

Microsoft Dynamics® AX 2009

Trade and Logistics Training

DynamicsAXTraining.com

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This training is intended for professionals who are involved in the implementation and support of the Trade and Logistics module at a customer site, as well as for those who need to advise customers, or make modifications within the area. The paper offers an overview of the principles used within the Trade and Logistics module of Microsoft Dynamics® AX 2009.

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1. Training Introduction

Why must the ERP have the **Trade and Logistics** module? Because this module helps people answer these and many other questions:

- Where do we purchase items?
- How will we deliver items from vendors?
- Where are the items stored?
- Whom are we going to sell the items to?
- How will we deliver items to customers?

This module implements the *Logistics* and *Inventory management*.

What is *Logistics management*? **Logistics management** plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customer & legal requirements.

What is *Inventory management*? The word “inventory” was first recorded in 1601. The French term inventaire, or “detailed list of goods,” dates back to 1415. **Inventory management** is primarily about specifying the quantity and placement of stocked goods.

In other words, logistics management answers the following questions:

- How can we deliver items to a customer as quickly as possible
- How many items should we buy from vendor so that they are not spoilt in the warehouse?
- Where should warehouse workers pick the goods? What is the optimal path to the item in a warehouse?
- Where should warehouse workers pack the goods?
- What vehicle should load the goods?

As you can see, *logistics management* controls processes inside a company (warehouse logistics) and outside a company (transport logistics).

Inventory management answers such questions as where an item is stored (aisle, row, shelf, etc.), how many item units are stored in a warehouse and many other item related questions.

Hmm... that's interesting, if we, for example, transfer an item from one company warehouse to another one, is this *Logistics* or *Inventory management*? My answer is *Logistics management*.

One more term that also confuses a lot of people is *Supply Chain Management* (SCM). The thing that may confuse you is the difference between the *supply chain management* and *logistics management*.

Supply Chain Management is a system of organizations, people, technology, activities, information, and resources involved in moving a product or service from supplier to a customer. Supply chain activities transform natural resources, raw materials, and components into a finished

Training Introduction

product that is delivered to the end customer. In sophisticated supply chain systems, used products may re-enter the supply chain at any point where residual value is recyclable.

So, to extend Logistic management description, we can say that *logistics management* is the area of a supply chain which plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer & legal requirements.

Logistics is a channel of a supply chain which adds the value of time and place utility.

Actually Logistics is the physical execution part of Supply Chain Management. SCM deals with more strategic aspects at macro level whereas logistics is nuts and bolts of its implementation.

Supply chain consists of the following areas:

1. Transport
2. Finance
3. Health, safety & Environment
4. Information Technology
5. Education & Training
6. Human Relations
7. Warehousing

Logistics is a logical extension of transportation & warehousing to achieve an efficient & effective goods distribution system.

Summary

This lesson answers the following questions:

- Why ERP software has the Trade and Logistics module.
- What is Logistics, Inventory, and Supply Chain Management and what is the difference between them.

In the next training lesson, we will start working with Axapta. At first we will create a new company and download demo data.

2. Create new company. Demo data

Hi there! We will study different business processes and their implementation in Microsoft Dynamics AX (Axapta) so we should have one data to work with.

In this training lesson, we will create a new company in Microsoft Dynamics AX and import demo data to it.

Create new company

1. Go to **Administration > Common Forms > Company accounts**. The **Company** form opens
2. Create a new record by pressing CTRL+N. In the **Company accounts** field, type AXT and in the **Name of company accounts** field, type *Dynamics AX Training*.

Company accounts		Domains	Virtual company accounts
	Company accounts	Name of company accounts	
	AXT	Dynamics AX Training	
	DAT	Company accounts data	

Figure 2.1 Company account

3. Save the record by pressing CTRL+S.

Good, now our new AXT company is ready to work in.

Switch to AXT company:

1. Click the current company icon located in the bottom right corner of the status bar. The **Select company accounts** form opens.

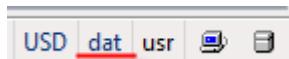


Figure 2.2 Current company

2. Select AXT company, and then click OK.

Microsoft Dynamics AX will change the company from DAT to AXT.

Tip: When you log in into Microsoft Dynamics AX, next time, you need to change the company from DAT to AXT again. You can set up another default company that will always open when you start Microsoft Dynamics AX.

