
trytond_stock

Release 6.2

unknown

Apr 15, 2022

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The *Stock Module* provides the fundamental concepts required for managing stock. This includes keeping track of where the stock is, how much is available, and checking and correcting stock levels. It also allows stock to be moved from one place to another, and delivered to and from customers and suppliers.

1.1 Setting up stock locations

The *Stock Module* provides a set of default *Stock Locations*, however it is likely that you will want to customise them to suit your company.

Tip: If you only have a small *Warehouse* you can use the same location for its storage, input and output locations. This reduces the stock moves required to send and receive shipments.

Tip: If you have a large number of locations in your warehouse you can use the option to limit locations to only a single level of children. This will improve the performance of Tryton when it is calculating stock quantities.

Tip: If you are altering your stock locations, and you have already used a stock location then it cannot be deleted. However, you can deactivate it which will hide it during normal use.

1.2 Setting initial stock levels

When you start using Tryton you may already have some stock that you want to bring into the system.

In order to ensure the value of your stock is correctly calculated, and to show that this stock has (at some point in the past) come from a supplier, you must enter this initial stock in the correct way.

The right way of doing this is to create a set of individual *Stock Moves*. These moves can be created in the view that is opened from the *Inventory & Stock → Moves* main menu item. Each of the stock moves should move some stock of a *Product* from a supplier *Location* to the appropriate storage location. These stock moves must have their unit prices set to their product's cost price.

Note: As these moves are for your initial stock they have no origin, and when you try and do these moves Tryton will warn you about this. Because this is for your initial stock this is not a problem, and you can safely go ahead and finish doing the moves.

Tip: If you create all the stock moves to start with, you can then select them all in the list view, and use the *Do* item from the *Launch Action* menu to do them all in one go.

The *[Inventory & Stock]* main menu item allows access to the items that allow you to view, manage and change things related to stock.

2.1 Sending and receiving deliveries

In Tryton you use *Shipments* to send stock to your customers and receive stock from your suppliers. There are different kinds of shipments available depending on whether you're dealing with customers or suppliers and whether you are sending or receiving stock.

Although each type of shipment helps you manage the delivery of some stock, and encompasses the same set of ideas, each is tailored for a particular type of delivery.

2.1.1 From Suppliers

You use a *Supplier Shipment* when receiving stock from a supplier.

- The supplier shipment is first received in to the *Warehouse's* input *Location*.
- You can then use the *Restocking List* to help you put the stock away in the right locations in the warehouse.

2.1.2 To Suppliers

If you need to send stock back to a supplier you use a *Supplier Return Shipment*.

2.1.3 To Customers

You use a *Customer Shipment* when sending stock out to a customer.

- When the customer shipment is waiting to be worked on, normally the first thing you need to do is *Assign it*.
- You then pick the stock from the *Warehouse*. A *Picking List* helps with this as it details how much stock you need, and where it can be found.
- Once you've picked and packed the delivery you can dispatch it to the customer from the warehouse's output *Location*. It is common practice to send a *Delivery Note* along with your customer's shipment.

2.1.4 From Customers

Stock that is returned by customers is handled by using a *Customer Return Shipment*. It works in a similar way to supplier shipments.

- You receive the stock in the warehouse's input location.
- Then you use the *Customer Return Restocking List* to help you put it away in the warehouse.

2.2 Moving stock within your company

If you want to move stock between *Locations* within a *Warehouse*, or between warehouses that belong to the same *Company* you use an *Internal Shipment*.

The internal shipment helps you manage the processes of moving stock from one place to another.

- Once the internal shipment is waiting to be worked on, you need to go ahead and *Assign it*.
- You can use the *Internal Shipment Report* to help you find and pick, or move, the stock.
- If the stock is intended for another warehouse you then send the shipment to it.
- Finally once you've put the stock away in the correct locations the internal shipment is done.

Tip: You can use the *Stock Location Lead Time* to setup how long it normally takes for shipments between two warehouses.

