Warehouse Management

Release 8

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Contents

1 Introduction

Odoo Warehouse Management is at once very simple, flexible and complete. It is based on the concept of double entry that revolutionized accounting: 'Nothing lost, everything moved'. In Odoo, we don't talk about disappearance, consumption or loss of products; instead we work with stock moving from one place to another.

The Odoo Warehouse allows you to:

- Manage your basic stock operations;
- Get Full Traceability;
- Value your Inventory Using FIFO, LIFO & FEFO Methods;
- Handle Different Logistic Units from a Pack to a Pallet;
- Deal with Multiple Warehouses and Stock Locations;
- Automate your Stock Management;
- Get a Full View of your Stock Levels.

2 Video Case Study

Woodoo Furniture is specialized in the wooden furniture manufacturing. Before adopting Odoo, the company managed replenishment, warehouse & production processes with spreadsheets. Now the business is growing, they need to switch progressively to an integrated solution to manage the increasing flow of information about products, suppliers, etc., to avoid inventory shortages for production and to optimize the stock.

Now the Purchase app is running well, the company has to logically turn to the Warehouse integration in order to manage incoming shipments, deliveries, inventories, traceability on stock moves, internal transfers, etc.

3 Manage your Basic Stock Operations

3.1 Make an Inventory with Odoo

- Go to *Warehouse* → *Inventory Control* → *Inventory Adjustments*.
- Create a new Inventory and give it a reference.
- Select the inventory location of your choice and select the type of inventory: all products or only one.
- Start the inventory, add the products in the inventory details and change the real quantities.
- Validate the inventory.

Note:

- ***Quantity on Hand****: Quantity of a product physically present in a warehouse or a location.*
- ***Forecasted Quantity****: Quantity of a product that can actually be sold. It is calculated as: Quantity on Hand - Outgoing quantities + Incoming quantities for a given product.*
- ***Warehouse****: place where physical stock is stored. A warehouse can be structured into several locations at multiple levels.*
- ***Location****: component of a warehouse used to manage different types of storage. Each warehouse can have several locations and a location hierarchy (parent-child) can be built.*

3.2 Deliver your Products

- Run Schedulers to update the operation status.
- Have a look at the Delivery Orders ready to be processed in *All Operations* Kanban view.
- Process the ready deliveries from the Barcode interface.
- Print the Delivery Orders for your customers or carrier.
- Regarding partial deliveries, process the delivery of related backorders once ready.
- Have a look at the completion status of deliveries from the *All Operations* Kanban view.

Tip:

- *When creating a Sales Order, in the* Other Information *tab, you have the choice between two* ***shipping policies****:*
  - ***Deliver each product when available****: allows the user to split deliveries (and create backorders) as soon as a product is available;*
  - ***Deliver all products at once****: forces the operator to wait for all products to be available.*

Note:

- ***Operation****: document used to group stock moves, in order to make it easier to move multiple products at once and pass that as an assignment to a warehouse operator. By default, there are three operation types: Receipts, Internal Transfers and Delivery Orders. Nevertheless, it is possible to create new operation types to reflect your stock configuration.*
- ***Operation Dashboard****: For each operation type, the dashboard allows you to see the operation progress. One statistic bar displays the percentage of late operations, based on their scheduled date. Another one displays the percentage of backorders, in other words, the remaining operations after a partial transfer. In addition, for each operation type, a direct access is given to operations in different stages: ready, late and backorder stages are available. You can also access all operations regardless of their stage via a dedicated link. Finally, a summary of the last 10 operations done is shown.*
- ***Barcode Interface****: new feature introduced in Odoo 8 in addition to the classic transfer wizard. The aim of this front-end interface is to make it easier for stock operators to process the operations to be transferred, especially by using a barcode scanner. A global menu helps the operator to see for each operation type her/his to-dos. Furthermore, operations can be sorted by locations, put in pack and assigned a lot number.*
- *The* ***Customer Lead Time*** *defined for products is the maximum delay within which you promise to deliver your customer upon validation of the sales order. It is thus the difference between the time on an order (date) and that of the delivery (scheduled date). This customer lead time is directly registered in the product form. Please refer to the section below for a more detailed explanation of the customer lead time in case of a just-in-time configuration.*
- *The* ***Check Availability*** *button can be used when an operation is in the* Waiting Availability *state. The button is going to check whether there are units of the selected product which are unreserved (no reservation already made by another operation) in the designated source location (and its sublocations). If Odoo can find enough units, the operation's state is going to change to* Ready to Transfer. *If only some of the units can be reserved, the operation's state is going to switch to* Partially Available. *In any case, to benefit from this reservation feature, the product type should be set as* Stockable. *Indeed, by setting the product type to* Consumable*, Odoo will assume the product to be always available. Please refer to the* Follow Quants *section if you are interested in the logic behind the reservation.*
- **Run Schedulers: this function can be manually executed by clicking *Run Schedulers* in the Warehouse Application. It**
  - *It checks the availability of products for each operation in the* Waiting Availability *state;*
  - *It checks the minimum stock rules set for the different locations and products (see section* Launch Automatic Replenishments*);*
  - *It checks the procurements and applies the correct routes to them (see section* Move your Products Automatically from one Location to Another*);*

