Buttons on the General tab

New line

Click this button to add a new line to the Purchase Order. You will be shown this window:

You may enter the quantity of the item either by number of packs or by total quantity. mSupply will automatically fill in the other fields for you.

By default the Requested delivery date will be today's date but you may edit this to request deliveries at the times you require. The expected delivery date can be entered manually now but it would normally be entered once a response from the supplier has been received.

Delete lines

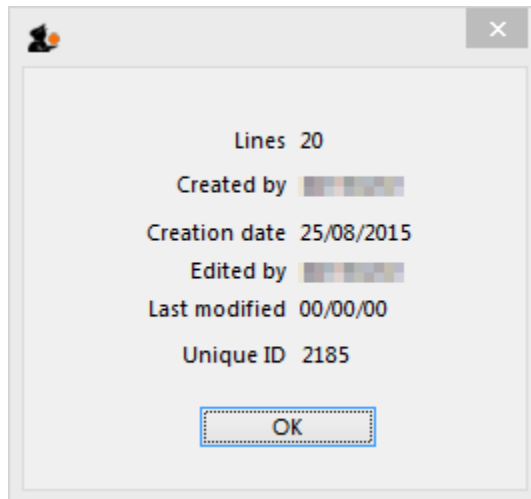
Select one or more lines in the Purchase Order and then click this button to delete the lines from the Purchase Order.

Update EDD

Select one or more lines in the Purchase Order and then click on the Update EDD (Estimated Date of Delivery) button to enter a new date when delivery is expected.

Info

Click the Info button to display information about the Purchase Order including the name of the initials of the Purchase Order creator and modifier - refer figure below.



Notes:

- If the Purchase Order has not been modified, then a modify date of 00/00/00 will be displayed.
- If there is no name against the Created by and Modified by entries, then this Purchase Order was created / modified on the Primary Server in a synchronised mSupply system.

Print

Clicking the **Print** button will print the complete Purchase Order form for sending to a supplier. Note that you should fill in relevant details on the *Details* tab before printing the order.

Confirm

See the section above on “order status” for an explanation. Orders should be confirmed once the order has been placed with the supplier.

Check boxes on the General tab

Locked

When the locked check box is checked, the Purchase Order cannot be processed to the next status (confirmed or finalized) - refer .

Auto calc usage

When the Auto calc usage check box is checked, each time you modify an item line, the usage for that line will be calculated. This is slower, but gives useful information upon which to base your ordering . Note that this option can also be turned on within the order line modifying window.

Print my signature

When the Print my signature check-box is checked, the user's signature will be printed on the Purchase Order if it has been loaded - refer Managing users.

Other tabs on the Purchase Order Form

The Details tab

This tab allows you to record a range of information that will be entered on the Purchase Order when it is sent to the supplier.

The screenshot shows the 'Edit Purchase order...' window with the 'Details' tab selected. The window contains the following fields and sections:

- Order Information:** Order num : 902, Name: IDA Foundation, TL108, Confirm date : 6/04/17, Donor: MINISTRY OF HEALTH, Reference: [blank], Requested delivery: 4/06/17, Status: cn, Store: General (SAME!).
- Tender reference:** BTL, SHAWES, BPO- 17-020
- Order details:** PO sent date: 06/04/17, Contract signed date: 00/00/00, Advance paid: 00/00/00, Received at port: 00/00/00. Includes a checked box for 'Include when calculating stock on order'.
- Comment:** PO generated for tender number: 93 No of PO Lines 18
- Info for purchase order:**
 - Supplier's agent: [blank]
 - Delivery method: [blank]
 - Authorizing officer 1: [blank]
 - Authorizing officer 2: [blank]
 - Additional instructions: [blank]
 - Heading message: [blank]
 - Agent's Commission: 0.00000
 - Document charge: 0.00000
 - Communications charge: 0.00000
 - Insurance charge: 0.00000
 - Freight charge: 0.00000
 - Freight conditions: [blank]

Buttons at the bottom: OK & Next, Delete, OK.

PO sent date

Enter the date the Purchase Order was sent to the supplier. When you print a Purchase Order mSupply will offer to fill in this date for you, but you should modify it if necessary to reflect the exact date.

Contract signed date, Advance paid and Received at port fields

Enter dates in these fields as appropriate. They are all optional unless any of them are made compulsory by turning on the appropriate preferences on the *Purchase orders 2* tab of the **File > Preferences...** menu item. See Purchase order preferences for more details.

Heading message

Any text you enter here (e.g. "Urgent", "Supplementary order for PO 183") will be printed in a large font across the top of the Purchase Order so your supplier will (or at least "should") notice the message.

Expected Delivery

Enter the date you expect the order to arrive

Goods Received date

Fill in the actual delivery date. Leave the date blank for Purchase Orders that have not been delivered

Invoice received

Enter the date when you received the invoice from the supplier

Hint: you can find all orders that have not had an invoice supplied by querying on this field.

Comment

You can enter any appropriate comments here.

Supplier's agent

Enter the name of the intermediary party here - if there is one.

Delivery method

Enter a delivery method (eg "Air", "Courier" ...)

Authorizing officers

Enter the names of the people who are required to sign off the Purchase Order. These names are printed on the Purchase Order.

Freight conditions

Enter the delivery address, shipping marks, etc. here.

Additional instructions

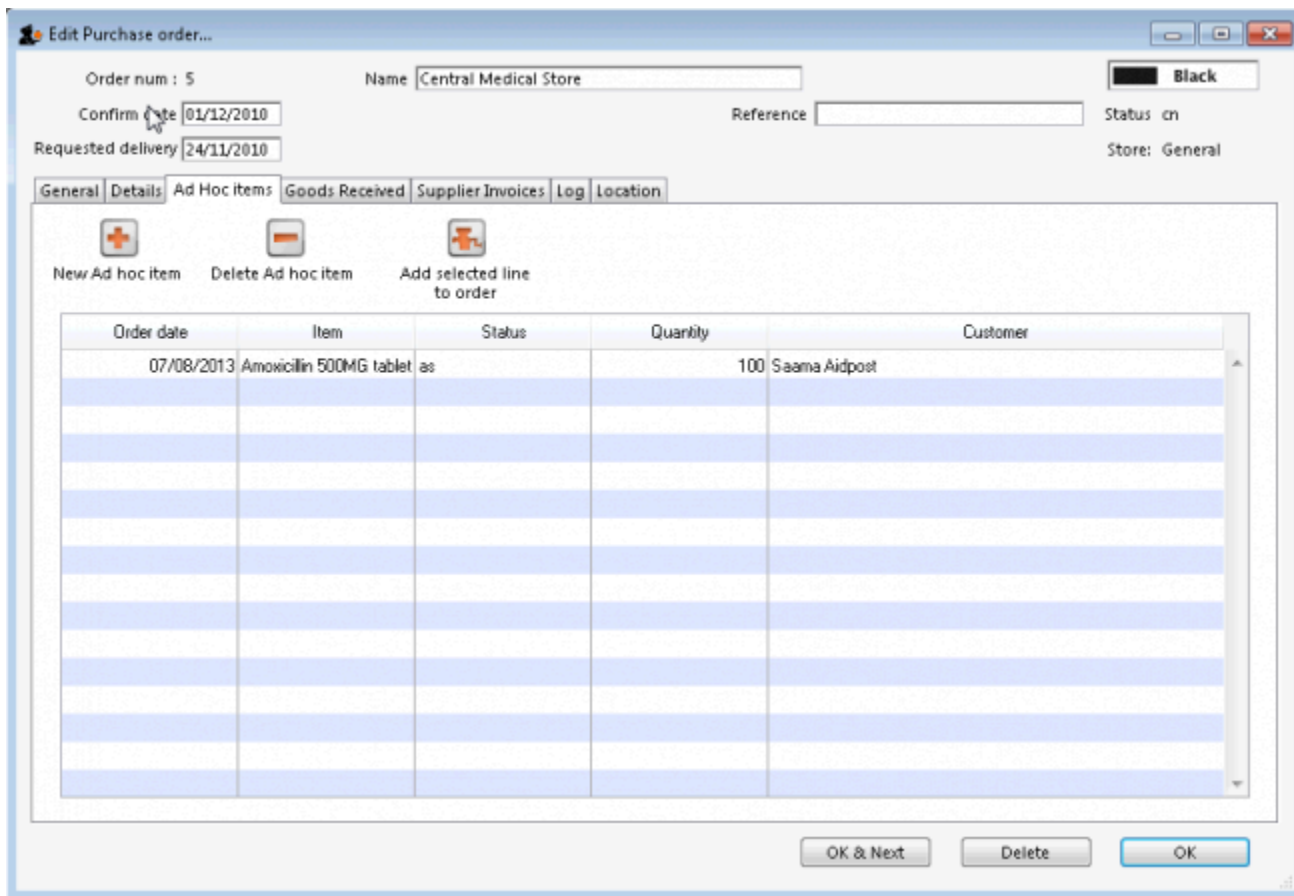
Enter any further information you wish to appear on the Purchase Order.

Commissions and charges fields

Fill in any relevant charges agreed between you and the supplier. Note that any charges that are zero will be skipped when printing the Purchase Order.

The Ad Hoc items tab

Here you can display a list of items that have been assigned to the supplier, but not yet added to a Purchase Order.



Click on a line, then click the “Add selected line to order” button to add a line to the current Purchase Order.

Warning: if you delete a line from a Purchase Order it will not have its status updated automatically- it is your job to do so using the Items > Manage Ad Hoc items menu.

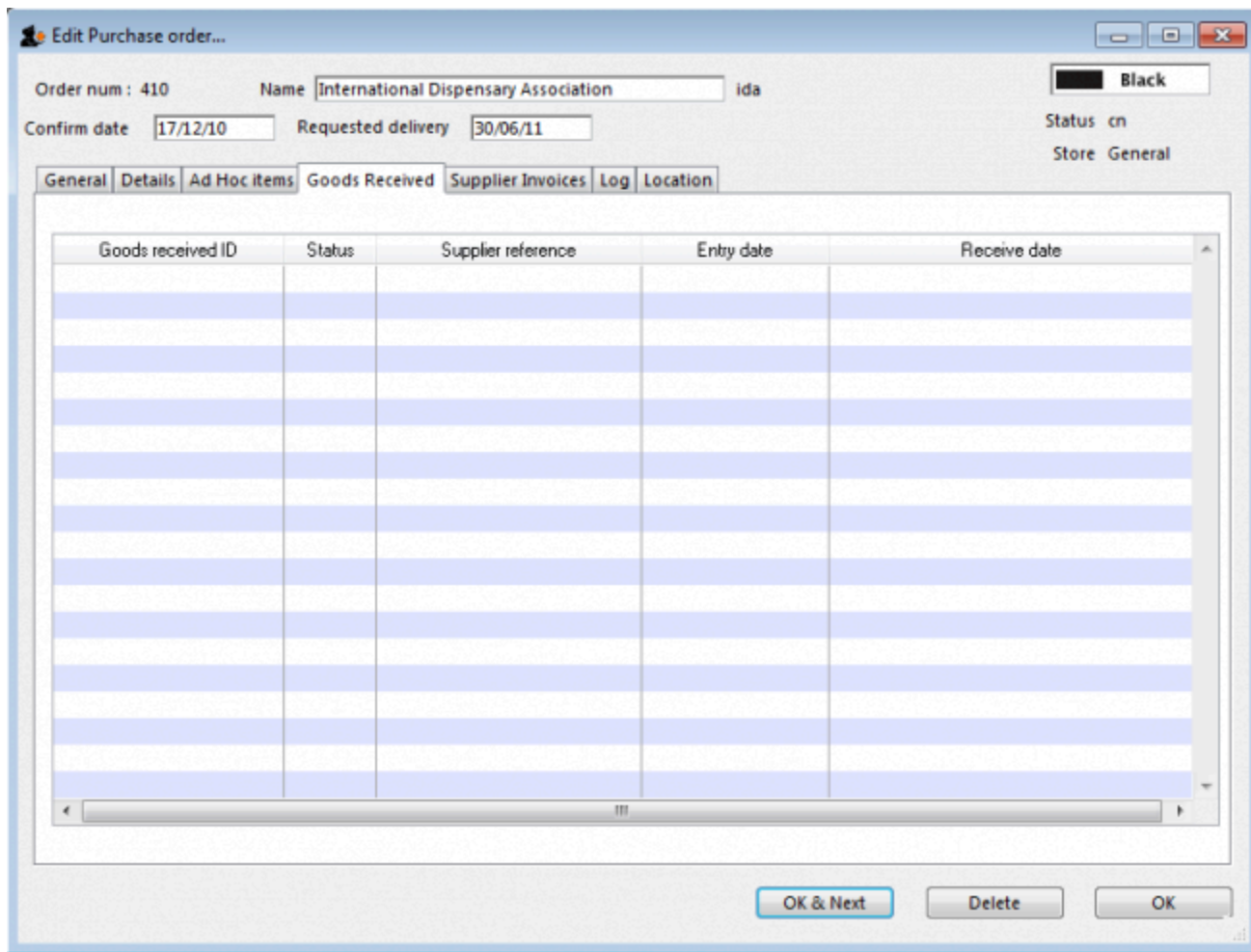
New Ad Hoc line button

Here you can add an ad hoc item “on-the-fly”. This is useful if you want to process a Purchase Order for a single Ad Hoc item that has not yet been entered into mSupply.

Note that the Items > Manage Ad Hoc items menu is the normal route to add, modify and delete Ad Hoc items.

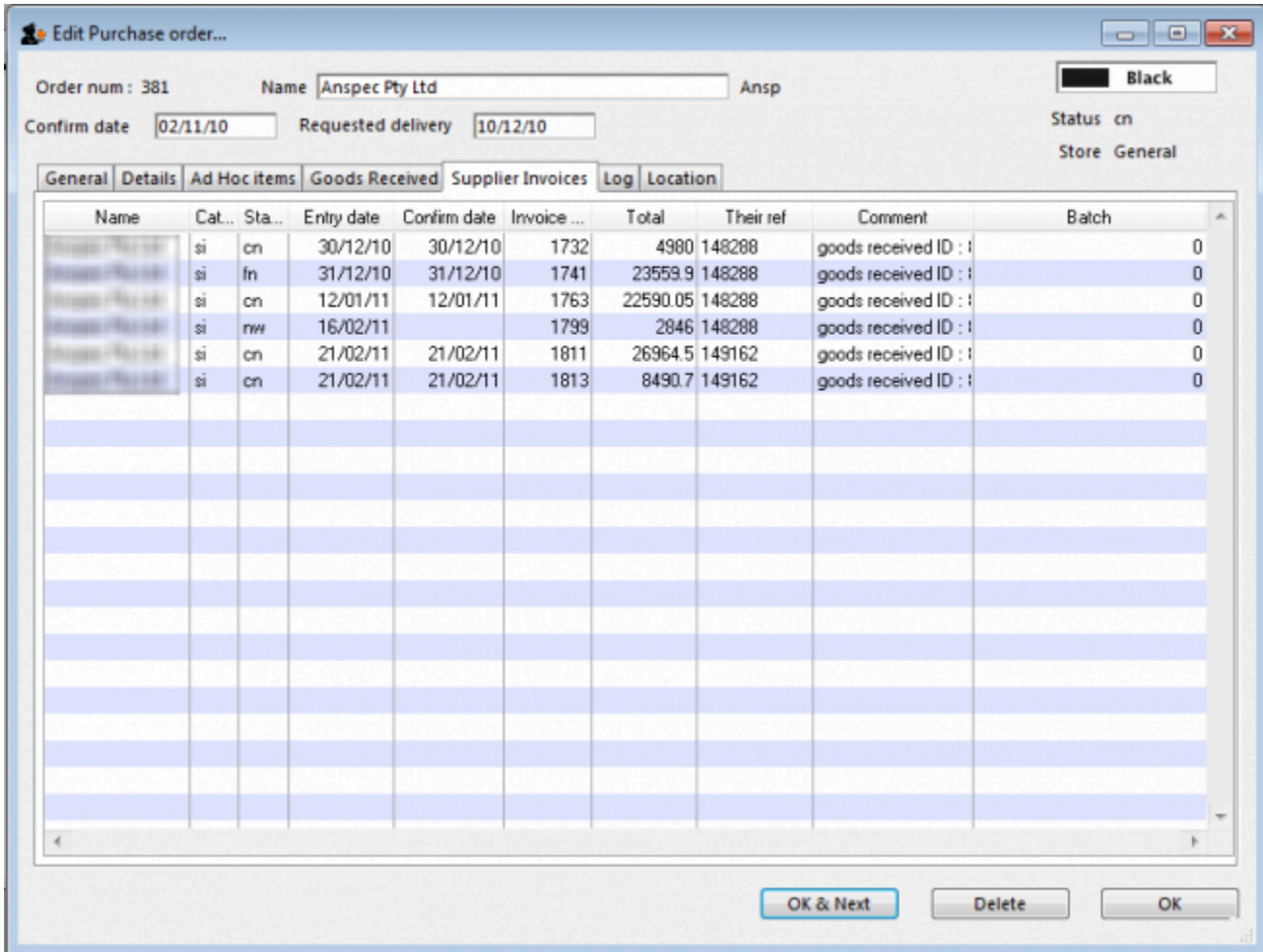
The Goods Received tab

This is a record of the receipt of the order, and, where multiple deliveries have been made, records each instance.



The Invoices tab

This tab displays a list of invoices that have been created from this Purchase Order.



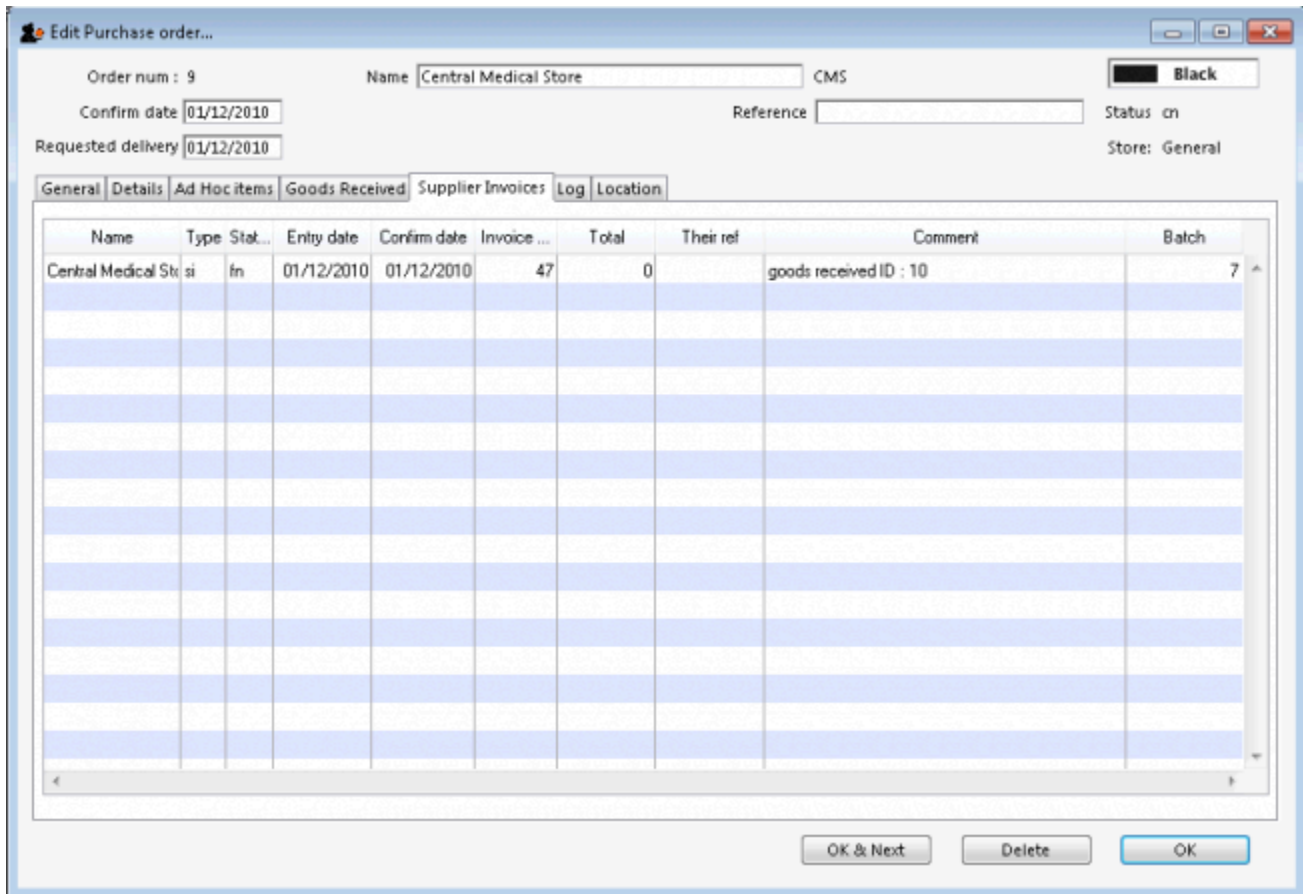
There are two types of invoice that are created directly from Purchase Orders:

Supplier invoices are created each time a consignment arrives.

1. Customer invoices are created when a supplier invoice is created that contains Ad Hoc items.

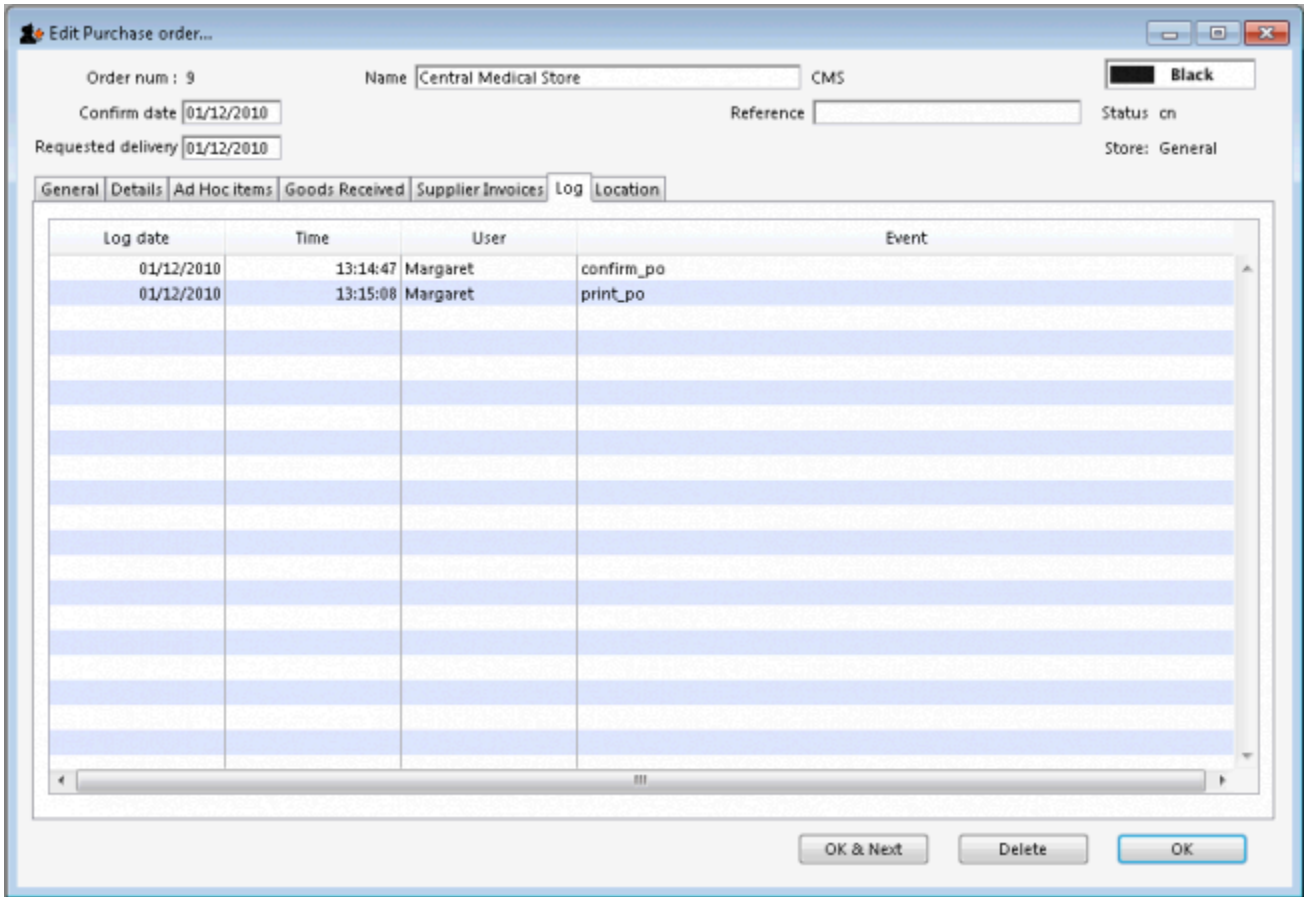
The Supplier Invoice tab

This tab list Supplier Invoices related to the current Purchase Order.



The Log tab

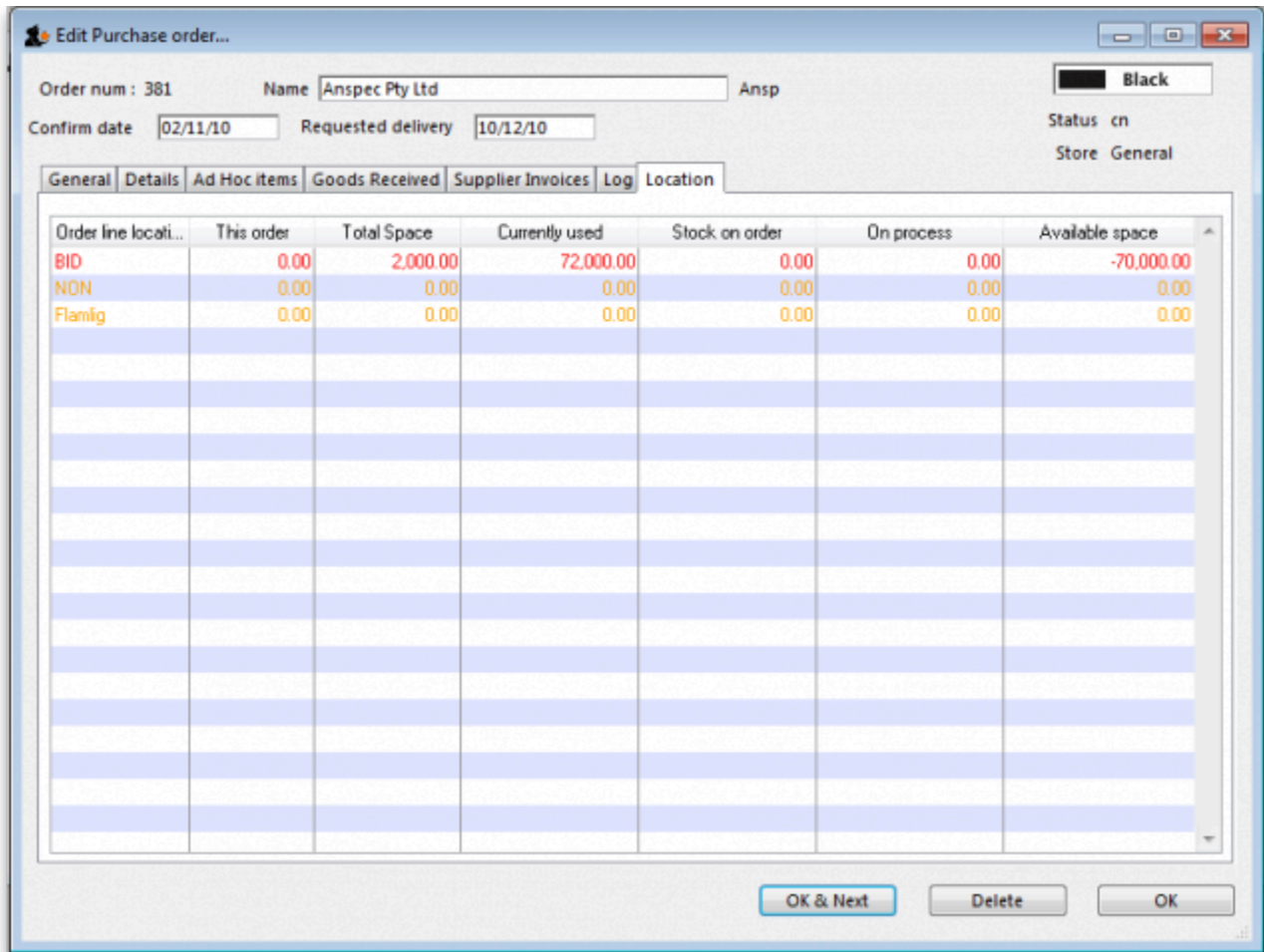
This tab provides information of events that users have performed on a particular order. The below image shows that the Purchase Order has been confirmed for sending to the supplier and printed:



The Location tab

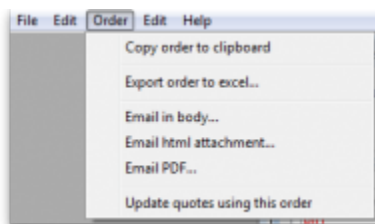
This tab displays the locations of the items received, if this feature is used. Where details of the volume of available space in any location has been entered, and where details of the area/volume of item pack has also been entered, the remaining available space will be displayed.

Lines will also be coloured red/orange/green to indicate greater than 100%, 90 to 100% or less than 90% of space used. showing which lines are likely to cause space problems on receipt.



The Order Menu

When the order modifying window is being shown, an extra menu is added to the menu bar:



Copy order to clipboard

Copies the order details to the clipboard, so you can paste it into an email or text document.

Export html ...

If you want to produce an order which can be saved as a file in html format, use this option. . If you have Excel installed, the report will open in Excel. Note that if you want to keep the Excel file, you should choose File > Save as.. in Excel and choose a location.

Print

Prints the order. You will be shown the standard printing dialog boxes.

Note that if **Show all lines** is selected, the entire order is printed; if *Show incomplete lines* is selected, the printout lists only lines which have either not been supplied at all or require a balance to complete the order.

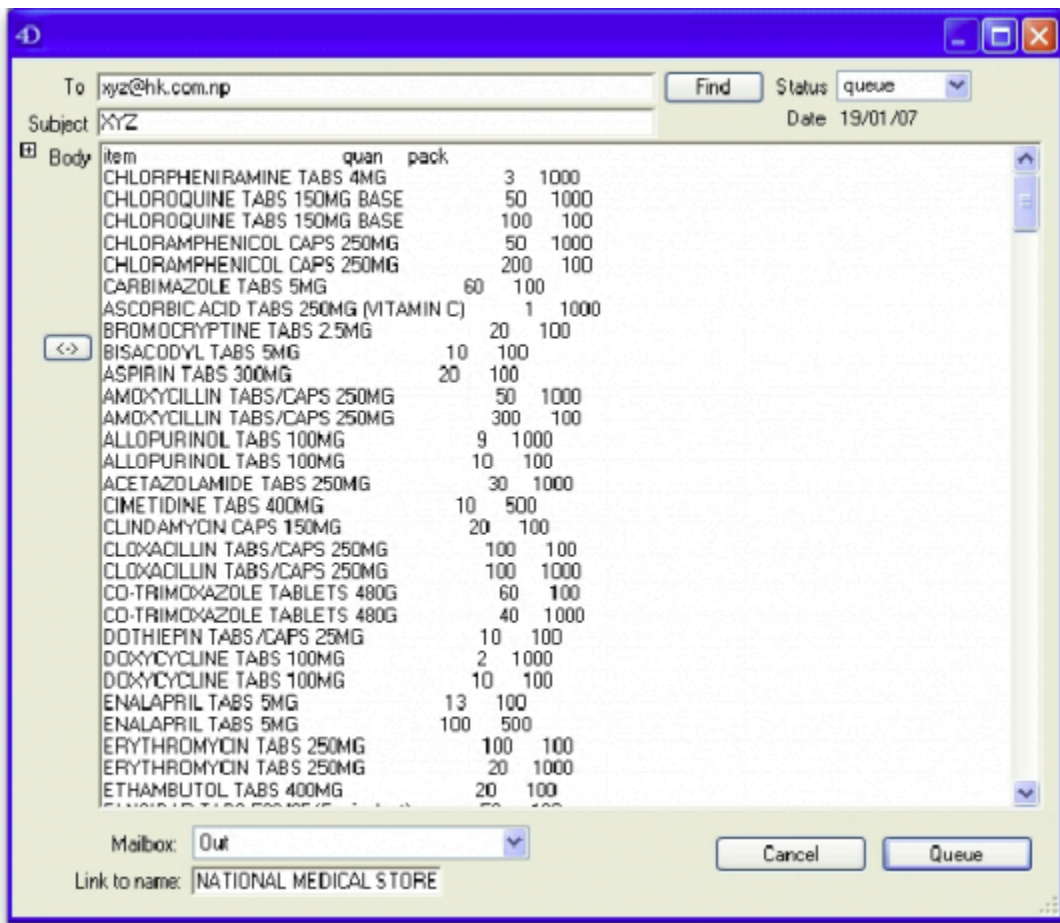
Split

Splits the order into a number of smaller orders based on the preferred supplier for each line. The preferred supplier is the quotation that is marked as “preferred” for that item. To view and modify quotations you can double-click the order line then chose “quotes” from the “show” menu. All items that do not have a quotation marked as “preferred” will be put into a separate order.

Email in body

The order will be turned into an e-mail and placed in the queue so that it is sent next time you send e-mails. You will be warned if you have not entered an e-mail address for the supplier.

The e-mail will be formatted as follows:



To check the email before sending it, choose *Special > show /_formatemails* , then double-click the email to modify it. Note that to make the columns line up properly, you will have to click the <|> button to view the text in a fixed-width font.

Email HTML attachment...

The order will be turned into an HTML (HyperText Markup Language) attachment, and attached to a new email that is then placed in the queue so that it is sent next time you send e-mails. You will be warned if you have not entered an e-mail address for the supplier. The attachment will be stored in the export folder you have nominated in the Preferences. (For multi-user mSupply, the export folder is set as the folder “C:\mSupply\mSupply client\Export” (on the assumption that you have selected the default install location for mSupply).

Email PDF

Choosing this item will cause mSupply to generate a PDF file, create an email and attach the PDF file to the email.

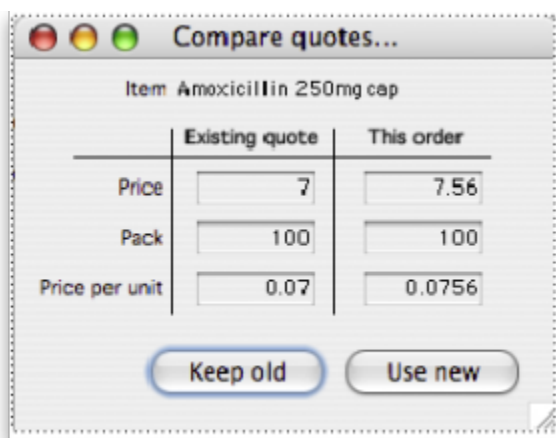
Note that you must use the PDF xChange PDF driver installed on the computer generating the email for this to work. The driver currently costs US\$50, and is available from Sustainable Solutions info@ss.org.np (mailto:info@ss.org.np)

The PDF that is created is stored in the mSupply data file, so you can create a PDF attachment on one computer and send it from a different computer without problems.

Update quotes using this order

This command allows you to check that quotation data is up to date based on actual supplied prices.

Each order line will be evaluated, and if a quotation does not exist, one will be created. If a quotation does exist and the price you have paid in the order and the price stored for your quotation are different, you will be shown a window to compare prices, and you can decide whether to keep the existing quotation or update it.



Note that you need to have your user permissions “Can add quotations” and/or “Can modify quotations” set before this command is available.

Split Deliveries

Creating split or multiple deliveries will now be described using the following example.

It is important to note that the Purchase Order should not be finalised before this procedure is performed, as a finalised order may not be modified or altered in any way.

A store is placing an order for Normal Saline and, having followed the normal procedures, mSupply has created the Purchase Order displayed: below.

The store does not have the storage capacity to hold 1250 packs of Normal Saline, so the supply of this item needs to be made in multiple deliveries; it is decided that 500 be requested for delivery at the beginning of January, followed by 250 at the beginning of each of the months of April, July and October - i.e. at three monthly intervals.

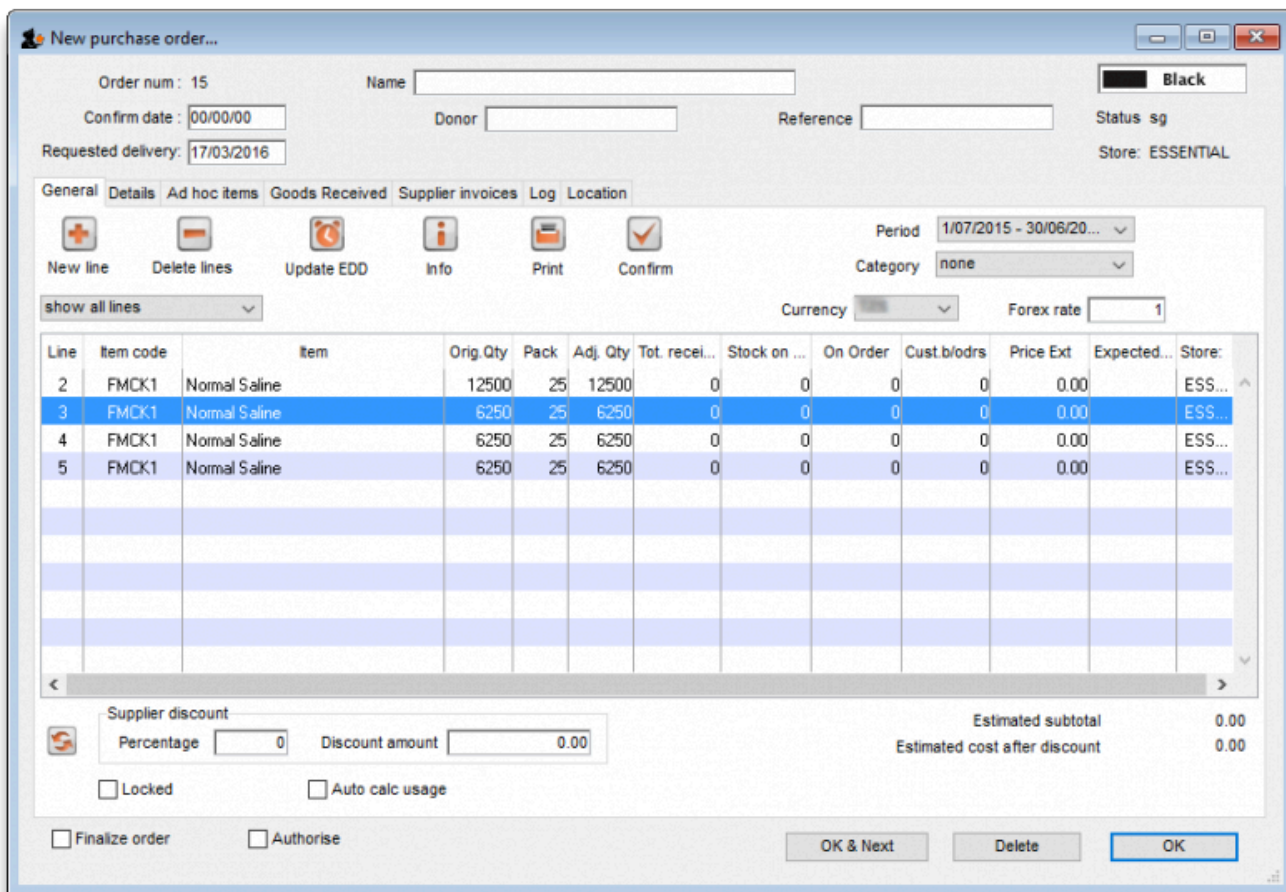
The Purchase Order is modified as follows:

- Click on **New line**, and add the item `Normal Saline`
- In the **Number of packs** field, enter 500
- In the **Requested Delivery date** enter 1/1/17
- Click **OK & Next**
- In the **Number of packs** field, enter 250
- In the **Requested Delivery date** enter 1/4/17
- Click **OK & Next**
- In the **Number of packs** field, enter 250
- In the **Requested Delivery date** enter 1/7/17
- Click **OK & Next**

Repeat the last two steps, but enter 1/10/17 in the **Requested Delivery date** field for the final delivery in October.

To complete the process, delete the line calling for 1250 units on 1/1/17.

The Purchase Order should now look like this:



You won't see the different requested dates on this screen. Expected dates are generated upon feedback from the supplier or can be entered manually.

This feature enables mSupply to take future deliveries into its reckoning if, for example, an additional order for Normal Saline was placed in mid June, and a delivery of 2,500 had already been arranged for 1 July.'

Authorising purchase orders

If required, it is possible to turn on authorisation of purchase orders. An unauthorised purchase order will print with an "Unauthorised" watermark clearly visible across it but an authorised purchase order will print without the watermark. This is the only difference authorising purchase orders makes - unauthorised purchase orders can still be confirmed and have goods receipted against them so it is not as restrictive as customer invoice authorisation for example.

To turn on purchase order authorisation, check the *Purchase order must be authorised* store preference. See *Virtual stores preferences* for details of how to do this.

When a user is logged into a store with this preference turned on, an *Authorise* checkbox appears in the bottom left hand corner of a purchase order:

Only users with the *Can authorise purchase orders* permission can check the *Authorise* checkbox and therefore authorise a purchase order. See *Managing users* for instructions on setting permissions for users.

Purchase order categories

Purchase order categories are useful for separating up your purchase orders when reporting. For details about setting them up and assigning them to purchase orders please see *Purchase order categories*.

Previous: Uploading and Downloading Web Tenders Next: Managing Purchase Orders

Managing purchase orders

Managing purchase orders you have placed is an important part of running a medical supply facility. There are two main windows you will use to do this, along with a variety of reports.

Show outstanding Purchase Order lines....

Choosing this **Suppliers > Show outstanding purchase orders** from the menus or the Navigator displays a list of all lines outstanding on all confirmed Purchase Orders.

Using the find box

In the toolbar there is a field to enter searches. To the left of the field you can choose from the drop down list what to search for.

You can restrict the list displayed to a single supplier, to a single item, or to items whose delivery is expected within a specific number of days. note that the search excludes finalised orders.

Printing and opening in Excel

Click the **Print** button to print the list as displayed. If you want to send the list to Excel, choose **Open in Excel** from the print options window that is shown after you click **Print** Double click on a line to display the Purchase Order containing that line

P	Supplier name or code	Item name or code	Order Confir...	Requested	Expected...	Days to ...	Adjusted Qty	Qty Received	Qty Outstanding	
123	ida	International Dispensary Association	Benzoic acid+Salicylic acid ointment 6%+3%	06/03/2009	04/07/2009	04/07/2009	0	100000	5000	95000
123	ida	International Dispensary Association	Paracetamol 120mg/5mls syrup (mL)	06/03/2009	04/07/2009	04/07/2009	0	840000	14000	826000
134	UNICEF	UNICEF	Measles Rubella diluent	25/02/2009	25/02/2009	25/02/2009	0	1435	0	1435
134	UNICEF	UNICEF	BCG diluent	25/02/2009	25/02/2009	25/02/2009	0	300	0	300
164	UNICEF	UNICEF	Measles & Rubella 1.0 dose vial	22/04/2009	21/04/2009	21/04/2009	0	1381	1000	381
193	ida	International Dispensary Association	Aminophylline 100mg tab	21/08/2009	31/12/2009	31/12/2009	0	10000	0	10000
193	ida	International Dispensary Association	Aspirin 300mg tab	21/08/2009	31/12/2009	31/12/2009	0	250000	0	250000

Show Purchase orders

Choose Suppliers > Show Purchase Orders.

- In the find window you can choose what will be displayed. By default mSupply displays the last 15 purchase orders.

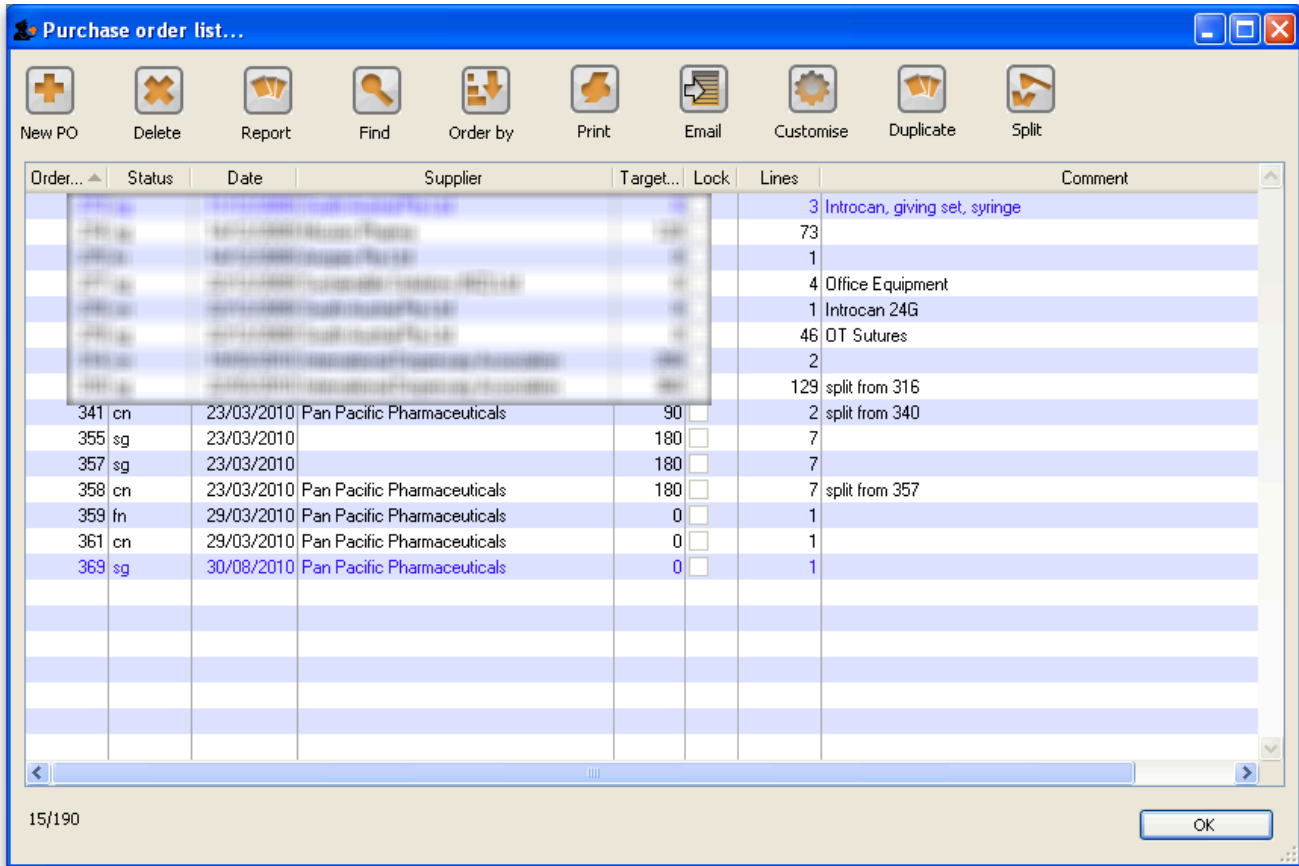
Find Purchase orders...

Find

Show most recent orders, or:

equals

- You will be shown a list of matching Purchase Orders. Double-click a purchase order to open it.



For a more detailed description of this window see [Ordering Items From Suppliers](#)

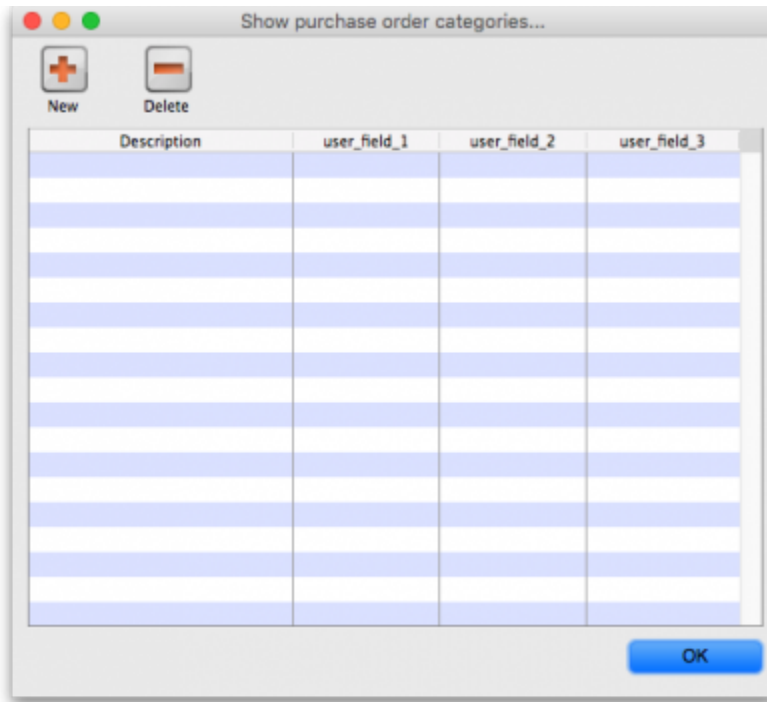
Previous: [Ordering Items From Suppliers](#) Next: [Purchase Order categories](#).

Purchase order categories

Sometimes it's really helpful to categorise your purchase orders for reporting purposes. To allow you to do this, mSupply allows you to create purchase order categories and then apply them to purchase orders as needed.

Viewing purchase order categories

Choose **Supplier > Show purchase order categories...** from the menus. You will be shown this window:

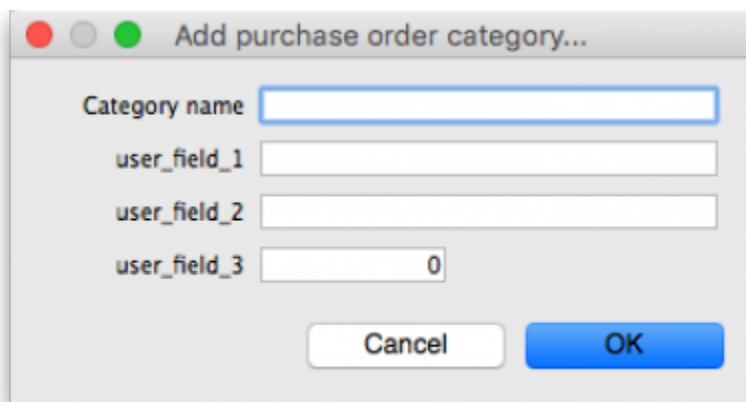


This shows a fill list of all the purchase order categories that you have at the moment. The *user_field_1-3* columns show the values of the custom values given to each category, which can be used to further refine your reporting later.

The functions to adding, delete and edit purchase order categories is all accessed from this window.

Adding purchase order categories

Click on the **New** button in the window shown above to add a new category. This window will open:



Enter the Description of the category (this is name by which the category will be known and selected throughout mSupply) and any values for the custom fields you wish and click on the **OK** button to save the new category. You will see it immediately added to the list of available purchase order categories.

Note: user_field_3 takes numerical values, user_field_1 and user_field_2 take alphanumeric (any combination of letters and numbers) values.

Deleting a purchase order category

Select the category to delete in the list of purchase order categories and click on the **Delete** button. You will be asked to confirm the deletion.

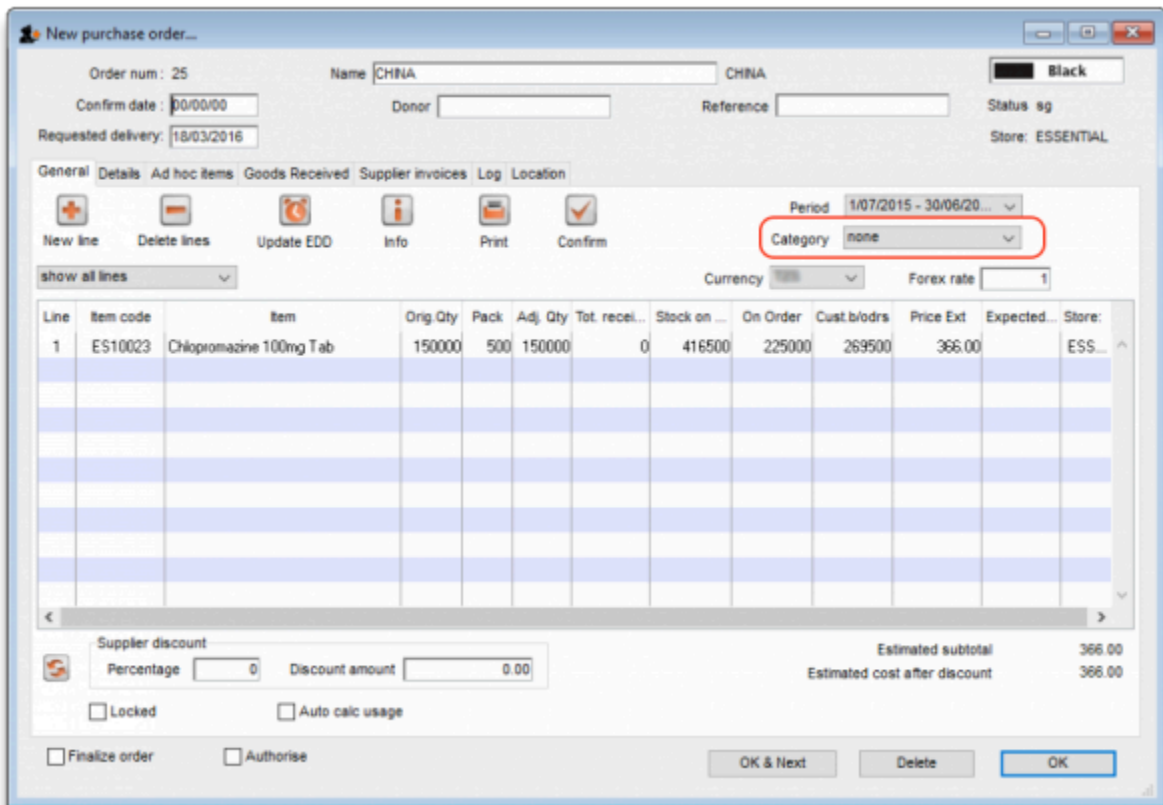
Note: you will only be able to delete a purchase order category if no purchase orders belong to it.

Editing an existing purchase order category

To edit a purchase order category simply double-click on it in the list. The same window as for adding a new purchase order category will open populated with the selected category's details. Simply edit the details as required and click on the **OK** button to save your changes.

Assigning categories to purchase orders

Assigning categories to purchase orders is really simple, as you'd expect! When editing or creating a purchase order, simply select the category the purchase order belongs to using the **Category** drop down list on the **General** tab:



The drop down list will contain the descriptions of all the categories you have added.

Previous: Managing Purchase Orders Next: Ordering from one store to another

Ordering from one store to another

If you run mSupply using virtual stores then you can place an order for goods with another store within mSupply. This is called making an “internal requisition” and this page describes the process.

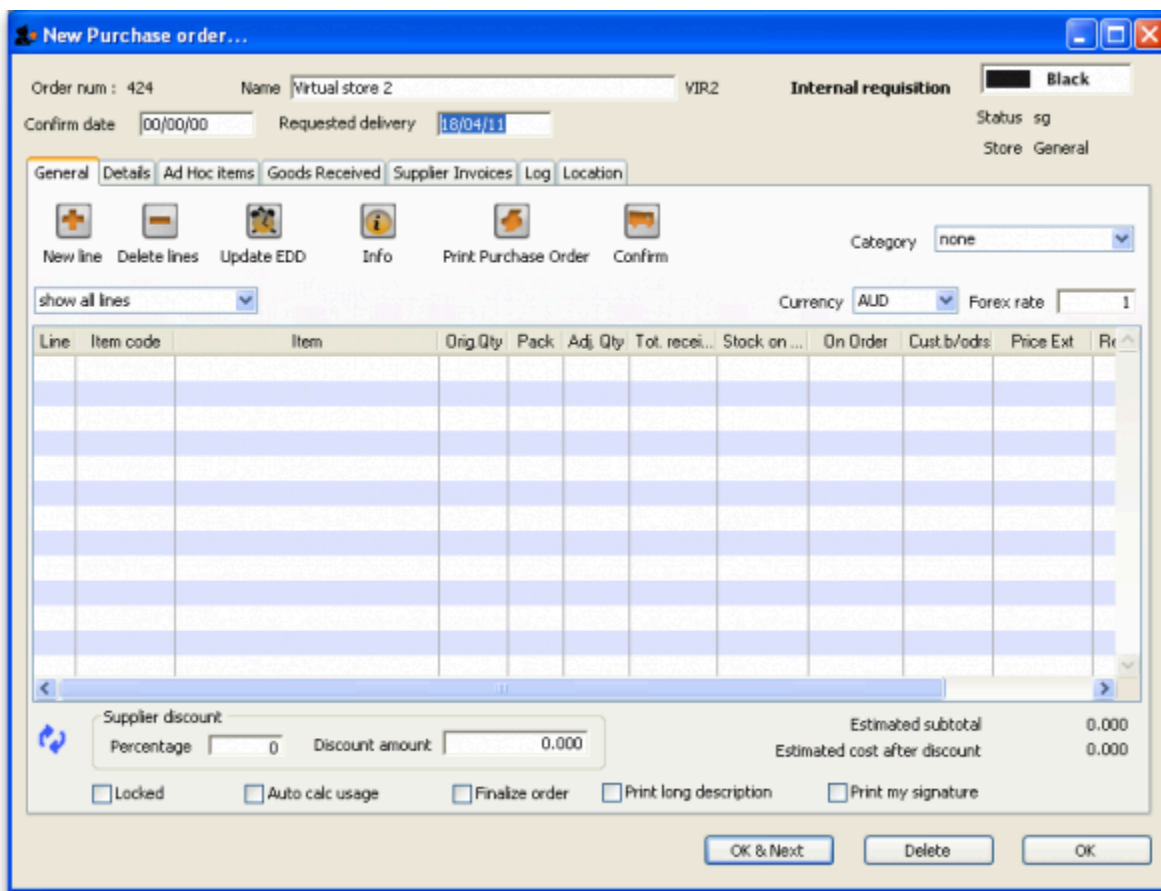
Creating a purchase order (customer store)

For the most part, this is the same process as for creating a normal purchase order. There are, however, a few significant differences:

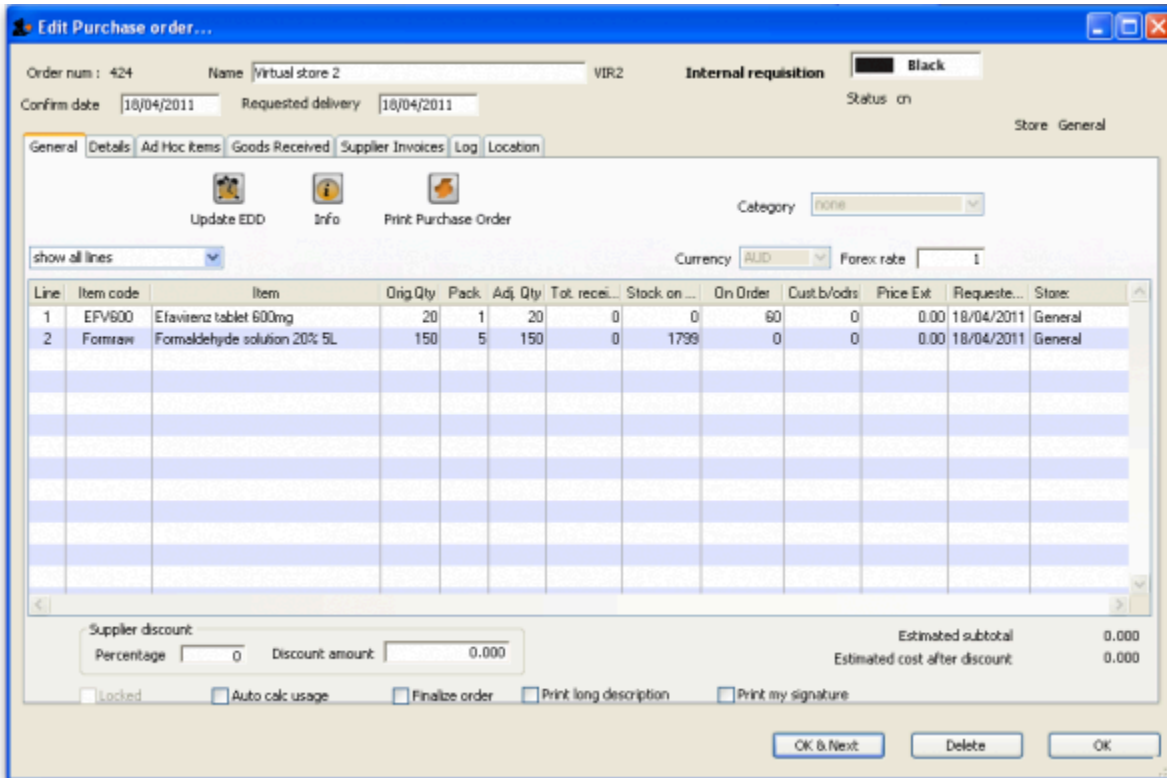
- In the *Name* field of the purchase order, enter the name of the store which will supply your goods.

The names of Virtual Store suppliers will appear in *RED* in the pick list of suppliers. If the name of the store you select as a supplier is *BLACK*, then you have not chosen a Virtual Store as a supplier, and the instructions in the remainder of this section do not apply.

- The *Internal requisition* label will appear after the name to indicate that this is going to be an internal requisition.



Enter the purchase order lines as normal and when you're finished, confirm the purchase order (at this point you may be prompted to enter budget and/or category information, depending on your preferences):



Once confirmed, a customer invoice for the purchase order is created in the supplying store (with your store's name in the *Name* field) and it will no longer be possible to modify the purchase order lines.

Processing the customer invoice (supplying store)

Now, in the supplying store, the customer invoice can be viewed via the **Customers** tab on the Navigator or via the **Customer > Show invoices...** menu item as usual. The new Customer Invoice will have Status = *sg* (suggested), Their ref = *P0* number: *XXXX*, and Comment = *Invoice from internal requisition*. Also, when it is opened, the customer invoice will have an *Internal requisition* label to highlight that it has originated from another store.

Each purchase order line will have a corresponding placeholder line in the customer invoice:

Customer invoice

Name: General Confirm date: 00/00/00 Colour: Black

Their ref: PO number: 424 GEN Invoice: 56,874

Comment: Invoice from internal requisition Category: None Entry date: 18/04/2011

Goods receive ID: 0

Status: sg

Entered by: Sussol

Store: Virtual store 2

Internal requisition

Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
1	Efavirenz tablet 600mg	20	1			0.00	0.00
1	Formaldehyde solution 20% 5L	30	5			0.00	0.00

Other charges Item: _____ Amount: 0.00

Subtotal: 0.00

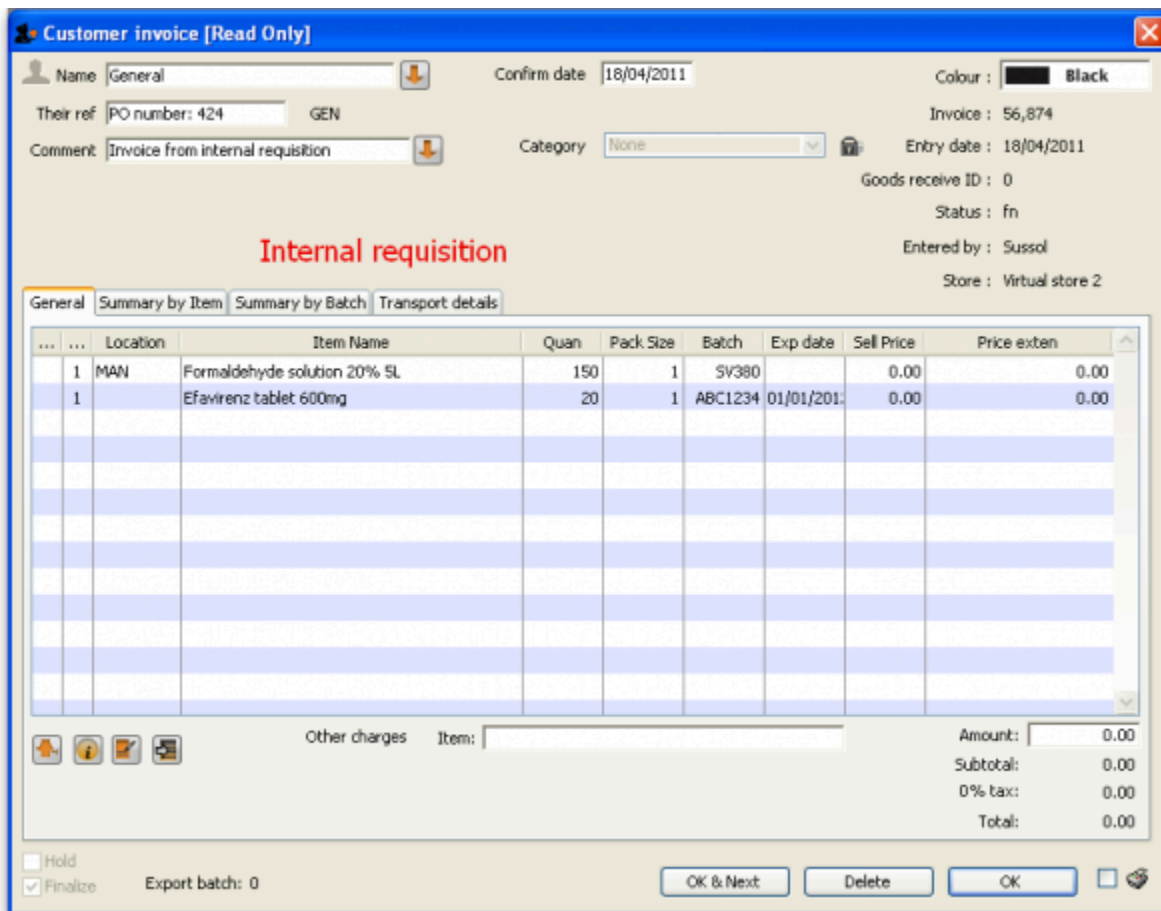
0% tax: 0.00

Total: 0.00

Hold Finalize Export batch: 0

OK & Next Delete OK

Now assign stock to each placeholder line in the usual way by double clicking on the first line to start the process.



When the Customer Invoice is ready, rather than just confirming the invoice (click on the button in the upper middle of the Customer Invoice window) **Finalize** the Customer Invoice by clicking the tick box on the bottom left of the Customer Invoice window, and then click on the **OK** button.

This is important. If you only confirm the invoice then the next part of the process (creating a goods received note in the receiving store) will not happen.

Once the customer invoice has been **finalised**, a goods received note for the purchase order will be created back in the store where you created the purchase order which started this whole process off (called the customer or receiving store).

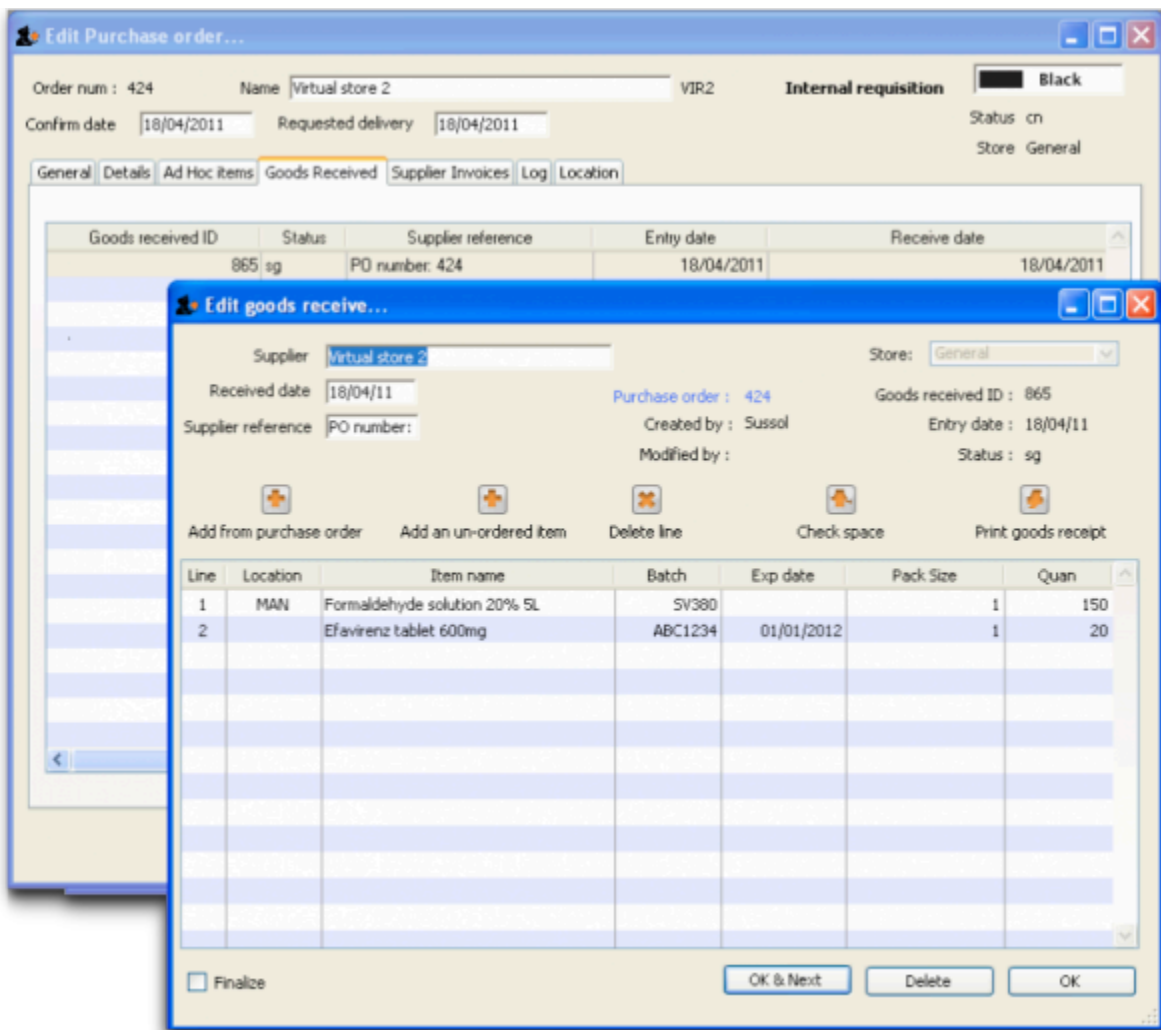
Handling partially fulfilled orders

If you have unfilled lines on the customer invoice (i.e. red placeholder lines), when you finalise the customer invoice you will be asked if you want to create a new invoice with the unfilled lines. This new invoice retains the link to the purchase order that created the original customer invoice, and can be used to issue further goods to the customer.

Note that you can also create a invoice that is linked to the original purchase order at any time by using the "Duplicate" button on the toolbar of the customer invoice list.

Receiving the goods (customer store)

Now, back in your store, where you created the purchase order which started this whole process off, you can view the goods received record via the **Suppliers** tab on the Navigator or via the **File > Supplier > Show goods received** menu item (or via the **File > Supplier > Show purchase orders > Goods received** tab)



Notice that on the goods received note the lines from the customer invoice will have been filled in automatically (and the purchase order lines updated with the stock received). Process the goods received note in the normal way and note that, as with all other goods received, the goods are not added to your store's stock and available for issue until the goods received note has been finalised and the resulting supplier invoice confirmed.

Previous: Purchase Order categories. Next: Receiving Goods - a Supplier Invoice

Receiving goods - a supplier invoice

Introduction

If you are using purchase orders (which you should be!) supplier invoices will be created automatically when you finalise a goods receipt. So you should read Receiving goods (Goods Receipt function) before reading this section.

All goods you receive should be recorded in mSupply either by entering a “Supplier Invoice” or by using the Purchase Order system, which leads to the creation of a supplier invoice. In some countries a supplier invoice is called a “bill”.

Confirming a supplier invoice is what actually puts the goods into stock in mSupply, ready for issue. It calculates the selling price based on the margin you have chosen for that supplier or for that item, depending on how you have set your mSupply Preferences.

You will notice there is a *Prices* tab in the Supplier Invoice window- this is for use with invoices received in foreign currencies, which will usually be done via the goods receipting system. See Viewing and editing supplier invoices created via Goods Receipts.

Creating a new supplier invoice

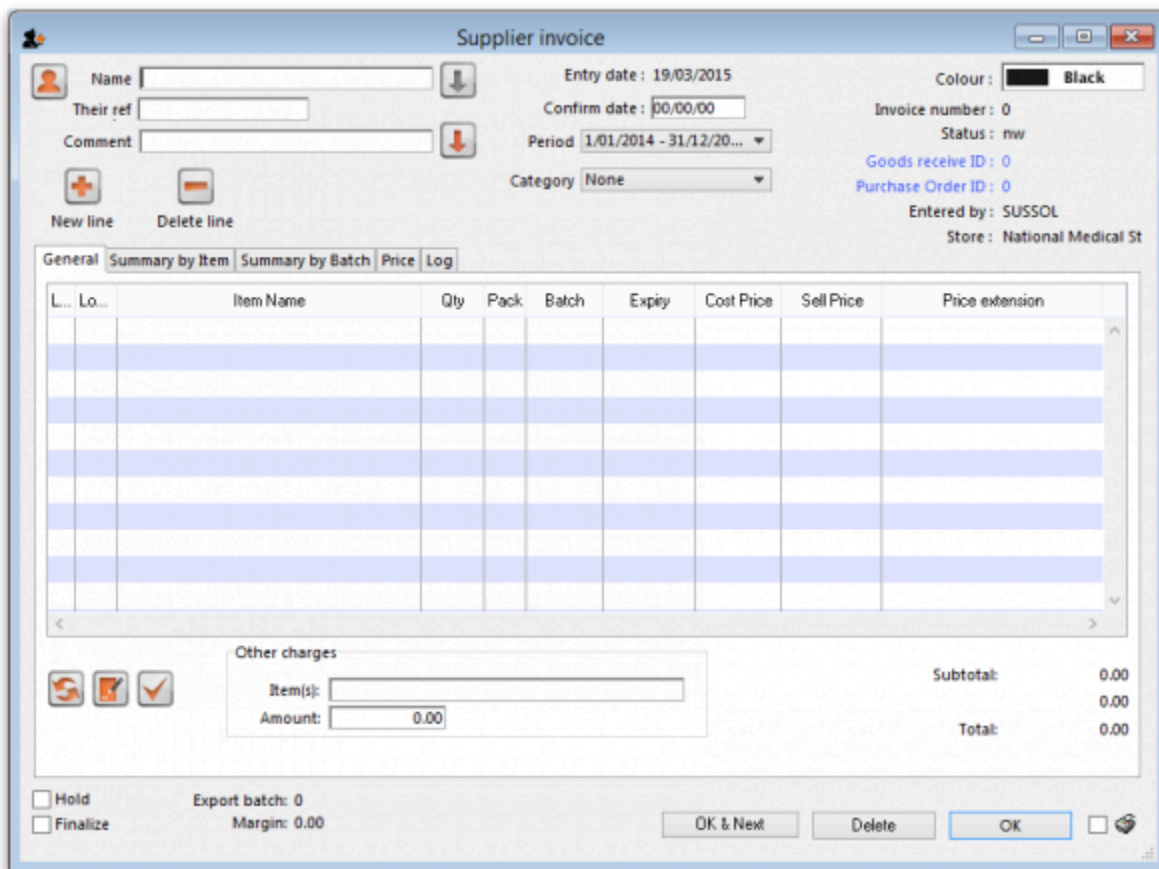
If you are receiving the goods from another virtual store in your mSupply system, and they are **not** responding to an internal requisition (purchase order) from your store, then they should have followed the procedure for transferring goods to another store.

Provided that they have finalised their customer invoice, a new supplier invoice will be created automatically in your store, populated with the stock lines that they are sending to you. In this instance, you should **NOT** create a new Supplier invoice, and can skip most of the following section.

Search for this automatically created invoice using **Suppliers>Show invoices...**

Depending on the store preferences, the supplier invoice may be finalised. If not, you will be able to , or lines on the supplier invoice if what you actually received is different to what the supplier invoice states...

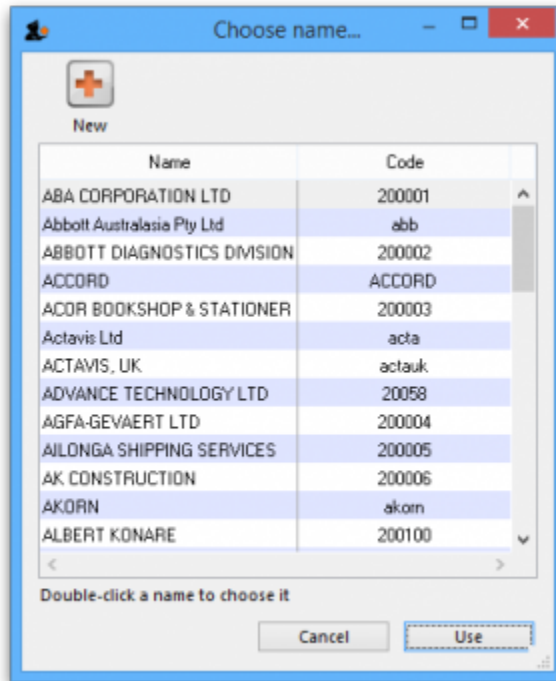
To create a new supplier invoice, choose *Supplier > New invoice*. The supplier invoice entry window will open with the cursor in the *Name* field:



If you have turned on any of the custom stock fields in store preferences they will be displayed as columns (between the Batch and Expiry columns) in the list of invoice lines and the information you entered for these fields will be shown in the appropriate cells.

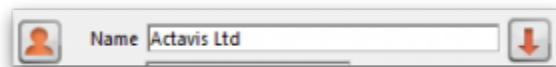
Information to enter in the main window

Name: Enter the first few characters of the supplier's name, and then press the *Tab* key. Any name that has the "Supplier" check box checked can be used. If only one name matches the entry, the supplier name will be filled in. Otherwise, a list will be displayed:



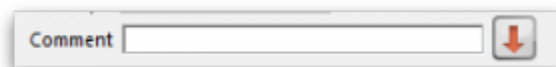
Double-click the appropriate entry, or click *Cancel* to try again. You can also use the *up* and *down* arrows or the “u” and “d” keys on the keyboard to move the highlighted item up or down, then click the *Use* button or use the *Enter* key to choose the highlighted item. This will return you to the Supplier Invoice window with the name of the supplier you have chosen entered in the *Name* field.

The downward pointing arrow to the right of the *Name* field takes you directly to the *Edit Customer/Supplier* window, giving access to all the information relating to the name entered.



Bill no.: Enter the bill number - the serial number on the bill the supplier gave you.

Comment: Click on the downward pointing arrow to the right of the Comment field to display a window where any comment relating to this invoice can be noted.



Category: Category for supplier transaction is created in *File>Preferences>Invoices1* . The categories created are listed in this category field.

Colour: Clicking on the colour box in the top right corner presents you with a selection of eight colours from which the desired one should be selected; this does not make any change on the invoice window itself, but when the list of invoices is displayed, the line showing this particular invoice will show the entry using text of your chosen colour.

Confirm date: This is normally read only but will be editable if the “Allow entry of dates on invoices” preference is turned on in Preferences on the Invoices 1 tab

Read-only information at the top of the invoice

There is some information at the top of the invoice that is read-only and cannot be edited:

- *Entry date*: The date the invoice was created.
- *Confirm date*: The date the invoice was confirmed. Will be “00/00/00” if the invoice has not been confirmed.
- *Invoice number*: This is the invoice number. The number is automatically incremented and assigned when the invoice is first saved (which actually occurs when the first line is added to it) and is unique within a store. Note that supplier invoices in different stores could have the same invoice number.
- *Status*: The current status of the supplier invoice:
 - nw = new (just created, can still be edited, stock not yet added to mSupply)
 - sg = suggested (has been opened since first creation, still editable, stock not yet added to mSupply)
 - cn = confirmed (stock has been added to mSupply but invoice is still editable)
 - fn = finalised (stock has been added to mSupply and the invoice is no longer editable)
- *Goods received ID*: If the supplier invoice was created automatically when a goods received note was finalised then the goods received note's ID will appear here in blue, indicating that it is a link and, if clicked, will open the goods received note.
- *Purchase order ID*: Again, if the supplier invoice was created automatically when a goods received note was finalised then the ID of the purchase order which the goods were ordered on will appear here in blue, indicating that it is a link and, if clicked, will open the purchase order.
- *Entered by*: The user name of the user who created the invoice.
- *Store*: The name of the store the invoice belongs to.

Buttons in the supplier invoice window



New line: Will add a line to the invoice. This command can be used on any invoice that is not finalised. Clicking the button will present you with the window for adding a line from stock.. See the *Adding lines to an invoice* section below for more details. To select a line to edit, simply double-click on it. Note that New line and Edit line are disabled on finalised invoices

Delete line: Will delete a line whose batch is “none”. To delete other lines, you must first edit the line and set it's quantity to zero. Multiple lines can be deleted if highlighted.

The Hold Check Box: Checking this box means that the invoice can not have its status changed. If its status is “nw” it cannot become “cn” (confirmed). If it is “cn”, it cannot be changed to “fn” (finalised).

Note the “nw” status invoices do not have the stock entered into the system yet, so this allows you to enter a supplier invoice, but to make sure the stock is not available for issued until all the details have been checked.

The Finalise Check box: This check box allows you to finalize an invoice when you click the OK button. This will mean that it can no longer be edited, so be sure first that all the details are correct. Note that only users with *Can finalize individual invoices* checked in their user permissions have access to this check box. Other users will be warned if they try to turn it on, and the check box will automatically uncheck.

If this check box is not checked and OK button is clicked, it will display a confirm window with a message *Confirm invoice and enter into stock now?* If you click on *Later*, the invoice will have a status “nw”(new). If you click on *Confirm*, the invoice will be confirmed.

If this check box is checked and if the invoice is not yet confirmed, it will display a confirm message. If you click on *Later* , the invoice will have a status “nw”(new) and will not be finalised. If you click on *Confirm* , the invoice will be confirmed as well as finalised. So be very careful! A finalised invoice may be viewed and/or printed but it can not be edited.

Should a finalised invoice need to be changed, the entire invoice may be cancelled, and the correct data may be entered as a replacement. In order to maintain the accuracy of any subsequent audit trail, mSupply creates a transaction which reverses all the stock movements on the invoice being cancelled, having due regard to all appropriate details, such as batch numbers, etc. See [Cancelling finalised invoices](#)

If *Confirm supplier invoices without asking* is checked in the “Invoices 1” tab of the Preferences window, then all invoices will be finalised automatically (whether you like it or not!)

If you have the store preferences set to force supplier invoice authorisation, you will not be able to confirm supplier invoices until they have been authorised. See [here](#) for details.

Copy button: This button copies the invoice details to the clipboard, allowing you to paste them into a spreadsheet or email message.

Delete: Allows the deletion of an invoice.

When you press *Delete* button, it will leave no trace of your entry, and the invoice number assigned will be reused.

Note: Unless the invoice has a status of “nw” if you have added lines to an invoice, you must manually delete each line using the “delete line” button before deleting the invoice. This is intentional, to save the “Oops, I just deleted my invoice with 100 lines on it” feeling.

Invoice status	Description
nw	The invoice has just been created- clicking cancel will delete the invoice and automatically delete each line
sg	The cancel button will only delete the invoice if you have first deleted all lines using the “delete line” button
cn	Same as for status “sg”
fn	No changes or deletions can be made

If the invoice has already been saved by previously clicking OK, Cancel will be disabled or not present.

OK: Saves the changes you have made and exits the window. You are given the opportunity to print if you want to. If the invoice status is “sg” a packing slip will be printed, otherwise an invoice will be printed. (Tip: you can bypass the print messages by holding down the shift key as you click OK)

Adding new lines to a Supplier invoice

Click the *New line* button to add a line to the invoice. This window appears:

Add/edit supplier invoice line...

Item

Quantity

Pack size

Total 0 Location

Batch Volume per pack

Expiry Adjusted local cost (SBD) 0.00 % Margin 0.00 Sell price 0.00

Invoice line unit cost (SBD)

Manufacturer

Price extension (SBD) 0.00

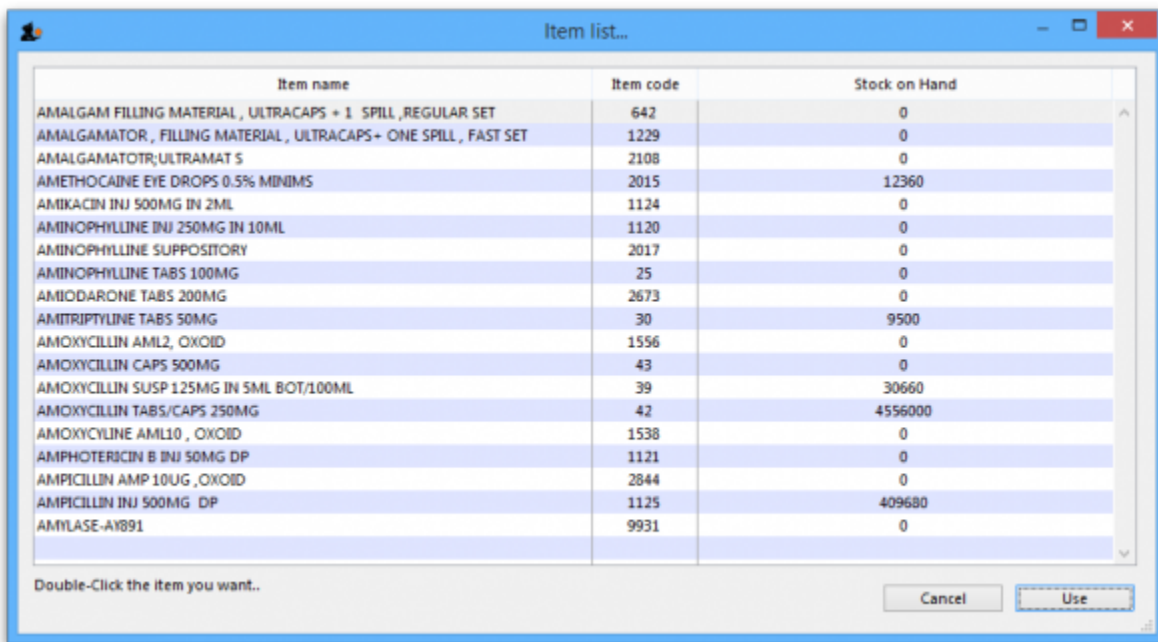
Previous purchases	Date	Supplier	Pack	Price

The cursor will be in the field ready for you to enter the item name.

Item: Enter as much of the item name (or code) as you know, then press the *Tab* key. As usual, if only one entry matches, it will be filled in. More than one matching entry will present you with a list from you should double-clicking on the required item. The text you type will be matched against both the item name and the code. A match for either will display the item.

Note: To query for an item name or code that contains (rather than starts with) “250mg” (for example), enter “@250mg” in the search field (without the quotes).

Hint: you can use the “up” and “down” arrow keys to change the highlighted item (You can also press *u* to move up and *d* to move down!) . Pressing the enter key will choose the highlighted item.



Item name	Item code	Stock on Hand
AMALGAM FILLING MATERIAL , ULTRACAPS + 1 SPILL ,REGULAR SET	642	0
AMALGAMATOR , FILLING MATERIAL , ULTRACAPS+ ONE SPILL , FAST SET	1229	0
AMALGAMATOR,ULTRAMAT S	2108	0
AMETHOCAINE EYE DROPS 0.5% MINIMS	2015	12360
AMIKACIN INJ 500MG IN 2ML	1124	0
AMINOPHYLLINE INJ 250MG IN 10ML	1120	0
AMINOPHYLLINE SUPPOSITORY	2017	0
AMINOPHYLLINE TABS 100MG	25	0
AMIODARONE TABS 200MG	2673	0
AMITRIPTYLINE TABS 50MG	30	9500
AMOXYCILLIN AML2 , OXOID	1556	0
AMOXYCILLIN CAPS 500MG	43	0
AMOXYCILLIN SUSP 125MG IN 5ML BOT/100ML	39	30660
AMOXYCILLIN TABS/CAPS 250MG	42	4556000
AMOXYCYLINE AML10 , OXOID	1538	0
AMPHOTERICIN B INJ 50MG DP	1121	0
AMPICILLIN AMP 10UG ,OXOID	2844	0
AMPICILLIN INJ 500MG DP	1125	409680
AMYLASE-AY891	9931	0

Double-Click the item you want..

Cancel Use

Note: If you did wish to apply a different margin to the whole invoice, click the cancel button, and edit the margin for that supplier by choosing *Supplier > Edit supplier* and change the margin. If you wish to apply a different margin to just some lines, you can do this as you enter the lines, as long as *Editing margins* is enabled in the Preferences.

If the the item you are entering is not listed, you can click *New item* to add it.

Note: it is a good idea to agree upon a standard form for entering items. For example, will you enter an “infant feeding tube” as:

- “infant feeding tube”
- “feeding tube, infant”
- “tube, infant feeding”

Duplicated items can later be merged, but it is better to get it right first time!

Note: if you need to see the full details of the item itself after selecting it, click on the down arrow icon (⌵) to the right of the item name field and you will be taken to the item's details window.

Now there are a series of fields to enter to fill in the basic information for the line

Num units: How many did you receive?

Location: The location of the item should be entered in this field.

Pack size: How many units in a pack

Note: Say you receive 50 packs of 100 amoxicillin caps, you should enter “50” in the quantity field and “100” in the pack size field. However, if you issue the capsules in strips of 10 to customers (e.g. you allow them to order 20 or 30 capsules), you should enter quantity “500” and pack size “10”

Batch: The batch number or other identifying information. The batch appears on the invoice, so you can use this field to differentiate between brands if you need to (eg you operate using generic names, but occasionally want to give a specific brand- you can put an abbreviation for the brand name here as well as the batch).

Expiry: You can use “/” or “.” to separate the day/month/year. Note: Use whichever date format you have set in your computer (dd/mm/yy or mm/dd/yy or yy/mm/dd). You can enter the year as 2 digits, which will be understood as a date between 1961 and 2060. This should cover the expiry date on most things you receive in the next 52 years!

Cost price (invoice line unit cost): Enter your cost price for one pack of the pack size you entered above. If your supplier's currency is different to that of mSupply the cost price will appear in the supplier's currency.

Adjusted local cost: This information field displays the cost of a single unit of the item in local currency.

Margin and sell price: If you have allowed editing of these fields in Preferences, you can adjust the margin (and the sell price will adjust automatically), or you can adjust the sell price (and the margin will adjust automatically).

Click *OK* if you are finished, or *OK & next* to add another line. (The invoice lines added will be displayed in Items Display Field.) Click *cancel* to exit to the main screen without saving any of the details.

Manufacturer: This field displays the name of the manufacturer of the item. It will only be shown if you have turned the *Able to specify manufacturer when receiving, ordering or quoting for items* preference on in the store preferences.

Entering a manufacturer follows the same pattern as entering an item or supplier - type the first few letters of the manufacturer's name or code, and press the *Tab* key. Choose the required manufacturer from the list if more than one is displayed.

You can add a new manufacturer by clicking on the *New* button.

Donor: The donor of the item can be entered to this field. A valid donor should be entered, type the wildcard character '@' and press the *TAB* button to view your list of donors.

Price extension: This information field provides the cost price in local currency for the total quantity of the item you have entered.

Custom fields 1-8: The appearance of these fields is controlled by the Custom stock field preferences. Any information you enter in these fields will be displayed wherever stock information is displayed (e.g. when issuing stock on a customer invoice or when viewing the stock of an item on the stock tab of the item details window). The fields can also be reported on so they are an important and powerful way of tracking different categories of stock. For full details please see Custom stock fields.

mSupply provides the feature of receiving service items into stock. Service items are items that are not normally held in stock and are called non-stock items in mSupply. See here for more information on those. One use of service items is for managing assets. For more information on this, see the chapter on Asset Management.

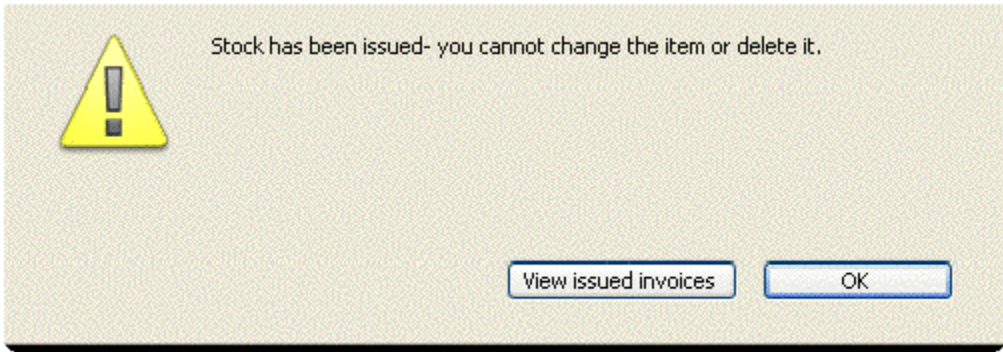
Editing lines on a supplier invoice

Supplier invoice lines can be edited at any time until the invoice is finalised.

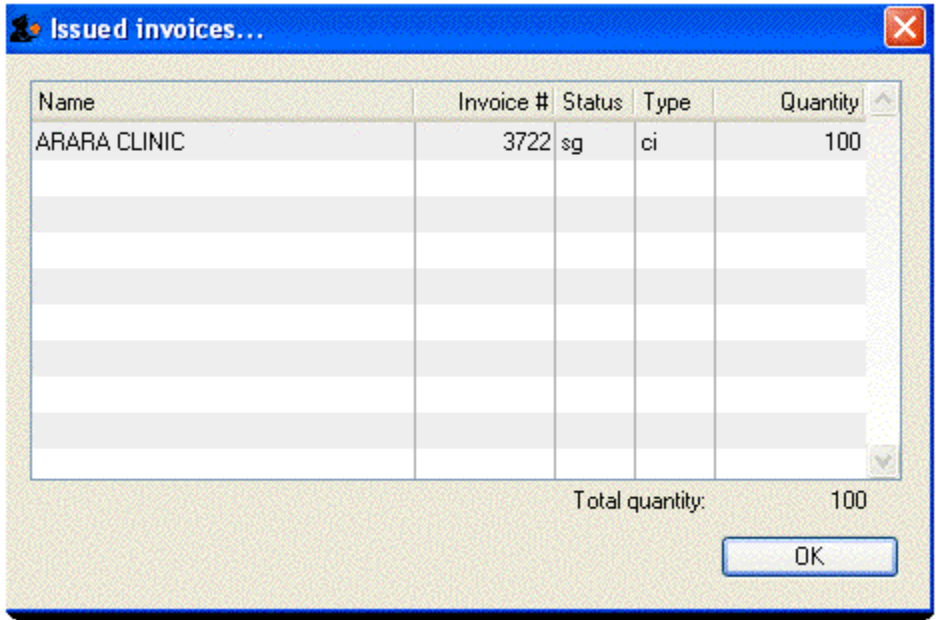
To edit a line, simply double-click on the line you wish to edit.

Editing lines if stock has been issued

If you have already issued stock of this line to a customer, you will be warned with a window like this:



Clicking *View issued invoices* will show you a list of customer invoices containing this particular line:



Clicking *OK* will take you to the item issue window, where certain fields only may be edited. You may not reduce the received quantity to a figure lower than the quantity already issued.

The item issue window: You will be presented with a window where you can edit the line details in much the same way as when entering new details.

In the graphic above you will notice the “units issued: 100” text in blue to the right of the *Quantity* field. This will only be present if stock has already be issued to customers. You can click on that text to display a list of issued invoices as described above with the *View issued invoices* button.

Note that the *OK & Next* button is very useful for editing a whole invoice. Simply double-click the first line of the invoice, then use the *OK & Next* button to go from line to line.

Note also that many options for the window are set in the mSupply Preferences. For example, whether or not line one is chosen automatically, and whether you can use placeholder lines.

Working with the list of invoice lines

Resizing columns: These columns are resizable. If any of the column data is cut-off or remains hidden, the column width can be increased or decreased by positioning the mouse at the borders of the column. The cursor changes to a cross with arrowheads on the horizontal bar. Click and drag the cursor to the left or right.

Line	Item Name	Qty	Pack	Batch	Expiry	Price	Price exten
1	BOTTLE, TABLET, PLASTIC, W/SCRE	1000	1			0.54	545.90
2	BOTTLE, TABLET, PLASTIC, W/SCRE	42678	1			0.45	19,475.25
3	BOTTLE, TABLET, PLASTIC, W/SCRE	94810	1			0.69	66,077.83
4	BOTTLE, TABLET, PLASTIC, W/SCRE	15408	1			1.05	16,291.65
5	BOTTLE, LIQUID, PLASTIC, W/SCREW	14800	1			1.69	25,100.80
6	BOTTLE, LIQUID, PLASTIC, W/SCREW	7812	1			2.85	22,275.14
7	BOTTLE, LIQUID, PLASTIC, W/SCREW	864	1			8.42	7,280.93

Sorting columns: Columns may be sorted either in ascending or descending order by clicking on the header.

line	Item Name	Qty
5	BOTTLE, LIQUID, PLASTIC, W/SCREW	1480

line	Item Name	Qty
3	BOTTLE, TABLET, PLASTIC, W/SCREW	9481

The order of the columns can be re-arranged by clicking on the header and dragging it to the new position.

Deleting a line on a supplier invoice

To delete a line, do one of the following:

- Click on the line you wish to delete, then click on the *Delete line* button:
- Double-click the line to edit it (see above) and set its quantity to zero.

Click the *OK* button. You will be asked for confirmation. Click *OK* to proceed.

You cannot delete a line from a supplier invoice that has been finalised.

Selling price calculations in mSupply

mSupply uses a number of items of information to calculate the selling price of an item. This enables you to have the price calculated just the way you like it.

Here's the logic mSupply uses:

- Does the item have a selling price specified? If it does, this price will be used regardless of any other information. Note that the price entered for the item is for one unit. The price will be multiplied by the pack size to get the selling price for the line.
- If either the supplier margin or the item margin is specified as zero, then the other (non-zero) value will be used?
- If a margin is specified for both the supplier and the item, the Preference *Item margin overrides supplier margin* will be examined to see if it is on or off. If it is set, the item margin will be used, if not the supplier margin will be used.

For example:

Cost price	Pack size	Supplier margin	Item margin	Preference set for Item margin overriding Supplier margin	Item price	Price used
100	100	6	10	yes	1.15	115
100	100	6	10	no	1.15	115
100	100	6	10	yes	0	110
100	100	6	10	no	0	106
100	100	0	10	no	0	110
100	100	6	0	yes	0	106

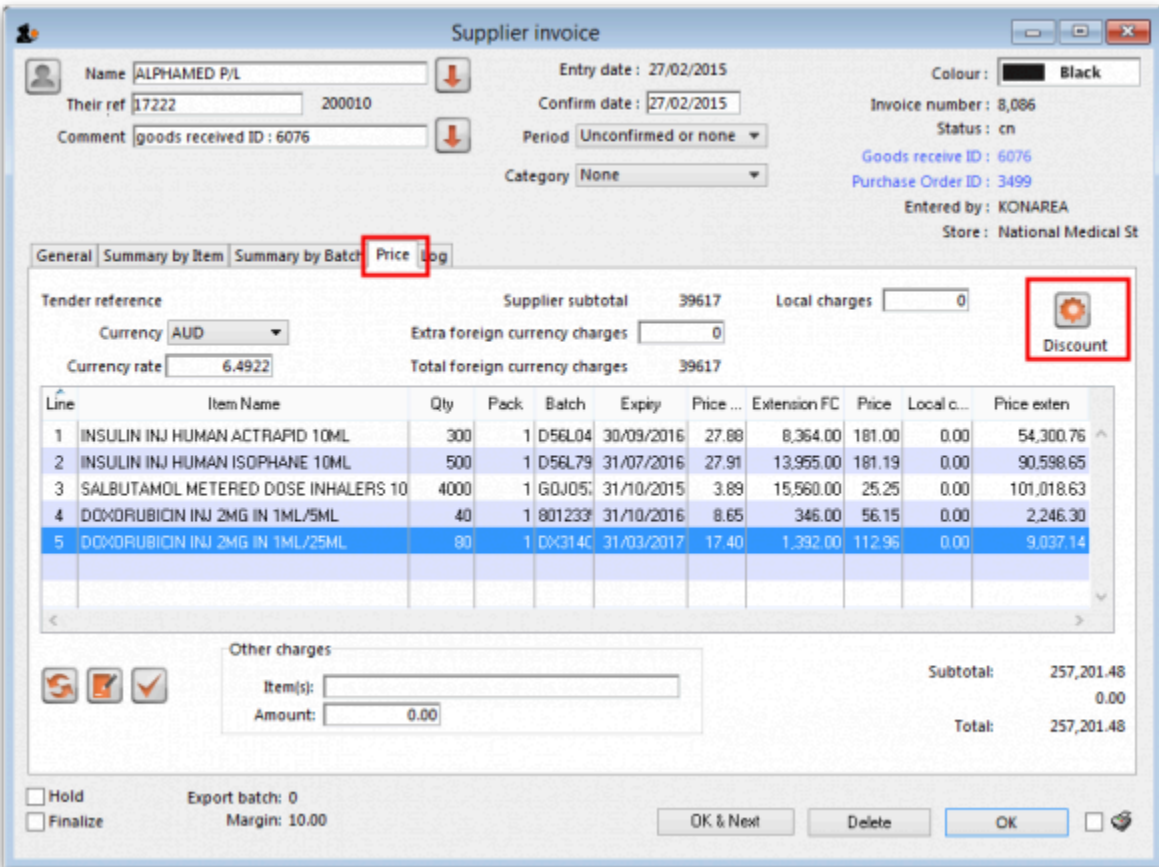
Note that if you have turned on “allow editing margins and sell prices on supplier invoices” in the Preferences you will be able to over-ride the prices mSupply calculates.

The Price tab

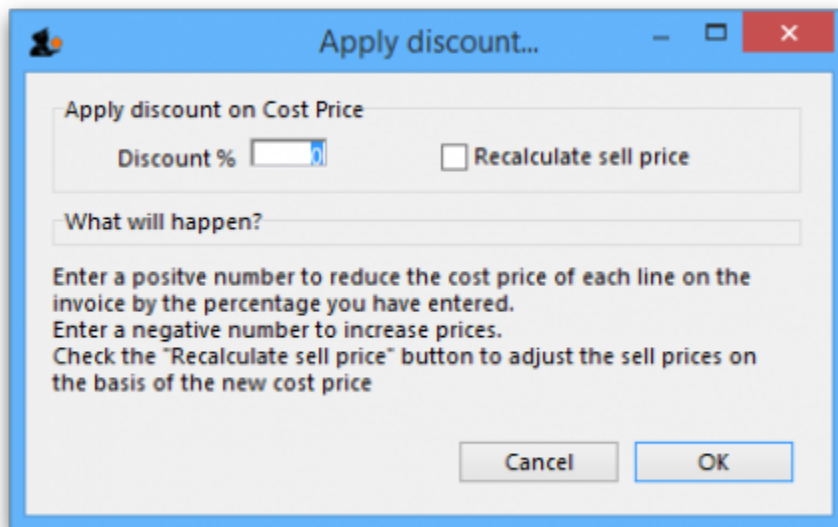
This tab provides functions for applying discounts and apportioning different charges to items.

Applying a Discount to the whole invoice

If a supplier gives a discount at the bottom of the invoice rather than adjusting the price of each invoice line, you can use the discount button.



This window will be shown:



If you enter “5” the cost price of each line will be reduced by 5%, and the invoice total will be recalculated. It should then match the amount the supplier is actually charging you.

If you want the sell price calculated based on the new cost price, check the “Recalculate sell price” checkbox. The selling price rules as described above will still apply.

Applying local charges

Local charges are any charges you want to add to the cost of individual items on this invoice in your data file's local currency (i.e. the default currency used in your data file - this might not be the same as the currency you use when you visit a local shop!). These could be administration charges, local freight charges, handling charges etc.

You can either enter the amount of local charge to apply to each invoice line or the total amount of charges to apply to the invoice.

Entering local charge amounts on each invoice line

You do this by directly entering the amounts to apply to each line in the cells of the *Local charge* column in the table. As you do this, mSupply will automatically increase the sell price per pack by the amount you have entered divided by the number of packs for the line and will add the amount you entered to the current value in the **Local charges** field above the table.

Entering the total amount to apply to the whole invoice

To do this, you simply enter the total amount in the **Local charges** field above the table. When you do that, mSupply will automatically apply a portion of the local charges to each invoice line's sell price, according to the ratio of that line's *Price extension* to the sum of all the *Price extensions* of all lines on the invoice. You can see how much mSupply added to each line in the *Local charge* column. If you wish, you can edit the local charges applied to each line after this by simply clicking on the appropriate *Local charge* cell in the table and typing in the cost to apply. As you do that, mSupply will keep track of the total local charges applied to all lines in the **Local charges** field.

Applying foreign currency charges

These charges are applied in the currency selected in the currency selected in the **Currency** drop down list, following the rate displayed in the **Currency rate** field (which you can manually adjust if the default shown by mSupply is not what you require). The charges could be, for example, international freight charges or administration charges.

Simply type the amount of foreign currency charges to apply to the whole invoice in the **Extra foreign currency charges** field and mSupply will apply a portion of the whole amount to each line, according to the ratio of the line's *Price extension* to the sum of the *Price extensions* of all lines. mSupply will automatically update the sell price value for each item.

Applying other charges

These charges will NOT be added to the sell or cost prices of the items on the invoice. You enter them in the *Other charges* section below the table of items:

- **Item(s) field:** Enter what the charges are for in this field.
- **Amount field:** Enter the total amount of the other charges in here. When you do this, you will see the amount added directly to the *Subtotal* and *Total* amounts and none of it will be added to the sell or cost prices of the individual items in the table.

Applying tax to the invoice

Tax, like other charges, will not be added to the sell or cost prices of the individual items. To add tax, click on the % *tax rate* below the *Subtotal* field on the right hand side below the table of items and enter the rate you wish to use. mSupply will calculate the amount of tax (the % you entered of the *Subtotal* value) and automatically add it to the *Subtotal* value to give you the new *Total*.

If you have set a default tax rate in the preferences (see General preferences) you will see it applied as soon as you open the invoice. Also, you will only be able to edit the tax rate if the *Allow editing tax rate and amount on invoices* preference is turned on (see Invoices preferences).

Viewing supplier invoices

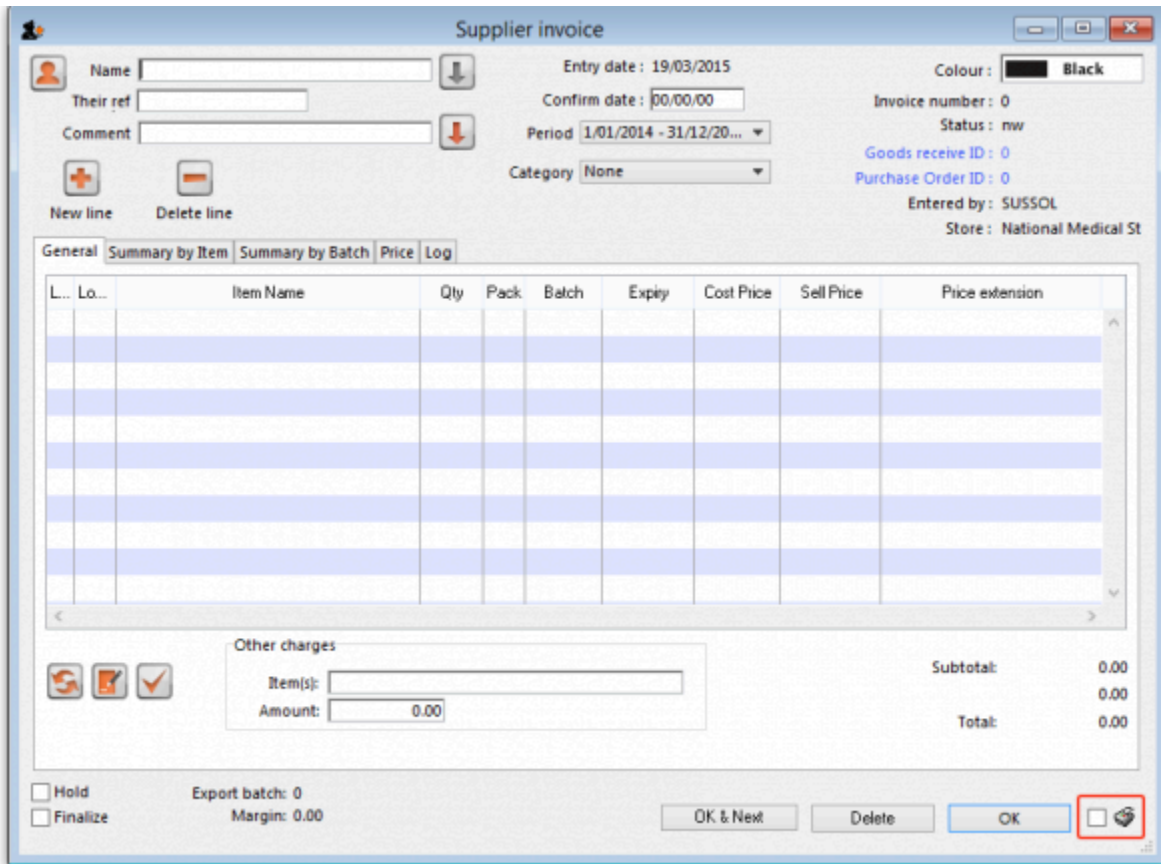
To view or edit any supplier invoice, choose *Supplier>Show invoices*. The details of how this works is virtually identical to that of viewing customer invoices.

Rapid access to Goods Received note from Supplier invoice, and vice versa

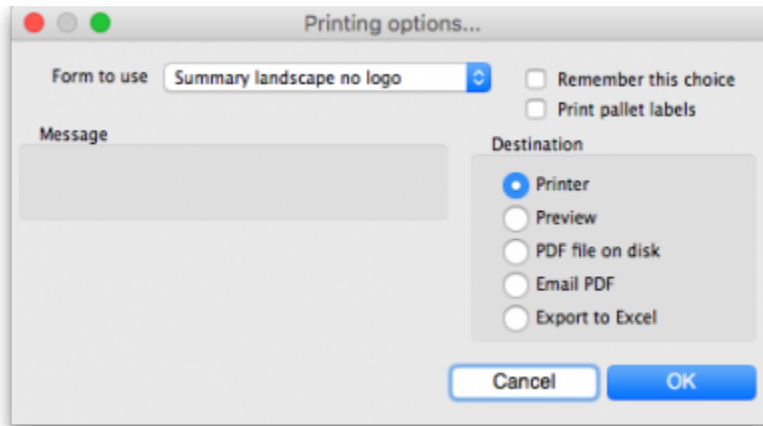
Supplier invoices show the number of the *Goods Received* transaction in the upper right area of the window. By clicking on the actual number, that particular *Goods received* transaction will be displayed. Similarly, the *Edit goods received* list has a link *Click here to open Supplier inv* which will display the required invoice.

Printing supplier invoices

When a supplier invoice is open you can print it by checking the print checkbox in the bottom right hand corner:



When the checkbox is checked and you click on the **OK** button, the invoice is closed and the printing options window is displayed:



- **Form to use** drop down list: Select the form you want to use to print the invoice. There may be several in the list. There is also a *None* option if you don't want to print the invoice but just want to print pallet labels.
- **Remember this choice** checkbox: The form you choose in the Form to use drop down list will be selected (and everyone else!) next time the supplier invoice printing options window is opened if this checkbox is checked.
- **Print pallet labels** checkbox: Check this if you want 100x150mm pallet labels in a specific format to be printed out from a label printer. A label will be printed for each line on the supplier invoice. Note: the label printer has to be installed and configured in mSupply before this option will work - see Label printer installation and Printing preferences (setup) for details.
- **Destination** radio buttons:

- **Printer:** the invoice will be printed out straight away.
- **Preview:** a preview of what the invoice will look like when it is printed will be displayed in your installed PDF file reader. You might be able to print the invoice from the PDF reader, depending on its features.
- **PDF file on disk:** the invoice will be saved to disk in PDF format.
- **Email PDF:** the invoice will be created as a PDF file and attached to an email for you to send. You can double-click the email attachment to see a preview of the invoice. The email preferences in *File > Preferences* should be setup correctly before using this feature.
- **Export to Excel:** the invoice will be exported as a spreadsheet file and opened for you (provided you have a spreadsheet application installed).

When you click on the OK button the invoice will be printed in the form you have chosen.

Previous: Ordering from one store to another Next: Receiving goods (Goods Receipt function)

Receiving goods (goods receipt function)

Entering goods received

If the receiving store is receiving goods from another virtual store in your mSupply system, *in response to an Internal Requisition (Purchase Order) from that store*, the Goods Receipt will be created automatically - refer Receiving the goods (Customer Store). Open this automatically created Goods Receipt. **Do not create a new Goods Receipt!**

Choose *Supplier > New goods received* and this window appears:

Line	Location	Item name	Batch	Exp date	Pack Size	Quan

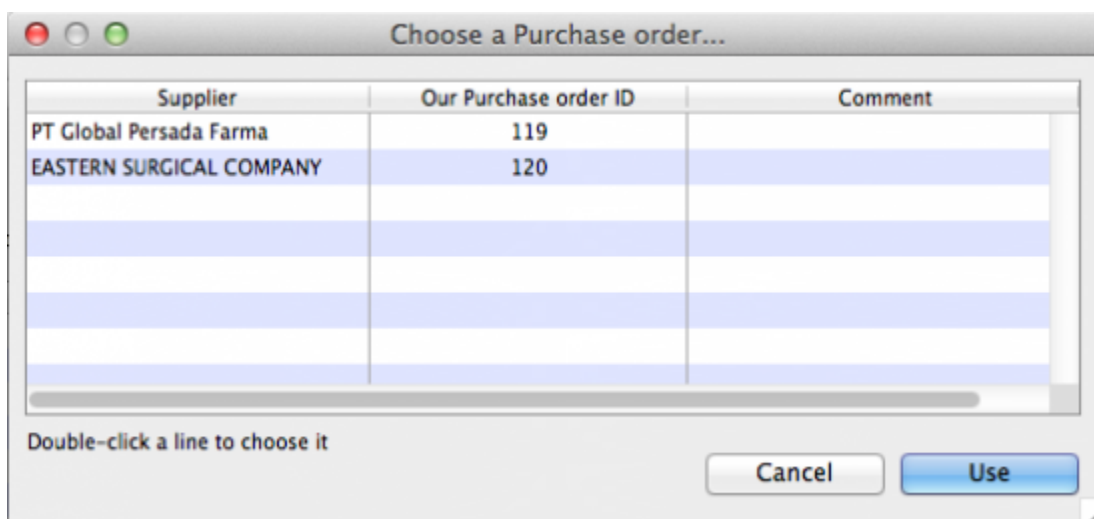
There is some read-only information at the top of the goods received note that cannot be edited:

- *Store*: The name of the store the goods received note belongs to.
- *Goods received ID*: This goods received note's number. The number is automatically incremented and assigned when the goods received note is first created and is **unique within a store**. Note that goods received notes in different stores could have the same number.
- *Created by*: The name of the user who created the goods received note.
- *Modified by*: The name of the user who last modified the goods received note.
- *Entry date*: The date the goods received note was created.

- *Purchase order*: The number of the purchase order the goods on this goods received note were ordered on. It is a link and clicking on it will open the purchase order.
- *Supplier invoice*: The number of the supplier invoice produced from this goods received note. The number is filled in after the goods received note is finalised. Again, it is a link and clicking on it will open the supplier invoice.
- *Status*: The status of the goods received note:
 - nw = new, the goods received note is not complete yet and is still editable
 - fn = finalised, the goods received note is complete and is no longer editable

If you have goods receipt authorisation set up in Store Preferences there will be an extra *Authorised* column - see the section below for more details.

In the Supplier field (which displays *Search Purchase Order* when it first opens), enter the first few characters of the name of the supplier from whom the order has been received; to display all Purchase Orders awaited, enter @ in the Supplier field. (This has been done in the example shown below):

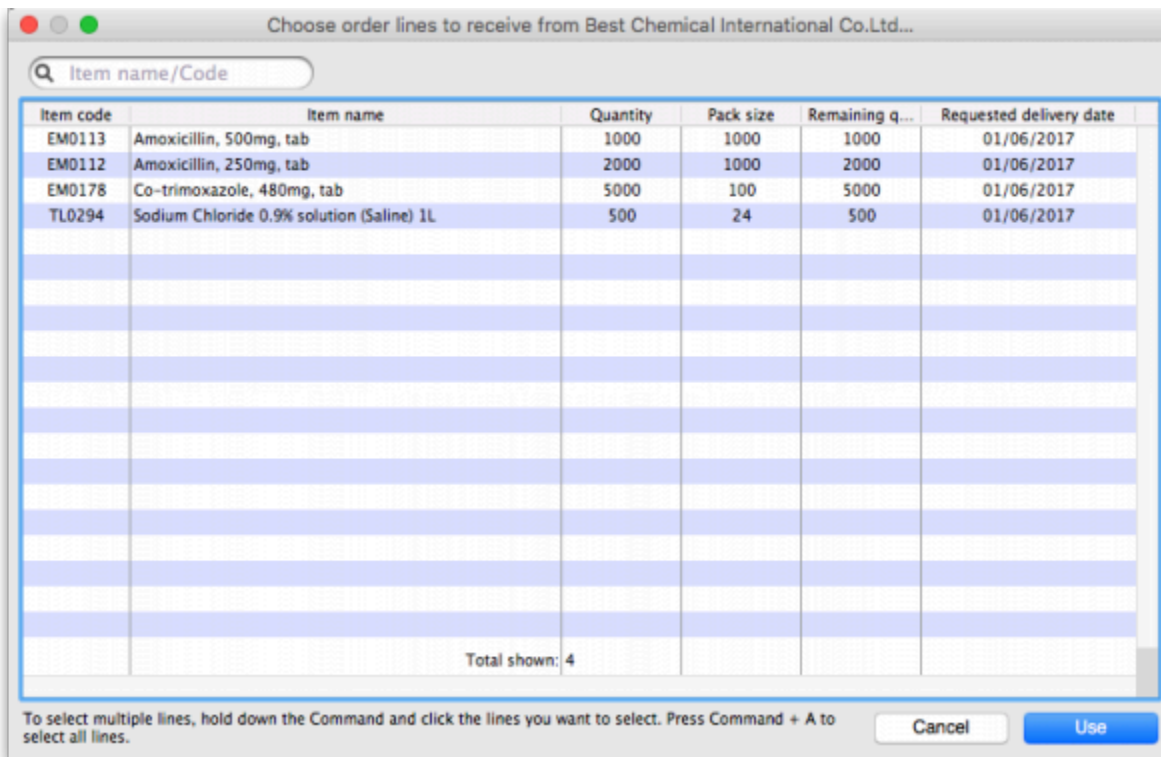


From this screen select the entry which matches the order you have received either by double clicking on the entry, or by highlighting the entry and clicking on the *Use* button.

The *New Goods Receipt* window reappears with the supplier field and some other details completed.

At this point you should fill in the *Supplier reference* field (with the delivery note number, for example) and the *Comment* field (with any extra information you need to record about the delivery).

Next, you should click on the *Add from Purchase Order* button to add the items which have arrived to the goods received note. Clicking the button brings up the *Choose order lines...* window:



This window displays the goods on the Purchase Order, and you may either select each item separately (click on a single item), the entire order (click on an item then press Ctrl+A on the keyboard, or Cmd+A on a Mac) or something in between (use Ctrl+click to select individual items and add/remove them to/from the selection and/or Shift+click to select a range of items) to enter the details of the items received!

If you're trying to find a particular item in a long list you can also type the start of the item's name or code into the search box at the top and the list will be filtered to show items which have a name or code starting with what you have typed.

In any case, when you have selected the items to receive, click on the *Use* button.

Occasionally goods may be received which were not ordered; when this occurs, click on the *Add an un-ordered item* button and select the item before proceeding.

Goods receipt line entry

You are now presented with the *Edit goods received line* window for the first item:

Edit item...

Item: Amoxicillin, 500mg, tab EM0113

Remaining quantity to receive: 0 packs of: 1000

Quantity	Pack Size	Total quan	Batch	Expiry	Location	Comment
1000	1000	1000000		<input type="text"/>		
1000	Total received	1000000				

Location Details

Total capacity: 0 Volume per pack: m3
 Available space: 0 Space required: 0
 Weight Per Pack: kg
 Total Line Weight: N/A kg

Comment:

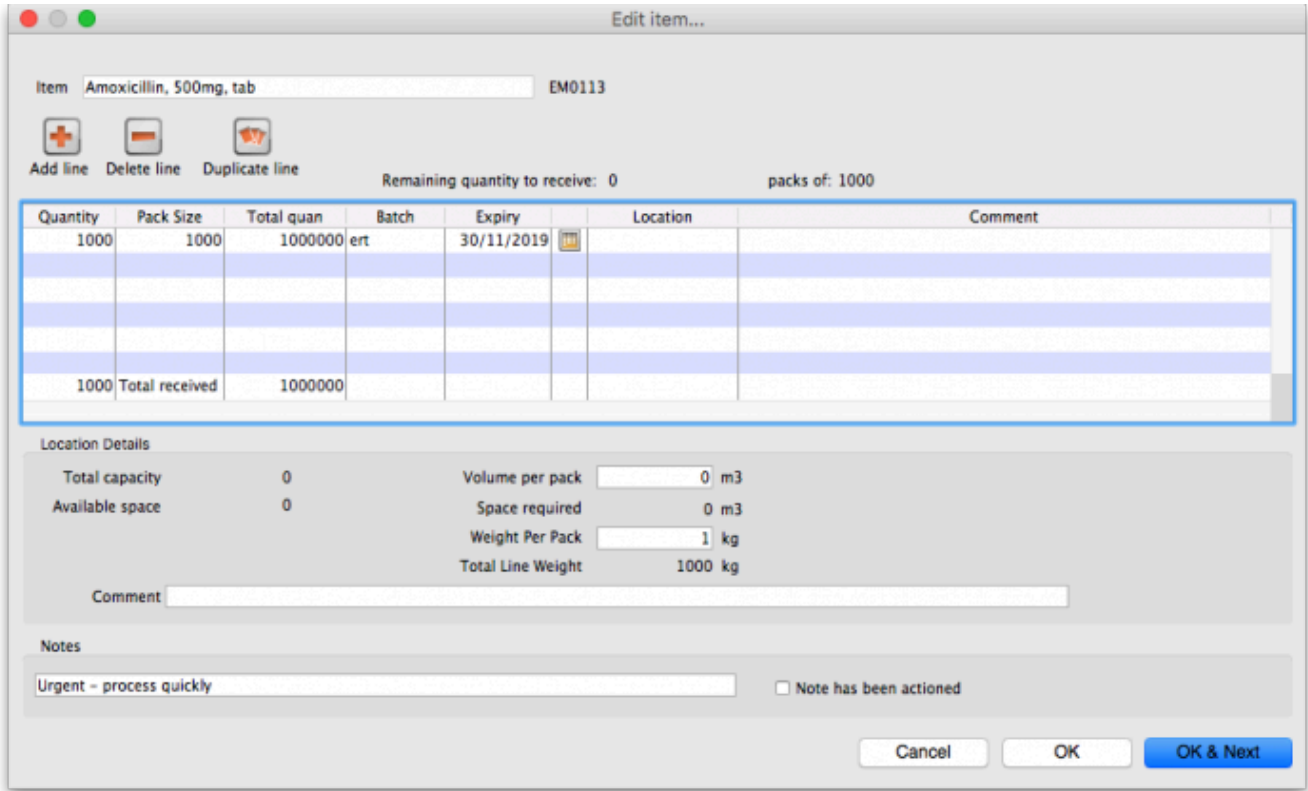
Let's have a look around the window and see what information is being displayed:

- *Item*: the name of the item we're entering the information about what we've received for. At the end of the field is the item's code.
- *Remaining quantity to receive*: the number of packs we're still waiting to receive from the supplier on the purchase order this goods receipt note is for. This is 0 on the screenshot because, by default, mSupply creates a line in the table which contains all the outstanding stock.
- *packs of*: the pack size (number of items in the packs) we're waiting to receive. So, the total number of individual pieces of this item we're waiting to receive is *Remaining quantity to receive* x *packs of*.
- *table*: contains all the lines of the item that we're receiving from the supplier. Click on any of the cells to edit them (they are all editable except the *Total quan* column because this is a calculated column and equal to *Quantity* x *Pack Size*). There will be a separate line in this table for each batch or location (and manufacturer if the preference to record manufacturer is turned on - entering a manufacturer is the same as entering a location i.e. enter the first few characters of the manufacturer's name and press the *Tab* key on the keyboard and select the manufacturer you want from the list displayed or click on the **New** button to create a new manufacturer).
- *Expiry date picker*: this is in the column just to the right of the *Expiry* column. Click on it to select the expiry date from a date picker:

Click on a month and year in either order and mSupply enters the last day of that month in the expiry date column. You can manually edit the date (or manually enter it without using the picker) if you don't want the last day of the month.

- *Volume per pack*: the volume per pack for the line currently selected in the table. Will be set to the item's default volume per pack if it has one, otherwise 0.
- *Weight per pack*: the weight per pack for the line currently selected in the table. Will be set to the item's default weight per pack if it has one, otherwise 0.
- *Total line weight*: the total weight of this line in the table (= *Weight per pack* x *Quantity* column figure for the line)
- *Total capacity*: the total volume the location for the selected line in the table has. 0 if the location is not set for the line or has no volume set.
- *Available space*: the available space in the location before putting this line in it.
- *Space required*: the volume this line requires (= *Volume per pack* x *Quantity* column figure for the line). So compare this with the *Available space* figure to see whether the line will fit in the location selected.
- *Comment*: Anything you want recorded for this line. Anything typed in here will appear in the *Comment* column in the table.

If you have set a note for this item on the purchase order (see *Notes* section in Editing Purchase Order Lines) then an extra Note section will appear at the bottom of the window:



Until the *Note has been actioned* checkbox is checked, lines for this item will appear in red on the overall goods receipt window (see below).

To add lines for new batches or locations, click on the *Add line* or *Duplicate line* line button - they both add a line, *Add line* adds a blank one, *Duplicate* copies the line currently selected in the table. No surprises but, to delete a selected line, you click on the *Delete line* button!

You can edit a row in the table by clicking on the various cells. It is best to click on the left-hand **Quantity** cell and adjust that one first. Then you can use the tab key to advance to the next cell in the row.

Let's take the following example for amoxycillin 500mg caps.

quantity	pack	batch	expiry
648	1000	b1234	30/6/18
324	1000	b1235	30/11/18

Let's say there are 12 packs in a box, and 27 boxes on a pallet, so you have 2 pallets of the first batch and one pallet of the second batch. You can only put one pallet in each location, so the first row will be split into two.

Enter the details into the first row as above.

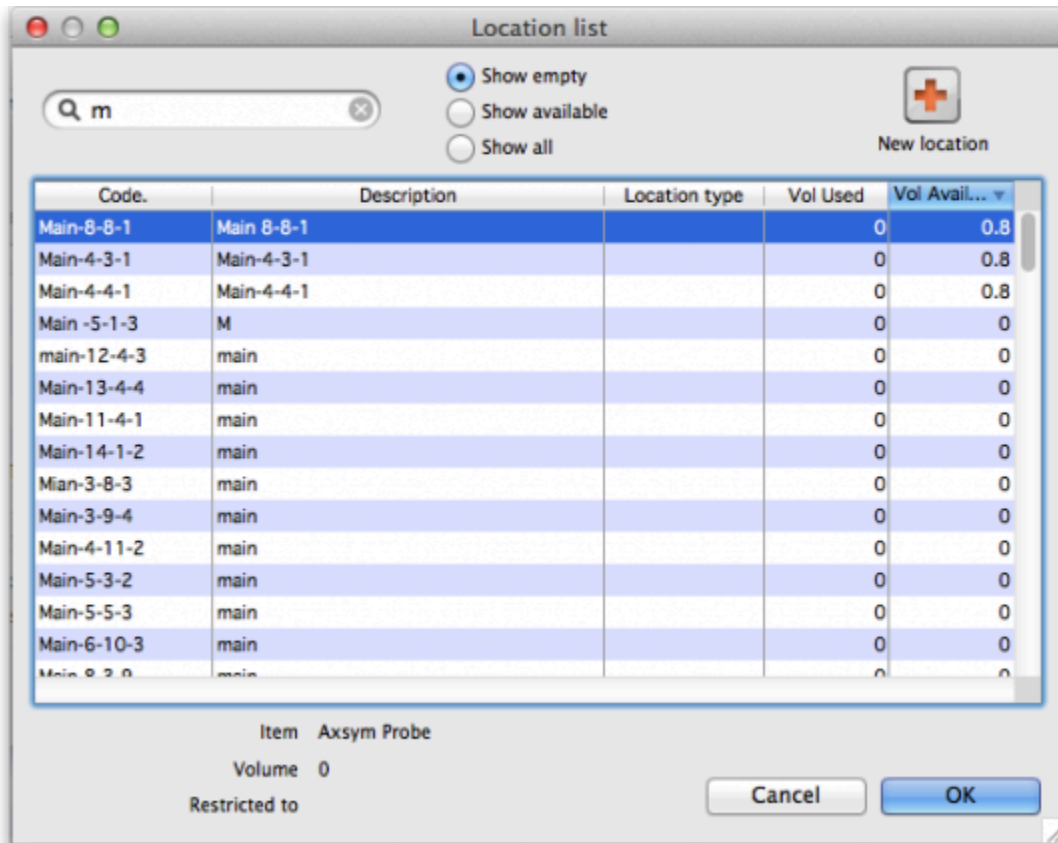
If you are entering details for an item which has its "Expiry date required on receive" preference set (see here for details) and you do not enter an expiry date for any of the item's batches then, when you click on the *OK* or *OK & Next* buttons, you will be shown a warning message and you will not be able to close the window without entering an expiry date for each batch or deleting all the item's batches.

Location management when receiving goods.

If the items you are receiving have had a location and volume entered when the Purchase Order was created, these will be transferred to the goods receipt. If you want to edit these details you can do so by double-clicking a line and either changing the volume or the location.

You can then choose a different location by entering it in the location field, or enter the start of a location code and press **tab** to get a list of matching locations.

When you get to the location column, we type **m** then press **tab**. you are shown the location choosing window with locations that match “m”



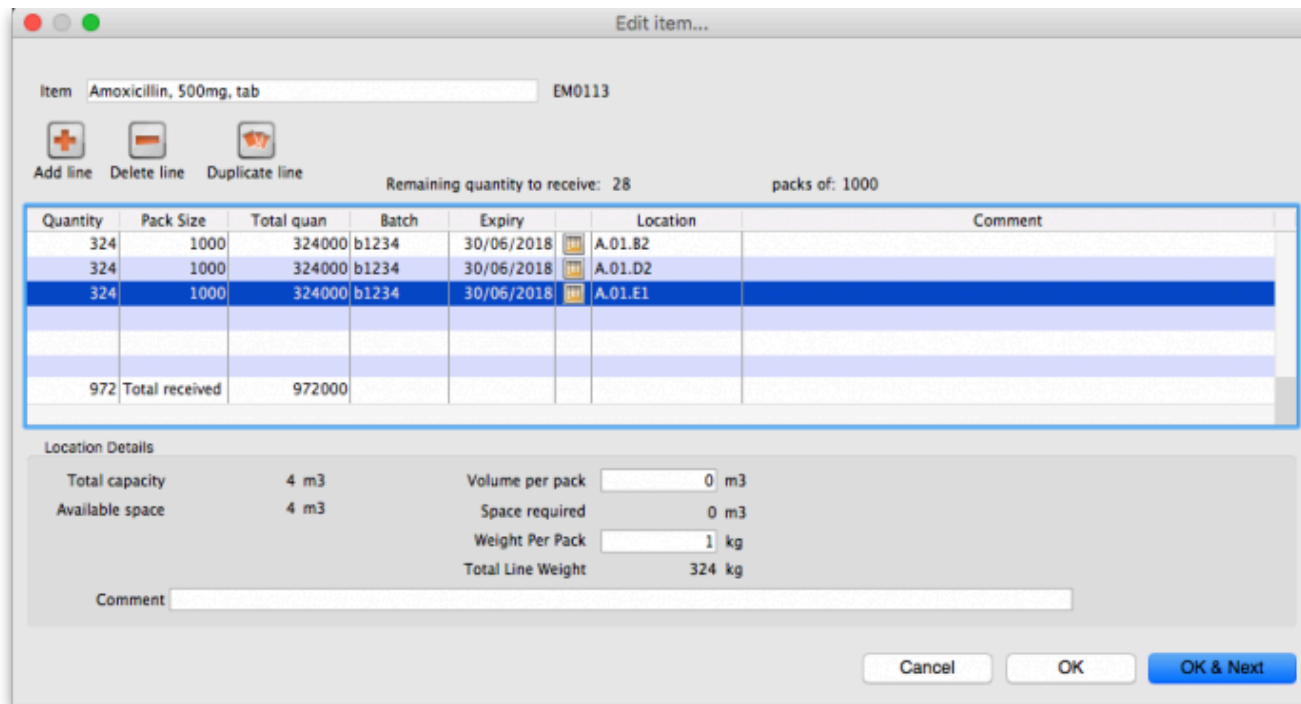
Note we have then clicked the **Show empty** radio button, as we are putting away a whole pallet, and pallets only go in empty locations. The **Show available** radio button shows locations that have enough spare capacity to take the volume of the line we are receiving. We then double-click on the location to choose.

If the item you are receiving has a default location set for it, this will have already been filled in when the line was added to the purchase order. Default locations should be set if the same item is always put in the same place, otherwise leave it blank. In the current example we've assumed it has **not** been set for each item.

Now we have entered all details for the line, we can click on the row to highlight it, then click the **Duplicate line** button to create another row the same without entering all the details again - you then only need to click on the location column on the newly duplicated row, and you can edit the location to find another empty location for the second pallet.

Once done, you can duplicate the row again, and this time you have to change the batch (to b1235), expiry (to 30/11/18) and location.

Then your window should look like this:



Note that the bottom row of the table shows you the total number of packs and total quantity being received.

If all the details are correct click **OK** (or **OK & Next** if you selected more items to be added from the purchase order) or click **Cancel** if you want to abandon this entry. You will be taken back to the window showing the overall goods receipt, this time including the lines you've just entered:

Review overall Goods Receipt

New goods receipt...

Supplier: South Austral Pty Ltd Store: General

Received date: 09/05/11 Purchase order: 32 Goods received ID: 903

Supplier reference: Created by: Sussol Entry date: 09/05/11

Period: 01/01/11 - 31/12/11 Modified by: Status: nw

Line	Location	Item name	Batch	Exp date	Pack Size	Quan
1		Water for injection 100mls bottle			1	0
2		Procaine Benzylpenicillin 1MU vial			50	0

Finalize

All the items you've selected have been added to the goods receipt. The quantity is set to the total remaining to be received for that item.

Double click on each item in turn and the window allowing you to enter quantities, pack, batch numbers, expiry dates.

Red line in the Goods Receipt?

If you see lines show up in red on the Goods Receipt that means that you have set a note that must be actioned for that line on the Purchase Order (see Notes section of Editing Purchase Order lines for details).

Once you have actioned the note, the lines will return to their 'normal' black colour.

The right hand side of the window shows you the shelf location, total capacity and available space for a particular item in a particular shelf location. You are also shown the volume or space required for a particular item. The small "refresh" icon on the right inserts the default location for the items.

Item: Axsym Probe

Remaining quantity to receive: 1 packs of: 1

Quantity	Pack size	Total quan	Batch	Expiry	Manufacturer	Location
1	1	1	ABC123	31/05/2018		Main-8-8-1
1	Total received	1				

Location details

Total capacity	800 l	Volume per pack	0.003 m3
Available space	797 l	Space required	3 l

Buttons: Cancel, OK, OK & Next

The volume of the shelf location is now reduced to reflect the space consumed by our newly added stock item.

After entering the details for each item, you can click on *OK & next* to proceed to editing the next item.:

Finalising Goods Received

The next step in receiving your goods into mSupply is to create a supplier invoice (that is where you will enter pricing information if you need to). This is done automatically for you when you finalise the goods receipt.

When you have entered all the goods you have received onto the Goods Receipt note, you finalise it by checking the *Finalise* box in the bottom left hand corner of the window and clicking on the *OK* button. Only do this when you are sure the Goods receipt note is an accurate record of what you have received and contains all the information you want in it because finalised means finalised and you won't be able to change it afterwards (just like everywhere else in mSupply!).

Your goods are not yet entered into stock in mSupply - that only happens when the supplier invoice is **confirmed**. The initial status of this automatically created supplier invoice is controlled by the "When finalising a Goods Receipt" store preference - see here for details.

If you have the store preferences set to force **supplier invoice** authorisation, you will not be able to confirm supplier invoices (and therefore bring items into stock) until they have been authorised. See here for details.

Authorising items on goods received notes

When you have goods received note authorisation turned on in Store Preferences you will see an extra "Authorised" column on your goods received note:

The column will contain a checkbox for each batch you add to the goods received note. If a batch is authorised then check its box in the *Authorised column* (only users with the *Can authorise goods received* permission can check these boxes). You can enter any notes on batches which fail authorisation in the *Authorisation comment box* at the bottom. When you finalise your goods received note **only the batches which have been authorised** will be put on the automatically created supplier invoice. In this way you have a complete record of what was received, what was satisfactory and what was sub-standard.

Viewing existing Goods Receipts

Choose Supplier > Show goods received...

A standard mSupply find window is shown:

Click the **OK** button to view the last 15 goods receipts, or enter a value to find in the lower field, and choose the field you are searching for in the left-hand drop-down list (if you enter something in the lower text box this filter only will be used and the top one - number of recent goods received notes - will be ignored). This window then opens to show the goods received notes that match your filter selections:

Supplier	Status	Goods ID	Purchase o...	Supplier ref	Entry date	Received date
South Austral Pty Ltd	fn	886	379 10244		27/01/11	27/01/11
South Austral Pty Ltd	fn	887	407 10287		04/02/11	04/02/11
South Austral Pty Ltd	fn	888	413 10288		04/02/11	04/02/11
South Austral Pty Ltd	fn	890	371 10211		16/02/11	16/02/11
Anspec Pty Ltd	fn	891	398 149162		16/02/11	16/02/11
Sustainable Solutions (NZ) Ltd	fn	892	339		16/02/11	16/02/11
Multichem Exports Ltd	fn	893	406 503908		16/02/11	16/02/11
South Austral Pty Ltd	fn	894	421 10314		16/02/11	16/02/11
South Austral Pty Ltd	fn	895	371 10211		17/02/11	17/02/11
Anspec Pty Ltd	fn	897	381 149162		21/02/11	21/02/11
Anspec Pty Ltd	fn	898	398 149163		21/02/11	21/02/11
Anspec Pty Ltd	fn	899	381 149162		21/02/11	21/02/11
Anspec Pty Ltd	fn	900	420		21/02/11	21/02/11
Anspec Pty Ltd	fn	901	422		21/02/11	21/02/11
South Austral Pty Ltd	nw	903	32		09/05/11	09/05/11

New button: Creates a new goods received note

Find button: Opens the search filter window again, allowing you to make a new search for goods received notes.

Viewing a related Purchase Order or Supplier invoice

Accessing the related Purchase Order when the *Edit goods received* window is open is achieved by clicking on the blue "Purchase Order" on the right side.

Edit goods receive...

Supplier: PHARMACEUTICAL LTD Store: Warehouse St...

Received date: 23/10/14 Tender reference:

Supplier reference:

Period: 1/07/2014 - 30/06/2015

Donor:

Goods received ID: 224
 Created by:
 Modified by:
 Entry date: 23/10/14
 Purchase order: 33
 Supplier Invoice: 750
 Status: fn

Print goods receipt

Line	Location	Item name	Batch	Exp date	Pack Size	Quan
1		Endotracheal Tube No. 7	1314565304...	31/05/2018	10	2
2		Endotracheal Tube No. 7	1319330342x	31/07/2018	10	2
3		Endotracheal Tube No. 7.5	1316227304...	30/06/2018	10	10

Finalize **OK & Next** OK

Similarly, if you want to see the linked Supplier Invoice then click on the blue Supplier Invoice“.

Supplier invoice

Name: PHARMACEUTICAL LTD
 Entry date: 23/10/2014
 Colour: Black

Their ref:
 Confirm date: 23/10/2014
 Invoice number: 750

Comment: goods received ID: 224
 Period: 1/07/2014 - 30/06/20...
 Status: cn

New line Delete line
 Category: None
 Donor:
 Goods receive ID: 224
 Purchase Order ID: 33
 Entered by:
 Store: Warehouse Sto

General Summary by Item Summary by Batch Price Log MoneyWorks

L...	Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1		Endotracheal Tube No. 7	2	10	1314565...	31/05/2018	0.00	0.00	0.00
2		Endotracheal Tube No. 7	2	10	1319330...	31/07/2018	0.00	0.00	0.00
3		Endotracheal Tube No. 7.5	10	10	1316227...	30/06/2018	28,400.00	28,400.00	284,000.00

Other charges:
 Item(s):
 Amount: 0.00

Subtotal: 284,000.00
 0 % tax: 0.00
 Total: 284,000.00

Hold Finalize
 Export batch: 0
 Margin: 0.00

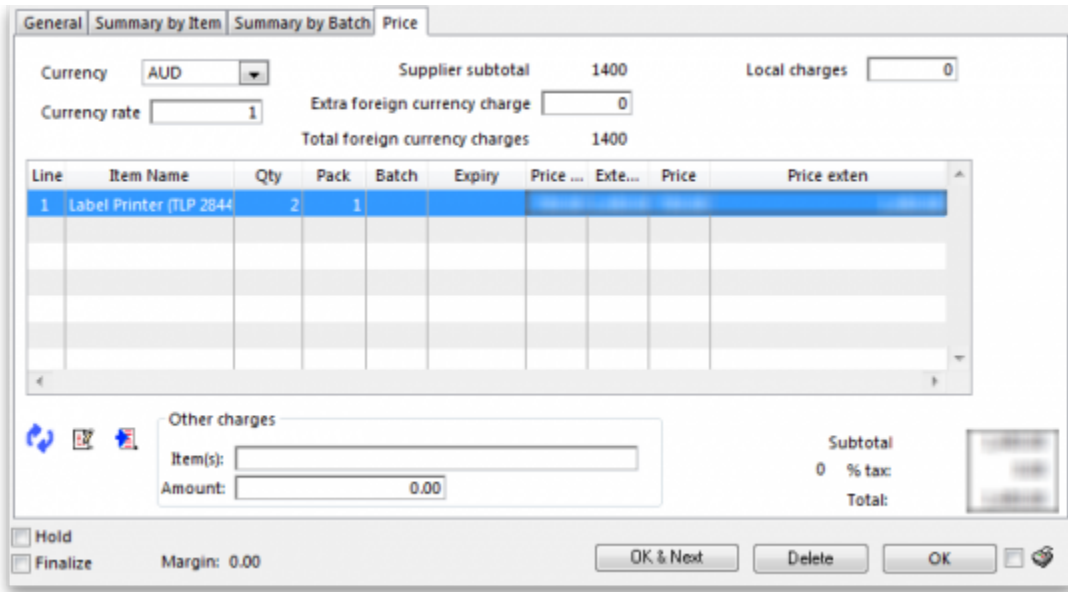
If you have turned on any of the custom stock fields in store preferences they will be displayed as columns (between the Batch and Expiry columns) in the list of items and the information you entered for these fields when the stock was received will be shown in the appropriate cells. If you double-click on one of the supplier invoice lines to edit it (assuming they are editable!), you will see the custom fields and be able to enter information into them.

Outstanding Purchase Order lines

Outstanding PO lines are those which you are still waiting to be delivered from the supplier (also known as you pipeline stock). You can view them by either:

- Clicking on Show outstanding PO lines on the Navigator's Supplier tab or
- From the *Supplier > Show outstanding PO lines* menu item

Viewing and editing supplier invoices created via Goods Receipts



Supplier invoices created via goods receipts differ slightly from standard supplier invoices.

The Price tab

Here, you can add in any extra currency related charges

1. in the supplier's currency in the **Extra Foreign Currency charge** field , and
2. in your local currency in the **Local charges** field and mSupply will automatically calculate the updated invoice price.

Here's an example of how mSupply will do this with a currency "YXB" whose rate is YXB 7 = USD 1

Item	Foreign Price	Quantity	Foreign Currency Price Extension	Local Price	Local price Extension
Amoxicillin 250mg tabs	50	10	500	70	3,500
Paracetamol 500mg tabs	300	5	1,500	35	10,500

Now we add USD300 of freight charges and YXB1400 of import duties:

- The total USD value of the order is USD2000, so 15% must be added to each line to account for this
- The YXB1400 is equivalent to USD200 in local charges, so 10% must be added.
- Therefore a total of 25% is added.

Item	Foreign Price	Quantity	Foreign Currency Price Extension	Local Price	Local price Extension
Amoxicillin 250mg tabs	50	10	500	87.5	4,375

Item	Foreign Price	Quantity	Foreign Currency Price Extension	Local Price	Local price Extension
Paracetamol 500mg tabs	300	5	1500	43.75	13,125

Currency and Currency rate

Select the supplier currency from this drop-down box, and enter the current exchange rate in the *Currency rate* field . Note that currencies must first be entered using the menu item *Special>Currencies*. See *Currencies...*

Extra foreign currency charges

In the supplier's currency, enter any extra charges from the supplier.

Local charges

Enter any local charges, in your local currency.

Application of charges

mSupply distributes any extra charges proportionally according to the invoice value of each item on the invoice; this is done automatically

MoneyWorks tab

If you are using the MoneyWorks accounting software (which is highly recommended), clicking on this tab allows you to export the invoice details to MoneyWorks. Elsewhere in this guide instructions on setting up mSupply to work with Moneyworks are to be found. See *Moneyworks*.

Previous: Receiving Goods - a Supplier Invoice Next: New Supplier credit

New supplier credit

Entering a supplier credit is exactly the same as entering a customer invoice, except that you enter a supplier code rather than a customer code.

Note that the transaction uses the cost price of the goods to calculate the invoice value. If you have set the mSupply Preferences to allow editing sell prices, you will also be able to edit the price at which you return goods on a supplier credit.

You can also adjust the cost price of an item line manually. To change an item line's cost price, choose Items | View or edit item... Locate the item concerned, then click on the "stock" tab to display the item lines. Click the item line you wish to change, then click the "edit line" button. (Only users in the "high access" group can perform this action.)

Previous: Receiving goods (Goods Receipt function) Next: Editing Pack Sizes

Editing pack sizes

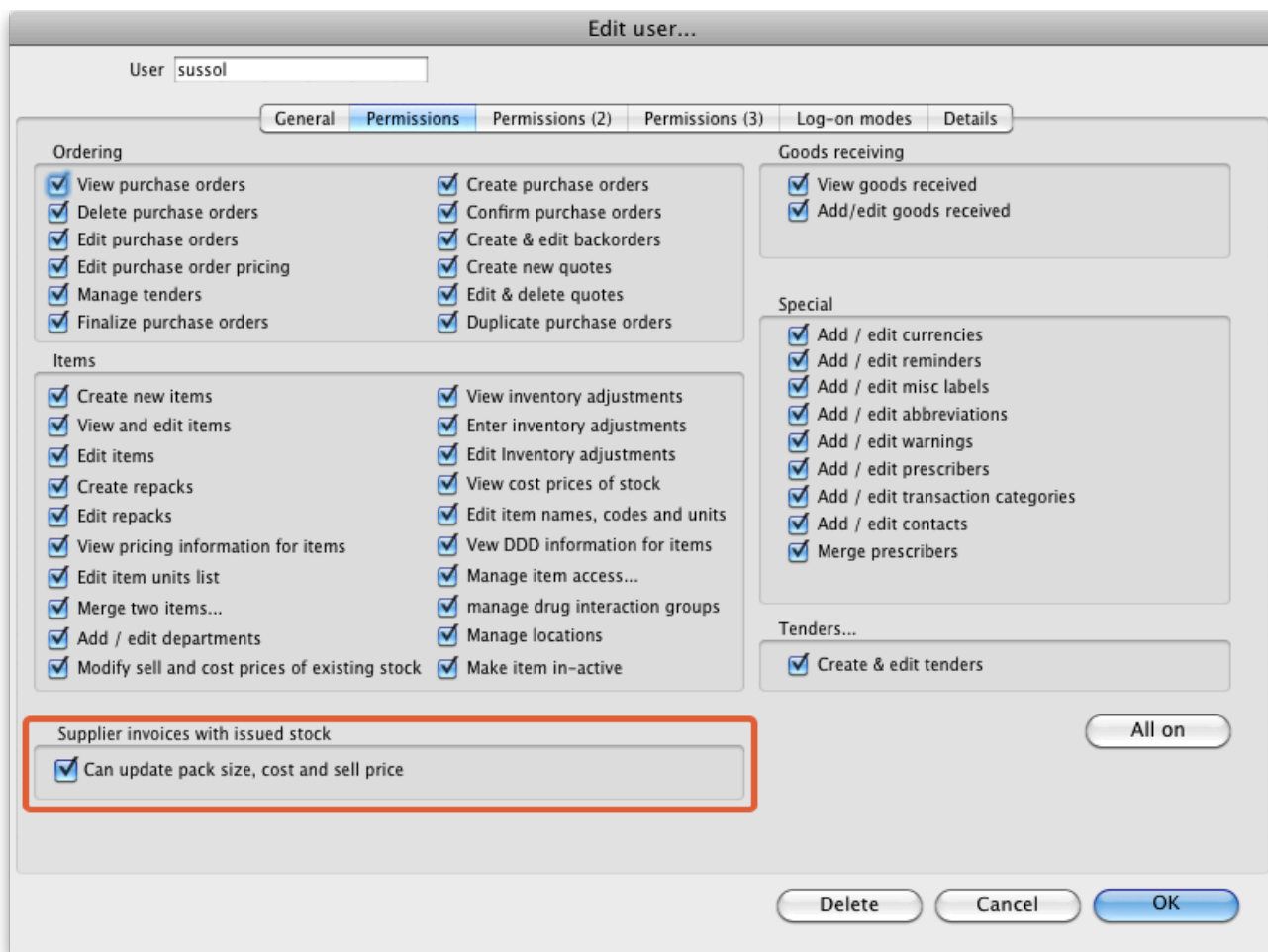
Changing pack sizes for items already received

If you have received goods and the supplier invoice is taken off hold, these goods will go into stock and be available for issue.

You can still edit the pack size if.

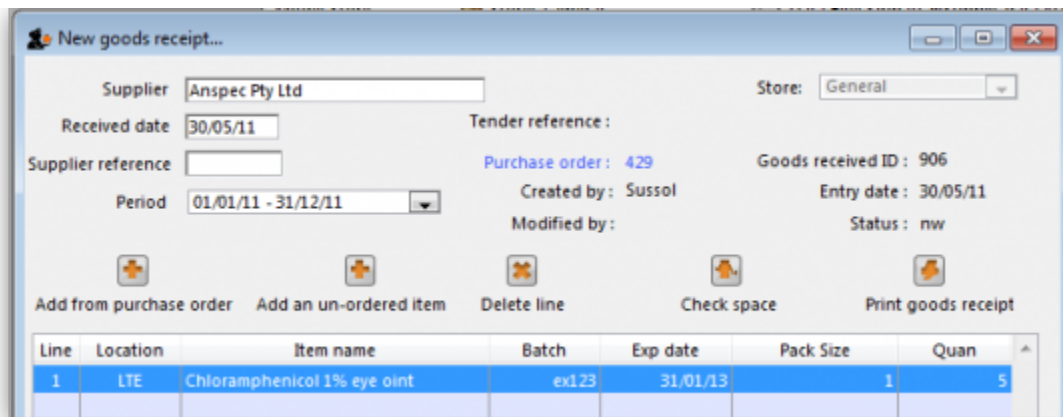
1. No stock has been issued, or:
2. You have the user preference set that allows editing pack sizes even after issue. ¹⁾

Allowing editing of pack sizes

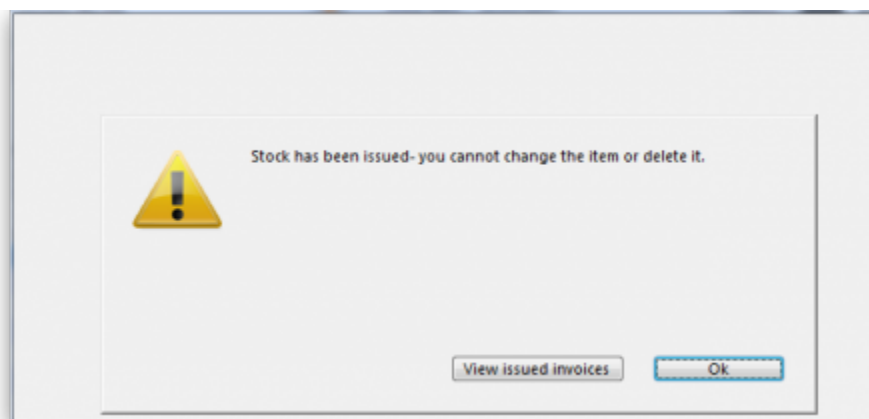


Changing a received pack size after items have been issued

Take as an example chloramphenicol eye ointment; a delivery has been received, comprising 500 tubes, packed in packs of 100 - i.e. 5 boxes, each containing 100 tubes. When the entry is made into mSupply the operator in error enters a quantity of 5 and a pack size of 1, instead of a quantity of 5 and a pack size of 100.

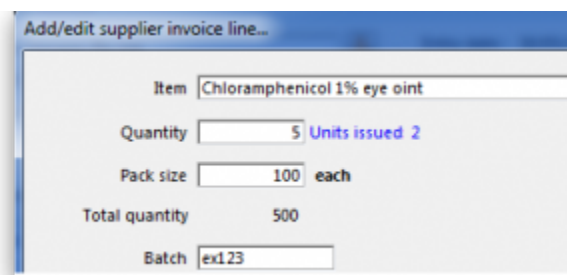


Provided the user permission described above has been set, the error can be rectified, and the invoice altered to show the correct pack size of 100. From the **Supplier** menu, choose **Show invoices** to access the required invoice. Select the line *Chloramphenicol 1% eye oint*, and double click on it. If stock has already been issued, a window will appear to alert you, and allowing you immediate access to the customer invoices detailing the issues.



It should be noted that adjustments may be necessary on these invoices.

Click **OK** to display the **Add/edit supplier invoice line** where the correction can be made by changing the **Pack size** entry from 1 to 100.

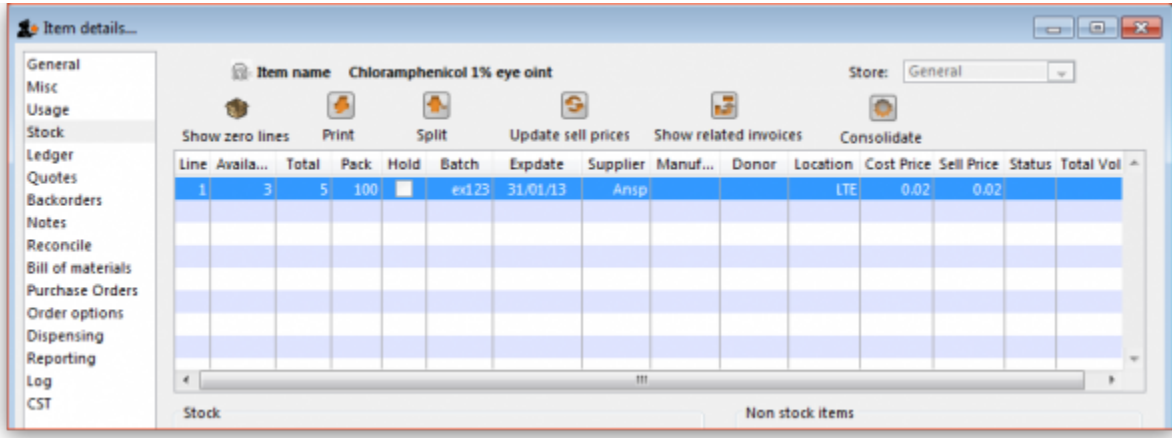


How is this different to splitting a stock line?

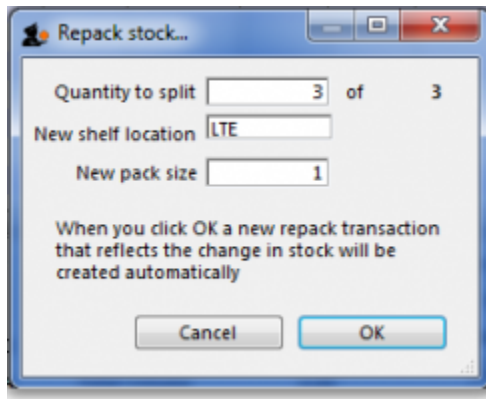
Splitting a stock line is required when a store receives and manages an item whose pack size contains a number of units in the pack, but typically issues the item to the store's customers in smaller quantities. Taking the example above, the store *receives* and *manages* chloramphenicol eye ointment in a pack size of 100, but *issues* in single tubes.

- **Editing** the pack size in a supplier invoice, changes the total stock on hand (and / or issued)
- **Splitting** a stock line does *not* change the total stock on hand (and / or issued)

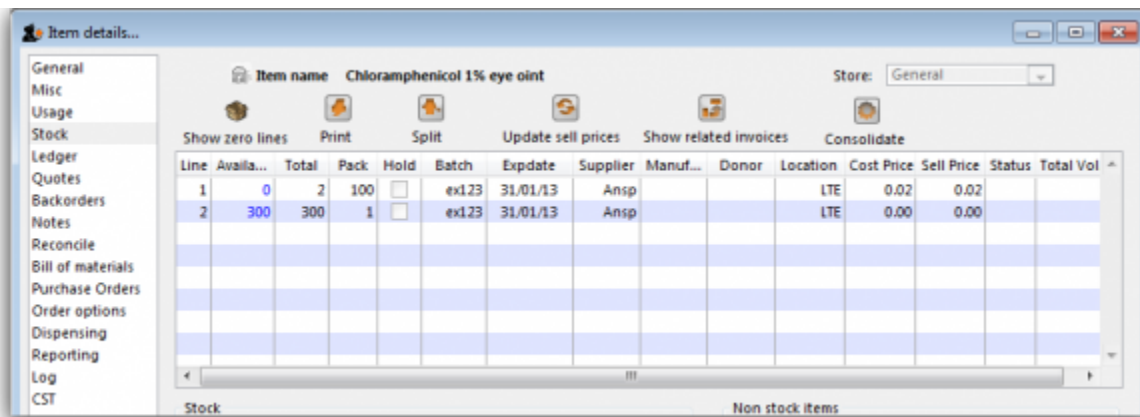
The **Item details** screen is displayed from the **Item > Show items** menu, by entering the first few characters of the item in the **Find item** window. From the list on the side bar, click **Stock**, and on the window which appears click on the appropriate line to select it; the window should now have this appearance:



Click the **Split** button, and fill in the appropriate details on the form - in this example the 3 packs of 100 are to be changed to 300 packs of 1.



Looking again at the Item details window, the stock is now displayed as 300 single units, and the store is now able to issue as little as a single tube, or any quantity up to the total available.



Previous: New Supplier credit.... Next: Show outstanding Purchase Order lines

- 1) If you don't want to allow this, then simply turn the user preference off

Managing outstanding purchase order lines (pipeline stock)

Stock that you have ordered and waiting to be delivered is called your pipeline stock. Sometimes it's helpful and important to monitor this stock so mSupply has functions to help you do that.

Pipeline stock is represented by all the outstanding purchase order lines i.e. purchase order lines on **confirmed purchase orders** which haven't been fully received into mSupply yet.

To see all your pipeline stock simply choose **Supplier > Show outstanding PO lines...** from the menus or click on the *Outstanding* icon in the Purchase orders section of the Suppliers tab on the navigator. This window will open:

PO #	Supplier...	Supplier Name	Item name	Order Confir...	Requested	Expected...	Days to E...	Adjusted Qua...	Qty Received	Qty Outstanding
59	UNPF	United Nations Population Fund	Male Latex Condoms - Social Marketing	04/03/2015	04/0...2015		0	2502144	0	2502144
53	CIPL	Cipla Limited	Ciprofloxacin 500mg Tablets	13/02/2015	13/0...2015		0	7690	0	7690
121	BMPC	BMS Pharmaceutical Company	Ciprofloxacin 250mg Tablets	28/07/2017	28/0...2017	28/0...2017	62	100000	0	100000
121	BMPC	BMS Pharmaceutical Company	Amoxicillin 500mg Capsules	28/07/2017	28/0...2017	28/0...2017	62	200000	0	200000
59	UNPF	United Nations Population Fund	Male Latex Condoms - Social Marketing	04/03/2015	04/0...2015		0	4499712	0	4499712
59	UNPF	United Nations Population Fund	Male Latex Condoms - Social Marketing	04/03/2015	04/0...2015		0	1499904	0	1499904

All lines in black are those where the expected delivery date (EDD) is after the current date i.e. where the *Days to EDD* column (which contains the difference between the EDD for a line and the current date) has a number greater than 0. These are items which are not yet overdue but, if the Days to EDD column contains a small number, you might want to call the supplier to check on the delivery.

All lines in red are those where the expected delivery date is on or before the current date i.e. where the *Days to EDD* column contains 0. These items are overdue and it probably means that the supplier could do with a call to find out what's happening with your delivery.

The *Adjusted quantity* column shows the actual number of items you ordered (number of packs x the packsize).

The *Qty received* column shows the number of items (number of packs x the packsize) you have already received into mSupply.

The *Qty Outstanding* column shows the remaining number of items on the order waiting to be received (*Adjusted quantity - Qty received*).

Double clicking on any line will open the Purchase Order with that line highlighted.

You can print the list of purchase order lines currently displayed in this window at any time by clicking on the **Print** button - as usual, you will be given the option of printing or exporting to Excel.

Update EDD button

If you speak with the supplier about a delivery or receive information from elsewhere about when goods are going to be delivered you can update the expected delivery date for those lines.

To do this, simply select the lines in the table that are affected then click on the **Update EDD** button. In the window that opens, enter the new EDD for the lines and click on the **Update** button. The EDD is immediately updated for the chosen lines and, if the lines were red, they will turn black.

You can select multiple lines to update using the usual Shift+click to select/deselect a range of lines and Ctrl+click (Cmd+click on Mac) to add/remove a line to/from what is currently selected.

Filtering the list

Sometimes the list of outstanding purchase order lines can be very long (just after running your annual tender for example, or when you have placed several large orders) and it can be hard to find a specific item or items expected from a particular supplier. To help in this situation, mSupply allows you to filter the displayed list.

To do this, select the type of filter you would like to apply by clicking on the filter icon (▼) just to the left of the textbox and select one of:

- *Search by supplier or code* - will show only those outstanding purchase order lines on purchase orders whose supplier name or code begins with what you type in the textbox
- *Item name or code* - will show only those outstanding purchase order lines whose item name or code begins with what you type in the textbox
- *Days to expected delivery is less than...* - will show only those outstanding purchase order lines with an expected delivery date less than the number of days you enter in the text box from the current date.

Then enter the value you wish to filter by in the textbox and click on the **Find** button. The list will then be changed to show only those purchase order lines matching the filter you have selected.

Finalising purchase orders

Any outstanding goods on **finalised** purchase orders will **NOT** be included in this window. So, if there are goods that you have ordered but will never receive from a supplier (maybe a substitute item has been shipped or you cancelled part of an order because a supplier said they couldn't deliver it), when everything else on the purchase order has been received you should finalise it. The goods on the purchase order that you have not received will then no longer be shown as outstanding in this window.

It is good practice to finalise purchase orders for which you have received everything because it also removes the purchase order from the list you can create a goods received note from (see Receiving goods (goods receipt function)), making it easier to find a purchase order you're wanting to create a goods received note for, and means that no changes can be made to the purchase order in the future.

But beware: don't finalise a purchase order **before** you have received everything the supplier is going to send because you won't be able to make any changes to it or receive goods against it using the goods receipt function (Receiving goods (goods receipt function)).

Previous: Editing Pack Sizes Next: Managing Donors

Managing donors

What/Who is a Donor?

In mSupply, we have the idea of a 'name'. A name can be a customer, a supplier, a patient, ... or a donor.

A donor is the organisation that has either paid for, or somehow managed the supply of certain items.

A donor *can* also be a supplier and / or a manufacturer or they can be just a donor. mSupply allows for any combination of that.

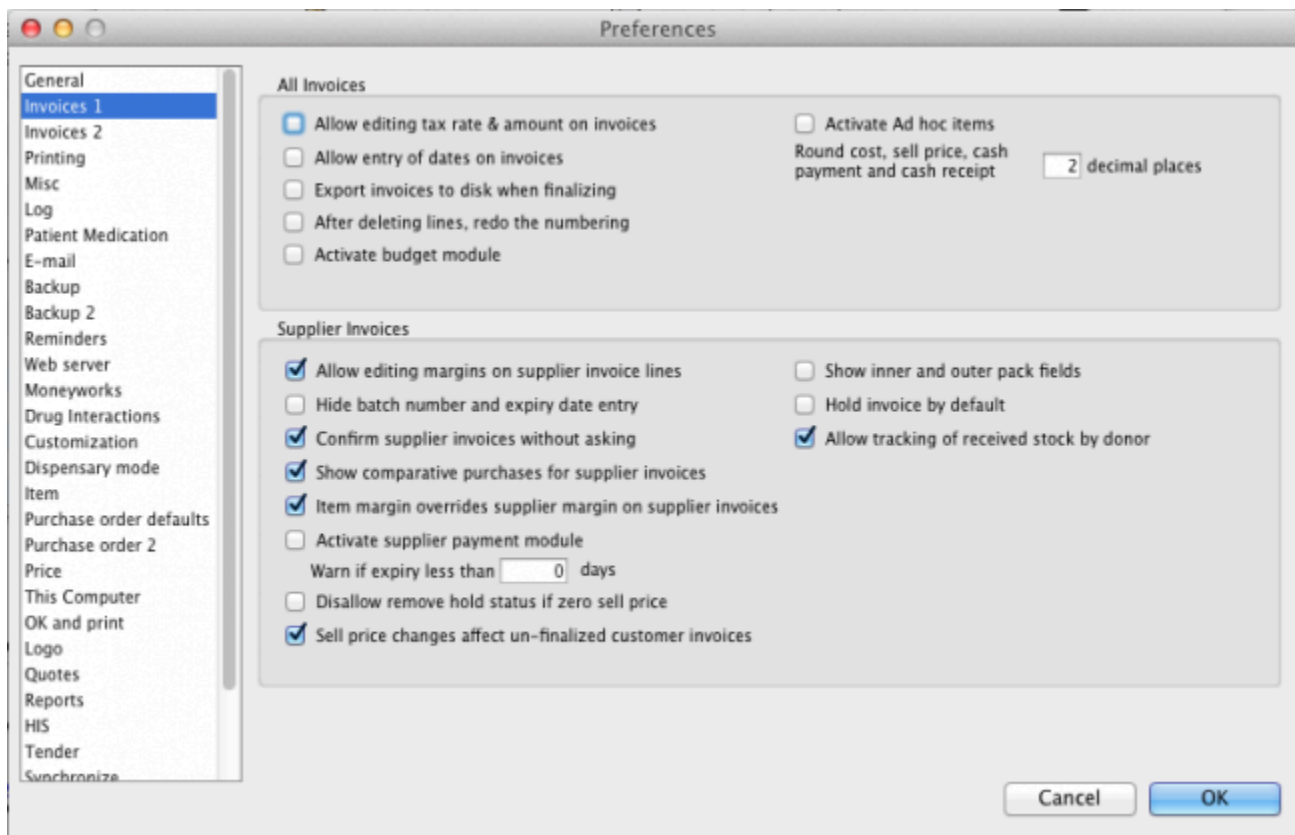
mSupply allows you to specify the donor for each incoming stock line independently of the supplier.

For example, GlobalFund might agree to supply certain malaria medicines, and then contract a supplier to deliver them to you. mSupply allows you to record this accurately, and to track and report on all the stock and transactions relating to those medicines donated by GlobalFund.

Using the Donor Module

To use the donor module, you must first turn it on:

- Click drop down menu **File>Preferences...**
- Click the **Invoice 1** tab in the left-hand list
- Check the box **Allow tracking of received stock by donor**



Once you have done this you can add donors and track stock by donor.

Adding or Editing Donors

To add or edit a donor you should first bring up the list of donors. Do this from the Navigator:

- Go to the **Suppliers** tab > **Show Suppliers** and check the box beside **Donors** so that the list shows donors rather than suppliers. Click **Find**. This will bring up a new window showing any donors you have added
- You can edit a donor by double-clicking on it.
- You can add donors using the **New** tool bar at the top of the window. This will bring up a window like this:

- Now add your donor details and click **OK**.

Track a Donor in mSupply

Donors and the Purchase Order

- Create a Purchase Order in one of the usual ways - refer Ordering Items From Suppliers.
- With donor tracking turned on, the Donor field will appear in the window - see below. The value you enter here will be tracked from this point on through to receipt, stock transfers and dispatch.

New Purchase order...

Order num : 3509 Name

Confirm date Donor Reference Status sg

Requested delivery: Store: Munda SLMS

General Details Ad Hoc items Goods Received Supplier Invoices Log Location

show all lines Category Currency Forex rate

Line	Item code	Item	Orig Qty	Pack	Adj Qty	Tot. recei...	Stock on ...	On Order	Cust.b/odrs	Price Ext	Expected..	Store:

Supplier discount

 Percentage Discount amount

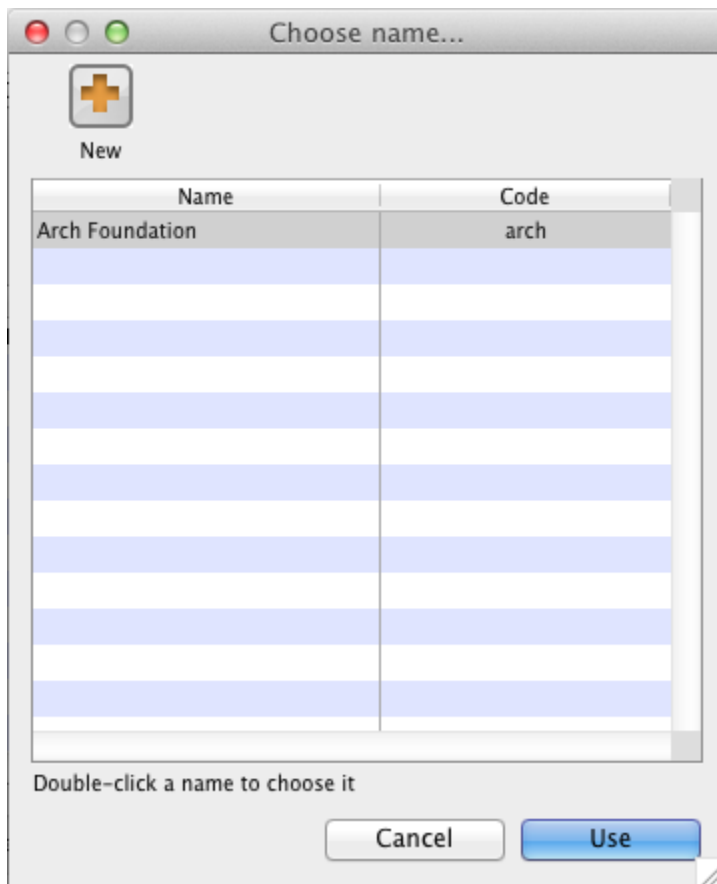
Estimated subtotal 0.00

Estimated cost after discount 0.00

Locked Auto calc usage Print long description Print my signature

Finalize order

- In the **Donor** field type the first few characters of the donor name or code (or enter the wildcard character '@' in field) and press the **Tab** key on the keyboard. This opens the window below, showing the donor that match what you typed:



- If your donor does not exist, you can add it at this point by clicking on the **New** button - see above.
- Once you have selected your donor, click on the **OK** button and the donor's name will appear in the **Donor** field:

Order num : 87 Name: Central Medical Store CMS **Black**

Confirm date: 22/05/2013 Default donor: Arch Foundation Reference: Status: cn

Requested delivery: 22/05/2013 Store: General

General Details Ad Hoc items Goods Received Supplier Invoices Log Location

New line Delete lines Update EDD Info Print Confirm

Category: none Currency: VUV Forex rate: 1

Line	Item code	Item	Orig. Qty	Pack	Adj. Qty	Tot. rece...	Stock on...	On Order	Cust.b/o...	Price Ext	Requeste...	Store:
1	40	AMOXICILLIN 250mg TAB/CAP	1000000	10	1000000	0	286600	0	0	178,000.000		General

Supplier discount: Percentage: 0 Discount amount: 0.0000

Estimated subtotal: 178,000.0000
Estimated cost after discount: 178,000.0000

Locked Auto calc usage Print long description Print my signature

Finalize order Authorise

OK & Next Delete OK

- Add your Item line(s), check your order is correct and click the **Confirm** button to make the order available for Goods Receipt in the normal way - see Ordering Items From Suppliers for more details.

Donors and the Goods Receipt function

Receive goods in the usual way - see Receiving goods (Goods Receipt function). The only difference is that the Donor's name is now present in the Donor field:

New goods receipt...

Supplier: Central Medical Store Store: General

Received date: 22/05/13 Tender reference:

Supplier reference:

Default donor: Arch Foundation

Goods received ID: 34
 Created by: sussol
 Modified by:
 Entry date: 22/05/13
 Purchase order: 87
 Supplier invoice: 0
 Status: mw

Add from purchase order
 Add an un-ordered item
 Delete line
 Check space
 Print goods receipt

Line	Location	Item name	Batch	Exp date	Pack Size	Quan
1	TAB	AMOXYCILLIN 250mg TAB/CAP	ABC1234	30/09/2018	10	100000

Finalize

Donors and the Supplier Invoice

- Clicking **Finalise** on the Goods Receipt generates the Supplier Invoice in the usual way (see Receiving Goods - a Supplier Invoice). Note that you can see the donor identified in the Purchase Order in the **Default donor** field:

Supplier invoice

Name: Central Medical Store
Their ref: CMS
Comment: goods received ID : 34
Entry date: 22/05/2013
Confirm date: 00/00/00
Colour: Black
Invoice number: 2,229
Status: nw
Goods receive ID: 34
Purchase Order ID: 87
Entered by: sussol
Store: General
Category: None
Default Donor: Arch Foundation

New line Delete line

General Summary by Item Summary by Batch Price

Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1	TAB AMOXYCILLIN 250mg TAB/CAP	100000	10	ABC1234	30/09/2018	1.78000	1.78000	178,000.00000

Other charges

Item(s):
Amount: 0.00000

Subtotal: 178,000.00000
0 % tax: 0.00000
Total: 178,000.00000

Hold Finalize Export batch: 0 Margin: 0.00

OK & Next Delete OK

Default donor for each stock line

- Each stock line on a Supplier Invoice will inherit the **Default donor** from the Supplier Invoice.
- The **Default donor** can be edited.

Supplier invoice

Name: Abbot Laboratories (singapore PTE.LTD) Entry date: 11/01/2013 Colour: Black

Their ref: SNG102 Confirm date: 00/00/00 Invoice number: 0

Comment: Status: nw

Category: None Goods receive ID: 0

Default Donor: UNFPA Purchase Order ID: 0

Entered by: Sussol Store: General

...	Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension

Other charges: Item(s): Amount: 0.00000

Subtotal: 0.00000 % tax: 0.00 Total: 0.00000

Hold Export batch: 0

Finalize Margin: 0.00

Changing the donor for a particular supplier invoice line

- There may be circumstances when delivered stock may be from a mix of donated and non-donated, or from different donors. You can change the donor for any stock line on a supplier invoice when editing the details of the stock line (double-click on the stock line).

Add/edit supplier invoice line...

Item: Sensivity disc Doxycycline 77/3310

Quantity: 1

Pack size: 1 Cart/5

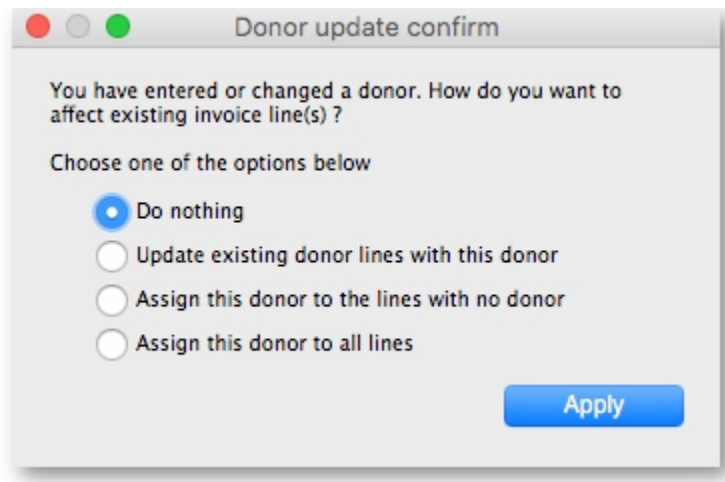
Total quantity: 1 Location:

Batch: 1091060 Volume per pack: 0 m3

Invoice line unit cost (USD)	Adjusted local cost (USD)	% Margin	Sell price
142.38000	142.38000	0.00	142.38000

Donor: UNFPA

If you change the **Default donor**, you will be presented with the following options:



- “Do nothing”: The change will have no effect on existing invoice line(s).
- “Update existing donor lines with this donor”: existing donor lines will be updated to match the newly selected donor.
- “Assign this donor to the lines with no donor”: lines with no donor selected will be updated with the newly selected donor.
- “Assign this donor to all lines”: all lines will be updated with the newly selected donor.

Donors and the Customer Invoice

Customer Invoices, including stock transfers for donated goods are created in the usual way - refer Issuing Goods to a Customer (Customer Invoices).

- They key thing to note is that when selecting from the stock lines to add to the Customer Invoice, the donated stock lines can be distinguished from the other stock lines by the donor name in the **Donor** column - see below:

edit line

Item 40

Line Item category : 6.2.1 Beta Lactam Antibiotic

Quan of 100000

Pack ea Bulk/Outer pack size 0

L...	Issue	Available	Tot in st...	Pack	H...	Batch	Expdate	Supplier	Donor	Location	Cost Price	Sell price	Sta
1	0	0	2700	1	<input type="checkbox"/>	ANTUV00	30/06/201-	CMS		TAB	1.86000	1.86000	
2	0	0	2400	1	<input type="checkbox"/>	ANTUV00	30/06/201-	CMS		TAB	1.86000	1.86000	
3	0	160000	165000	1	<input type="checkbox"/>	ANTUV00	30/06/201-	CMS		TAB	1.86000	1.86000	
4	0	116500	116500	1	<input type="checkbox"/>	6771204	30/04/201!	CMS		TAB	1.86000	1.86000	
5	50	100000	100000	10	<input type="checkbox"/>	ABC1234	30/09/201!	CMS	arch	TAB	1.78000	1.78000	

Total quantity issued 500
Total quantity available 1276500

Abbreviations

Abbreviation

Expanded directions

mSupply will still suggest a stock line according to its selection criteria (primarily, FEFO). You will need to manually select the donated stock line if it is not the first expiring!

Reporting

Obviously, one of the points of entering all this donor information is to be able to report on it. When the donor tracking preference has been turned on, many of the stock based report filters in mSupply will have an additional donor filter added to them. Simply enter the donor filter settings you need, as appropriate, to filter the reports accordingly.

Previous: Outstanding Purchase Order Next: Issuing goods

Custom stock fields

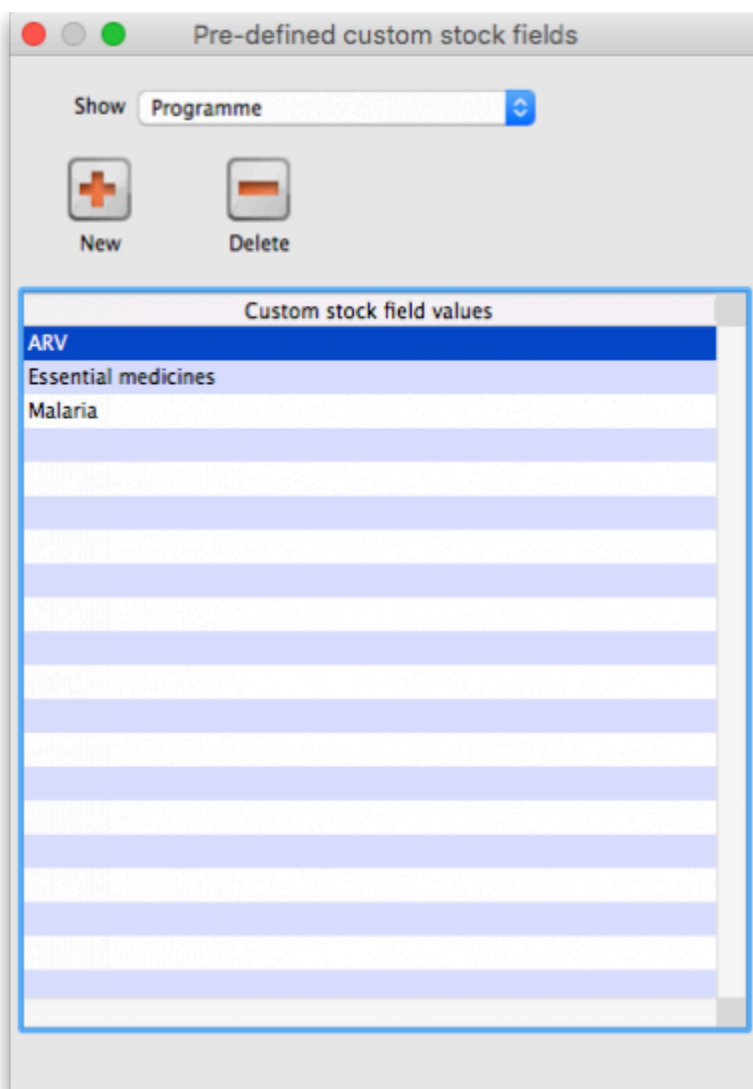
Custom stock fields are a useful way of tracking your stock. You can think of them as providing stock tags or categories which can be seen wherever stock is viewed throughout the system and can be used for filtering reports.

There are 8 custom stock fields available. The first 4 are free text (the user can enter any text they like) and the final 4 allow the user to select values from preset lists defined by you.

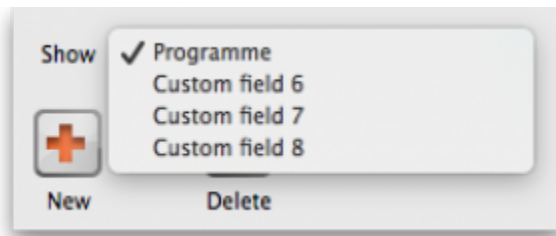
Setting them up

You turn them on in the stock tab of File > Preferences. See here for details.

To define the lists the user can select from for custom stock fields 5 to 8, click on the *Item > Show custom stock field value lists...* menu item. This window is displayed:



In the *Show* drop down list, select the custom stock field you want to add/edit/delete values for. Note that the items in the list will be “Custom stock field 5” to “Custom stock field 8” but those fields which have been given a Display name in the preferences will be replaced by it. In our example, Custom stock field 5 has been given the display name “Programme”:



The custom stock field values table below the drop down list shows all the values currently in the list for the selected field.

New button Click on this to enter a new item for list for the custom stock field currently selected in the show drop down list. Note that the list of items will always be displayed in ascending alphabetical order for a user to choose from.

Delete button select an item in the list and click on this button to delete an item from the list

Double click on an item in the list to edit its name

Using them

Now that they have been set up, when you receive goods in on a supplier invoice the enabled custom fields will appear on the supplier invoice line detail window. Enter the values in there as you receive stock into mSupply. The values will then appear wherever you see stock in the system e.g. on the stock tab of an item's details window.

The fields will also be available for filtering on when you are running any of the stock based reports.

Previous: Managing donors

Issuing goods to a customer (customer invoices)

Creating a new Invoice

Choose *Customer>New invoice*. A window like this will open:

User defined fields are displayed in the above screenshot. To show or hide user defined fields go to *File> Preferences> Invoices 2*.

Information to enter in the main window

Name:

Type as much of a customer name here as you know and then press *Tab*. If there is only one name that matches your choice, it will be entered automatically for you, otherwise you will be presented with a list of available choices. Once you have entered a valid name, the *New line* button will be enabled. If you can not find the name you are looking for, you can add a new name by clicking the person icon (👤) to the left of 'Name'.

By default, names with their code starting with a tilde (~) are not shown. This is a great way preventing a user selecting a name when it can't be deleted or hidden in a store - put a tilde character at the beginning of its code.

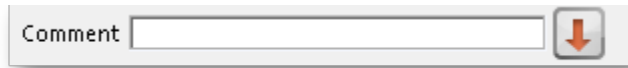
The downward pointing arrow to the right of the *Name* field takes you directly to the *Edit Customer/Supplier* window, giving access to all the information relating to the name entered

Their ref:

Enter the customer's order number if there is one

Comment:

Click on the downward pointing arrow to the right of the Comment field to display a window where any comment relating to this invoice can be noted.



Category

If you are using the category feature, and have defined them, the appropriate category is selected from the drop-down list.

User-defined transaction fields:

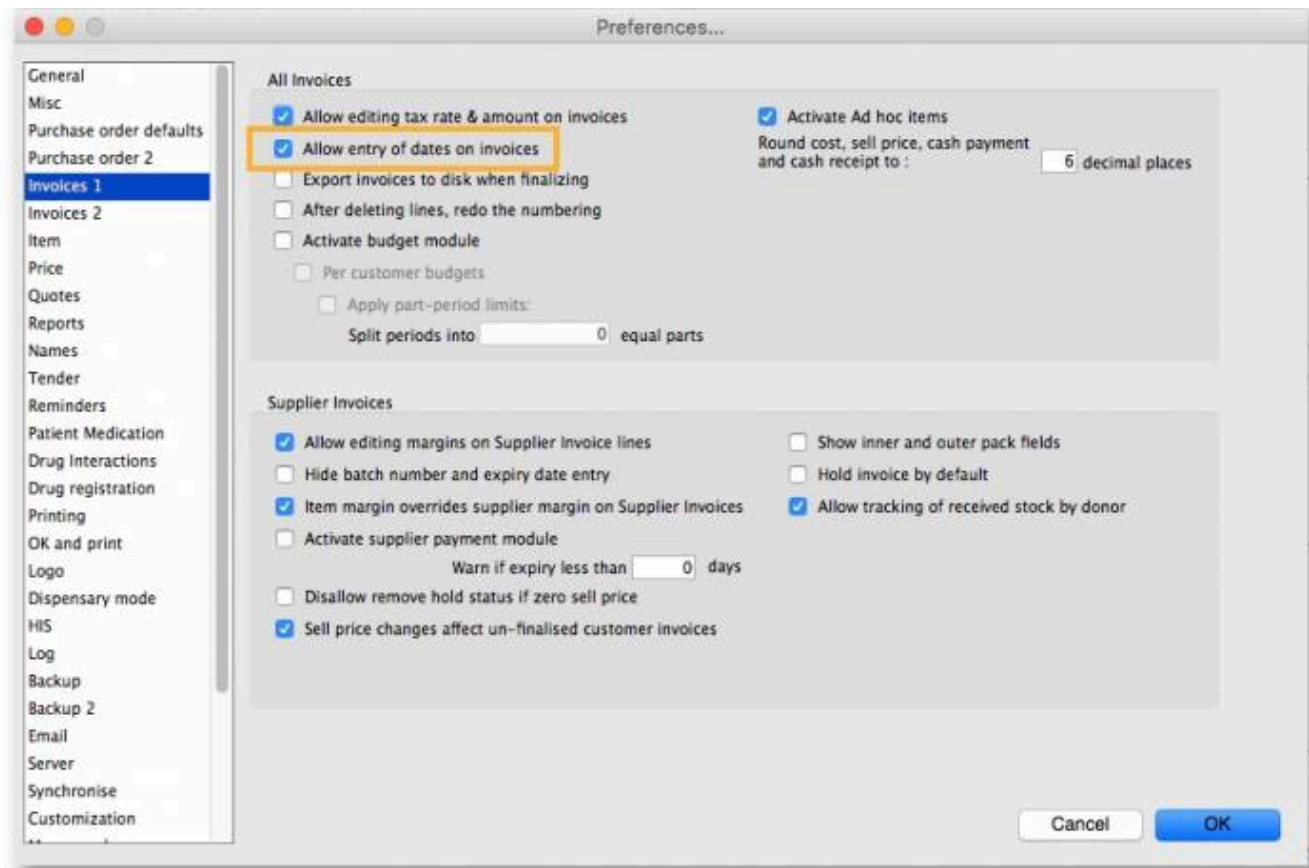
If you are using the user-defined transaction fields, they will appear and can be filled in here. Should you wish to use them, they have to be activated in *Preferences>Invoices 2*, refer Show customer transaction fields.

Read-only information on the invoice

There is some information on the top of the invoice that is read-only and cannot be edited:

- *Confirm date*: The date the invoice was confirmed. "00/00/00" if the invoice has not been confirmed.

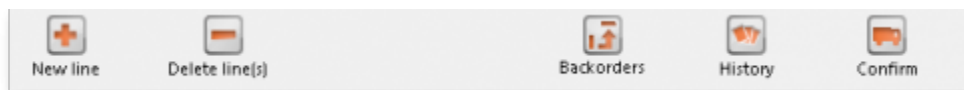
Note: this date can be made editable from preferences.



- *Invoice*: This is the invoice number. The number is automatically incremented and assigned when the invoice is first saved (which actually occurs when the first line is added to it) and is unique **within a store**. Note that customer invoices in different stores could have the same invoice number.
- *Entry date*: The date the invoice was created.
- *Goods received ID*: If the customer invoice is linked to a goods received note then its ID will appear here in blue, indicating that it is a link and, if clicked, will open the goods received note.
- *Status*: The current status of the customer invoice:
 - nw = new (just created, can still be edited, stock not yet removed from mSupply)
 - sg = suggested (has been opened since first creation, still editable, stock not yet removed from mSupply)
 - cn = confirmed (stock has been removed from mSupply but invoice is still editable)
 - fn = finalised (stock has been removed from mSupply and the invoice is no longer editable)
- *Entered by*: The user name of the user who created the customer invoice
- *Store*: The name of the store the customer invoice belongs to.

