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## Integrating Warehouse and Inventory Management Practices

One of the benefits of OpenERP's modular application approach is that you can often avoid dealing with complex functionality until your business requirements demand it. In our manufacturing examples in the book, we did not have to concern ourselves with any warehouse management or inventory management configuration. However, in many environments, inventory management can become more sophisticated and can involve multiple warehouses and multiple locations. In those circumstances, we need to configure our installation to handle such complexities.

### Turning on multiple locations in OpenERP

To manage warehouses and locations in OpenERP, you must first go into the **Settings** menu and under **Configuration**, choose **Warehouse**.

You will then see the configuration options for warehouse operations in OpenERP.

The screenshot shows the OpenERP configuration interface. At the top, there is a navigation bar with tabs: Messaging, Sales, Accounting, Purchases, Warehouse, Manufacturing, Tools, Reporting, and Settings. The 'Warehouse' tab is selected. On the left, there is a sidebar menu with categories: Modules (Apps, Updates, Installed Modules, Update Modules List, Apply Scheduled Upgrades), Configuration (Sales, Purchases, Warehouse, Manufacturing, Accounting, General Settings), Companies, and Users (Groups). The 'Warehouse' option under Configuration is highlighted. The main content area has a header with 'Apply' and 'Cancel' buttons. Below this, there are three sections: 'Traceability' with two checkboxes ('Track serial number on products' and 'Track serial number on logistic units (pallets)'), 'Accounting' with two checkboxes ('Generate accounting entries per stock movement' and 'Create and open the invoice when the user finish a delivery order'), and 'Location & Warehouse' with a 'Logistic' section containing three checkboxes ('Manage multiple locations and warehouses' (checked), 'Create push/pull logistic rules', and 'Allow claim on deliveries') and a 'Products' section containing three checkboxes ('Allow to define several packaging methods on products', 'Manage different units of measure for products', and 'Invoice products in a different unit of measure than the sales order'). There is also a text input field for 'Decimal precision on weight' with the value '2'.

In the warehouse configuration under the **Location & Warehouse** section, check the **Manage multiple locations and warehouses** option. Naturally, you will need to click on **Apply** to save the changes to the configuration.

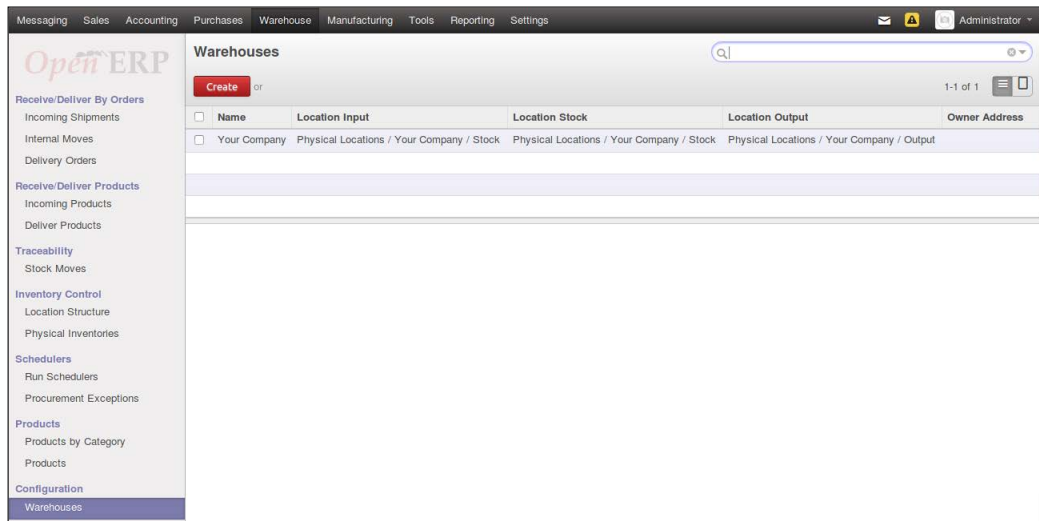
Now, under the **Warehouse** menu, you will see additional options for configuring warehouses and locations as well as a **Stock Moves** option that allows you to track the movement of product.



Even if you are only working with a single warehouse, it is often beneficial to check the **Manage multiple locations and warehouses** option because it creates easy access to the **Stock Moves** feature.

## Configuring warehouses

After you configure for multiple locations and warehouses, OpenERP will create a single default warehouse as well as default locations. To view the default warehouse that has been created, go to the **Warehouse** menu and then navigate to **Configuration | Warehouses**.