3.3 Receive your Products

- Go to *All Operations* to retrieve the Receipts to process.
- Open the Barcode Interface in order to mark them as received.
- Process the Receipts.

Tip:

How to Handle Billing from Receipts or Delivery Orders?
When creating a Purchase Order or a Sales Order, you can specify in Deliveries and Invoices *or* Other Information *when in the flow the invoices should be created. More specifically, invoices can be generated for each document when both related pickings have been transferred, either from the supplier or to the customer. For more details, please refer to the* Billing *chapter.*

3.4 First Unload your Products in an Input Location

From the warehouse itself, you can specify the number and the type of operations the incoming and outgoing shipments will go through. Each time an incoming or outgoing policy is selected, a **default route** will be created. Please refer to the section below to find out more about routes.

2 Steps Incoming Shipments: products are first unloaded in an input location before being transferred to the main stock location.

- In the Warehouse settings, tick *Manage multiple locations and warehouses* and *Manage advanced routes for your warehouse*.
- Go to your Warehouse configuration form and tick the box *Unload in input location then go to stock (2 steps)* in Incoming Shipments.
- Create a purchase order.
- Go back to the *All Operations* Kanban view and see that in the receipt operations you have one transfer ready.
- Click the incoming shipment, transfer and apply.
- Go to the ready internal transfer in the *All Operations* view and transfer it.

3.5 Add a Quality Control Area to your Warehouse Management System

3 Steps Incoming Shipments: products are first unloaded in an input location, then go through a quality control before being admitted in the main stock location.

- Go to your warehouse configuration form and tick *Unload in input location, go through a quality control before being admitted in stock (3 steps)* in Incoming Shipments.
- Create a purchase order.
- Go back to the *All Operations* Kanban view and see that in the receipt operations, you have one transfer ready.
- Transfer the incoming shipment, go to the ready internal transfer and transfer it to the location *WH/Quality Control*.
- Validate the last internal transfer, the one from *WH/Quality Control to *WH/Stock*.

3.6 Pick your Products Before Sending Them to the Customer

2 Steps Outgoing Shipments (Pick + Ship): products are brought to an output location before being shipped to the customer.

- Go to your Warehouse configuration form and reset the incoming shipments to *Receive goods directly in stock (1 step)*.
- Tick *Bring goods to output location before shipping (Pick + Ship)*.
- Go back to *All Operations* Kanban view and see the newly created *YourCompany: Pick* operation.
- Create a Sales Order and confirm it.
- Click *View the Delivery Order* and see that the status of your transfer is "Waiting Another Move".
- Go back to the *All Operations* Kanban view and run the scheduler to generate the procurement.
- Click the ready transfer in *YourCompany: Pick* and transfer it via the barcode interface.
- Set the quantities to the maximum and put in cart.
- If you go back to the barcode interface menu, there is a ready picking in *YourCompany: Delivery Orders*.
- Click it and transfer it.

3.7 Add a Packing Area to your Outgoing Logistic Flow

3 Steps Outgoing Shipments (Pick + Pack + Ship): products are first brought to an output location, then put into packs and finally shipped to the final customer.