Buttons at the top of the customer invoice window

At the top of the Customer invoice window, there are a series of buttons:



New line

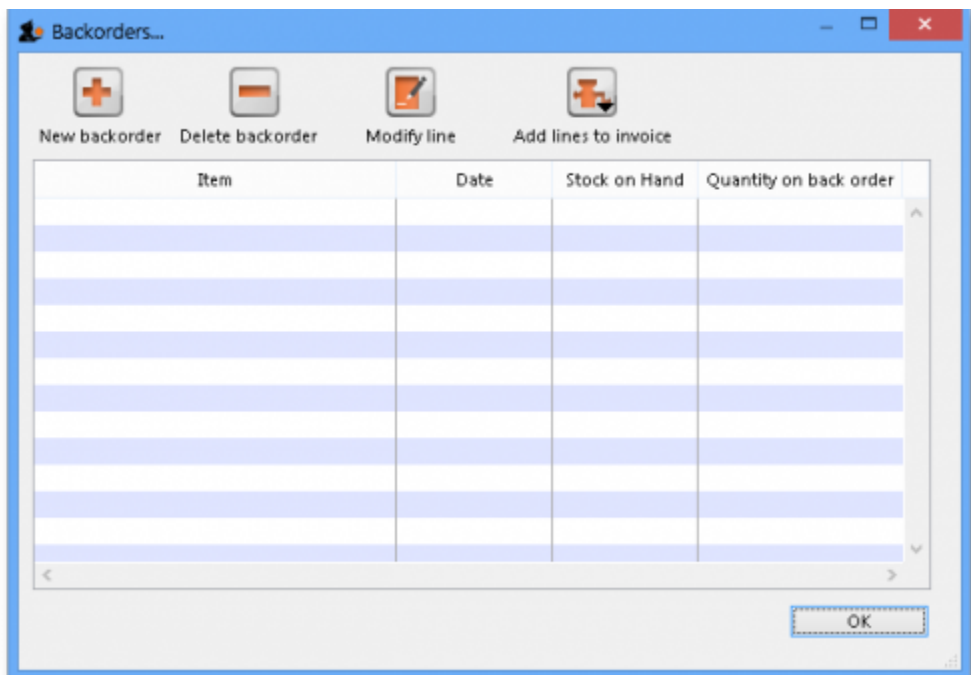
Will add a line to the invoice. This command can be used on any invoice that is not finalised. Clicking the button will present you with the window for adding a line from stock. See the section below for more details. To select a line to edit, simply double-click on it. Note that new line and edit line are disabled on finalised invoices.

Delete line(s)

Will delete a line which has been selected, and appears highlighted. Multiple lines, which do not need to be sequential, may also be selected and deleted using this button.

Backorders:

This icon is displayed only if 'We run a backorder system' is checked in the *Preferences > invoices 2* options - refer We run a backorder system. Clicking this button shows you a list of items that are on backorder for the customer you have chosen. To view the backorder list of items, you must first confirm the transaction.



Refer to Issuing Goods - Managing Customer backorders for a full coverage of the backorder topic.

History:

Clicking on this icon will display a record of all that this customer has purchased in the past. This may produce a very long list! The list appears in chronological order, but clicking on any of the column headers will sort the list according to that parameter.

Confirm:

When this button is clicked, the status of the order changes from *nw* (new) or *sg* (suggested) to *cn* (confirmed). **As soon as the invoice is confirmed, the stock on it is removed from mSupply.** Modifications may still be made to the invoice (and those changes therefore directly affect the stock in mSupply). See Confirming an invoice.

Buttons and checkboxes at the bottom of the Customer invoice window

At the bottom of the Customer invoice window, there are a series of controls.

Currency Settings

If you have customers that use a currency other than your own, currency settings provide information about the invoice in your Customers own currency.

Currency: This is the currency your customer uses. It is set in the Customer Details window of the Customer record and is displayed when you add your customer's name to the invoice.

Currency rate: Gives the exchange rate stored in mSupply.

Foreign currency total: Provides the invoice total in the currency the customer uses.

To switch on the currency feature go to drop down menu Special> Show stores... select your Store then select Preferences tab and tick the checkbox Store mode: Able to issues in foreign currency.

Hold

Checking the *Hold* checkbox prevents the Customer Invoice from being confirmed or finalized.

Finalize

Checking the *Finalize* checkbox allows you to finalize an invoice when you click the *OK* button. Only users with *Can finalize individual invoices* checked in their user permissions can check this box. Other users will be warned if they try to turn it on, and the *Finalize* checkbox will automatically uncheck.

If the *Finalize* checkbox is checked and you click the *Confirm* button, the invoice will be confirmed as well as finalised when the *OK* button is clicked, so be very careful! A finalised invoice may be viewed and/or printed, but it can not be edited.

If the *Finalize* checkbox is checked but dimmed out, it means that *File>Preferences>Invoices 2>Finalize customer invoices automatically* is checked and all confirmed invoices will be finalised whether you like it or not!

OK & Next

The *OK & Next* button saves the changes you have made and exits the window. You are given the opportunity to print if the *Print* checkbox is ticked.

Delete

The *Delete* button allows the deletion of an invoice. If the invoice has a status of 'nw' you can delete the invoice even if has lines added. If the status is 'cn' or 'sg' you will have to delete the lines manually first - refer . When an invoice has been deleted the invoice number that it was assigned will be reused.

OK

The *OK* button saves the changes you have made and exits the window. You are given the opportunity to print if the *Print* checkbox is ticked.

Printing the invoice

If the *Print* checkbox is ticked then print options will be presented when the *OK* or *OK & Next* buttons are clicked.

If the invoice status is 'nw' (new) or 'sg' (suggested), pick list options will be printable.

If the invoice status is 'cn' (confirmed) or 'fn' (finalized), invoice options will be printable.

If the option to turn on the print check box has been set under *File>Preferences>OK and print*, you can override the printing process by holding down the *Shift* key as you click *OK*, and no invoice will be printed.

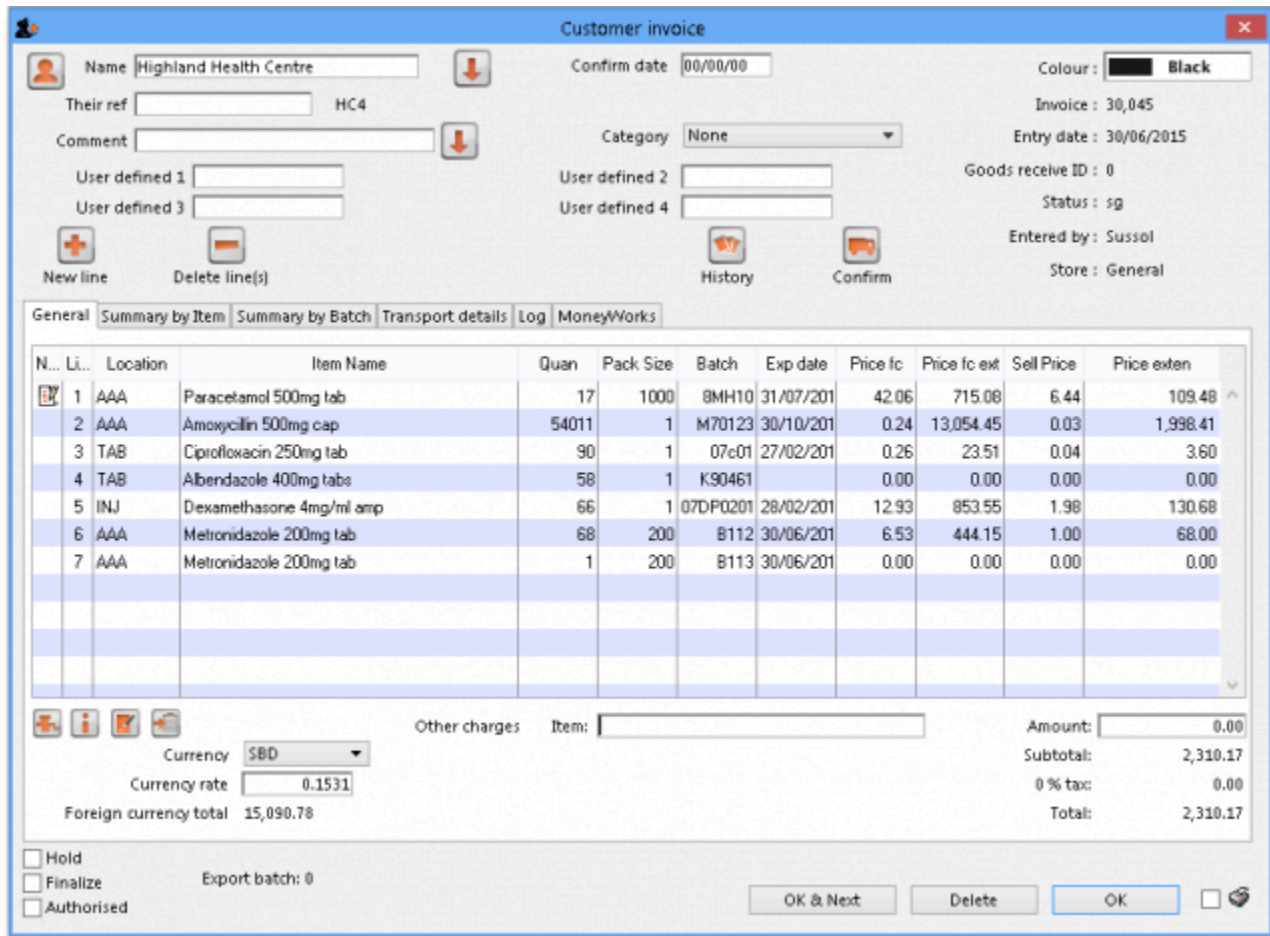
Instead of an invoice, should you wish to print a pick list for an invoice whose status is 'cn' or 'fn', hold down the *Alt* key (Windows) or the *Option* key (Mac) while clicking *OK*.

Tabs in the customer invoice window

The three tabs allow the invoice to be viewed in three different formats, but note that the lower area of the window remains the same and is available for appropriate input in all views.

General tab

Once an invoice has been created, a detailed view of the items on it may be seen by selecting this tab; where the supply of a single item is made up of different batch numbers, they will be displayed as separate lines:



Buttons in the General tab

There are a row of small icon buttons at the bottom left of the window. Hovering the mouse over each button gives a description of what it does.



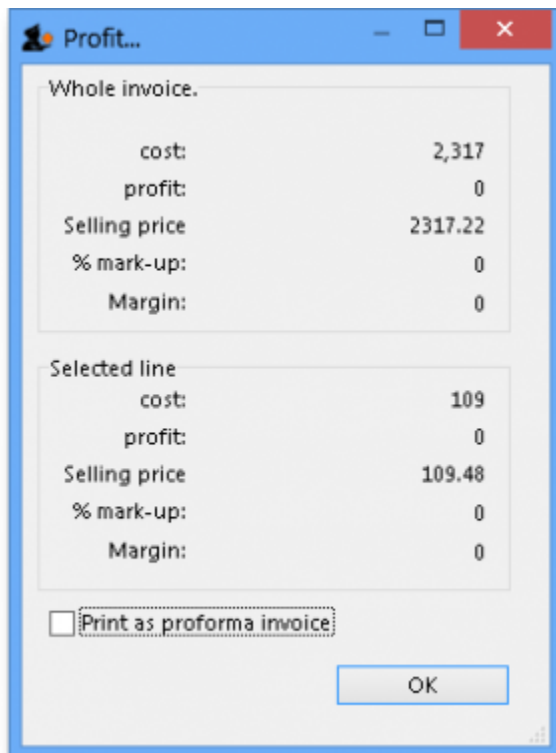
Process button (grinder icon)

Clicking this button shows a menu with the following choices:

1. **ReNUMBER lines:** will re-assign line numbers to all lines on the invoice according to their current order (you can move lines around by dragging and dropping to a new position).
2. **Issue stock for all placeholder lines:** This option will go through each placeholder line on the invoice and attempt to issue stock. Note that there are several factors that affect the success of this operation, so you should review the automatic choices mSupply makes to ensure it is appropriate. Also, note that all things being equal, the oldest expiry stock will be issued, but there are reasons to cause either no stock or a batch other than the shortest expiry to be issued, including:
 - a. Availability of sufficient stock of the line in question
 - b. Pack sizes that fit with the quantity/pack on the placeholder line

Financial summary

Clicking this button shows you a summary of the cost and selling price information for the invoice.



If you check the *Print as Pro-forma invoice* checkbox in this window, rather than printing a pick slip, a pro-forma invoice will be printed, allowing you to give a paying client a form showing expected charges.

Transaction note

Allows you to make a note relating to this invoice.

Copy to clipboard

Copies the entire invoice to the clipboard.

Summary by Item tab

The Summary by Item tab displays the items on the invoice, consolidating different batch numbers and displaying the total quantities for each item only; the invoice above appears in the following format when the Summary by Item tab is selected.

Customer invoice

Name: Highland Health Centre Confirm date: 00/00/00 Colour: Black

Their ref: HC4 Invoice: 30,045

Comment: Category: None Entry date: 30/06/2015

User defined 1: User defined 2: Goods receive ID: 0

User defined 3: User defined 4: Status: sg

Entered by: Sussol

Store: General

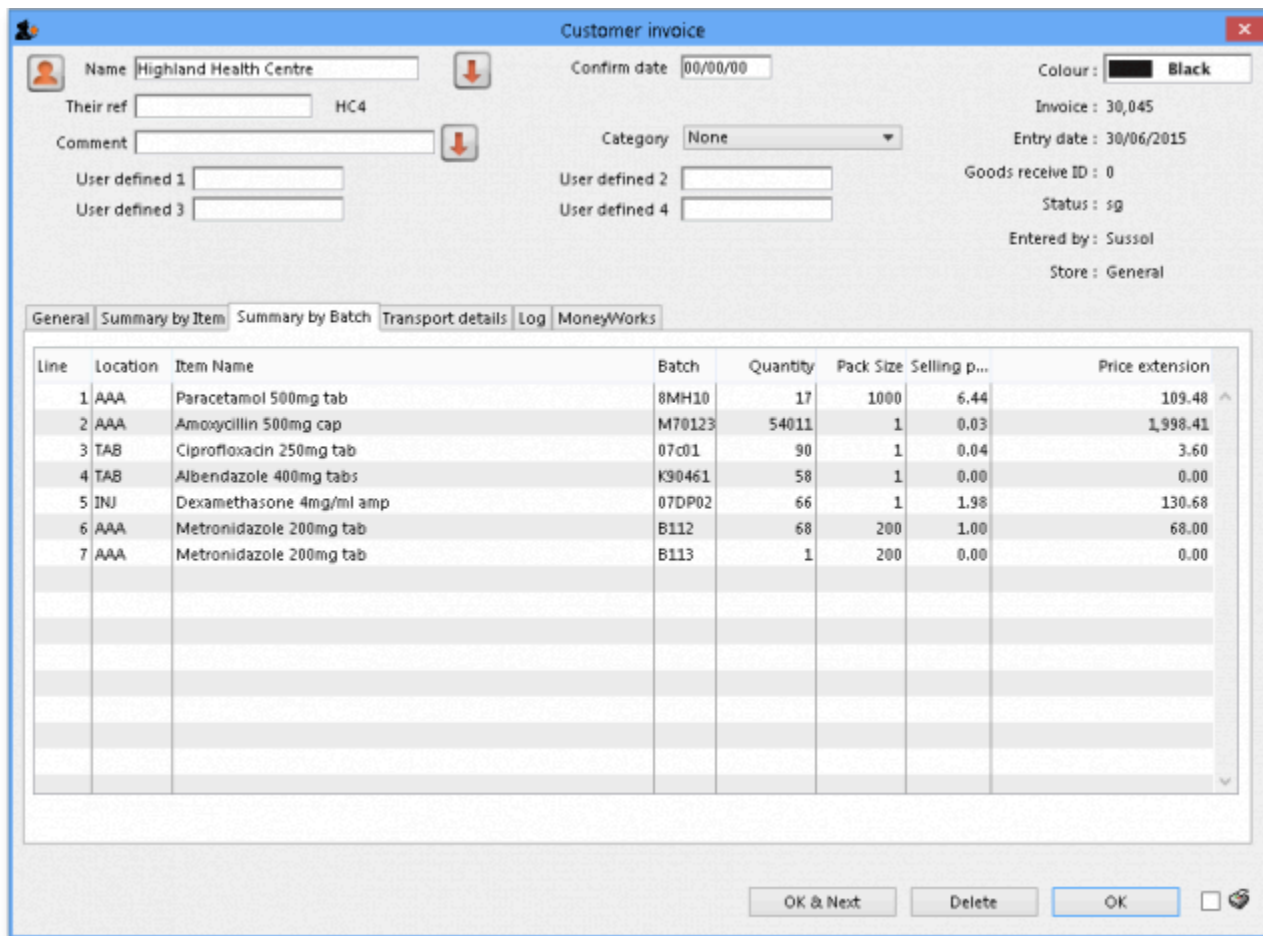
General | Summary by Item | Summary by Batch | Transport details | Log | MoneyWorks

Line	Item Name	Batch	Quantity	Selling p...	Price extension
1	Paracetamol 500mg tab	n/a	17000	0.00	109.48
2	Amoxicillin 500mg cap	n/a	54011	0.03	1,998.41
3	Ciprofloxacin 250mg tab	n/a	90	0.04	3.60
4	Albendazole 400mg tabs	n/a	58	0.00	0.00
5	Dexamethasone 4mg/ml amp	n/a	66	1.98	130.68
6	Metronidazole 200mg tab	n/a	13800	0.00	68.00

OK & Next Delete OK

Summary by Batch tab

The Summary by Batch tab displays the items differentiating between batches, and showing a breakdown where more than one batch has been supplied on the order. The above invoice appears in the following format when the Summary by Batch tab is selected; note that two different batches of metronidazole tablets were supplied.



Transport Details tab

Selecting this tab displays the following window:

Customer invoice

Name: Highland Health Centre Confirm date: 00/00/00 Colour: Black

Their ref: HC4 Invoice: 30,045

Comment: Category: None Entry date: 30/06/2015

User defined 1: User defined 2: Goods receive ID: 0

User defined 3: User defined 4: Status: sg

Entered by: Sussol

Store: General

General Summary by Item Summary by Batch Transport details Log MoneyWorks

Order written date: 31/03/15 Order received date: 30/04/15 Ship date: 31/05/15 Ship method: None

Expected arrival date: 30/06/15 Actual arrival date: 31/07/15 Responsible officer: None

Manage boxes Box selected Unbox

Line	Location	Item Name	Quan	Pack Size	Batch	Weight	Exp date	Sell Price	Boxes
1	AAA	Paracetamol 500mg tab	17	1000	8MH10	0	31/07/2012	6.44	
2	AAA	Amoxicillin 500mg cap	54011	1	M70123	0	30/10/2010	0.03	
3	TAB	Ciprofloxacin 250mg tab	90	1	07c01	0	27/02/2010	0.04	
4	TAB	Albendazole 400mg tabs	58	1	K90461	0		0.00	
5	INJ	Dexamethasone 4mg/ml amp	66	1	07DP0201	0	28/02/2010	1.98	
6	AAA	Metronidazole 200mg tab	68	200	B112	0	30/06/2012	1.00	
7	AAA	Metronidazole 200mg tab	1	200	B113	0	30/06/2012	0.00	

Total Item Weight 0

Print labels OK & Next Delete OK

Here you can add information about the method of transportation and other related information.

Order Tracking data

The five date boxes enable you to track your order from it being generated (written) to the customer confirming receipt of it (actual arrival date). The five date fields are:

- **Order written date:** The date the customer wrote the order (this will usually be on their requisition form).
- **Order received date:** The date the customer's order was received by you
- **Order shipped date:** The date the order left your store
- **Expected arrival date:** Given the shipping method you're using, when you expect the goods to arrive at the customer's premises.
- **Actual arrival date:** The date the goods reached the customer you are supplying. Obviously you will only know this if they report the information back to you (e.g. via SMS message)

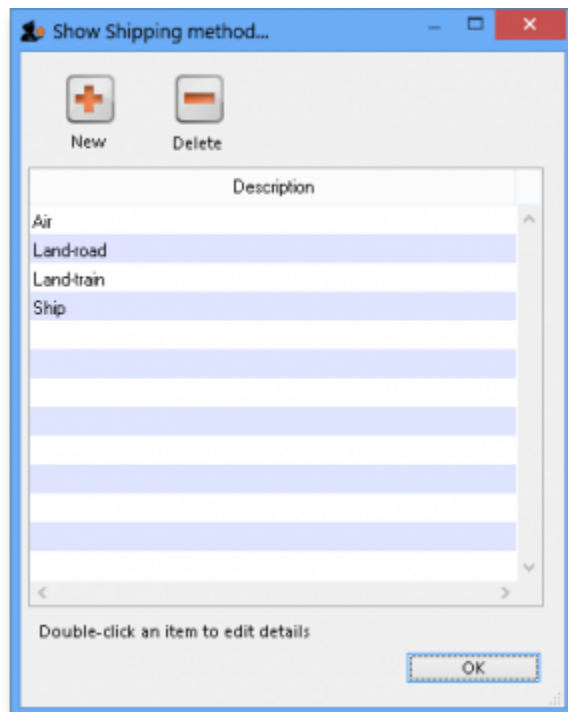
If you use these date fields, it allows reporting using the Transaction Report using the report form *Order Processing time*. Sometimes it is necessary to edit these dates after finalisation of a customer invoice so there is a special permission for users to allow them to do this (on the User details page, *Permissions 2 tab* - see Managing users, the Permissions tabs for details).

You can make the *Order written date* and *Order received date* fields compulsory in *File > Preferences, Invoices 2 tab* as explained in *Invoices preferences*

You can add a *Shipped to* contact name if you select *Choose contact for transport details* in *File > Preferences, Invoices 2* tab as explained in Invoices preferences

Shipping method

The list of options in the **Ship method** drop down list is set by choosing **Customer > Show shipping methods...**, when you are shown a window with a list of existing shipping methods:



To enter a new method, click the **New** button. To edit an existing method, double-click the item in the list and edit its details. To delete a method, click on it in the list to select it then click on the **Delete** button. You will not be able to delete a shipping method if it is being used by a customer invoice.

Responsible officer

The choice list for Responsible officers is a list of mSupply users for whom the “Can be responsible officer” check box has been checked. Choose *File>Edit users...*, then double-click a User Name to set up each user as a responsible officer (or remove them from the responsible officer list)

If you enter information here, you can report on performance of your transport operations in various ways using the *Report>Transport Report...*

Box Management and label printing

The Box Management feature is used to tell mSupply which items were put in which 'box' or container for transporting to your customer. This has a few advantages:

- You can print labels from mSupply to stick on each box (either from a label printer or a normal A4 paper printer - see the section below for details).
- You can create (automatically or manually) weight and volume information which can be printed on the packing list or passed to your freight handlers.

- It tells the customer what's in each box to help their goods-inwards processing.

For details about how to use this feature, please see Box management.

This is an example of a box label printed from a normal A4 paper printer:

Highland Medical Hospital			
Package Label			
Shipper		Consignee	
Highland Medical Hospital		Facility: Highland Health Centre To be received by: David Title: Director of Pharmacy Email: Phone: Name of Sub Recipient: Additional information (if needed):	
BOX NO: Carton A (1 of 1)			
Invoice Number: 30046		Weight (kg): 0	Volume (m3): 0
PHARMACEUTICAL & OTHER ITEMS Store the product according to Manufacturer Storage instructions			

Log tab

The log tab displays changes to the invoice that have been logged. Details of all logged activities are record in the mSupply Log (http://docs.msupply.org.nz/admin:the_log).

MoneyWorks tab

If you are using the Moneyworks accounting software then the link between mSupply and Moneyworks will need to be enabled in *File>Preferences>Moneyworks* - refer General Preferences - Moneyworks. If this option has not been enabled, then the Moneyworks tab will not be visible.

The Moneyworks tab will show the status of the invoices inside Moneyworks accounting software once mSupply has carried out an export.

Adding lines to an invoice

Clicking *New line* will bring up the *Add Item...* window:

Finding the Item you want

The first thing to enter is the Item Name or Item Code in the *Item* field. Type as much of the Item Name as you know, then press *Tab*. mSupply searches for all Items whose Name or Code starts with the text you have typed.

By default Items with a Code starting with a tilde (~) are not shown. This is a great way preventing a user selecting an item that shouldn't be used when it can't be deleted or hidden in a store - put a tilde character at the beginning of its code.

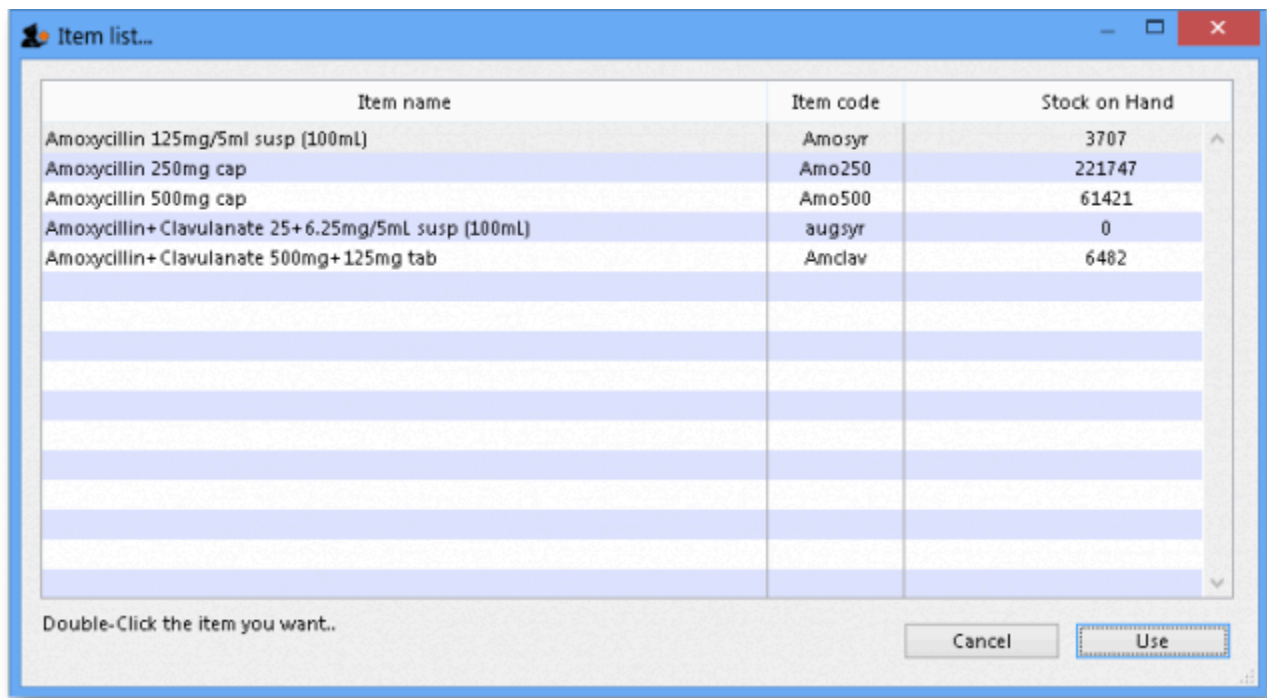
If no entries match the request, the *Item* field will read 'try again'. You can try as many times as you like! If you conclude that the Item you want does not exist in your system, click *New item* to add the Item.

Caution should be exercised before adding a new Item to your mSupply system. Duplicate items cause problems. Ensure that the item you are looking for does not already exist in your system and is hidden in the store you are logged into or is under a different Item Name and Item Code.

If only one Item matches your request, it will be chosen automatically and you will be returned to the *Add item...* window with that Item already selected.

If your mSupply system has been set up with unique Item Codes for each Item, then the experienced user will find that typing in the full Item Code here will save mouse clicks and/or key presses.

If more than one Item matches your request, all of them will be displayed.



If the wanted Item is visible, double-click on it or click on it once and then click *Use*.

If the wanted Item is not visible, click *Cancel* to try again to find it.

Selecting from Item Lines

Once the item you want has been selected, the *Add item...* window will display a list of available Item Lines (if any). Each Item Line may be a different pack size, batch, expiry, or price. The Item Lines are sorted by expiry date; first expiry at the top.

Add item...

Item: Metronidazole 200mg tab Metro2 New item

Line:

Quan: of 468

Pack: each Bulk/Outer pack size: 0

Li..	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Donor	Location	Cost Price	Sell price	Sell
1	0	791	5381	1	<input type="checkbox"/>	MOTH005	27/02/2011	invad		TAB	0.00	0.00	^
2	0	28	28	1000	<input type="checkbox"/>	MOTH005	28/02/2011	invad		AAA	0.00	0.00	
3	68	468	468	200	<input type="checkbox"/>	B112	30/06/2011	invad		AAA	1.00	1.00	
4	1	101	101	200	<input type="checkbox"/>	B113	30/06/2011	invad		AAA	0.00	0.00	v

Total quantity issued: 13800
Total quantity available: 142581

The lines are numbered in the left hand column and arranged in FEFO order (first expiring line at the top). The first line (the first expiring one) is selected by default but you can choose another line in one of three ways:

- Type the line number into the *Line* field and press *Tab*. The cursor moves to the *Quan* field.
- Double-click on the line in the list. That line number is displayed in the *Line* field and the cursor moves to the *Quan* field.
- Single-click on the line in the list. Clicking again in the *Issue* column will allow you to directly edit the issue amount in the list - see following.

Once you have chosen your line, the number of packs available will be shown to the right of the *Quan* field, the *Pack* size will be shown in the *Pack* field, and the total quantity to be issued will be shown below the list of lines.

In the *Quan* field, you can enter any number greater than zero.

Note: if you need to see the full details of the item itself, click on the down arrow icon () to the right of the item name field and you will be taken to the item's details window.

The number entered in the *Quan* field is the number of **packs**. The pack size of the currently selected line will be used to calculate the total quantity of units issued - which is shown below the list of lines.

Issuing from a single line

If the number entered in the *Quan* field is less than or equal to the number available for the selected line, then that value will be shown in the *Issue* column in the list.

Click *OK* to return to the main invoice screen, or *OK & Next* to add another Item.

Issuing from multiple lines

If the amount to be issued is greater than what the top line can issue, then you can issue from multiple lines without leaving the window. There is an automatic and a manual way of doing this.

Manually issuing from multiple lines

For each item line that stock is to be issued from:

1. Click once on the list to select the line
2. Click again in the *Issue* column
3. Enter / edit the issue amount in the *Issue* column

The *Tab* / *Shift-Tab* keys move the focus up and down the *Issue* column.

The Total quantity issued is updated at the bottom of the *Add Item...* window.

Automatically issuing from multiple lines

If the amount to be issued is greater than what the top line can issue, mSupply can automatically select stock from multiple lines on a FEFO basis. To allow mSupply to do this, simply enter the total quantity you wish to issue into the *Quan* field.

The screenshot shows the 'edit line' window with the following details:

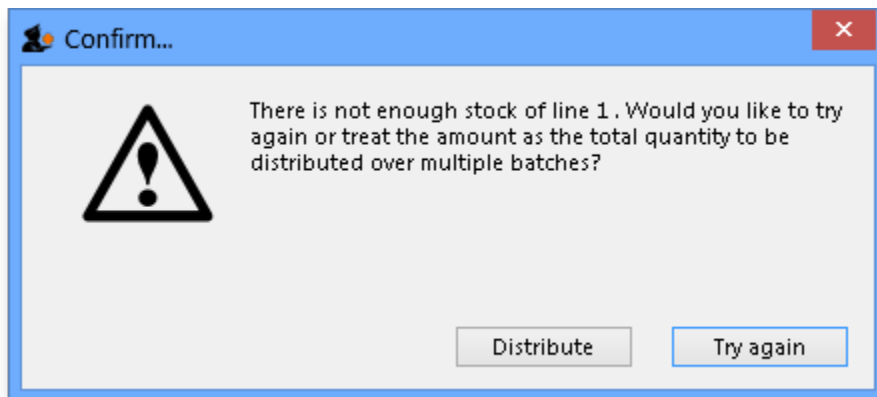
- Item: Paracetamol 500mg tab
- Line: 2
- Quan: 17 of 77
- Pack: 1000 each
- Bulk/Outer pack size: 0

Li..	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Donor	Location	Cost Price	Sell price	Sell
1	0	581740	601540	1	<input type="checkbox"/>	8MH10	30/07/2012	ida		TAB	0.01	0.01	
2	17	77	77	1000	<input type="checkbox"/>	8MH10	31/07/2012	ida		AAA	6.44	6.44	

Summary at the bottom:

- Total quantity issued: 17000
- Total quantity available: 658740

If the quantity typed in the *Quan* field is more than there is available for the selected line, and the *Tab* key is pressed to leave the *Quan* field, this message is displayed:



If you accidentally entered more than you intended, click *Try again*, otherwise click the *Distribute* button.

Issuing when there is not enough stock

If the amount to be issued is greater than the total stock available from all of the available lines, then a placeholder line may be used, if your mSupply preferences allow.

Placeholder lines

If there are no lines available, or none of the lines are suitable (for example, this order needed strip packaged stock, and the available lines are all bulk packs), then you can add a *placeholder line* that will record the desired quantity and pack size until either you get stock, or go to confirm the order, at which time the item will be either moved to backorder or deleted (depending on how you have set your Preferences).

A Placeholder line can be added manually or automatically.

Manually adding a placeholder line

A Placeholder line can be added by clicking the *Add Place holder* button.

As shown in the window displayed below, placeholder lines are coloured in red and have a batch of “none” so you can easily identify them.

The screenshot shows the 'Add item...' dialog box. At the top, the item is 'Amoxicillin 500mg cap' with a dropdown showing 'Amo500'. The 'Line' field is '1' and 'Quan' is '45989 of 0'. Below are 'Pack' and 'Bulk/Outer pack size' fields. There are two buttons: 'Add Place holder' and 'Re-distribute all'. A table displays the following data:

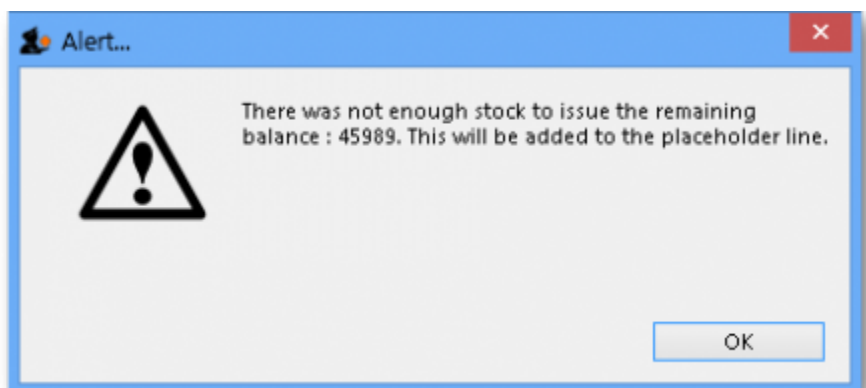
Li...	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Donor	Location	Cost Price	Sell price	Sell
1	45989	0	0	1	<input type="checkbox"/>	none					0.00	0.00	
2	54011	54011	61421	1	<input type="checkbox"/>	M70123	30/10/2010			AAA	0.03	0.03	

At the bottom, a summary shows 'Total quantity issued: 100000' and 'Total quantity available: 54011'. Buttons for 'Cancel', 'OK', and 'OK & Next' are at the bottom right.

The quantity to be issued in the placeholder line is entered in the same way as any other Item Line - refer

Automatically adding a placeholder line

If the number entered in the *Quan* field is greater than the total stock available from all of the available lines, then mSupply will prompt you with an Alert:



After clicking OK, all existing stock lines will have the *Issue* column populated with the total quantity available for each line, and a placeholder line will be created with the outstanding quantity inserted in the *Issue* column.

If you have allowed placeholder lines in the Preferences, and you choose an item that has no available stock, a placeholder line will be created automatically.

Confirming an invoice with placeholder lines

When confirming an invoice that has placeholder lines, the following actions will occur:

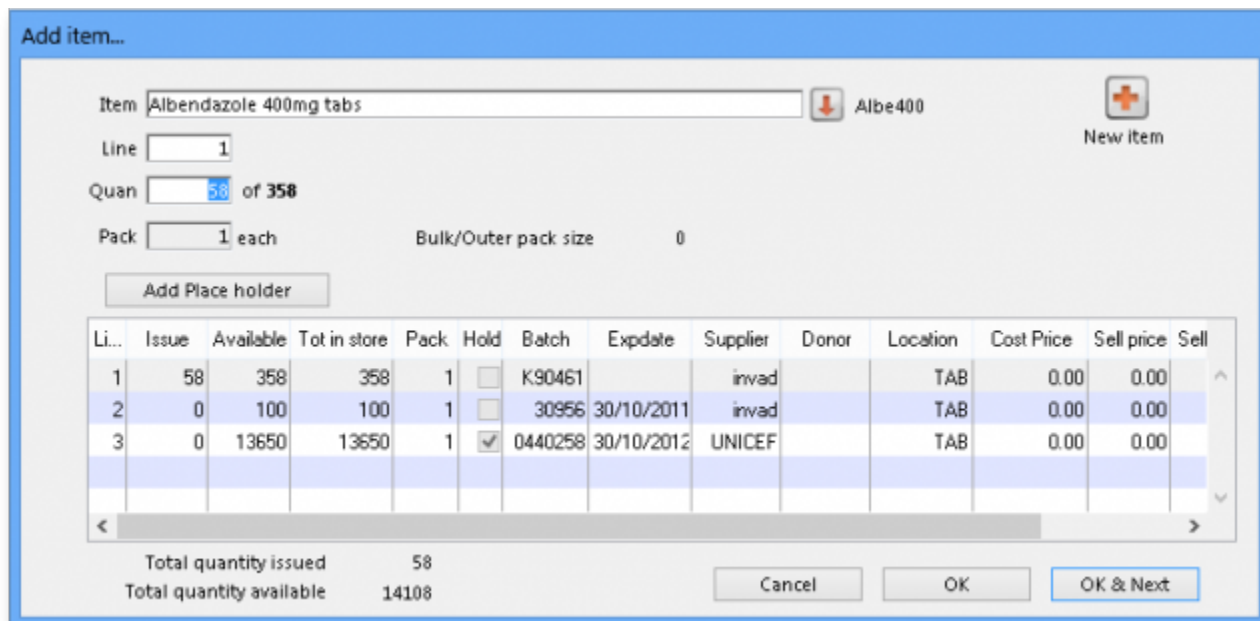
- If you have activated backorders, a backorder line will be created for each placeholder line.
- If you have set the Preferences to delete placeholder lines when confirming, they will be deleted, otherwise they will remain on the invoice to show the client that their order was received, but the goods were not supplied.

Issuing all available stock of a batch

Sometimes you might end up with an unusual available amount of a particular batch. Due to the fact that mSupply rounds the available quantity, it may be hard to enter the exact amount to completely issue the batch. In such situations you can issue the total amount available by holding down the shift key while you double-click a line. This will issue the total available amount of that batch.

Lines on Hold

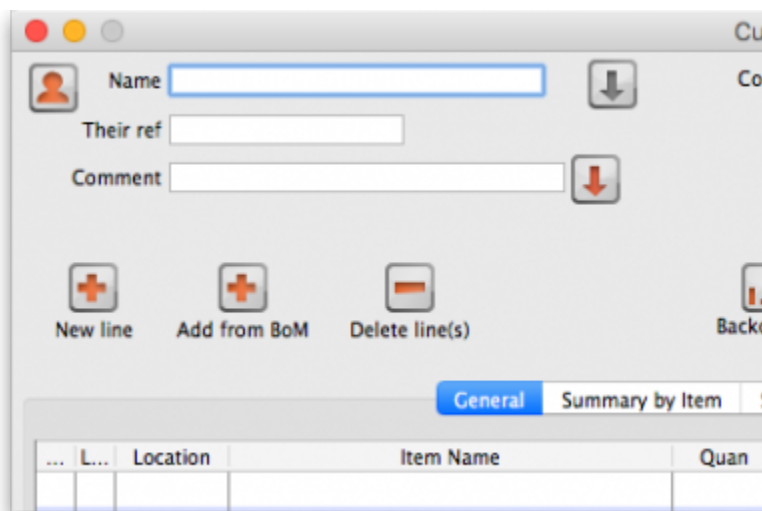
Sometimes an Item, batch or location might be on hold. If the entire item is on hold you will not be able to add the item to your invoice form but if a batch or a specific location is on hold you will see the item appear on your invoice form with the hold column ticked for each batch or location held. Held lines cannot be issued. If there are no lines that are not held with sufficient quantities to fulfill the invoice then a placeholder line will be created.



You can tell whether it is a particular batch or a particular location on hold by double clicking on the line in question.

Adding lines from a Bill of materials

If the “Show 'Add from BoM' button” preference is turned on (see here for details) there will be an additional *Add from BoM* button on the customer invoice form:



When you click this button it shows you a list of all the Bills of Material that exist in mSupply. Select one of those then mSupply will add all the items on that bill of materials (with the quantities they have on the bill of materials) onto the customer invoice as placeholder lines. You can then assign stock to the placeholder lines in the normal way (see, for example, Editing a placeholder line on an invoice below).

See the Bill of materials section for details about creating and using bills of material.

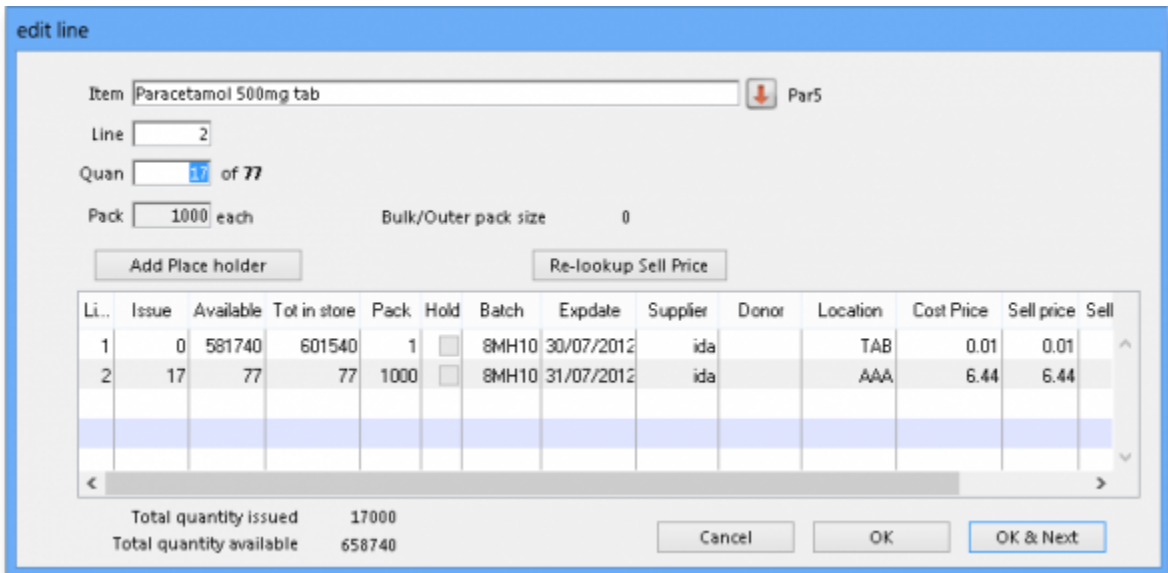
Editing an invoice line

To edit an invoice line, double-click on it. You will be presented with the *Edit line* window, which is identical to the *New line...* window, except that the item name is already chosen.

In the *Edit line* window the quantity you have already chosen is added back into the *Available* stock column. You are viewing the stock records as if the line has not yet been processed.

Similarly, any other invoice lines for the same item are also shown in the same way; the *Issue* column is filled out with the the amount being issued from each batch on the invoice and the *Available* column **includes** the Issue amount.

For example, in the window below, there are three lines on the invoice for different batches of paracetamol, and all three are shown when editing, irrespective of which of the three lines was double-clicked.



At this stage you can:

- Edit the *Issue* value for the selected line item, or change the value in the *Quan* field
- Select a different item line (that is, a different batch) and edit it's *Quan* or *Issue* value.
- Click in the item name field, and select an entirely different item!

Selecting a different item has the following effects

- If you proceed to issue the new item, all invoice lines for item you were editing will be deleted, and invoice lines will be added for batches being issued of the new item.
- If you choose a new item for which there is already an invoice line(s) on the invoice, the stock to be issued on those lines will be shown in the "issue" column. If you proceed you are effectively editing the quantities of the item you have just selected, and you are deleting all invoices lines of the item that was originally on the invoice.

Changing the batch to be issued

If you want to choose a different batch for an existing invoice line:

- double-click the invoice line
- set the quantity of the batch you don't want to zero,
- double-click the batch you do want, and enter the quantity you want to issue.
- Note that if possible the new batch will be added to the invoice at the bottom of the other lines, and the former invoice line will be deleted. You can use drag and drop to reorder invoice lines if this is a problem.

Editing a placeholder line on an invoice

When you double-click a placeholder line, an extra button is displayed:

Li..	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Donor	Location	Cost Price	Sell price	Sell
1	45989	0	0	1	<input type="checkbox"/>	none					0.00	0.00	
2	54011	54011	61421	1	<input type="checkbox"/>	M70123	30/10/2010			AAA	0.03	0.03	

Total quantity issued: 100000
Total quantity available: 54011

The Redistribute all button takes the quantity on placeholder lines and re-assigns it to actual batches in stock.

When you are not editing a placeholder line, the button is not visible.

Deleting a line from an invoice

- If the line is a placeholder line, you can simply click the line you wish to delete, then click the delete line button.
- If the line is a normal invoice line (with stock associated with it), double-click on the invoice line. In the line details window that appears, press Tab to advance to the quantity field, enter 0 (zero), then click OK. You will be asked to confirm that you really want to delete the line.

Note : Once an invoice that has been finalised, you can not remove an item from it.

Reordering invoice lines

Invoice lines can also be reordered by drag-and-drop of a line to a new location. This can be useful to group lines for the same item.

If the invoice lines are currently sorted by line number the renumbering will happen, otherwise you will be shown an alert message.

If you really want to reorder lines when sorted by a different column, hold down the shift key as you drag-and-drop to override the message.

Note that reordering can not be undone, apart from you manually dragging lines back to their original location.

- Lines in most mSupply forms can be sorted according to any column by clicking on the heading of the column that you want to sort by.
- To make any sort order 'stick' when it is printed, you will need to renumber the lines - refer above.
- A common desired sort order for a pick slip is to sort lines by Location, so that when a pick slip is printed, the picker can work their way through the store systematically by Location. In fact, this is such a popular feature, we have set a printing preference so that it will happen automatically without needing to manually sort the list - refer Printing Preferences 😊.

Confirming an invoice

Note: if you have “confirm invoices automatically” set in the Preferences, the confirm invoice button will be hidden, and this option will not be applicable.

- Confirming an invoice should be done when the goods have left the store (or have been packed ready for dispatch).
- The confirm button is only available for invoices with status “sg” (suggested).
- Each item line records two stock levels- the quantity is the total stock on the premises. the available amount is what can be issued on an invoice. See the section below for a fuller explanation.
- For example:
- You get an order for 3 bottles from Fred, and create an invoice for Fred. The quantity is still 10, but quantity available drops to 7, as these 3 bottles can't be issued to someone else.
- You are about to dispatch the order. At this point you confirm the order. The quantity and the available amounts are now both 7.
- In summary, the *confirm* button does the following:
- Each line has its quantity in stock reduced by the amount issued on that line
- It changes the order status to “cn”
- If you are running a backorder system, it deletes any placeholder lines (those with a batch entry of “none”) and adds them to that customer's backorder file. Otherwise the line is simply deleted. Once an invoice is confirmed you will be asked if you now want to print an invoice.

If you have the store preferences set to force customer invoice authorisation, you will not be able to confirm customer invoices until they have been authorised. See here for details.

Printing an invoice: picking slips and delivery notes

You can print an invoice at any time by checking the print icon checkbox (next to the **OK button**) and clicking the **OK button**:

Customer invoice

Name: Highland Health Centre
 Their ref: HC4
 Comment: [empty]
 User defined 1: [empty]
 User defined 2: [empty]
 User defined 3: [empty]
 User defined 4: [empty]

Confirm date: 00/00/00
 Category: None
 Goods receive ID: 0
 Status: sg
 Entered by: Sussol
 Store: General

N...	Li...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Price fc	Price fc ext	Sell Price	Price exten
1	AAA		Paracetamol 500mg tab	17	1000	9MH10	31/07/201	42.06	715.08	6.44	109.48
2	AAA		Amoxycillin 500mg cap	54011	1	M70123	30/10/201	0.24	13,054.45	0.03	1,998.41
3	TAB		Ciprofloxacin 250mg tab	90	1	07c01	27/02/201	0.26	23.51	0.04	3.60
4	TAB		Albendazole 400mg tabs	58	1	K90461		0.00	0.00	0.00	0.00
5	INJ		Dexamethasone 4mg/ml amp	66	1	07DP0201	28/02/201	12.93	853.55	1.98	130.68
6	AAA		Metronidazole 200mg tab	68	200	B112	30/06/201	6.53	444.15	1.00	68.00
7	AAA		Metronidazole 200mg tab	1	200	B113	30/06/201	0.00	0.00	0.00	0.00

Other charges: Item: [empty] Amount: 0.00
 Subtotal: 2,310.17
 0% tax: 0.00
 Total: 2,310.17

Currency: SBD
 Currency rate: 0.1531
 Foreign currency total: 15,090.78

Buttons: OK & Next, Delete, OK, [Printer icon]

But note: you print different things depending on what status the invoice has:

- If the invoice is suggested (sg) then a picking slip is printed.
- If the invoice is confirmed (cn) or finalised (fn) then a customer invoice or delivery note is printed.

In either case, after clicking the **OK** button, you are shown the print options window:

Printing options...

Form to use: Delivery note with logo

Message: [empty text area]

Destination:

- Printer
- Preview
- PDF file on disk
- Email PDF
- Export to Excel

Buttons: Cancel, OK

The **Form to use** drop down list contains all the options for the format of the print out you will get. All the standard mSupply options will be here, as well as any custom forms we have created for you.

If the form you selected to use wasn't the one offered by default and you want to set it to be the default from now on (beware, this will set it for everyone!) then check the **Remember this choice** checkbox before you click on the **OK** button.

If you want to print dispatch labels to go on each box then check the **Print dispatch labels** checkbox. This will print labels on 100x150mm labels on a label printer, not the usual A4 paper printer you print the picking slips and delivery notes with so you must have configured that in mSupply first - see Printing preferences (setup) for details on how to do this. If you only want to print the dispatch labels and not a delivery note then select the *None* option in the **Form to use** drop down list.

The print **Destination** options:

- **Printer:** the invoice will be printed out straight away.
- **Preview:** a preview of what the invoice will look like when it is printed will be displayed in your installed PDF file reader. You might be able to print the invoice from the PDF reader, depending on its features.
- **PDF file on disk:** the invoice will be saved to disk in PDF format.
- **Email PDF:** the invoice will be created as a PDF file and attached to an email for you to send. You can double-click the email attachment to see a preview of the invoice. The email preferences in *File > Preferences* should be setup correctly before using this feature.
- **Export to Excel:** the invoice will be exported as a spreadsheet file and opened for you (provided you have a spreadsheet application installed).

The general process for distributing your goods should be this:

1. Create the customer invoice (new or suggested status).
2. Print the picking slip and give it to the staff who will pick the goods off the shelves.
3. As the goods are picked, note down any discrepancies between what was actually picked and what was on the picking slip.
4. When the pick is complete, enter any changes into the customer invoice in mSupply (Note that inventory adjustments or location adjustments of stock may be needed to correct issues found by the pickers). This step is very important to make sure your stock remains accurate in mSupply.
5. Confirm the customer invoice when it matches exactly what was picked.
6. Print the invoice again - this time a delivery note is printed.
7. Send off your goods with the delivery note!

A note about picking order on picking slips

You can print picking slips by item name in alphabetical order (the default) or, if this does not match the way goods are stored in your warehouse, you can change the order to make the top-to-bottom picking order more efficient. Use location priority (see Locations and location types) and the printing preferences (see Printing preferences) to achieve almost any order you want to match the most efficient way of picking in your warehouse.

Entering a service line on an invoice

All “normal” customer invoice lines represent the issue of stock lines to a customer. (These lines appear in the large section in the middle of the “Customer invoice” window).

mSupply also allows you to charge a customer for “service” item(s) such as freight, or advice or a refundable deposit on a cool box.

Enter the description and amount at any time until the invoice is finalised.

Note: the “subtotal” amount on the invoice includes any service charges, and tax (if any) will be added to the amount you enter.

Editing tax on invoices

The tax rate on an invoice is determined by the “default tax rate” setting in the mSupply Preferences.

To edit the tax rate on an invoice, click on the tax rate box at the bottom of the invoice entry window. You will be asked to enter a new percentage tax rate. Click the *cancel* button if you do not want to change the tax rate.

Note: you can not change the tax rate on finalised invoices.

Invoice from supplier invoice

Choosing this command from the *Customer* menu allows you to take a supplier invoice and directly make a customer invoice.

It is useful for goods that are delivered directly from a supplier to a client, but are charged through your organisation.

You will be asked to enter the supplier invoice number and the customer code for the invoice to be created, so have this information ready.

When finished, a customer invoice with suggested status is created.

If any lines from the supplier invoice have been issued already, you will be alerted and only the available balance will be added to the customer invoice.

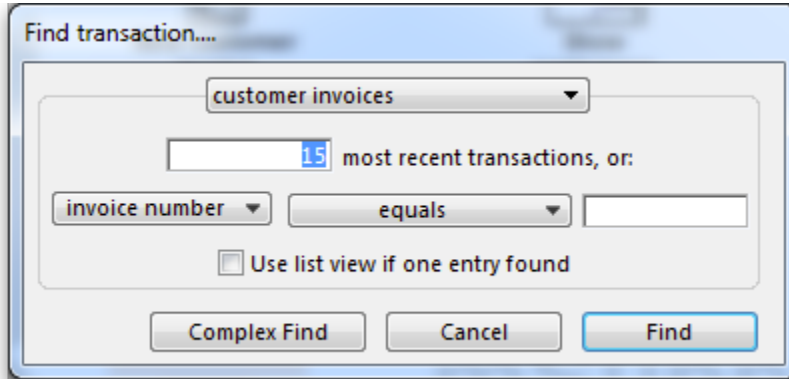
Previous: Doners Next: Viewing Customer Invoices

Viewing customer invoices

To view or edit any customer invoice, choose *Customer>Show invoices*

The Find Transactions window

You will be presented with this window where you can enter a number.



If you enter:	Transaction(s) Displayed
1	You will be taken directly to the most recent invoice entered
25	A list of the 25 most recent invoices
123 in the lower box	Invoice number 123 will be displayed.
Click the Complex Find button	The query editor will be displayed, where you can enter a more detailed query.

The list invoices window uses the *Transactions list* form, which looks like this:

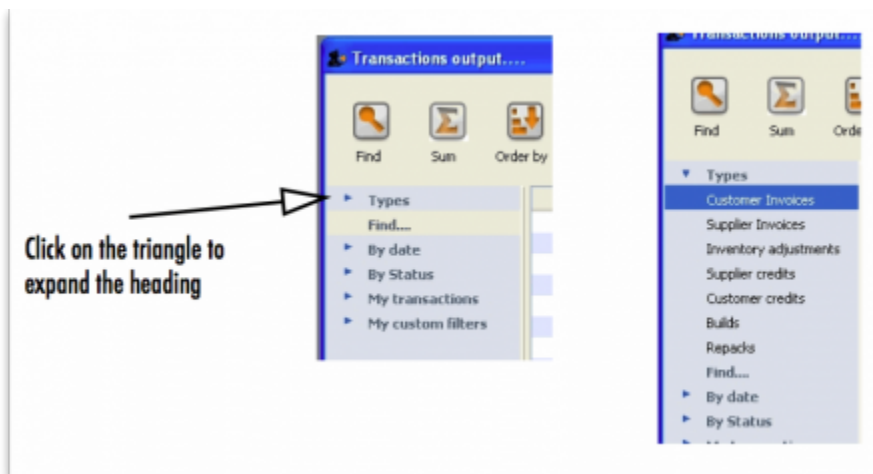
Name	Type	St...	Entered	Confirmed	Inv...	Total	Their ref	PS pri...	Comment	Exp batch
Rural clinic	ci	In	08/02/11	08/02/11	53	0	SP 52			0
Urban clinic	ci	In	08/02/11	08/02/11	54	0			Backorder fulfilr	0
Rural clinic	ci	In	08/02/11	08/02/11	55	0			Backorder fulfilr	0
Pharmacy	ci	In	08/02/11	08/02/11	56	0	MD 05/2			0
Rural clinic	ci	In	08/02/11	08/02/11	57	0	S 26			0
Medical Care	ci	In	08/02/11	08/02/11	58	0	PCY21			0
Urban clinic	ci	In	08/02/11	08/02/11	59	0	MR 3			0
Urban clinic	ci	In	08/02/11	08/02/11	60	675			Backorder fulfilr	0
Urban clinic	ci	In	08/02/11	08/02/11	62	0				0
Urban clinic	ci	In	08/02/11	08/02/11	63	675				0
Urban clinic	ci	In	08/02/11	08/02/11	64	0				0
Rural clinic	ci	In	08/02/11	08/02/11	65	0				0
Rural clinic	ci	In	08/02/11	08/02/11	66	0				0
Rural clinic	ci	rw	08/02/11		67	0				0
Hazardous item Store	ci	In	10/02/11	10/02/11	68	180				0

Note. All of the columns may be adjusted in width to meet your requirements; for the screenshot above to fit on the page, most of the columns were reduced in width.

Down the left side is a sidebar, with 5 headings:

1. Type
2. By date
3. By status
4. My transactions
5. My custom filters.

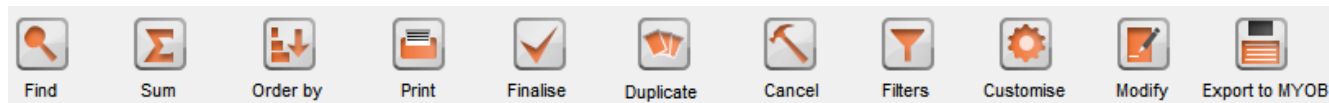
Clicking on the small triangle to the left of each heading will expand it and display the options available. In the graphic below, the **Types** heading has been expanded to display the available options



Once the type of transaction has been selected, it remains selected while you further define the required criterion from one of the four remaining headings, *By date*, *By status*, etc. Be aware that a single criterion only from this group of 4 headings may be selected.

At the bottom left of the window you'll notice there are 3 numbers separated by slashes- "1/15/67" in the example above. These numbers, in order, are the number of highlighted rows, the number of found rows, and the total number of transactions in the database.

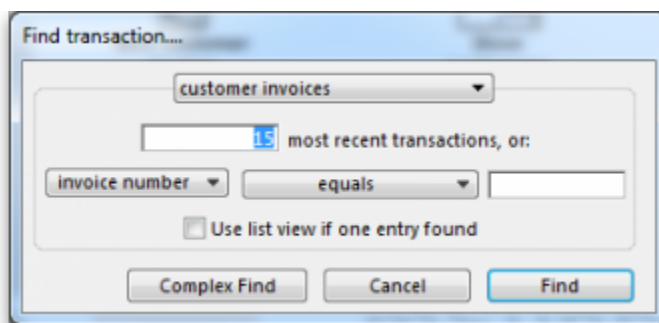
Along the top of the window are these buttons:



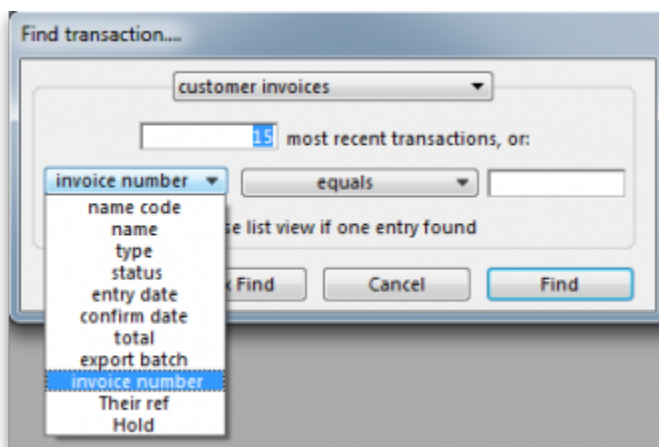
Their functions are:

Find

Click on this button to recall the *Find Transactions* window, where several options are available.



Click on the drop down list on the left to display the options available for determining which field to query:



Choose the comparison from the next drop down list (*equals*, *starts with*, etc)

The comparison popup menu will change depending on the type of field you have chosen in the first list.

This window is very useful for quickly finding a group of invoices.

If you want to query on multiple criteria, click on the *Complex Find* button, which takes you to the Query Editor, which has powerful features to perform queries with multiple conditions. Detailed guidelines for using the Query Editor are to be found in *Working with lists*

Sum

Click on this button to display the total value of the highlighted invoices. Highlight more than one invoice by control - clicking (Mac: command-clicking) invoices. Highlight a block of invoices by clicking on the first invoice of the series, then shift-clicking on the last invoice in the series.

Order by

The invoices displayed may be sorted according to any of the columns by clicking the column heading. A more comprehensive sort facility is available when you click the *Order by* button. This displays the *order by* window, where you can drag fields from the list on the left to the right-hand pane to sort the list by the fields you have chosen.

Print

Click on this button to print the list of invoices displayed. This does not print the actual invoices, just a list of them.

Finalise

Click on this button to change the status of the invoice to *finalised*.

Duplicate

Click on this button to duplicate the transaction. You would use this feature, for example, to supply exactly the same items to another customer. You will be asked if you want to duplicate all lines on the invoice, or just the placeholder lines.

If the invoice was part of the internal requisition process (from one virtual store to another) then the links to the originating purchase order will be maintained, and a goods receipt will be created if you finalise the customer invoice at a later date.

Cancel

Click on this button to cancel the highlighted transaction ¹⁾. This command only works on finalised invoices. The invoice is not deleted from the system; mSupply makes a duplicate finalised invoice with the same invoice number but with negative quantities matching those on the invoice you're cancelling. This ensures that all transactions are preserved and will appear in an audit trail. But note that you will not be able to cancel a finalised customer invoice which put stock into mSupply and some of that stock has been used. An exception to this is a stock transfer: if none of the transferred stock has been issued then the original finalised customer invoice which initiated the transfer can be cancelled if the supplier invoice produced from it is first deleted.

If you have accidentally finalised a transaction you can use the **cancel** and **duplicate** buttons to

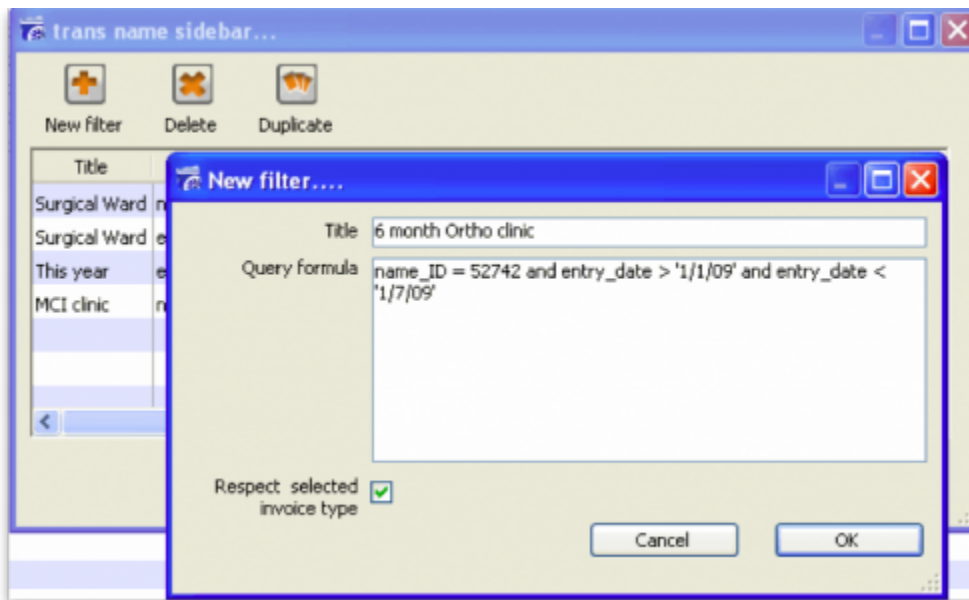
- Highlight the finalised invoice and click **Cancel**
- Highlight the finalised invoice again and click **Duplicate** to duplicate the original transaction
- You can then edit the duplicated transaction to the correct values before finalising it again.

Filters

Click on this button to apply filters to reduce the volume of information displayed to reflect more precisely what you require.

Take as an example, a hospital where you have searched on a large number of customer invoices, but you are really only interested in issues to the Orthopaedic Clinic during the first six months of a year.

Clicking on the *New Filter* icon presents you with a window where you can define the criteria for your filter, in our case the customer's ID is entered, and the period under review - i.e, January to June 2009 using the syntax of a WHERE clause in SQL



The *Respect selected invoice type* checkbox has the effect of applying the filter to the type of invoice which has been selected in the sidebar, and if we do this in our example, instead of displaying several hundred invoices, only the handful of invoices for the Orthopaedic clinic will be shown.

Any filters so created are listed under *My custom filters*, and are available for use as required until they are deleted.

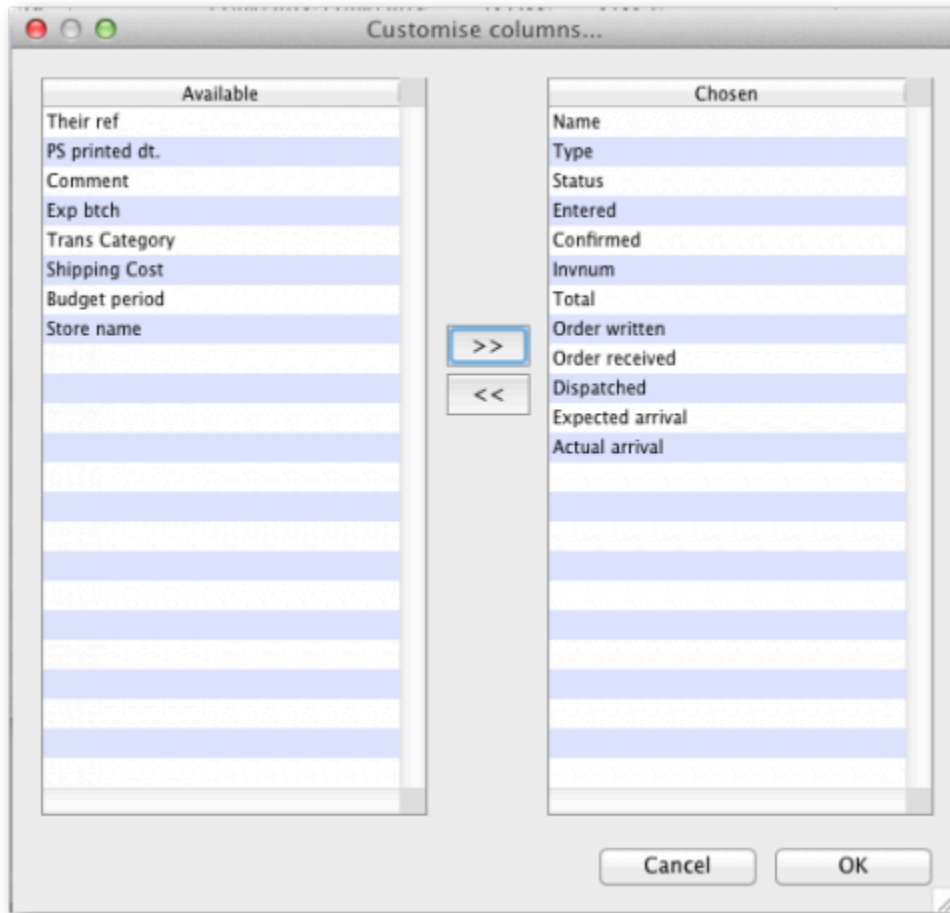
Customise

Click on this button to:

- display the information you require
- arrange the column order display to suit your requirements

Display the information you require

Displayed under *Available* on the left are the available fields, while displayed under *Chosen* on the right are the presently selected fields.



To add a column to the display, click on the required one to select it in the *Available* column, then click the upper button between the two displays, and it will appear at the bottom of the *Chosen* list.

mSupply provides the feature of analyzing customer invoices by their despatch/delivery/arrival dates. Once a customer invoice has delivery dates entered for it, Transport details, choose the customer delivery columns 'Order written', 'order received', 'dispatched', 'expected arrival', 'actual arrival' to be included in your transaction list.

Name	Type	St...	Entered	C...	Innum	Total	Order written	Order received	Dispatched	Expected arrival	Actual arrival
Aileu dental Clinic (Oral Health)	ci	sg	10/04/2013		9298	1011.57	09/04/2013	10/04/2013			
Maubisse Hospital	ci	sg	10/04/2013		9299	1036.81	10/04/2013	10/04/2013			
Baucau Referral Hospital	ci	sg	11/04/2013		9300	8529.68	09/04/2013	11/04/2013			
District Services Manatuto	ci	sg	12/04/2013		9302	11082.04	10/04/2013	12/04/2013	13/04/2013	14/04/2013	17/04/2013
District Services Manatuto	ci	sg	11/04/2013		9301	940	11/04/2013	11/04/2013	15/04/2013	20/04/2013	23/04/2013
Sual Kota Referral Hospital	ci	sg	17/04/2013		9303	22822.01	15/04/2013	17/04/2013	19/04/2013	23/04/2013	04/05/2013

This list show customer invoices in mSupply ordered by Expected Arrival Date. Click on the column header to order on that column.

Arranging column order

This is done by clicking then dragging the column heading to the required position.

Sorting the list

Click a column heading to select it, then click on the small triangle on the right to display the list in order or reverse order as required.

Modify

Click on this button to edit the selected invoice. This is the same as double-clicking the invoice.

Export to MYOB

Click on this button to export the selected invoices to the MYOB software (<https://www.myob.com/au>) - refer to Exporting to MYOB.

Previous: Issuing Goods to a Customer (Customer Invoices) Next: Customer credits

1) also known as "Cancel invoice" or "Cancel a transaction" or "Cancel an invoice"

Customer credits

Choose **Customer > New customer credit** from the menu bar.

The screenshot shows the 'Customer Credit' form. The top section contains various input fields and buttons. The middle section is a table with the following columns: N, Li, Location, Item Name, Quan, Pack Size, Batch, Exp date, Sell Price, and Price exten. The bottom section contains a summary table with the following rows: Amount: 0.00, Subtotal: 0.00, 0% tax: 0.00, and Total: 0.00. There are also checkboxes for 'Hold' and 'Finalize', an 'Export batch: 0' field, and buttons for 'OK & Next', 'Delete', and 'OK'.

Entering a customer credit is exactly the same as entering a Supplier invoice, except that:

- You will enter the customer name rather than the supplier name
- Items will be entered with zero margin. This is because *mSupply* uses the cost price entered to calculate the amount to credit the customer, so you must enter the amount you charged them as the cost price for each line. Presumably you want to sell the item again for the same price you sold it originally, hence the cost and selling price must be the same

Note: there is no need to enter negative values in *mSupply*. Even when you are entering returned goods from customers, or returned goods to suppliers, enter positive values. *mSupply* automatically converts the invoice total to a negative amount.

Previous: Viewing Invoices Next: Backorders

Backorders

Overview

mSupply's backorder system allows you to record items you were unable to supply to clients, and (hopefully) supply them at a later date when you have enough stock.

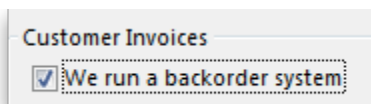
When you do not have enough stock of an item that a customer orders, it is normal to add a placeholder line to the invoice you are creating. If you have local suppliers, it is possible you will be able to receive stock in time to fill the order, and the placeholder line can be edited and replaced with a normal stock line.

Once it is time to ship the order, placeholder lines will be converted to backorder lines, and you will be invited to enter a comment for each item (e.g. "We're very sorry- it's coming next week.")

Backorder preferences

The behaviour of mSupply in handling backorders is controlled by several preference settings:

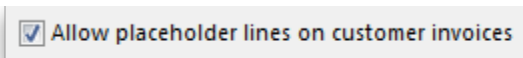
- To do anything at all with backorders, you need to choose *File > Preferences* and go to the *Invoices 2 tab*. There, check *We run a backorder system*



- If you wish to have customer invoices automatically created when goods on backorders are received, the appropriate box should be checked.



- On the same tab, check *Allow placeholder lines on customer invoices*. This allows you to use placeholder lines to record stock ordered by a customer but not able to be issued.



- On the right side of the same tab is the option to *Delete placeholder lines when confirming invoices*. If this option is not checked, placeholder lines will be left on an invoice when it is confirmed. Otherwise they will be deleted. In either case, as long as the *We run a backorder system* option is checked, confirming an invoice will result in placeholder lines being transferred to backorders.



How much is on backorder?

There are four ways in which you can view backorders

- When creating a customer invoice, there is a *backorders* button. This is described in detail below.
- Use the backorders report to view some or all backorders.
- When viewing details for a particular item, see all the backorders for that item on the backorders tab.

- When viewing details for a particular customer, see all the backorders for that customer on the backorders tab.

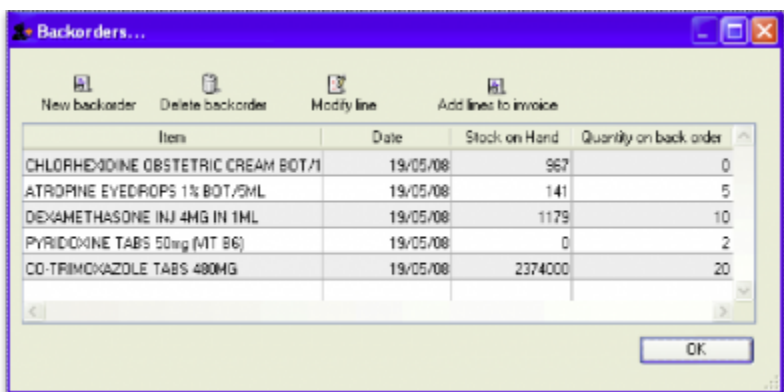
Backorder management from the Customer invoice window

Clicking the **Backorders** button when viewing a customer invoice will show all lines for the entered customer that are on backorder.

The **Backorders** button will be hidden if " *We run a backorder system* " is not checked in Preferences > Invoices2.

If you are entering a new invoice, you need to have entered a customer name on the invoice before clicking the button.

The window also shows current stock, so you can easily see which backordered lines can be added to the current invoice

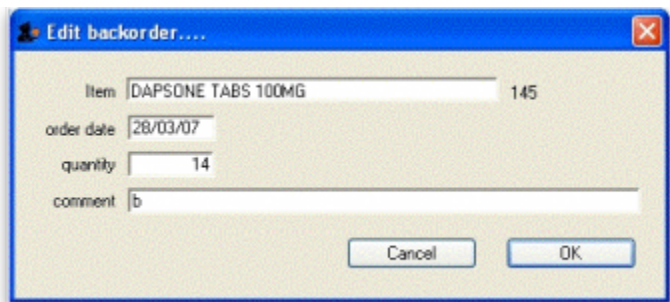


Buttons in the backorder window

New backorder: Placeholder lines are automatically changed to backorders when an invoice is confirmed, but there may be occasions when the manual entry of a new backorder is necessary: click this button to create one.

Delete backorder: You can delete an item line or multiple item lines by selecting the line(s) and clicking on *Delete backorder* button.

Modify line: This button is used to edit the item line. Select the desired line and click on *Modify line* button to display the following window.



Add lines to invoice

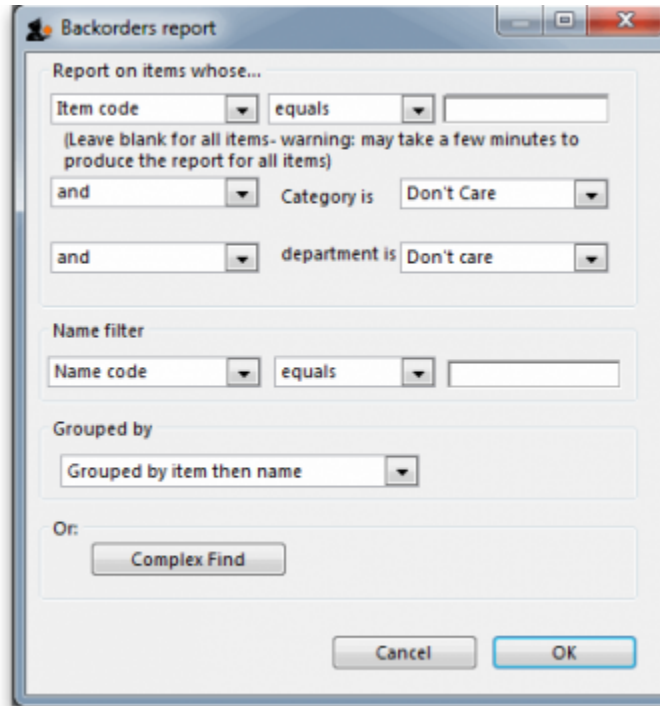
Highlighting lines and then clicking the *Add lines to invoice* button will (surprise) add the highlighted lines to the invoice. The backorder quantity will be set to zero, and may then be deleted.

Note that as you issue lines on an invoice, the quantity on backorder is automatically reduced. However, once a line reaches zero, it is not automatically deleted. This is because it is possible the user will delete or edit the line on invoice, and hence the reduction in backorder quantity may have to be reversed.

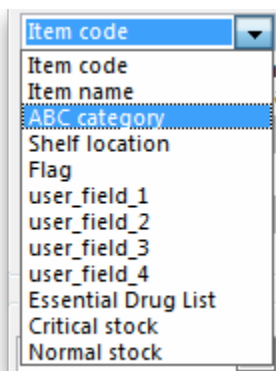
The Backorders report

Choose Reports > Backorder report.

You can enter settings to reduce the scope of items or customers for which the report is produced.



The first drop down list allows the report to be filtered by many options, but note that if *Item name* is chosen, then the full name must be entered and not just partial details.



Two options are available: for display:

- each customer and the items on backorder for that customer
- each item and the customers having backorders for that item.

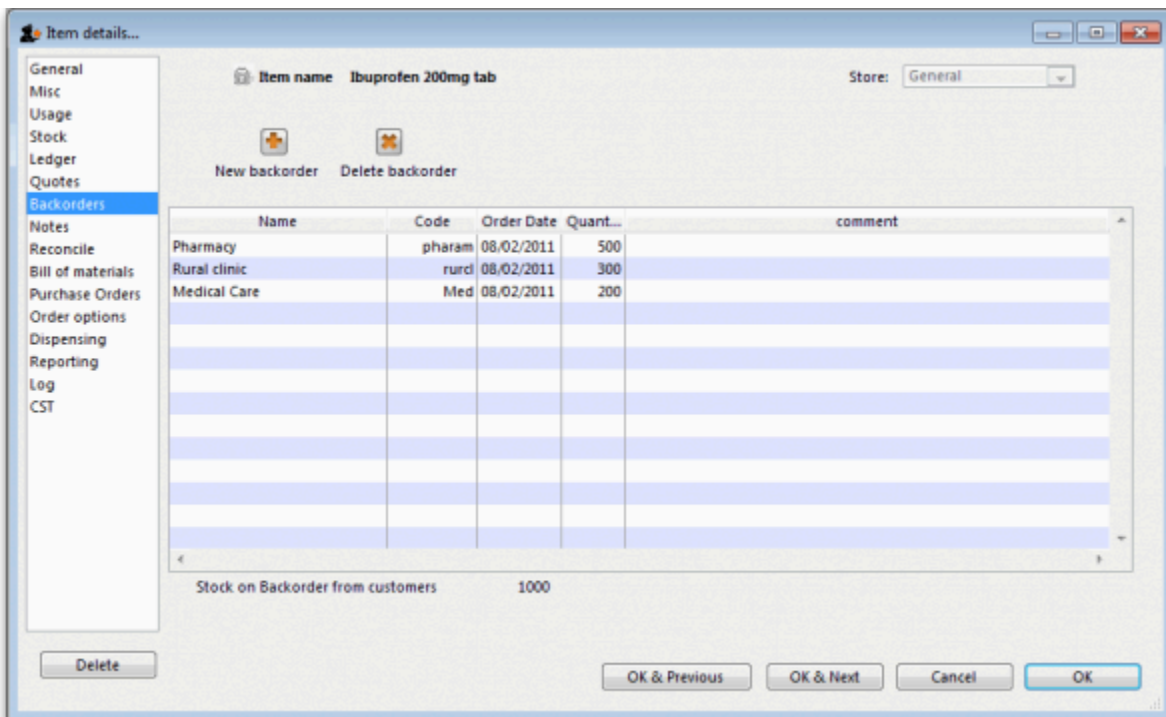
Backorder Report (General)

Item Code	Item Name	Stock	Cust Name	B/ord Quanti
4204	ARTHEMETHER SUPPOSITORY 50MG	0	GOOD SAMARITAN HOSPITAL	
Total				
2035	ATROPINE EYEDROPS 1% BOT/5ML	141	SASAMUNGA MINI HOSPITAL	
Total				
4065	BAG, AUTOCLAVE 100MM X 520MM	0	KIRA KIRA HOSPITAL	
Total				
4076	BAG, URINE DRAINAGE WITH TAP, 2L DISPOSABLE	1	SEGHE AHC	1
Total				1
3013	BANDAGE, CREPE 15CM	132	TULAGI MINI HOSPITAL	
Total				
3020	BANDAGE, P.O.P. 10CM	1387	GOOD SAMARITAN HOSPITAL TULAGI MINI HOSPITAL	1
Total				1
51	BENZHEXOL TABS 5MG	53800	MALU'U AHC	
Total				

Note that this report does have limitations, as if a customer orders the same item more than once, it is likely that demand will be overstated.

Viewing backorders for a customer or an item.

Clicking the backorders tab when viewing a customer or item details shows a window where you can view or edit items on backorder. The example shows backorders for an item, ibuprofen 200mg tablets.



Notes

- If you have set the preference to leave placeholder lines on confirmed invoices, then you can use the *Item ordered*

shortfall report to display the difference between customer demand and what was actually supplied.

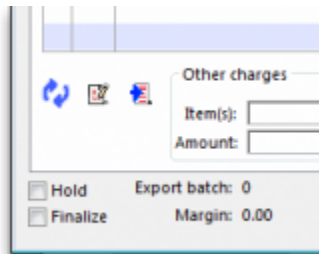
Automatic creation of customer invoices for backorders

With the required boxes checked under *Files > Preferences > Invoices* , mSupply will automatically create invoices for those customers having items on backorder when the items are received from suppliers.

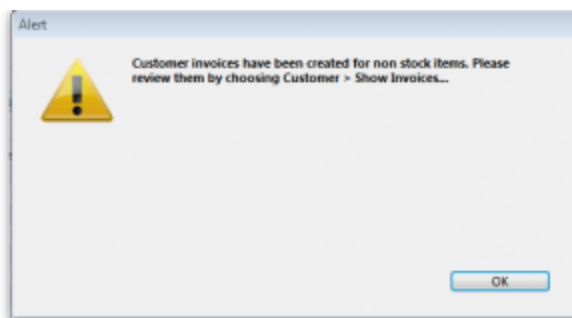
This description is illustrated by the situation in which two customers, Urban Clinic and Rural Clinic both have Promethazine 25mg tablets on backorder - Urban Clinic awaiting 5 x 100, and Rural clinic awaiting 2x 100. The supplier is Arbuckle.. This may be confirmed by previewing a backorder report:

Item Code	Item Name	Cust Name	Stock	
pro25t	Promethazine 25mg tab	Rural clinic	0	200
		Urban clinic	0	500
Total				700

On receiving the goods from the supplier, a new goods received record is created in the usual way, and finalised. When you click on *OK* to create the supplier invoice, you are required to confirm your intention to finalise the order, which you would normally do. The supplier invoice is displayed, and in the bottom left corner of the supplier invoice, you will see that the *Hold* box is checked. You should click on it to remove the check mark.



and this alert message is displayed:



Review the invoices as alerted, and for this example the invoice generated for the Urban Clinic is shown:

Customer invoice

Name: Urban clinic Confirm date: 00/00/00 Colour: Black

Their ref: urbcd Invoice: 60

Comment: Backorder fulfilment (automatic); Good Category: None Entry date: 08/02/2011

Goods receive ID: 19

Status: sg

Entered by: user1 (pass= user1)

Store: General

...	Lin	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
	1		Promethazine 25mg tab	5	100	SJ 803	31/07/2011	135.00	675.00

Other charges Item: Amount: 0.00

Subtotal: 675.00

0 % tax: 0.00

Total: 675.00

Hold Finalize Export batch: 0

OK & Next Delete OK

The invoice generated has all the relevant details, e.g. batch no., expiry, etc., copied across from the supplier invoice, and the comment has been added to the effect that the invoice has been generated automatically, and also identifies the Goods Received ID:

Customer invoice

Name: Urban clinic Confirm date: 00/00/00

Their ref: urbcd

Comment: Backorder fulfilment (automatic); Good Category: None

Transaction comment

Backorder fulfilment (automatic); Goods receive ID: 18

Previous: Customer credits Next: Electronic Invoices

Electronic invoices

mSupply has a system that allows users to send electronic invoices to other users of *mSupply*.

Possible uses include:

- If you have a manufacturing unit and a separate warehouse, you can run two copies of *mSupply* and move stock from one location to another using electronic invoices.
- If you have customers using *mSupply*, they can import a 100 line invoice in a few seconds, where entering manually might take thirty minutes to an hour.

Setting up electronic invoices:

Supplier:

- In the Preferences of the copy of *mSupply* that is sending invoices, enter the supplier code that your customers will use for you.
- If your customer(s) have an email address and you want to send the electronic invoices via email, then enter their email address in the customer details window.

Customer

- For each item that will be received from a particular supplier, enter a quotation for the item. This is most easily done from the *quotes* tab of the supplier details window.
- For each quotation, enter the supplier code for that item. This means your own code for the item does not need to match the supplier code. (Note that you do not have to enter quotation prices for the electronic invoice system—just the item code).

Steps to use electronic invoices

1. Supplier creates an invoice
2. Supplier chooses *customer* | *export invoice* to create an invoice
3. Supplier sends the invoice to the customer (If the customer has an e-mail address entered, the invoice can be automatically attached to an email, or, the file produced can be attached to an e-mail using your normal e-mail client. Alternatively it may be transferred on removable medium (floppy, Zip, CD etc..)
4. Customer receives electronic invoice
5. Customer chooses *Supplier* | *import invoice* to import the invoice.
6. Customer checks the supplier invoice that is created against other documentation and against actual goods received.

Note:

- The invoice can still be edited after import
- The standard rules for calculating selling prices are used.
- If you want your suppliers to send you electronic invoices, persuade them to buy *mSupply*! Alternatively, we can supply the *mSupply* invoice format to their software vendor for inclusion in their own software.
- We recommend you perform a trial of the system on a backup data file before using in a production situation.

Previous: Backorders Next: Transferring goods to another Store

Transferring goods to another store

This feature is available only to those users who are managing more than one store on their systems - e.g. if you have a General store for holding stock, and you supply a Dispensary with their day to day needs - refer Virtual stores.

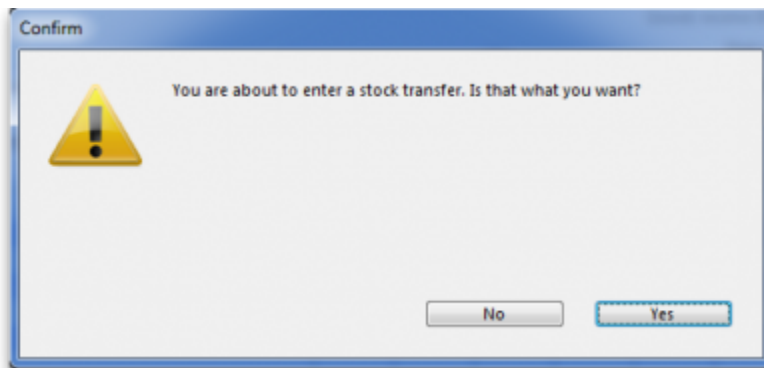
If you are transferring goods to the receiving store *in response to an Internal Requisition (Purchase Order) from that store*, **DO NOT follow the instructions in this section**. The relevant section is Processing the customer invoice (supplying store)

If you're not able to perform a transfer there are several possible reasons

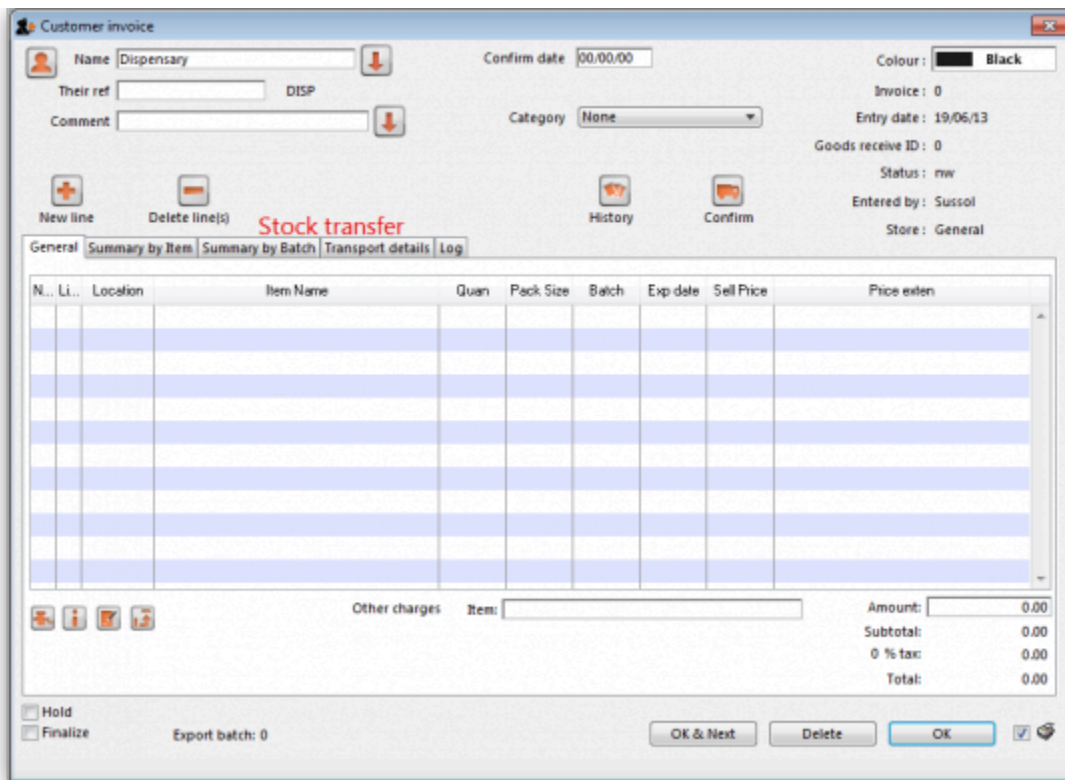
- There must be more than one store set up in your copy of mSupply
- You must have the user permission to perform transfers
- The store you're transferring to must be visible. To make it visible choose **Special > Show stores** and double-click the store you want to transfer to, then on the preferences tab click the **View name** button and set the visibility on the **Stores** tab. Phew!

This procedure follows closely the steps as described under Issuing Goods to a Customer (Customer Invoices); to avoid unnecessary repetition, please make sure you are familiar with that procedure.

You must be logged in to the **issuing** store (the store you're transferring stock **from**); the 'customer' in this process is the receiving store. So, you create a new invoice from the *Customer* menu, and in the *Name* field the you put the name of the receiving store in the normal way (i.e. type the first few letters of the store's name, press the TAB key, and select the store in red colored text from the list displayed). You are presented with a window in which you must confirm your intention:



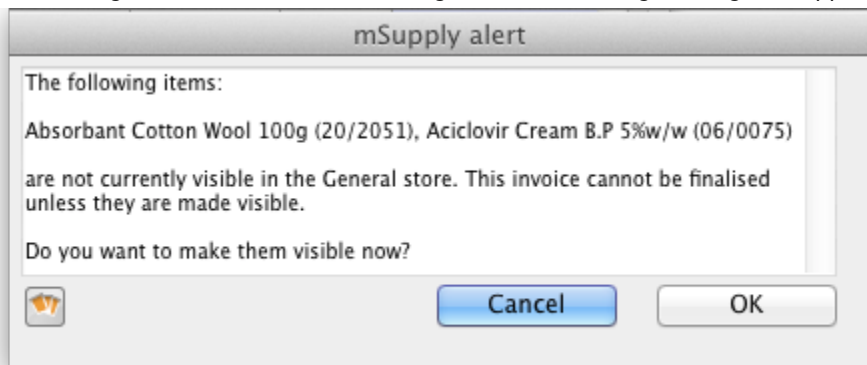
Stock transfer label (under comment field) defines that the goods being issued are for a store. not for a customer.



The procedure from this point is identical to that described under Issuing Goods to a Customer (Customer Invoices).

It is necessary to finalise the transfer when you have finished entering the items to be transferred. Only after finalising the transfer will the new invoice appear on the system, as a Supplier Invoice in the receiving store, and as a Customer invoice in the issuing store. The status of the supplier invoice in the receiving store will either be confirmed and on hold or finalised, according to the setting you have for the “For stock transfers, the supplier invoice in the receiving store should be...” store preference. See here for details.

If the item(s) you are transferring are not visible in the receiving store the following message will appear:



Check whether there is any reason for the item(s) in question not to be visible in the destination store. If there is no reason to prevent visibility click **OK**.

If you are running a syncing system (see Remote Synchronisation) and the receiving store is active on another site, the receiving site will send back a confirmation log message to confirm that it has received the transfer. This will show up in the Log tab of the sending customer invoice.

On a syncing system, the sending site does not have access to the item visibility records in the receiving store if it is a transfer store, so it cannot do the item visibility check above.

Reversal of stock transfer

Should a reversal of a stock transfer be necessary, this may be achieved by the operator at the sending store, and only if the receiving store has not issued any of the transferred stock.

Receiving the goods (customer store)

In the customer store a Supplier Invoice will be automatically generated, provided that the Customer Invoice in the sending store was finalised - see above! You can view the customer invoice record via the **Suppliers** tab on the Navigator or via the **Supplier > Show invoices...** menu item.

On the supplier invoice the lines from the customer invoice will have been filled in automatically.

Depending on your store preferences, this customer invoice may or may not be locked, or finalised.

Previous: Electronic invoices Next: Box management

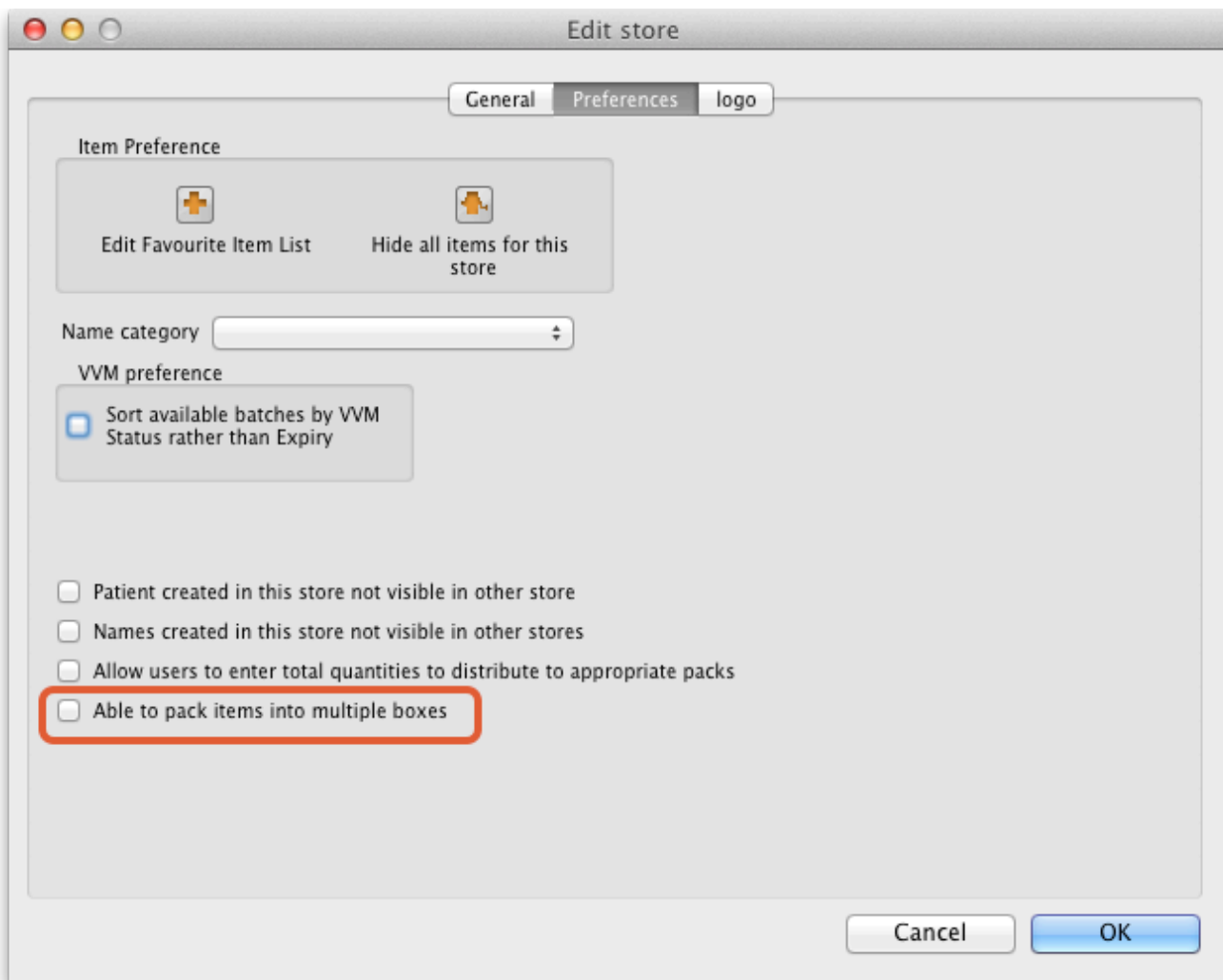
This topic does not exist yet

You've followed a link to a topic that doesn't exist yet. If permissions allow, you may create it by clicking on "Create this page".

Box management

On the transport tab of a customer invoice window, there are two methods for managing boxes.

- The simple method allows you to directly enter any Box identifiers in the **Boxes** column
 - To use this method you should **not** turn on the preference mentioned below. You simply click twice (slowly) in the box numbers column of the “Transport details” tab on a customer invoice and enter box numbers.
- If you want to assign exact quantities of each invoice line to a box or boxes, and also possibly record box weights and volumes, you need to:
 - Choose Special > Show Stores
 - Double-click on the store in question (you might only have one)
 - Click on the **preferences** tab
 - Check “Able to pack items into multiple boxes”



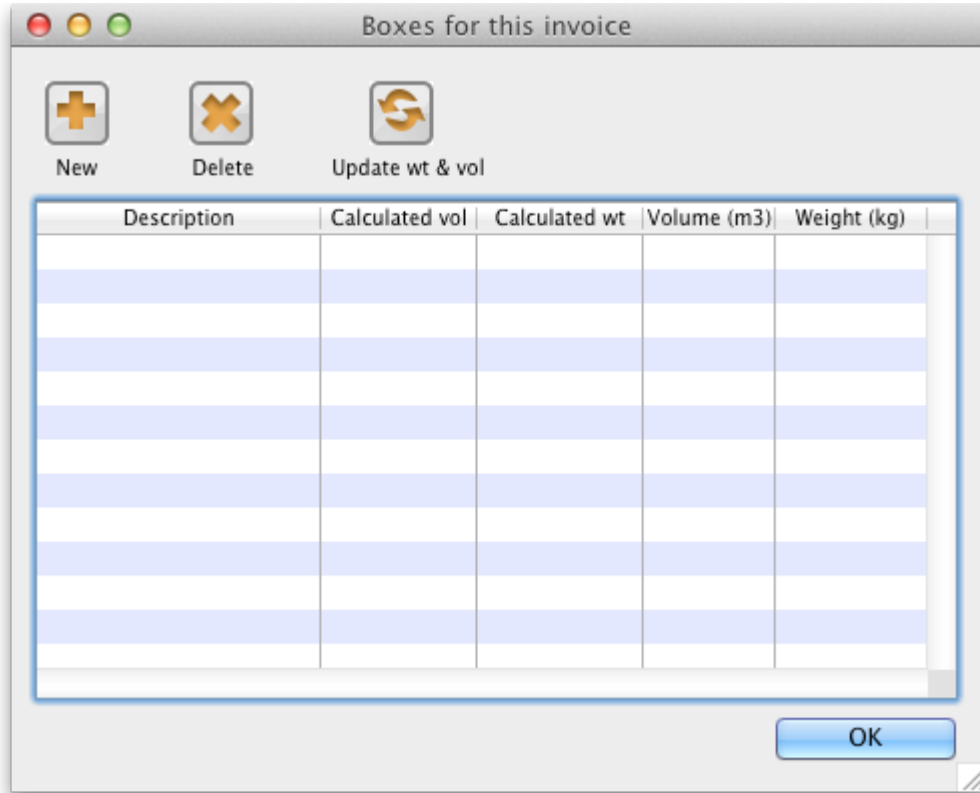
The rest of this chapter assumes you're using mSupply with this preference checked.

Setting up boxes

- Once you've created a customer invoice, and picked goods, the pickers should have marked the pick slip with

what quantities of each item were put into what box.

- Now go to the **Transport** tab of your customer invoice.
- Click **Manage Boxes** (Note: if you haven't turned on the preference as above, these buttons are hidden)
- You'll see this window:



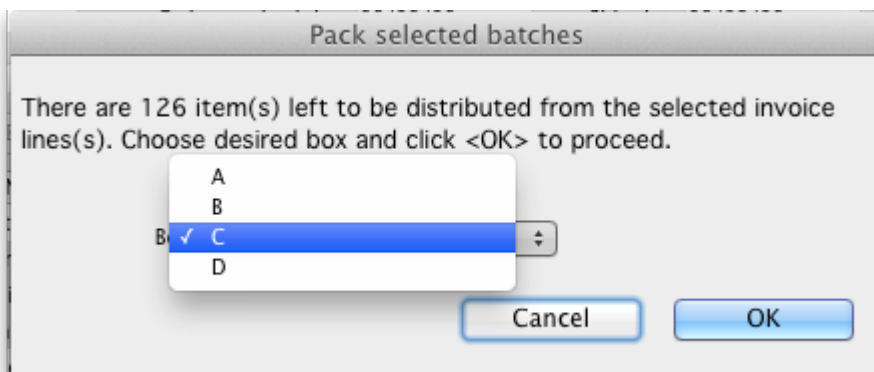
-
- Click **New** to add boxes
- We suggest you keep box names short. e.g. 1, 2, 3, 4 or A, B, C, D
- Type a box name, click **OK & Next** (shortcut: the Enter key) to add another box.
- On the last box click **OK** to save and close the window.
- If you're Gary, you might have clicked **OK & Next** one too many times. In that case you can use the **Cancel** button to close the window. 😊
- Note that you can't have a blank box name, and you can't have two boxes *on the same invoice* with the same name (You *can* just use the same series of box names over and over on different invoices).
- If you make a mistake with a box name you can double-click a row to edit it.
- Click **OK** to close the Box Management window when you're done.

Using the Box Selected Button

- In most cases you will be able to put the total contents of an invoice line in the one box.
- In that case, click on a row, or hold down <control> (Windows) or <command> (Mac) and click on multiple rows.
- In the example below we have highlighted rows 2, 3 and 4.

Line	Location	Item Name	Quan	Pack Size	Batch	Weight	Exp date	Sell Price	Box number
1		Salbutamol inhalation solution bottle	2	1	EX23	0	30/1/12	8.35	
2		Salbutamol Inhaler 100mcg/dose	6	1	G92192	0	30/3/12	1.95	
3		IV, Metronidazole inj 500mg/100mL	20	1	S13N5	0	30/5/13	6.44	
4		Water for injection inj 10mL	100	1	1004824	0	30/10/15	0.26	
5		Optium strips (glucose electrodes)	2	50	45001F594	0	30/10/12	36.31	

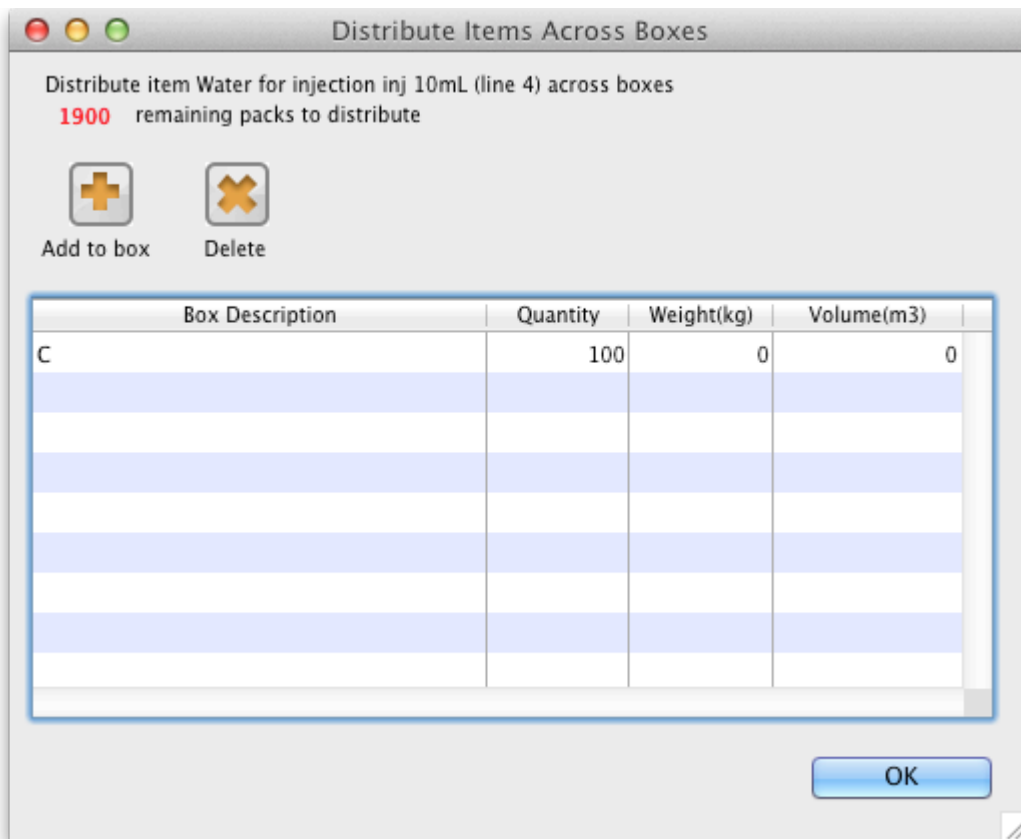
- Now click **Box selected**
- You'll be shown the "Pack selected boxes" window:



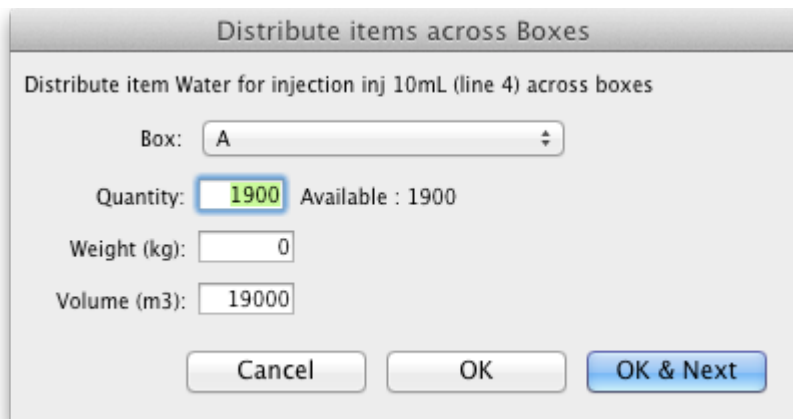
- Choose the box for the items from the drop-down list.
- Click **OK** to close the window.
- You'll see the boxes column in the list has been filled out.

Splitting a single invoice line over multiple boxes

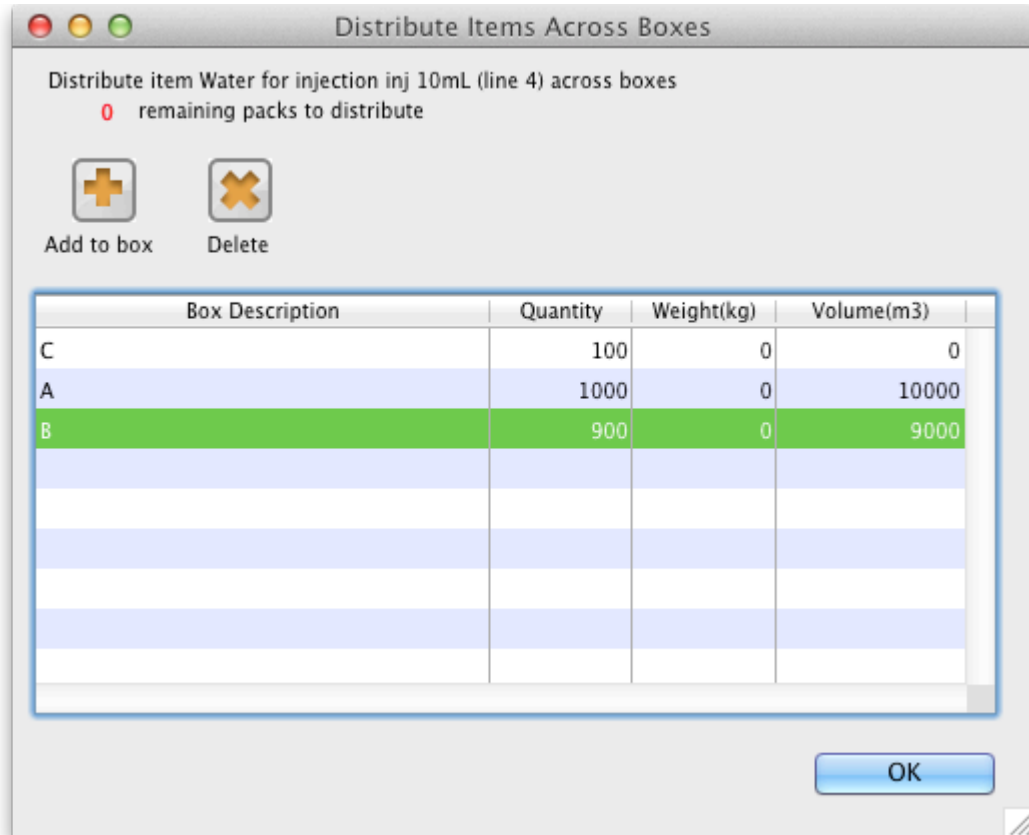
- If you have bulky invoice lines or large quantities, you will need several boxes to hold the one line.
- Double-click the line to assign to boxes.
- Let's say in the example above, you got a supplementary request to increase the water for injection quantity from 100 to 2000. You go back to the "general" tab and do this. Now back on the transport tab you double-click the water for injection. This is what you would see:



-
- Notice that at the top of the window “1900” is in red. That’s the quantity still to distribute.
- Click the **Add to box** button.
- You’ll see this window:



-
- Let's say we're going to put 1000 in box A and the remaining 900 in box B
 - Enter 1000 in the quantity field
 - Choose **A** from the drop-down list
 - Click **OK & Next**
 - Fill out the window to enter 900 in box **B** and click **OK** to close the window.
 - Now your window should look like this:



- You can double-click a row to edit it.
- To delete a row, click on it to highlight it, then click **Delete**
- Note that the weight and volume for the item will be calculated automatically if you have set them in the item details window, but you can also override the calculated weight/volume when you are assigning an item to a box.

Removing an invoice line from all boxes

- You can use the **Unbox** button to remove an invoice line from all boxes at once.
- Highlight one or more invoice lines.
- Click **Unbox**
- You're done.

Seeing what is in a box

- If you click **Manage Boxes** and then double-click a box you will be shown a list of items in that box.
- You can also set the measured weight and volume in this window, which will usually be somewhat higher than the calculated weight/volume:

Box name:

Packed weight (kg):

Packed volume (m3):

Update wt & vol

Current box contents

Description	Quantity	Weight (kg)	Volume (m3)
Water for injection inj 10mL	2000	26	0.02

Total in box: 26 kg 0.02 m3

Cancel OK OK & Next

Printing packing list for each box

- We have custom printing forms available that will print packing lists for each box. Ask us for more details.

Previous: Transferring goods to another store Next: Stock Control methods for your customers

Stock control methods for your customers

Stock supply philosophy

mSupply is designed for situations such as a central supply facility within a country or region, or within a hospital where the supply of stock to Customers is controlled by the supplying facility. That is, supply of stock to Customers is managed by the supplying store.

Regardless of who controls the supply of stock, it needs to be made principally on the basis of information about the Customer's anticipated usage. mSupply has two methods of arriving at quantities to be supplied to Customers:

(If you can think of better names, please tell us!)

Defining the list of items to be included in the re-supply

Both the imprest and stock history methods require a stocktake of the Customer's stock. The list of items to be included in the Customer's stocktake is defined. These lists are specific to each customer, and must therefore be individually compiled, however, they can be based on Master Lists.

Master Lists and Local lists and how to create and assign customers to them are covered elsewhere in Master Lists

Lists are defined for each customer in the *Edit Customer* window. Click on *Item lists* in the side bar menu.

Highland Health Centre

Name

Code HC4

Charge to HC4

Name Highland Health Centre

Master ID 0

Master name

Contact

email

web site

Phone

Fax

Status

Hold

Price Category

A

Store: General

Currency SBD

Printing

Print invoices alphabetically

Category

Customer

Supplier

Manufacturer

Benchmark

Other

Category 1 none

Category 2 none

Category 3 none

Category 4 none

Category 5 none

Category 6 none

Flag

Custom 1

Custom 2

Custom 3

Comment

Main/Billing Address

Address 1 Baliwuga

Address 2 South Tarawa

Address 3

Address 4

Address 5

Post code

Country

Postal address

Shipping address

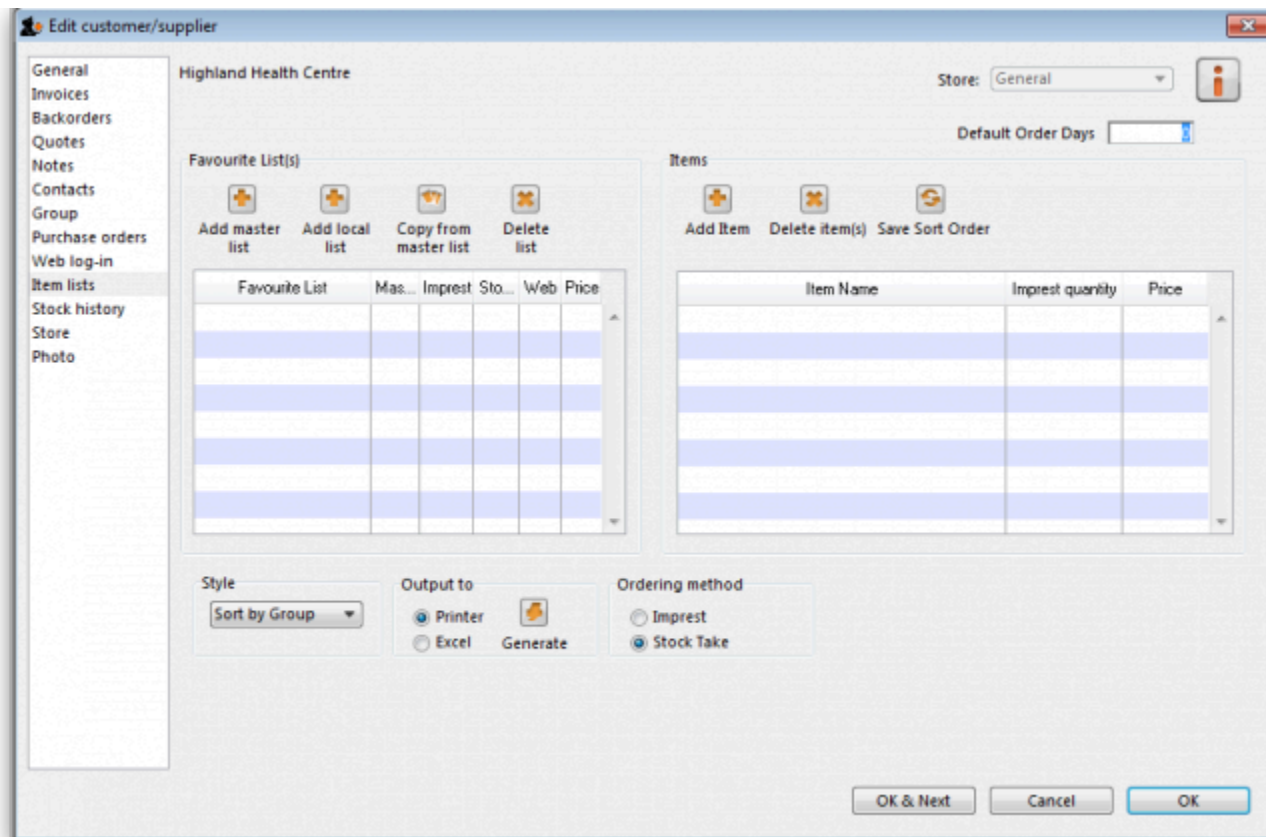
Delete name

OK & Next

Cancel

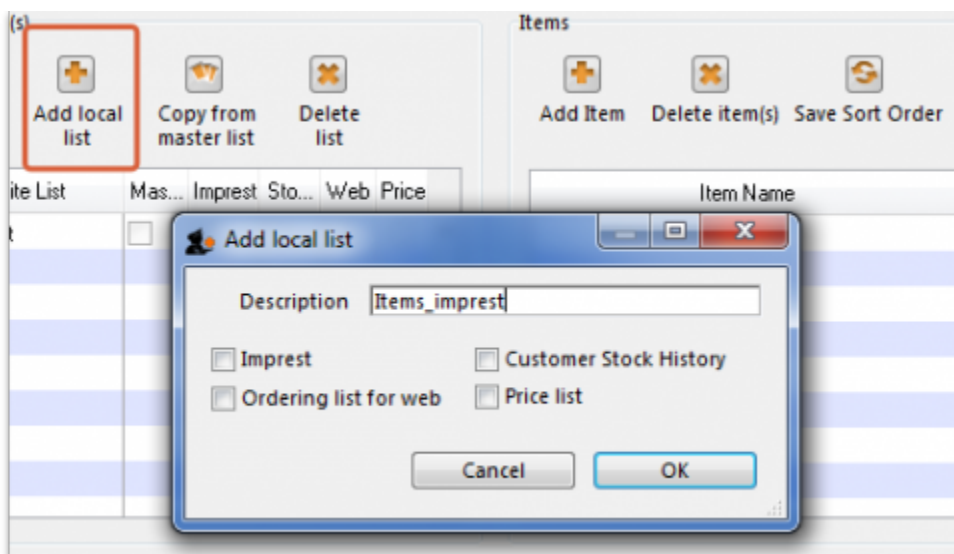
OK

This displays the window in which you create the required lists.



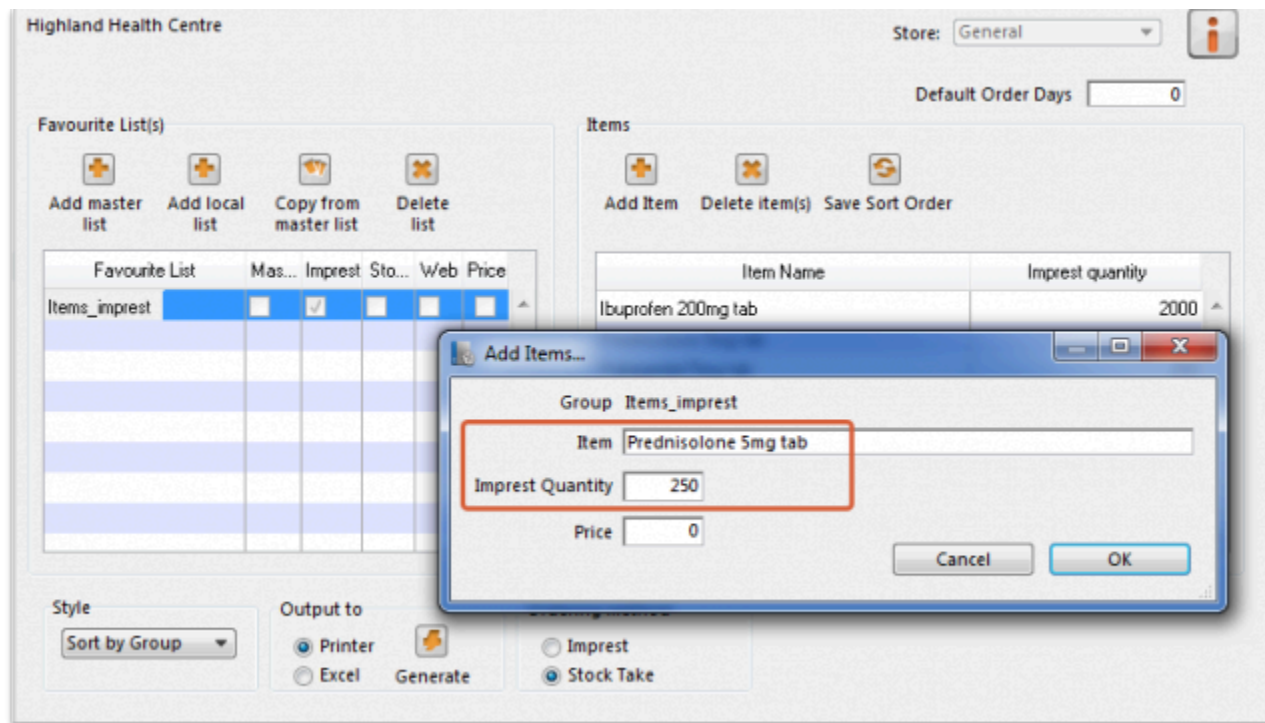
Adding a Local List

First, click on *Add Local list* and in the panel that appears, enter a name for your list then click *OK* - in the example we've named it `Items_Imprest` .



Adding items to a List

Select the list to highlight it, and you're ready to compile it. Click on *Add Item* to do this, and repeat until you've added all the items you require. Our example (below) shows that one item (Ibuprofen) has been added, and a second item (Prednisolone) is being added.

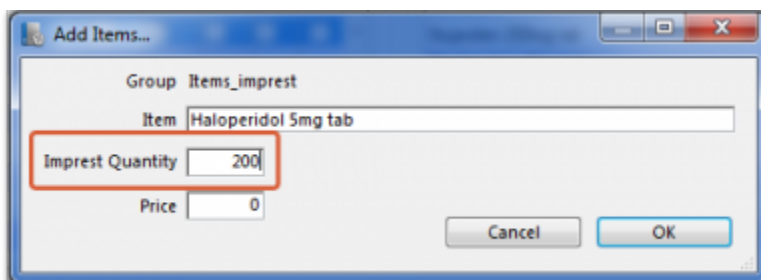


Only if you are using the is it necessary to enter imprest quantities. If you are not using the Imprest system, the *Imprest Quantity* field should be left blank.

Entering an Imprest Quantity

We'll now add another item, Haloperidol 5mg tablets , with an imprest quantity of 200 , to demonstrate how it's done.

1. Click on the *Add item* icon to bring up the standard search window.
2. Type the first few letters: hal , followed by the *Tab* key.
3. From the list, select: HALOPERIDOL TABS 5MG by double clicking on it. The *Add item* window appears.
4. Enter 200 in the *Imprest Quantity* field.



For the purpose of the guide, only 3 entries are present for the fictitious Highland Health Centre. In the real world your imprest list is likely to contain many items

The Stock History Method

The theory behind the Stock History method (sometimes referred to as the Historical Logistics Method) is based on the the assumption that future Customer usage will be similar to historic usage.

We can calculate the Customer's average usage over time if we know their stock levels at two points in time, and what stock they received from us in that intervening period. We assume that this average usage rate will continue over the coming supply period.

There are three more variables that need to be estimated:

- The number of months in the coming supply period
- The lead time required to supply them (that is, the time lag between the Customer doing a stocktake in order to trigger re-supply, and receipt of the stock)
- The number of month's worth of buffer stock they need

With this data, the calculation is like this:

- A = Stock on Hand on date1
- B = Amount supplied to Customer between date1 and date2
- C = Stock on hand on date2
- D = Quantity used in period between date1 and date2 = A+B-C
- E = number of months between date1 and date2
- F = Usage rate = D/E
- G = Number of months in coming supply period
- H = Number of buffer stock months desired
- I = Lead time (months) between date2 and delivery of stock
- J = Amount to supply = F*(G+H+I)-C

Using the Stock History method:

- A and C are reported by the Customer on date1 and date2 respectively
- B is calculated by mSupply based on mSupply records
- G, H and I are entered by the user
- D, E, F and J are calculated by mSupply

Note that mSupply uses stock issued by the supplying store to arrive at the parameter B. Obviously, if the customer has received goods from other sources during the calculation period, B would be inaccurate.

First Stocktake Record

In order to calculate the usage rate, mSupply requires stock on hand figures of the items on the list recorded on an earlier date (date1) = A, above. This becomes the *initial stock history record*.

To create such a record, follow the procedure described below for , noting particularly, the following:

1. Enter the date as the correct date at the time the stocktake was performed.

2. Ignore the figures that automatically appear along each row, except for the *Their current stock* column.
3. Enter their current stock figures in the *Their current stock* column
4. Close the window using the *OK* button.

Regular use

Once your Customer's has been entered, and a period of time has passed with some Customer stock usage, re-supply can be generated on the basis of this usage.

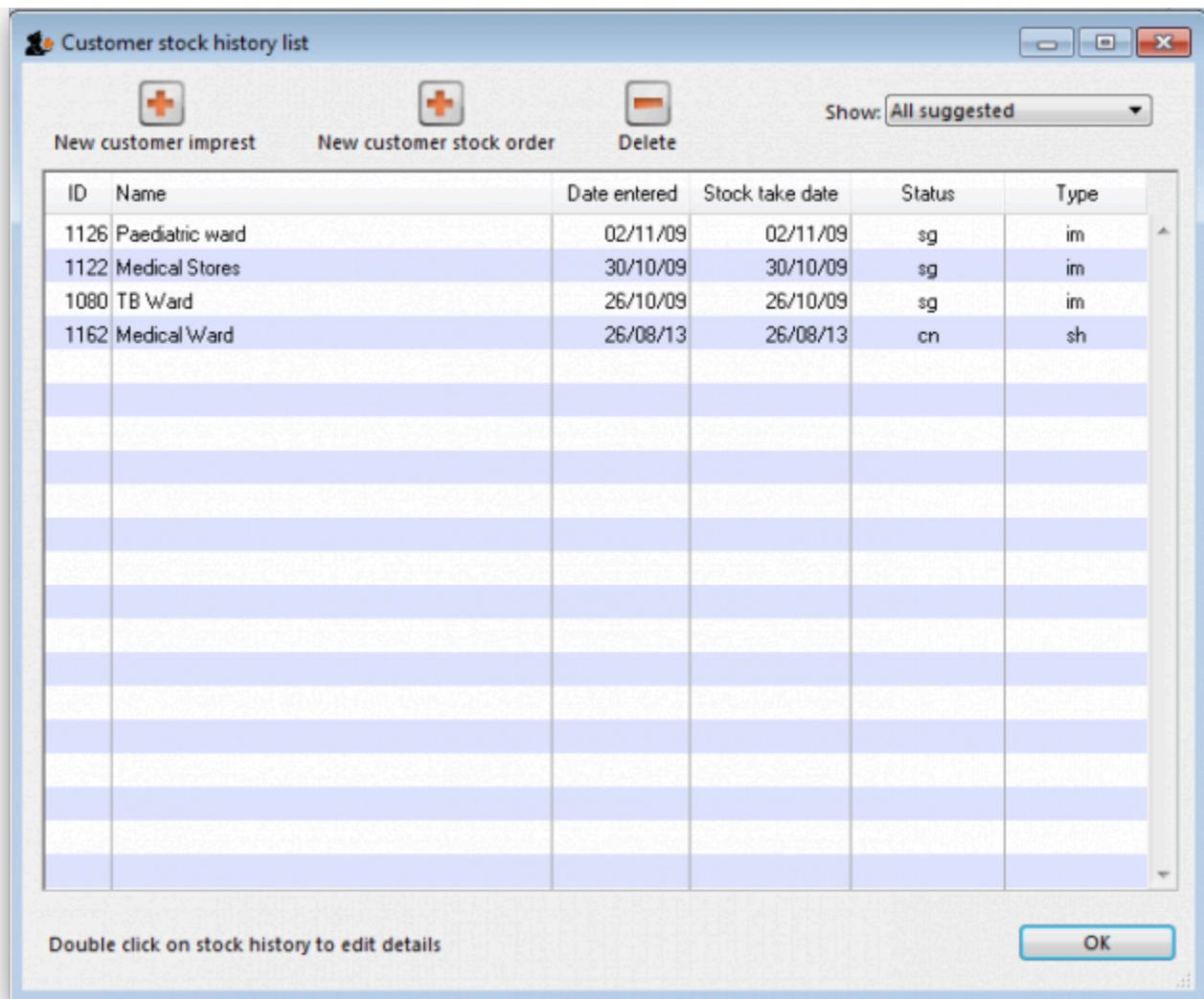
A re-supply using the stock history method needs to be triggered by a Customer Stocktake. IF your Customer is set up with mSupply Customer, then this process can be initiated by the Customer directly, and then completed in the Supplying Store

If your Customer has not used mSupply Customer to report their Stocktake, then their stock data needs to be entered in manually into the Supplying Store.

Manual entry of Customer stock history

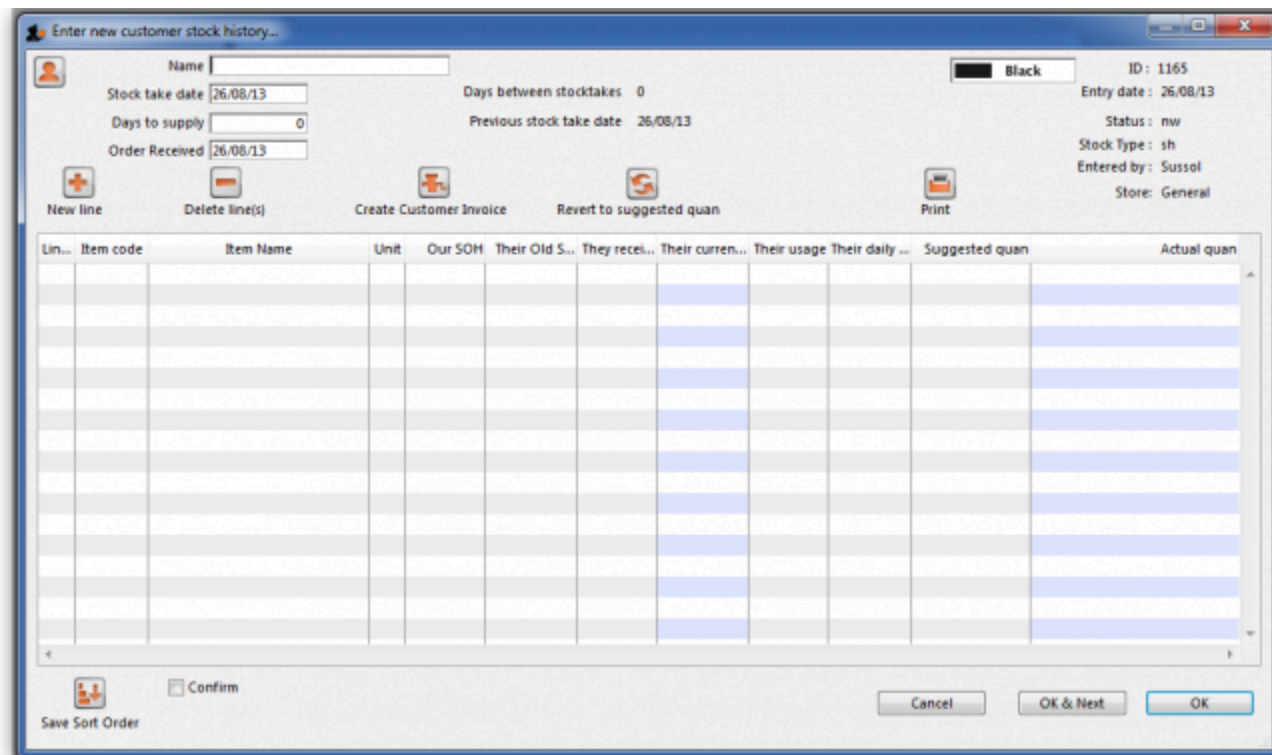
Show Customer Stock Histories

To begin the process, choose *Customer > Show customer stock history*, and the list of any historic Customer stock histories is displayed. The *Status* column lets you know the status: *sg* (suggested) or *cn* (confirmed). The *Type* column shows the stocktake type: *im* (Imprest) or *sh* (Stock History):



Add New Customer Stock History

Click the **New customer stock history** button, to display the *Enter New Customer stock history...* window:

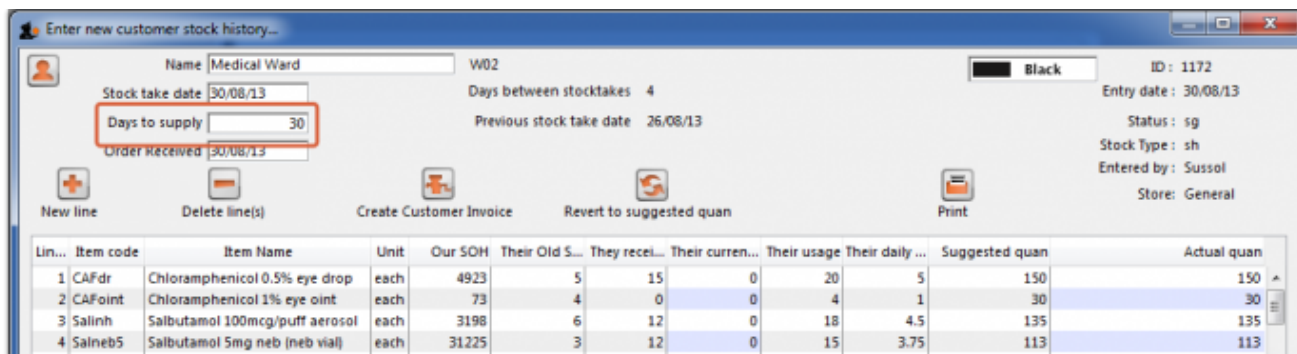


Enter the first few letters of customer's name in the *Name* field, then press the *Tab* key to call up the list of customers' names from which the required customer may be chosen. In this example, our customer is Medical Ward.

Once you have chosen a customer, the window is populated with the items that are members of any item lists that:

- Have been assigned to that customer (both master lists and local lists)
- and that have the “Stock history” check box checked for that list

You are presented with this window:



Fill in Customer Stock History

The **Our SOH** column is the stock on hand in our own store, while figures in all subsequent columns are the customer's data.

The first entry to be made is in the *Days to supply* field, where the appropriate figure should be entered - e.g. 30 if the ordering frequency is monthly, 90 if it is quarterly, etc.

You will see in our example that

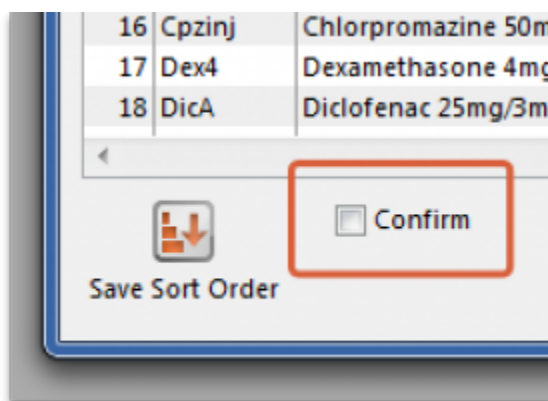
- 29 days have passed since the last stocktake

- The column headed *Their old SOH* shows their stock on hand at the last stocktake
- The column headed *They received* shows the amounts supplied when their last order was processed
- The column headed *Their current SOH* is the column where the customer's current stock figures (as provided by the customer) are entered. But note that, just as with the imprest method, if the name you entered in the Name textbox is actually another store then this column will be automatically filled in with the current stock in the store - saving you a lot of time (you only need to edit those figures where the stock in mSupply does not actually match what's on the store's shelves).
- As figures are entered, mSupply® calculates a suggested quantity to order, and this appears in the *Suggested quan* column. These suggested quantities should be reviewed, and any adjustment entered in the *Actual quan* column to reflect, for example, pack sizes and to ensure that actual quantities match exact multiples of the pack size.

After entries have been made in the column *Their current SOH* the window will look like this:

Lin...	Item code	Item Name	Unit	Our SOH	Their Old S...	They recei...	Their curren...	Their usage	Their daily ...	Suggested quan	Actual quan
1	CAFdr	Chloramphenicol 0.5% eye drop	each	4923	5	15	2	18	0.62	17	17
2	CAFoint	Chloramphenicol 1% eye oint	each	73	4	0	4	0	0	0	0
3	Salinh	Salbutamol 100mcg/puff aerosol	each	3198	6	12	1	17	0.59	17	17
4	Salneb5	Salbutamol 5mg neb (neb vial)	each	31225	3	12	3	12	0.41	9	9
5	Haemoint	Antihæmorrhoid 30g oint	each	1017	11	20	7	24	0.83	18	18
6	Clopes	Clotrimazole 100mg pessary (6 tab)	each	11871	4	10	4	10	0.34	6	6
7	Glycsup	Glycerol 2.8g suppos	each	556	4	12	2	14	0.48	12	12
8	Parsup2	Paracetamol 250mg suppos	each	4780	9	40	14	35	1.21	22	22
9	Adr1	Adrenaline (Epinephrine) 1mg/ml	each	1977	16	20	8	28	0.97	21	21
10	Amininj	Aminophylline 250mg/10ml amp	each	2871	5	10	6	15	0.52	16	16

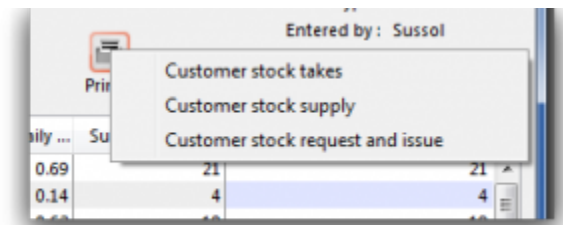
All that remains is to make adjustments in the *Actual quantities* column, to reflect appropriate pack sizes.



Once you are satisfied, the *Confirm* box (bottom left corner) should be checked, the *Create customer invoice* button should be clicked, and you should proceed exactly as earlier described. See *Creating the customer invoice* above.

Printing forms

Clicking the **Print** button provides several options for printing forms:

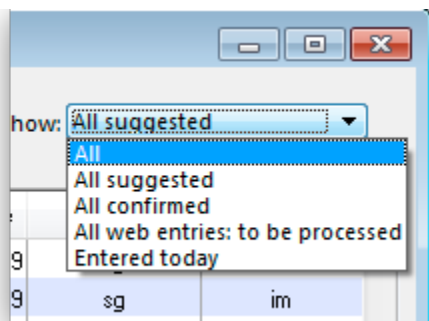


1. **Customer stock takes:** This form you can give to the customer (for example, if they are a ward in a hospital that has mSupply running in its pharmacy store), and they can fill out the quantities they have on hand, and then values are entered into mSupply.
2. **Customer stock supply:** This form provides information to give to the customer about the quantity they will be supplied.
3. **Customer stock request and issue:** Provides information for the customer comparing what was requested with what was actually supplied.

The second two reports are for use after you have entered quantities to be supplied into the customer stock history window.

More on the Customer Stock History list.

With the passage of time, entries on the list will rapidly grow in number, and so mSupply allows you to apply a filter selecting exactly what will be displayed.



The default display is for *All suggested*, as these are most likely the ones you will be processing; other options are *All*, *All confirmed*, *All web entries to be processed* - this covers histories submitted over the internet - and *Entered today*

Viewing customer stock history by item

- When editing an item, you can view the customer stock history records for that item. More information is available [here](#)

The Imprest Method

With the Imprest method, the quantity to be ordered is the quantity necessary to restore the stock on hand to a pre-agreed fixed quantity. This imprest stocktake must be carried out on a regular fixed frequency (daily, weekly, fortnightly, monthly, whatever.) This pre-agreed fixed quantity is arrived at on the basis of a number of simplifications to the stock history method:

- A = Stock on Hand on date1
- B = Amount supplied to Customer between date1 and date2
- C = Stock on hand on date2 **THE ONLY INFORMATION COLLECTED**
- D = Quantity used in period between date1 and date2.
- E = number of days between date1 and date2
- F = Usage rate **PRE-DETERMINED AND FIXED**
- G = Number of days in coming supply period **PRE-DETERMINED AND FIXED**

- H = Number of buffer stock days desired **PRE-DETERMINED AND FIXED**
- I = Lead time (days) between date2 and delivery of stock = 0
- J = Amount to supply = $F*(G+H+I)-C$

The **Imprest Quantity** = $F*(G+H+I)$

If stocktakes are not taken at the pre-determined frequency, and particularly if they are missed, the system will fail. It is a fairly rigid system, in that once set, F, G and H must remain constant. It is frequently used for supplying wards in a hospital setting, where operations are generally more controllable.

Using the Imprest system

The *Imprest system* operates in this way: the stock of a particular item which a customer - usually a clinic, ward or department should hold is agreed - for example, take the case of a rural clinic, which receives a monthly order from a central store; it is agreed that the clinic should, when fully stocked, hold 10,000 paracetamol 500mg tablets and this is known as the *Imprest quantity* for paracetamol tablets. At the end of a particular month, a stocktake shows that there are 2,400 paracetamol tablets in stock; to restore the stock of paracetamol tablets to the *imprest quantity*, the amount to be ordered is calculated according to the formula:

Imprest quantity - stock remaining = order quantity

In the above example for paracetamol tablets, this is the calculation:

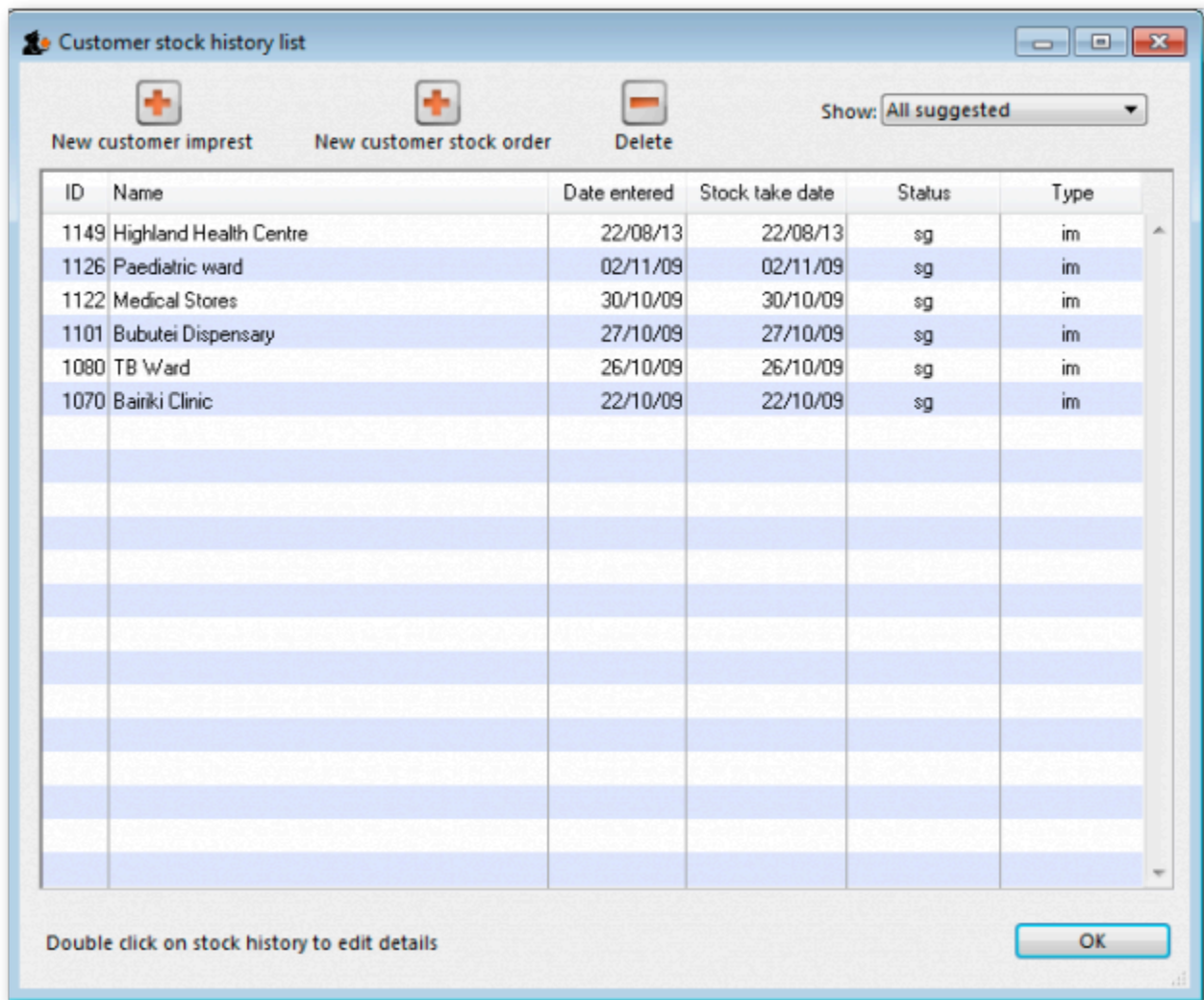
- 10,000 (imprest quantity) minus 2,400 (quantity remaining in stock) equals 7,600, and this is the order quantity.

The *Show customer stocktakes* feature caters for mSupply users who operate an Imprest system, where a central store supplies goods on a *regular basis* to a number of customers, who may/may not be mSupply users themselves. We advise that the customers should be provided with a list - perhaps for a 12 month period - of the dates on which they should perform a stock check and submit the figures, ideally on a customised form, to the central store according to the prearranged schedule. It is important to note that the customer needs to supply only the current stock on hand figures, a relatively simple task; customers are not required to submit details of what they perceive to be order quantities.

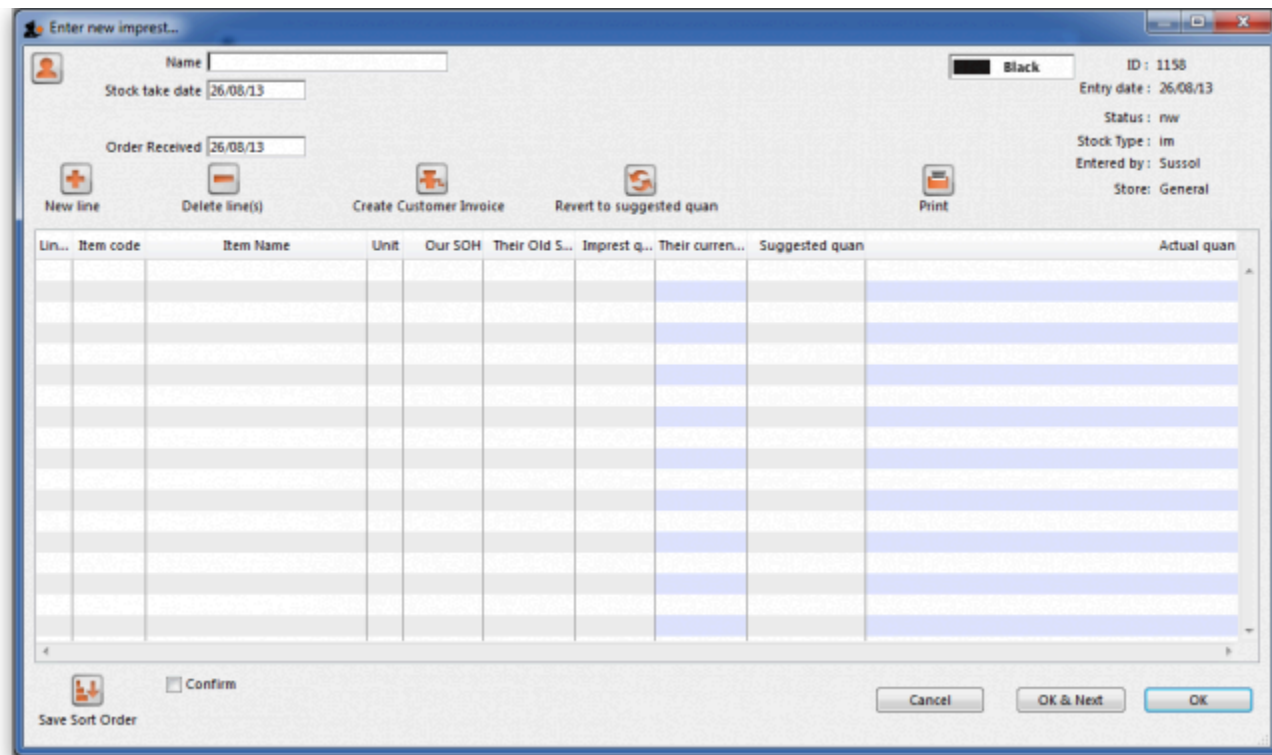
It should be remembered that the items to be included in the list and their *imprest quantities* must be defined for each customer individually. The *imprest quantity* defined for a particular customer is unique to that customer, and has no bearing on *imprest quantities* defined for other customers.

Processing the order from the customer

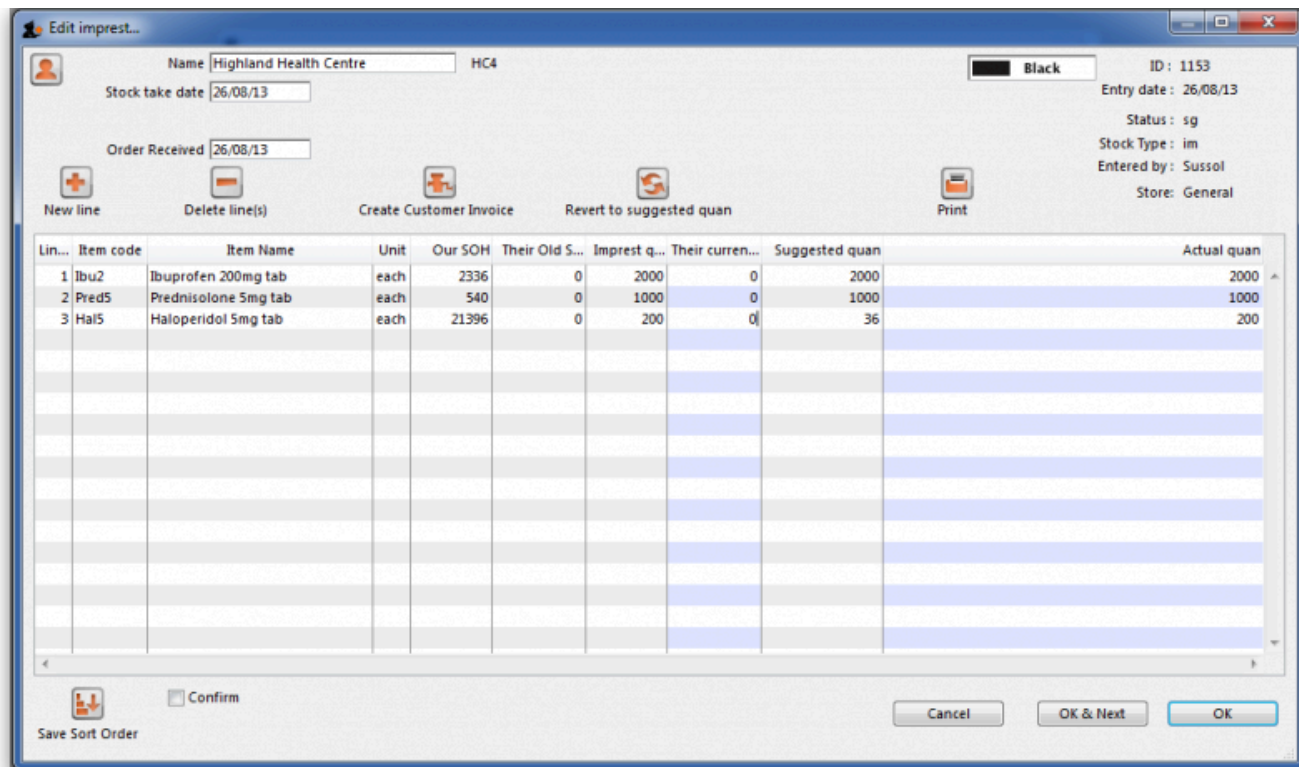
The central store, on receiving the stock on hand details from the customer, selects from the Navigator or Customer menu the item *Show customer stock history*, which displays this window:



If you are working with a customer for whom no imprest list has been defined, clicking on the *New customer imprest* will display the *Enter new imprest* window, where appropriate entries are made.



Continuing to use Highland Health Centre as our example (for whom we have created an imprest list), double clicking on that entry displays this new window on which the imprest list appears:



You will note that there are no entries in the *Their current stock* column, and the figures supplied by the customer should be entered; click on each line, and after a second or two the zero appearing in that column can be edited with the required figures.

Revert to suggested quan

Old S...	Imprest q..	Their curren...	Sugg
0	2000	730	
0	1000	380	
0	200	164	

There is an important exception here: if the name you entered in the Name textbox is actually another store in mSupply then the *Their current stock* column will be automatically filled in with the stock in the store. Very useful time saving feature!

Simultaneously, mSupply completes the next two columns, *Suggested Quantity*, and *Actual Quantity*. The *Actual Quantity* entries may be edited to reflect, for example, pack sizes, to ensure that actual quantities match exact multiples of the pack size. After editing, the window may appear like this:

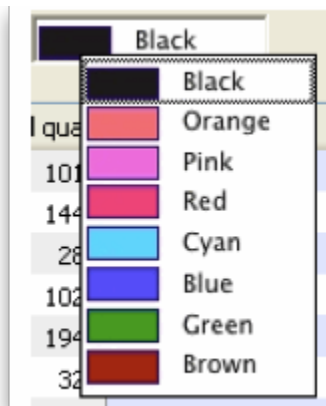
Edit imprest...

Name: Highland Health Centre HC4 ID: 1153
 Stock take date: 26/08/13 Entry date: 26/08/13
 Order Received: 26/08/13 Status: sg
 Stock Type: im Entered by: Sussol
 Store: General

New line Delete line(s) Create Customer Invoice Revert to suggested quan Print

Lin...	Item code	Item Name	Unit	Our SOH	Their Old S...	Imprest quantity	Their current SOH	Suggested quan	Actual quan
1	Ibu2	Ibuprofen 200mg tab	each	2336	0	2000	730	1270	1500
2	Pred5	Prednisolone 5mg tab	each	540	0	1000	380	620	1000
3	Hal5	Haloperidol 5mg tab	each	21396	0	200	164	36	100

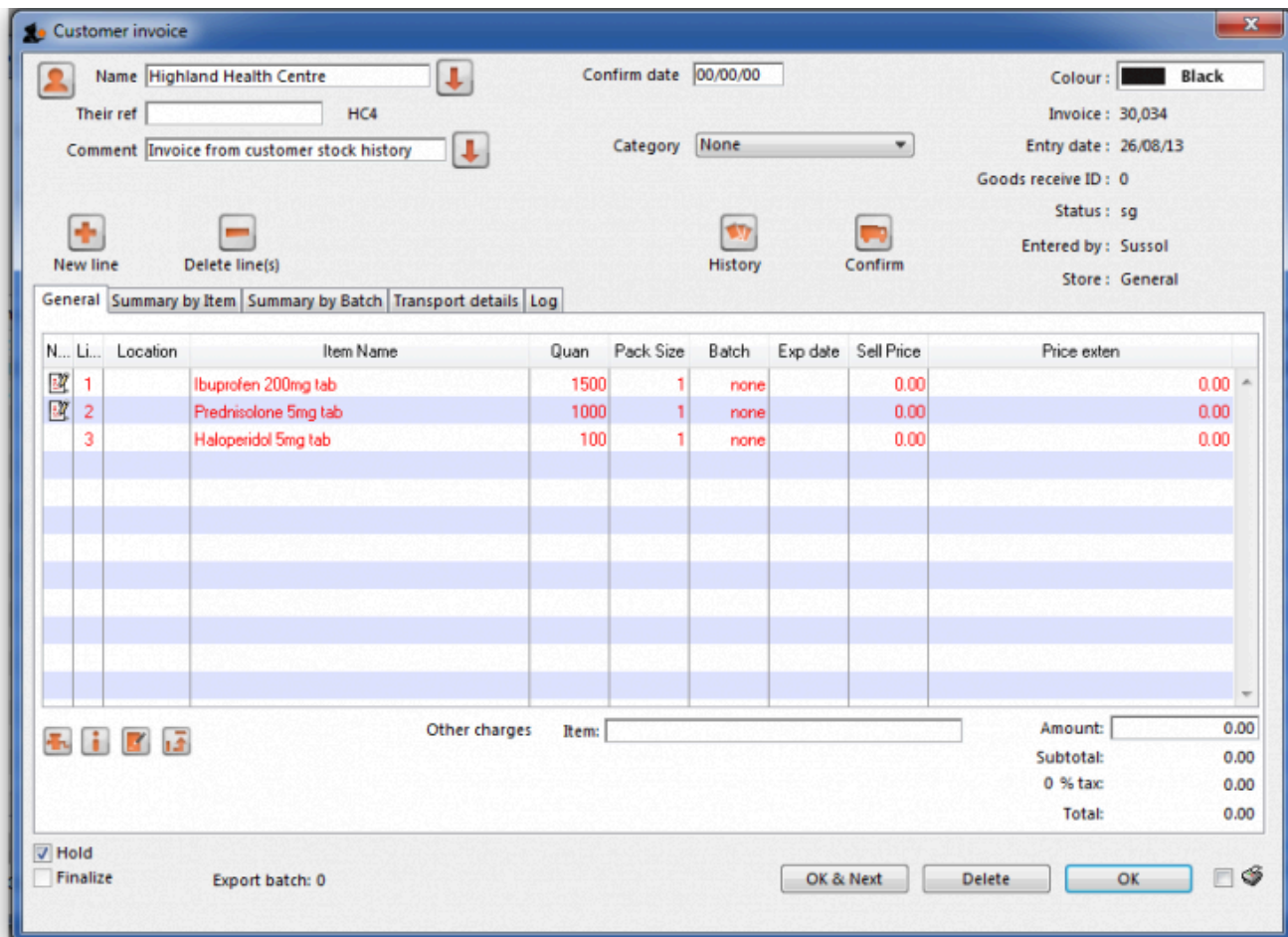
Should you have any reason to identify one or more lines, this may be performed by highlighting the line(s), and changing the colour of the font. Black is the default, but other options may be selected from the drop-down list:




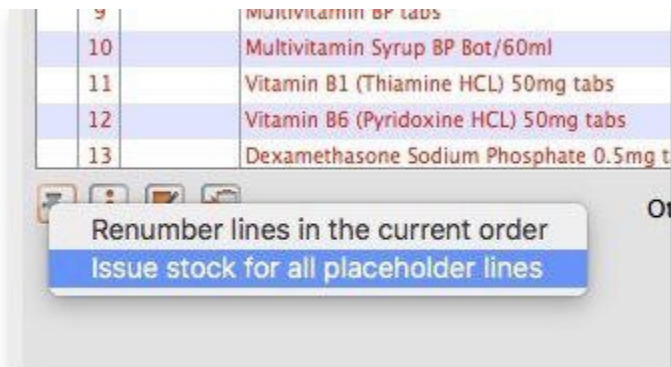
Selecting 5 or more lines brings up an alert requiring confirmation of your intention.

Creating the customer invoice

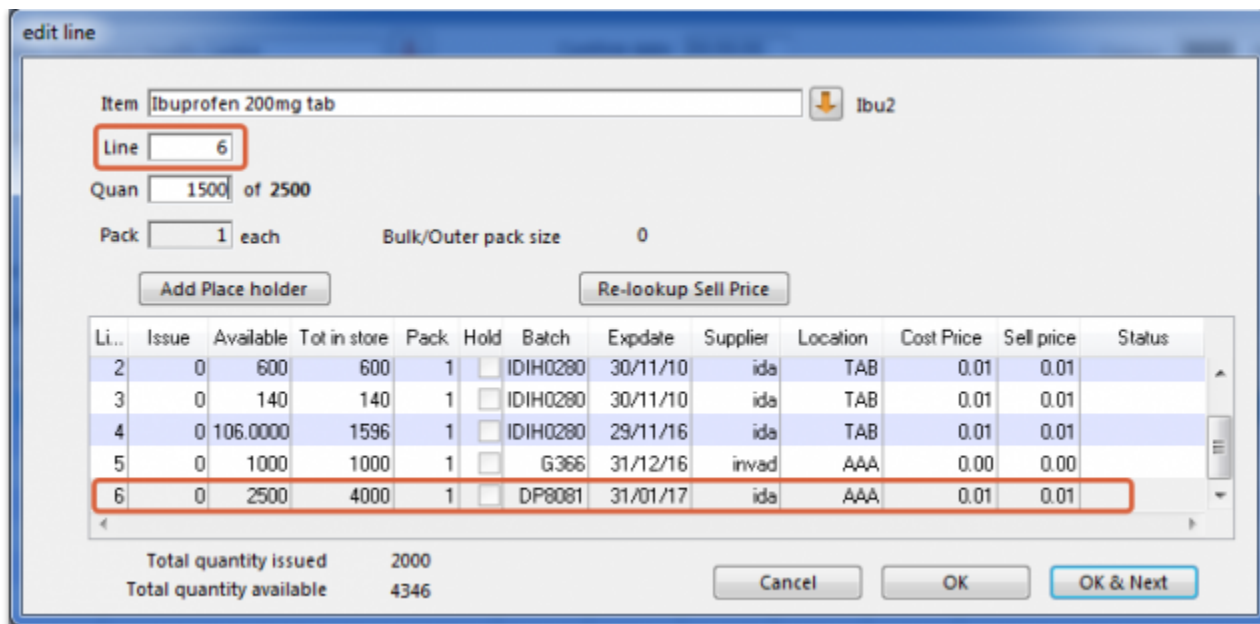
Once you are satisfied, the *Create customer invoice* button should be clicked, and the following window appears:



Press the grinder icon at the bottom left to issue stock for all placeholder lines. 



All the entries appear in red, as mSupply needs the operator to select the specific item to be supplied from your store, i.e. the batch required, and, if necessary, to distribute the order over two or more batches, if there is insufficient quantity of one batch in your store. The next step is to double click on each entry and in the example, the 1st item on the invoice, *Ibuprofen 200mg tablets*, is being processed; there are several batches in our store, some of which have reached their expiry; although line 4 indicates there are sufficient to meet this order in the store, you will note that only 106 tablets are available, so we select line 6.



Clicking on *OK & Next* displays the next item on the invoice, *Prednisolone 5mg tablets*.

edit line

Item ↓ Pred5

Line

Quan of 0

Pack each Bulk/Outer pack size 0

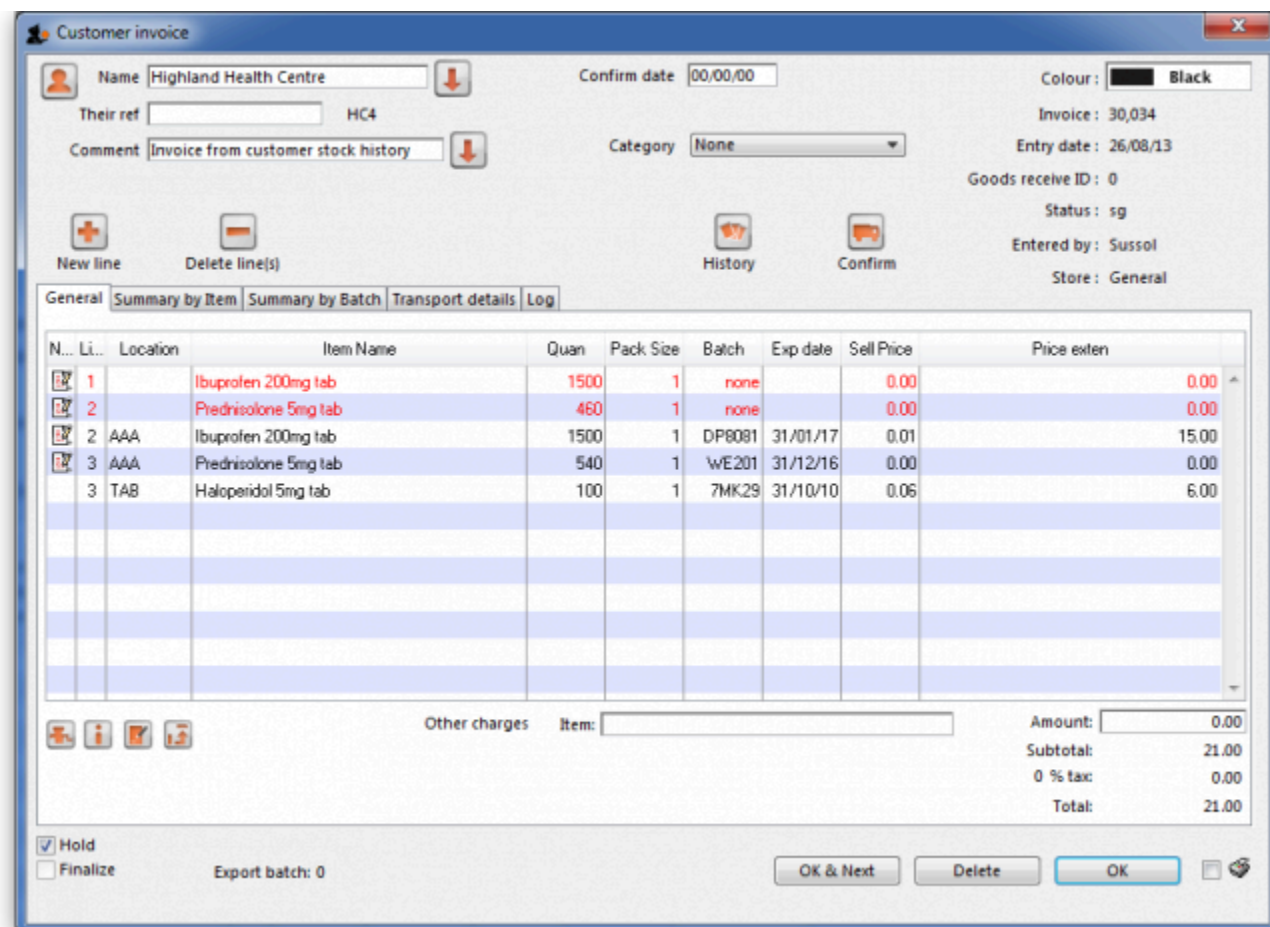
Li...	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Location	Cost Price	Sell price	Status
1	1000	0	0	1	<input type="checkbox"/>	none				0.00	0.00	
2	0	540	540	1	<input type="checkbox"/>	WE201	31/12/16	invad	AAA	0.00	0.00	

Total quantity issued 1000
Total quantity available 540

Click *Redistribute all*, which is the normal procedure. There is only one batch available, but there is insufficient stock to meet the order, so mSupply® creates a placeholder line for the outstanding amount.



When the final item has been processed, clicking on *OK* will display the completed invoice.



Make sure the *Hold* checkbox is not checked, and at this stage the invoice may be confirmed.

Danger of failing to re-supply in time

Obviously, regardless of the calculation method employed, if the supplying store fails to re-supply the Customer within the supply period (G) then the Customer will start eating into the buffer stock and is in danger or running out of stock!

Previous: Box Management Next: Customer Budgets

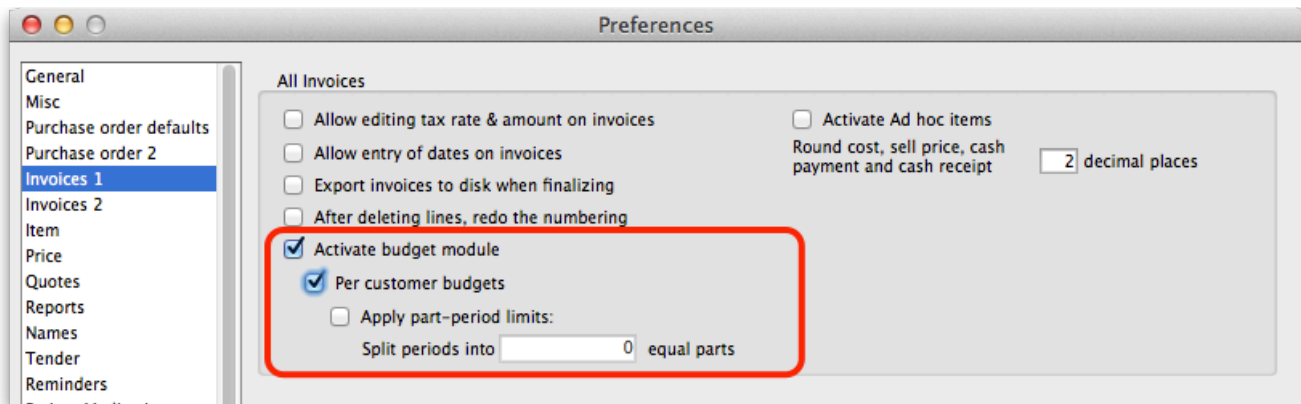
Customer budgets

This feature enables you to manage the budgets of customers in your system. Remember, in mSupply customers are names to which you supply goods. To enable the feature you need to turn it on and then set preferences for its use and allocate budgets to your customers. When using it, you see extra fields on a customer invoice which tell you how much budget the customer has been allocated and the amount you have remaining. Once a customer has reached their budget limit a customer invoice cannot be confirmed unless it is first authorised. All the details you need are below.

Setting up the customer budgets feature

Turning the feature on: File preferences

- Go to File > Preferences...
- Select the Invoices 1 tab.
- Check the 'Per customer budgets' checkbox. Note that 'Activate budget module' must be checked first and you should have previously set up your budget periods (see Budgets for details).
- After clicking **Per customer budgets** checkbox confirm dialog box is shown with message “Turning on the customer budgets functionality requires that the preferences for authorising customer invoices be turned on and automatically confirming and finalising customer invoices be turned off. Is this OK?”
- You must click OK to activate the functionality. When you do, the “Customer invoices must be authorised” and “Authorisation needed only if over budget” store preferences are turned on for all stores.
- Optionally, you can divide budget periods up into smaller equal parts and apply the same fractional amount of the period budget to each part-period. For example, if your budget period is a year you might want to split this up into quarters and allow customers to freely spend up to a quarter of their annual budget in this time. To activate these additional limits check the **Apply part-period limits** checkbox and type into the textbox the number of part-periods you want to split the budget periods into. To split annual periods into quarters you would enter 4 into the textbox:



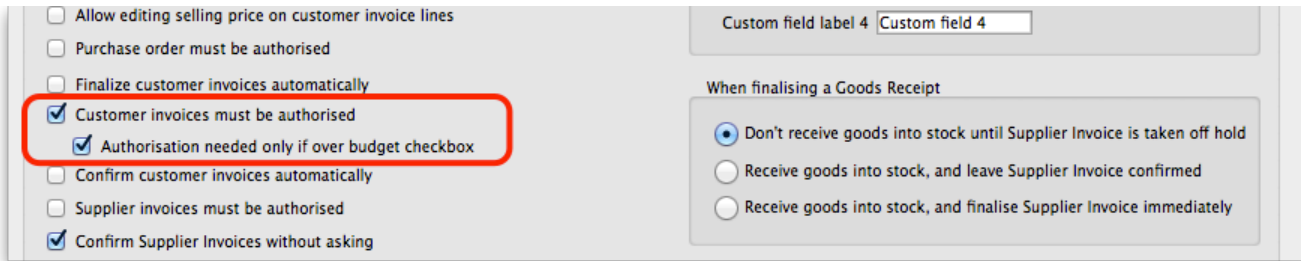
Note that any unused amounts of part-period budgets roll over to the next part-period. Full period budget amounts do **not** roll over to the next period.

Configuration: Store preferences

- If Per customer budgets is turned on then “Customer invoices must be authorised” checkbox and “Authorisation needed only if over budget” are turned on. This is done automatically for you when you turn the feature on (as mentioned above). You can, however, uncheck these checkboxes for individual stores to have the feature work in

different ways:

1. “Customer invoices must be authorised” and “Authorisation needed only if over budget” both checked - customer invoices can be confirmed freely until the budget limit is reached. After that, customer invoices must be authorised before they can be confirmed.
2. “Customer invoices must be authorised” and “Authorisation needed only if over budget” both unchecked - mSupply will display the budget information on the customer invoice but it will not enforce the budget.
3. “Customer invoices must be authorised” checked, “Authorisation needed only if over budget” unchecked - all customer invoices must be authorised, regardless of whether the customer has exceeded their budget.

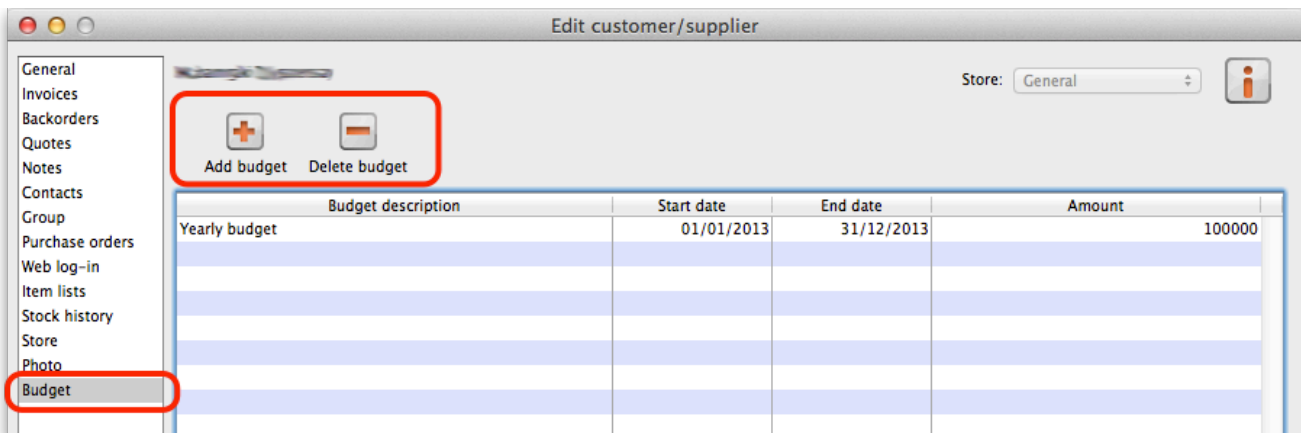


Add budget periods

- These are the system-wide budget periods that mSupply uses for its budget functionality. Customer budgets are assigned to these budget periods so you must set them up before you can start setting up individual customer budgets.
- From the Navigator click the drop down menu **Special > Show budgets....** You click on the *New* button to create a new budget period but for the full details please see Budgets.

Setup: Set individual customers' budgets

- Note that if you want to set up many or all customers' budgets at one time you can use the import feature, details of which are here
- To set up the budget for each customer, go to Customer > Show customers..., click on the Find button, and double click on the first customer to show their details
- Click on the Budget tab
- **Add budget:** Click on this button to add a budget. This opens the edit budget window shown below.
- **Delete budget:** Select a budget in the list and click on this button to remove the budget for the customer.
- **Edit a budget** by double clicking on a budget in the list. This will also open the edit budget window (shown below) pre-populated with the budget's current settings, all of which are editable.



Customer budget edit window

- **Description:** The description for the budget. This is for your reference, only displayed in the budget tab of the customer details window.
- **Budget period:** The period that the budget applies to. This list contains only the budget periods previously set up using Budgets.
- **Amount:** The amount of the budget in your local currency
- **Additional budget:** If checked this tells mSupply that the budget amount is to be considered as an additional amount available only from the part-period in which its effective date falls. For example, if you have a budget of 100,000 which runs from 1st January to 31st December in a given year and is split into 4 part periods and you then have an additional budget amount of 10,000 with an effective date of 30th July, the following budget limits will apply: for the 1st quarter the customer has 25,000 available, the 2nd quarter 50,000 available (25,000 + 25,000 because part period amounts roll over), the 3rd quarter 85,000 available (25,000 + 25,000 + 25,000 + 10,000) and the 4th quarter 110,000 available (25,000 + 25,000 + 25,000 + 10,000 + 25,000).
- **Effective date:** This field is only visible if the *Additional budget* checkbox is checked. The date that the budget amount is to be effective from: mSupply applies the additional budget amount to the part period in which this date falls. Note that if part periods are not in use then additional amounts simply add to the total budget available for the whole budget period.

Using the customer budgets feature

The customer invoice window

This is where you see the customer budgets feature doing its job; when you're distributing goods to a customer:

- Create a new customer invoice (Customer > New invoice...)
- Enter the customer name
- Select the budget period that this invoice belongs to from the Period drop down list (this list contains the periods you set up using Budgets).
- If you haven't set up a budget for the customer you are warned with this message: "There is no budget set for this customer in that period. You will not be able to confirm the invoice until the budget has been set."
- If you've followed the instructions above and setup the customer's budget correctly then the **Total budget used** and **total budget** fields are populated to show you exactly how much of their budget the customer has used so far.
- Add items to the invoice as required.
- Everything will behave exactly as it has done before until the customer's budget amount has been exceeded.
- When the customer's budget has been exceeded (this can be the full period amount or the part-period amount if the part-period limits are turned on) and the **confirm button** is clicked you will be alerted with the message "This invoice exceeds the budget set for this customer. You cannot confirm it without authorisation (Note: you cannot

confirm the invoice at the same time as authorising it, you must save the authorisation first by clicking the OK button, then re-open the invoice and confirm it)".

- The invoice must now be authorised by a user with suitable permissions before it can be confirmed: See Invoice Authorisation for details on authorising customer invoices.

Customer invoice

Name: Kabangaki Dispensary
 Their ref: AMRD38
 Comment: [Empty]

Confirm date: 00/00/00
 Period: 01/01/2013 - 31/12/...
 Category: None

Colour: Black
 Invoice: 133,071
 Entry date: 31/12/2013
 Goods receive ID: 0
 Status: sg
 Entered by: Sussol
 Store: General

Buttons: New line, Delete line(s), History, Confirm

...	Loc	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
1	TAB		Amoxycillin 500mg cap	10000	1	70512100	30/10/20	0.02	200.00

Other charges: Item: [Empty] Amount: 0.00
 Subtotal: 200.00
 0 % tax: 0.00
 Total: 200.00

Total budget used: 1,977.89 of 100,000.00

Buttons: Hold, Finalize, Authorised, Export batch: 0, OK & Next, Delete, OK

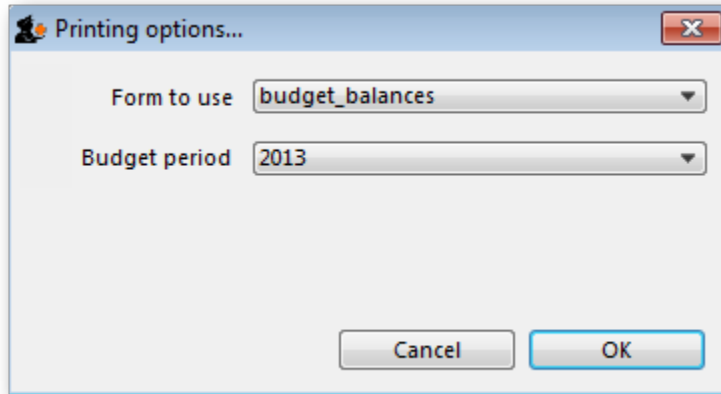
Reporting on Customer Budgets

There are several reports that provide various information on customer budgets, they are:

- Disbursement Report - shows items with their values which have been distributed to customers during a budget period.
- Expenditure report - shows spending against budgets with remaining available budget.
- Trend Report - shows, in graph format, spend against budgeted amount.

Disbursement Report

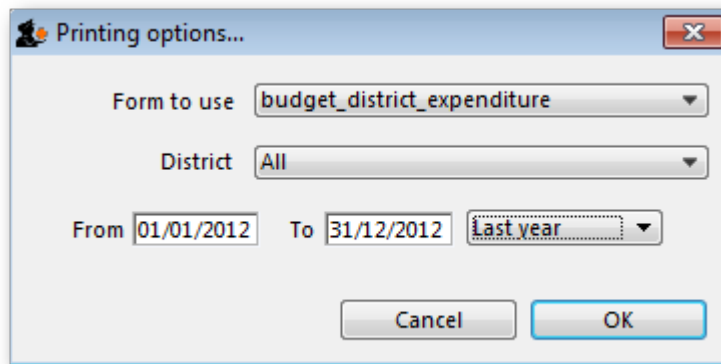
- From the Navigator click drop down menu **Reports** and click option **Customer Budgets**.
- Choose budget_balances from the print options window which appears:



1. Budget period: select the period you want to report on.

Expenditure report

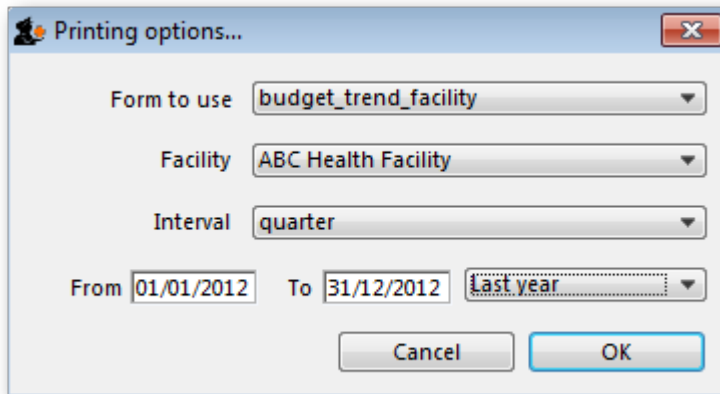
- From the Navigator click drop down menu **Reports** and click option **Customer Budgets**.
- Choose budget_district_expenditure (or budget_facility_expenditure) from the print options window which appears:



1. If District: Select "All" to see expenditure for all districts, or select a district to see expenditure for the facilities in that district
2. If Facility: Select the facility to see expenditure for that facility, and select the reporting interval
3. Select the date range you want to report on.

Trend Report

- From the Navigator click drop down menu **Reports** and click option **Customer Budgets**.
- Choose budget_trend_district (or budget_trend_facility) from the print options window which appears:



1. District/Facility: Select "All" to see a graph for all, or select a district/facility to see a graph for just the selected district/facility
2. Interval: Choose the intervals you want for the horizontal axis, eg. quarterly, yearly, etc.
3. Select the date range you want to report on.

Note that this is a cumulative report, so the graphs generated need to include the entire budget period. This means that the date range is only used to determine which budget periods intersect with the selected dates e.g. if the date range covers more than one budget period, a graph will be generated for each one.

Previous: Stock Control methods for your customers Next: Payments to Suppliers


Payments to suppliers

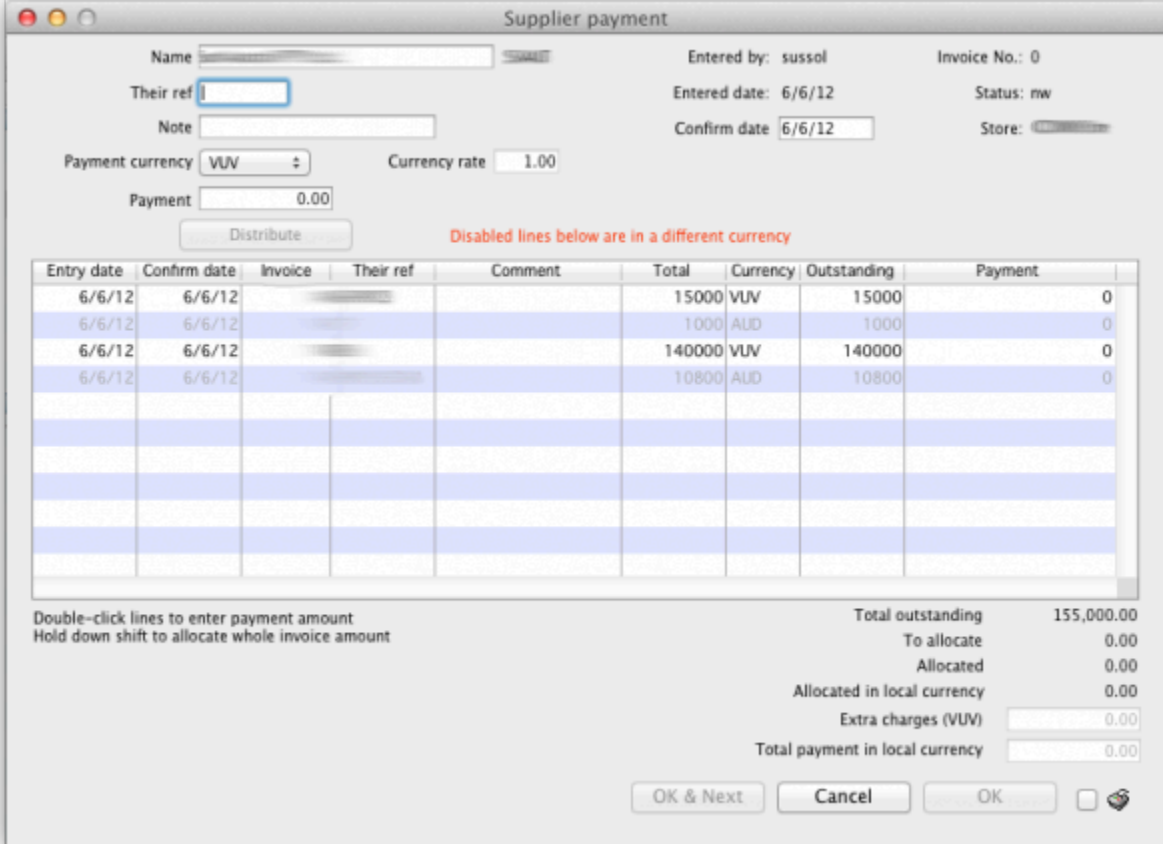
Entering payments

This functionality is used to record payments that you have made to suppliers for goods received from them. To be able to record payments you need to activate the payment module in the preferences (Invoices 1 tab, 'Activate supplier payment module' check box) first.

Some important points:

- When the payments module is activated, each supplier invoice will have its amount outstanding recorded (the amount left to pay to the supplier). Any invoices finalised before the module is activated have their outstanding amount set to zero, so will not show for payment.
- Only finalised supplier invoices can have payments entered for them. Use the **File > Finalize supplier invoices** command to finalise all invoices or view invoices (**Suppliers > Show supplier invoices**) and finalise them individually once all the details are correct.
- You cannot pay a supplier more than the total outstanding (as if you'd want to!). This is different to a cash receipt, where you can accept an overpayment from a customer.

To enter a new cash payment, choose **Supplier > New Cash Payment** from the menus (or click on the  icon in the Payments section on the Suppliers tab of the navigator to be shown the new cash payment window:



The screenshot shows the 'Supplier payment' window with the following details:

- Name: [text field]
- Entered by: sussol
- Invoice No.: 0
- Their ref: [text field]
- Entered date: 6/6/12
- Status: mw
- Note: [text field]
- Confirm date: 6/6/12
- Store: [text field]
- Payment currency: VUV
- Currency rate: 1.00
- Payment: 0.00
- Distribute button

Table of invoice lines:

Entry date	Confirm date	Invoice	Their ref	Comment	Total	Currency	Outstanding	Payment
6/6/12	6/6/12				15000	VUV	15000	0
6/6/12	6/6/12				1000	ALID	1000	0
6/6/12	6/6/12				140000	VUV	140000	0
6/6/12	6/6/12				10800	ALID	10800	0

Summary:

- Total outstanding: 155,000.00
- To allocate: 0.00
- Allocated: 0.00
- Allocated in local currency: 0.00
- Extra charges (VUV): 0.00
- Total payment in local currency: 0.00


Buttons: OK & Next, Cancel, OK, [checkbox], [icon]

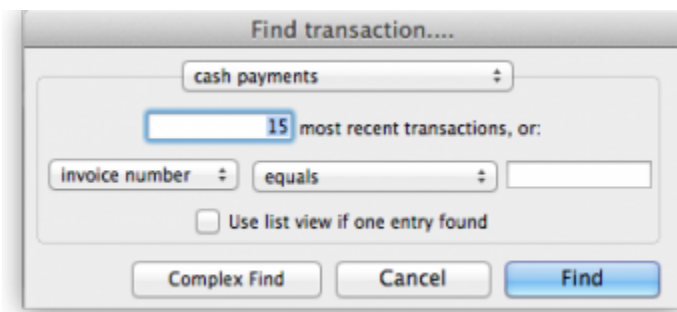
The **Their ref** field label can be customised in the preferences to be anything you want. Please see General preferences for more details.

Entry steps

1. Enter the supplier name or code in the Name field. Once you have chosen the supplier, a list of finalised supplier invoices that still have an amount outstanding will be displayed.
2. Enter a comment about the payment in the Note box. If you leave this blank mSupply® will automatically create a note containing a list of the invoices the payment is paying off.
3. Select the currency you want to pay in. You can only enter payments in one currency at a time so all those invoices that are in a different currency to what you have selected will be greyed out in the list and you will not be able to enter a payment amount against them.
4. The rate stored in mSupply for the particular currency you have selected is displayed in the Rate box. If you wish to use a different rate (e.g. the rate you know the bank will use) you can change the rate to match it (and the calculated payment amounts will be updated automatically). Note that the rate is set to 1 and is unchangeable if you have selected your local currency.
5. Enter the total amount you wish to pay in the Payment box and click the **Distribute** button. This will distribute as much of your payment as it can among all the outstanding invoices in the currency you selected, in the order they appear in the list. If there is any left over it will be shown in the To allocate box.
6. Alternatively, you can shift-double-click each non-greyed out invoice to pay the full amount of that invoice. (Note that shift-double-clicking toggles between allocating nothing and full payment against an invoice). A quick way to find out the total outstanding amount for a supplier in the selected currency is to shift double click all the non-greyed out invoices. The total will then be displayed in the Allocated amount.
7. To partially pay an invoice you can double-click it's line and enter the amount you wish to pay.
8. If there are any local charges that need to be added onto the payment, they can be entered after you have allocated the full amount entered in the Payment box to invoices.
9. As well as adding in local charges you can edit the total amount of the payment in local currency if needs be so that the actual payment amount matches your bank records (such a situation might arise if your bank uses a different currency conversion rate to that stored in mSupply® but you don't know what it is).
10. Once you are happy with the details, click the **OK** or **OK & Next** button. If you want to print the information, make sure the **print** checkbox is checked.
11. Note that the **OK** and **OK & Next** buttons will remain disabled until the Payment amount is non-zero and the To allocate amount is zero (i.e. a payment amount has been entered and has all been allocated to invoices).

Viewing cash payments already made

Choose **Suppliers > Show cash payments...** from the menus or click on the  icon in the Payments section on the Suppliers tab of the navigator. You will be presented with the standard transaction find window which allows you to filter the cash payments you see:



When you click on the *Find* button will be taken to the usual transaction viewing window with the cash payments you selected displayed:

Name	Type	Sta...	Entered	Confirmed	Invnum	Total	Their ref	PS printed dt.	Comment	Exp btch
Supplier Invoices	ps	fn	2/5/12	2/5/12	7	500				0
Supplier Invoices	ps	fn	2/5/12	2/5/12	8	200				0
Supplier Invoices	ps	fn	2/5/12	2/5/12	9	9581000				0
Supplier Invoices	ps	fn	2/5/12	2/5/12	10	1540				0
Supplier Invoices	ps	fn	4/5/12	4/5/12	11	20000				0
Supplier Invoices	ps	fn	7/5/12	7/5/12	12	29243				0
Supplier Invoices	ps	fn	7/5/12	7/5/12	13	48005				0
Supplier Invoices	ps	fn	8/5/12	8/5/12	14	2000				0
Supplier Invoices	ps	fn	8/5/12	8/5/12	15	4000				0
Supplier Invoices	ps	fn	8/5/12	8/5/12	16	2000				0
Supplier Invoices	ps	fn	8/5/12	8/5/12	17	2000				0
Supplier Invoices	ps	fn	9/5/12	9/5/12	19	3250				0
Supplier Invoices	ps	fn	10/5/12	10/5/12	20	750				0
Supplier Invoices	ps	fn	10/5/12	10/5/12	29	67067			Payment of invoice(s) 117	0
Supplier Invoices	ps	fn	10/5/12	10/5/12	30	14371.5			Payment of invoice(s) 118	0

To view an individual payment simply double click on its line in the list and you will be shown a read-only view of the cash payments form containing all the details of the payment you made and the invoices it was paying.