Note: If an internal shipment is expected to take more than one day to complete then when the stock is sent it gets put in a transit location until the shipment is done.

2.3 Assigning shipments

Any *Shipments* types that normally take stock from either a storage or view *Location* must be assigned before they can be done. The aim of this process is to find and reserve the stock specifically for the shipment.

The *Assign Shipment* wizard is used when assigning shipments. It tries to *Assign* each of the shipment's incoming *Stock Moves*. In doing so it updates the stock moves based on what stock it managed to find.

If there is not enough stock available to fully assign the shipment you can force the remainder to be assigned, although this will result in some stock locations having negative stock.

Note: When stock moves from a view location are assigned the stock must always be taken from one of its sub-locations, as view locations cannot be the source or destination of a done move. This also means moves from a view location cannot be forced.

2.4 Viewing stock levels

In Tryton there are a few different ways of seeing *Product Stock Quantities*. You can also easily see what the stock situation was at any time in the past, and get an idea of what the stock situation will be after any *Stock Moves* that are still being processed have been completed.

Note: Tryton is designed to allow you to create stock moves even if they create negative stock. For normal storage locations negative stock levels indicate that more stock has been used than was available. This suggests that there may be incoming moves to the location that have not yet been done, or a mistake has been made that can be resolved by *Checking and correcting stock levels*.

However, although it is possible to create negative stock, you will normally use *Shipments* to help manage stock moves, and a process to *assign them*. These respect stock availability and won't allow you to create negative stock unless you force them to.

Depending on what you are trying to find out you can get information about stock levels for either *Products* or *Locations*.

If you are interested in finding out where some particular products are stored, then once you have selected the products you are interested in, you can use the menu items in the product's *Open related records* menu.

To view how much stock is in one or more stock locations you first need to select the locations you are interested in. Once you have done this you can use the *Products* item from the *Open related records* menu. This then shows the total stock that is in all the selected locations.

Tip: From the [*Inventory & Stock* → *Locations*] main menu item you can quickly get a list of stock in a single location by opening the location you are interested in.

Tip: If you have only selected a single location then the stock levels will include all the stock in the location's children as well. However, if you selected multiple locations then only the stock in the selected locations is included, any stock in their child locations is *not* included.

2.5 Checking and correcting stock levels

There are a range of things, such as mispicks, damages and theft, that can cause the stock levels on Tryton to not match the actual amount of stock available.

Tryton allows you to check for and correct these discrepancies by performing an *Inventory* of a *Stock Location*. This process is sometimes also called a stocktake, stock count or inventory check. How often you need to do this, and to what extent, is very dependent on your business. You may do this once a year at the end of your fiscal year, or continuously by means of a *cycle count*.

When you create a new inventory you can use the *Complete* button to complete the creation of the inventory. This adds a line to the inventory for each product that is expected to be in the location.

How you go about actually counting the stock will depend on how your stock location is organised. If each *Product* is all together and is easy to count, then you can enter the totals directly into the *Quantity* column. If there are many different lines in the location, or not all of each product is together, then you can start the *Count* wizard using the *Count* button to enter the quantities as you go. In this case, multiple quantities for the same product will be automatically added together.

For each inventory you can choose how to deal with any lines where the quantity has been left empty. You can either keep the stock in the location, or empty it out.

Once the inventory has been finished you use the *Confirm* button to correct the stock levels on Tryton.

2.6 Finding the value of your stock

In Tryton you can easily find the value of stock that's in one, or more, *Locations* as the stock's cost value is included when *Viewing stock levels* for the locations you are interested in.

2.7 Updating the value of your stock

The value of the stock that your *Company* owns is based on the *Quantity* of stock and its cost price.

You can correct the quantity of stock by *Checking and correcting stock levels*.

You can also change how much the stock is worth by *Updating a product's cost price*.

2.8 Updating a product's cost price

A *Product's* cost price is affected by various factors including its cost price method and in some cases the value of stock received or dispatched.