Let's set up the AXT company as a default company:

Create New Company. Demo Data

1. Click the **Microsoft Dynamics AX** menu button and then click **Tools > Options...**

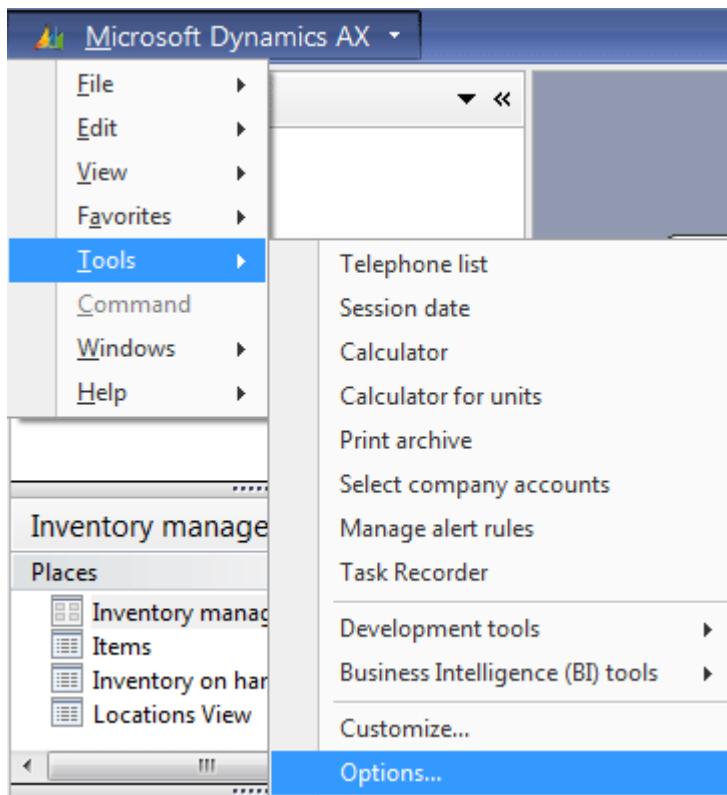


Figure 2.3 Tools menu

2. The **Options** form opens. On the **General** tab, find the **Start company accounts** field and select AXT company from the drop-down list. Close the form.

Import demo data.

1. Download [demo file and definition file](#). Extract and save these files in one folder on your local computer.
2. Return to Microsoft Dynamics AX. Make sure that the current company is AXT. Go to **Administration > Periodic > Data export/import > Import**. The **Import options** form opens.
3. In the **File name** field, enter the path to the downloaded demo file. Click OK.

The process may take up to 10 minutes. When import is finished, the Infolog message appears stating that the file has been imported.

That's all! Our new AXT company with demo data is now created.

Let's continue creating our first item and discussing why some fields in the **Item** form are mandatory and what they are used for.

3. Item setup: Item group

All companies have a list of items (goods) to work with. Today, we will create a new item and discuss why some fields are mandatory. In Microsoft Dynamics AX, the list of items is maintained in the Item form located under **Inventory management > Common Forms > Item details**.

Let's assume that our company resells bottles and cans, an inventory manager needs to create two new items in the **Item** form: *Bottle* and *Can*.

First, we create the *Bottle* item. Open the **Item** form (**Inventory management > Common Forms > Item details**) and press CTRL+N. In the **Item number** field, type 1. And, then type *Bottle* in the **Item name** field.

Item number	Item name	Search name	Item group	Item type
* 1	Bottle	Bottle	Item	Item
1101	High End Speaker - ash/12 inches	HighEndSpeakerash12i	Speakers	BOM
1102	High End Speaker - ash/14 inches	HighEndSpeakerash14i	Speakers	BOM
1103	High End Speaker - ash/16 inches	HighEndSpeakerash16i	Speakers	BOM
1104	High End Speaker - oak/12 inches	HighEndSpeakeroak12i	Speakers	BOM
1105	High End Speaker - oak/14 inches	HighEndSpeakeroak14i	Speakers	BOM
1106	High End Speaker - oak/16 inches	HighEndSpeakeroak16i	Speakers	BOM
1107	High End Speaker - mahogany/1...	HighEndSpeakermah...	Speakers	BOM
1108	High End Speaker - mahogany/1...	HighEndSpeakermah...	Speakers	BOM
1109	High End Speaker - mahogany/1...	HighEndSpeakermah...	Speakers	BOM
1110	High End Speaker - ash/16 inche...	HighEndSpeakerash16i	Speakers	BOM
1111	High End Speaker - oak/16 inche...	HighEndSpeakeroak16i	Speakers	BOM
1112	High End Speaker - mahogany/1...	HighEndSpeakermah...	Speakers	BOM
1119	Custom High End Speaker - Mo...	CustomHighEndSpea...	Speakers	BOM
1151	Center Channel Speaker Model 01	CenterChannelSpeaker	Speakers	BOM
1152	Center Channel Speaker Model 02	CenterChannelSpeaker	Speakers	BOM
1153	Center Channel Speaker Model 03	CenterChannelSpeaker	Speakers	BOM
1154	Center Channel Speaker Model 04	CenterChannelSpeaker	Speakers	BOM

Figure 3.1 Create new item

The **Item group** field contains a red wavy line which means it is a mandatory field. On the **General** tab, there are some other mandatory fields. They are the **Item group**, **Inventory model group**, and **Dimension group** fields. Refer to the following explanation why these fields are mandatory.