Previous: Customer Budgets Next: Receiving payment from Customers

Receiving payment from customers

Note that the “Activate customer receipts module” checkbox on the Invoices 2 tab of the Preferences must be checked before you can use the **Customer Receipts** module. Once this option is checked, new invoices will have the outstanding amount recorded. If this option is not checked, the outstanding amount of invoices is set to zero.

A payment from a customer is referred to as a *Cash Receipt* (whether the payment is by cash, cheque or transfer)

The system mSupply uses to record payments is the accounting standard “open invoice” system, which means that the outstanding (that is, unpaid) amount of each invoice is tracked by mSupply.

Payments from customers can be received in any currency that customer invoices have been issued in. But a single payment transaction can only record payment in one currency - if you need to record multiple currency payments from a particular customer then record a separate payment for each.

To begin the process of recording a received payment choose **Customer > New cash receipt...** and you will be presented with this window:

Cash receipt

Name: Entered by: user 1 (pass= usi Invoice No.: 0

Their ref: Entered date: 06/06/12 Status: nw

Note: Confirm date: 06/06/12 Store: General

Receipt currency: NPR Currency rate: 1.00

Receipt:

Disabled lines below are in a different currency

Entry date	Confirm date	Invoice	Their ref	Comment	Total	Currency	Outstanding	Payment

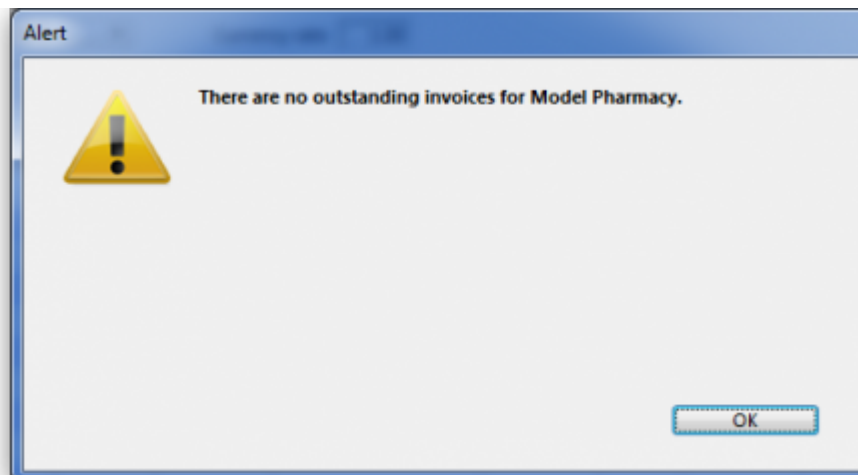
Double-click lines to enter payment amount
Hold down shift to allocate whole invoice amount

Total outstanding: 0.00
To allocate: 0.00
Allocated: 0.00
Allocated in local currency: 0.00

Total payment in local currency:

The **Their ref** field label can be customised in the preferences to be anything you want. Please see General preferences for more details.

1. Enter the customer name or code into the first field and press *Tab*. You will be shown a list if there is more than one matching entry for what you have typed.
2. Once a customer is chosen all (customer) invoices that have unpaid amounts for that customer will be listed.
 - Note: only finalised invoices are shown. If there are no finalised invoices with outstanding amounts, this alert appears:



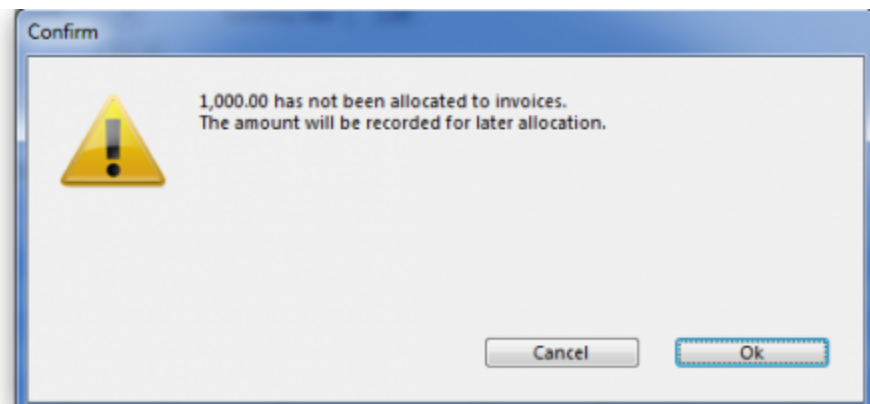
- If you wish to receive a payment and there are no invoices available to record the payment against, you can either record the amount as an overpayment (see below) or click **Cancel** and finalise the invoices that are being paid, then restart the payment process (If the customer is paying you it most likely means they agree with the invoice and it is OK to finalise it!)
3. Enter the cheque number or similar in the *Their ref* field and a note in the *Note* field if you want to.
 4. Select the currency of the payment you are receiving (your home currency will be chosen by default). Any invoices that are in currencies different to the one selected are disabled and cannot have a payment entered against them. If you are receiving a payment in a currency other than your home currency you can manually adjust the conversion rate that mSupply uses by entering the rate you want to use in the *Rate* field.
 5. Enter the total amount of the payment you are receiving into the *Receipt* field.
 6. You have a number of choices to allocate payment amounts to the various invoices:
 - Click on the *Distribute* button. This will allocate payment to the top invoice first and work its way down the other invoices until the payment is all allocated (note that disabled invoices in a different currency are ignored). If the payment is not enough to cover all invoices then one will receive a partial payment and some may receive no payment.
 - Double-click an invoice in the list to be shown a box to enter the payment amount, or
 - Hold down the shift key while double-clicking an invoice to allocate the full outstanding amount of that invoice.
 7. Click the OK button to record and finalise the payment (you will be warned that the payment cannot be edited).

Note: If you receive more than the total amount of the invoices you will be asked to confirm that this is OK and the extra received amount will be recorded as an overpayment - see below.

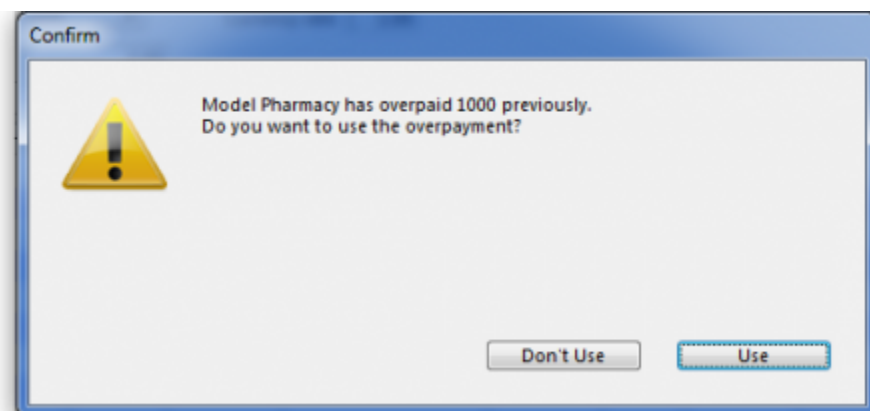
Note: customer credits should be entered as a negative *Receipt* amount. It is generally good practice to allocate credits as soon as they show in the list.

Overpayments

- Sometimes a customer might pay you more than the amount owing (not so likely, but it does happen to some nice organisations!), or the customer might pay you for an invoice that is not yet finalised. If this happens, allocate any amount that relates to invoices in the list. When you click *OK* you will be warned there is an overpayment and you will be asked if you want to continue.



- Click *OK* if you want to continue, or *Cancel* if you want to allocate the extra amount to invoices.
- The next time you enter a payment for that customer you will be presented with a window asking you if you want to use the overpayment for this transaction:



- Click **Use** if you want to use the overpayment, or **Don't use** if you want to enter another payment (Some customers just keep sending in the money...)

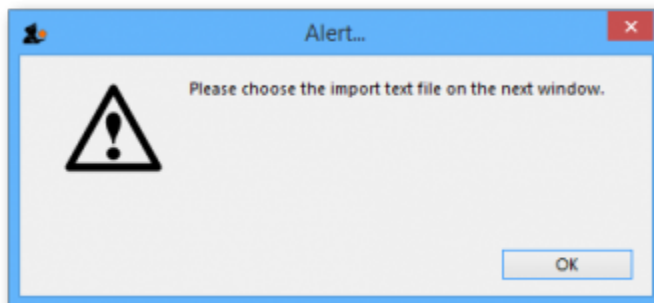
Previous: Payments to Suppliers Next: Importing Items

Importing items

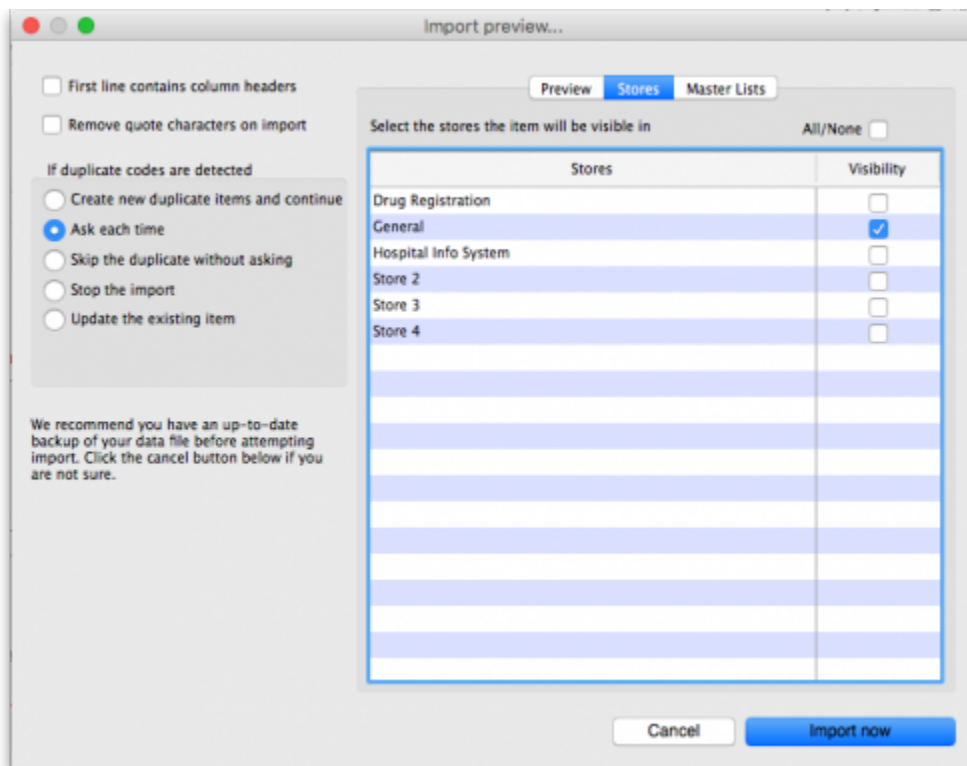
You can import a tab-delimited text file of items by choosing **File > Import > Import items....** During import you can specify what happens with duplicates, which stores the imported items will be visible in and which master lists they will be added to.

Please note that this command only imports items and not the stock. If you would like to import both, see the next heading: Importing items & stock.

After selecting the menu item you are shown a message asking you to select the file to be imported on the next window:



After clicking OK, a window opens allowing you to select the file to import. After selecting it (by double clicking on the file in the window or clicking on it and clicking on the *Open* button) this window is displayed:

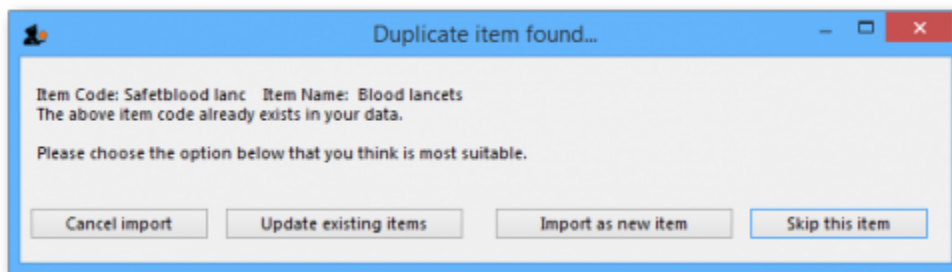


First line contains column headers: If you have used the first line of your import file for column headers, check this box. Then mSupply will ignore the first row in the file, and start importing from the second row.

Remove quote characters on import: If this is checked then double quote characters (") are removed from item names as they are imported. This is useful if you have exported the import file from spreadsheet software and it has incorrectly placed double quote characters around the text. If you have used double characters in item names (e.g. as a symbol for inches) then they will also be removed if this option is checked.

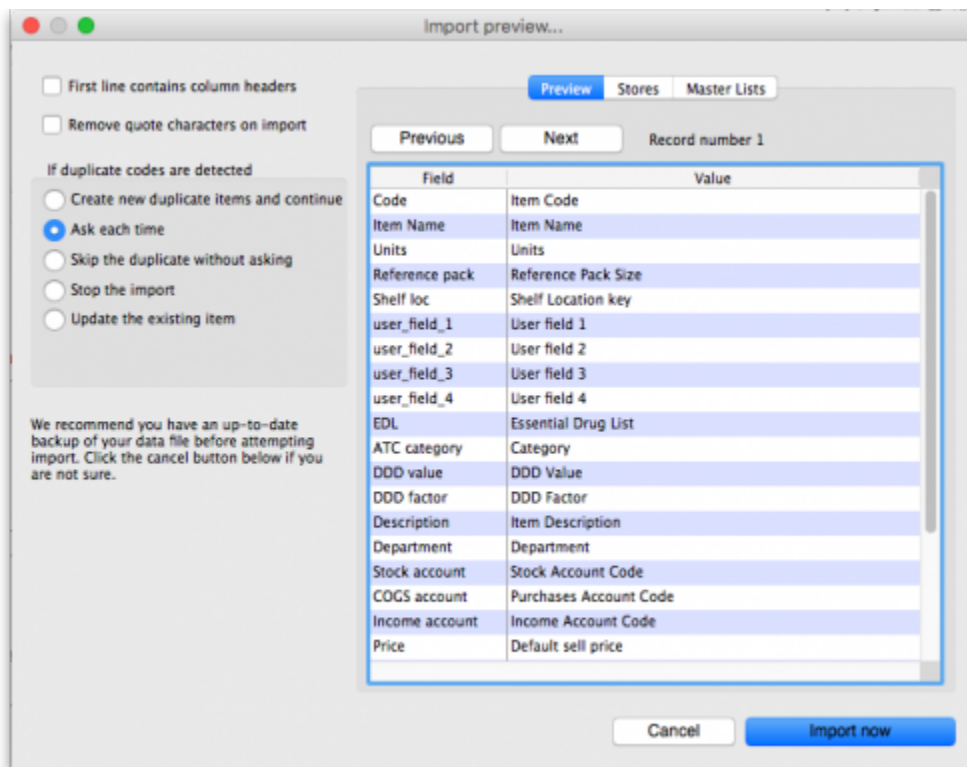
Handling duplicate items: mSupply compares the item code in the import file (1st column - see below) against the codes of items already in its database to determine whether an entry is a duplicate item or not. If a duplicate item is found in the import file the mSupply will handle it according to your radio button selection in the *If duplicate codes are selected* section:

- **Create new duplicate items and continue:** a new item will be created. Note that you can only use this option if the preference "Item codes must be unique" is not selected in File > Preferences.
- **Ask each time:** every time a duplicate is detected mSupply will ask you what you want to do. Your options are the same:



- **Skip the duplicate without asking:** the duplicate is ignored and not imported.
- **Stop the import:** if a duplicate is detected mSupply will stop and cancel the whole import i.e. the database will be exactly that same as it was before you started the import.
- **Update the existing item:** the item with the same code already in mSupply will be updated with all the details of the item in the import file.

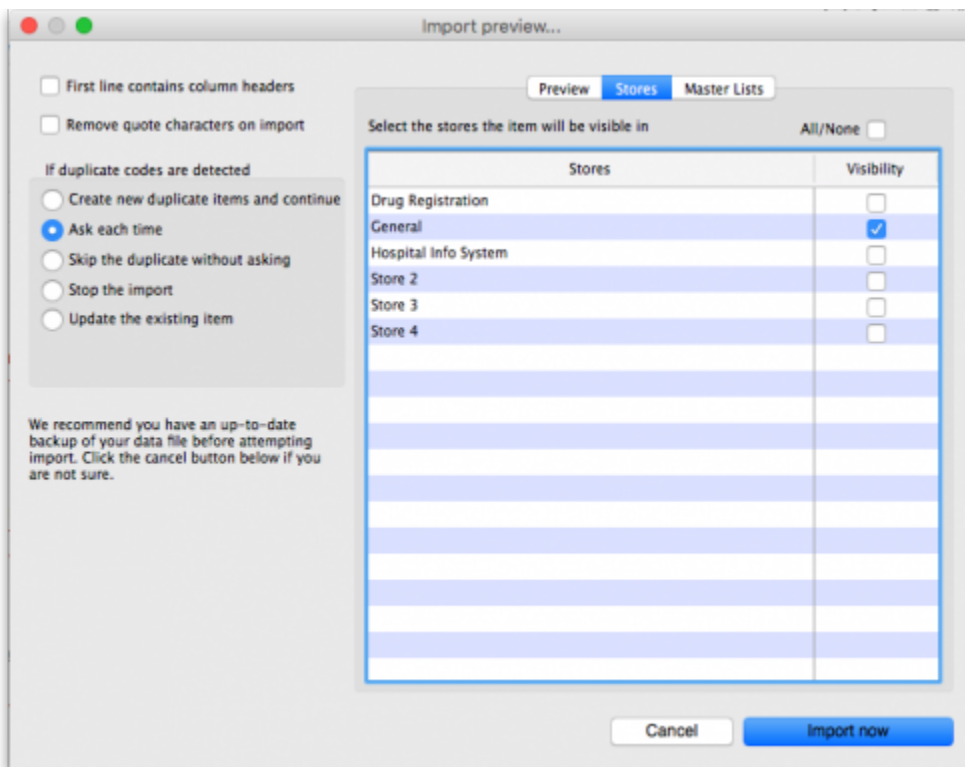
The Preview tab



This tab enables you to see a preview of what will be imported into mSupply and helps you check that mSupply is reading what you expect from the import file.

The left hand column of the table ("Field") shows you all the fields mSupply is expecting to see (in that order, first at the top, last at the bottom of the table). The right hand column ("Value") shows you the value that mSupply has read from the file for that field. Use the *Next* and *Previous* buttons to move between the records in the import file.

The Stores tab



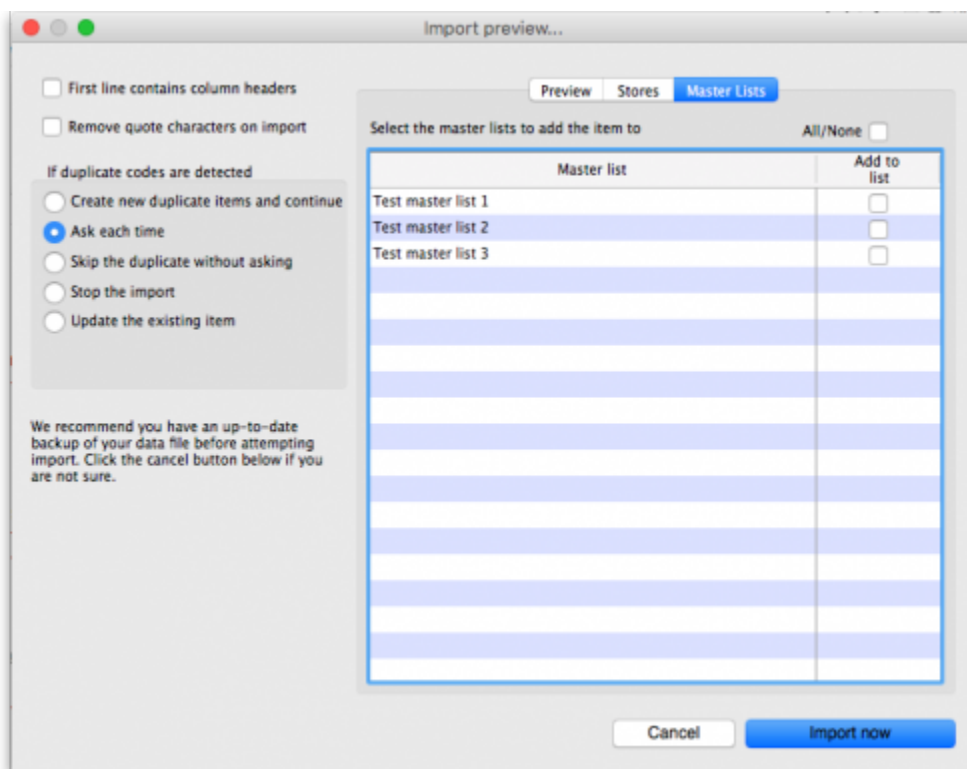
This is the tab you use to specify which stores the items you import will be visible in. The store you are logged into is ticked by default. Simply check the “Visibility” column checkbox for the stores you wish all imported items to be visible in.

Note that only imported item visibility is affected during the import - for example, if you choose to ignore duplicates and a duplicate item is found in the import file, the visibility of the item already in mSupply is not affected by the import process. But if you have chosen to update duplicates, if a duplicate item is found in the import file the existing item in mSupply will be updated to match what it in the import file have and its visibility will be altered to match what is set on this tab.

One further thing to note is that if the preference “Automatically update item visibility in all stores to match master lists used by that store” (see here) is checked then item visibility is controlled by master list membership so the table on this tab will be replaced with this message telling you to use the Master lists tab instead:

Item visibility in stores is controlled by master lists, not by setting visibility in stores directly. Please go to the master list tab to set which master lists this item belongs to.

The Master lists tab



This is the tab you use to determine which master lists the items in the import file will be added to as they are imported. Simply check the “Add to list” column checkbox for the master lists you wish all the items in the import file to be added to.

Any master lists that have the “Automatically add new items to this master list” option checked will have their “Add to list” checkbox checked by default on this tab and you will not be able to uncheck them.

Note that only imported items will be added to the master lists selected. This means that items already in mSupply which match duplicates in the import file that you choose to ignore will not be added to the selected master lists. Similarly, items already in mSupply which are updated because they match duplicates in the import file and the “Update the existing item” option was chosen are added to the selected master lists. And don't worry, if an item is already on a msster list it won't be added again.

Import file format

Field order for the text file:

Column number	Column letter	Field	Description
1	A	item code	18 alphanumeric characters (must be a unique value)
2	B	item name	80 alphanumeric characters
3	C	units	3 alphanumeric characters recommended (ea, ml or mg). Entries in the units list will be created if you import a unit that does not already exist in the data file. 60 characters supported

Column number	Column letter	Field	Description
4	D	reference pack size	integer
The above fields are mandatory, while the following fields are optional and may or may not be included as per your requirements			
5	E	shelf location	60 alphanumeric characters
6	F	user field 1	30 alphanumeric characters
7	G	user field 2	30 alphanumeric characters
8	H	user field 3	30 alphanumeric characters
9	I	user field 4	“true” or “false”
10	J	edl	“true” or “false”
11	K	ATC category	30 alphanumeric characters
12	L	ddd value	8 alphanumeric characters- the ddd and its units
13	M	ddd factor	number greater than zero (default=1)
14	N	item description	The long description for the item. Do not include carriage returns (new lines made with the return or enter key) in your text file.
15	O	item department	The name of the department that the item belongs to. If the department does not exist, mSupply will create it.
16	P	account code for stock	The account code used for stock purchases . Note that these accounts will be created if they don't exist.
17	Q	account code for cost of goods sold	
18	R	income account code	
19	S	Price	

Column number	Column letter	Field	Description
20	T	Category	Category 1. This category is hierarchical and has 3 levels. You can enter different levels separated by :: (for example “Pharmaceuticals::Controlled::Anti-depressants” or “Controlled::Anti-depressants”) or just the lowest level with no separator (for example “Anti-depressants”). mSupply will look for an existing category with the levels you define, if it doesn't find one then it will create them and assign the category to the name. If you enter only the lowest level category (for example “Anti-depressants”), mSupply will look for any lowest level category “Anti-depressants” with any or no parent. If it finds one, it will assign the first one it finds to the name being imported, otherwise it will create it with no parent and assign it to the name. We strongly recommend you use the WHO EDL categories for this field
21	U	Weight	
22	V	Critical stock	“true” or “false”
23	W	Normal stock	“true” or “false”
24	X	User field 5	number
25	Y	User field 6	“true” or “false”
26	Z	User field 7	“true” or “false”

All these are in this handy template: [msupply_item_import_template.xlsx](#).

The chances are that you already have a set of codes that you use internally. In this case open up Excel or a similar spreadsheet program, fill in the item description in the order shown above. For a quick solution, you only need to take account of the first four column, the rest can be ignored.

The third column representing “Units”, can be left blank, however, it is better to fill this in. The fourth column “*reference pack size*” can be set to “1” for all rows unless you know what pack size you want to use as the “standard” (Don't worry about this. The reference pack is used for comparing quotations. You can receive and issue any pack size you like).

	A	B	C	D
1	Item code	item name	units	Reference pack size
2	ace250t	Acetazolamicea		1
3	ace100t	Acetylsalicylicea		1
4	ace300t	Acetylsalicylicea		1
5	aci200t	Acidovir 200rea		1
6	aci250t	Acidovir sodicea		1
7	alb400t	Albendazole ea		1
8	alb25i	Albumin, hurea		1
9	abl5i	Albumin, hurea		1
10	alci10	Alcuronium clea		1
11	all100t	Allopurinol 1(ea		1
12	alu13s	Aluminium diea		1

Save a spreadsheet file as shown above as a tab-delimited text file.

Open up mSupply with a new data file and chose the import command. Direct the open/save dialog box to the text file and click “OK” to import the file.

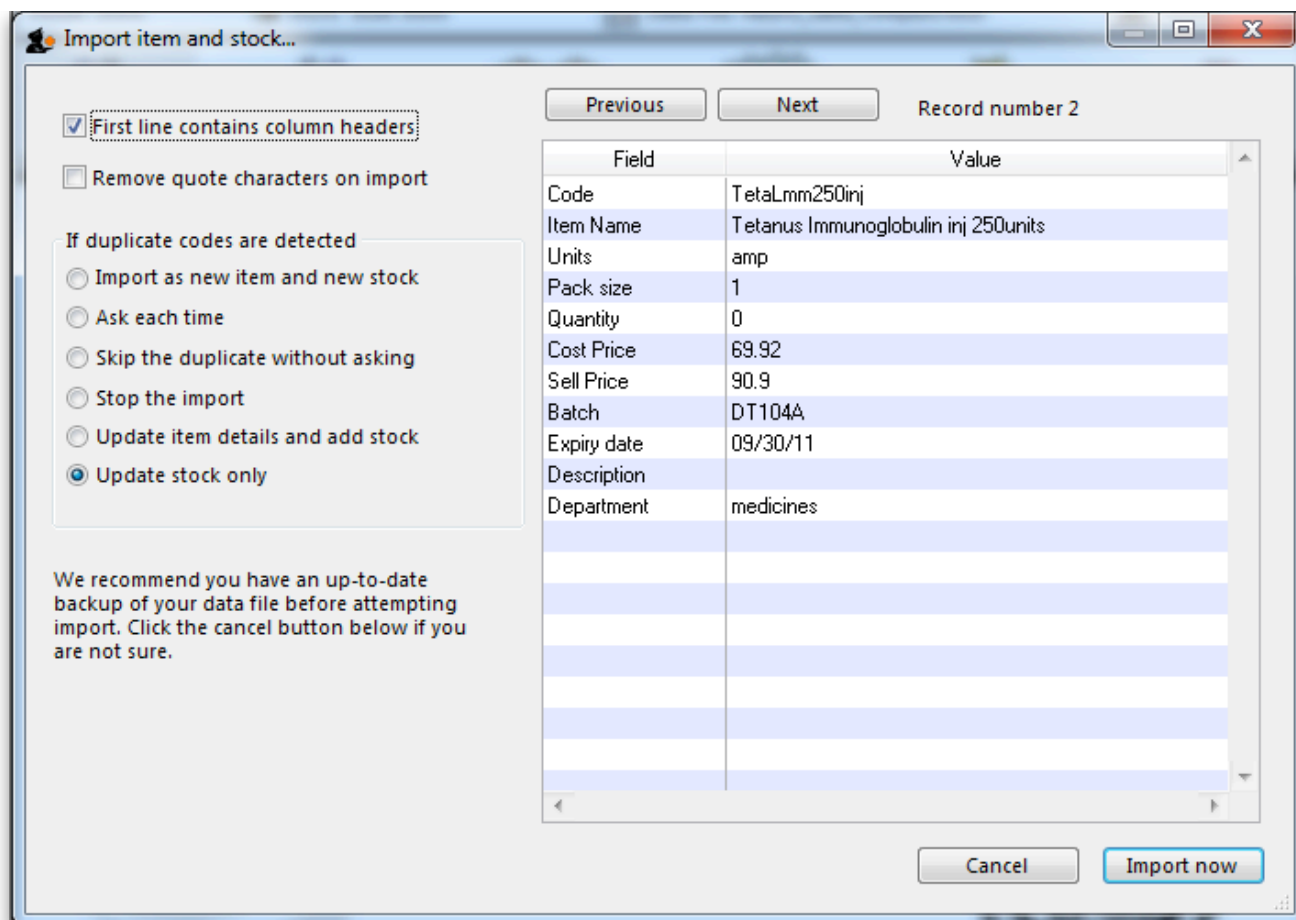
You will be asked if you want to remove quotation mark characters. If you have created the file in Microsoft Excel, it adds quotation marks around fields that have a comma in them (even though it shouldn't). If this is an issue, choose the option to remove the quotation marks.

Previous: Receiving payment from Customers Next: Importing items & stock

Importing items & stock

Importing items

On the *File* menu, choosing *Import items...* only imports item codes and descriptions, which still leaves you with the task of entering quantities for all items (usually by entering an inventory adjustment).



Importing items and stock

The *Import items and stock* command lets you import item codes, names and the initial stock of those items.

You can import items and stock into an existing data file; however, this is a somewhat risky procedure, and we do not recommend it. If mSupply detects an item in the import with the same code as an existing item, the stock will be added to the existing item.

You have been warned!

Make a backup before proceeding with this command.

More than one batch of an item

It is possible to enter in various batches of an item separately. For example, if your import file contains two batches of “ace250t” on separate rows. *mSupply* will first fill in the item description and code and then enter in the stock for the first batch the item. For the next line of data, *mSupply* carries out a search for the code, and adds another batch as the same item already exists, and then updates the total quantity.

It is not necessary to group the same batches together, but making sure that various batches of the same item have the same identical code is important, otherwise extra items will be created. The actual full name of the product is taken from the first batch the program encounters; subsequent batches that have the same code as an item that already exists in the data file will use the item name of the existing item. (You can even leave the item name blank for subsequent lines if you want to).

Note on pack sizes

The “pack size” and “quantity” field should be entered taking into account the way you will issue stock (For example, say you are importing Amoxicillin stock of 3000 capsules that are in boxes of 100. If you are going to issue stock of Amoxicillin individually (28 to this patient, 21 to another patient), then enter a pack size of “1” and a quantity of “3000”. If you will only issue whole boxes, use a pack size of “100” and a quantity of “30”. If you enter a pack size and quantity that does not fit, you will still have the option of repacking the items (using the “repack” function from the “item” menu) to meet your supply needs.

Duplicate options

You will notice several options for what to do when a duplicate is found. The first three are disabled because these are for importing items only, the others are available for choosing:

- **Stop the import:** Stops the import and removes any stock already imported before the duplicate was found (i.e. the data is exactly as it was before the import was started).
- **Update item details and add stock:** If this option is chosen, you will effectively add all stock in the import file on to the stock already recorded in *mSupply*, and also update the item details with any changes recorded in the import file.
- **Update stock only:** If this option is chosen, you will effectively add all stock in the import file on to the stock already recorded in *mSupply*, but not change any item details.

Field order for import file

Column	Field	Note
1 (A)	Item code	Text, up to 18 characters
2 (B)	Item name	Text, up to 80 characters
Both of the above fields are mandatory for the rows to be interpreted in the import process at all.		
3 (C)	Units	Text up to 60 characters, but recommend ea, ml, mg etc.
4 (D)	Pack size	Integer.
5 (E)	Quantity	Integer. The number of packs. This is only equivalent to the total quantity if the pack size is 1 .
The above three fields are mandatory if you are actually adding new stock, as distinct from just updating item details.		
The following fields are optional and may or may not be included.		
6 (F)	Cost price	Real number. The price you pay for one pack

Column	Field	Note
7 (G)	Sell price	Real number. The selling price of one pack. Set to the same as the cost price if you do not actually sell the stock that you issue.
8 (H)	Batch	Text, Up to 20 characters
9 (I)	Expiry	Text, in short format (dd/mm/yy or mm/dd/yy, depending on the format set in your computer's operating system)
10 (J)	Description	Text, Up to 32,000 characters. Full description of the item. Be careful not to have any carriage return characters in the text though, or the import file will not be valid!
11 (K)	Item Department	Text, up to 30 characters. If you import a department name that doesn't exist, the department will be created.
12 (L)	Shelf Location	Text, Up to 60 characters. The code for the shelf location of the batch being imported. Note that this does not set the default location for the item; only the location of this particular stock line.

In order to create a text file for importing purposes, first you need to enter your stock details into a spreadsheet (e.g. Microsoft Excel). It is useful for the first row to be populated by column descriptions. If you do this, remember to tick the relevant tick-box during the import process.

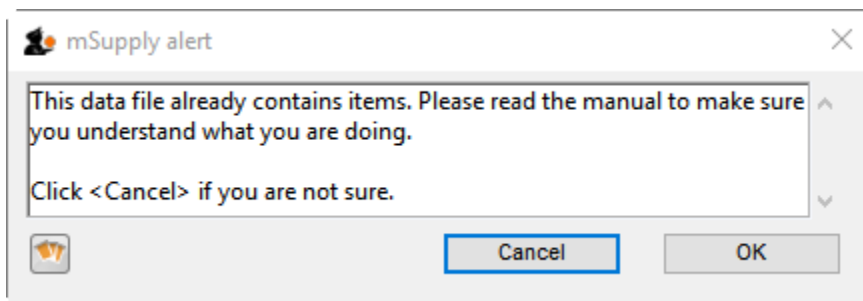
As mentioned in the table above, you can omit the values in any column after the first five.

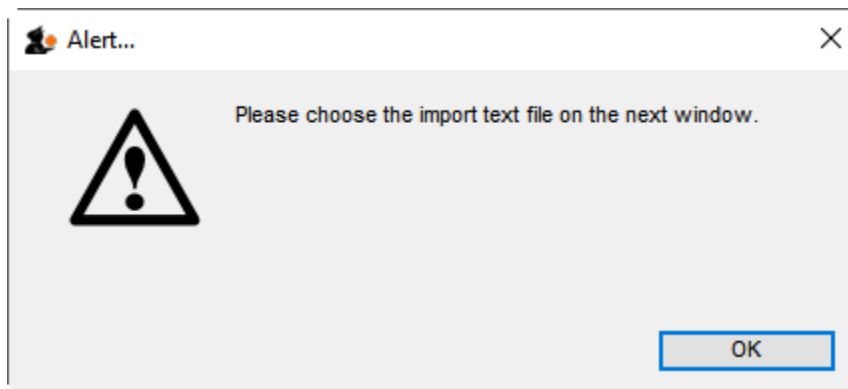
	A	B	C	D	E	F	G	H	I	J	K	L
1	Item Code	Item name	Units	Pack size	No. of packs	Cost Price	Sell Price	Batch	Expiry	Description	Dept	Shelf Location
2	176791	Lopinavir 100mg + Ritonavir 25mg, Dual Combination Tablet	Tab	60	25	300	320	E443256	29/02/2020		HIV	A1
3	176791	Lopinavir 100mg + Ritonavir 25mg, Dual Combination Tablet	Tab	60	20400	310	300	H45-876	31/10/2017		HIV	B2
4	176791	Lopinavir 100mg + Ritonavir 25mg, Dual Combination Tablet	Tab	36000	34	310	300	H45-876	31/10/2017		HIV	B1
5												
6												

Make sure every line has an item code assigned: any lines without an item code will be skipped when importing.

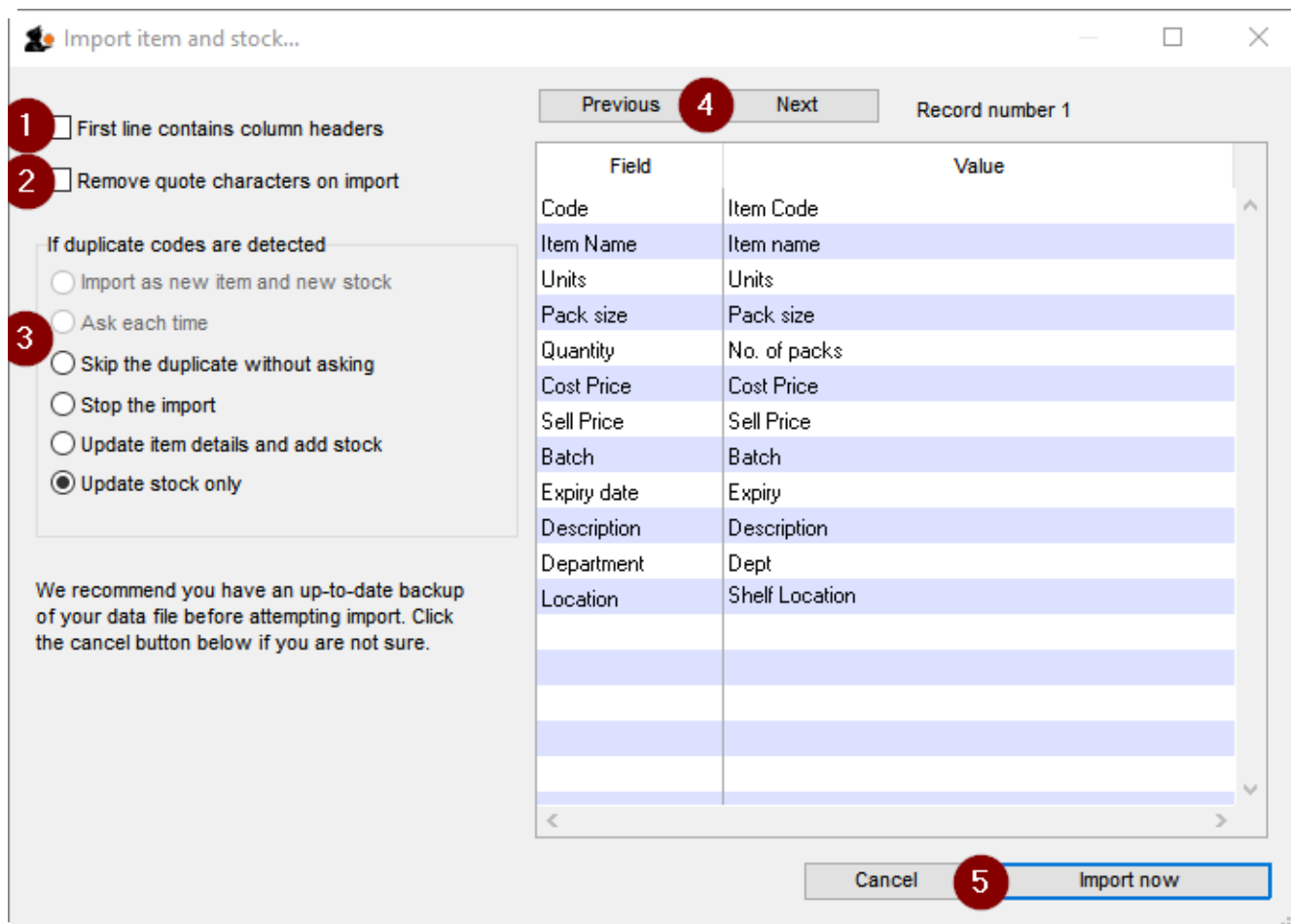
Once you have completed the spreadsheet list:

- Save the file as a tab-delimited text file.
- Open **mSupply** and choose *File > Import items & stock*.
- The following alert windows pop up, click OK to proceed on each one.





- You will then be prompted to select the file to be imported.
- After selecting the import file. The following dialogue box will open. Make selections as described below.



1. Tick this box if the first line of the import file contains column headers. This is normally the case 😊
2. Tick this box to remove quote characters on import. Quote characters will be added by Excel or other equivalents if there is a space character in the field, which is often the case for the Item name field. Quote characters are not normally part of a valid item description. It is generally safer to tick this tick-box.
3. Tick the radio-button accordingly. If you are loading stock into the store for the first time, and you have *not* already defined / loaded the items with Importing Items (refer tip box below), then you should tick the **Update item details and add stock** radio button. If you are just loading stock in to a store and you don't want any new items created, the default option of **Update stock only** is appropriate.

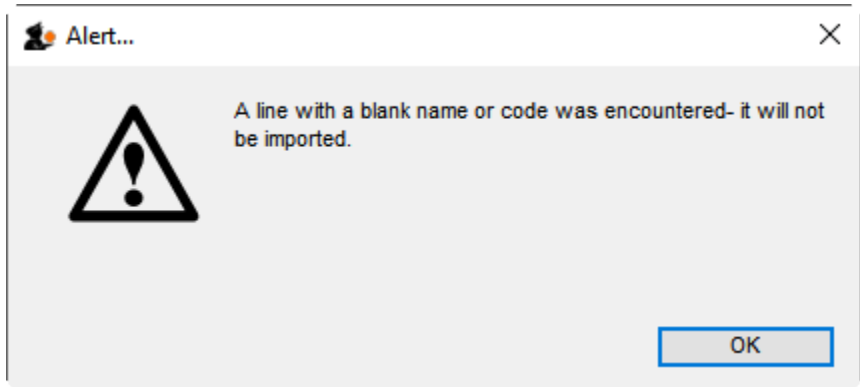
4. Clicking on the **Previous** and **Next** buttons allows you to step through the import file so as to review what will be imported, and particularly that the fields have matched up correctly.
5. Click **Import now** to proceed, or **Cancel** if you have cold feet...

mSupply allows the **Import Items and Stock** function to both add new stock to the store, *and* add new items to the whole system. Particularly in multi-store environments, it is good practice to separate these two processes.

- **Importing stock into a store**, which may be done relatively frequently - every time a new store is added to the system.
- **Creating new items**, which should be done rarely and with care, and not accidentally while importing stock!

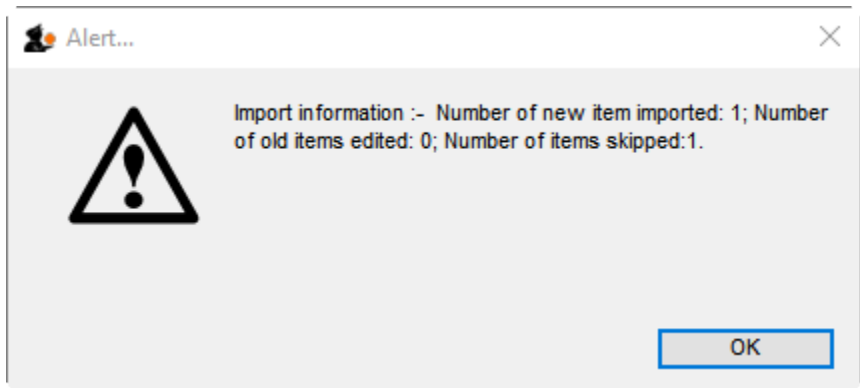
It is therefore important which radio button is selected in the above dialogue box.

mSupply does a quick scan of the import file, and may come up with the following alert:



This is not necessarily a problem. In fact, you will always get this message if the import file was created by MS Excel and you haven't manually edited out the <CR><LF> at the end of the last line of data! If you *have* edited out the last <CR><LF> (recommended), then you likely have a problem with your import file which needs to be investigated. Unfortunately, you are committed to doing the import at this point. That's why you are testing this on a dummy version of your data file, right? 😊

The import process will show a progress bar and then the following message once the import is complete:



This message needs interpreting:

- **Number of new items imported:** This should only be >0 if you selected the **Update item details and add stock** radio button
- **Number of old items edited:** This should only be >0 if you selected the **Update item details and add stock** radio button
- **Number of items skipped:** This should be =1 if you did not edit out the last <CR><LF> in the import file. If it is >1, then some lines of the import file have a blank name or code, which is likely a problem and needs to be investigated.

Previous: Importing Items Next: Importing Customers, Suppliers, Patients

Importing Names (customers, suppliers, manufacturers, patients)

Introduction

Patients can only be imported in Dispensary mode

The **File > Import > Import customers & suppliers...** menu item allows you to import customers and suppliers into an mSupply data file. If you are working in Dispensary mode, this is where you can import patients.

Setting up the import file

A Tab-delimited file (see notes below) must be set up to import the data. The required field order is:

Column	Field
A	Code
B	Name
C	Type - see below for more details
D	Address 1
E	Address 2
F	Country
G	Email
H	Phone
I	Category 1. This category is hierarchical and has 3 levels. You can enter different levels separated by :: (for example "State1::District2::Area1" or "District1::Area3") or just the lowest level with no separator (for example "Area2"). mSupply will look for an existing category with the levels you define, if it doesn't find one then it will create them and assign the category to the name. If you enter only the lowest level category (for example "Area1"), mSupply will look for any lowest level category "Area1" with any or no parent. If it finds one, it will assign the first one it finds to the name being imported, otherwise it will create it with no parent and assign it to the name
J	Customer group. If the group name does not exist, it will be created by mSupply on the fly.
K	Last name (make sure this field is blank if you are importing a supplier or if you are importing a customer who is not a person (that is, an organisation)
L	First name (applies only to people)
M	Date of birth (please use 4-digit year)
N	Gender (enter "F" or "True" for females. All other values taken as male)
O	Custom 1
P	Custom 2

Column	Field
Q	Custom 3
R	Category 2
S	Category 3
T	Address 3
U	Address 4
V	Address 5
W	Postcode (Zip code)

Column C describes the type of the name being imported. That is, whether it is a customer, supplier, manufacturer, donor or patient. A name could be any one of these or several of them. To indicate which of these the name is, simply include the letter shown in the table below in the type field (letter order is not important):

Value	Meaning
C	Customer or Patient
S	Supplier
M	Manufacturer
D	Donor
P	Patient
(blank)	Both a customer and a supplier

So, for example, a name which is a donor and supplier would have “DS” or “SD” in the type field.

You might find this template useful: [name_import_template.xls](#) or this export settings file: [names_export_order.4si.zip](#)

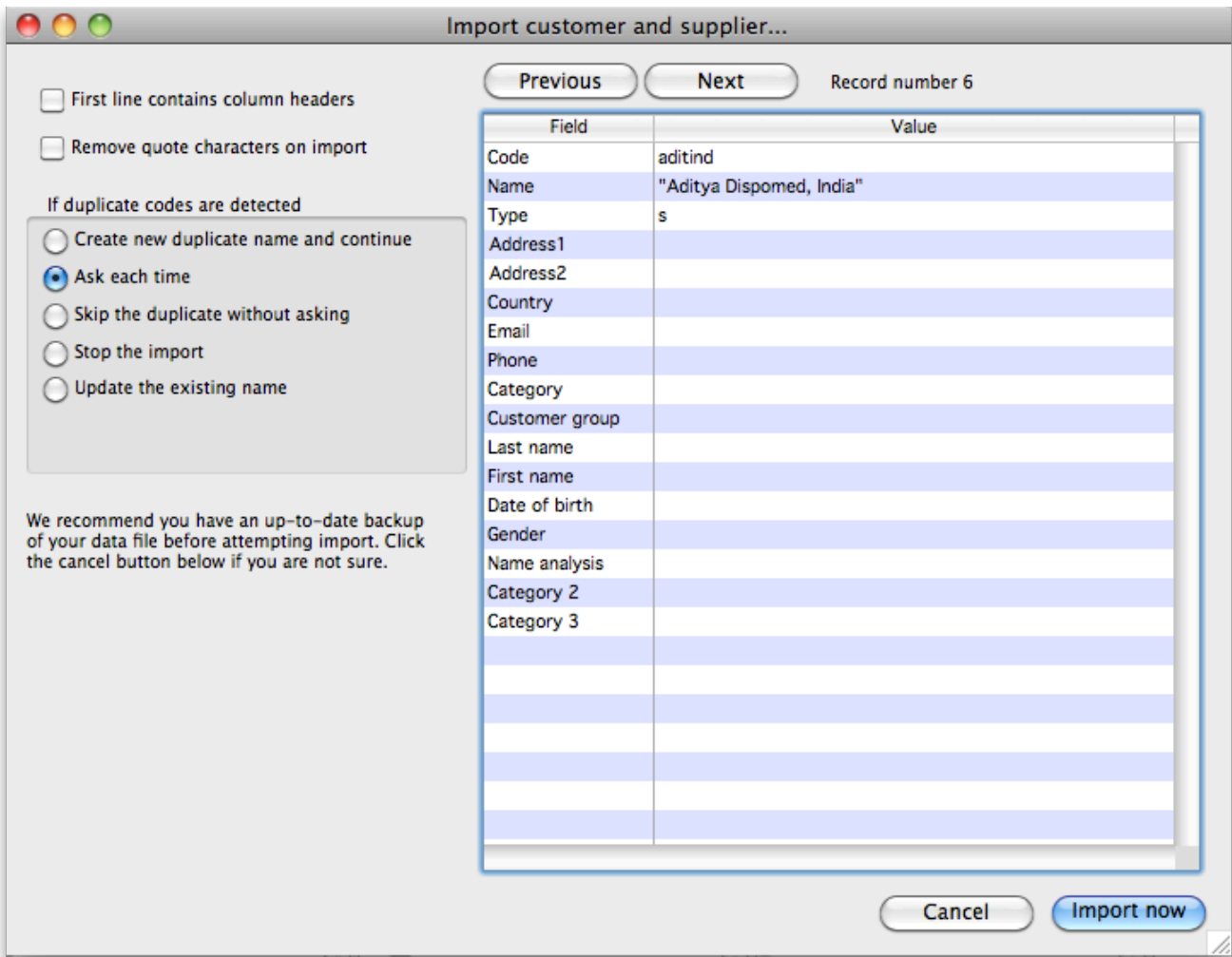
- The customer or supplier category1, 2 and 3 fields will be created if they don't already exist. If the name is a customer and a supplier, a customer category will be created.
- You must always include every column in every import file but, apart from the first 3 columns (which are mandatory), you can leave columns blank and mSupply will only import the information you have provided.
- When you import the file you can choose whether or not to:
 - Ignore the first line. You will want to if you have used the first row for column headings
 - Strip out line feeds and quote characters. You will want to do if you've used Excel to save the text file.

- Save the template as tab-delimited text (rows end with a carriage return and columns are separated with a tab character) before importing into mSupply.
- MS Excel tends to add extra characters (line feeds and quotes), but mSupply will gracefully remove these without complaining!
- Avoid having the Code field containing a space character as this can cause problems during import

Importing the file

When you choose **File > Import > Import customers & suppliers...** you'll be shown an open/save window where you choose the file to import.

Once you've done that, you'll be shown this window:



Please note that the visibility of any new names created will be subject to the state of the *Names created in this store not visible in other store* preference (see Virtual stores, the Preferences tab for details) - if the preference is turned on, all new names will be visible in the store you are logged into only. If it is turned off then all new names will be visible in all stores.

If the first line of your import file contains column headers then check the **First line contains headers** checkbox. This tells mSupply to ignore the first line and start importing from the second line.

Check the **Remove quote characters on import** checkbox if some of the fields in the import file have had quote marks added to them. This can often happen if you have created the import file by exporting it from Excel or some other spreadsheet application.

Now, in the *If duplicate codes are selected* section, select what you want to happen if a name code is found in the import file which is already used by a name in mSupply.

You can use the **Previous** and **Next** buttons to go through the import file one line at a time to see what mSupply can see in each field and therefore what it will try to import. Can be useful for checking whether extra quote characters have been added to any fields or if the first line of the text file contains column header information only.

Importing patients

If you are importing patient names, leave column B (the full name) blank. Make entries in the Last name (col K) and First name (col L) columns, and mSupply will automatically generate the name field for you. Below is an example of a spreadsheet for importing patients, customers and suppliers which demonstrates how to fill in the fields with respect to each import type.

For Suppliers and Customers, columns A to H should be completed..§

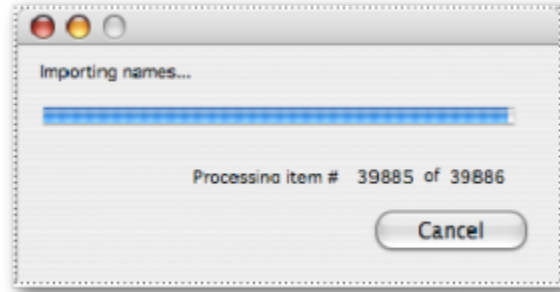
If 'Type' column is left blank, this represents both customer & supplier.§

	A	B	C	D	E	F	G	H
1	Code	Name	Type	Adline1	Adline2	Country	E-mail	Tel
2	sup07	Globapharm	S	118 Princes Street	Edinburgh	UK	globapharm@mail.com	+44131-
3	hos312	Forth Park Hospital	C	52 Laurel Grove	Berwick	UK	forpk@hosp.org	+441458
4	m115		C	18 Parkway	Carlisle	UK		
5	202		C	117 Shore Road	Duns	UK		
6								

	H	I	J	K	L	M	N	O
	Telno.	Category	Group	Last name	First name	DOB	M/F	Anal
om	+44131-4476022							
	+44145833901							
				Fraser	Bruce	11/04/62	M	
				Henderson	Anne	07/12/77	F	

To import Patients, column B [Names] needs to be left blank but columns K, L, M & N must be completed§

If you have a lot of patients there will be a short delay once you have chosen the import file while mSupply counts how many records there are to import, then a progress window will be shown displaying the rate of progress:

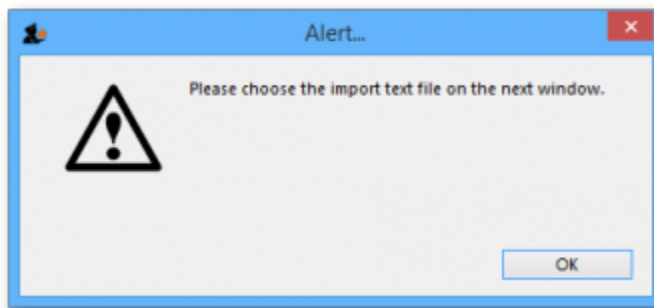


Previous: Importing items & stock Next: Importing prescribers

Importing prescribers

Applicable in Dispensary mode only

From the *File* menu, choose *Import Prescribers*, and the *Import alert* window is displayed.



You may import a list of prescribers who have the authority to prescribe medicines.

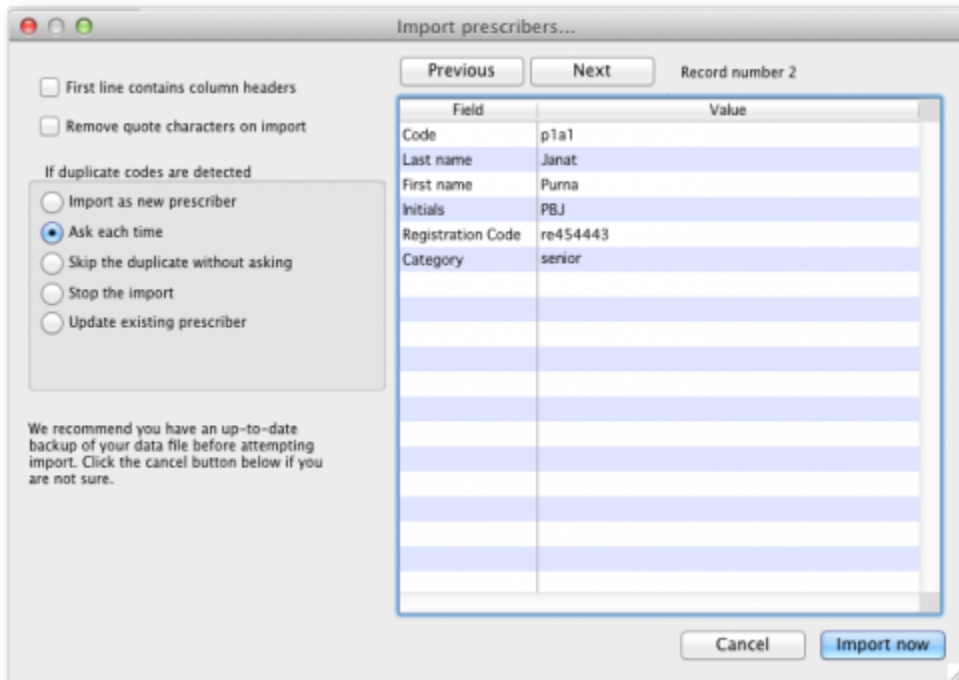
Your list should be in the format of a 6-column spreadsheet, saved as a tab delimited file. The columns should be in the following order:

Column 1	Unique code for each prescriber
Column 2	Last name
Column 3	First name
Column 4	Initials - these will appear on patient labels
Column 5	Registration code
Column 6	Category

Your tab delimited spreadsheet file would appear something like this:

	A	B	C	D	E	F
1	Code	Last name	First name	Initials	Registration	Category
2	ph4	Andrews	James	JA	122097	Phys
3	pd2	Shrestha	Binod	BS	N/A	Paed
4	der1	Fenton	Hilary	HJF	116953	Derm
5	ort2	Hill	John	JKH	Aus 609-2257	Ortho
6	og5	Robb	Martha	MAR	148364	Obs

Choose import options from the preview window and click **OK** to begin import.



Previous: Importing Customers, Suppliers, Patients Next: Importing abbreviations

Importing abbreviations

This feature allows patient instruction abbreviations to be loaded into mSupply so that they can be used in Dispensary mode. It is accessed from the *File* menu by choosing *Import abbreviations*.

You may import the list of abbreviations used for patients' directions - e.g. the abbreviation *tid* would appear on the label as *three times daily*.

Your list should be in the format of a 2-column spreadsheet, saved as a tab delimited file. The first column should contain the abbreviation, and the second column should contain the expanded text as it should appear on the label.

Your tab delimited file would appear something like this:

	A	B
1	Abbrev	Expanded text
2	od	once daily
3	bd	twice daily
4	tid	three times daily
5	tds	three times daily
6	qid	four times daily
7	qds	four times daily
8	ac	before food
9	pc	after food

Previous: Importing prescribers Next: Printing Preferences

Importing a supplier invoice

From the *Supplier* menu, the *Import invoice* command allows you to import an invoice generated by one of your suppliers who also uses mSupply. You will be presented with an open/save window where you should locate the invoice file to be imported.

Note the following points about importing invoices:

The invoice must have been generated by the “export invoice” command in another copy of mSupply. The item codes in your copy of mSupply must have your supplier codes entered (see below). If mSupply attempts to import a code that it does not know, the import process will stop. Once an invoice has been imported, you are still free to edit it. You should check the invoice against a paper copy when it arrives. After import the file is edited so that if you attempt to import an invoice again you will not be able to. This prevents accidental double-importing of the same invoice.

Entering Supplier Codes If you are importing invoices from a supplier, you must perform the following steps:

enter a quotation for each item you receive from the supplier. This is done from the quotes tab of the item details window, or from the quotes tab of the supplier details window. enter the supplier code for the item in the supplier code field of the quotation. There is no need to enter other details for the quotation if you do not want to.

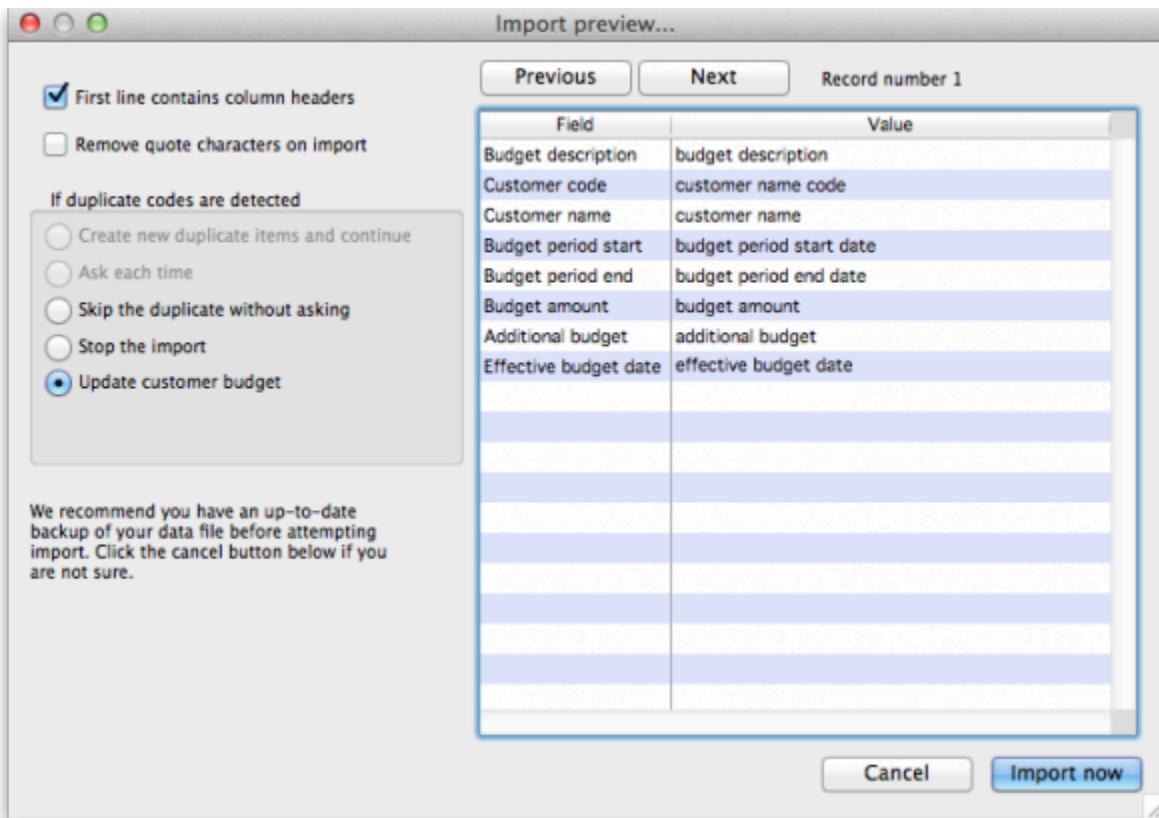
Previous: Importing abbreviations Next: Exporting invoices

Importing customer budgets

You can set up budgets for customers manually if you wish (see here) but if you have to set budgets for many customers at a time then this feature will save you a lot of time. As with the other import features of mSupply, this import uses a tab delimited text file (easily produced by exporting a spreadsheet from Excel or other spreadsheet programme). The columns that must be present in the file and their contents are as follows:

Column number	Column letter	Field	Description
1	A	budget description	The description for the budget, as it will appear in the list of budgets for a customer.
2	B	customer code	The customer's code as entered in mSupply. If this code does not match a customer in mSupply an error will be generated.
3	C	customer name	For your reference only. This column is ignored during the import and can be left empty, but it must be present.
4	D	budget period start date	The start date for the period to which the budget belongs in the format dd/mm/yyyy or mm/dd/yyyy (whichever your copy of mSupply is using).
5	E	budget period end date	The end date for the period to which the budget belongs in the format dd/mm/yyyy or mm/dd/yyyy (whichever your copy of mSupply is using). The budget period start and end dates must match an existing budget period period in mSupply (set up using Budgets), otherwise an error will be generated.
6	F	budget amount	The amount of the budget. Must be a positive number with or without a decimal point.
7	G	additional budget	Whether the budget amount is to be considered an additional budget. A "T" or "Y" is interpreted as true, anything else is interpreted as false.
8	H	effective budget date	The effective date for an additional budget in the format dd/mm/yyyy or mm/dd/yyyy (whichever your copy of mSupply is using). Ignored if the budget is not additional. If this field is left blank and the budget is additional then the current date is used.

When you have created the import text file go to **File > Import > Import customer budgets** and select your text file. You will be show the following window:



Now choose the import settings to match your file:

- **First line contains column headers:** check this if the first row in your text file contains the column descriptions. If checked, mSupply will ignore the first line of the file.
- **Remove quote characters on import:** check this if fields in your file is surrounded by quote (" or ') characters. If checked, mSupply will attempt to remove them from each field.

And select how duplicates are to be handled (a duplicate is a row which matches another line in the file or a budget already in mSupply):

- **Skip the duplicate without asking:** The duplicate record is ignored completely
- **Stop the import:** mSupply will stop importing from the file if it detects a duplicate. Any budgets already imported will be kept but no further lines in the file will be processed.
- **Update customer budget:** The budget already in mSupply will be updated with the new details found in the file and the import will continue.

You can also click the *Next* and *Previous* buttons to see a preview of what mSupply will import on each row from your file. This can be useful for showing differences in the contents of your file and what mSupply is expecting.

When you're ready to carry out the import, click on the *OK* button. mSupply will carry out the import and tell you how many lines were imported, how many budgets already in mSupply were modified and if there were any errors. You can see more details by viewing the log (see The log).

Previous: Importing a supplier invoice Next: Importing locations

Importing locations

Locations are the labelled places in your warehouse where you store stock. Locations can be created individually (see here) or can be created automatically when you import stock (see here). The functionality to import locations described here will save you a lot of time if you need to put a lot of locations into mSupply separately from importing stock.

As with the other import features of mSupply, this import uses a tab delimited text file (easily produced by exporting a spreadsheet from Excel or other spreadsheet programme). The columns that must be present in the file and their contents are as follows:

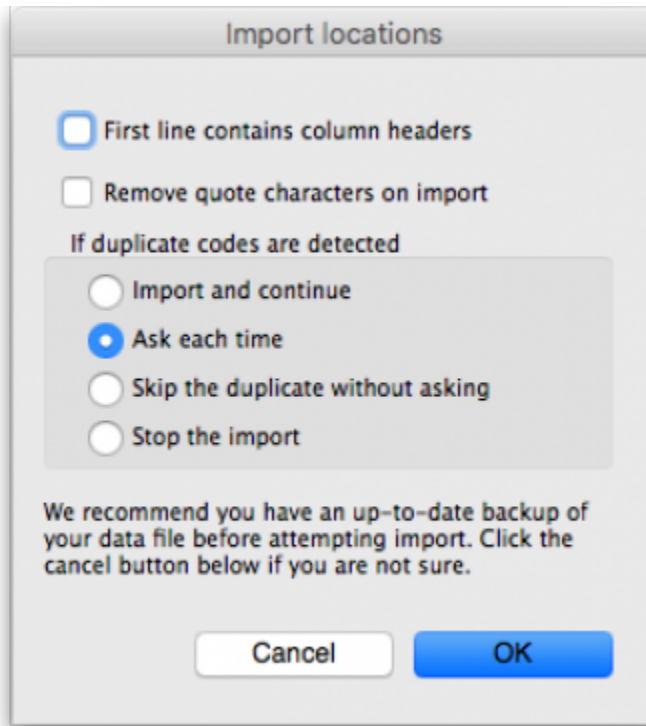
All columns must be present in the import file but only the first 2 (Location code and Store code or name) are mandatory. If either of these fields do not have values entered then the location will be ignored.

Column number	Column letter	Field	Description
1	A	Location code	The code of the location. This is used to identify and select the location throughout mSupply and is the label you apply to the location in your warehouse e.g. "A01" or "A01.03.C".
2	B	Store code or name	The code or name of the store the location is to be created in. You can see the list of store names and their codes currently in your copy of mSupply by going to <i>Special > Show stores...</i>
3	C	Location description	For your reference only, a longer description of the location e.g. "Aisle A, shelf 1, position C".
4	D	Volume	The total storage volume of the location in m ³ (cubic metres).
5	E	Priority	A whole number from 0 upwards. This is used when printing a picking slip. Setting a priority for a location will override the default alphabetical ordering of shelf locations in a picking list. A location with a lower priority number will be printed before a location with a higher priority number. All locations with 0 priority are counted as having no priority and will be printed, in alphabetical order, after all locations with a priority.
6	F	Is summary location	Whether the location is a summary location that cannot hold stock. "y", "yes", "t" or "true" is interpreted as true, anything else (including nothing) is interpreted as false.
7	G	Location type	The name of the location type for this location (must be an exact match and the location type must already exist in mSupply, otherwise the location will be created with no location type).

Column number	Column letter	Field	Description
8	H	Parent location code or description	The code or description of the location which is a parent to this one. If the parent does not already exist in mSupply it will be created so make sure your typing is accurate!

An empty Excel spreadsheet containing these columns for you to use as a template is here: [location_import_template.xlsx](#)

When you have created the import text file go to **File > Import > Import locations** and select your text file. You will be shown the following window:



Now choose the import settings to match your file:

- **First line contains column headers:** check this if the first row in your text file contains the column descriptions. If checked, mSupply will ignore the first line of the file.
- **Remove quote characters on import:** check this if fields in your file is surrounded by quote (" or ') characters. If checked, mSupply will attempt to remove them from each field.

And select how duplicates are to be handled (a duplicate is a row which matches another line in the file or a budget already in mSupply):

- **Import and continue:** The duplicate record is created and import continues normally
- **Ask each time:** You will be asked what you want to do with a duplicate each time one is detected; ignore it, create it or stop the import
- **Skip the duplicate without asking:** The duplicate record is ignored completely
- **Stop the import:** mSupply will stop importing from the file if it detects a duplicate. Any locations already imported will be kept but no further lines in the file will be processed.

When you're ready to carry out the import, click on the *OK* button. mSupply will carry out the import and tell you how many locations were imported, how many already in mSupply were modified and if there were any errors. You can see more details by viewing the log (see [The log](#)).

Previous: Importing customer budgets Next: Exporting invoices

Exporting invoices

From the *Customer* menu the *Export invoices* command exports any customer invoice to a file. The file created is in a special format that can be imported into another copy of *mSupply* using the *Supplier>Import invoice...* menu command. Do not use this command for sending invoices to customers for them to view or print - use a PDF file for that purpose.

When using this command you will be asked to enter an invoice number. The default choice is the last invoice created. The invoice will be exported to the export folder you have set in the Preferences, and will be labeled with the invoice number.

Before you can export, you must set your “own code” in the Preferences. This is the supplier code that your customers will use to identify you when importing the invoice.

Once the invoice is exported, you will be told where to find the file on your hard disk.

Previous: Importing a supplier invoice Next: Exporting items and stock

Exporting items and items & stock

Exporting items

Choosing *Export items* from the *File* menu allows you to export all of the stock items in your data file to a text file; see *Importing Items* where the format of the text file is described under 'Field order for the text file'. This allows you to import them to another data file. When you select this option you will see this dialog box:



Click continue to carry on. The standard file dialog window for your operating system will appear, allowing you to select a file name and location to save the text file.

Exporting items and stock

This option, like the previous one, allows you to export all of the stock items in your data file together with the stock on hand; all details are exported, including batch numbers and expiry dates. The output is a text file, in a format recognisable by mSupply so that you can later import it to another data file.

Previous: Exporting invoices Next: Exporting names

Exporting names

Choosing *Export names* from the *File* menu exports all the names (suppliers, patients, manufacturers, donors and customers etc.) in your data file in exactly the same way as for exporting items.

The field order of the exported file and the contents of the various fields are exactly the same as for importing names so please see there for details.

Previous: Exporting items and stock Next: Exporting to MYOB

Exporting to MYOB

Setting up MYOB/mSupply

- set up mSupply to use the same account codes as MYOB (See Item units and item accounts). If necessary, the accounts associated with any item can be edited via the *Misc tab* after selecting an item (See Item basics)
- set up MYOB to use the same suppliers and customers as mSupply (See Names: Using, adding and editing) - the suppliers and customers in mSupply need to be added to the Card List in MYOB, where the *Charge to* field in mSupply corresponds to the *Card ID* field in MYOB.

Exporting from mSupply

This can be done from two places:

- from *Files>Export invoices for MYOB*
 - You can choose a range of dates, either from the drop-down list (e.g. last year) or by typing the date values directly
 - You can choose either supplier or customer invoices
 - If the *show all item lines* box is checked, then you will get a line for each item line in the transaction, otherwise you will just get a line for each different account code used in the transaction
 - If transaction categories have been setup, you can also select only transactions from a single category, or where the category name matches
 - Clicking *OK* will prompt you to create a tab-delimited text file in the folder of your choice.
- from the transaction list: See Viewing invoices
 - Select the transactions you wish to export, and click the *Export to MYOB* button. This will create a text file in the same way as before.

Importing to MYOB

- Select *File>Import Data>Purchases>Service Purchases* for supplier invoices (or *File>Import Data>Sales>Service Sales* for customer invoices)
- In the *Import File* window, make sure that the settings are *Tab-delimited*, *Data Record*, *Reject Them*, and *Card ID* respectively
- Select *Continue* and browse to your exported file
- Double-click on the text file, and select the *Match All* button, and then *Import*
- MYOB will then attempt to import the records. If it reports that no records have been skipped, then all is well, otherwise you need to view the **MYOBPLOG.txt** file (which will be in the same folder as the **.MYO** accounts file that you are logged into).

Understanding the MYOBPLOG.txt file

- MYOB inserts an error (negative number) or warning code (positive number) at the start of each line, and adds an explanation of the codes at the bottom of the file
- You can most likely ignore warning messages
- The most likely errors will be because the supplier/customer code doesn't exist in MYOB, or there is a duplicate invoice number (i.e. the record has already been imported)
 - If the error is because of a missing supplier/customer, then you can see the mSupply code at the end of each record line
 - Search for that name code in mSupply and create the corresponding Card record in MYOB
 - Then you can try to re-import the same file (and this time, it will reject all of the records that it managed

to import first-time around).

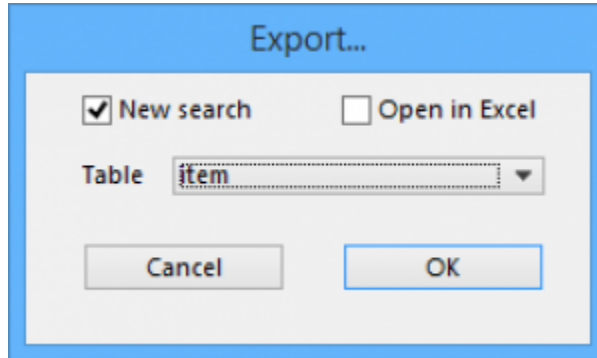
Notes

- mSupply will only export finalised customer or supplier invoices, and it will ignore stock transfers and inventory adjustments → sometimes it may not export as many records as you might think.
- mSupply doesn't export the customer/supplier name, otherwise MYOB will reject the invoice even if the customer/supplier code matches.
- mSupply will attempt to export as much reference information as possible into the Journal Memo field in MYOB - this will include the Tender reference, Purchase order reference, and the Invoice reference.
- mSupply will include the quantity of each invoice line inside brackets, appended to the item name e.g. 'Amoxicillin (200)'
 - MYOB doesn't have a field for unit price, but you can work out the unit price by dividing the total price by the quantity.
- MYOB expects every line to have a unique invoice number → the item line number has been appended to the invoice number when exporting i.e. each line will have an invoice number like 812-1, 812-2 etc.
 - The invoice number shown in MYOB will reflect the total number of lines in the invoice
 - The same applies to purchase order numbers
 - If a blank purchase order number is exported from mSupply, then MYOB assigns the next one in it's internal sequence.
- MYOB will not allow you to import invoices with dates outside of the current financial year → make sure that you export everything you need to from mSupply before the new year starts.
- The export format that mSupply uses is based on the current version of MYOB (version 12). If MYOB is upgraded, there is a good chance that the format will change → importing to MYOB will no longer work until mSupply is updated to output the new format.

Previous: Exporting names Next: Exporting records

Exporting records

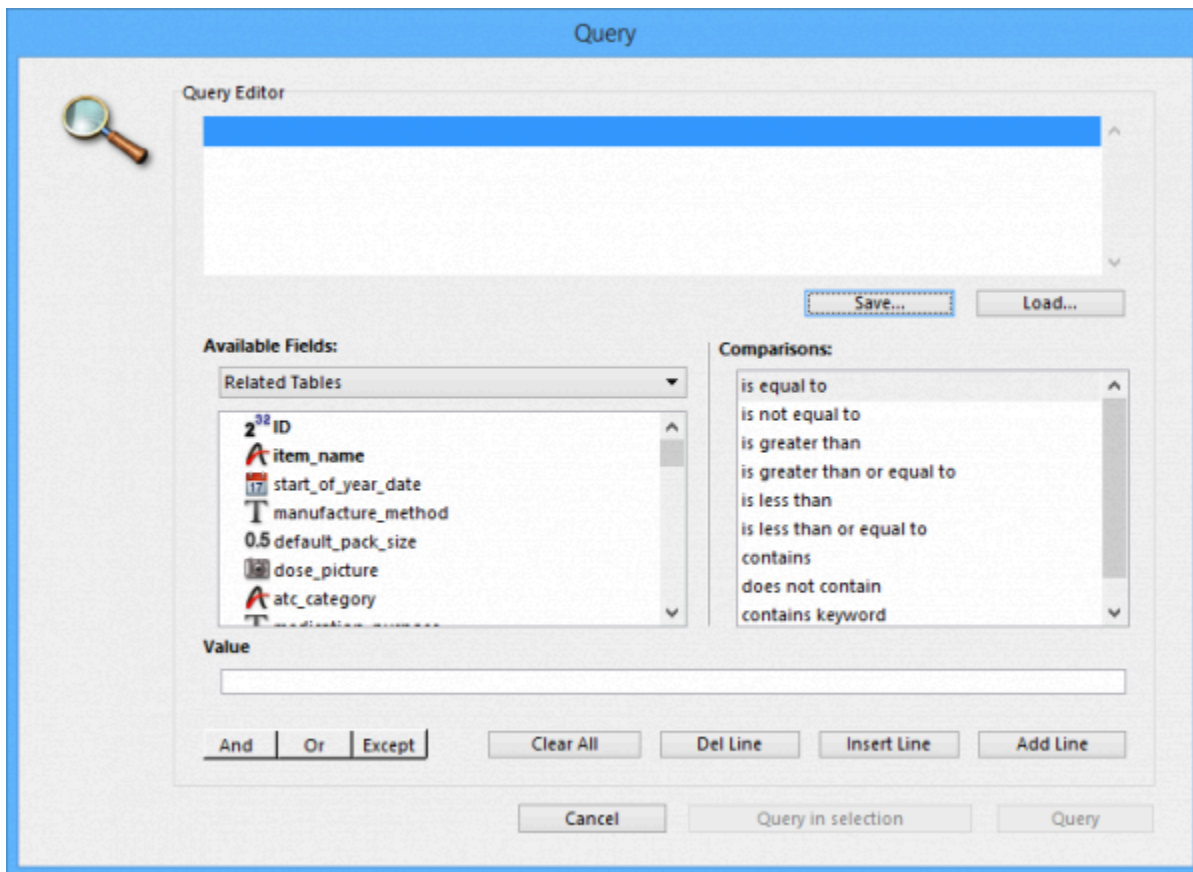
Choosing *Export* on the *File* menu will display the export window, allowing you to export records from *mSupply* to a file.



You can search for a set of records by checking the *New search* check box, which displays the Query editor for you to specify your search criteria, or else use the currently selected records.

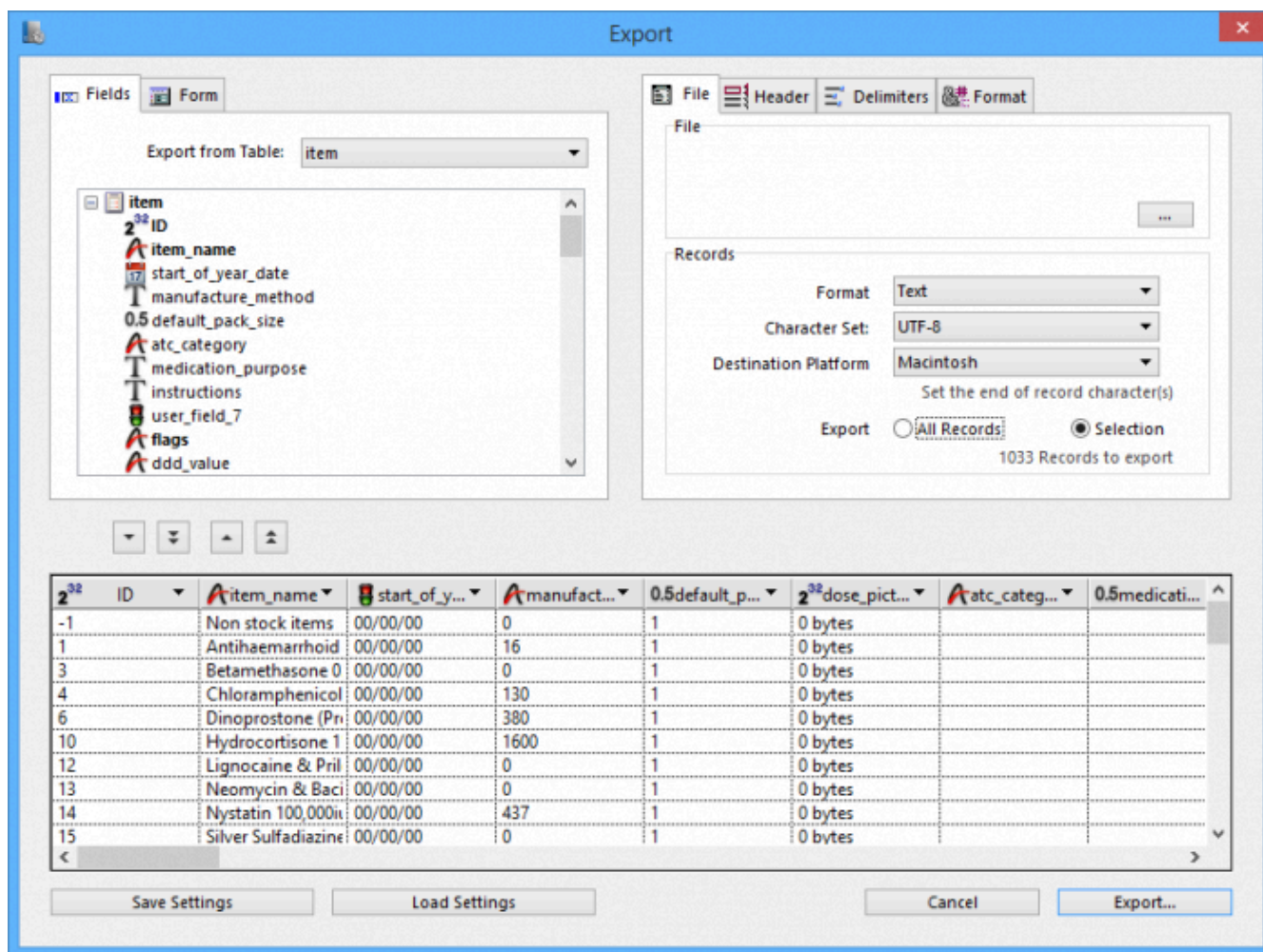
If you tick the *Open in Excel* button mSupply will export any output to your spreadsheet application and will allow you to edit the Headings etc within your spreadsheet. Otherwise mSupply will open a basic editor that will allow you to shape the look of the document.

After you click *OK* the Query Editor will open allowing you to filter the data you would like to export. Clicking on a field on the left will add it to the filter criteria shown at the top. You then can add from the list of Comparisons and enter your own value in the text field below. To add another line of criteria click the *Insert Line* button. Likewise to remove a line highlight the line and click the **Del Line** button.



Once you have chosen your filtering criteria and if you did not click **Open in Excel** the the Export Editor will open. This is where you can choose what fields to export.

You can add a field by highlighting it in the Fields box and clicking on the down arrow below it or you can remove a field by highlighting it in the preview window at the bottom of the page and clicking the up arrow. If you want to add or remove all fields click the double arrows.



If you want the fields to be ordered ready for item import, unzip the attached .4si file.

export_items_order.4si.zip

Previous: Exporting to MYOB Next: Dispensary Mode

Dispensary mode

Dispensary mode allows you to use mSupply to issue medicines to patients. It is ideally suited for pharmacies, clinics, hospital dispensaries, and facilities where medicines are supplied to individual patients.

The particular benefits of using Dispensary mode include:

- Prescription data can be entered into mSupply including:
 - which can be quickly selected from standard abbreviations, and edited as necessary. Item directions do not need to be printed in English.
- with:
 - Item description and quantity issued
 - Patient name
 - Prescriber name
 - Directions
 - Institution name
 - More...
- are recorded, allowing repeat prescriptions to be:

- Use of Dispensary mode depends on your mSupply registration type. Contact Sustainable Solutions if you wish to upgrade your registration.
- Regardless of mode, each user can only use those functions for which they have permission, according to the permissions set for that user. See [Managing Users](#)
- In client-server versions of mSupply, different users can be logged in in different modes at the same time, allowing you to dispense to patients and supply wards, stores, clients or cost centres simultaneously.
- Users whose permissions allow them to operate in either Store mode or Dispensary mode may change from one to the other by pressing *Ctrl+2* on the keyboard. Re-entry of the user's password is not necessary.

Activating Dispensary Mode

Prior to version 3.5 you controlled dispensary mode for each user, and had to choose **File > Edit users...** Now it's a setting for a store.

1. Choose **Special » Stores**
 2. Double-click on the store you want to set to dispensary mode.
 3. Check the **Dispensary mode** checkbox (or uncheck it if you want to revert to store mode). When you log out of the store and back in, you'll be in the new mode.
- Choose **File > Preferences > Invoices 2** then check the *Show direction entry in dispensary mode* box.

Show direction entry in dispensary mode

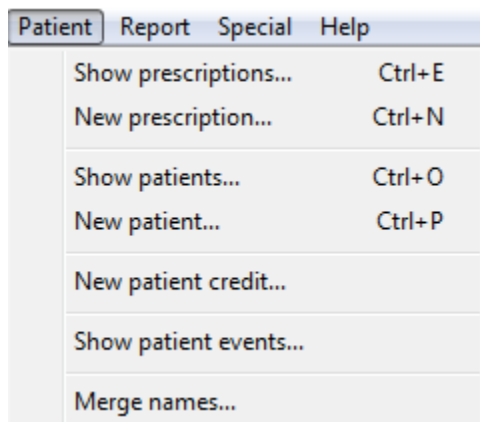
What is a "name"?

In mSupply a "name" can be a customer, a supplier, both or neither. A "customer" can be anyone you supply goods to - e.g. another organisation, or a ward in your hospital, or a patient.

What changes in Dispensary mode?

Different menus

The menus in dispensary mode have different names. For example, the *Customer menu* becomes the *Patient menu*.



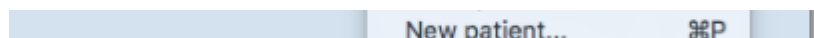
In simple dispensary mode, there are a lot less choices in the menus. There should be enough options to allow a user to dispense medicines, but not to do much else.

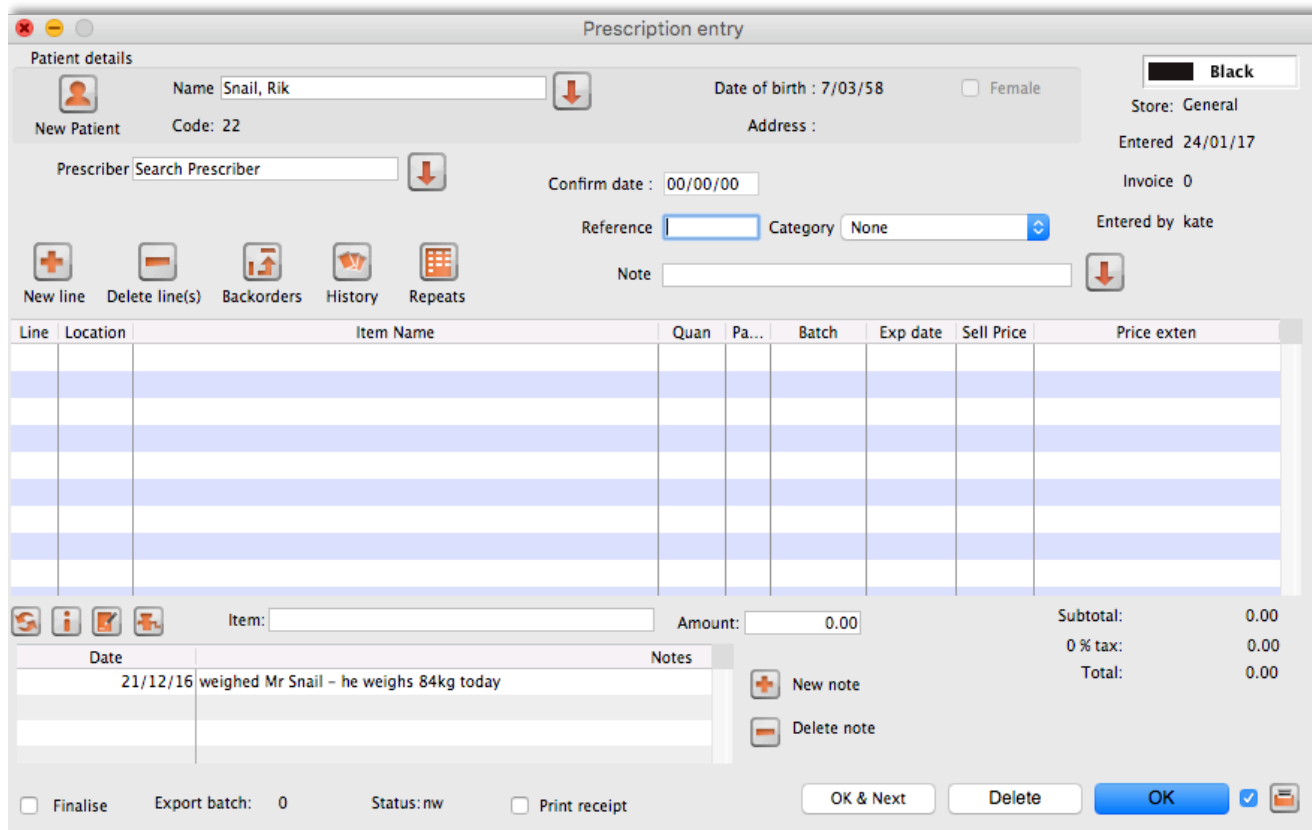
Different windows

The windows displayed are appropriate for dispensing medicines to individual patients; in addition to the ability to record individual patient's notes (e.g. allergies), prescribers details are maintained. A patient history is maintained and other features specifically related to dispensing activities are maintained.

Prescription entry

In dispensary mode, supply of items is made against a patient's **prescription** rather than an **invoice** as in store mode. Click on **New prescription** from the menu bar to display the prescription entry window:





How to look up a patient on file

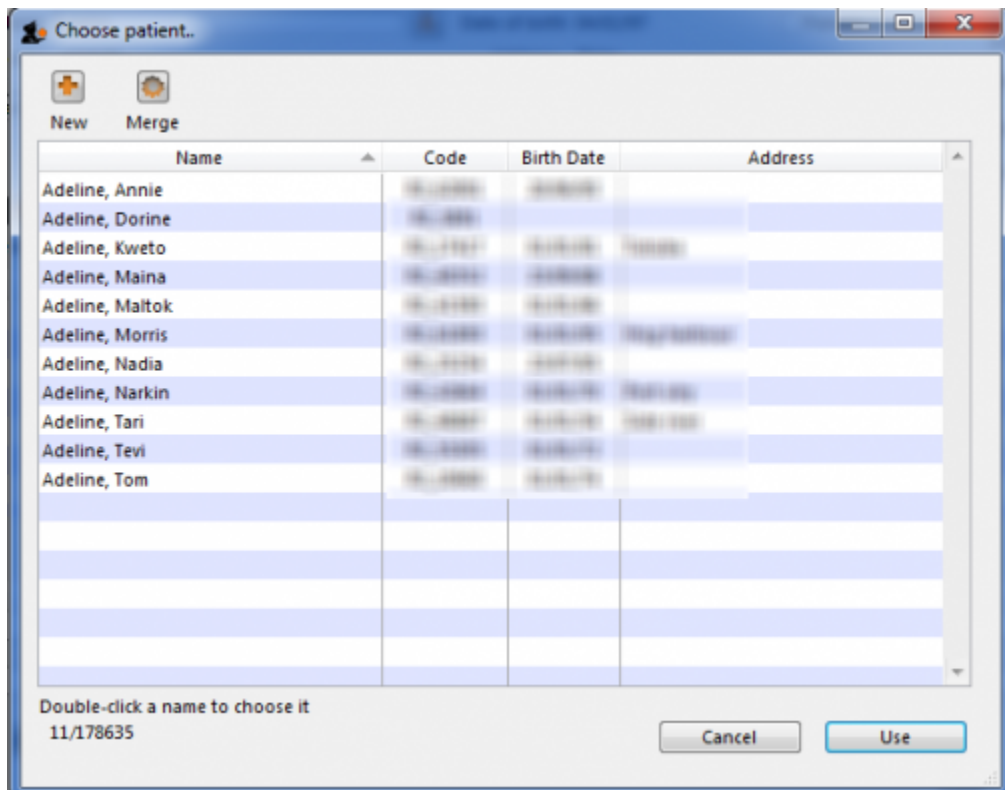
When you are entering a patient name, mSupply will treat anything entered before a comma as a last name, and anything entered after a comma as a first name.

- For example, to find John Smith, enter “Smi,J” or “smith,joh”
- If the patient's name code is known, enter a “*” (no quotes) and then the name code or part of it. eg “*58298”

In the *Name* field (screenshot above) enter your patient's name, or even just part of their name, for example, 'Sn, R' for 'Rick Snail' - so just part of the patient's last name, comma, and then their first initial, and then press the **tab** key.

If your patient is already loaded in the system, then this entry should bring up the patient in question, or a list of patients for you to choose from.

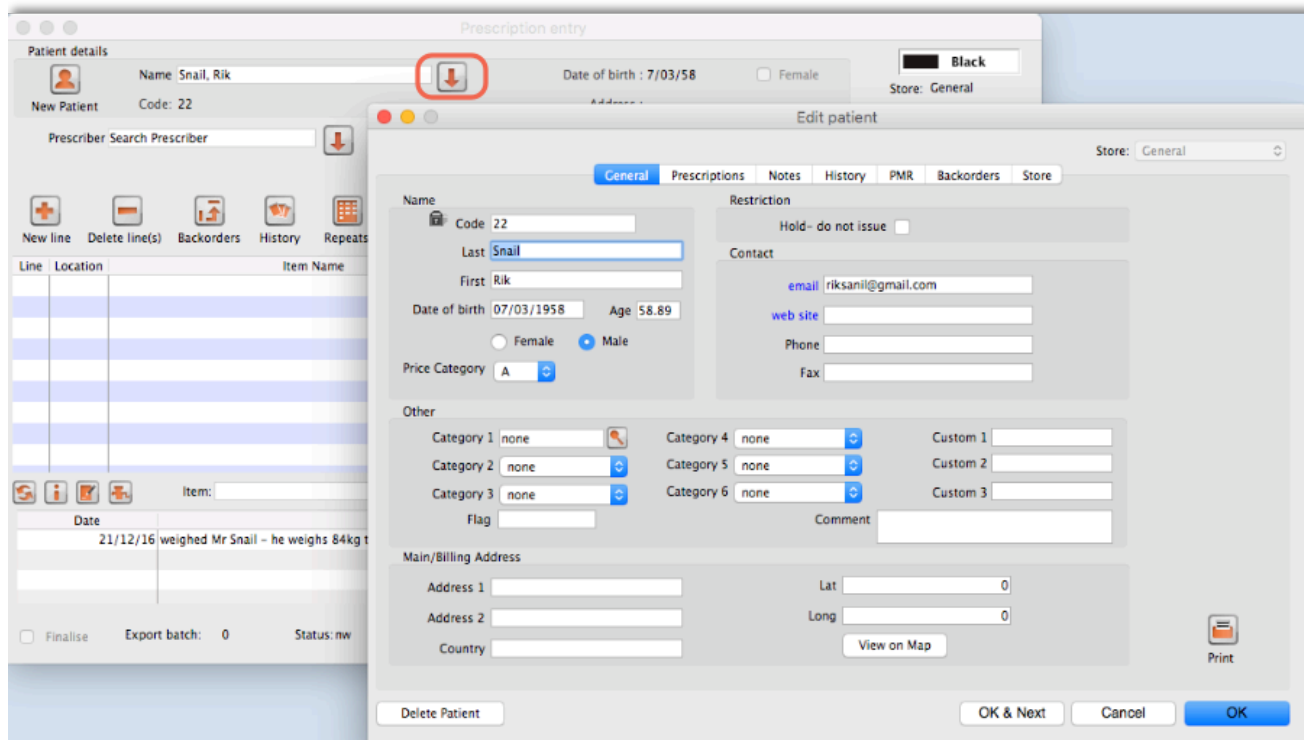
- **Always search for your patient in this way first, before entering a new patient, to avoid entering the same patient multiple times.**
- If there is more than one matching name, you are shown the name choices window



- Once you have found the correct patient, double-click the appropriate line, and then click **Use**.
- If the patient is not already stored in mSupply you'll need to add a new patient. How to do that is described

Editing patient details

Once you have chosen a patient, you can click the small down-arrow to the right of the patient name to display a window where the patient details can be edited (see below):



Clicking the Print icon at this point will give you access to reports showing all prescription history.

Entering the prescriber



Once you've chosen a patient, the cursor will automatically advance to the prescriber entry field.

To enter a prescriber, you can type either their code, their last or first name in full or abbreviated, or "last comma first". For example for the prescriber Dr Felix Brown (whose code is 123) any of the following are acceptable:

- 123
- bro
- fel
- bro,fe

Press the **tab** (not 'return') key after making the entry to show a list of matching prescribers. If only one prescriber matches, the name will be entered directly without the list being shown.

Note that there is a setting on the *Dispensing* page of the mSupply Preferences that affects whether or not you can accept and print a prescription without entering a prescriber.

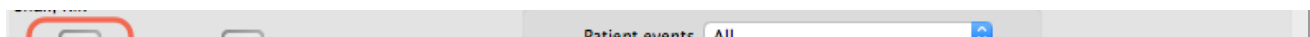
Entering prescribed items

On the *Prescription entry* window click on *New line* , and *Add item* window appears.

Once the item name and quantity have been entered, provided that the *Show direction entry in dispensary mode* option has been selected in Preferences, directions on how to take the medicine should be entered.

Notes display

Any notes/events you enter in the notes tab will display each time you enter the patient name in the *Prescription entry* window. These notes can be used to remind you of patient Preferences for certain dosage forms, or drug sensitivities.



Before you add an event for a patient, you need to make sure that *patient events* have been set up.

Patient Events

This is the term mSupply uses to denote any item of information relating to a particular patient; for example, you may want to record the patient's weight, the patient's blood pressure, any allergies from which the patient suffers, vaccination records, etc. - a wide range of information relating to a particular patient may be recorded here.

First, some definitions of patient events need to be made; choose *Patient > Show Patient events* , then click the **New** button.

 A screenshot of a dialog box titled "Add patient event...". It contains four input fields: "Code:" (empty), "Description" (empty), "Event type" (a dropdown menu with "Text" selected), and "Units" (empty). At the bottom right, there are "Cancel" and "OK" buttons.

One patient event is already defined, the code is `NT`, the description is `Note`, and the type is *Text* ; you can also have events of type *Numeric* or *Boolean* . For example, to create a patient event recording a patient's weight, the completed *Add patient event* window would look like this:

The screenshot shows a dialog box titled "Add patient event...". It contains the following fields and values:

- Code: Weight
- Description: Patient's body weight
- Event type: Numeric
- Units: kg

Buttons: Cancel, OK

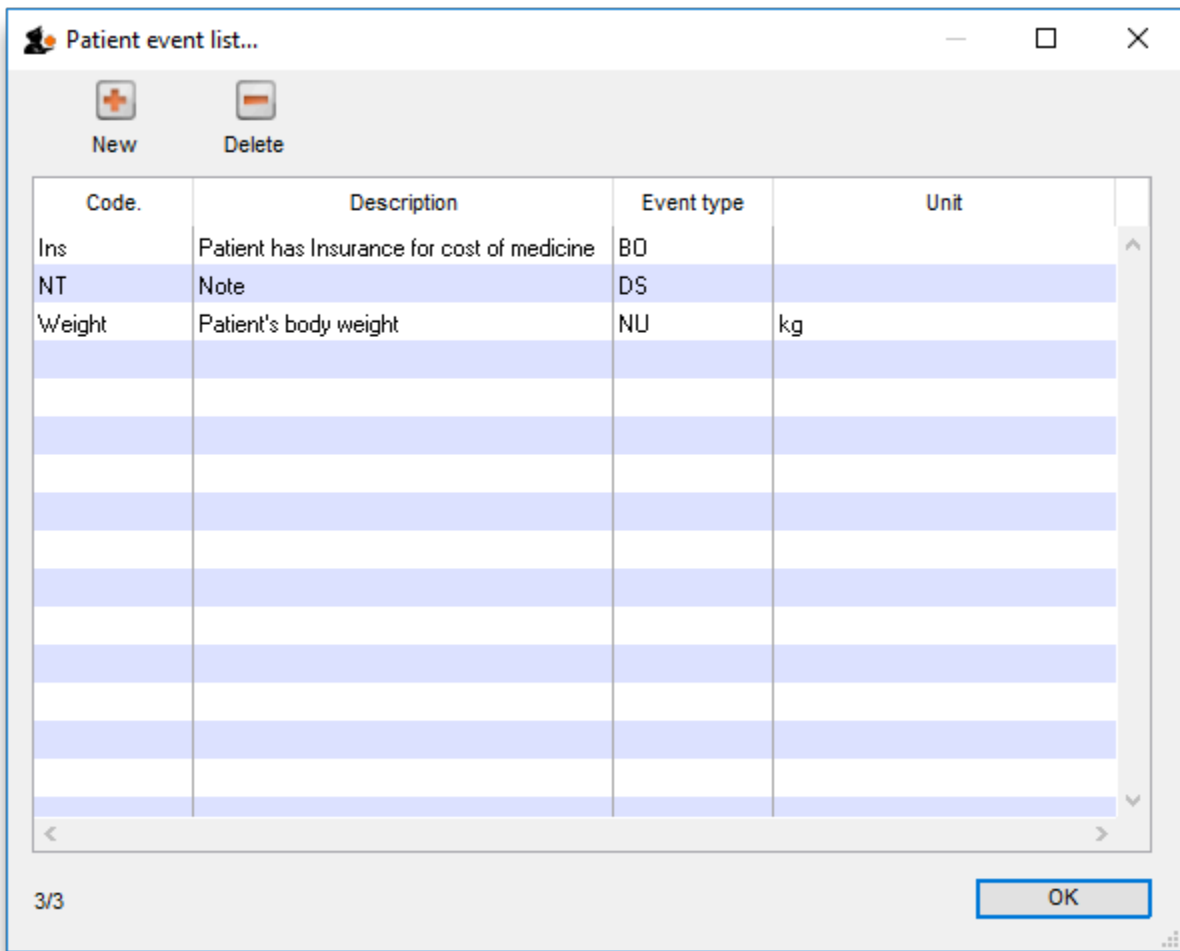
A further example, this time using the Boolean type - i.e. where the options are limited to two, 'Yes' or 'No' - could be to identify patients who have insurance cover to meet the cost of their prescriptions; for this event, the *Add patient event* window, once completed, would appear like this:

The screenshot shows a dialog box titled "Add patient event...". It contains the following fields and values:

- Code: Ins
- Description: Patient has Insurance for cost of medicine
- Event type: Boolean
- Units: (empty)

Buttons: Cancel, OK

Once a number of patient events have been defined, choosing *Patient > Show Patient events*, will produce a window like this:



Now it is possible , using the *Notes* tab of the patient details window, to add individual items of information to the profile of any patient.

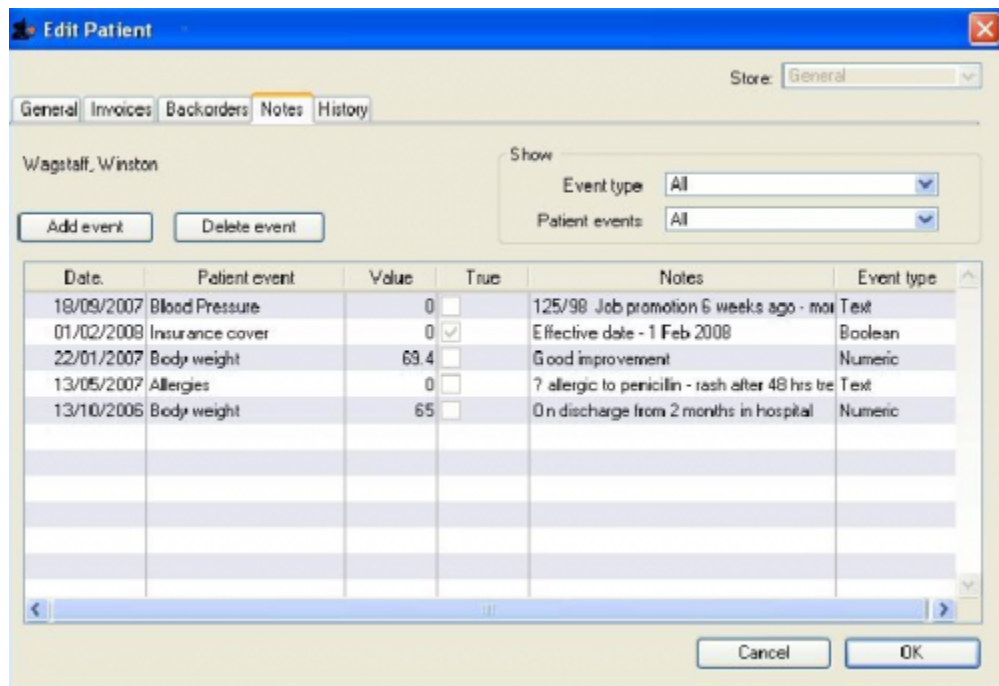
View the record of the patient in the normal way (from *Patient > Show Patients*, enter the patient's name & double click the appropriate patient from the 'names output'), and select the *Notes* tab. Click on the *Add event* button to bring up the window shown above.

In the *Event* field, *Search event type* appears by default. To display all the events you have defined so that you may choose the one you require, enter the character "@" (without the quote marks), press the TAB key, and make your required selection from the list.

Alternatively, you may enter a word from the description of the event - e.g. if you have defined *Patient's body weight* as an event, you may enter the start of the event name or code (e.g. *pat*), and that event will appear in the *Event* field. If more than one event matches what you have entered, a list will displayed for your to choose the event you want to enter.

Should you wish to add any note or comment, you may do so by moving the cursor into the *Note* area, clicking, then typing your entry. You can customise the note in terms of when it will be displayed on screen etc. as described in the *Items* chapter of this guide. Here's the link - [The Notes tab](#).

After a period of time, a patient's notes may look like this:



The default view shows all patient events, but you have the ability to view single events by selecting the event code from the drop down menu *Patient events* under *Show*

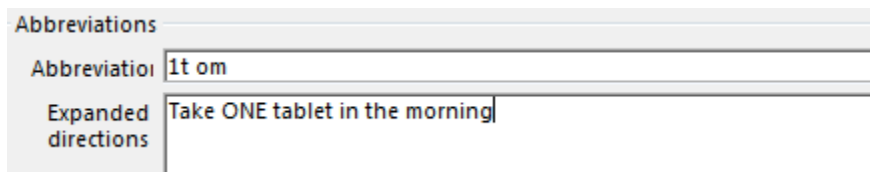
A new event may be added by clicking on the *Add event* button, and an event which is no longer of any relevance may be deleted by clicking on the *Delete event* button.

Events may be edited by selecting the specific event, double clicking on it, when the *Edit patient event* window appears.

Entering directions

For many commonly prescribed items, default direction abbreviations can be defined - refer to the section on Item Default Directions. In the example below, the item being dispensed is FRUSEMIDE 40mg tablets, and the default directions are "Take ONE tablet in the morning". Alternative directions present may be displayed by clicking on the down arrow to the right of the abbreviated direction field; directions not already present may be typed in using either the *Abbrev* entry area, or the *Expanded* entry area.

Note that you can mix abbreviations and text like this.



The drop-down list shows any default abbreviations you have entered for the chosen item. If one or more default abbreviations exists, the highest priority default abbreviation will be 'suggested' when you choose the item. If there is more than one standard abbreviation available, you can choose another one by choosing it from the drop-down list.

mSupply stores the expanded text for each line, not the abbreviation. This means that there is a full audit trail of what was printed on the label (unless you edit the directions after printing!).

Default directions

The set up of default directions is done on the dispensing tab when editing an item. You will find it described here.

Printing Labels

Patient labels are printed when the *Print labels* option is checked in the *Prescription Entry window*. Sample labels, produced by the Zebra TLP2844 printer are reproduced below:



mSupply currently is designed to work with the Zebra TLP 2844 label printer. The Zebra is a very nice printer. It can use either thermal labels or a thermal ribbon which gives non-fading results.

We currently support plain 90 x 40mm label stock as this is cheap and readily available. The Zebra printer is auto-sensing of the ending of a label, so you can most likely use labels longer than 40mm with no problems.

- Label specifications:
- 90mm x 40mm high
- White Matt Thermal Transfer Paper
- Wide Edge Leading
- 1 Across on a roll
- Perforation between each label
- Produced on 1" core to suit TLP2844

We are happy to support other printers if you use a different brand.

Reprinting labels

If you need to print the labels for an item again, choose Patient > Show Prescriptions to locate the prescription entry.

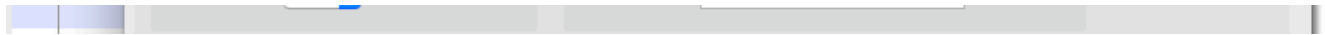
In the list of items dispensed, click on the line you wish to reprint, and then click OK (with the printing checkbox checked)

If you wish to reprint labels for all the items on the prescription, first click in the list of items below the last item so that now one item is highlighted. Then all labels will be printed when you click OK

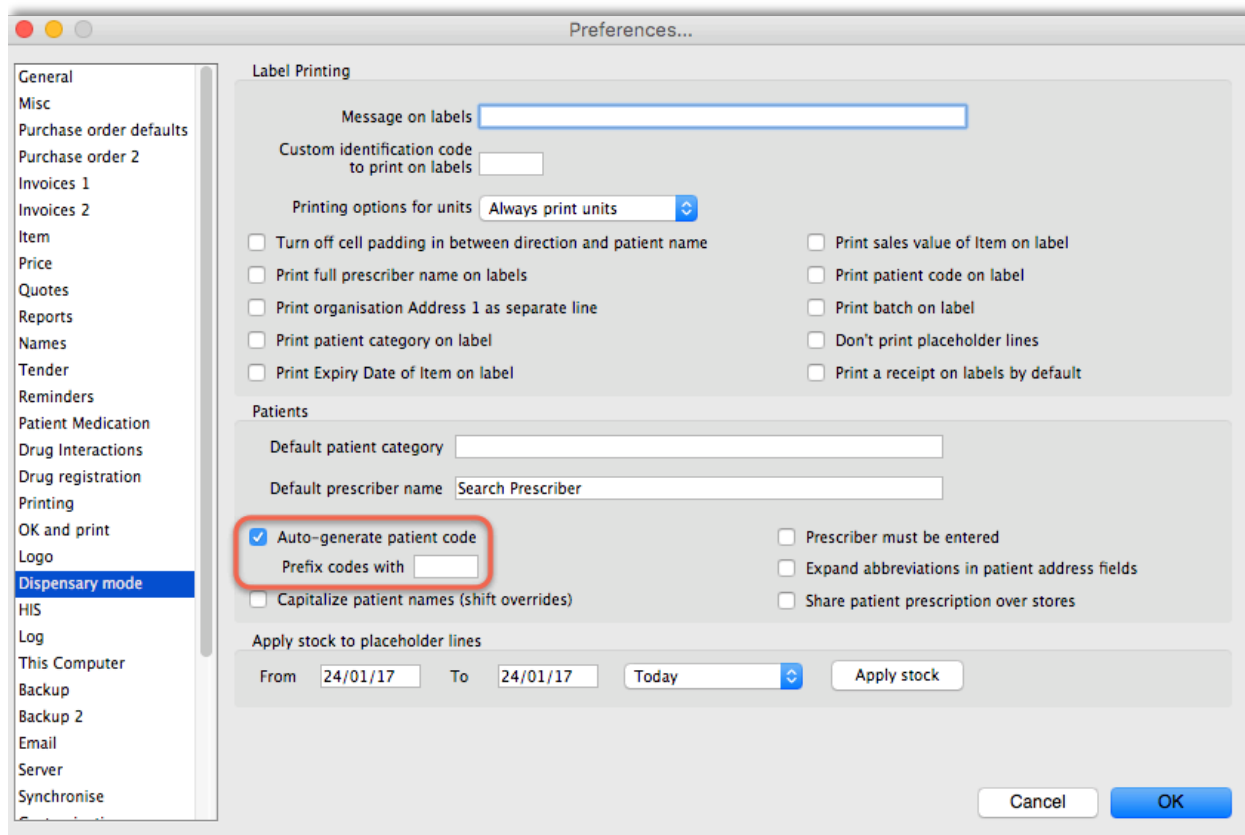
Entering a new patient

To enter a new patient:

- In the *Prescription Entry window*, click the *New Patient* icon to the left of the name entry area. This window will be shown (Shortcut: Ctl-Shift-P). All entry fields are blank, except for the **Code** field where the entry shown is the next number in the table of unique numbers applied to each individual patient.



- All applicable fields should be completed.
- Please note - the patient code will only appear if this setting has been selected in Preferences.



If the new patient's date of birth is known, it should be entered, otherwise an entry should be made in the *Age* field; for a patient aged 18 months, valid entries in the *Age* field may be in one of 3 formats, namely 18m, 1.5, or 18/12.

- When a patient's code is known, that patient's record may be rapidly displayed. Note also that the **Male** radio button is checked; if you are entering details of a female patient, remember to check the **Female** radio button!.
- Custom fields are available for storing information such as insurance details etc.

Printing multiple labels

If you want to print more than one label for an item, hold down the *Alt* key (*Option* on Mac) as you click the OK button. You will be asked for the number of labels required as the label is about to print.

What if there is not sufficient stock of one batch?

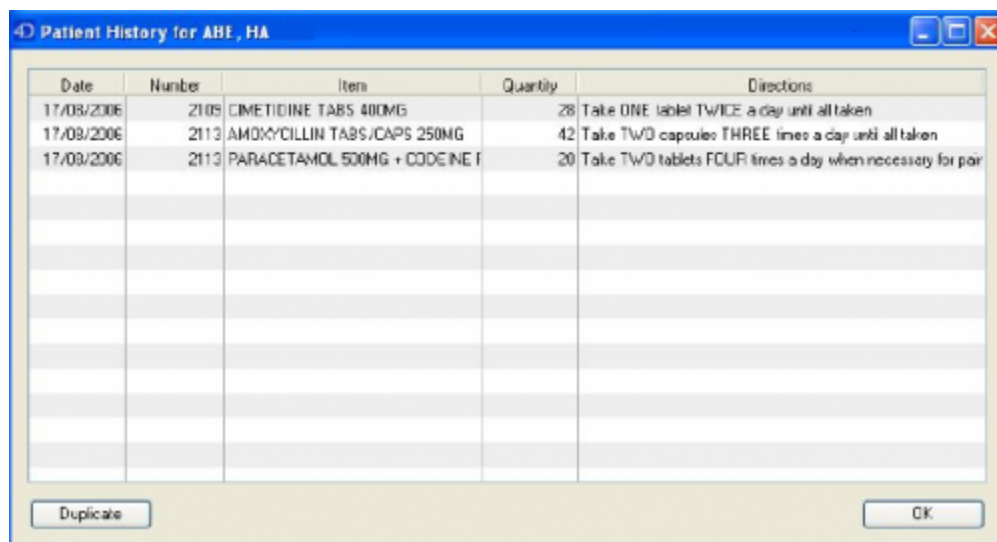
As the quantity of a particular batch of an item gets used up, you will need to issue stock from more than one batch to a patient. mSupply handles this when printing labels, and combines the totals for any item on a prescription so that only one label is printed for the total quantity.

The directions for the item with the first line number will be used, so enter directions for the first batch you dispense, and leave the directions empty for subsequent batches.

Note: if you have the rare situation where you need to issue the same item to one patient with different directions you should either combine the directions onto the one label, or enter two prescriptions with the directions entered differently on each prescription (That is enter the line, then print the label(s), then choose Patient > New prescription and issue the item again with the second set of directions).

View history

In the new prescription entry window, once you have entered a patient name you can click the “history” button to view a patient's history of what you have dispensed.

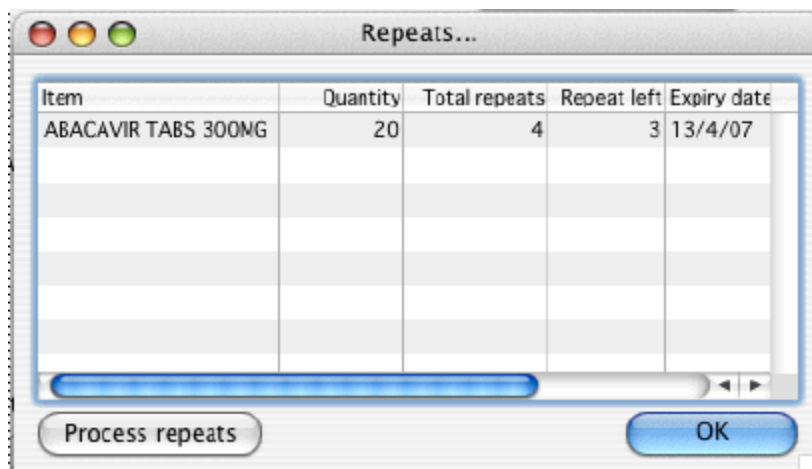


Duplicating a prescription

Once you have a history window open you can click to select a single entry or control-click to select multiple entries, then click the “duplicate” button to create new prescription line(s) with exactly the same details. Stock will be issued for these lines automatically.

Repeats

mSupply allows for the recording of repeat prescription. This is achieved when the prescription is first dispensed; in the *Add item* window, click on *Total* field in *Repeats* box in the top right corner of the window, and enter the number of repeats that the prescriber has authorised. The Repeat Dispensing procedure is described .



Merging patients while dispensing

While dispensing, you may observe that a patient has been inadvertently entered twice.



18			13/03/70	0211546759
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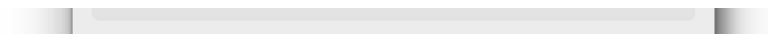
When the *Choose patient* window appears, you need to highlight the two patients to be merged, then clicking on the *Merge* button displays this window:



Here you need to decide which record should be kept, and which one should be merged, and check the appropriate radio buttons. This combines the information in the record to be merged with the information in the record to be kept.

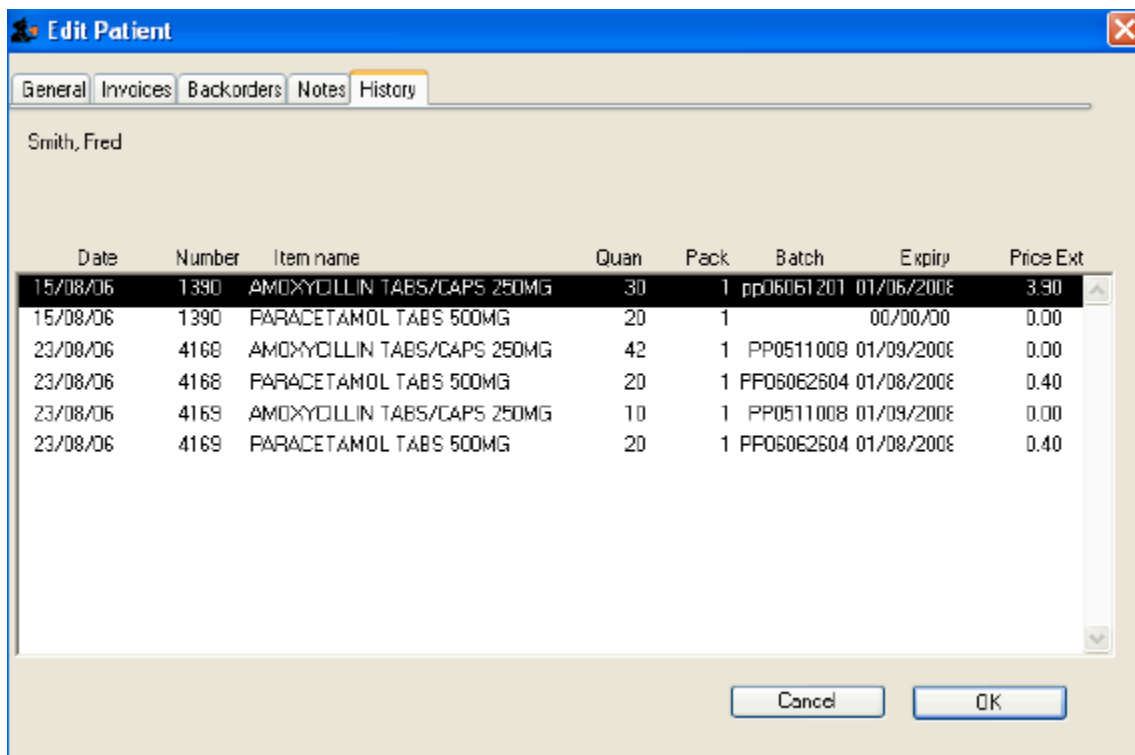
Viewing patient details

You can view a patient's details on-the-fly as you enter a prescription as described above. You can also view patients by choosing Patients > Show patients.



Enter the details you want to search for and click *Find*

You will be shown a list of matching entries, or taken directly to the detail view if only one patient matches the values you entered.



Patient history tab

The details displayed are similar to displaying a customer in store mode. However there is also a history tab that shows each item dispensed. Double-clicking an item in the list will display the transaction in a new window.

Repeat Dispensing

The Repeats panel (upper right of the window shown below) allows details of repeat prescriptions to be recorded. Take the example of a patient presenting a prescription for Frusemide 40mg tabs x 30 on 1st January 2007, with the prescriber requesting "Repeat monthly x5"; in the *Total* field you should enter "5", and in the *Expiry Date* field you have the option of entering (a) the actual date on which the final repeat may be issued - in this example, "1 July 2007" (allowing the patient one month's grace) - or (b) "6m" for 6 months. Note that the characters "D", "W" & "M" in upper or lower case are interpreted in this particular field as the specified number of days, weeks or months before the repeat instruction expires. mSupply defaults to an expiry date two months later than the current date, but this may be edited as appropriate. The system automatically updates the number of repeats remaining as the patient makes further visits to have the repeats dispensed. The window below is displayed when you click on the *New line* in " *Prescription window* "

Add item

Item: FRUSEMIDE TABS 40MG frt4

Line:

Quan: of **867.55**

Pack: EA Bulk/Outer pack size:

Repeats

Total:

Left: Repeat

Expiry date: Quantities

Line	Issue	Available	Tot in store	Pack	Hold	Batch	Expdate	Supplier	Location	Cost Price	Sell price
1	20	867.55	867.55	1	<input type="checkbox"/>	E014	4/7/10	TAIWAN		0.00	0.00

Total quantity issued:

Total quantity available:

Directions/Note

Abbrev:

Expanded:

The number of repeats is assigned in *Total* field in Repeats box, and as the repeats are dispensed, the number remaining is displayed in the *Left* field.

When you click on the blue arrows on the upper right side, the total repeat number and total quantity for each repeat is shown. Clicking on the small arrow displays the window below.

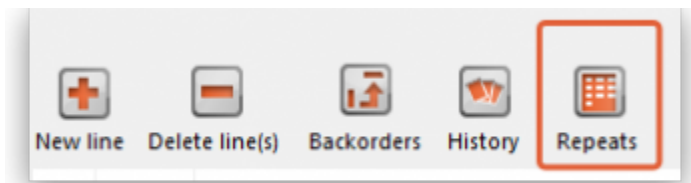
Repeat [Min] [Max] [Close]

Repeat number	Quantity
1	20
2	20
3	20
4	20

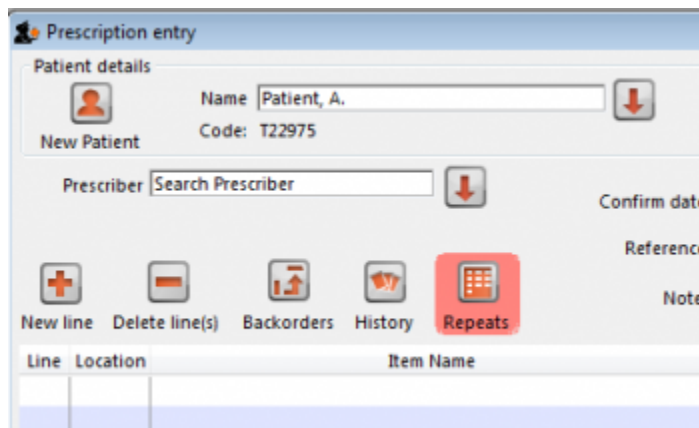
This window allows the user to alter the quantity of a particular repeat - e.g. if there is insufficient stock on a particular visit of the patient; the quantity can be edited by clicking on the quantity line, and again clicking on the quantity, which may now be edited. The arrow on the left bottom corner enables you to restore the default quantity setting.

Once you have filled repeat and other details on the *Add item* window properly, click on *OK* button to save details .

The *Repeats* icon is contained in *Prescription* entry.



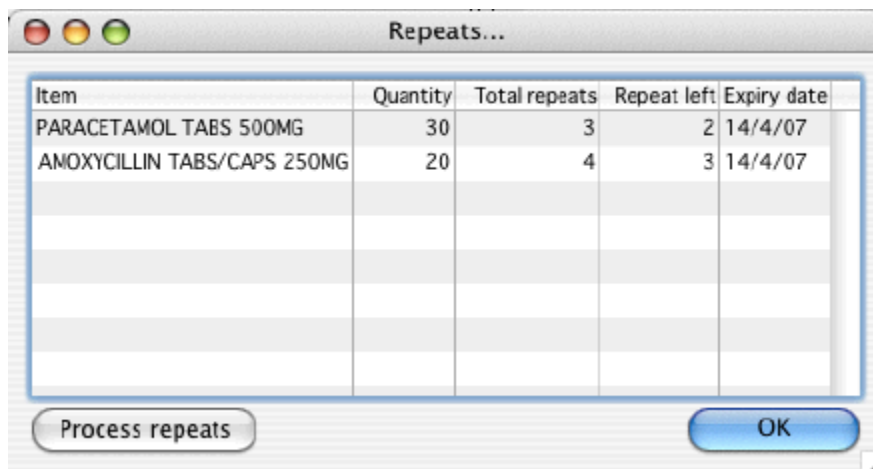
When the *Repeat* function is used, and there are future repeats to be issued, the icon appears on a red background:



The red background disappears when either:

- expiry date is reached
- all repeats have been dispensed

You can issue the repeat to a particular patient. Clicking on the *Repeats* icon displays this window:



The repeat window shows items to be dispensed, quantity, total repeats, repeats remaining and expiry date for a particular repeat. *Process repeats* and *OK* button are described below.

OK

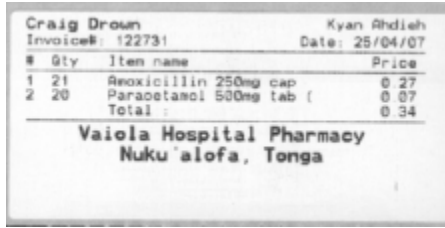
Click *OK* button to exit from the *Repeats* window

Process repeats

This button is used to issue the repeat for a particular patient and for a particular item line. For issuing the repeat, first select a desired item line and then click on the *Process repeats* button. Now the system automatically manages the repeats internally.

Printing receipts

When the *Print Receipt* option is checked in the *Prescription Entry* window, the printer will, after printing the medicine labels, produce a patient receipt as shown below.



#	Qty	Item name	Price
1	21	Amoxicillin 250mg cap	0.27
2	20	Paracetamol 500mg tab (	0.07
Total :			0.34

Vaiola Hospital Pharmacy
Nuku'alofa, Tonga

Should you wish to use a different printer for receipts, this option can easily be incorporated in mSupply if you advise us of your requirements.

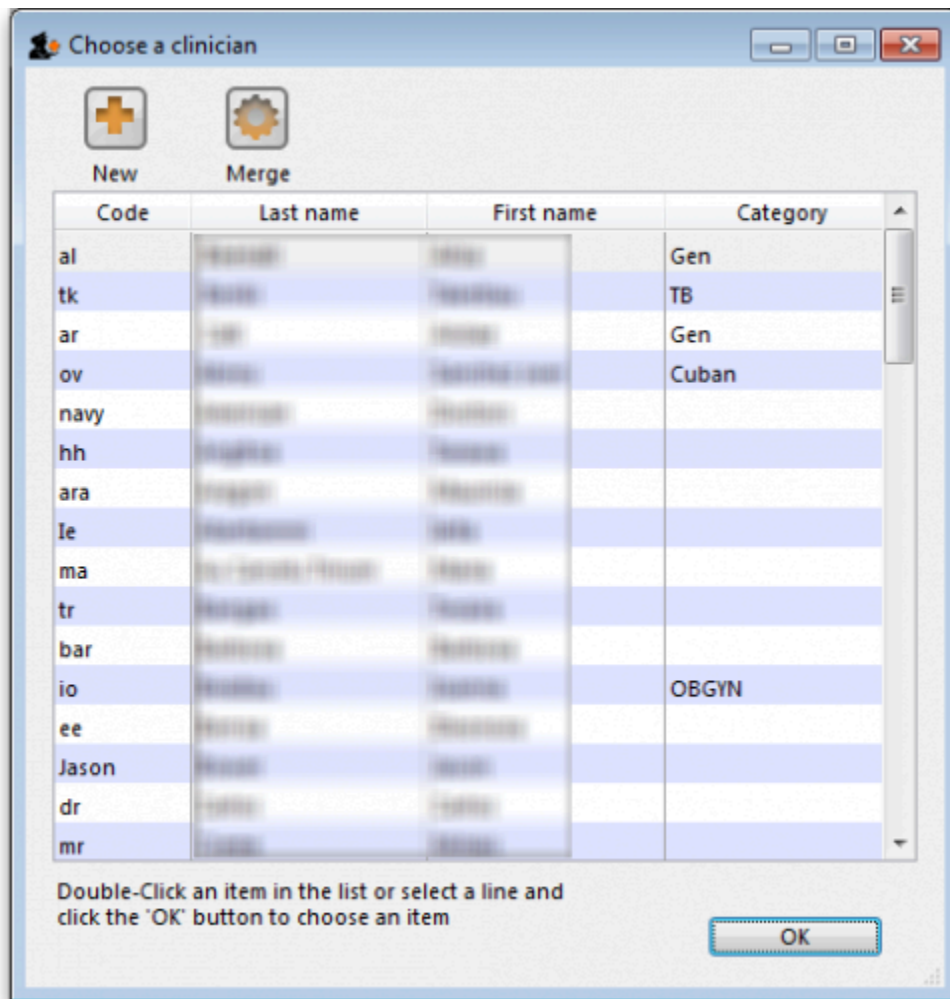
Previous: Exporting records Next: Prescribers

Prescribers

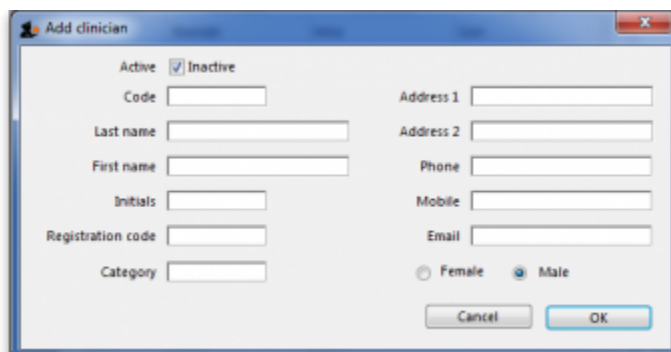
From the *Special* menu choose *Prescribers*

We were going to title this section “Managing Prescribers” but we all know that’s not possible 😊

When you are in dispensary mode, issuing items to a patient allows you to add a prescriber. This menu item allows you to set up your list of prescribers.



To add a new prescriber, click the “New” button.



Add a code for the prescriber. You can use the code quickly to look up the prescriber when dispensing.

Other fields are fairly self-explanatory. Note that the code, first name and last name can all be used for looking up prescribers when dispensing.

Initials

The text you put in the “Initials” field will print on dispensary labels.

Active status

If you have a prescriber that is no longer used, you can change their status to “inactive” and the prescriber will not show in the choice list when dispensing. Inactive prescribers will still show when you choose Special > Show Prescribers...

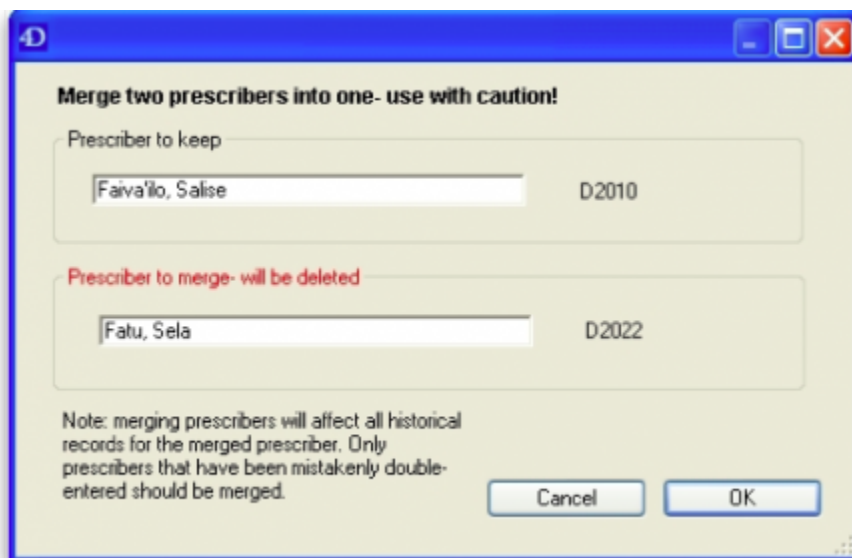
We suggest you might want to add a “Miscellaneous Prescribers” item to the list, and use this if you have a lot of prescribers whose prescriptions you only dispense infrequently.

Category

This field can be used to group prescribers together, and can then be used to filter prescribers when producing a transaction report.

Merge prescribers

This item from the *Special* menu is used to merge two prescribers, where the same prescriber has inadvertently been entered twice. You are shown a window like this:



Enter the two prescriber names by entering the start of their surname or their code, and then pressing *Tab*. The top prescriber is the one who will be kept. The lower prescriber will be deleted.

Once you have entered the two names, check the details are correct, and then click *OK*. You will be warned one last time, and then the operation will be completed.

All transactions that recorded the deleted prescriber will now show the name of the prescriber that was kept.

Import prescribers

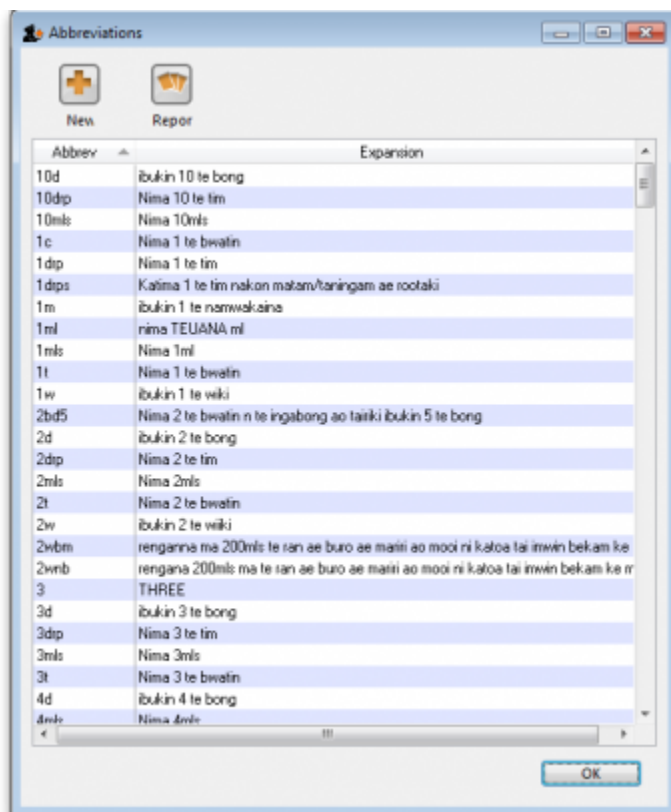
For information on the procedure for importing a file containing your prescribers see [Importing prescribers](#)

Previous: Dispensary Mode Next: Abbreviations

Using abbreviations

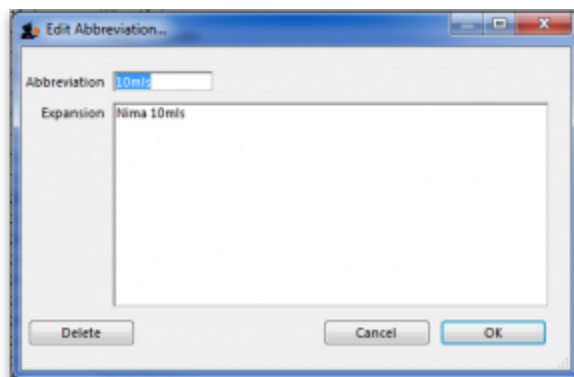
Choosing from the menu **Special > Abbreviations** allows you to enter directions quickly and accurately when dispensing medicines.

It is worth mentioning that abbreviations may also be used in other situations - e.g. if a significant number of customers live in the same locality, an abbreviated form of their address could be employed. Such abbreviations are created in the same way as described below.

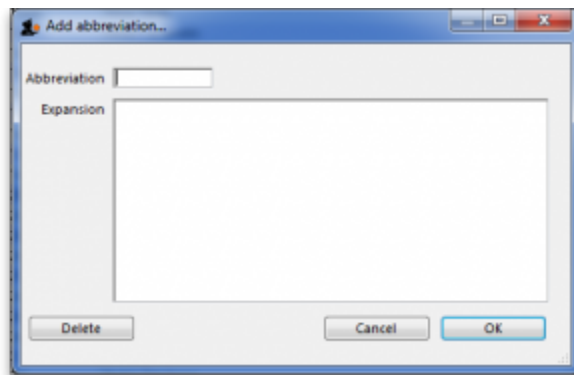


As usual, you can sort the list by clicking on the column headers

Double-click an abbreviation to edit it.



Click the *New* button to add a new abbreviation.



Type an abbreviation and the text that it will expand to.

Click the *Report* button to construct a simple report listing all abbreviations. This report can be previewed or printed.

When you are issuing an item you can mix abbreviations and your own text to add common directions quickly.

Do not use actual words as your abbreviation, or else attempting to type the word will result in the expanded text appearing on your label!

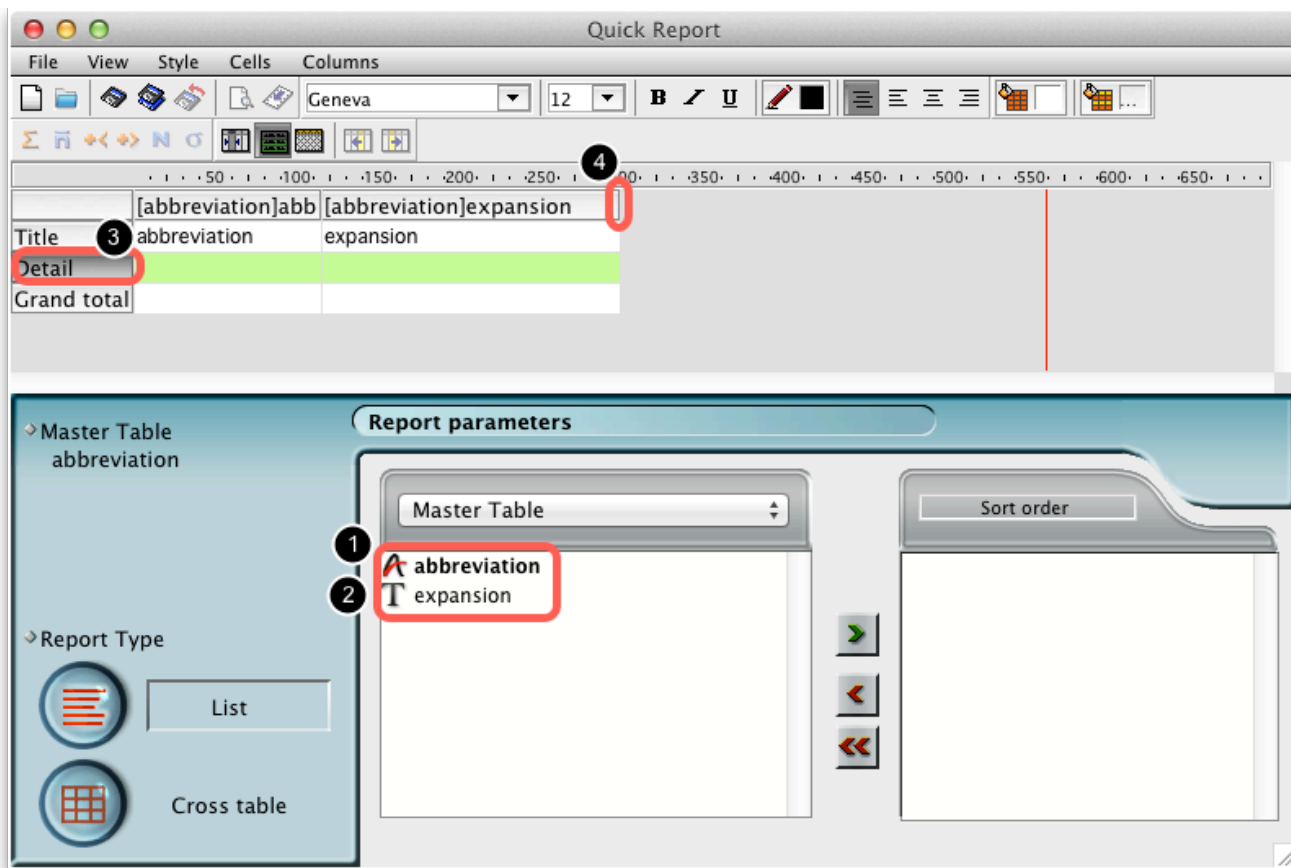
If you change an abbreviation or add a new one, you will see the change immediately (v317 or later), but in a multi-user environment other users will have to log out and log in (use **Switch user** to do this quickly) to see the edited or added abbreviations.

Importing abbreviations...

The procedure for importing a file containing your abbreviations will be found here.

Printing a list

From the abbreviations window, click the **Report** button.



1. Double-click on **Abbreviation**
2. Double-click on **Expansion**
3. Right-click on **Detail** and set font size to 8 or 9
4. You can use the lines on the column headers to adjust column width
5. Choose **File > Generate** to print the list

Item Default Directions

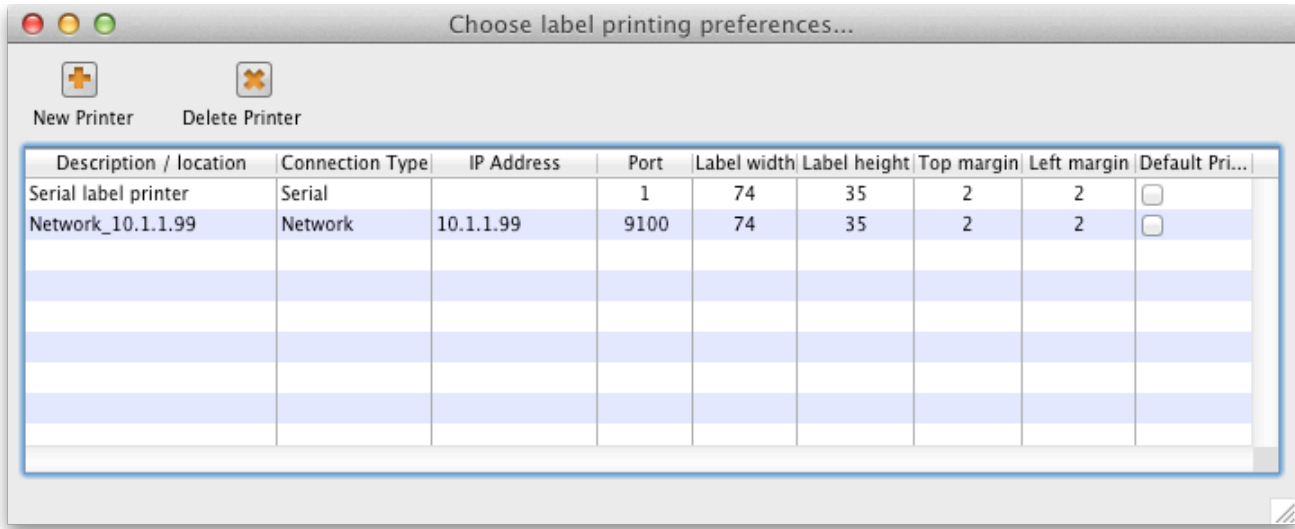
Once you have entered abbreviations, don't forget to enter the default directions for all common items. Instructions are here

Previous: Prescribers Next: Printing Preferences

Printing preferences (setup)

For setting up a printer for the first time, see Printer Installation

Choosing this item from the *Special* menu shows the printing Preferences window.



Changing your default printer

The default printer is stored for each **client computer** - so each computer can be set to print to a different default printer. When you alter this setting, you are only altering it for the computer you are working at

To change the default printer, simply click the checkbox in the right-hand **Default Printer** column on the row of the printer you wish to use.

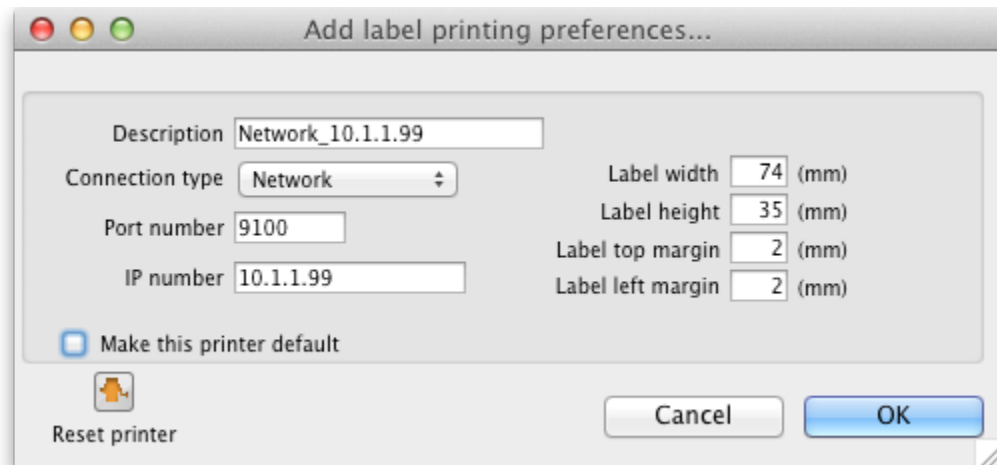
Adding a Printer

- click the **New Printer** button

Editing a Printer

- Double-click the printer in the list.

Settings for a particular printer



- **Description** Here you give the printer a name
- **Connection type**
 - If you are connection with a network cable (recommended) choose **network**
 - If you are connecting with a serial cable choose **serial**
 - Note we do not support direct USB connections as we are not using the computer's printer driver- we are sending instructions direct from mSupply to the printer.
- **Port number** For network connections this will usually be 9100
- **IP Address**- the address of the printer e.g. 10.1.1.253
- **Label dimensions** Enter width, height and margins in m.m.
- **Make this printer default** - Checking this box means that the computer you are using will always print to this printer.
 - Important: this setting is “per computer” - you need to set each computer to have a default printer.
- **Reset printer** You can use this button to send a command to the printer to reset it. Occasionally a printer may misbehave if it's memory is corrupted by an electricity spike or the like, and this button may help. If your printer is not behaving we recommend you contact Sustainable Solutions rather than charging ahead on your own.

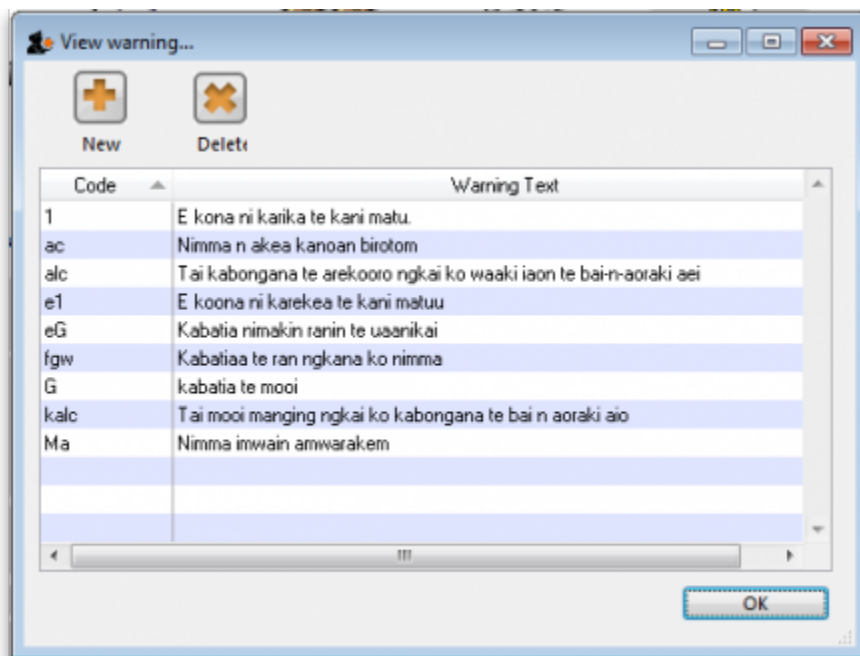
Previous: Abbreviations Next: Warnings

Warnings

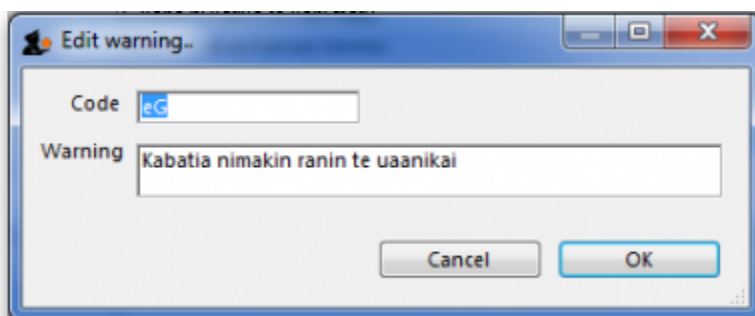
From the *Special* menu this command allows you to view and edit the standard list of warnings.

Once this list is created, you can apply one or more warnings to each item, and choose which warning will be automatically printed on labels.

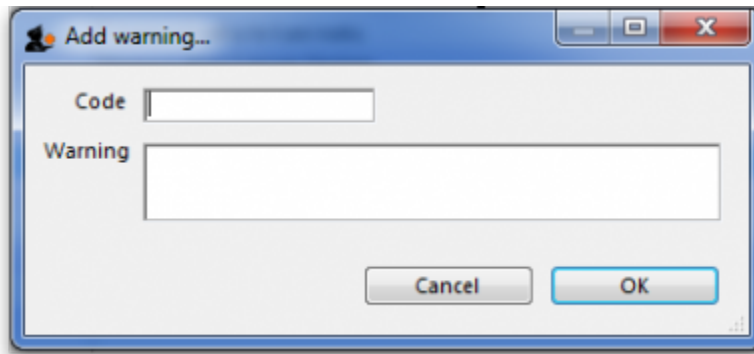
To apply a warning to an item, see Adding a New item



Double-click a warning in the list to edit its details.



Click the “New” button to add a new warning.



We suggest you use the standard set of warnings as specified by the pharmaceutical authorities in your country.

Previous: Printing Preferences Next: Patient Medication Records

Patient medication records

Introduction

A Patient Medication Record (PMR) is a way of recording all the medications a person is using, whether or not they were dispensed by you. The record contains useful information for the patient such as

- The dosage in a clear easy-to-understand format.
- An (optional) picture of the dose form (tablet, capsule, etc)
- The medication's purpose.
- Common instructions for taking/using the medicine, which may be customised for each patient

Setting up items

Before adding items it is good to set up the standard purpose, instructions and item photo for common items at least. Once set up, you can add these to a particular patient's PMR with just the click of a button.

1. Find the item you are interested in and go to the dispensing tab

Item details...

General
Misc
Usage
Stock
Ledger
Quotes
Backorders
Notes
Reconcile
Bill of materials
Purchase Orders
Order options
Dispensing
Reporting
Log
CST
Stores

Item name: GLIBENCLAMIDE 5MG TAB

Store: Dispensary

Default Directions

Add Delete

Priority	Directi
1	2t bd pc uat
2	1t bd pc uat
3	1t od pc uat

Picture

Medication Purpose

To control blood sugar

Patient instructions

Take this medicine immediately after food.

Warn if user tries to issue more than: 0

Print out the units for this item on labels: This option has been disabled as you have chosen to 'Always print item units' in the mSupply preferences.

Delete OK & Previous OK & Next Cancel OK

- 2.
3. Enter purpose and instructions. Both these fields can take as much text as you wish to enter.
4. Add a photo by either dragging a photo from another application or pasting a photo from the clipboard.

mSupply will automatically resize large photos when you add them- there is no need to resize photos yourself first.

Adding items to a Patient's PMR

There are 2 ways of adding items to a PMR

1. From the patient history tab:

- Highlight the items from the patient's history you wish to add, then click the **Add to PMR** button.
 - The record will be shown on the "PMR" tab if you switch to it.
 - Note that on the PMR tab you still have to double-click on the added record and fill in the dose, instructions etc.
2. From the Patient details PMR tab
- Here you can add any item that is in the mSupply catalogue.
 - For example, a patient might be regularly taking paracetamol or aspirin that they buy themselves. You can add such items here.

The screenshot shows the 'Edit patient' window with the 'PMR' tab selected. At the top right, it says 'Store: Dispensary'. Below the navigation tabs (General, Prescriptions, Notes, History, PMR, Store) are three buttons: Add, Delete, and Print. The main area contains a table with the following columns: Item, A.M., Noon, P.M., Bedtime, Purpose, and Instructions.

Item	A.M.	Noon	P.M.	Bedtime	Purpose	Instructions
ACYCLOVIR EYE OINTMENT 4G	1	0	0	0	For cold sores	Apply for at least two weeks
METFORMIN 500mg TABLET	2	0	2	0	For diabetes	Take each dose immediately aft

At the bottom right of the window are three buttons: 'OK & Next', 'Cancel', and 'OK'.

- a. To add an item, click the **Add item** button. You will be shown a new window:

The screenshot shows the 'Patient Medication Records' window. At the top, it says 'Patient Medication Records'. Below that, there is a text field for 'Item' containing 'GLIBENCLAMIDE 5MG TAB' and a dropdown menu showing '450'. To the right is a circular icon with a diagonal pink and green split. Below this are four input fields for 'Dose' corresponding to 'A.M.', 'Noon', 'P.M.', and 'Bedtime'. The values are: A.M. (1), Noon (0), P.M. (1), Bedtime (0). There are two text areas for 'Standard Purpose' and 'Standard Instructions'. The 'Standard Purpose' area contains 'To control blood sugar' and has a 'Copy' button next to it. The 'Standard Instructions' area contains 'Take this medicine immediately after food.' and has a 'Copy' button next to it. At the bottom right are 'Cancel' and 'OK' buttons.

- b.
- c. **Item name:** type the start of the item name and press <tab>, then select from the list

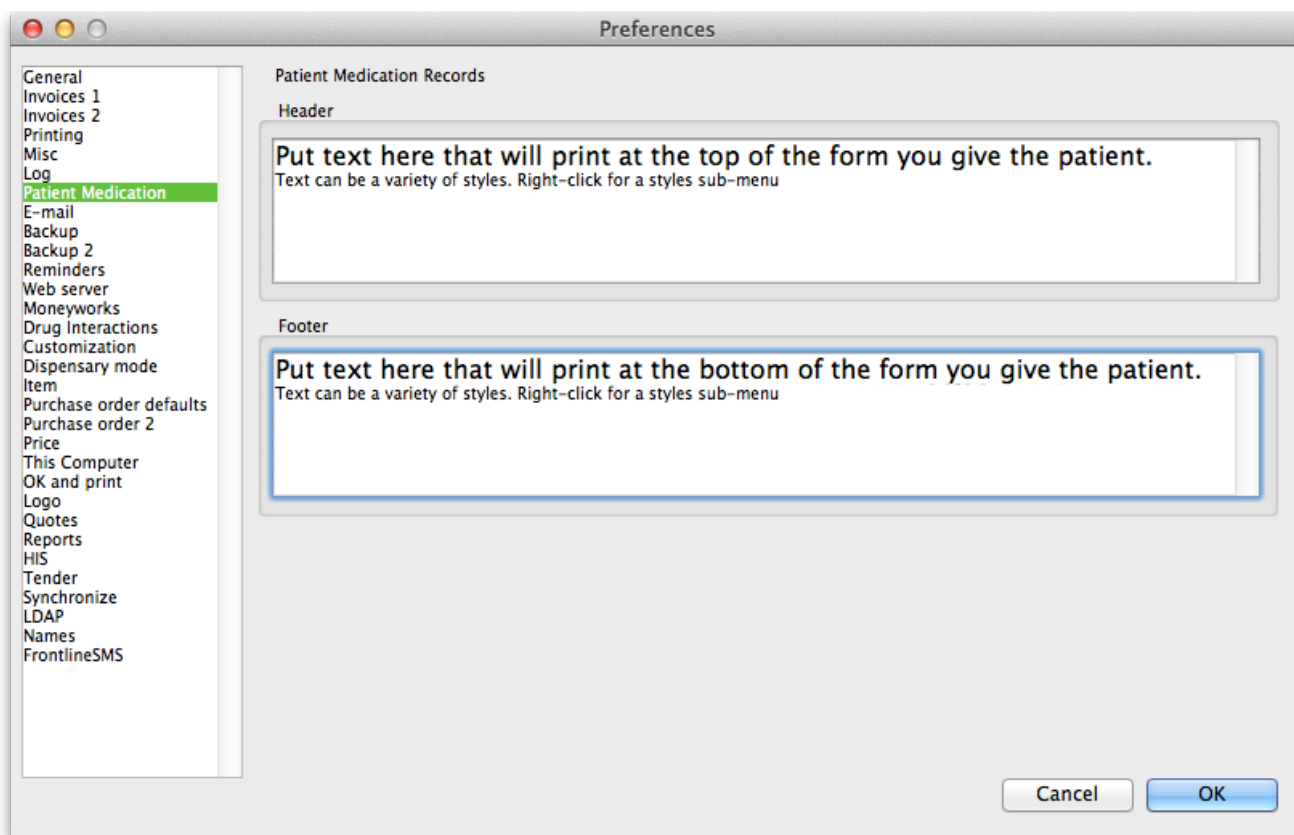
- d. **Dosage:** Enter the number of tablets/drops/whatever to be taken/administered morning, noon, evening and bedtime.
- e. **Purpose:** If the item has a purpose entered, click the **copy** button to copy it to the right-hand box. Here you can edit the details if you want to.
- f. **Instructions:** If the item has instructions entered, click the **copy** button to copy them to the right-hand box. Again, you can edit the details if you want to.
- g. Click **OK** when you're done, or cancel if you decide not to add a record.

Editing a PMR record: Double-click the entry you wish to edit, change details, and click **OK** to save the changes and close the window. **Deleting a PMR:** Highlight the record(s) you wish to delete, then click the **delete** button. (Do be careful- it's not reversible!)

Printing

Setting up printing preferences

When a PMR is printed, it has a header and footer. These are set up by choosing **File > Preferences** and then clicking the **Patient Medication** tab.



Note that you can style the text in these boxes by selecting text and right-clicking on your highlighted text to get a contextual menu to apply font styles, colour and size.

Printing a PMR

Simply click the **Print** button. Note that you do not have to highlight records- all records will be printed.

Currently we have included a single PMR printing form in mSupply. We are happy to include others- send us your designs.

Previous: Warnings Next: Why an HIS module for mSupply?

Why an HIS module for mSupply?

As mSupply has become more widely used, it has become clear to us that many hospitals that use mSupply now have a functioning computer system in their pharmacies, and not much anywhere else. Other clients have spent close to \$1 million on systems that we don't think are financially justified in their environments.

mSupply and mSupply-HIS

While mSupply and the HIS module are integrated, they also operate independently, and it is possible to use either module without using the other one.

By incorporating an HIS module into mSupply, it allows a hospital to cover the basics while sharing a server with the pharmacy, so a hospital that uses mSupply can start using the HIS module with little or no extra hardware costs. mSupply and the HIS module share a common patient database, meaning that the pharmacy and other hospital functions are integrated.

Many of the menu items in HIS mode are similar (or the same) as the equivalent menu items in mSupply e.g. Show clinicians, Show connected users, View log, Misc labels and Reminders.

What does mSupply-HIS do?

First, we should say that mSupply-HIS is not a fully-fledged Hospital Information System. It is designed to concentrate on a subset of a hospital's activities that form the core of its operations. The software is under constant development. As new features and facilities are added, we strive to ensure that the user guide and the graphics that it contains reflect these developments, but occasionally you may find that there are slight differences between the program itself and the documentation. These are usually of a minor nature, but should you have any difficulties, do please send us an email with details of your problem.

It does handle:

- Patient registration and recording common static patient data.
- Recording a hospital's wards and beds.
- Recording inpatient admissions (admitting a patient, assigning them to a ward and bed).
- Recording ICD10 disease codes for each patient admission. You can assign multiple disease codes, and prioritise them (primary, secondary, etc..).
- Moving patients to different wards/beds.
- Recording discharge data (patient status at time of discharge)
- Reporting on:
 - Bed occupancy rates as a whole and by ward, and other useful statistics e.g. average length of stay.
 - ICD10 statistics.

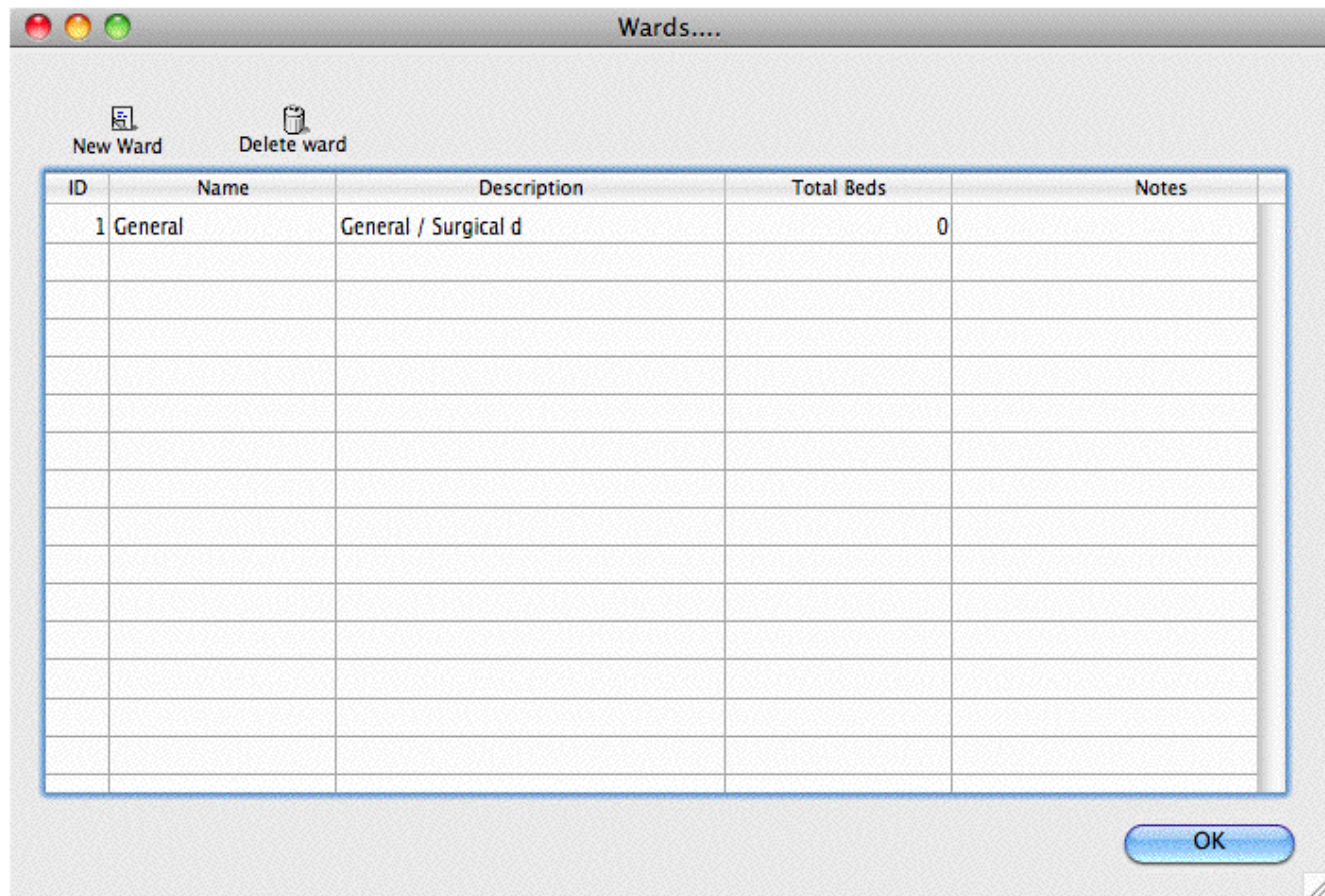
Previous: Warnings Next: Setting up wards and beds

Setting up wards and beds

Wards

Choose Special > Show Wards

You will be shown a window like this:



Click New Ward to add a ward.

The screenshot shows a 'New Ward...' dialog box with the following content:

General Info	
Name	General
Description	General Ward
Notes	Used to be known as Ward 40

Coordinate Info	
Coordinate Left	50
Coordinate Top	100
Coordinate Width	400
Coordinate Height	200

Buttons: Cancel, OK

Fill in the name and description. You can also add a note if you want to.

For now, you can ignore the coordinates.

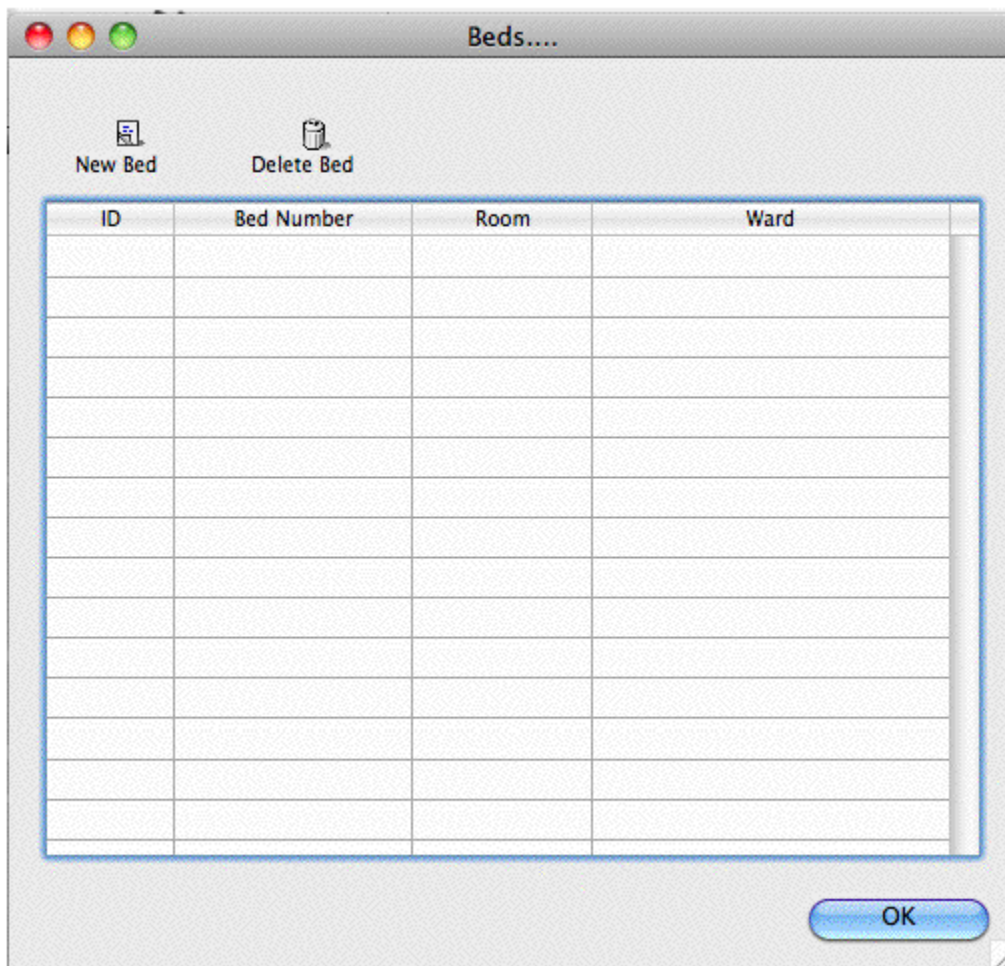
Click OK to save the information and close the window.

Repeat the process for each ward.

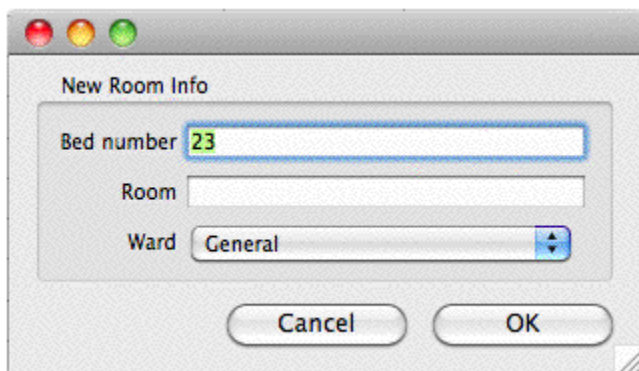
Beds

Make sure you have set up wards before setting up beds.

Choose Special > Show beds...



Click New Bed to add a bed.



Fill in the bed number (or name).

If your wards have rooms, you can enter the room number or name. This is optional.

Choose the ward the bed is in from the drop-down list.

Click OK to save and close the window.

Modifying wards and beds.

To modify a ward or bed, show the list from the Special menu, then double-click on the entry you wish to modify.

Note that if you modify a ward or bed, all historical records will be updated. Therefore, don't change the name of a ward to a totally different name, and don't move a bed to a different ward.

Setting up user access

Preferences

Choosing the Preferences menu item from the file menu opens a window with a side bar. Clicking on a subject in the side bar shows the options for that subject:

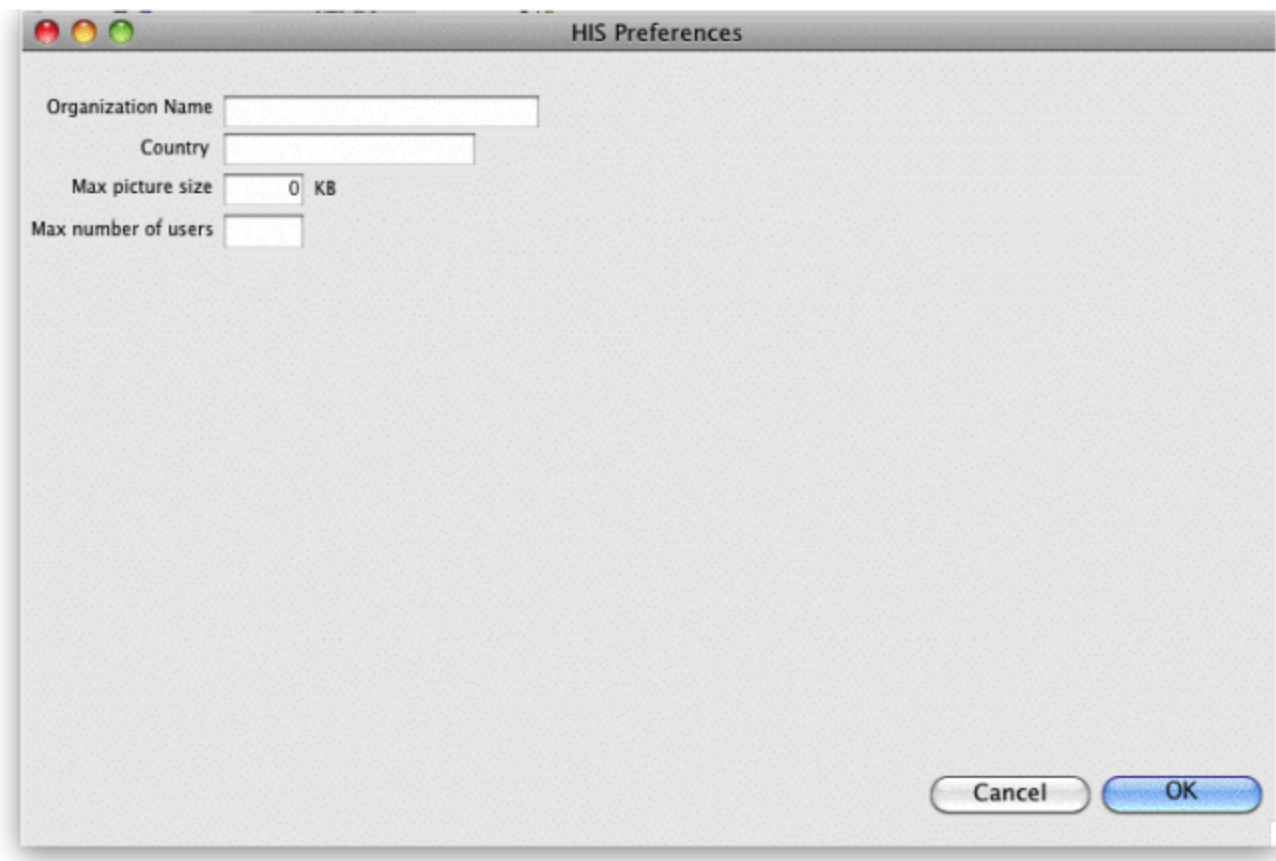
General

Organisation name: Enter the hospital name here.

Country: Enter the country you are located in.

Max picture size: Enter the maximum size of patient pictures that can be inserted. We suggest you set this value to 500KB.

Maximum number of users: Enter the maximum number of users that can log into the HIS system at one time. For example, if you purchase a 10 user license, and assign 6 users to the HIS system, it will allow 4 users to log in to the pharmacy (mSupply) module.



The screenshot shows a window titled "HIS Preferences" with a standard macOS-style title bar (red, yellow, green buttons). The window contains four input fields:

- Organization Name: A long text input field.
- Country: A text input field.
- Max picture size: A text input field containing "0" followed by "KB".
- Max number of users: A text input field.

At the bottom right of the window, there are two buttons: "Cancel" and "OK".

Previous: Why an HIS module for mSupply? Next: ICD10 disease codes

ICD10 disease codes

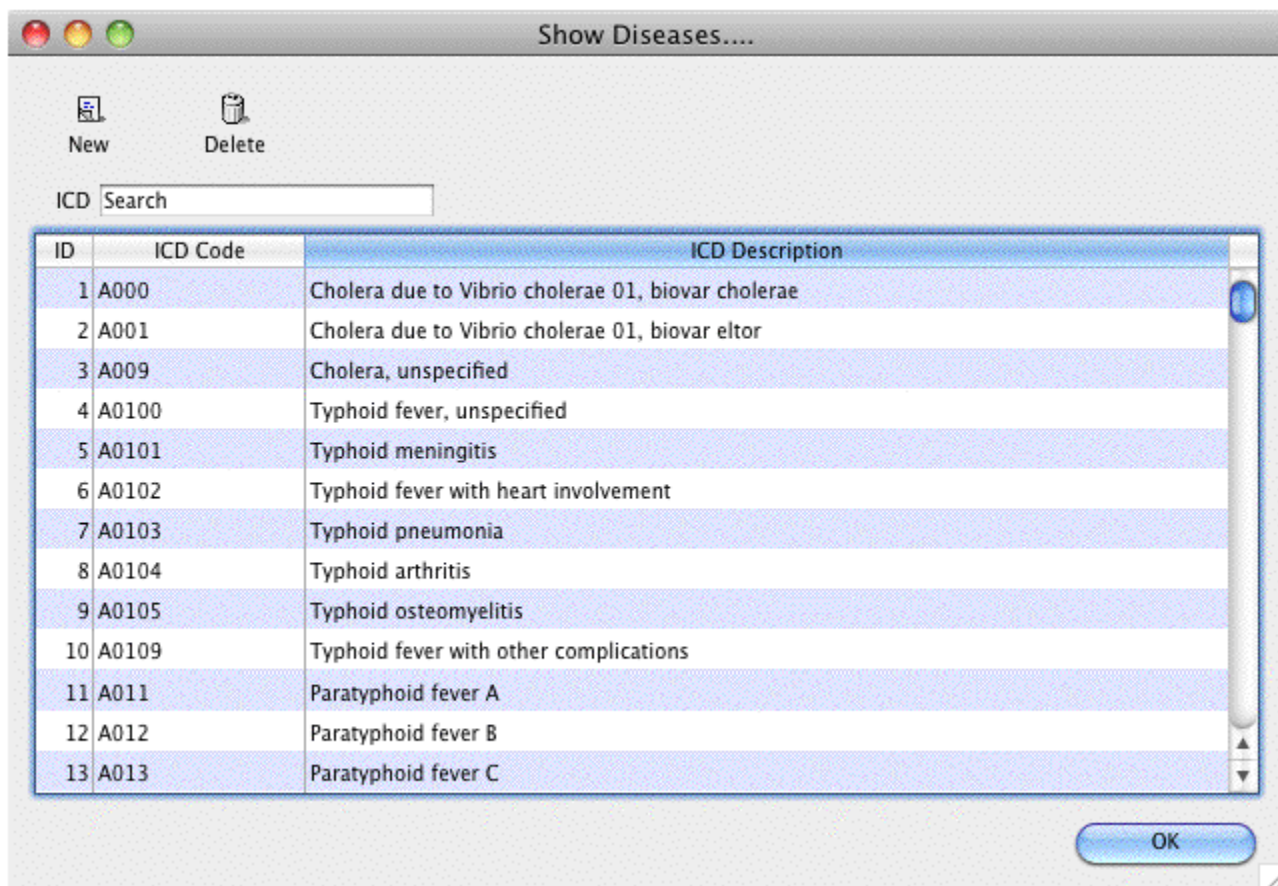
These can be imported from File > Import ICD-10 codes.

A list of 65,000 ICD10 codes is available for download on the mSupply web site, or you can import your own, using the a text file with 2 tab-delimited columns, defined as follows:

Column number	Column letter	Field	Description
1	A	ICD10 code	8 alphanumeric characters (must be a unique value)
2	B	disease description	30 alphanumeric characters

Show ICD10 codes

On choosing Special > Show ICD10 codes you will be shown the current disease list.

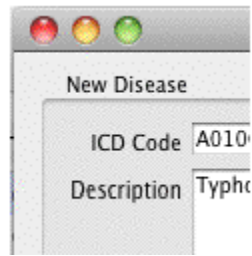


Find

To search for a particular code, type as much of the code or description as you know, and matching entries will be shown. For example, typing “foot” will show all entries that have “foot” in their code (not that many, we imagine!) or their description.

To Add a new entry, click the *New* button.

To Modify or view an entry's details, double-click the row.



Valid until...

This field allows you to use a code up until a certain date.

After that date is reached, you can't assign that code to any new encounters.

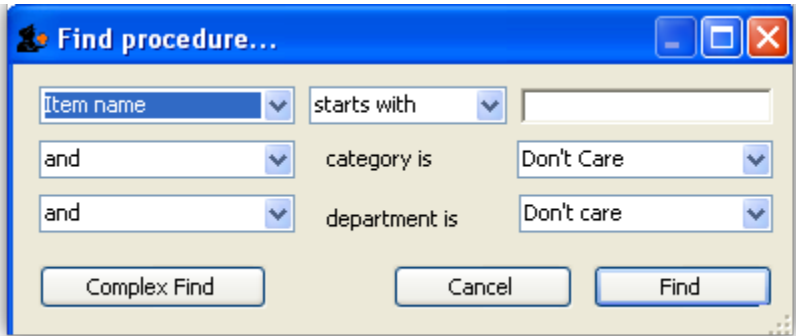
Note that you can use this field to disable use of a code at any time by entering yesterday's date and saving the record.

Previous: Why an HIS module for mSupply? Next: Procedures

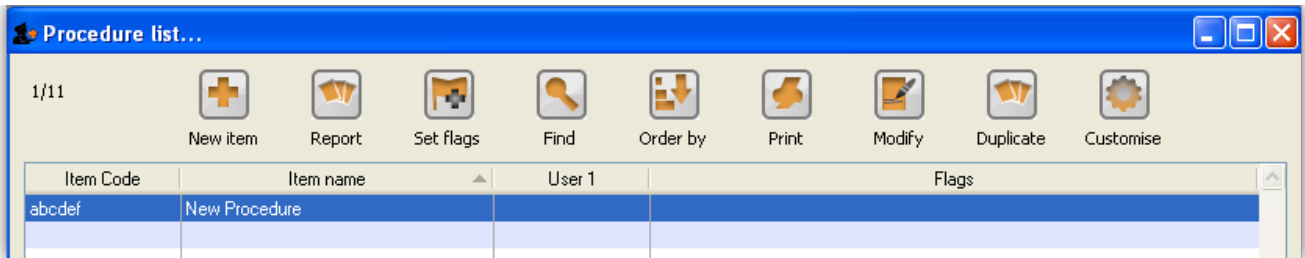
Procedures

Internally, a procedure in HIS is treated like a service item in mSupply, so many of the same concepts apply - see Items

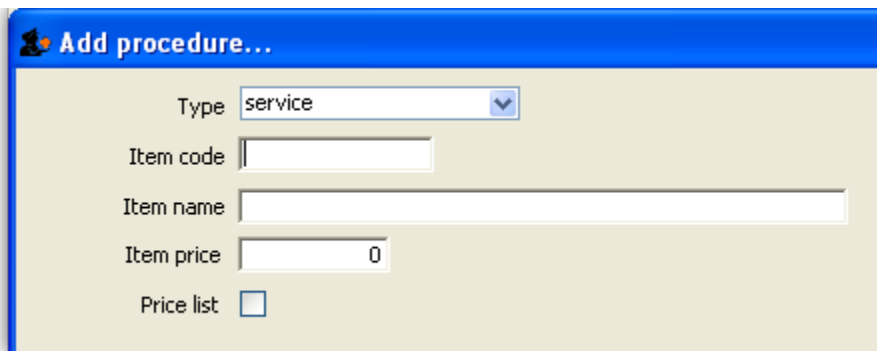
The **Special > Show procedures** menu item allows you to track surgical and other procedures performed on patients. It brings up the following window:



After setting the parameters, and clicking on *OK*, it will either show the list of procedures:



in which case, you can double-click on a procedure to view/edit it or select *New item* to create a new one. Or, if there are no existing procedures, it will go straight to the *Add procedure* window:



The type of a procedure is fixed as “service”. As for items, once a procedure has been added, there are extra fields and tabs available. However, only a subset of the normal item fields are available.

Procedure details...

General
Usage
Ledger
Notes
Misc
Misc 2

Item name New Procedure

Store: Hospital Info System

General...

Item code: abcdef

Category: None

Item flag:

Catalogue code:

Hide in this store:

Pricing

Default margin: 0

Default price: 2,000.00

Full description

Custom fields...

user_field_1:

user_field_2:

user_field_3:

user_field_5:

user_field_6:

user_field_4:

user_field_7:

Previous: ICD10 disease codes Next: Other lists

Other lists

Apart from setting up beds, wards, ICD10 codes and clinicians, there are a number of other lists which can be customised from the Special menu:

- Show discharges - add/edit the list of possible discharge reasons
- Show religions - add/edit the list of possible patient religions (optional)
- Show occupations - add/edit the list of possible patient occupations (optional)
- Show ethnicities - add/edit the list of possible patient ethnicities (optional)
- Show admitted from - add/edit the list of possible referrers (optional)
- Show arrived by - add/edit the list of possible modes of transport used by the patient to attend the hospital (optional)

Previous: Procedures Next: HIS preferences

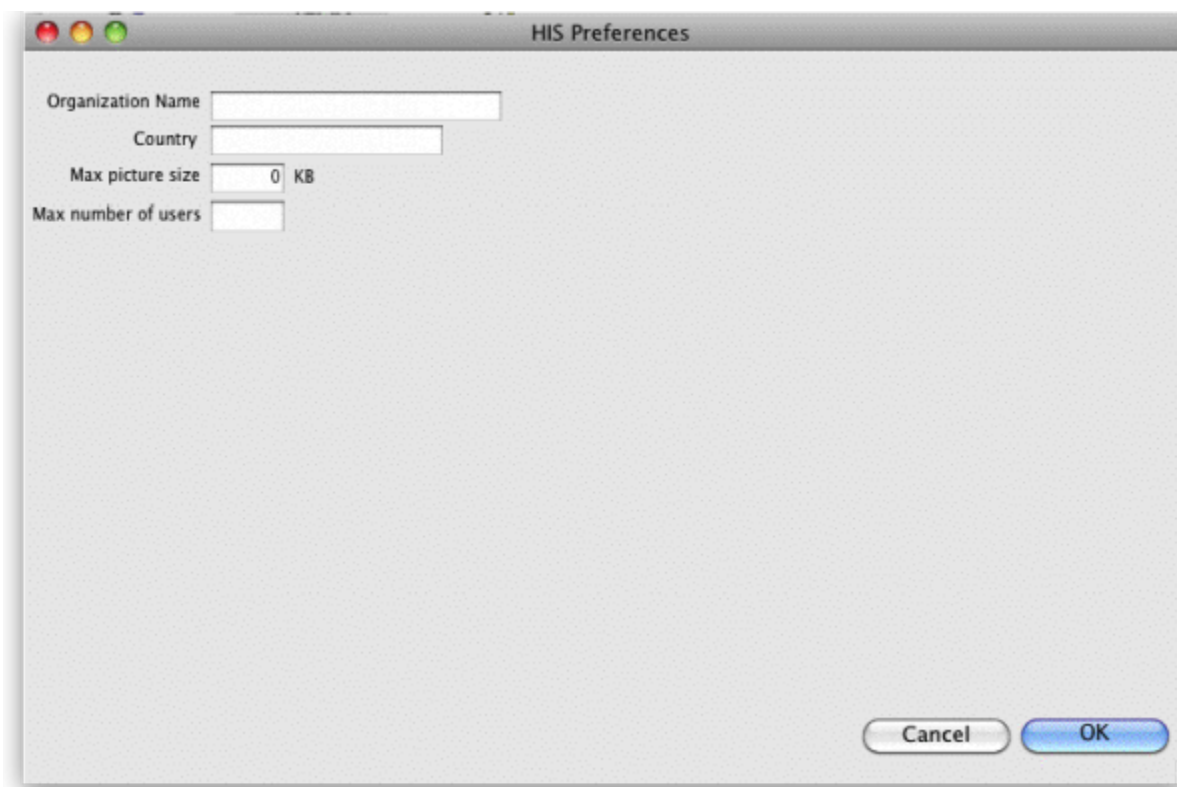
HIS preferences

Organisation name: Enter the hospital name here.

Country: Enter the country you are located in.

Max picture size: Enter the maximum size of patient pictures that can be inserted. We suggest you set this value to 500KB.

Maximum number of users: Enter the maximum number of users that can log into the HIS system at one time. For example, if you purchase a 10 user licence, and assign 6 users to the HIS system, it will allow 4 users to log in to the pharmacy (mSupply) module.



The screenshot shows a standard macOS-style dialog box titled "HIS Preferences". It features a title bar with three window control buttons (red, yellow, green) on the left. The main area contains four labeled input fields: "Organization Name", "Country", "Max picture size" (with a "0 KB" label), and "Max number of users". At the bottom right, there are two buttons: "Cancel" and "OK".

Previous: Other lists Next: Patients

Patients

Adding a new patient

Choose **Patient > New Patient**, or click the *New Patient* button on the navigator. This will show the following window:

Most of the fields are self-explanatory..

- First & last name (mandatory)
- Next of Kin
 - Here you can link a patient to another existing patient.
 - Type the last name then a comma, then the first name (or part thereof), and press tab. A list of matching names will be shown. Double-click on a name to select that person.
- Patient Picture
 - You can add a patient picture by clicking the *Add* button.
- Address and other contact details can be entered on the *Contact details* tab.

Showing and modifying patients

Choose **Patient > Show Patients** , or click the *Show Patients* button on the navigator.

Patient Code	Last name	Forename(s)	DOB	Phone	Address
1	Kirk	James T	06/10/1980		USS
2	Spock	Mr	11/09/1882		
3	McCoy	Leonard	07/10/1982		Sick Bay
4	Scott	Montgomery	08/10/1983		Engine Room
5	Chekov	Pavel	09/10/1987		Bridge
6	Shirt	Red	08/10/1986		Not for long
7	Sulu	Hikaru	08/10/1985		Bridge
8	Uhuru	Lt	08/10/1986		Comms

To edit or view a patient’s details, double-click on their name in the list.

Finding patients

Click the *Find* button, and a small window is shown:

Find Patients..

Patient details

Last:

First:

Code:

Search...

All names Selection

Type as much of the Last name, First name or Code as you know, and matching patients will be shown. Note that you can search all patients or restrict your search to only those in the already displayed list (the selection).

When you have a list of patients you can double-click on one to view the patient's details which will display up the following window:

Click on the different tabs to view different details. Note that on the *Encounters* tab you can double-click on the encounters shown to get their details.

Showing current admissions

You can also select **Patient > Admitted** to show a list of currently admitted patients.

Patient Code	Patient Name	Ward	Bed no.	Room	Estimated discharge dt.
20	Patient, Im	Holo	3	3	01/09/2010
10	Data, Mr	Sick Bay	10	10	15/04/2010
4	Scott, Montgomery	Solitary	1	1	21/09/2011

Previous: HIS preferences Next: Encounters

Encounters

In mSupply-HIS an encounter is a record of an interaction between a patient and a hospital service. In this first version, the only type of encounter handled is an inpatient admission, but we will be able to use “encounter” to allow for outpatient consultations and interactions with laboratory, x-ray and other services in the future.