The *Recompute Cost Price* wizard is used to update a product's cost price using the product's cost price method.

Tip: Most of the time you will not need to run the wizard that recalculates your products' cost prices, because, by default, there is a scheduled task that runs once a day and does this for you.

You can, however, also run the wizard at any time to ensure you are seeing the most up to date information.

Once there are some *Stock Moves* for a *Product* you can make a manual adjustment to a product's cost price using the *Modify Cost Price* wizard. This allows you to do things like reduce the cost price, and consequently stock value, of a product by 10% from a certain date by using `cost_price * 0.9`.

Note: If you modify a cost price you may also need to run the *Recompute Cost Price* wizard to see the changes reflected in the product's cost price.

2.9 Viewing cost price changes

You can get a list of any manual cost price changes that have been applied to a product by using the *Cost Price Revision* relate action from the product's *Open Related Records* menu.

2.10 Using stock periods

You can use *Stock Periods* to stop *Stock Moves* being created or updated before a specific date, and to improve the performance of Tryton when looking at and using *Product Quantities*.

Tip: Depending on the number of stock moves that your *Company* generates you may find it useful to create new stock periods as part of your accounting period end, or fiscal year end, processes.

The stock module introduces or extends the following concepts.

3.1 Location

A location represents the place where stock is stored. This may be a physical location, such as a shelf, or a virtual location such as the location used for products that have gone missing.

Locations are organised in to a structure with each location having a parent location and zero or more sub-locations. It is possible to restrict a location to only one level of children. This enables the use of an optimisation that improves the performance of the the stock quantity calculation.

A location also has a set of properties that allow the *current and forecasted amounts of stock* in the location to be obtained along with the stock's value.

3.1.1 Warehouse

Warehouses are special locations that represent a physical warehouse and as such can have an [Address](#). They are also normally split up into a set of locations each with a particular purpose, such as for the input, output or storage of stock.

See also:

Stock locations can be added, removed and changed from the main menu item:

Inventory & Stock → Configuration → Locations

The stock locations structure, and access to the stock levels in a location can be found from the main menu item:

Inventory & Stock → Locations

3.2 Location Lead Time

A *Location Lead Time* is the amount of time that it normally takes to transfer stock between two [Warehouses](#).

See also:

Location lead times can be updated from the main menu item:

Inventory & Stock → Configuration → Locations → Location Lead Times

3.3 Move

In Tryton a stock *Move* represents the transfer of a given amount of a *Product* between two different *Stock Locations*. Often stock moves will be grouped together into a *Shipment*.

Note: Service products have no physical presence, so are not available for use in stock moves.

A stock move has some properties that record the planned date for the stock move and also its effective date, which is when the move actually happened.

Some stock moves are also associated with unit and cost prices. These allow the value of stock to be calculated at any time, and for products' cost prices to be updated based on the stock moves.

Each *Company* has its own stock moves which are kept separate from other company's stock moves.

See also:

The stock moves can be listed by opening the main menu item:

Inventory & Stock → Moves

3.3.1 Assign Concept

A stock move is assigned when the stock for the stock move has been found and reserved and cannot be assigned by any other stock move.

When attempting to assign a stock move Tryton looks at the stock move's source locations and their sub-locations, and searches for the stock that is needed to complete the stock moves. If stock is found then the source location of the stock move is changed, or the stock move is split up into several stock moves, each of which may take stock from a different sub-location.

If there is not enough stock available to fully assign the stock move then the remainder is left in a stock move that is not assigned.

Note: Consumable products always get assigned even when there is not enough stock available for the stock move. This is the key difference between goods and consumable products.

3.4 Shipment

In Tryton the concept of a *Shipment* is used to help organise and manage groups of related *Stock Moves*. There are different types of shipment which are used for different purposes. Some of these types of shipment may also be split up into stages. In each stage stock is moved to or from an intermediate *Location*. Each stage's moves form a subset of the shipment's total moves.