In the previous screenshot, you can see that OpenERP does not pull over the company name from your configuration and instead uses **Your Company** as the name of the warehouse. Fortunately, if you desire, you can easily change the name of the warehouse using the methods you have already learned in the book.

You can see in the listing that each warehouse allows you to define the default locations that will be used for input, stock, and output of products through the warehouse.



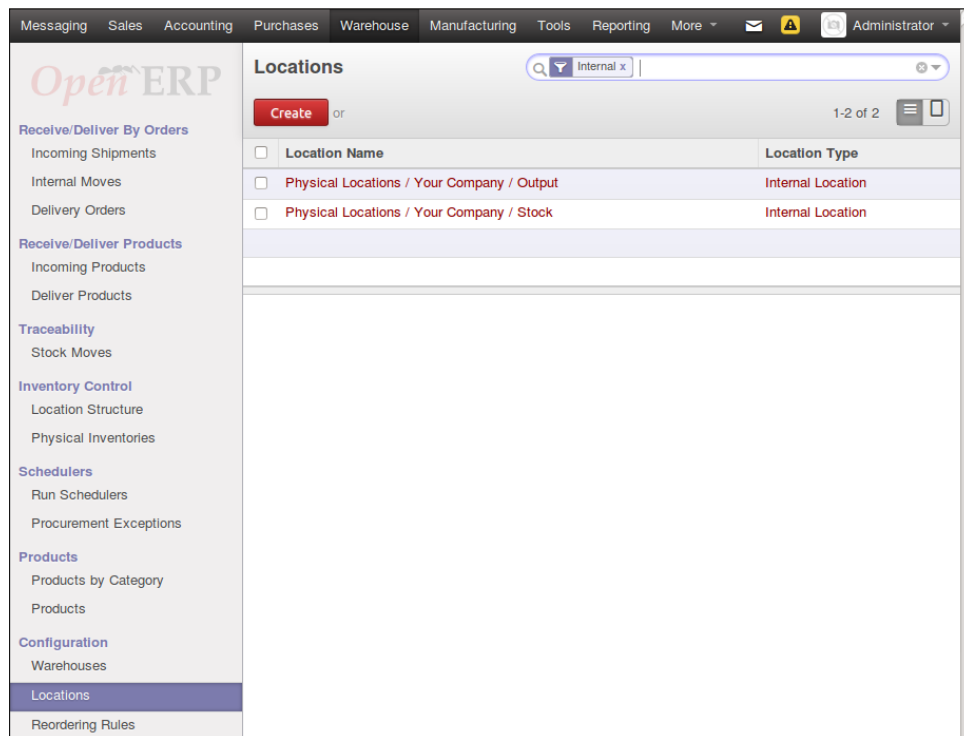
Notice that by default, OpenERP uses the same location for both **Location Input** and **Location Stock**. If you have a receiving step in which a product sits in a receiving area for a period of time before being stocked in the inventory, you can specify a unique location for **Location Input**. This allows you better visibility over the movement of your product.

OpenERP will use these locations to appropriately create default sources and destinations within new transactions. For example, while creating a purchase order, OpenERP will automatically set the destination location of the incoming shipment to the location input. In the default configuration, this location would be **Physical Locations / Your Company / Stock**. Even now, if you go and take a look around the previous transactions you have created in our example company, such as incoming shipments and delivery orders, you will see that the source and destination locations are now displayed on many of the transactions.

## Configuring locations

In OpenERP, locations offer a great deal of flexibility in how you manage a product as it flows through the workflow of your business. Furthermore, locations are configured in a hierarchal tree structure. This allows you to view the inventory at multiple depths. For example, when we look at our physical inventory, we see everything including the input, stock, and output locations.