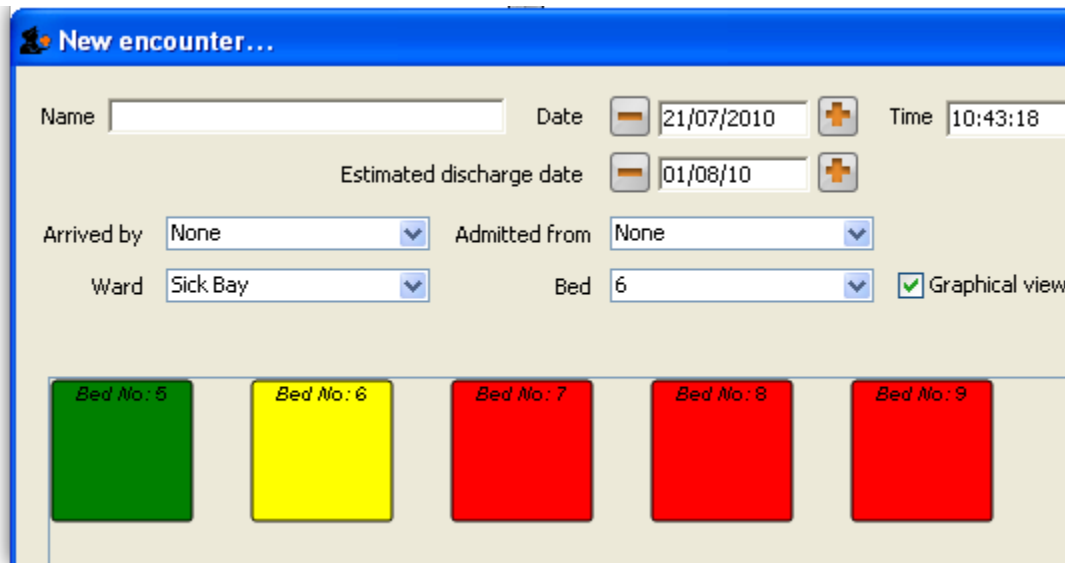
Entering a new inpatient encounter

Choose **Patient > New encounter**, or click the *New Encounter* button on the navigator.

Enter as much of the patient surname (and a comma, then the first name if you want to) then press <tab> to show a list of matching entries.

You can enter an expected discharge date (defaults to the next day), and where the patient was referred from and how they arrived at the hospital.

Once you choose a ward, a list of available beds is shown. If you choose to show the graphical view, you can see each bed, and you can click on a bed to assign the patient to that bed.

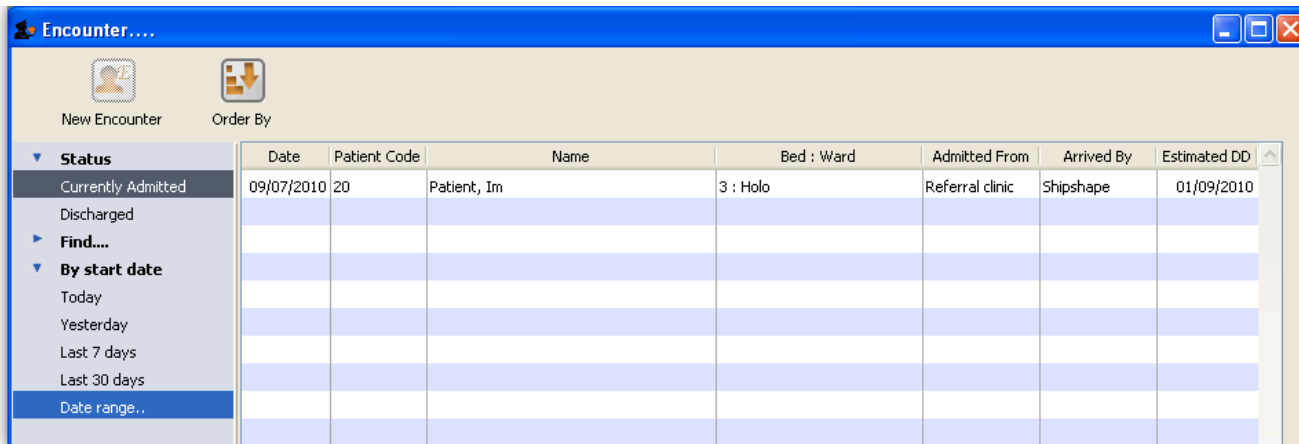


Available beds are shown in green, and beds that are occupied are shown in red (or if you are using the drop-down list, only beds that are available are shown). The selected bed is shown in yellow.

The admission date defaults to the current date and time, but you can change these and the available beds will be updated accordingly. Once you have chosen a bed, click *OK* or *OK & Next*.

Showing encounters

Choose **Patient > Manage encounters**, or click the *Show Encounters* button on the navigator.



The window has a side bar where you can show currently admitted patients or historical records. By default, it shows encounters for currently admitted patients who have been admitted in the last 30 days.

Clicking the Find entry in the side bar allows you to search for specific records.

Click the triangle beside the “By date” entry allows you to search for encounters entered today, yesterday, etc...

In the tool bar there is a *New Encounter* button, allowing you to add an encounter directly from there.

If you double-click an encounter you are shown the encounter details. The first tab lists the location(s) (i.e. the beds/wards occupied) during this encounter, and the fourth tab shows log records related to the encounter.

Once a patient has been discharged, their encounter data can now longer be edited.

Adding disease records

The second tab shows the disease records entered for this encounter. Clicking the *Add Encounter Disease* button will show this window:

Add an Encounter Disease...

ICD

ICD Code	ICD Description
A000	Cholera due to <i>Vibrio cholerae</i> 01, biovar cholerae
A001	Cholera due to <i>Vibrio cholerae</i> 01, biovar eltor
A009	Cholera, unspecified
A0100	Typhoid fever, unspecified
A0101	Typhoid meningitis
A0102	Typhoid fever with heart involvement
A0103	Typhoid pneumonia

Diagnosis

Rank

Notes

Diagnosed by

The cursor will be in the ICD field, and you can type as much of the code or name as you know to find matching records. Double-click the record you wish to use in the list.

Choose from primary/secondary/tertiary for disease rank.

Enter any notes you wish to record.

You can enter the name of a clinician who diagnosed the condition if you want to. To do so, enter the start of the name and press <tab>... a list of matching clinicians is shown. Double-click on the clinician you wish to choose. If you want to add a new clinician, click the *New* button. A window to enter the clinician's details is shown (see Prescribers). Enter details and click *OK*.

Once you have entered the disease details, click *OK* to close the list of diseases for the current encounter. You can now click the *Add encounter disease* button again to add another disease, or double-click an entry to edit it.

Adding procedure records

The third tab shows the procedure records entered for this encounter. Clicking the *Add Procedure* button will show this window:

As for encounter locations (see), you can specify a “bed” location (e.g. in a “ward” designated as an operating theatre) which is free for the specified time slot, and this can be viewed graphically. The list of procedures is generated from those previously entered via Procedures.

From the procedure list, you can also double-click on an existing procedure record to view/edit it.

Adding birth records

If the patient is female, there is an extra fifth tab which shows the birth records entered for this encounter. Clicking the *Add Birth* button will show this window:

- The date/time defaults to the current date and time.
- The last name defaults to that of the mother.
- You can enter the birth weight (kg) and length (cm).
- You can specify if it is part of a multiple birth, and whether the birth was normal, premature, or stillborn.

When the record is saved, a new patient record will be created for the baby, with its next of kin set to its mother. You can then add a separate encounter record for the baby if needed.

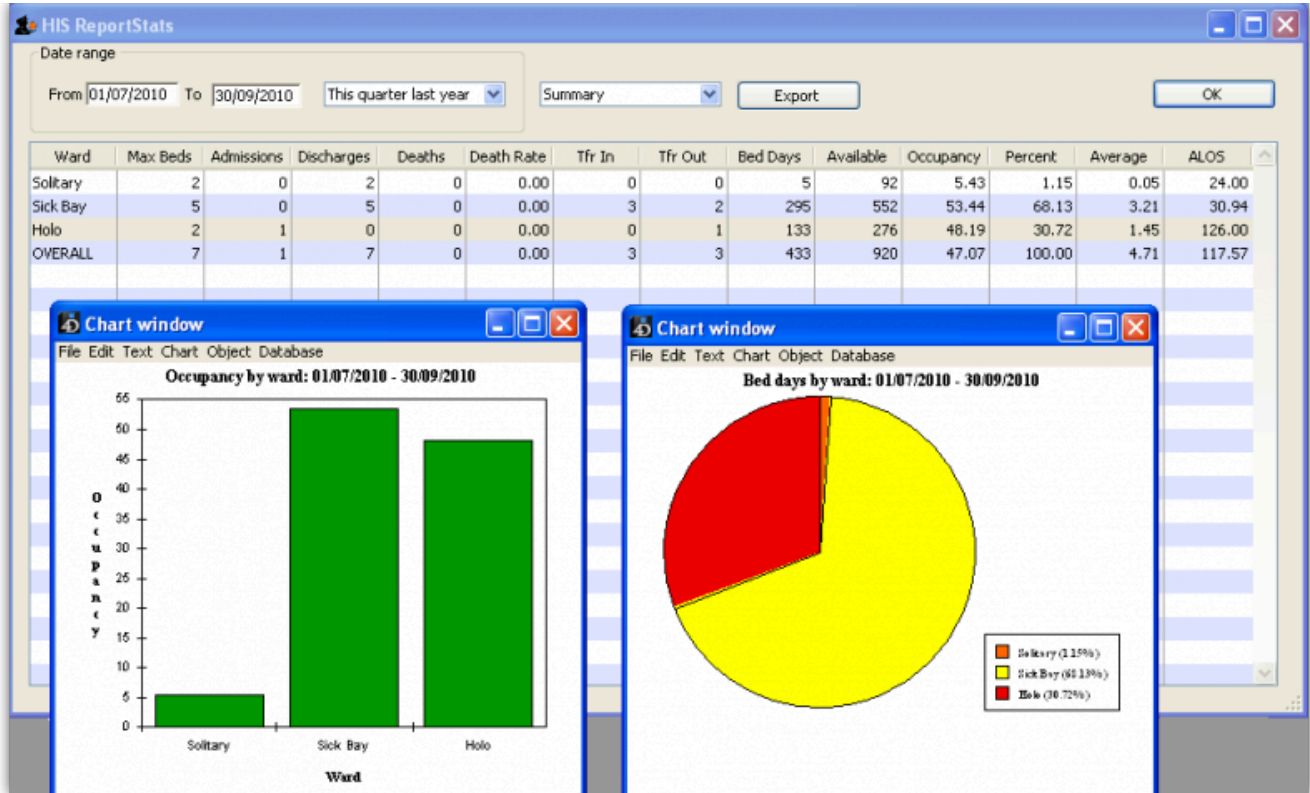
You can also double-click on an existing birth record in the list to view/edit it.

Previous: Patients Next: Statistics

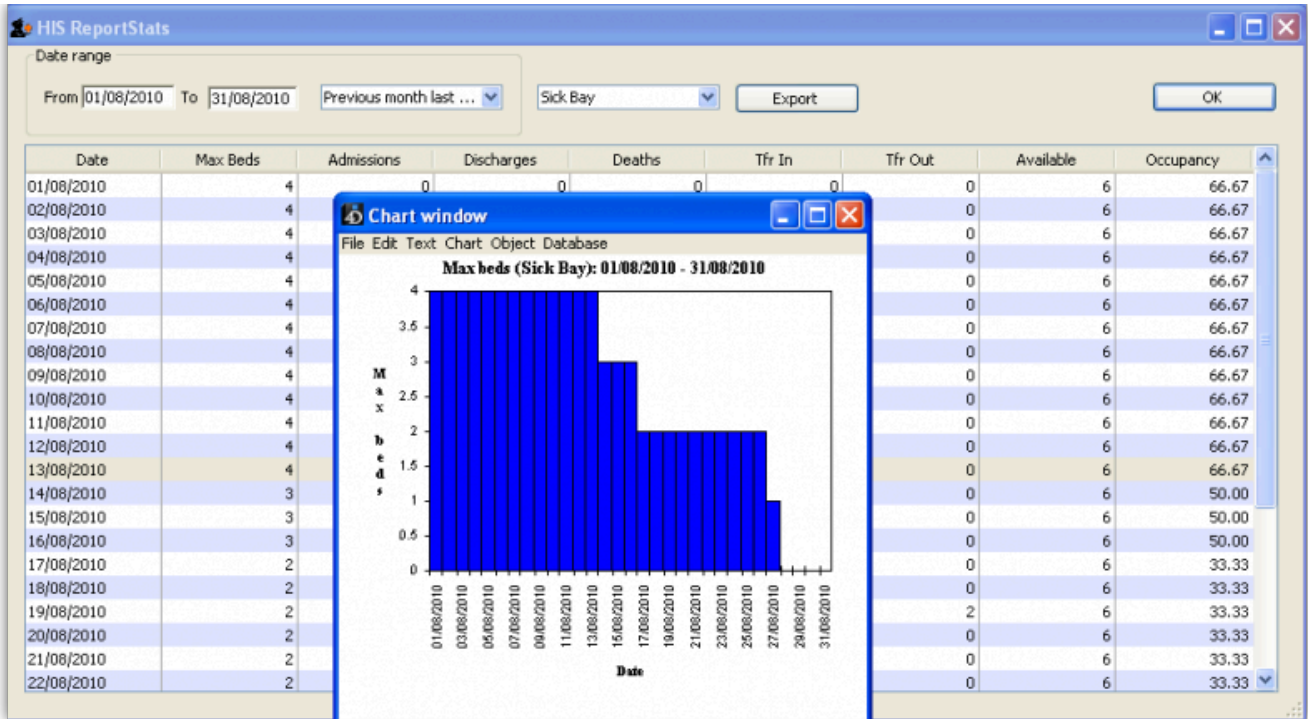
Statistics

Select **Reports > HIS Statistics** to bring up the statistics window.

You can select a time period from the date range pull-down menu or enter specific dates. By default, the summary statistics page is shown. A bar chart by ward for any column (except the first) can be generated by holding down the SHIFT key while clicking on any of the cells belonging to that column. If you prefer a pie chart, hold down CTRL instead of SHIFT.



If any of the individual wards are selected from the pull-down menu (instead of “Summary”), then it displays the data for that ward on a daily basis. In this case, a bar chart for any column (except the first) can be generated by holding down the SHIFT key while clicking on any of the cells belonging to that column.



In either mode, the displayed columns can be exported as a tab-delimited text file (which can then be imported into Excel or other spreadsheet application) by clicking on the *Export* button.

Previous: Encounters Next: General Preferences

General preferences

Note that many preferences are now set on a per-store basis i.e. each store has its own setting for some preferences. See the Virtual stores preferences section for more information.

Preferences are used to configure some of mSupply's functionality to more closely match your needs. mSupply is very flexible and highly configurable so there are lots of preferences! To access them, choose **File > Preferences...** from the menus. There is a scrolling side bar on the left containing a list of tabs; click on the one you want to see the preferences on that tab.

General tab

The screenshot shows the 'Preferences...' dialog box with the 'General' tab selected. The left sidebar lists various preference categories. The main area contains the following fields and sections:

- Organization details:**
 - Organization name: Universal Pharmaceuticals Company
 - Address line 1: Kathmandu, Nepal
 - Address line 2: (empty)
 - Address line 3: (empty)
 - Address line 4: (empty)
 - Address line 5: (empty)
 - Postal/Zip Code: (empty)
- Register:** A gear icon button next to the Organization name field.
- Default values...**
 - Default currency: USD
 - Default customer: (empty)
 - Default margin for suppliers: 0
 - Default tax rate: 0 %
- Period closing...**
 - Closed date: 17/07/2016
 - Locked date: 17/07/2016
- Inactive user logout:**
 - Close mSupply if user is inactive for: 0 minutes

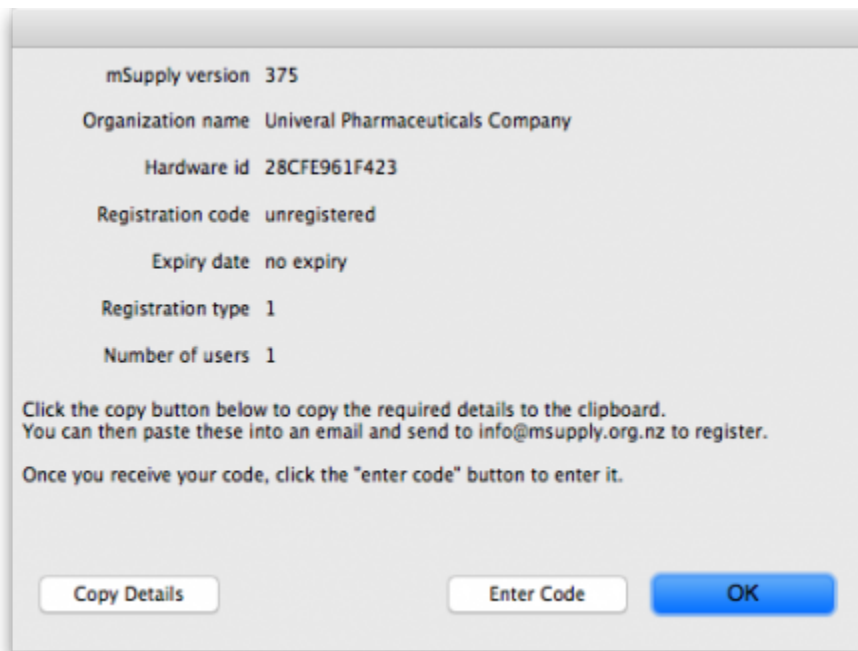
Buttons: Cancel, OK

Organisation name: What is filled in here is quite important. Not only will it print on the top of invoices and various reports, but it is also tied to your registration code. Please think carefully about what it should be before entering it. If you need to change your organisation name, please do so and then re-contact info@msupply.org.nz for a new registration code.

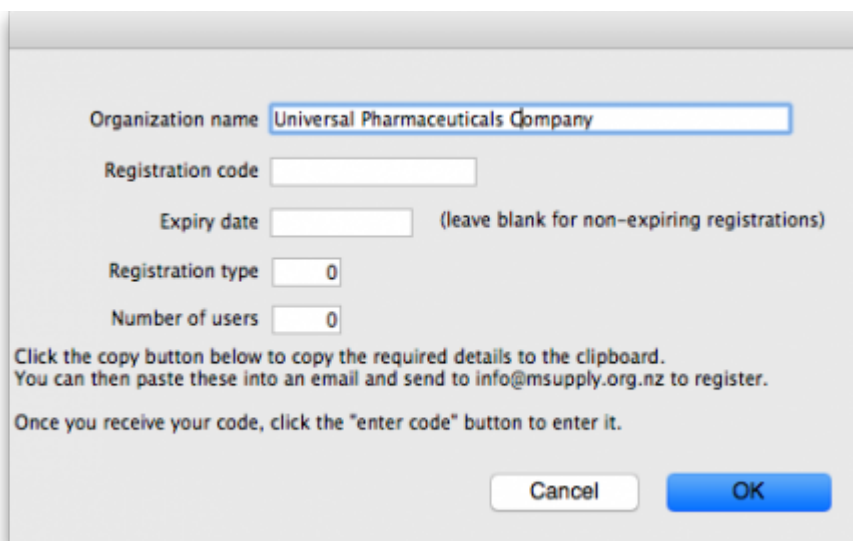
Address lines (1, 2...): Enter the address information about your organisation that you wish to appear on invoices.

The Register button

This button is used for registering mSupply. (It will be dimmed if you have already registered). If you have not registered, clicking this button will display the registration details window:



- Here you are provided with the information needed to register. Two of these, if changed, will invalidate your mSupply registration:
 - Your organisation name
 - Your hardware id.
- Clicking the **Copy details** button will copy this information to the clipboard, which you can paste into an email and send to info@msupply.org.nz (mailto:info@msupply.org.nz).
- Once we have received this registration information we will generate a registration code for you.
- The code is entered by clicking the **Enter code** button in the window shown above. You will then be shown another window where you can enter the registration details you have been supplied:



Your registration instructions supplied with the registration code will describe what information to put in each field.

- mSupply registration codes are specific for the computer and organisation name and the expiry date of your licence (if it is time-limited).
- If you change either your organisation name or the computer on which you are running mSupply, you will need to contact Sustainable Solutions for a new code.
- If the internet is accessed via 3G USB dongle, the registration process will often use the hardware ID of the 3G USB dongle rather than that of the computer's Ethernet card. The 3G USB dongle might be changed at a later date, and this would cause mSupply to become unregistered. To avoid this, make mSupply use the hardware ID of the Ethernet card rather than the 3G USB dongle:
 - Disconnect the the 3G USB dongle from the computer and re-start mSupply.
 - Proceed with retrieving the registration details as described above. The computer should pick up the hardware ID of the Ethernet card rather than the 3G dongle which has been removed.
- If the hardware id field is not showing 12 characters &/or numbers, this indicates that you do not have an Ethernet card or 3G USB dongle installed on your computer. Please consult Sustainable Solutions for installation instructions if needed.
- If you move your data file to a new machine you will either have to move the Ethernet card to the new machine or obtain a new registration code and enter it within 3 months of the move.

Other fields on the General tab

Default customer: Leave this field blank for normal operation. If you usually (or always) only issue to one customer, enter that customer's code here. You must set the value to the name code of an existing customer. Doing so will mean that this customer's details are automatically filled in when you create a new customer invoice.

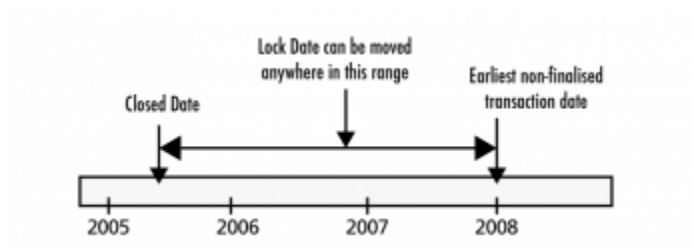
Default margin for suppliers: The percentage margin that will be filled in when you enter a new supplier. This value can be edited for each supplier at any time. Enter "0" if you do not apply a mark-up to items you sell (for example, if you are issuing stock to hospital wards at cost).

Default tax rate The rate entered here will automatically be applied to customer and supplier invoices. Note that this amount can be edited when you are entering an invoice by clicking on the tax rate at the bottom of the invoice entry window.

Period Closing: There are two fields allowing the entry of dates:

The **Closed date** is the date prior to which no transactions can be entered. Setting the closed date means that all transactions up to that date are finalised and mSupply will not allow the entry of any transactions with an earlier date. The closed date can not be moved backwards- only forwards.

The **Locked date** is the earliest date that can be entered for a transaction. The lock date can be moved forwards as far as the oldest non-finalised transaction, and backwards as far as the closed date

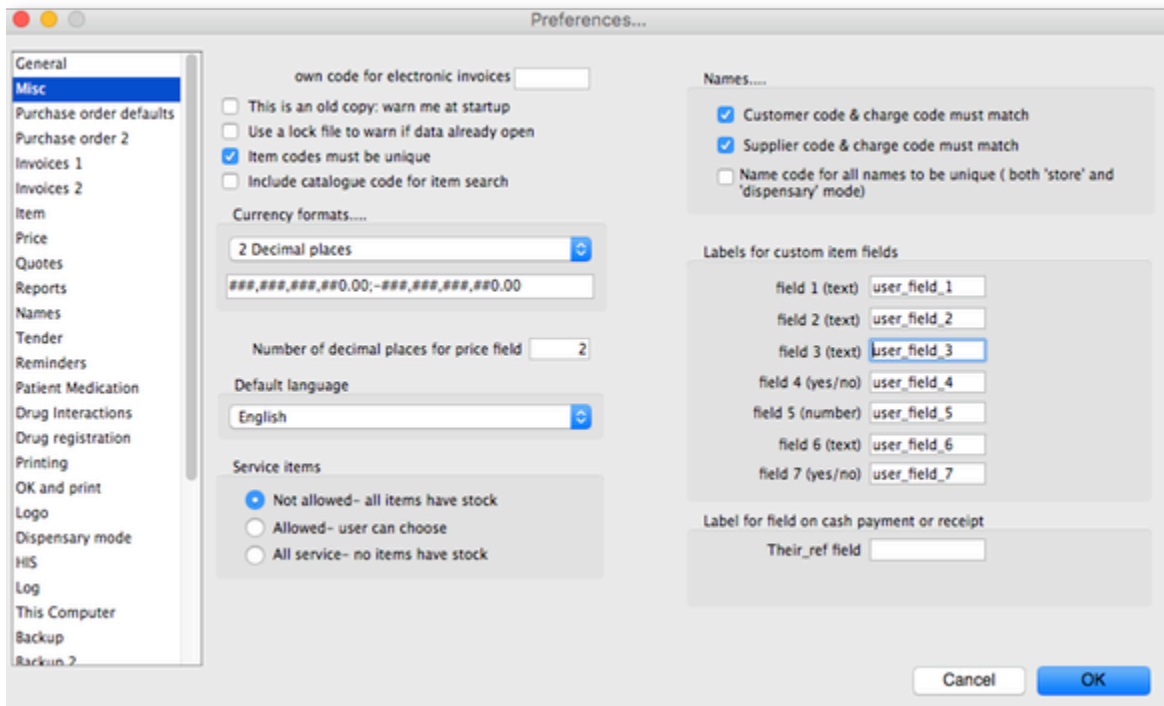


If you try to set an invalid locked or closed date you will be warned.

Be very careful setting the closed date. Changes to the closed date can not be undone.

Inactive user logout: This setting is only visible if you are using an mSupply client in a multi-user setup, not if you're using the single user version of mSupply (because it's not applicable to the single user version). This is where you set the time in minutes before the mSupply client is closed and the user is automatically logged out. To disable the function, set the time to 0 minutes (the default setting). This is really useful for preventing inactive users holding onto a user license when they've forgotten to logout of mSupply. But BEWARE: any unsaved work will be lost when mSupply is closed so remember to save your work regularly. The good news is that most of the things you do in mSupply are automatically saved as you do them (adding and removing lines to customer and supplier invoices, inventory adjustments, stocktakes etc.) so the chances of losing work are minimised.

Misc tab



Own code for electronic invoices The code that customers must have for your organisation in their copy of mSupply. This code is added to invoices you export, and allows customers to import the invoice into their system automatically.

This is an old copy: warn me at startup. You may want to save an old copy of your data (for example the data as it stood on the last day of the financial year). If you check this box, you will be warned at startup if the database is an old copy, to reduce the risk of accidentally entering current transactions into an old file rather than your current file.

Use a lock file to warn if data already open If this box is checked, mSupply will maintain a record of when it is open outside of the database. This option only applies to the single-user version of mSupply. This means that if a second user attempts to open your data file while the data file is already in use, the user will be alerted, and no damage to the data will occur. Note that this option only applies to the single user version of mSupply. The client-server version of mSupply allows multiple users to access mSupply at the same time.

What if your machine crashes? If, for example, you have a power failure and your computer shuts down suddenly, mSupply will not be able to delete the lock file, and you will get a message when you attempt to restart mSupply that another user is already using the data file. If you are sure this is not the case, use Windows Explorer or the Mac Finder to locate the folder that contains your mSupply data. Delete the file that has the same name as your data file but ends in “_locked.txt”. You will now be able to start mSupply.

We recommend you do not turn this option on unless you understand the above paragraph or have a system administrator who authorises your use of this option.

An example of where turning on this option might be useful is when you store your mSupply data on a file server, and allow multiple single-user copies of mSupply to access the same data file. In such a situation to have 2 users attempt to access the data simultaneously would be disastrous.

Item codes must be unique When this box is checked, mSupply will ensure that each new item entered has a unique code.

Include catalogue code for item search When checked, a report can be produced where the item's catalogue code is one of the search parameters.

Currency formats This option specifies the format in which currencies will be displayed in mSupply. We provide two preset formats for currencies with 2 decimal places and currencies with none. If you want to enter a custom format you can change the field below the drop-down list. For example you may want to use a different separator than a comma. Note that if you type illogical values into the field the numbers may not display at all, or display erroneous data. Contact Sustainable Solutions if you need more information.

Service items Service items are items that do not have any stock associated with them. For example, a fee for special handling of goods, or for reprinting an old invoice, or a consulting charge.

These Preferences determine whether new items are allowed to be service items or not. Note that changing this preference will not affect existing items.

Names

- **Customer code and charge code must match** - If checked, when entering or editing a Customer, you will have to enter the same code for both the “code” and the “charge code” fields. (It is a good idea to leave this checked unless you have several customers that are invoiced separately, but whose invoices are collated onto a single statement at the end of the month)
- **Supplier code and charge code must match** - If checked, when entering or edit a Supplier, you will have to enter the same code for both the “code” and the “charge code” fields. (It is a good idea to leave this checked unless you have several suppliers that are invoiced separately, but whose invoices are collated onto a single statement at the end of the month)
- **Name code for all codes to be unique (both 'store' and 'dispensary' mode)** - If checked, when entering or editing a customer or supplier mSupply will not allow the creation of a second name with the same name code.

Labels for custom item fields

mSupply provides you with seven custom fields that you can use to record your own data for each item.

- the first three fields hold text or numbers,
- the fourth field is yes/no (or true/false)
- the fifth field is a numeric field
- the sixth field holds text or numbers
- the seventh field is yes/no (or true/false)

Here you can specify the label(or name) for each field. Note that field one is also displayed when you list items. Note also that when using the search editor to search for items (for example when producing a custom report), the fields are labeled “user field 1” etc., and not with the labels you might have assigned.

Label for field on cash payment or receipt

The label of the Their ref field on Customer Receipts or Payments to suppliers can be changed to whatever you enter in this field. It is set to *Cheque #* by default. If you leave the field blank then the field label will be *Their ref*.

Purchase order defaults tab

For an explanation of the sections on *Purchase order defaults* go to Purchase Order Preferences

Purchase order 2 tab

For an explanation of the sections on *Purchase order 2* go to Purchase Order Preferences

Invoices 1 and 2 tab

For an explanation of these sections see Invoices Preferences

Item tab

Default account code for new items

- There are 3 spaces for you to select the accounts to use. Choose one account for expenses when buying, one account for income when selling and an asset account for stock.
- The accounts you enter here will become the default accounts for newly created items.

Item list (master & local)

If you check this box, then the visibility of items in stores will be set to match the items on master list(s) selected to be used by that store. For details on how this works and how to set it up, see Controlling item visibility - the Master lists tab.

This preference can drastically affect item visibility. For instance, if a store has no master lists assigned, all items will be made invisible in that store. Could lead to a scary moment!

If some items that are currently visible in a store need to be made invisible when this preference is turned on but they can't (because they have stock, for example) then a temporary master list is created for each store containing the problem items. mSupply will inform you but you should use that list to deal with those items.

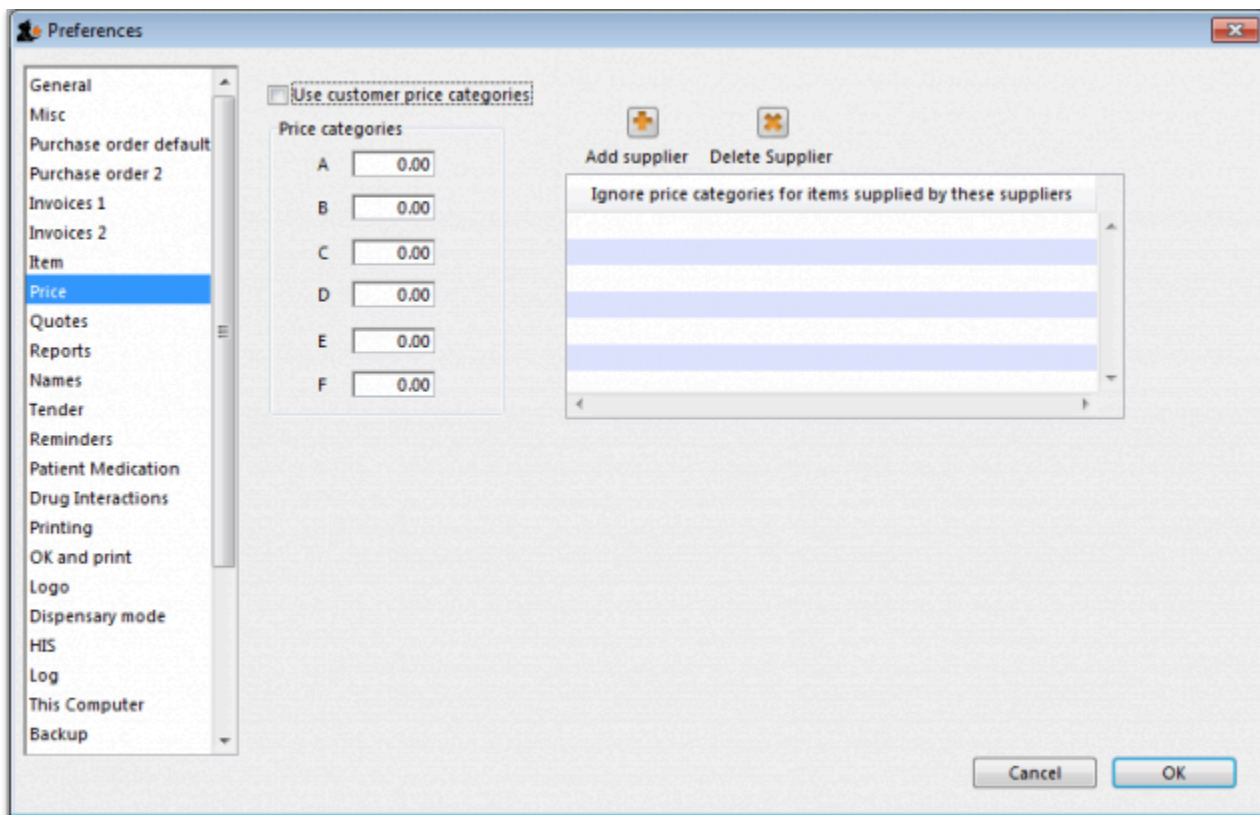
Do not turn it on unless you know what you are doing! It affects **ALL** stores in the system.

If the box is unchecked then the visibility of items in a store is not affected by master lists.

Assigning item codes automatically

If you want item codes to be assigned automatically, check this checkbox.

Price tab



On checking the box for “Use customer price categories”, mSupply will activate the price categories.

Price Categories

By default all customers are assigned a price category of “A”

To assign a different category to a customer, choose Customers > Show customers... and find the customer entry. Then set the price category field to a different value

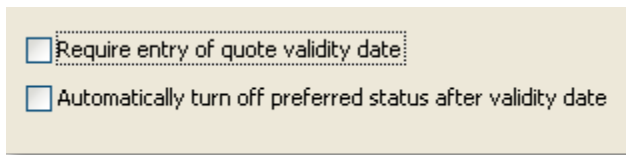
Here in the Preferences, you specify what percentage change to the default price will be made for each category.

For example, you might have a group of customers to whom you charge commercial prices, which are 20% above your normal price. Enter "20" in the "B" category field, then assign your private customers a price category of "B"

Ignore price categories for items supplied by these suppliers

Suppliers in this list will have no price category assigned to the items they supply. To add a supplier in this list, click the **Add supplier** button. A window will appear with a space to write the supplier's name. You can write the first character or two and press enter/return to bring up a list of suppliers that start with those letters. You can then select your chosen supplier from the list. To delete a supplier from the list, highlight it by clicking on it and then press the **Delete Supplier** button.

Quotes tab



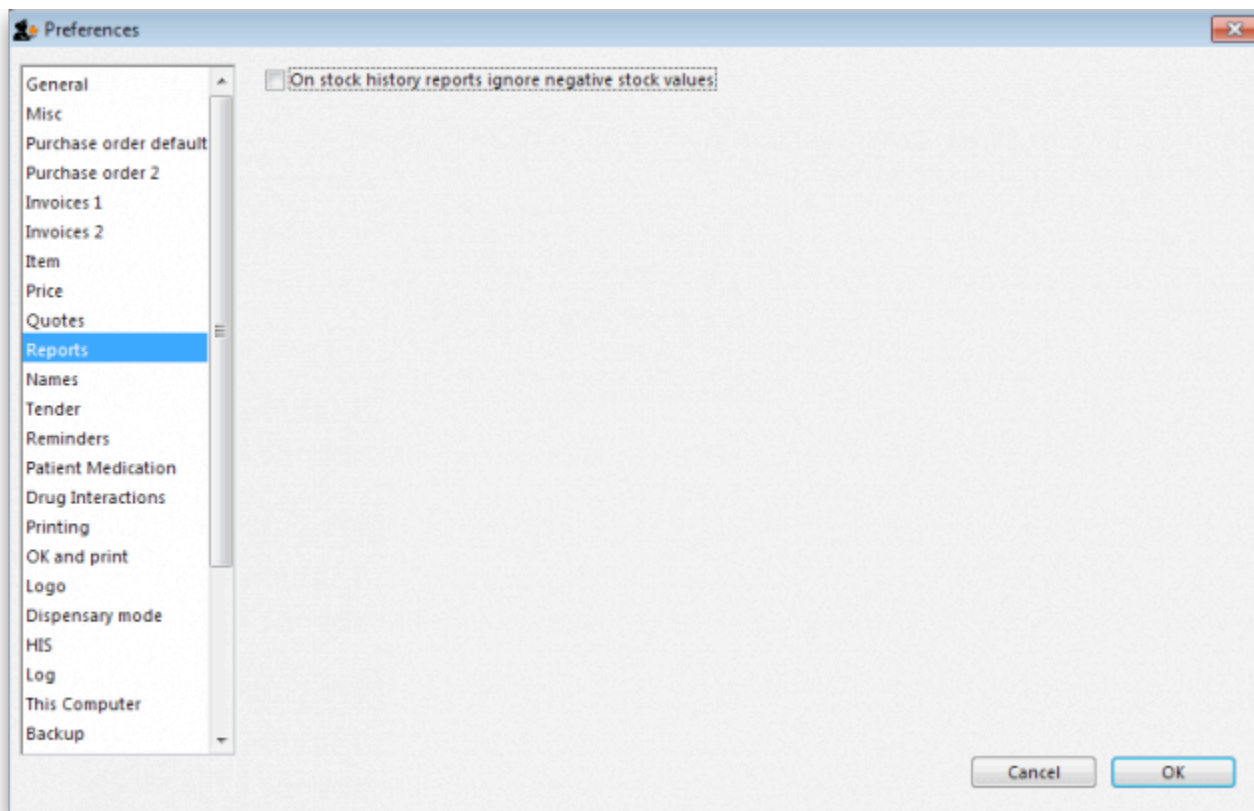
Require entry of quote validity date

Check this box if you want a validity date for a quote to be compulsory.

Automatically turn off preferred status after validity date

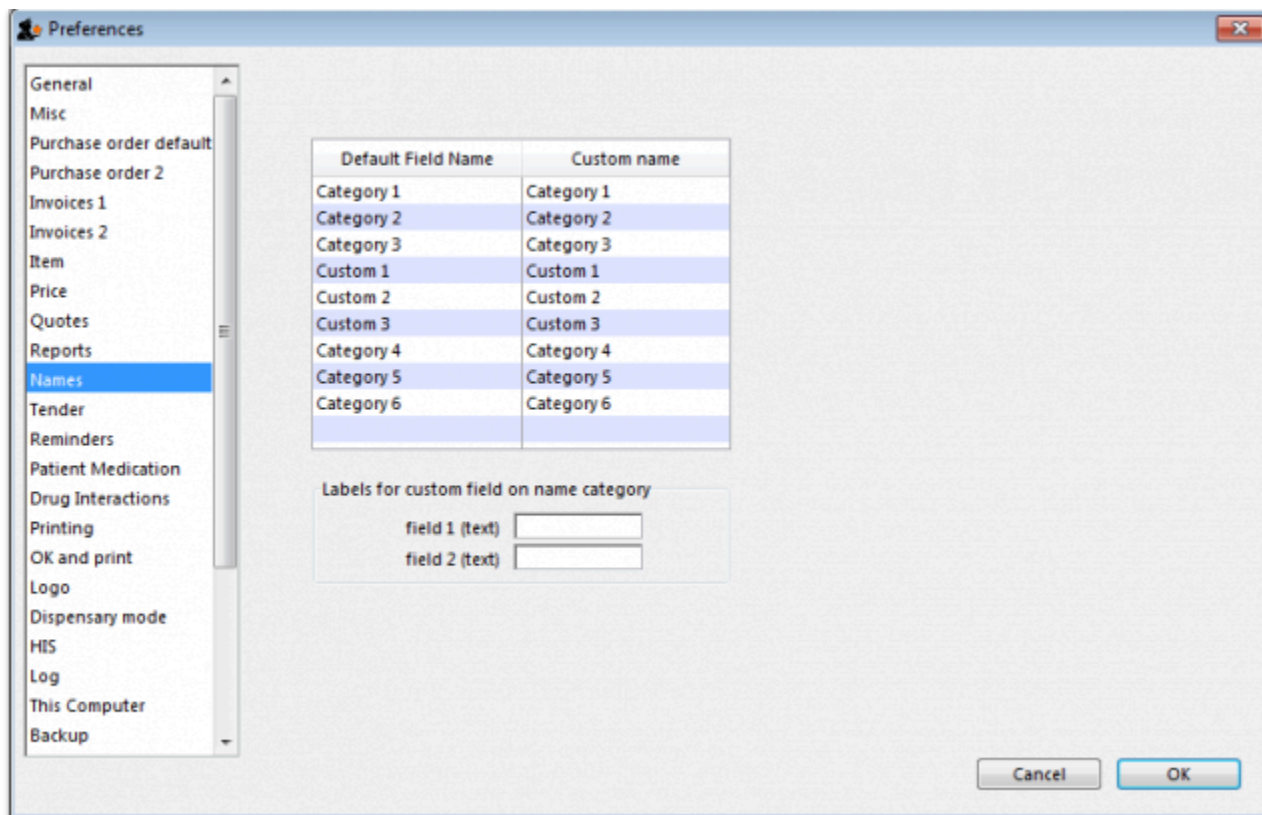
If you check this box then the preferred status will not appear when the validity date has passed.

Reports tab



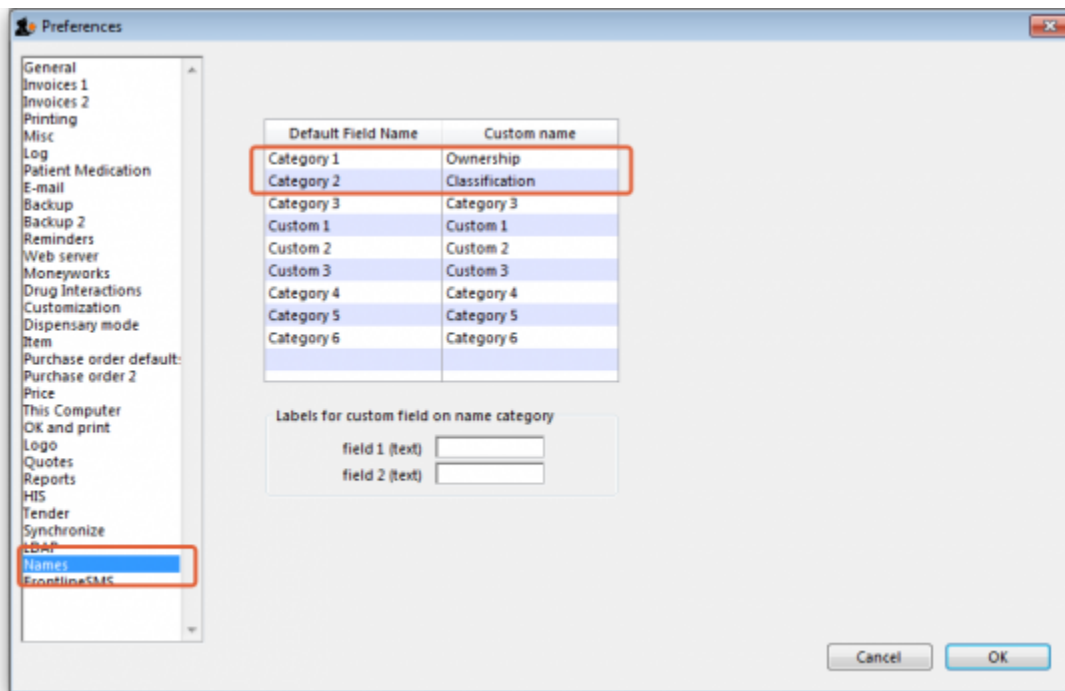
Check this box if you want negative stock values to be ignored on stock history reports (negative values can be legitimate but concerning for some users so negative values are left as zeroes if this preference is turned on).

Names tab

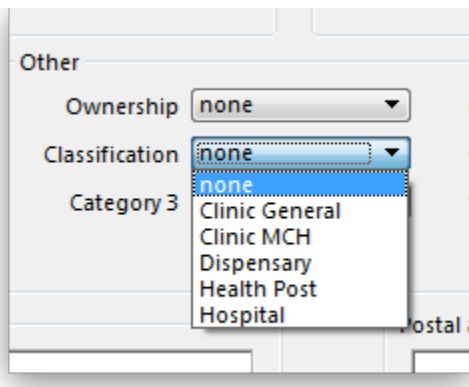


Default field name/Custom field name table: In this list you can change the labels for name categories and custom fields - not the categories themselves (see Name categories for instructions on how to do that) but the labels for the categories. To change one of the labels click on it in the *Custom name* column to select it and click on it once again to begin editing it. Type the new name and then click outside the label to finish editing it. Now, wherever you would have seen that label in mSupply you will now see the name you have given it. The defaults are shown in the screenshot above.

Example: If category 1 was to be called 'Ownership' and category 2 was to be called 'Classification' then you could change their labels like this:



Now, wherever you would have seen the label 'Category 1' or 'Category 2' in mSupply, you will now see the label 'Ownership' or 'Classification' e.g. in report filters or, as in this screenshot, the General tab of the name details form:



Labels for custom fields on name category: Here you can enter labels for the custom fields used when creating or editing name categories. The labels you enter here will appear on the *New/Edit category* window instead of the *Category_user_field_1* and *Category_user_field_2* labels. These labels are used in some reports.

Tenders tab

The screenshot shows the 'Preferences' dialog box with the 'Tender' tab selected in the sidebar. The main content area is divided into two sections:

- Tender letter:** Contains two text input fields: 'Title' and 'Tender reference'.
- User details for Tender module:** Contains three text input fields: 'Client ID', 'Password', and 'Tender Module Address'. To the right of these fields is a checkbox labeled 'We run a Remote tender module'.

At the bottom right of the dialog are 'Cancel' and 'OK' buttons.

Tender letter section

- **Title:** The title for the printed tender letter. If nothing is entered in here mSupply will use 'Invitation to tender'.
- **Tender reference:** The reference for the tender so that, when you communicate with others you both know which tender you are referring to. If nothing is entered in here mSupply will use 'Tender reference'.

User details for Tender module section

We run a Remote tender module

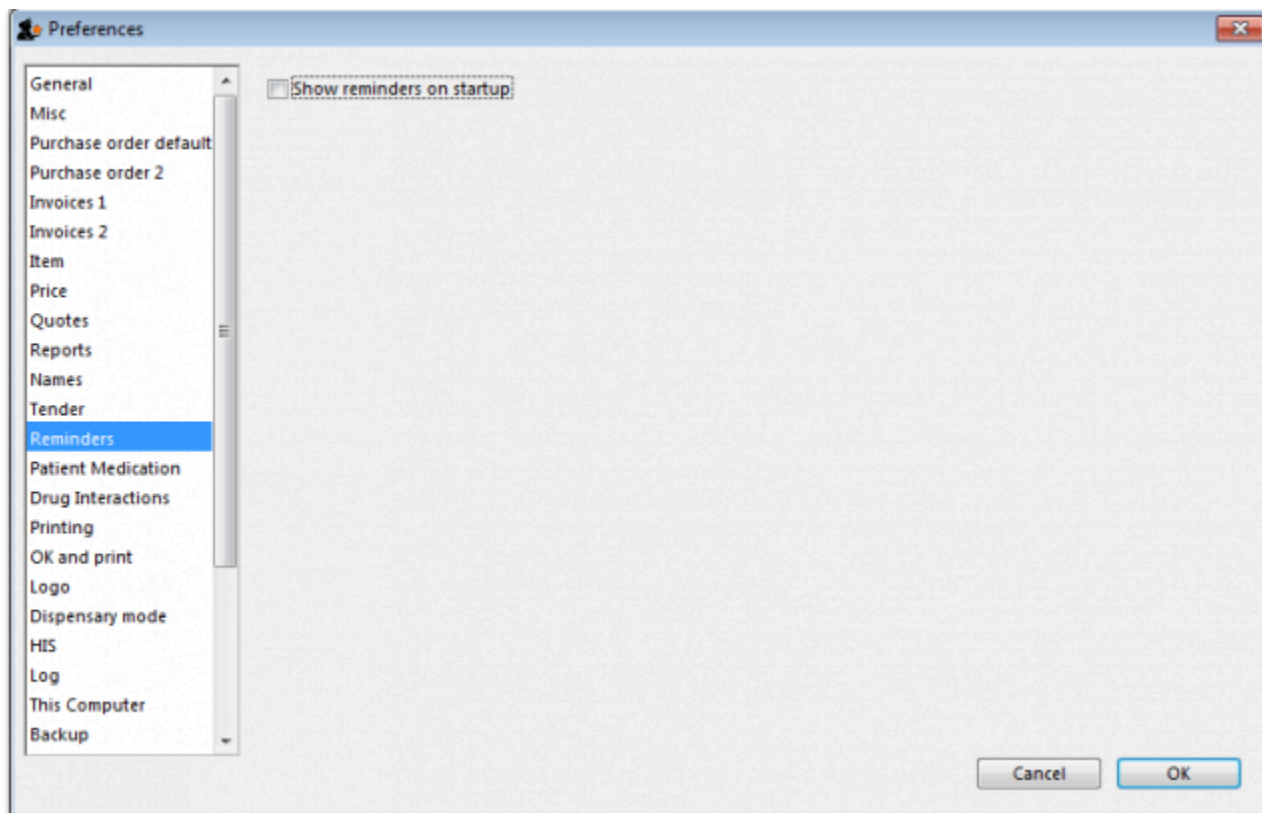
Click this to indicate that you operate an mSupply remote tender service where suppliers and you will log into a common web page to submit and download tender information. You will need to contact Sustainable Solutions for the account information required below before using this option. If this box is unticked you will need to enter bids manually. If it is ticked, you will see an extra *Synchronise* tab when you view the details of any tender.

Client ID This is the ID that you use to login to the remote tender web page and is unique to you. This will be supplied to you by Sustainable Solutions.

Password This is the password you use to login to the remote tender web page. Like the ID, this will be supplied to you by Sustainable Solutions.

Tender Module Address The internet address of the remote tender web page in the format *IP address:port number*. Once again, this will be supplied to you by the indefatigable Sustainable Solutions.

Reminders tab

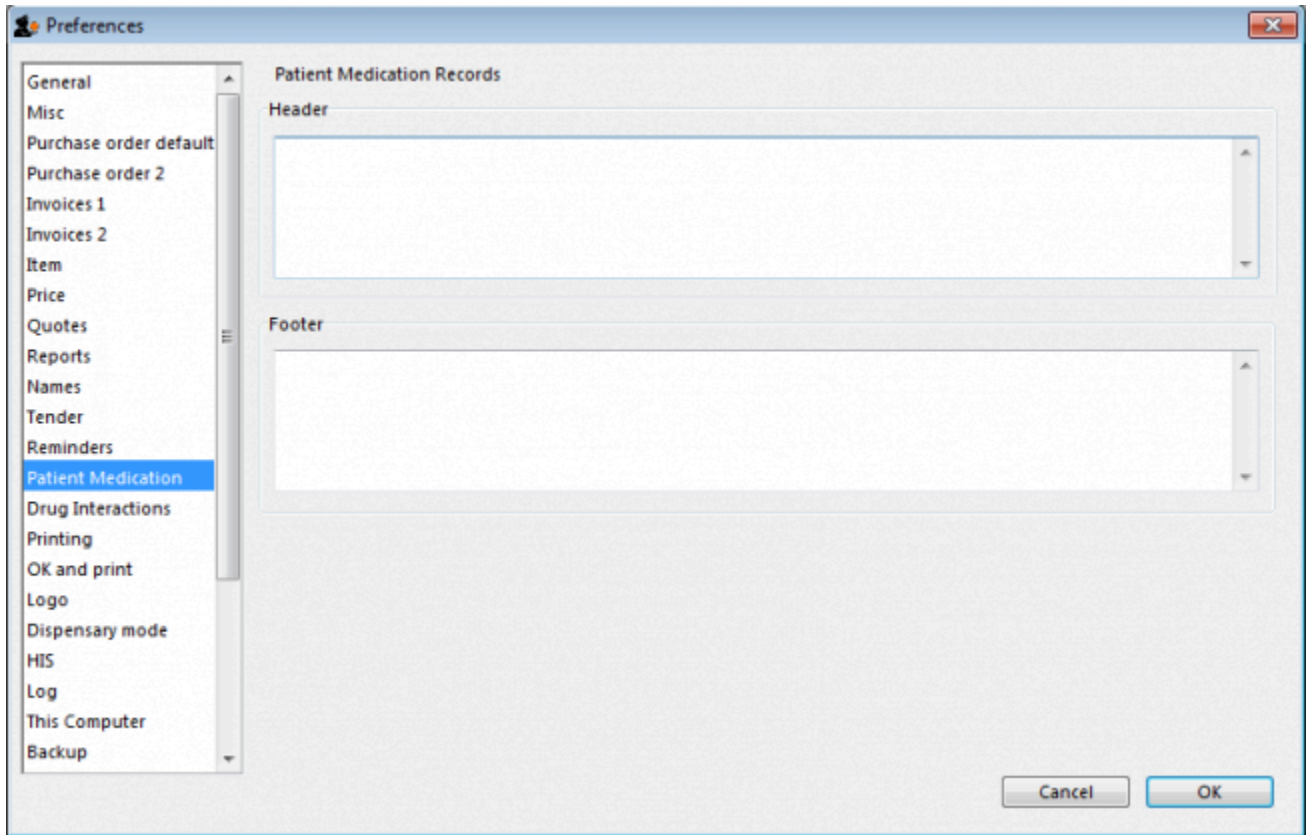


Reminders provide a simple to-do list built into mSupply.

If the *Show reminders on startup* box is checked, any reminders that are not completed and whose due date has been reached will be displayed in a window when a user logs on.

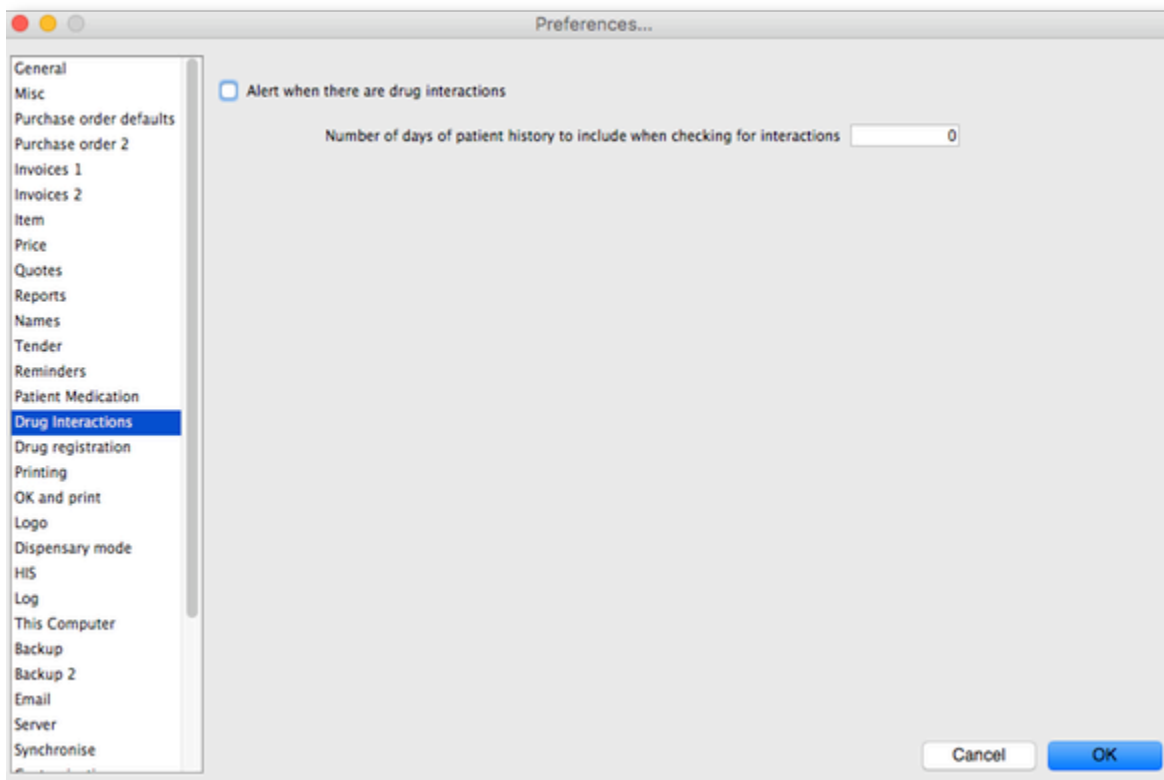
See Reminders

Patient Medication tab



Here you can add a header and a footer that will appear on patient medication records.

Drug Interactions tab

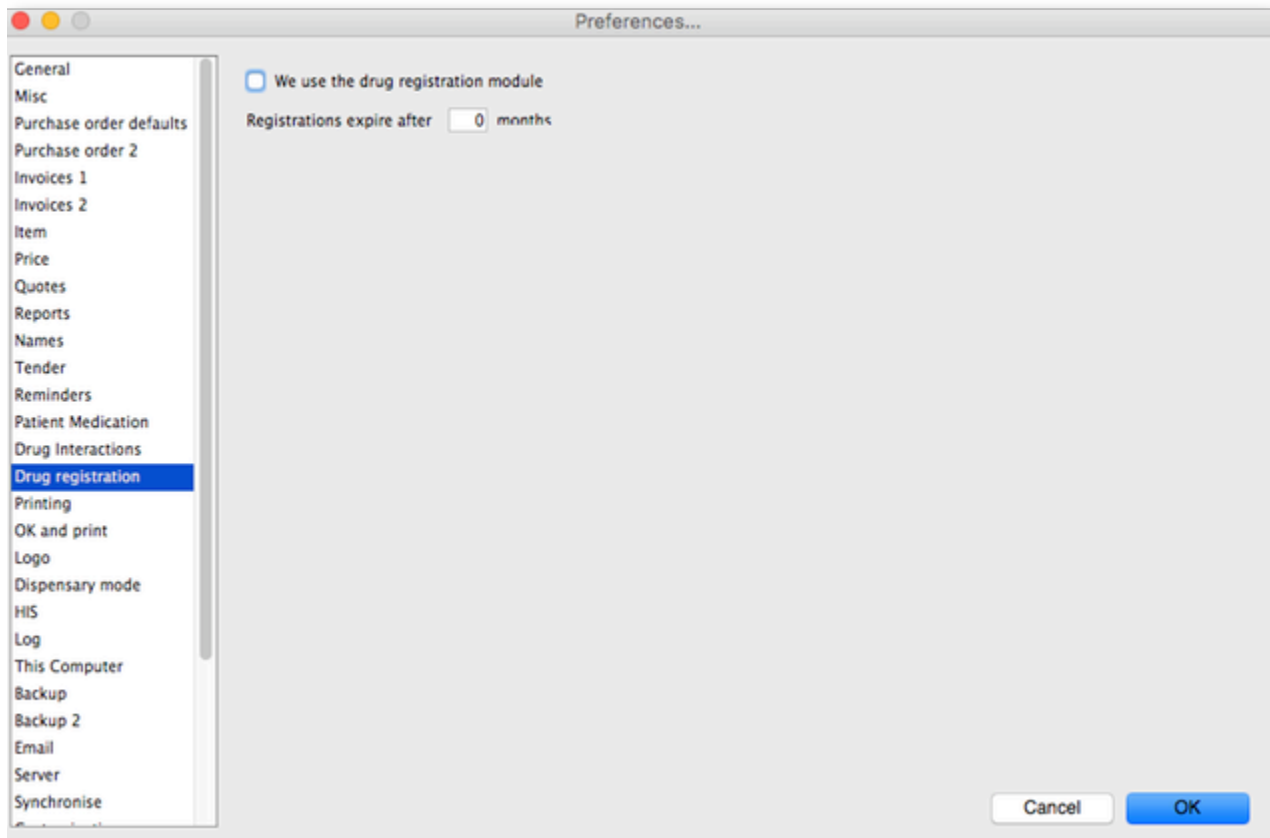


When operating in dispensary mode, you can choose to have mSupply alert you to drug interactions. Dispensary mode is covered fully in this section

The number of days of patient history field determines how far back from the current date mSupply should look for drugs that have a known interaction with the drug you have just entered.

When drug interactions are activated, you will be shown a warning message when you enter a drug on a patient invoice that interacts with other medicines dispensed to that patient during the history period specified.

Drug Registration tab



If you have a license for the Registration module, you will need to check this tick-box, and click **OK** in order to activate it.

You can specify the number of months before a drug registration expires. So when you register a drug, the expiry date of your registration will be calculated automatically by adding the number of months you have specified to that day's date. For example, if you specify 24 months until a drug registration expires and you register a drug on 24/07/2016, the expiration date will be set automatically to 24/07/2018. If you leave the number of months at 0, you will have to set the drug registration expiry date manually.

Printing tab

For an explanation of this section please go to Printing Preferences

OK and Print tab

For an explanation of this section please go to OK and Print.

Logo tab

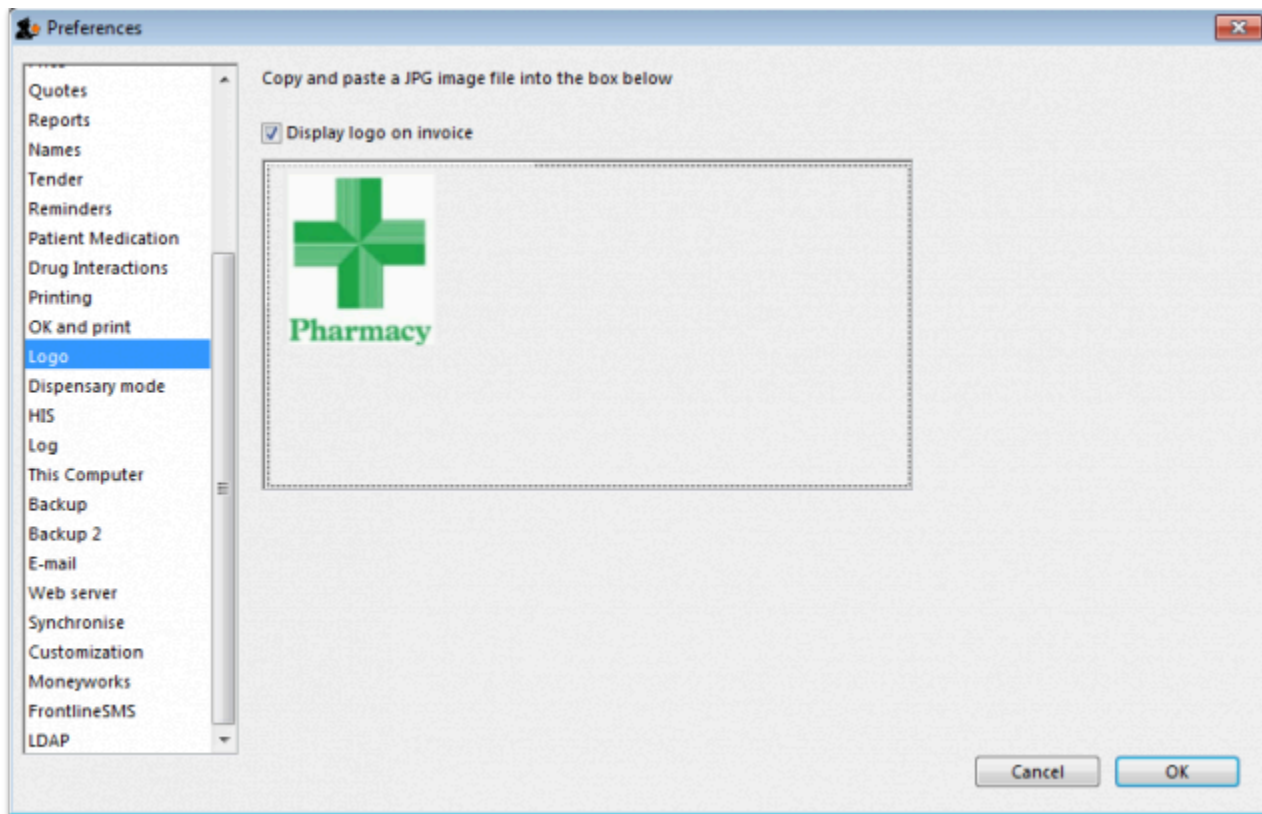
Here you can paste in a logo you have copied to the clipboard - you must copy the **contents** of a file to the clipboard, not the file itself. The file can be in .jpg, .png, .bmp, .gif, or .tiff format. This logo will be displayed at the bottom right of the navigator.

Make sure the image you use is twice as wide as it is high. If it is not, mSupply will convert it to this ratio which will make it look squashed or stretched, sometimes with interesting results!

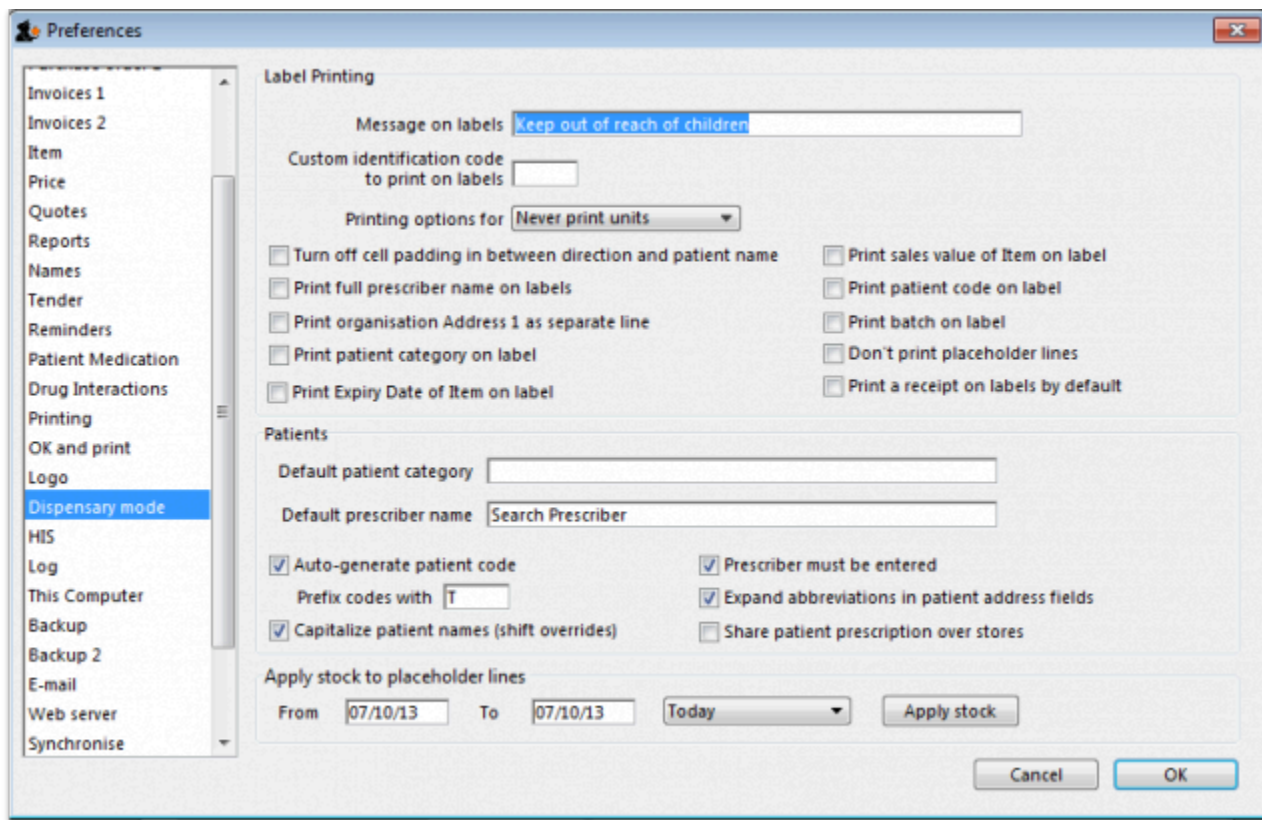
If you have set a store logo (see here) for the store you are logged into this will be displayed on the Navigator and invoices instead of the one saved here.

If you want the logo to be printed on invoices, check the checkbox.

Please note that not all printing forms include the logo. If you would like customisation or assistance, Sustainable Solutions can quickly customize forms for you to meet your requirements.



Dispensary mode tab



Label Printing

Message on labels The text you type here will be displayed on medicine labels on the last line.

Custom identification code If you wish to identify the origin of the dispensed item, e.g. In-Patient Dispensary or Out-Patient Dispensary, create an identification code, and enter it in this field. It will then appear as the last item printed on the the right of the third line of each label.

Printing options for units Three options are available from the drop down menu. You can choose to always print the units on labels, you can choose for each item whether or not to print the unit or you can choose to never print the units.

Turn off cell padding in between direction and patient name mSupply will automatically pad the cell (leave some space in the cell) between *Direction* and *Patient name*. If you do **not** want this to happen then check this box.

Print full prescriber name on label To have the prescriber's full name printed on labels, check the box in *Print prescriber full name*. Otherwise, the initials will be printed.

Print organisation address 1 as separate line By checking the box *Print organisation address 1 as separate line*, you can print organisation address 1 as separate line. You have to set the text in Preferences: *General* »address 1 field. The text which you type here will be displayed on medicine labels on its own line.

Print patient category on label If checked, when a prescription label is printed the patient's category will be printed alongside the patient's name in the following format; *Patient name (category)*. Note that if the **Print Patient code on label** option is also checked then the patient's code and category will be printed alongside their name in the format *Patient name (code/category)*.

Print Expiry date of Item on label When checked, the item's expiry date will be printed on the label.

Print Sales value of item on label When checked, the item's sales value will be printed on the label.

Print Patient code on label If checked, when a prescription label is printed the patient's code will be printed alongside the patient's name in the following format; *Patient name (code)*. Note that if the **Print Patient category on label** option is also checked then the patient's code and category will be printed alongside their name in the format *Patient name (code/category)*.

Print Batch on label When checked, the item's batch number will be printed on the label.

Don't print placeholder lines If this box is checked, placeholder lines will not be printed.

Print a receipt on labels by default mSupply allows you to print a patient receipt on a label; to enable this function by default, check the box *Print a receipt on labels by default* in *Preferences:Dispensary mode* as shown above. This has the effect of enabling the "Print receipt" check box in the *Prescription entry window*. Note that if the *Print a receipt on labels by default* is not checked, the function may still be turned on in the *Prescription entry window*.

For more information on printing receipts, see Dispensary Mode

Patients

Default Patient category The text you enter into this field will be assigned to the category field for new patients.

Default Prescriber name With the cursor in this field, enter the first letter or first few letters of the prescriber's name and press *Tab*. A window appears displaying prescribers who meet the criteria typed; note that both first and last names appear, and you should select the desired prescriber and click *OK* to make that prescriber the default one.

Auto-generate patient code If this box is checked each new patient created will have a serial number assigned to them. The assigned code can be overridden by the user.

Prefix codes with The text you enter in this field will be used as a prefix for automatically generated patient codes. e.g. if you enter "t" codes will be assigned "t1", "t2" etc.

Capitalise patient names Does what it says. The shift key will still override this option.

Prescriber must be entered If this checkbox is checked, then the user will be warned if a prescriber has not been entered when they click the *OK* button for accept and print a prescription.

Expand abbreviations in patient address fields In the patient address fields, any abbreviations will be written out in full instead of the abbreviation if you check this box.

Share patient prescription over stores If this box is checked, viewing a patient history in one store will show transactions entered in other stores.

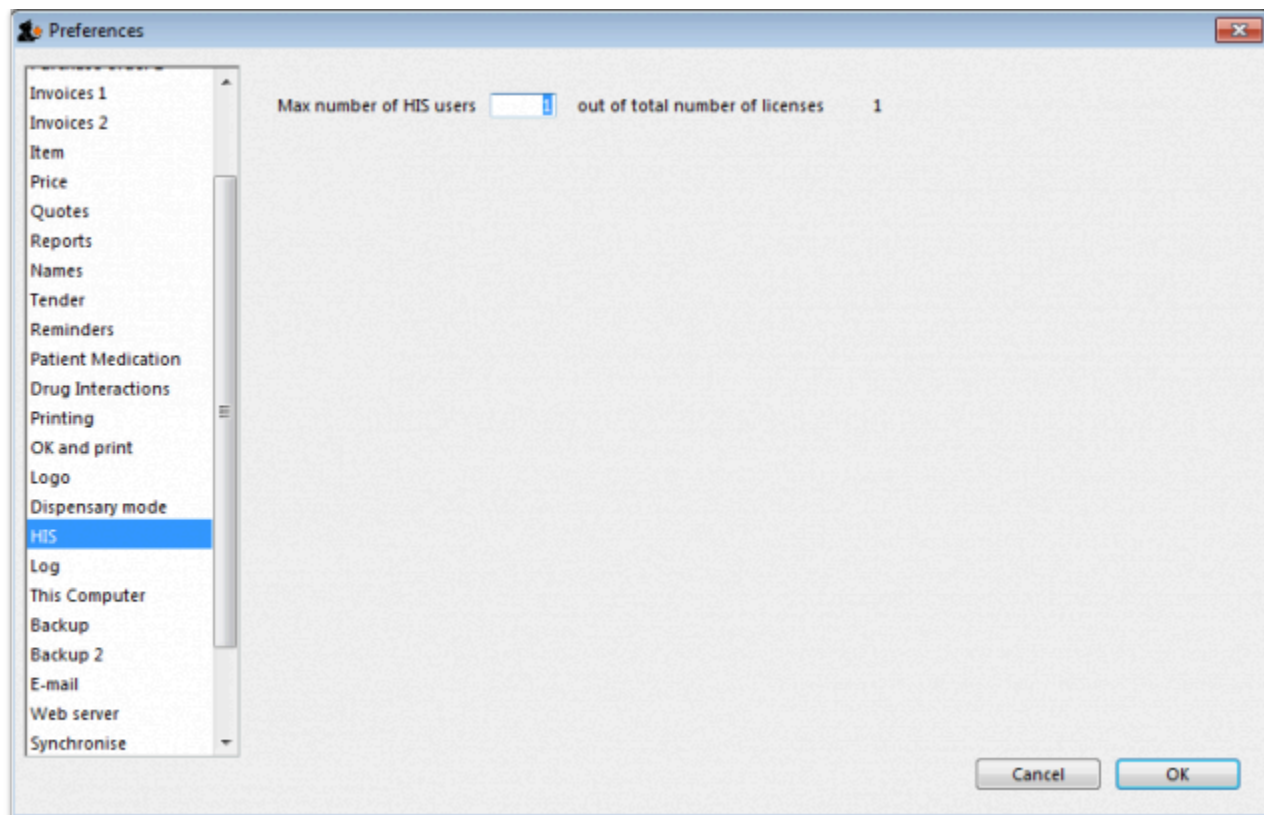
Apply stock to placeholder lines

This section gives you the ability to apply stock to placeholder lines on prescriptions. We know that in a fast moving dispensary it's sometimes hard to keep up with the stock coming into the dispensary so, sometimes you can get into the position where you physically have stock on the shelves to dispense to patients but you haven't been able to enter it into mSupply yet. mSupply allows you to keep dispensing by automatically adding placeholder lines to the prescriptions instead of normal stock lines. When you eventually enter the stock that you physically dispensed to the patients into mSupply, you need to allocate it to the prescriptions to keep your mSupply stock levels correct. This is the function to enable you to do that.

Simply select the dates between which you want mSupply to look for placeholder lines on prescriptions by manually entering them in the *From* and *To* fields or selecting one of the preset selections in the drop down list. Then click on the *Apply stock* button. mSupply will then search for placeholder lines on prescriptions between the dates you chose. If it finds one it will attempt to replace the placeholder line with real stock from your store on a FEFO basis. If there is enough stock

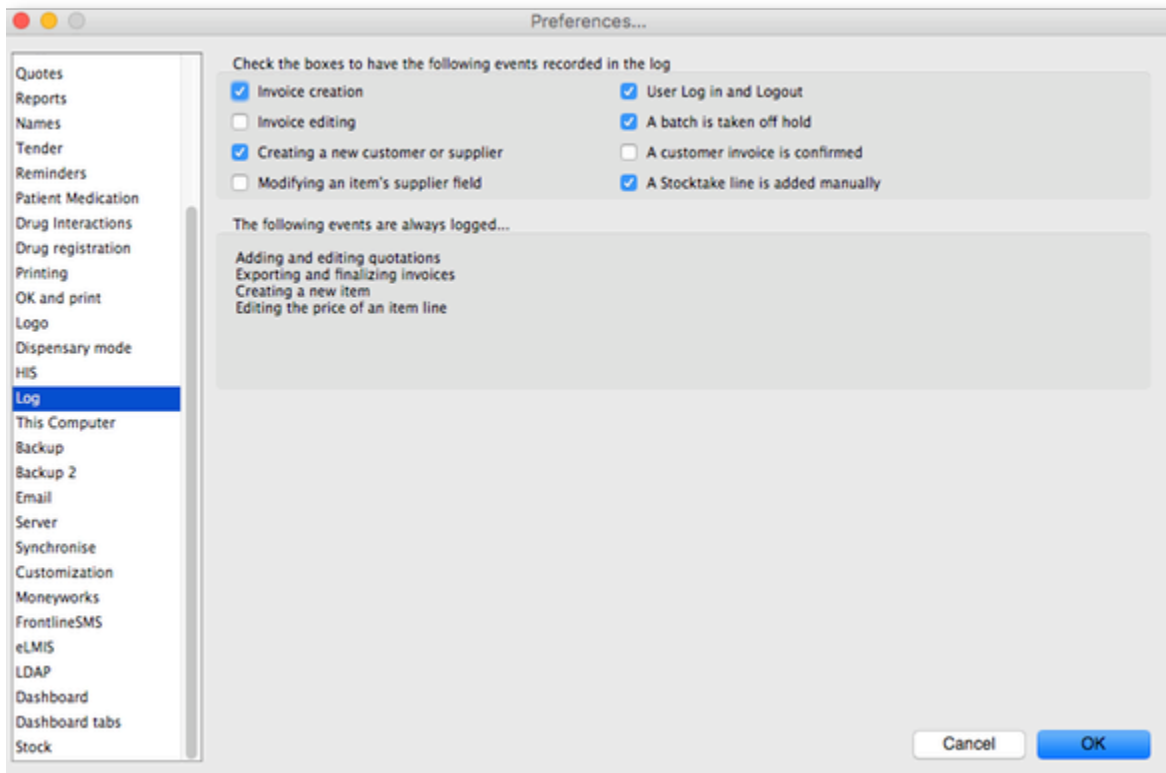
then mSupply will replace the placeholder with a real stock line. If there is only enough to replace part of the placeholder line then it will allocate what stock there is and will leave a reduced quantity placeholder line to represent the stock that still couldn't be allocated.

HIS tab



Log tab

The significant events which mSupply automatically logs are listed here. Additional events may be logged by checking the appropriate check boxes on this tab.

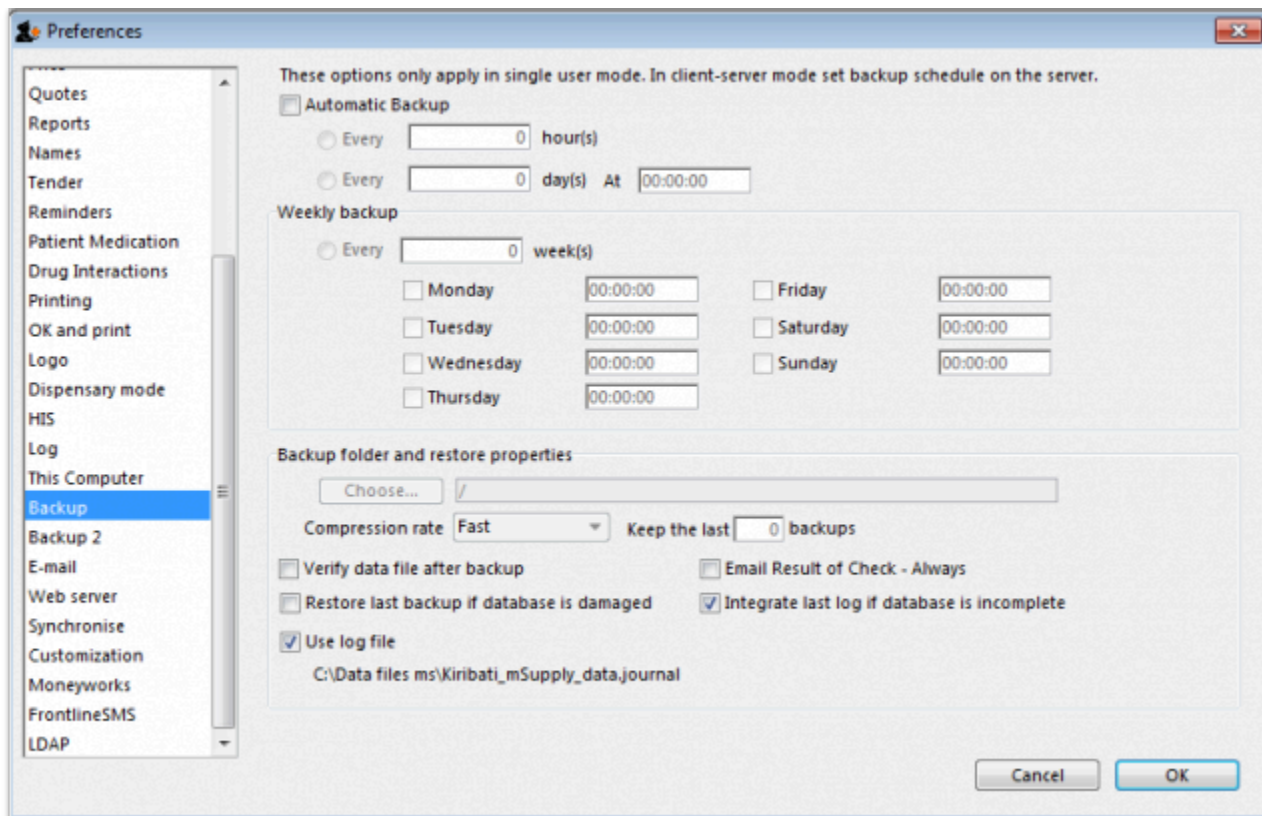


Item	What is recorded (Date, time, the user name are always recorded)
Invoice creation	The log will record each new invoice (customer or supplier) created
Invoice editing	An invoice (customer or supplier) is considered to have been edited if its total value has changed. Both values, old and new, are logged
Creating a new customer or supplier	Whenever a new customer or supplier is created, their name and code will be recorded in the log.
Modifying an item's supplier field	The supplier field for each item can be used to determine to whom orders for goods are placed (depending on the type of order you generate). If you use this method, you may want to know if mSupply users change the preferred supplier for an item.
User Login and Logout	The log will record every occasion on which users login and logout.
A batch is taken off hold	The log will record every batch that is taken off hold (and so becomes usable)
A customer invoice is confirmed	When the confirm button is clicked, or an invoice is set to auto-confirm: the invoice number is recorded.
A Stocktake line is added manually	If a user manually adds a Stocktake line, this will be recorded in the log

Please contact us if you need more logging than is provided here. It is a simple matter to incorporate into a future version - the trade-off is that it leaves the potential open to create very large log files, which may be a problem for some users.

Backup tab

Note - These Preferences are applicable only in single user mode; in client-server mode, the backup schedule is set on the server.



Activation

To activate, the **Automatic Backup** checkbox should be checked, then the appropriate radio button checked to have automatic backups performed according to your requirements.

This function allows a backup of your datafile to be made. There are two types of backup available.

- Local backups are made to another folder on your computer, or to a networked folder.
- Internet backup allows for your data to be copied from a special backup folder to a secure internet site.- this applies to both single-user and multi-user systems.

Local Backups

You can perform a backup manually **File> Backup** as well as automatically. It is not necessary to quit the database before performing a backup.

The settings in this window are to be used only for single-user mode. In client-server user mode you must set the backup Preferences on the server machine.

Choose backup folder

Click the “Choose” button to specify the destination of the backup files. For added security, we strongly recommend you backup to a different physical volume from the one where your mSupply data is stored.

We recommend running mSupply server as a Windows service. This allows automatic log on, and control of the starting and stopping of the server from command line tools that can be run when a UPS is shutting down. Please contact us for more information.

Compression rate

Choose whether backups should be compressed or not from this drop-down list. *Compact* will give the smallest backup size, but it will take longer for backups to run. *Fast* is a compromise of speed and size.

Internet backups

If you are using an internet backup system such as Spideroak, Dropbox or Memopal, these options allow you to set up a folder that is watched by your backup software and backed up to the internet

Verify data file after backup

mSupply allows you to verify the data integrity of your main data file each time a backup is made. This is extra insurance against hardware failures and other factors that can lead to data corruption. Check this box to activate.

Restore last backup if database is damaged

Check the box to activate this preference.

Use log file

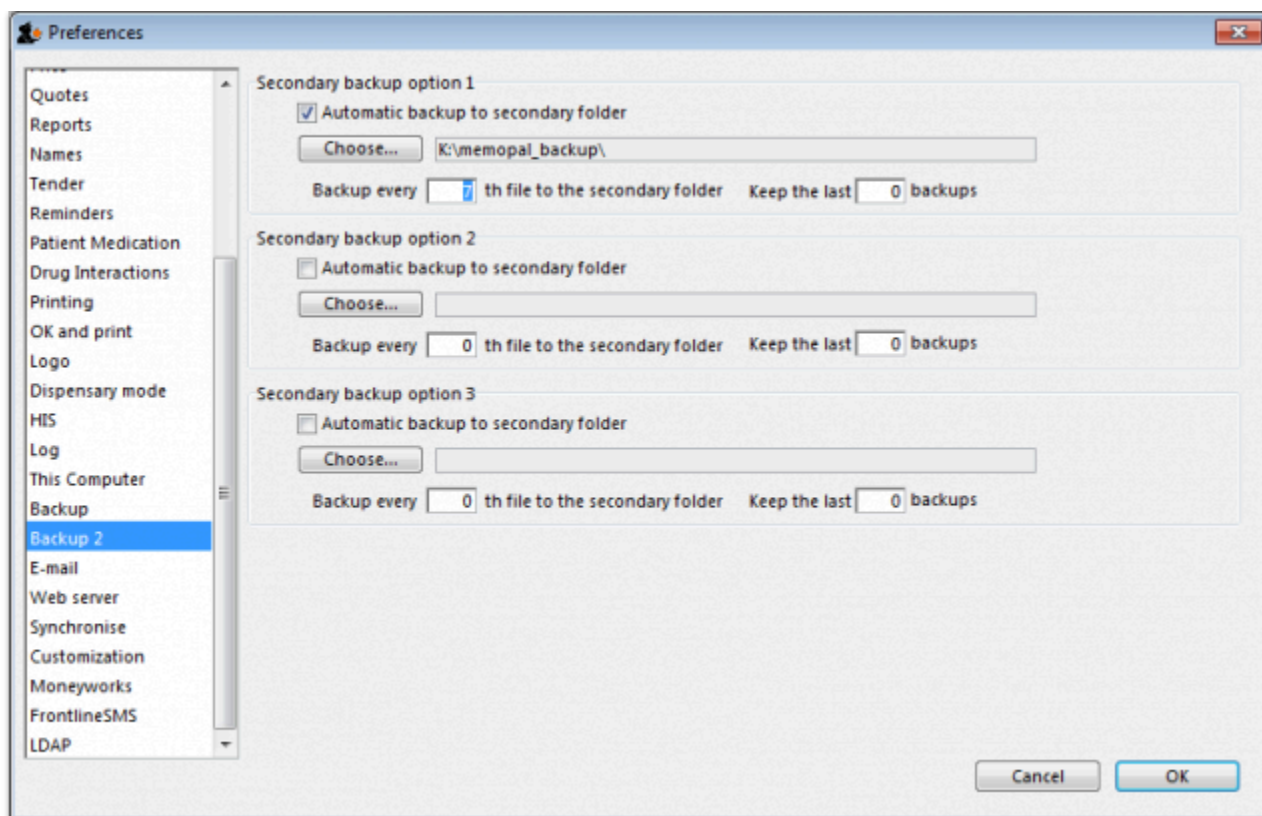
Email results of check... If you check this option Sustainable Solutions will receive by email a report of the data file verification each time it is run. Note that no confidential information is transmitted with the report.

Integrate last log if database is incomplete

If this checkbox is checked, then if your data becomes damaged, mSupply will automatically restore the data from a backup and use the log file to restore all transactions between the date of the backup and the current date.

Backup 2 tab

Here you can set the secondary backup location.



This is useful for making copies of just some of your backups that you can then upload to a cloud-based backup service for automated off-site backups.

Automatic backup to secondary folder:

Checking this option results in mSupply trying to copy completed backups to another folder which you specify with the *Choose* button below. Fill in the *Backup everyth file...* field with number of backups out of which one copy will be kept. That is, entering 7 will result in one backup per week being copied.

You should now configure your online backup software to use the folder chosen as the secondary backup location as the source folder for backups. Note that if you have plenty of upstream bandwidth, you might simply wish to set your main mSupply backup folder as the source folder.

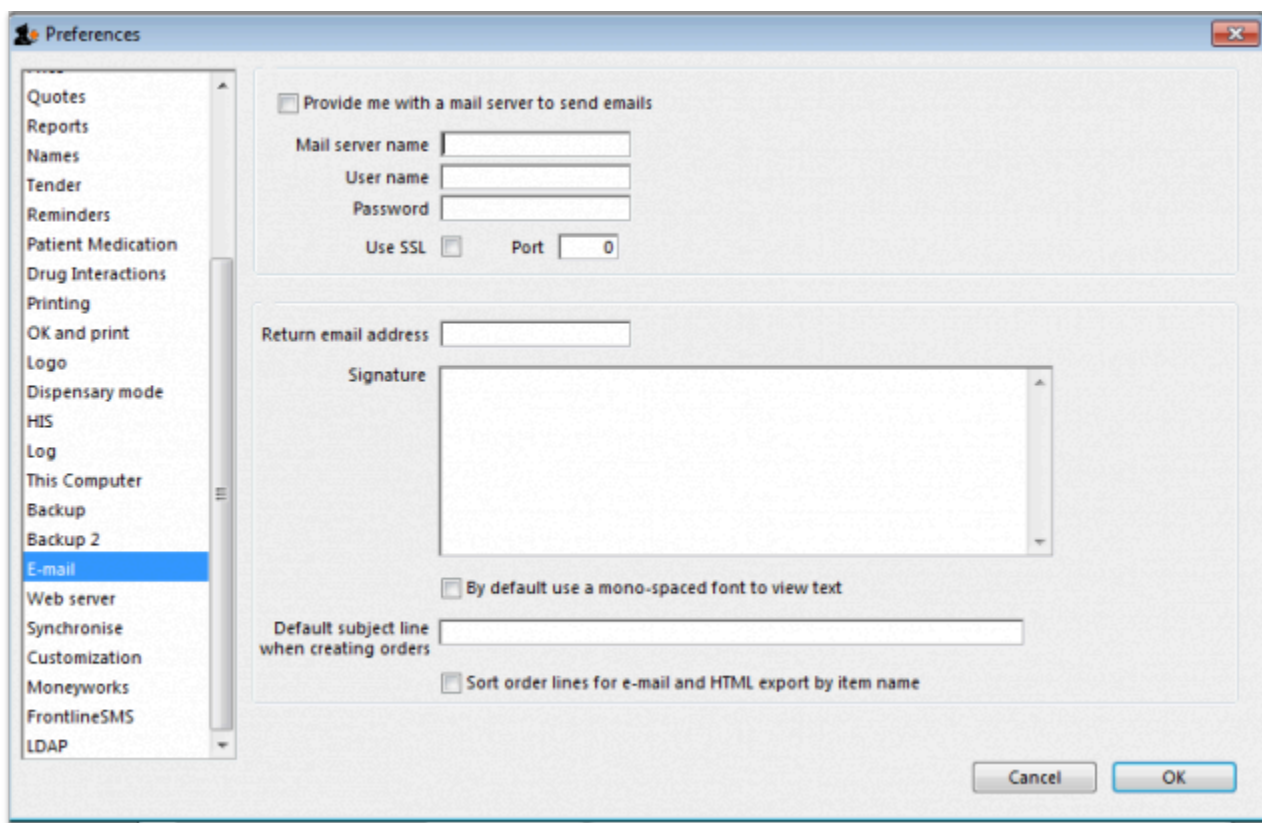
The duplication and block-level comparisons that services such as Spideroak use mean that it may be better for you to use uncompressed mSupply backups, as then only the changed portion of your data file will be backed up.

Secondary backup options 1, 2, 3

mSupply now allows you to make up to 3 secondary backups to separate locations if you would like to. You can use 1, 2 or all 3 if you would like to. At least one is recommended for security purposes.

E-mail tab

You can choose to send orders, reports, invoices and notifications to recipients using e-mail in mSupply. However, before mSupply can send anything by e-mail you must tell mSupply about the server you wish to use and details of the e-mail described below:



Provide me with a mail server to send emails

If this is checked you will use mSupply's own internal email server to send emails. If it is unchecked you will use your own email server, the details of which you must enter in the Mail server name, Username, Password, Port and Use SSL fields.

Mail server name

The name of your mail (SMTP) server. eg "mail.mac.com". You can only enter this if you are not using mSupply's inbuilt e-mail server (i.e. Provide me with a mail server to send emails is unchecked).

User name

The username mSupply will use to authenticate itself to the mail server. Only needed if you are not using mSupply's inbuilt e-mail server (i.e. Provide me with a mail server is unchecked).

Password

The password which goes with the username. (Only when not using mSupply's e-mail server)

Use SSL

If this is checked mSupply will use the Secure Socket Layer protocol to send e-mail. A more secure way of sending e-mails but only check this if your mail server can support SSL.

Port

The port on the mail server which mSupply will send e-mail to (must be the same port the mail server is listening on!). (Only when not using mSupply's e-mail server)

Return email address

Enter an email address you would like any response to come to. mSupply cannot send email unless it also has a return address for email.

Signature

The text you enter here will be added to the end of all e-mails you send. You might want to put your organisation contact details here. It is generally poor etiquette to make your signature too long.

By default use a mono-spaced font to view text

A mono-space font such as “Courier” or “Monaco” is better for viewing text in columns, such as is produced by the automatic order generation in *mSupply*. However, visually it has less 'eye appeal'.

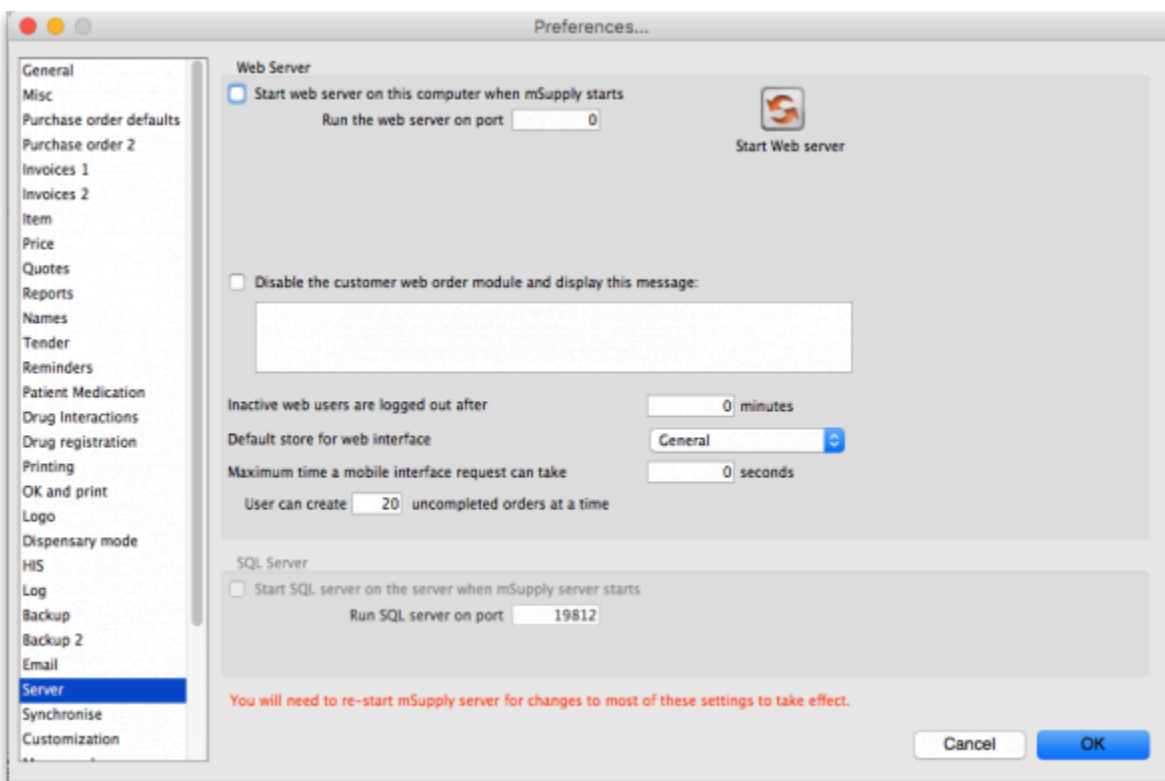
Default subject line when creating orders

When *mSupply* automatically turns an order for a supplier into an email, the text entered here will be put in the subject line. For example you might want to put “Acme Hospital order” to advise the supplier of its contents. Note that you can edit the subject line of automatically generated emails before you send them.

Sort order lines for email and HTML export by item name

This option allows emails generated automatically to be sorted alphabetically by item name before the email is created. If this option is left unchecked, emails will use the creation order of the order lines to create the email.

Server tab



These settings are all for mSupply's built-in webserver, which is used for things such as the Dashboard, mSupply mobile, online catalogue and the Customer interface. Note: To use this feature an additional license is required. Please contact Sustainable Solutions for further information.

Starting the web server

The web server can be set to start automatically when mSupply starts by checking the box, or manually as and when you use the service by clicking the button.

Run Webserver on the following port

The default port is 8080.

Disable the Customer order web module and display the following message:

If for any reason you want to take the customer ordering module off line you can choose a message to display for your customers.

Time out

For clients connected via a web browser, this is the maximum period of inactivity, after which the client must log in again.

Default store for web interface

Choose which store you want to be the default for the web interface (only applicable if you have more than one store). Be careful when changing this option because it will change the default store that **all** the web interfaces will use to get information from mSupply, not just one of them.

User can create XX uncompleted orders at a time

This limits erroneous submission of too many orders. Choose the maximum number of orders that a customer can make. If they have reached the maximum amount, they will be able to create more when other ones are completed.

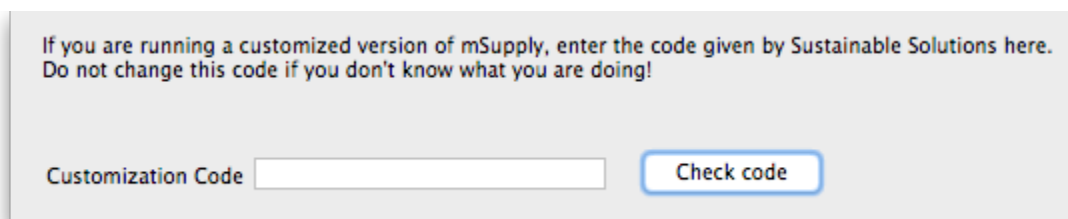
Maximum allowable time a mobile interface request can take

This sets how long mSupply will keep trying to supply report data before it gives up and displays an error message.

Synchronise tab

For an explanation of this section please go to Synchronisation.

Customisation Options



If you are running a customized version of mSupply, enter the code given by Sustainable Solutions here. Do not change this code if you don't know what you are doing!

Customization Code

Should a client wish to have customised features which are specific to their version of mSupply, we are happy, whenever possible, to incorporate such features.

If you are running such a customised version of mSupply, you will have received from us a Customisation code . To activate the customised features, that code must be entered in this field.

Moneyworks tab

If you use the superb Moneyworks accounting software, you can have mSupply directly input invoices into Moneyworks.

Contact info@msupply.org.nz for more information on these options.

Visit <http://www.moneyworks.sussol.net> (<http://www.moneyworks.sussol.net>) for more information on Moneyworks, including a free demonstration version.

Link to Moneyworks accounting software

The Moneyworks application must be installed on your machine, and this option establishes a link between mSupply and Moneyworks. Don't turn it on if you don't know what you're doing, or if you haven't set up Moneyworks as described below.

Three options are presented in the drop down menu:

- Gold - select this option if the Moneyworks application you are using is the one installed on your computer.
- Gold Client - select this option if you are connecting to the Moneyworks application installed on another machine on your network.
- Data Centre Client - select this option if you are connecting to a Moneyworks Data Centre

Export to Moneyworks when finalising individual invoices

This allows for production of individual invoices, e.g. for non credit customers, who make cash purchases; if you have such customers, check this box, but if all your customers are credit customers, receiving monthly statements, it may be left unchecked.

Location of the Moneyworks application

mSupply needs to know the location on your computer of Moneyworks, and by clicking on the *Choose* button, a window appears, and you should navigate to the location of the Moneyworks .exe file

Document Log on

Enter your logon details to access the Moneyworks document that you want to access.

Data Center Log on

If you are using a partitioned data center, enter your logon details to gain access to the partition where your document resides. If you are not using a partitioned data center then leave this section blank.

Location of the Moneyworks document (datafile)

You need to identify the Moneyworks document (datafile) you are using

If your link is to Gold, this is done by clicking on *Choose*, and navigating to the file's location. If access to the file is restricted, you need to complete your user name and password in the fields under *Document Logon*

If your link is to the Client option, when you click on *Choose*, a window appears and you need to enter the name of the Moneyworks datafile to which you are connecting; the file's restrictions will require you to enter your user name and password in the fields under *Data Centre Logon*

Type of customer invoice export

The drop down menu allows you to choose from several options:

- Single income account
- Separate income accounts by item account
- Choose for store

I.P. address of machine using Moneyworks

You only need to fill in the I.P. address here if:

- You are on Macintosh and
- You are connecting to a remote machine across a network.

If you are on Windows or a Mac connecting to a local installation of Moneyworks, make sure this field is empty.

Notes on setting up Moneyworks:

- The import into Moneyworks relies on using an import map. The map for supplier invoices must be named "si_import.imp" and the map for customer invoices "ci_import.imp". These map files must be stored in the "Import Maps" folder inside the "Moneyworks Customer Plug-Ins" which is next to your data file.
- The advantage of using import maps is that it gives you flexibility in deciding which accounts will be designated for sales and purchases, and the way the fields exported from mSupply are used inside Moneyworks.
- If you would like sample import maps from Sustainable Solutions, please email us at info@ss.org.np (<mailto:info@ss.org.np>).
- Once you have set up the import maps and turned on the "Link to Moneyworks accounting software" checkbox, mSupply will attempt to send invoices to Moneyworks that are finalised using the "finalise customer invoices" and "finalise supplier invoices" commands.
- Note that the "Export invoices when finalising" option must also be checked. (See Preferences> Invoices)
- If you get an error when exporting, usually you will get a message telling you what the problem is. Things to check include
- Is Moneyworks running it must be!
- Make sure the correct I.P address is specified if connecting to a remote machine on Macintosh.
- Make sure any charge codes used are actually present in the Moneyworks data file you are using. We can supply a version of mSupply that automatically adds names to the Moneyworks data file if they aren't found when exporting, but this costs extra!
- Make sure that Moneyworks has open periods for the dates of the invoices that are about to be imported.

- If you still have no success, turn off the *Link to Moneyworks*. .. checkbox, and produce a file. Then manually import the records into Moneyworks using the File > Import > Transactions command (making sure you load the correct import map using the “Load” button). The file has errors, Moneyworks will give a more complete error report.
- Note that if export to Moneyworks is not successful, the transactions will not be finalised in mSupply, so you will not get invoices that are missed in Moneyworks.

We are also able to provide a similar option to link with Quickbooks accounting software. Please contact info@ss.org.np (mailto:info@ss.org.np) if this is of interest to you.

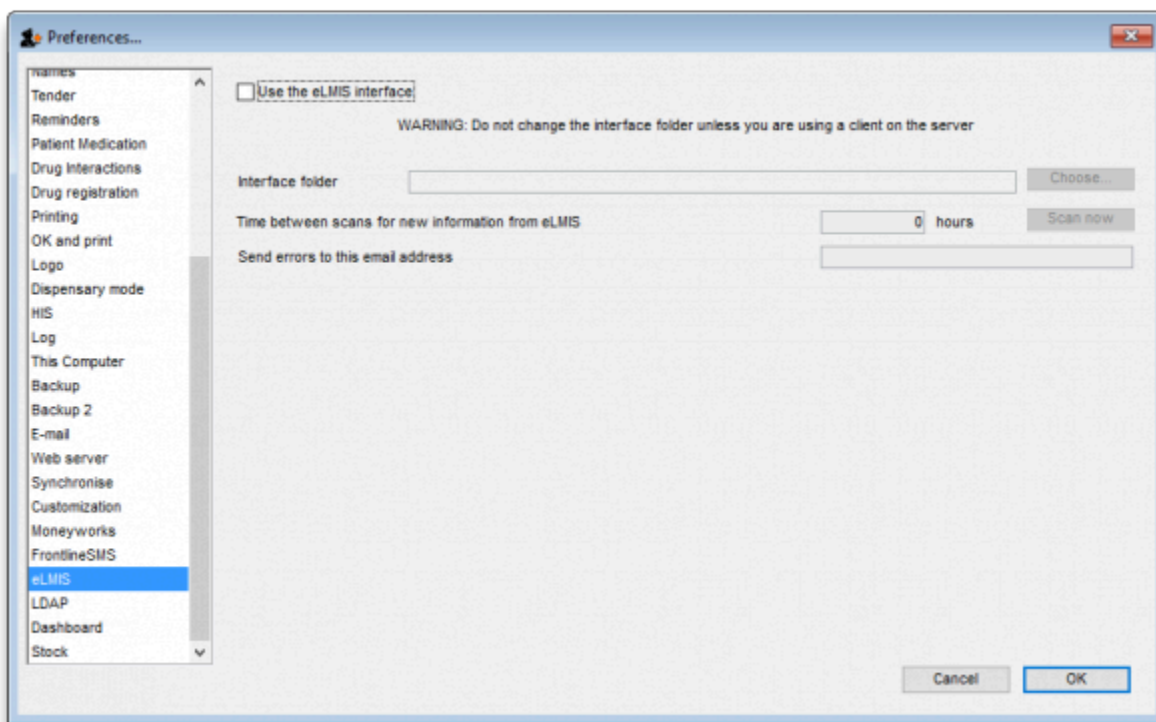
FrontlineSMS tab

If you use FrontlineSMS for sending information to mSupply via SMS messages (using mobile phones), this is the tab where you enter all the settings.

For an explanation of this tab please go to FrontlineSMS preferences.

eLMIS tab

eLMIS is an LMIS tool used by some countries to collect and aggregate supply information from health facilities. If you use eLMIS, you can interface your mSupply server with it using these preferences.



Use the eLMIS interface Check this box to enable the interface.

Interface Folder Click on the **Choose...** button to select the main folder that eLMIS and mSupply will use to share data.

Time between scans for new information from eLMIS Enter the number of hours mSupply will wait between checking the interface folder set above for new files to process.

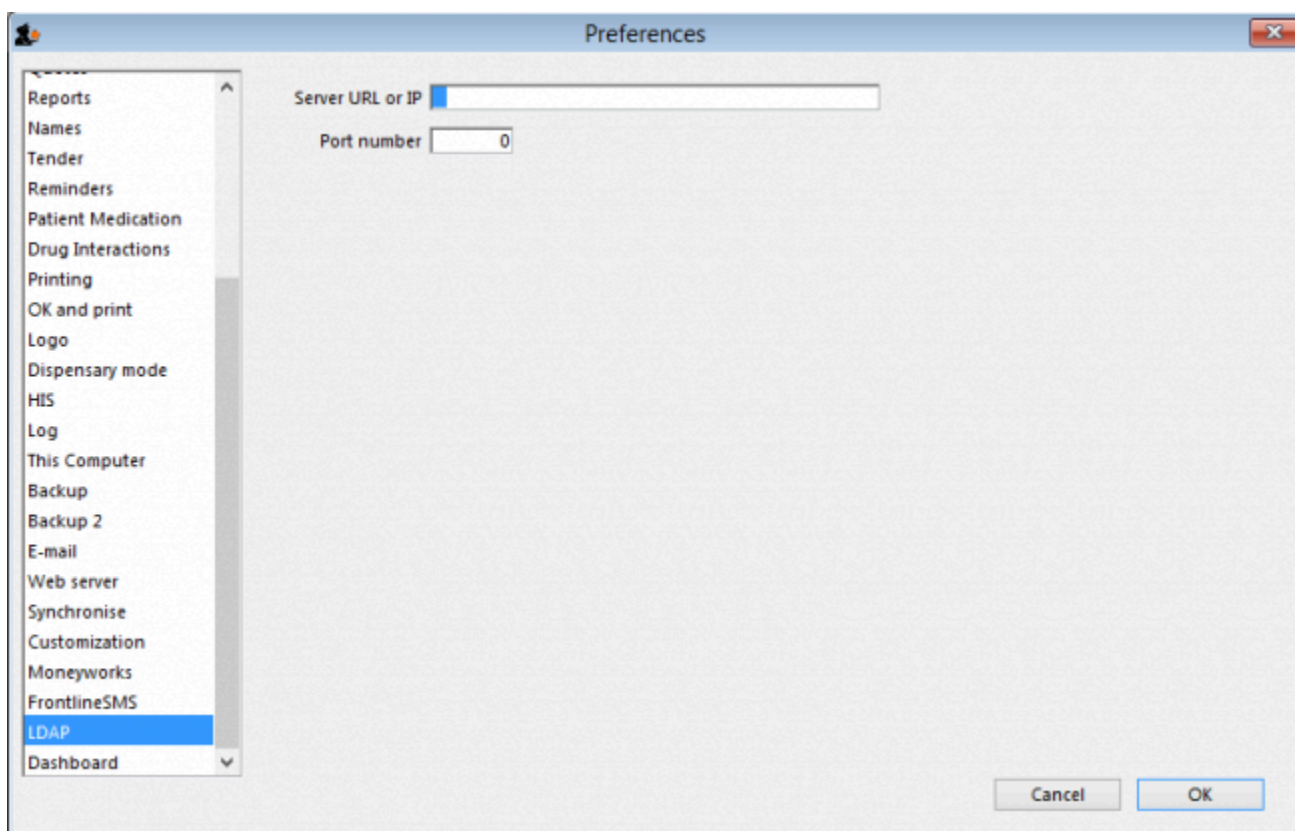
When the *Use the eLMIS interface* checkbox is checked it tells mSupply to check the *Interface folder/Orders/Incoming* folder every *Time between scans for new information from eLMIS* hours for new order files to process.

Scan now button Click this to make mSupply check the *Interface folder/Orders/Incoming* folder for new files to process immediately. Useful if you have manually put a file in the *Interface folder/Orders/Incoming* folder and want mSupply to process it immediately instead of waiting for the *Time between scans for new information from eLMIS* interval set above to elapse.

Send errors to this email address The email address mSupply will send any error information to. This would normally be the address of your eLMIS helpdesk.

LDAP tab

This section is where you define the details of the LDAP (Lightweight Directory Access Protocol) server you are using to provide user authentication for logging into mSupply. There is no need to fill in these fields if you are not using an LDAP server to check user logins:



Server URL (Uniform Resource Locator) or IP: enter the URL (Uniform Resource Locator) or IP address for your LDAP server.

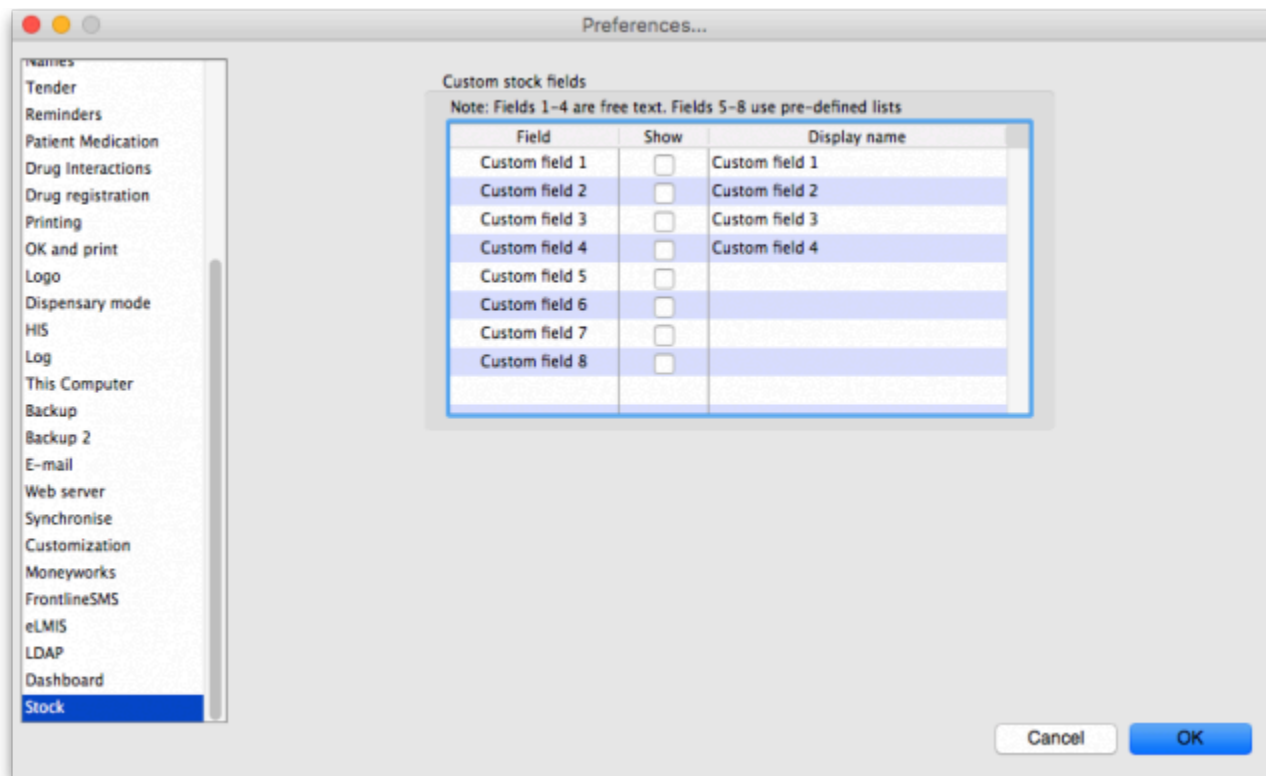
Port no.: enter the port number your LDAP database is being served on.

The Dashboard tab

See the Setting up Dashboards chapter for a detailed description of the process

Stock tab

This section is where you tell mSupply which custom stock fields a user can fill in when receiving stock on a supplier invoice. There are 8 fields available. Fields 1 to 4 are free text but fields 5-8 contain values which are selected from a list you define:



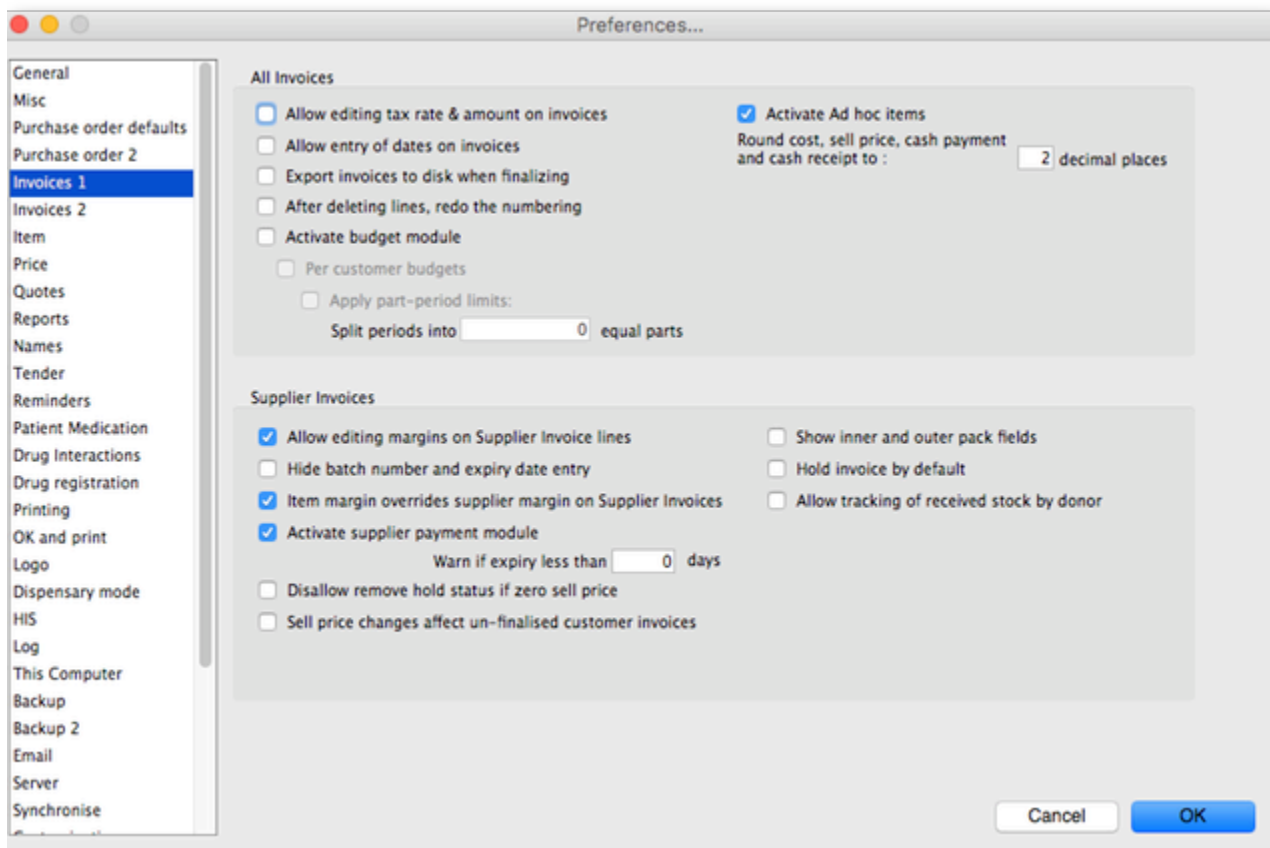
Each of the fields you tick the “Show” checkbox for will appear on the bottom of the supplier invoice line detail form when receiving stock. They will appear with the label you give them in the “Display name” column (click once in the column to make the cell editable then type the name).

The values you enter in these fields (or select for the fields if it's one of fields 5-8) will be attached to the stock and follow it through the system. For full details see Custom stock fields.

Previous: Statistics (HIS) Next: Purchase Order Preferences

Invoices preferences

Invoices 1



All invoices

Allow editing tax rate and amount on invoices:

When checked the tax rate can be changed when entering an invoice. Otherwise, the default tax rate is always used. (On supplier invoices the actual tax amount can be directly edited if this option is checked. This allows perfect matching of tax amounts with amounts charged by a supplier).

Allow entry of dates on invoices:

Normally the confirm dates on invoices are read only and are filled in automatically by mSupply when the invoice is confirmed. If you need to enter your own dates, check this option and the confirm dates will be editable. Note that you will not be able to modify the dates on finalised invoices.

The entry date is still maintained by mSupply. You can only edit the confirm date.

Export invoices to disk when finalising:

If this box is checked, each time you finalise customer or supplier invoices, a tab-delimited text file of the finalised invoices will be created. This allows you to import the data into an accounting application.

After deleting lines, redo the numbering:

If this box is checked, deleting invoice lines will result in all invoice line numbers being updated so there is no gap in the numbering.

Activate budget module:

In order to use the Budget feature, this box must be checked. This feature is applicable to store mode only. For more information on the budget module see Customer Budgets

Activate Ad Hoc items:

Ad Hoc items allow you to receive and issue items that you will only use once. That is, you have ordered the item for a particular customer, and do not want to hold it in stock. For further information, see Ad Hoc items

Round prices:

You can choose to round prices to a given number of decimal places. By default prices will be rounded to 2 decimal places.

Supplier Invoices

Allow editing margins on supplier invoice lines:

If this option is chosen, you can edit the margin for individual supplier invoice lines. Otherwise the margin will be locked at the margin set for that supplier in the window for editing supplier details (reached from the **supplier > edit supplier** menu.)

Hide batch number & expiry date entry:

Some people use mSupply for inventory control of all sorts of general goods. Hiding these fields will speed up entering information if you do not use those fields.

Item margin overrides supplier margin on supplier invoices:

When receiving an item where there is a margin set for both the supplier and the item, if this option is checked the item margin will be used. If unchecked, the supplier margin is used.

Activate supplier payment module:

Check this box if you want mSupply to record the outstanding amount to be paid on each supplier invoice. If this system is not activated, supplier invoices will display a zero amount outstanding. (If you use a separate accounting system, and use *mSupply's* export facilities, there is no need to use the inbuilt payment system).

Warn if expiry less than XXX days:

An appropriate figure can be entered .

Disallow "Remove hold" status if zero sell price:

If this option is checked you can't receive goods that haven't had their sell price set.

Sell price changes affect un-finalised customer invoices:

If you tick this, when you update a sell price the change will be reflected in all non-finalised customer invoices. You will be asked to confirm ticking this box because it can make irreversible changes to customer invoices. Here is a table that shows the differences with having this preference turned on or turned off

Original invoice

Item	Date	Invoice type	status	price
Amoxy 250	15 Feb	Supplier invoice	cn	8.00
Amoxy 250	15 Mar	Customer invoice	cn	8.00
Amoxy 250	15 Apr	Customer invoice	cn	8.00
Amoxy 250	15 May	Customer invoice	fn	8.00

With preference turned off

Item	Date	Invoice type	status	price
Amoxy 250	15 Feb	Supplier invoice	cn	9.00
Amoxy 250	15 Mar	Customer invoice	cn	8.00
Amoxy 250	15 Apr	Customer invoice	cn	8.00
Amoxy 250	15 May	Customer invoice	fn	8.00

You have found that the price should have been 9.00 No customer invoices are updated. Reports on old customer invoices will show the old price of 8.00

With preference turned on

Item	Date	Invoice type	status	price
Amoxy 250	15 Feb	Supplier invoice	cn	9.00
Amoxy 250	15 Mar	Customer invoice	cn	9.00
Amoxy 250	15 Apr	Customer invoice	cn	9.00
Amoxy 250	15 May	Customer invoice	fn	8.00

You have found that the price should have been 9.00 Old customer invoices are updated unless their status is "fn". Reports on old customer invoices will show the new price of 9.00 (as long as no invoices were finalised)

Show inner and outer pack fields:

If checked, mSupply will allow the entry of the 'inner' and 'outer' pack sizes - if an item is packed 100 to a container, and 12 containers to a box, the 'inner' field entry would be '100' and the 'outer' field entry would be '12'

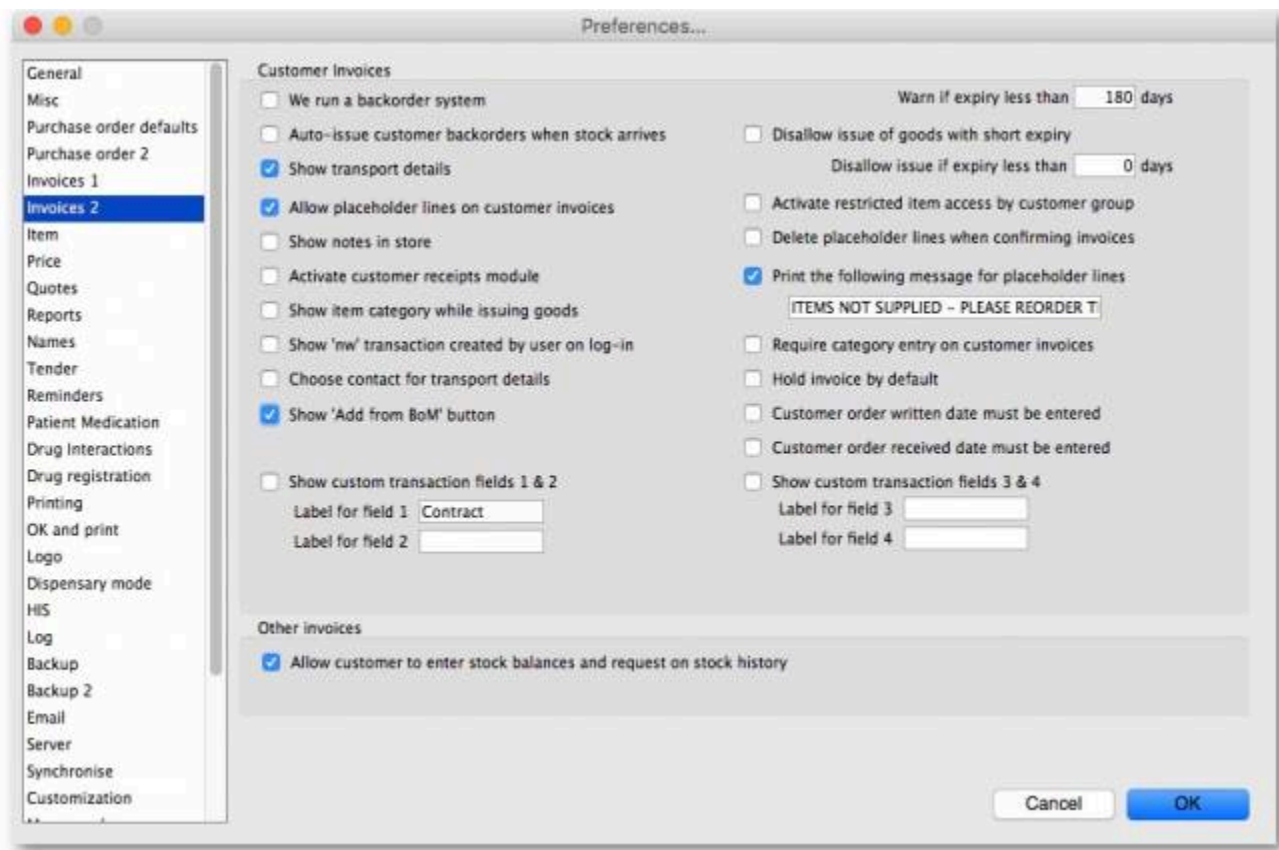
Hold invoices by default:

If checked all newly created invoices will be on hold

Allow tracking of received stock by donor:

If checked, this option allows the user to track donated stock from source (supplier Purchase Order) to store (available for distribution in mSupply).

Invoices 2



Customer invoices

These options apply to customer invoices only.

We run a backorder system

Check this item if you want to record backorders for customers for supply at a later date (For suppliers, backorders are recorded in the ordering system as partially supplied orders).

Note that if you use a backorder system it will affect the way “placeholder” lines are handled.

A *placeholder* line is a line entered on a customer invoice which does not have any stock associated with it. Placeholder lines can have an item name, a quantity, and a pack size, but the batch number is set to “none”.

When you confirm an invoice, if you are using a backorder system, placeholder lines will be transferred to make backorders. If you are not using a backorder system, placeholder lines will be deleted if the option below is turned on.

Auto-issue customer backorders when stock arrives

Check this item if you want stock to be automatically issued to a customer with a backorder when it becomes available.

Show transport details

If this box is checked, then a transport details button will be shown on customer invoices, allowing editing of transport details (arrival dates, etc) and box numbers.

Allow placeholder lines on customer invoices

If you leave this box unchecked, all lines on an invoice will have to be actual stock. If you run a backorder system you must check this box.

Show notes in store mode

If this box is checked, the window for issuing stock will be enlarged to show the area to enter abbreviations and customer directions or notes under store mode. These notes print on invoices after each invoice line.

Show direction entry in dispensary mode

If this box is checked, the window for issuing stock will be enlarged to show the area to enter abbreviations and customer directions or notes under dispensary mode. These notes print on invoices after each invoice line.

Activate customer receipts module:

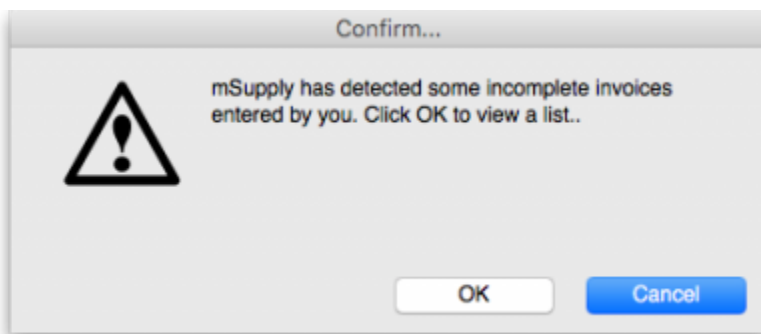
Check this box if you want *mSupply* to record the outstanding amount to be paid on each customer invoice. If this system is not activated, supplier invoices will display a zero amount outstanding. (If you use a separate accounting system, and use *mSupply's* export facilities, there is no need to use the inbuilt payment system).

Show item category while issuing goods:

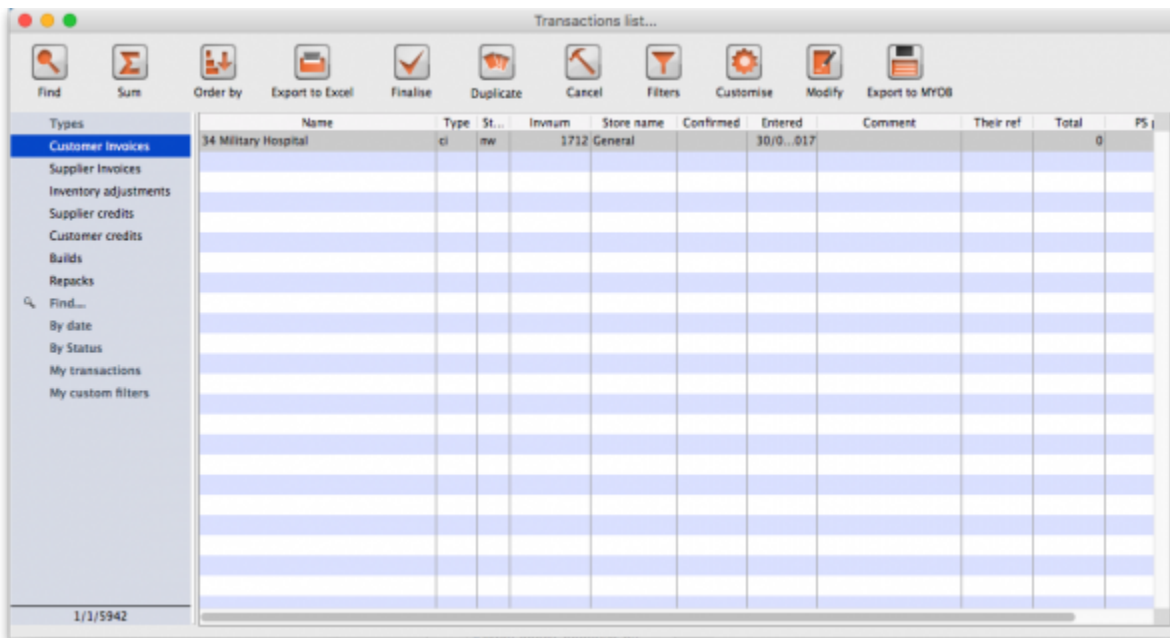
If you are making use of the item category facility, checking this box will allow you to see the category of the item you are issuing as it is being issued.

Show 'nw' transaction created by user on log-in

If you check this box then, after a user has logged in, if there are any customer invoices created by this user that are still at 'nw' (new) status then they will be shown a message:



Clicking on the **OK** button will take the user to a list of their nw status invoices and they can double-click on any of them to edit as usual:



Handy for helping invoices to not get forgotten!

Choose contact for transport details

Checking this box allows you to choose a contact from your list of contacts when entering transport details.

Show 'Add from BOM' button

Checking this box allows you to create an invoice using a Bill of Materials. The function inserts placeholder lines from BOM into the invoice - see here for details.

Show custom transaction fields:

There are 4 customer transaction fields available for customised entries; their use is optional, and should you wish to use them, they have to be activated here, where the *Show custom transaction fields* checkboxes should be checked. You will note that they are grouped in pairs, 1 & 2 and 3 & 4, and this is also the window which allows you to define names for the fields; for example, you might wish to identify the person preparing the invoice and so give field 1 the name "Prepared by"; similarly the person authorising the invoice could be entered in field 2, which would be named "Authorised by".

Warn if expiry is less than XXX days:

Entering a number in this box causes mSupply to alert the user when any item selected is due to expire before this number of days has passed.

Disallow issue of goods with short expiry:

If this option is checked, mSupply will not allow issue (customer invoices, prescriptions) of goods with an expiry date less than the number of days specified here. Goods with no expiry date will not be affected. Note that once this preference is checked, there is no way for the user to override it- the rule is enforced until the preference is turned off.

Enter zero in the field to disallow entry of goods that have expired.

Note that inventory adjustments and supplier credits can still be issued to remove goods from stock or return goods to a supplier.

Activate restricted item access by customer group:

When this check box is checked, any item that is assigned to a department may only be supplied to customers who are members of groups linked to that item's department.

See the section in the Item Menu chapter on the Manage item access... for more information on how to set up item departments, customer groups, and how to link groups to departments.

Warning: Checking this item may mean that some items can not be issued. Make sure you have set up the item access system properly before proceeding.

Delete placeholder lines when confirming invoices:

When checked, placeholder lines are deleted when the invoice is confirmed.

Print the following message for placeholder lines:

When this box is checked, the message typed in this field will be printed in the batch column for placeholder lines. For example, you might enter "backorder" to show these lines will be backordered. If you check the box and leave this field blank, the batch field will be empty.

Require category entry on customer invoices

If this option is checked, when entering customer invoices the user will be required to select one of the available transaction categories. Transaction categories are set up using the Special > Show transaction categories menu item. If no transaction categories for customer invoices have been set up, this option will have no effect.

Hold invoice by default

Invoices will be put on 'hold' if this box is checked.

Customer order written date must be entered

If checked, the **Order written date** field on a customer invoice (on the *Transport details* tab) must be filled in - if it isn't the user will be shown an alert message and asked to fill it in.

Customer order received date must be entered

If checked, the **Order received date** field on a customer invoice (on the *Transport details* tab) must be filled in - if it isn't the user will be shown an alert message and asked to fill it in.

Other invoices

Allow customer to enter stock balances and request on stock history

Checking this box allows a customer to enter the quantity of stock they have and mSupply will file it as part of their stock history and calculate how much needs to be sent to them to replenish their stock.

Invoice Printing preferences

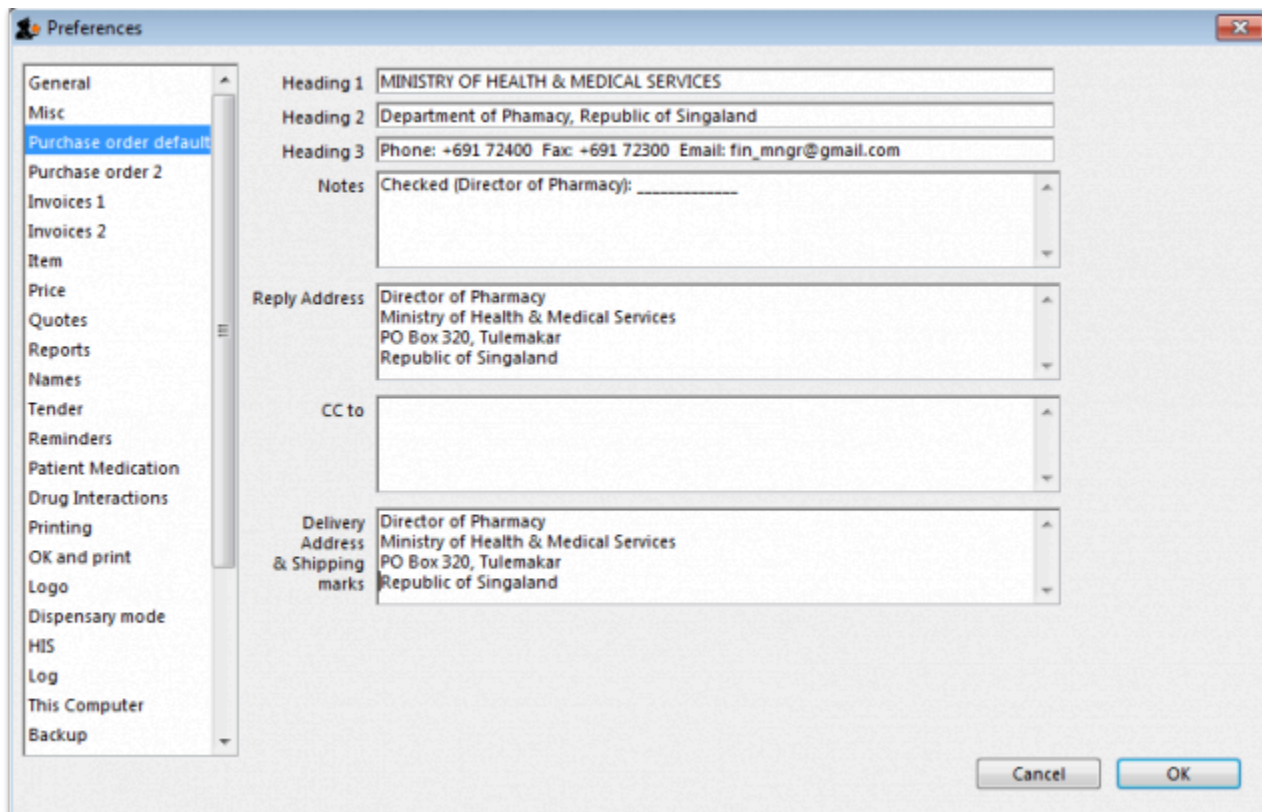
Please see Printing preferences

Previous: Purchase Order Preferences Next: Printing Preferences

Purchase order preferences

There are two tabs of purchase order preferences in the **File > Preferences...** menu item.

Purchase Order Defaults tab



This window allows you to enter text that will be printed on Purchase Orders.

The easiest way to see how these fields will look on a Purchase Order is to fill in the fields and then print a sample Purchase Order. Note that we are willing to design custom Purchase Order forms to meet individual needs.

Purchase Order 2 tab

Preferences...

General
Misc
Purchase order defaults
Purchase order 2
Invoices 1
Invoices 2
Item
Price
Quotes
Reports
Names
Tender
Reminders
Patient Medication
Drug Interactions
Drug registration
Printing
OK and print
Logo
Dispensary mode
HIS
Log
This Computer
Backup
Backup 2
Email
Server
Synchronise

Print signature section on purchase orders

Number of decimal places for price extension and totals :

Prefix printed purchase order number with :

Default number of month's usage to evaluate when creating an order

Purchase order category must be chosen

Purchase order contract date must be entered

Expected delivery date must be chosen

Purchase order advance payment date must be entered

Show purchase order custom field 1

Purchase order received at port date must be entered

Custom field 1 label

Show purchase order custom field 2

Custom field 2 label

Procurement is done centrally

Labels for custom fields on purchase order categories

field 1 (text)

field 2 (text)

field 3 (number)

Cancel OK

Print signature section on Purchase Orders

When this box is checked a section will be printed on Purchase Orders that shows the authorising officer(s) and includes a space for signatures. This is applicable if you print Purchase Orders and post them to suppliers, but should most likely be turned off if you send Purchase Orders via email.

Number of decimal places for price field:

This field allows you to specify the number of decimal places that may be entered in the price field on Purchase Orders. This will override the currency format setting in the Misc tab only for the price field on Purchase Orders.

Prefix printed Purchase Order number with

Enter any required prefix in this field

Default number of days usage to evaluate when creating an order

Enter the number of days to “look back” when evaluating each item's usage to calculate the amount of stock needed. Entering a higher number will give a better long term average, but will mean that orders take longer to create.

Purchase Order category must be chosen

Check if you need a Purchase order category to be chosen on every purchase order.

When clicking the **OK** button on a purchase order you can override this setting by holding down the shift key as you click **OK**

Expected delivery date must be chosen:

Check if required, leave unchecked if not.

Show purchase order custom field

Check this box if you would like an extra field added that you can customise and use for your own purposes.

The space below this check box is for you to enter the name of your custom field.

Purchase order contract date must be entered

If you require this information on your purchase orders then check this box - this will force users to enter it when a purchase order is created.

Purchase order advance payment date must be entered

If you check this, the **Advance paid** field must be completed when a purchase order is created - a user will not be able to save a purchase order without entering it.

Purchase order received at port date must be entered

If you check this, the **Received at port** field must be completed when a purchase order is created - a user will not be able to save a purchase order without entering it.

Procurement is done centrally

This option is only relevant for a synchronised system (refer Remote Synchronisation). If you select this option, purchase orders for stores on sync satellites can only be prepared, confirmed and finalised on the sync primary. There is a work-around if you need some stores on some sync satellites to do their own purchase orders. For help with setting that up, contact support@msupply.org.nz (mailto:support@msupply.org.nz).

Labels for custom fields on Purchase Order categories:

Fields 1 and 2 accept text entries, field 3 accepts numeric entries. The use of these fields is optional.

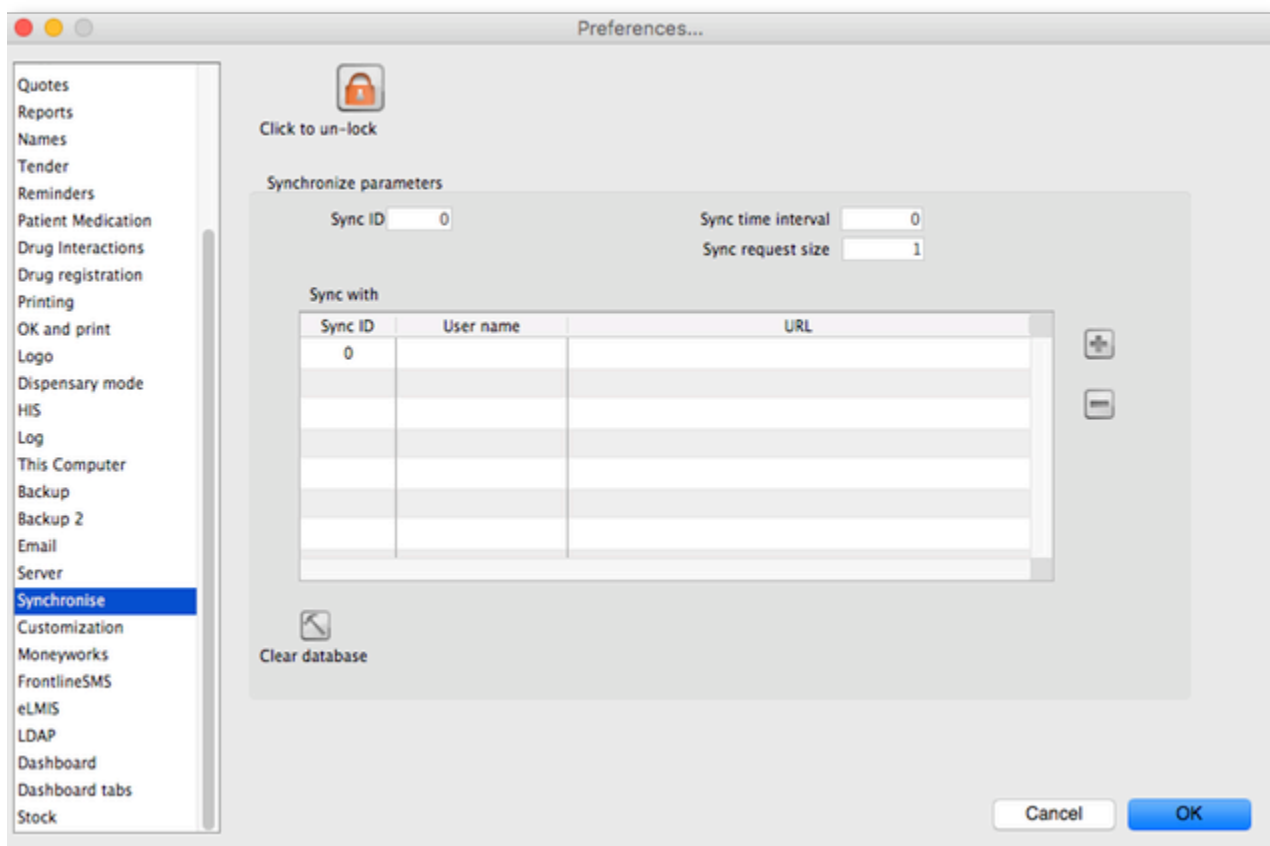
Previous: General preferences Next: Invoice Preferences

Synchronisation

Note that the main page describing synchronisation is Remote Synchronisation

Synchronization is the process whereby mSupply maintains data integrity between a 'primary' mSupply server and 'satellite' mSupply servers. It therefore only applies to situations where there is a multi-mSupply server setup.

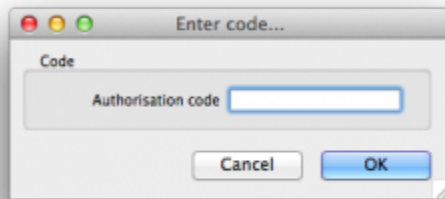
- The primary server will maintain a master list of names and items which are 'pushed' to the satellite servers. Items and names can only be added, deleted or modified on the primary server.
- The primary server can be configured to maintain a copy of stock and transaction data from the satellite servers as well as its own. This allows a user on the primary server to run reports on data from the primary and satellite servers.
- Satellite servers can also be configured to maintain a copy of stock and transaction data for other stores in the system. This data is all routed through the primary server.
- Transaction and stock records for any store in the system can only be added, deleted or modified on the server on which that store is 'Active'.



General

These settings will normally only be changed by Sustainable Solutions. They are not intended for general use by customers.

Click to Un-lock button: Altering these preferences can have serious consequences for your mSupply® data so they are protected by an authorisation code. Click on the 'Click to Un-lock' button and you are presented with the following screen:



To continue and edit the synchronize preferences enter your authorisation code in the box and click on the OK button. To return to the preferences screen without unlocking the synchronize preferences click on the Cancel button.

Sync time interval: This is the time interval in minutes between requests for new information that the satellite servers make to the primary server.

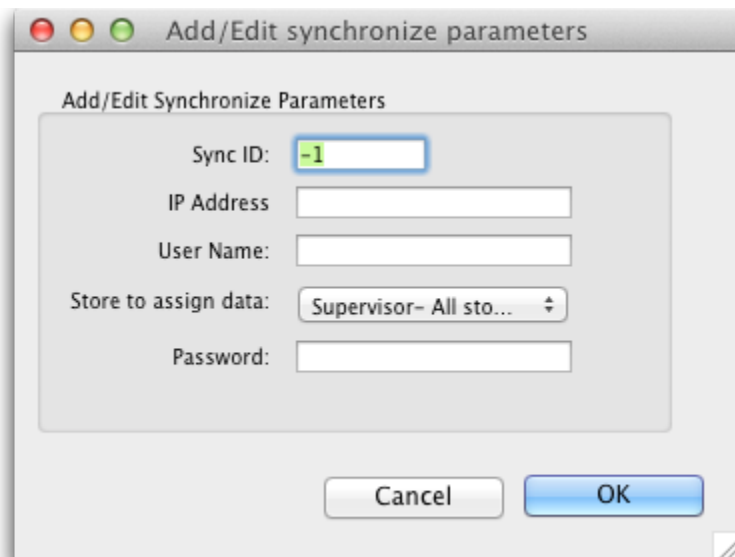
Synchronize parameters

Sync ID: The ID of the current store to use in the synchronization process. You choose this - a number between 1 and 64. This must be unique to each store to be synchronized. ID 1 is reserved for the primary server (so, if this is the primary server put 1 in here).

User name: Communication between the primary and satellite servers is authenticated. This user name and the password field must match what the primary server is expecting. So, you can enter any valid username and password in these fields but they must all be the same for the primary and satellite servers.

Password: See above.

Sync with:



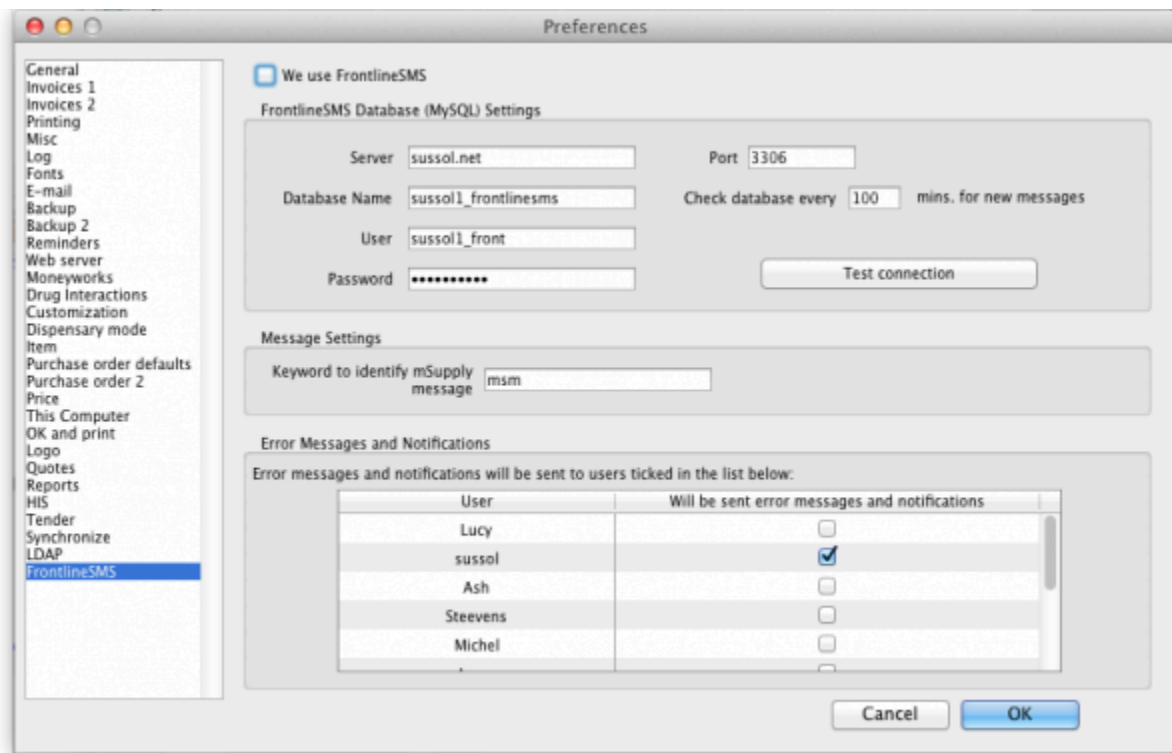
This list contains the names of the servers to synchronize with. If this is the primary server all the satellite servers will be identified in this table. If this is a satellite server then the primary server only will be identified in here. Click on the '+' button to add a server to the list (takes you to another window where you enter the Sync ID, Name, Store and URL (Uniform Resource Locator) for the server to synchronize. Note that these values, except URL (Uniform Resource Locator) will have

been entered in this page on the servers hosting the stores selected. Make sure you enter the right values! The URL (Uniform Resource Locator) field contains the full URL (Uniform Resource Locator) of the server hosting the store to synchronize) and the '-' button to delete a server you have selected in the list.

Previous: Entering a New Logo Next: FrontlineSMS

FrontlineSMS

If you use FrontlineSMS for sending information to mSupply via SMS messages (using mobile phones), this is the page where you enter all the settings.



The settings and what they mean are as follows:

We use FrontlineSMS:

Checking this makes mSupply periodically check the FrontlineSMS database for messages that have been sent to mSupply. If this checkbox is left unchecked, mSupply ignores all the settings on this page and will not check the FrontlineSMS database for new messages.

FrontlineSMS database (MySQL) settings

To use FrontlineSMS with mSupply, FrontlineSMS must be configured with a MySQL database. In this section you tell mSupply the details of this database to enable it to connect to it and retrieve new messages.

Server:

The name of the server hosting the FrontlineSMS database. You can enter the server's name e.g. myserver.mydomain or its IP address.

Database name:

The name of the FrontlineSMS database. This is the name it was given when it was created in MySQL.

User:

The username that mSupply will use to log into this database.

Password:

The password that goes with the username above.

Port:

The port that the database is served at on the host. If you leave this blank, mSupply will set it to the default port used by MySQL (3306).

Test Connection Button:

This button will test the connection to the FrontlineSMS database using the settings above. You should click it after you've entered all the settings or when you change any of them. It will tell you whether the settings allowed mSupply to connect to the database.

If a connection cannot be made to the database when clicking the *Test Connection* button, the exact error message returned from MySQL is stored in the log. To view it go to *Special > View log*. This can be very handy when trying to figure out why you can't connect to the FrontlineSMS database.

Check database every //x// mins. for new messages:

This is the time in minutes between checks of the FrontlineSMS database for new messages. The minimum is 2 minutes and if you don't set it, this is the value it will be given.

Message settings

Keyword to identify mSupply message:

This is what mSupply looks for at the very beginning of an SMS message received by FrontlineSMS to identify it as one that it must process. Can be made up of any alphanumeric characters. Keep it short and unique - not something that will appear at the beginning of any SMS messages not intended for mSupply.

Error Messages and Notifications

Because the process is otherwise silent, mSupply needs to notify users when a new message has been processed or if errors occur in the process (e.g. a message is missing some information). mSupply will email such error messages and notifications to the users ticked in the list in this section. The list contains all users in the system and you must select at least one of them.

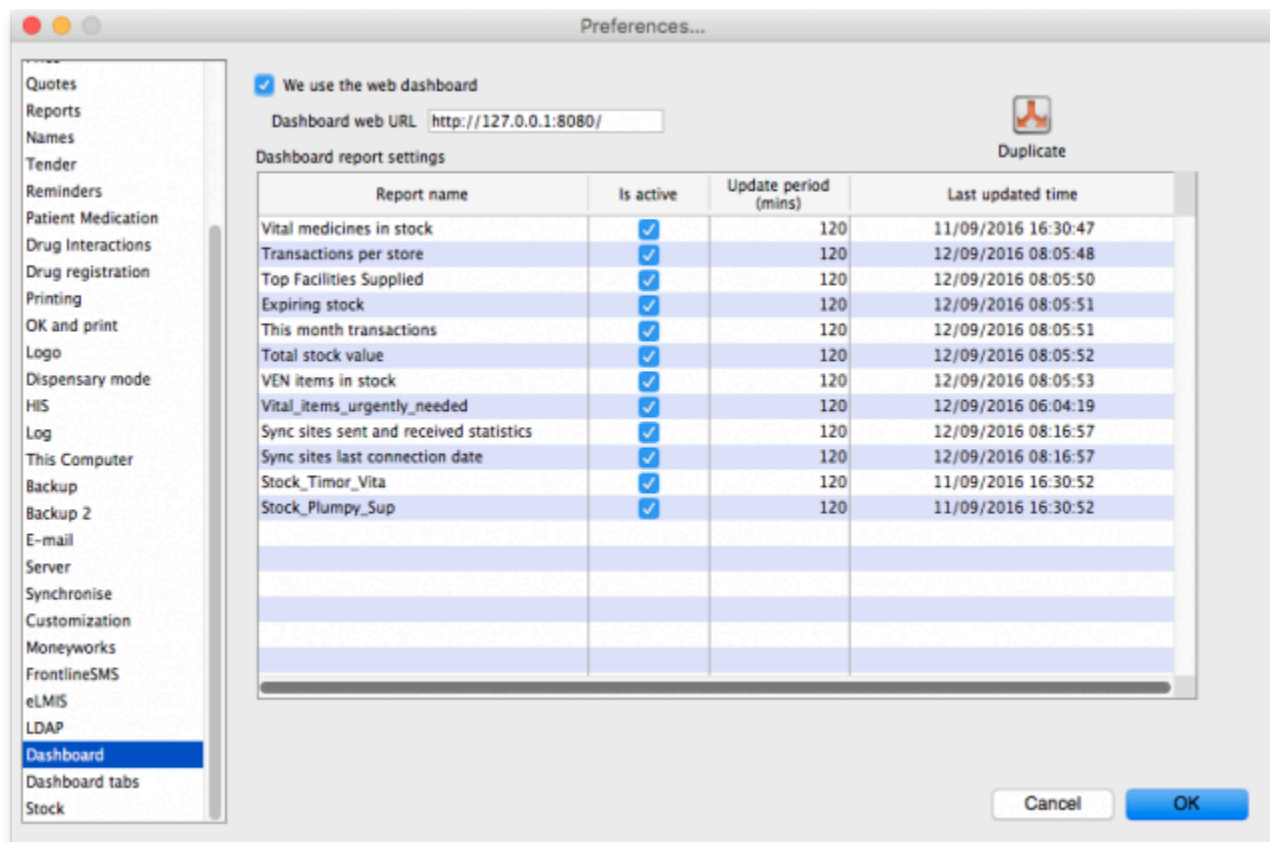
Previous: Synchronisation Next: Reports Basics

Setting up dashboards

Before the settings in this section will work you must make sure your webserver is currently running. See Webserver. Most users will find it easier to request mSupply support to set this up for you.

To set this up you need to:

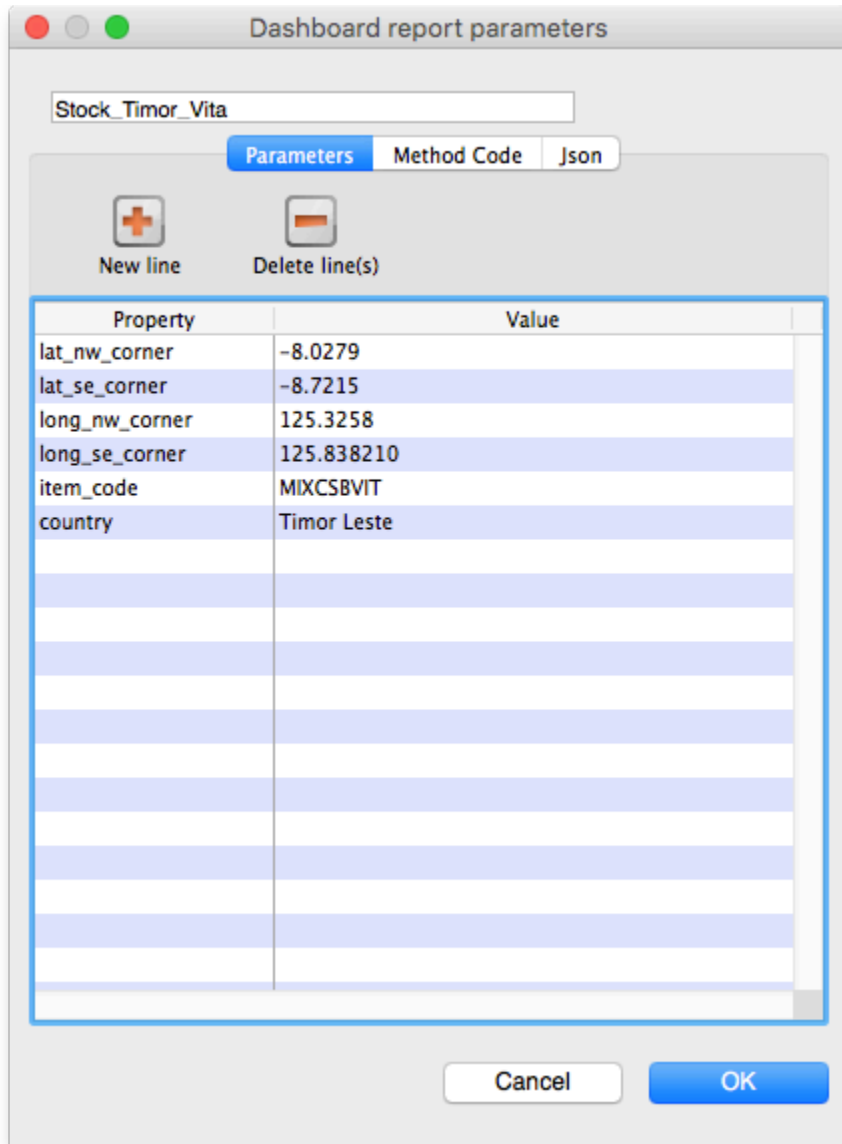
- Know what ports are already in use on the server
- Have an appropriate SSL Certificate set up. Sustainable Solutions can help with this if needed.



1. Check the “We use the web dashboard” checkbox
2. Enter the base URL (Uniform Resource Locator) to reach the dashboard on (i.e. everything up to 'dashboard' in the URL (Uniform Resource Locator) you browse to)
 - a. enter the trailing slash
 - b. if you are running from localhost, use your IP rather than http://localhost (http://localhost) both here and in the browser
 - c. the URL (Uniform Resource Locator) users type in will be this URL (Uniform Resource Locator) with “Dashboard” on the end
1. Tick the reports in the **Is active** column to select them for display on your dashboard
2. You can choose how often these reports are updated by clicking in the **Update Period (mins)** column and entering a number of minutes.

Editing Reports

Double-click a report and you may be able to edit parameters that determine what is displayed. For example in the following map report, the coordinates of two of the map corners, and the item code of the item whose stocks will be shown on the map have been entered. The table below gives allowable values for different reports. Note that if you enter other values, they'll be ignored.



To add or delete a row use the buttons at the top of the window.

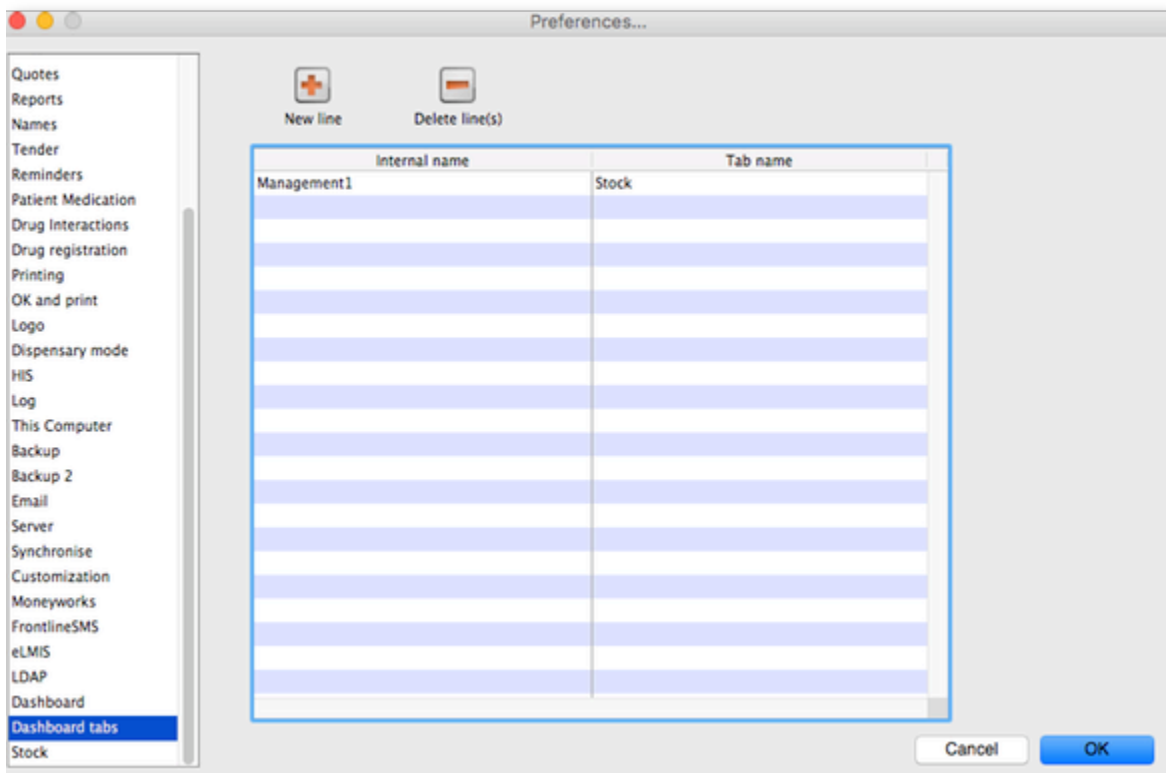
To edit a value, click once to select the row, and then click again in the cell to edit it.

Report name	Key	Value
Map stock on hand		
	lat_nw_corner	the latitude of the North-West corner of the map

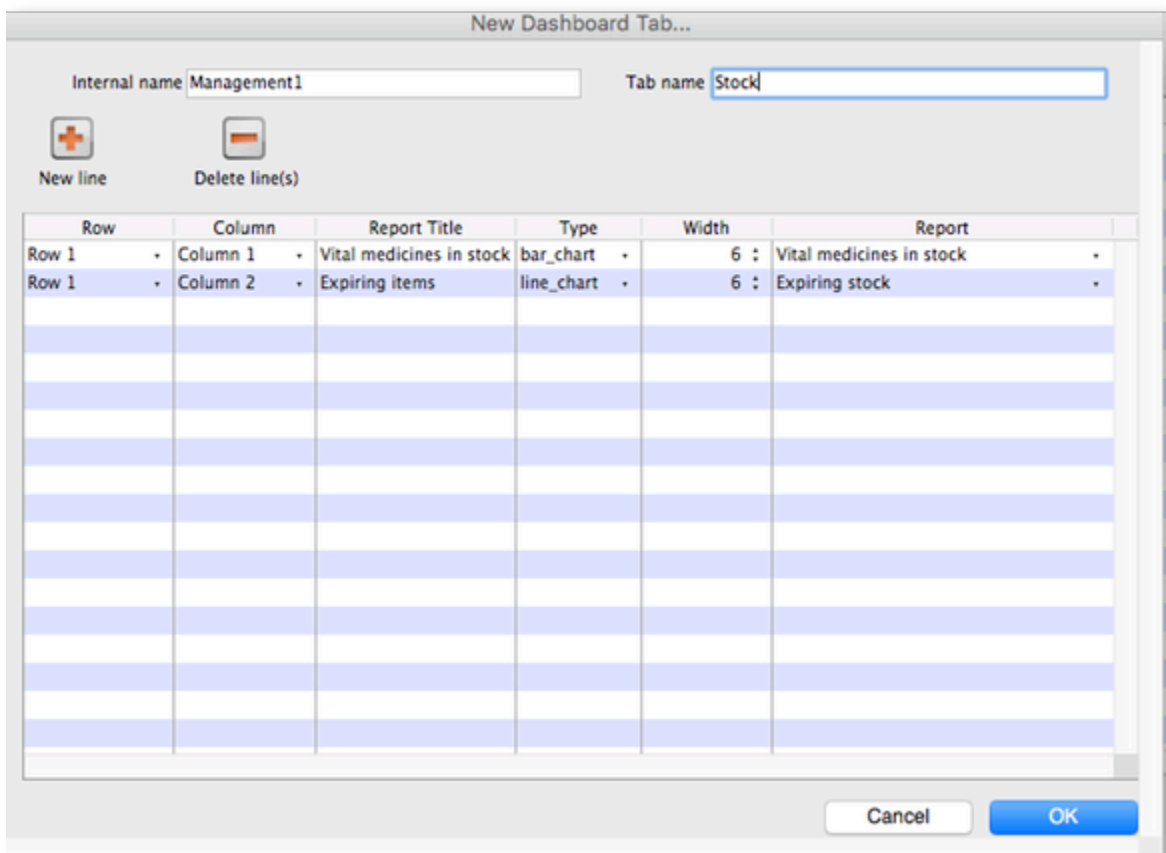
Report name	Key	Value
	long_nw_corner	the longitude of the North-East corner of the map
	lat_se_corner	the latitude of the South-East corner of the map
	long_se_corner	the longitude of the North-East corner of the map
	item_code	the item code of the item to display
	country	compulsory parameter
Vital items in stock (method:dashboard_store_stock_percent)		
	ven_category	v or e or n if you want to include items that are Vital or Essential or Necessary
	user_field_4	TRUE if you want to include items with this field checked
	user_field_7	TRUE if you want to include items with this field checked Note that the labels for fields 4 and 7 may be different, as they are set up in the mSupply preferences (misc tab)
	critical_stock	TRUE if you want to include items with this field checked, false for all items
	store_tags	entering healthcentre will only include stores with the “healthcentre” tag
Trends in critical stock (method:dashboard_rep_in_stock_trends)		
	store_id	the ID of the store you're interested in, or no value for all stores
	critical_stock	TRUE if you want to include items with this field checked, false for all items
	Output: use the type “time_series_chart”	
Reports Monthly Transactions (method:dashboard_rep_month_transacs)		
	store_name	the name of the store which you are interested in, or no value if you want all stores

Dashboard tabs

You set up Dashboard tabs which will display on your dashboard. Dashboard tabs are “containers” for one or more dashboard reports. To edit them go to *File > Preferences* and click on the *Dashboard tabs* tab on the left hand side:



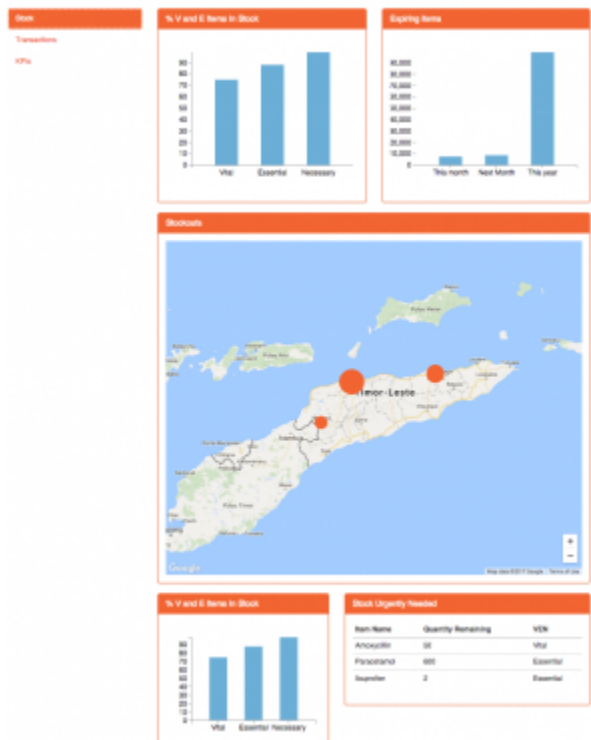
To add a tab click the **Add** button. To edit a tab, double-click it. You will be shown a window for editing a dashboard tab:



Now you add reports that will show on this tab.

Understanding Rows and Columns

Take this example dashboard tab:



- The tabs themselves occupy their own space on the left of the window- they aren't considered when laying out the dashboard
- The first row has two reports- each report takes up half the row. So for the first report:
 - Row 1, Col 1, width 12 (“12” means it takes up the full width of the cell it is in- “4” would mean it would take up 1/3 of the width)
- For the report at the top right:
 - Row 1, Col 2, width 12
- For the map
 - Row 2, Col 1, width 12
- The next two reports are on the same row, but are divided into 5/12 and 7/12 of the width of the window, so we put them in the same cell but change the width settings:
 - Row 3, Col 1, width 5
 - Row 3, Col 1, width 7

To add a report to a Dashboard tab

Click **New Line** to add a new report to the tab. Then edit the values in each column

- **Row:** The row it will be in
- **Column:** The column within the row- set to “1” if you don't have multiple reports on this row.
- **Report title:** The title that will show in the Orange heading bar for the report. Note that the same report can display different information depending on the parameters you set for that report- hence the need for the ability to customise report names
- **Type:** You'll need to know the appropriate type for the report you're displaying. The options are
 - bar_chart

- table
- pie_chart
- time_series
- map
- line_chart
- **Width:** The fraction of the cell width in “twelfths” that this report will take up (“6” will make it take up half the cell width)
- **Report:** Choose the report name from the drop-down list of available reports

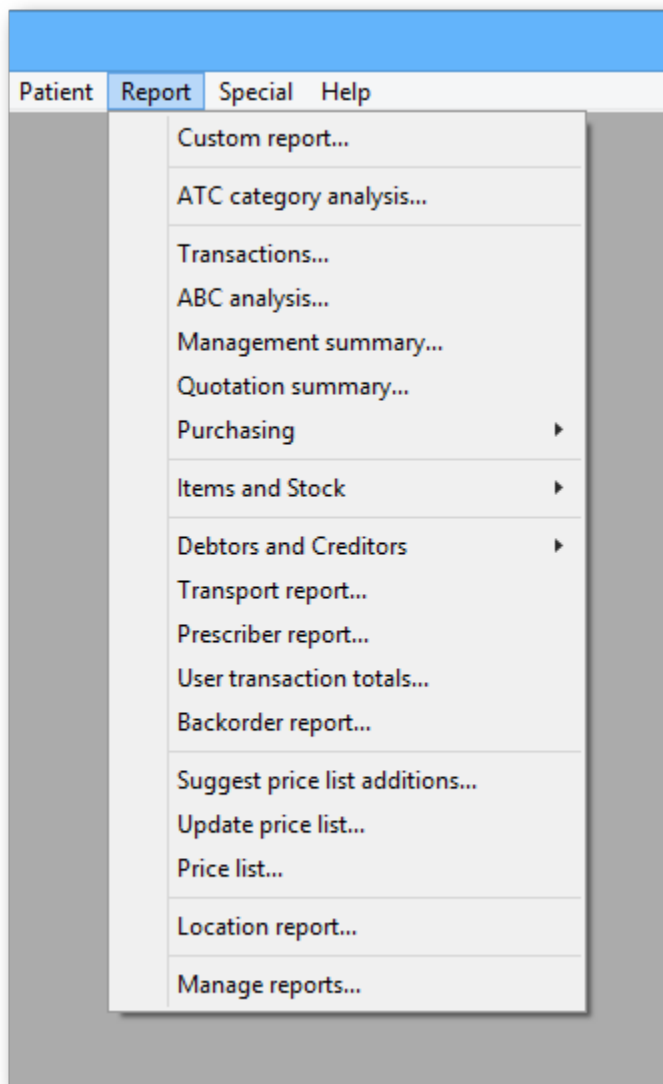
Add a dashboard tab to a user's dashboard

This is the final step in setting up dashboards: once the tabs have been setup you have to choose which users will see which tabs. You do this in individual users' settings. See managing users for instructions on how to do this.

Previous: Printing Preferences Next: Entering a New Logo

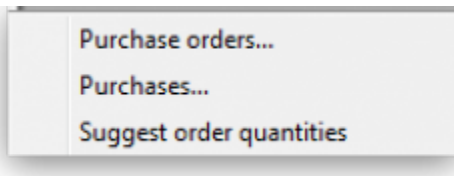
Report basics

Click *Report* , and this menu appears:

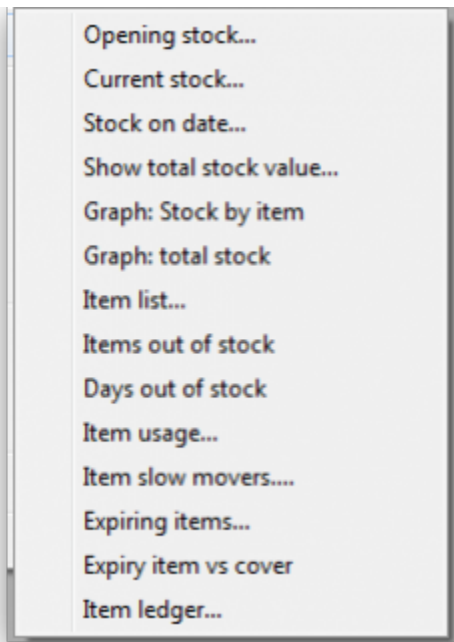


For some reports, the default setting includes *all items*, and as most stores will have several hundred items - maybe over 1,000 - reports on all items will, if printed, use a great deal of paper. If you must have a printout of your report, please exercise caution when selecting the criteria, and so avoid wasting paper.

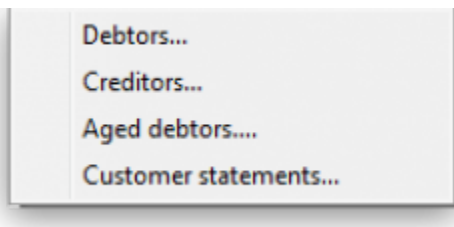
Reports on purchasing are displayed when *Purchasing* is selected:



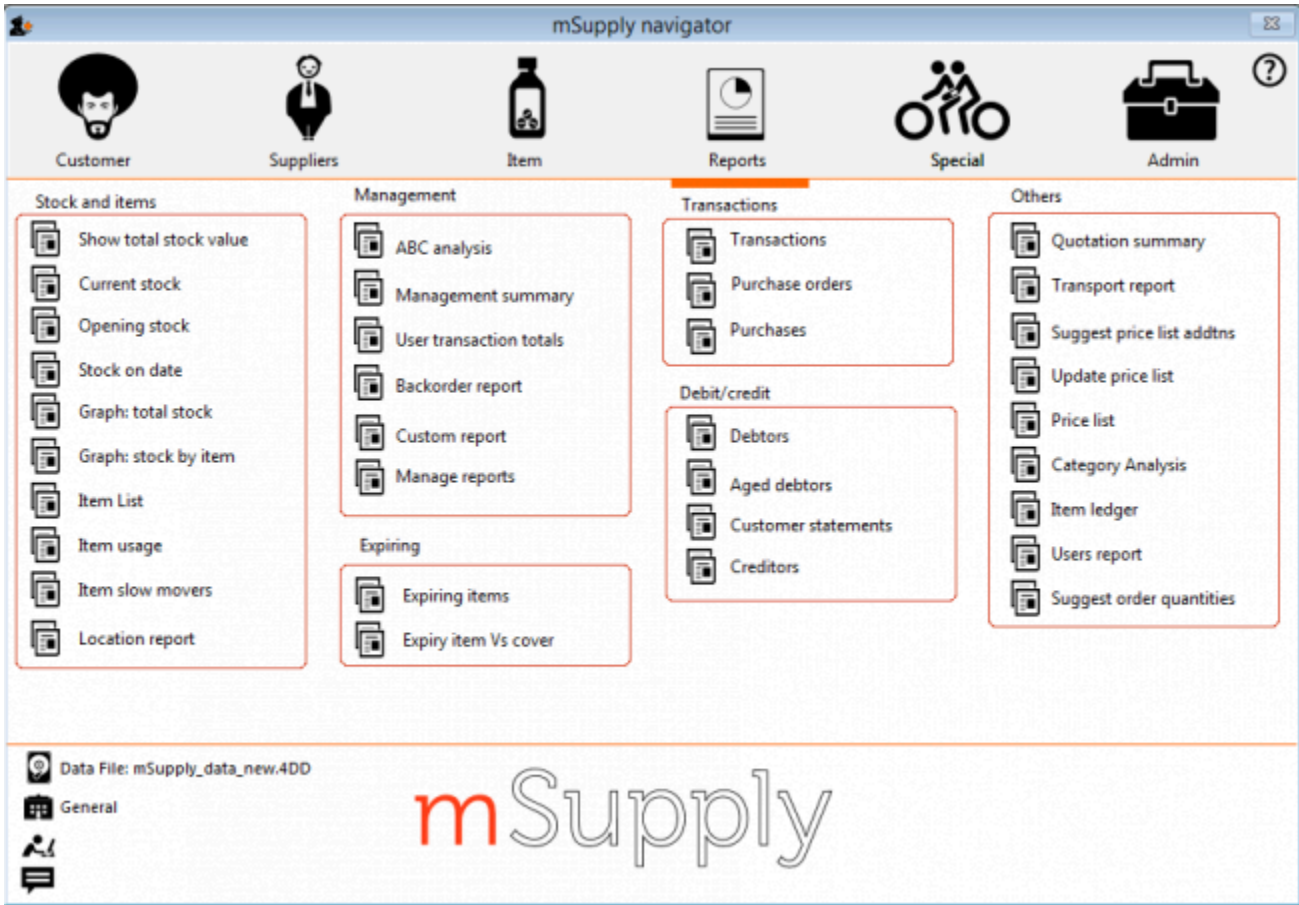
Reports on items and stock are displayed when *Items and Stock* is selected:



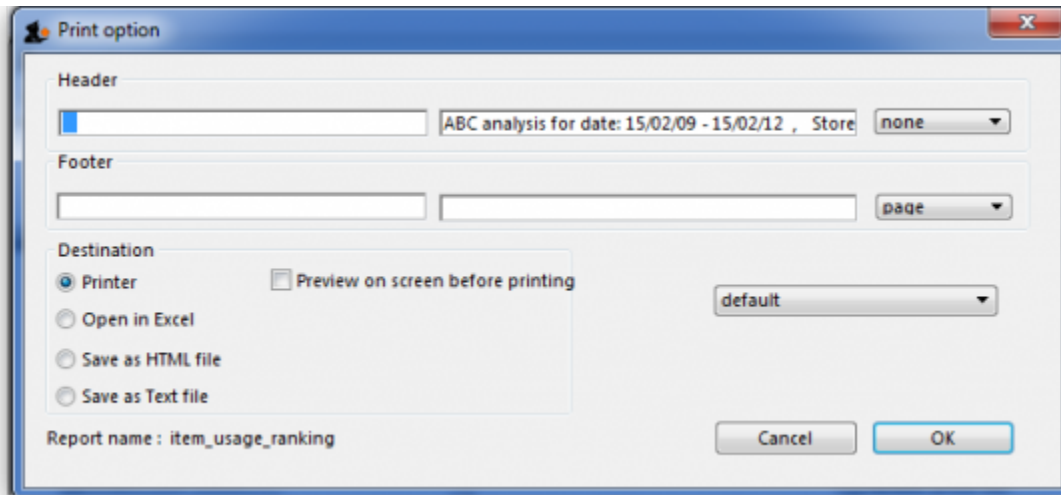
Reports on debtors and creditors are displayed when *Debtors and Creditors* is selected.



Many reports are available from the Reports page of the Navigator, as shown below:



Many of the reports present you with a window like this before printing the report:



This window allows you to set various options:

Report destinations

Printer: Select this option to display the print window. The preview of the report can be displayed by turning on the print preview.

Open in Excel: If the *Open in Excel* box is checked, mSupply will immediately open the report as a spreadsheet in the spreadsheet application (MS Excel, OpenOffice/LibreOffice Calc etc.) you have installed on your computer.

- When this box is checked, you will first be asked to save the report. Once you have given it a name, the report will be saved, and then automatically opened in spreadsheet form.
- mSupply automatically detects any spreadsheet application you have installed on your computer (i.e. any application that is associated with .xls or .xlsx files). You do not have to set the location of this application.

Save to HTML (HyperText Markup Language) file: If this option is selected, your report will be saved with extension “.html”. Hence, it can be opened by any web-browser or spreadsheet application on any platform or operating system.

Save as Text file: Your report will be saved to a file as a tab-delimited text file. (That is, a tab character between each column and a return character at the end of each row). After saving, you can open the file in a spreadsheet or word processing program.

Header and footer

You can choose what information will be displayed at the top and bottom of each page. The default report heading is set according to the report you are printing. By default, the date will print on the left and the page number on the top right of each page.

If you have filled in a default header and footer in the Preferences, these will be displayed at the top left (for the header) and the bottom centre (for the footer)

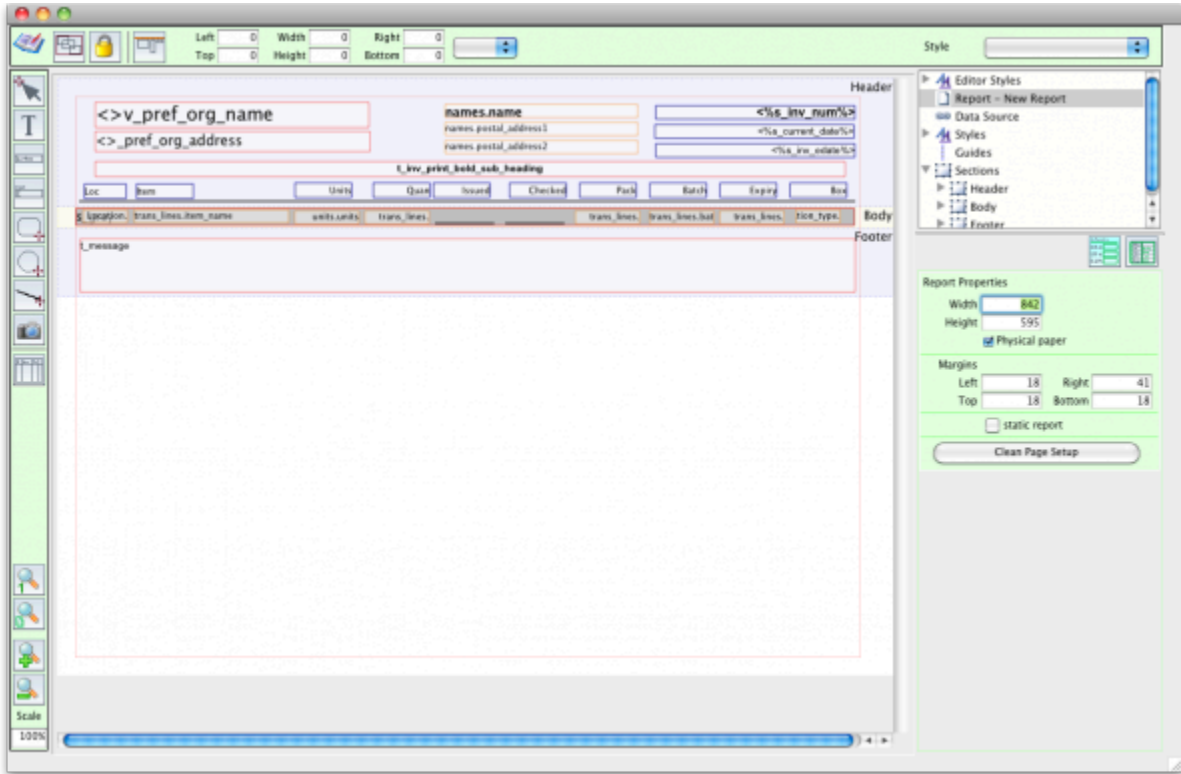
Preview on screen before printing

This option turns on print preview. Note that you can also turn on print preview from the print window that is displayed after you click the OK button.

Previous: General preferences Next The PagePro Report Editor

The PagePro report editor

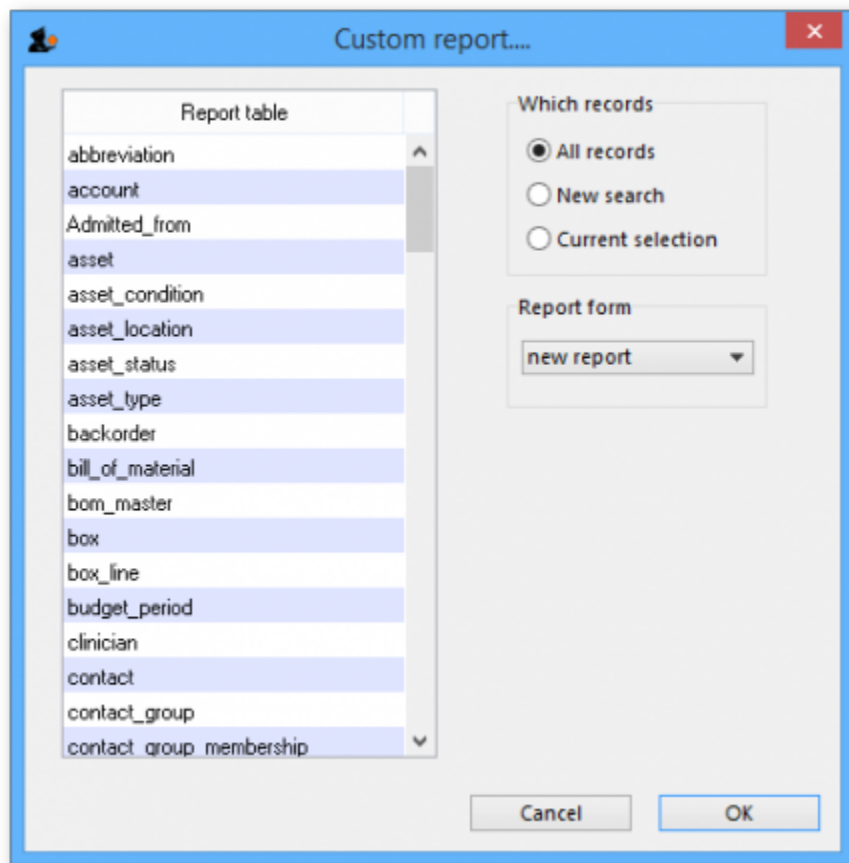
- As of version 3.03 mSupply includes the PagePro report editor.
- The graphic below shows the standard mSupply pick list being edited in PagePro.
- It gives almost unlimited customisation possibilities for forms and reports.



Due to security issues, report customisation via PagePro can only be done by Sustainable Solutions. Contact us for more details

Previous: Report Basics Next: Custom Reporting Tutorial

Custom reporting tutorial



The custom report window is displayed allowing you to create a report according to your own requirements using the Quick Report editor; once created you may save the form of the report in the *custom reports* folder for future use.

The window requires you to make three choices:

Report table

A list of tables on the left to choose which table (which type of records) you want to report on, e.g. Names, Items, etc.

As of version 1.6 there are two options for transaction lines. The “Transaction lines (Transaction query)” option allows you to search much faster on a large number of transaction lines. For example, if you are wanting to get the quantity of each item given to customers in a specific month, you would use this option.

Which records

A series of radio buttons to choose which records to examine

- All records
- New search (query), if you want to report on records meeting specific criteria. If chosen, you will be presented with the Query (search) editor, where you can build search statements to your heart's content! A short description of using the query editor is given below, and two example searches are later described. For a more comprehensive description, a range of books is available either in electronic or hard copy versions. Please email info@msupply.org.nz for more information.
- The “Current selection” is the group of records that were last displayed. For example, you can use the Item | View

or edit item command quickly to find all items starting with “a”. When you click the OK button, the items in the list are the “current selection”. If you are not sure which records represent the current selection, you should click the “new search” radio button.

Report form

A drop down list displaying available options

- New report
 - After clicking the OK button you will be presented with the report editor where you can design a report. The report editor is somewhat complex, but time spent in learning how to use it is time well spent. It is a powerful and invaluable feature. A brief introduction together with designing two simple reports are given in *Designing a Report* below, and more details are available in training courses on using mSupply, and in publications available from Sustainable Solutions.
 - If you want to save a report or search (query), you can save them on your hard disk, and retrieve them next time you run the report.
 - If you save the report you have created in the Custom reports folder it will show up in the report form drop-down menu on future occasions when you choose custom report.
 - The default location for saving your custom reports is My Documents\mSupply\custom reports; it is important to note here that any custom reports you have created *should not* be saved in the My Documents\mSupply\Reports folder, otherwise problems may arise.
- New label layout
 - presents you with the label editor, where you can design and save label layouts. These are useful for use with names for addressing envelopes, and with Items for making tags for labeling shelves in your warehouse.
 - If you choose this option the “Order by” window will appear after a query. This allows you to sort the records into a particular order before printing labels. (In a nutshell: Drag fields from the list on the left to the list on the right to use them for sorting)
- Other items in the menu
 - if you have saved any reports in the custom reports folder they will be listed here.