3.4.1 Supplier Shipment

A *Supplier Shipment* has a set of properties that hold details about the shipment such as who the supplier is, what *Warehouse* it is going to and the date when the shipment is expected to be delivered.

It is made up from two sets of *Stock Moves*:

- Incoming moves, these are used to move stock between a supplier *Location* and the warehouse's input location, and
- Inventory moves, these then put the stock away in the warehouse's storage location, or one of its child locations.

Note: If the warehouse's input location and storage location are the same then the inventory moves are not created.

See also:

The supplier shipments can be found by opening the main menu item:

Inventory & Stock → *Supplier Shipments*

Reports

Restocking List

The *Restocking List* report lists the items on an incoming shipment and the destination locations for the stock based on the inventory moves.

3.4.2 Supplier Return Shipment

A *Supplier Return Shipment* has a set of properties that contain information about the shipment such as who the supplier was, what *Address* the shipment is going to, and the date the shipment is sent.

It is made up from a single set of *Stock Moves* that return the stock directly back to a supplier *Location*.

See also:

The supplier shipments can be found by opening the main menu item:

Inventory & Stock → *Supplier Shipments* → *Supplier Return Shipments*

3.4.3 Customer Shipment

A *Customer Shipment* has a set of properties that contain information about the shipment such as which *Warehouse* it is being sent from, what *Address* it is being delivered to, and the date it is being sent.

A customer shipment is made up from two sets of *Stock Moves*:

- Inventory moves, these moves are used to pick the stock from the warehouse's storage *Location* and put it in the output location, and
- Outgoing moves, these then take the picked stock and send it to a customer location. The outgoing moves are created first and define what stock needs to be sent to the customer.

Note: If the warehouse's picking location (or storage location if no picking location is defined) is the same as its output location then only outgoing moves are created and these moves do not get *Assigned*.

See also:

The customer shipments can be found by opening the main menu item:

Inventory & Stock → Customer Shipments

Reports

Picking List

The *Picking List* report lists the stock that is needed for a shipment. For each item on the shipment it details the location the stock should be taken from, and how much should be taken.

Delivery Note

The *Delivery Note* report contains information about where the shipment is being sent, and when the delivery is happening. It also lists all the items on the shipment.

3.4.4 Customer Return Shipment

A *Customer Return Shipment* has properties that contain information about which customer the stock is being returned from, which *Warehouse* it is sent to and the date the return is happening.

It is made up from two sets of *Stock Moves*:

- Incoming moves, these are used to move stock between a customer *Location* and the warehouse's input location, and
- Inventory moves, these then put the stock away in the warehouse's storage location, or one of its child locations.

Note: If the warehouse's input location and storage location are the same then the inventory moves are not created.

See also:

The customer shipments can be found by opening the main menu item:

Inventory & Stock → Customer Shipments → Customer Return Shipments

Reports

Customer Return Restocking List

The *Customer Return Restocking List* report lists the items that were returned by a customer. For each item a destination location for the stock is also included based on the inventory moves.

3.4.5 Internal Shipment

An internal shipment allows a group of *Stock Moves*, between locations within the same *Company*, to be managed as a single entity.

For internal shipments that are planned to start and end on different dates it is made up from two sets of moves. The first set are outgoing moves that put the stock in a transit *Location* and the second set are incoming moves that take the stock from the transit location and place it in the destination location.

See also:

Internal shipments are available from the main menu item:

Inventory & Stock → *Internal Shipments*

Reports

Internal Shipment Report

The *Internal Shipment Report* provides a list of the items on the internal shipment along with their quantities. For shipments between *Warehouses* it also contains the *Address* of the warehouse the stock is being sent to.

3.4.6 Wizards

Assign Shipment

The *Assign Shipment* wizard is used to assign a shipment. Assigning a shipment tries to *Assign* the *Stock Moves* that take the stock for the shipment. If not all the stock moves can be assigned then it provides the user with a set of options of what to do next.