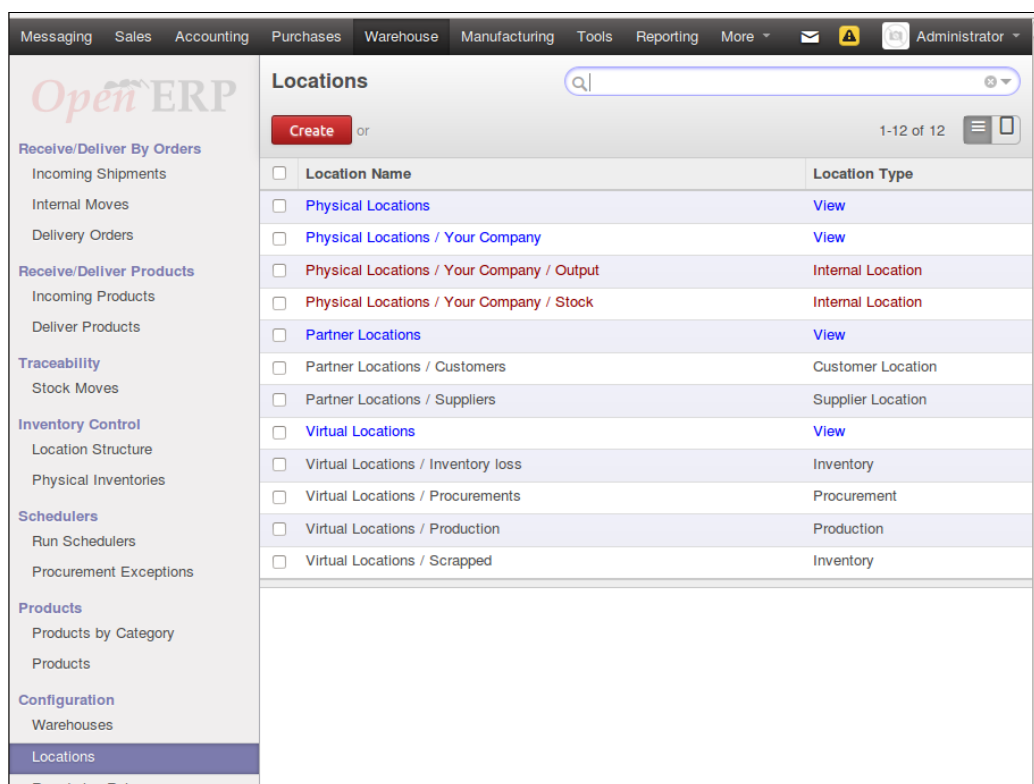
Let's look at the two internal locations that have been configured by default. Go to the **Warehouse** menu and navigate to **Configuration | Locations**. You will see the two default locations listed.



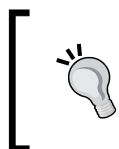
This screenshot displays the default internal locations that OpenERP creates for us.

It is important to take notice that when you first view locations, a filter on **Internal** is automatically applied to the results. This filter hides a lot of the other location types and does not give us the full list of locations that OpenERP is currently maintaining.

Click on the small close box to the right of the **Internal** tag to clear the filter. Now, you will see all the default locations listed and not just the internal locations.



As you can see in the list, there are many more locations than just the internal locations. **Location Type** plays an important role in determining how a specific location is used throughout the rest of OpenERP.



While setting up an OpenERP system for your inventory management or warehouse management, expect a fairly steep learning curve in properly configuring locations. Take some time to poke through the default configurations and understand how everything fits together.

## Creating additional locations to integrate with manufacturing

Now that we have looked around the default location setup, let's use a real-world example to learn a little more about locations in OpenERP. When we finish production, we want all of our goods to go through a quality assurance step. There is both a physical area to conduct the quality assurance steps along with an approval process. Finally, we don't want to simply put our final goods back into the stock location. Instead, we wish to create another **Finished Goods** location to hold our goods before they are finally shipped.

First, we will create our location to hold our finished goods. Click on the **Create** button at the top of the **Locations** view.

Location Name	
Finished Goods	
Parent Location	
Physical Locations / Your Company / Stock	
Additional Information	
Location Type	Internal Location
Location Address	
Icon	
Scrap Location	<input type="checkbox"/>
Active	<input checked="" type="checkbox"/>
Chained Locations	
Chained Location Type	None
Chaining Type	Manual Operation
Chaining Lead Time	0
Chaining Journal	
Shipping Type	
Chained Company	
Localization	
Corridor (X)	0
Shelves (Y)	0
Height (Z)	0
Additional Information	

For our example, we have specified **Parent Location** as **Physical Locations / Your Company / Stock**. Therefore, we have nested our **Finished Goods** location under the **Stock** location. If we do an inventory analysis on **Stock**, the analysis will include the **Finished Goods** inventory. With this configuration, we also have the option of looking at just the inventory we have in **Finished Goods**.

Next, we are going to create a new location for quality assurance and use the chained locations feature to automatically create the stock move required to transfer our products into the **Finished Goods** location.

Create a quality assurance location in OpenERP by clicking on the **Create** button at the top of the **Locations** view.