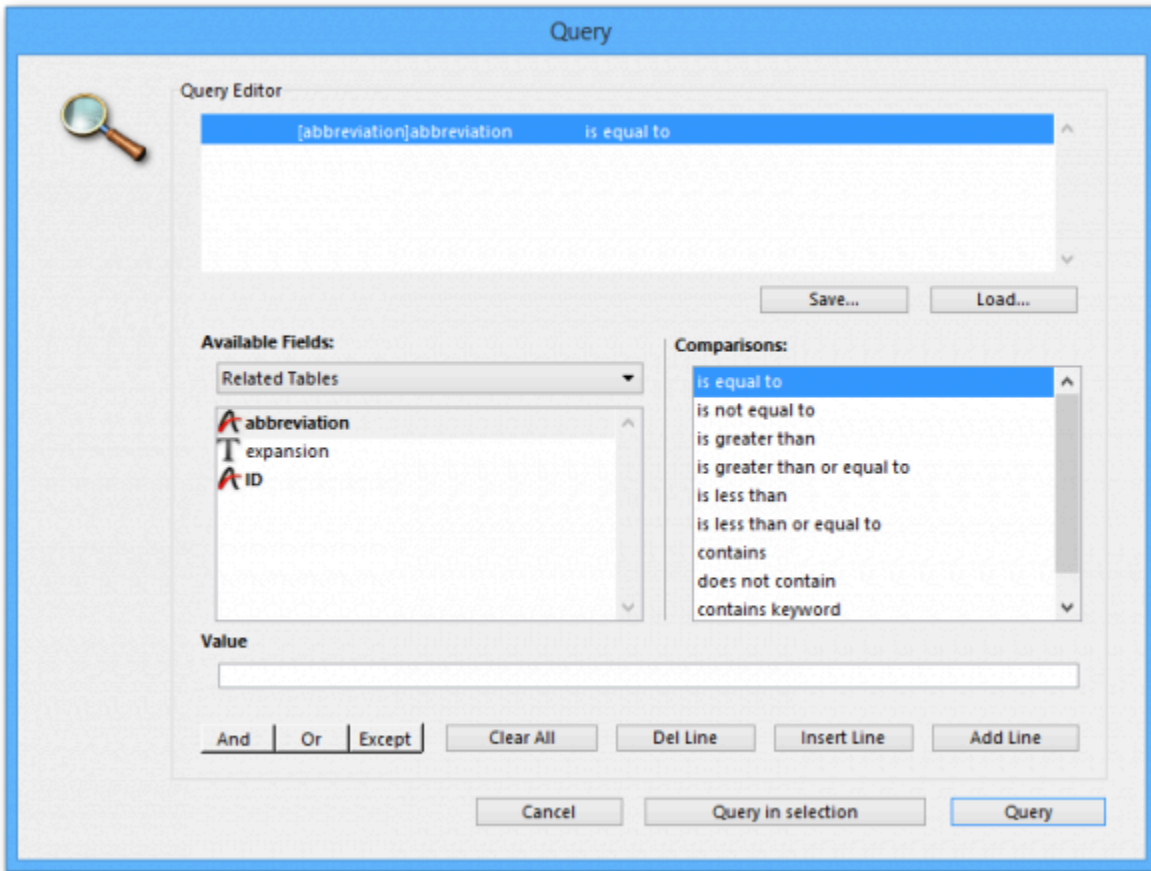
A list of the fields in each table, and what each field contains is to be found elsewhere in the guide. Field descriptions are here

Using previously saved layout

Any report layouts which you have used previously, and saved, may be accessed by clicking on *File >Open* on the menu bar, and selecting the required layout.

Using the Query Search editor

There are now many reports included in mSupply®, but there may still be occasions when you require a report that we have not included. The query editor is a bit daunting, but is very powerful and once you are familiar with its capabilities, your competence to access the precise information you may require from within the mSupply database will increase significantly.



When you open the Custom Report editor, it is ready to take input values for a simple single line query. Each line of a query needs 4 items of information:

1. **The field to query.** Choose this by clicking on the field in the middle-left list of fields. Just above the list of fields is a drop-down list that allows you to also choose fields from related tables. If you want to perform related queries, see note below.
2. **The Comparator.** Choose the comparator from the list of fields under “Comparisons” on the right by clicking on the comparator you wish to use.
3. **The Query value.** Is entered in the bottom area (above the buttons). In the example above, the field chosen is an alphanumeric field (the item code), so an entry area is displayed where you can enter text or a numeric value - in this instance the item code “gri250t” has been entered. Note that you can also use the “@” symbol as a wildcard in your query value to perform “contains” queries.
4. **The Conjunction.** This does not apply to the first line of a query, but the second and any further lines need to start with a conjunction. Set the conjunction for the selected line by clicking the appropriate button in the bottom-left area of the window (*And*, *Or* or *Except*)

To add lines to a query, click the *Add Line* button.

Related queries: If you want to perform related queries, you need to know a little about the internal structure of mSupply data. Please contact us if you would like a diagram of the table layouts. A simple example of a related table is that each transaction line is related to a

transaction (many to one relationship). This means that you can use the information stored in the transactions table (eg invoice date, number, status, etc.) to query transaction lines.

If you have created a complex query that you might wish to use on future occasions, you can save it to your hard disk and select it again using the *Save* and *Load* buttons in the window.

Once your completed query is entered, click the *Query* or *Query selection* buttons to proceed.

Designing a Report

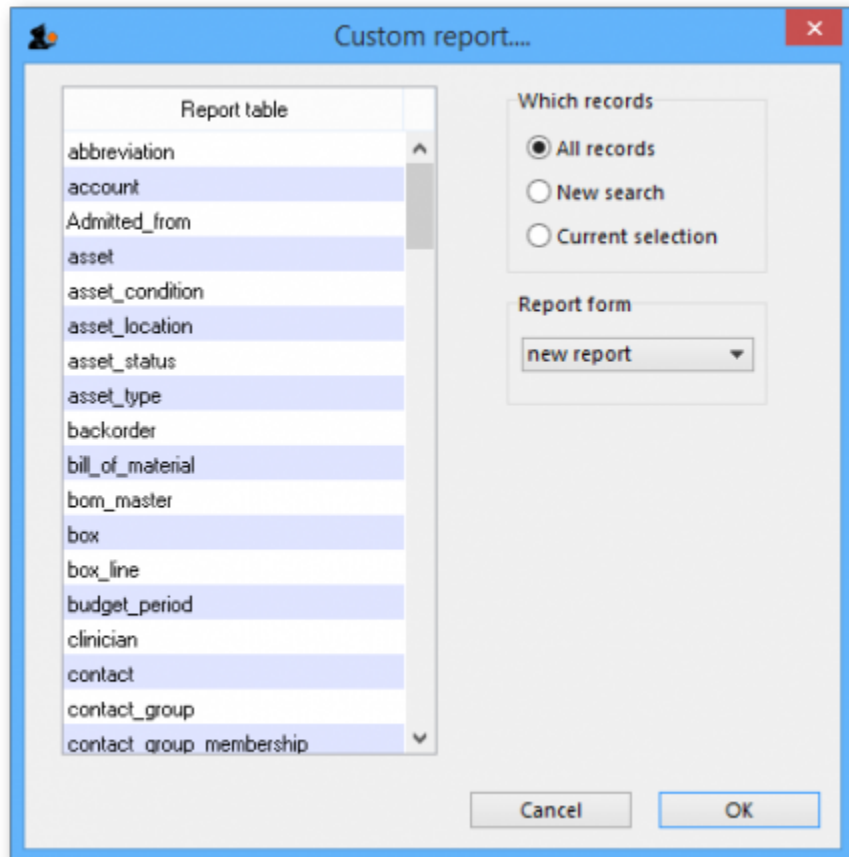
The designing of two custom reports is now described:

1. listing in alphabetical order the small number of items which may be supplied to staff or customers who wish to make a purchase without a prescription. These items have already been identified by making use of their User field 2, which contains the entry "Retail permitted".
2. listing the sources (suppliers) and the distribution (customers) of a particular batch number of an item - useful if a manufacturer recalls a particular batch of an item.

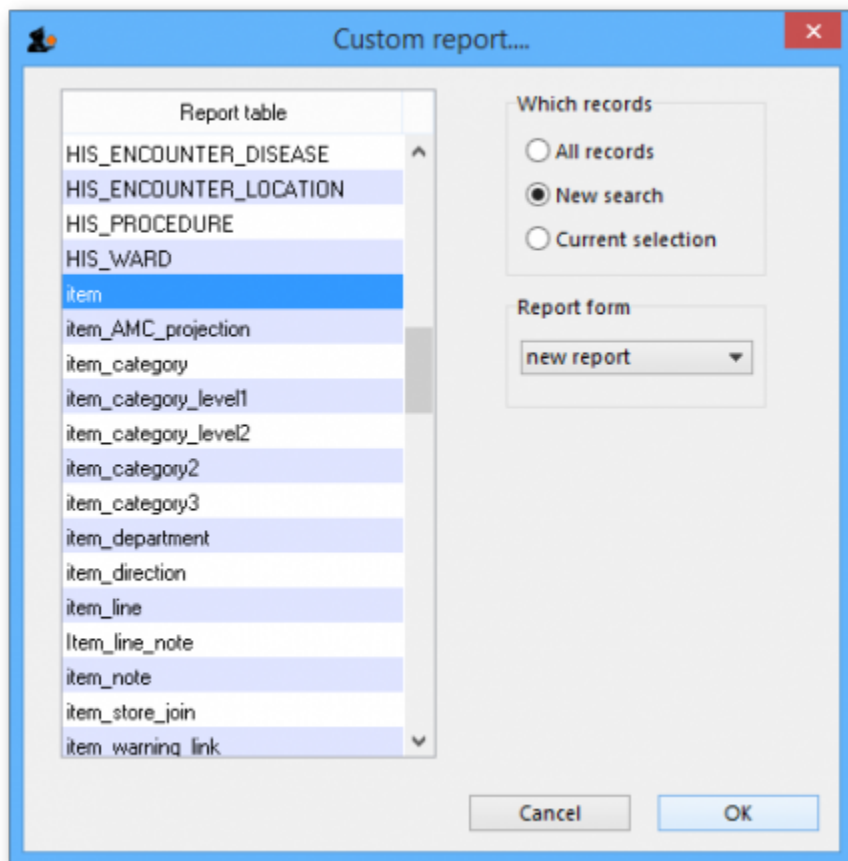
It is recommended that you study both examples, as features described in the first example will not be repeated in the second.

Report 1

Having selected Custom Report from the Reports page in the Navigator, you are presented with this window:



For our example report, we select the *Items* table, and to perform a *New Search*, using a *new report* form, so with these options selected, the window now looks like this:

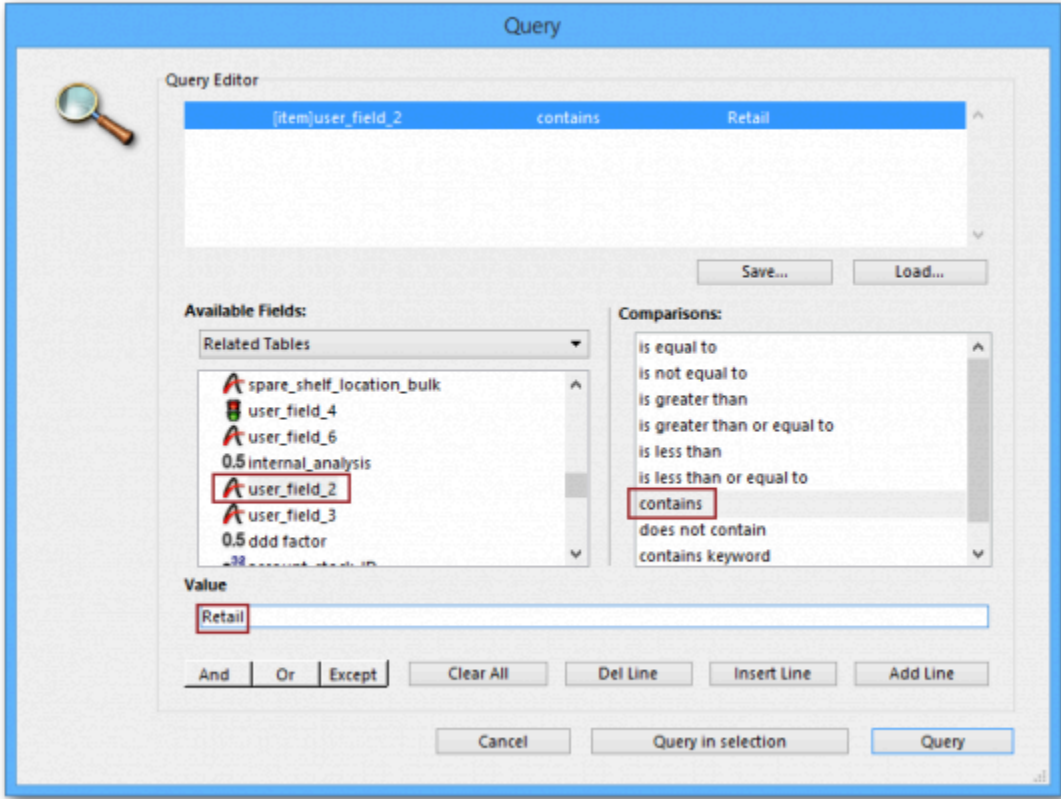


Click OK, and the Query Editor window appears, as shown in the upper figure below; this is where you specify the criteria on which you wish to create your report - in our simple example, the single criterion is that there should be stock on hand of the item. In the lower window, we have specified this by:

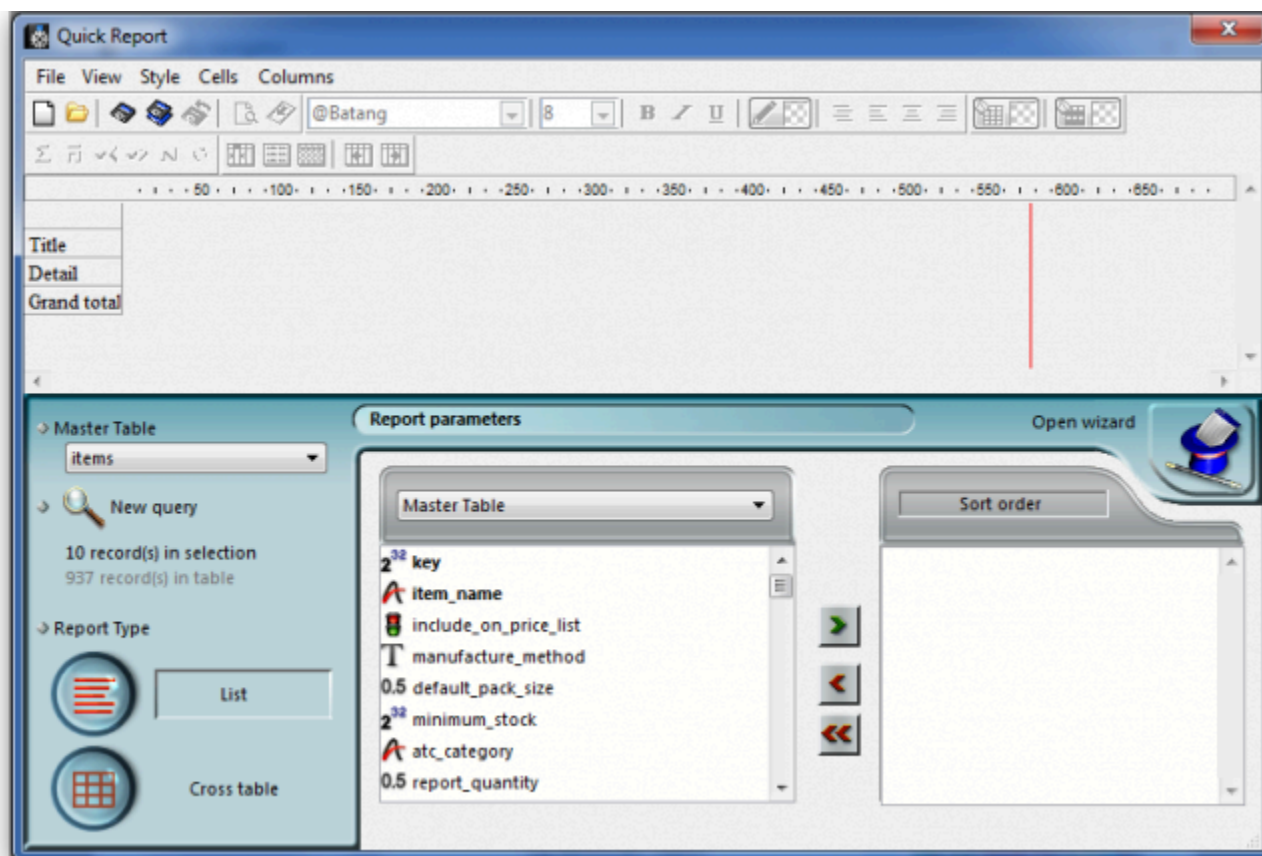
1. clicking on *user_field_2* in the *Available Fields* panel on the left,
2. clicking on *contains* in the *Comparisons* panel on the right, and
3. entering "Retail" in the *Value* panel below.

You will see that the conditions we specified now appear in the upper panel - it's always a good idea to check here to confirm that the report will conform to your specified criteria.

Now click on the Query button in the lower right corner.



The Quick Report window appears; this is where you can design the layout of the report, and specify how you want the records to be sorted:



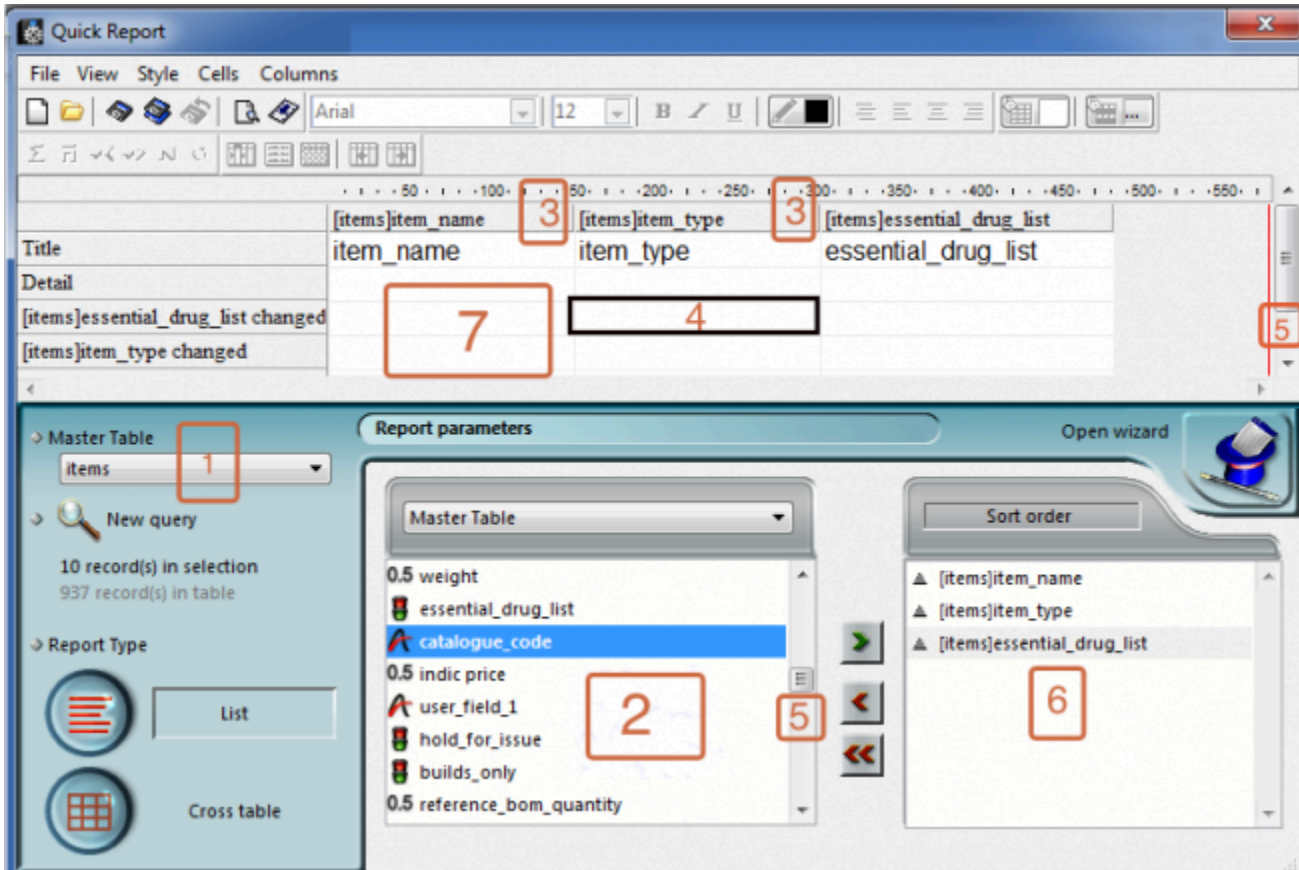
We'll start by taking a closer look at the Quick Report features.

There are two operation modes available which generate two specific types of reports: *List* and *Cross table*. Our examples are limited to the *List* mode. The *Cross table* mode *will not be described*.

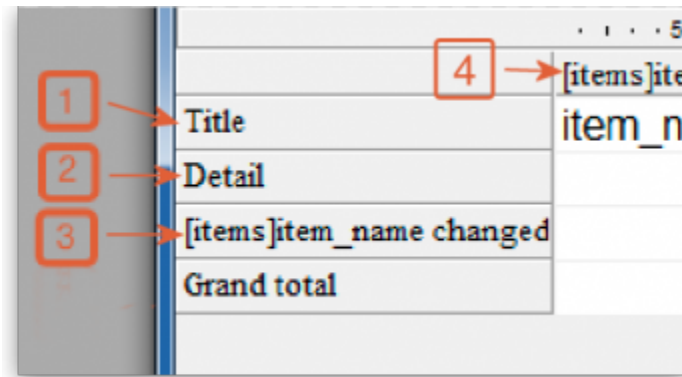
In the List mode, reports typically display records as a list with break rows where calculations are performed.

When you create a quick report, you can specify the following:

- Columns that display fields or formulas, either from the current table or from related tables.
- Sort levels and order.
- Summary calculations.
- Display format.
- Text for labels.
- Formats for numeric and Boolean data.
- Font, font size, style, and justification for labels, summary calculations, and data.
- Background colours on a cell column or row basis.
- Borders, Page headers and footers.
- Presentation style from a wide range of templates.



1. **Master Table:** This is the master table that will be used as a basis for generating the report. The fields of this table are displayed in the Fields list and the related fields will be displayed in relation to this table.
2. **Fields list:** This list lets you select the fields to be inserted into the report by double-clicking or by drag and drop. You choose the type of display in the Field selection list located just above the area. Indexed fields appear in bold. You can also display and select the fields of related tables.
3. **Column dividers:** These lines show the boundaries between columns of the report. They can be moved manually to enlarge or reduce the size of each column. Manual resizing deselects the Automatic Width option if it has been activated for the column concerned.
4. **Cells:** A cell is the intersection of a row and a column.
5. **Scroll bars:** You use the scroll bars to view parts of the quick report design that extend beyond the area of the quick report form.
6. **Sort list/Sort order display area:** This list displays the fields of the report on which the sort will be carried out, as well as the sort order and whether it will be ascending or descending. Each field inserted into this list causes a sub-total row to be added in the Quick Report area.
7. **Quick Report area:** This area lets you build your report by inserting fields using drag and drop, double-clicking or via the contextual menu; you can also adjust the width of the columns added, or delete breaks or formulas, define the colors and borders of cells, etc.



1. **Title row:** This row displays the names of fields or formulas that have been inserted into the report. It is repeated for each page of the report. The Quick Report editor inserts field names by default, but you can modify the contents.
2. **Detail row:** This row contains information drawn from each record and is repeated in the report for each record. You can associate a display format with it, depending on the type of data represented.
3. **Subtotal rows:** These rows display intermediate calculations as well as the wording that is associated with them. A row is created for each sort order.
4. **Column data sources:** These titles indicate the source of the data for each column.

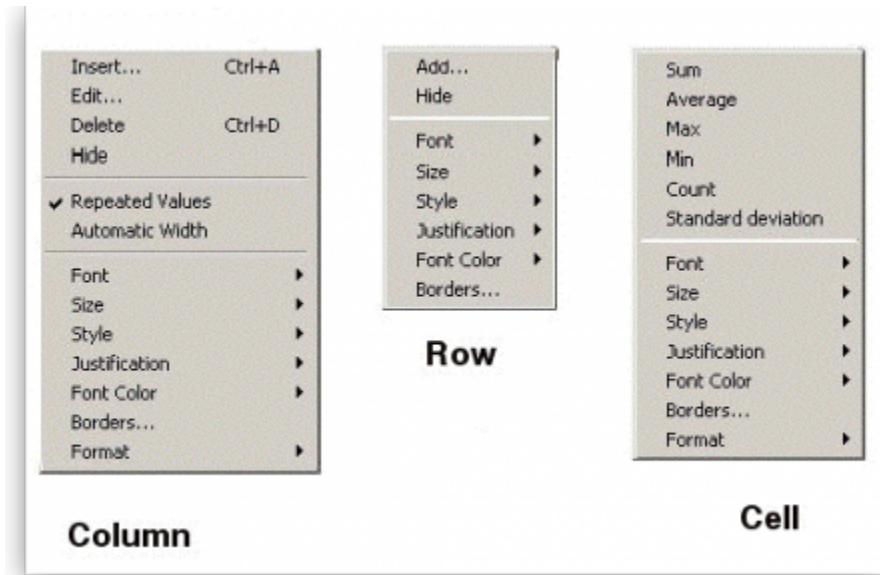
Contextual menus

The Quick Report editor has contextual menus that make it easy to access certain row, column, and cell operations. Instead of making menu selections or working with the Cell or Column properties areas, you can perform certain operations by displaying a Quick Report contextual menu.

There are separate contextual menus for row, column, and cell operations.

To use a contextual menu:

1. Position the pointer in a cell, a row title, or a column heading and hold down the right mouse button (on Windows) or press the Control key while clicking in the report area (MacOS).
A contextual menu appears. The commands in the contextual menu depend on where your pointer is (i.e., a row label, column heading, or cell). Also, menu commands that are inappropriate for the particular row, column, or cell are disabled.
2. Choose the desired menu command:



Selecting Rows, Columns, and Cells

When designing a Quick Report, you need to select rows, columns, and cells in the quick report form. A cell is the intersection of a row and a column.

- To select a row: - Click on the Title, Detail, Subtotal, or Grand total cells in the row label area.
- To select a column: - Click the Header row of a column.
- To select a cell: - Click the cell.

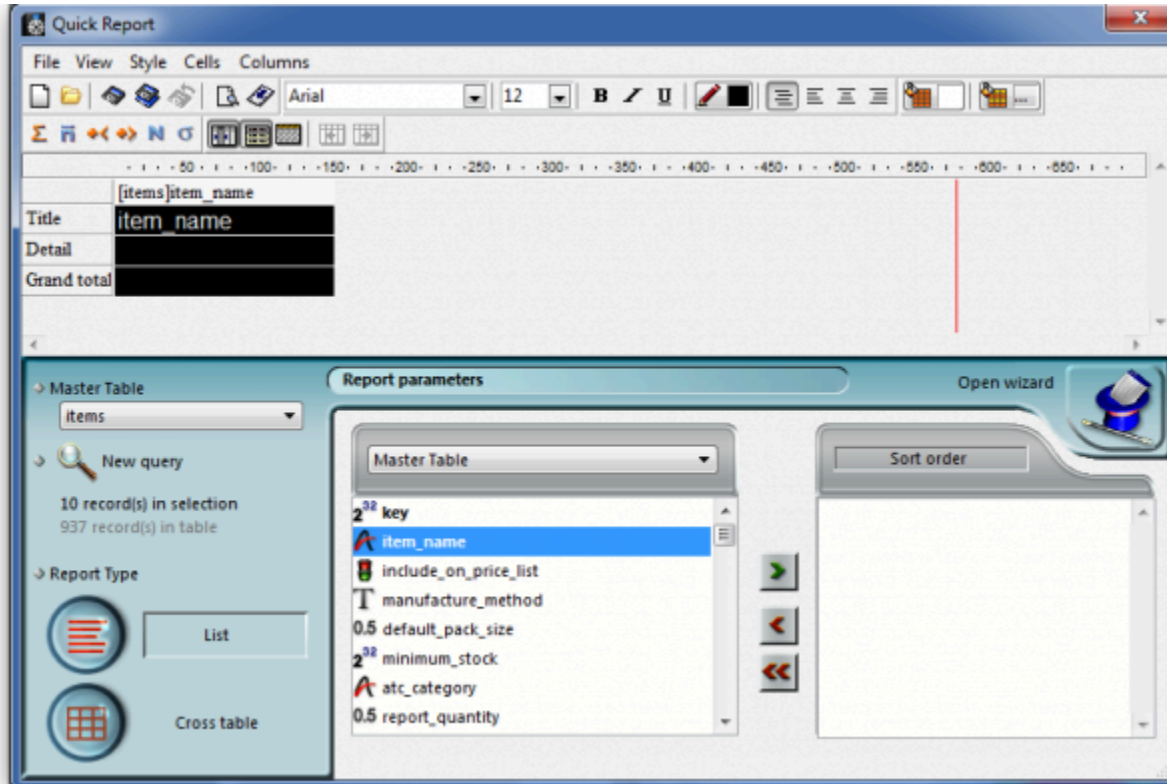
Adding and Modifying Text

You can add or modify text in the quick report form to label parts of the report. For example, if you requested summary calculations, you can label them by adding text to other cells in the Subtotal and Grand total rows.

You can add and modify text as follows:

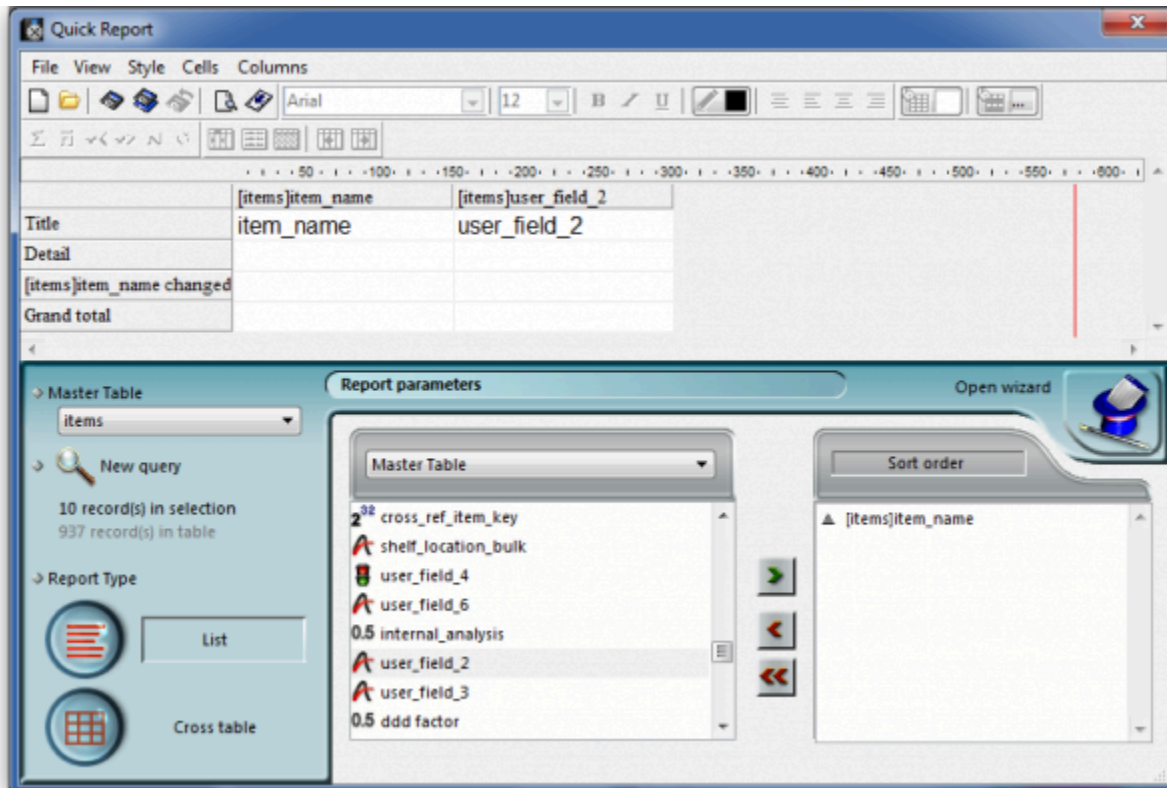
- Edit the text that automatically appears in the Title row of the report,
- Insert text in empty cells of the Subtotal and Totals rows,
- Insert the value of a Subtotal field in the Subtotal rows,
- Specify the font, font size, justification, and style for any text that appears in the report.

Returning now to our first report, we want two columns only, the first listing the items in alphabetical order, and the second confirming the entry in User field 2. This is achieved by double clicking on *item name* in the list, and then to have the list sorted alphabetically, make sure *item name* remains highlighted, and click on the green arrow in the centre:



The second column in our report will show the present stock of each item, and the same procedure is followed; select the *user_field_2* entry in the list, and double-click on it. You should be aware that items which are presently out of stock will not appear in the report.

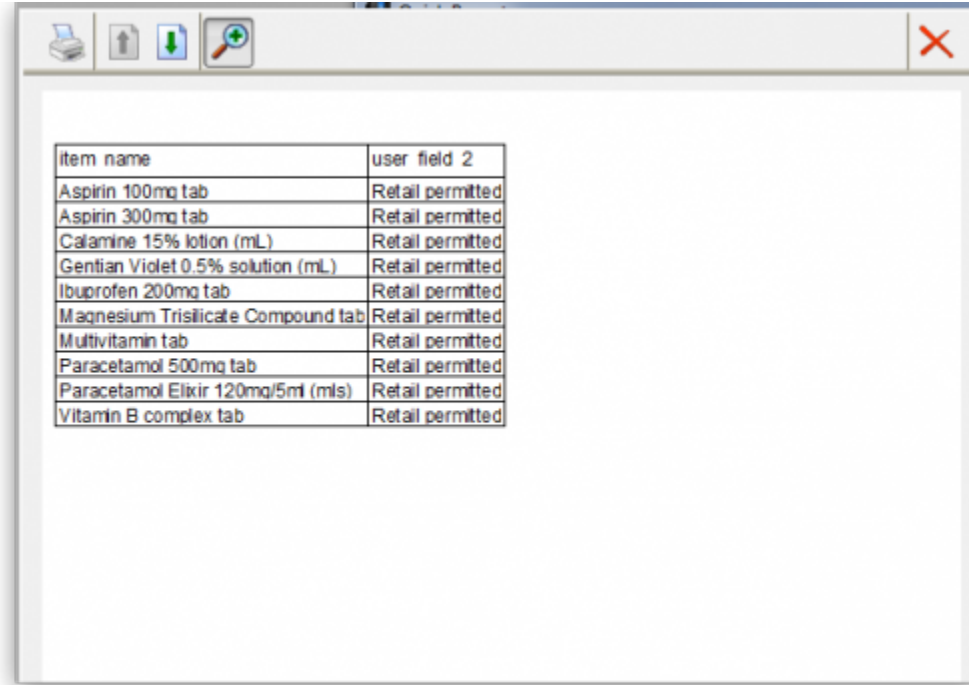
The Quick Report window should now look like this:



The column widths can be adjusted as appropriate by positioning the cursor on the dividing line between the column headings, clicking and dragging to the left or right until the desired column width is obtained:

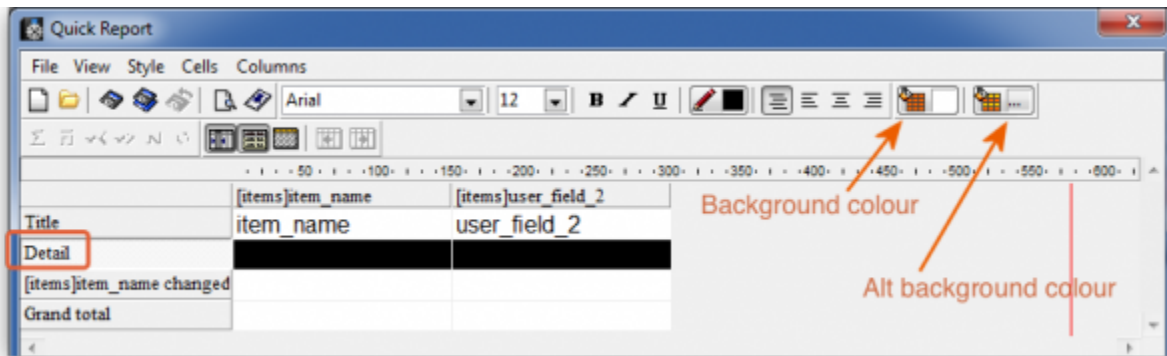
The vertical red line to the right of the columns indicates the right hand edge of the page as it will be printed, so to keep the report to single page width, columns should be positioned to the left of this line.

To preview on screen the report as it will be printed, click on *File* on the menu bar, and select *Print Preview*. Our example is very brief, but in reality, reports may run to two or more pages, and you can scroll through the pages of the report. This shows how our simple report will appear:

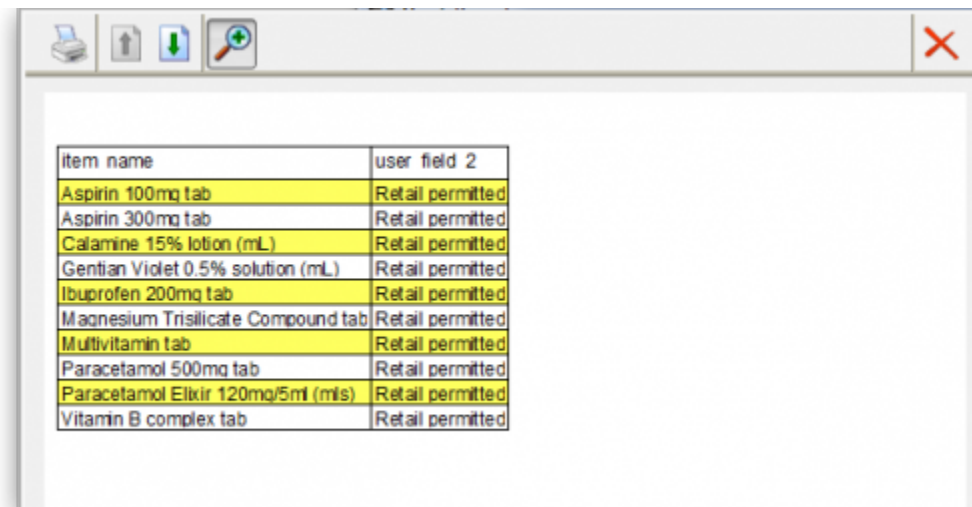


item name	user field 2
Aspirin 100mg tab	Retail permitted
Aspirin 300mg tab	Retail permitted
Calamine 15% lotion (mL)	Retail permitted
Gentian Violet 0.5% solution (mL)	Retail permitted
Ibuprofen 200mg tab	Retail permitted
Magnesium Trisilicate Compound tab	Retail permitted
Multivitamin tab	Retail permitted
Paracetamol 500mg tab	Retail permitted
Paracetamol Elixir 120mg/5ml (mls)	Retail permitted
Vitamin B complex tab	Retail permitted

The printed report may benefit from shading or colouring of alternate rows, and this is achieved while the report format is being set. In the *Quick Report* editor, click on *Detail* to highlight the row, then click on the *Alt.background colour* icon, and a chart appears from which you can select the colour(s) of your choice.



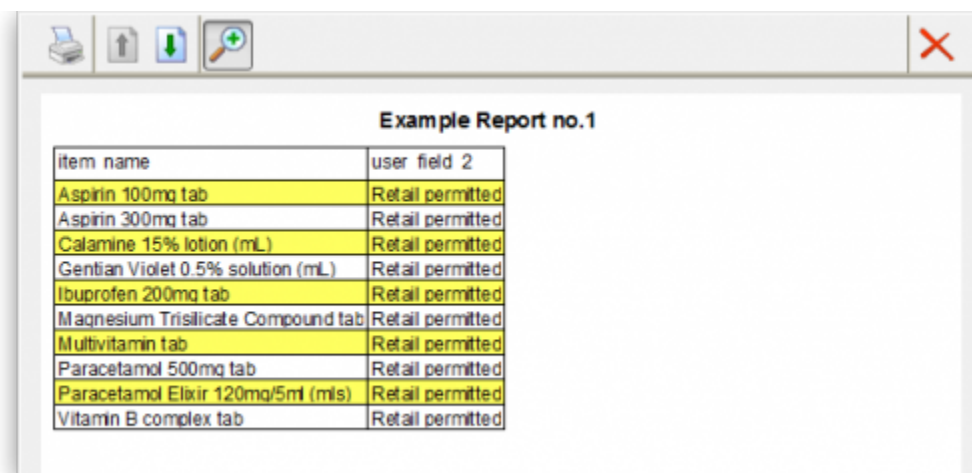
For our report, pale yellow has been selected for the alternate row colour, and the report now has this appearance:



item name	user field 2
Aspirin 100mg tab	Retail permitted
Aspirin 300mg tab	Retail permitted
Calamine 15% lotion (mL)	Retail permitted
Gentian Violet 0.5% solution (mL)	Retail permitted
Ibuprofen 200mg tab	Retail permitted
Magnesium Trisilicate Compound tab	Retail permitted
Multivitamin tab	Retail permitted
Paracetamol 500mg tab	Retail permitted
Paracetamol Elixir 120mg/5ml (mls)	Retail permitted
Vitamin B complex tab	Retail permitted

Adding report title

You may want to give your report a title to appear at the head of each page; this is achieved by clicking on *File* , then *Header and Footer* ; a window appears in which you can create and/or edit such a header You will most probably want the header to appear in the centre of the line, and in this case, type your entry into the *Center* panel in the *Text Settings* area; here you can also select the font of your choice, and features such as bold, underlined, etc.; these apply only to the header, not to the body of the report. A title has been added to our example:



Example Report no.1

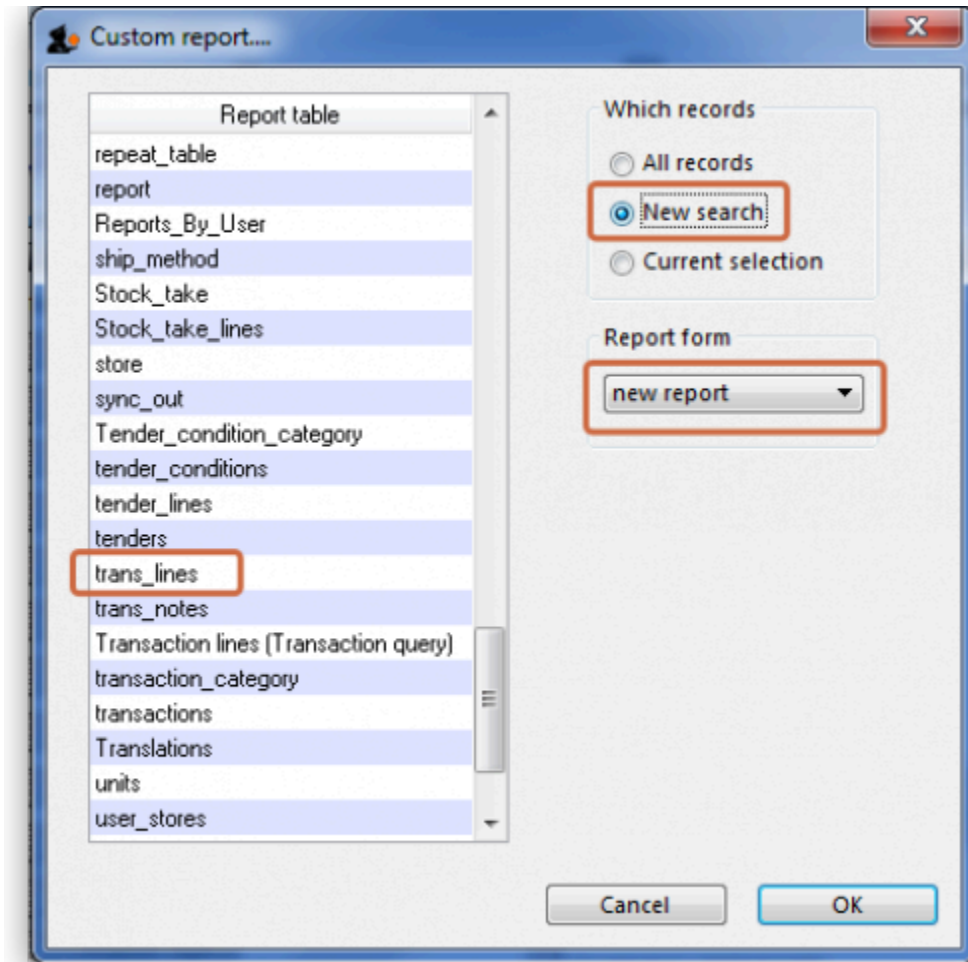
item name	user field 2
Aspirin 100mg tab	Retail permitted
Aspirin 300mg tab	Retail permitted
Calamine 15% lotion (mL)	Retail permitted
Gentian Violet 0.5% solution (mL)	Retail permitted
Ibuprofen 200mg tab	Retail permitted
Magnesium Trisilicate Compound tab	Retail permitted
Multivitamin tab	Retail permitted
Paracetamol 500mg tab	Retail permitted
Paracetamol Elixir 120mg/5ml (mls)	Retail permitted
Vitamin B complex tab	Retail permitted

To print the report, click on *File* on the menu bar, and select *Generate* and - provided that your printer is connected, online and loaded with paper - your report will be printed.

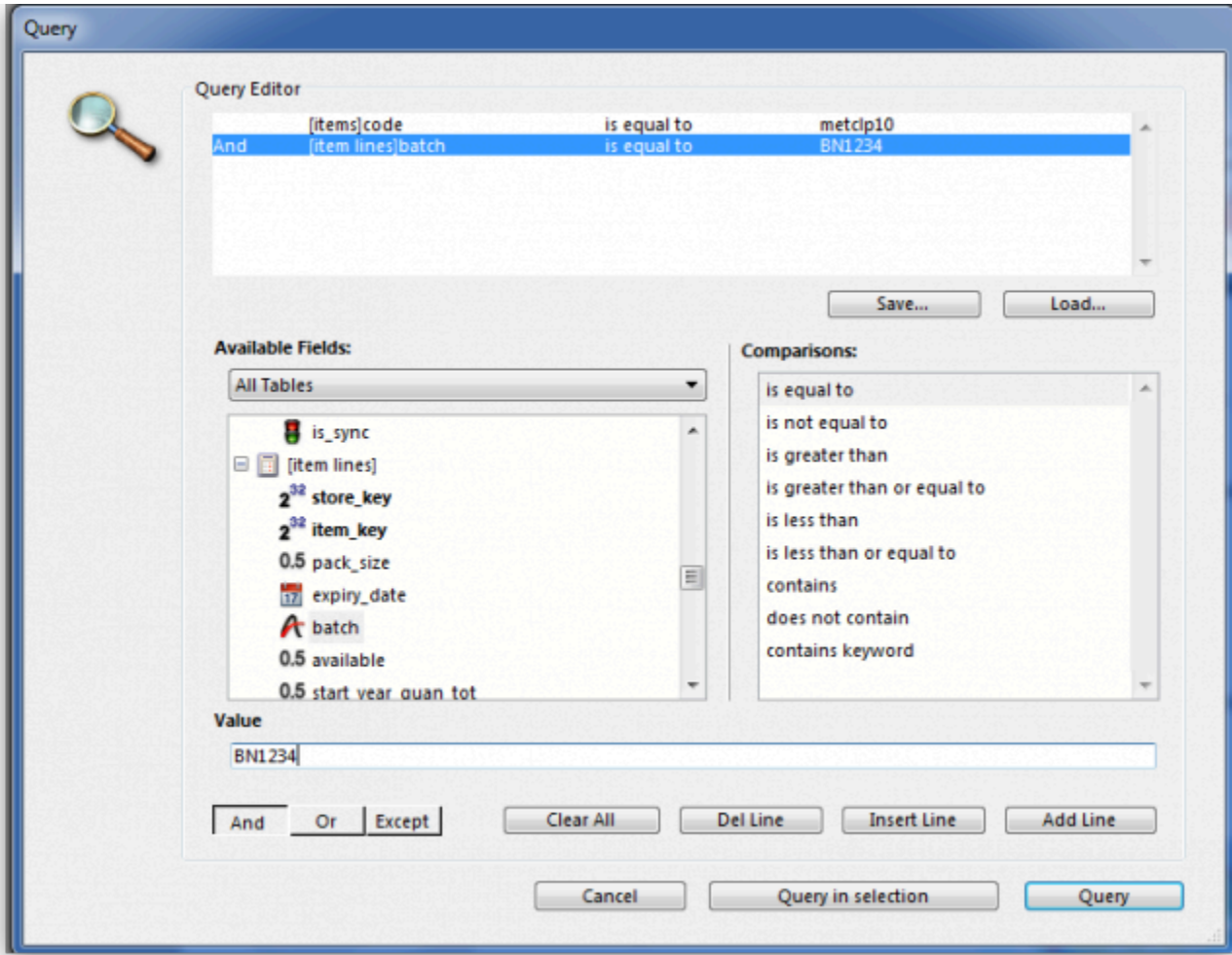
Report 2

The second report lists the sources (suppliers) and the distribution (customers) of a particular batch number of an item - useful if a manufacturer recalls a particular batch. The item chosen for our example is Metoclopramide 10mg tablets, the code for which is Metc1p10, and the batch no.is BN1234

Having displayed the custom report window, this report requires us to select the *trans_lines* table, and to perform a New Search, using a new report form:

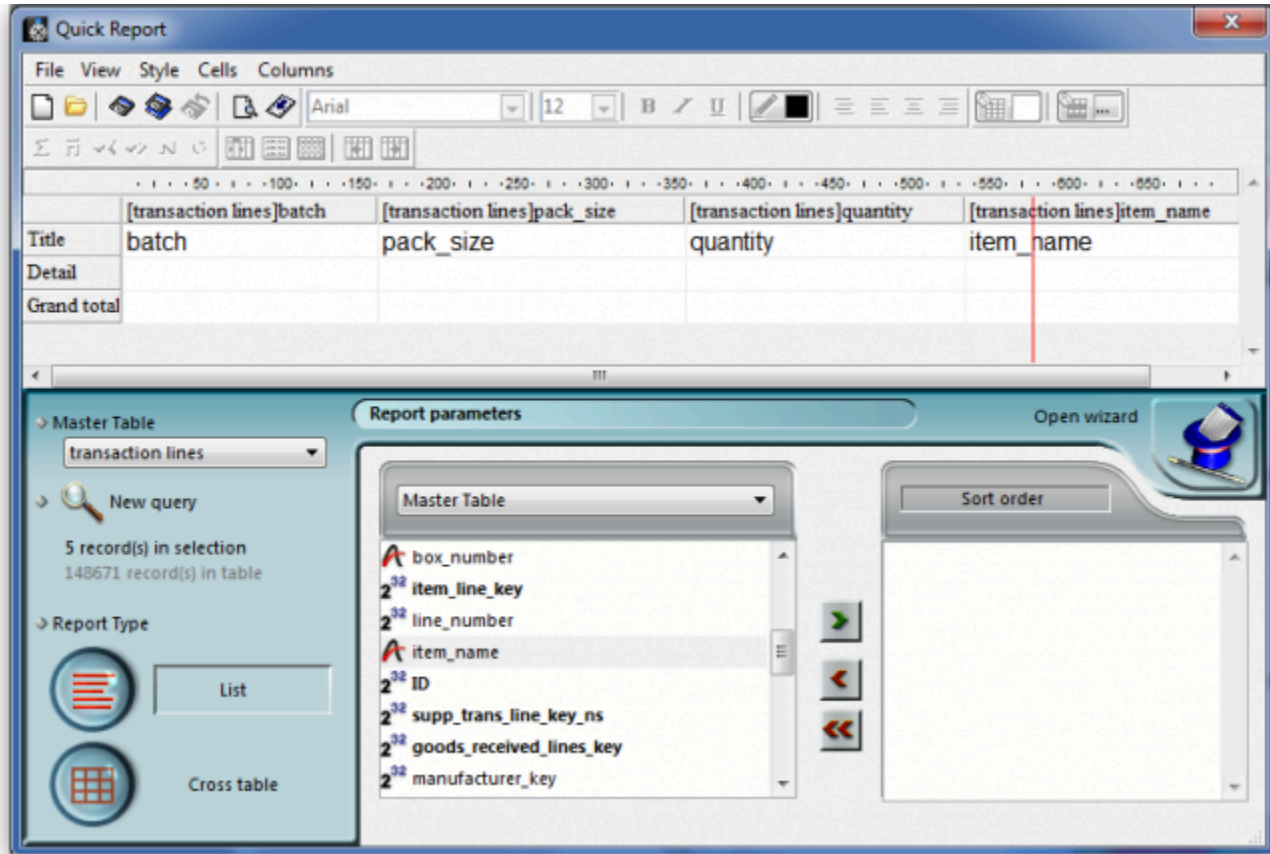


When the Query Editor window appears, expand the [Items] table, and once expanded, move down the list until *code* appears, and select it by clicking on it; the upper panel now shows *[items]code*, the default comparator is *is equal to*, and so to complete the line, move the cursor to the *Value* entry panel in the lower part of the window and enter 'metclp10'. Click on *Add Line* and accept the default conjunction *And*; In the *Available Fields* panel, shrink the [Items] table, expand the [item_lines] table and select *batch*, accept the *is equal to* comparator, and enter 'BN1234' in the *Value* entry panel. You have now defined the criteria for the report, and the Query Editor window should look like this:

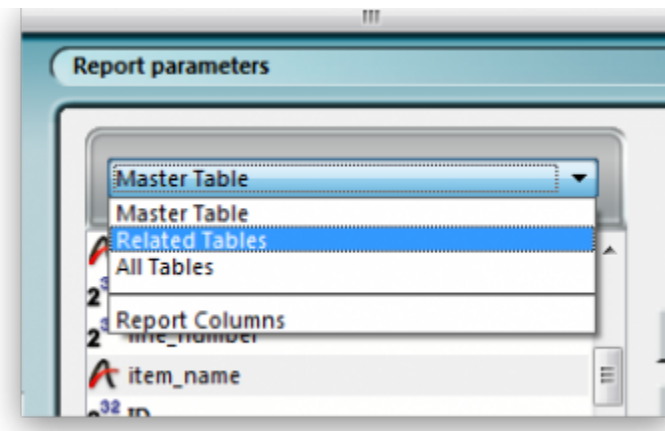


You are now ready to click on the *Query* button.

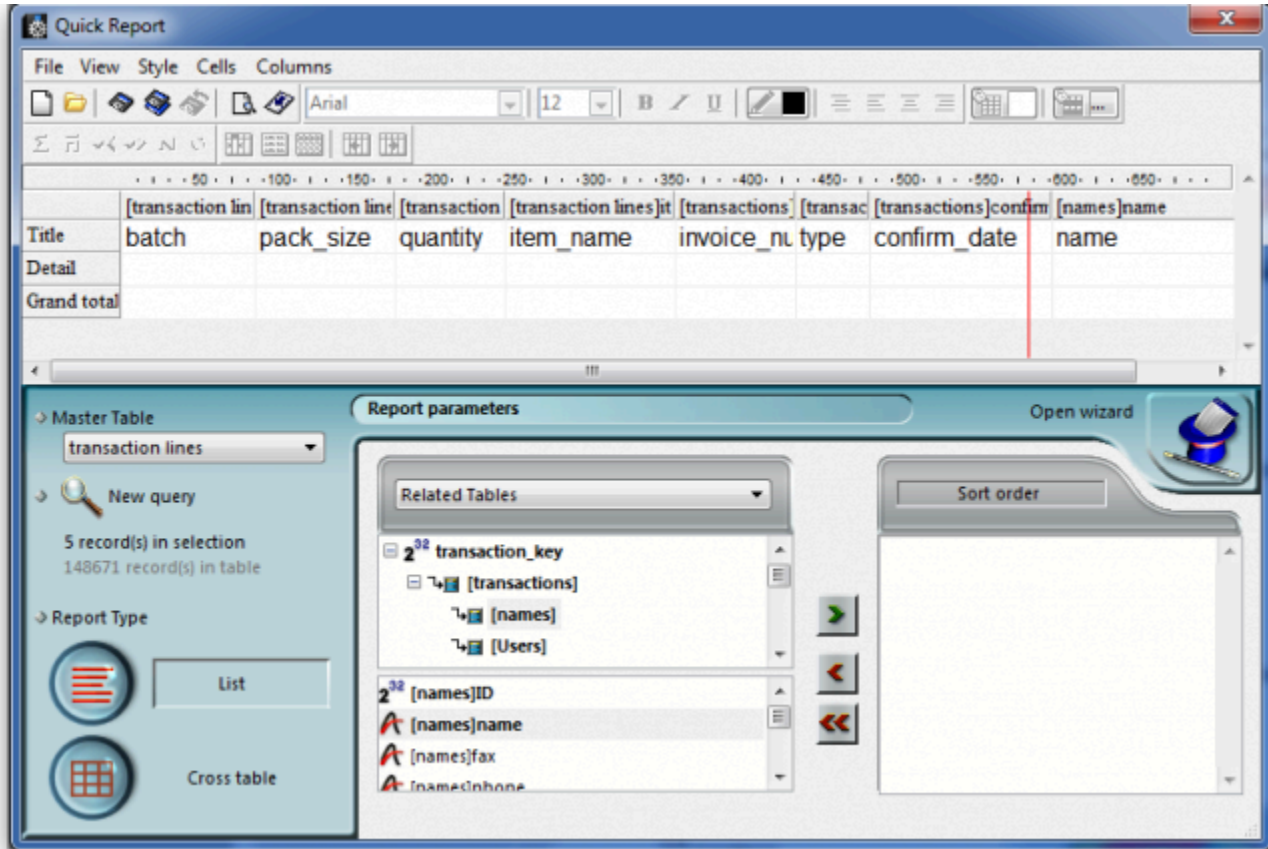
The Quick Report design window appears, with the Master Table - in this example the 'Transaction lines' table - expanded for selection of the fields required by our report; we'll be using four fields from the master table, namely item name, batch, pack and quantity; double-click on each of these in the list, and the Quick Report design window should appear as shown:



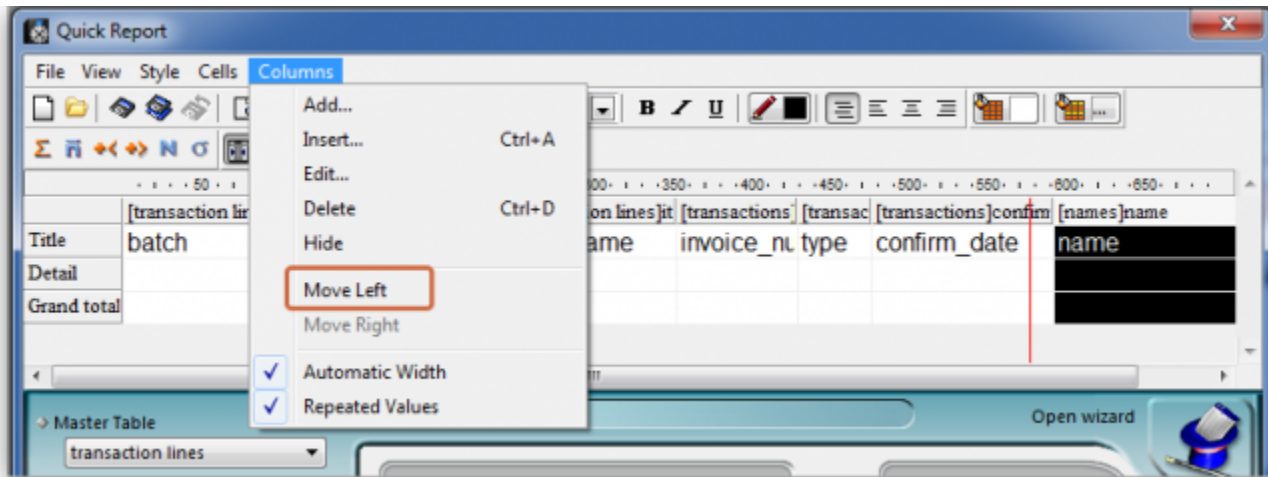
Don't be concerned at the order in which these fields appear in the report - we'll rearrange the order once all the fields have been selected. The fields we now need to add are in other tables; presently *Master Table* is selected, and we need *Related Tables*, which is selected from the drop-down menu.



The table to access is the *Transactions* table, and the fields we require are *Invoice number*, *type*, and *confirm date*. Double-click on each, then expand the *Names* table, and double-click on *[names]name*.



All eight fields for the report are now selected, and we can arrange them in their required order. This is easily performed by selecting the column to be repositioned - we want the item name to be the first column, so we select it by clicking on the column heading, and move it by clicking on the 'Move Left' icon.



Select and move the columns using the 'Move Left' icon and the 'Move Right' icon until the column order from the left is:

- Item_name
- Batch
- Name
- Type
- Invoice_num

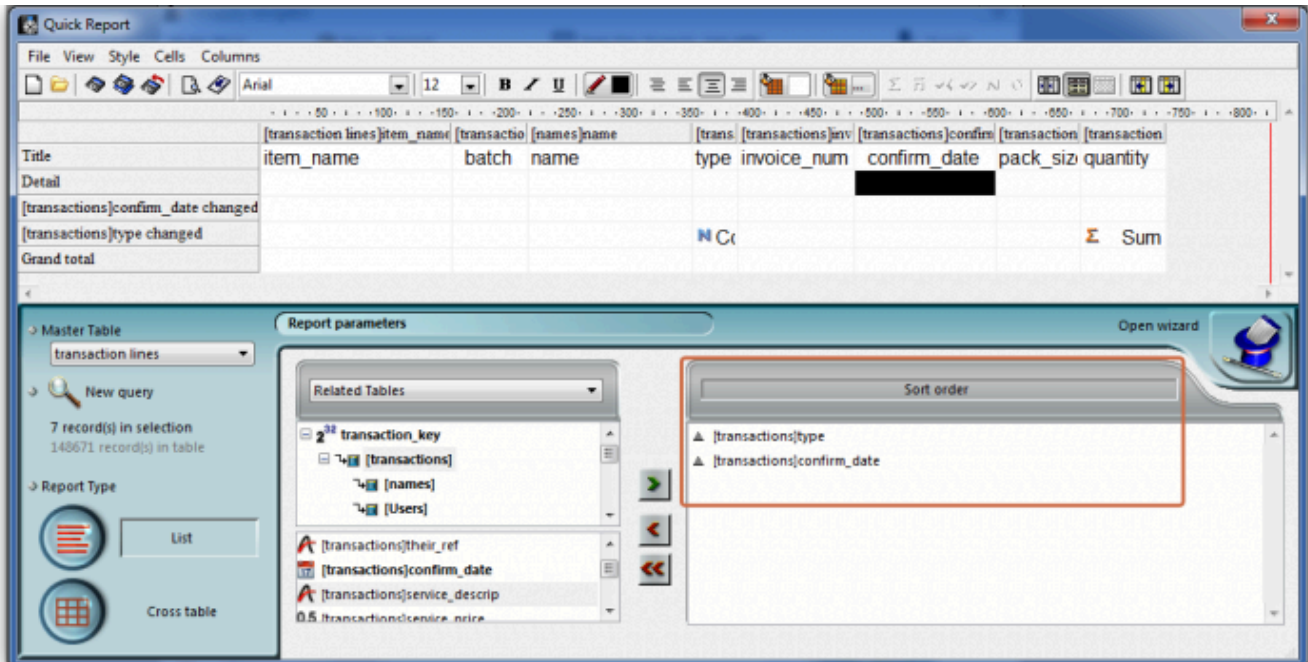
- Confirm_date
- Pack_size
- Quantity

The report will look better in landscape rather than portrait form, so click on *File > Page Setup* , and select *landscape* Once you have done this, you can view your report on screen by clicking on the 'Print preview' icon.

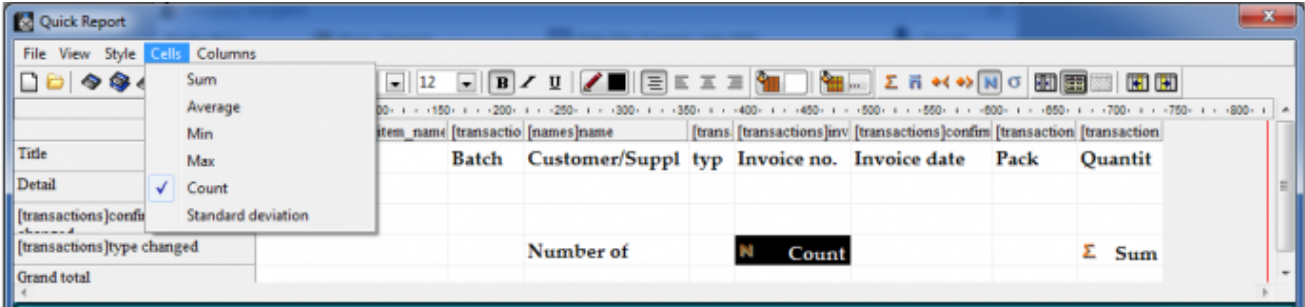
The next steps are :

1. to sort the report
2. to perform some simple calculations
3. to display this information.
4. to adjust the column widths

All these are simple to perform on the Custom Report window:



1. Sorting the report. Drag and drop in the 'Sort order' panel the parameters required - in this example [Transactions]type and [Transactions] confirm_date.
2. Performing calculations and displaying the information. We need to count the number of transactions, and display the totals involved. Observe the two rows added to the report annotated with the sort parameters followed by 'change'; these are the break points in the report, and the results of any calculations are displayed in these rows here's how:
 - a. position the cursor in the *Invoice* column on the *[Transactions]type changed* row
 - b. click *Cells* on the menu, and check *Count*; we need to know how many customers have been supplied with this batch, so the Count icon is inserted in the row - it does not matter which column has the Count icon - for the time being it is entered in the 'Invoice' column, and the reason for this will soon become apparent.
 - c. also required is the total quantity ordered, and the total quantity distributed, so the cell in the same row but in the *Quantity* is selected, and this time the *Sum* box is checked in the Cells drop down list.



1. Column widths can be adjusted as described earlier, and having a look at the Print preview will enable appropriate widths to be defined.

The report should now appear something like this:

Example Report no.2

item name	batch	name	type	invoice num	confirm date	pack size	quantity
Metoprolamide 10mg tab	BN1234	Christmas Hospital	ci	26297	29/09/09	1	100
Metoprolamide 10mg tab	BN1234	Betio Hospital	ci	30082	05/11/09	1	200
Metoprolamide 10mg tab	BN1234	Medical Ward	ci	31252	24/11/09	1	50
Metoprolamide 10mg tab	BN1234	Tab North Hospital	ci	30810	02/12/09	1	70
Metoprolamide 10mg tab	BN1234	Betio Hospital	ci	33295	26/12/09	1	200
Metoprolamide 10mg tab	BN1234	Medical Ward	ci	33552	29/12/09	1	200
			6				820
Metoprolamide 10mg tab	BN1234	International Dispensary Association	si	756	31/07/09	1000	50
			1				50

Only two tasks remain! It's not necessary to display the Invoice type, so this column may be hidden - right click on the column heading, and from the contextual *Column* menu, click on 'Hide'.

mSupply® by default enters the field name in the displayed column heading, but you can edit these column headings by double clicking on the cell in the 'Title' row, when an insertion point cursor appears and the current entry is highlighted; you can replace the default text with whatever you consider appropriate. This has been done in our example.

Finally, there is a large selection of presentation styles available, any of which can be applied to your report. On the menu bar, click on *Style > Presentation*. In our example, after defining a header for the report, we have opted for *Report 1*, giving our report the appearance you see below.

Example Report no.2

Name	Batch	Customer/Supplier	Invoice no.	Invoice date	Pack size	Quantity
Metoclopramide 10mg tab	BN1234	Christmas Hospital	26297	29/09/09	1	100
Metoclopramide 10mg tab	BN1234	Betio Hospital	30082	05/11/09	1	200
Metoclopramide 10mg tab	BN1234	Medical Ward	31252	24/11/09	1	50
Metoclopramide 10mg tab	BN1234	Tab North Hospital	30610	02/12/09	1	70
Metoclopramide 10mg tab	BN1234	Betio Hospital	33295	26/12/09	1	200
Metoclopramide 10mg tab	BN1234	Medical Ward	33552	29/12/09	1	200
		Number of transactions	6			820
Metoclopramide 10mg tab	BN1234	International Dispensary Association	756	31/07/09	1000	50
		Number of transactions	1			50

At some time in the future, you may wish to run your reports again. You should, therefore, save a copy of each report in the *Custom Reports* folder; this is performed by clicking on *File* on the menu bar, and selecting *Save* or *Save as*, giving the report a name, and saving it in the *Custom Reports* folder, or any other appropriate location of your choice. Then when you're ready to run the report next time, having specified your criteria in the *Query Editor*, when the *Quick Report* window first appears, click on *File* on the menu bar, select *Open*, and retrieve the desired report from its saved location, preview it and print it.

Using custom methods in Quick Report Columns

Sometimes you will need to use a custom method in a column to extract data from a related table.

The following methods are available.

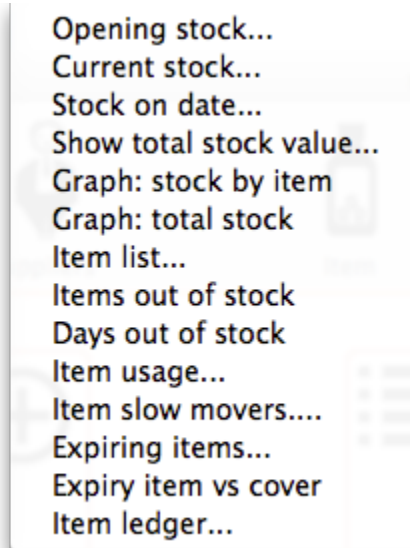
Method	Description	Parameters
date_day_number_to_text	returns 1 for Sunday, 2 for Monday etc.	
qr_account_code_return	Returns the account code of an item	item_id
qr_flag_value_change		
qr_get_currency		
qr_get_current_patients_stat		
qr_get_location-from_key		
qr_get_loc_from_key_new_process		
qr_get_Name_code_from_key		
qr_get_stockOnHand_from_itemKey		
qr_get_store_name		
qr_keep_accumulative_value		
qr_ns_customer		
qr_responsible_officer		
qr_ship_method		

Method	Description	Parameters
qr_get_item_store_field	Returns the field for the item in the current store	1:item.id 2:"price" or "is_in_catalogue"

Previous: The PagePro Report Editor Next: Items and Stock reports

Items and stock reports

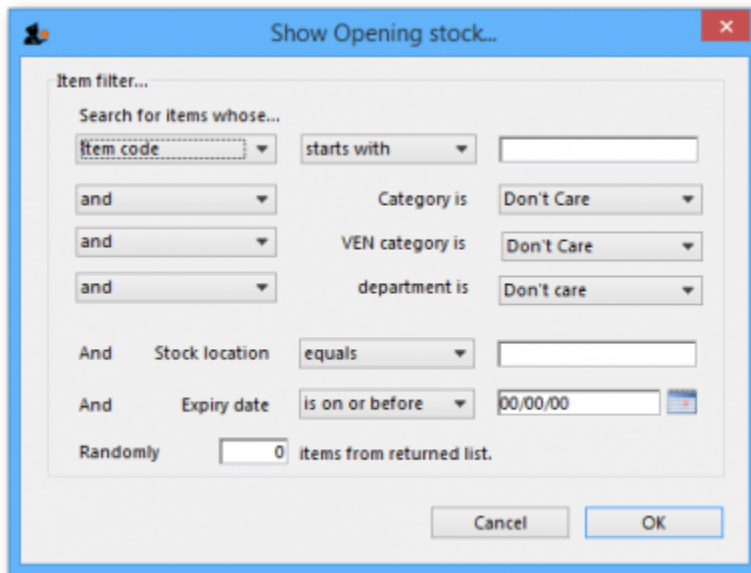
When **Reports > Items and Stock** is chosen, a range of available reports are displayed; click on the one you require to select it:



Opening Stock

In the early days of mSupply, this report was designed to show the stock at the start of the financial year; it is dependant upon having Set the start of year stock, a topic covered in the Special Menu section of the guide. The report produced lists the stock at the start of the year.

If you have not used this *Set the start of the year stock* feature we suggest you consider using the *Stock on date* report, entering the first day of your financial year as the date, and selecting *Stock at start of the day*.



Current Stock

A report will be produced that lists each stock line that is currently showing stock greater than zero. Should you wish the report to include items/batches with zero stock, the box in the lower left needs to be checked.

Item filter

A “Find” report allows you to enter the normal item find criteria to choose which items to include.

A random report allows you to enter a number only. That number of items will be randomly chosen, and stocktake sheets for those items printed. This facilitates spot checking of your actual stock situation.

Additional options

Should you wish the report to be department specific, then that department should be selected from the drop down list of the departments which you have created.

Should you wish the report to give information on a particular location, then that location should be specified, selecting the appropriate operator of the three available in the drop down box alongside the *Filter by actual stock location* option.

Report format

You can choose from three formats:

- “Each batch shown separately” will also give you a column on the right where, having done a physical stocktake, you can enter the quantity that is actually in stock, allowing any corrections to be made in mSupply.
- “Total stock for each item” will not show individual batches, but the total quantity on hand of each item.
- List the price of each batch in stock, with a total at the end of the report.

The lines are reported alphabetically either by item name or shelf location, depending on what you have chosen in the “Sort report by” options

Donor Reporting

mSupply provides the feature of printing the Donor name on the Current Stock report so that organisation donating the goods can be identified and tracked.

Stock detail for store(s) General

Loc	Item Name	Batch	Expiry Date	Pack	Quan	Actual Stock	Donor
Main-6-3-1	Amoxicillin 500 mg	AB00251J	30/08/15	1.00	4,670,400.00	.....
	Amoxicillin 500 mg	batch	01/01/15	1.00	20.00	.....	Donor
	Amoxicillin,dry powder for Suspension 125mg/ 5ml	1204-0866	30/04/15	1.00	30,000.00	.....
	Amoxicillin,dry powder for Suspension 125mg/ 5ml	1012-0696	31/03/15	1.00	28,522.00	.....
	Amoxicillin,dry powder for Suspension 125mg/ 5ml	1012-0696	30/05/15	1.00	51,000.00	.....
	Amoxicillin,dry powder for Suspension 125mg/ 5ml	1012-0696	31/05/15	1.00	65,880.00	.....
	Amoxicillin,dry powder for Suspension 125mg/ 5ml	same	01/01/15	1.00	12.00	.....	SAMES
	Amoxicillin/Clavulanate Potassium 500 mg/ 125 mg	1148019	31/08/14	1.00	92,500.00	.....

Stock on date

This report allows you to produce a report for the stock in your store on a particular date. You are shown a window like this:

Enter the date for which you wish to show the stock.

Type of report

You have 3 options:

1. *Show items only*: each item in your system will have a single entry with the total quantity on that date.
2. *Show items with batches*: each batch, its expiry and batch number along with the quantity of stock will be shown.
3. *Show batches with summary*: as 2, but every item has an aggregate line before the lines for each batch, showing the total quantity for all batches of the item. So it's a bit like a combination of 1 and 2.

The *Report on items whose* box allows you to restrict the report to certain items only, using item properties or different categories as filters.

Open report in Excel

Check this checkbox to view the report directly in your chosen Spreadsheet program.

Show total stock value

The screenshot shows a dialog box titled "Total stock value". It contains a section "Report on items whose..." with the following filters:

- Item code (dropdown) starts with (dropdown) [text input]
- and (dropdown) Category is (dropdown) Don't Care (dropdown)
- and (dropdown) VEN Category (dropdown) Don't Care (dropdown)
- and (dropdown) department is (dropdown) Don't care (dropdown)

Below the filters is a checked checkbox: Exclude Ad hoc and non stock items.

At the bottom are "Cancel" and "OK" buttons.

This report is used to find the total stock value either for a particular department or all departments. The drop down menus allow customisation of your report by entering appropriate search criteria from the many options.

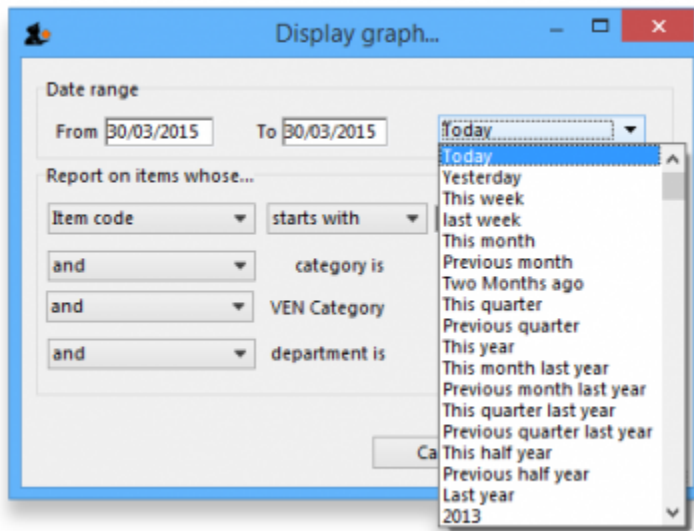
Check this checkbox to directly open the report in Excel rather than printing.

Graph: stock by item

This report shows a graph for an item or items showing the quantity of stock on hand for each day over a defined period.

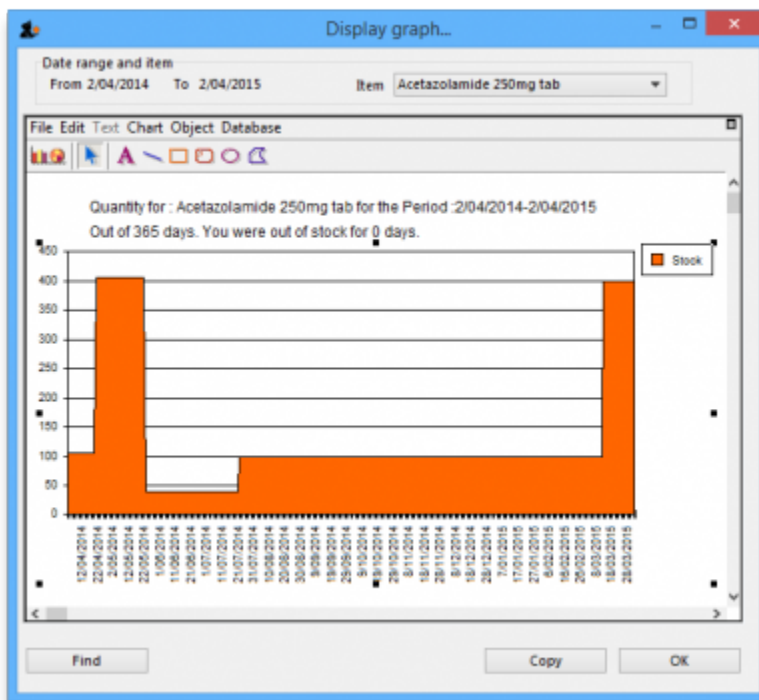
Note that if you have allowed editing of *confirm dates* on transactions, mSupply's ability to calculate accurately the data used in this report may be affected.

Choosing this item from the menu displays this window:



Enter the date range, or select the required period from the drop down list, the items on which you wish to report, and appropriate filters, if any. Remember you can use the item flag field to select an ad hoc list of items to include in your report.

Clicking OK displays a window where you are shown a graph of the quantity in stock on each day for the first item that matched the criteria you entered.

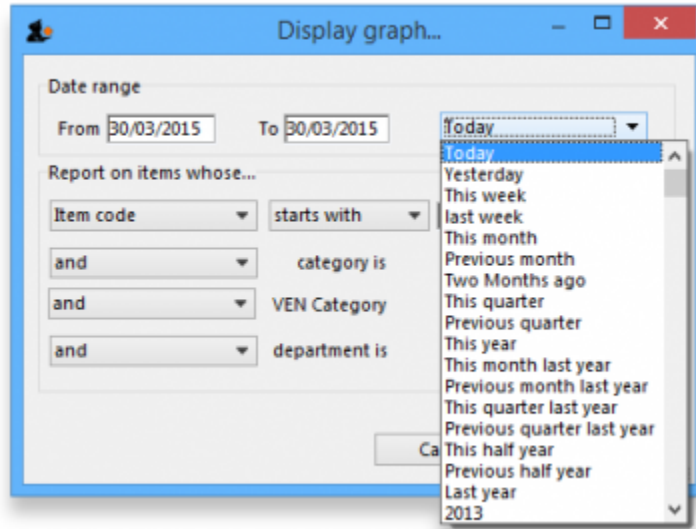


This window also displays a list of items that were found. To display the graph for a different item, choose it from the list.

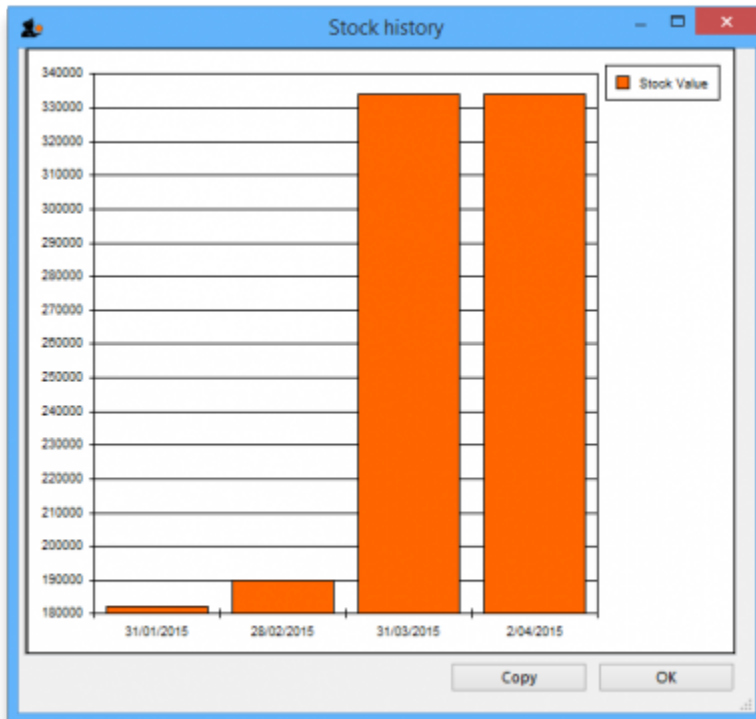
This report can be used as one of a set of key indicators for performance of a facility by comparing days out-of-stock of key items from one year to the next.

Graph: total stock

The total stock graph report allows you to view the value of your stock over a desired period of time. When you choose total stock graph, you are able to enter the required period which you would like to view:



Select OK and a graphical stock history report showing stock value will be displayed



Item list

Find items whose...

item code starts with

and Category is Don't Care

and VEN Category Don't Care

and department is Don't care

Or: Complex find...

Report form to use: Code, Name & Shelf Location

Exclude hidden items

Cancel OK

This report allows you to view an on-screen or printed list of items.

There is only one report layout listed in the window, but please tell us what you would like, and we'll consider adding it.

Local/Remote Report

This option will only show “local data” as an option unless you purchase a web services enabled version of mSupply, in which case you can view reports from remote locations running mSupply. Contact us for more information.

Items out of stock

Selecting this report displays this window:

Find items whose...

item code starts with

and Category is Don't Care

and VEN Category Don't Care

and department is Don't care

Or: Complex find...

Report form to use: Code, Name & Shelf Location

Exclude hidden items

Cancel OK

Specify your required options from the drop down lists;

Days out of stock

Selecting this report displays this window:

The screenshot shows a 'Report options' dialog box with a blue title bar. The main content area is titled 'Days out of stock report' and includes the instruction: 'For each item, show how many days it was either in stock or out of stock for the chosen time interval'. The dialog is divided into several sections:

- Include items whose...:** A section for filtering items based on criteria. It includes a dropdown for 'Item code', a 'starts with' dropdown, and a text input field. Below this, there are three 'and' dropdowns followed by 'Category is', 'VEN Category', and 'department is', each with a 'Don't Care' dropdown menu. A note says '(Leave this field blank to include all items)'. At the bottom of this section, it says 'No. of items with these criteria: 0'.
- Unit Price:** A section with three radio buttons: 'Last price paid', 'Average price', and 'According to supplier quote' (with an associated text input field).
- Date range:** A section with 'From' and 'To' date fields (both containing '24/02/2015') and a 'Today' dropdown menu.
- Items with:** A section with a text input field and the text '% of maximum stock are out of stock'.
- Further options...:** A section with two checked checkboxes: 'Exclude Ad hoc and non stock items' and 'Exclude items if "never order" is checked'.

At the bottom of the dialog, there are four buttons: 'Complex Find', 'Open report in Excel' (with an unchecked checkbox), 'Cancel', and 'OK'.

Specify your required options from the drop down lists; the desired period may be identified either by entering dates in the *From* and *To* fields, or by using the drop down list to the right.

Clicking ok will generate a report like the one below:

Days out of Stock Report

From : 01/02/2015 To : 10/03/2015

Item(s) with less than 5% of maximum stock are out of stock

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Item Code	Item category	Item Name	Days out of stock	Days In Stock	Max Stock	O/S level
4141	Medical Supplies	CANNULA, INTRAVENOUS 16G GREY	0	28	12000	600
4142	Medical Supplies	CANNULA, INTRAVENOUS 16G GREEN	0	28	17718	885.9
4143	Medical Supplies	CANNULA, INTRAVENOUS 20G PINK	0	28	31606	1580.3
4144	Medical Supplies	CANNULA, INTRAVENOUS 22G BLUE	0	28	25579	1278.95
4139	Medical Supplies	CANNULA, INTRAVENOUS 24G YELLOW	0	28	13320	666
4145	Medical Supplies	CANNULA, OXYGEN NASAL	0	28	1538	76.9
1966		CANNULATED DRILL MACHINE, BATTERY OPERATED (INCLUDING HAND PIECE, JACUS CHUCK, BIT)	28	0	0	0
3416	Medical Supplies	CAP & FLOAT ASSEMBLY, SUCTION BOTTLE, OHMEDA	28	0	0	0
2786		CARNOGRAPH MONITOR WATER TRAP/FILTER	28	0	0	0
2827		CARNOGRAPH MONITOR WATER TRAP/FILTER	28	0	0	0
1181	Antituberculosis medicines	CARPECAMYCIN 2X1 1G	28	0	0	0
79	Antihypertensive medicines	CAPTOPRIL TABS 25MG	15	13	137500	6875
2878		Carba	28	0	0	0
697	Ophthalmic	CARBACHOL 2X1 0.01% 1.5ML	28	0	0	0
83	Anticonvulsants/Antiepileptics	CARBAMAZEPINE TABS 200MG	0	28	539000	26950
85	Thyroid antagonists	CARBIMAZOLE TABS 5MG	0	28	188200	9410
1154	Cytotoxics	CARBOPLATIN INJ 150MG IN 150ML	0	28	30	1.5
1180	Cytotoxics	CARBOPLATIN INJ 450MG IN 450ML	15	13	20	1
2749		CASTROVEDIO CORNEAL TREPINE	28	0	0	0
2789		CATHETER CENTRAL VENOUS (ARROWS) SET	28	0	0	0
2419		CATHETER TROCAR, SHARP 10FG	28	0	0	0
2418		CATHETER TROCAR, SHARP 16FG	28	0	0	0

Clicking the **Complex find** button opens the Query Editor, allowing you to enter specific criteria relating to your search.

You may also specify what level in percentage terms of the maximum stock should be considered as being “out of stock..” Here's an example over 1 month:

Day of month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
stock on hand	20000	20000	20000	2000	1000	500	300	200	30000	25200	20200	18000	18000	18000	10000	5000
Out of stock									This day had maximum stock. 5% of 30000=1500							

Note the 5% stock out level = 1500

Item usage

This report gives you a breakdown of item usage for the last few months, with summaries for the last 2 years, It also includes stock on hand and stock on backorder for each item in the report.

The report produced is very useful for forecasting or for seeing a list of items that need to be ordered.

When you choose the menu item you are shown a window like this:

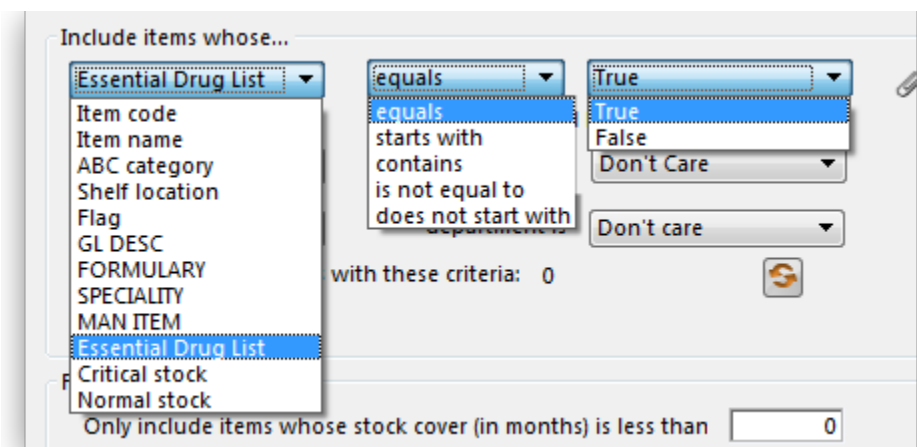
You can choose the type of report you want to run from the drop-down menu

This menu includes an item usage report, a suggested ordering amount report, or to auto generate a tender from the drop-down list at the top. This form is used for all 7 functions. For now, leave this as it is (Note that the *Item usage report with pending purchase order* option will show you item usage with details of items currently on order and their expected date of delivery).

If you want to report on all items, leave the item name field blank:

otherwise enter an item name or code. For example, to report on amoxicillin stocks, you could enter “amox” into the field.

Depending on the entry in the first field, further options are available in the following two fields, but these will vary according to the entry in the first field. Among the options, the first field allows you to make your selection from the names given to custom item fields in the Preferences if this feature has been used.

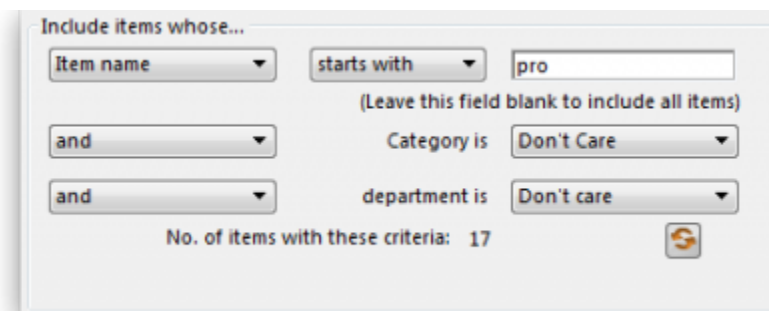


If you wish to use shelf locations, then select the *shelf location* option and specify the desired shelf.

You can use the drop-down list to find Items with a particular code, or to use the values you have entered into one of the custom user fields. If this isn't powerful enough, use the *complex find* button to display the full query editor.

Click the refresh button  to calculate the number of items these basic parameters will find. This screenshot

shows that 17 items meet the parameter specified, i.e. items whose names begin with 'pro';



Only include items whose stock cover is less than...

If you want only to report on items whose stock is low, enter the threshold for days of stock on hand into the second field. For example, entering 90 into this field will only include items in the report whose stock is not sufficient to cover average usage for the next 90 days.

Enter “0” (zero) for this field to report on items with any amount of stock remaining.

Include items with no usage in the last 12 months

If this box is checked, items with no usage over the last year will be included. This check box will have no effect if the previous “days cover” field is filled in, as an item with no usage will have “infinite” cover- any stock you do have is going to last you forever!

Include usage for build ingredients

If you manufacture items, you can choose whether the use of ingredient lines in manufacturing is included in the report or not.

Open report in Excel

Checking this box opens Excel (or any installed spreadsheet) and displays the report directly. If you want to save the report, choose File > Save as... in your spreadsheet program.

Item Usage Report Preview

Item Usage Report ----- Months cover : 0 Search string : All Items

code	Item	In stock	Stock on order	12 month average	24 month average	Months cover	This month	Last month	3 months ago	4 months ago	5 months ago	6 months ago
5110	ABDOMINAL GAUZE(SPOKED) PK5	2000	0	585	545	5.2	0	0	0	0	0	500
8	Acetazolamide tablet 250mg	2000	0	4	50	480	0	0	0	0	0	0
1010	ADRENALINE 1:3000, 1ml, INJ	240	0	17	29	14	0	0	0	0	0	7
9	ALBENDAZOLE 200MG TAB	2200	0	1000	864	2.2	0	0	0	0	0	2800
10	ALBENDAZOLE 400MG TAB	600	0	446	1877	1.3	0	0	0	0	0	100
2019	ALCOHOL 70% 500ml	0	0	12	19	0	0	0	0	0	0	6
2021	ALCOHOL SWABS 100's	150	0	345	6117	0.5	0	0	0	0	0	141
1020	AMINOPIRILINE 250mg/30ml, INJEC	954	0	9	24	65.2	0	0	0	0	0	0
30	AMTRIFTYLINE 25mg TABLET	2000	0	135	175	14.8	0	0	0	0	0	1000
5450	AMMOXIC, DISPOSABLE	0	0	37	51	0	0	0	0	0	0	30
38	Amoxicillin+Clavul. AC. 500/125mg	3450	0	854	970	4	0	0	0	0	0	300
2540	AMOXICILLIN 125mg/5ml, SYRUP	51	0	25	41	1.3	0	0	0	0	0	9
40	AMOXICILLIN 250mg TAB/CAP	280700	0	72725	89079	1.9	0	0	0	0	0	66400
1030	AMPICILLIN 1g INJECTION	3247	0	625	766	5.2	0	0	0	0	0	324
50	ANTACID (MAG TRISI. CD) TAB	86100	0	25004	19224	5.5	0	0	0	0	0	8400
2084	ANTI-HAEMORRHOID CREAM	301	0	10	11	28.9	0	0	0	0	0	0
CDART12	ARTEMETER LUMEFANTRINE	219	0	49	196	3.5	0	0	0	0	0	70
CDART18	ARTEMETER LUMEFANTRINE	200	0	56	305	3.6	0	0	0	0	0	40
CDART24	ARTEMETER LUMEFANTRINE	120	0	45	368	2.7	0	0	0	0	0	20
CDART6	ARTEMETER LUMEFANTRINE	463	0	59	305	7.8	0	0	0	0	0	300
1351	ARTESUNATE 200MG SUPPOSITORY	264	0	15	17	23	0	0	0	0	0	18
1326A	ARTESUNATE 300MG SUPPOSITORY	270	0	12	16	22.0	0	0	0	0	0	18
129	ARTESUNATE 60MG INJ	405	0	0	2	972	0	0	0	0	0	0
60	ASPIRIN 100MG TAB	84300	0	29325	22851	4.4	0	0	0	0	0	17300
70	ATENOLOL 50mg TABLET	13810	0	1516	2042	9	0	0	0	0	0	1000
1040	ATENOLOL 5mg/30ml INJECTION	10	0	1	1	10.9	0	0	0	0	0	0
1060	ATROPINE 1mg INJECTION	453	0	28	40	16.1	0	0	0	0	0	20
133	AUTOCLAVING TANK	30	0	5	5	6.7	0	0	0	0	0	5
75	AZITHROMYCIN 500MG TAB	2052	0	950	1216	2.2	0	0	0	0	0	800
4851	BACTERIAL FILTER BOTT TRAP	0	0	24	34	0	0	0	0	0	0	0
3330	BANDAGE Crepe 10cm	0	0	173	276	8.5	0	0	0	0	0	97
3329	BANDAGE CREPE 15CM	85	0	30	29	2.4	0	0	0	0	0	24
3331	BANDAGE CREPE 6CM X 4M	760	0	165	319	4.6	0	0	0	0	0	84
5342	BANDAGE GAZETE 10cm	280	0	277	758	1	0	0	0	0	0	250
3340	BANDAGE GAZETE 5cm	3184	0	215	179	14.8	0	0	0	0	0	312
3352	BANDAGE POP 30cm	36	0	27	42	1.4	0	0	0	0	0	0

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Suggested Ordering Report

When in the *Item usage report* dialogue box, select the 'Suggested ordering report' option from the drop down box at the top left. Note the extra options for including item usage when calculating item ordering quantities. Also note the option to include ordering for build items. See item builds for more on built items.

Suggested Ordering Report Preview

Item Usage Report ----- Months cover : 0 Search string : All Items

code	Item	In stock	Stock on order	12 month average	24 month average	Months cover	This month	Last month	3 months ago	4 months ago	5 months ago	6 months ago
5110	ABDOMINAL GAUZE(SPORED) PK5	2300	0	385	345	5.2	0	0	0	0	0	500
8	Acetosalamide tablet 250mg	2300	0	4	50	480	0	0	0	0	0	0
1010	ADRENALINE 1:3000, 3mL INJ	240	0	17	29	14	0	0	0	0	0	7
9	ALBENDAZOLE 200MG TAB	2200	0	1000	854	2.2	0	0	0	0	0	2800
10	ALBENDAZOLE 400MG TAB	900	0	446	1877	1.3	0	0	0	0	0	300
2019	ALCOHOL 30% 500ml	0	0	32	19	0	0	0	0	0	0	6
2021	ALCOHOL SWABS 100's	150	0	345	6117	0.5	0	0	0	0	0	341
1020	AMINOPIRACETAM 250mg/20mL INJEC	954	0	9	24	88.2	0	0	0	0	0	17
30	AMITRIPTYLINE 25mg TABLET	2000	0	125	175	14.8	0	0	0	0	0	1000
3450	AMPHOCC, DISPOSABLE	0	0	37	51	0	0	0	0	0	0	50
39	Amoxicillin+Clavul. Ac. 500/125mg	1450	0	854	973	4	0	0	0	0	0	300
2040	AMOXICILLIN 125mg/5mL SYRUP	31	0	23	41	1.3	0	0	0	0	0	9
40	AMOXICILLIN 250mg TAB/CAP	286700	0	72725	89079	3.9	0	0	0	0	0	66400
1090	AMPICILLIN 1g INJECTION	3247	0	625	766	5.2	0	0	0	0	0	324
50	ANTACID (MAG TRISIL CO) TAB	86100	0	15604	19224	5.5	0	0	0	0	0	8400
2044	ANTI-HAEMORRHOID CREAM	301	0	10	11	28.9	0	0	0	0	0	0
COART2	ARTEMETER LUMEFANTRINE	219	0	69	586	3.5	0	0	0	0	0	70
COART3	ARTEMETER LUMEFANTRINE	200	0	56	505	3.6	0	0	0	0	0	40
COART4	ARTEMETER LUMEFANTRINE	120	0	45	568	2.7	0	0	0	0	0	20
COART5	ARTEMETER LUMEFANTRINE	463	0	59	505	7.8	0	0	0	0	0	300
1131	ARTESUNATE 200MG SUPPOSITORY	264	0	15	17	23	0	0	0	0	0	18
1129A	ARTESUNATE 50MG SUPPOSITORY	270	0	12	16	32.2	0	0	0	0	0	18
129	ARTESUNATE 60MG INJ	405	0	0	2	972	0	0	0	0	0	0
60	ASPIRIN 300MG TAB	84300	0	5925	22851	4.4	0	0	0	0	0	1700
70	ATEMOLOL 50mg TABLET	13010	0	1510	2042	9	0	0	0	0	0	1090
1040	ATEMOLOL 5mg/20mL INJECTION	10	0	1	1	10.9	0	0	0	0	0	0
1060	ATROPINE 1mg INJECTION	453	0	28	40	18.1	0	0	0	0	0	20
111	AUTOGUANGING PAIN	10	0	5	5	6.7	0	0	0	0	0	5
75	AZITHROMYCIN 500MG TAB	2052	0	956	1226	2.2	0	0	0	0	0	800
4851	BACTERIAL FILTER MEMBRANE TRAP	0	0	24	34	0	0	0	0	0	0	0
3130	BANDAGE CREPE 10cm	92	0	173	276	0.5	0	0	0	0	0	97
3129	BANDAGE CREPE 15CM	85	0	36	29	2.4	0	0	0	0	0	24
3131	BANDAGE CREPE 6CM X 4M	760	0	165	319	4.6	0	0	0	0	0	84
3142	BANDAGE GAUZE 10cm	280	0	777	758	1	0	0	0	0	0	350
3140	BANDAGE GAUZE 5cm	3186	0	215	179	14.8	0	0	0	0	0	312
3152	BANDAGE POP 30cm	36	0	27	42	1.4	0	0	0	0	0	0

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This report gives analysis per item and the final column provides a suggested quantity to order. It is then the responsibility of the Purchaser to make the final decision on how much stock to order.

Item usage with outstanding Purchase Orders

The window that appears when you choose this report is the same as the previous one; with exactly the same options available; the report produced differs only in that any lines having outstanding Purchase Orders have the relevant details of the Purchase Order displayed.

Item slow movers

You will be shown a window to enter the item details:

Enter your search criteria in the top section.

Item name field

- If you want a report for all items, leave this field blank. Otherwise enter some text to reduce the report to just a few items (e.g. entering “am” will produce a report of just the items whose name starts with “am” (Amitriptylline, Amoxycillin, etc)

Category and Department

- Use the drop down boxes as appropriate to select Category and/or Department if required.

Days stock

- Enter the number of days stock to report on. Items with more than this number of days stock on hand will be included in the report. The correct figure to enter here depends upon your desired stock turn. In general, if you are turning over your stock 3 or 4 times a year, you would want to know about items which have more than 240 days stock on hand.
- The report is calculated using the last 12 months usage as a guide to the average monthly usage.

You can check the Open report in Excel box to open the report in Excel, or any installed spreadsheet.

The report produced is very useful for managing under-performing inventory. It allows you quickly to obtain a list of items where a reduction in stock is desirable.

Expiring items

This report will ask you to enter a date, and will then give a report of all item lines in stock whose expiry date is before the date you have entered.

For example, entering 31/8/11 will display all items with expiry dates before 31st August 2011 (Enter the date in short format in the way your computer is set to handle dates (DD/MM/YY or MM/DD/YY or YY/MM/DD).

You can additionally filter the stock by the location type or the actual location in the warehouse. This is helpful for reporting on items in certain sections of your warehouse.

Three report type options are offered; select as appropriate. You may refine the search by using the *Name filter* and/or the *Item filter*.

Donor Reporting

mSupply provides the feature of printing the Donor name on the Expiring Items report so that the organisation donating the goods can be identified and tracked. This can help with disposing of or returning goods to the Donor.

Expiry item - sort by item, for store(s) General

Item Code	Item	Supplier Code	Value	Quantity	Pack Size	Exp Date	Accumulative Value	Donor
03/0452	Amoxicillin 500 mg	Gen21	200.00000	20	1	01/01/15	200.00000	Donar
05/0457	Amoxicillin,dry powder for Suspension 125mg/5ml	SNG102	0.00000	12	1	01/01/15	200.00000	SAMES
03/0460	Amoxicillin/Clavulanate Potassium 500 mg/125 mg	NZ_001	16,650.00000	92500	1	31/08/14	16,850.00000	
Total Value			16,850.00000					

Expiring items vs cover

This is a versatile report which allows you to see at a glance the amount of any stock items, and the number of days' cover provided by that amount of stock you have. **Note:** The cover calculation uses the last 12 months of usage data to calculate your rate of consumption.

Report options

Expiring items versus cover

Create a report on the usage of stock items. Customise the report to items based on name, code, usage frequency and/or stock remaining.

Include items whose...

Item code starts with

(Leave this field blank to include all items)

and Category is Don't Care

and VEN Category Don't Care

and department is Don't care

No. of items with these criteria: 0

Unit Price

Last price paid

Average price

According to supplier quote

Cover calculation

Include only transactions with the following category properties

Description equals

Further options...

Only include items whose stock cover (in months) is less than

Include items with no usage in the last 12 months

Include usage for build ingredients

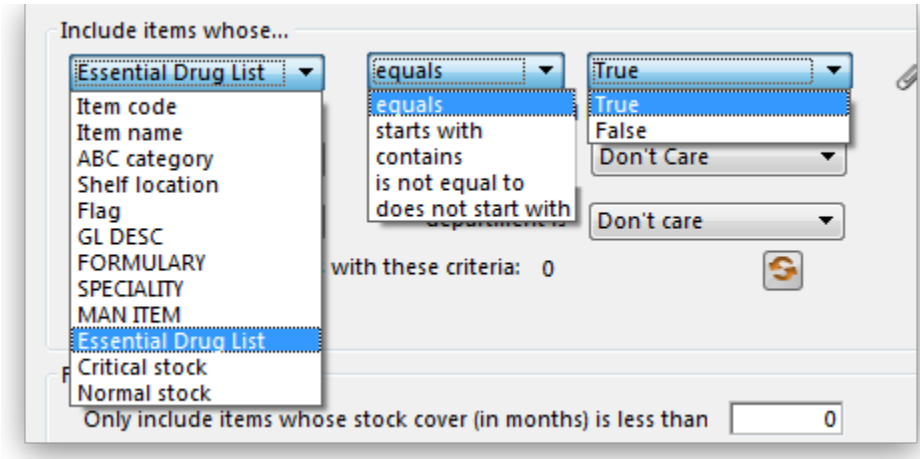
Exclude transfers from usage calculations

Exclude Ad hoc and non stock items

Exclude items if "never order" is checked

Open report in Excel

Many filters may be applied in the drop down lists, which are the same as described under *Item usage...* above.



Note that If the field you are searching is a boolean field, e.g. Essential Drug List, “false” appears as the default entry, which you may change to “true”.

Cover Calculation

This allows the user to include or exclude specific categories to be used in calculating coverage. Clicking the magnifying glass to the right lists categories to be chosen.

If you wish mSupply to remember the criteria which you have entered, click on the paperclip icon, and your selections will appear the next time you open the report.

Once you have selected your required criteria, click on the *Refresh* icon to show the number of items which match your criteria, and which will, therefore, feature in the report.

Item Ledger

Item ledger

Report form to use :
Summary stock movement showing inventory adjustment

Date Range
From 24/02/2015 To 24/02/2015 Today

Transaction type
All transactions

Report on items whose...

Item code starts with

and Category is Don't Care

and VEN Category Don't Care

and department is Don't care

Exclude Ad hoc and non stock items
 Exclude hidden items
 Open in Excel

Cancel OK

Ledger entries may be viewed in this report; different formats of report are available in addition to several filter options from the drop down lists, so the report may be designed to meet your specific requirements.

Report form to use :

- Summary stock movement showing inventory adjustment
- Items showing each transaction
- Summary stock movement showing value

Previous: Custom Reporting Tutorial Next: ATC based reports

ATC based reports

ATCs and DDDs

“ATC” stands for “Anatomical, Therapeutic, Chemical”, and is a method of classifying chemical entities, and identifying them by category.

“DDD” stands for “Defined Daily Dose”, and provides a means of comparing the utilisation of different drugs in a meaningful way. - e.g. if a dispensary has issued 10,000 x doxycycline 100mg and 20,000 x amoxycillin 250mg, a greater number of amoxycillin capsules has been used; but according to the DDD method, a greater number of patients have received doxycycline.

Thanks to the help of the WHO Collaborating Centre on Drug Statistics and Methodology, we are able to offer a starting drugs file with their codes; we have plans (not yet implemented) to maintain on our website an up-to-date list of ATC and DDD codes for essential drugs.

Reports using ATC and DDD codes

mSupply is designed for the ATC code to be entered in the *Category* field for each item, and is then able to report on supply transactions, giving a breakdown according to the different levels of the ATC code.

The *DDD Factor* field is intended to store the item's number of dose units in its DDD; for example, if an item's DDD is 1,000mg, and the supply is made using 250mg units, the DDD factor is 4. When designing a report, the total quantity of this item used should be divided by the DDD factor to obtain the number of DDDs supplied.

Should you wish to store an item's DDD value (1,000mg in the above example), it is suggested that you record it in one of the available *user fields*. The DDD value should not be recorded in mSupply's *DDD factor* field

The category analysis report is designed to be used in conjunction with the “category” field and the “DDD factor” field for each item.

When you produce a report, only some simple criteria are entered in the form. It is a simple matter to create reports giving, for example:

- A level one ATC summary for all items supplied to a specific hospital during a 12 month period

- A level two ATC summary for all items in ATC category “J” supplied to customers who are coded as “h” (for hospital) for a particular month.
- A level three ATC summary for all essential drugs supplied to all customers for a particular quarter.

The report provides you with the number of DDDs supplied for each category at the level requested, presuming you have “DDD factor” values entered correctly. Only the totals for each category are shown (not each individual transaction). The report may be printed, or exported for use in another application.

Let's run through the different options in the window... summary level...- enter the summary level. The category field is then evaluated based on the ATC coding system. Note that the code is “broken down” as follows

level	position
1	character 1 (A-Z)
2	characters 2 & 3 (01-99)
3	character 4 (A-Z)
4	character 5 (A-Z)
5	characters 6 & 7 (01-99)

So, for example the code for “caffeine” is N06BC01. “N” is the level 1 code, “06” the level 2 code, “B” the level three code, “C” the level four code, and “01” the level 5 code.

Note that if you choose “level 3”, you will also be shown the summary values for “level 1” and “level 2” as well.

Which type of item?

You can report on all items, or you can report on just a certain category. For example, you can enter “J” here to report only on items whose ATC code starts with “J”. Note that you need to set the summary level to “level 2” or your report will only report the total for category “J” without any further breakdown of data.

Only report on essential drugs

Check this if you only want to analyze items whose *essential drug check box is checked*.

Transaction type?

- Normally we will be interested in supply to customers. However, we might also be interested in “what percentage of purchases from IDA (a supplier) are anti-infectives?”, in which case we would click on the “items received from suppliers”

Date range...

Enter a starting date and an ending date. Only transactions whose confirm date was within the range will be analyzed. The default range is the last 90 days. Note that the dates you enter are included in the range (that is the “from” date is “on or after” and the “to” date is “on or before”)

Which customers/suppliers...

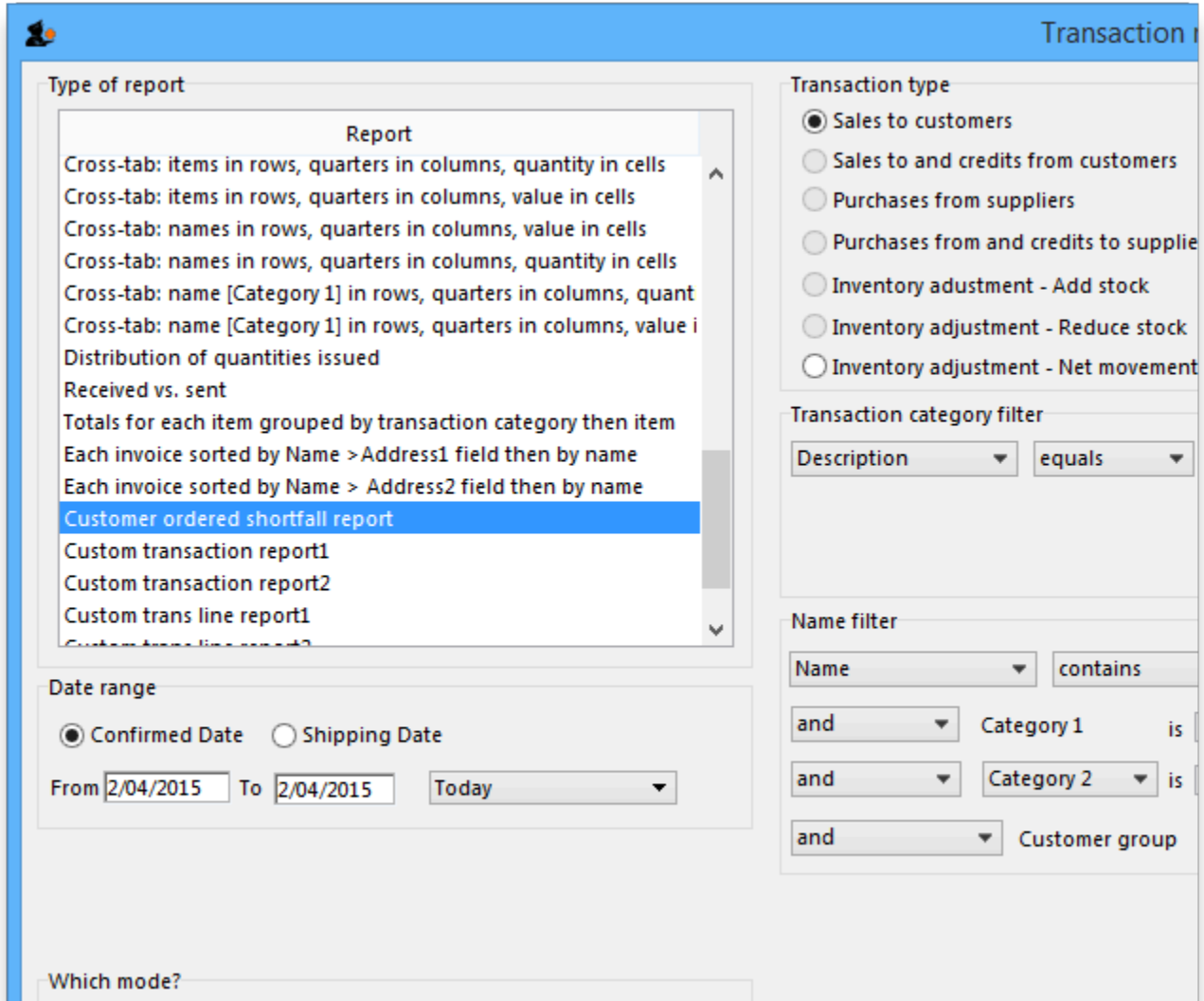
Leave this value blank to report for all customers. Otherwise, choose “code” or “category” from the popup menu, and the appropriate comparison from the second popup menu. For example, if you want to report on a certain group of hospitals, you could enter those hospitals as having a category “h”, and then report on “names whose category starts with 'h'”

Previous: Items and Stock reports Next: Customer Ordered Shortfall Report

Customer ordered shortfall report

When you choose *Report > transactions* and then select *Customer ordered short fall report* , the transaction report like the one below will be produced. This report is used only for sales to customers.

Note that for this report to make sense the preference *Allow placeholder lines on customer invoices* must be checked, and the preference *Delete placeholder lines when confirming invoices* must be un-checked.



From the report window, select the desired parameters and click *OK* . An example report is shown below.

**Customer ordered short fall report
National Medical Store**

Date range :01/01/2007 to 17/01/2007, Item name contains @ma@item category includes PHARMACEUTICALS

Transaction Type equals customer, Name code contains @@@, Mode: Both

Item Code	Item Description	Units of Demand	Units of supply	Shortfall	% shortfall
item category : MEDICAL SUPPLIES					
4455	MASK,RESUSCITATION,ADULT	586.02	43.02	543	92.66
4450	MASK,OXYGEN,ADULT,W/O TUBING	2838	1984	854	30.09
Totals for item category: MEDICAL SUPPLIES		3424.02	2027.02	1397	40.8
item category : PHARMACEUTICALS					
502	MAGNESIUM TRISIL CO. TAB PKT/20	5628	3895	1733	30.79
10	ACETAZOLAMIDE TAB S 250MG BOT/100	1889	1639	250	13.23
Totals for item category: PHARMACEUTICALS		7517	5534	1983	26.38
Grand total :		10941.02	7561.02	3380	30.89

Previous: ATC based reports Next: Purchasing

Setting up mSupply to use the Customer Ordered Shortfall report

For this report to be used, you need to do the following

- Choose *File > Preferences > Invoices2* and ensure “Delete placeholder lines when confirming invoices” is **not** checked.
- Staff must enter requested amounts on invoices as placeholder lines.
 - For example, a customer orders 1000 x Paracetamol syrup 60ml. You have 800 in stock, so you add 800 to the invoice, and you also add a placeholder line for 200 bottles.
- You need to decide whether to (and if yes, how) to use the backorder system. If customers can rely on you to record shortfalls as backorders, then they will no need to re-order the shortfall in subsequent ordering cycles, as they know you will deliver it when available.

Purchasing

Purchasing reports (focused on what you have ordered and what you have received and what you want to order) are available at *Report > Purchasing*. The following report types are available:

Purchases...

The first 2 options contain several different reports (see below). Select the required report type by clicking on it.

Purchase Orders...

Purchase order report options...

Type of report
 Ordered Item Report

Find Multiple Find Single

Date range
 Search by date type : Creation date
 From 23/05/14 To 23/05/2014 Today

Report on names whose...
 Name contains

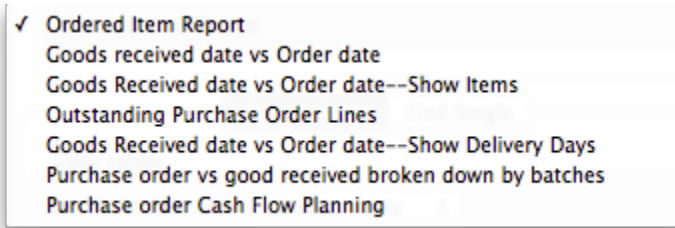
Report on items whose...
 Item code starts with
 and Category 1 is Don't Care
 and department is Don't care

Report on Purchase Orders whose...
 Category is All categories
 Status is All
 cust_purchase_field equals
 cust_purchase_field2 equals

Cancel OK

Types of report

There are seven reports currently available:



- The *Ordered Item Report* will list items that are on Purchase Orders according to criteria specified.
- The *Goods Received date vs Order date* report lists each Goods Receipt for a particular Purchase Order and the number of lines received, then follows with details of the number of lines and date of the original Purchase Order, as in the example below. This is useful for tracking supplier delivery performance.
- The *Goods Received date vs Order date - Show items* report:

Ordered Item vs. Goods Received Report Creation date : 30/04/2007 to 30/05/2007

Name	Order no.	Status	Date ordered	Lines in PO	Date inv. rec'd	Date goods rec'd	# lines
					30/05/07	22/05/2007	8
					30/05/07	30/05/2007	2
Bronze Age supplies	16	cn	25/04/07	8			10

Note that the number of lines received may not match the number ordered as a single Purchase Order line may be supplied in split deliveries, as in example shown, or an ordered line may not be supplied at all.

- The *Outstanding Purchase Order Lines* report, which will display all Purchase Order lines for Purchase Orders provided that
 - (1.) delivery is incomplete, and
 - (2.) the Purchase Order has a *Confirmed* (“cn”) status.
- Note that Purchase Orders whose status is *Finalised* (“fn”) will be ignored when producing this particular report.
- The *Goods Received date vs Order date - show Delivery days* report shows the number of days taken to deliver items.
- The *Purchase order vs goods received broken down by batches* report shows the dates particular batches were received.
- The *Purchase order cashflow planning* report shows you the values and times of expected deliveries so that you can plan when money needs to be available to pay for them.

Date range and date type

A date option, for selecting which items/purchase orders to include in the report must be selected; options are:

- creation date - the date purchase orders were created
- sent date - the date purchase orders were confirmed
- expected delivery - the expected date of delivery for items
- actual delivery - the actual date that items were delivered

The report will include items/purchase orders with the selected type of date falling between two specified dates entered in the *From* and *To* fields. The dropdown list on the right affords many quick-choose preset date range options such as “today”, “yesterday”, “this week”, “last week”, “this month” etc.

Report on names...

The report may be confined to suppliers meeting specific criteria by selecting one of several supplier properties (“Name”, “Name code”, “analysis”, “category”, “Price code” etc.) in the left dropdown list, “equals”, “starts with” or “contains” in the centre dropdown list and making an appropriate entry in the field on the right. If this field is left blank, the report will include purchase orders from all suppliers within the chosen date range.

Report on items...

Similarly the report may be confined to items meeting specific criteria; you choose an item's property to filter on in the left dropdown list followed by the comparator in the centre dropdown list and finally making an appropriate entry is made in the field on the right. Again, leaving this field blank will produce a report on all items within the chosen date range.

You can also report on items that have a certain category and/or department. By default these options are set to “Don't care”, which means the item categories and departments will be ignored.

Note that only reports that report on *invoice lines* will produce meaningful results when you choose item criteria. Reports that report on whole transactions (e.g. “Each invoice grouped by name” or “Each invoice grouped by date”) will not produce meaningful data, as any one invoice can contain multiple items. Choose reports that report on invoice lines (e.g. “Each invoice line by item” or “Totals for each item grouped by month”) for these filters to have an effect.

Report on purchase orders...

In the same way, you can also filter your reports on properties of the purchase orders involved: category, status and both purchase order custom fields. For more information on purchase order categories see [here](#)

Purchases...

This report finds all purchasing transactions over a certain value within a specified time period

You should enter:

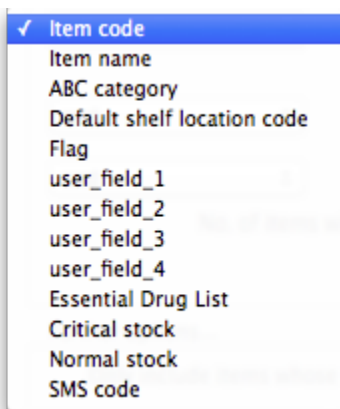
- The date range of transactions on which to report
- Four filters are available to refine the report - a name filter, and three item filters; all are optionally and will be ignored if nothing is entered in the textbox or drop down lists are left at “Don't care”.
- The value of a transaction line above which the report will cover.

It may be good for your organisation to have a purchasing policy that stipulates that transactions over a certain value must be authorised by a second party (that is, someone other than the purchaser). This report allows you to monitor such a policy easily.

Suggested order quantities

Use this report for mSupply to analyse your current stock and, based upon a required number of days stock cover which you enter, suggest how much of each stock item you should consider ordering. You'll see this window:

If you want to report on all items, leave the item name field blank, otherwise enter an item name or code. For example, to report on amoxicillin stocks, you could enter “amox” into the field.



The drop down list, after the item name and code choices, lists several other fields, including any user defined fields, where the names that you have defined for custom item fields in the *Preferences* are displayed.

If you wish to use item categories, then use the *Item category* list to choose the one on which you want to report.

You can use the drop-down list to find Items with a particular code, or to use the values you have entered into one of the custom user fields. If this isn't powerful enough, use the *Complex Find* button to display the full query editor.

Click on the refresh button (double orange arrows) to show the number of items these basic parameters will find.

Only include items whose stock cover is less than...: If you want to report only on items whose stock is low, enter the threshold for days of stock on hand into the second field. For example, entering 90 into this field will only include items in the report whose stock is not sufficient to cover average usage for the next 90 days.

Enter “0” (zero) for this field to report on items with any amount of stock remaining.

Expected delivery: Enter an appropriate date based on previous delivery times.

Include usage for build ingredients: If you manufacture items, you can choose whether the use of ingredient lines in manufacturing is included in the report or not.

Basis of analysis: Enter the number of months of data (from the current date) mSupply should use to calculate your consumption.

Exclude transfers from calculations: Check this box if you wish transfers within your organisation to be excluded from the calculations.

Include items with no usage in the last 12 months: If this box is checked, items which have not been used over the last year will be included. This check box will have no effect if the previous "days cover" field is filled in, as an item with no usage will have "infinite" cover- any stock you do have is going to last you forever

Order quantity for X months stock cover: In this field, enter the number of days stock cover you want to have available. The report will automatically take into account any stock you already have, so all you need to do is enter how many days cover you want, starting from right now, in this box.

Open report in Excel: Checking this box opens Excel (or any other installed spreadsheet application) and displays the report as a spreadsheet. If you want to save the report, choose File > Save as... in your spreadsheet application.

Report output

Cover column: if the column prints "»»" this means you have no usage of that item, so you have "infinite" cover (i.e. if you don't have any usage your current stock with last forever, from a usage point of view, if not from an expiry date point of view!)

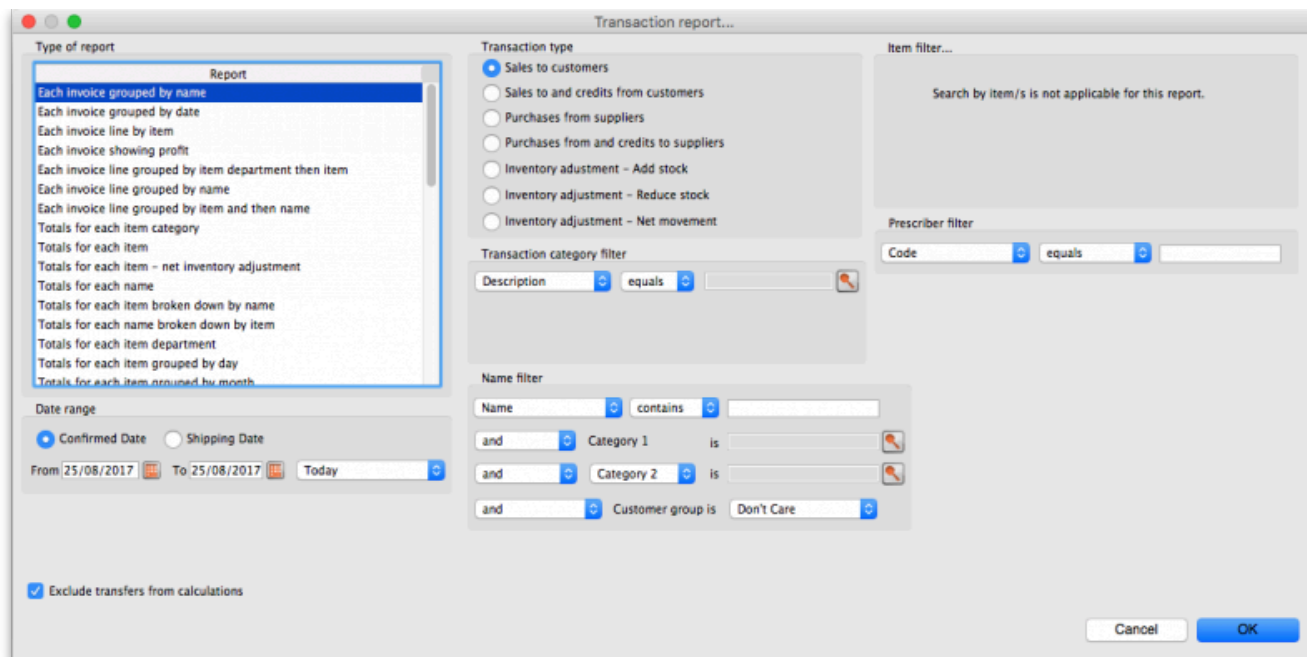
Suggest order quantities with prices and price extension

This report is an extension of the previous one, allowing you to see what the suggested order will cost. The filter choices you have are the same as for the suggested order quantities report.

Previous: Customer Ordered Shortfall Report Next: Transactions reports

Transaction reports

Transaction based reports are accessed by choosing the **Report > Transactions...** menu item or by clicking on the Transactions item in the Transactions section on the Reports tab of the Navigator:



All these reports (and there are many!) summarise supplier or customer transactions in many different formats. Many different filters have been incorporated, allowing filtering on transactions, names, prescribers, items, categories and departments. The filters that do not apply to different reports are hidden as required. Feel free to mix and match and experiment with the filters and different reports to see the different views of information that you can get.

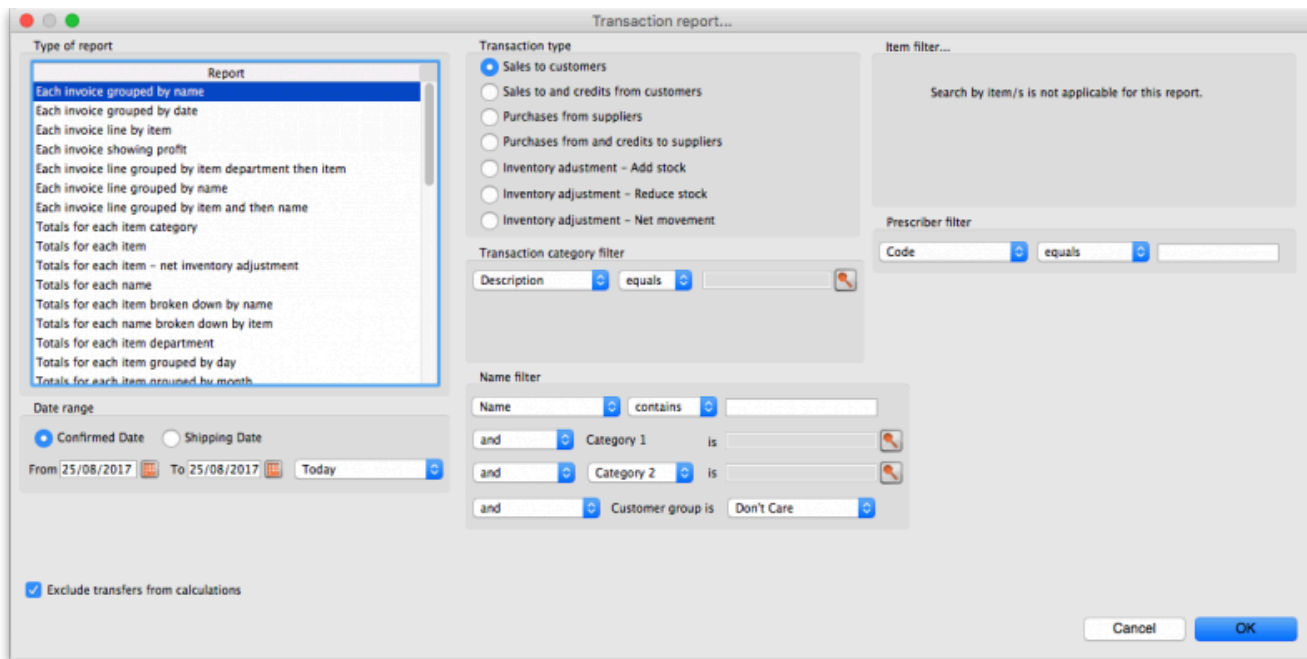
The basic sequence for creating a transaction report is this:

1. Select the type of report you want from the *Type of report* list in the top left.
2. Select the date range of transactions you want included in the report in the *Date range* section.
3. Select the transaction type you want the report to run over in the *Transaction type* section .
4. Set any other filters/settings you need to refine the contents of the report (Transaction category, Name, Item, Stock, Prescriber filter etc. sections).
5. Click on the OK button to run the report - you can select whether you export it to Excel or print it on the next window that opens (well, mostly - some reports are exported to Excel only so you won't have a choice for them!).

See below for more in-depth detail on all these steps.

Standard transaction reports

This is the window you will see:



Type of report

Choose from several formats for displaying transaction information by:

1. selecting the report type in the Report list on the left, and
2. choosing the required radio button under *Transaction type*

The following table lists the available report names, and gives brief details of the information provided by each report .

Report name	What it does
Each invoice grouped by name	The report will sort each invoice in the date range according to the name (Supplier or Customer) and give totals for each name.
Each invoice grouped by date	As above, but totals given for each day.
Each invoice line by item	Lists each item supplied or received, and the transactions for that item. This report can be very long
Each invoice showing profit	The cost and selling price totals for each invoice are displayed.
Each invoice line grouped by item department then item	The invoices are grouped by the item department assigned to each item. Each item department is then sorted in alphabetical order by items
Each invoice line grouped by name	The total value of items received/supplied from/to each name
Each invoice line grouped by item and then name	Invoice lines are all displayed, grouped by item and then, within those groups, by name.

Report name	What it does
Totals for each item category	The total value for each category will be displayed - each transaction will not be shown.
Totals for each item	Each item that has been received (or issued) will be shown with the total quantity and value received/issued
Totals for each item - Net Inventory adjustment	Each item on which an inventory adjustment has been made is shown; the net adjustment is displayed, with both quantity and value shown.
Totals for each name	The invoice lines for the chosen date range are grouped together for each name. This report allows you to see quickly what has been issued to a customer or customers.
Totals for each item broken down by name	Lists all items, showing their distribution to recipient customers or delivering suppliers
Totals for each name broken down by item	As above, but listing customers or suppliers and items received by or delivered by them
Totals for each item department	The total value supplied/received for each item department is shown
Totals for each item grouped by day	The total quantity and value of each item is shown for each day.
Totals for each item grouped by month.	The total quantity and value of each item is shown for each month.
Totals for each item grouped by item description.	First the report is sorted by item then the total quantity and price of each item is shown. It also provides a grand total for the item quantity and price columns.
2 period comparison by item category	User selects two periods, and the transactions for each period form a column. The rows are determined by the item category. This is a special report that has different input options. See entry below.
Prescriber report	This report allows you to view the total value, mean item value and item count for prescriptions dispensed for each prescriber
Cross tab: items in rows, names in columns, quantity in cells	These reports are like Excel pivot tables. Warning: they can be slow to produce if you have a lot of data. Start with small date ranges until you are comfortable your machine can handle the load. Note that reports that produce a lot of columns won't print well - it is better to export them to a spreadsheet and print from there.
Cross tab: items in rows, names in columns, value in cells	See above

Report name	What it does
Cross tab: items in rows, days in columns, quantity in cells	See above
Cross tab: items in rows, days in columns, value in cells	See above
Cross tab: items in rows, months in columns, quantity in cells	See above
Cross tab: items in rows, months in columns, value in cells	See above
Cross tab: names in rows, months in columns, quantity in cells	See above
Cross tab: names in rows, months in columns, value in cells	See above
Distribution of quantities issued	First the report is grouped by item name and then by the pack size issued. It displays the total quantity and total count for each item.
Totals for each item grouped by transaction category then item	The report is grouped by each item's transaction category first and then by each item. The report shows the total count, total quantity and total value for each item. Lastly it also calculates a grand total of the items count, quantity and value columns.
Each invoice sorted by Name >Address1 field then by name	The invoices are firstly sorted by the address1 field, and then by the name they were supplied to. This groups invoices together by whatever you entered in the "Address1" field for each name - e.g. you might enter the region or province.
Each invoice sorted by Name >Address2 field then by name	As above, but the first sort is by the entry in "Address2" field.
Customer ordered short fall report	Where there has been a short fall, this report shows the short fall of each item and of each item category by quantity and percentage. It shows what demand from customers has been met and what has not. It applies only for issues to customers.

Report name	What it does
Customer transaction report 1	This report and the following three are, in fact, templates, and are the starting point for designing reports on specific criteria not covered in any of the existing reports.
Customer transaction report 2	
Customer trans line report 1	
Customer trans line report 2	
Order processing time	If you are filling out the order written date and order received date for incoming customer orders, then this report will show you how long it is taking for orders to reach the store, and how long it is taking to process orders from receipt to order entry and to order dispatch

Transaction type

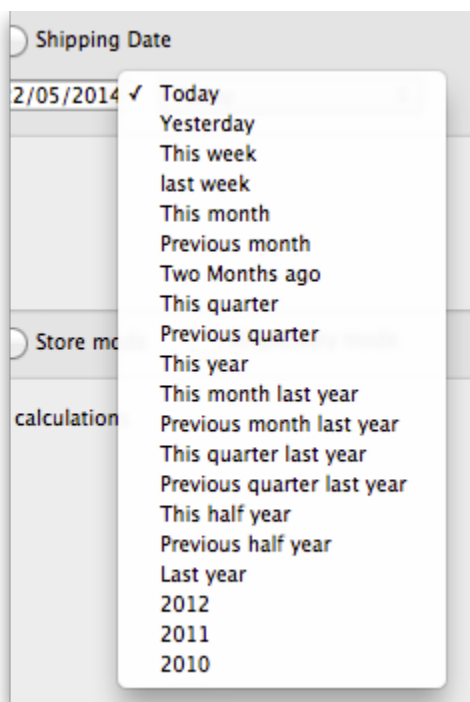
You can choose to report on:

- Sales to customers (customer invoices: type “ci”)
- Sales to and credits from customers (customer invoices & credits: type “ci” & “cc”)
- Purchases from suppliers (supplier invoices: type “si”)
- Purchases from and credits to suppliers (supplier invoices & credits: type “si” & “sc”)
- **Inventory adjustment - Add stock:** All inventory adjustment transactions that resulted in stock additions (e.g. when you did a stock take of an item and counted more on the shelf than the total shown in mSupply).
- **Inventory adjustment - Reduce stock:** All inventory adjustment transactions that resulted in stock reductions (e.g. discarding stock due to it being expired). Note that using a report that shows the total for each transaction category can give totals for expired/damaged etc.
- **Inventory adjustment - Net movement:** Taking into account both reductions and additions, the nett change in inventory due to adjustment transactions.

Date range

Enter the date range of transactions to report on, having selected *Confirmed date* or *Shipping date*. Note that the date used may differ from the original entry date, depending on how your system is configured in the Preferences.

- Note the popup menu to the right of the date entry fields that allows you to choose quickly from a list of common date ranges:



- Note that “last year” refers to the year preceding the current year (that is, if the current year is 2012, choosing “last year” will set the dates from 1st Jan 2011 to 31st Dec 2011).

Transaction Category Filter

Assuming you have set up transaction categories, your report may be filtered by category. For help setting up Transaction categories click this [link](#).

Name filter

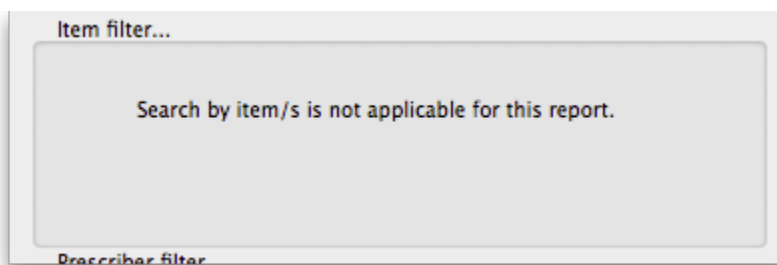
You can enter a particular customer code or category of transactions to be displayed.

- You can choose from either *equals* for an exact match or *starts with* to search for all names whose code or category starts with the entered text.
- Each name has 6 different categories that can be used to group certain kinds of names together. You can filter on category 1 (which is hierarchical) using the *Category 1* filter in the screenshot at the top of the page (note that the *Category 1* text will be replaced with any name you have assigned to this category in the preferences) and one of the other categories using the *Category 2* filter shown in the screenshot at the top of the page.
- If you want to report on transactions for a single name, you can find their code by looking up their details using *Supplier > Show suppliers* or *Customer > Show customers*.
- There is also a *Customer group* filter you can use to include names based on their customer group.

Item filter

Here you can specify the items to include in the report.

Note that sometimes the item choice options will be hidden because the chosen report is reporting on transactions, not on transaction lines:



Donor filter

If you have donor tracking turned on in the preferences, and choose a report that bases its data on invoice lines, then you will be given the option to filter the report for a particular donor or group of donors.

Which mode?

If you are using mSupply in both store and dispensary mode, you might want to report only on transactions in store mode (items distributed to customers) or in dispensary mode (items distributed to patients). You can do this by checking *Store mode* or *Dispensary mode* radio button depending on your requirements.

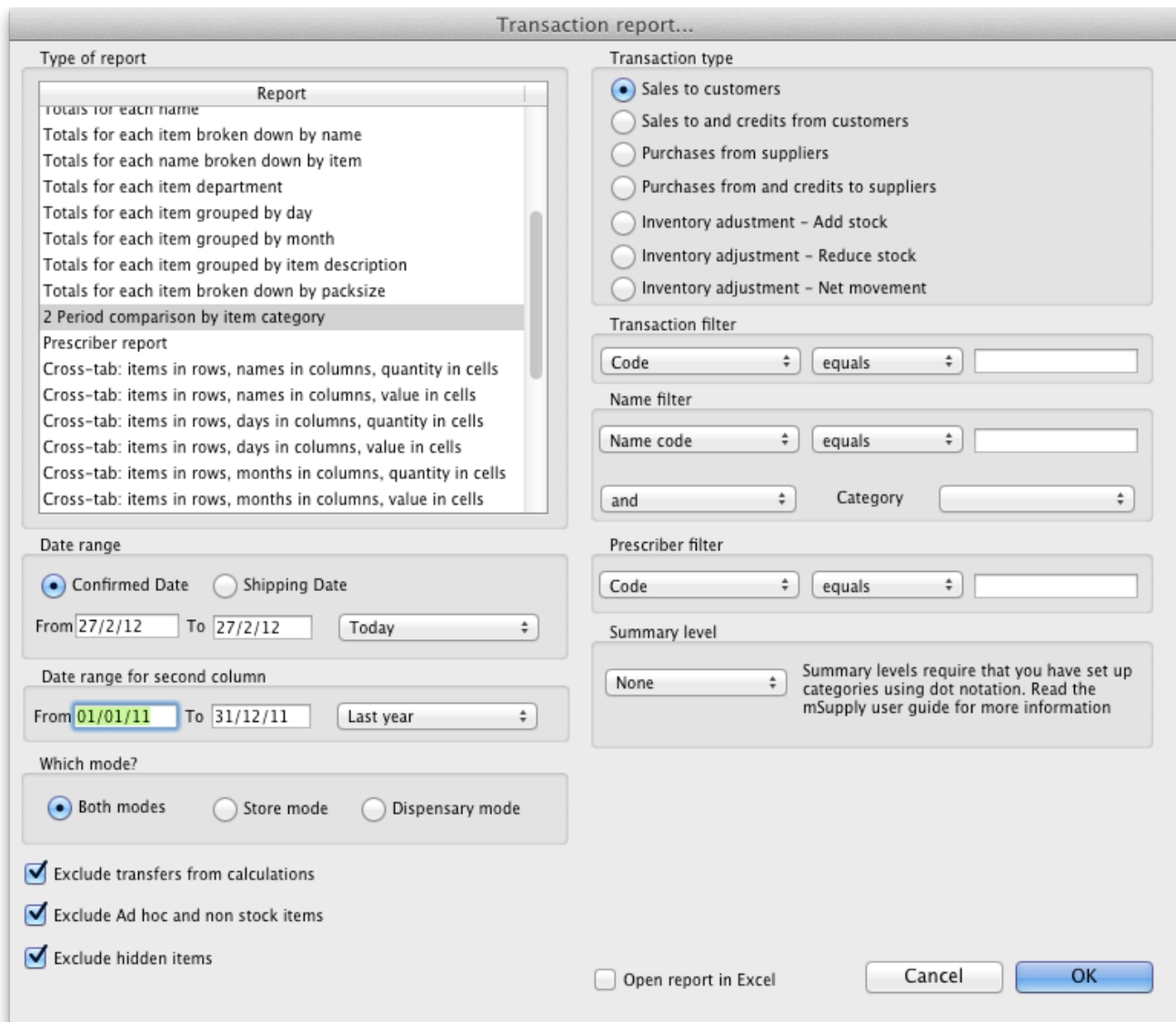
Exclude transfers from calculations

This checkbox enables you to choose whether you include stock transfers (where stock is transferred from one store to another in mSupply) in the report calculations. If you want stock transfers to be included in your report then uncheck this checkbox. If you want stock transfers to be left out of the report then check this checkbox.

The 2 period comparison by item category report

This report allows you quickly to compare sales or purchases for 2 periods of your choice based on item categories.

When you choose this report a different set of options is shown.



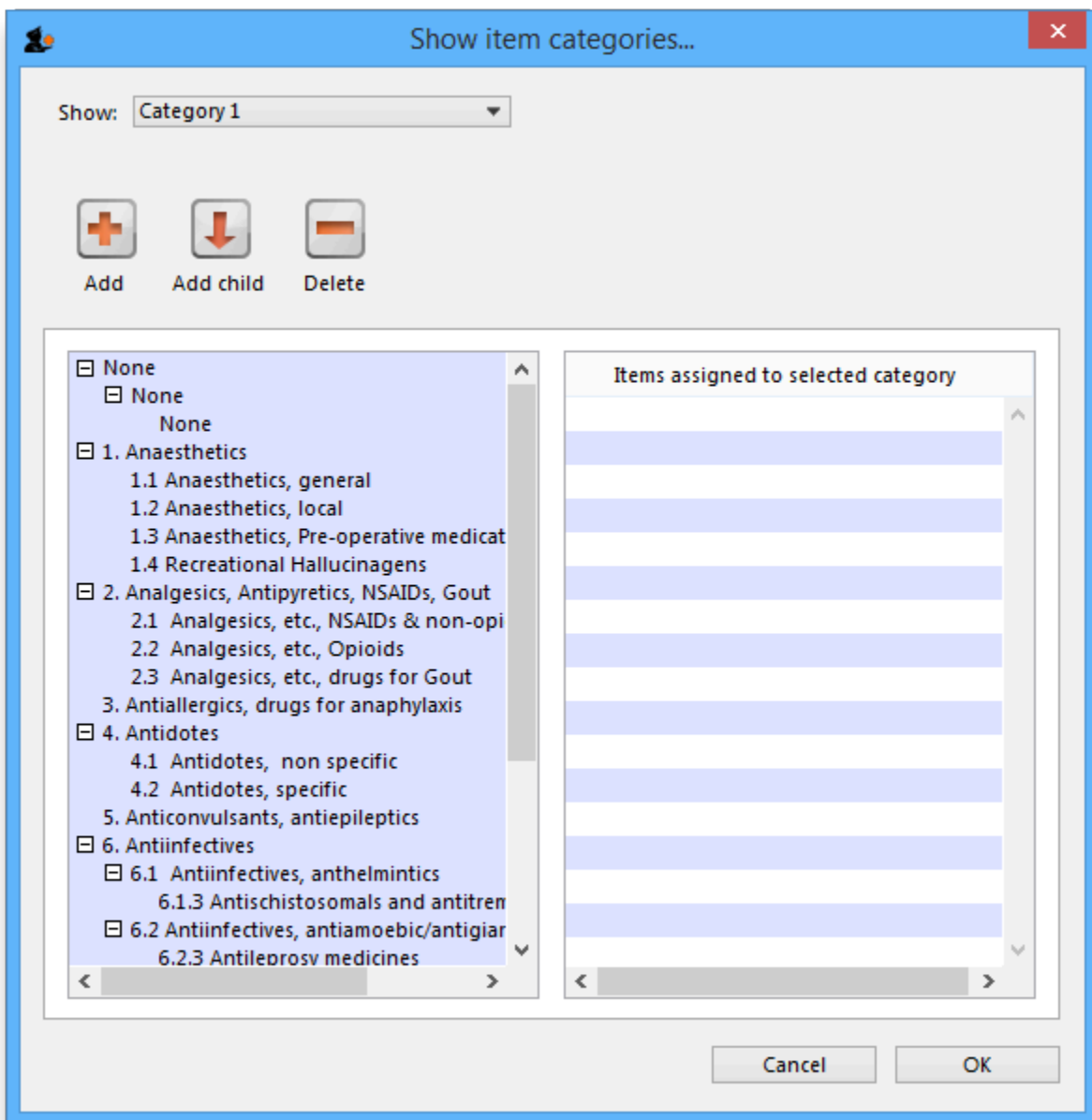
Set the date range for each of the columns and then choose a summary level. It should be noted that if no data is present for the first period defined, this report will not run.

Dot notation and summary levels

The summary level is based on the item category field. If you have set up item categories using dot notation, then you can summarise categories.

To set up item categories, choose **Items > Show item categories**

Take the following simple example of categories that have been set up as follows:



The rules for dot notation are

- Separate each level of your hierarchy with a period (dot).
- Within a level you can have as many characters as you like
- You can use any characters, as long as you don't use a period or a space within one level; e.g. "surgical.gloves.small" is a valid entry. (Level one is "surgical", level two is "gloves" etc.).
- When the hierarchy part of the category name is finished enter a space character. You can then enter a description for that level of the hierarchy.

If we run the report with a summary level of "none" each category is shown

Comparative Transaction Report The secret pharmaceutical store		
Category	From 01/10/2005 to 28/12/2005	From 01/07/2005 to 30/09/2005
None	1,094,625.43	244,286.00
1 antibiotics	0.00	0.00
1.1 Penicillins	0.00	0.00
1.1.1 Broad spectrum penicillins	1,289.90	8,579.24
1.2 Tetracyclines	41.00	107.08
2 Antidiabetics ²	0.00	0.00
2.1 Insulins	8,645.00	34,665.00
2.2 Oral Hypoglycaemics	466.40	1,848.00
3 surgical	0.00	0.00

If we run the same report with level one chosen, only the first level of the hierarchy is shown. Items with categories 1.1 and 1.2 and 1.1.1 have all been summarised under “1 Antibiotics”

Comparative Transaction Report The secret pharmaceutical store		
Category	From 01/10/2005 to 28/12/2005	From 01/07/2005 to 30/09/2005
None	1,094,625.43	244,286.00
1 antibiotics	1,330.90	8,686.32
2 Antidiabetics ²	9,111.40	36,513.00
3 surgical	0.00	0.00

And with level two chosen, items with category 1.1.1 and 1.1.2 are summarised under the heading “1.1 Penicillins”

Comparative Transaction Report The secret pharmaceutical store		
Category	From 01/10/2005 to 28/12/2005	From 01/07/2005 to 30/09/2005
None	1,094,625.43	244,286.00
1.1 Penicillins	1,289.90	8,579.24
1.2 Tetracyclines	41.00	107.08
2.1 Insulins	8,645.00	34,665.00
2.2 Oral Hypoglycaemics	466.40	1,848.00

Note that if you have items to which no category has been assigned, they are shown under the heading “none” at the top of the report.

The categories are printed in the order that you have specified by drag-and-dropping in the window shown by choosing **Item > Show item categories....**

Transaction filter: Filters the report for given category

Prescriber filter: Reduces the found transactions to those for the given prescriber only, depending upon the selection made (equals, starts with, contains, is not equal to).

- Obviously only useful in dispensary mode.

Exclude transfers from calculations: The check-box *Exclude transfers from calculations* when checked will ignore transfers between stores within the organisation.

Exclude Ad Hoc and non stock items: The check-box *Exclude Ad hoc and non stock items* is displayed according to the type of report selected. By default, it is checked.

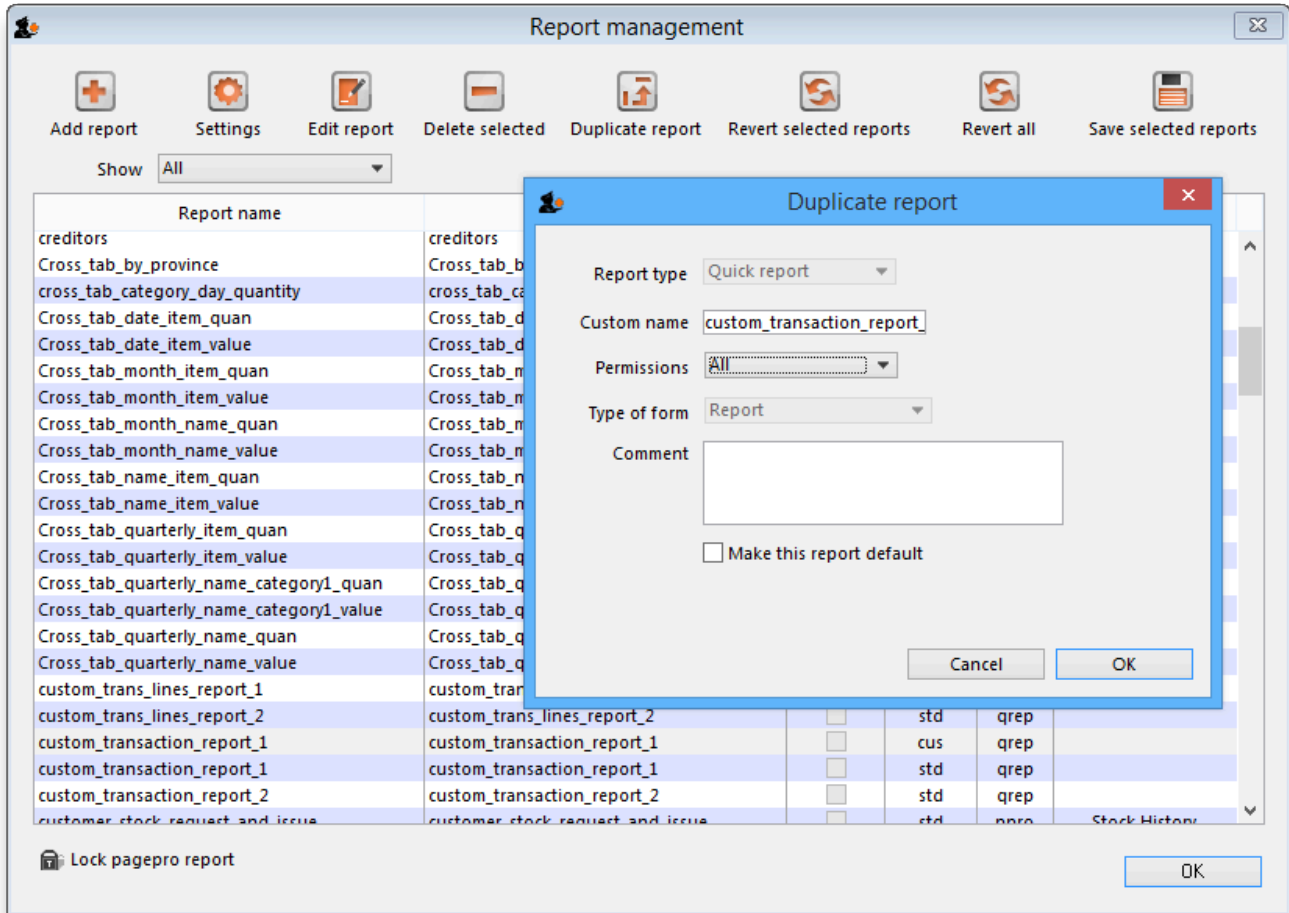
When checked, the transaction report generated will not include any Ad Hoc items or non stock items (items you don't normally keep in stock).

Custom transaction & trans lines reports

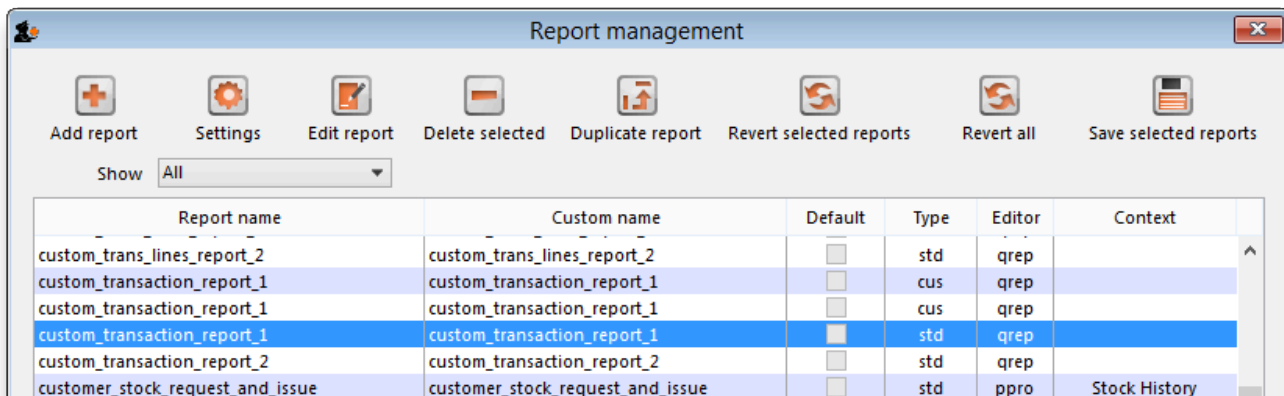
These four reports should be regarded as templates for you to design your own report .

Having decided whether you wish to report on transactions or transaction lines, you need to design the report according to your specific needs. Coose *Reports > Manage Reports* :

You are presented with the *Report management* window. In this example, our report will be on transactions, so you should highlight *custom_transaction_report_1* , and click onthe *Duplicate report* button:



Choose an appropriate name for your report, and any comment you wish, and click **OK**. You are returned to the *Report management* window, where you should scroll down until you reach the report you have created; note that the name you gave the report will appear in the *Custom name* column; highlight the row and click *Edit report* .



This brings up the **Edit report** window. Creating custom reports is described in detail earlier in this chapter. See the Custom Reporting Tutorial

Previous: Purchasing Next: Other Reports

Other Reports

ABC analysis

This report will rank the items based on the value sold in the period specified. Sometimes such a report is referred to as an “ABC” analysis or a “pareto” analysis. Statistics show that 20% of the items supplied by an organisation usually generates 80% of the total value of sales. Therefore, it is useful (and wise!) to concentrate first on the 20% of items that are most important. This report makes it easy to do just that.

You might be interested in what Wikipedia has to say about ABC analysis (http://en.wikipedia.org/wiki/ABC_analysis)

You need to enter the following information:

Number of items to include in report: Enter the number of items to be included in the report.

Date range: Enter the dates you wish here. Each item will have its “analysis” field updated with the total value of sales during the period specified.

Filters: Should you wish to apply filters to the report, three are available - for items, categories and departments.

Which mode: You can choose store mode, dispensary mode or both modes of transactions for inclusion in the report.

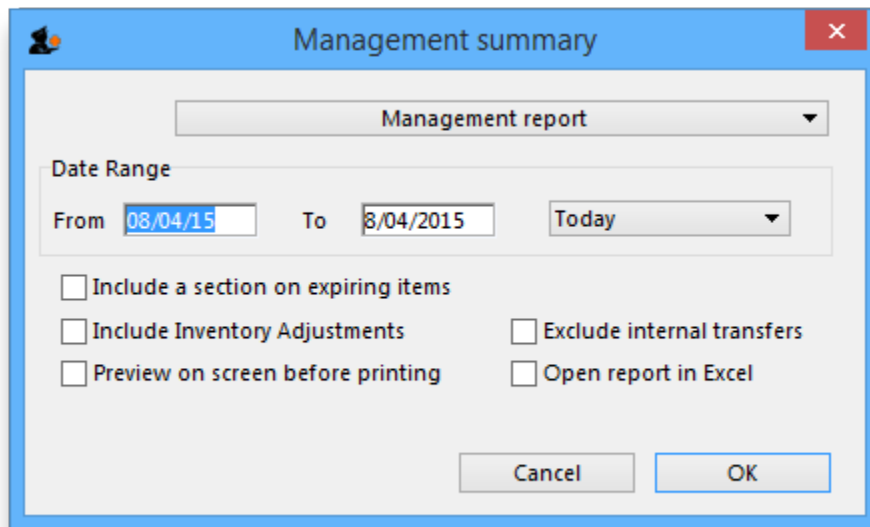
Exclude Ad Hoc and non stock items: If you check this box then Ad Hoc and non stock items will not feature in the report.

The report lists the number of items specified, ranked by value of sales, starting with the highest. The value of sales and the percentage of the total value are also shown. Note that the total value is the total for the items in the report, not the total sales for all items. If you want to report on the total for all items, set the *Number of items to report on* to a number greater than the number of items in your data file (Note that this may make the report very long, but you can choose just to print the first few pages if you wish).

Management summary

This report is designed with line managers in mind, or other people who want to “keep their finger on the pulse” of their organisation but are not interested in the fine detail!

You'll be shown a window where you can choose a date range for the report:



The report provides the following information:

- The total value of stock on hand
- The 10 items with the largest stock value
- The 10 items with the largest value of supply to customers in the date range chosen.
- The 10 suppliers from whom you have purchased the most in the date range chosen.
- The 10 customers to whom you have supplied the most in the date range chosen.
- If you check the “Include section on expiring items” checkbox, a section will be included that lists:
 - The cumulative liability for expiring items for each of the next 12 months.
 - The 12 most valuable expiring items (or at least batches of particular items)

Preview on screen before printing

Check this box if you want to view your report on screen first.

Open report in Excel

Check this box to view the report directly in your chosen Spreadsheet program.

Quotation Summary

There are two options in *Report on* section, namely: *All quotations* and *Preferred quotations* , and there are two options in *Group together by* section, namely *Supplier* and *Item*

All quotations shows the quotations in which *Preferred* is set to “true or false”.

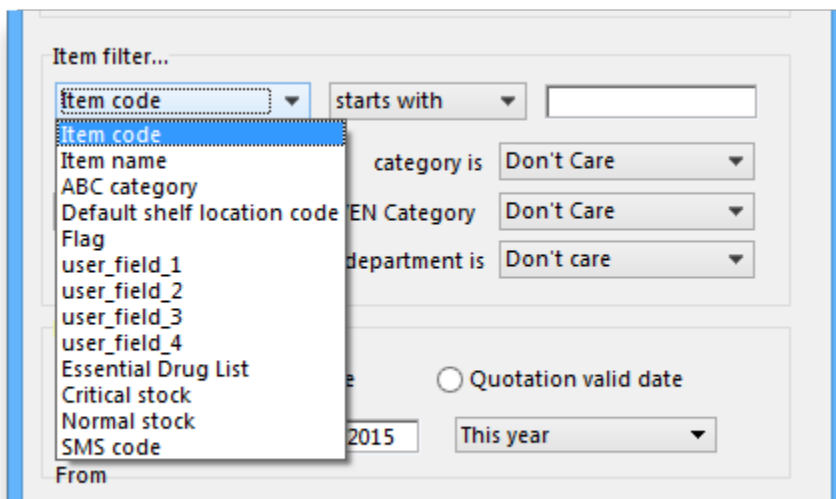
Preferred quotations shows only those quotations in which *Preferred* is set to “true”.

Supplier option displays the quotation report on the basis of supplier. The quotations for the items related to a particular supplier are listed along with that supplier.

Item option displays the quotation report with the items arranged in alphabetical order along with the corresponding supplier's name.

In addition there are filters allowing you to narrow your search further by:

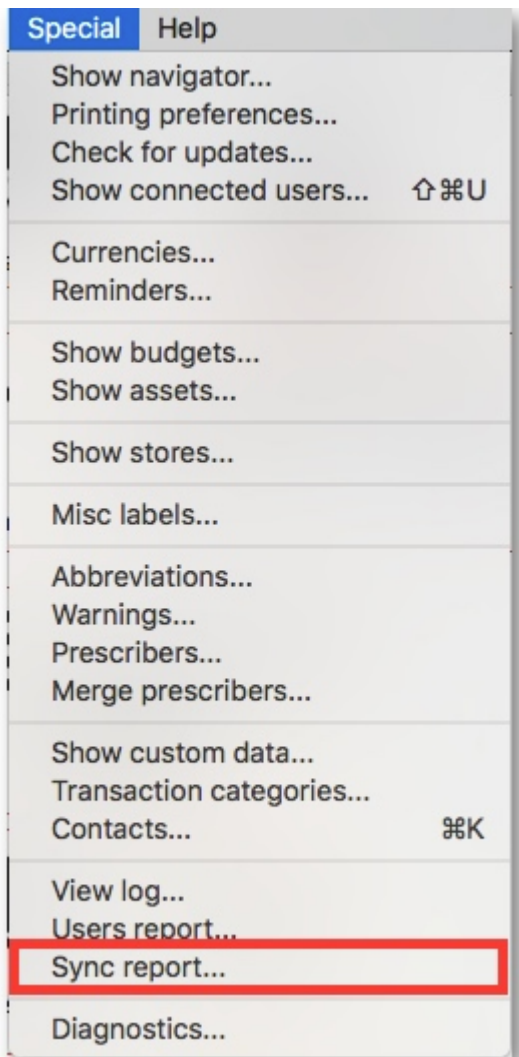
- limiting the report to suppliers meeting your specified criteria - e.g. the supplier's name code may be entered, so the resulting report will display only quotations from that particular supplier.
- specifying criteria relating to the item by choosing from the many options in the drop-down boxes as shown below:



There is an additional filter, the Date filter, allowing you to specify the dates on which the Quotations you are examining were created or modified, and the radio button toggles display of the quotations' expiry date (*Quotation valid date*) on or off.

Sync Report

This report allows you to track remote site activity. It is available from the special menu. The report is only visible in the menu if you're on a primary server (the main server in a sync system).



07/06/2017

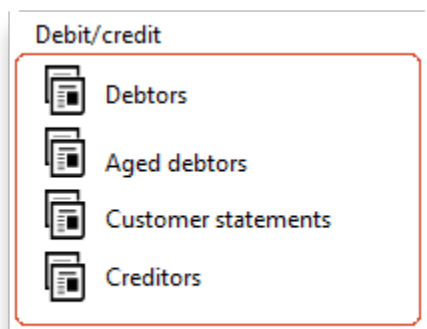
11:29:29 Kiritimati_hosp_phar

Item_line

Communication received: Data updated

Debtors Creditors

The following reports are available:



Select the required report by clicking on it.

Debtors

This report will produce a list of all debtors. *mSupply* uses an open-invoice system of accounting for debtors, so the outstanding amount for each debtor is displayed; for debtors with more than one invoice outstanding, the amount displayed is the cumulative total of all outstanding invoices.

Note that the total outstanding on invoices is not reduced for any previous overpayment by a customer, but this is listed in a separate column in the report.

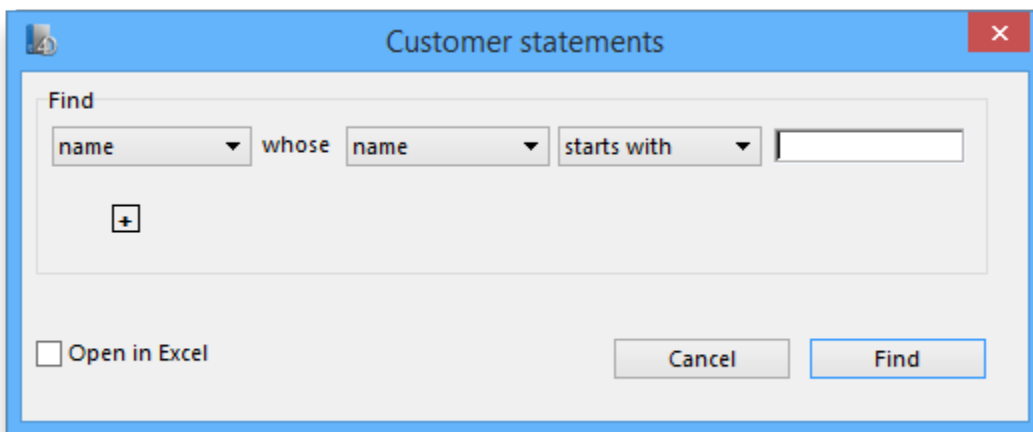
To remove overpayment amounts from the system, choose *customer | new payment...* and enter the name of the customer with an overpayment. You will be asked if you want to use the overpayment amount for this payment. Choose *use*, then allocated the overpayment to outstanding invoices.

Creditors

Aged debtors

Customer statements

You will be presented with a window to find customers.

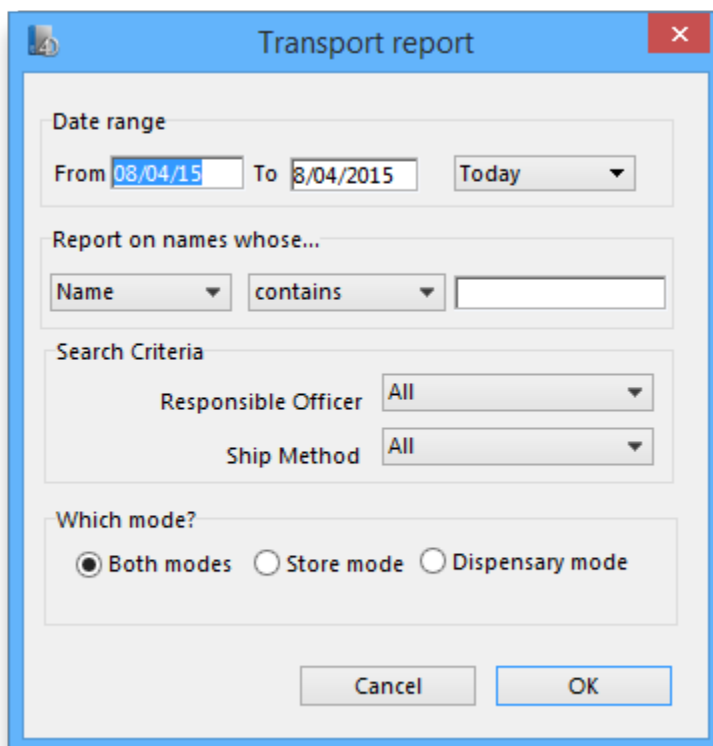


If you want a report for all customers, leave the entry field blank. Click *OK* and a report will be produced for any customers who match the criteria entered. Note that customers with no amount outstanding will not have a statement printed for them.

Transport Report

This report allows you to print information about the transport details for a range of invoices.

First you are shown a window where you can select a date range and choose to report on only invoices supplied by a particular method, by a particular responsible officer, or to a particular name or names.



Click “OK” to run the report.

Note that transport details can only be entered on customer invoices if you have checked the “We use box numbers” option in the Preferences

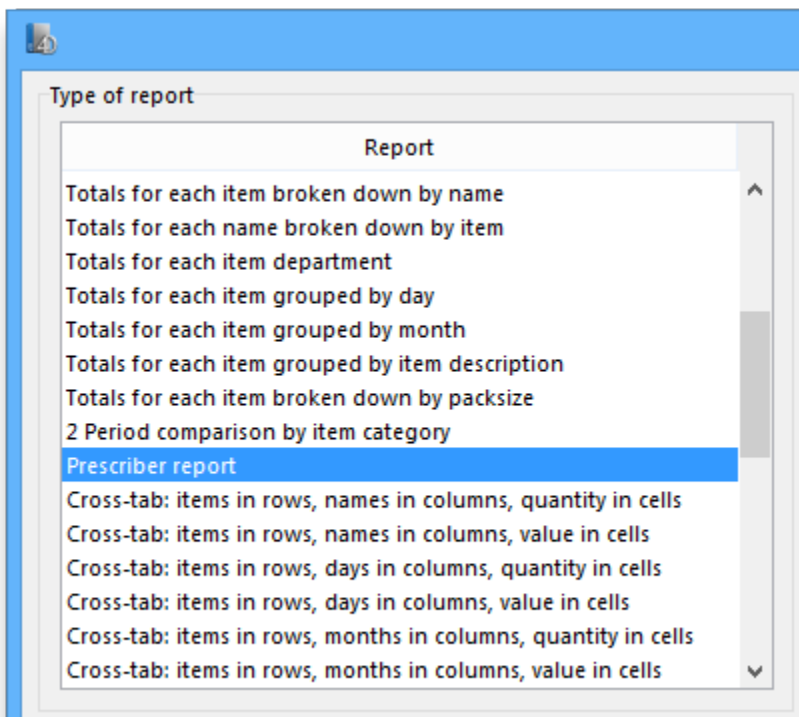
Prescriber Report

This report (v1.93 onwards only) allows you to view the total value, mean item value and item count for prescriptions dispensed for each prescriber.

You will be shown a window with the normal date range options, and the option to report only on prescribers whose type field is set to a certain type.

Click OK to proceed.

The window that appears is the Transactions report, but you will see that the *Prescribers report* is highlighted.



As usual, the report options window is shown where you can choose the destination and set headers and footers.

User activity totals

This report was initially made for use in dispensing situations where you want a quick count of the number of prescriptions and items issued in a day. However, it is also useful for getting a quick view of workload for a month or a year in store mode. This report gives the number of supplier invoices (or prescriptions) and the number of stock lines on them, reported by user.

Choosing this menu item shows a window like this (once you have selected a date range).



Supplier invoices	13	46
-------------------	----	----

You can drop down to view data by clicking on the green arrows. Alternatively, you can click on the printer icon on the bottom right and export the full list to Excel.

Date range

You can either enter dates manually or choose from the drop-down list to the right of the date fields.

Time range

Enter times here in 24 hour format (e.g.. 9:00 in the “from” field and 17:00 in the “to” field. Leaving these fields on 00:00:00 will calculate for the whole day.

To calculate totals, click the *Show* button. If there are a lot of transactions to evaluate, a progress bar will be shown.

Click the *OK* button to close the window when you are finished.

Backorder report

This report shows a list of Items that are not available or insufficient stock is present to meet the requirements of the order placed by the customer. Information about the item code, item name, current stock, customer code, b/ord quantity is displayed.

If you are running a backorder system this gives you a quick way to check if backordered items are now in stock so they can be supplied to customers.

Suggest price list additions...

Note: the price list menu items are for those organisations that produce a price list or price indicator. (It is useful to call your publication a “price indicator”, as it implies the published price is a guide, and not a fixed price). You are asked to specify the number of transactions and the number of months (e.g. 2 transactions in the last 3 months) that would make an item eligible for inclusion in the price list. A search is performed using the criteria you enter, and a list of items is shown that meet the criteria but are marked as not being in your price list. You can double-click on items in the list and click their “price list” check box to add them to the price list.

Update price list

This item updates the prices of items from the item line on hand that has the most stock.

Only items whose “price list” check box is checked are updated.

Each line of stock is evaluated to determine which stock line you have the most of. That line is used as the indicator price for its item.

Note that if an item has no stock, then the price for that item will not be altered.

It is a good idea to run the “suggest price list additions” report first.

Price list

All items that are marked as included in the price list are placed in a report. If you wish to export to a text file, choose “save to disk” in the report options dialog that is shown. Note: items that are in stock, but that are marked as not in price list will not be included.

The exported file has fields separated by tabs and records separated by returns. The field order is:

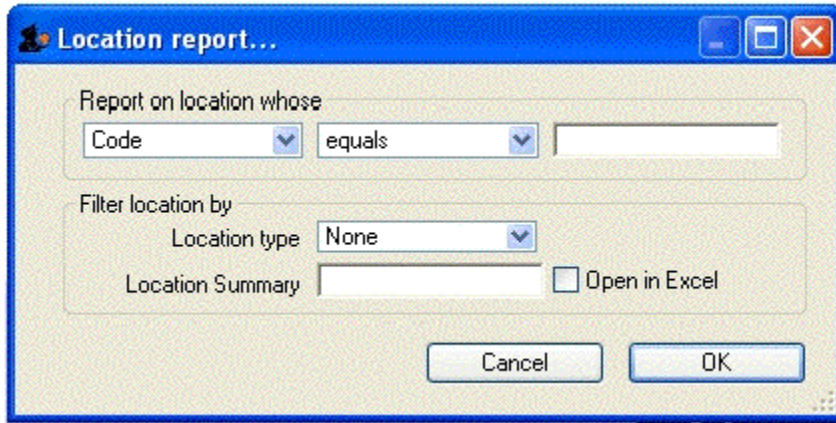
- Item
- pack size
- price.

If you wish to include different information, you can create a custom report to do this.

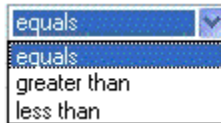
Location report

This report is available in version 1.96 and later.

This report lists the location description, type, capacity, used volume and percentage available. Choosing this menu item shows you the location report filter options window as below:



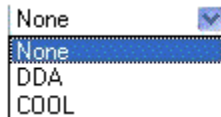
The report may be restricted to certain locations by using specific search criteria. Choose either “Code” or “Volume” from left drop-down list is . The centre drop-down list allows you to choose a comparator.



You have to make an appropriate entry on the right-hand field. Leaving the field blank means no filter will be applied.

Location type

It allows you to choose a location type. You can select the one from the drop-down list on the right side. The graphic of location type is shown below.



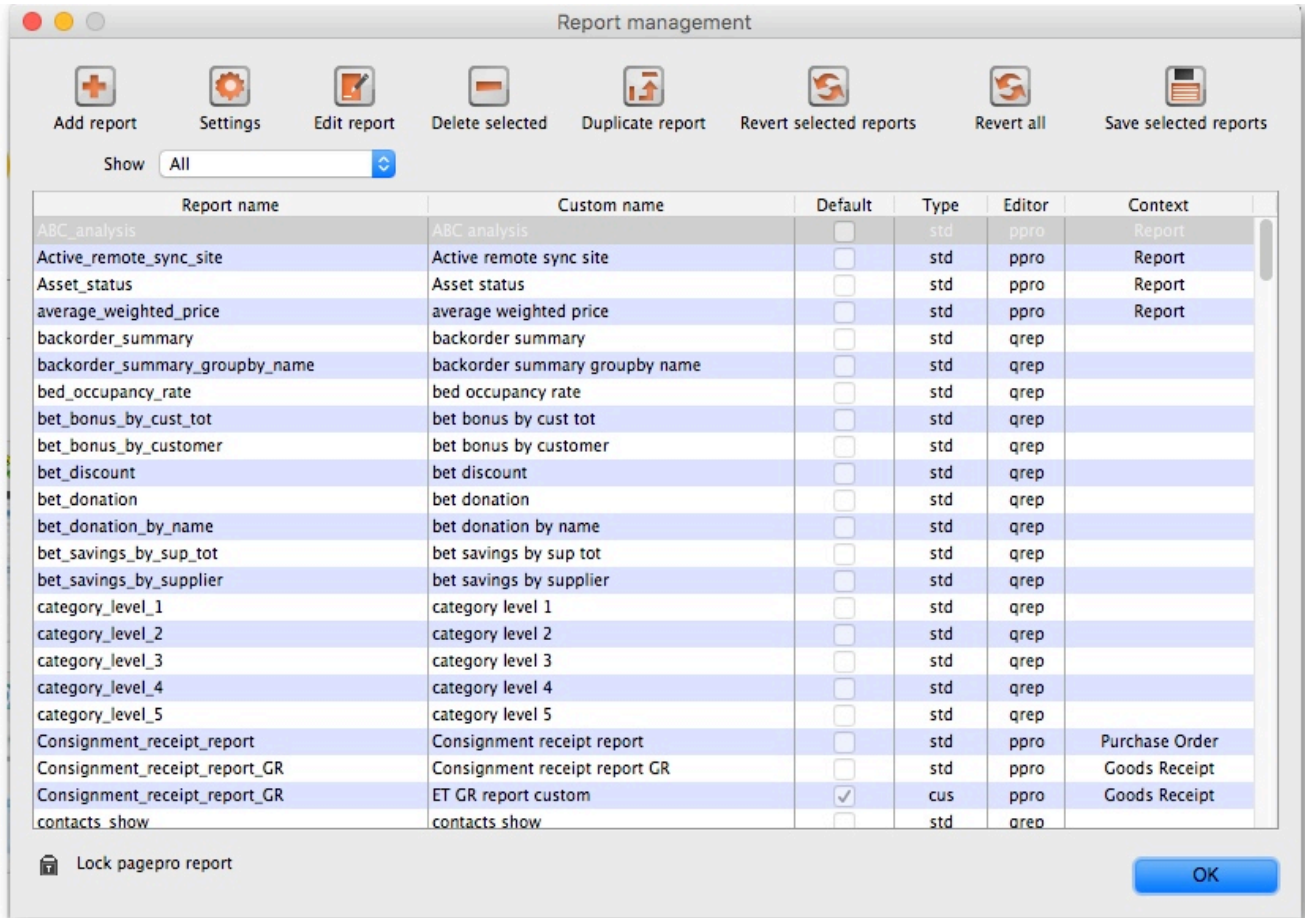
For example, you can specify the location type “COOL” to show only refrigerated locations.

Check the “open in Excel” checkbox if you wish to directly open the saved report in Excel (or any installed spreadsheet).

Click the OK button to run the report.

Manage Reports

Choosing this item shows a list of built-in reports and any custom reports which have been designed:



The built-in reports may well be sufficient for your needs, but mSupply's versatility allows you to manage the reports to meet any specific requirements you have.

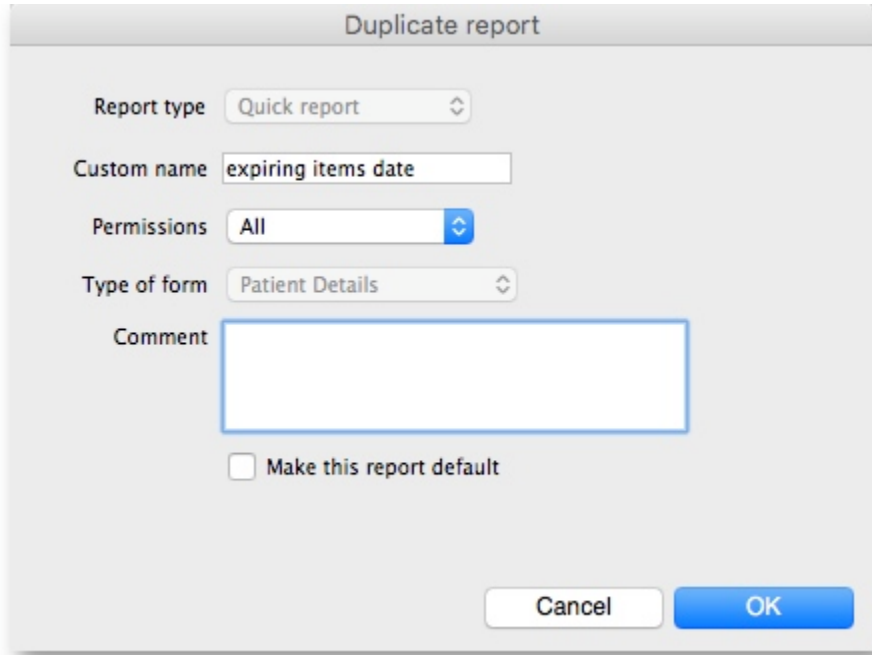
Options in the Report Management window:

Delete selected reports

Report(s) no longer required may be selected and deleted from mSupply

Duplicate report

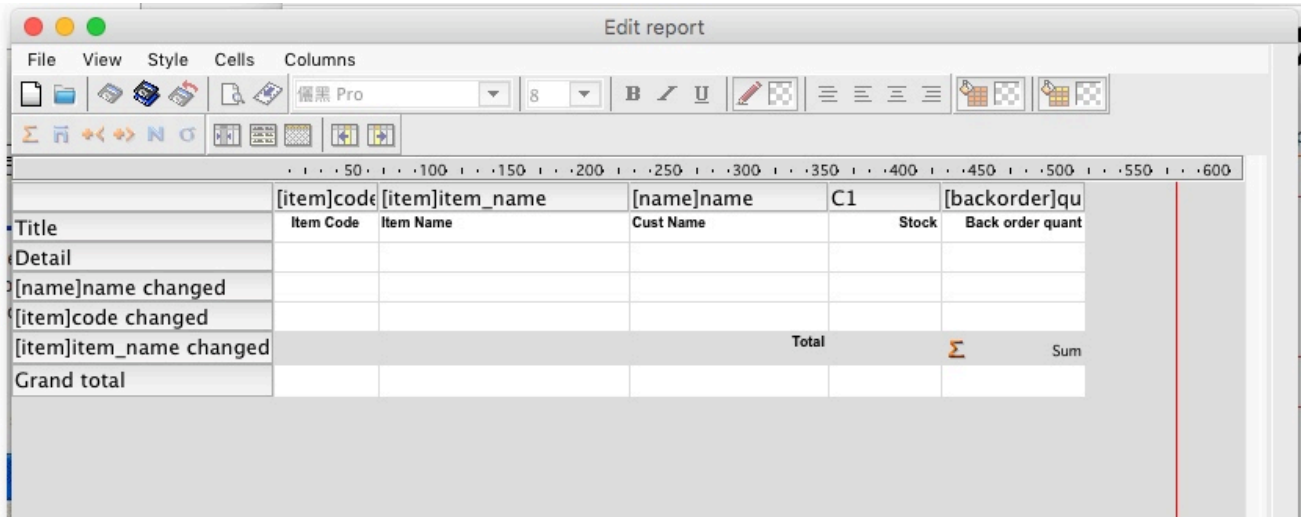
Should one of the built-in reports not quite meet your needs, you have the opportunity to create a duplicate of that report, and then modify it to meet your needs. The first step is to select the closely matching in-built report; in our example we'll use the *expiring_items_date* report, then click on the *Duplicate report* button;



the window that appears has already selected a name for your report, using the name of the in-built report prefixed by “ my_ ”; you may change this name should you wish. The Permissions drop down list allows you to specify users having access to your report; the options are *All users* , or *Only me* . Should you wish your report to become the default one rather than the in-built report, then check the *Make default* checkbox. When you click on OK, the report you have just created now appears at the foot of the list of reports from the item on the menu Report>Manage reports.

Edit report

The editing of reports using the powerful editor has been extensively covered earlier in this section.



Using the report editor is complex, but it has the potential to produce a wealth of useful information. Contact Sustainable Solutions for a link to download a separate manual on the subject.

Note that in a multi-user installation, changes you make to a report will affect all users, so don't change a report without some forethought.

Add report

Click on this button, and the following window appears

Revert selected reports

This button allows intrepid souls to save face by undoing the damage they have done to a particular report! The report that was installed with mSupply will be reloaded from the disk, and any changes you have made to the version stored with the data will be discarded.

Revert All

This button returns all in-built reports to their original state when you installed mSupply; exercise caution when using it. Custom reports which you have designed are not affected.

Save selected reports

All reports are automatically saved by mSupply in the default folder. There may be occasions when you wish to save one or more reports on a removable storage medium - e.g. a pen drive - and this button allows you to do this; a window appears allowing you to specify the location in which you wish to save the selected reports.

Previous: Transactions reports Next: The mSupply Web Server

Introduction to web interfaces

*

mSupply data can be accessed through simplified web interfaces for a number of purposes. These web interfaces are simpler than the standard mSupply desktop interface described throughout most of this documentation. These web interfaces allow users to communicate over the internet with a store on your mSupply server. They are very flexible, being able to run on a wide variety of devices:

- desktop / laptop
- tablet (recommended for most applications)
- smartphone (practicality depends on screen size and resolution!)

and operating systems:

- iOS
- Android
- Windows
- MacOS
- Linux
- any other operating system

In fact, anything which can run a browser and can get an internet connection can use an mSupply web interface. It means that you can now use the power of mSupply to manage stock at remote sites which don't have access to local IT infrastructure, except, of course, access to the internet!

We are continually developing the web interface services. For details on various components see:

1. The mSupply Web Server
2. mSupply Mobile Interface
3. The Web Stocktake module
4. Customer Interfaces
 - a. Mobile Customer Interface
 - b. The 'Last Mile' Interface (under development)
5. Supplier Interface
 - a. Uploading and Downloading Web Tenders
 - b. Supplier instructions for using the tender submission web interface
6. mSupply Mobile API

Next: The mSupply Web Server

The mSupply web server

*

About the mSupply web server

When mSupply's web server is running, it allows you to access mSupply data from any networked computer that has a web browser.

Security warning: We have had thousands of uses of our mSupply web server on the public internet since 2005. To date we have not had a security problem reported. However, we recommend you use SSL and a proper SSL certificate if your mSupply web server is publicly accessible. mSupply fully supports SSL. Contact us for certificate installation instructions.

The advantages of accessing mSupply in this way are:

- It's easy. Most people are familiar with using a web browser.
- It's low maintenance. You do not need to install any client software.
- It's cost effective. Once you have purchased a web server licence an unlimited number of people can connect.
- It's secure. The web server supports access using SSL, the standard for securing internet connections, stopping any malicious snooping of passwords or data.
- It allows customer access to information. The web interface built into mSupply can easily be customised to allow clients, supplier or other interested parties to have restricted access to the mSupply information you wish to show them. We are also able to include order submission by customers, making it easy for them to place small orders, and have real time information on stock availability.
- You can access mSupply from anywhere on the internet. Once we supply you with a password protected version of the web interface, you can access mSupply data from any internet connected computer.
- It's fast over low bandwidth connections. The mSupply web server allows you to provide access to mSupply from locations with only dial-up access.

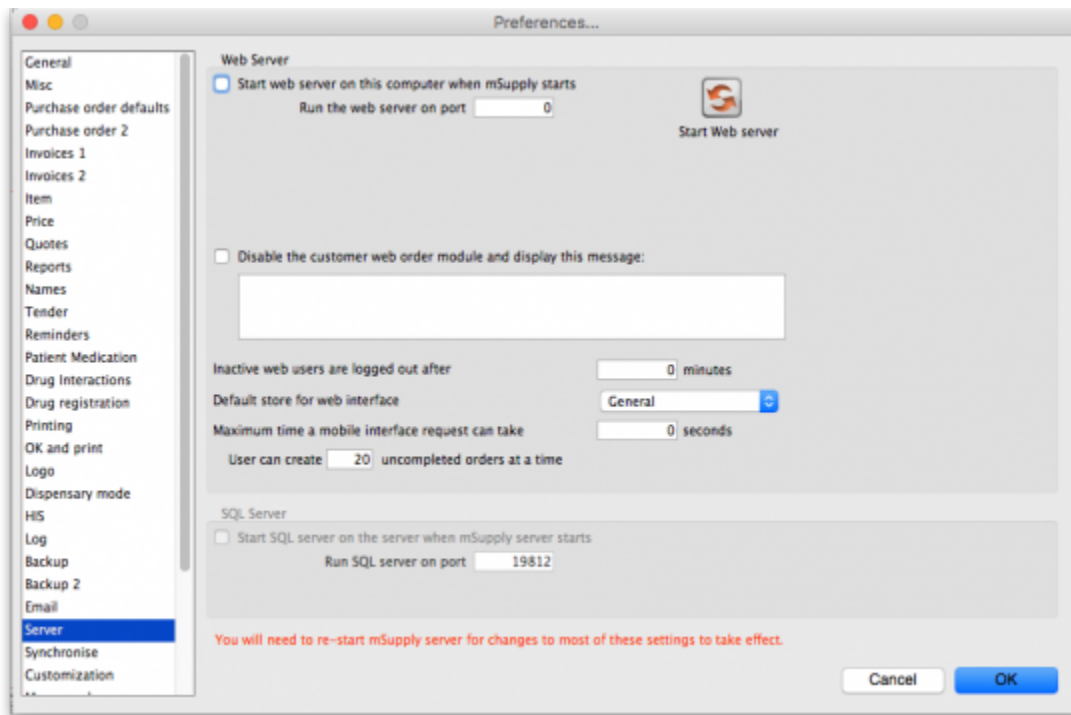
mSupply web server functionality is being continually expanded according to client requirements. We welcome suggestions for more features.

Activating the web server

The mSupply web server feature is not included in the regular mSupply licence; in order to use this function, an additional licence is required. On application to Sustainable Solutions this can easily and swiftly be arranged.

For practice purposes, an evaluation version is available on our server - should you wish to access this, please contact us for instructions.

Choose File > Preferences, then click on "Web server" in the list.



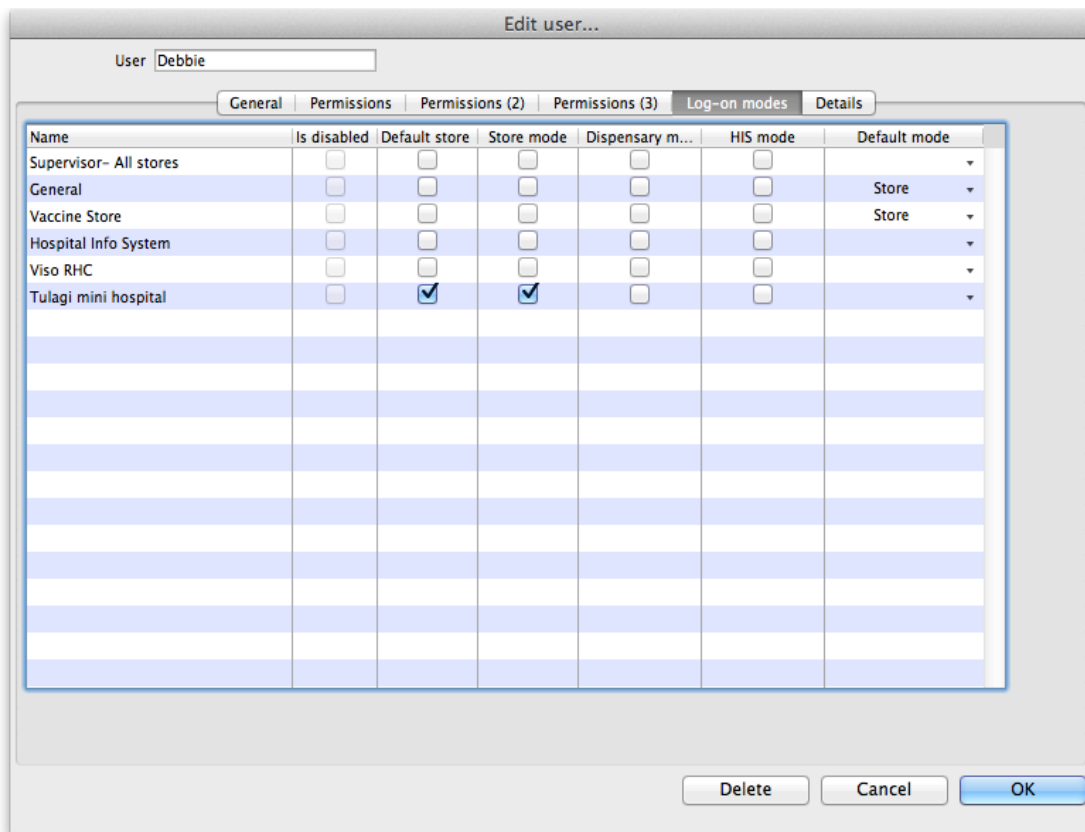
You can choose to start the web server or have it start automatically when mSupply starts (see General preferences for more details on these preferences).