3.5 Inventory

The *Inventory* concept is used to help check and correct the amount of stock stored in a *Location*.

Each inventory has a set of lines, one for each *Product* that is in, or is should be in, the location. Each line has an expected quantity and an actual quantity. The former is used to show how much stock is expected to be in the location and the latter is used to record how much stock was actually found there.

A option on the inventory specifies what to do with lines whose actual quantity is left empty.

When the *Inventory* is confirmed the stock in the location is updated by creating a set of *Stock Moves*. These moves correct the stock in the location. They do this by transferring stock to and from the lost and found location associated with location being checked.

Warning: Do not use inventories when *Setting initial stock levels*.

See also:

The inventory checks can be found using the main menu item:

Inventory & Stock → *Inventories*

3.5.1 Wizards

Inventory Count

The *Inventory Count* wizard helps users fill in inventories on a *Product* by product basis. It takes a product and a quantity and adds this to the appropriate inventory line.

3.6 Period

In Tryton a stock *Period* is used to group together the all stock moves that happened up to a specific date and that were also done after the date of any previous stock *Period*.

This allows the stock levels for the *Products* in all stock *Locations* to be calculated for the date of the period, and stored in the *Stock Period Cache*.

These cached values can then be used, where applicable, instead of having to recalculate them each time they are needed.

See also:

The periods can be viewed and managed from the main menu item:

Inventory & Stock → *Configuration* → *Periods*

3.7 Period Cache

The *Period Cache* is used to store the quantities of a product in a particular location on the date defined by its *Period*.

3.8 Configuration

The *Stock Configuration* contains settings that are used to configure the behaviour and default values for stock related activities, including the sequences used to generate *Shipment* numbers.

See also:

The stock configuration can be found using the main menu item:

Inventory & Stock → *Configuration* → *Stock Configuration*

3.9 Product

When the *Stock Module* is activated, products gain some extra properties. These include a product's stock and forecast quantities, which show its current and predicted future stock situation, and the cost value of its stock.

See also:

The *Product* concept is introduced by the *Product Module*.

3.9.1 Product Quantity

The amount, and the value, of a product in a *Stock Location* is calculated by adding up all the *Stock Moves* in to that location and subtracting those out of the same location.

Some values from the *Transaction context* are used to help determine which stock moves get included in this calculation and which get left out. These values include things like which locations to include in the calculation, and what dates should be included.

Normally, when calculating stock quantities for a date in the past, only moves that are done are included in the calculation, and only if their effective date is early enough. This reflects the real situation based on completed stock moves. For dates in the future, draft and *Assigned* moves are also included, but only if their planned date is between today's date and the future date, inclusive.

Note: The stock quantity of consumable products is calculated in exactly the same way as any other product, even though consumable products can always be assigned regardless of how much stock there is.

3.9.2 Wizards

Recompute Cost Price

The *Recompute Cost Price* wizard updates products' cost prices using their cost price method.

Modify Cost Price

The *Modify Cost Price* wizard is only way in which a product's cost price can be changed once it has stock moves. The wizard takes a date and a fixed price or formula for the new cost price. These changes are stored in the *Cost Price Revision* concept and are applied at the beginning of the date that was selected when the cost price of the product gets re-calculated.

3.10 Product Quantities by Warehouse

The idea of the *Product Quantities by Warehouse* concept is to provide information about how the stock levels of one or more products have varied over time in a particular *Warehouse*.

3.11 Product Quantities by Warehouse Move

The *Product Quantities by Warehouse Move* concept provides information about how *Stock Moves* have affected the stock levels in a *Warehouse* over time.

3.12 Cost Price Revision

The *Cost Price Revision* records changes to a product's cost price. These revisions are automatically created when the product's cost price is changed using the *Modify Cost Price* wizard.

API REFERENCE

4.1 Stock Quantities

`class` `trytond.modules.stock.StockMixin`

This `mixin` provides some common methods that are useful when creating classes that provide quantity fields.

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