- Go to your Warehouse configuration form and tick *Make packages into a dedicated location, then bring them to the output location for shipping (Pick + Pack + Ship)*.
- Go back to the *All Operations* Kanban view and see the newly created *YourCompany: Pack* operation.
- Create a Sales Order and confirm it.
- Click *View the Delivery Order* and see that the status of your transfer is "Waiting Another Operation".
- Go back to the *All Operations* Kanban view and run the scheduler to generate the procurement.
- Click the ready transfer in *YourCompany: Pick* and transfer it via the barcode interface.
- Set the quantities to the maximum and put in cart.
- Directly after that, you process the pack operation by setting the quantities to the maximum and put them in a pack. A pack is created. Put in a cart.
- Process the delivery order by setting the quantity to 1.

3.8 Send your Products directly to your Customers - Process Drop-Shipping

Drop-Shipping: the supplier directly delivers to your customer without sending goods to your warehouse.

- Go to the Warehouse settings and check the box *Manage dropshipping* in Additional Features. Apply.
- Go to the Sales settings and check *Choose MTO, drop shipping...on sales order lines*. Apply.
- Go to *Sales* → *Products* → *Products* and add a supplier to the products you want to dropship.
- Create a Sales Order and specify on a sales order line for one of your products that the route is dropshipping.
- Go to the *All Operations* Kanban view and run the scheduler.
- Go to *Purchases* → *Purchase* → *Requests for Quotation* and confirm the draft purchase order.
- Go back to the *All Operations* Kanban view, transfer the dropshipped items in *Woodoo: Dropship* and finally transfer the delivery order.

4 Get Full Traceability of Your Products

4.1 Follow Quants

Note:

- ***Quants****: Quant indicates a specific stock quantity of the same product that entered your warehouse at a specific moment in time in one specific operation; in a single lot (batch) if lot tracking is enabled. The Quants table stores the current state of stock (per location). It is updated each time a stock move is set to done.*

- Activate the technical features for the admin user.
- Take your products in stock through a receipt.
- Go to *Warehouse* → *Traceability* → *Quants* and in the Quants list view, grouped by product, spot the newly created Quant.
- Send some of your products to your customer through a delivery order.
- Check the availability of this delivery order.
- Click the stock move in the delivery order and look at the reserved Quant.
- Transfer the products.
- Go back to *Warehouse* → *Traceability* → *Quants* and look at the remaining Quant in stock.

4.2 Track Product Moves with Serial Numbers

Note:

- ***Lot/Serial Number****: A lot number (also called serial number in Odoo) can be considered as a serial number for a single product, or a batch containing quantities of a certain product. Lots are typically used to identify a serial number (for a computer, printer, ...), or as production lots to indicate for instance quality grades or delivery lots. You can make it mandatory to enter a lot number according to the* incoming/outgoing/full traceability *options ticked in the* Product Variant *form.*

- Go to the Warehouse settings and tick the box *Track lots or serial numbers*.
- Go to the Purchase module and confirm a purchase order.
- Click *Receive Products* and process the incoming shipment; when in the barcode interface, do not forget to type a lot number by clicking *Create/Change Lot*.
- See the related lot number in *Warehouse* → *Traceability* → *Serial Numbers*.
- Go to the Sales module and confirm a Sales Order.
- Go back to the Warehouse module and Run Schedulers.
- A pick operation is ready to be transferred: process it.
- Process the delivery order.
- Go to *Warehouse* → *Traceability* → *Serial Numbers* and click the lot number you created.
- See that it indicates where the different units of your product are; see that you can get the related stock moves by clicking *Traceability* in the right corner. Sort the list view by date.

Tip:

How can I specify unique serial numbers for the same product during incoming shipment registration?
Please refer to the following forum post: https://www.odoo.com/forum/how-to/warehouse-management-6/how-can-i-specify-unique-serial-numbers-for-the-same-product-during-incoming-shipment-registration-55446

4.3 Put your Products into Packs

- Go to the Warehouse settings.
- Check the box *Use Packages: pallets, boxes, ...*
- Create a purchase order and confirm it.
- Go to the *All Operations* Kanban view.
- Process the receipt through the barcode interface.
- Type the quantity of products you put in a pack and press enter.
- Click Put in Pack.
- You can create several packs for an operation.
- Put in cart.
- Go to *Warehouse → Products → Packages* and open the package to see its content.