Technical note: By default mSupply is set to use port 8080. This is because the default port number for http access (80) on unix systems running mSupply can only be used by applications that have root privileges, and we don't want you to have to run mSupply as root! If this is a problem, we can supply you with an application that redirects traffic on port 80 to port 8080.

Setting up mSupply Desktop Users for mSupply Mobile

Your mSupply server needs to be set up for mSupply Mobile use. Follow these simple steps to get started:

1. Create a virtual store to hold the remote facility's stock.
2. Create new users for the store or give some existing users permission to login to it. Note: Make sure that only the users who will use the mobile interface have permission to login to this store.
 - a. Note that the important setting for mobile access is the "Default store." You'll need to turn on "store mode" for the store too, else you can't turn on "Default store." For example, here's user Debbie set up so that when she logs into mSupply mobile she'll be logged into Tulagi Mini Hospital:



- b. Note that other user permissions (on the Permissions, Permissions(2) and Permissions(3) tabs) only apply to mSupply Desktop Users, not to mSupply Mobile Users.
- 3. For the steps below, refer to Virtual stores for detailed instructions
 - a. Make **only** the items which the remote facility will use visible in the new store.
 - b. Make **only** the names which the remote facility will use visible in the new store.
 - c. Ensure the store can receive transfers from the store that will be supplying it (This is done by ensuring that the receiving store's name record is visible to the sending store)
 - d. Ensure "Pack to one" is turned on for visible items in each store.

Now you're ready - have fun!

Setting up a Customer's user to access the web interface

You can set up multiple Contacts for each customer.

1. Find the customer by choosing **Customers > Show Customers** and entering part of their customer name to search for them.
2. View their details by double-clicking the customer's record in the list
3. Click the **Contacts** tab.
4. Click **new** to add a new contact.
5. Fill in a user name and password
6. Check the **Can log into web interface** checkbox.

Add a contact...

Last

First

Position

Phone

Email

Address1

Address2

Country

Comment

Category

Category2

Category3

Info if related to a customer or supplier....

Name

Web Login

Can login to the web interface

Username

Password

Groups

This contact belongs to the following groups:

Add Group Remove Group

Previous: Introduction to web interfaces Next: mSupply Mobile Users Guide

Mobile (Android) user guide - new, featuring offline operation

1. Getting Started

Hardware Requirements

Recommended Specifications:

- Display: 800 × 1280 pixels
- Mobile Data enabled (3G minimum)
- Android 4.4.4 or higher
- 1.5 Gb Ram
- Quad-core 1.3 GHz (Gigahertz)

Minimum:

- Display can be 768 × 1024 pixels

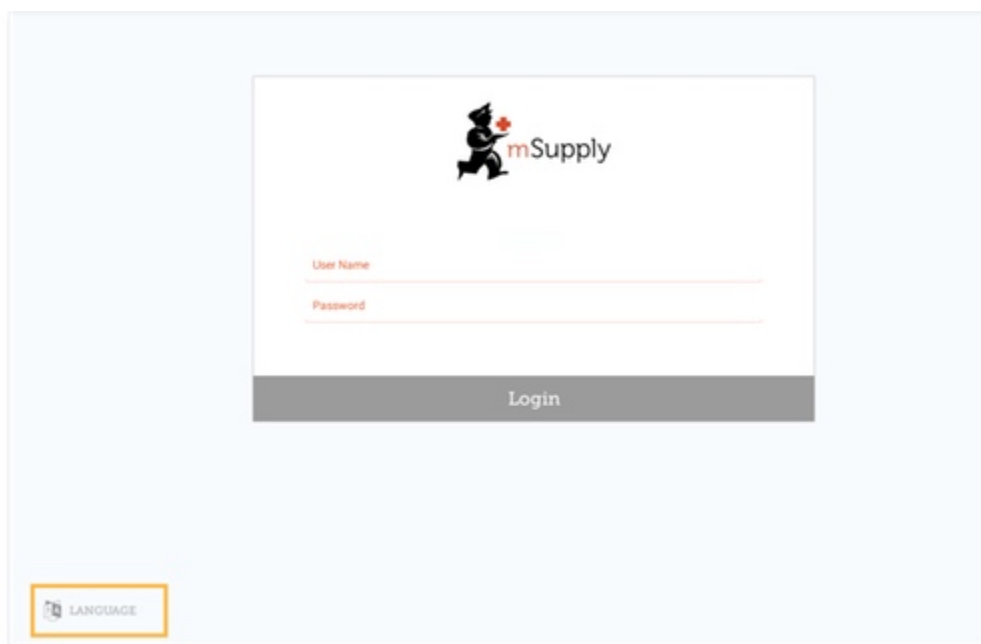
Installation

You can get the latest version from the Google play store

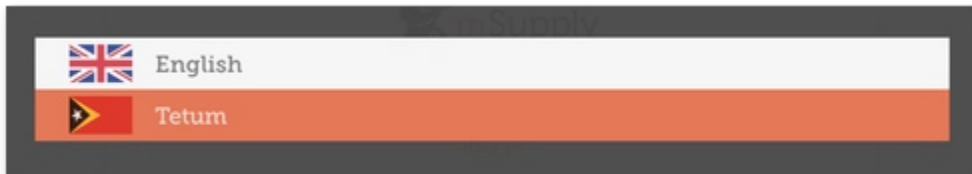
OK. Here we go!

This is the login screen. You will be given a User Name and Password when your tablet computer is installed at your clinic. Your tablet computer can only log in to one facility.

The first thing you will need to do is to choose your preferred language, by clicking 'language' at the bottom left of your screen, as outlined in orange below:



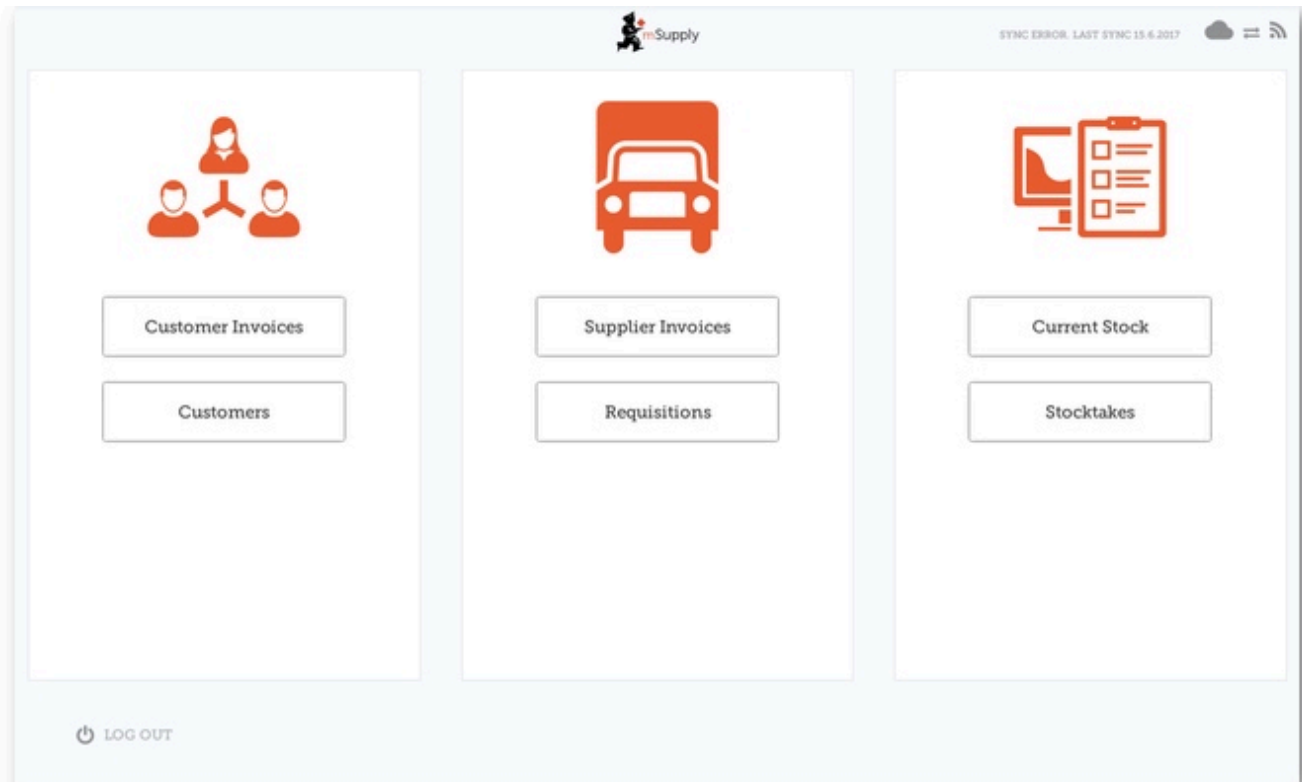
For example, if your first language is Tetum, then you're in luck!



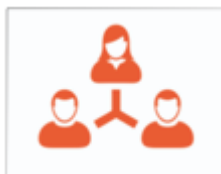
So, once you have selected the language of your choice, enter your User Name and Password and click 'Login'!



This brings us to the main screen, we will be returning to the main screen a lot as we use mSupply Mobile, so it's important to understand the main functions. Let's go through them one by one.



CUSTOMERS



The '**Customers**' area is for all the stock that goes OUT of your facility. It contains a list of customers and customer invoices. Customers can be **other facilities** you supply, **doctors and nurses** doing outreach tours, or **individual patients**.



The **Customers** button will bring up a list of your Customers. From there, you can click on an individual customer and see their details and invoices.



The **Customer Invoices** list will bring up a list of the most recent customer invoices (orders TO customers) and allow you to create new ones.

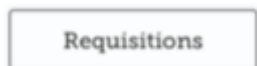
SUPPLIERS



The '**Suppliers**' area shows orders that you have sent for your own stock. Usually, you will only have ONE supplier (a medical store or other healthcare facility) and this will be pre-programmed for you. The Suppliers area allows you to place orders (**Requisitions**), see a list of your pending orders, and shows the stock you have already been sent or are waiting to receive (**Supplier Invoices**).

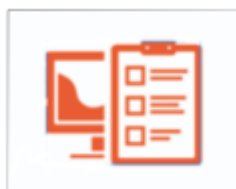


The **Supplier Invoices** button will bring up a list of the orders *you have been sent* or are waiting to receive.



The **Requisitions** button allows you to place an order and shows you a list of orders you have already placed.

STOCK



The '**Stock**' section shows you a list of your current stock and allows you to do stocktakes. You can also use this area to search for an individual item ("*how many paracetamol tablets do I have?*") or to update the stock levels for each item when you realise there is a mistake, or you are doing your regular stocktake.

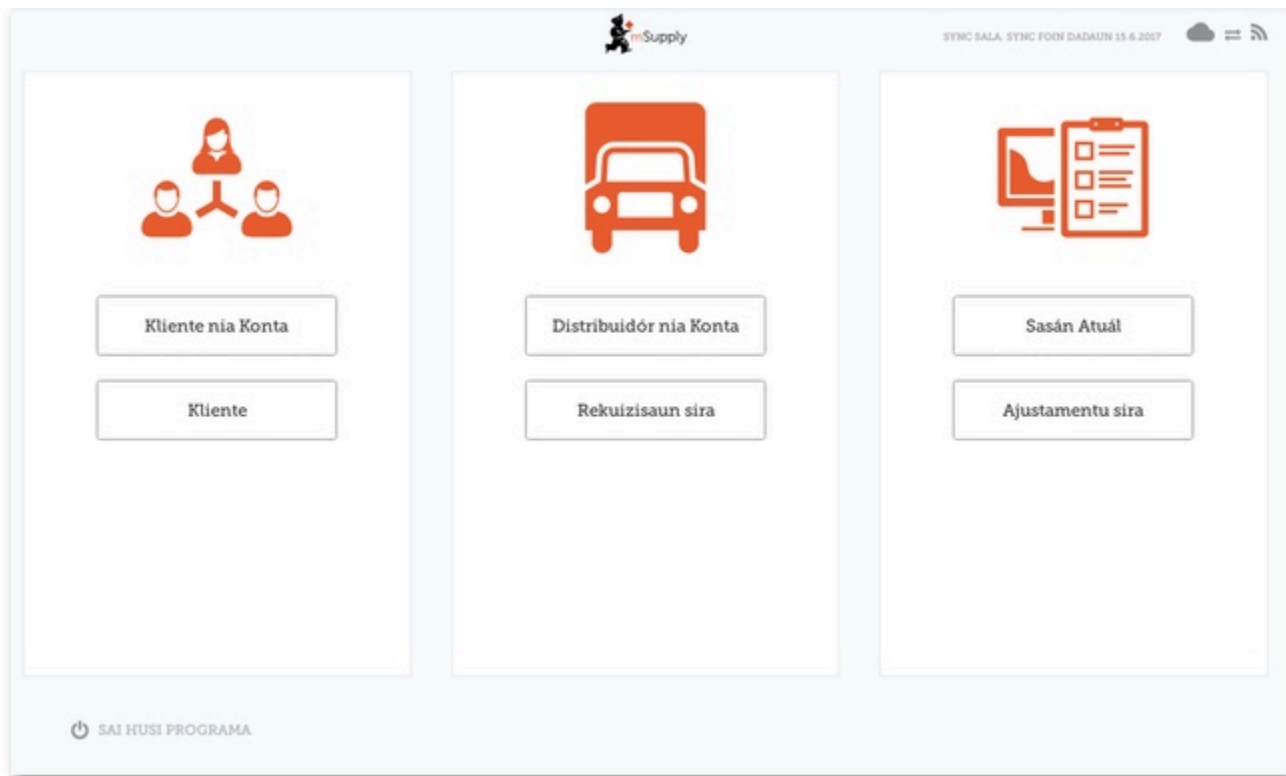


The **Current Stock** button allows you to easily see how much stock you have on hand, search for an individual item, or check expiry dates.



The **Stocktakes** button allows you to do a stocktake on all items or a small selection of items and shows you a list of all previous stocktakes.

(and here's the main screen in Tetum!)



2. Customer Invoices

Aspen Medical Centre sends an order to your facility. They are doing an outreach tour to households in a nearby village and would like to collect some items to take.

The CUSTOMER is Ami CHC

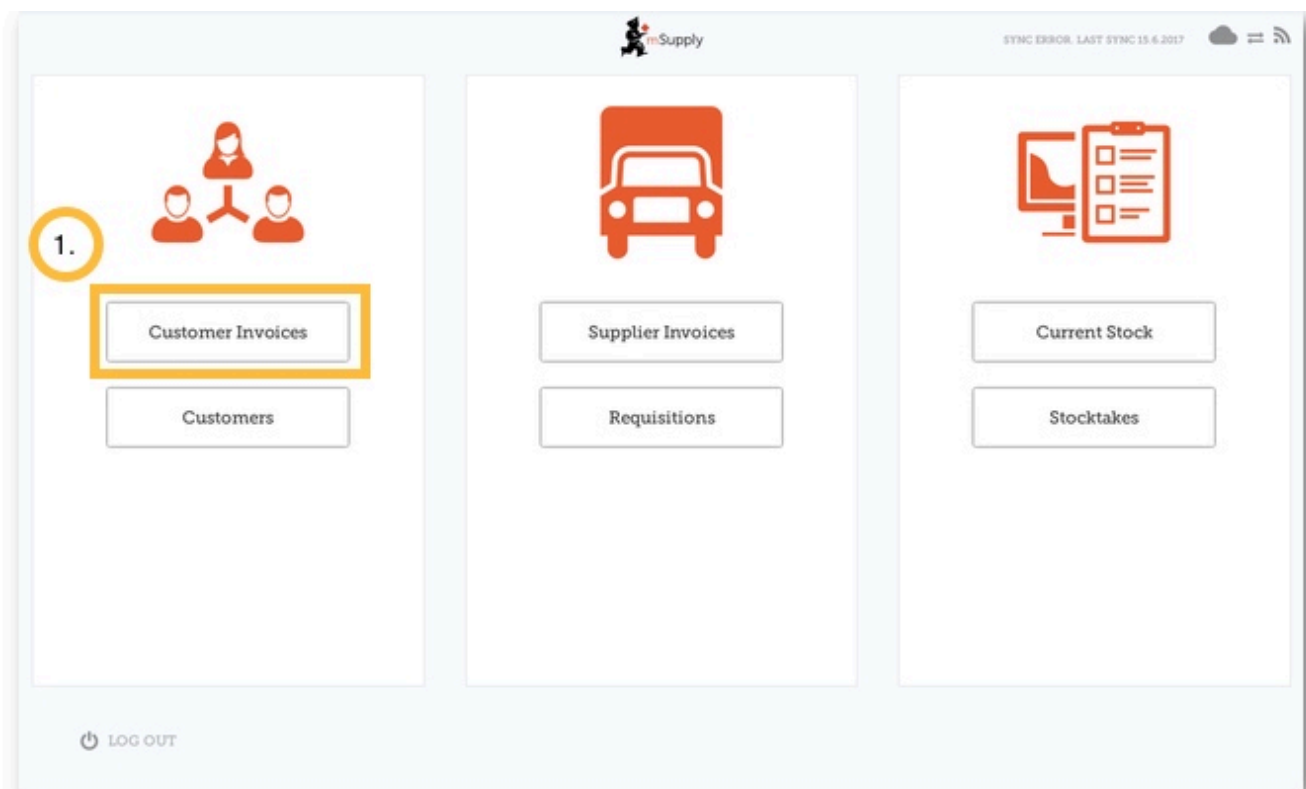
They have ordered:

Amoxicillin 500mg tabs x 11 Paracetamol 500mg tabs x 100 Diazepam Injection 5mg/ml Amp/2ml x 50

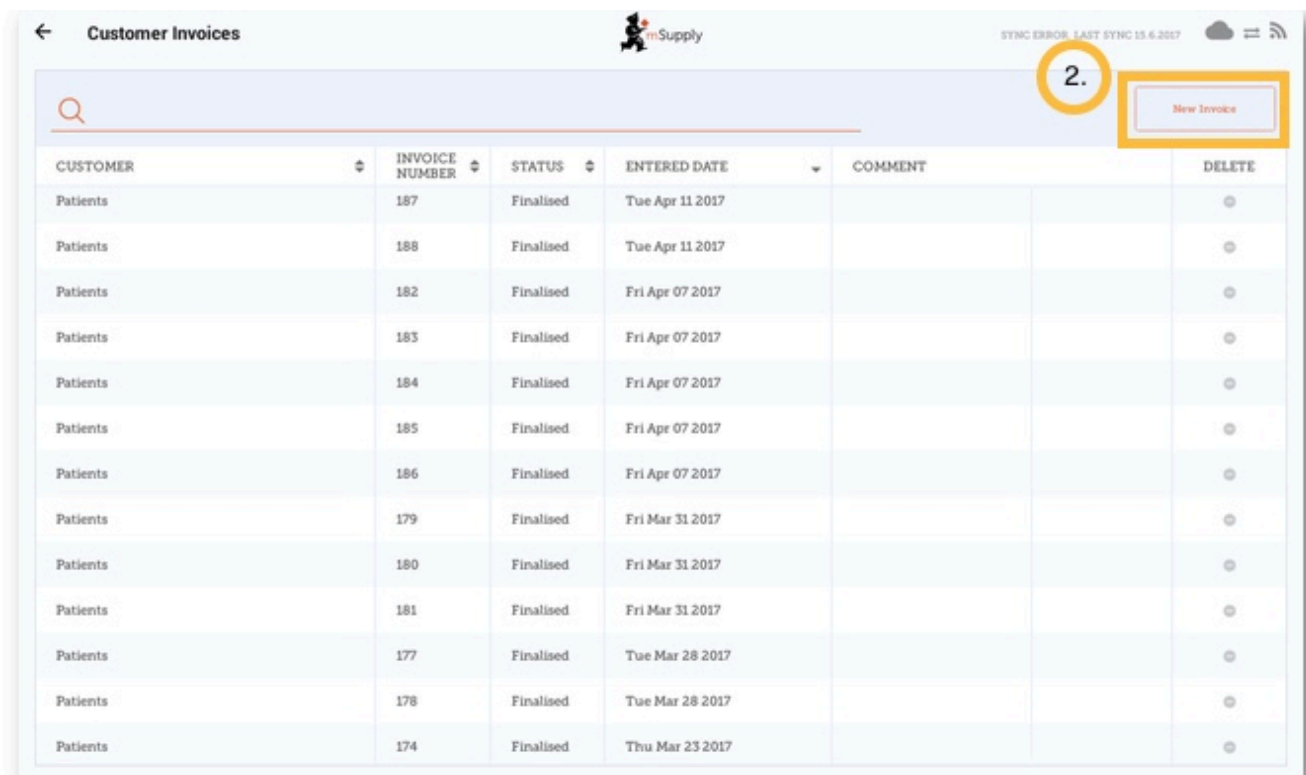
Let's create a Customer invoice...

1. Click on 'Customer Invoices'

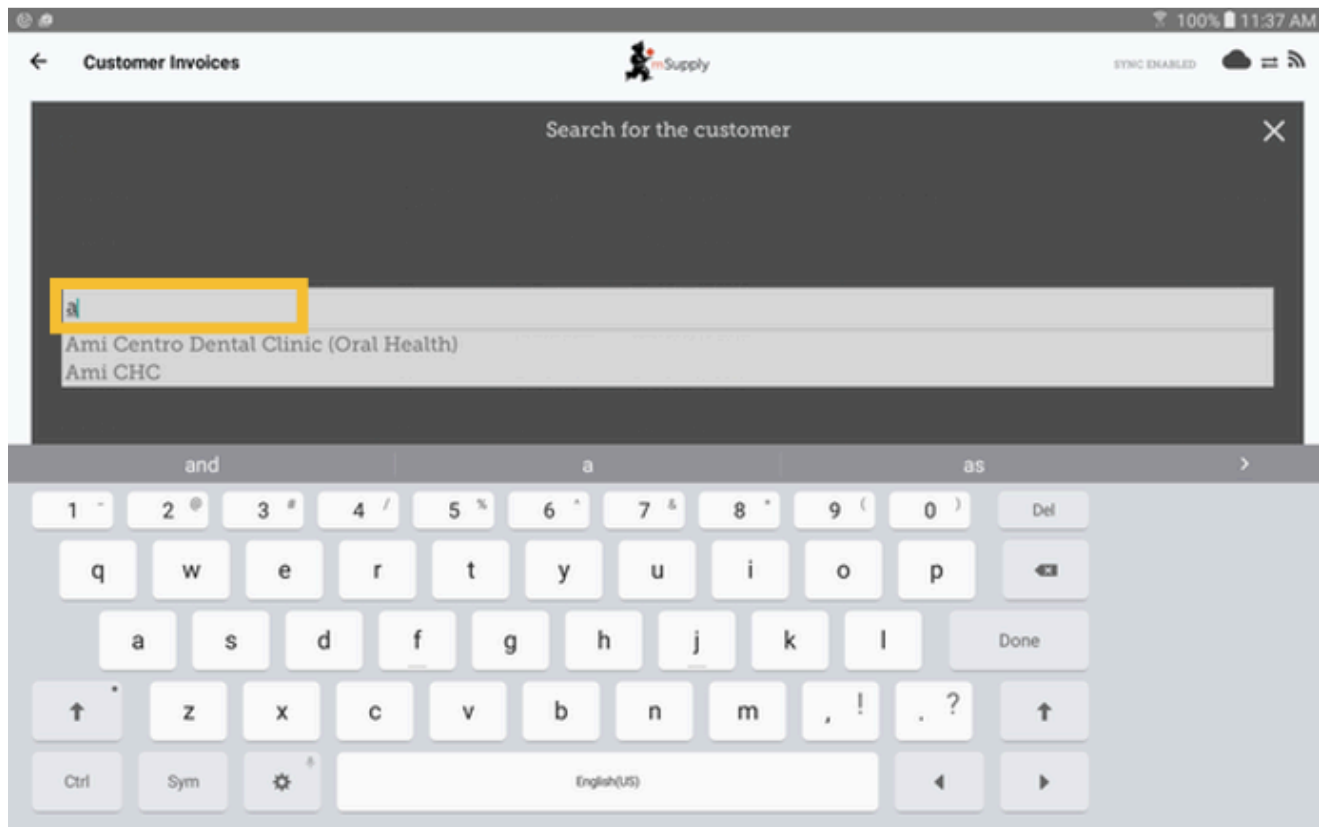
The Customer Invoice button will bring up a list of invoices. If you haven't finished working on an invoice and you have not confirmed it, you can click on it now to bring it up and keep working on it.



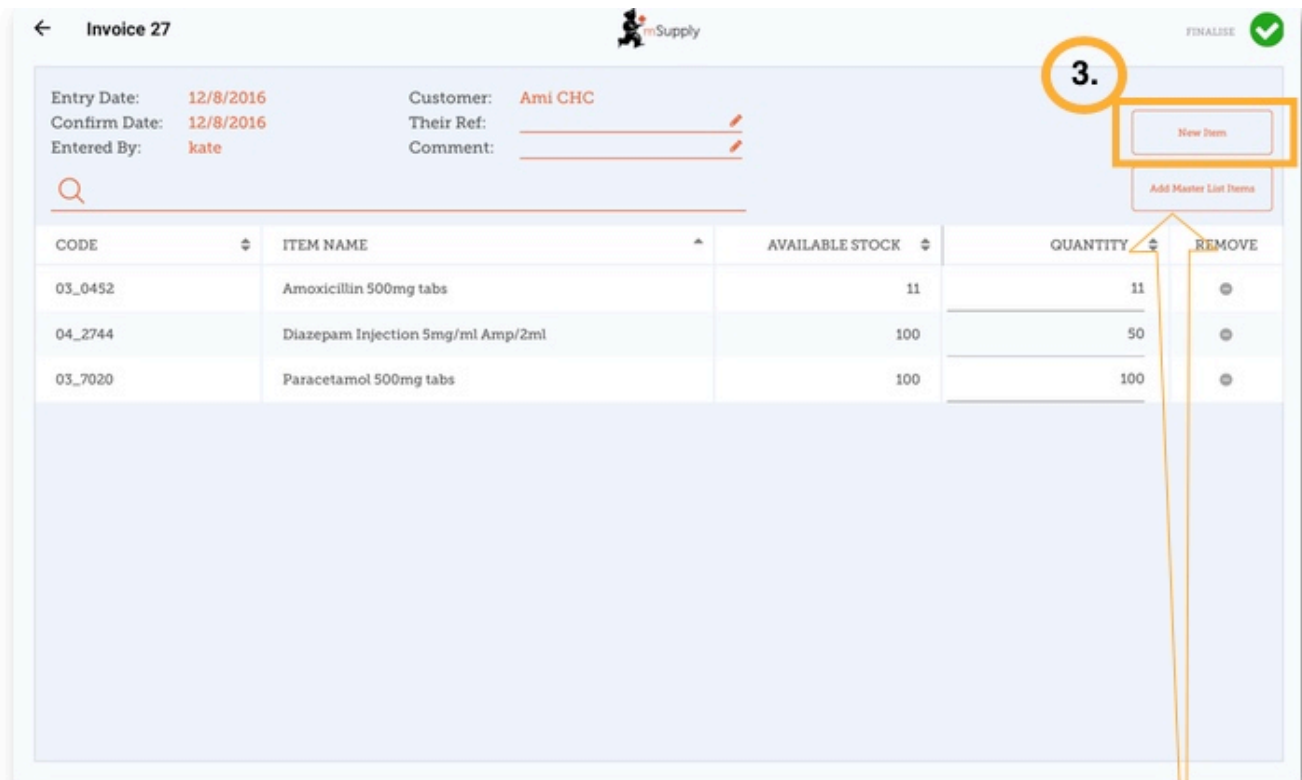
2. To start a new Customer Invoice, click 'New Invoice'!



Add the customer you are ordering for..



3. You can add items to the customer invoice one by one. **To do this, click on 'New Item'.**



If you have a lot of items to add to the invoice, it can be slow to add them one by one. To add a lot of items at once, **click 'Add Master List item'**.

Here you can see we have completed this invoice by adding the 3 items we need.

4. When you have finished, **click the 'FINALISE'** button at the top, and then **CONFIRM**.

What is a Master List?

The Master List is a list of all the items available to you at your facility. The list is set by your supplier, and/or the Ministry of Health.

3. Supplier Requisitions

You would like to order some stock from your supplier (Medical Stores). You need to place an emergency order for Ampicillin injections and Co-Trimoxazole tablets.

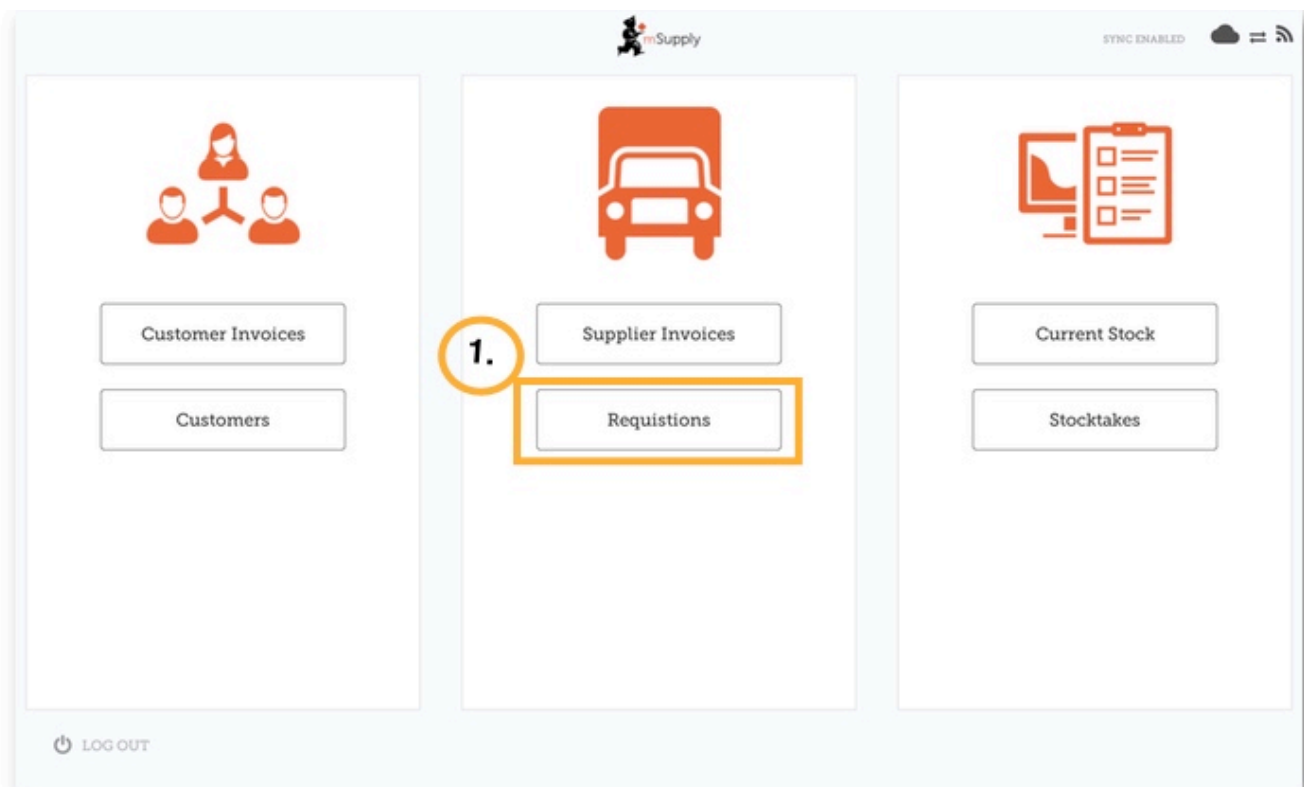
To do this, you must send a 'Requisition' for:

Ampicillin 1g inj x 300

Co-Trimoxazole 480mg tabs x 500

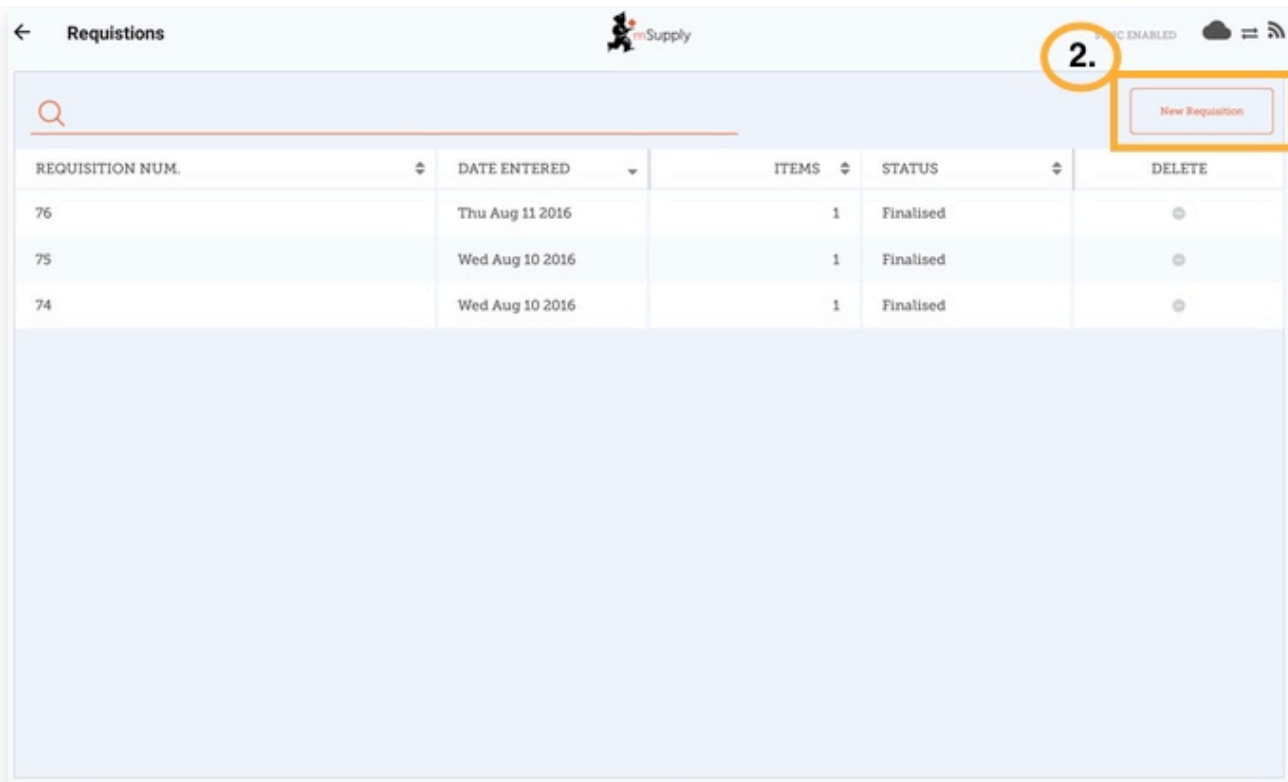
So let's do it!

1. Click on 'Requisitions'



This will bring up a list of recent requisitions you have placed. If you have started working on the requisition previously, it will display in the Status column as 'In Progress'. If you haven't finalised it, you can click on it and keep working on it.

2. Now click on 'New Requisition'.



These are the two ways to add items to the requisition.

To add a lot of items (for example, when you are placing your main order), click 'Add Master List item'.

If you only have a few items, click 'New Item'. This is the best option for small orders.

3. We only have two items, so click 'New Item'.

Add in the details for the items:

Ampicillin inj x 50

Co-Trimoxazole 480mg tabs x 100

Make sure your quantities are correct. If you want to change them, click on the 'Requested Quantity' column and change the number.

← Requisition 14 mSupply **3.** FINALISE

Entry Date: 12/8/2016 Months Stock Required: 1
 Entered By: kate Comment: _____

CODE	ITEM NAME	CURRENT STOCK	MONTHLY USE	SUGGESTED QTY	REQUESTED QTY	REMOVE
04_0505	Ampicillin Injection Powder Vial/1gm	81	33	0	50	
03_2381	Cotrimoxazole (Sulfamethoxazole/Trimethopr...	100	0	0	100	

4. You can click on 'Use Suggested Quantities', or 'Create Automatic Order' if you are certain that you are not ordering an item which you have not previously ordered. By choosing one of these options, mSupply will automatically calculate the amounts of each item you require, once it builds up a history of how much stock you're using.

← Requisition 27 mSupply **4.** FINALISE

Entry Date: 18/8/2016 Months Stock Required: 1
 Entered By: kate Comment: _____

CODE	ITEM NAME	CURRENT STOCK	MONTHLY USE	SUGGESTED QTY	REQUESTED QTY	REMOVE
------	-----------	---------------	-------------	---------------	---------------	--------

5. When you are completely sure that everything is correct, click the 'Finalise' button, then 'Confirm' and your order will go to the supply store.

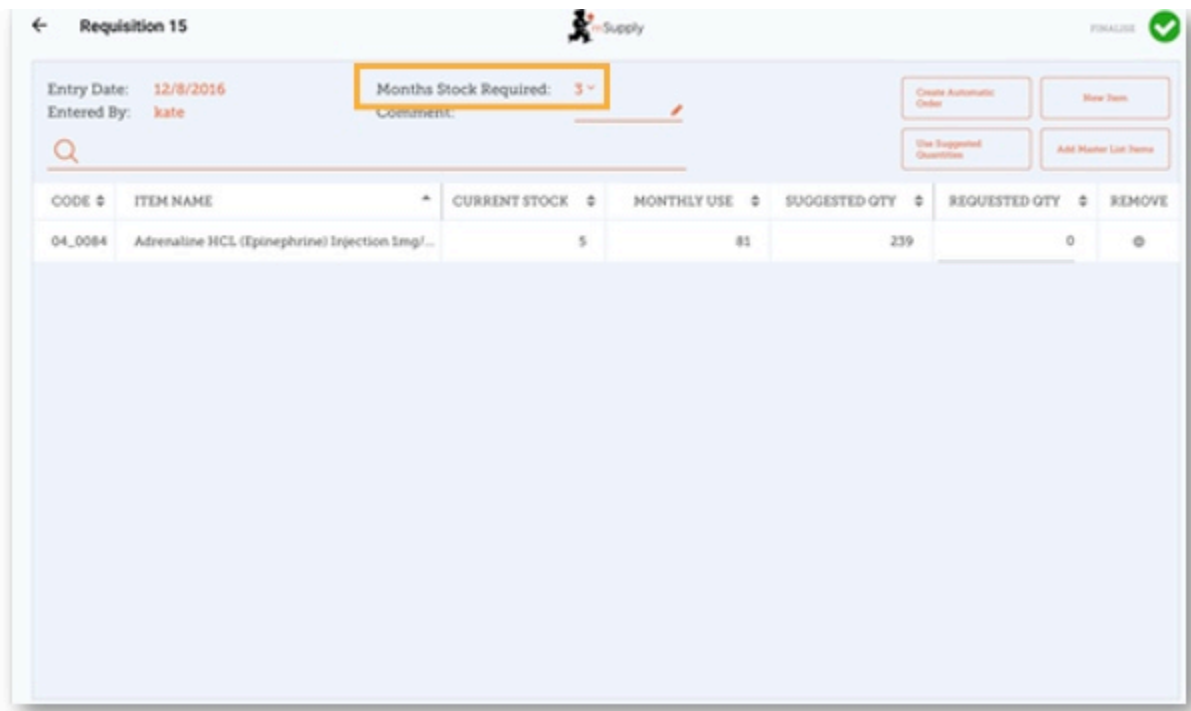


Even if you don't have internet at the time, it's Ok! The order will send automatically when you do have internet later.

What is the difference between a requisition and a supplier invoice?

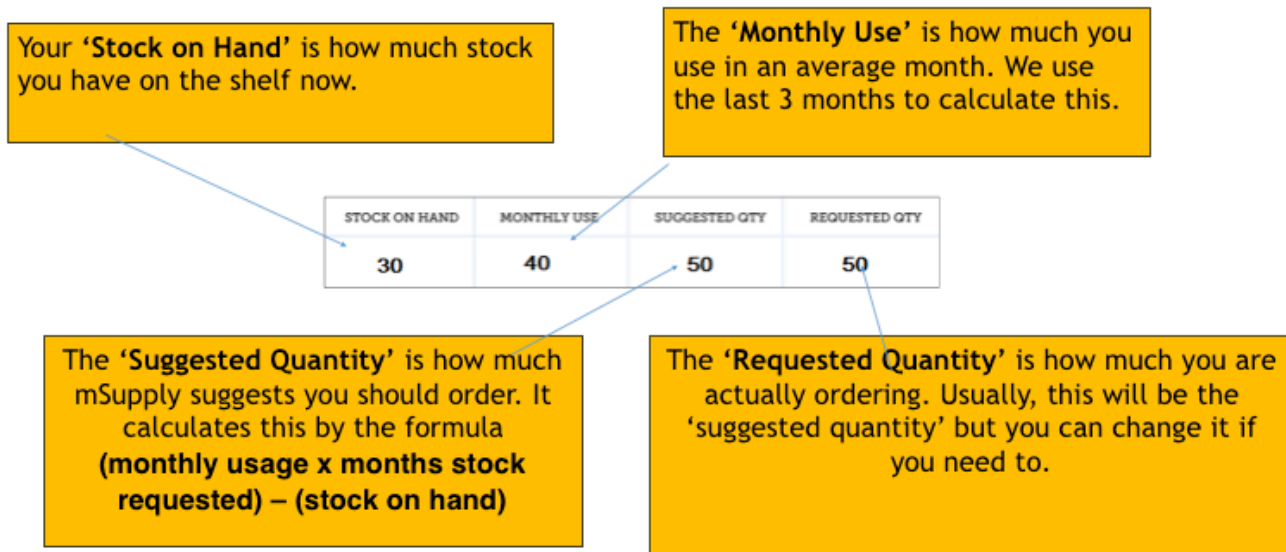
A **Requisition** is an order that YOU have placed to the Medical Stores. A **Supplier Invoice** is a record of what they have sent you. These are not always the same, as Medical Stores might not have had enough stock to fill your requisition, or they might have sent you some stock that you didn't order. When stock arrives at your facility, check it off against the **Supplier Invoice** - as this is what you were supposed to receive.

Calculating quantities on your requisitions...



When you are creating a new requisition, mSupply Mobile now has a tool to help you work out how much stock you need to order! In the past, you had to use a calculation formula to work out how many of each item, and you needed to do this for EVERY item in your order.

Now, simply select the 'Months Stock Required' and mSupply Mobile will calculate your order quantities automatically. You can even check the amounts and change them if you require.



4. Supplier Invoices

After you've sent your requisition to your supply store, you then wait for your order to arrive.

And wait and wait and wait.....

Then finally your order will be on the way!

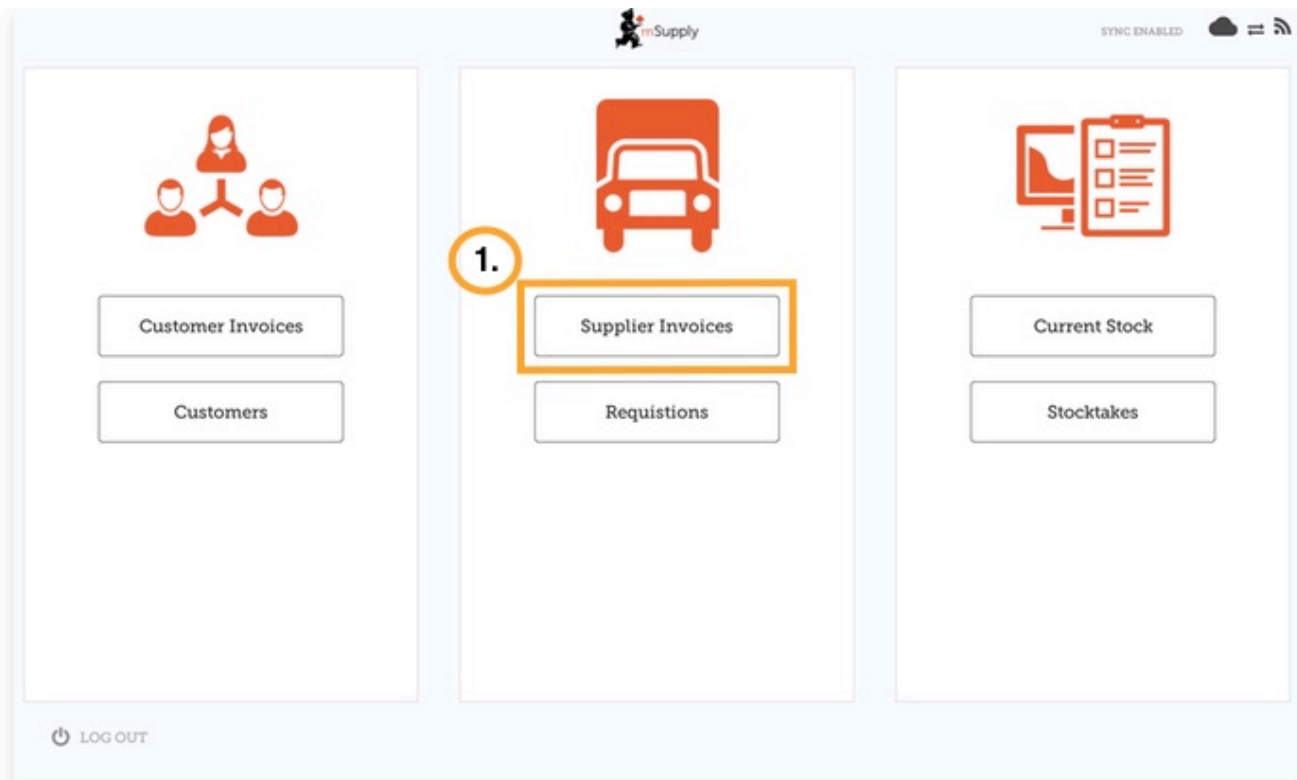
When your order has been prepared by your supply store, you will see a Supplier Invoice. This is exactly like the hard-copy (paper) invoice you would usually receive with your order.

You may still continue to receive a paper invoice when your order arrives, but it is very important you check everything against the electronic invoice on mSupply Mobile when you order arrives.

Remember: The supplier invoice will not always match the requisition you sent.

Also remember that the supplier invoice SHOULD match the stock you are receiving, but it may not. You must always check your order when it arrives. You can make changes to the Supplier Invoice on mSupply Mobile, or you can confirm everything is correct. When you are satisfied that the Supplier Invoice matches the stock you have received, you can 'Finalise' the order and accept it into your stock. Your 'Stock-On-Hand' numbers will automatically update!

Let's go through each step...





1. Click on 'Supplier Invoices'

A list of Supplier Invoices will appear. You can use the 'Status' column to check which one you have been sent but has not yet been received.


INVOICE NUM.	STATUS	ENTERED DATE	COMMENT
8	In Progress	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
9	In Progress	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
10	Finalised	Tue Aug 16 2016	Stock transfer (Invoice from customer stock history)
7	Finalised	Tue Aug 02 2016	Stock transfer (Invoice from customer stock history)
6	Finalised	Mon Aug 01 2016	Stock transfer (Invoice from customer stock history)
2	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
3	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
4	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
5	Finalised	Thu Jul 28 2016	Stock transfer (Invoice from customer stock history)
1	Finalised	Wed Jul 27 2016	Stock transfer (Invoice from customer stock history)

2. Click on the Supplier Invoice you have been sent.

This will bring up your Supplier Invoice. You can see the two items that we entered on the requisition earlier.

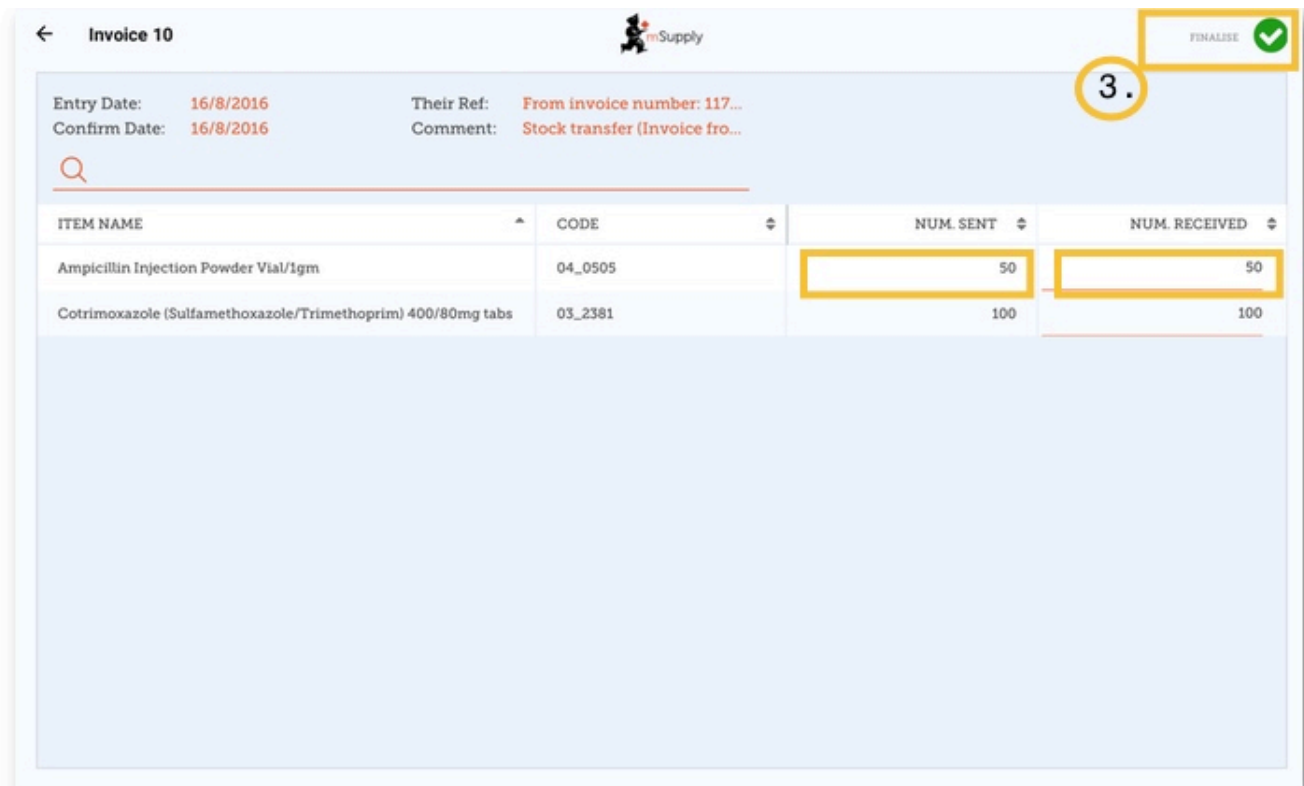
← Invoice 10  FINALISE 

Entry Date: 16/8/2016 Their Ref: From invoice number: 117...
Confirm Date: 16/8/2016 Comment: Stock transfer (Invoice fro...



ITEM NAME	CODE	NUM. SENT	NUM. RECEIVED
Ampicillin Injection Powder Vial/1gm	04_0505	50	50
Cotrimoxazole (Sulfamethoxazole/Trimethoprim) 400/80mg tabs	03_2381	100	100

3. Once you are happy that the 'Number Received' column is correct, click 'Finalise', and then 'Confirm'.

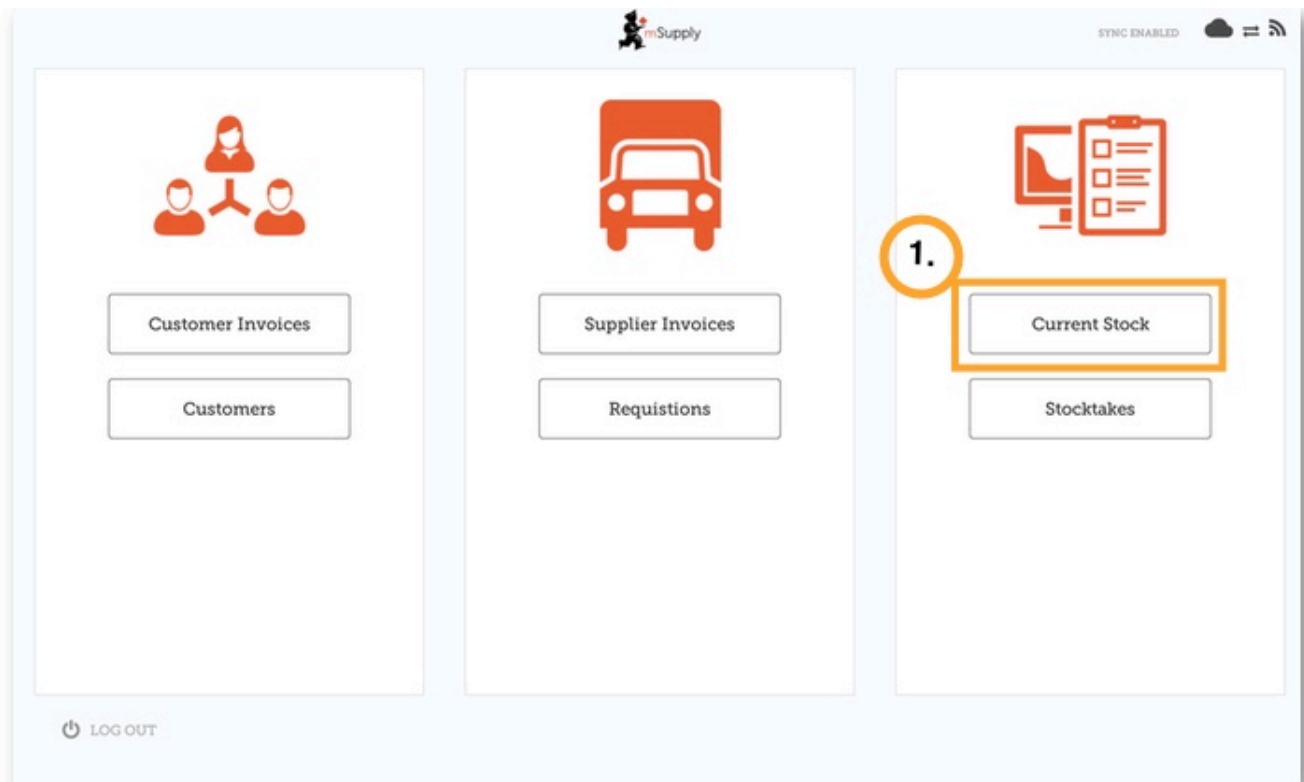


5. Current Stock

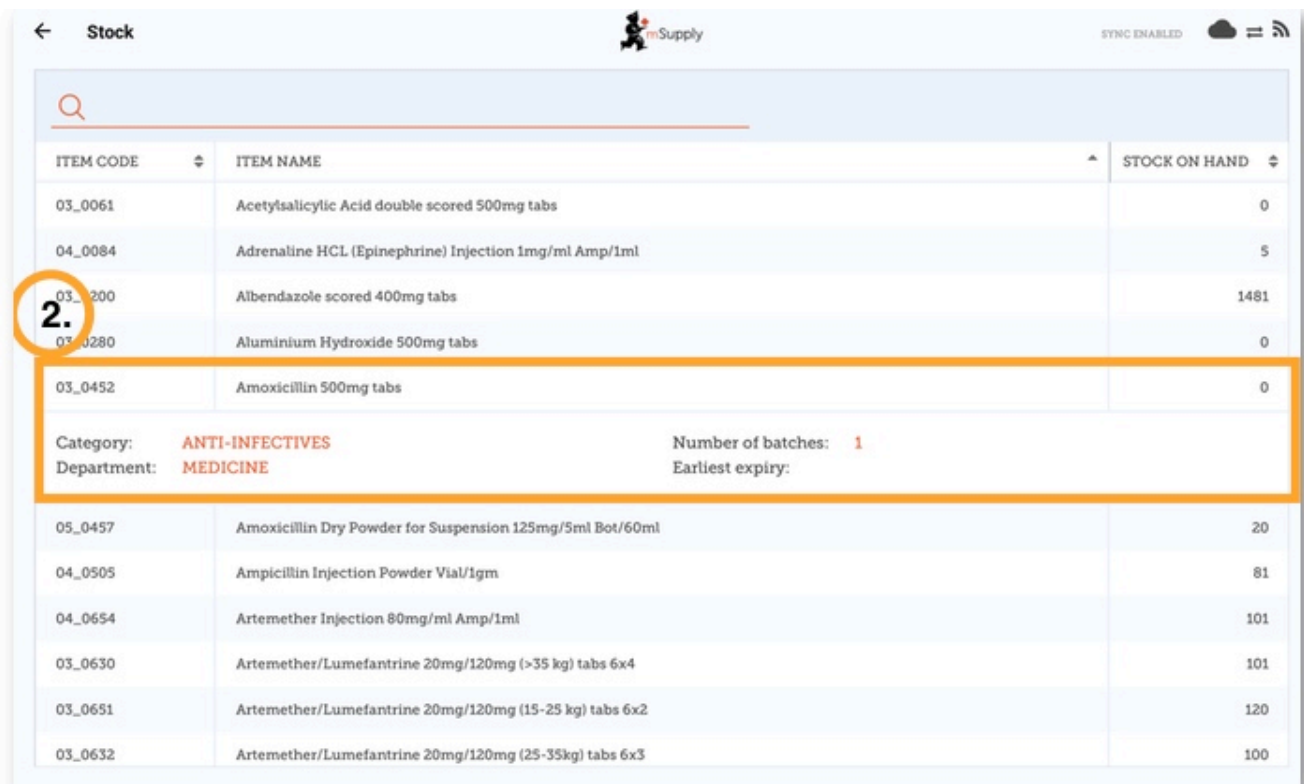
One of the most important - but easiest - tasks in mSupply Mobile is to check how much stock you have on hand. When you create a Customer Invoice and add an item, mSupply Mobile will tell you if you have enough stock. But at many other times, you might want to quickly check, and it is very simple to do so.

Let's try!

1. Click on 'Current Stock'



This will bring up a list of your current stock-on-hand. You can scroll through this list and quickly see each item's name and 'Stock-On-Hand' (amount of each item you currently have in stock).



2. If you want to know a little more about an item, click on the item and it will bring up more information, such as the Category, Department, and closest expiry.

If you want to search for a specific item, without having to scroll through, just enter the first few letters into the search bar at the top.

6. Stocktakes

mSupply Mobile will automatically keep track of your stock levels for you, as you receive stock and give it out. But sometimes data gets entered incorrectly or stock goes out without anyone making an entry in the system. Of course, we try not to let that happen - BUT if it does happen, we can make corrections. The easiest way to correct mistakes is to do a stocktake.

With mSupply Mobile, you can easily do the data entry for a full stocktake, OR you can choose to do a stocktake on a limited range of items (such as all your anti-malarials). You can even do a stocktake on a single item, if you notice that the quantity on your shelves is wrong.

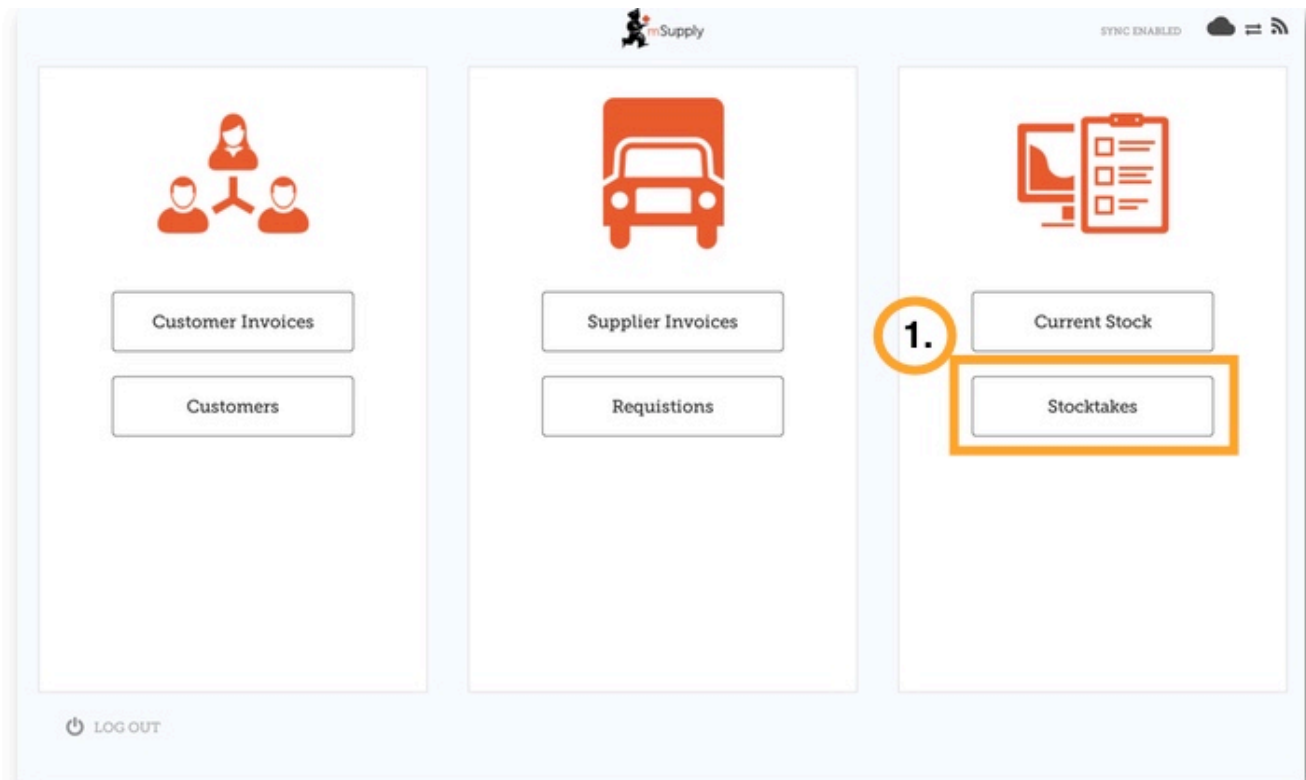
Stocktakes

You should already be doing stocktakes with your current ordering systems.

Stocktakes are a very important way to ensure that the orders we are placing are accurate and that the stock will be correct if anyone checks!

Ideally, you should be doing a physical stocktake of each item **EVERY** time you place a main order- but this depends on your local policies and procedures (and it may not be possible in larger facilities).

Let's learn how to do a stocktake... using mSupply Mobile makes doing stocktake a LOT easier than before.



1. In the main screen, click on 'Stocktakes'

This brings up a list of all your previous stocktakes. The description of each Stocktake will be shown, with its date and 'Status'.

There are two stocktake statuses: **In Progress (Current)** and **Finalised (Past)**.

An 'In Progress' stocktake is one you are still working on. If you want to keep working on an 'In Progress' stocktake, double click on it.

'In Progress' Stocktakes

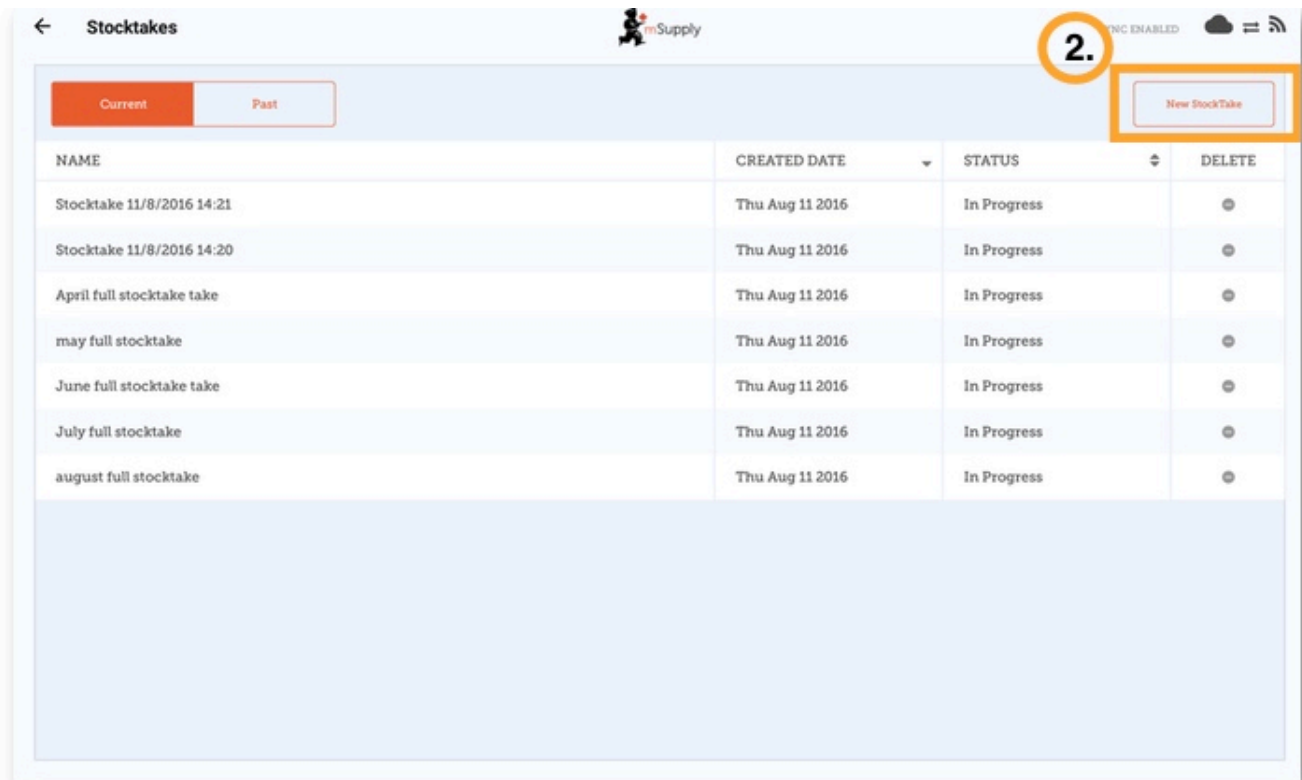
'In Progress' Stocktakes are the stocktake you are still working on, and haven't finalised.

We **strongly** recommend only having one In Progress Stocktake at any time. This will prevent mistakes when moving between them.

Finalise or delete old stocktake before starting new ones!

Let's start a new stocktake now...

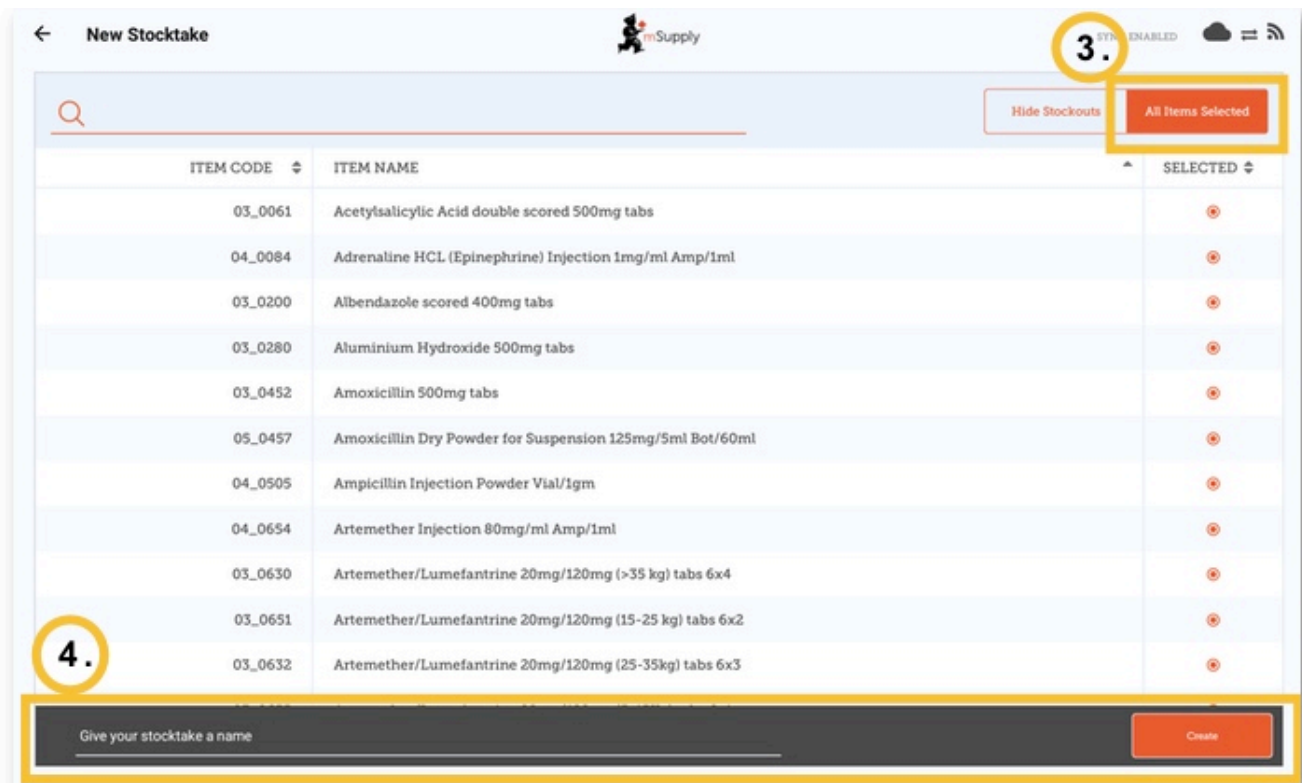
2. Click on 'New Stocktake'



3. Select the items that you wish to count by highlighting them in the far right column.

If you want to include EVERY item or most items, click 'All Items Selected'.

4. Give your stocktake a logical name, such as "April Full Stocktake'., and click CREATE.



5. This will bring up the stocktake editor. This lists each item, its 'Snapshot Quantity' and its 'Actual Quantity' (from the physical count). The Snapshot Quantity is what the system THINKS you have. If it is correct (when compared with your physical count), you don't need to do anything!

The Actual Quantity is what you have actually counted. You can change this by clicking in that column and typing in the correct quantity.

6. Go through each item and compare your physical count with the Snapshot Quantity. Change each one you have to by clicking in the 'Actual Quantity' column. If you change the amount of stock you have in the **Actual Quantity** column, this variation will now show in in the **Difference** column.

This can take some time but remember - if the Snapshot Quantity is correct, you don't need to do anything!

ITEM CODE	ITEM NAME	SNAPSHOT QUANTITY	ACTUAL QUANTITY	DIFFERENCE
ace250t	Acetazolamide 250mg tab	9500	9480	-20
ace100t	Acetylsalicylic acid 100mg tab	30	No change	0
ace300t	Acetylsalicylic acid 300mg tab	0	No change	0
aci200t	Aciclovir 200mg tab	7650	No change	0
aci250t	Aciclovir sodium 250mg inj	100	No change	0
alb400t	Albendazole tab 400mg	300	No change	0
alb25i	Albumin, human injectable sol, 25%	500	No change	0
abi5i	Albumin, human injectable sol, 5%	5000	No change	0
alc110	Alcuronium chl 10mg/2ml inj	5000	No change	0
all100t	Allopurinol 100mg tab	2000	No change	0
alu13s	Aluminium diacetate solution, 13%	9000	No change	0
alu500s	Aluminium hydroxide 320mg/5ml oral susp	9950	No change	0
alu500t	Aluminium hydroxide 500mg tab	420	No change	0

7. When you are finished, click 'Finalise'.



This will update all your stock levels to match the quantities you have entered in the 'Actual Quantity' column.

Like always with mSupply Mobile, you don't need internet to do this - the information will sync in the background when internet becomes available.

Previous: Which one? Next: Tutorial Introduction

mSupply customer interface

*

What is it?

The mSupply Customer Interface allows staff of Customers in your mSupply system to report their stock levels and order stock from a store in your mSupply system. It runs on a browser on any device: tablet, smartphone, net-book, desktop computer etc.

While the Customer Interface will run on smaller devices like smartphones, it is generally impractical to use with screens smaller than 5 inches across the diagonal.

Features and Limitations

The Customer Interface is designed to be used by staff of Customers in your mSupply system i.e. people working in places you supply, but they could be people outside of your organisation.

The Customer Interface's features are:

- **(Supplier) Invoices:** Display a list of orders that have been processed and are waiting to be processed by the supplying store. You can also see details of any selected Invoice.
- **Orders:** Orders for stock from the supplying store can be created, deleted and edited.
- **Items:** Display a list of Items available in the supplying store.
- **Stocktakes:** Display a list of *Customer* Stocktakes (including Imprests) and details of any selected Stocktake. Customer Stocktakes can be added, deleted and edited.

Batch number and expiry date are **not** displayed, selectable or editable in the Customer Interface. mSupply does keep record of those details for stock issued to the Customer from the supplying store.

mSupply *does not* attempt to keep any record of stock issued / consumed by the Customer. Customers can report inventory through the stocktake process and mSupply *does* keep these stocktake records.

Setting up users to access the customer interface

You can find details of how to do this on The mSupply Web Server page.

Connecting to the Customer Interface

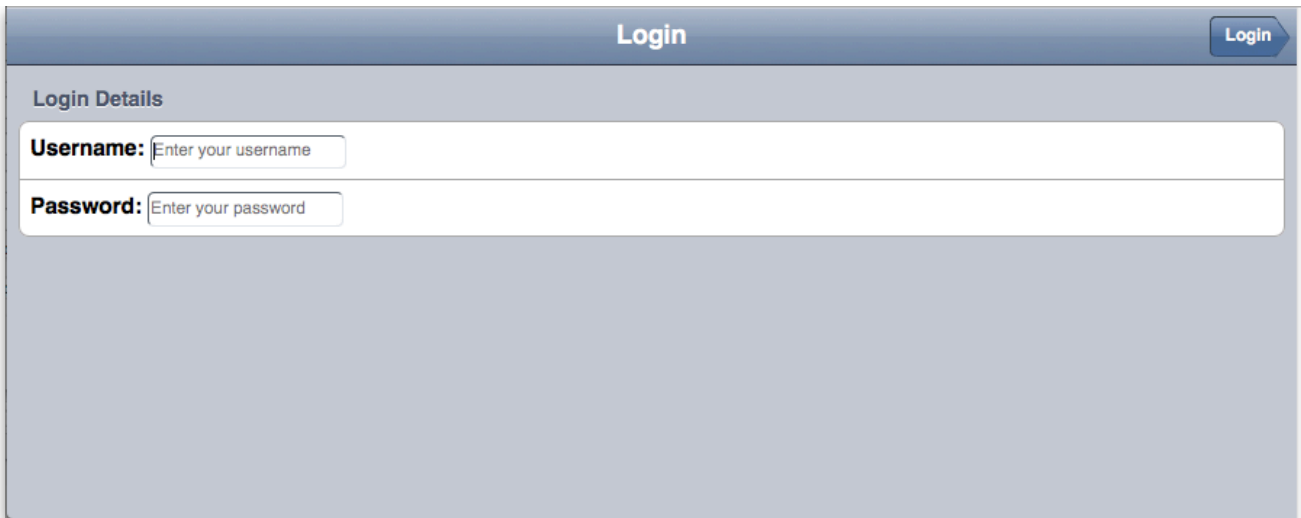
Once the mSupply web server is running, you can access it by typing <http://example.com/customer/> (<http://msupply.org:8080/customer/>)

The hyperlink above links to Sustainable Solutions' mSupply Web Server for mSupply Customer demonstration. You will not be able to proceed further without a username and password - see below. Contact us on email:info@msupply.org.nz (mailto:info@msupply.org.nz) if you would like a temporary username and password to try it out.

Once set up with your own Web Server, the correct link can be bookmarked to save you typing it each time.

Logging in

Firstly you will be shown the login page:



Enter your username and password and tap **Login**

The Navigator

You are now shown the mSupply customer options:



Tap on:

- Show Processed Invoices to see invoices from the supplying store that have already been processed (goods have been picked and packed).
- Show In-Process Invoices to see invoices from the supplying store that have not finished being processed (still waiting for goods to be picked and packed).
- Show Items to see information on items available in the supplying store.
- Show Orders to view a list of orders that have been created but not yet completed.
- Create Orders to create a new order for stock from the supplying store.
- Show Stocktakes to view and create customer stocktakes or imprests.

Show Processed Invoices

Tap *Show Processed Invoices* and the invoices that have already been confirmed in the supplying store (i.e. where the goods are picked and packed and being sent to the customer) will be displayed:

Navigator		Invoices			Find	View
Name	Invoice number	Status	Entered date	Comment		
Rando Hospital	16940	cn	13/10/2013	Invoice from customer stock history		
Rando Hospital	16499	cn	02/09/2013	chronic patient order		
Rando Hospital	16485	cn	30/08/2013	Invoice from customer stock history		
Rando Hospital	16003	cn	04/07/2013	Invoice from customer stock history		
Rando Hospital	15544	cn	29/05/2013	SUPPLEMENTARY ORDER		
Rando Hospital	15341	cn	06/05/2013	Invoice from customer stock history		
Rando Hospital	15069	cn	18/03/2013	long term patient order		
Rando Hospital	15006	cn	08/03/2013	Invoice from customer stock history		
Rando Hospital	14778	cn	18/01/2013	Invoice from customer stock history		
Rando Hospital	14473	cn	14/01/2013	supplementary order		
Rando Hospital	14627	cn	30/11/2012	Invoice from customer stock history		
Rando Hospital	14373	cn	12/10/2012	supplementary order		
Rando Hospital	14233	cn	13/09/2012	Invoice from customer stock history		
Rando Hospital	14159	cn	29/08/2012	supplementary order		

Tap **Find** to show a screen where you can search for other invoices:

Invoice List
Search for invoices
Find Invoices

Search for invoices where the

Invoice number

equals

Choose the options using the selectors and enter some text in the textbox to define the search filter. Then tap **Find** to search for invoices. When the search is complete the list will be updated with the results.

View Invoice details

If you tap on a particular row, then tap **View** you will be shown the details of that invoice:

Invoice no: 16940
 Entry date: 13/10/2013
 Entered by: PO'OMUC
 Status: cn
 Store: National Medical Store

Name: Rando Hospital
 Their ref:
 Comment:
 Confirm Date: 16/10/2013

Item Code	Item Name	Available stock	Quantity
3015	BANDAGE, ELASTIC ADHESIVE PLASTER 7.5CM	7261	12
42	AMOXICILLIN TABS/CAPS 250MG	5851100	4000
2030	ANTISEPTIC SOAP	53	6
4210	BAG, PLASTIC, DISPENSING, 75MM X100MM /1000	1609000	2000
3011	BANDAGE, CREPE 7.5CM	37135	24
3017	BANDAGE, GAUZE 5CM X 5M	242	10
1670	BENZATHINE PENICILLIN 1.2MEGA IU DP (0.9G)	61383	100
4635	BLADE, SCALPEL SIZE 10 BOX/100	393	2
4636	BLADE, SCALPEL SIZE 11 BOX 50/100	1259	2
4143	CANNULA, INTRAVENOUS 20G PINK	14695	20
4139	CANNULA, INTRAVENOUS 24G YELLOW	1085	20

Tap **Invoices** to go back to the list of invoices.

(Back up to The navigator)

Show In Process invoices

Choosing this option will display the list of invoices that are still waiting to be processed in the supplying store (i.e. the goods have not been picked and packed):

Invoices				
Name	Invoice number	Status	Entered date	Comment
Duwa regional hospital	17	sg	24/03/2016	Web order:

Again, tapping on a particular row and then then on **View** will show the details of the highlighted invoice.

Tap **Navigator** to go back to the main options screen.

(Back up to The navigator)

Show Items

Tap **Show Items** to make a search of items available in the supplying store. It will display this screen:

Find the items where the

Item name starts with

and

item category is Any

Choose your search options using the selectors and enter something to search for in the textbox (or leave it empty to list all the items). Tap on **Find** and the search will be made. When the search is complete the list of items matching your search criteria will be displayed:

Search for Items		Items list		Item details
Item Name	Code	Stock on hand		
Amalgam	51_8033	7950		
Amalgam carrier	51_8058	0		
Ambroxol syrup	05_1111	0		
Amidarone (Cardone) Injection 150 mg/ml Amp/1ml	04_0150	0		
Amino Acids with Carbohydrates & Electrolytes (HEPAR) 5%	04_0000	50		
Aminoleban solution	04_8546	0		
Aminophylline 250mg tabs	03_0000	0		
Aminophylline Injection 25mg/ml Amp/10ml	04_0307	5910		
Amiodarone HCL 100mg tabs	03_0330	21150		
Amitriptyline HCL 25mg tabs	03_0400	3000		
Amlodipine 10mg tabs	03_0001	12500		
Amlodipine 5mg tabs	03_0430	32450		

1 - 21 of 21 results

Tap the row of a specific item and tap on **Item details** to see the details:

Items list		Items details		
Item code: 03_0330				
Item name: Amiodarone HCL 100mg tabs				
Total stock on hand: 21150				
Category: GENERAL-SAMES				
Department: MEDICINE				
Full Description: ON SUPPLEMENTARY ED LIST				
Default Price: 0				
Pack size	Available	Batch	Expiry	Sell Price

Note: The *Stock on Hand* figure is the **supplying store's** stock on hand, not the **Customer's** stock on Hand.

(Back up to The navigator)

Show Orders

Select **Show Orders** to display a list of orders that have been created.

Name	Order number	Status	Entered date	Amount
Baucau Hospital	9968	wp	31/08/2014	0

To view or edit an existing order, tap on the order's row to highlight it, then tap on **View/Edit order**

To delete an existing order, tap on the order's row to highlight it, then tap on **Delete order**

Tap on **Navigator** to return to the main options screen.

(Back up to The navigator)

Create Orders

Tap on **Create Order** to display the screen for entering an order:

Our ref:

Comment:

Item Code	Item Name	Pack size	Unit price	Price extension	Quantity
Comment					

To add a new line, tap on **New line** and select the item and the quantity to add:

Cancel **Add item** Add to Order

Item Name: Amoxicillin 500mg tabs

Quantity: 1000

Tap on **Add to order** to proceed and return to the items in this order. If you wish to add a comment you can do so directly in the list by clicking the blank row under each item:

Orders Order details Finalise Save changes

Our ref:

Comment:

Add line + Add lines from order list Delete line -

Item Code	Item Name	Pack size	Unit price	Price extension	Quantity
Comment					
03_0452	Amoxicillin 500mg tabs				1000
Urgent- please supply immediately					

Note you can also edit the quantity directly in the list.

If you have been assigned an order List of the items you are allowed to order, tapping the **Add lines from Order list** button will display the items on the list(s) defined for the customer you are logged in for.

For setting up a default order list, see Names: Using, adding and editing

The list will be displayed in the same order as was specified when setting up the list in mSupply.

Once the order is complete, tap the **Finalise Order** button to finalise the order that you have created. It will now be visible under the *In process invoices* option until the supplying store processes it. It is also visible and available for processing in the supplying store in mSupply. And you might even get your supplies delivered quicker than you would have by submitting a written order 😊

A note for the user processing the order in the warehouse:

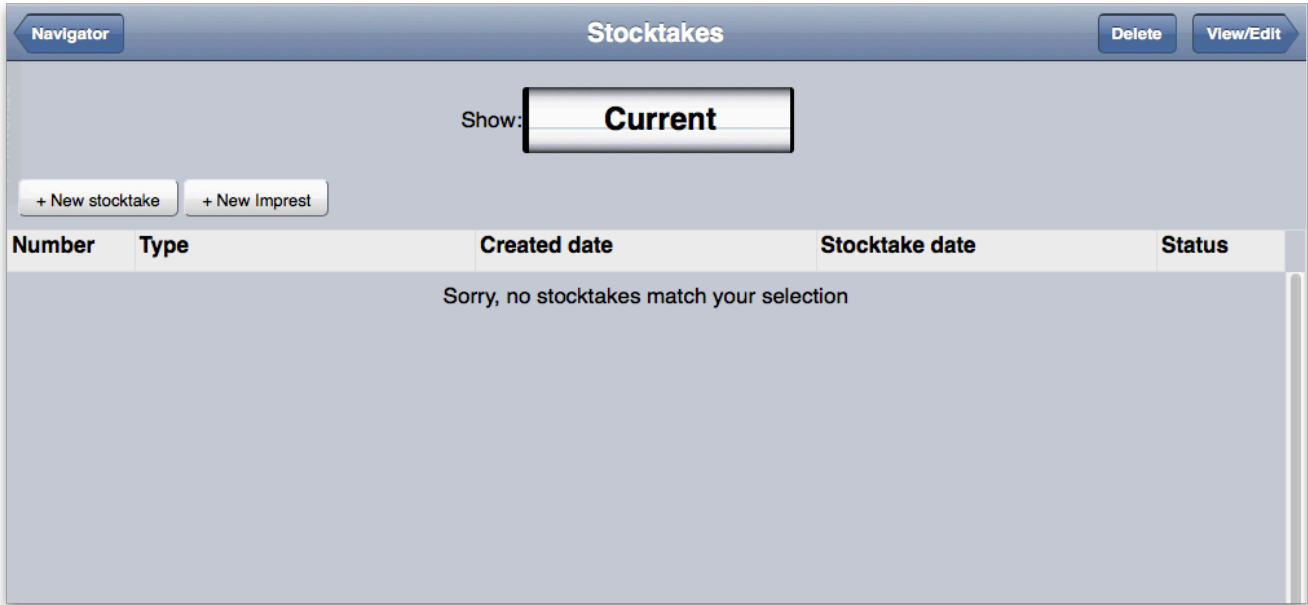
The customer's order will appear in mSupply desktop as a customer invoice with 'wf' (web finalised) status. This means the customer can no longer edit the order but the desktop user can edit the order. The customer invoice displays the customer's order with placeholder lines by default. This gives the mSupply desktop user control to choose the stock for the customer's order.

To choose stock see the re-distribute section: Redistribute placeholder lines.

(Back up to The navigator)

Show Stocktakes

Tap **Show Stocktakes** and the stocktakes that have already been initiated will be displayed:



The stocktakes feature is useful to those users at a central supply facility who are responsible for managing orders from a number of remote facilities based on the stock levels in those facilities.

From this window you can view an existing stocktake by tapping on a row and then on the **View/Edit** button. You can choose to create a **New stocktake** or **New imprest** by clicking the appropriate button. The option chosen depends on whether you are using the dynamic Stock History system of stock management, or the Imprest system. These systems are covered under Stock Control methods for your customers.

By clicking either of the **New stocktake** or **New imprest** buttons you are presented with a screen showing the items you carry in stock, but with quantities of 0 .

Enter the stock on hand for each item into the **My current SOH** column:

Stocktakes
Stocktake

Finalise
Save changes

Stocktake ID: 38
Created date: 31/08/2014
Status: wp

Stocktake Date: Aug 31 2014

Add line +
Delete line -

Item code	Item name	My Current SOH
03_0050	Acetazolamide 250mg tabs	1500
03_0061	Acetylsalicylic Acid double scored 500mg tabs	200
03_0070	Acyclovir 200mg tabs	10
06_0078	Acyclovir Ophthalmic Ointment 3% Tube/4.5gm	<input style="width: 80px; border: 1px solid #ccc;" type="text" value="5"/>
04_0084	Adrenaline HCL (Epinephrine) Injection 1mg/ml Amp/1ml	0
03_0200	Albendazole scored 400mg tabs	0
03_0220	Allopurinol 100mg tabs	0
03_0280	Aluminium Hydroxide 500mg tabs	0
04_0307	Aminophylline Injection 25mg/ml Amp/10ml	0

If you want to finish the entries later, click **Save changes** and then **Stocktakes** to return to the list. You can then use the **View/Edit** Button on the stocktakes list to return to your stocktake later.

Once you have entered all your stock on hand figures, tap **Finalise** to send the stocktake to the central store. You will be prompted for a confirmation to finalise the stocktake. Once you confirm the finalisation of the stocktake, you will be taken back to the *Show Stocktakes* window. The stocktake you were just working on will now be invisible unless you change the view to include finalised stocktakes.

(Back up to The navigator)

Back at the supplying store...

The operator at the supplying store may then process the information entered by the remote customer by choosing from the menu **Customer > Show customer stock history**, and looking in the *Customer stock history list* window for recent entries having a status of wf (web finalised). Double clicking on the desired entry displays the *Edit customer stock history* window showing the data entered by the remote customer. The details may be reviewed and figures entered in the *Actual quantity given* column before clicking on *Create Customer Invoice*, at which point the status changes from wf to sg and it may no longer be edited by the remote customer.

(Back up to The navigator)

Previous: The Web Stocktake module Next: The Dashboard

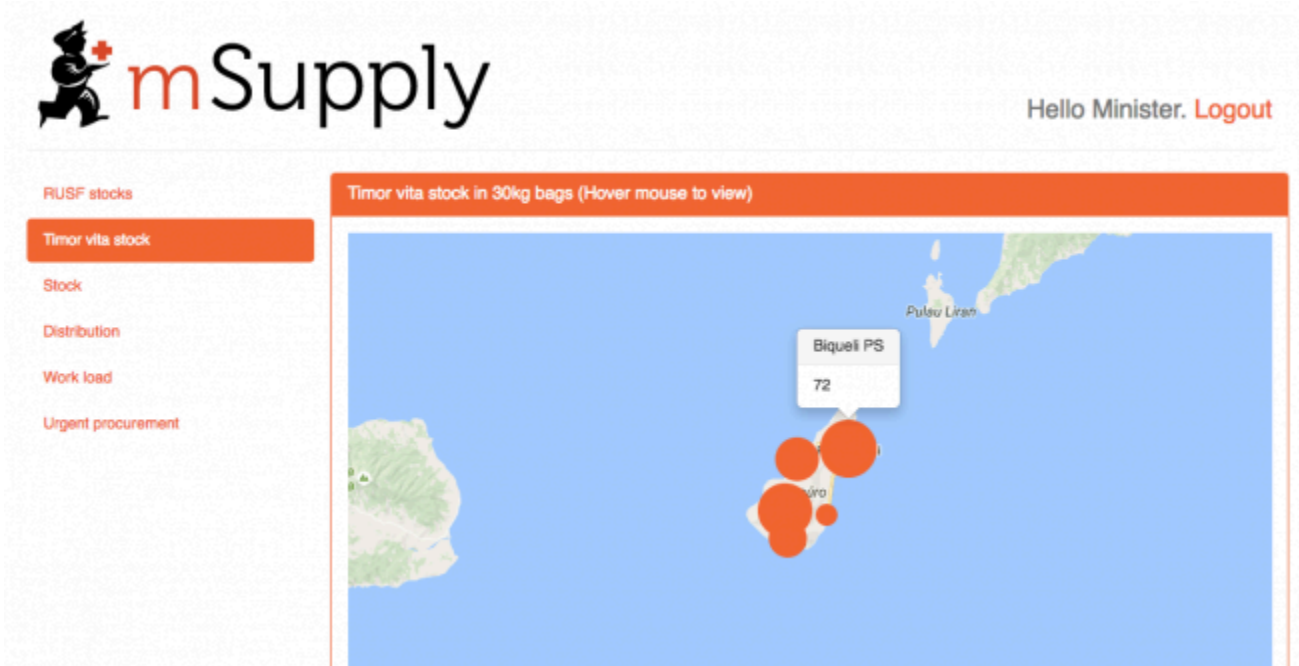
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The dashboard

You can use the dashboard to monitor and access reports from anywhere.

To set up dashboards, see [Setting up Dashboards](#)

Users browse to the IP address of their web server (with `/dashboard/index.html` added as in `https://example.com/dashboard/index.html` (`https://example.com/dashboard/index.html`)) using their internet browser (such as Chrome, Safari or Firefox). This enables users to access reports using their computer at home or even their tablet or cell phone!





Using the dashboard

Login

You'll need to be given the right URL (Uniform Resource Locator) ("web site") to go to in your browser. This is set up in mSupply.



Username 

Password 

Remember me

If mSupply has been set up with a dashboard for you, you'll see it after clicking the log-in button.

Navigate to different views in the dashboard using the buttons at the left of the page.

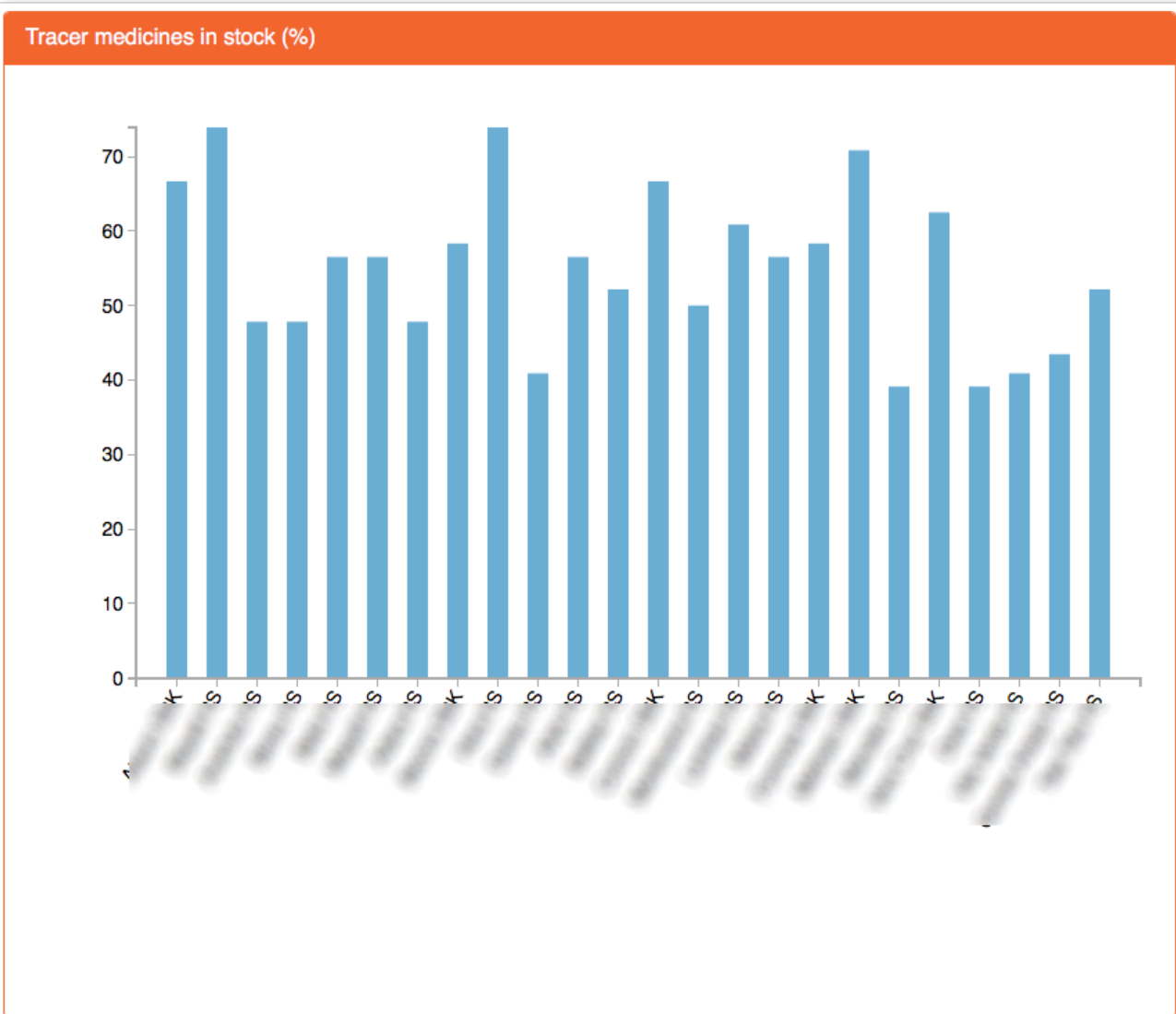
The dashboard works just as well on a tablet or your phone, but the different “pages” will be at the top of your screen, not on the left.

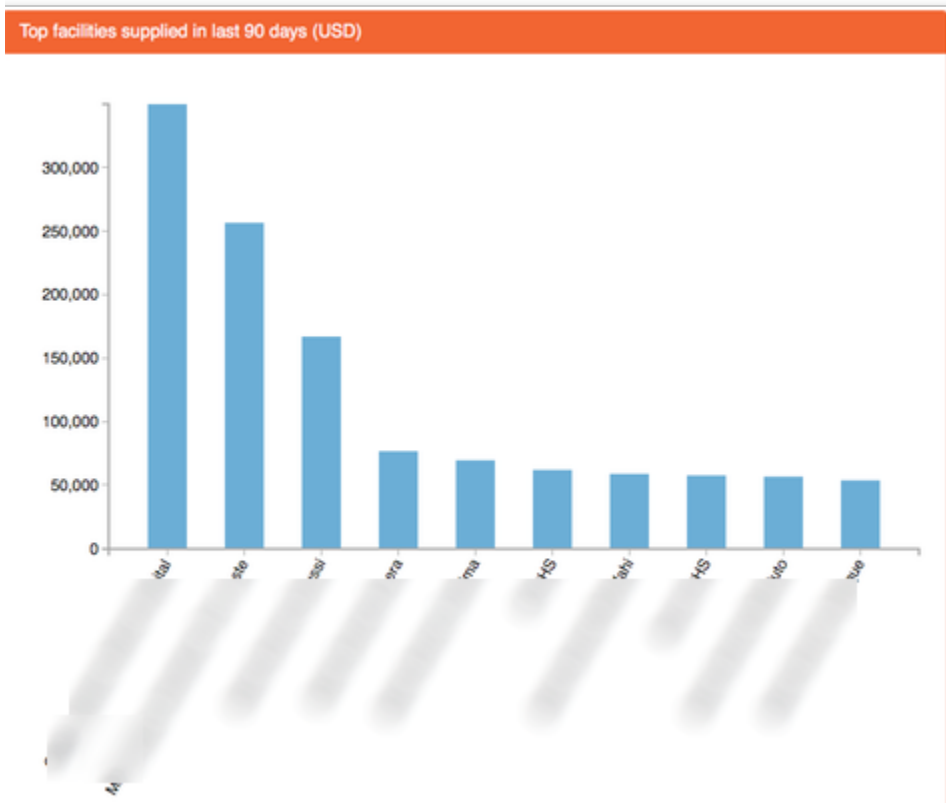
There are several very useful reports on the dashboard, helping you to keep up to date with current stock levels. Below are just a few examples of the kinds of reports the dashboard can pull together for you:

Nutritional supplements and medicines at [HMAS](#)

Item	Stock
Albendazole scored 400mg tabs	352661
Ferrous Sulphate 200mg (60mg Iron) tabs	5000
Micronutrient powder for children 6-59 month	676350
Oral Rehydration Salts Powder for 250ml Sachet/27.9gm	59280
Oral Rehydration Solution Reso Mal 42g sachet for 1 litre/ CAR-100	33
Therapeutic Milk F100 Sachet/114gm	4050
Therapeutic Milk F75 Sachet/102.5gm	960
Therapeutic Spread Plumpy Nut (RUTF) 500kCal Sachet/92gm	70657
Therapeutic Spread Plumpy Sup (RUSF) 500kCal Sachet/92gm	0
Timor Vita Nutritional Supplement (MIXCSBVIT) (1 kg)	0
Vitamin A Retinol Palmitate 200,000 I.U. caps	366600
Vitamin A Retinol Palmitate 50,000 I.U. caps	2177
Zinc Sulphate Dispersable 20mg tabs	388700







Total stock value at 000000 (\$)

8,773,335 USD

Previous: mSupply Customer Interface Next: The Online Catalogue

The online catalogue

*

The online catalogue is a searchable list of items you stock, driven by data in mSupply. The information can easily be updated and items added to or removed from the catalogue. By giving users access to the online catalogue you can, for example, replace the expensive printing of hard copy catalogues.

Setup

1) Tell mSupply which store to run the catalogue from

Choose **File > Preferences...** from the menus, and on the **Web server** tab select the store in the *Default store for web interface* drop down list. If the mSupply web server isn't already running you'll also need to click on the *Start web server* button. More information about these options can be found here.

2) Tell mSupply which items are to be included in the catalogue

To do this, from the menus choose **Item > Show items...**, click on the Find button and double click on an item you want to appear in the catalogue. This will open up the Item's details window. Click on the **Misc** tab on the left hand side and the screen will look like this:

The screenshot shows the 'Item details...' window with the 'Misc' tab selected. The 'Price list' section is highlighted with a red box. The 'On price list' checkbox is checked. The 'Catalogue price' is set to 3.14 and the 'Catalogue pack size' is set to 100. The 'Warnings' section contains a table with columns for Code, Warning text, and Priority. The 'Account codes for exporting' section has three input fields: 'Expense account when buying' (Cost of goods sold (3000)), 'Income account when selling' (Income (1000)), and 'Asset account for stock' (Stock (2000)). The 'SMS settings' section has two input fields: 'SMS code' and 'SMS pack size' (0). The 'Other names' section is empty. The 'Delete' button is at the bottom left, and 'OK & Previous', 'OK & Next', 'Cancel', and 'OK' buttons are at the bottom right.

Code	Warning text	Priority

In the Price list section:

- Check the *On price list* checkbox (any item with this checked will appear in the catalogue)
- Enter the pack size of this item that is going to appear in the catalogue in the *Catalogue pack size* textbox
- Enter the price for this pack size in the *Catalogue price* textbox. This is optional and can be left at 0 if you don't want the price included in your catalogue.

Repeat these steps for each item you want to appear in your catalogue. As with many repetitive tasks in mSupply, the *OK & Next* and *OK & Previous* buttons are your friends here.

And that's it. Setup is complete and you are now ready for users to view your catalogue.

Operation

Once the mSupply web server is running users access the catalogue using a browser. The address to visit is

`https://example.com/catalogue/`

where example.com is the domain of your web server.

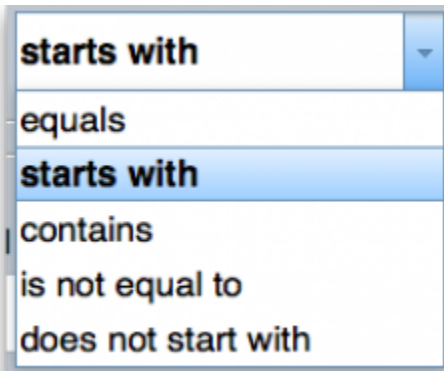
This is what the user will see:

The screenshot shows the 'mSupply online catalogue' search interface. It is divided into two main sections: 'Search by item name' and 'Search by category'. The 'Search by item name' section includes a dropdown menu set to 'starts with', a text input field, and a 'Search' button. The 'Search by category' section contains three rows, each with a category label, a dropdown menu set to 'All', and a 'Search' button. The categories are 'Top level category', 'Mid level category', and 'Bottom level category'.

The catalogue can be searched by either item name (the top section) or the categories that items belong to (bottom section).

Searching by item name

To search by item name enter something in the top textbox and select the comparator in the drop down list next to it. These are the options you can choose from:



Then click on the top *Search* button and mSupply will search for items with names matching the options you have entered. When the search is complete the item detail screen (shown below) will be displayed and you can browse the items found.

Searching by category

The category used to search for items in the catalogue is item category 1. This category is hierarchical and has 3 levels. For more details about this category, including setting it up and assigning it to items, see [here](#). Note that in the catalogue, Top level corresponds to level 1 of category 1, Mid level to level 2 and Bottom level to level 3.

To search by category, click on one of the 3 *Search* buttons in the lower section of the search screen. When you do that, mSupply will search for items belonging to the category of the level of category 1 you selected in the corresponding drop down list. If the *All* option is selected then mSupply will search for items belonging to all the corresponding categories at that level of category 1.

When you select an option other than *All* in the Top level category drop down list, the options in the Mid level drop down list are changed to be all the children of the top level category you selected. And when you select a Mid level category, the options in the Bottom level drop down list change to be the children of that mid level category.

The Bottom level category drop down list has an additional “None” option. Using this option will search for all items which are not assigned to a category 1 category.

The Item detail screen

The screen looks like this:

mSupply online catalogue					
Category	Code	Item Name	Unit of issue	Pack size	Cost
6.4.2 Antifungal medicines	gri125t	Griseofulvin 125mg tab/cap	ea	100	0

When you've finished browsing the items displayed you can click on the *Search* button on the top left hand side to return to the search screen, where you can perform another search if required.

Previous: The dashboard Next: The mSupply mobile API

mSupply mobile API

**

What is it?

This document describes an application programming interface for communicating with mSupply.

Basics

- Communication is over HTTP protocol
- All data is submitted and returned as JSON

Authentication

- All requests must have standard HTTP basic authentication headers
- You **must** use SSL to secure your communications unless you want to tell the world your password.

GET - Getting data from mSupply

For all calls

- The basic syntax

```
http://server_ip_address/resource/id_of_resource
e.g. http://example.com/mobile/name/524
will retrieve the complete record for name whose ID=524
```

- or

```
http://server_ip_address/resource?field=blah,field2=blah2&sortby=+foo,-bar
e.g. http://example.com/mobile/name?name=foo@,customer=true&sortby=+name
will retrieve all names whose name starts with "foo" and who are customers, sorted by name i
n ascending order (a to z)
```

Note that a "/" is also allowed before the "?" in the URL e.g. `http://example.com/mobile/name/?name=foo@,customer=true&sortby=+name`

- Method: GET
- Note that all price data will be returned rounded to 2 decimal places.

Paging

- If you want a range of items, pass an HTTP header named "range" with a "from" and "to" value separated with a hyphen. See the following example to find out the right format for the "range" header.
 - e.g. to return the first 15 items:

```
range bytes=1-15
```

- The server will reply with a header containing the item range and the total number of items found:

```
items 1-15/568
```


Query notes

- For string searches you can use “@” as a wildcard, as in the example above
 - ?name=@foo@ will return all names containing “foo”
 - ?name=foo@bah will return all names starting with “foo” and ending with “bah”
- Allowed query operators are:
 - =
 - # (not equal to)
 - >=
 - <=
 - <
 - >
- A query operator must be followed by a query value
- All resources returned are first filtered by the server to only return valid results for the store the user is logged in to.
 - Transactions: only transactions created in that store
 - Items: only items visible in that store
 - Customers (names): only names visible in that store
 - More on stores here (http://docs.msupply.org.nz/other_stuff:virtual_stores)
 - There is a full list of field names here (http://docs.msupply.org.nz/admin:tables_fields) but note that as of Wednesday 31 October 2012 they haven't been updated for mSupply v3.2

Available resources

Items

Resource name	item
Fields you can query	any
Returns by default JSON array containing:	id code item_name stock_on_hand_tot
When a single item ID is requested	department category category2 stock_on_hand stock_available An array with a key of “lines” containing pack_size, available_quantity, batch, expiry_date, sell_price

Transactions

Resource name	transaction
Fields you can query	any

Returns a JSON array containing:	<p>id</p> <p>name (i.e. the name of the customer/supplier the transaction is to/from)</p> <p>entry_date</p> <p>confirm_date</p> <p>status (a two letter code denoting the status of the transaction)</p> <p>comment (the user-entered comment)</p>
If you only request a single ID (e.g example.com/mobile/transaction/558)	A JSON object containing every field for that record
Special case one: Getting An ID to use when submitting a new transaction; submit example.com/mobile/transaction/new_id Returns:	JSON object containing: new_transaction_id

Names

Resource name	name (a name can be a customer, a supplier, a manufacturer or a donor or a combination of these)
Fields you can query	any
Returns by default JSON array containing	<p>id</p> <p>code</p> <p>name</p> <p>bill_address1</p>

Invoice

Resource name:	invoice
Fields you can query	<p>none. Just call the ID number like this</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> <p>http://example.com/mobile/invoice/578</p> </div>

Returns by default JSON array containing

id
 name_id
 name_name (The actual name of the customer or supplier)
 total
 their_ref
 type
 entry_date
 confirm_date
 comment
 entered_by (username not ID)
 store (name not ID)
 hold
 lines: contains an array containing the lines on the invoice. Each array row contains:
 item_id
 item_name
 quantity (no. of individual items i.e. pack size x quantity in a pack)
 stock:
 contains an array of all stock lines used on the invoice, and also any other stock lines for items on the invoice whose quantity is greater than zero. This means that for a "normal" invoice line editing operation (where you are not changing the item) you already have all the information that you need without a further call to the REST server when a line is edited)

Example

```
{
  "id" : 587,
  "name_id" : 79,
  "invoice_num" : 256,
  "status" : "fn",
  "total" : 824.5,
  "their_ref" : "GIZ05",
  "type" : "ci",
  "entry_date" : "2012-09-30",
  "confirm_date" : "2012-10-30",
  "name_name" : "ZIGO HOSPITAL",
  "lines" : [ {
    "id" : 6396,
    "item_key" : 973,
    "item_line_key" : 960,
    "item_name" : "CLOXACILLIN TABS 250MG BOT/1000",
    "quantity" : 5,
    "pack_size" : 1000,
    "sell_price" : 161.61,
    "price_extension" : 808.05
  }, {
    "id" : 6397,
    "item_key" : 120,
    "item_line_key" : 14,
    "item_name" : "ATENOLOL TABLETS 50MG BOT/100",
    "quantity" : 5,
    "pack_size" : 100,
    "sell_price" : 3.29,
    "price_extension" : 16.45
  } ],
  "stock" : [ {
    "id" : 22126,
    "quantity" : 162,
    "batch" : "AD 1002",
    "expiry_date" : "2014-09-30",
    "pack_size" : 1000,
    "sell_price" : 147.09
  }, {
    "id" : 22307,
    "quantity" : 12,
    "batch" : "3026844",
    "expiry_date" : "2014-03-30",
    "pack_size" : 1000,
    "sell_price" : 139.3
  } ]
}
```

Stock

Resource name	stock
Fields you can query	any in the items table or for all the items of a particular invoice with the field "trans_id"

<p>Typically, having located an item to add to an invoice you will want to locate the total stock available for that item</p>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p><code>http://example.com/mobile/stock?ID=123 // stock for item.ID 123</code></p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p><code>http://example.com/mobile/stock?trans_id=123 // stock for transaction.ID 123</code></p> </div>
<p>Returned: an array of match records containing the item ID and the total stock quantity like this</p>	<pre>[{ "id" : 5265, "quantity" : 30, }, { "id" : 5275, "quantity" : 100, }, { "id" : 5274, "quantity" : 50, }]</pre>

Stocktakes

<p>Resource name</p>	<p>stocktake</p>
<p>Fields you can query</p>	<p>any</p>
<p>Fields returned from a query</p>	<p>ID description stocktake created date status</p>
<p>You can filter on type of stocktake by querying the status e.g.</p>	<div style="border: 1px solid #ccc; padding: 5px;"> <p><code>http://example.com/mobile/stocktake?status=sg</code></p> </div>
<p>Requesting a particular stocktake returns the following fields for the stocktake itself</p>	<p>description stocktake created date stocktake entered date status comment An array whose key is "lines" containing an these fields for each item in the stocktake: item code item name quantity (the pack size is assumed to be one) snapshot quantity</p>

Example	<p>the following request would return the information for the stocktake with an id of 123:</p> <pre>http://example.com/mobile/stocktake/123</pre>
Special Case: Creating a stocktake	<p>First you need to get a stocktake id that you can use by requesting the resource "new_id"</p> <pre>http://127.0.0.1:8081/stocktake/new_id</pre>

A note on creating stocktakes: the recommended process is:

1. Get a new stocktake id
2. Get items- this will also return the current stock on hand.
3. Display this, along with a column for the user to enter current stock on hand
4. When ready to save, post the data (below). Wasn't so hard!

Categories

Use this resource to return lists of different types of categories in mSupply.

Resource name	category
Fields you can query	any
Fields returned from a query	<p>id - the id of this category (unique only among categories of the same level)</p> <p>description - the descriptive name of the category</p> <p>type - the category's type. Can be one of 1level1, 1level2, 1level3, 2 or 3</p> <p>parent_id - the id of the category which is the parent of this one. 0 means the category has no parent</p>
You can filter on type of category by querying the type (which can take the values "item", "purchase_order", "transaction" and "name")	<p>The following query will return all the categories for items</p> <pre>http://example.com/mobile/category?type=item</pre>

Catalogue Items

Resource name	cataloguelitem
First URI (Uniform Resource Identifier) segment	catalogue

Fields you can query	any
Fields returned from a query for each item	<p>id - the item's unique id code</p> <p>Item - the item's code</p> <p>item_name - the item's descriptive name</p> <p>indic_price - the catalogue price of the item</p> <p>description - the lowest level category (category 1, level 3) that the item belongs to</p> <p>units - the units the item is provided in e.g. Amp (ampule) Tab (tablet), report_quantity - the pack size of the item in the catalogue, e.g. the following query would return all items with an id greater than -1 and a name beginning with "a"</p>

* You can filter on the category that items belong to by querying the category number and level. There are 3 categories (1-3) but please note that category 1 is hierarchical; it has 3 levels - level 1 is the parent, level 2 categories are children of level 1s and level 3 categories are children of level 2s. So, altogether you can query category1level1id, category1level2id, category1level3id, category2id and category3id. Note that all queries by category will return items that belong to that category and those which belong to all its child categories e.g. this query will return all items assigned to the level 2 category 1 which has an id of 4 **and all items belonging to category 1 level 3 categories that are children of it:**

Example	<code>http://example.com/catalogue/catalogueItem?category1level2id=4</code>
----------------	---

Customer Stock History Items

Resource name	customerstockhistory
Fields you can query	any
Fields returned from a multiple query	id, date_entered
Fields returned from a single id	<p>id, date_entered, stock_take_date, lines (array)</p> <p>The lines object array contains:</p> <p>id (the id of the line, [name_s_h_line]id)</p> <p>item_id (the id of the item, [name_s_h_line]item_id)</p> <p>item_name (the name of the item - [item]item_name using [name_s_h_line]item_id)</p> <p>item_code ([item]code using [name_s_h_line]item_id)</p> <p>store_stock (the amount of stock (number of items not packs) the supplying store has of this item)</p> <p>stock_on_hand (the stock on hand entered by the user, [name_s_h_line]stock_on_hand)</p> <p>usage (this store's daily usage of this item. Calculated as (stock on hand last stocktake + stock received last stocktake - stock on hand this stocktake)/number of days between this and the previous stocktake. Use new [name_s_h_line]previous_stock_on_hand and [name_s_h_line]previous_received_from_us fields in the calculation)</p> <p>comment (the line's comment - [name_s_h_line]comment)</p>

Version

Resource name	version
Fields you can query	none
Returned	the current mSupply mobile version
Example:	<code>http://example.com/mobile/version</code>

Master List

Resource name	masterlist
Fields you can query	name_id, type (the type of list to return)
Returned	JSON containing the items for the associated masterlist belonging to the name of the specified type
Example	<code>http://example.com/mobile/masterlist/name_id="123"&type=weborder</code>

Settings

Resource name	settings
Fields you can query	none. Precisely.
Returned	A JSON object with three entities: timeout, name_id, name- This is the id and name of the customer or supplier or store
Example	<code>http://example.com/mobile/settings</code>

Purchase orders

Resource name	po
Fields you can query	id
Returned	JSON containing the Purchase Order details for the ID you queried
Example	<code>http://example.com/mobile/po/id="123"</code>

Reports

Resource name	report
Query	type with one of three options: type=currentstock or type=expiringstock or type=orderedvsreceived
Query parameters	type=currentstock: none type=expiringstock&nummonths=xx where nummonths is the number of months in advance of the current date to compare expiry dates with type=orderedvsreceived&from=yyyymmdd&to=yyyymmdd where the from and to dates in yymmdd format are entered.
Returned	JSON containing the "Successfully sent" or any errors encounters
Example	<div style="border: 1px solid black; padding: 5px; width: fit-content;">http://example.com/mobile/report/type=currentstock</div>

POST/PUT - Sending data to mSupply

- Must include authentication header
- Data in HTTP body as JSON
- Two types of POST/PUT: **New** and **Update**
- For **New** records:
 - Must use POST method without 'If-Match: *' header.
 - Append the id of the record to be created to the resource: e.g. POST http://example.com/mobile/transaction/134 (http://example.com/mobile/transaction/134)
- For **Updates** to an existing record:
 - Must use either POST method with 'If-Match: *' header or PUT method (headers ignored). e.g. PUT http://example.com/mobile/transaction/134 (http://example.com/mobile/transaction/134)

Available resources

Invoices

resource name	invoice
Submit JSON containing	

Transactions

- Resource name: transaction
- Create a transaction
 - Submit a JSON object containing:
 - new_transaction_id (you must have already requested this from the server - see above)
 - comment
 - name_id
 - lines (contains a JSON array:)
 - item_id
 - quantity
 - Payload.

```
{
  "id": 34592,
  "comment": "test 1",
  "name_id": 3,
  "lines": [
    {
      "item_id": 19697,
      "quantity": 2
    },
    {
      "item_id": 22845,
      "quantity": 1
    }
  ]
}
```

- successful completion returns a JSON object with “invoice_num” and a number
- Assumed data: The following data is assumed and can not be submitted (will be ignored if you try)
 - The transaction type: it's a customer invoice (“ci”)
 - The store ID: it's the store you're logged in to.
 - The user: it's the user who is logged in.
 - The entry_date: it's today.
 - The confirm_date: it's today.
 - The status: will always be “cn” (confirmed).
- Updating a transaction:
 - for supplier invoice we are editing only hold status for now. So json payload would be:

```
{
  "id": 1002,
  "hold": "true"
}
```

- for customer invoice we can also update line quantity

```
{
  "id": 34592,
  "comment": "test 2",
  "lines": [
    {
      "transline_id": 19697,
      "quantity": 20
    },
    {
      "transline_id": 22845,
      "quantity": 10
    }
  ]
}
```

- Delete transaction lines:

```
{
  "id": 34592,
  "comment": "test 2",
  "lines": [<all_lines>]
}
```

Stocktakes

Resource name	stocktake
Method	POST
Submit a JSON object containing	id (you must have already requested this from the server - see above)
Finalising a stocktake	body: include an item “status” with value “fn”
Assumed fields	stock_take_created_date created_by_id finalised_by_id store_id

<p>example 1</p>	<p>Submit a stocktake and finalise http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> { "status": "fn", "id": 123, "stock_take_date": "2013-02-08", "description": "8/2/2013 Stocktake, Comment: 'test'", "lines": [{ "id": 123, "item_id": 234, "item_line_id": 345, "item_name": "test_item1", "snapshot_qty": 300, "stock_take_qty": 310 }, { "id": 222, "item_id": 232, "item_line_id": 212, "item_name": "test_item2", "snapshot_qty": 400, "stock_take_qty": 300 }] } </pre> <p>if the previous status was “sg”, the mSupply server will now create the appropriate inventory adjustments, as well as changing the status of the stocktake.</p>
<p>example 2</p>	<p>Submit a stocktake with status “sg” http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> { "new_stocktake_id": 34592, "description": "stocktake test", "status": "sg", "lines": [{ "item_id": 19697, "stock_take_qty": 100 }, { "item_id": 22845, "stock_take_qty": 80 }] } </pre>
<p>example 3</p>	<p>Finalise an existing stocktake http://example.com/mobile/stocktake/123 (http://example.com/mobile/stocktake/123)</p> <pre> {"status": "fn"} </pre>

Customer Stock History

Resource name	customerstockhistory
Method	POST
Submit a JSON object containing an array with 3 fields	id requested_quantity user_comment

DELETE - Delete Records

Available resources

Stocktake

- Deleting a stocktake

- e.g. `http://127.0.0.1:8081/stocktake/123` (`http://127.0.0.1:8081/stocktake/123`)
- Method: DELETE
- Returns a JSON object containing a Description field with the value “stock take id xxx is deleted.” where xxx is the id of the stocktake deleted.

Invoice

- <add here>

Item

- <add here>

Errors

- Errors are returned as a JSON object with one item “error” whose text content is the error message
- e.g.

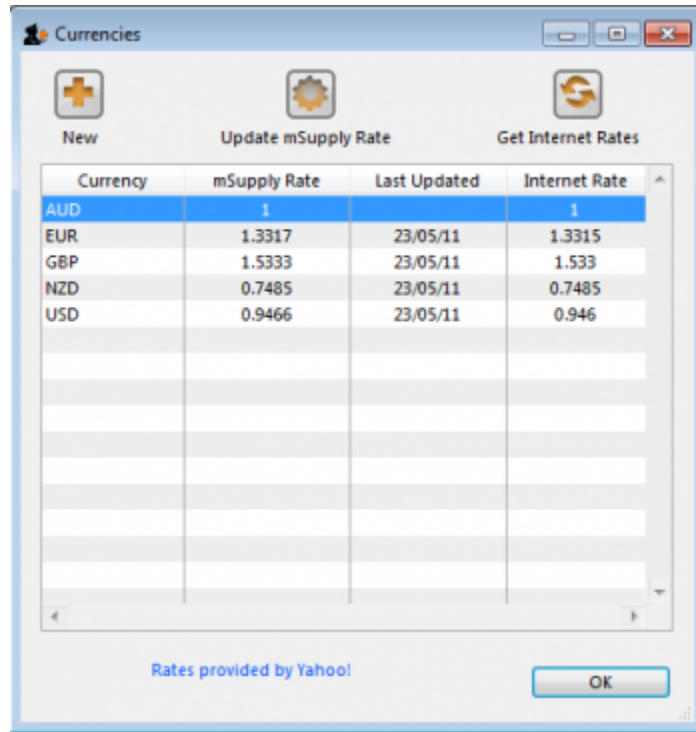
```
{"error": "we can't take you seriously while you insist on wearing that cardy"}
```

- Here is a list of error messages you might see. Most are self-explanatory:
 - “No search parameter specified”
 - “No query parameter specified”
 - “Invalid resource specified”
 - “Invalid sort field specified”
 - “Invalid range header specified”
 - “No transaction with that ID found”
 - “Invalid transaction ID specified” (Different to above, in that you specified a non-numeric or negative ID)
 - “Yikes! Multiple transactions with same ID found” (you'll never see this error, or we'll be eating hats).

Previous: The Online Catalogue Next: Currencies

Currencies

Choosing *Currencies* from the *Special* menu opens a window with a list of currently entered currencies. The home (default) currency always has a rate of 1, and the entry in the rate column of additional currencies is the number of units of the default currency equivalent to 1 unit of the other currency. In the screenshot below, the home currency is the Australian dollar (AUD) and the *Rate* of the Euro is 1.3317, so, at the time of writing, 1.3317 Australian dollars (the default currency) was equivalent to 1 Euro, 0.7485 Australian dollars was equivalent to 1 New Zealand dollar, etc.



Buttons in the currency list window :

New: To add a new currency.

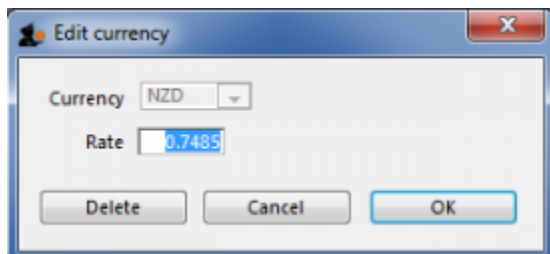
Get internet rates: Providing you have an internet connection, clicking this button will update the rate of exchange from the Yahoo website.

Update mSupply rate: The refreshed rates will only become active when you click this button.

OK: Click *OK* to close the *Currencies* window when you have finished editing currencies.

Editing a currency entry:

Double click a currency to edit it manually. Note that your “home” currency should be entered with a value of “1”, and all other currencies should be entered with a rate relative to your home currency. A window with the currency code and the current rate will appear.



You can edit the rate. Note that doing so will automatically update quotes that use that currency.

To change your default currency

1. Double-click on your default currency in the list
2. Click the padlock icon
3. Choose a different home currency.

Note that all other currencies will have to have their rate entered relative to the new default currency

Buttons in the Edit currency window :

Delete: Click to delete the currency. If the field is dimmed, the currency is in use by quotations, and cannot be deleted.

Cancel: Click to exit the window without saving changes.

OK: Click this button when you are finished editing currencies.

Previous: Using the Remote Client Next: Using Foreign Currencies in Transactions

Using foreign currencies in transactions

The foreign currency feature enables you to receive stock from suppliers in the suppliers own foreign currency and also distribute goods to customers in their own currency.

Set up Foreign Currencies for Customers and/or Suppliers

You must have *Foreign Currencies* configured in mSupply if you are using this feature; you can set them up now using Currencies and once you have done this, performing the steps below.

Set the Store to use foreign currency

1. From the Navigator click drop down menu **Special > Show Stores...** double click to select the store in which you want foreign currencies to be used and in the window that appears hit tab **Preferences**.
2. Check **Store mode: Able to issue in foreign currency**.
3. Click **OK** and return to the mSupply Navigator.

Set the currency of the Customer or Supplier

1. From the **Navigator** choose **Customers > Show Customers**.
2. Locate the Customer and double-click it. In the window that appears click the **General** tab and in **Currency** drop-down list (top-right) select the appropriate currency for that Customer.
3. Click **OK** to return to the Navigator and do the same for the Supplier if required.

Using the Foreign Currencies

- Generating an invoice for goods (either from a Supplier or to a Customer):
- Generating a credit for returned or unwanted goods (either from a Customer or to a Supplier):

Supplier invoices

As an example for the guide, our store operates with Australian dollars (AUD) as the local currency, and is making a purchase from a European supplier which uses the Euro (EUR)

- From the Navigator choose **Suppliers > New Supplier Invoice**
- In the Supplier Invoice window that appears select your supplier and view its details by double-clicking.
- Click the **Price** tab and change the currency (as highlighted in box **1** below) to the currency in which the supplier provides the items to you.
- Return to the **General** tab and click button **New line** to add a new item line.
- In the window that appears type the details of the item you are receiving and hit button **OK & Next** to add further items.
- Once all items are added, again click the **Price** tab and review the item prices as highlighted in **2** below:

Supplier invoice

Name: International Dispensary Association
 Their ref: example ida
 Comment:
 Entry date: 29/08/2013
 Confirm date: 29/08/13
 Category: None
 Invoice number: 1,010
 Status: cn
 Goods receive ID: 0
 Purchase Order ID: 0
 Entered by: Sussol
 Store: General

General | Summary by Item | Summary by Batch | Price | Log

Tender reference: 1 Supplier subtotal: 210 Local charges: 0
 Currency: EUR Extra foreign currency charges: 0
 Currency rate: 1.4817 Total foreign currency charges: 210 2 Discount

Line	Item Name	Qty	Pack	Batch	Expiry	Price FC	Extension FC	Price	Local c...	Price exten
1	Benzhexol 2mg tab	1000	1	RS-851	31/10/16	0.01	10.00	0.01	0.00	14.81
2	Lubricating jelly (KY) (g)	100	25	JK-577	31/01/17	2.00	200.00	2.96	0.00	296.34

Other charges
 Item(s):
 Amount: 0.00

Subtotal: 311.15
 0 % tax: 0.00
 Total: 311.15

Hold Finalize Export batch: 0 Margin: -1.66
 OK & Next Delete OK

The columns headed 'Price FC' and 'Extension FC' in box 2 above show the cost price of goods to you in Euros - i.e. the Foreign currency which the supplier uses, while the figures in the columns on the right show the prices in Australian dollars - i.e. your local currency.

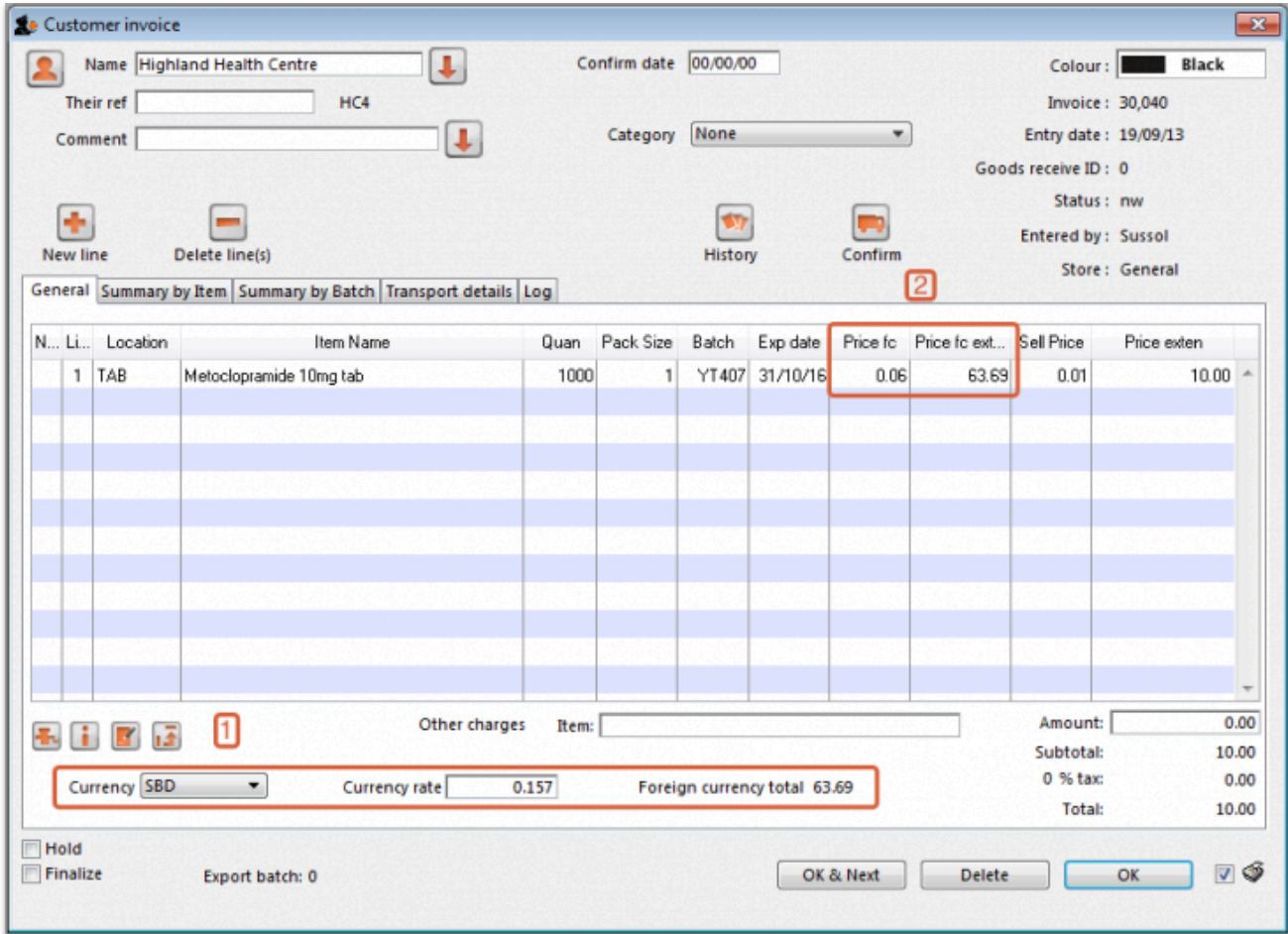
- Click **OK** to save the Supplier invoice and introduce the items to stock.

Customer invoices

- Ensure *Foreign Currencies* are active as per the instructions at the top of this page.
- From the Navigator choose **Customers > New Customer Invoice**.
- In the Customer Invoice window that appears select your Customer in field **Name** and note the currently set currency and its rate as highlighted in box 1 below.
- Now click the **New Line** button to add a new item line.
- In the window that appears type the details of the item you are issuing and hit button **OK**. Repeat as needed.

In our example, the supplier uses Australian dollars (AUD), and is creating an invoice for Highland Health Centre which uses Solomon Islands dollars (SBD).

- Box 1 shows the customer's currency, SBD, the Currency Rate, which shows the value of 1 Solomon Island dollar in the supplier's currency, Australian dollars, and the invoice value in the customer's currency.
- Note the item's foreign currency values (SBD) in the columns *Price fc* and *Price fc ext* on the Customer Invoice in box 2 below:



- Click **OK** to save the Customer invoice.

If you change the customer on an invoice that has item lines, the following message will appear. Check the currency is correct for the new customer and adjust it if necessary.



Note that this message also appears on a Customer Credit and Supplier Credit.

Supplier credit

- Ensure Foreign currencies are active as per the instructions at the top of this page.
- From the Navigator click drop down menu **Supplier> New Supplier Credit**.
- In the Supplier Credit window that appears select your Supplier in field **Name** and note the currently set currency and its rate as highlighted in [box 1](#) below.
- Now click button **New Line** to add a new item line.
- In the window that appears type the details of the item you are receiving and hit **OK**. Repeat as needed.
- As this is a credit note, the value is shown as a negative amount

In our example, the supplier, International Dispensary, uses Euros (EUR), while we use Australian dollars (AUD).

- Box 1 shows the supplier's currency, EUR, the Currency Rate, which shows the value of 1 Euro in our currency, Australian dollars, and the credit note value in the supplier's currency.
- Note the item's foreign currency values (SBD) in the columns *Price fc* and *Price fc ext* on the Supplier Credit in box 2 below:

Supplier credit

Name: International Dispensary Association
 Their ref: ida
 Comment:
 Entry date: 19/09/2013
 Confirm date: 00/00/00
 Colour: Black
 Invoice number: 1,011
 Status: nw
 Goods receive ID: 0
 Purchase Order ID: 0
 Entered by: Sussol
 Store: General

Category: None

New line Delete line

General Summary by Item Summary by Batch Log

L...	Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost price fc	Price fc ext...	Cost Price	Price extension
1	TAB	Prochlorperazine 5mg tab	5000	1	G7153	26/03/10	0.01	-84.50	0.02	-125.00

Other charges
 Item(s):
 Amount: 0.00

Subtotal: -125.00
 0 % tax: 0.00
 Total: -125.00

Currency: EUR Currency rate: 1.4817 Foreign currency: -84.50

Hold Export batch: 0
 Finalize Margin: -200.00

OK & Next Delete OK

- Click **OK** to save the Supplier credit.

Customer credit

- Ensure Foreign currencies are active as per the instructions at the top of this page.
- From the Navigator click drop down menu **Customer> New credit...**
- In the Customer Credit window that appears select your Customer in field **Name** and note the currently set currency and its rate as highlighted in box 1 below.
- Now click button **New Line** to add a new item line.
- In the window that appears type the details of the item you are crediting and hit button **OK**.

In our example, the supplier uses Australian dollars (AUD), and is creating a credit note for Highland Health Centre which uses Solomon Islands dollars (SBD).

- Boxes 1 and 2 show details exactly the same as explained in the previous two examples

Customer Credit

Name: Highland Health Centre Confirm date: 19/09/13 Colour: Black

Their ref: HC4 Invoice: 30,042

Comment: Category: None Entry date: 19/09/13

Goods receive ID: 0

Status: cn

Entered by: Sussol

Store: General

New line Delete line(s) History

General | Summary by Item | Summary by Batch | Transport details | Log

N...	Li...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Price fc	Price fc e...	Sell Price	Price exten
1	TAB		Metoclopramide 10mg tab	1000	1	YT407	31/10/16	0.63	-637.00	0.10	-100.01

Other charges Item: Amount: 0.00

Subtotal: -100.01

0 % tax: 0.00

Total: -100.01

Currency: SBD Currency rate: 0.157 Foreign currency total: -637.00

Hold Finalize Export batch: 0

OK & Next Delete OK

- Click **OK** to save the Customer credit.

Previous: Currencies Next: Authorisation

Authorisation

Sometimes it is important that goods are not distributed to customers or receipted into stock until such an action has been authorised. mSupply has invoice authorisation functionality to make this possible and allows, for example, a manager to control the processing of invoices.

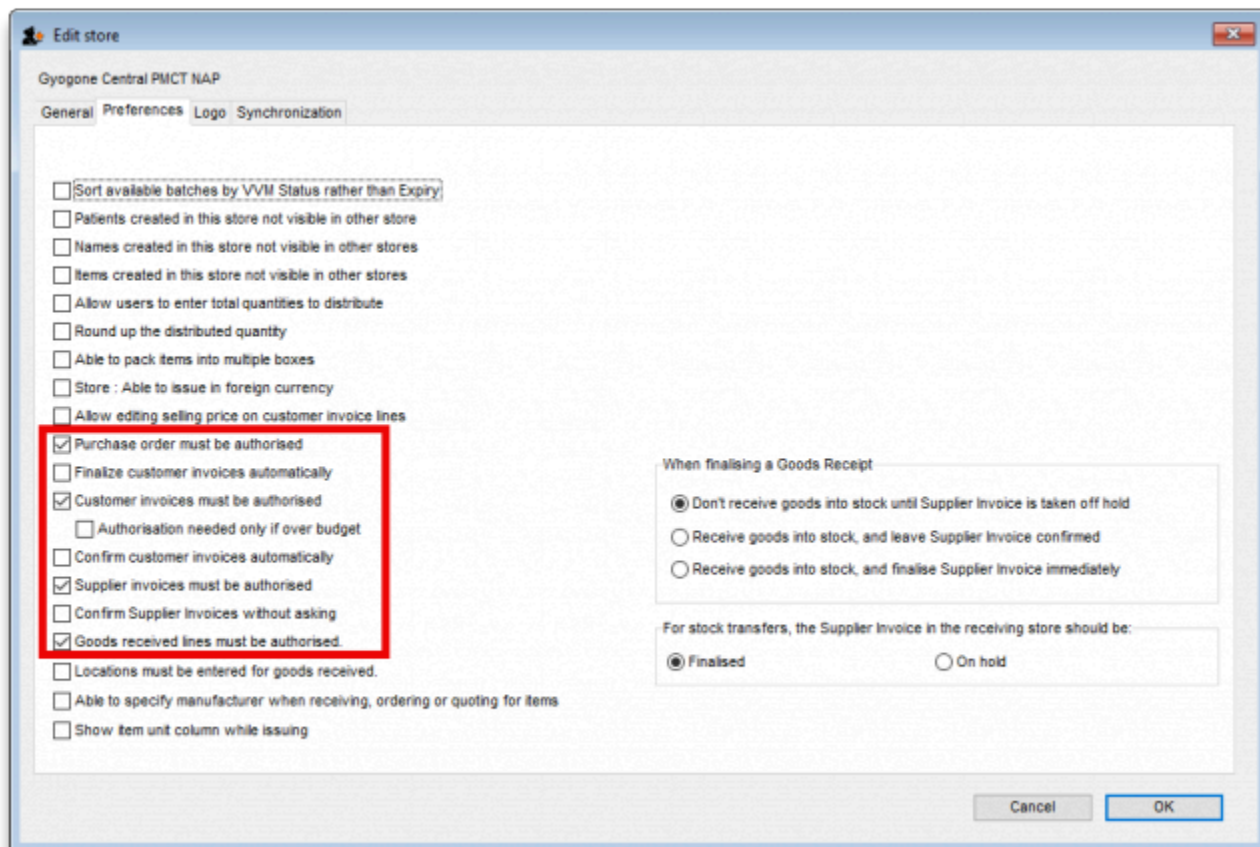
While invoices can be edited after authorisation, once authorised, Goods Receipt Lines cannot be unauthorised to fix mistakes! Any authorised errors can only be fixed using stock adjustments.

When invoices have to be authorised, it means that they cannot be confirmed until they have been authorised i.e. invoices without authorisation are held at status 'sg' or suggested. This means the official invoice can not be printed (and goods taken out of or receipted into stock) until the invoice has been authorised.

Configure mSupply for Authorisation

You can set the authorisation of customer and supplier invoices and Goods Receipt Lines independently. You do it by setting the store preferences to make authorisation compulsory:

- Click on the **Special> Show stores..** menu item, click the **Preferences** tab. Now check the appropriate boxes as required. This is shown on the following screenshot:



- Finally, click on the *OK* button to close the window and save the preferences. From now on, the invoice types you set the preferences for must be authorised before being confirmed.

Supplier Invoice authorisation

With the *Supplier invoices must be authorised* store preference set, your newly created supplier invoices will look like this:

Supplier invoice

Name: Abbot Laboratories (singapore PTE.LTD) Entry date: 22/05/2013 Colour: Black

Their ref: SNG102 Confirm date: 22/05/2013 Invoice number: 2,010 Status: cn

Comment: Category: None Goods receive ID: 0 Purchase Order ID: 0

New line Delete line Default Donor: Entered by: Sussol Store: General

Lo...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1	Abacavir 300 mg	10	1	1.1.1	01/01/2016	20.00000	20.40000	200.00000

Other charges

Item(s): Amount: 0.00000

Subtotal: 200.00000
0 % tax: 0.00000
Total: 200.00000

Hold Export batch: 0
 Finalize Margin: 2.00
 Authorised

OK & Next Delete OK

Notice the **Authorised** checkbox at the bottom left of the window. If you click the *OK* button with this checkbox unchecked, you will get a warning message telling you that unconfirmed invoices cannot be confirmed and nothing will happen. If you have the permission set to allow you to authorise invoices (see here for details) then you can click on the *Authorise* checkbox and continue. However, if you do not have the permission set, the *Authorised* checkbox will be disabled and you cannot authorise the invoice. Another user who has the permission must check the box for you before you can proceed.

Unauthorising Supplier invoices and inventory additions

If you have permission to authorise an invoice, you can also unauthorise it. If the invoice has status “NW” then it has not been entered into stock, and you can allow users to edit it and you will still control the process of authorisation before the goods are put into stock. *However*, if the invoice is already confirmed, the goods have already been entered into stock, and any changes users make will affect stock levels immediately, even though the invoice is not authorised. Therefore, only unauthorise a confirmed invoice to make immediate changes yourself, then immediately reauthorise it.

Alternatively, if goods have not been issued, you can delete the lines off the invoice (and optionally then delete the whole invoice) and require users to enter a new invoice to receive the stock, and the normal authorisation process will apply to the new invoice.

Customer Invoice authorisation

With the *Customer invoices must be authorised* store preference set, newly created customer invoices will look like this:

Customer invoice

Name: Acumao/Remexio CHC Confirm date: 23/05/2013 Colour: Black

Their ref: AIL-403-2 Invoice: 9,252

Comment: Category: None Entry date: 23/05/2013

Goods receive ID: 0

Status: cn

Entered by: Sussol

Store: General

...	L...	Location	Item Name	Quan	Pack Size	Batch	Exp date	Sell Price	Price exten
	1		Acces Pin With Stopper for use IV.Inj. site	2	1			0.61148	1.22296

Other charges Item: Amount: 0.00000

Subtotal: 1.22296

0 % tax: 0.00000

Total: 1.22000

Hold Export batch: 0

Finalize


Authorised

OK & Next Delete OK

Again, notice the *Authorised* checkbox at the bottom left of the window. This behaves exactly the same as the *Authorised* checkbox on the bottom left of a supplier invoice: the customer invoice cannot be confirmed until this checkbox is saved as checked. And, once again, if you do not have the *Can authorise invoices* permission set, it will be disabled and you will be unable to authorise the invoice; someone else, with the permission set, must do it for you.

Printing invoices which must be authorised

When an invoice is not authorised an attempt to print it will produce an invoice with an 'Unauthorised' watermark, just like this:



Sames

Invoice: 9181
Page 2 of 2

Supplied to :
Nitibe/Ustaco
Nitibe, OECUSS!

Status: cn
Comment : Maria Ribeiro
Confirmed: 11/12/2012
Printed: 23/05/2013

Invoice Category :
Comments : Maria Ribeiro

Authorized by :
Collected by :

Line	Item	Quan	Pack	Batch	Expiry	Price	Extension	Box
24	Syringe Disposable 2.5 ml w/needle 0.6x 25 mm 2,5ml	100	1	none	00/00/00	0.00	0.00	
25	Syringe Disposable 5 ml, w/needle 0.7x30 mm 5ml	100	1	4204003	31/12/16	0.00	0.61	
26	Disposable Needle 19 G x 1.1/2 (box/100) 1.1 x 40 mm	100	1		00/00/00	0.01	1.22	
27	Disposable Needle 21 G x 1.1/2 (box/100) 0.7 x 25 mm	100	1		00/00/00	0.01	1.00	
28	Disposable Needle 23 G x 1.1/4 0.65 x 32mm	100	1		00/00/00	0.01	1.00	
Total: 647.68000								

Prepared By :

Signature :

Delivered By :

Signature:

Checked By :

Signature :

Received By :

Signature:

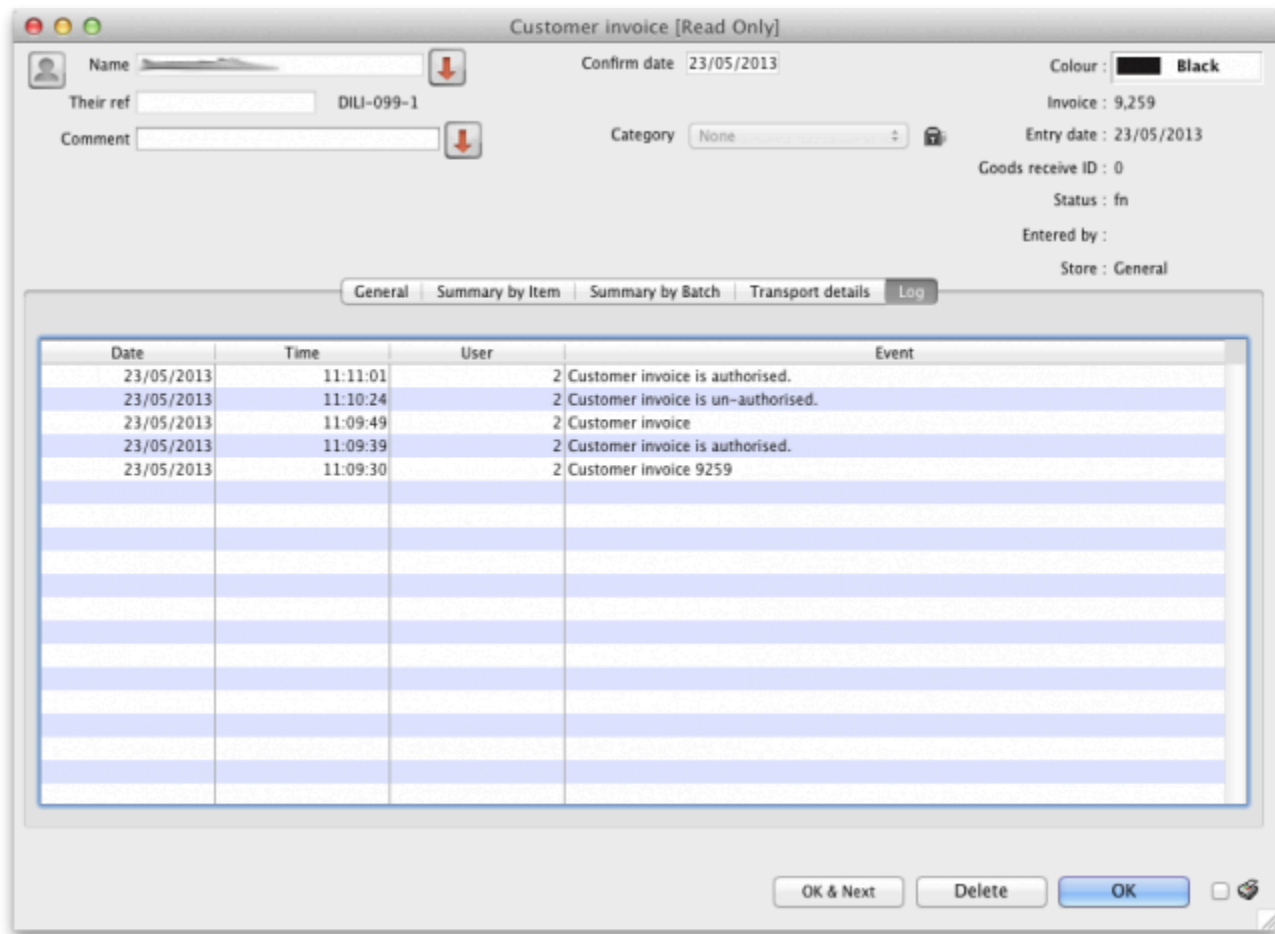
Authorised By :

Signature :

As soon as the invoice is authorised it will print normally without the unauthorised watermark.

View authorisation logs

mSupply records the authorisation and unauthorisation of invoices and creates a log record every time the authorisation status of an invoice changes. To view the log records click on the log tab of an invoice, as shown in the screenshot below.



You can also view all logs from **Special > View log....** See here for details.

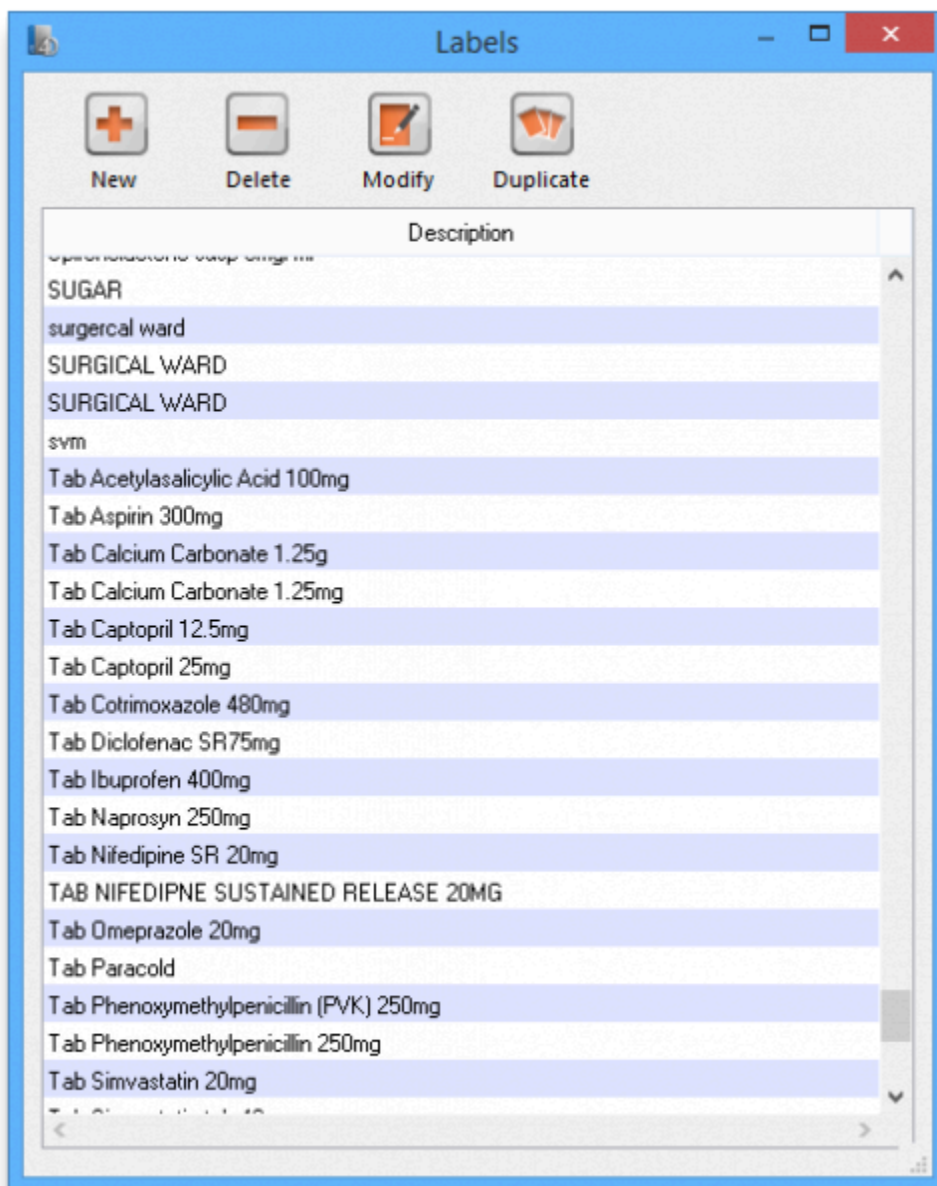
Previous: Foreign currency transactions Next: Miscellaneous labels

Misc labels

This function allows you to create and save labels that you can print at any time from a label printer. Before actually printing the labels you create using this function, you must setup the printer and configure it in mSupply's setting - see the Label printer installation and Printing preferences (setup) section for information about this.

To access the function, choose the *Special > Misc labels* menu item. A window displaying a list of all the currently saved labels appears:

The labels are designed to print to plain 90mm x 40mm (w x h) labels from a Zebra label printer. Please contact us if you require support of other printers and other label formats.



Double-click an item in the list to edit/print that label, or click the New button to add a new one. The window for adding a new label or editing an existing one looks like this (the only difference is that when editing an existing label, the window will be populated with the label's current settings):

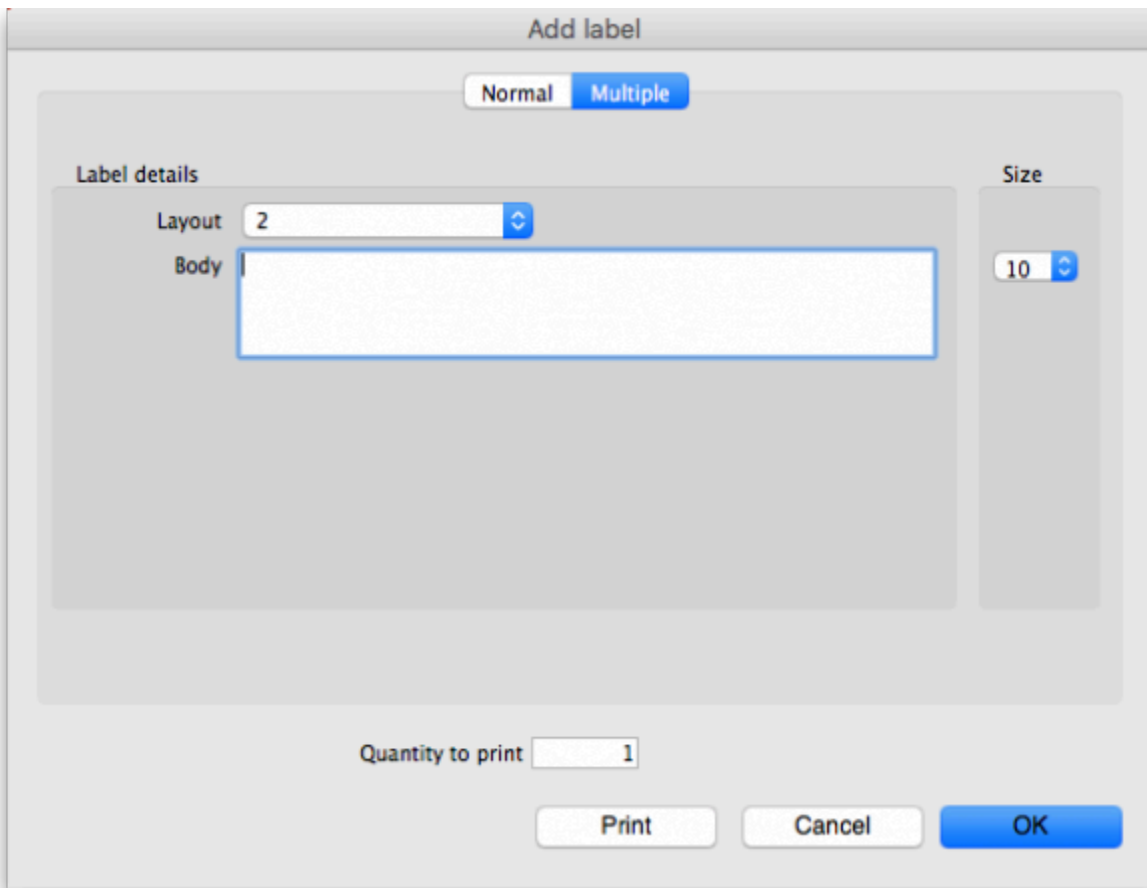
Normal tab

This is for normal layout

- **Label name:** This field will not print on the label, it is for you to identify the label in the list. It is shown in the list of available labels when the *Misc labels* menu item is chosen.
- **Heading, Body, Footers:** These fields will print on the label in roughly the position that they are on the screen. Note that if you enter a very long left and right footer they may overlap in the middle of the label. Print a single test label to check first.

Multiple tab

This is for printing the same thing multiple times on the same label:



- **Layout:** Select “2” for the same thing printed twice on the label, side by side. Select “4” for the same thing to be printed 4 times on the label in a 2×2 grid layout.
- **Body:** The text you want printed on the label

The buttons at the bottom of the window:

- **Print button:** Clicking this button will print the number of labels specified in the *Quantity to print* field to your label printer using the format you have defined using the various fields.
- **Cancel button:** Clicking Cancel will close the window without saving any changes you have made.
- **OK Button:** Clicking OK will save any changes you have made and close the window. (Note that the quantity to print is not saved - it is reset to 1 each time you open the window).

Previous: Authorisation Next: Keyboard Shortcuts

Keyboard shortcuts

These are the keyboard shortcuts you can use in mSupply. They can really speed up your work because using them is much quicker than using a mouse once you get used to them. Try it and see!

The Windows operating system uses the Control key and the Mac operating system uses the Command key to activate keyboard shortcuts. For clarity's sake we've used the control key in the table below. If you're using a Mac just substitute Command for Control.

Shortcut	What it does
General useful computer shortcuts / Navigation keys - work in most applications	
Ctrl + A	Select All text in a field / cell
Control + X	Cut
Control + C	Copy
Control + V	Paste
Control + Z	Undo
Control + Y	Redo
Control + Q	Quit the application
Tab	moves focus to next field / cell
Shift Tab	moves focus to previous field / cell
Spacebar	toggles between two options, e.g. Male / Female in Patient details entry window
Almost Everywhere	
Enter	Activates the default button (which is highlighted) on the active window. Default button is usually OK.
Control + . (full stop)	Cancel/Delete
Control + Shift + N	OK & Next
Control + Shift + P	OK & Previous
Navigator	
Control + F	Show customer invoices
Control + I	Show items
Control + N	New customer invoice
Control + J	Show supplier invoices

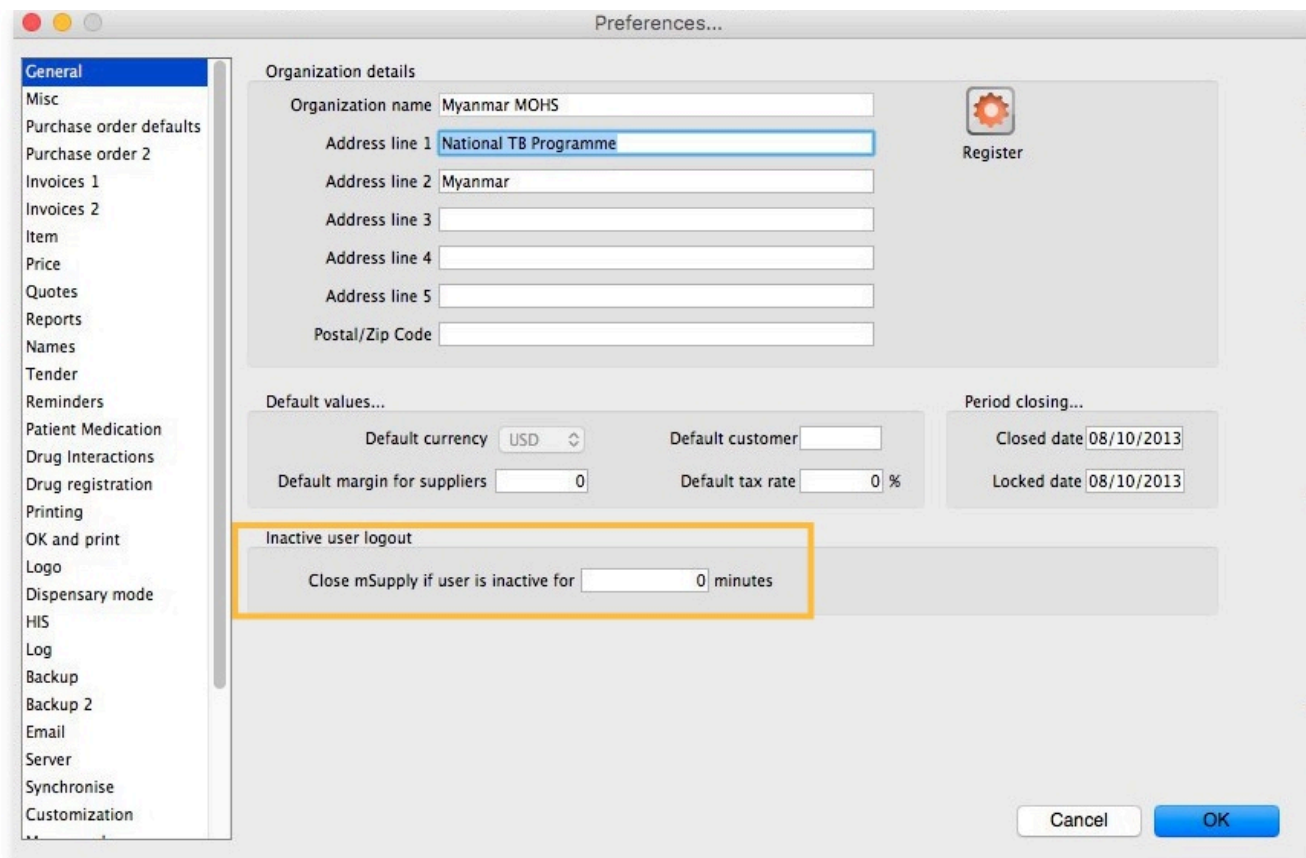
Shortcut	What it does
General useful computer shortcuts / Navigation keys - work in most applications	
Control + H	New supplier invoice
Control + 1	Show log in window
Control + 2	Show switch stores window (same as log-in but no need to enter user/pass)
Control + 0 (zero)	Show purchase orders
Control + Y	Show customers
Control + U	Show suppliers
Invoice entry	
Control + N	Add a new line to the invoice
Control + Shift + N	OK & Next to save, print (if printing checked) and open a new prescription entry window
Invoice line entry	
Control + K	Same as clicking OK (Enter key is the default OK & Next button)
Choice lists	
U or up arrow	Highlight the next line above the currently highlighted line
D or down arrow	Highlight the next line below the currently highlighted line
Stocktake list	
Control + N	Add a new stocktake
Control + Shift + N	Add a new blank stocktake
Stocktake entry	
Control + N	Add a new line to the stocktake

Previous: Miscellaneous labels Next: The mSupply eLMIS Interface

Miscellaneous topics

Inactive Logout

You can set mSupply to log an inactive client out after a customisable length of time. Set the length of time in general preferences.



End of Month tasks

We are presuming that you will finalise and export your invoice data once a month. If you choose a different frequency, you should still follow the same procedure.

Tasks to perform:

- Check your invoices are correct. Once you have finalised an invoice, it can not be edited.
- Finalize and export supplier invoices. See the file menu chapter.
- Finalize and export customer invoices. See the file menu chapter.
- Record the stock on hand value (this is only necessary if your accounting system requires the information). See the special menu chapter.

Hints:

- Each month, take your finalised invoices and file them. We suggest you file invoices in order of their invoice number (a separate file for supplier and customer invoices).
- Keep a file with the summary printout from each month produced when you finalize invoices.

End of Year Tasks

It is usual to run according to a financial year. mSupply does not require you to delete records or perform special operations for the end of the financial year. If you want to, you can just carry on using mSupply as usual.

However, there are certain procedures that will improve operation, and make an audit of your operation easier.

- Perform a stocktake.
- Print out stocktake sheets to record differences easily between actual stock and stock according to mSupply. See the stocktake sheets section of the “Report menu” chapter.
- Use inventory adjustment transactions to correct errors. See the Inventory adjustment- add stock and the Inventory adjustment- reduce stock sections of the “Item menu” chapter.
- Finalize all outstanding invoices. Use the *Finalize Customer invoices ...* and *Finalize Supplier invoices...* commands to do this. (Note that any customer invoices with a status of “sg” (“suggested”) must be confirmed before they can be exported.)
- Finalize inventory adjustments. Use the *Finalize inventory adjustments* command to do this.
- Make a backup copy of mSupply as it stands at year-end. It is a good idea to keep this backup in a secure place for long term storage.
- Print a ledger for each item. Choose “print item ledger” from the “report” menu. You can use your backup copy of mSupply to print this ledger at a later date.
- Choose “set start of year stock” from the “special” menu. This simply records the date and next transaction number, and records the total opening stock quantity for each item to allow a ledger calculation for the coming year.

- You are now ready to begin entering transactions for the next year.

Maintenance and Repair

If you are using your data file regularly, it is a good idea occasionally to check that no problems have developed. Problems can develop due, for example, to faulty hardware and other reasons outside our control.

For technically competent users or professional IT staff

In the case of a serious hardware failure, the first option should always be to revert to the last known good backup of your data.

If for some reason you must repair a damaged data file, please contact Sustainable Solutions for advice.

To check your data, download a product called *4D Tools*. (4D Tools and a manual is included on the CD) from <ftp://ftp.4d.com> (<ftp://ftp.4d.com>).

4D Tools can simply check your data file for errors, or repair your file. Please contact Sustainable Solutions if you believe your data file has a problem, before repairing it.

Always use *4D Tools* on a backup copy of your data first.

If *4D Tools* is unable to repair your data, Sustainable Solutions is able to use specialist tools to examine your data, and even export your data and re-import into a new data file. We have not had to do this for a customer yet, but the option is available as a near-last resort.

How do I move a window whose title bar has been hidden?

On Windows:

- Method 1: Press Ctrl and both mouse buttons, and drag the window to the new location.
- Method 2: Press Alt-Ctrl-right mouse button, while dragging the window to the new location.

On Mac OS (Operating System)

- Press Control-Command-mouse button, and drag the window to the new location

Security of your data

If you maintain the mSupply password system carefully, your data is fairly secure.

Note, however, that if a person has access to the original copy of mSupply, they will easily be able to open the data file, as the “user 1” password is clearly shown in the password entry screen until it is overwritten the first time you click “OK”. It is your responsibility to keep copies of your mSupply software and data in a safe place.

As of version 1.4, passwords stored in the data file are encrypted with strong (512 bit) RSA encryption, so there is little danger of someone finding your password.

Supervisor Mode - All stores

mSupply was initially designed to maintain data relating to a single store in each data file, and for many users, this is how mSupply continues to be used.

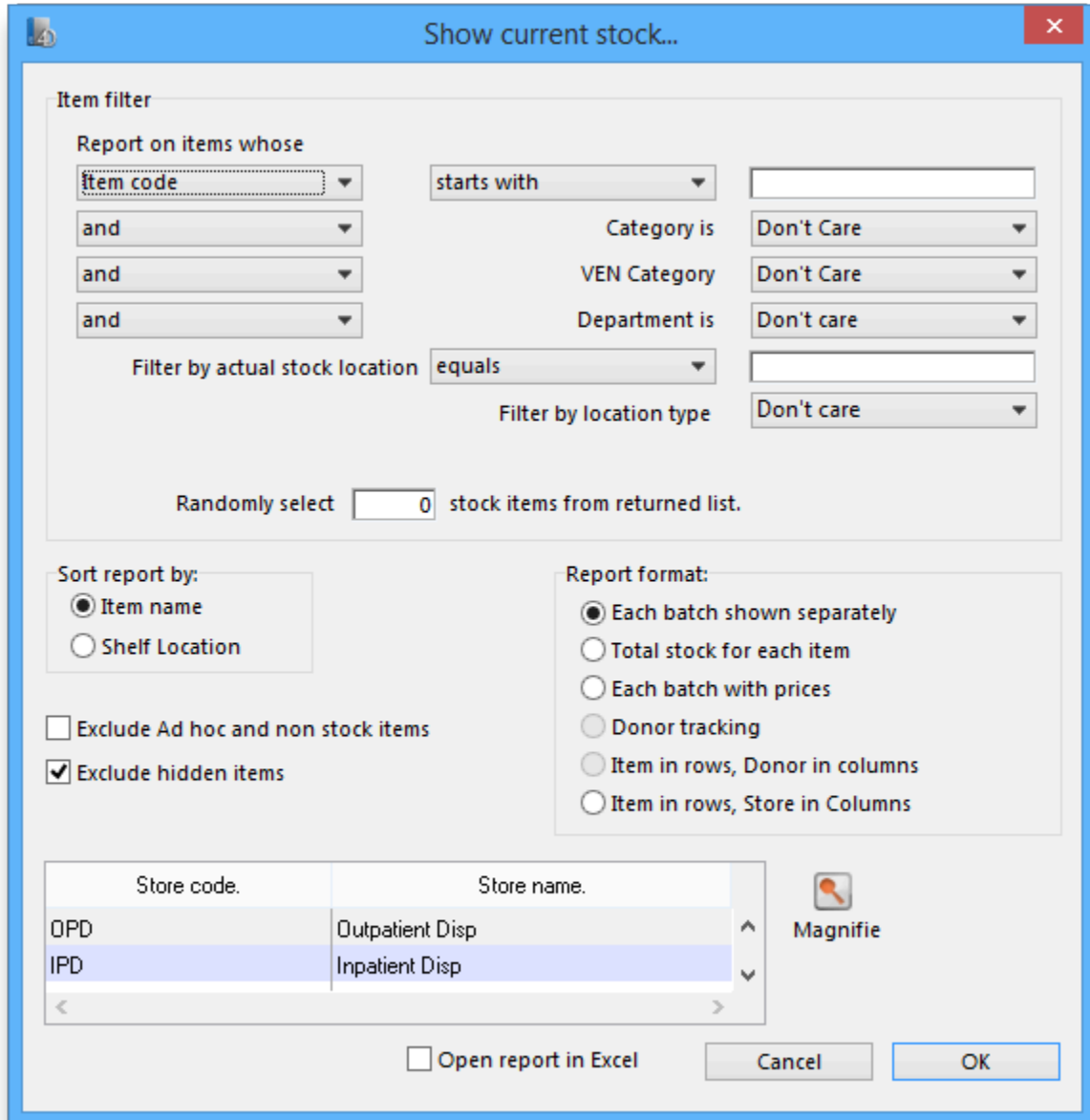
Version 2 (and later) now meets the requirements of organisations/institutions operating with more than one store. Normally you will log into a particular store when starting mSupply, and only see stock and transactions relating to that store. However, users can be given the ability to login in as *Supervisor - All stores*. See About Stores. In this mode, users may now access data relating to more than one store - either selectively or cumulatively.

In *Supervisor - All stores* you can also create Purchase Orders that will be based on data for all stores, and can specify delivery destinations for different lines within the order.

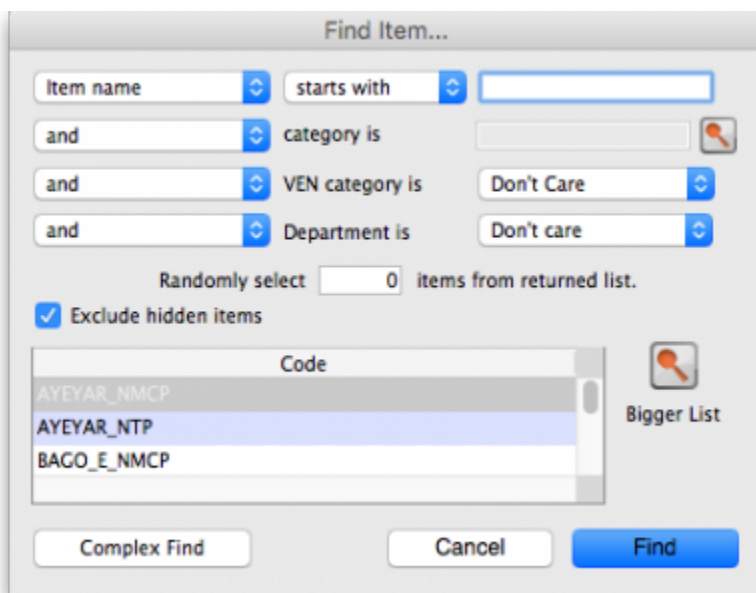
In this mode, all of the report dialogue boxes relating to stock will display an additional panel. See the example of an organisation having four stores - General, Northern Medical, Southern Medical and Island Medical.

Any user in 'Supervisor - All stores' mode will only see the stores they are allowed to log into in the list of stores to select from.

The store(s) to be included in the report should be selected in the normal way by clicking with the mouse; to select more than one store, hold down Ctrl (Windows) or Cmd (Mac) while clicking on the desired store(s).



Note also that when you search for items, the filter window has the same store selection:



The item search filters will be applied to items visible in the stores selected only. If there are a lot of stores in the datafile you can click on the *Bigger List* button to select the required store(s) in a separate window.

Previous: Foreign Currencies Next: Reminders

Tips and tricks

Entering dates

Expiry Dates

- Note that the “normal” way to enter a date (dd/mm/yy or mm/dd/yy is determined by your computer, not mSupply. If you want to change it
 - Windows: <https://www.windowcentral.com/how-change-date-and-time-formats-windows-10> (<https://www.windowcentral.com/how-change-date-and-time-formats-windows-10>)
 - Mac: <https://support.apple.com/kb/PH18435> (<https://support.apple.com/kb/PH18435>)

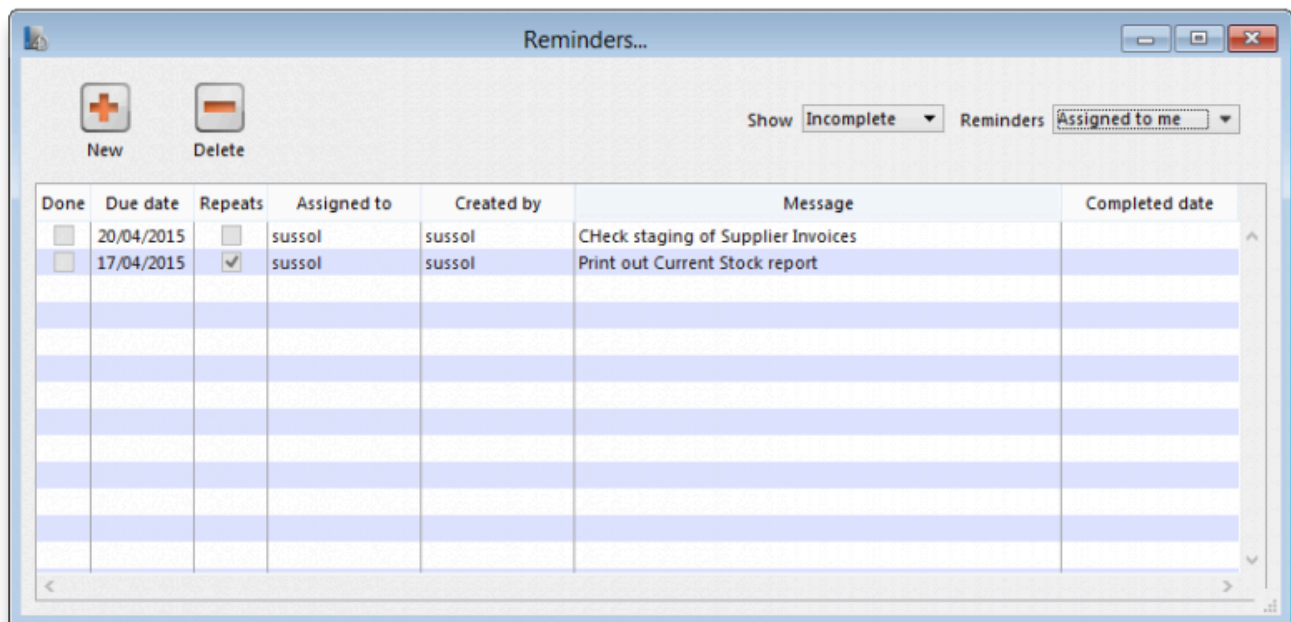
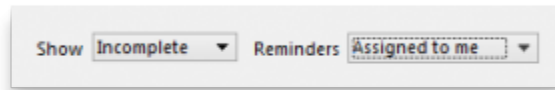
Dates of birth

Reminders

From the *Special* menu, choose *Reminders*; this feature of mSupply allows you to create notes of tasks that users may need to be reminded about. In the *Reminders* window of the *Preferences*, you can check the box which will, if the particular user has been issued with one or more Reminders, display them whenever the user logs in.

The Reminders command shows reminders for tasks that are not yet completed.

The window defaults to reminders which are *Incomplete* and *Assigned to me*, but other options are available:



To add a new reminder, click the *New reminder* button.

To edit a reminder, double-click it in the list.

To delete a reminder, click on the reminder to delete, then click the *Delete* button.

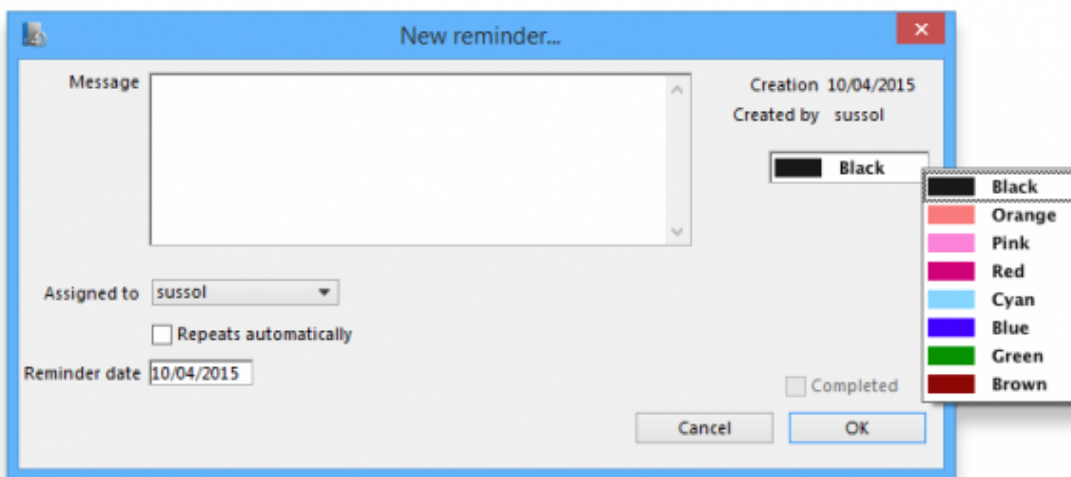
You can sort the list by clicking on the column headers. Click a second time to sort in the opposite direction.

Filtering the list

You can change the reminders displayed according to the status and whether the reminder is for you to complete or was created by you.

To show only complete or in-complete reminders, choose from the status drop-down list.

The Reminder details window



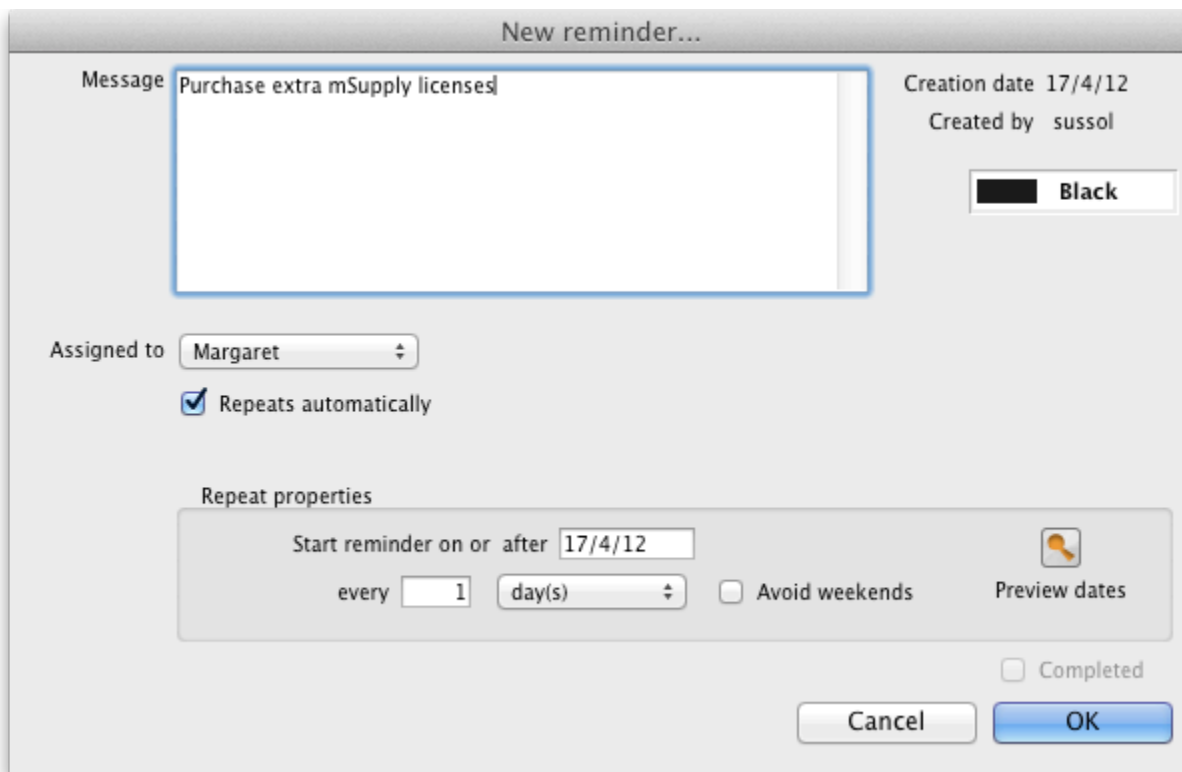
Date: The due date of the task

Assigned to: By default you create reminders for yourself, but you can also create them for other users. If you're the micro-managing type, you could put everyone else's work plans in for each day or week!

Message: The text of the reminder message. Reminders may be shown in any one of eight colours, according to the colour selected when you click on the box in the upper right corner of the *New Reminder* or *Edit Reminder* window

Completed: Check this box if the reminder is completed (but note that it won't usually show in the list once is is checked)

Repeats automatically: Once this box is checked, you will be shown options for the reminder to repeat daily, weekly or monthly.



Options for repeating reminders:

- Start date: the first date after which the reminder will repeat. For example, if you want an event to repeat every Wednesday, you'd set this date to the first Wednesday you want the reminder to repeat on
- Every X days/weeks/months: For example, if you want a reminder to be created every three months to do a stocktake, you'd enter **3** and choose **months**
- Preview button: clicking this button shows a window with a list of dates that the reminder will recur on.

Colour: Use the Drop-down list of colours to set a reminder colour. This colour will be used to colour the reminder in the list. For example, you might want to choose Red for all tasks you intend to do today.

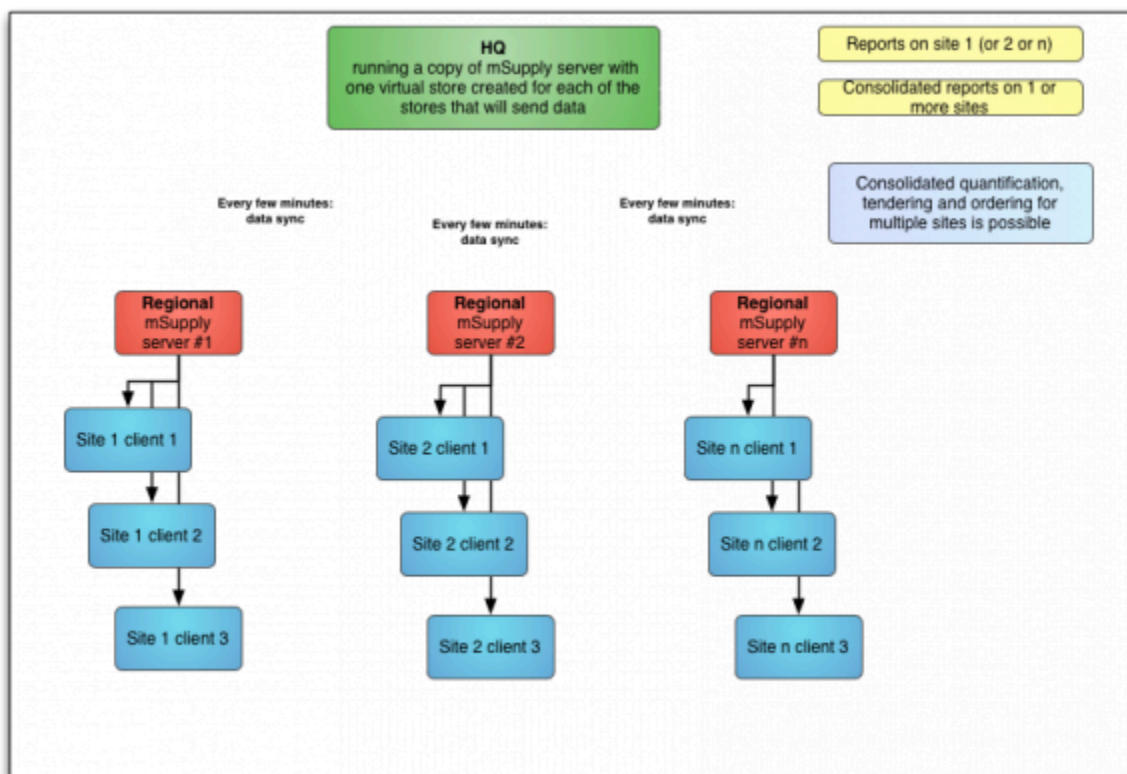
Previous: Miscellaneous topics Next: Remote Synchronisation

Remote synchronisation

mSupply's remote synchronisation allows stores running mSupply to send data to a central mSupply server for combined reporting.

Synchronisation Explained

It's like this:



Definitions

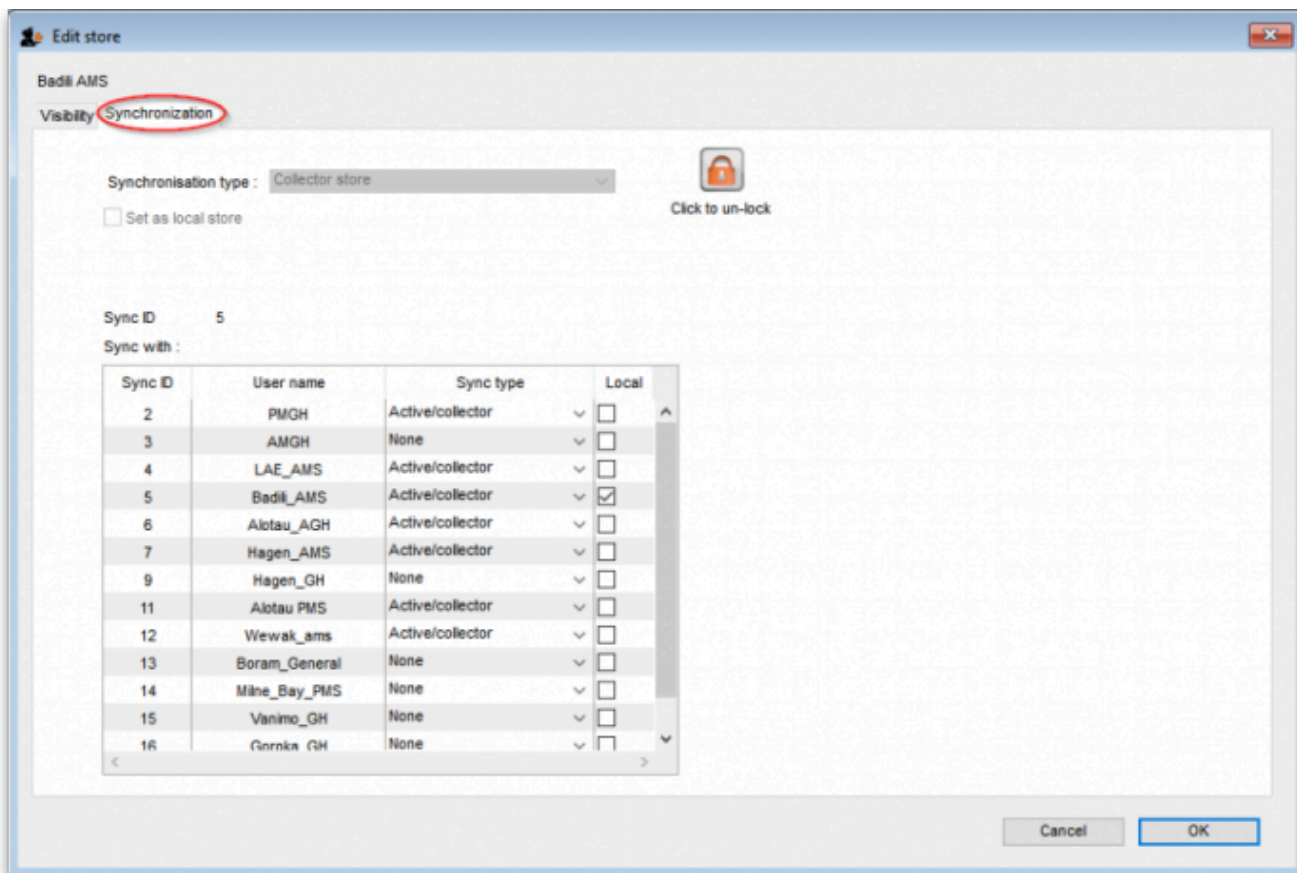
- The **primary server** is the central mSupply server, which controls the master system data which is common across all stores e.g. names, items etc.
 - In any given setup, there will only be **one primary server**, and it must be running a **web server**.
- A **satellite server** is a regional mSupply server (or single-user standalone copy of mSupply) which connects to the primary server when an internet connection between them is available.
 - The syncing process is controlled from the satellite server, so the satellite server doesn't need to be running a web server for syncing.
- The primary server and all of the satellite servers are **sync sites**.
- Each sync site has a unique ID and connection parameters (IP address, username and password), setup in the synchronisation preferences, along with a list of the other sync sites with which it can send/receive synchronisation data. These settings are complicated, easy to get wrong, and so should **only be modified by Sustainable Solutions**.
- To preserve data integrity, and to avoid potential clashes where more than one sync site tries to modify the same

data, **only one sync site can edit/update any specific type of data.**

- *System data* which is common to all stores (e.g. suppliers, customers, items) can only be edited or imported on the primary server - changes are synced to all satellite servers (see below for details).
- *Store-specific data* (e.g. transactions, locations, abbreviations) can only be edited or imported on a sync site. Any changes to store-specific data are only synced to the instance of the corresponding store on other sync site(s), depending on the store sync preferences (see below for details).

Store Setup

Stores to be synced will exist as separate instances of the same store on more than one sync site (one of which will be the primary server), but store-specific data, and the core data for the store itself (i.e. not including store preferences), can only be edited on one of these sync sites - the site on which the store is defined as **Active**. This is controlled by the store preferences on the *Synchronisation* tab for each virtual store on each sync site:



Synchronisation type drop down list: Shows the sync type of the current store. Will be editable if you have unlocked it using the **Click to unlock** button.

Click to unlock button: Click it to enter the unlocking password to enable you to edit the settings on this tab.

Set as local store checkbox: Will be editable if you have entered the password using the **Click to unlock** button and the store's **Synchronisation type** is set to **Active**. If checked, this will change the store's **Sync ID** to be that of the current site and will uncheck any of the elements in the **Local** column in the **Sync with** table.

Include prescriptions in sync checkbox: Only appears when the **Synchronisation type** is set to **Active**. If checked, this will also sync prescriptions and related dispensary data. As this can potentially generate a lot of extra sync traffic, the default is that it is switched off.