Location Name		Quality Assurance	
Parent Location		Physical Locations / Your Company / Stock	
<b>Additional Information</b>		<b>Chained Locations</b>	
Location Type	Internal Location	Chained Location Type	Fixed Location
Location Address		Chained Location If Fixed	Physical Locations / Your Company / Stock / Finished Goods
Icon		Chaining Type	Manual Operation
Scrap Location	<input type="checkbox"/>	Chaining Lead Time	0
Active	<input checked="" type="checkbox"/>	Chaining Journal	
		Shipping Type	Internal
		Chained Company	
<b>Localization</b>			
Corridor (X)	0		
Shelves (Y)	0		
Height (Z)	0		
<b>Additional Information</b>			

For our example, we have named the location **Quality Assurance**. Under the parent location, we have selected from the list **Physical Locations / Your Company / Stock**. Also, we have specified **Internal Location** as the location type. We are choosing **Internal Location** because we want to be able to see the physical product within that location.

## Chained Locations

Notice that under **Chained Locations** we have specified **Fixed Location** instead of the default value of **None**. When we are finished with the quality assurance step, we will naturally wish the products to go on through to the **Finished Goods** location to await delivery. Using the **Chained Locations** feature, we can automatically send or chain the product to the **Finished Goods** location once the employee in quality assurance approves the stock move.

If you look under the **Chaining Type** list, you will notice another option: **Automatic Move**. Choosing this option will automatically transfer the products to the specified location. We, however, want a manual move because we want the user to only confirm the stock move after they have verified the quality of the finished product.

Naturally, make sure to click on the **Save** button to save changes we've made to the **Quality Assurance** location.

## Creating a manufacturing order with a quality assurance step

Now let's see how to tie in our manufacturing order to our quality assurance location. Under **Manufacturing | Manufacturing Orders**, click on **Create** to generate a new manufacturing order. (Understand that the sequence number of the manufacturing order may be different because we have created many test manufacturing orders in our OpenERP instance.)

**Manufacturing Order**  
MO/00047

Product: Class of 2013 T-Shirt  
Product Quantity: 1,000  
Scheduled Date: 11/15/2013 17:12:57

Bill of Material: Class of 2013 T-Shirt  
Routing: Print Job  
Responsible: Administrator  
Source Document:

Raw Materials Location: Physical Locations / Your Company  
Finished Products Location: Physical Locations / Your Company

Consumed Products: Finished Products

**Products to Consume**  
Add  
Product Quantity

**Consumed Products**  
Add  
Product Quantity



For the **Finished Products Location** option, we wish to specify the **Quality Assurance** location. With this setting, our finished products go to the quality assurance location, which in turn will create a pending stock move.

After confirming the manufacturing order, we can look up our manufacturing order in the stock moves and set the **To Do** filter to see that we indeed have **Class of 2013 T-Shirt** waiting in the quality assurance location to be transferred into finished goods.

The screenshot shows the OpenERP Stock Moves interface. The left sidebar contains navigation links: Receive/Deliver By Orders, Incoming Shipments, Internal Moves, Delivery Orders, Receive/Deliver Products, Incoming Products, Deliver Products, Traceability, Stock Moves (highlighted), Inventory Control, Location Structure, and Physical Inventories. The main area displays a table of stock moves. The first row shows a pending move for 'Class of 2013 T-Shirt' with a quantity of 1,000. The source location is 'Physical Locations / Your Company / Stock / Quality Assurance' and the destination location is 'Physical Locations / Your Company / Stock / Finished Goods'. The date is 11/15/2013, and the status is 'Available' with a green arrow icon.

Description	Reference	Source	Shipping Type	Product	Quantity	Source Location	Destination Location	Date	Scheduled Date	Status
MC/00047				Class of 2013 T-Shirt	1,000	Physical Locations / Your Company / Stock / Quality Assurance	Physical Locations / Your Company / Stock / Finished Goods	11/15/2013 16:00:00	11/15/2013 16:00:00	Available

You can see in the previous screenshot that we have a pending move for the product to go from quality assurance into our finished goods location. The chaining setup in the quality assurance location has automatically created this stock move for us. Once the quality assurance process has been completed, we can click on the green arrow on the far right of the row, and the product will move from the **Quality Assurance** location to the **Finished Goods** location.

## Summary

In this chapter, we learned about warehouse management and inventory management configuration in OpenERP. We covered configuring warehouses and locations. We created additional locations to integrate with manufacturing and understood how to use the chained locations feature. We also covered how to tie in our manufacturing order to our quality assurance location.