Tip:

Assign a type to your packs

- *In the Warehouse settings, you can tick the box* Allow to define several packaging methods on products. *In* Warehouse → Configuration → Products*, you can create different logistic units. After the creation of a pack in the barcode interface, you assign a pack type to your package.*
- *You can also print a package label from the barcode interface.*

5 Value your Inventory Using FIFO, LIFO & FEFO Methods

Note:

- ***Removal Strategy**: The removal strategy determines the order in which Quants get reserved first. By default, the removal strategy is FIFO. A different removal strategy can be defined by location or product category.*

5.1 First In First Out

- In the Purchase settings, tick the box *Use 'Real Price' or 'Average' costing methods*.
- Go to your product form and change the costing method to 'Real Price'.
- Go to the Purchase module, create two purchase orders for the same product with different prices and confirm them.
- First, transfer the incoming shipment of the PO with the lowest price. Assign a lot number to it.
- Then, transfer the incoming shipment of the PO with the highest price. Assign a lot number to it.
- See the related Quants with their incoming date in *Warehouse → Traceability → Quants*.
- Go to the Sales module, create and confirm a sales order. Then, click *View Delivery Order*.

- On the delivery order, click *Check Availability* and see that the Quant which has been reserved is the one with the oldest incoming date. Process the operation.
- Go to the product form concerned and notice that the cost price has changed.

Tip:

The stock valuation of products is based on their cost price. By default, the cost price which is manually set in the product form, is taken into account. However, if the box Use 'Real Price' or 'Average' costing methods *is ticked, the cost price of products can evolve according to the purchases you made or the products that recently went out of stock. If you use the 'Average' costing method, the cost price will be a rolling average of the prices at which you bought your product. If you use the 'Real Price' costing method, the cost price of your product will be based on the purchase price of the last related Quant that left stock.*

5.2 Last In First Out

- Go to *Warehouse* → *Configuration* → *Locations*.
- Click Physical Locations / WH / Stock and change the removal strategy to LIFO.
- Go to the Sales module, create and confirm a sales order. Then, click *View Delivery Order*.
- From the delivery order, click *Check Availability* and see that the Quant which has been reserved is the one with the latest incoming date. Process the operation.
- Go to the product form and notice that the cost price has changed.

5.3 First Expiry First Out

- Go to the Warehouse settings.
- Tick the box *Expiry date on Serial Numbers*. Click Apply.
- Go to *Warehouse* → *Traceability* → *Serial Numbers*.
- Create two lot numbers with different removal dates.
- Make an inventory for each lot number.
- Go to *Warehouse* → *Configuration* → *Locations* and change the removal strategy of WH/Stock to FEFO.
- Go to the Sales module, create and confirm a Sales Order. Then, click *View Delivery Order*.
- From the delivery order, click *Check Availability* and have a look at the reserved Quants.
- Process the operation.

5.4 Stock Valuation

If your costing method is set as "Standard Price" or "Average Price", the inventory value of your stock is based on the cost price of your product. If your costing method is set as "Real Price", the inventory value of your stock is based on the price at which you purchased your products. The inventory value of your stock can be retrieved at *Reporting* > *Warehouse* > *Stock Valuation*.

6 Handle Multiple Locations and Warehouses

6.1 Configure a New Warehouse

- Go to the Warehouse settings and make sure that the box *Manage multiple locations and warehouses* is checked.
- Create a new warehouse. Give it a name and a short name.
- Go to *Warehouse* → *Inventory Control* → *Inventory Adjustments* and specify the quantities on hand you have in your new location.
- Create a Sales Order and select your new warehouse as a source location. Confirm the sale.
- Go to the *All Operations* Kanban view and see that you have one delivery order waiting availability in *Your New Warehouse: Delivery Orders*.
- Check availability and transfer the product.

Note:

- ***Internal Location****: defines where your stock is physically stored. It represents the structure within your warehouse(s).*
- ***Partner Location****: represents 'customer' and 'supplier' stocks. These locations play the role of third-party locations. Supplier locations usually show negative stock levels (they delivered to you) and customer locations usually show positive stock levels (you delivered to them).*
- ***Virtual Location****: counterpart locations for production, procurement and inventory stock moves.*
- ***View Location****: used to define a parent node in the location structure. As such, it cannot hold actual stock moves.*
- ***Inventory Location****: virtual location used as counterpart for inventory operations (physical inventories).*

6.2 Move your Products Internally

From One Warehouse to Another

- Go to the *All Operations* Kanban view and click *All Operations* in *YourCompany: Internal Transfers*.
- Create an internal transfer, add an item and set both Source and Destination Locations belonging to different warehouses.
- Transfer the product from one warehouse to another.