Sync ID field: Displays the sync ID of the current store so that you can see which one in the table below you're talking about! The store's sync ID should almost always be the ID of the site where the store is active.

Sync with table: Shows the other sites in your sync setup that the current store will sync with. Also defines what relationship those other store instances have to your current one and therefore what records need to be sent to that site from the instance of the current store on the current site. Will be editable if you have entered the password using the **Click to unlock** button. Note that the **Local** column is only editable if the **Synchronisation type** is also set to **Active**. Checking any checkbox in the **Local** column will set the store's **Sync ID** to be that of the selected row, and will uncheck any others as well as the **Set as local store** checkbox.

If your version of mSupply server is pre 3.50, after changing sync settings for a store **you will have to restart the mSupply application on the primary server for the changes to be applied.**

- Once a store has been set up (see the relevant parameters below), item and store visibility for the store needs to be set up on the **primary server** - see Virtual stores, Controlling item visibility.
- To do that, once you log in to the primary server, you need to switch to the new store - see Switching store
- To do that, you need to have permission to log in to it - see Managing users (It's a good thing this doesn't happen often! 😊)

These settings are necessarily complex and should **only be modified by Sustainable Solutions**, after discussions to agree on the configuration which is the best fit for requirements.

Store sync types

Each store in a synchronised system needs to have a sync “type” as described here.

Active

A store whose sync type is **Active** means that the store's site-specific data can be edited (added, edited, deleted) on the sync site where you are editing/viewing this store.

Collector

A store whose sync type is **Collector** means that the store's site-specific data can *not* be edited on this sync site. The store on this server receives all store data from an active store on another sync site. i.e. it is a replica of a corresponding active store on another sync site. This means that the store can be examined and reports generated on this sync site.

Transfer

A store whose sync type is **Transfer** is similar to the Collector type except that the store on this sync site is used **only** as a vehicle for receiving stock transfers or requisitions from other stores on the *same* sync site and passing them on to the corresponding store on other sync sites. It doesn't receive any other store data (such as stock lines). That is, *it is not a replica of an active store*, and should not be used as such. The store can *not* be examined or have reports generated on this sync site. The benefit of a Transfer store over a Collector store is that Transfer stores require less data to be synced between servers.

None

A store whose sync type is **None** means that the store's site-specific data can be edited, but that data is not synced with any other sync site.

Even if a sync store has sync type = **none**, it can still receive incoming sync records from outside. These incoming records will trigger the code to see if the records need to be forwarded on elsewhere.

Store sync-with options

The Store 'sync-with' options control which store-specific synchronisation data gets sent to the other sync sites which are linked to that sync site:

None

A value of **None** means that this store doesn't sync with the corresponding store on the selected sync site. That is, there is no instance of this store on that sync site.

Active/collector

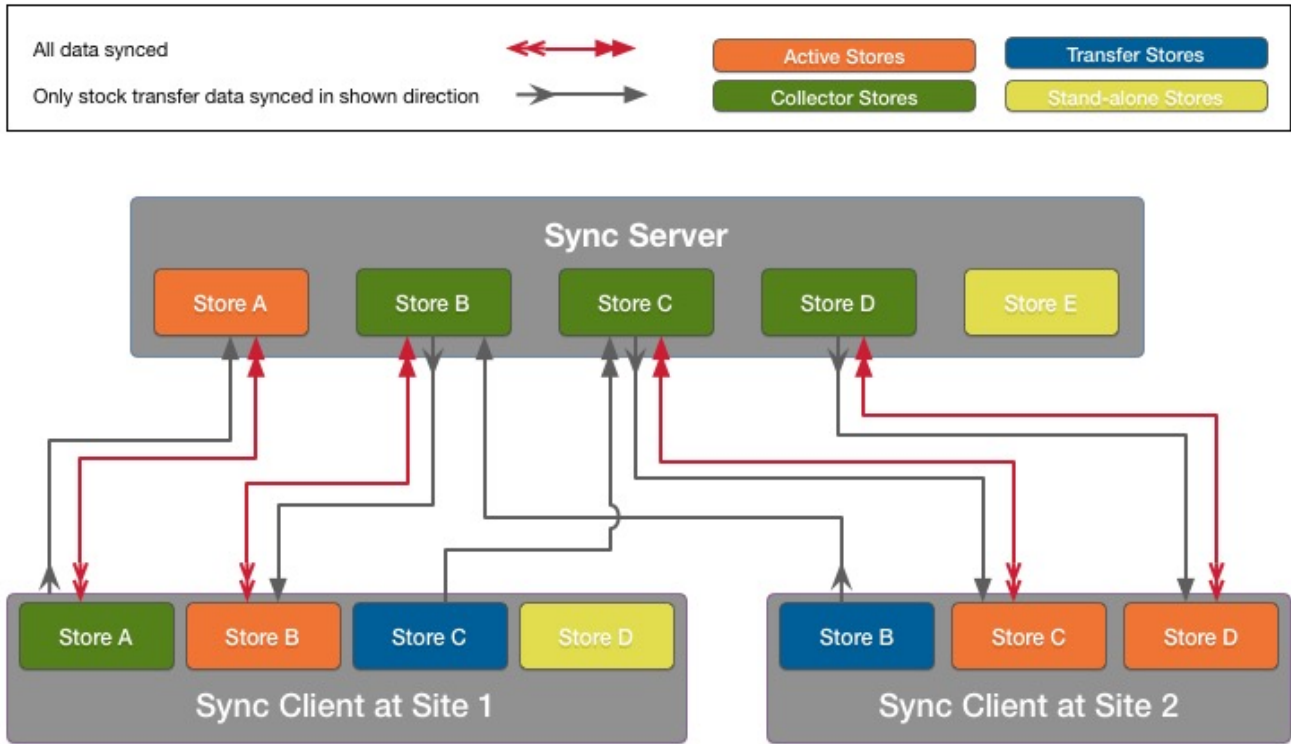
A value of **Active/collector** means that store-specific data edits, including any edits to the core store data, are synced to the corresponding store instance on the selected sync site. The store instance on the selected sync site will normally be of type *Active* or *Collector*.

Transfer

A value of **Transfer** means that any updates to the core store data, or any stock transfers or requisitions into that store, are synced to the corresponding store instance on the selected sync site. No other transactions or other store-specific data will be transferred. The store instance on the selected sync site will normally be of type *Transfer*.

For example:

mSupply Sync Example



Store A

An example of a store on the primary server which needs to also be reportable on another satellite server.

Store A exists as an *Active store* on **primary server** and as a *Collector store* on **satellite server 1**:

- On **primary server** store-specific data for this store can be entered. This data is then synced to **satellite server 1**.
- On **satellite server 1** store-specific data for this store cannot be entered. The store can receive stock transfers or requisitions from other stores on the same sync site (**satellite server 1**). These will be synced to **primary server**.

article prescriptions in sync

Store B

An example of a store on one satellite server which needs to receive stock transfers from a store on another satellite server.

Store B exists as a *Collector store* on **primary server**, an *Active store* on **satellite server 1**, and a *Transfer store* on **satellite server 2**:

- On **satellite server 1**, store-specific data for this store can be entered. This data is then synced to **primary server**.
- On **primary server**, store-specific data for this store cannot be entered. The store can receive stock transfers or requisitions from other stores on the same sync site (**primary server**). These are then synced to **satellite server 1**.
- On **satellite server 2**, store-specific data for this store cannot be entered, and *is not* synced from **primary server**. It can receive stock transfers or requisitions from other stores on the same sync site (**satellite server 2**). These are then synced to **primary server**, and then to **satellite server 1**.

Set as local store

Store C

Another example of a store on one satellite server which needs to receive stock transfers from a store on another satellite server.

Store C exists as a *Collector store* on **primary server**, an *Active store* on **satellite server 2**, and a *Transfer store* on **satellite server 1**:

- On **satellite server 2**, store-specific data for this store can be entered. This data is then synced to **primary server**.
- On **primary server**, store-specific data for this store cannot be entered. It can receive stock transfers or requisitions from other stores on the same sync site (**primary server**). These are then synced to **satellite server 2**.
- On **satellite server 1**, store-specific data for this store cannot be entered. It can receive stock transfers or requisitions from other stores on the same sync site (**satellite server 1**). These are then synced to **primary server**, and then to **satellite server 2**.

Include prescriptions in sync

Store D

An example of a store on a satellite server which needs to also be reportable on the primary server.

Store D exists as an *Active store* on **satellite server 2** and as a *Collector store* on **primary server**:

- On **satellite server 2**, store-specific data for this store can be entered. This data is then synced to **primary server**.
- On **primary server**, store-specific data for this store cannot be entered. It can receive stock transfers or requisitions from other stores on the same sync site (**primary server**). These are then synced to **satellite server 2**.

Include prescriptions in sync

Store E

An example of a store which is local to the primary server only.

Store E exists only on **primary server**:

- On **primary server**, store-specific data for this store can be entered. This data is not synced anywhere.

Sync with:

Store F

An example of a store which is local to a single satellite server

Store F exists only on **satellite server 1**:

- On **satellite server 1**, store-specific data for this store can be entered. This data is not synced anywhere.

System vs Store-specific Data

The table below defines which data types are considered as system or store-specific. Other types of data (e.g. preferences, user permissions are always local to the sync site, and are not synchronised).

Data	Sync records	Notes
Items	System	Including item-related data e.g. item categories, units
Names (except patients)	System	Including name-related data e.g. name categories, contacts
Visibility of items and names	System	
Merging of items and names	System	
Groups and departments	System	
Item master lists	System	
Budgets and accounts	System	
Transaction categories	System	
Purchase order categories	System	
Location types	System	
Customer stock history	Store	
Locations	Store	
Stock and stocktakes	Store	
Transactions	Store	Including other transaction-related data e.g. inventory adjustments, backorders, builds, but not prescriptions
Purchase Orders	Store	As of version 3.17 you can enter Purchase Orders for a store on a remote sync site or primary server where the store is defined as a collector store
Goods received	Store	
Patients	Store	Including other patient-related data e.g. medication records
Prescribers	Store	
Prescriptions	Store	Only if an additional store preference is turned on (off by default)

Stores

These are a special case. The rule for these is that, if the store is an *Active store*, then any changes to the store record itself (anything on the General tab) will be synced to the primary server, and then propagate on to any other sync sites as determined by the “syncs with” settings for that store on the primary server (i.e. to any other sync sites where “syncs with” is not *None*). A store should only ever be an *Active store* on one sync site at a time.

The *Set as local store* checkbox is only editable for an *Active store*. This is used internally, and is set when the store is originally created in order to record which sync site it was created on. It should not normally be changed.

Note that store preferences and sync settings are always local to the sync site and are not synchronised.

Dispensary data

Patients

Patients in mSupply are a special kind of customer, but for the purposes of synchronisation, we need to treat them differently - as store-specific data rather than system data. This is because patient data only needs to be shared with other dispensing sites.

For an *Active store* which is also a dispensary, patient records will be synced to the primary server. Newly created patients will also be made visible in any stores on the primary server which have been set to dispensary mode. Subsequently, patient visibility is controlled from the primary server in the same way as other name (customer & supplier) records.

Prescriptions

By default, prescriptions and any other operations in dispensary mode which affect stock levels are not synced to the primary server, unless the *Include prescriptions in sync* option is enabled in the store sync preferences.

Reporting

- On the primary server if you login in supervisor mode, you can then run reports on one or more stores. The reports can answer questions such as:
 - How much stock on hand of item X (or all items) are there at each location?
 - What is the value of stock on hand across the whole system?
 - How many of item X is being used each month at each location?
- When the synchronisation system is turned on, a new **Special > Users report... > Sync report...** menu item is available. Choosing this will create a report showing the last time each of your sync stores connected to the primary server. Those that connected more than a month ago will be highlighted in red.

Requirements

- A license from Sustainable Solutions to use the web server module and the synchronisation module on the primary server.
- Internet at each sync site. This doesn't have to be on all the time for each satellite server, but at least an hour or so per day or per week (depending on the transaction volume and the speed and latency of the internet, and how often you need primary server data updated). Obviously, the internet needs to be on at the primary server at the same time.

How to tell if synchronisation is happening

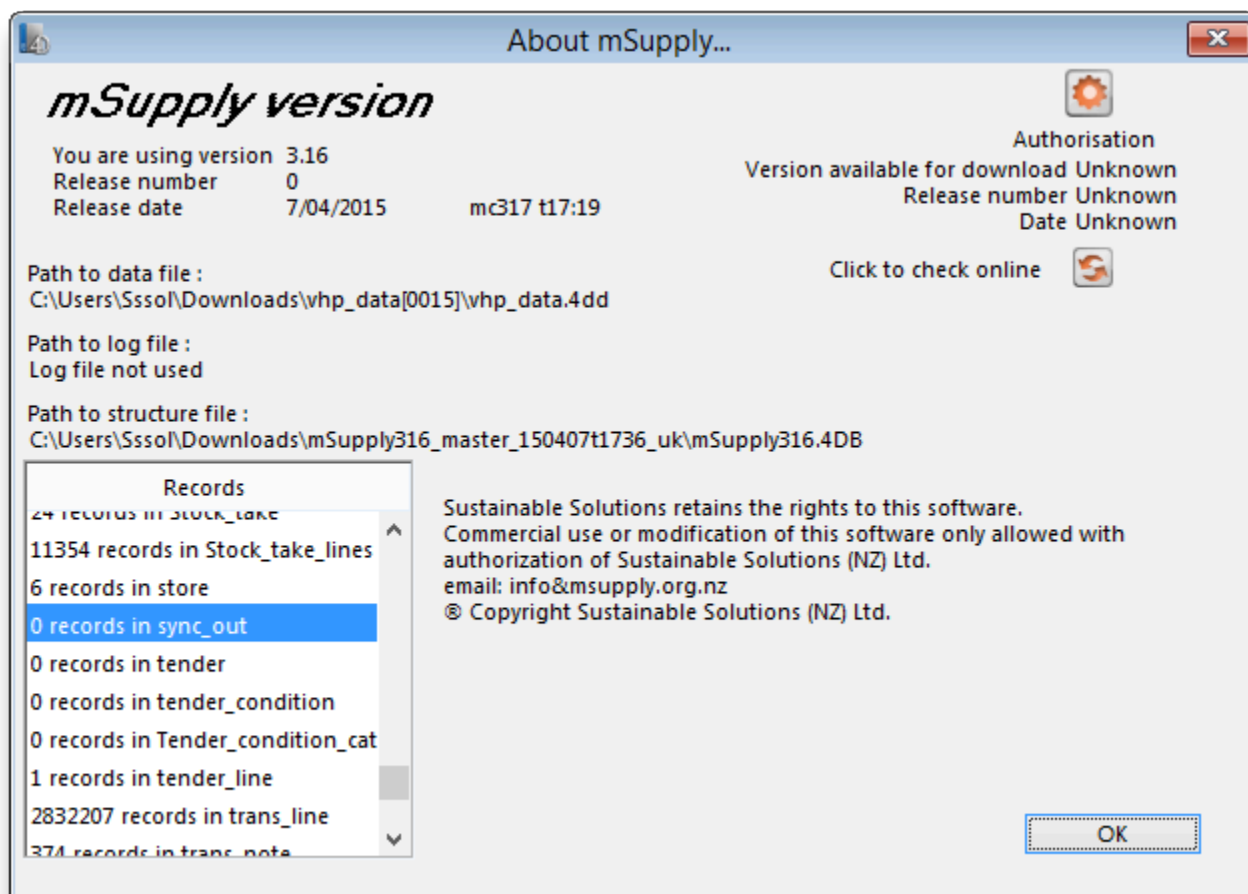
On a satellite server

If there are queued sync records, there will be a message at the bottom left of the navigator which shows the number of sync records in the queue.

On the primary server

- Choose **Help > About mSupply**
- At the bottom left of the window there is a list of tables and the number of records in each table.
- Scroll the list to near the bottom, and you will see the number of records in the **sync_out** table.
 - If the number is zero, your copy of mSupply is up to date
 - If the number is growing from day to day, there are possible reasons:
 - you need to provide more internet time or faster internet

- there may be a problem that needs the attention of Sustainable Solutions. Before contacting us, make sure the internet is connected for an hour, and see if the number is decreasing or not.



Setting up a server and satellites from scratch

Don't try this at home unless you are very confident in your abilities!

This example is for a simple sync system with some satellites where data is entered, one store on each satellite, and a primary server that is just used to aggregate data, set up core data, and run reports.

1. Create new data files
2. on primary;
 - a. choose prefs > sync
 - b. enter "1" for sync ID
 - c. enter remote sites into the syncs with list. The name is only for identification of the site
 - d. Choose file > edit users
 - I. create a user like xsyncuser
 - II. note the password,
 - III. xsyncuser must have a default store set
3. **If stores are to be created on satellite**, then: on each satellite site (else if creating on primary, skip to below)
 - a. Choose prefs > sync
 - b. enter site's own ID in "sync ID" field (same ID set on primary)
 - c. Enter 1 entry in "sync with" section
 - d. ID is the ID of the primary site

- e. user & pass: as for user set up on primary
 - f. IP address of primary (include :port)
 - g. Choose Special > stores
 - I. There will be one store created by default with the data file (General)
 - II. View (double-click) the General store, go to > sync tab
 - III. set to active store
 - IV. set to local store
 - V. set the type for the row in the list for syncing with the primary to “active/collector store”
 - VI. Rename the store to the name you want (e.g. My Site General store)
 - VII. Click **OK** to Save the record- it will show in the sync queue in the Navigator, and will sync up to the primary.
4. Back on the primary:
- a. Open the store that has just synced :
 - I. Set to be a collector
 - II. Set sync with for satellite ID to be active/collector
 - III. The Sync ID field should show the ID of the remote site
 - IV. On the visibility tab set item and name visibility as needed.
 - b. Choose **prefs > sync**
 - I. double click the site in question. Click **generate sync records for site**
 - A. Choose the option- **update existing store**
 - B. Records will be generated for items, names etc and will sync to the satellite
5. Repeat step 3 on each Satellite and Step 4 on the Primary after setting up each Satellite
1. **If stores are to be created on primary**, then:
- a. create stores
 - b. set item and name visibility as needed
 - c. in File > Prefs
 - I. on sync tab, add a record for each site, assigning a sync id and a name (it's not really “user name” - more “site name”)
 - d. in Special > Stores
 - I. for each store
 - II. Open the store that has just set up in prefs :
 - A. Set to be a collector
 - B. Set sync with for satellite ID to be active/collector
 - C. Enter the Sync ID field for the remote site
 - e. Print a custom report for all recs in the store table to get IDs
 - f. Choose **prefs > sync**
 - I. double click the site in question. Click **generate sync records for site**
 - A. Choose the option- **new store**
 - B. Records will be generated for items, names etc and will sync to the satellite
 - II. run Footrunner code:
 - A. `sync_create_records_for_store (<store_id>;"THIS_IS_THE_UUID_OF_THE_STORE_ON_PRIMARY") \\ ALERT("Bhayo")`
 - B.

Previous: Reminders Next: Transaction Codes

Transaction codes

Transaction type codes

mSupply uses a series of two letter codes to denote the different types of transactions it can handle.

Code	Meaning
ci	customer invoice (goods supplied to a customer)
cc	customer credit (goods returned by a customer)
si	supplier invoice (goods received from a supplier)
sc	supplier credit (goods returned by you to a supplier)
sr	repack (A stock line is broken down into smaller pack sizes)
bu	build- an internal transaction where you manufacture (build) items from raw materials in stock.
rc	receipt (cash receipt) from a customer (a customer pays for invoices issued)
ps	payment (cash payment) to a supplier

Inventory adjustments have a type of "si" if stock is being increased and "sc" if stock is being reduced. They have a reserved name whose name[type] field has a value of "invad"

Transaction Status Codes

Transaction status

mSupply uses a set of two letter codes to keep track of the status of each transaction: on:

Code	Meaning
nw	new invoice
sg	Suggested
cn	Confirmed
fn	Finalised
wp	The order has been received over the internet (a "web" order), and it is currently being processed
wf	The order has been received over the internet (a "web" order), and it is finalised

For orders

Code	Meaning
sg	The order has been created, but the “stock on order” value for each item has not yet been updated. If another order for the same item is processed, mSupply will not take account of suggested orders. Suggested orders can be deleted.
cn	The “stock on order value” for each item has been updated. Confirmed orders can also be “unconfirmed” if you cancel an order. Items & quantities can still be edited.
fn	The order has been received, a price calculation done, and the order has been turned into a “supplier invoice”. The order is now completed, and can be deleted.

For Supplier invoices

Code	Meaning
nw	The “new supplier invoice” menu item has been chosen, but the OK button on the invoice has not yet been pressed, or confirming the invoice has been postponed. (This option is only available if “confirm supplier invoices automatically” is unchecked in the Preferences). <i>Note: quitting mSupply by choosing the “quit” command from the file menu or click the application close box (Windows only) while you are entering a new supplier invoice will result in the invoice being saved with status “nw”. To confirm the invoice, open it then click the OK button</i>
sg	This status is not used for supplier invoices- invoices of status “nw” become status “cn” when the OK button on the form is pressed
cn	The invoice has been entered, but can still be edited.
fn	The invoice has been finalised , and can no longer be edited.

For Customer invoices

Code	Meaning
nw	The “customer new invoice...” menu item has been chosen, but the OK or “confirm” button has not yet been pressed.
sg	The invoice has been created. An order from a customer has been received, and the items put against the invoice are still in your store, but are no longer “available” to issue to other customers. (i.e., the “available” amount for each item line has been reduced, but the “quantity” amount has not). Note that if “one step confirm” is checked in the Preferences, then customer invoices move straight from being status “nw” to status “cn”
cn	The invoice has been confirmed by clicking the “confirm” button, which is done when the stock leaves the store. Lines that couldn't be supplied are added to the “backorder” file. The invoice can still be edited.
fn	The invoice has been finalised, and can no longer be edited

For Builds

Code	Meaning
nw	The build is being entered for the first time.
sg	Suggested - the raw materials are taken out of stock, but the finished product (the item to build) is not yet entered into stock.“
cn	Confirmed - the raw materials are taken out of stock and the finished product is entered into stock
fn	Finalised - the build can no longer be edited

Previous: Remote synchronisation Next: Budgets

Budgets

To show the budgets window, choose **Special > Show budgets**

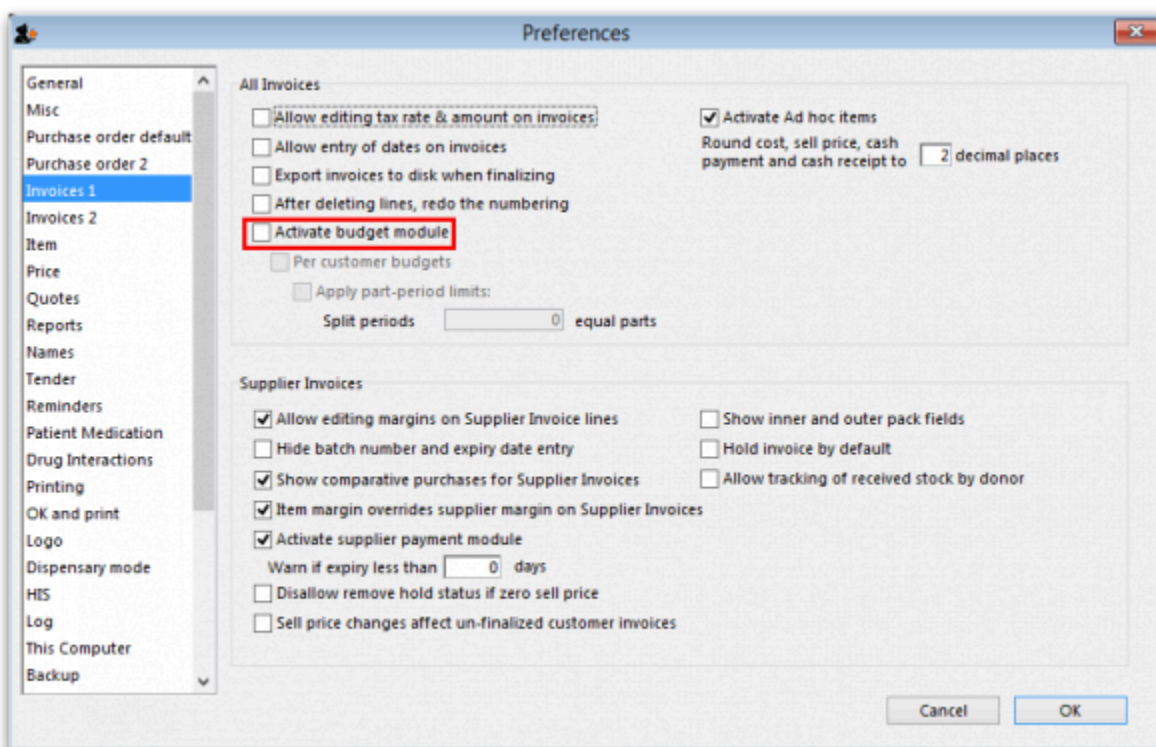
Two kinds of budgets

mSupply supports two different types of budgets.

- The budget module described here allows you to track spending and/or sales of items against your targets, which are entered as budgets. Items are grouped together by their account code.
- The customer budget module allows you assign a budget for each supply point (customer), and both report on how much they have been supplied, and limit supply of that item. Information on the customer budget module is available here.

Activating the budget module

To use this feature, you must check **Activate budget module** on the Invoices 1 tab of the mSupply Preferences window:



But please note, before you do this you must enter a budget period - see the section below.

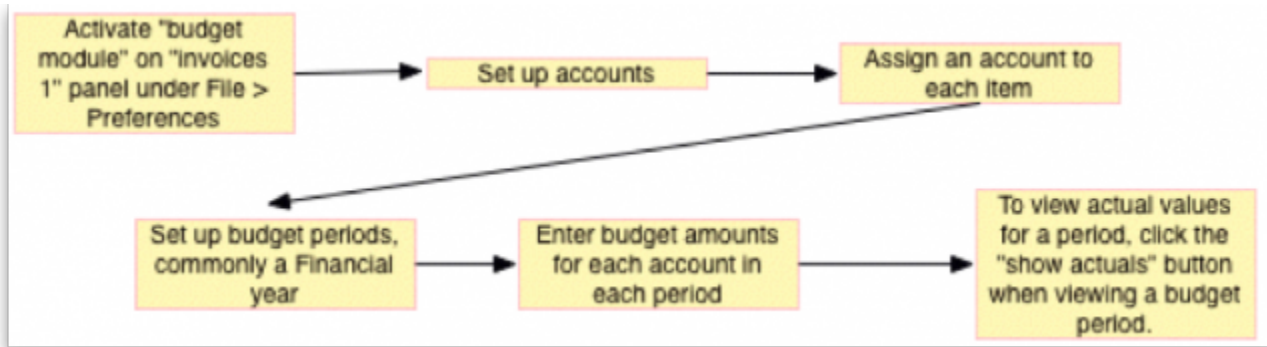
Overview

Firstly, you define budget periods which can be any length you choose - months, quarters, years or whatever.

Once budget periods are set up, you must allocate each transaction that issues stock (customer invoice, inventory adjustment - reduce stock or supplier credit) to a budget period (see the section below for details). The items on that transaction will have been assigned accounts, and you can then view budget reports based on expenditure or sales broken down by the accounts you have assigned to items.

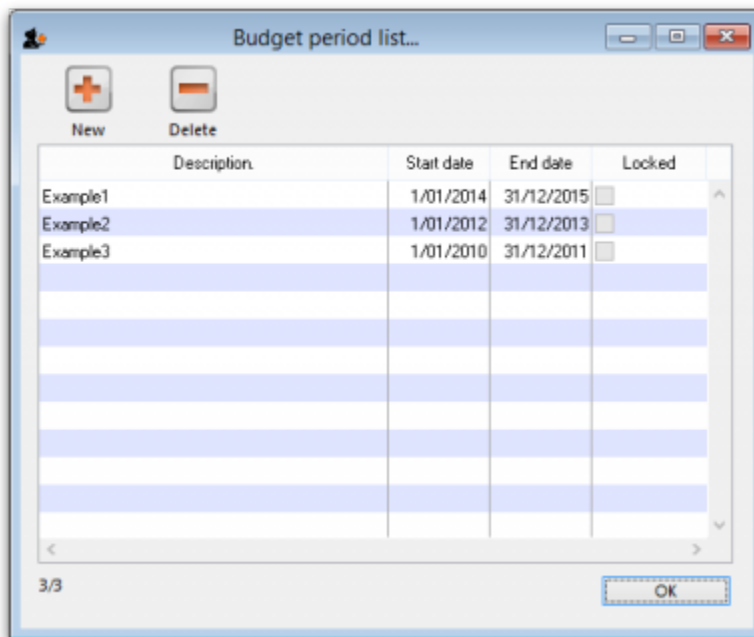
At the end of a budget period, that budget period may be locked so that no further entries may be made.

To use the budget feature, these are the steps to be taken:



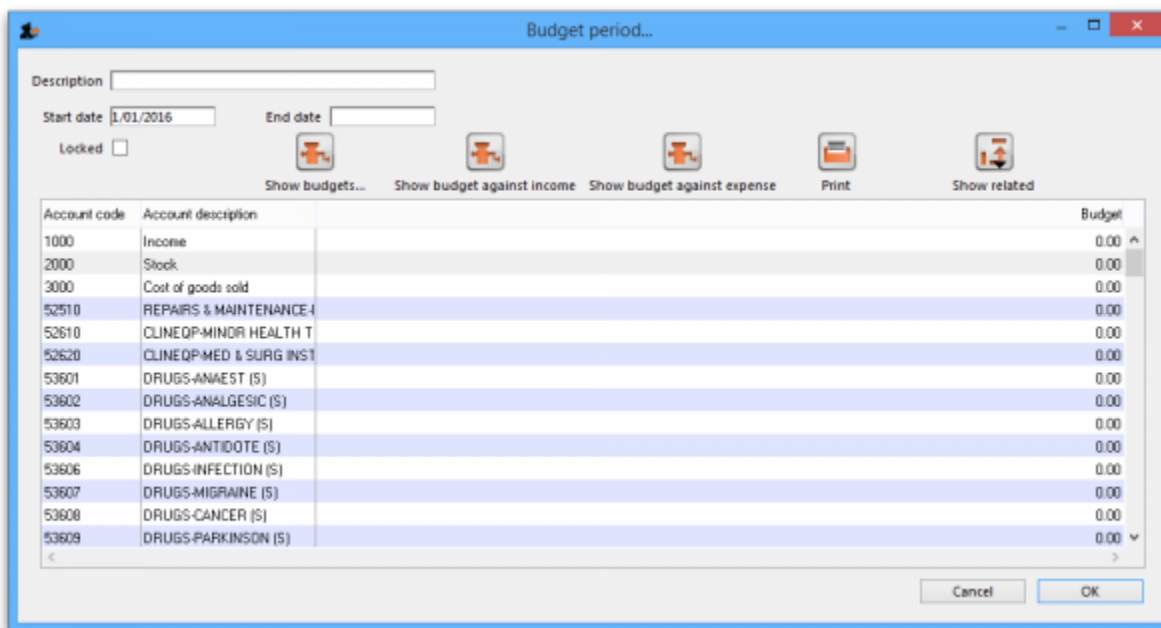
Viewing budget details

Choosing *Special > Show budgets* presents you with the *Budget period list* window as shown (note that the latest entry appears at the top of the list and the oldest entry at the bottom):



Adding a budget

Click on the *New* button in the *Budget period list* window to add a new budget. This window is displayed:



In the *Description* field, enter the name of the budget period - for example FY 2008.

The *Start date* is non enterable; the first time you use this feature, the field is set to 00/00/00, on subsequent occasions the it will show the date one day later than the *End date* entered on the previous occasion.

You should enter the *End date*, the date the budget period ends.

In the *Account Description* column, a list of account names and code(s) will be displayed. To set budget figures for these accounts, select the Account to which the budget applies by clicking on the line. Once selected, click on the figure in the *Budget* column of that line, and enter the budget figure.

Deleting a budget

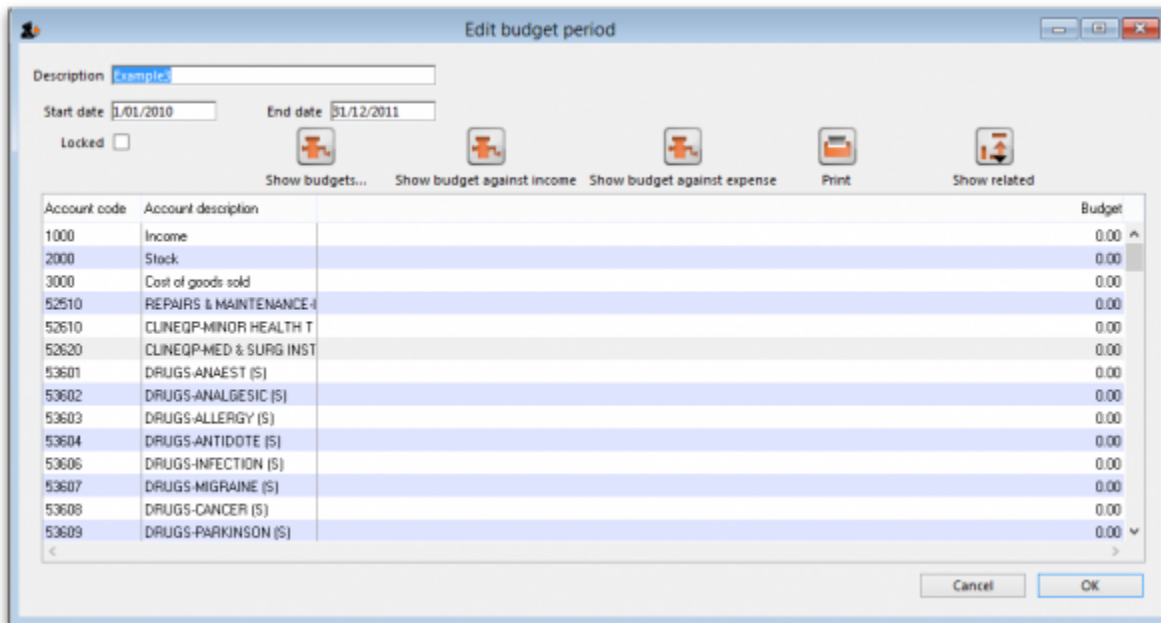
Select a budget from the list in the budget list window shown above and click on the *Delete* button to delete a budget. You will be asked to confirm the deletion. Note, you can only delete budgets in order, starting from the most recent and you cannot delete a budget that has been used in any transactions (customer invoices) or has accounts with a budget amount of more than zero.

Editing budgets

Should you wish to edit a figure allocated to an account, double click on the appropriate line on the *Budget period list* and this brings up the *Budget edit* window; Click on the *Account description*, *End date* and various budget value fields and change them as required. Note that a budget can only be deleted when all of its accounts are allocated zero budget amount.

Budget Reports

To find out information like expenditure against budgeted amount for a particular budget (and a whole lot more!) then you need to open the budget first by double-clicking on it in the *Budget period list* mentioned above. This opens the *Edit Budget period* window:



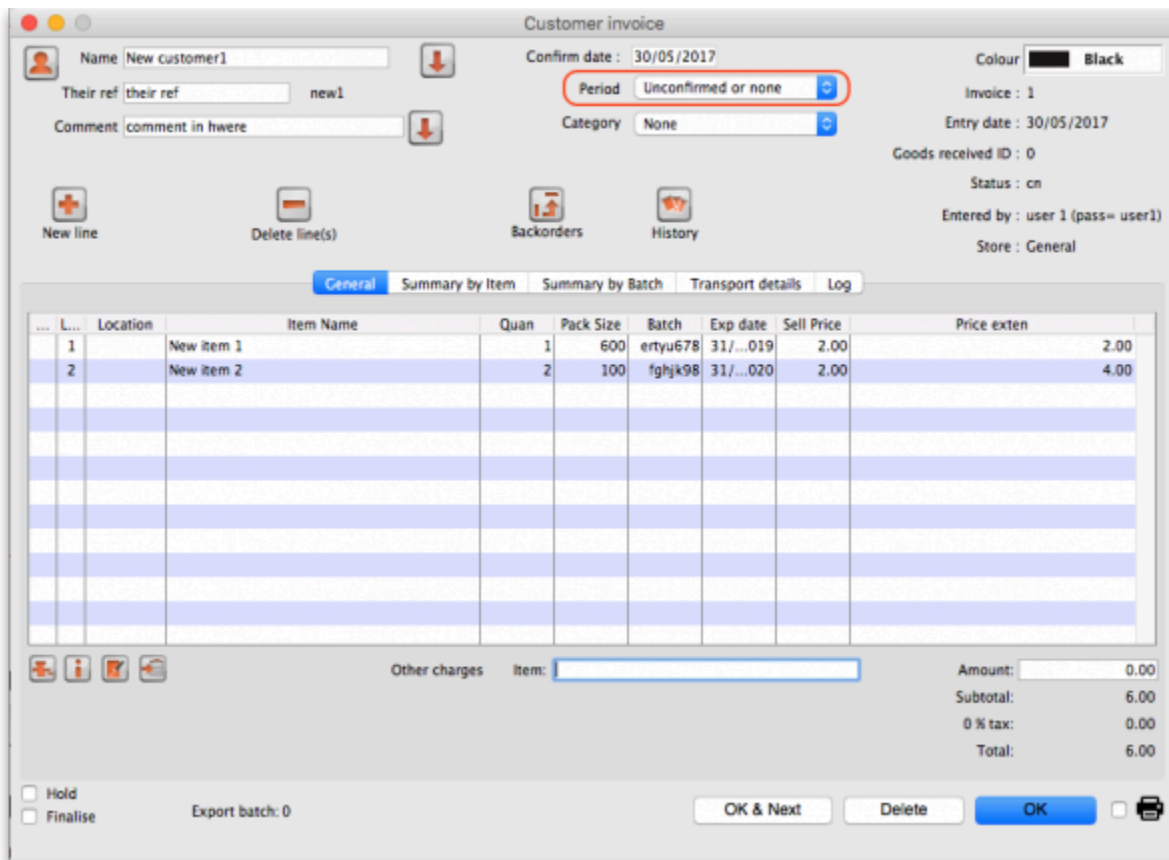
The *Show budget against income* and *Show budget against expense* buttons change the table to display the selected information for each account for that budget period. The *Show budgets* button changes it back to show the budget account information for the period.

The *Print* button prints out the table which is displayed at the time it is clicked.

The *Show related* button will display all the purchase orders, goods received notes, customer invoices, supplier invoices, supplier payments, customer payments or inventory adjustments which are related to the budget period. You simply click the button and choose which you want to see.

Including transactions in your budget

When the budget module is activated, a new *Period* field appears at the top of transactions that issue stock. Here it is on a customer invoice:



It is set to “Unconfirmed or none” by default and you must select a period before the invoice can be saved or closed. If you don't, mSupply will give you a warning message when you click on the *OK* or *OK & Next* buttons.

Note: you don't have to select a period if you're viewing or editing a customer invoice (or other stock issuing transaction) that was created or confirmed before the first budget period starts.

Once the transaction has been saved with a budget period, when it is confirmed the goods on it will automatically be accounted for in your budget and will affect any budget reports you run.

Previous: Transaction Codes Next: The Edit Menu

The edit menu

The commands in the Edit Menu can be used when you are entering text, just the same as in a word processor.

Undo: The previous contents can be retrieved if the document has not been saved.

Cut: Deletes the currently selected text and places it on the clipboard

Copy: Copies the currently selected text and places it on the clipboard

Paste: Replaces the selected text (if there is any) with the contents of the clipboard. If there is no selected text, the clipboard contents are inserted at the insertion point (the blinking cursor)

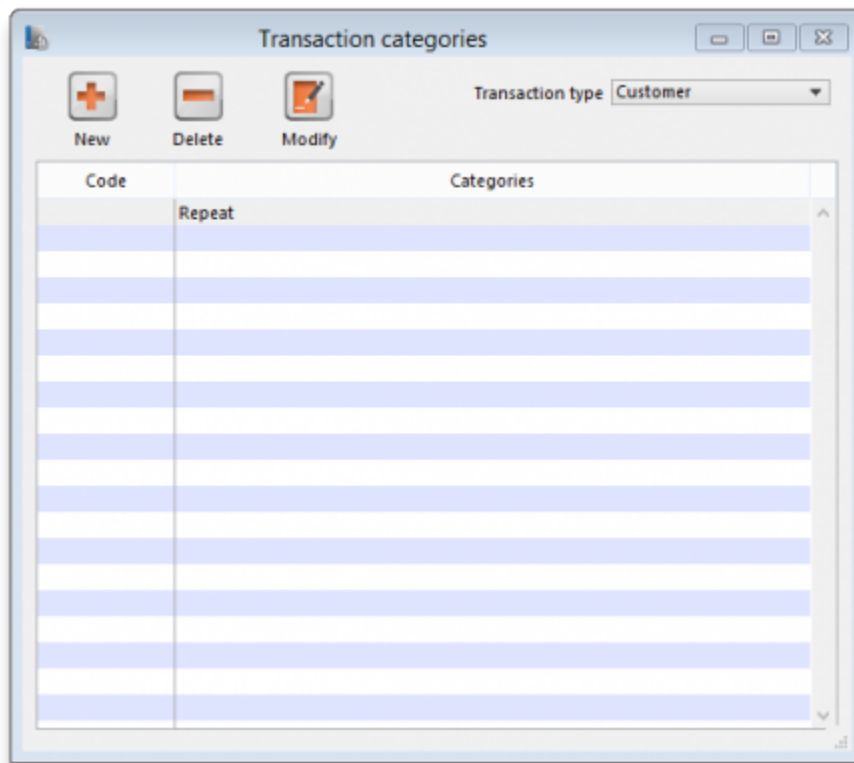
Clear: Clears the text in the particular field.

If the Cut/Copy/Paste items are dimmed out, it is because you are not currently in a text entry field.

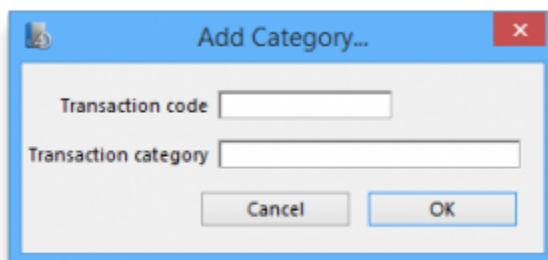
Previous: Budgets Next: Transaction categories

Transaction categories

From the *Special* menu, choose *Categories* to allow you to group transactions together. Each type of transaction can have its own list of categories. For example customer invoices might have a category “normal” and “urgent”. Inventory adjustments might have categories “expired”, “damaged” and “stocktake”



Click on “New” button to create a new category.



The categories can be added to customer, customer credit, supplier, supplier credit, repack, build, inventory adjustment while creating or editing transactions.

Once you have assigned categories they will show as a drop-down list when you enter a new invoice or transaction.

(In versions of mSupply prior to v1.8 categories were set in the Preferences, and there were only categories for supplier and customer invoices), and they can be reported on, refer [How to report by invoice category](#).

Previous: The Edit Menu Next: Virtual stores

Virtual stores

From the *Special* menu, choose *Show stores*

What is a "Virtual Store"?

In mSupply a *virtual store* is a way of segregating particular stock so that some users only see that stock and the transactions associated with it. When a user logs into mSupply, they choose a particular store to login to - this we call the current store. mSupply then operates as if:

1. the stock in that store is the only stock available.
2. Only stock from the current store will be available for issuing,
3. Reports will relate to stock in that store
4. Issues from and receipts to that store only use the stock in that store
5. Only suppliers and customers sets as "visible" for that store will be able to be chosen for receiving and issuing goods
6. Only items set as "visible" in that store will be usable (So for example if you have a store that handles only vaccines you can make vaccines visible in that store (and invisible in all stores that don't handle vaccines)

Many users of mSupply will only have a single store, and so will have no need of this functionality.

The following examples illustrate situations where you might want to run more than one store.

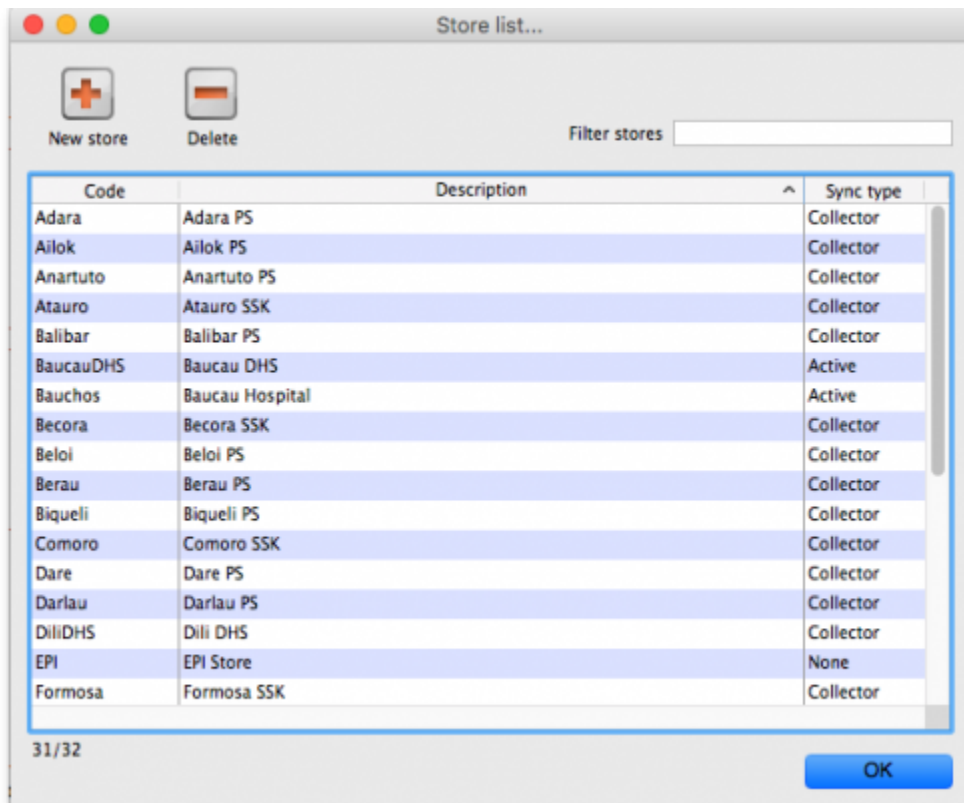
- A hospital pharmacy where you have two dispensing locations: an inpatient pharmacy and an outpatient pharmacy.
- A pharmaceutical warehouse where stock from a particular donor is received, issued and accounted for separately to stock in the rest of the warehouse.
- A hospital pharmacy where the pharmacy store stock is treated separately to the dispensary stock. You would set up mSupply with a store called "Pharmacy store" and a store called "Dispensary". You would use the stock transfer feature to move stock from the pharmacy store to the dispensary.
- A pharmaceutical warehouse where you have 2 or more actual warehouses. These may be adjacent or several hundred kilometres apart. (Of course you need network connectivity between sites to run mSupply at each site).
- You're using mSupply mobile- each mobile site will synchronise data with a virtual store on the mSupply server.

Note: In the above examples, when you log on, you would select the appropriate mode - see table:

Examples	Stores	Log on mode
Hospital Pharmacy	In-patient Dispensary	Dispensary
	Out-patient Dispensary	Dispensary
Hospital Pharmacy	Pharmacy store	Store
	Dispensary	Dispensary
Warehouse	Adjacent Store	Store
	Remote store	Store

Viewing available stores

From the *Special* drop down menu click *Stores*. The Stores list window (shown below) appears and displays a list of all the stores which currently exist including their sync type:



Editing a store

Double-click on any store in the list in the View stores window described to view or edit its details. You will see the same window as in the section below but the various fields will be filled in with the store's current settings. You can click into the fields and edit them as desired. Note that in the top left of the window, the name of the store you are editing is always displayed, regardless of which tab you are on, so that you always have a reminder of which store you are editing!

Creating new stores

To create a new store click the *New store* button in the Store list window shown . This will display the Store details window shown below, which allows you to enter the details of the new store:

Store code: The code used to identify the store. If you have a lot of stores it would be helpful if you decide on a good pattern to use for the codes.

Store type: Set in the drop down list to the right of the *Store code* field. Can be one of:

- Store: a normal store used for managing inventory and issuing to customers
- Dispensary: a store used for managing inventory and dispensing to patients
- Report: a special type of store used for reporting information only, not managing inventory. Don't use this unless specifically told to do so!

Name: The name used to identify the store throughout mSupply.

Organisation name: The name of the organisation running the store. Defaults to the organisation name entered in File > Preferences.

Address line 1-5, Postal /Zip code, phone: Enter the address and contact details for the store in here if there are any. These details can be used in reports

Disable this store: Check the *Disable this store* checkbox to stop the store from being used. You might want to use this feature if the store is not ready for use yet or is no longer to be used and can't be deleted. You will be asked to confirm the disabling after clicking on the *OK* button on this window.

Responsible officer: Select the officer responsible for the store in this drop down list. A helpful reminder for others and can be used in reports.

Tags

Tags are used in reporting to group stores together. This area shows the tags that the store currently has. To add a tag, simply click into the area and type the tag's name. When you have finished typing the tag's name then press the Tab or Space keys on the keyboard (not Enter or return, that will close the window!). You know when you have done it right because the tag will appear in its own little box with an 'x'. If you want to remove any tag from the store, simply click on that 'x'. In this way you can add or delete as many tags from a store as you like.

After having created a new store, the Stores list window will display the new list of all stores and you may double-click an entry to edit that store's details. A number of things that will need to be attended to are:

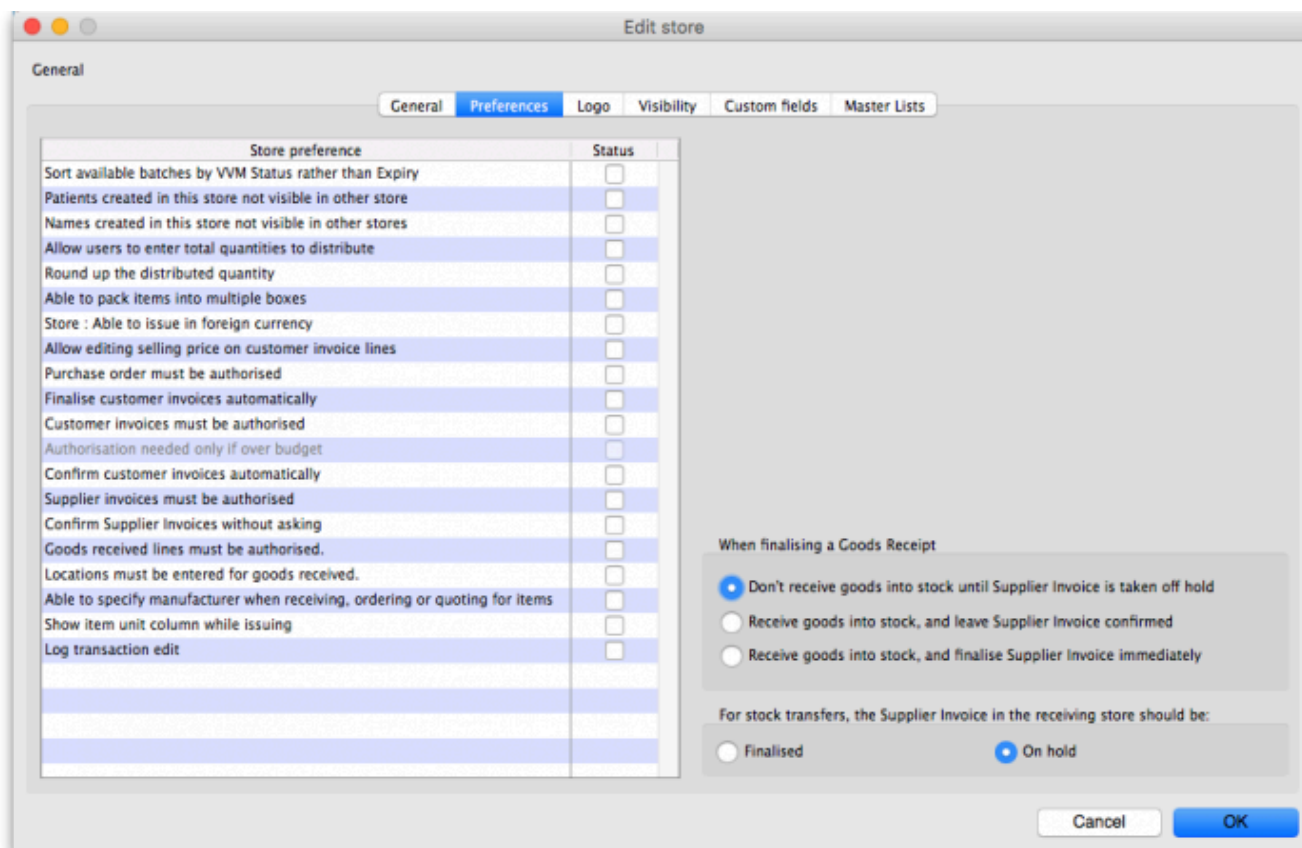
To do a number of the following steps, you will need to log in to the new store. To do this, you will need to give yourself access to the new store by Managing users. Any other users who need to access the store will also need their permission altered accordingly. After giving yourself permission to log in to the new store, log in to it and carry out these steps.

- Set the for the store.
- Set the store's so that it can appear in print-outs and reports.
- Set the of items in the store. All items in the system will be set to invisible in the new store when it is created. You will need to modify visibility of items in order to be able to handle stock of those items.
- Setup Synchronisation if you are going to use a synced system. See Remote Synchronisation.
- Setup any (used for reporting).
- Set the master lists used by the store (a convenient method for controlling item visibility).

If this newly created store will be 'Active' on a satellite server on a synced mSupply system (refer to Remote Synchronisation, then user access to the store will need to be defined on that satellite server.

The preferences tab

This tab contains the preferences that can be set for a store. Each store has its own settings for these preferences: this is different for the settings in File > Preferences which apply to **all** stores.



This is what each preference does:

Sort available batches by VVM status If the store is only to be used for vaccines, this option allows you to sort the list of available batches by the vaccine status column rather than the expiry date

Patient created in this store not visible in other stores If you check this box, patients that are created in this store will not be visible in any other stores - they will only be visible in this store.

Names created in this store not visible in other stores When this box is checked, if you create a name (a customer, supplier, manufacturer or donor etc.) in this store then it will be visible only in this store and not in any others.

Allow users to enter total quantities to distribute to appropriate packs If you check this checkbox, users will be able to enter the total quantity that they wish to distribute to appropriate packs.

Round up the distributed quantity Checking this box means that mSupply will round the value for the distributed quantity upwards.

Able to pack items into multiple boxes If this box is checked, then mSupply will provide a detailed way of packaging goods in to boxes to be distributed to clients.

Store: Able to issue in foreign currency If you check this box, you can use foreign currencies on supplier invoices for overseas suppliers.

Allow editing selling price on customer invoice lines Checking this box means that you can edit individual selling prices on customer invoice lines.

Purchase order must be authorised If checked then purchase order authorisation is turned on. See Ordering Items From Suppliers for details on this functionality.

Finalise customer invoice automatically This setting automatically finalises a customer invoice when its status is set to confirmed, which is normally when the goods are dispatched.

Customer invoices must be authorised If this preference is checked then all customer invoices must be authorised by a user with permission to do so before they can be confirmed (i.e. goods can only be sent to a customer after the action has been authorised). See Invoice Authorisation for details.

Confirm customer invoices automatically This setting is used to set a Customer Invoice's status to confirmed when the OK button of a New Customer Invoice is clicked. This means that it is not possible to print a picking slip for the issued goods.

Supplier invoices must be authorised If this preference is checked then all supplier invoices must be authorised by a user with permission to do so before they can be confirmed (i.e. goods can only be brought into stock when the action has been authorised). See Invoice Authorisation for details.

Confirm supplier invoices without asking This setting is used to set a Supplier Invoice's status to confirmed when the OK button of a New Supplier Invoice is clicked. This means that when the OK button is clicked the goods are made available in stock without informing the user.

Goods receipt lines must be authorised This setting is used to restrict authorisation of a Goods Receipt to authorised users only. Only when a Goods Receipt is authorised can it be processed for the goods to be made available in stock.

Locations must be entered for goods received This setting requires the user to type a shelf location on the Goods Receipt Item Line form when receiving goods into Store. This feature enforces identification of shelf location of stock.

Able to specify manufacturer when receiving, ordering or quoting for items This setting gives the user the option to record the manufacturer of goods when making Purchase Orders or when doing a Goods Receipt or entering a Quotation from a supplier

Custom stock fields In this area you can choose to use up to four custom fields for labelling incoming stock. The checkboxes tell mSupply to use the various custom fields and the textboxes contain the labels that mSupply will use for these fields. Each custom field that is checked here will appear (with the label it has been given) on a supplier invoice when an item is being received (see here and here for details). The information entered will then be visible whenever stock is shown (e.g. when issuing stock on a customer invoice or when viewing the stock of an item on the stock tab of the item details window).

When finalising a Goods Receipt

There are three options:

- Don't receive goods into stock until supplier invoice is taken off hold - for goods to enter stock you must finalise the goods receipt and then take the automatically generated supplier invoice off hold
- Receive goods into stock, and leave supplier invoice confirmed - goods enter stock as soon as the goods receipt is finalised. The automatically generated supplier invoice is created with confirmed status.
- Receive goods into stock, and finalise supplier invoice immediately - goods enter stock as soon as the goods receipt is finalised. The automatically generated supplier invoice is created with finalised status.

How you set this preference is determined by how separate your goods receiving and finance sections are. If they are not in the same building, you might want to use the "Receive into stock and leave confirmed" option, as this will allow you to proceed with issuing goods without waiting for the finance department's approval.

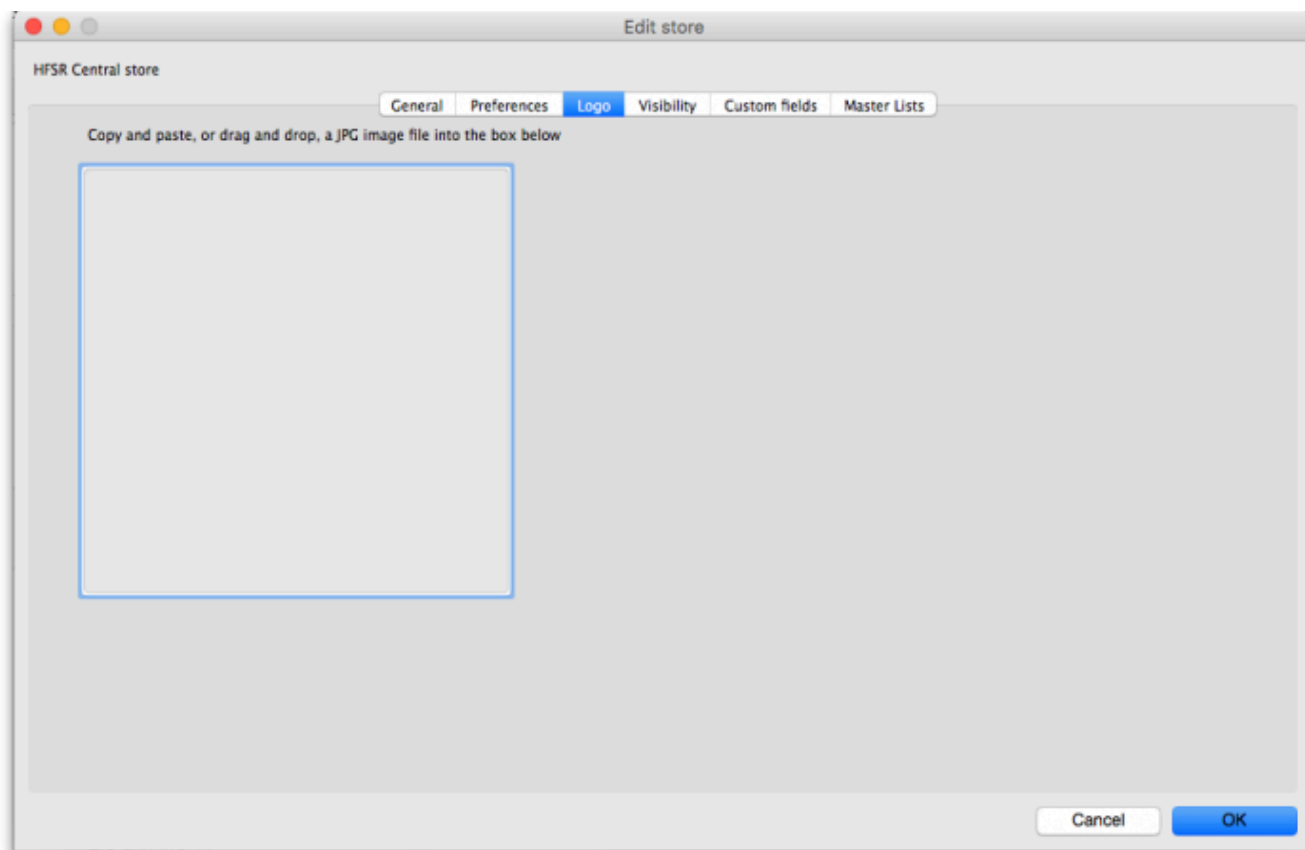
For stock transfers, the supplier invoice in the receiving store should be...

This option applies to all stores that this store transfers stock to.

This option is used to determine whether stock transferred from one store to another is received to a destination store and automatically introduced to stock or not. The **On hold** option prevents stock from being introduced, while the **Finalised** option automatically makes the stock available for use in the destination store - ***without the receiving store having the opportunity to amend the Goods Receipt.***

- Choose **Finalised** if there is no need to check / alter the quantity received compared to what was sent.
- Choose **On hold** if the store is being used by mSupply mobile, and the goods receipt needs to be confirmed before receiving.

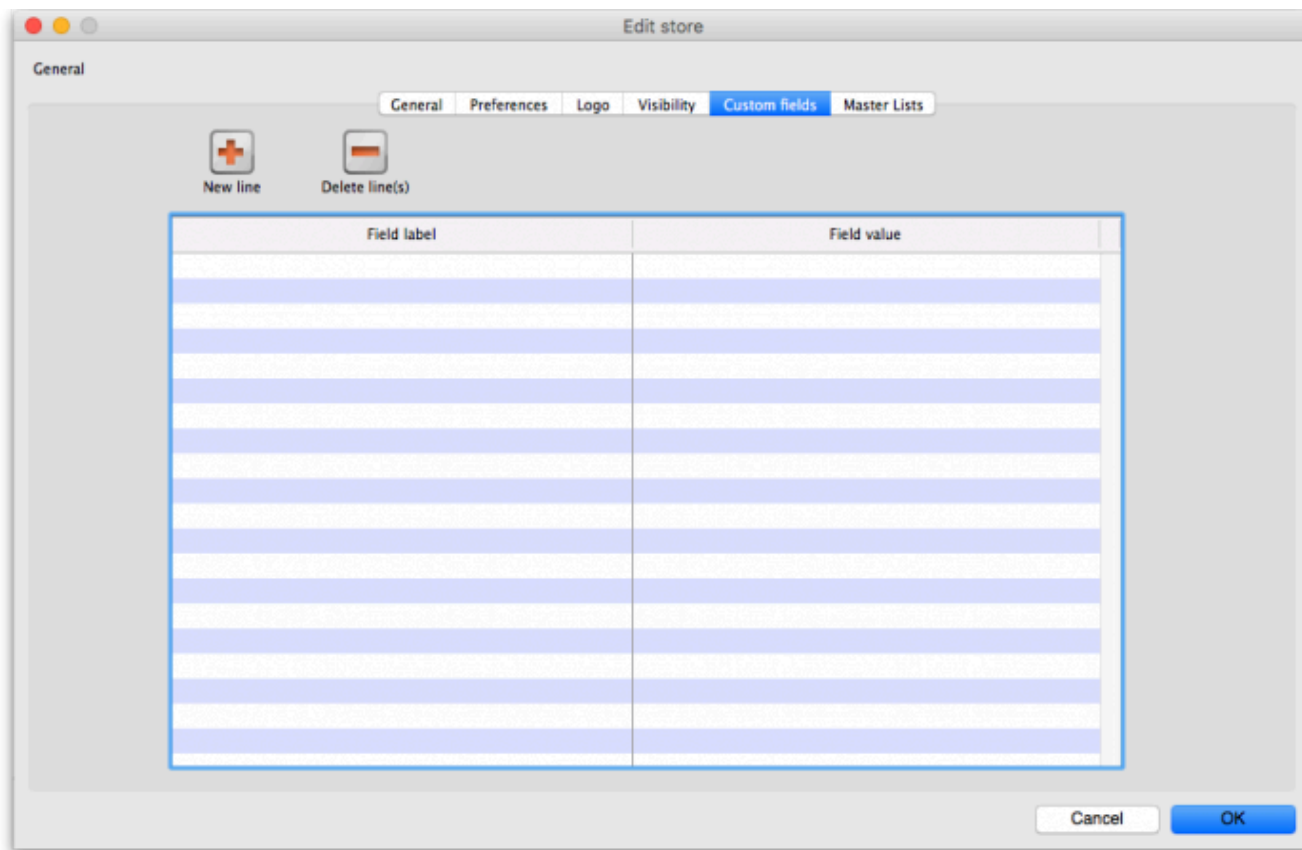
The logo tab



Here you can paste in a logo you have copied to the clipboard - you must copy the contents of a file to the clipboard, not the file itself. The file can be in .jpg, .png, .bmp, .gif, or .tiff format. This logo will be displayed at the bottom right of the navigator when you login to this store only. It will override any logo saved in the file preferences. This store logo will also print out on standard customer and supplier invoices etc. instead of the logo stored in file preferences.

Note, after saving the image you must login to mSupply again or switch to the store to see it.

The Custom fields tab



This tab is used to save any custom information for the store that you might need to be made available in mSupply, for instance in reports. Each piece of information that you save has a label (which mSupply will use to refer to it) and a piece of data. At the moment you cannot edit reports or other parts of mSupply yourself to make use of this information, this must be done by Sustainable Solutions. This might change in the future, we're always listening to our users!

Adding a custom field

To add a new field, click on the *New line* button; a new line with default values of "Field label" and "Field value" in the two columns is added to the table and highlighted. Click on the value in each column and type the real label and value for the piece of information.

Editing an existing custom field

To edit the label or value of any custom field, simply click on the cell in the table and edit the entry.

Deleting a custom field

To delete any custom field simply select its row in the table and click on the *Delete line(s)* button. You can use Shift+click, Control+click, Control A (or Cmd instead of Ctrl if you're using a Mac!) to select multiple lines and delete them all at once if you like.

Controlling Item Visibility: the Master lists tab or the Visibility tab

Controlling the visibility of items in different stores is important because you can only order, distribute, receive goods for and report on items that are visible in your store. It's also important that stores don't have items visible that they don't use so that they don't accidentally order them etc.

If you have lots of stores in your data file, managing item visibility can turn into a difficult task. Thankfully, mSupply has some helpful tools to make it simple! There are 2 ways to manage item visibility and you use one or the other, not both:

1. automatically using the Master lists tab or
2. manually using the Visibility tab

Each are useful in different situations and are described below.

The Master lists tab

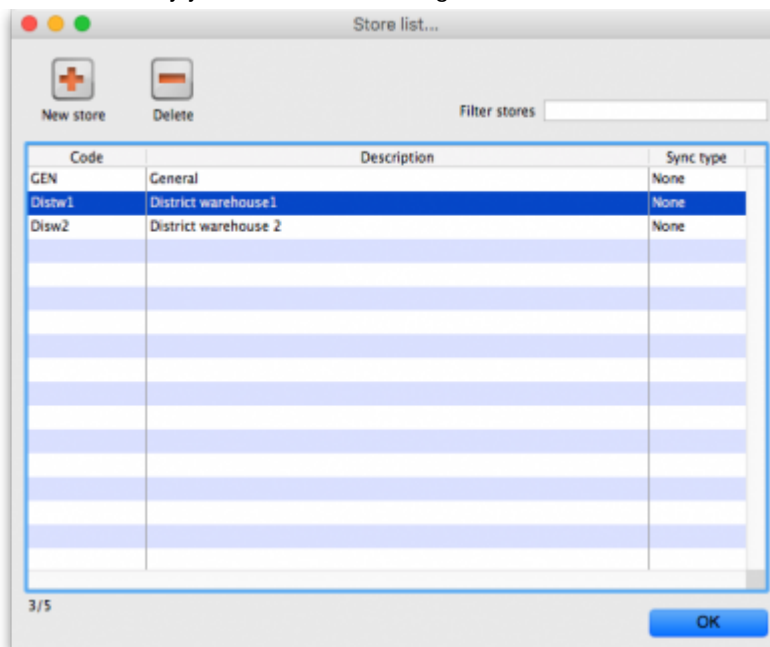
If you have a lot of stores in mSupply, we recommend that you use master lists to control item visibility. Especially in a syncing system because it means that the visibility of newly created items will be automatically handled correctly. The visibility of items in a store whose visibility is controlled by master lists is immediately updated if any changes are made to any of the master lists. For instance, if a new item is added to a master list controlling visibility then that new item is made visible in all stores that use the master list. And any items deleted from the master list are made invisible in any store using that list.

The first thing to do is to turn on the preference to make master lists control item visibility in stores. Do that in **File > Preferences...** on the *Item* tab - see General preferences, the item tab for details.

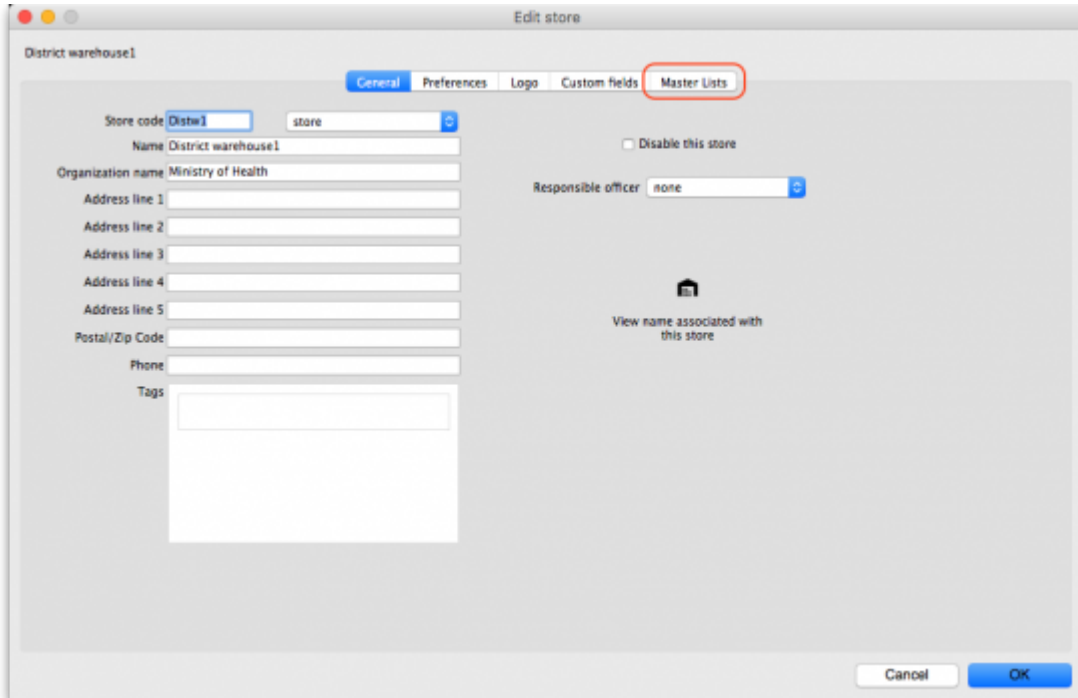
The next thing to do is to create the master list(s) that will control item visibility. See Item master lists for details on how to do that. Giving your master lists helpful names will help you remember what they're for e.g. "Store xxx visibility list".

Now edit the store to tell mSupply which master list(s) will be used to define which items are visible in the store:

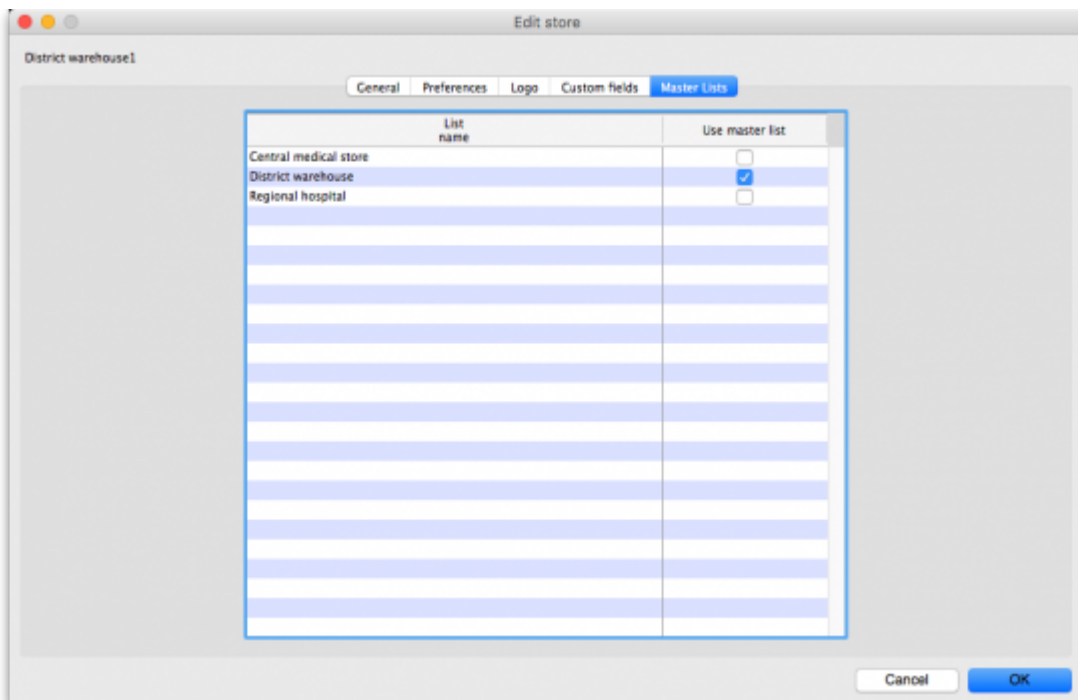
1. Click on **Special > Show stores...** (or click on the *Stores* icon on the *Special* tab of the navigator)
2. Double-click the store whose visibility you would like to manage:



3. Click on the *Master lists* tab:



4. Select which master list(s) you would like to control the visibility of items in your chosen store by checking their checkbox in the *Use master list* column:



In this example, the District warehouse master list has been selected to control the visibility of the District warehouse 1 store.

5. Click the **OK** button to finish. As soon as you do that the items on the selected master list(s) are made visible in the store and any items **not** on the selected master list(s) are made **invisible**. Any new items added to the selected master list(s) will be made visible in the store and any items removed from the master list(s) will be made invisible in the store.

The Visibility tab

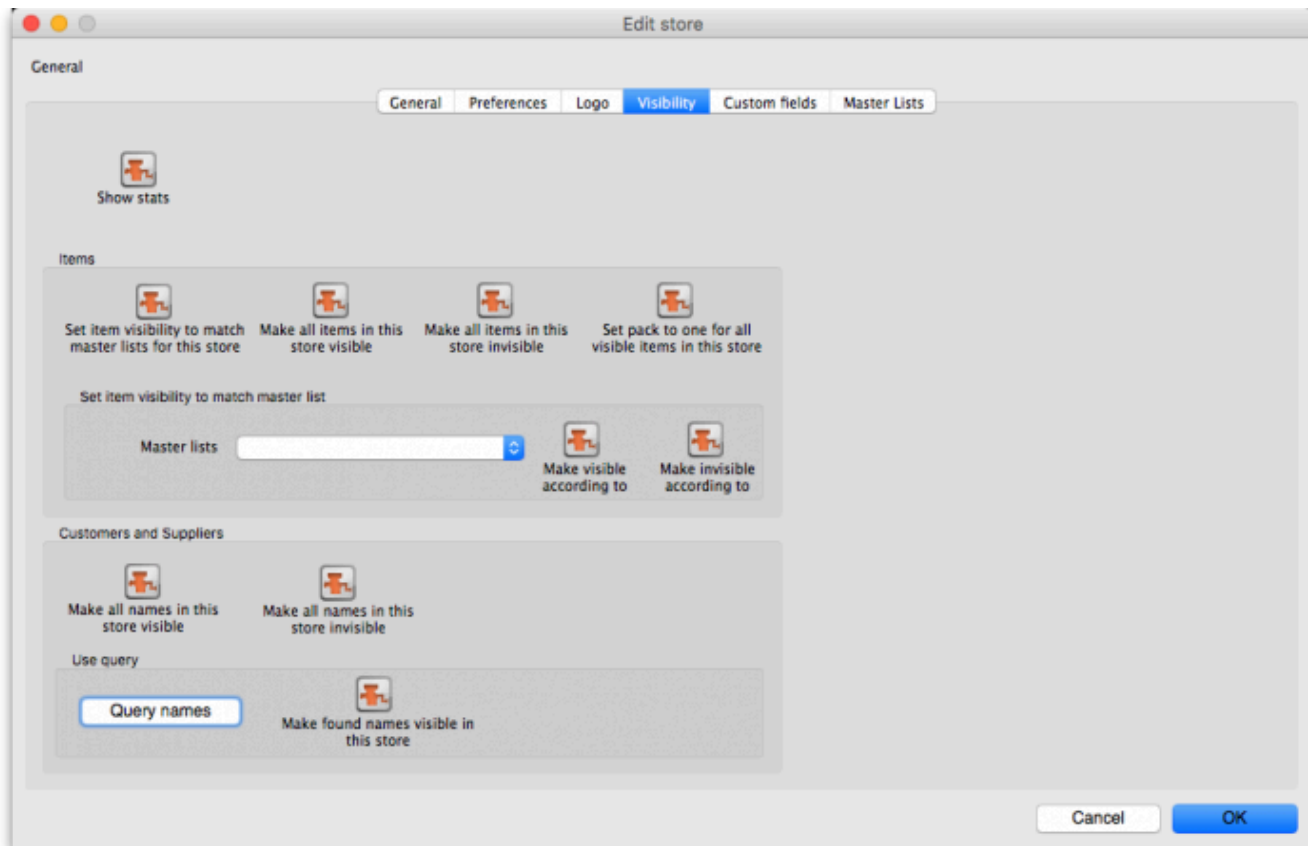
If your system is a Sync system (with Primary and Satellite servers) and your store is hosted on a Sync Satellite server, then you will not see the Visibility tab. These settings need to be made while logged in to the Sync Primary Server.

You will also *only* see this tab if you are editing the store you are logged in to.
To log into a store you may need to first give yourself permission to do so under File > Edit Users > Double-click your user name > the Log in rights tab. Phew!

The Visibility tab contains tools for manually setting the visibility of items in a store. These are good tools to use if you do not have many stores in mSupply and only need to make occasional changes to item visibility to a number of items. If you want to make a change to a single item's visibility in a single store then you can do that by going to the item's details window and using the store tab (see Item basics, the stores tab).

If you have turned on the preference to control item visibility by master list then you will not be able to use the visibility tab or the visibility settings on the store tab of an individual item's details window.

Here's what the tab looks like:



The buttons provide you with different ways to hide and show items and names in the store (Note: be careful showing names in databases that have a lot of names records. For example if you have 20 virtual stores and 200,000 names in your database, showing all names in all stores will create 4 million (20×200,000) records to map the visibility of each name in each store):

- The **Show stats** button shows how many items and names are currently hidden and visible
- The **Set item visibility to match master lists for this store** button matches the item visibility to the master lists that are selected on the *Master lists* tab. (Note: this is a one-off operation, no changes will be made to item visibility if the master lists are changed after you click this button. See the section above if you want that to happen!) If there are some items that can't be set to invisible (because they have stock, for example) a temporary master list will be created containing the items which could not have their visibility removed. Use the list to decide what to do with each item.
- The **Make all items in this store visible** and **Make all items in this store invisible** both do just as they say.
- The **Set pack to one for all visible items in this store** will check the *Allow pack to 1 conversion* and *Convert pack to 1 when receiving* checkboxes for all items in the store so that all stock received into the store will automatically be received in packs of 1. This is useful in a dispensary store, for example.
- The **Set to match** button requires you to choose a master list. Clicking the button makes the items that are on the master list selected in the drop down list next to it visible in the current store. Note that it *does not* hide items that are already visible but not on the master list.
- The **Make all names in this store visible** button does exactly what it says and makes all names in the datafile visible in the current store.
- The **Make all names in this store invisible** button does the opposite and makes all names in the datafile invisible in this store. Be careful using this - you won't be able to receive or distribute stock from/to anyone until you make some names visible in the store!
- The **Query names** button enables you to search for names (customers, suppliers, manufacturers, donors etc.) in the datafile. Every search you run creates a selection which is then operated on by the **Make found names visible in this store** button.
- The **Make found names visible in this store** will make all names in the last selection made with the **Query names** button visible in this store. Ask Sustainable Solutions for help if you're not sure about getting the right selection of names, as the consequences of making a mistake can be time consuming to fix!

The Synchronisation tab

mSupply has a synchronisation system designed to cope with environments which have weak or intermittent internet. The system passes information between a server and satellite (or tablet running mSupply mobile) when there is an internet connection and stores information to be sent when there is not.

This tab is where the store specific settings for synchronisation are mad. See Remote Synchronization for more details.

Deleting a store

To delete a store, click on the *Delete* button in the View stores window. **Note:** deletion of a store is a serious thing to do and is only possible when that store contains zero stock and there have been no transactions recorded. mSupply will check and tell you that deletion is not possible if these criteria are not met. If you can't meet these criteria and you still want to stop people using the store then you can disable it. Do that by checking the *Disable this store* checkbox on the Store details window (see above).

Transition from a customer to a virtual store

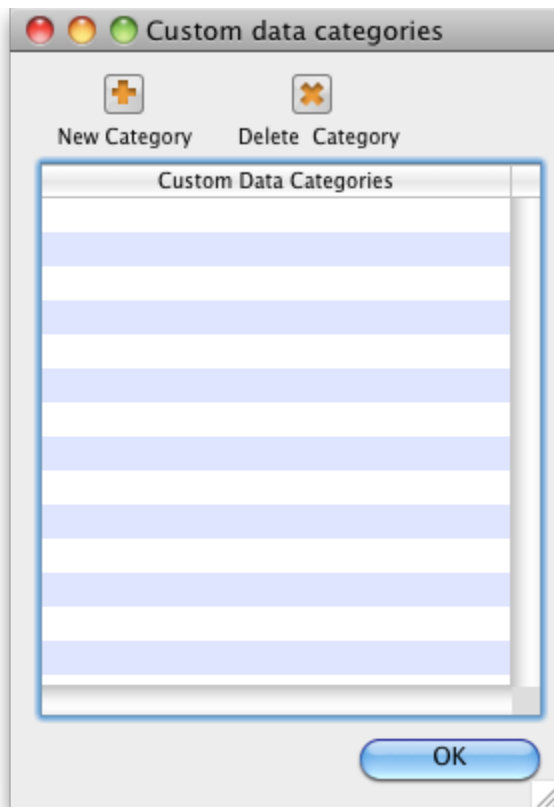
If you have a customer that is about to start using mSupply mobile, once you create the virtual store you will end up with two customers with the same (or similar) names, as creating a virtual store also creates a linked name. Fear not: you can use mSupply's Merge names functionality to join the two names into one record. Note that you **must** choose the newly created store's Name as the "Name to keep" and the older Customer's name as the "Name to delete"

Previous: Transaction categories Next: Custom Data

Custom data

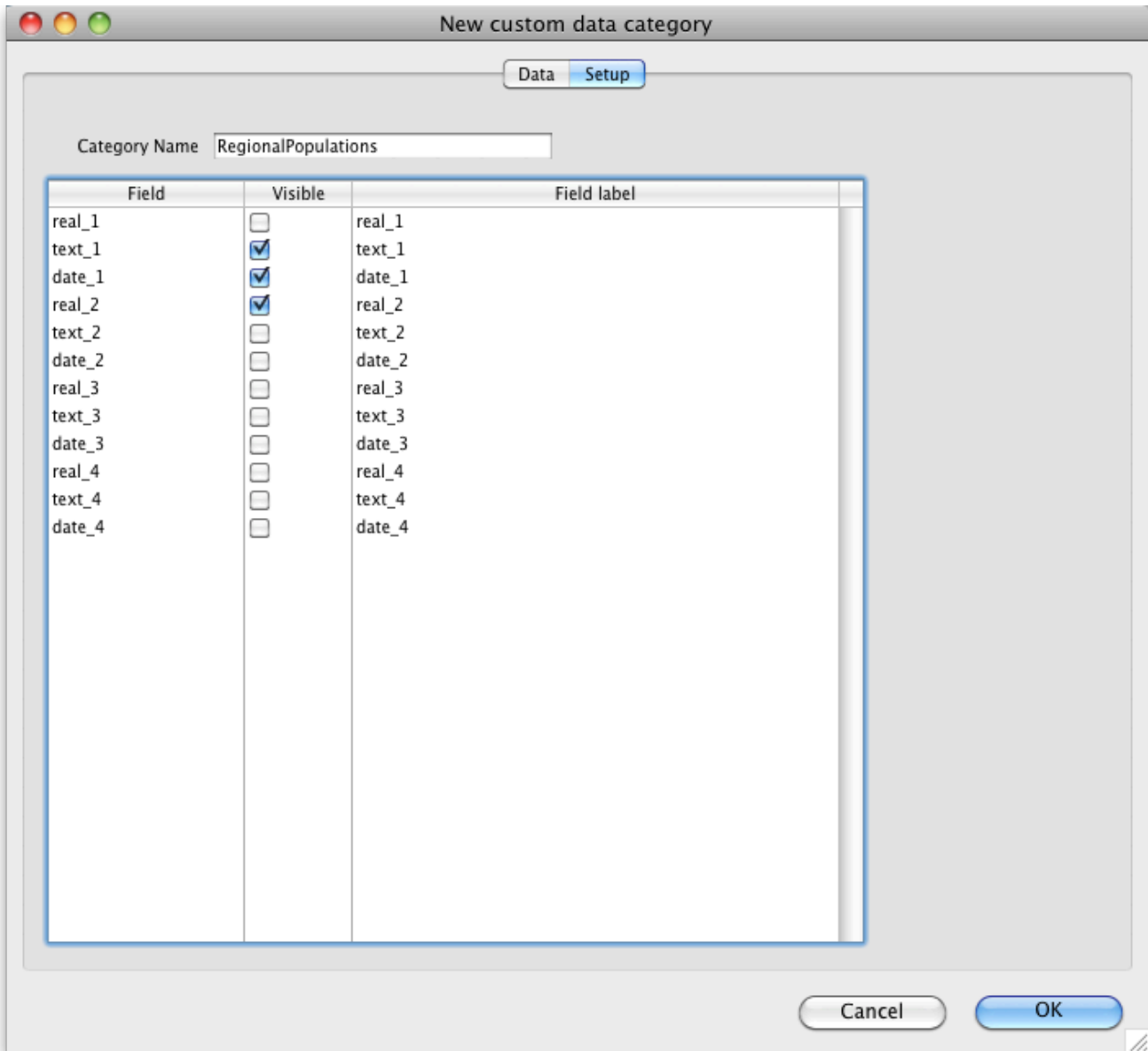
Custom data allows you to add data to mSupply that doesn't naturally fit into one of the existing fields.

- Choose **Special > Show custom data...** to show the list of custom data sets.



Setup Fields

- Click **New**
- This window is shown:

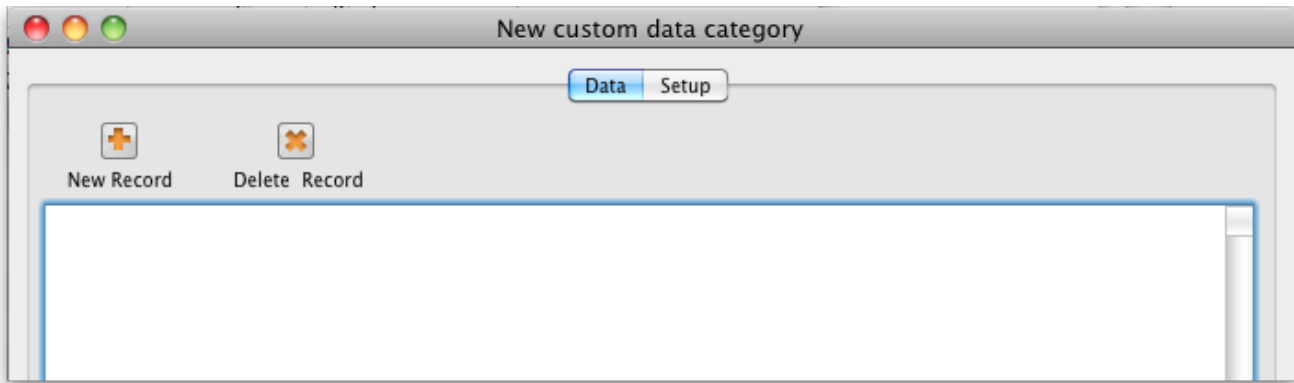


- For our example, we're going to record population in several regions each year, so we need
 - A real number field to store the population number
 - A text field to store the region name
 - A date field to store the year
- We've labelled the data set *RegionalPopulations*
- To change the field names, click once on the name, and then wait a second or two and click again- now it is editable:



Adding data

- Click the **data** tab then click **New**



Using data in reports

- You can extract data by using the following method in a pagepro report
- `custom_value_get("data_set";"field_to_query";"search_value";"field_to_return";->"variable_to_return")`
 - "data_set" is the name of the data set. e.g. "RegionalPopulations"
 - field_to_query is the internal name of the field "text_1", "Text_2", "real_2", "date_7"
 - "search_value" is the value you're looking for in "field_to_query"
 - "field_to_return" is the field name of the value to return
 - "variable_to_return" is a pointer to the variable that will contain the data returned.
- Sound too complicated? We usually build these reports for clients, but this documentation is for the technically minded who want to build their own.

Previous: Virtual stores Next: FrontlineSMS Integration

FrontlineSMS integration

mSupply has the ability to integrate with your FrontlineSMS installation. This allows you to send your current stock levels to mSupply using an SMS (text) message from any mobile phone. This is particularly useful if, for example, you are a mobile or remote health post or dispensary which doesn't have internet access and only needs to send in information about a few items at a time.

To get mSupply talking to your FrontlineSMS installation, follow these simple steps:

1) Tell mSupply the details of your FrontlineSMS database

You do this on the FrontlineSMS tab of the mSupply preferences page (*File > Preferences*). See here for a detailed description of how and what to set.

2) Set the SMS code and pack size of the items you want to receive information about

Because SMS messages need to be kept short (they are only allowed a limited number of characters), instead of writing the full name of an item in an SMS message you simply write a short code which represents it. It is impossible for mSupply to know the pack size of the items being counted in the remote store so you also need to enter a pack size to be used for calculating item quantities from the pack quantities supplied in an SMS. You set both the SMS code and SMS pack size for an item in the Misc tab of the item's Item details window (via the *Items > Show items* menu). For detailed instructions see the 'The Misc(ellaneous) tab' part of 'The Item Details Window' section on the items basics page here.

3) Add SMS senders as contacts to customers

mSupply needs to know which of your customers an SMS message has been sent from. To give it this information you simply add each mobile phone number that will be sending messages to mSupply to the appropriate customer as a contact. To do this use *Special > contacts* (see here for details) or *Customers > show customers*, select the customer, go to their contacts tab, click on the *Add contact* icon and enter the contact's details.

Please note: whichever way you do it, the phone number must be entered **exactly** as it is recorded in FrontlineSMS (it will probably include the international dialling code e.g. +977 but this will vary with phone service providers). You can find out how FrontlineSMS stores a sender's number by sending a dummy text message and viewing its details in FrontlineSMS.

4) Make sure that emailing is turned on in mSupply

mSupply will inform the people selected in the preferences (see step 1 above) by email when a message has been received and is successfully processed or has an error. But mSupply can't send the emails if you haven't configured it to. To set up emailing, go to *File > Preferences* and click on the Email tab. See the E-mail section of the general preferences page here for details of the various settings.

OK, that's the setup complete and you're ready to...

5) Send an SMS message to mSupply

The text message you send to mSupply must be in the correct format. Any mistakes and the message will be rejected and will have to be resent. The correct format is this:

keyword item_code item_value item_code item_value...

keyword: This is the keyword you set in the Frontline preferences (step 1 above) that enables the software to recognise a message as intended for mSupply. If this keyword does not exactly match what is set in the FrontlineSMS preferences mSupply will ignore the message.

item_code: An SMS code identifying an item in mSupply. You set these in step 2 above.

item_value: The number of the item represented by *item_code* that you have in stock. Obviously, the number must not be negative!

You can have as many *item_code* and *item_value* pairs as a single text message will allow. But they must **always** be paired. If mSupply finds an *item_code* not matched with an *item_value* it will reject the message and it will need to be resent.

Every single element (the keyword, an *item_code* or an *item_value*) of the message must be separated by a space.

To make all this clear, let's have some examples:

- A valid text message: msm am 1000 lp20 2000 cf 1 (msm is the keyword; am, lp20 and cf are item SMS codes; 1000, 2000, 1 are amounts of the corresponding items in stock and each element is separated by a space)
- An invalid text message: msm am 1000 lp202000 cf 1 (msm is the keyword; am, lp20 and cf are item SMS codes; 1000, 2000, 1 are amounts of the corresponding items in stock but the space between lp20 and 2000 has been missed out. mSupply will interpret lp202000 is an item SMS code which doesn't have a paired value and reject the message)
- A valid text message: s 201 1000 102 3000 lf 200 (s is the keyword; 201, 102, lf are item SMS codes; 1000, 3000, 200 are amounts of the corresponding items in stock and each element is separated by a space)
- An invalid text message: msm am 1000 lp20 -2000 cf 1 (everything's OK except the -2000. A stock value can't be negative so mSupply will reject the message)

It is OK to enter multiple spaces where there should only be one or to add leading and trailing spaces to the message. Because mSupply is clever software it will know what you meant and ignore the extra spaces.

When an SMS message has been received by mSupply an email will be sent to the recipients selected in the FrontlineSMS preferences (set in step 1 above). It will tell them that it has been successfully processed or that there was an error (and will give details of the error). In the case of a successful message mSupply will also create a reminder (see here for information about reminders) for the recipients selected in the FrontlineSMS preferences. In the case of an error, the e-mail recipient should contact the sender to correct the mistake and resend their message.

6) View and complete the stock history record

When mSupply has successfully processed an SMS message it produces a Customer stock history record of the appropriate type (imprest or stock history) for the appropriate customer. See Customer stock history records for more information on these. The stock history record will have a status of 'suggested' and must be viewed and completed by someone in mSupply before it is turned into a customer invoice.

The point of creating reminders for people on successful receipt of an SMS message is that the customer stock histories don't get forgotten!

7) If anything goes wrong

Any errors which occur during the processing of SMS messages are sent by e-mail to the people selected in the FrontlineSMS preferences so that appropriate action can be taken. The error messages detail the problem to make troubleshooting easier. The most likely problems with SMS messages are:

- Sender phone number not added as a contact to a customer in mSupply or not added exactly as it appears in the

FrontlineSMS database.

- Keyword forgotten or wrongly typed. In this case the message will appear to have disappeared into thin air! mSupply will ignore it because it is the keyword that identifies it as an mSupply message.
- Space missing between message elements. You will receive an error message about item codes and item values not being paired in this case.

Please note that all SMS and FrontlineSMS database error messages are also written to the log: to view them go to *Special > View log* (if you want to display only SMS errors select the 'SMS error' item in the right hand drop down list in the log display window). This can be very helpful for working out if anything's gone wrong, especially if emailing is not working (because you've forgotten to set it up - in step 1 above - or your internet connection is broken or slow).

Previous: Custom Data Next: Asset management

Asset management

mSupply allows you to manage assets you may have in your facility such as computers and vehicles.

In order to use this function users will need to have assets enabled in page 3 of permissions. See [Managing users](#)

The functionality allows you to record

- The location of the asset
- It's current condition
- A unique ID you've given it (e.g. the license plate if a vehicle, or the serial number of a computer)

Showing the Asset list

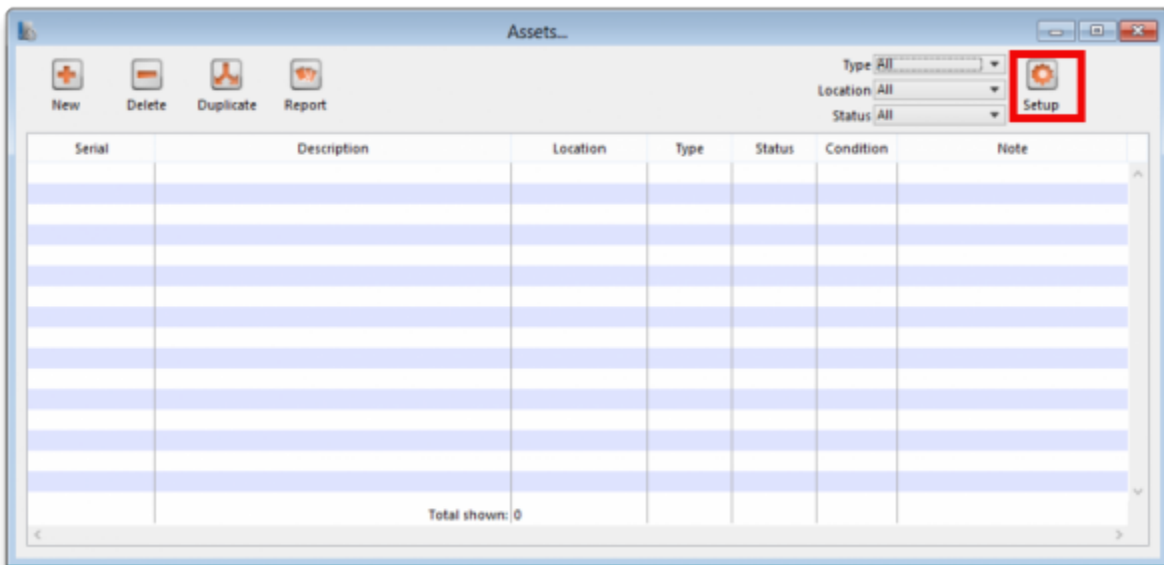
Choose **Special > Show Assets**

Serial	Description	Location	Type	Status	Condition	Note
	Facsimile - Sharp FD-P610	CMS		In use/operational	Working	
3026980481315	Filing cabinet	CMS		In use/operational	Working	
	Filing cabinet [copy]	CMS		In use/operational	Working	
	Filing cabinet [copy] 2	CMS		In use/operational	Working	
7114127	Finger print machine with colour (black and grey)	CMS		In use/operational	Working	
OC1A	Oxygen Cylinder			Full		
0605083259	Phone, white extension (ext 152)	CMS		In use/operational	Working	
8397769	Photocopier - Sharp AR-M207	CMS		In use/operational	Working	
418091301236	Thermal printer - Zebra TLP 2844	CMS		In use/operational	Working	
Registration - G 661	Truck - Kia Bongo	CMS		In use/operational	Working	
Registration - G 942	Truck - Toyota	CMS		In use/operational	Working	
Total shown: 11						

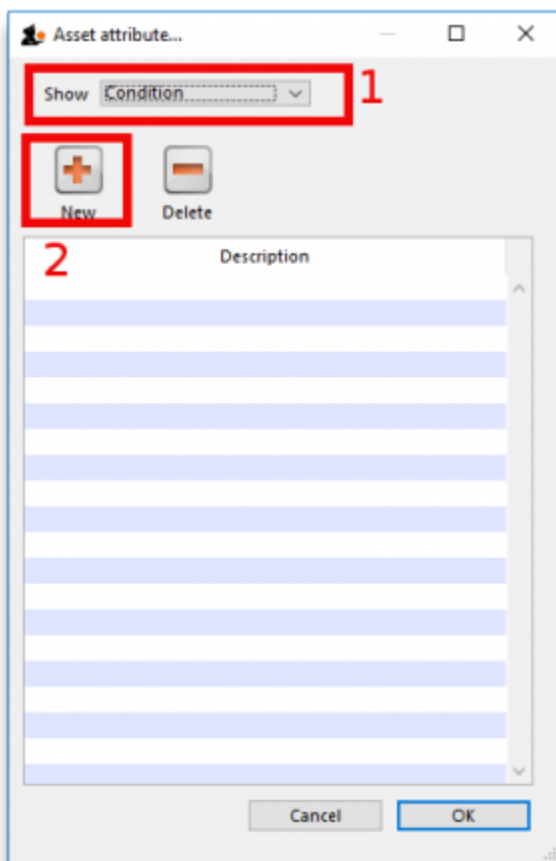
Setup

Before starting to track your items you may need to set up the kinds of data you are tracking. For instance. If you are tracking Oxygen cylinders you may want to keep records of whether they are full or empty. To do this we would set up a "Status" field.

To do this click on **Setup**

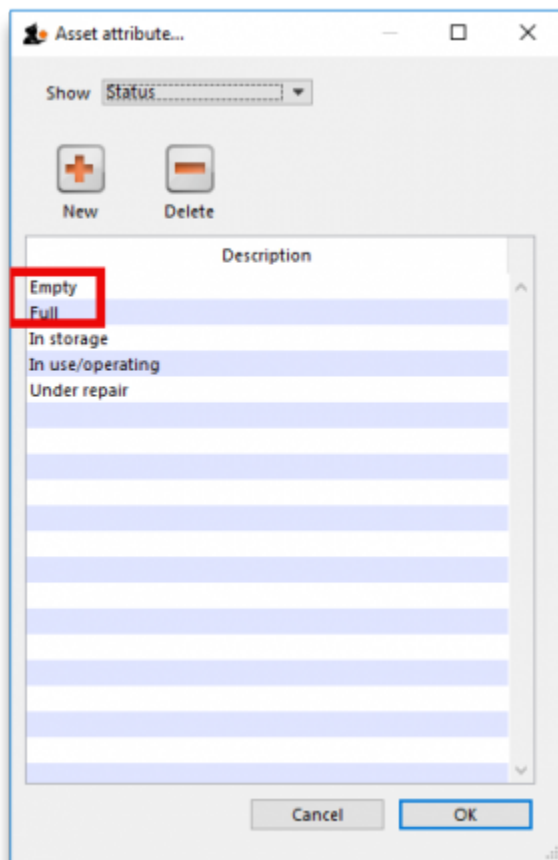


A new window will open:



To setup tracking for our oxygen cylinders we would choose “Status” at the top field (1). Then click “New” (2). Type in Full and click OK. Repeat the process for “Empty”

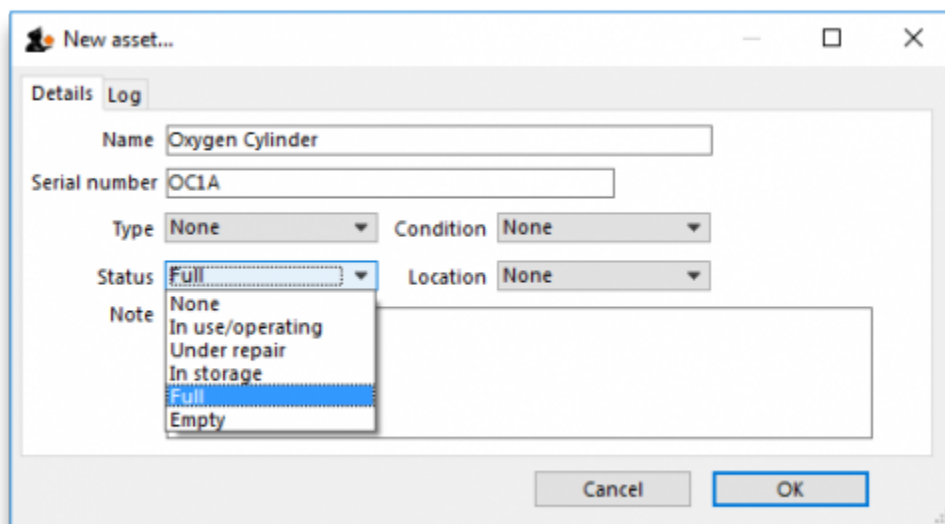
Now you have two statuses set up that can be linked to an asset.



Let's create an asset to track.

New

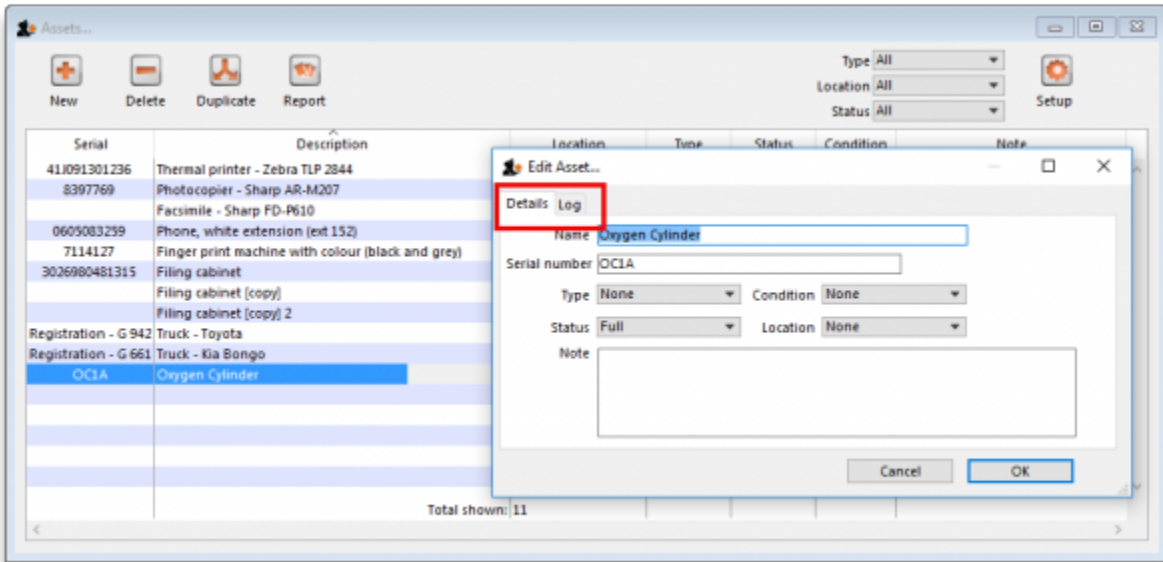
Clicking **New** Opens a window allowing you to enter new assets:



In this example I have created the Asset: Oxygen Cylinder. I have recorded its serial number and I have chosen the Status: Full.

Editing an Asset

If you want to change one of the Conditions, Type, Status or Location of an asset you can do so by double clicking the asset from the Show Assets window.



You can switch between the **Details** and **Log** tabs to either edit the fields or view the log for this asset.

Previous: FrontlineSMS Integration Next: ARV regimen data recording

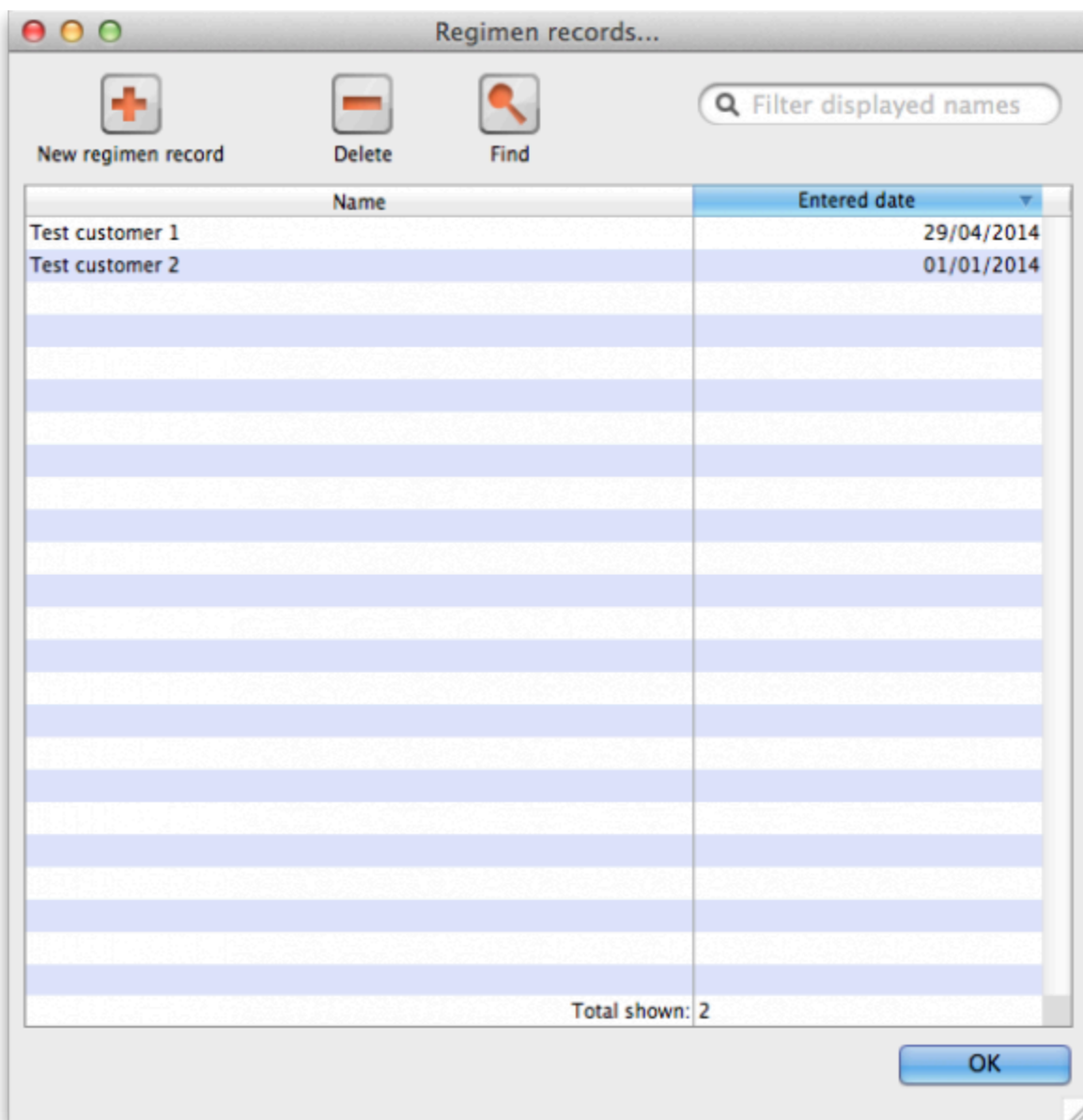
ARV regimen data recording

The ARV regimen data recording module was built for the MOH in Zanzibar/Tanzania. To date this module is not available as part of the standard mSupply package. We are willing to make this module available if our clients feel the need. Please keep in touch.

mSupply allows you to record ARV regimen data; you can record for each customer how many patients are following particular regimens, how many have defaulted on their regimen, and how many have died while on different regimens. There is a fixed list of regimens which applies to all customers.

Viewing/editing recorded regimen data

To view regimen records click on the **Customer > Show regimen records** menu item. The following window will be displayed:



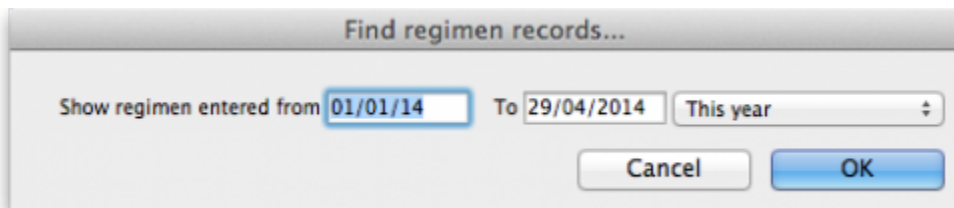
The window, when it first opens, lists all the regimen records entered for the current year (i.e. all those which have an entered date which falls in the current year) sorted by entered date, most recent at the top. The various items in the window do the following:

- **New regimen record button:** Clicking this button opens the editing window shown below in the Adding/editing a regimen record section with all fields empty, waiting to be filled in.
- **Delete button:** Click on this to delete the records you select in the list. You will be asked to confirm the deletion first.
- **Find button:** Opens the search window shown below in the Searching for regimen records section to enable you to find and display other regimen records.
- **Search bar:** The list of displayed regimens will be filtered to show only those for customers with names which begin with the letters entered in here. Useful for removing the clutter and seeing records for a single or small number of customers.
- **OK button:** Closes the window without doing anything.

You can edit the contents of any regimen record by double-clicking on it in the list. This will open the editing window shown below in the Adding/editing a regimen record section, but loaded with all the information for the selected record. All the information is editable.

Searching for regimen records

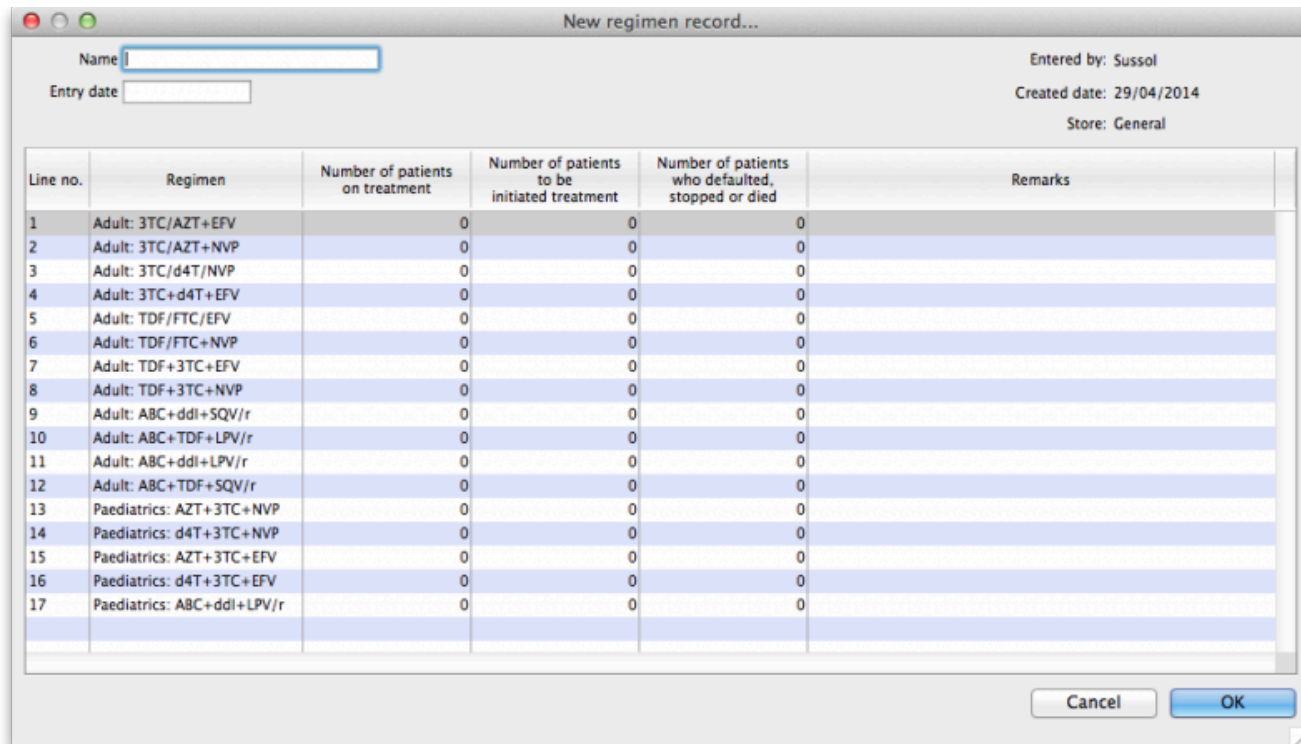
To search for regimen records, click on the *Find* button on the regimen record list window shown above. This window will be displayed:



You can either enter the from and to dates manually or use the quick-pick drop down list on the right hand side to quickly set the dates based on common selections (e.g. This year, Last year). Click on the *OK* button and mSupply will search through all the regimen records and display in the list all those which have an 'Entered for date' (see the Adding/editing a regimen record section below for a description of this field) which falls between the dates you have entered.

Adding/editing a regimen record

When adding a new regimen record or editing an existing one, you will be shown this window:



The window is shown as it looks when adding a new record. When editing an existing record it looks the same but all the information entered for the record is displayed, all of which is editable. Enter information in the various fields as follows:

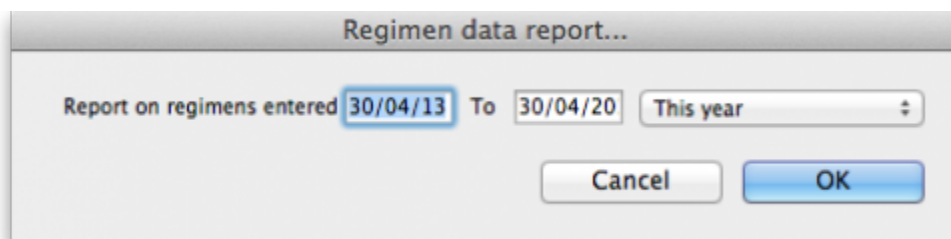
- **Name:** The name of the customer to which this record belongs. Type the first few characters of the customer's name and press the Tab key to choose the customer from a list of names starting with the characters you typed. Much quicker than typing the whole thing!

- **Entry date:** The date this record is entered for. mSupply matches this date against against dates you enter when searching for regimen records and also for deciding which regimen records to include in a report. It will be different from the current date if, for instance, you want the record included in a different reporting period than which the current date falls.
- **Number of patients... columns:** Each cell in these columns is editable. Each row represents the figures for that particular regimen. Click once to select a cell and once more to begin editing it. Tip: when you have finished editing a particular cell you can use the Tab key to edit the next cell or shift+Tab to edit the previous cell - this can really speed up entering a whole new regimen record.
- **Remarks:** Same as the Number of patients... columns, the cells in this column are all editable. Click once on a cell to select it and once again to start editing it. You can enter any text you need which pertains to that particular regimen and its figures.

When you have finished entering or editing information click on the *OK* button to save your work and close the window.

Reporting on regimen data

A single report is available for regimen data and it is accessed from the menu item **Report > Regimen report**. You must select the regimen records which are to be included in the report. You do this by giving the dates between which a record's entered date must fall to be included in the report in this window:



You can either enter the from and to dates manually or use the quick-pick drop down list on the right hand side to quickly set the dates based on common selections (e.g. This year, Last year). Finally, click on the *OK* button and mSupply will generate your report.

Previous: Asset Management Next: Drug Registration

Registration

Introduction

Registration is the process by which the government authority charged with controlling what can be supplied in a country manages this process by authorising particular suppliers and products. Each supplier must:

- Obtain a supplier registration number and
- Obtain a registration for each product they wish to supply. This registration will be per brand and dose form, and will usually be time-bound and need renewal.

A critical part of the process is supplying documents to verify product quality. This functionality is all about recording and tracking the status of supplier's registrations and storing the documentation for easy retrieval.

Getting started with the Registration Module

Activate the Registration Module

Before using the Registration module you will need to activate it in the Registration Module section of the General Preferences.

Making the Registration Module visible

mSupply treats the Registration module like a store - refer *Virtual stores*. A user won't be able to log in to a virtual store on the login window unless they have permission to do so - refer *Managing users*. You will need to allow the users who are going to do the registration work to see the Registration Module 'store'. Unless that is only one person, you may well be useful to make a user group for that purpose.

Making things visible in the Registration Module 'store'

When a new store is created, no existing items or names (suppliers, manufacturers, customers, etc.) are visible to it. This clearly needs to be fixed if you are going to register existing items, suppliers, or manufacturers!

Any items, suppliers and manufacturers created after the Registration module 'store' has been created will be automatically made visible in the Registration module 'store'.

Make existing suppliers and manufacturers visible

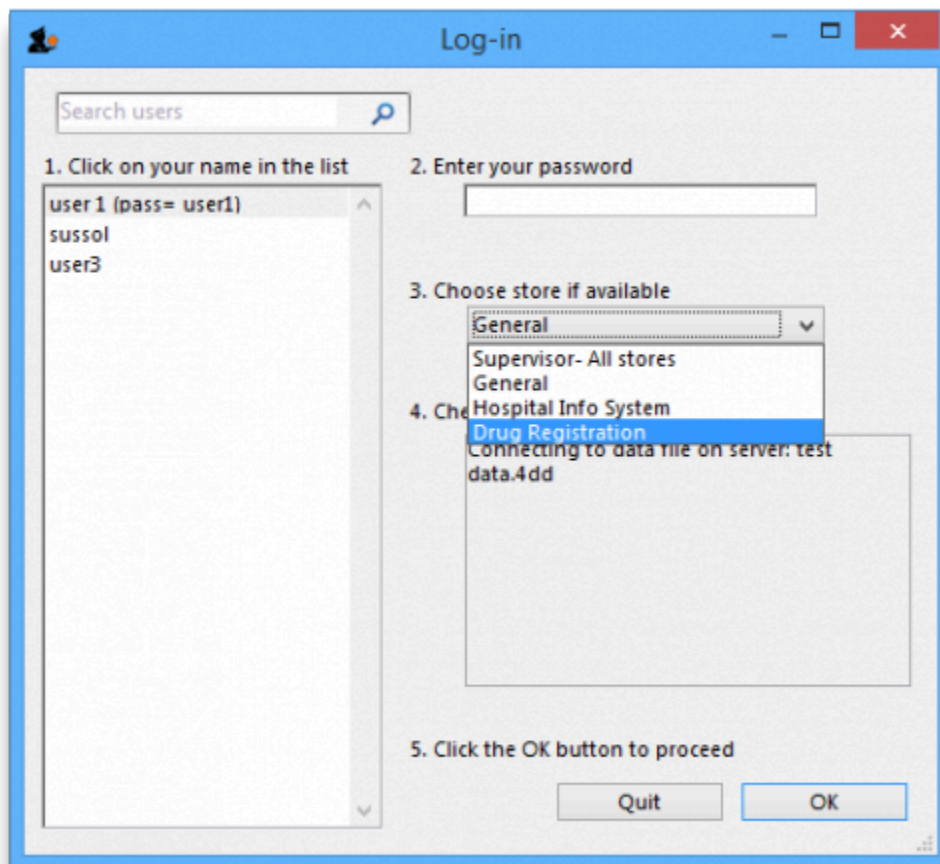
To make existing suppliers and manufacturers visible, you need to make them visible in the Registration module 'store' - refer *Names: Using, adding and editing, the Store tab*.

Make existing items visible

To make existing suppliers and manufacturers visible, you need to make them visible in the Registration module 'store' - refer *Items, the Stores tab*. This must be done while logged in to another store.

Using the Registration Module

The Registration module has it's own Navigator. If mSupply doesn't start in Registration mode when you log in you may switch to it by choosing *Files>switch* and selecting Registration.



You will then be presented with the Navigator for Registration:



Show (list) Registrations

To see a list of registrations click on the List button.



This page allows you to refine your search. If you want to list all registrations leave this form blank.

Find Drug registrations whose

Expiry date is on or be... []

and

Supplier Name starts with []

and

Item code starts with []

and category 1 is Don't Care

and category 2 is Don't Care

and category 3 is []

and category 4 is []

Cancel Find

Clicking the Find button will bring up the results of your search.

Drug registrations...

New Delete Find Filter list as: Item name []

25/25

Item Name	Supplier	Status	Application number	Registration number	Trade name	Is registered	Registration expiry
Test_item	Test Drug Reg		1	1	guardian	<input type="checkbox"/>	
Co-trimoxazole [Septrin] 40mg/...	Academy Chemic...		6	6	Test trimoxazole	<input checked="" type="checkbox"/>	3/3
ABC 300mg, tablet	Access Spectrum		3	3	Natural ABC	<input checked="" type="checkbox"/>	12/1
Fendona 10kg	Hetero Labs Limi...		4	4	Hetero Fendona	<input type="checkbox"/>	
Levofloxacin, 1g	Alere Medical Co...		5	5	Alere Levofloxacin	<input type="checkbox"/>	
Diclofenac sodium 50mg, tablet	FIND		7	7	DH Diclofenac	<input type="checkbox"/>	
Artesunate injection 60 mg	Nanova Co.Ltd		8	8	Artesunate	<input type="checkbox"/>	
Ball bearing for plug fan motor	Drug Registration		9	9	Ball AHF	<input type="checkbox"/>	4/2
NMCP Future item 2	Waimaw Townsh...		10	10	Manufacturer	<input checked="" type="checkbox"/>	12/3
Cefixime 100mg, tablet	Indaw township	Refused	11	11	fireg	<input type="checkbox"/>	
Rack with lid for 1-2ml Cryo vial	Drug Registration		12	12		<input type="checkbox"/>	
Lab requisition form	Lanmadaw Town...		13	13	labreq	<input type="checkbox"/>	
ABBOTT EID m2000 Reagent Kit...	Htilin Township		14	14		<input checked="" type="checkbox"/>	7/3
Hand Compression Sprayer Ca...	Bago MMA	Waiting for docume...	15	15	higy	<input checked="" type="checkbox"/>	4/1
Water for injection 5ml, bottle	Indaw Township		16	16	jubilee	<input type="checkbox"/>	
Zilprenium	Zegong Township		17	17	asd	<input type="checkbox"/>	
Zilprenium	Zabbuthiri Town...		18	18	jsd	<input type="checkbox"/>	
Quinine DHCL, Inj 300mg/ml,2ml	Waw Township		19	19	gdfgd	<input type="checkbox"/>	
Laboratory Coat, Medium	Tabayin Township		20	20	ddfgfd	<input type="checkbox"/>	
Water for injection 5ml, bottle	Waibargi Towns...		21	21		<input type="checkbox"/>	
Gene Xpert Machine (4 modules)	JICA		22	22		<input type="checkbox"/>	
ABC 300mg, tablet	Alere Medical Co...		23	23		<input type="checkbox"/>	
Electronic Pipette Boy	Access Spectrum		24	24		<input type="checkbox"/>	
Cefixime 300mg, tablet	Access MMA		25	25		<input type="checkbox"/>	

New

This will allow you to enter new registrations. See the section .

Delete

You may remove registrations by highlighting an item on this list and clicking the delete button.

Find

This allows you to refine your search without having to go back to the previous window.

View / Edit registration

To view and edit the details of a registration on this list **double click** on the item and it will bring up a window where you can view and edit the details.

The screenshot shows a window titled "Drug registration details...". It contains several input fields and dropdown menus. On the left side, there are fields for "Supplier" (KERIPIA SC), "Item Name" (Acetylcysteine Injection, 200mg/ml, 10ml), "Manufacturer" (KERIPIA SC), "Trade name" (AcetySuper), "Pack Size", and "Comment" (test). Below these are checkboxes for "Currently registered" and "Approval date" (00-00-00). On the right side, there are fields for "Application number" (8), "Application date" (2017-02-05), "Registration number" (8), "Reg. expiry date" (00-00-00), and four "Category" dropdowns (all set to "None"). The "Status" dropdown is set to "Refused". At the bottom, there are buttons for "OK & Next", "Cancel", and "OK".

Document name	Date uploaded

New Registration

To enter a new drug registration record, click on



This will open the following window where data can be entered in fields as described below:

New drug registration...

Supplier

Item Name

Manufacturer

Trade name

Pack Size

Comment

Application number 0

Application date

Registration number

Reg. expiry date

Category 1

Category 2

Category 3

Category 4

Currently registered Approval date

Status

Document **Log**

Add Remove

Document name	Date uploaded

OK & Next Cancel OK

Supplier

- To get a list of suppliers starting with a particular letter, enter the letter and press **Tab**. This will let you select the supplier from a list.
- If you enter a letter and there is only one supplier beginning with that letter it will automatically be entered into the

Supplier field.

- If the supplier is not listed you may need to create a new supplier record by clicking on the New Supplier button.
- If you want to list all suppliers you can enter @ and click Find.
- For more details see the New Supplier section below.
- Once you have chosen a supplier you will be able to edit the supplier details by clicking on the Edit Supplier button.

Item Name

Enter the first letter of the item, press **Tab**, and select the item from the list that displays.

Manufacturer

As above enter the first letter of the manufacturer, press Tab, and select from the displayed list. If the manufacturer is not displayed a new record for the manufacturer will need to be created by clicking on the New Manufacturer button.

Trade Name

As trade names for drugs vary widely this is a field to fill out manually.

Currently Registered

If this item has been approved for registration then tick this box. The approval date will change to today's date once the window has been closed.

Status

You can assign a drug registration a status you have previously defined in the Drug Registration status window

Documents

You may attach documents to the registration record by clicking the plus button. This will open a window to allow you to navigate to and choose a locally stored document. To view documents stored in this way simply double click the document listed below.

Logs

The log tab allows you to see a list of events such as when this item was approved.

Show (list) Suppliers

See Show Suppliers



New Supplier

See Names: using, adding and editing



Show / new Manufacturers

The process for viewing or adding a new manufacturer is the same as the process for viewing/adding a supplier - refer to the instructions above.

Reports



Clicking on Registrations will open a report listing all of your registration records.

Registration Categories

Item categories are a great way of grouping your items. This enables you, for example, to report on specific groups of products by filtering by category. This can be extremely helpful.



To create a new category click on the Cat. This will open this window:



View registrations in category

- To view a list of registrations assigned to each category **double click** on the category in the list.

New

- Click the **New** button to add a new category.

Delete

- Click the **Delete** button to remove a category.

If there are registrations assigned to a category, then mSupply will not let you delete the category until you have removed the category from the *drug registration records*. mSupply will open the category so that you can see the Registration records that are assigned to this category.

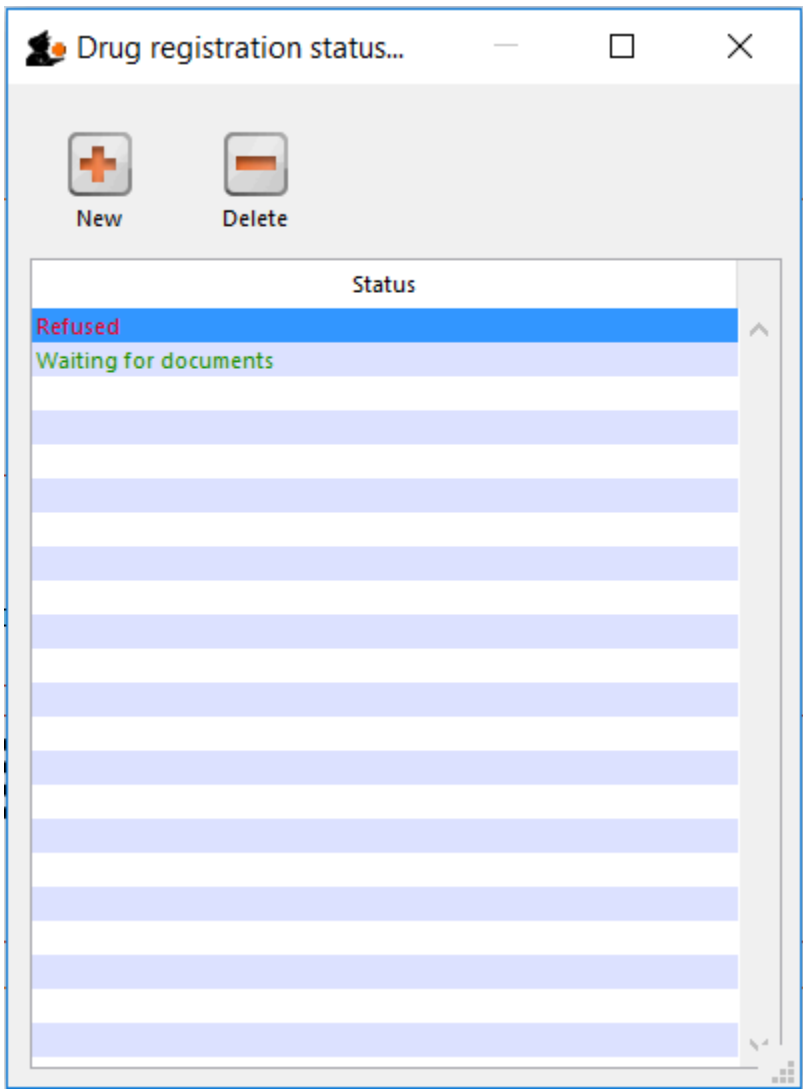


Drug Registration status Window

In this window you can define for yourself the different states or phases of a Drug Registration (for example, In Process, Refused, Waiting for documents, etc). This means that the status of a registration can be seen at a glance.

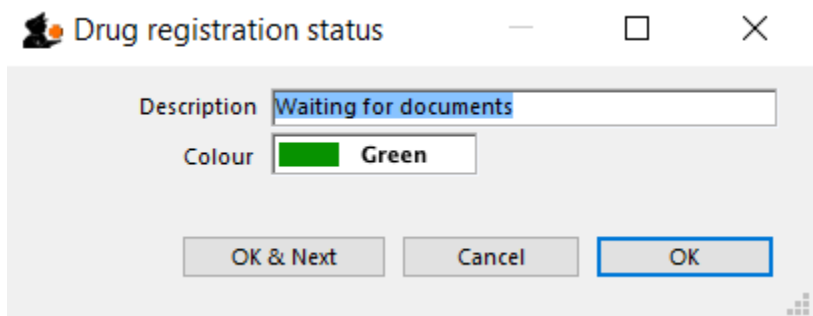


To show, create or delete a status click on the above button in the Navigator.



Edit a Status

To edit a status, double-click on it. You can change its name or identifying color. The drug registrations that have been assigned this status will be affected by the change.



Add a new status

* Click the **New** button to add a new status.

Delete a status

* Click the **Delete** button to remove a status.

If this status has been assigned to registrations, then mSupply will not let you delete the status until you have removed the status from the *drug registration records*. mSupply will tell you how many drug registrations have been assigned this status.

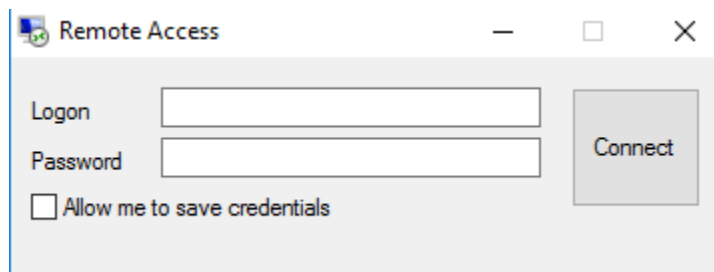
Previous: ARV regimen data recording Next: Using the mSupply Remote Client

Using the mSupply remote client

As well as using an mSupply client connecting to a local mSupply server, or using a standalone version of mSupply, it is possible to access a copy of mSupply running on a remotely hosted server. In this case, we use remote access software called TSplus (<http://www.tsplus.net> (<http://www.tsplus.net>)).

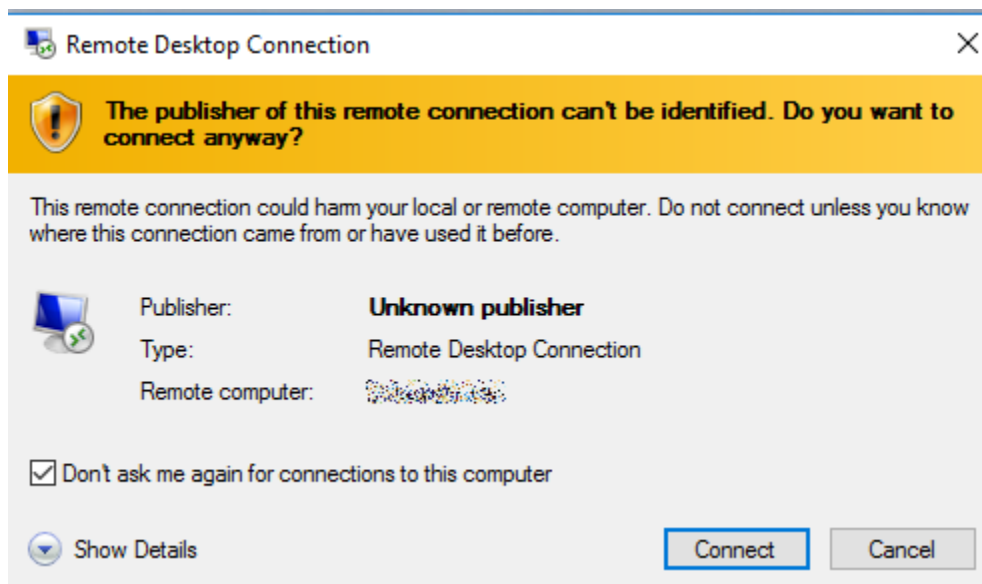
Connecting to mSupply

The first time you run the remote access client, you'll have to enter your TSplus username and password. These correspond to a Windows account on the remote server and are completely separate from your mSupply username and password.



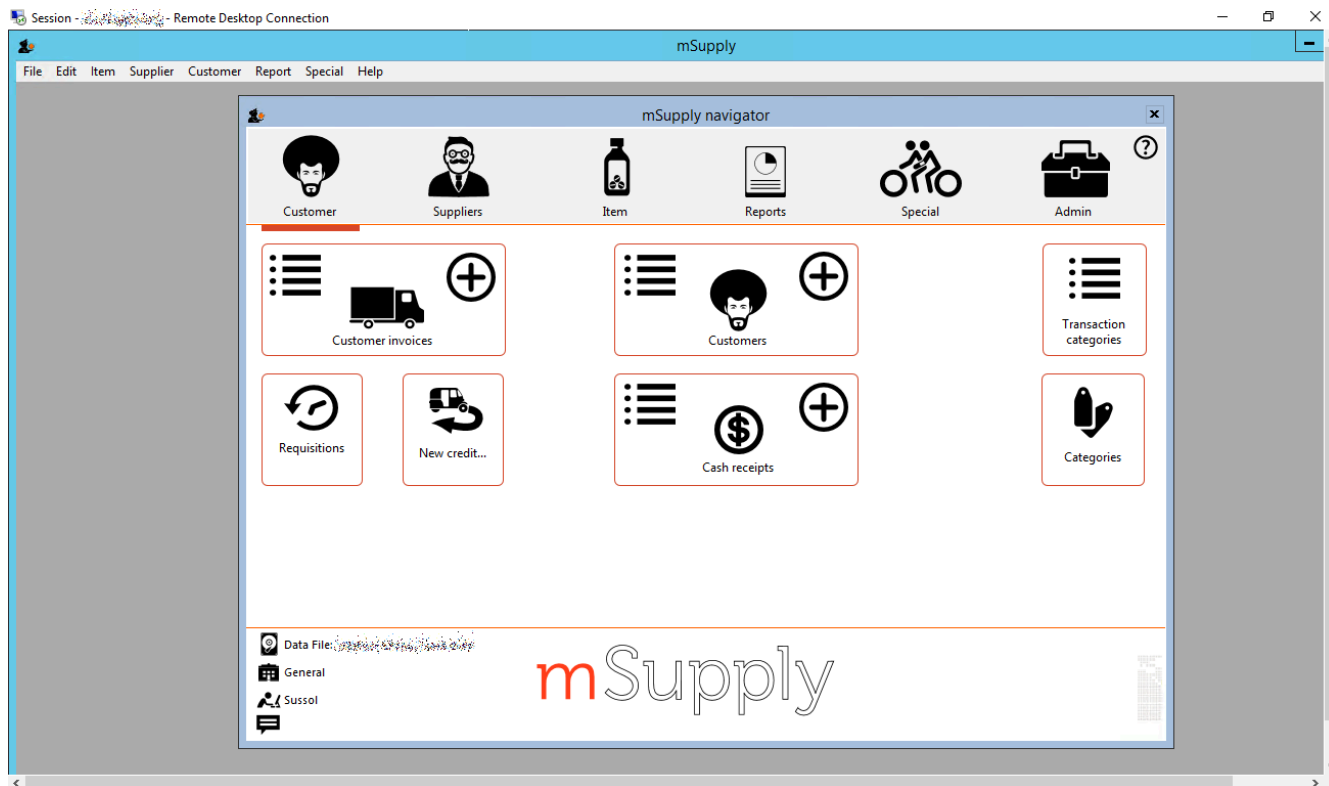
We recommend that you select the “Allow me to save credentials” box so that you don't have to remember it in future.

After clicking *Connect*, you may get a warning Window similar to this one:



If so, then select the “Don't ask me again for connections to this computer” box to avoid seeing it again in future.

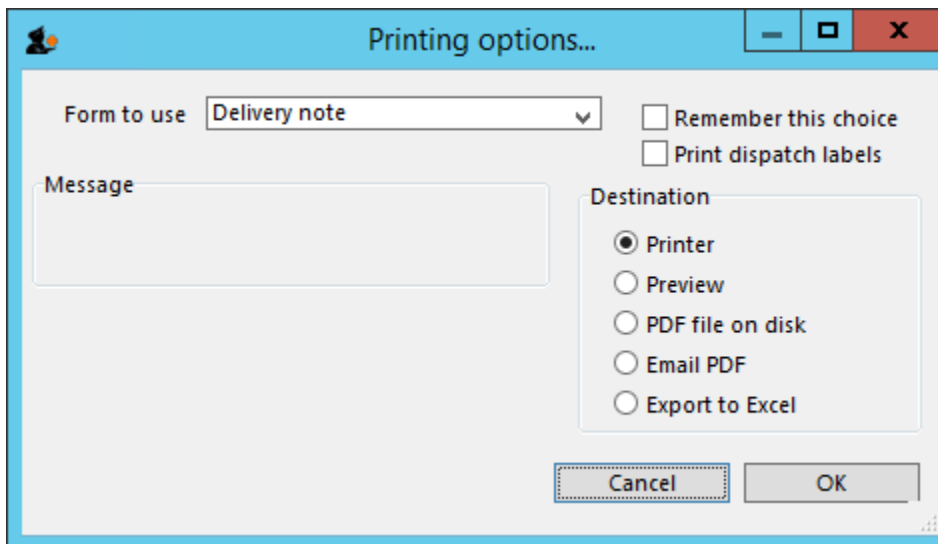
You should then see the normal mSupply login screen - simply login as usual to get to the mSupply navigator, which looks exactly the same as normal except that it is enclosed in a session window:



When you're finished, exit mSupply by using the *File* → *Exit mSupply* menu item. If you simply use the X button at the top right of the session window, it will close the window but mSupply will continue to run on the server, and use a license which may be needed by someone else.

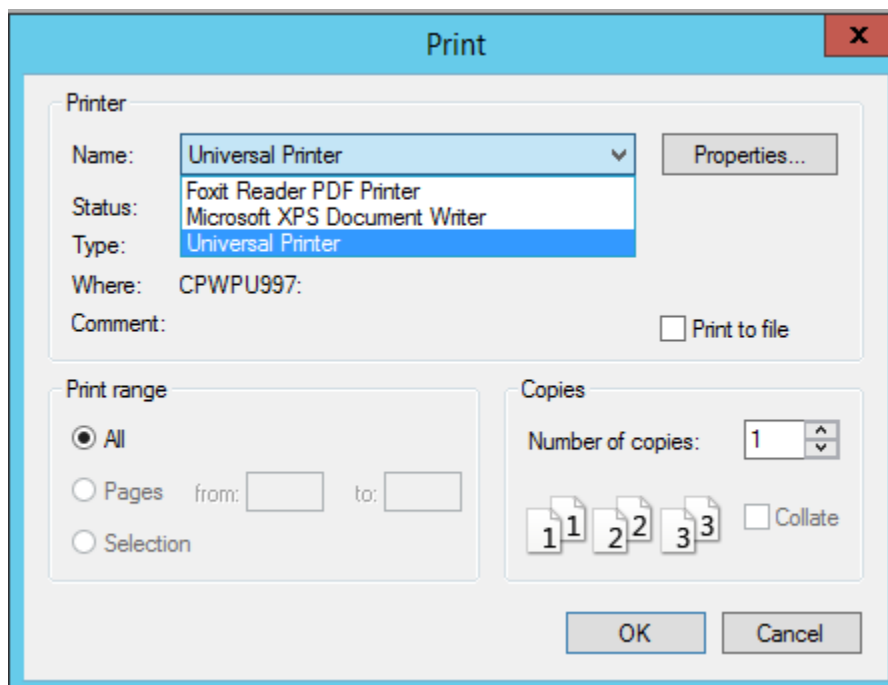
Printing from mSupply

Because mSupply is running on a remote server, printing forms and reports is slightly different as there is an extra step involved to download them to your local computer. There are several ways to do this, depending on which print option you choose e.g. printing a customer invoice:



Universal Printer

TSplus comes with a “Universal Printer” driver, and if you select the *Printer* option and then choose this as your printer, the print job should get downloaded to your local computer and then prompt you to choose one of the printer drivers on your local computer to receive the print job.

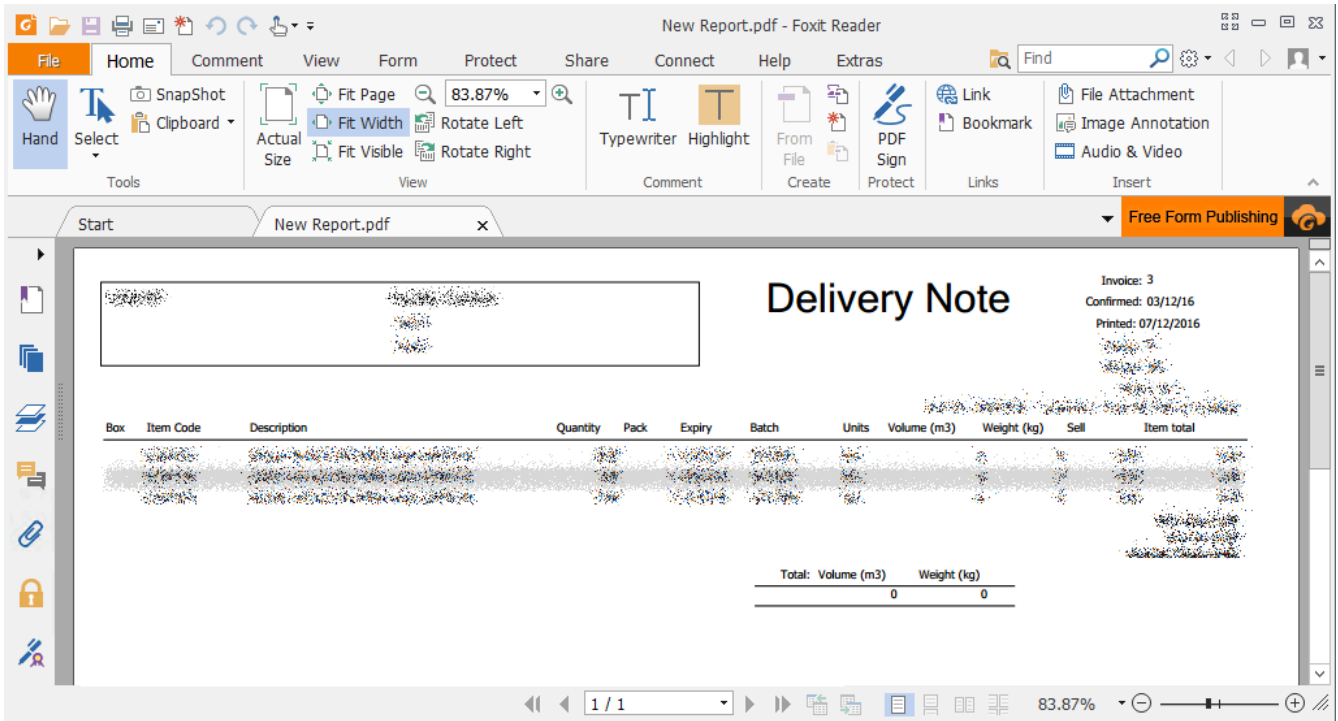


PDF Printer

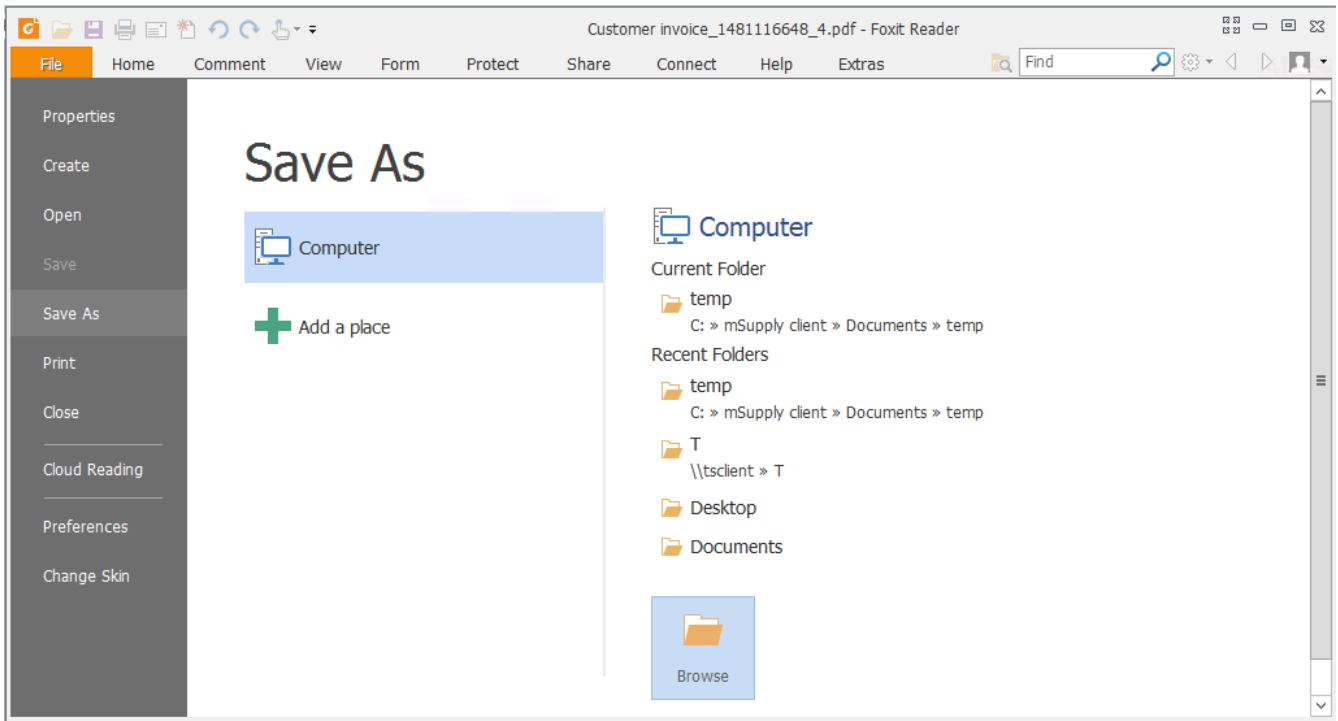
Foxit or some other virtual PDF printer driver will have been installed on the remote server. You can either:

- select the *Printer* option and choose the virtual PDF printer driver as your printer - this will prompt you for a location to save the PDF file and then open it in the default PDF viewer (you may be prompted to choose either Foxit or Sumatra - the screen shots below use Foxit, but Sumatra is similar)
- select the *Preview* option - this will generate a PDF file in the default location (*C:\vmSupply client\Documents\temp*) and then open it in the default PDF viewer
- select the *PDF file on disk* option - this will generate a PDF file in the default location and open that folder, and

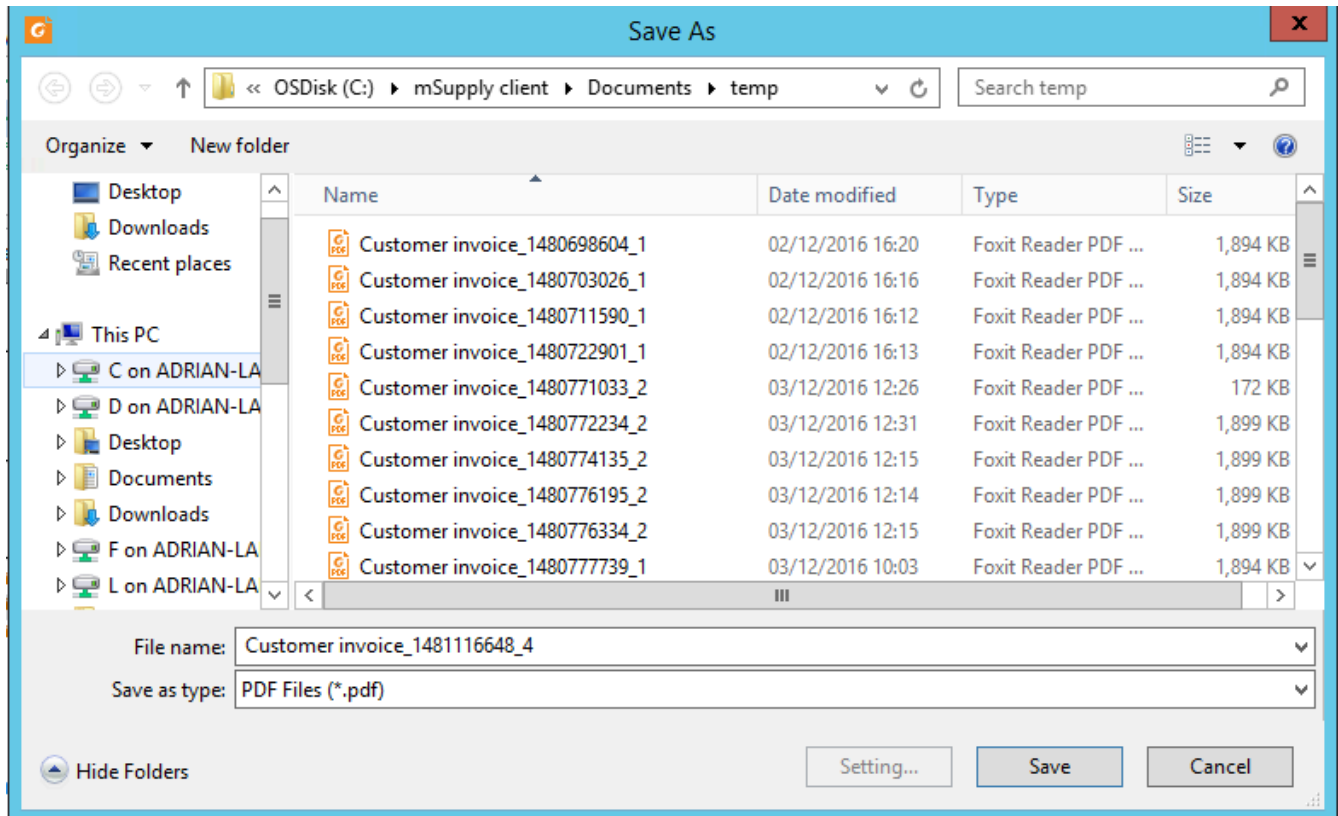
then you can double-click on the file to open it in the default PDF viewer



Regardless of which of these you choose, you can use *File* → *Save As* to save the PDF file to a folder on your local computer:



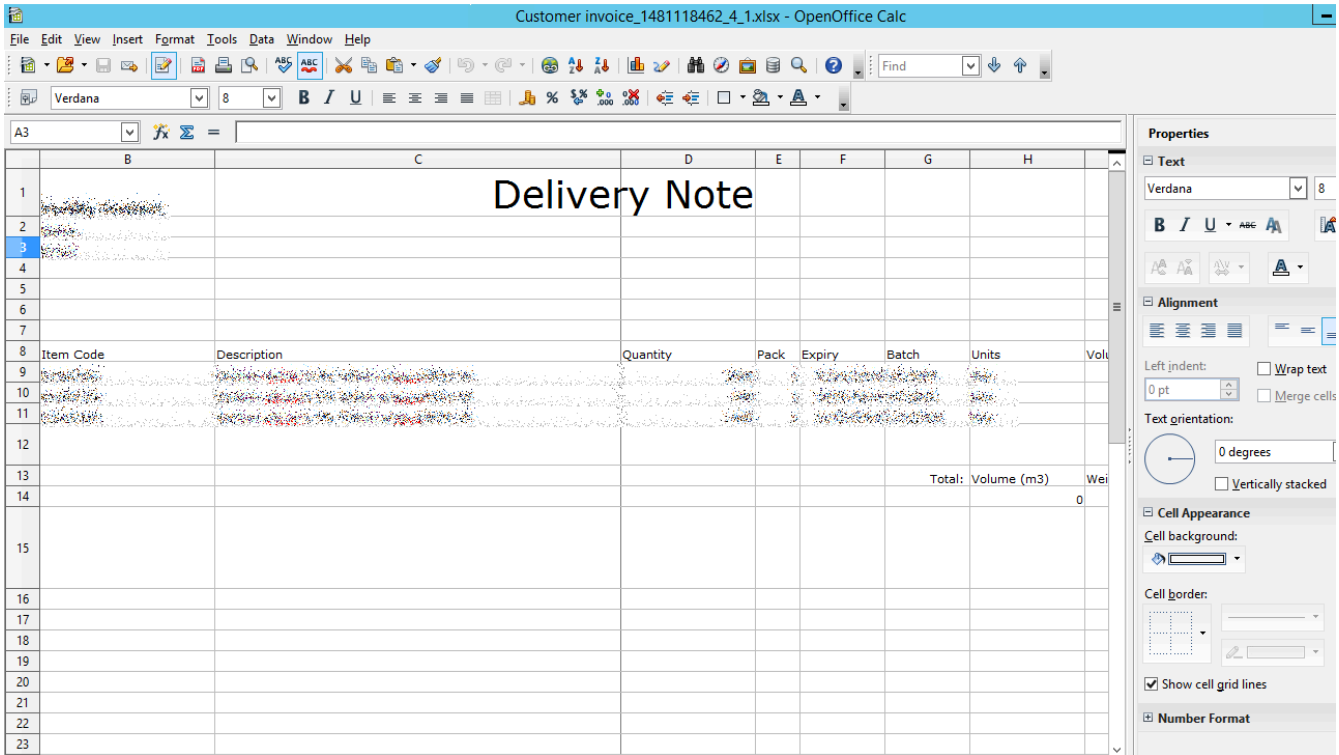
Click on *Browse* to choose where to save it - *This PC* includes all of your local drives as well as the ones on the remote server:



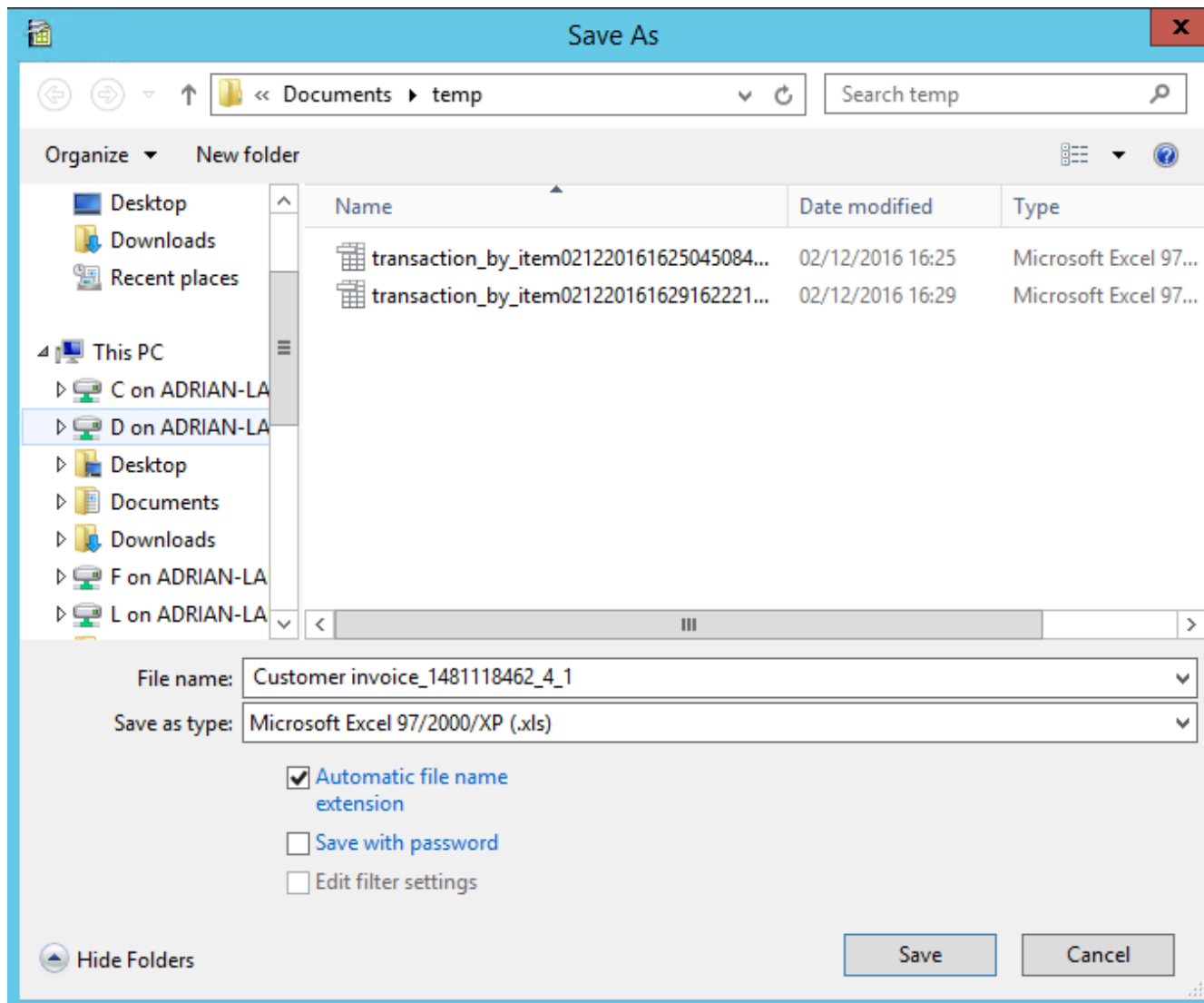
Exporting to Excel

MS Office won't normally have been installed on the remote server, but Open Office will have been. The first time you try to export to Excel, you'll have to choose the location of "Excel" - in this case, it will be something like `C:\Program Files(x86)\Open Office 4\program\scalc.exe`.

Select the *Export to Excel* option to open the report/form in Open Office:



In the same way as for PDFs, you can select a local drive from the *File* → *Save As* menu (either as an Open Office .ods document, or an Excel .xls document):



Transferring Data

Dropbox will have been installed on the remote server, and can be used to transfer saved reports or other data between the server and any other computer which has access to the Dropbox account.

Previous: Drug Registration Next: Currencies

Backup

Choose **File > Backup...** to run a manual backup of your data. The backup will be carried out according to your configuration settings, described below.

While backup is run, all clients connected to the server will pause whatever they are doing until the backup is complete. So make sure you do it when users are not busy using mSupply. And make sure you configure your automatic backups to run at a time when the system is not busy e.g. lunch time, the end of work or, better, the middle of the night.

- The location of the backup file is set in **File > Preferences, Backup** tab.
- You can perform a backup manually and/or automatically. Automatic backups should be scheduled to run frequently (every day), manual backups should be done before updates or other potentially risky changes.
- It is not necessary to quit the database before performing a backup.
- Automatic backup settings are configured in the Preferences window - see General preferences, Backup for details.

The Backup function works both in single user as well as multi-user mode. Under multi-user mode, this command performs a backup of the server data **on the server**. A progress window will show how the backup is proceeding.

Note: In multi-user mode, you can't run the Backup or Restore functions from the client. These must always be run from the server computer.

Backup: Best practice

We recommend you set up your mSupply backups in the following manner

Disk configuration

Use RAID 1 or 5

- RAID 1: two disks mirrored, so data is written to each disk
 - Advantages
 - if one disk fails you continue work from the other disk
 - if the RAID controller fails, you can directly connect one disk and continue work.
- RAID 5: 3 or more disks, with one disk containing checksum information so that if any disk in the set fails, the set can be rebuilt.
 - Advantages:
 - The disk set can be easily expanded by adding disks if needed.
 - Disadvantages
 - You are reliant on the RAID controller, as disks can not be used without the controller. For critical data we recommend you have a spare RAID controller of exactly the same model you have installed in the server available.

Use a hot spare

This is a spare disk that the RAID controller will use if a disk in the RAID set fails.

Add another single disk to receive backup data

This disk is not part of the RAID

Backup your live data

Configure mSupply server to

- use the single disk as it's backup location.
- backup your data nightly.
- use a log file. A log file (journal) records each database action as it happens. In the event of a power failure or other adverse event, all changes can be recovered from the log file.

Configure a secondary backup location in mSupply

mSupply can be configured to copy every Xth backup from the backup folder to another volume. The destination can be on the same machine, or elsewhere on the network.

Configure off-site backup

Use Spideroak™ or Dropbox™ to backup your secondary location to their internet servers.

If needed configure an off-site computer to also synchronise with the backup service provider so you have an off-site copy as well as the “cloud” copy.

Mirrored servers

We have the technology to provide mirrored servers when very high availability is required. Contact us if interested. A charge will apply for implementation

Restoring your data

Choosing this item allows you to choose a backup data file, uncompress it and start using it as your main data file.

- Log in to mSupply with an old data file or by creating a new data file and click menu **File > Restore...**
- Locate your backup file in the **Open** dialog that appears. Your backup file has file extension `.4BK`, eg. `mSupply.4BK`. Hit **OK**.
- Clicking on the small red down arrow next to the data file name will show the current destination location to where the data file will be restored. You are being prompted for a folder where the data file will be restored to. Change the destination location of the data file by clicking on the `...` button. Once you are happy with the destination location, hit the **Restore** button.
- After the file is restored, the file location is then displayed using your computer's default file manager. You can close this window.
- Now go back into mSupply and click menu **File > Open data file...**
- Locate the newly restored data file in the **Open** dialog that appears. Your data file has file extension `.4dd`, eg. `mSupply.4dd`.
- Select the data file and hit the **OK** button.
- You may be prompted for a log file. Click on the **Create** button. Select the suggested location, which is the same as your new data file location, and click on the **Save** button.
- You will be prompted to do a backup. It is not necessary to do this at this stage. It will take a few moments to open this new data file, particularly if it is a large data file.
- mSupply should open your restored data file and you should be presented with the log in screen to the new data file.

In client/server usage this command will have no effect.

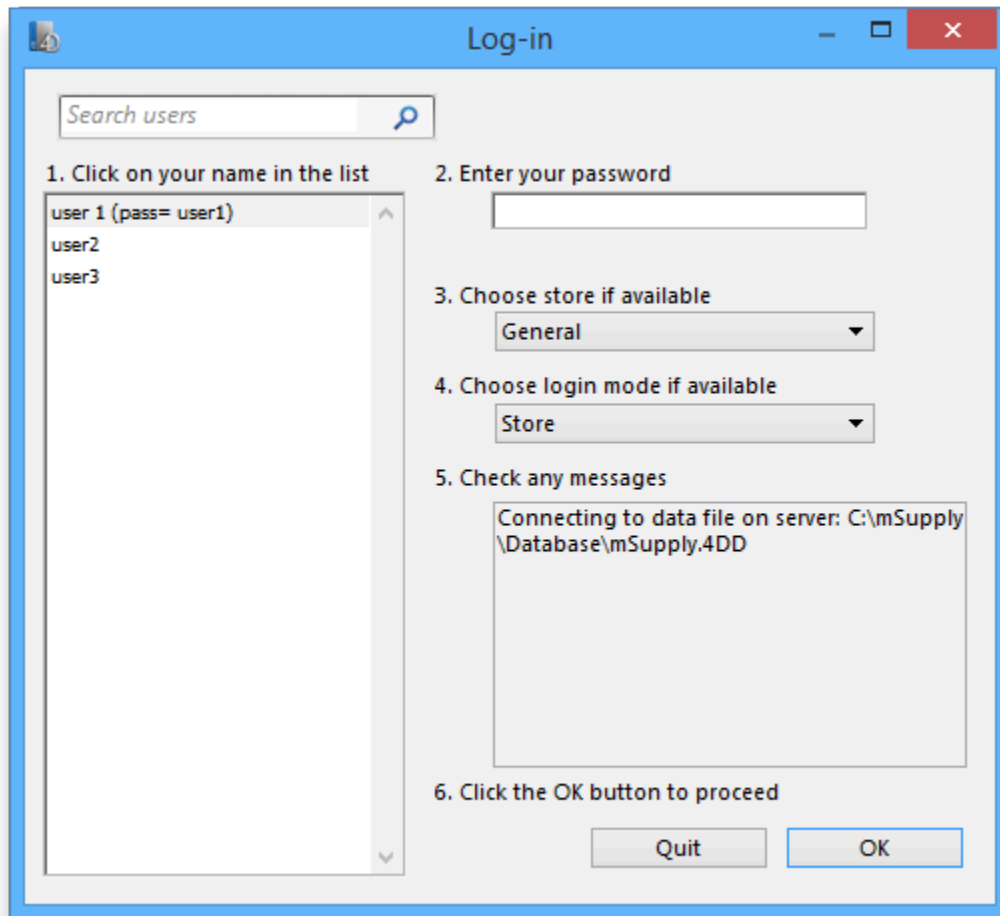
Be very careful about restoring. We suggest you consult Sustainable Solutions before attempting a restore.

Previous: Field Descriptions Next: Changing users and Passwords

Changing users and passwords

Changing the current user

Choose **File » Change User** This menu item allows you to change to a different user without quitting mSupply.

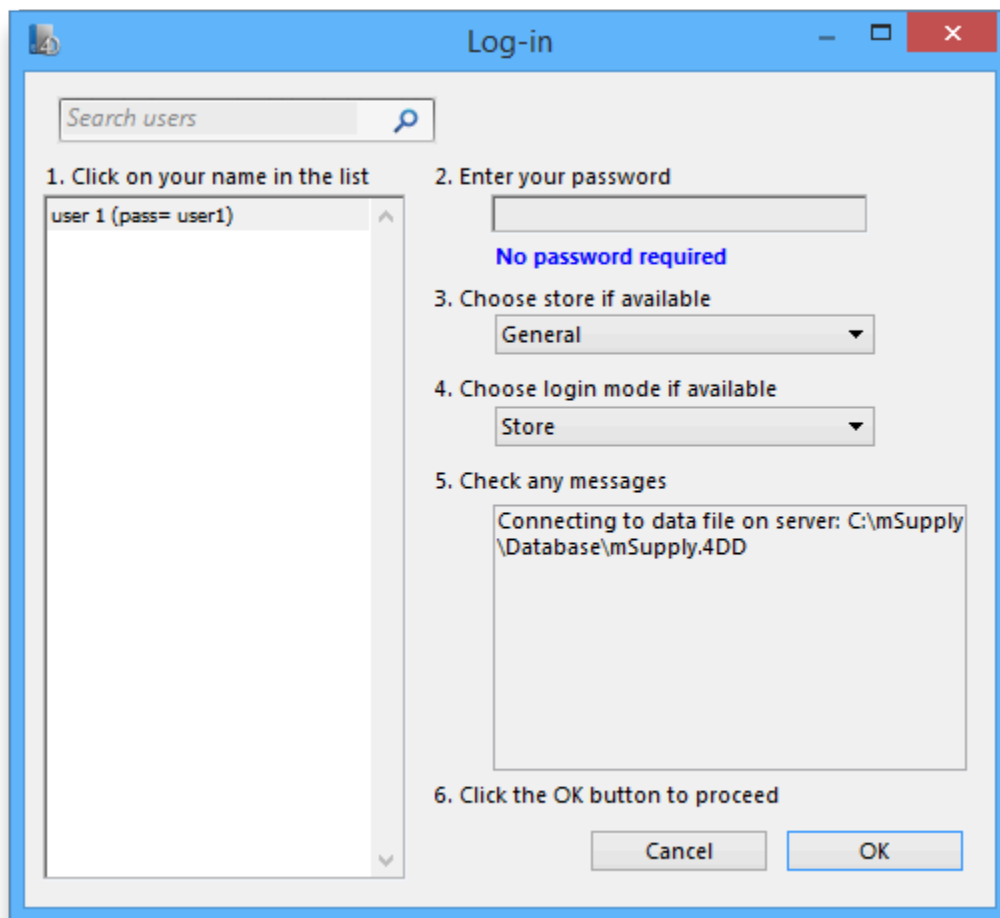


If more than one user is sharing your computer, choose this item before you leave the computer so that the next user will have to log in with their user name & password before gaining access.

If you find yourself on this page accidentally and if you do not have sufficient permissions to change to another store or user then you will have to close and restart mSupply by clicking Quit or the red X at the top right of the screen and launching the program again.

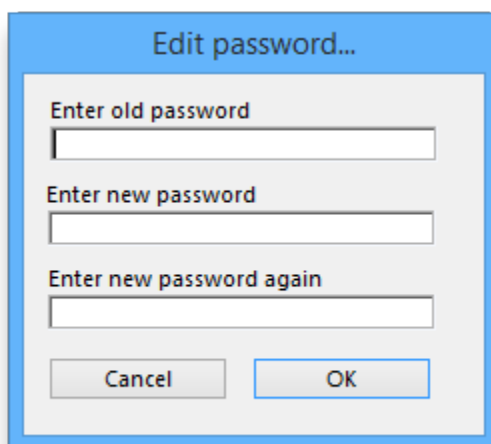
Switching stores

This menu item lets a user (whose permissions allow) switch stores and/or login mode without the need to re-enter their password. Note that this screen does not allow a change of user; pressing *Cancel* reverts to the current store/login mode, so caution in using this feature should be exercised, and this screen should not be displayed when the computer is left unattended.



Change Password

You can change your password by choosing **File>Change Password...**



You need to enter the new password twice to make sure you have typed it correctly.

Passwords are case sensitive- make sure you don't have *Caps Lock* on. If you forget your password you must ask the user who is either first or second in the user list to change your password for you.

Edit users

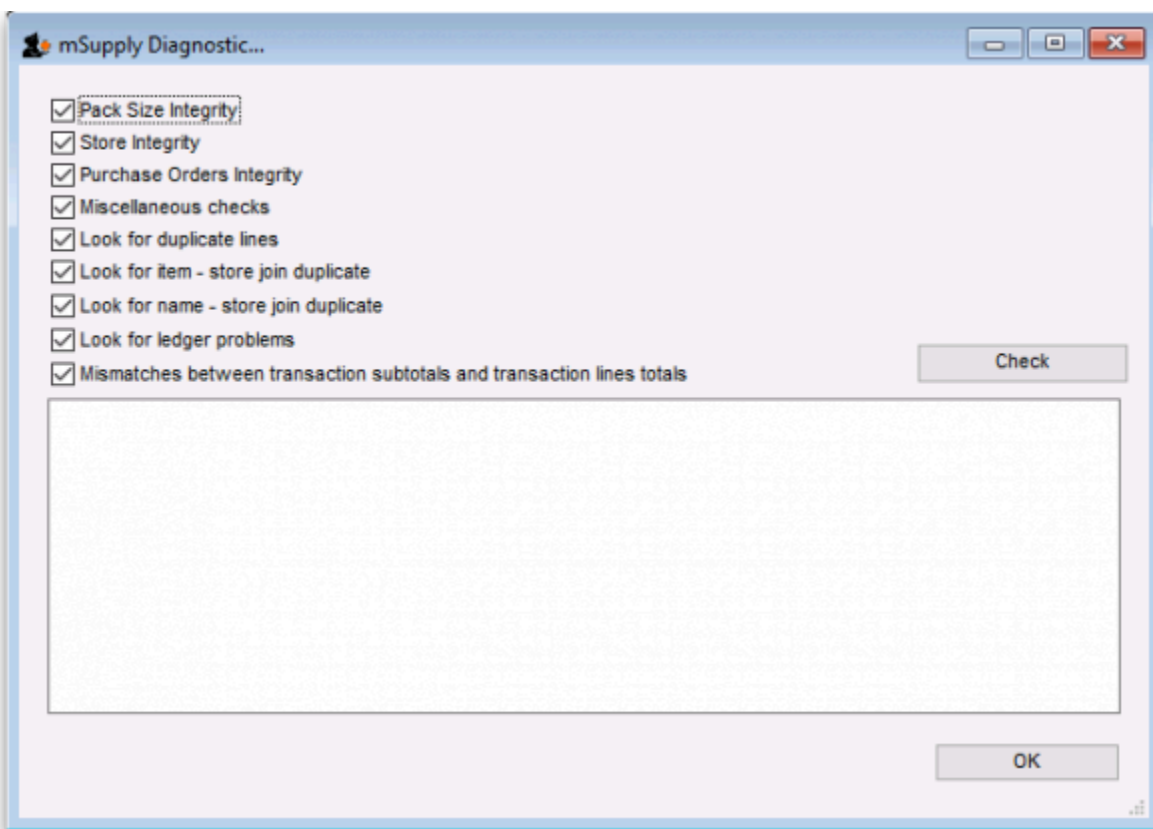
See Managing users

Previous: Backup Next: Diagnostics

Diagnostics

This feature is primarily intended for use by our technical staff when there is reason to believe that there may be some errors in the database; it is unlikely to be of practical use to users of mSupply. However, feel free to run some checks if you're bored or need help to get to sleep 😊. This is a brief description of the functionality only - we don't want to be too good at helping you sleep after all...

Choose **Special > Diagnostics...** from the menus and this window will open:



Check all the tests you want to run (all are checked by default - might take a long time to run if your datafile is big):

Pack size integrity: Each item's pack size is examined by batch number to confirm that stock in balances with stock out.

Store integrity: Each customer invoice is examined to confirm that each transaction has been applied to the appropriate store.

Purchase Order integrity: A check is performed to confirm that Purchase Order quantities and Goods Received quantities tally.

Miscellaneous checks: Includes a check that any repacked items have not resulted in negative amounts being recorded.

Look for ledger problems: This report presents you with a list of items whose ledger balances (total in minus total out) does not equal the difference between the opening stock and the actual stock on hand. It is also useful for finding unauthorised adjustment of stock values.

Click on the **Check button** when you're ready, mSupply will start the tests and report the results in the blank area below it. When you've finished, close the window by clicking on the **OK** button.

Previous: Change user Next: Field descriptions

Field descriptions

The following tables list the main data tables in mSupply (there are some others, but we're not telling you about those!). This information will help you if you are building your own reports.

Note that if a field is indexed, finding information (querying) using that field will be very quick.

Main tables

Table	Description
Transactions	A transaction record is stored for each invoice
Transaction lines	one transaction line record is created for each line on an invoice
Items	An item record is created for each product or service purchased or supplied
item_line	Each batch of stock at a particular location has one item_line record
Names	Each patient, customer or supplier has one name record
Purchase Orders	One record is created for each purchase order to a supplier
Purchase Order Lines	Each record is an order for one item on a purchase order
Quotes and Quote Lines	Quotations submitted by suppliers
Tenders and Tender Lines	Tenders created to invite quote submissions from suppliers
Requisitions	Tables that store customer submitted stock and order data
Stock take and Stock take lines	Stock takes and their related records
Store	Information about a particular virtual store
Drug_Register	Drug Registration records (for use in the Drug Registration module)

Foreign Keys

Get your Foreign Keys here.

Other tables

Table	Description
Abbreviations	Stores abbreviation codes and their expansion for dispensing directions
Account_code	Stores account codes associated with each item
Backorders	One record for <i>Customer</i> backorder.
Bill of Materials	One record for each mSupply user
Contacts	One record for each contact
Currency	One record for each currency

Table	Description
Drug interactions	Drug interactions and Drug interaction groups
Item Categories	One record for item category
Labels	Miscellaneous labels
Log	Each record contains one event recorded by mSupply
Users	One record for each mSupply user
Item Departments	The departments that an item can be assigned to
Item Directions	The default directions that are assigned to items
Item notes	The notes that are attached to items
Item Warning Link	A join table that stores which items have which warnings
Name category tables	Tables that store the categories that can be assigned to names (customers, suppliers, donors, manufacturers etc.)
Prescribers	One record for each prescriber
Regimen records, Regimen and Regimen Lines	Everything to do with storing ARV regimen records
Reminders	A reminder is an event with a due date- like a to-do
Stores	Stores and join tables that control access per-store
Warnings	The warnings which can be attached to items
Custom stock fields	Holds the details of the values that are selectable in the 5th - 8th user fields when receiving stock

Tables used internally that you most likely shouldn't be interested in

Table	Description
Number and Number re-use	Stores serial numbers such as invoice numbers
Preferences	The data for each preference is in binary format. You're not interested.

Item store join				
Field name	Description	Type	Length	Ind
Note that records are created for each item- there should always be one record for each item in each store				
id		Text		
store_ID		Text		
item_ID		Text		

Item store join				
Field name	Description	Type	Length	Ind
inactive	true means item is not visible in this store. False means it is visible	bool		

Name store join				
Field name	Description	Type	Length	Ind
Note that records are only created as needed- that is a missing record implies the name is invisible for that store				
id		Text		
store_ID		Text		
name_ID		Text		
inactive	true means name is not visible in this store. False means it is visible	bool		

Name group				
Field name	Description	Type	Length	Ind
id		Text		
name		Alpha	40	

Name note				
Field name	Description	Type	Length	Ind
note_type		Alpha	3	
entry_date		Date		
note		Text		
name_key		Alpha	8	
id		Text		

Permissions				
Field name	Description	Type	Length	Ind
item_dept_id		Text		
name_group_id	Stores which name groups have permission to be supplied which item departments	Text		

Prefs				
Field name	Description	Type	Length	Ind
item	Internally used: storing preferences of text type(Now deprecated in favour of pref blob)	Alpha	20	
value		Alpha	60	

Reports				
Field name	Description	Type	Length	Ind
report_name		Alpha	80	
report_blob		BLOB		
owner_ID		Text		
id		Text		
last_updated		Date		

Ship method

Field name	Description	Type	Length	Ind
id		Text		
method		Alpha	80	

Sync out

Field name	Description	Type	Length	Ind
id		Text		
type	I=insert, U=update, D=delete, M=merge, T=transfer	Alpha	2	
record_id	ID of the record to be synced	Text		
to_from_id	sync site ID to send the record	Long		
store_id	if store-specific data, the store ID for the record. For example a remote sync site might have multiple stores. If this sync_out record is for a transact record, the Store_ID that it's for. Can be blank	Text		
record_data	(deprecated)	BLOB		
table_num	Internal table number of the record	Long		
sequence	Integer for correct sync ordering	Long		

Field name	Description	Type	Length	Ind
table_id_num	Internal field number for the ID field of the record's table	Long		
merge_ID_to_keep	ID of record being kept in merge	Text		
merge_ID_to_delete	ID of record being deleted in merge	Text		

Transaction category

Field name	Description	Type	Length	Ind
id		Text		
category		Alpha	80	
type	"ci" for customer invoices "pi" for prescriptions "cc" for customer credits "si" for supplier invoices "sc" for supplier credits "sr" for repacks "bu" for builds "in" for inventory adjustments	Alpha	3	

Transaction Notes

Field name	Description	Type	Length	Ind
id		Text		
note		Text		

Units

Field name	Description	Type	Length	Ind
id		Text		
units		Alpha	60	
comment		Text		

Previous: Asset Management for East Timor Next: Backup

Finalising transactions

There are three methods of finalising invoices:

1. The method described here.
2. By highlighting transactions in the transaction list and clicking **Finalise**
3. By checking the **Finalise** checkbox when viewing a particular invoice and clicking **OK** to close the window.

Finalising is controlled by user permissions. If you are not able to finalise invoices, you likely don't have the user permission to perform the operation. There is more information on permissions here (http://www.docs.msupply.org.nz/admin:controlling_user_access)

Finalise customer invoices

All invoices that have status “cn” (i.e. confirmed invoices) may be finalised.

If you have the export option turned on in the Preferences, finalised invoices will also be exported to allow import into an accounting program. They can also just be “exported” to a printed list.

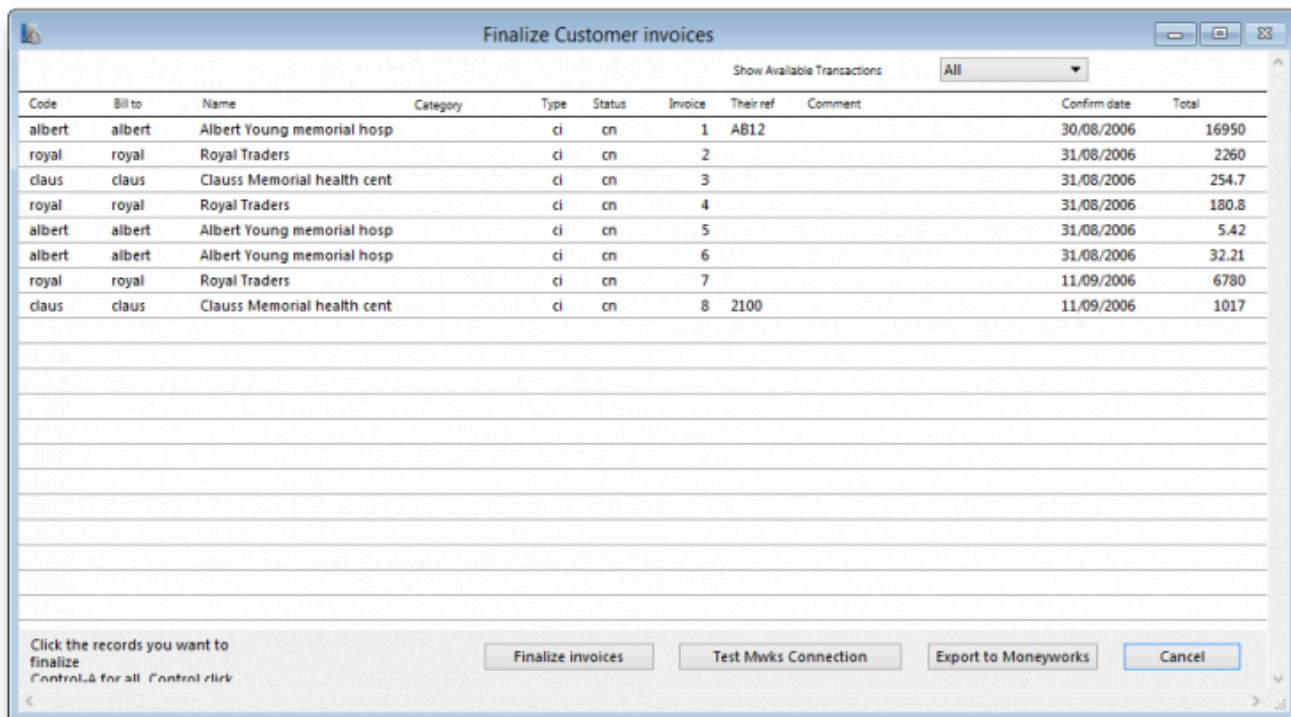
Once an export is done, invoices can no longer be edited. (They have status “fn” for finalised).

Each time a group of invoices is exported, they are all assigned a common “batch” number. You can use this batch number to export an invoice again, should your export file become lost or damaged.

On choosing **File > finalise customer invoices** you will be shown a window displaying all the customer invoices that have not been finalised.

Note that if “export invoices when finalising” is turned on in the Preferences, invoices that have been finalised but not yet given an export batch will also be included in the list. If any such invoices exist you will be alerted to the fact.

The first screen advises you of the folder to which your file will be saved. The next screen displays a list of invoices not yet finalised.



Follow these steps:

- Hold down the control key (Windows) or command key (Mac) while clicking on the lines you wish to finalise. The lines you have selected will be highlighted.
- To reverse a choice click on the line again.
- If you want to choose all the transactions displayed, type control “a” (Windows)/ command “a” (Mac)
- Once you are satisfied with the records you've selected, click the OK button. (In fact, don't just be satisfied, be extra sure- you can't reverse a finalisation. It really is final).
- The transactions will be marked as “finalised” (status “fn”), and they may no longer be edited.

You will be given the opportunity to print the list of finalised invoices.

If you have specified the option in the Preferences, a text file called “cust_invoice_expt.txt” will be created on the disk (& in the folder) you have specified in the Preferences.

Each time you finalise a group of invoices, they are given an export batch. This is a unique number that allows you to recall those invoices.

Finalise supplier invoices... .

As for the *finalise customer invoices*.... section above, but for supplier invoices

The export file created is called “supp_invoice_expt.txt”

Finalise inventory adjustments...

You need to finalise inventory adjustments so that they can be purged from mSupply at a later date. Also, you will not be able to set the start of year stock at the beginning of the next financial year until all inventory adjustments have been finalised.

On choosing *item | finalise inventory adjustments ...* you will be shown a window displaying all the inventory adjustments that have not been finalised. Follow these steps:

- Hold down the control key (Windows) or command key (Macs) while clicking on the lines you wish to finalise. The lines you have selected will be highlighted.
- To reverse a choice click on the line again.
- If you want to choose all the transactions displayed, type control “a” (Windows)/ command “a” (Macs)
- Once you are happy with the records you've selected, click the OK button. (In fact, don't just be happy, be extra sure - you can't reverse a finalisation. It really is final).

The transactions will be marked as “finalised” (status “fn”), and they will no longer be able to be edited.

Moneyworks exports

If you are using “Moneyworks” accounting software, you can export invoices directly to Moneyworks.

If you have turned this option on in the Preferences, rather than exporting a text file to disk, mSupply will attempt to connect to Moneyworks, and directly send the invoice data to Moneyworks, where a debtor invoice is created for each invoice in mSupply. You can then use Moneyworks superb statement production (with full control over the form design) along with it's open item handling of debtor and creditor payments to take over the handling of payments and receipts. Contact info@sussol.net (mailto:info@sussol.net) if you would like more information.

Finalising. Note that if “export invoices when finalising” is turned on in the Preferences, invoices that have been finalised but not yet given an export batch will also be included in the list. If any such invoices exist you will be alerted to the fact. A text file called “supplier_invoice_expt.txt” will be created at the location you have specified in the Preferences.

Note: if you are using mSupply in Client/Server mode, exports will be sent to the “export” folder located in the same folder as the 4D client application.

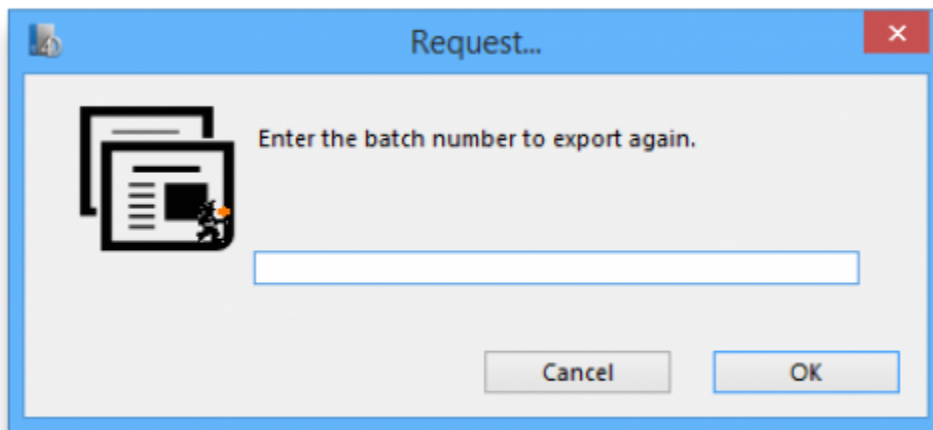
Finalise builds...

You need to finalise builds so that they can be purged from mSupply at a later date, or to disallow any further editing of particular builds. Also, you will not be able to set the start of year stock at the beginning of the next financial year until all builds are finalised.

See the sections above for the details of how to finalise transactions. The process is just the same for builds.

Export a batch again...

Choosing this item presents you with a window where you can choose a batch number to export again:



Invoice batch numbers are shown on the right hand side of invoice lists.