From the Default Location to a Sublocation created on the spot

- Create a new location including a parent and *Internal Location* as Location Type.
- Have a look at your new location structure.
- Create an internal transfer from the parent location to the new child location.
- Transfer the goods.

7 Automate your Stock Management

7.1 Move your Products Automatically from one Location to Another

- Create a new Route from *Warehouse* → *Configuration* → *Routes* and apply it to *Products*.
- Under Push Rules, add an *Automatic Move* item.
- Go to one of your products and check the box of the route that you have just created.

- Create a purchase order for this product and confirm it.
- Go to the *All Operations* Kanban view.
- Transfer the incoming shipment.
- Process the internal transfer.

Note:

- ***Routes****: A route is a collection of procurement and push rules. A route can be applied to a:*
  - *Product;*
  - *Product Category;*
  - *Warehouse;*
  - *Sales Order Line.*
- ***Push Rules****: A rule that triggers another stock move based on the destination location of the original move. The new move has as source location the destination location of the original move.*
- ***Procurement****: A need to be solved; for example, every sales order line will create a procurement in the* Partner Location/Customers *which will be answered by a move for the delivery.*
- ***Procurement Rules****: A rule that will be applied to the source location of a stock move. There are several types of procurement rules:*
  - *move products from another location to the source location;*
  - *purchase to the source location;*
  - *produce towards the source location.*

7.2 Launch Automatic Replenishments

Reordering Rules of products allow us to replenish the stock according to predefined criteria. If the virtual stock of a certain product in a given location goes below the minimum quantity specified in the rule, the system will automatically suggest a procurement to bring the virtual stock back to the maximum quantity specified in the rule.

- Open a product and have a look at the available quantity. Make sure a supplier is defined.
- Create a reordering rule for your main location with a minimum quantity exceeding the available quantity in this location.
- Run Schedulers.
- Go to *Purchases* → *Purchase* → *Requests for Quotation*.
- See the newly created purchase quotation.
- Confirm the order & receive the products products.

7.3 Propose Right Locations to Store Goods to your Operators

Put Away Strategies allow you to automatically get the right sublocations for storing incoming products.

- Make sure all your products have an Internal Category specified.
- Create several sublocations with *Stock* as parent.
- Open *Stock* and create a Put Away Strategy.
- Select the right sublocations for your product categories.
- Create and confirm a Purchase Order with a product of each category set.
- Go to the *All Operations* Kanban view.
- Process the Receipt from the barcode interface.
- Check the destination locations of each item.

Note:

What is the difference between a Put Away Strategy and a Push Rule?
On the one hand, when you set a ***Push Rule*** *on the destination location of a move (e.g. WH/Stock), it will create another stock move from the destination location of the original move to a new sublocation. On the other hand, when you set a* ***Put Away Strategy*** *on the destination location of a move, it will propose to the operator to move the product to a specific location, but it will not create a new stock move to this location. What is the implication of such a difference? In fact, when a putaway strategy is in place, the virtual quantity in the sublocation will not change because no stock move to this location is created. It is the reverse situation in case of a push rule: the virtual quantity changes. The goal of the Put Away Strategy is then to manage the virtual quantity of the main stock location only while having the possibility to see the quantity on hand of the sublocations through Quants.*

7.4 Manage Several Operations at the Same Time

The Goal of **Picking Waves** is to group operations that may (need to) be done together in order to increase their efficiency.

- Go to the Warehouse settings and check the box *Manage picking wave*.
- Go to *Warehouse* → *Operations* → *Picking Waves* and create a new Picking Wave.
- Set a responsible and add pickings to be processed.
- Then, confirm it.
- A list of these pickings can then be printed for the operator.
- Click *Done* when all pickings are processed. Their status will automatically be updated.

8 Get a full view of your stock levels

You can retrieve the stock levels of your warehouse in two different ways:

- Either go to *Warehouse* > *Products* > *Products*
- Open the form of the product of your choice
- Click the *On Hand* stat button in the right corner
- You now see the quantity on hand per location for this specific product
- Or go to *Warehouse* > *Configuration* > *Locations*
- Open the form of the location of your choice
- Click the *Current Stock* stat button in the right corner
- You now see the quantity on hand for each product in this specific location