Previous: Field descriptions Next: Managing data files

Managing data files

Creating a New Data File

This command will present you with a standard open/save window where you can choose the name and location of a new data file: If you click the OK button, mSupply will close the data file currently in use (saving any changes made automatically), and then open the new data file. The new data file will contain no items, names or transactions. You can either enter these manually or use the import commands (see later in this chapter) to import items, names and stock.

Open an existing data file

This command will present you with a standard open/save window where you can select an existing data file to open. If you click the OK button after successfully selecting a valid mSupply data file, mSupply will close the data file currently in use (saving any changes made automatically), and then open the new data file. Note that if you regularly use more than one data file, use the "About mSupply..." Command from the help menu (mSupply menu on Macintosh), where the data file currently in use is displayed. Warning:: Do not try to open the same data file from 2 or more single user copies of mSupply at the same time. You will corrupt your data. If you require multi-user access, buy a multi-user licence!

Previous: Finalising transactions Next: mSupply Client/Server installation

mSupply client/server installation

Recommend Hardware

The following table lists recommended hardware for an mSupply server

Item	Recommendation
OS (Operating System)	Windows 2008 / 2011 / 2012 or Win 7 / 8 / 10 prof with latest service packs
Processor	Dual core Xeon or equivalent. For greater than 15 users: Quad core Xeon
Memory	ECC memory Minmum 4Gb +1Gb per user over 8 users.
Hard disks	3 Hard drives to run RAID 1 (or 5) Array + Hot Spare. 1 separate Hard disk for primary back up
Network card	Single Gigabit
RAID controller	RAID 1: Onboard RAID controller is fine
Power supply	Dual hot-swap power supply is best, single power supply acceptable with good power quality

Indicative pricing before local taxes: USD3000 to USD5000

For a Terminal server, the general specification changes in that

- More RAM is needed.
- Hard disks are less important, as no data is stored on the server (unless you are using the same server for both hosting the mSupply server and hosting the terminal sessions).

Item	Recommendation
OS (Operating System)	Windows 2008 / 2011 / 2012 or Win 7 / 8 / 10 prof with latest service packs
Processor	Dual core Xeon or equivalent. For greater than 15 users: Quad core Xeon
Memory	ECC memory 8Gb plus 1Gb per connected user
Hard disks	3 or 4 SATA or SAS disks. RAID 1 or 5 with hot spare
Network card	at least one Gigabit
RAID controller	RAID 1 plus Hot spare, or RAID 5 with hot spare
Power supply	Dual hot-swap power supply is best, single power supply acceptable with good power quality

Indicative pricing before local taxes: USD3000 to USD5000

Installation pre-checks

If you are upgrading from a previous version...

- If you are upgrading from a previous version of mSupply, first perform a data backup. With mSupply server open as an application click on **File> Backup....** This will generate a backup file of your current data with file extension .4bk.
- Copy this file to *at least one* safe place, e.g. USB drive, a cloud service such as Dropbox.

- Continue only when the .4bk file has completed transfer to the remote location.

There was a major upgrade of mSupply's internal structure in v3.50. If you are upgrading from a pre v3.50 installation of mSupply, Sustainable Solutions will need to convert your data so that it can be read by mSupply versions after v3.50. This conversion process is provided free of charge.

UPS (Interruptible power supply)

Unless you have very reliable power we suggest you install a UPS with external batteries that will provide several hours run time

- External battery
- External battery voltage: 12 to 36 volts
- e.g. Eaton EDX1000HXL model or K-Star 36V models
- The UPS must be able to communicate with the server (usually with a USB cable) to initiate a shutdown and run a batch file in advance of shutdown. This is usually achieved with a serial or USB cable.

Installer files and privileges

- Log in with administrator privileges to the computer on which mSupply will be installed.
- Copy the relevant installer file(s) to the desktop. Installer file(s) may be an upgrade or a full installer.

Installing mSupply server

If you are using the client/server version of mSupply you will be supplied with 2 installers:

- One installer, with the word `server` in the title, is used to install the server software on a single server computer.
- The other installer, with the word `client` in the title, is used to install the client software on as many computers as you wish.

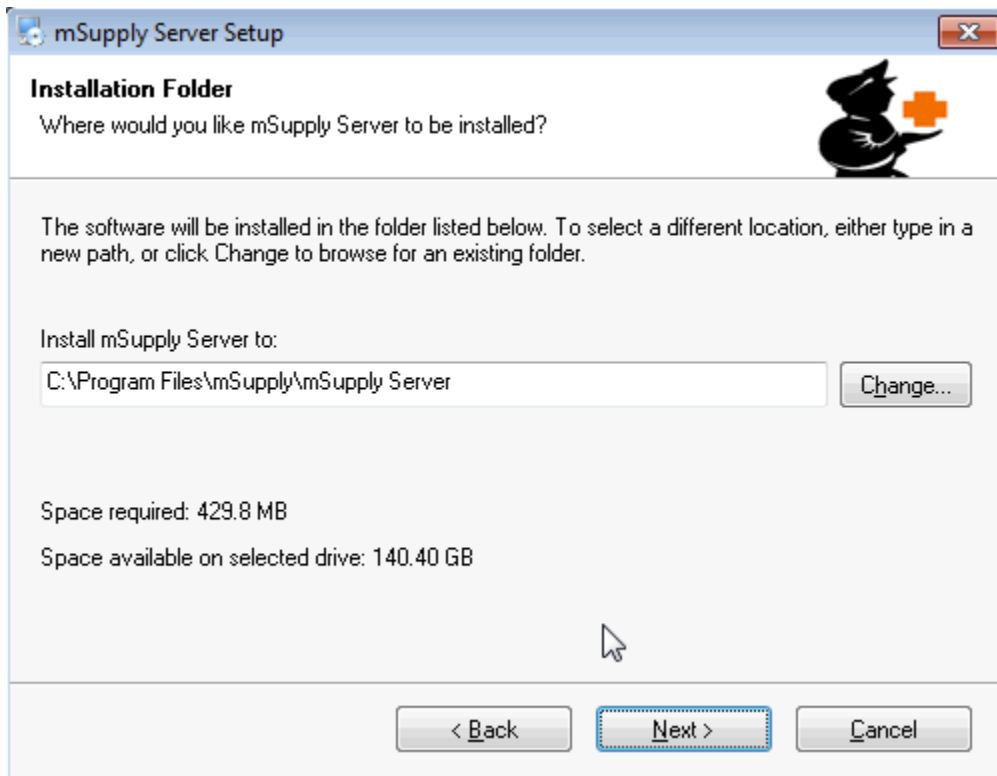
You will be limited in how many clients can connect at any one time by the server licence you have purchased.

The installers are available in two formats: downloaded or on CD. To run the installers do the following:

- From CD: Insert the mSupply CD, open Windows Explorer and double-click the installer file on the CD that you wish to run.
- From download: Locate the downloaded file and double click it to install.

You must be logged on as administrator to install mSupply with the correct permissions. Please consult your IT support staff if you require assistance to achieve this.

Run the installer



- You may be prompted to make the program available for all users, or just you (the admin user). If you do see this choice, **do not select all users!**
- The mSupply server should run as a service on the server computer - see below. If any user needs to use mSupply on the server (not recommended, but possible, and sometimes necessary) then they should **not** be running the mSupply *server* software. They should run the mSupply *client* software, which should be made available to all user accounts.

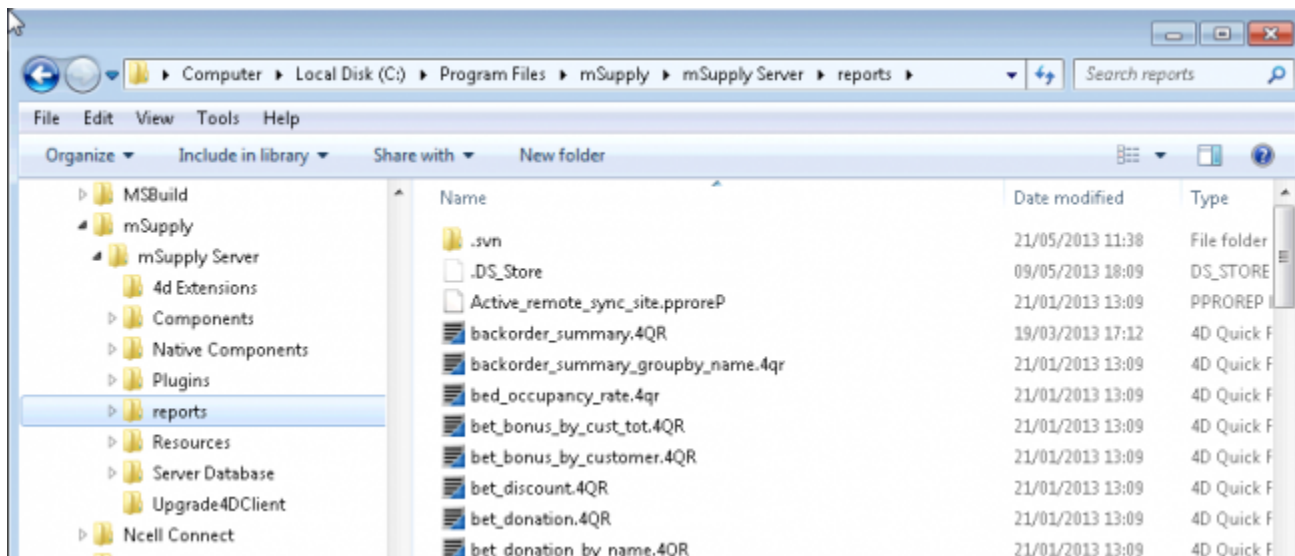
What is installed where:

We strongly recommend you do not change the default installation directories, which are as follows:

- mSupply Server: C:\Program files\mSupply\mSupply Server
- mSupply Client: C:\mSupply Client

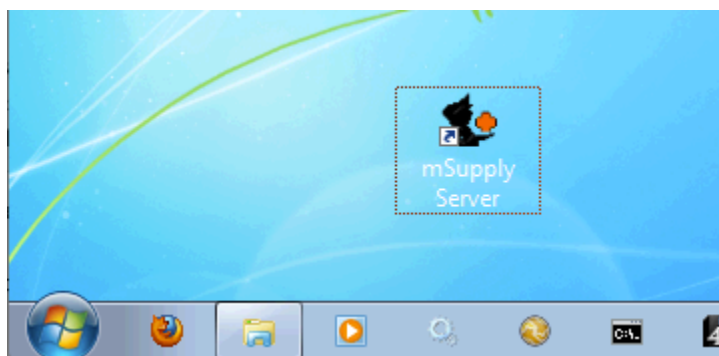
mSupply server installer also installs the following files and folders:

A folder called “report” containing mSupply reports. This folder may be used to apply customised reports.

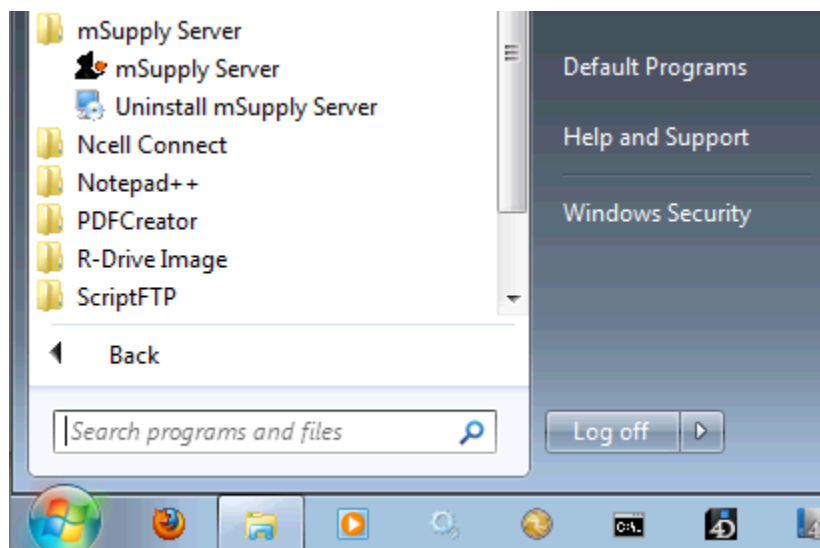


Starting the Server for the first time

The first time you start the server, double-click the “Start mSupply Server” icon on the desktop

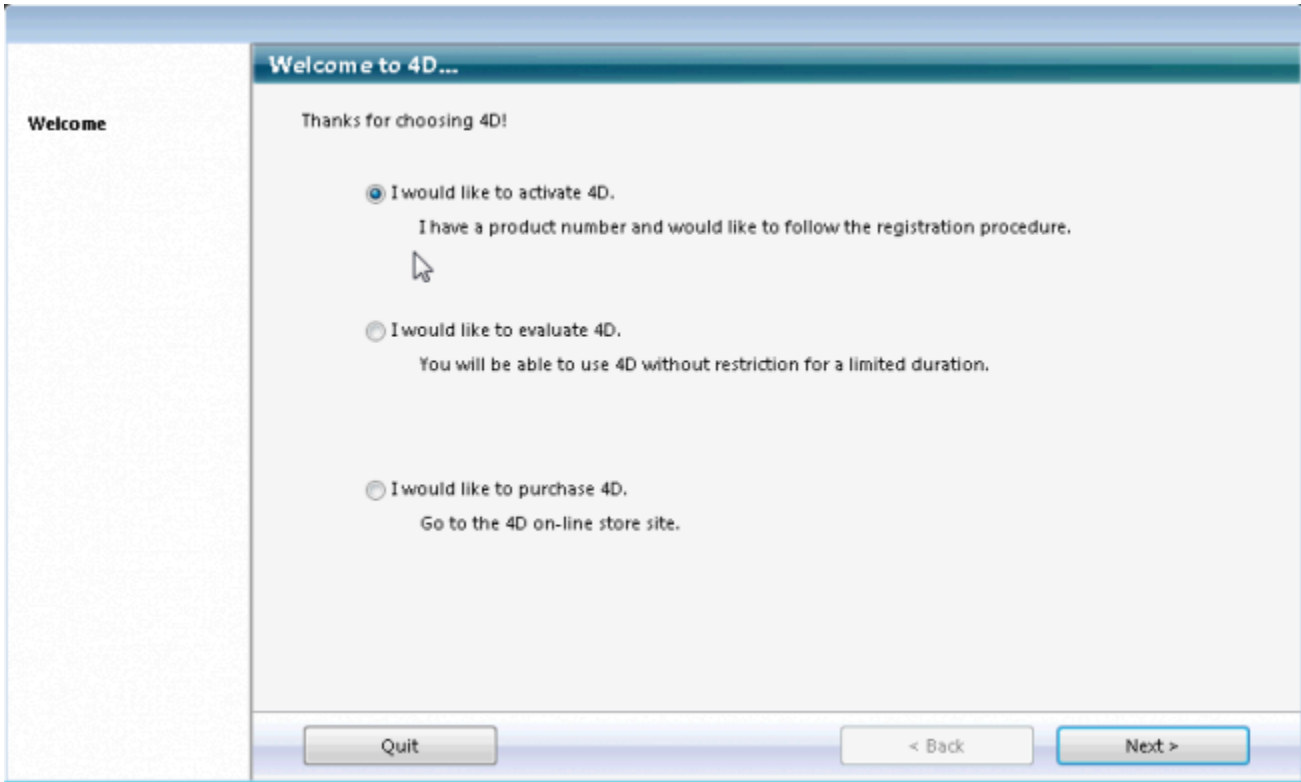


You can also start the server by choosing Start > mSupply Server > mSupply Server

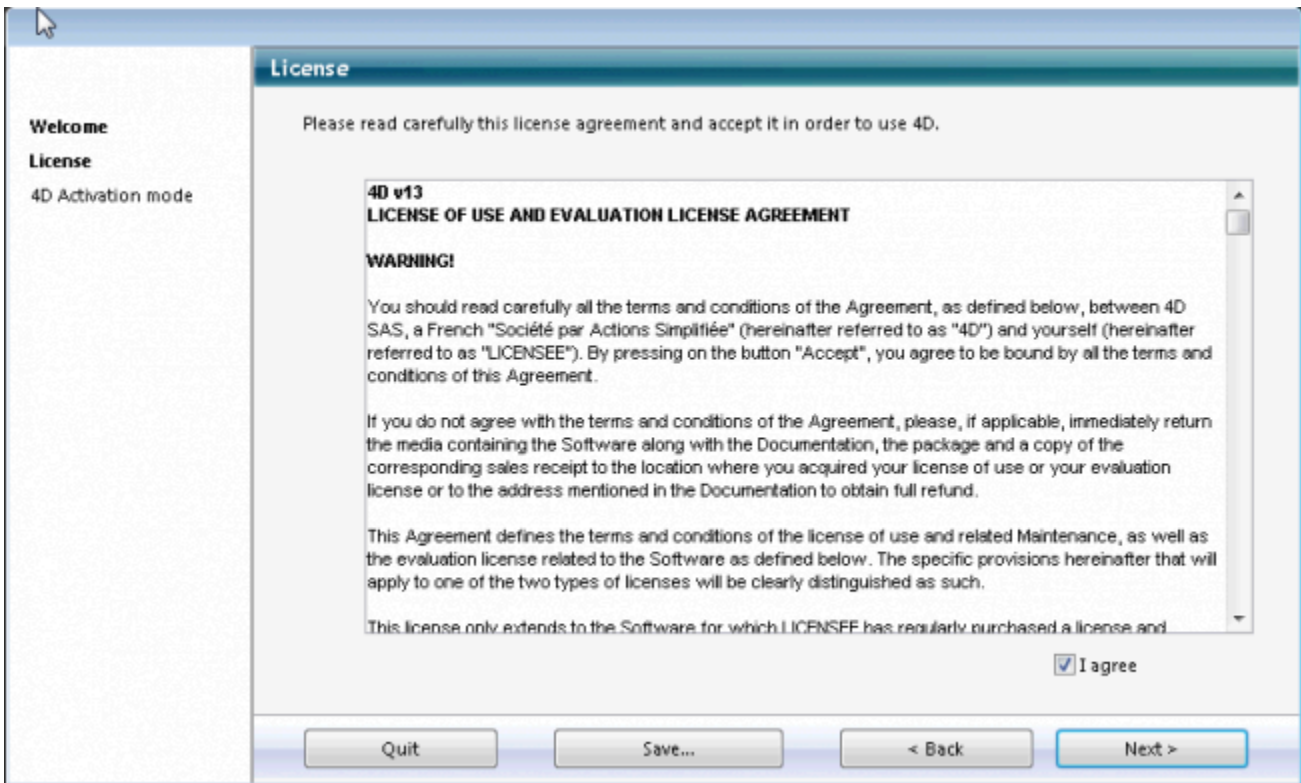


You will be shown a welcome window where you should choose the “I would like to activate 4th Dimension” radio button.

Then click “Next”

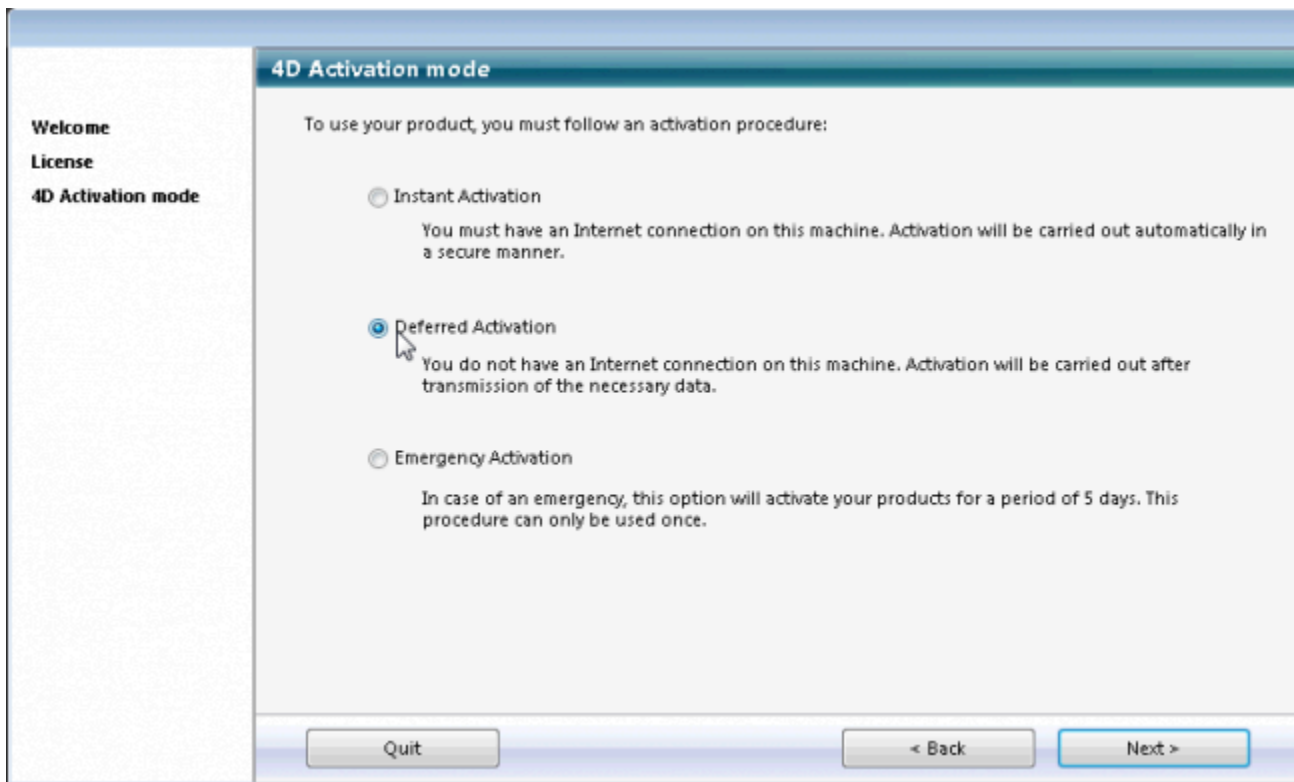


In the next window you should read the agreement. Click on the “I agree” check box, and then on the “Next” button“



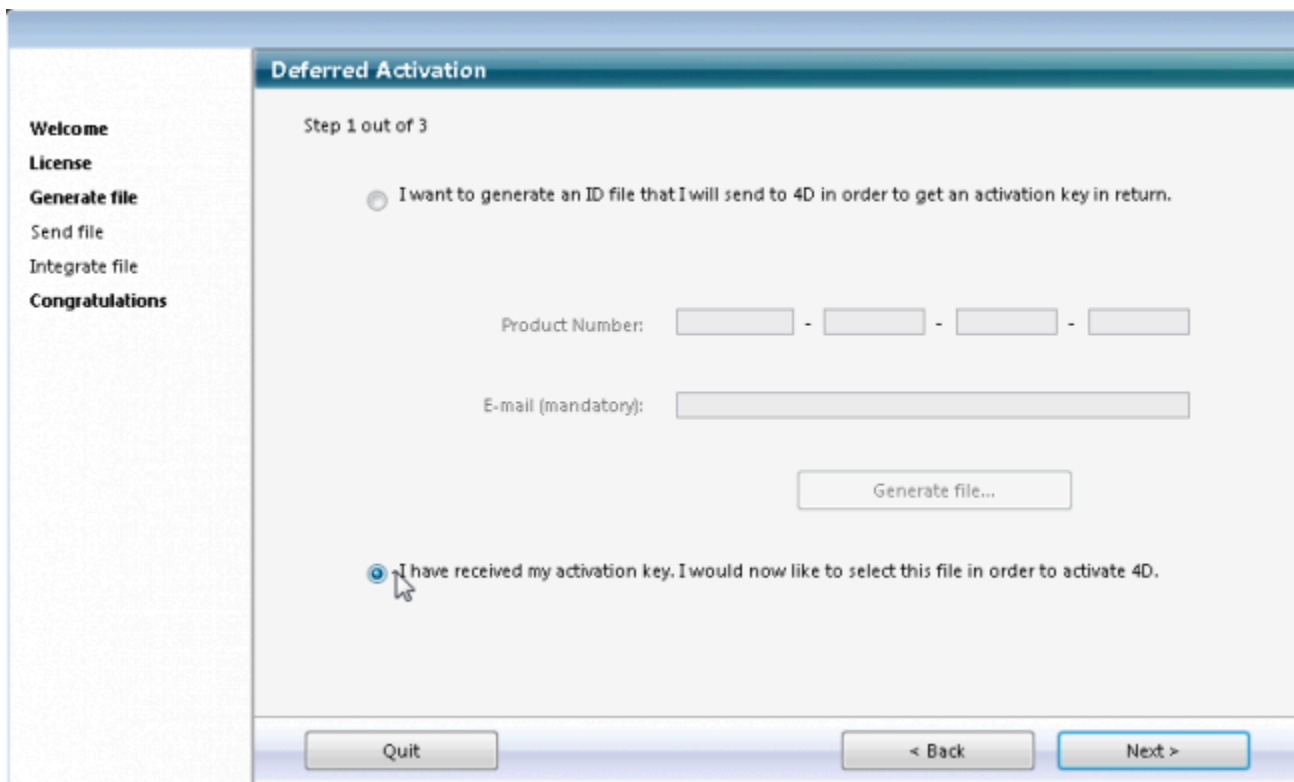
Then the activation mode window is shown.

Choose “Deferred Activation” then click “Next”



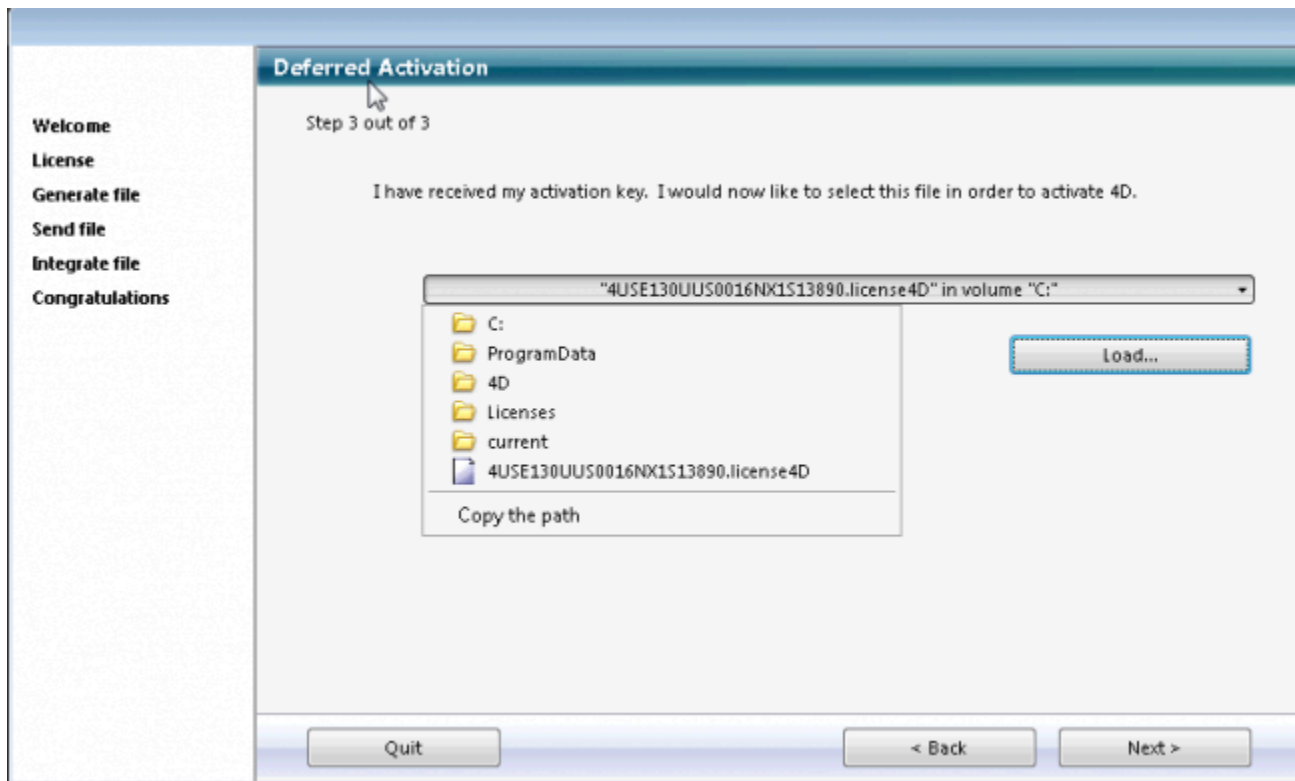
You will then be shown the window to generate a file.

Do not enter information here. Just click on the **I have received my activation key. I would like to select this file in order to activate 4D** radio button, and then click the “Next” button.

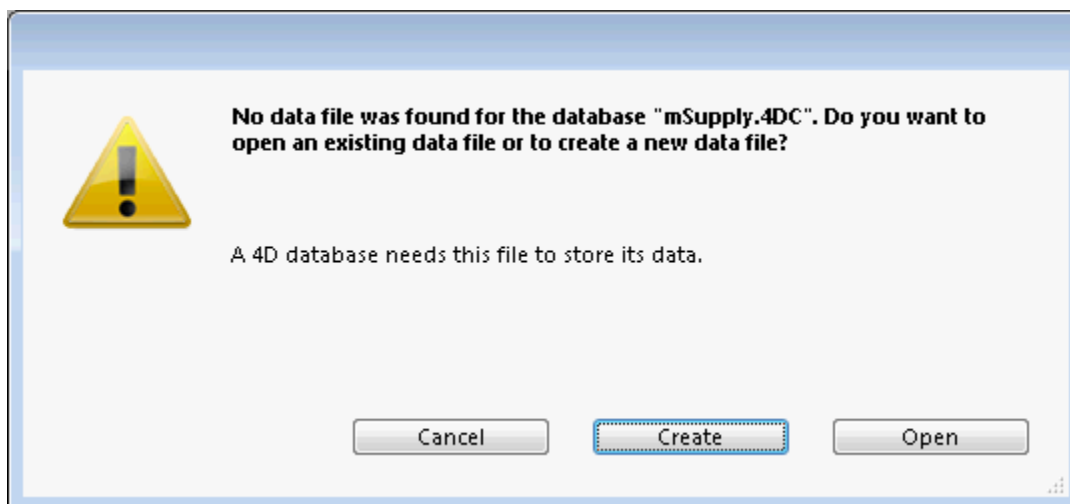


Click the “Choose File” button and choose the file sent to you by Sustainable Solutions.

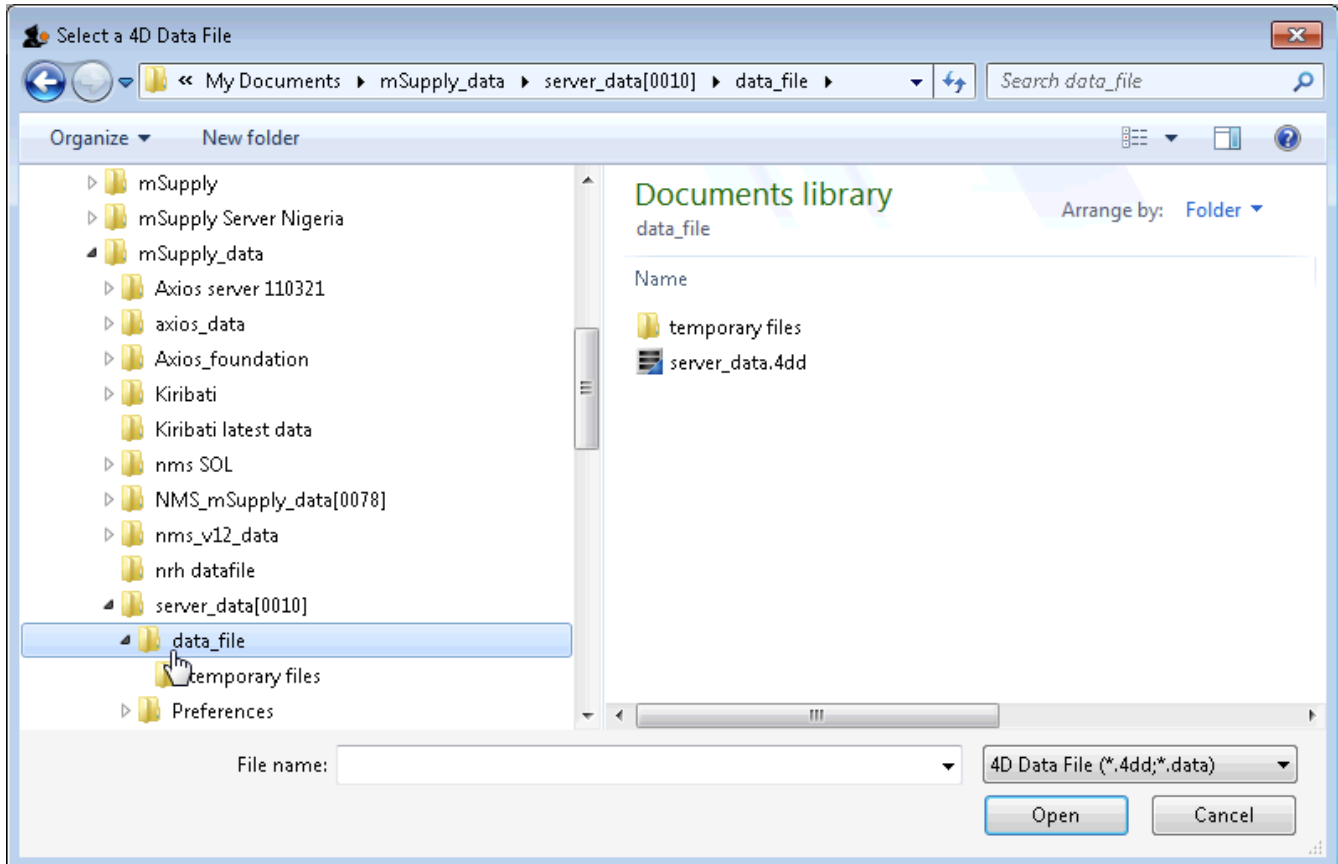
Once you have chosen the file, it will show in the box in the window:



Then click the “Next” button and at the final screen click button **Go to 4D**. The next window states that a data file is required to run mSupply

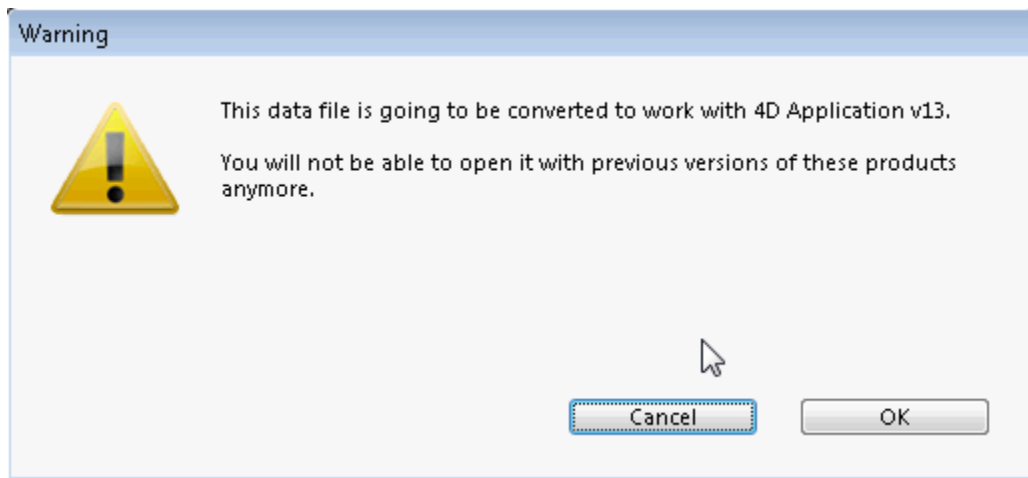


Click button **Open** and choose or create a new data file. The below image shows an existing data file.

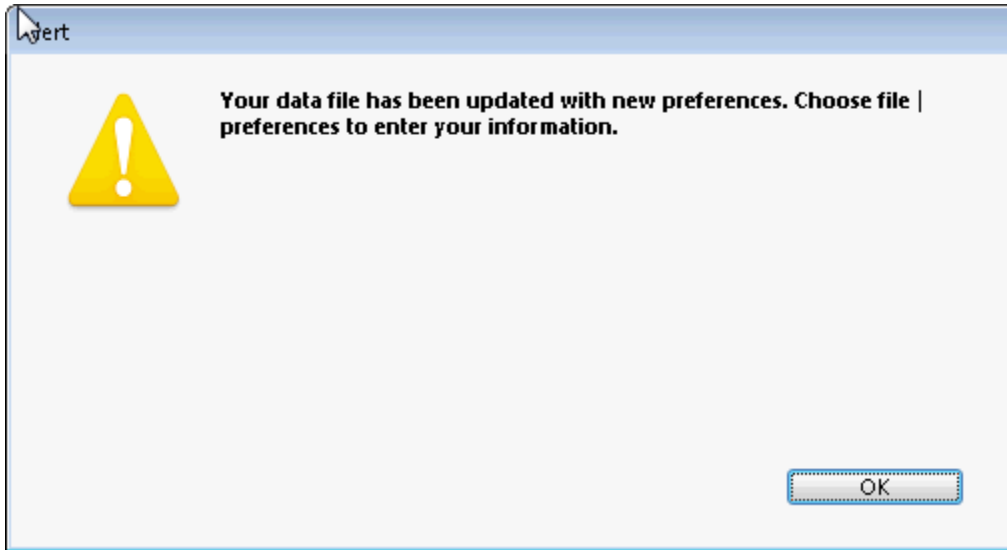


If you create a new data file we suggest you create a folder called “mSupply data” inside your “My Documents” folder. You can create the data file anywhere you like, but make sure you have read/write access to the directory or there will be problems.

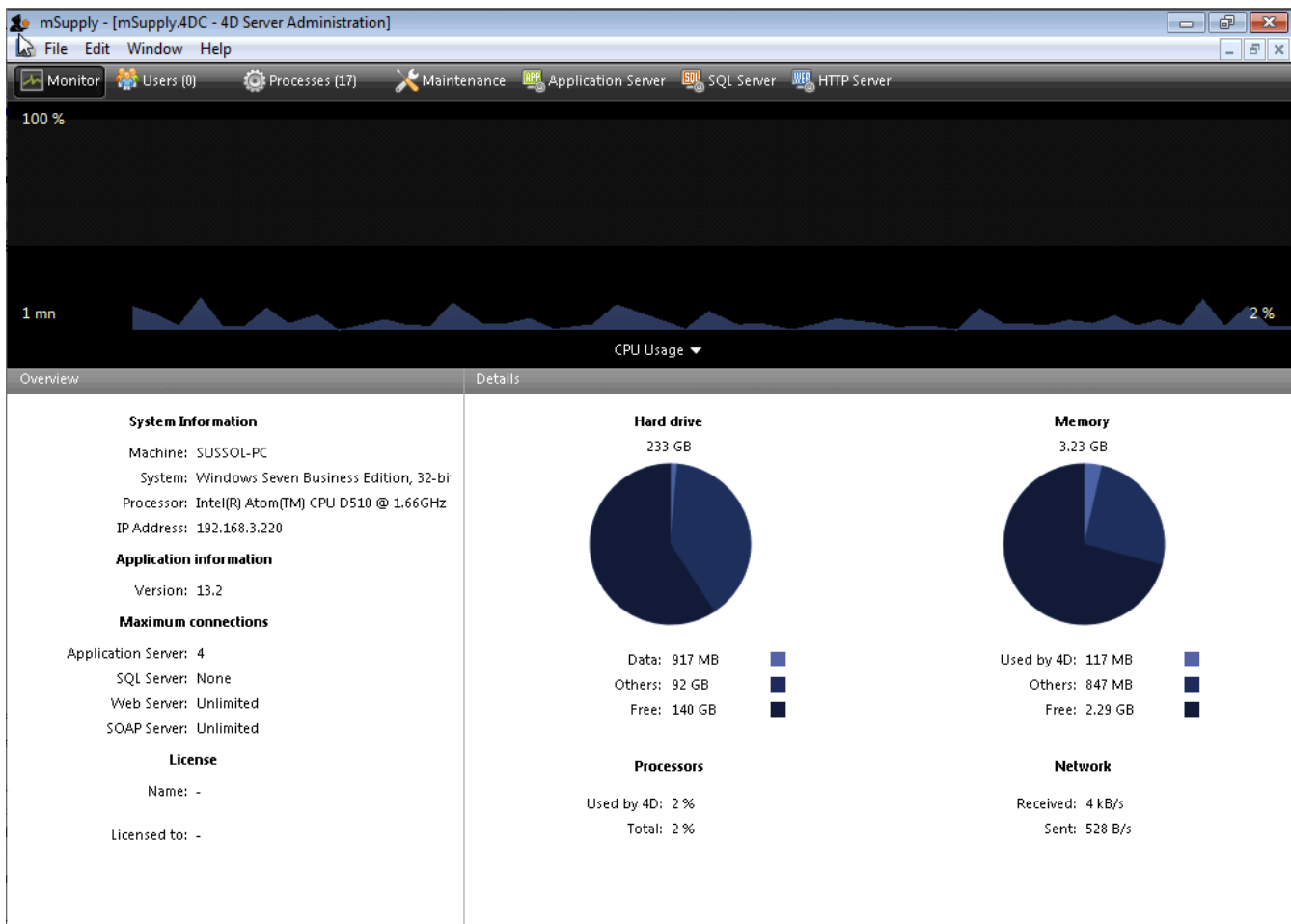
Once you have clicked the *Save* or *Open* button you may be shown a window like the one below, simply click convert and wait for the data file to be updated to work with the latest version of mSupply.



Then you will be shown a message stating that your data file has been updated with new Preferences.



You will have to connect with the client software to configure the Preferences for mSupply and to enter the mSupply registration number. You will then be shown the 4D server admin interface:



Congratulations!

If you get a Windows Security alert

If you are running Windows XP with SP2 or later installed you may get this alert:



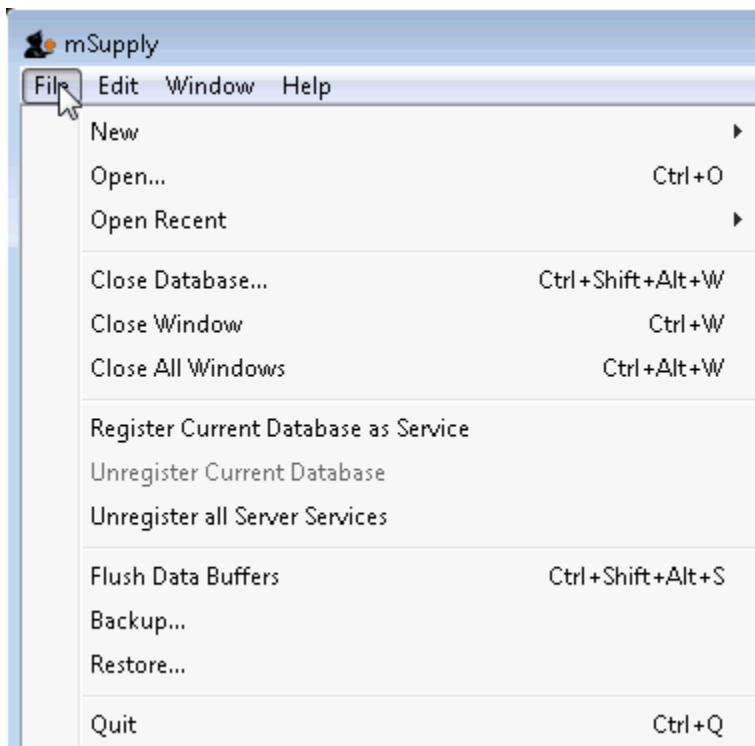
Make sure you click the *Unblock* button or the server will not function properly.

About the backup scheduler window

The new version based on 4D 2004 server has an integrated backup scheduler. Please request detailed documentation from Sustainable Solutions regarding its use.

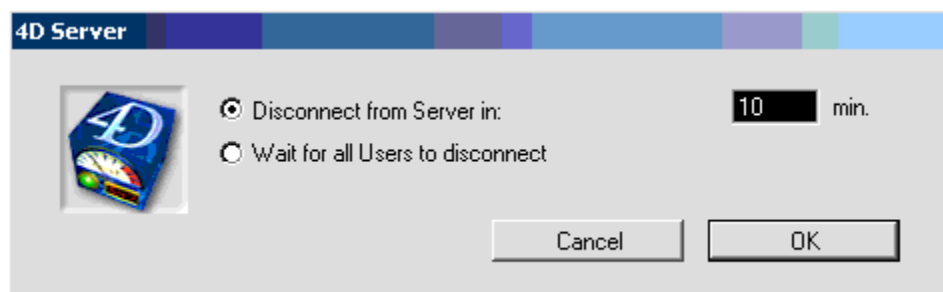
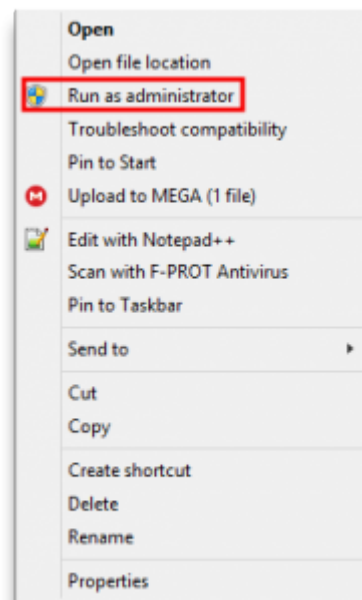
Setting the server to run as a service on Windows

The server should now be set to start automatically when the machine is turned on. This can be accomplished by setting the server to run as a service. Choose File > Register Current Database as Service.



If the option is greyed out you need to quit the server and choose run as administrator.

Quit the Server admin window by clicking the close box on the top right (or choose File > Quit from the menus). You will then be shown a disconnect window:

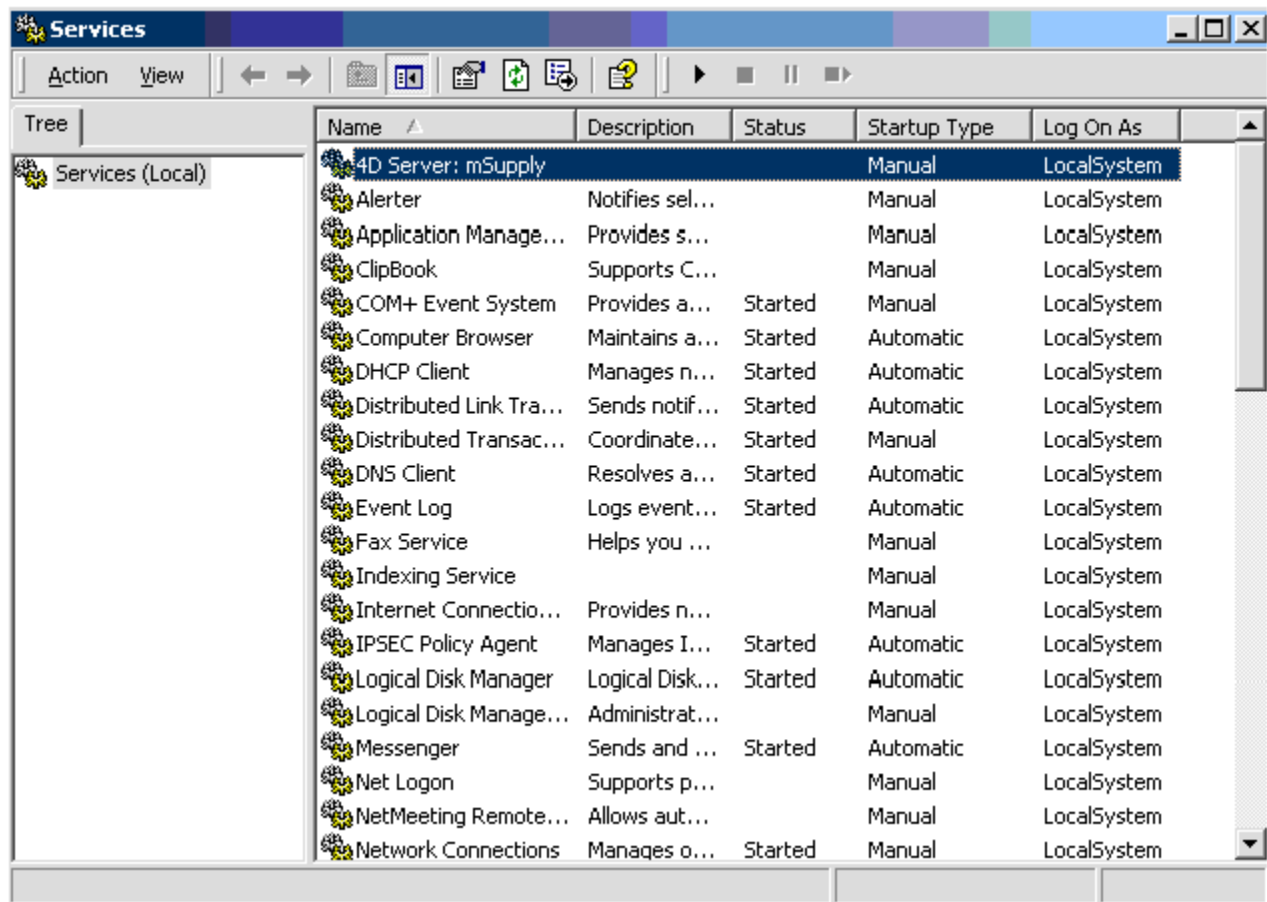


Type "0" into the box, and click *OK* . The server will quit.

Now open the services administrative interface by choosing *Start > (Settings) > Control Panel > Administrative Tools > Services* .

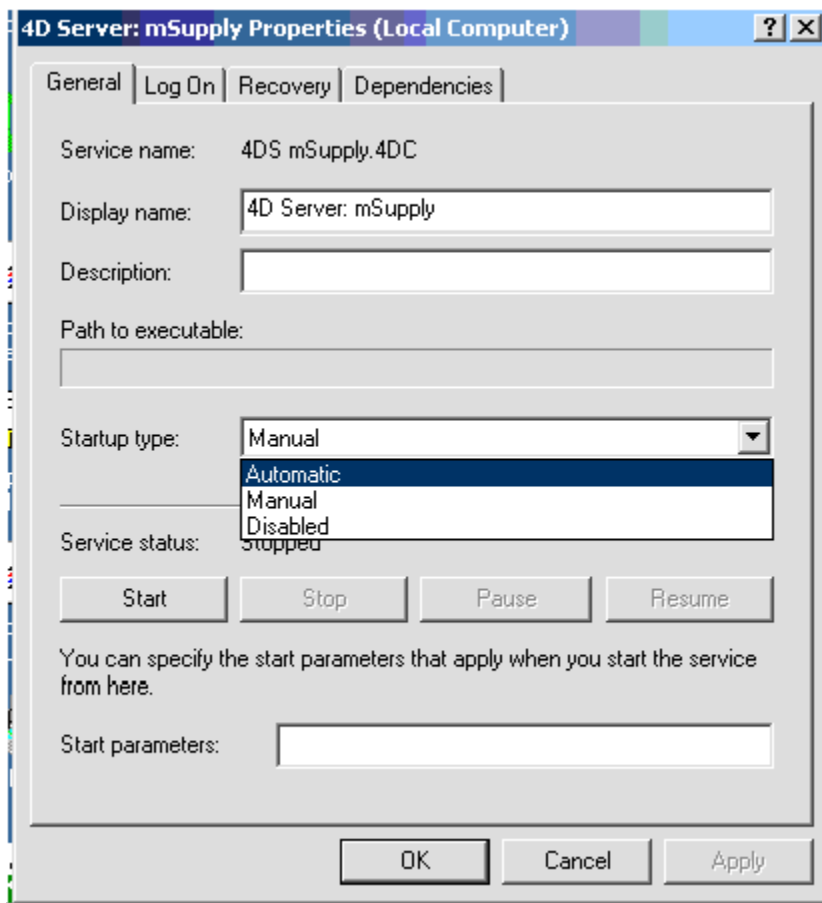
Right-click on the *Services* icon and choose *Send to > Desktop (as shortcut)*. This will provide quick access this area in the future.

Double-click on *Services* in the list. You will be shown this window.

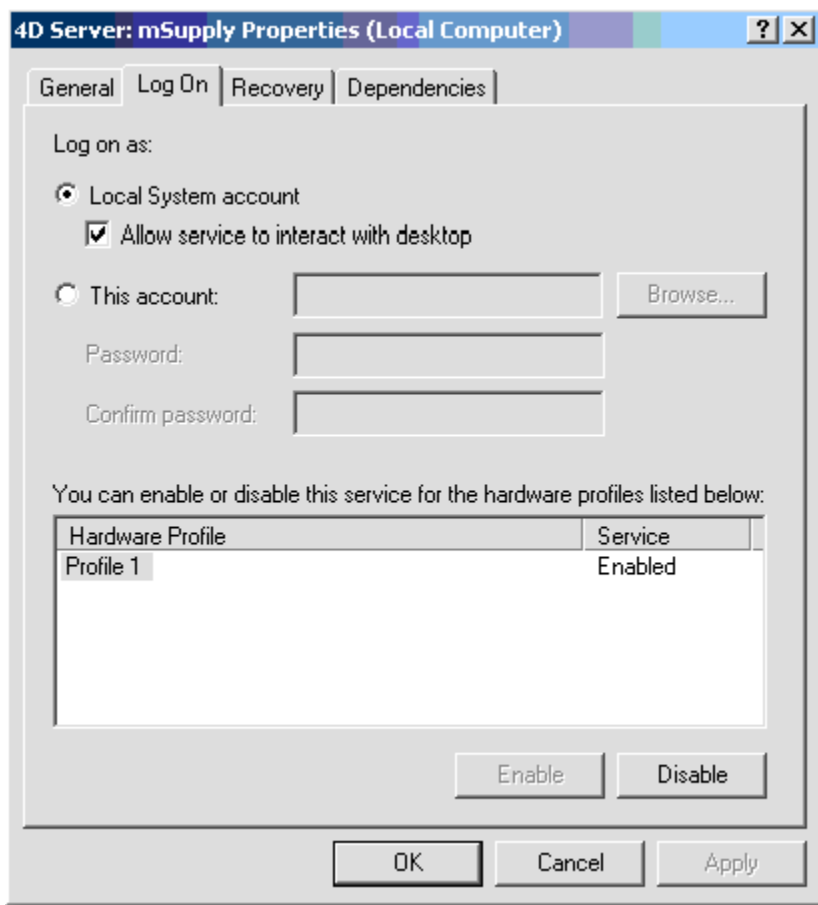


Double-click on *4DServer:mSupply* - fortunately it is usually the first item in the list!

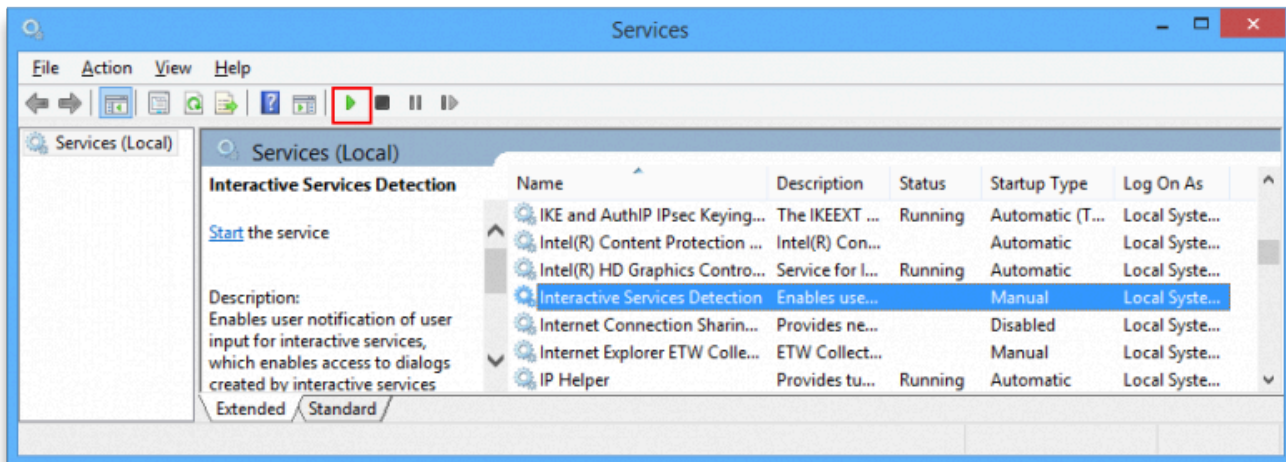
You will be shown the 4D service properties window. Change the *Startup type* in the drop-down list to *automatic* .



On the "Log On" tab, the settings should be shown below:



- Make sure “Log on as” is set to “local system account”
- Make sure “Allow service to interact with desktop” is checked.
- You can now start the service by clicking the little *play* button (right facing triangle) on the toolbar with the 4D service highlighted.
- Click OK to return to the list of services.



Scroll down the list of services until you see Interactive Services Detection. Double click this and then change “Manual” to “Automatic”. Then click on the Log on tab and tick the box, “Allow service to interact with desktop” Click OK at the bottom of the window and then click the Start Service button (see the button in the red box above). At this point the status should start reporting either “started” or “running”. Click the red X to close the box.

If clicking the Start Service button results in an error a registry edit is necessary. Please only do this if you are confident and familiar with editing the registry. mSupply Support can help with this. Edit registry value:

```
Hive: HKLM
Path: SYSTEM\CurrentControlSet\Control\Windows
DWORD: NoInteractiveServices
```

Change value “1” to “0”

Once finished editing the registry. Return to the list of services and start the ISD service. It should now start!

From now on the 4D server will start automatically when the machine is turned on. There is no need to log-on to the machine.

On the desktop, we suggest you delete the *Start mSupply server* shortcut, as this will not start the 4D server as a service, and should not be used.

Should you need to manually stop and start the server in future:

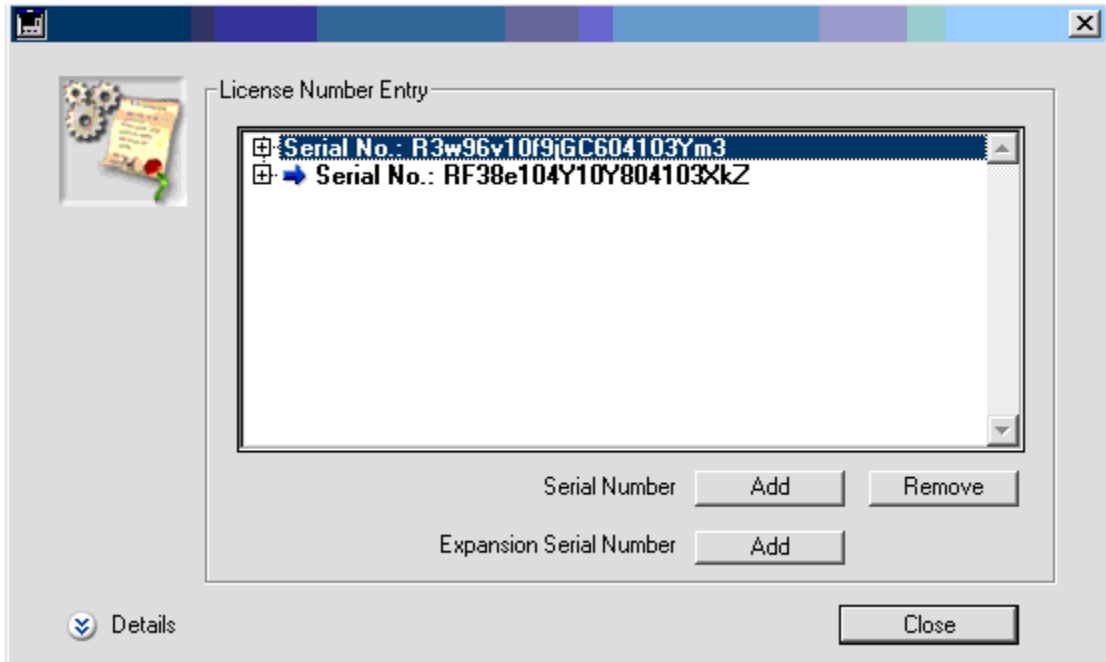
- To start, double-click the “Services” shortcut you made on the desktop, highlight the 4D server service, and click the “start” button (looks like a “Play” button on a VCR)
- To stop the server, make sure clients are not connected, then choose File > Quit on the server.

Next steps: install mSupply client then register mSupply.

Entering Extra 4D serial numbers

When you registered 4D server the licence allowed 2 concurrent connections. If you have purchased extra connections, you should enter the serial number(s) now.

Choose *Help > Update licence*. This window is shown:



Click the *Add* button to enter additional licences.

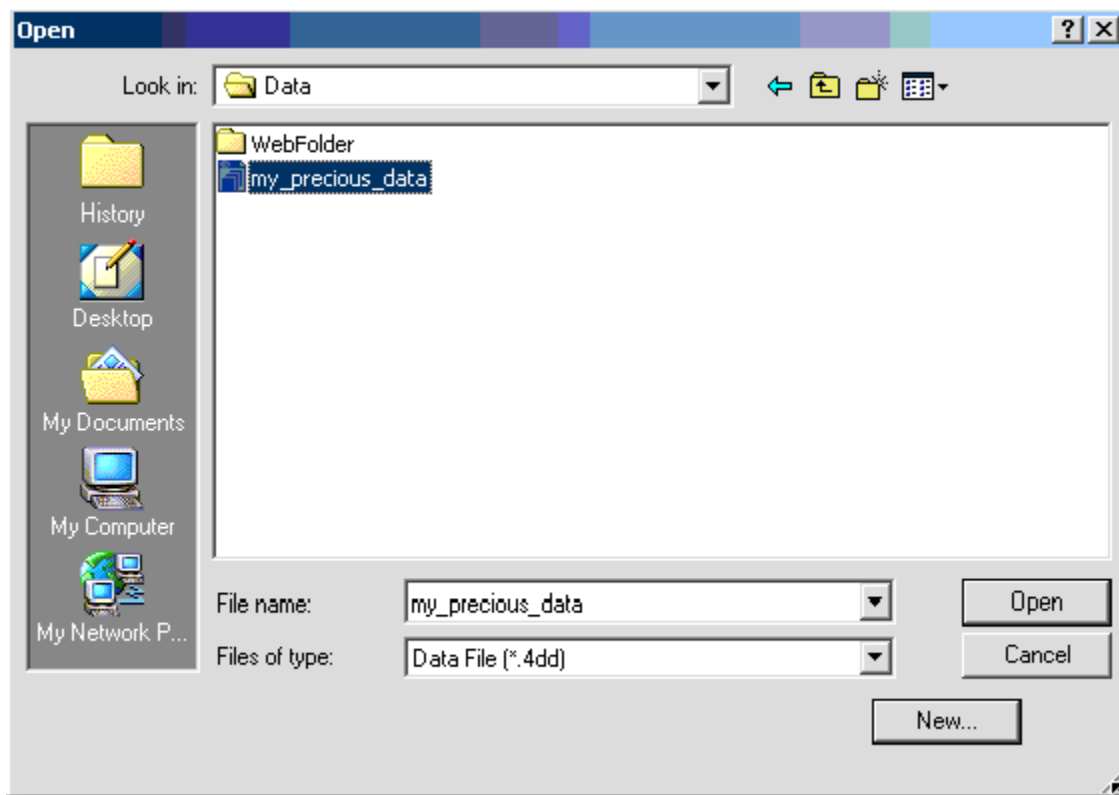
Creating a new data file or choosing a different data file

From this point there should be no need to revisit any of the about procedures to operate mSupply. However, if you are testing, or starting a data file for a second organisation, you may wish either to change the data file mSupply is using or to create a new file.

The mSupply program (the files named “mSupply.4DC” and “mSupply.RSR”) store the path to the last data file used, and the next time mSupply is started, the previous data file that was open is opened again unless there is user intervention or the “old” data file has been moved to a new location.

To intervene, hold down the “alt” key as the 4D server starts up.

You will be shown the standard open/save window:

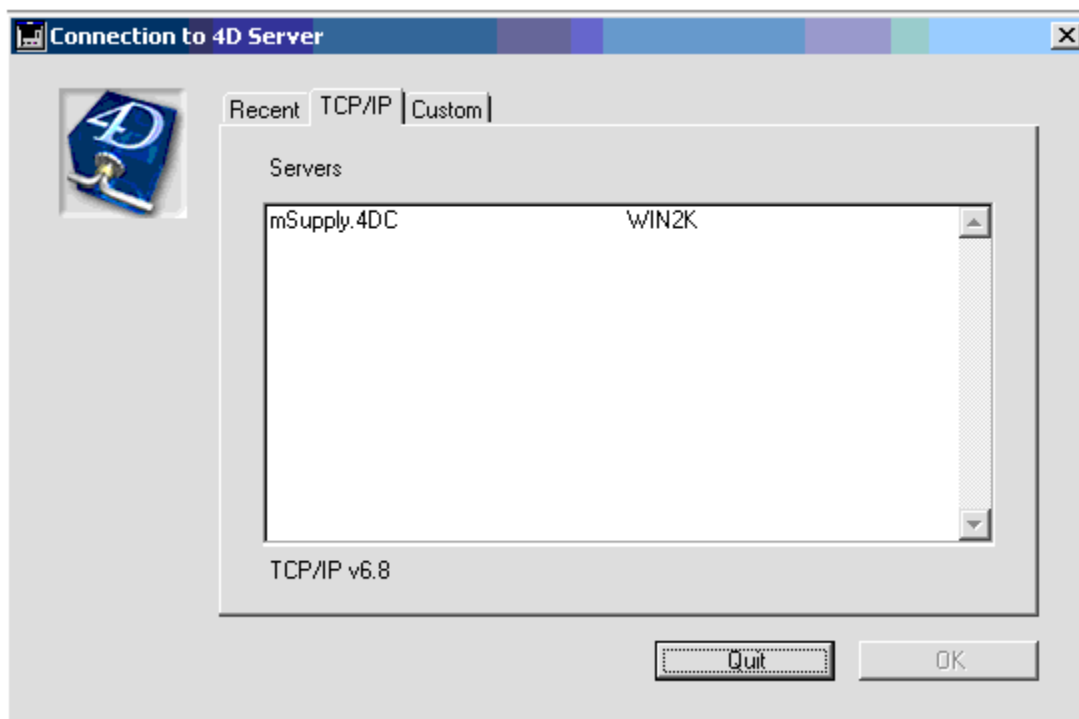


To create a new data file, click the “New” button.

To select an existing data file, navigate to the file's location then click the “Open” button.

Installing mSupply Client

To run the installer, insert the mSupply CD, open Windows Explorer and double-click the mSupply_client_installer.exe file on the CD. Once the installation is completed, double-click the “start mSupply Client” shortcut on your desktop. The following window will appear:



The window lists available mSupply servers on your network. Click on the server you wish to connect to. Once you have connected successfully, the “Recent” tab will be shown first, and you can choose the server there. If for some reason network settings have been changed, and you cannot connect from the “Recent” tab, remember to look at the “TCP/IP” tab as well.

Clicking the “OK” button will take you to the mSupply password entry window. For new data files, the password is “user1” for the first user in the list. Click on the first user, then enter the password and click “OK”

Firewalls and the like

To make it easy for you to connect, mSupply publishes details about available servers on a specific port. It is quite possible that products such as “Zone Alarm” and “Norton Personal Firewall” will block access to this port and stop discovery of the servers. Contact your system administrator if the list of available servers is blank.

Registering mSupply

The procedure is described earlier in “Preferences” chapter of the mSupply manual. See The Register button

You will either have to phone or email the information to Sustainable Solutions to obtain a registration code.

Note that the code is keyed to your organisation name and the MAC address of the server. Changing either of these will require a new code, which we shall willingly provide.

Configuring mSupply

Once registered, you may want to systematically go through the mSupply Preferences and choose appropriate settings.

Saving your data file

At this point you should have a “clean” data file that is registered and is set up ready to use, but does not have other data in it.

mSupply client installer also installs the following files and folders:

- A folder called “\4D\Network” in the Windows folder on the startup volume, which contains network component files that need to be present for 4D to communicate over a TCP (and other types of) network(s).
- Note that no reports are installed on 4D client. Each time 4D client connects to the Server, reports that have been added or modified on the server are automatically copied to the client.
- Note that the installers have been set up to overwrite existing files, so reinstalling the software will restore any potentially corrupted files to their original state. The installer will not overwrite your data files, unless you have been wise enough to name your data file “example data” and put it in the “example data” folder.

Upgrading to a newer version of mSupply

User Access Control, a feature of Windows 7, requires that the undernoted steps are followed when you are upgrading mSupply

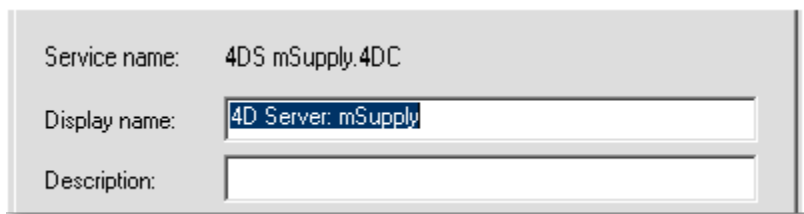
1. In Windows 7 click **Start Menu > Control Panel > User Accounts**
2. Click 'Change User Account Control Settings'
3. In the window that appears move the slider to the bottom and hit OK
4. You will be requested to restart the computer - do so(!)
5. If you copied the files already (which won't work as the pseudo copy occurs) these copied files should now automatically work

Graceful shutdown in the event of a power failure

Your mSupply server should be attached to a UPS. The UPS should be fitted with a control cable (serial, USB or network cable) that allows control software to detect a low power situation and shut down the server.

In the UPS control software set the shutdown to start at least two minutes before the power will fail.

Set it to run a batch file at that point. The file should contain the single line “net stop Service name” where the service name is the name displayed in the properties when you double-click the service name in the services window. In the example below the service name is “4DS mSupply.4DC” (not to be confused with the display name)



You may wish to test your typing skills by opening a command prompt:


```

C:\WINNT\System32\cmd.exe
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Microsoft Corp.

C:\>net stop "4DS mSupply.4DC"
The 4D Server: mSupply service is stopping...
The 4D Server: mSupply service was stopped successfully.

C:\>

```

Accessing a cloud hosted server

Access to a cloud hosted mSupply server is through the Windows Remote Desktop Protocol (https://en.wikipedia.org/wiki/Remote_Desktop_Protocol).

Windows client

If the mSupply client software is running on a PC, there are a range of applications that can be used for accessing the cloud hosted mSupply server including Microsoft's own Remote Desktop Connection software (<https://support.microsoft.com/en-us/help/17463/windows-7-connect-to-another-computer-remote-desktop-connection>) that comes included with Microsoft Windows. There are third party implementations that provide additional security and controls. One that we are currently (2016) finding effective is TS-Plus (<http://www.tsplus.net/>).

Macintosh Client

Access to the the Microsoft Remote Desktop App is available on the Apple Store: <https://itunes.apple.com/en/app/microsoft-remote-desktop/id715768417?mt=12> (<https://itunes.apple.com/en/app/microsoft-remote-desktop/id715768417?mt=12>)

- The Display Name is the name that will appear on your computer. We suggest you make it: mSupply Remote Access
- The Computer Name is the name of the domain name of the mSupply server computer that you are connecting to.

Previous: Managing Data Files Next: Configure Dispensary mode

mSupply dispensary installation

mSupply provides a fully featured Pharmacy Dispensary module. The following steps describe how to configure mSupply for Dispensary use. This document specifically applies to Pharmacy Dispensary staff.

Users

- Set up users to log in in dispensary mode

Permissions

Misc

- Show direction entry: checked
- Item codes must be unique: checked
- Service items: can be set to “allowed” if recording non-stock charges- like a dispensing fee.
- Show direction entry: checked

Invoices 2

- Allow placeholder lines: checked

Handling stock on hand

You may want to consider setting stock to a very large number for each item. This will mean that stock is effectively ignored. Experience tells us it is very (very) hard to accurately track stock in a busy dispensary, and most likely unnecessary if you are tracking issues to the dispensary from another virtual store.

Per store preferences

Preferences in the dispensing store

Go to Special > Stores > Double-click the dispensary store and set these preferences (and maybe others)

- Patients created in this store not visible in other stores: checked
- Names created in this store not visible in other stores: checked (may vary depending on situation)
- Your training will have to take into account the setting for stock transfers that you choose here.

Pack to one

As dispensing is invariably in multiples of single tablets etc, you will want incoming stock converted to packs of one. You can do this on a per-item basis, but the better way is to go to Special > Stores > Double-click the store you're logged in to, and you'll see a **visibility** tab. On that tab click “Set pack to one for all visible items in this store”

If your dispensary store is hosted on a Sync Satellite, then you will not see the Visibility tab. These settings need to be done while logged in to the Sync Primary.

Abbreviations

Choosing a set of abbreviations should be a collaborative activity with staff. Note you can import abbreviations

If more than one language is used, you might want to make the same abbreviation with a suffix for the less common language. eg

Abbreviation	Expansion	Comment
tid	dinko tin palta	In your common local language (in this case Nepali)
tide	three times a day	add a suffix "e" to the same abbreviation when using for the English expansion

Latin abbreviations are universal

Abbreviation	Expansion
od	once a day
bd (or bid)	twice a day
tid	three times a day
qid	four times a day
hs	at bedtime
nocte	at night
pr	in the rectum
po	orally (by mouth)
pv	into the vagina
q4h	every four hours
q6h	every six hours

It is important to be consistent with choosing abbreviations so people can remember them. e.g.

Abbreviation	Expansion
1t	Take one tablet
2t	Take two tablets
3t	Take three tablets
ht	Take half a tablet
1c	Take one capsule
2c	Take two capsules
wtf	with tasty food

Users should be trained that you can mix abbreviations and normal text- wherever an abbreviation is encountered it will be expanded. It is important not to make an abbreviation that is a normal word in the language, else the expansion will happen when the word is typed.

Item abbreviation shortcuts

This is important. See here The aim should be that every common item has all common directions saved as a shortcut. Pay attention to having the most common shortcut at the top of the list.

Patients

In a dispensary, your customers are the patients. Their details need to be recorded. This can be done prior to implementing dispensing through importing of patients - refer Patients. In many cases, you will find that there is no accessible database of patient names and that you will need to enter patients 'on-the-fly'. A *New Patient* button is on the *Prescription entry* window for this purpose. This will slow down the dispensing process, but over time, as more and more prescriptions are for 'existing' patients (e.g. for inpatients and chronic patients), this will become less of an issue.

Patient Code

Each new patient requires a patient code. This patient code can be applied automatically by ticking *File > Preferences > Dispensary Mode > Auto-generate patient code*. You also have the option here to prefix the codes with a string of text. This is particularly helpful in a multi-facility installation where patients may be referred from one facility to the next and you would like to know in which facility they first entered into the system.

Prescribers

mSupply allows prescribers to be recorded against each prescription. This can be made a requirement by ticking *File > Preferences > Dispensary Mode > Prescriber must be entered*. Making the recording of the prescriber mandatory will obviously slow down data entry during the dispensing process. In order to record prescribers with prescriptions, prescribers must be entered into the system - refer Prescribers.

Printing

Set printing to be on by default for new entries, and off by default for edits.

Train users on changing printers using *Special > Printing preferences*

It is important that printers have a static IP address. You can do this in two ways:

1. Set a static IP address on the printer. Log on to http://printer_ip_address (http://printer_ip_address) to do this. It's under network settings. The default IP for Zebra printers is 192.168.254.254
2. Use the DHCP server on your network to set a Static DHCP mapping. This is preferred, as it's much easier to change.

With a Zebra GK 420 you can hold the front button until it flashes once, release it, then it will print out the IP address. Read all about it

Previous: mSupply Client/Server installation Next: mSupply Server Administration

Managing users

Updated: Version 3.74

About users and groups

As of version 3.13, mSupply has important improvements to its user management:

1. User permissions are now per-store, so a user can have different permissions when logged into different stores.
2. You can create and use user groups. Once a group is set up and permissions for the group assigned, any users that are assigned to the group will inherit the group's permissions, rather than having to set permissions for each user individually. When you change a group's permissions, you change the permissions for all users who belong to that group. This is very useful if you have a lot of users.

If you want to change a user's permissions and find out that all their permissions are greyed out and uneditable then it means they are a member of a group. To edit their permissions separately from the group, they must first be removed from the group:

- Edit the user, change the **Is a member of** to **None**, click **OK**.
- Edit the user, set permissions as required, click **OK**.

Refer to below for more details. If the user is to remain part of the group then you must change the group's permissions (see below) but beware, this will change the permissions for all users who belong to the group, not just the user you're interested in.

If you want to disable a user, perhaps because the staff member has left the organisation, then they must be made 'inactive':

- Edit the user, uncheck the **Active** checkbox, click **OK**.

If the **Active** checkbox is greyed out, it is because they are a member of a group. You will need to first remove them from the group before you can make them 'inactive':

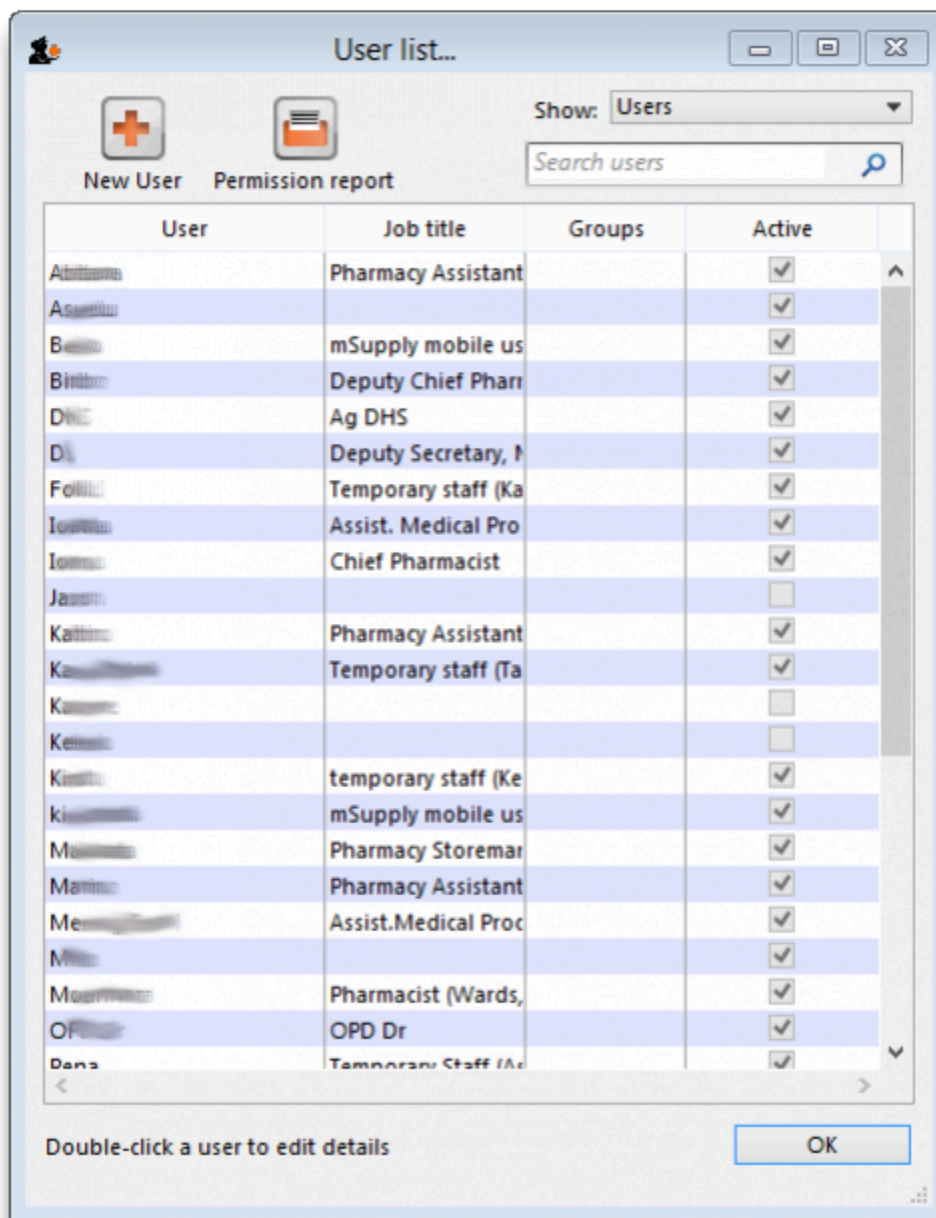
- Edit the user, change the **Is a member of** to **None**
- Edit the user, uncheck the **Active** checkbox, click **OK**.

To prevent all users being disabled in the system, mSupply does not allow the first 2 users created to be disabled, even if they belong to a group which has been disabled.

Adding and editing users and groups

mSupply has a comprehensive system of controlling user access, allowing you to manage in fine detail what each user can do and see in the system. You can manage users individually, in groups or a mixture of both - whichever is most suitable for your situation.

User access is managed by choosing *File > Edit users*. When clicking on this option you are presented with a list of current users:



The list shows you the following information:

- **User** The user's name.
- **Job title** The user's job title, as entered on the details tab of the user's details form.
- **Group** The group the user belongs to. Will be blank if the user does not belong to a group.
- **Active** Checked if the user is allowed to login to the system.

Double-click a user (or group) to edit their details or delete them. Click the **New User** button to add a new user (or the **New group** button to add a new group). Doing either will open the user details window (described below - for a new user or group all the tabs are empty, for an existing user or group the tabs are filled with their current settings)

The user details window

This window has several tabs, all described below.

The General tab

- *Is a member of* drop down list: Used to select the permissions group the user belongs to (see below). When the window loads, it displays the group the user currently belongs to - will show “None” if they are not a member of any group.
- *Password* textbox: Will always appear empty when the window is loaded. Must be set for a new user, can be used to change the password of an existing user.
- *Confirm password* textbox: If something is entered in the *Password* textbox then the same text must be entered in here. Makes sure you set the password to what you think you're setting it to!
- *Active* checkbox: If this checkbox is checked, then that user has permission to use the system, and their name will appear in the login window. If this checkbox is unchecked the user will not be allowed to login to the system and their name will not appear in the login window.
- *Can be responsible officer* checkbox: If this box is checked, the name of that user will appear for selection in the *Responsible Officer* selector on the *Transport Details* tab of a customer invoice.

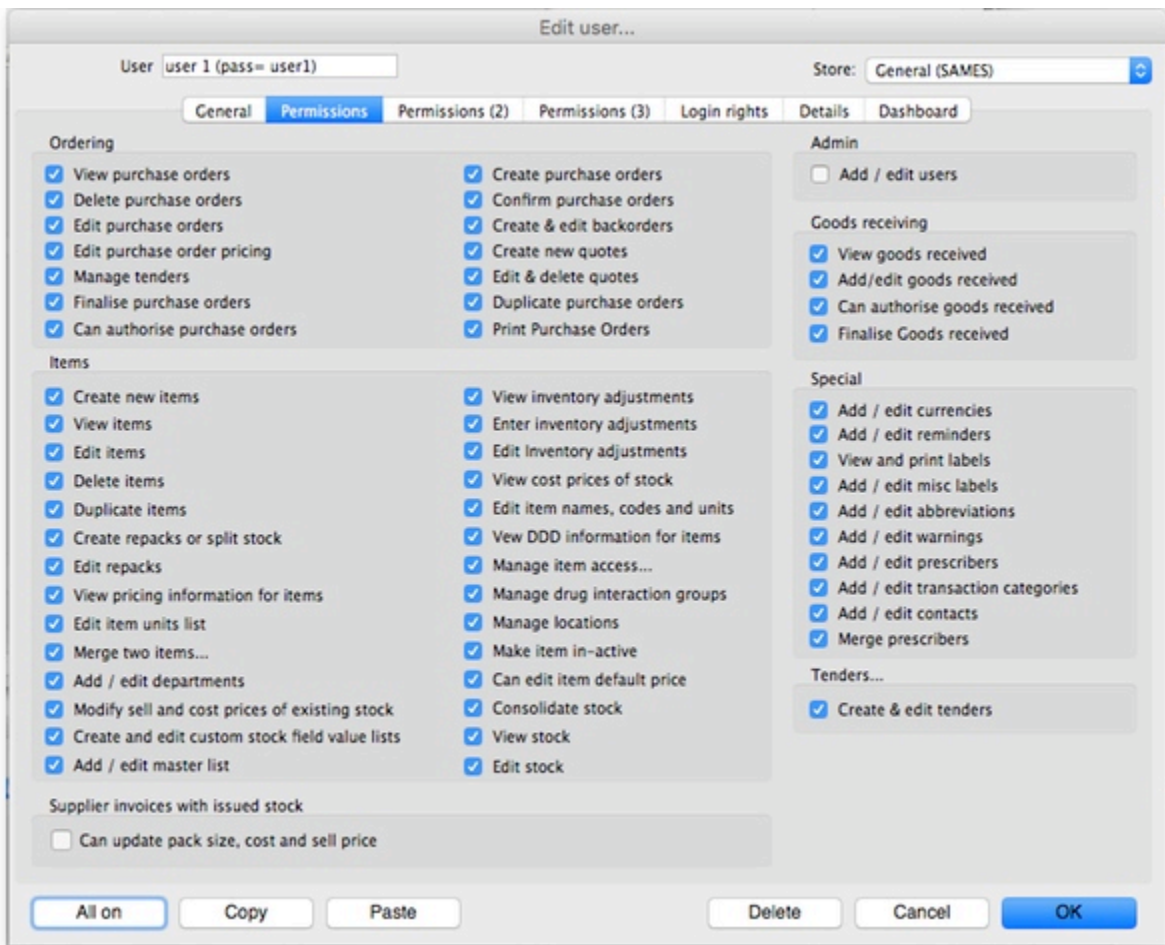
- *User initials* User initials should be entered in this field.
- *Language* drop down list: Allows you to select which language the user wants to use in mSupply. Supported languages are
 - English
 - French
 - Lao
 - Spanish (incomplete translation- free free to offer to help!)
- *LDAP* section: used to check a user's login credentials against an LDAP (Lightweight Directory Access Protocol) server. If you are going to use LDAP you must fill in the server details in the General preferences first.
 - **Login using LDAP:** Check this if you want this user's login details to be checked against your LDAP server. Means that you can have some users logging in normally and some being checked against your LDAP server. Helpful if there's a delay in users being given LDAP credentials for any reason.
 - **LDAP login string:** Enter any string which has to be used with the LDAP login. Will be provided by the LDAP administrator if required.
- *Windows username* textbox: the username the user logs into window systems with. Used to provide single-sign-on capability when the user is logging in remotely to an mSupply client running on a Windows server.
- *License category* drop down list: Used to select which user license category the user belongs to. Will contain a list of all user categories currently set up in the datafile. See License management for details.
- *User belongs to State/Region* drop down list: Used to select the name category 1 that the user belongs to. Only used in some customised versions of mSupply.
- *Signature* section: use to add or remove an image of a user's scanned signature for displaying on invoices for example

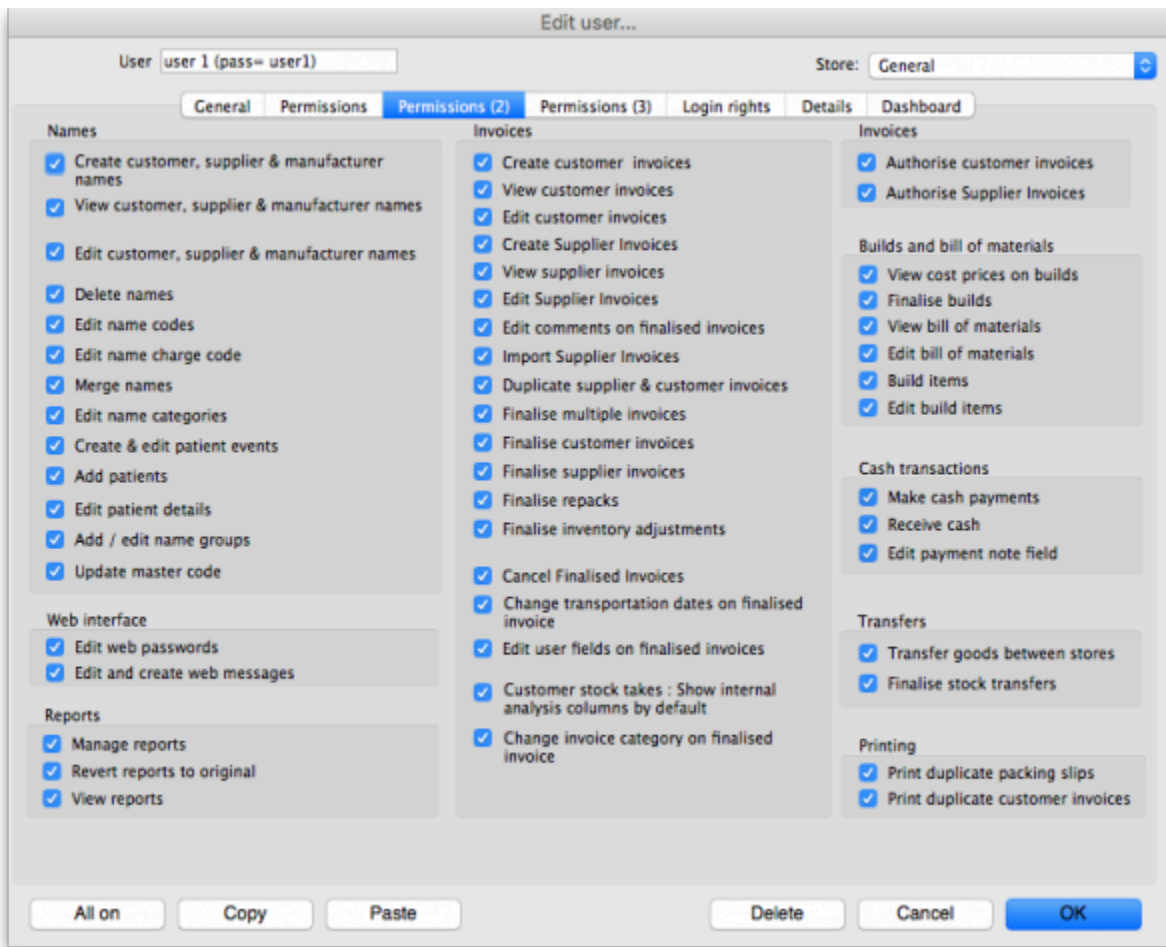
The Permissions tabs

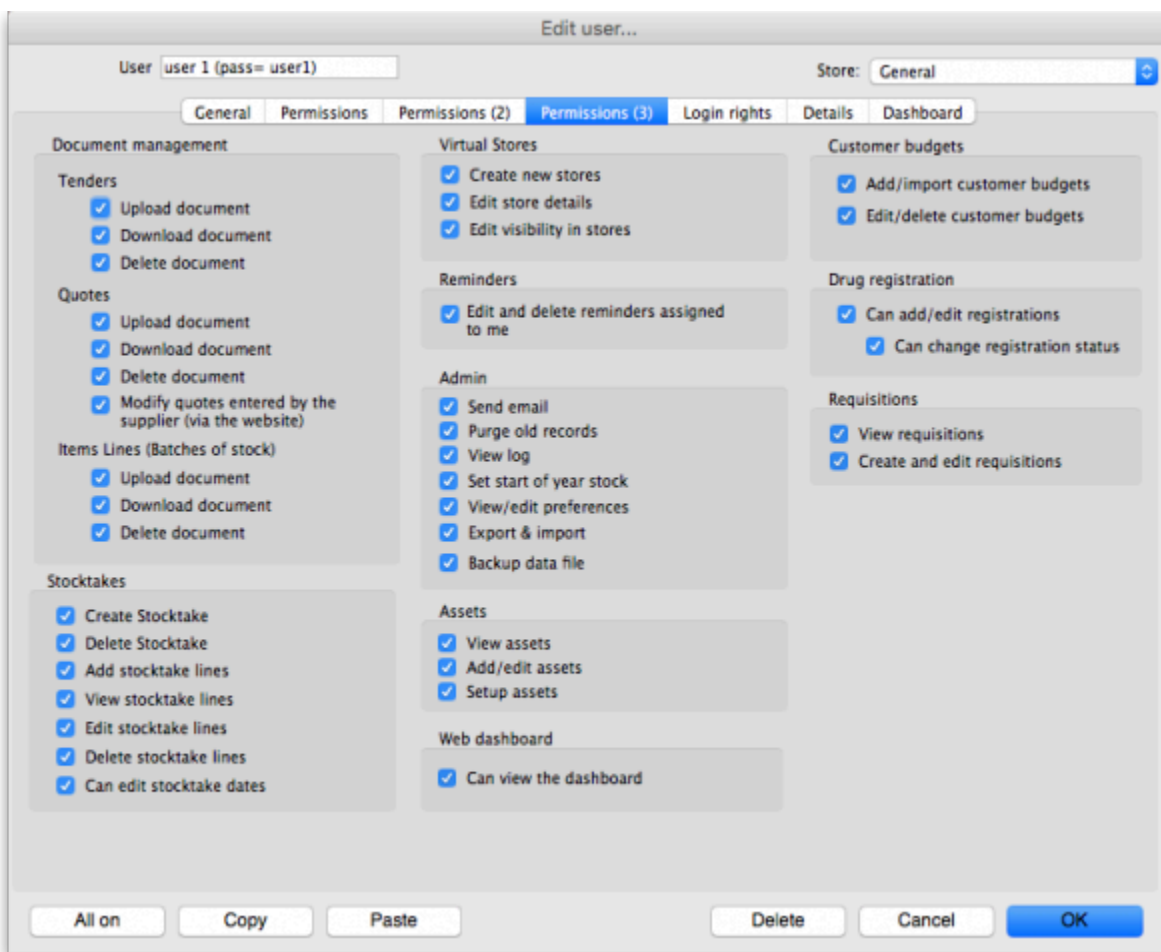
These are where you can set access to the many features and functions on a store-by-store basis for each user or group. There are three Permissions tabs and each are shown in the screenshots below.

Buttons on the permissions tabs

- The *Store* drop down list: Selects the store for which permissions are being displayed and set on the current tab. This is how you set permissions in different stores for users.
- The *All on* button: Checks all the permissions on the current tab i.e. turns them all on. There are exceptions to this for safety reasons e.g. the *Can update pack size, cost and sell price* permission on the **Permissions** tab.
- The *Copy* button: Copies the state of all the checkboxes on the tab for this store to an internal clipboard for that tab.
- The *Paste* button: Pastes the checkbox settings saved to the clipboard for the current tab to this tab. In this way, the Copy and Paste buttons are a great way of copying permission settings for tabs between stores - really handy when users have similar permissions in different stores.







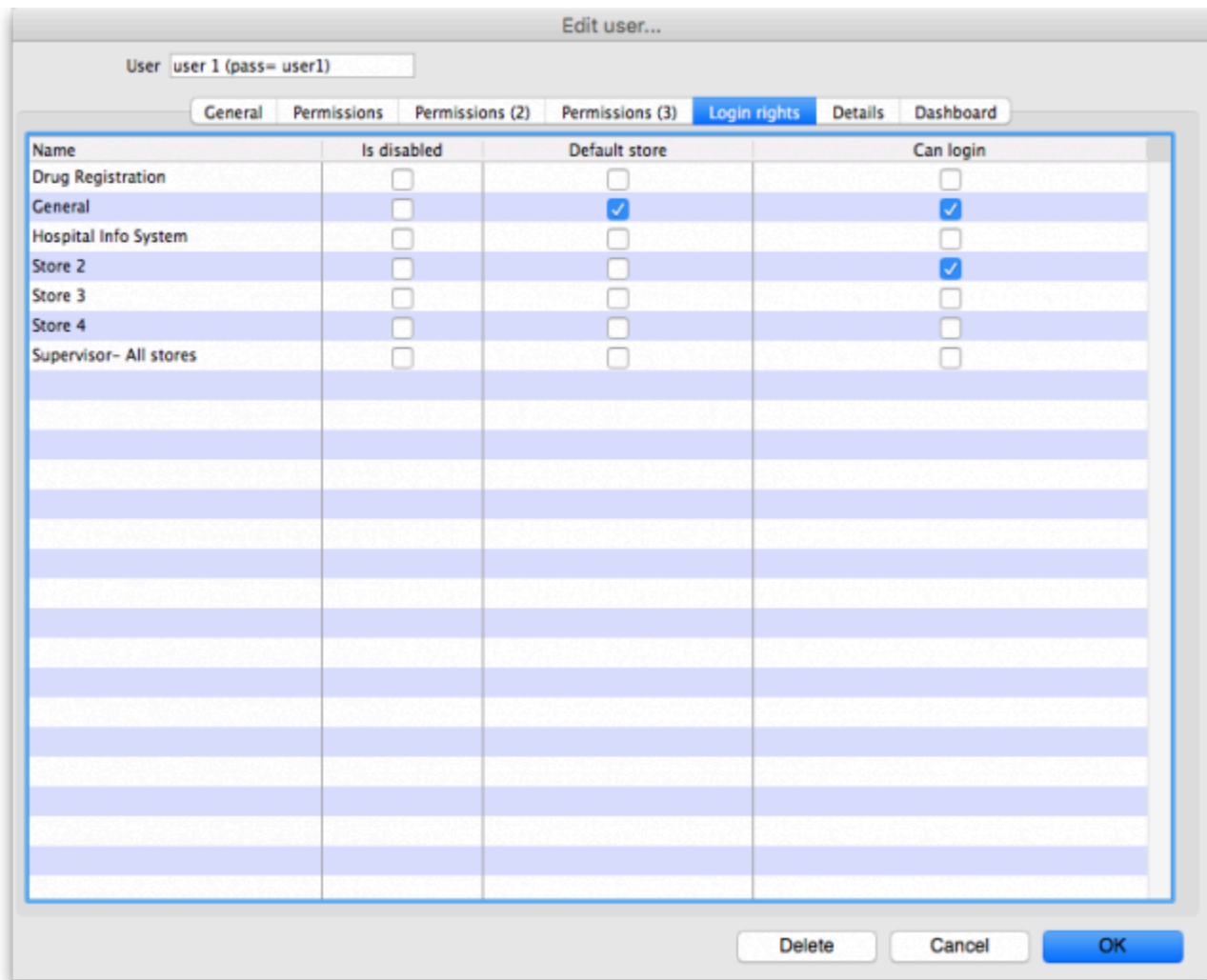
Most of the permissions are self explanatory. Those that need more explanation are given below:

Permission	Details
Permissions Tab	
Add/edit users	To prevent you being locked out of your datafile permanently, mSupply will not allow you to turn off this preference for the first 2 users which already exist when you open mSupply for the first time. You should always treat these users as admin users.
Permissions (2) Tab	
Change transportation dates on finalised invoice	If checked, the user can edit the Order written date , Order received date , Expected arrival date , Actual arrival date and Ship date fields on the <i>Transport details</i> tab of finalised customer invoices
Edit user fields on finalised invoices	The user fields are the 4 custom transaction fields that can be enabled in the preferences - see Invoices Preferences for details. If this is enabled the user can edit the contents of these fields on transactions that have already been finalised
Change invoice category on finalised invoice	If checked the user can edit the transaction category of invoices (customer, supplier and inventory adjustments)

Permission	Details
Transfer goods between stores	If checked the user can create a customer invoice with a store as the customer (i.e create a stock transfer)
Finalise stock transfers	If checked the user can finalise a customer invoice where the customer is another store (i.e. a stock transfer)
Permissions (3) Tab	
Can edit stocktake dates	If checked the user can edit the <i>Stock take date</i> field at the top of a stocktake and the confirmed date of inventory adjustments created from the stocktake (see <i>Creating a new stocktake</i>) for details
Edit visibility in stores	If checked the user can edit the visibility of names and items in different stores. If it is unchecked they can't - either in the <i>Store</i> tab of a name or item's details window or the <i>Visibility</i> tab of a store's details window (in fact, the <i>Visibility</i> tab won't even be visible for them)
Add/import customer budgets	If this is checked the user can import or add budgets for a customer, if unchecked they cannot
Edit/delete customer budgets	If this is checked the user can edit or delete budgets for a customer, if unchecked they cannot

The Login rights tab

On this tab you set which stores the user can login to:



The *Is disabled* column indicates whether a store is disabled or not and can't be edited.

You can check one box in the *Default store* column - this will be the store the user is offered by default every time they login or switch stores.

In the *Can login* column you can check the box for each store the user is allowed to login to. All the stores in your mSupply datafile are displayed here in alphabetical order. Please note:

- The “Drug Registration” store is a special store used for the mSupply medicine registration functionality. See Registration for more details. Checking this box will allow the user to login to the Registration module.
- The “Hospital Info System” is another special store used for mSupply's built-in Hospital Information system. See here for more details. Checking this box will allow the user to login to the HIS module.
- “Supervisor - All stores” stores is a special mode to allow users to view information in and run reports over multiple stores. See here for more information.

The Details tab

The screenshot shows a window titled "Edit user..." with a close button (X) in the top right corner. The window contains a tabbed interface with the following tabs: "General", "Permissions", "Permissions (2)", "Permissions (3)", "Log-on modes", and "Details". The "Details" tab is currently selected. At the top of the window, there is a text field labeled "User" containing the text "Kekeia". Below this, the "Details" tab contains several sections of form fields:

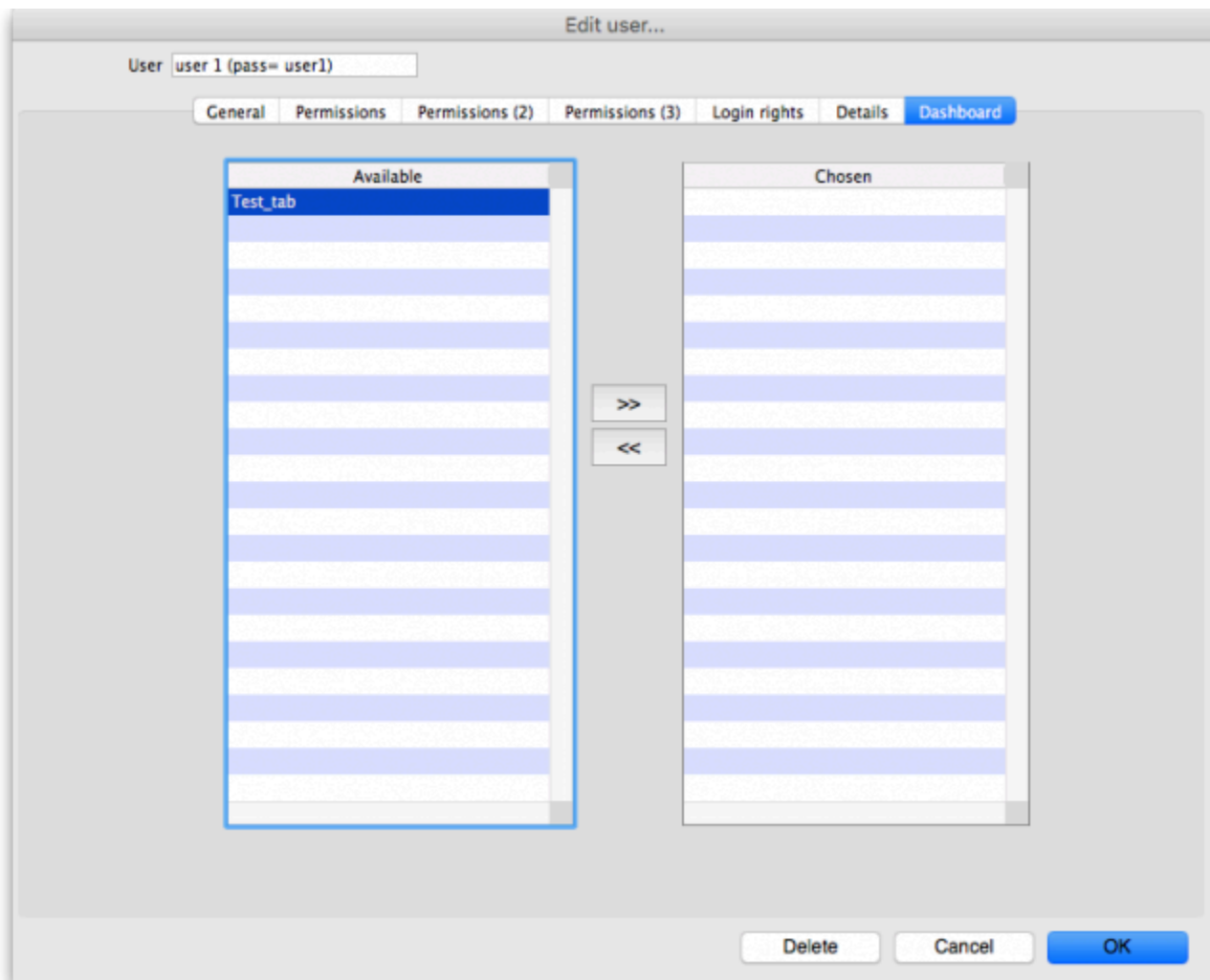
- Full name:** Three text fields labeled "First name", "Last name", and "Date of birth" (with a default value of "00/00/00").
- Dates:** Two text fields labeled "Date created" (with a value of "10/11/2008") and "Date left" (with a default value of "00/00/00").
- Contact details:** Six text fields arranged in two rows. The first row contains "Address 1", "Phone 1", and "E-mail". The second row contains "Address 2", "Phone 2", and "Job title".
- Supplier invoices with issued stock:** A checkbox labeled "Can update pack size, cost and sell price", which is currently unchecked.

At the bottom right of the window, there are three buttons: "Delete", "Cancel", and "OK".

Here some personal details including job title, address and email address of the user can be recorded. The job title will appear in the *Job title* column in the list of users and the email address is used when using email functionality or other special functions in mSupply.

Other than that, these fields are for reference only, providing a handy place to record information about your system users.

The Dashboard tab



On this tab you set which dashboard tabs will appear on the dashboard when the user logs into it. Of course, you have to set up the dashboard tabs before you can assign them to a user's dashboard. See Dashboard for instructions on doing that.

Once the dashboard tabs have been setup, they will appear in the *Available* column of this tab. You can see the "Test_tab" in the screenshot above. Anything in the *Chosen* column will be displayed on the user's dashboard. So, to make a dashboard tab appear on the user's dashboard, select it in the *Available* column and click on the >> icon to move the tab into the *Chosen* column. And to remove a dashboard tab from the user's dashboard, simply select it in the *Chosen* column and click on the << icon to move it back into the *Available* column.

To Create a new user

To create a new user do this:

1. Go to *File > Edit users...* and click on the **New user** button
2. Enter the user name
3. Assign a password
4. Enter the password again in the *Confirm password* text box
5. Go to the permissions tabs and set up permissions (3 tabs) **OR** select which group the user is to belong to using the *Is a member of* drop down list on the General tab (you must do one of these because you'll have noticed that when you create a new user they have absolutely no permissions at all!)

6. Go to the Login rights tab and set the stores the user can login to.
7. Click **OK** when you're done.
8. The user should now be able to log in.
9. After the user logs in, they may want to change their password by choosing *File > Change password...* Note also that “user 1” and “user 2” (the first 2 users in the list when opening a new datafile) are special. You cannot delete these users, and they always have access to mSupply (even if they belong to a group that has been de-activated). If you only want one person to have full access, set the user1 password to be the same as the user2 password.

Passwords are case sensitive, so when you enter a password you have to enter exactly the same text into the second field. Be careful to make sure caps lock is not accidentally on when you type your password!

To Delete a user or group

To delete a user do this:

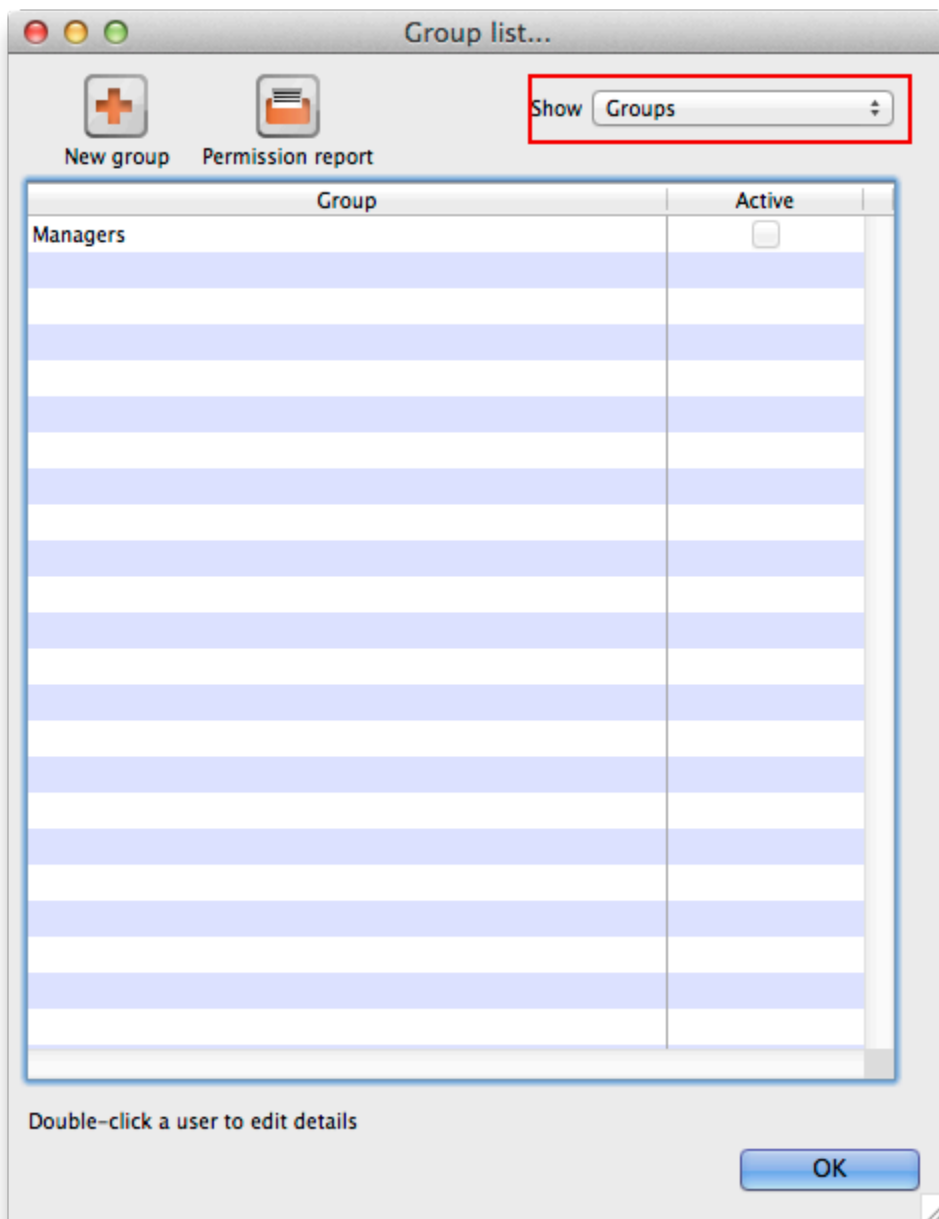
1. Go to *File > Edit users...*
2. Double-click the name of the user or group you want to delete in the list
3. Click on the *Delete* button on the bottom of the edit user window that opens

Note that you won't be able to delete a group that has users belonging to it. If you really want to delete the group, remove all users from the group first by editing their *Is a member of* fields.

Managing and using groups

Adding a group

Show the list of groups by opening the “Edit user” window and then choosing “Groups” from the “Show” Drop-down menu

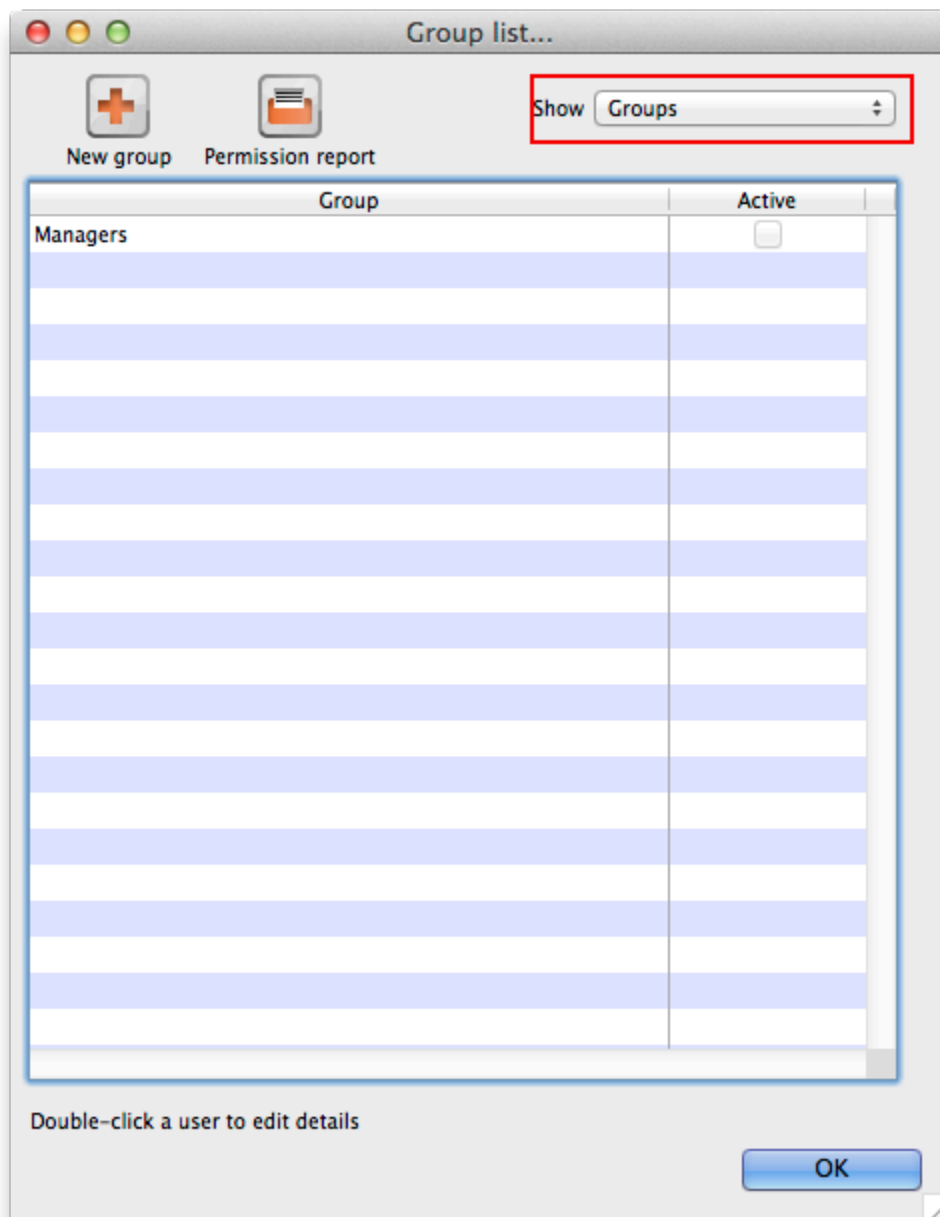


To add a group, click the **Add Group** button. You will be shown a window where you add the group name. You then set permissions for the group in the same way as you set permissions for a user (above):

Note that you will only be able to set checkboxes which can have different settings in different stores. Anything that is not a checkbox and that applies across all stores cannot be set in a group's permissions. These items will all be disabled when creating or editing a group.

Editing a group

First, show the list of groups by opening the “Edit user” window and then choosing “Groups” from the “Show” Drop-down menu

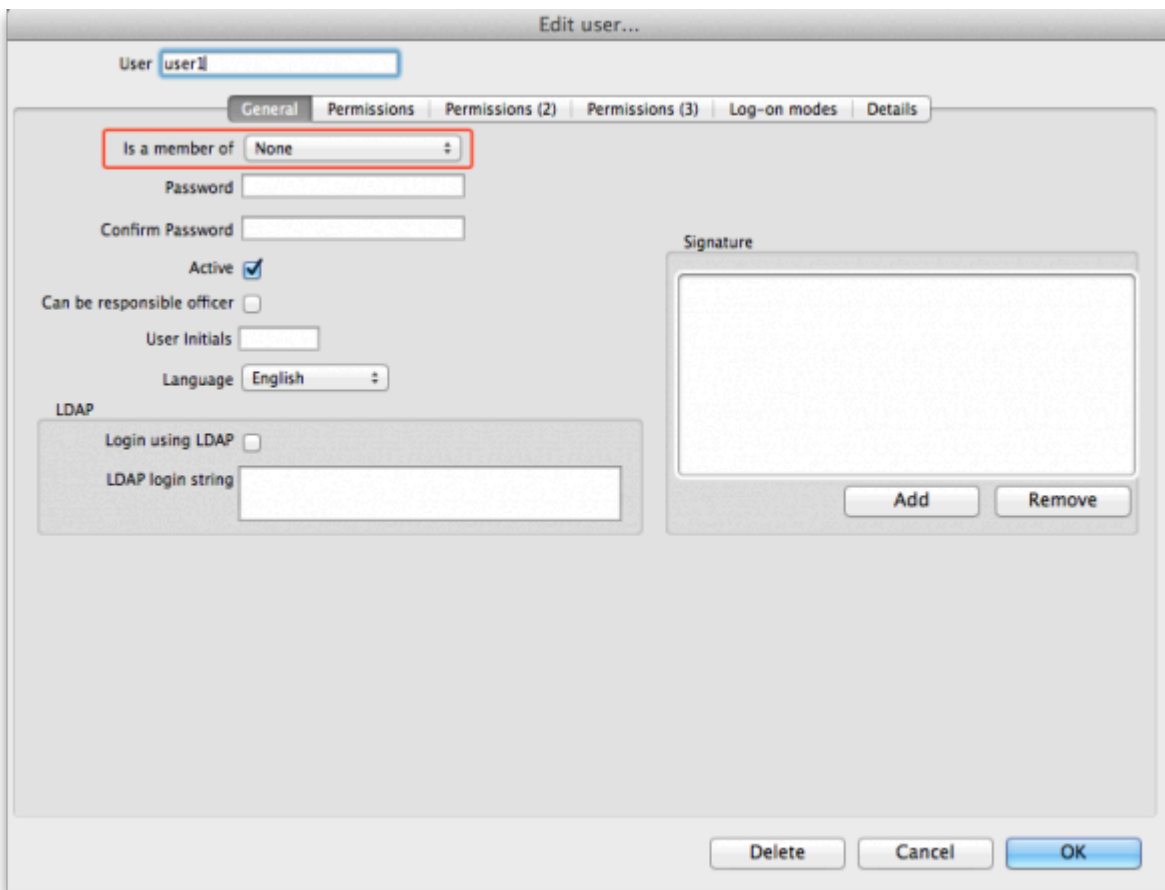


Then double click on a group in the list. The same window as for adding a group opens but it is populated with the group's current settings. Change these settings as described for a new group above and click on the **OK** button to save them.

Using groups

Groups are a quick way of setting and managing permissions for many people at a time. Users belonging to a group take the permissions of that group: when a user is a member of a group you cannot edit their permissions directly, you must edit the group's permissions. And if you edit the group's permissions, you edit the permissions for every user in the group. To assign a user to a group, do the following:

1. Go to *File > Edit users*
2. Double click on the user you want to edit
3. On the general tab of the window which opens, use the *Is a member of* drop down list to select the group the user is to belong to:



4. Click on the OK button to save you changes.

Previous: mSupply Deployment Next: Show Connected Users

License management

On any mSupply server, you have concurrent user licenses. When a user logs in, they take one of these licenses, when they logout the license is returned. These licenses sit in a single pool, to be used by all users who login to that server.

Sometimes, it can be helpful to split this single pool up into multiple smaller pools. This would be the case when, for example, different organisations use the same server and buy licenses separately for use by their organisations. It is then important that one organisation does not start to use the other's licenses.

To help manage this kind of situation, mSupply has the concept of *user license categories*. Each of these categories has a maximum allowed number of users logged in at the same time. Each time a user logs in, mSupply checks whether they belong to a license category and, if so, whether there is already the maximum number of users for that category logged in. If so, then the user is shown a warning message and not allowed to login, otherwise they are logged in as usual.

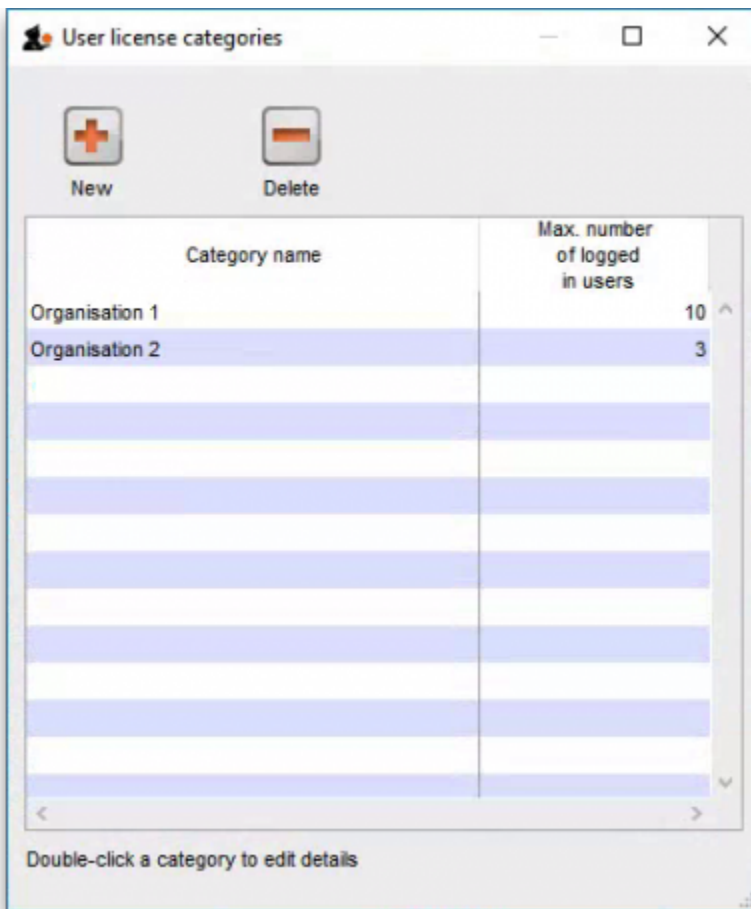
Please note that user license categories are still subject to the concurrent user limit (set by the number of licenses you have purchased), they do not override it. So, if you have 10 concurrent user licenses on your server and you have one or more user license categories with a total maximum number of logged in users set at 20, only 10 users will still be able to log in to your server at any one time. This functionality is not a free way to get yourself extra mSupply licenses, rather it's a way of helping you manage access to the licenses you have purchased!

User license categories only apply to an mSupply server so you won't be able to set them on a single user copy of mSupply (including single user satellite copies in a sync system). There's no point since only a single user can log in at a time to these versions of mSupply!

It is also important that you understand that each mSupply server has its **own pool of concurrent user licenses** so, if you have more than one mSupply server in your system, you can set user license categories on **each server**. You cannot set user license categories that affect more than one mSupply server.

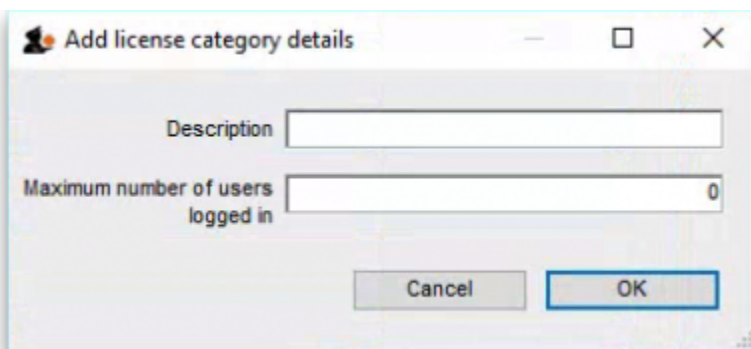
Viewing existing user license categories

Choose **Special > Show user license categories...** from the menus. The following window will open showing a list of all the user license categories you have setup in your datafile:



Creating a new user license category

To create a new license category, click on the **New** button in the window displayed above and a new window will open:



Enter the details of the new license category:

- **Description:** the name the category will be known as throughout mSupply
- **Maximum number of users logged in:** the maximum number of users that belong to this group that are allowed to login to this mSupply server at the same time

Click on the **OK** button when you're finished and you'll be taken back to the license category list window, which will now include your new license category.

Editing an existing user license category

To edit an existing user license category, view the list of existing ones by choosing the **Special > Show user license categories...** menu.

Now double-click on the license category you want to edit in the list and, in the window that opens, edit the category's description or maximum number of logged in users and click on the **OK** button to save your changes. You will be returned to the list of user license categories which will show the changes you just made.

Changing the maximum number of logged in users of a license category will not affect any users already logged in who belong to the category (even if there are more than that number already logged in) since the check against this number is only made when a user logs in. But it does mean that it will affect any users who login from that point forward. So, if there are more than the maximum number logged in after a change, then no more users belonging to that license category will be able to log in.

Deleting a user license category

To delete a user license category simply view the list of existing ones by choosing the **Special > Show user license categories...** menu, select the license category you want to delete in the list and click on the **Delete** button.

Note: you will only be able to delete a license category if it has no users assigned to it. If you receive a warning to that effect then edit all the users to remove them from the license category first (see below for details), then return here to delete the license category.

Assigning users to license categories

To complete the setup you must assign users to the different user license categories you have created.

You do this by selecting the user license category the user should belong to in the **License category** drop down list on the General tab of the user's details window. See Managing users for more details on how to set this.

Any users not assigned to a user license category will always be able to login (as long as there is a concurrent user license available in the server's pool). So be careful when using user license categories - leaving many users not assigned to license categories can undermine what you are trying to achieve.

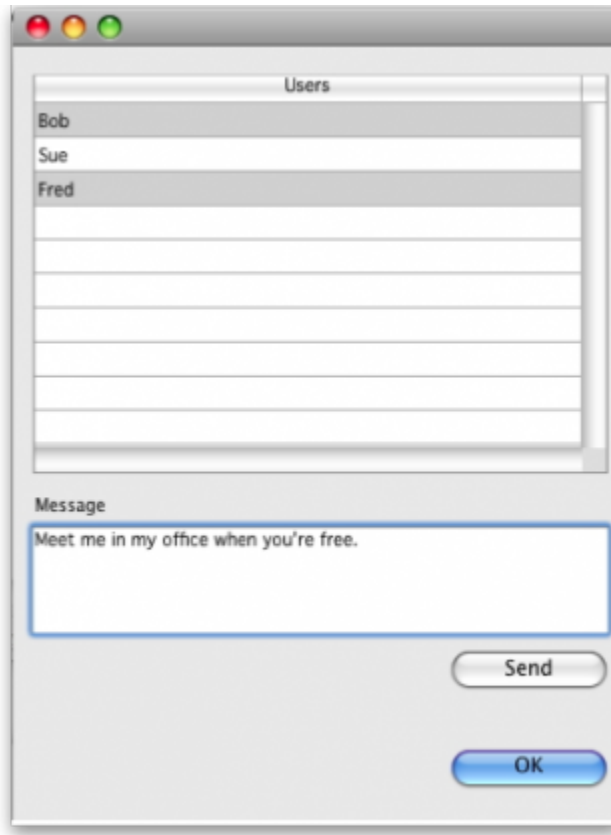
Normally, you will assign more users to a user license category than the *maximum number of users logged in* setting for the category. Otherwise, the user license category check on login will have no effect!

Previous: Show Connected Users Next: Printer Installation

Show connected users

Note: Not applicable when running mSupply in single user mode

To display a list of users currently logged on to mSupply, select this option. The window below is displayed.



Messaging other users

By highlighting one or more users (use control on Windows/ command on Mac to highlight multiple users), a message typed into the *Message* box will immediately appear on the selected user(s) mSupply window when you click on the **Send** button.

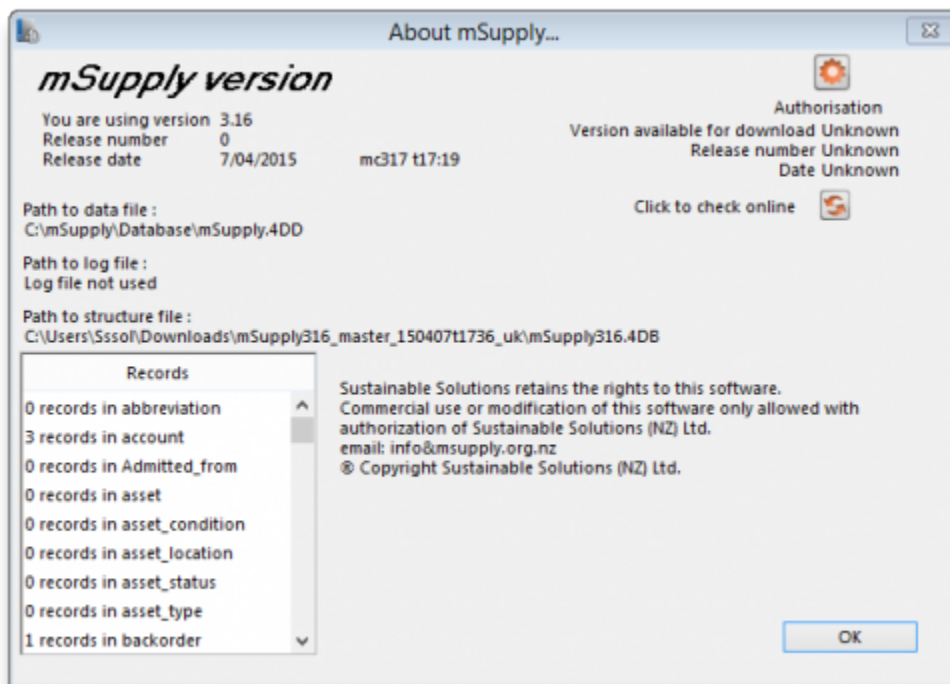
Such messages are not stored on the system.

Previous: Managing Users Next: License Management

The help menu

Help > About mSupply

Choosing this item displays information about the version of mSupply in use, and provides details of the location and size of your data file.



You can click the blue arrows icon to retrieve the current version number from the internet. (This will not download a new version- it will only advise whether a newer version is available for download).

Authorisation

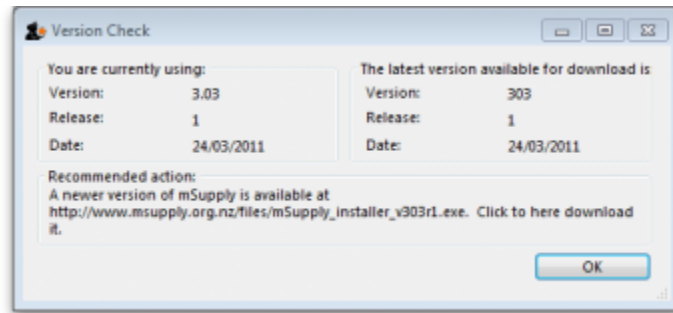
The Authorisation button is provided largely for developers' use. Its purpose is to assist our technical staff to resolve clients' problems. It is recommended that you ignore it.

Updating mSupply

For single user versions of mSupply, you can see if you have the latest version by choosing **Special > Check for updates**

Choosing this item from the *Special* menu will connect to the mSupply web site and compare your current mSupply version with the version you are now using.

If an update is available, you will be shown a window where you can click to download the latest version.



Previous: Server Troubleshooting Next: FAQ: Why is my stock balance negative?

The log

The log contains records of who did what and when in the system. It's a useful place to look to find out what happened to certain records and when certain things were done. Some events (lots!) are always logged by mSupply but some are optional and are chosen in the *Log* tab of the General preferences page.

To view the log, choose *View log...* from the *Special* menu. You will be shown all today's log entries when the window loads:

Date	Time	User	Type	Event	Source Table	Record Num...
10/04/2015	14:36:19		login	login to store : General mode : Store	5	1
10/04/2015	14:36:42		logout	logout	0	0
10/04/2015	14:36:52		logout	logout	0	0
10/04/2015	14:38:57		login	login to store : General mode : Store	5	1
10/04/2015	14:39:01		logout	logout	0	0
10/04/2015	15:50:54		logout	logout	0	0
10/04/2015	15:50:58		login	login to store : Supervisor-All stores mode : Store	5	1
10/04/2015	16:01:54		logout	logout	0	0
10/04/2015	16:02:01		login	login to store : Supervisor-All stores mode : Store	5	1
10/04/2015	16:43:17		logout	logout	0	0
10/04/2015	16:43:22		login	login to store : General mode : Store	5	1

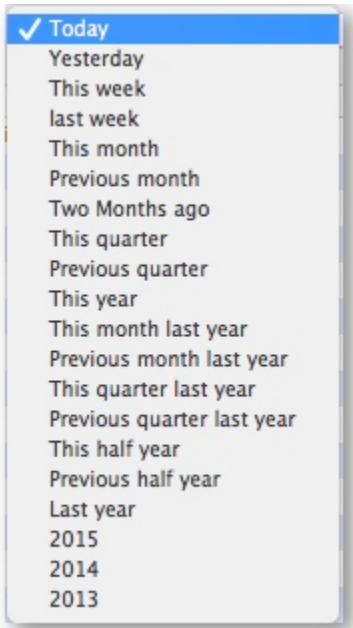
Buttons in the window:

- **Export** Export the log to a tab delimited text file. You can then import this into other applications (such as a spreadsheet application) for editing and printing.
- **Print** Prints the displayed list of log entries on your printer.
- **Order by** Sort the log by something than the default date/time order.
- **Find** Search for particular records in the log.
- **OK** Close the window.

Double-clicking a log entry will bring up a small window with the full item details. You can not edit this information.

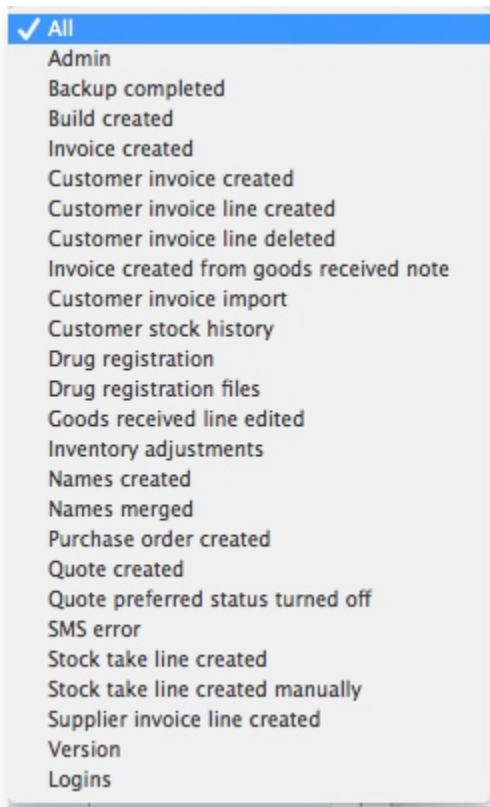
Dates

If you want to see log records that were generated over a different period then manually edit the dates in the **From** and **To** boxes as required or choose one of the many quick-select options in the drop down list to automatically set them (*Today* is selected by default):



Event types

Additionally, you can choose to show only certain types of event which occurred in the period you have selected. To do that, select one of the entries in the final drop down list on the right hand side (*All* is selected by default):



See this section for a complete description of which events are recorded in the log.

Previous: Printer Installation Next: Server Troubleshooting

How to correct wrong pack sizes

Within a warehouse or pharmacy, it is quite common for procurement managers to introduce bulk stock into mSupply and then for the dispenser to issue the bulk stock wrongly to the customer or patient. So physically the bulk stock may have been broken down to smaller pack sizes and distributed but this activity may not have been registered properly within mSupply.

In an warehouse environment, bulk stock from the supplier may have been received and the stock may have been issued by the dispenser without paying attention to the pack sizes. An administrator may have forgotten to carry out a “Repack” or “Split” process within mSupply.

In an pharmacy environment, the above could also be true. However, most users tend to rely on the stock being introduced to the system in the correct pack sizes (suitable for patient consumption) and when this is not done, the dispenser simply issues stock with large pack sizes.

In both cases the customer or patient receives drug quantities that tend to be less than what mSupply says. Depending on the user permission allocated to an mSupply user, the pack sizes can be corrected. However we emphasise that our clients should take measures to ensure that these errors do not occur frequently. Only high level users should have the appropriate user permissions to carry out the task below.

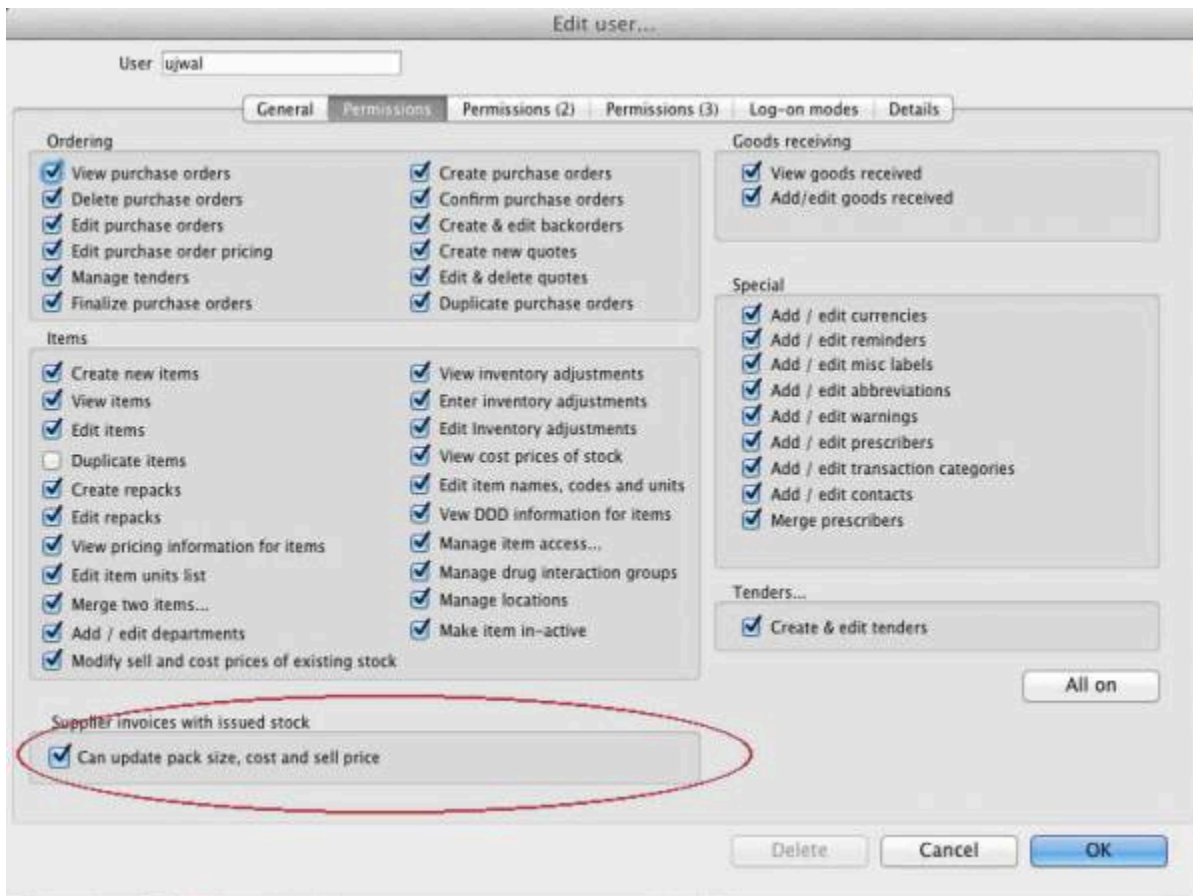
User permissions

Firstly to correct pack sizes you need to have the following user permission :

- Can update pack size, cost and sell price

Do the following :

- View File > Edit Users...
- Double click on the user that requires the right to correct pack size mistakes.
- View the “Permissions” tab
- Make sure the permission “Can update pack size, cost and sell price” is ticked (see image below)

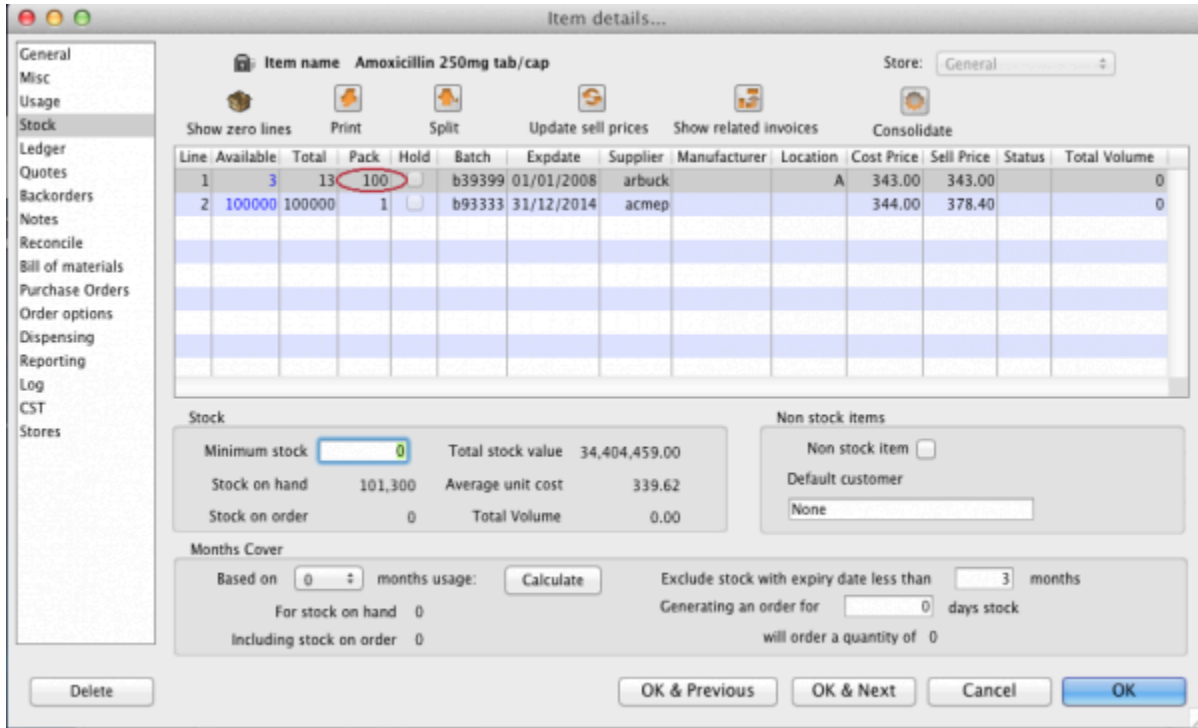


Locating the item

For this tutorial let's assume that we are inside a pharmacy where Amoxicillin 250mg tab/cap should have been introduced as single tablets rather than boxes of 100 tablets. The pharmacy never has to dispense the whole bottle (100 tablets) to one patient.

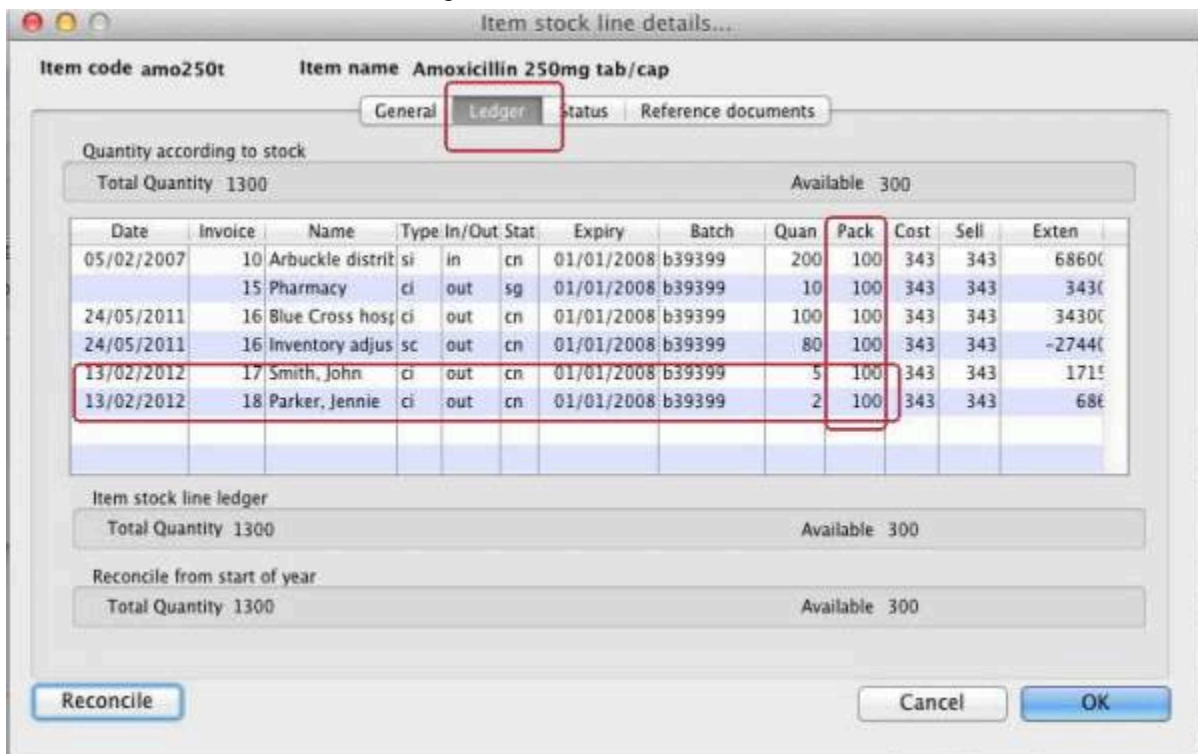
View the item where the pack size needs to be adjusted :

- Item > Show items... from the mSupply menu. Use the search filter
- Navigate to the item in the list and double click.
- Go to the "stock" section. View the image below:



The image above shows that a batch of Amoxicillin 250mg tab/cap has been received in packs of “100”.

Double click on this stock line and view the ledger associated with this batch:



The image above shows that two patients (John Smith and Jennie Parker) were issued in total 500 and 200 tablets when the correct amount should have been 5 and 2 tablets. Let's assume that the pack size on all should in fact be “1”

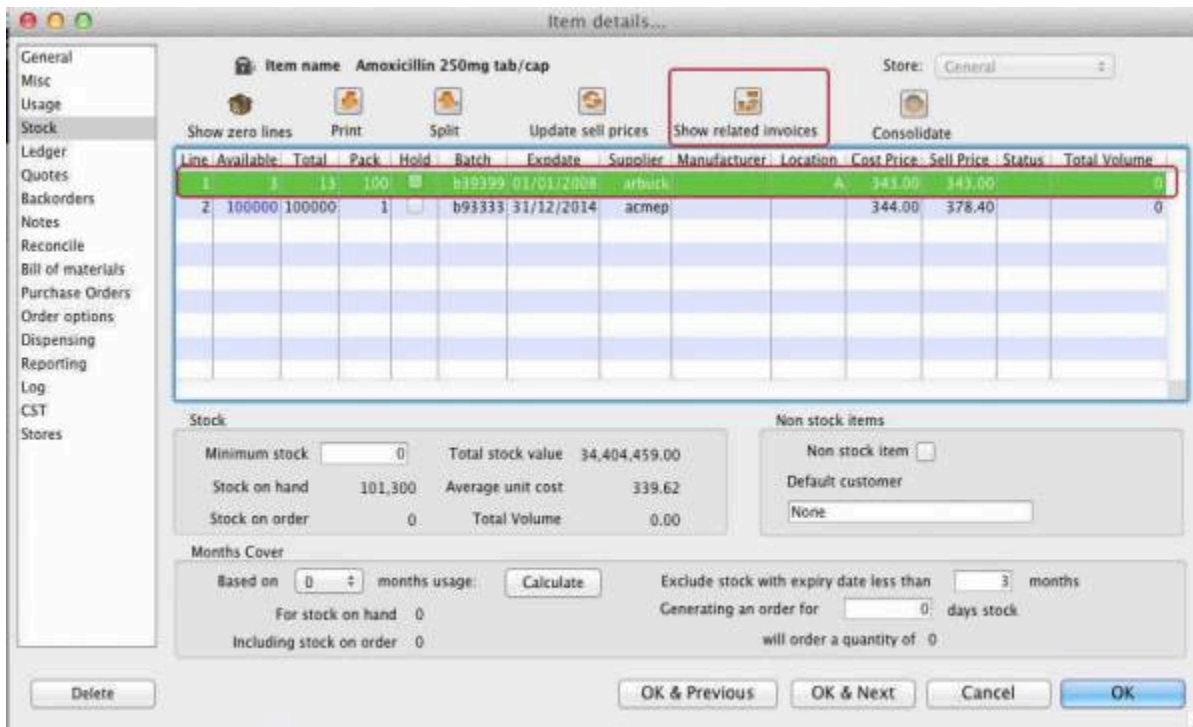
Now close the item stock line details window and view the item again.

Getting to the source

To correct the pack size from “100” to “1”, we now need to locate the invoice that initially introduced this batch (b39399) of Amoxicillin 250mg tab/cap to our stock.

Do the following :

- Get back to the item detail window showing the batch lines.
- Select the batch line.
- Then click on the “Show related invoices” icon
- You will now be presented with a list of invoices connected to this particular batch of stock.



Locating the stock introducing invoice

From the list of invoices we now need to view the invoice that initially introduced the stock.

The image below contains customer and patient invoices (“ci” type), an inventory adjustment (“sc” type) and a supplier invoice (“si” type). The supplier invoice has been highlighted.

Double click on the line for the supplier invoice to open it.

Name	Type	Sta.	Entered	Confirmed	Invnum	Total	Their ref	PS printed dt.	Comment	Exp btch
Arbuckle distribution	si	cn	25/02/2007	25/02/2007	10	77518.9933			Short Expiry	0
Pharmacy	ci	sp	25/02/2007		15	3875.9		24/05/2011		0
Blue Cross hospital	ci	cn	24/05/2011	24/05/2011	16	37072	po882	24/05/2011	Express Courier please	0
Inventory adjustments	sc	cn	24/05/2011	24/05/2011	16	-27620			Reduced stock	0
Smith, John	ci	cn	13/02/2012	13/02/2012	17	1715				0
Parker, Jennie	ci	cn	13/02/2012	13/02/2012	18	886				0

Viewing the invoice

View the invoice and you will see one or more lines showing items that have been introduced to stock. Among them will be one containing the item you're interested in - make sure you identify the right one because there could be more than one batch of that particular item. For this example the invoice only contains one line. This invoice line was responsible for introducing an unsuitable pack size for dispensing purposes.

Double click on the line to open up the supplier invoice line:

Supplier invoice

Name: Arbuckle distribution Entry date: 05/02/2007 Colour: Black

Their ref: b933 arbuck Confirm date: 05/02/2007 Invoice number: 10

Comment: Short Expiry Status: cn

Category: None Goods receive ID: 0

Purchase Order ID: 0

Entered by: ujwal

Store: General

New line Delete line

General Summary by Item Summary by Batch Price

Li...	Loc...	Item Name	Qty	Pack	Batch	Expiry	Cost Price	Sell Price	Price extension
1	A	Amoxicillin 250mg tab/cap	200	100	b39399	01/01/2008	343.00	343.00	68,600.00

Other charges

Item(s):
Amount: 0.00

Subtotal: 68,600.00
13 % tax: 8,918.00
Total: 77,518.00

Hold Export batch: 0
 Finalize Margin: 0.00

OK & Next Delete OK

Correcting pack size

You should now see a window similar to the image below :

Add/edit supplier invoice line...

Item: Amoxicillin 250mg tab/cap amo250t New item

Quantity: 200 Units issued: 197

Pack size: 100 ea

Total quantity: 20000 Location: A

Batch: b39399 Volume per pack: 0 m3

Expiry: 01/01/2008

Adjusted local cost (USD) % Margin Sell price

Invoice line unit cost (USD) 343.00 0.00 343.00

Pack to one

Cancel OK OK & Next

For this example lets assume that the total quantities are correct. Here we did indeed receive 20,000 tablets. So we are going to make the following adjustments.

The step below is only possible if you have the user permission “Can update pack size, cost and sell price” set as described above. If this permission is not set, the pack size is disabled but still viewable.

Below we have changed the packsize to “1” and pushed the quantity to 20,000

So, as before, the total tablets we have received is : 20,000 X 1 = 20,000

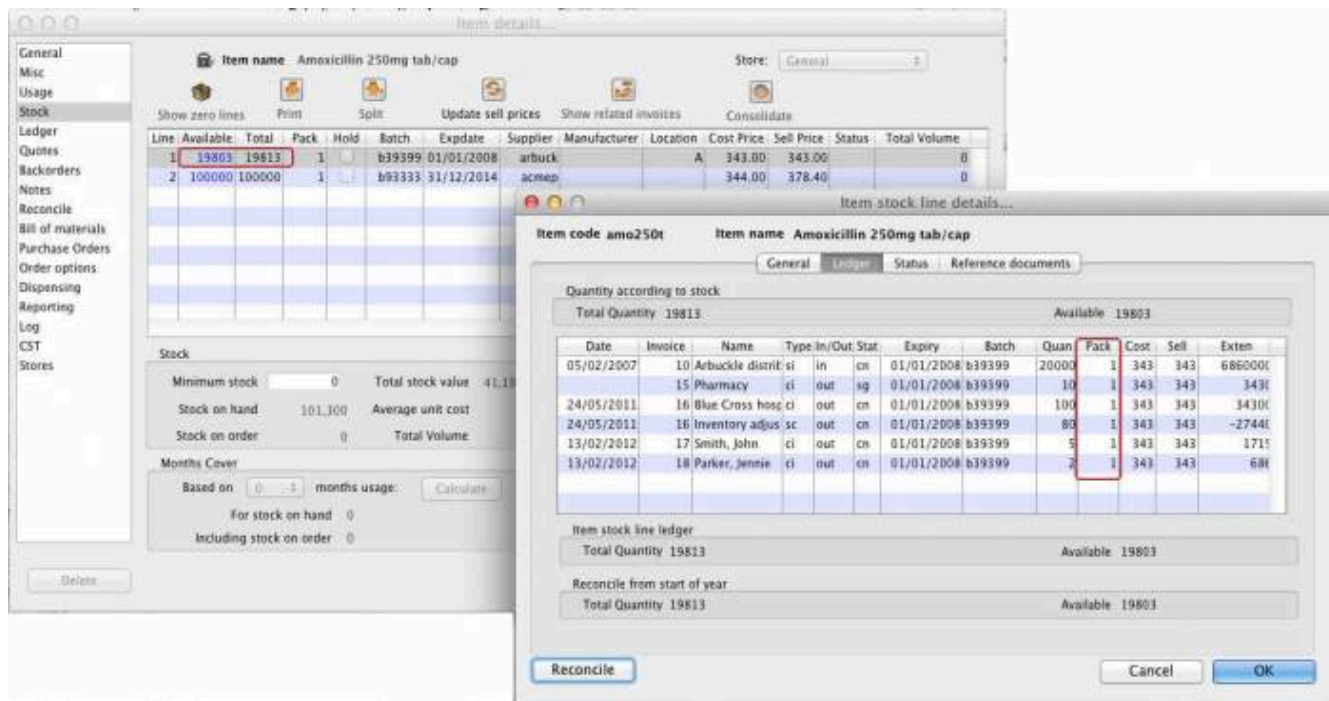
Click “OK” to save the changes.

The screenshot shows a dialog box titled "Add/edit supplier invoice line...". It contains several input fields and buttons. The "Item" field is "Amoxicillin 250mg tab/cap" with a dropdown arrow and a "New item" button. The "Quantity" field is "20000" with a red border and "Units issued: 197" next to it. The "Pack size" field is "1" with a red border and "ea" next to it. The "Total quantity:" is "20000". The "Batch" field is "b39399" with a blue border. The "Expiry" field is "01/01/2008". The "Location" field is "A" with a dropdown arrow. The "Volume per pack" field is "0" with "m3" next to it. Below these fields are four columns: "Invoice line unit cost (USD)" with value "343.00", "Adjusted local cost (USD)" with value "343.00", "% Margin" with value "0.00", and "Sell price" with value "343.00". At the bottom left is a printer icon and "Pack to one". At the bottom right are three buttons: "Cancel", "OK", and "OK & Next".

We are done. Close the invoice.

Review of the changes

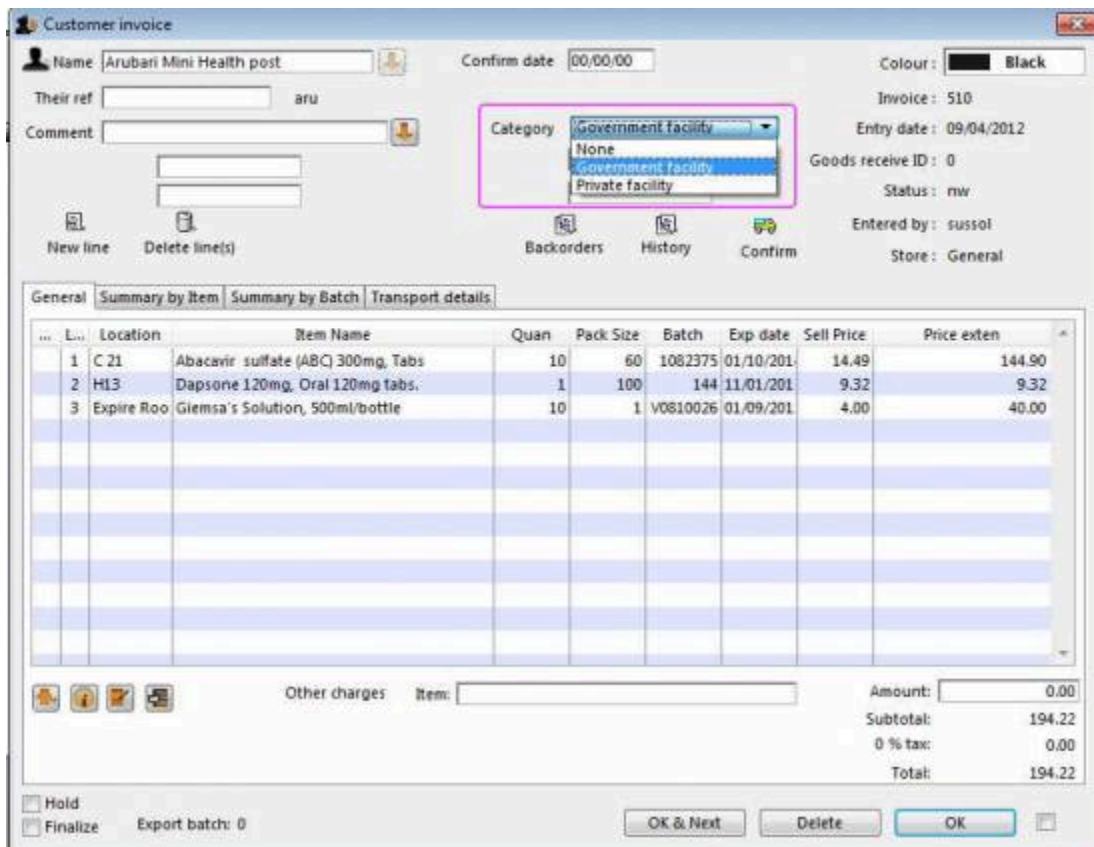
Now, to see the result of the pack size adjustment, view the item and its ledger associated with batch “b39399”:



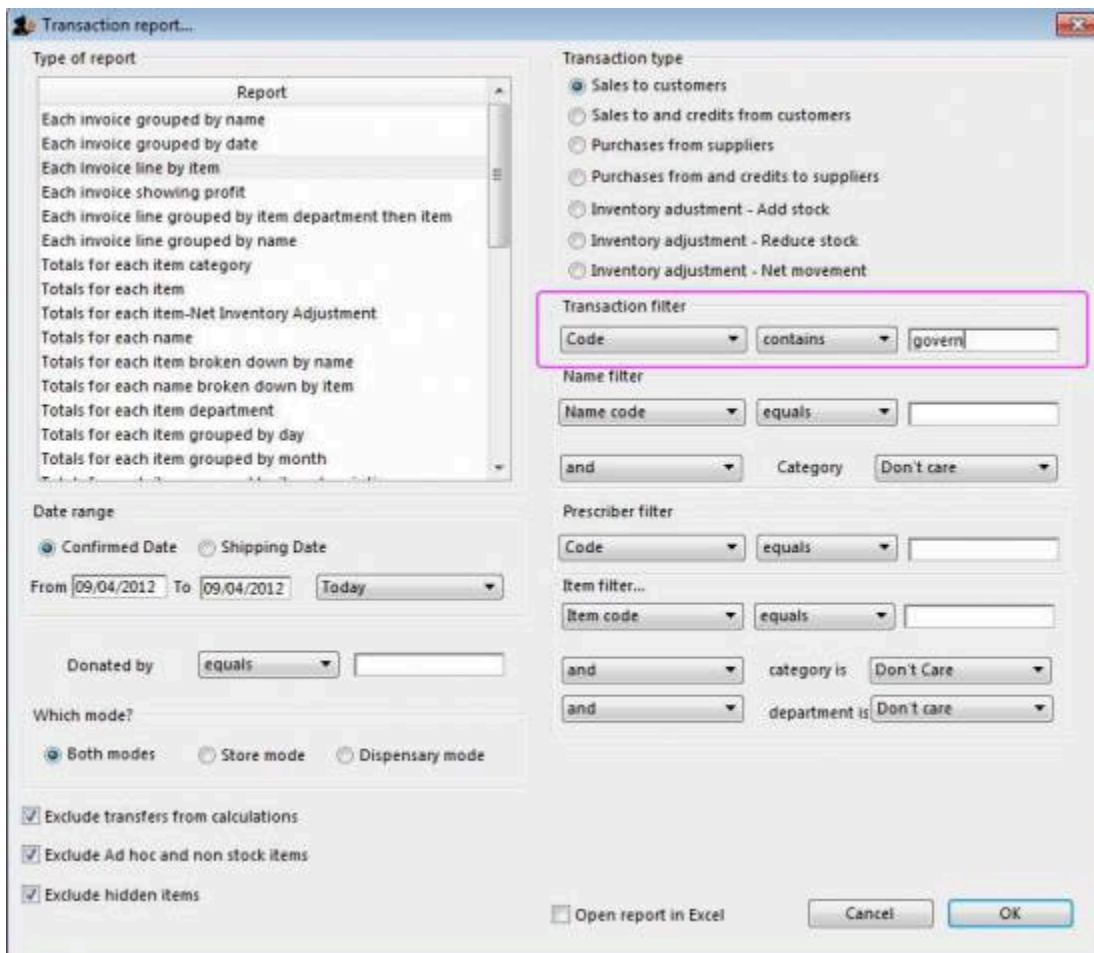
From the image above we see that the available and total stock figures have changed.

We can also see that pack sizes on past ledgers have been converted from “100” to “1”.

Previous: How To Remove Stock Lines That Have '0' Available Next: How to report by invoice category



- Choose the category from the list and click on the OK button. For reporting purposes, the invoice will need to be confirmed.
- For reporting, from mSupply menu or Navigator , View Report → Transactions.



- On the right hand side of that window, you will see the section “Transaction filter”. Here we have chosen to search for “Code” contains “govern”, which is equivalent to searching for “Code” equals “Government”. Click on the OK button and you will now have the opportunity to view items issued to government facilities.

Print Preview

Sales, Confirm date : 09/04/2012 to 09/04/2012, Store : General Modr Both Transaction category : Code contains @govern@.

Item	Toffran	Code	Date	Invoice	#Packs	Pack Size	Total Quant	Cost Price	Sell Price	Price Extension
Alcedin sufre ABC 300mg Tabl	Alcedin from Health post	WU	09/04/12	810	10.00	80.00	8.00	14.40	14.40	144.00
										Total
Caprine 120mg, Capr120mg 906	Alcedin from Health post	WU	09/04/12	810	1.00	100.00	1.00	9.32	9.32	9.32
										Total
										9.32
Demars solution 800mc/codab	Alcedin from Health post	WU	09/04/12	810	10.00	1.00	10	8.00	8.00	80.00
										Total
										80.00
Grand Total										194.32

Previous: How To Correct Wrong Packsizes Next: FAQ: Imprest Work Flow

Why is my stock balance report showing negative

Occasionally mSupply will show negative stock balances when running reports to view stock levels at a past date. This may look to be wrong but in many cases this is mathematically correct.

The two primary reasons for the cause in negative stock values are :

- You may have entered backdated customer invoices using the current available stock. Here you would have created a customer invoice, but modified the confirmed invoice date to reflect past transaction.
- You issued backdated placeholder lines on confirmed invoices using the current available stock. Initially when you created a customer invoice, you had no stock but had to resort to placeholder lines. After receiving stock, you re-open the old confirmed customer invoice to issue the placeholder lines with recently available stock.

In both the cases if you were to report on stock level at a certain point (the date before you receive supplies), then you may get negative stock values. mSupply to calculate stock level at a certain date needs to work back from current stock level. So if your data shows that you have issued stock that you haven't technically received due to the order of the confirmed date, then you are likely to see Negative stock balance.

The image below shows a ledger for a single batch that was received in 16/2/2016, but between 04/09/2015 to 27/10/2015, the stock has been issued inside three backdated invoices.

22/10/2015	234881154	township	ci	out	cn	30/06/2017
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Previous: The Help Menu Next: FAQ: How Do I Remove Stock Lines That Have 0 Available?

How to remove stock lines that have '0' available

Occasionally users will come across stock lines in mSupply that cannot be removed easily. It almost like you have stock but you cannot carry our stock take or inventory adjustment to reduce the stock level to zero.

Below are two examples :



Above we have Paracetamol 500mg where for the highlighted batch (red square) we have a total of 100 but available is 0. This means that 100 in stock but all of this has been reserved for a customer.

Below is another example :

Stores
15 segments (1 grey, 13 blue, 1 grey)

For Amoxicillin 250mg we have 92 in total and 42 available. This means that we have $92 - 42 = 50$ reserved for customers.

Handling reserved stock

Customer invoices that are of status “nw” or “sg” will end up reserving stock. This theoretically means that you have the stock but it cannot be used as it has been reserved by the invoices.

You as a manager will be required to view the “nw” and “sg” invoices and decide if they are still valid or not. If the invoices are valid then you should **“confirm”** them if not they can be deleted.

So search for customer or prescription that are of “nw” status. Follow the image below. Do customer > Show invoices... or patient > Show Prescriptions...



A screenshot of a search interface. It shows a search bar with three segments: 'status', 'equals', and 'nw'. Each segment has a small blue square with a white double-headed arrow icon to its right, indicating it is a dropdown menu. The search bar is flanked by vertical red and grey bars.

Search for “Status” equal to “nw” as above. If the “nw” invoices exist, then you will be shown a list. Double click to review. Delete if the invoice is not valid otherwise **“Confirm”**.

“nw” invoices will exist in the database if you have suffered unexpected hardware or network communication failure.

Now repeat similar for “sg” type invoices :



A screenshot of a search interface, similar to the one above. It shows a search bar with three segments: 'status', 'equals', and 'sg'. Each segment has a small blue square with a white double-headed arrow icon to its right, indicating it is a dropdown menu. The search bar is flanked by vertical red and grey bars.

“sg” invoices are part of the warehouse functions. You may have simply forgotten about these invoice or the customer lost interest in the order.

Your search for “nw” or “sg” invoice may result is the list below.

6	Amoxicillin 250mg Capsules	50	1	KM3665	30/09/20	0.03	1.50
---	----------------------------	----	---	--------	----------	------	------

Note the status detail. We want this to show “cn” and not “nw” or “sg” Hit the **“confirm”** truck.

For prescription, you won't see the **“confirm”** truck, simply review and click “OK” to close the prescription and mSupply will automatically confirm. For prescription, you will be facing “nw” invoices.

The Result

Once all the “sg” and “nw” invoices are processed, then your stock figures should update and they shouldn't be any stock that has been held as reserve.

Below the images should speak for themselves. Please compare the image below with the ones above at the start of this topic.

Paracetamol 500mg :

Stores



Amoxicillin 250mg :

Stores



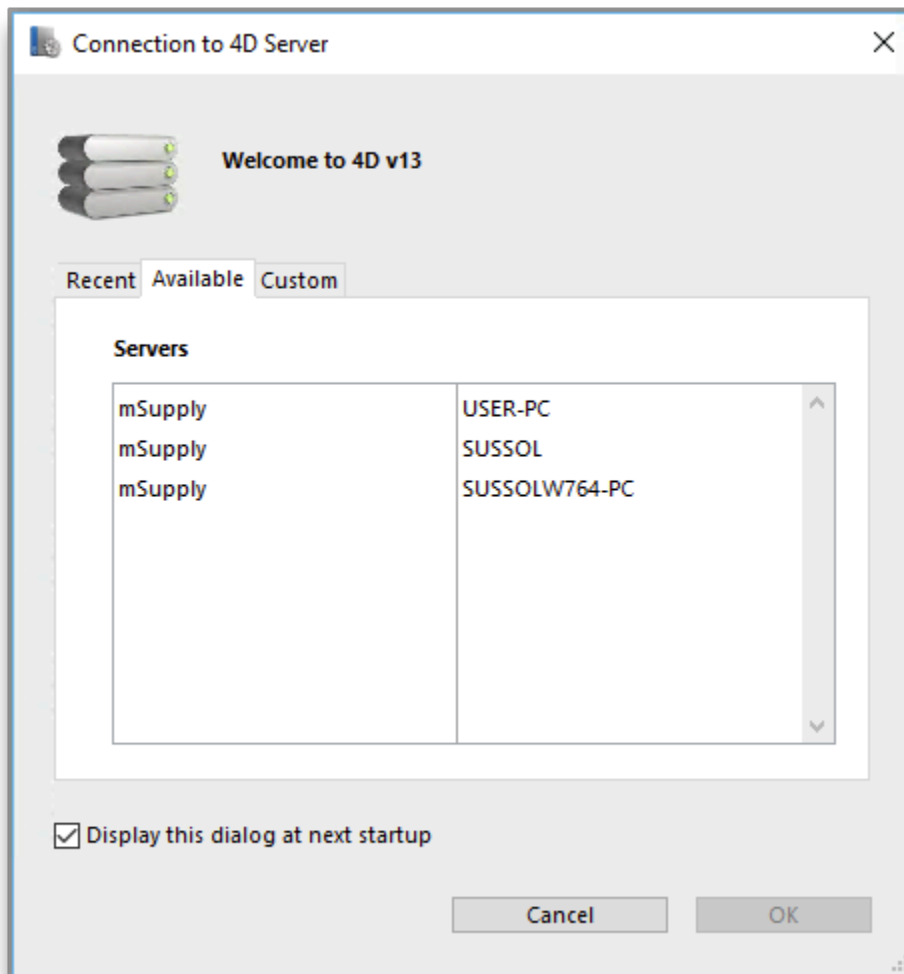
Previous: Why Is My Stock Balance Showing Negative? Next: FAQ: How to Correct Wrong Pack Sizes

Tips and tricks

mSupply Client: Connecting to a different server

It is unusual, but you may be in a situation where your mSupply client application needs to switch between more than one mSupply Server.

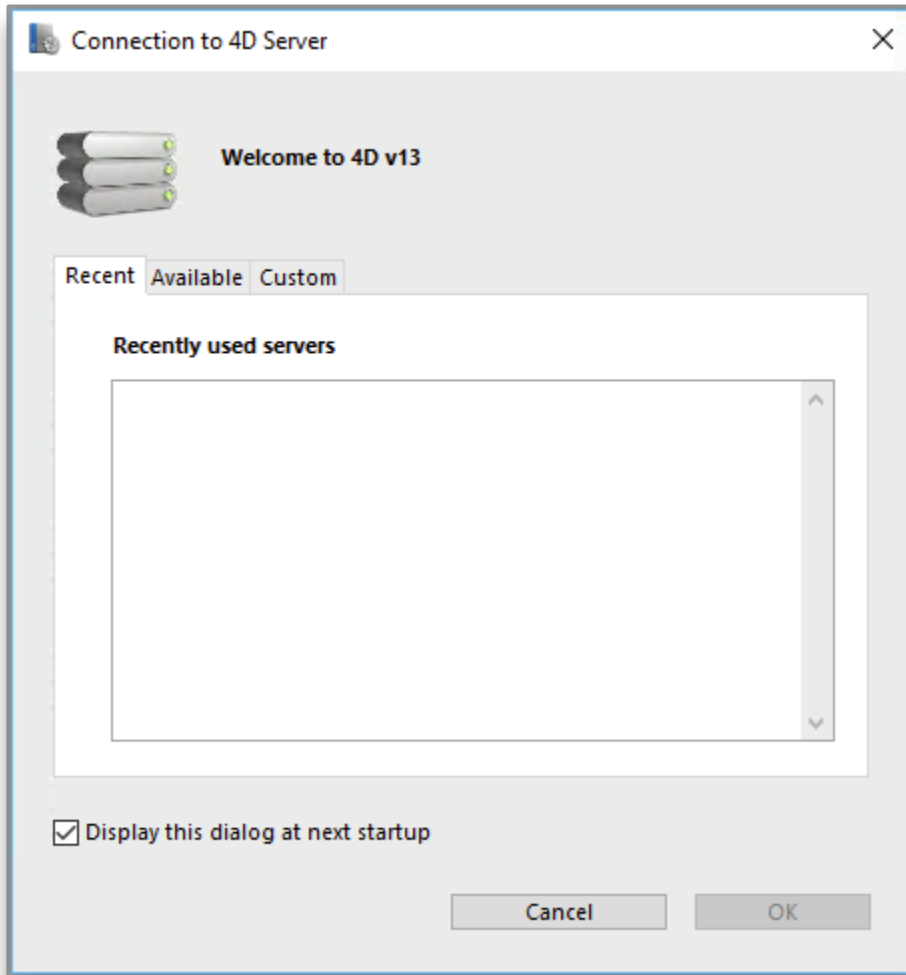
Launch the mSupply client application by double-clicking on the mSupply client icon, then immediately hold down the **Alt** key until the mSupply Server connection dialog box appears:



If you tick the **Display this dialog at next startup** tick-box, this dialog box will automatically be displayed on startup of the mSupply client application, and you will not need to do the double-click, **Alt** routine described above.

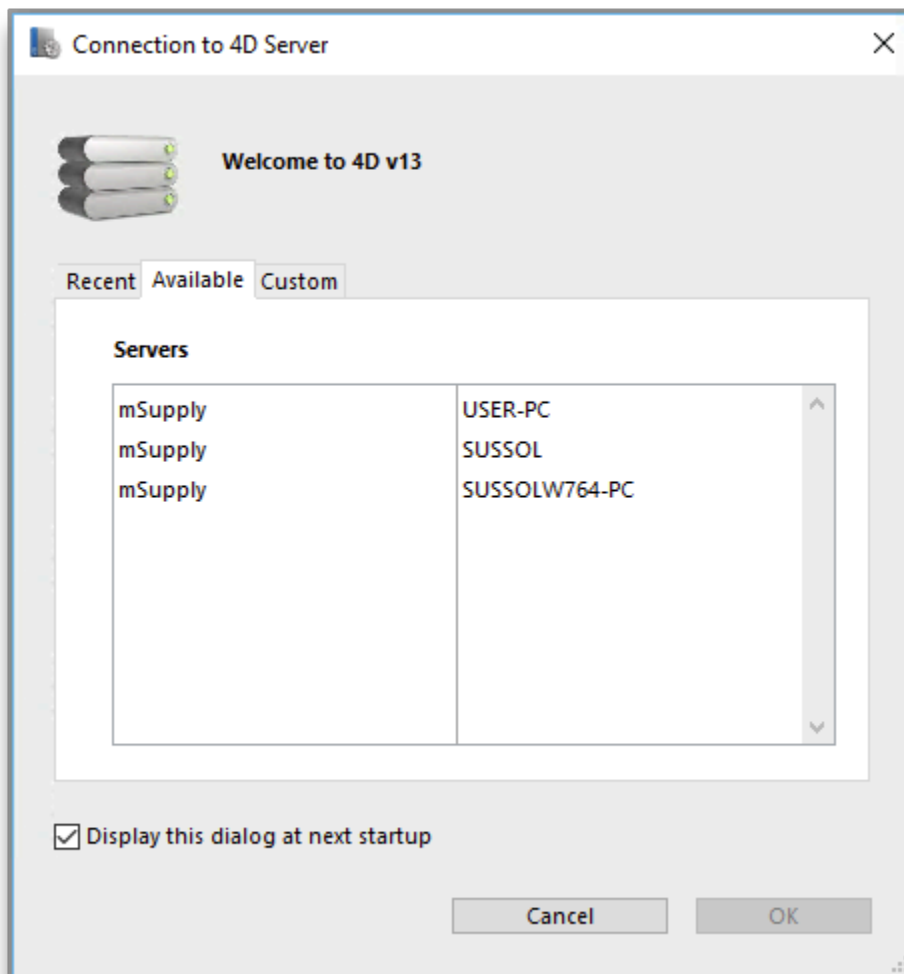
There are three ways of selecting the mSupply server to connect to. These are accessed via the tabs: **Recent**, **Available** and **Custom**:

Recent tab



The **Recent** tab retains a list of all mSupply servers recently used. The list is sorted by alphabetical order. To connect to a server from this list, double-click on its name or select it and click the **OK** button.

Available tab

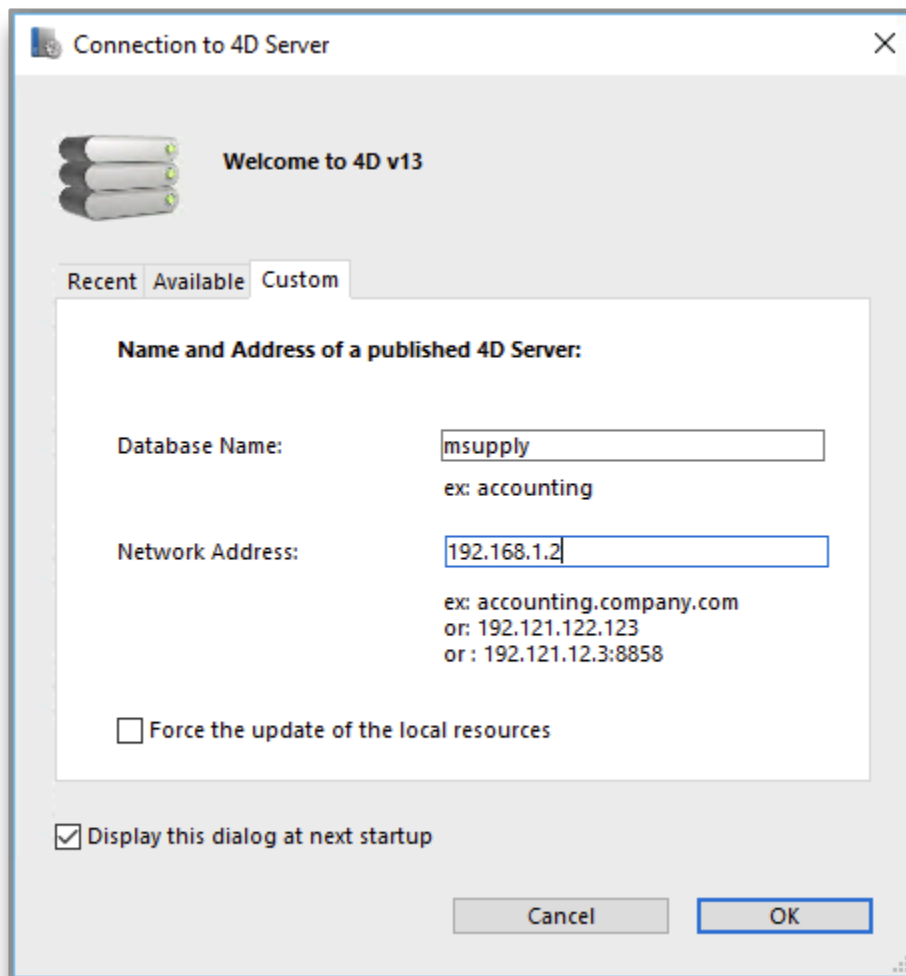


The mSupply Server includes a built-in TCP/IP broadcasting system that publishes by default the name of the mSupply Server databases available over the network. These names are listed on the **Available** tab of the connection dialog box.

This list is sorted by order of appearance and is updated dynamically. To connect to a server from this list, double-click on its name or select it and click the **OK** button.

Computer networks can be configured to stop dynamic publication of the database name on the network. In this case, you will need to manually configure the the connection on the **Custom** tab.

Custom tab



The **Custom** tab allows assigning a published server on the network using its IP address and database name.

Database name: allows defining the name of the mSupply Server database.

Network address: allows entering the IP address of the machine where the mSupply Server was launched. If two servers are operating simultaneously on the same machine, the IP address must be followed a colon and port number, for example: 192.168.92.104:19814 .

By default, the publishing port of a mSupply Server is 19813 . This number can be modified in the **Database Settings...** under **Client-server** tab of mSupply server.

If a database was selected in the **Recent** or **Available** tabs when you clicked on the **Custom** tab, these two fields display the corresponding information from that tab.

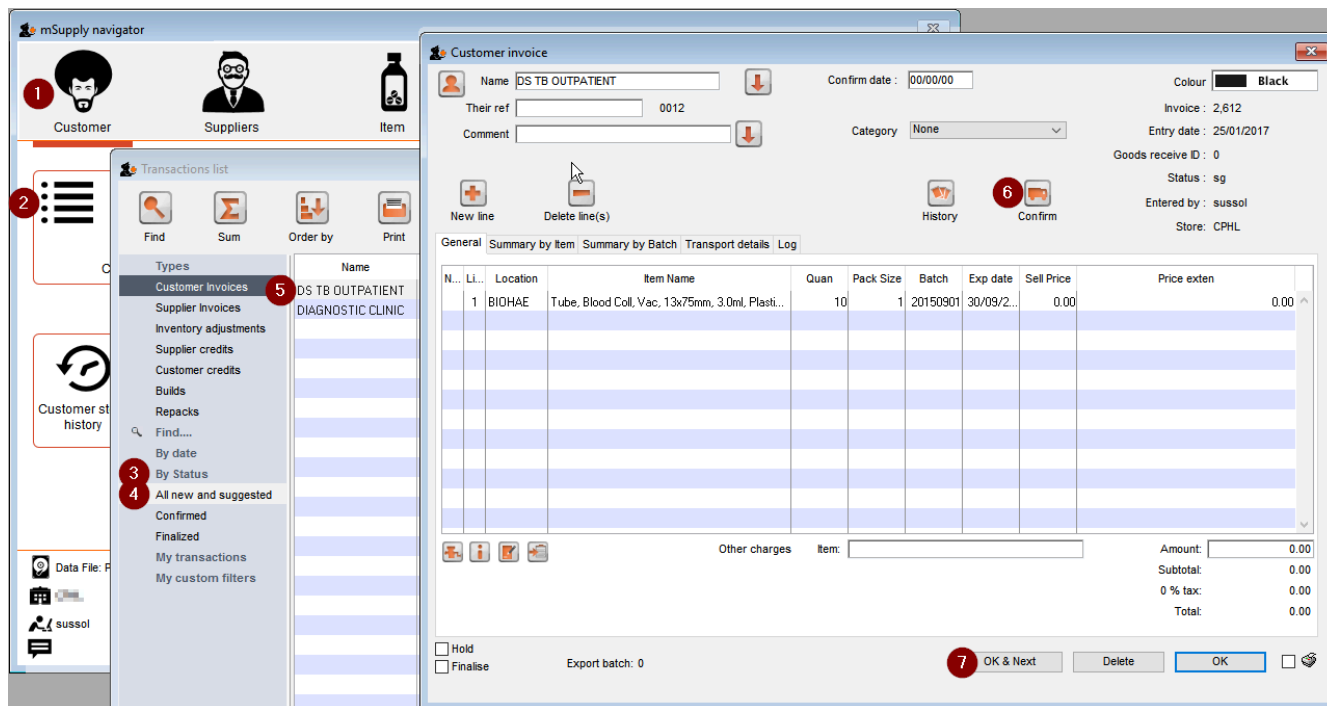
Once the server details have been entered, clicking the **OK** button will connect you to the server.

If you tick the **Force the update of the local resources** tick-box, it allows you systematic updating of the local resources on the client machine when it connects. As a rule, updating of the local resources is automatic on the remote machine each time it connects, when the structure of the database has been modified between two connections. Most of the time, this option is unnecessary. Nevertheless, in certain specific cases, it may be necessary to force the update.

Emptying out a store and starting again...

Sometimes, the actual stock situation in a store becomes so out of step with mSupply's records that you want to start again from scratch with a brand new stocktake. To do this, you will need to:

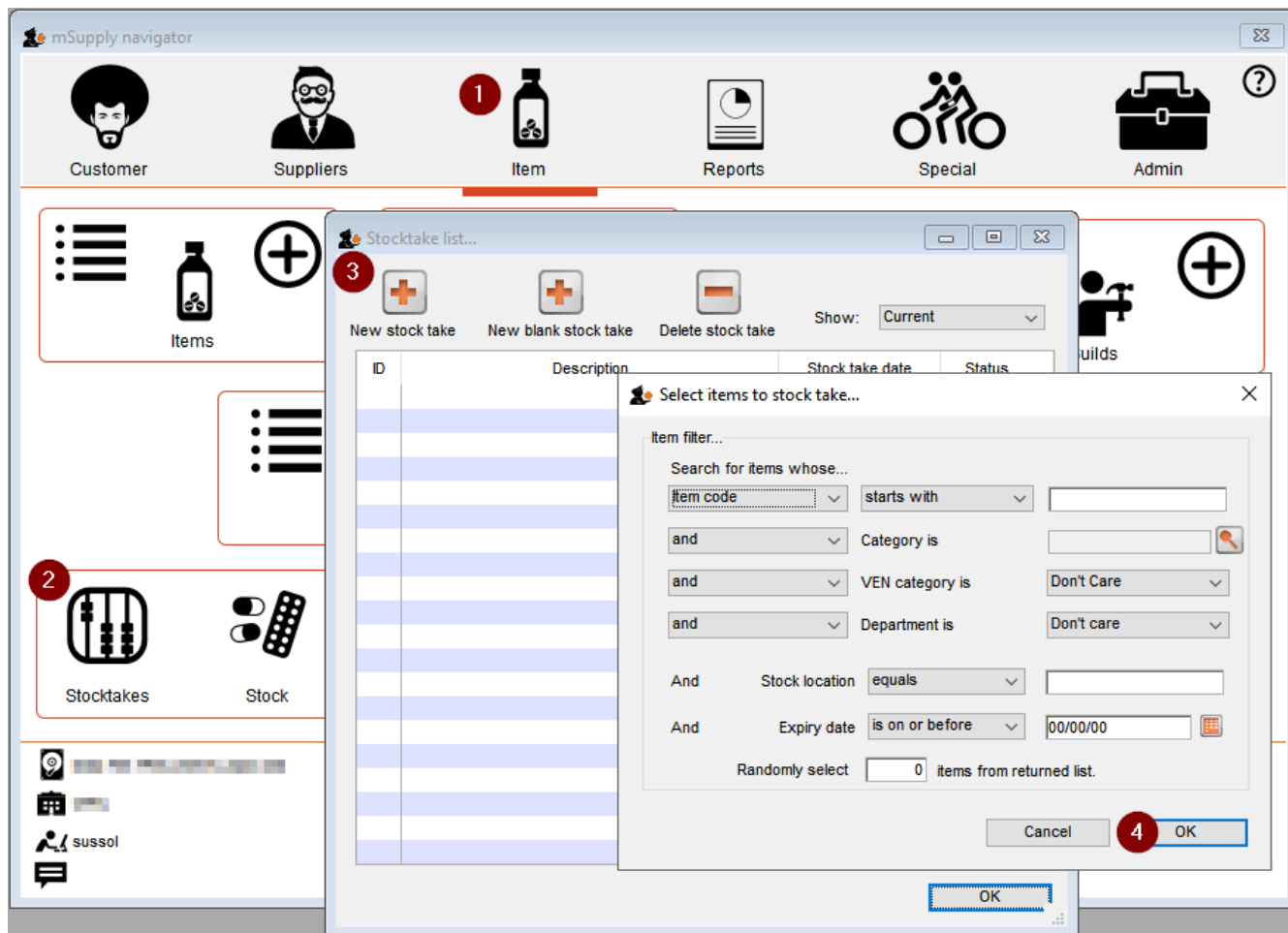
- Confirm all customer invoices with status = nw (New) or sg (Suggested). This should remove from stock all lines that have been made unavailable, but are still showing as in stock - see figure below.
1. Click on **Customer**
 2. Click on **Show Customer Invoices**
 3. Click on **By Status**
 4. Click on **All new and suggested**
 5. Double-click on the first displayed invoice
 6. Click on **Confirm**
 7. Click on **OK & Next**
 8. Repeat steps 6 & 7 until all invoices are confirmed.



- Empty the mSupply store of all stock by means of an Inventory Adjustment based on an mSupply stocktake of all stock in the store
 - Create the stocktake - see figure below.

1. Click on **Item**
2. Click on **Stocktakes**
3. Click on **New stocktake**

4. Click **OK** (accept default filter values which includes all stock)



- Set all actual quantities to zero (0) - see figure below.

1. Click once on the first stock line. The whole line will become highlighted.
2. Click once on the value in the 'Enter Quantity' column. The Enter Quantity value will become highlighted
3. Type 0 , then press Tab. Repeat this for each line of the whole stocktake. You should be able to be faster than 2 stock lines per second, maybe a lot faster. At 2 stock lines per second, you can get through 1000 stock lines in less than 10 minutes...
4. Click on **Create Inventory adjustments**

Stock take sheet...

Description: 25/01/2017 Stock take
 Comment:
 Stock take date: 25/01/2017
 Stock take key: 88
 Stock take entered date: 25/01/2017
 Stock take status: sg

New line
 Delete line(s)
 Print
 Create Inventory adjustments
 Order by

Item Name or Code
 Search by item name and code Find

General Log

Lin...	Location	Item code	Item name	Batch	Expiry	Snapsh...	Pack Size	Enter Quantity
1	Hae	791601	Boule Quintus, 5-part Diluent, 20l (EBOS 1...	1501-399	31/01/2017	2	1	0
2	Hae	791602	Boule Quintus, 5-part Lyse, 5l (EBOS 150...	1504-430	30/06/2019	1	1	0
3	Hae	791603	Boule Quintus, 5-part Stopper, 1l (EBOS 15...	1504-388	31/12/2016	1	1	0
4	F3	178015	Immunocomb HIV 1/2, 100 tests	150120	30/04/2016	5	1	5
5	F3	178015	Immunocomb HIV 1/2, 100 tests	150204	31/05/2016	3	1	3
6	A1	176796	Lopinavir 100mg + Ritonavir 25mg, Dual Co...	E443256	29/02/2020	25	60	25
7	B2	176791	Lopinavir 100mg + Ritonavir 25mg, Dual Co...	H45-876	31/10/2017	20400	60	20400
8	B1	176791	Lopinavir 100mg + Ritonavir 25mg, Dual Co...	H45-876	31/10/2017	34	36000	34
9	F1	733004	Rapid Diagnostic Test (RDT) for Troponin-1...	90AD14003	30/06/2016	1	1	1
10	F3	733004	Rapid Diagnostic Test (RDT) for Troponin-1...	20141202	31/12/2016	3	1	3
11	F1	732404	SD Bioline Dengue IgG/IgM, Kit	11DDA036A	31/10/2017	1	1	1
12	BIOHAE	743201	Tube, Blood Coll, Vac, 13x75mm, 3.0ml, Pla...	20150901	30/09/2017	53	1	53

Locked Save Sort order

- Import new stock as described in Importing items & stock

Previous: FAQ: Imprest Work Flow Back to beginning: Why mSupply?