Item group

What should we know about the item *Bottle*? This question has several answers, for example, we need to know its color, size, price, and inventory unit. But, what is the Item group? We should answer simple questions what general ledger accounts will be used when we post an item transaction. Item transactions are created when an item is, for example, purchased or sold. In Microsoft Dynamics AX, we use the Item group to set up general ledger (or posting) accounts.

Item setup: Item group

What are general ledger accounts and why should we use them when purchasing or selling an item? This question will be disclosed in the Microsoft Dynamics AX Financial Training. But, before I will create it, you can understand the Financial area yourself. The great training about **Accounting** is stored [here](http://www.accountingcoach.com) (<http://www.accountingcoach.com>).

Now, I will try to explain some Financial concepts. Look at the following figure, a company from a financial point of view is a circle with assets, liabilities, and equity parts.

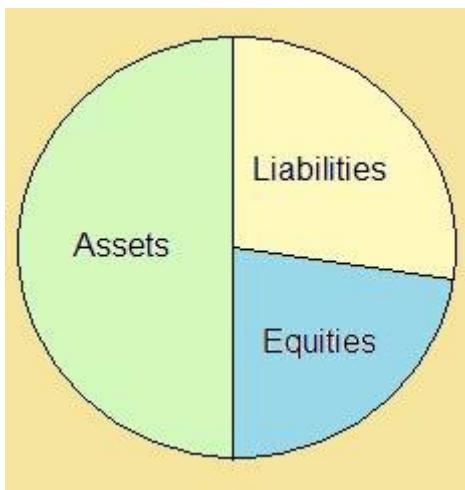


Figure 3.2 Company from financial point of view

Where **Assets = Liabilities + Shareholder's Equity**. Assets are items and money that customers should pay to a company – bank accounts, cash, and fixed assets (for example machines that produce goods). Liabilities are money that a company should pay to vendors – payroll (salary to workers), tax amount, insurance, and bank loans. Shareholder's Equity is the money that a company should pay to company investors or shareholders (amounts invested into the company by the owners plus the cumulative net income of the company that has not been withdrawn or distributed to the owners). Why is the Shareholder's Equity separated from other parts of the circle? Because it contains the information about the amount of money that a company should return to shareholders (This is the main purpose of all companies =)).

General ledger accounts are used to store the information (amount of money) about a concrete type of assets, liabilities, or Shareholder's Equities. For example, in the Microsoft Dynamics AX demo data we have such accounts as Bank Account USD, Bank Account EUR, Accounts receivable (money that a company should pay to vendors), Car audio receipts, DVD player receipts, etc. (The path: **General ledger > Common Forms > Chart of Accounts Details**). Here, we can always find the information about, for example, how much money we spent for purchasing Bottles for the last month. If we don't have a general ledger account how could we do this?

Item setup: Item group

The screenshot shows the 'Chart of accounts (1 - vmi) - Ledger account: 100000, BALANCE SHEET' window. The main area displays a grid of ledger accounts categorized by type (Assets, Current Assets, Cash & Cash Equivalents, Securities, etc.) and currency (USD, CNY, EUR, MXN, GBP). The grid includes columns for Ledger account, Account name, Search name, Account type, Ledger account category, Locked in journal, and Balance. A sidebar on the right contains various transaction-related buttons like Transactions, Balance, Period balances, Setup, Inquiry, Account statement, Ledger budget, Validation list, Cost category, and Send electronically (j).

Ledger account	Account name	Search name	Account type	Ledger account category	Locked in journal	Balance
100000	BALANCE SHEET	BALANCE SHEET	Page header		<input type="checkbox"/>	0,00
100500	ASSETS	ASSETS	Header		<input type="checkbox"/>	0,00
110000	CURRENT ASSETS	CURRENT ASSE...	Header		<input type="checkbox"/>	0,00
110100	CASH & CASH EQUIVALENTS	CASH & CASH ...	Header		<input type="checkbox"/>	0,00
110110	Bank Account - USD	Bank Account ...	Balance	CASH	<input checked="" type="checkbox"/>	0,00
110120	Bank Account - CNY	Bank Account ...	Balance	CASH	<input checked="" type="checkbox"/>	0,00
110130	Bank Account - EUR	Bank Account ...	Balance	CASH	<input checked="" type="checkbox"/>	0,00
110140	Bank Account - MXN	Bank Account ...	Balance	CASH	<input checked="" type="checkbox"/>	0,00
110150	Bank Account - GBP	Bank Account ...	Balance	CASH	<input checked="" type="checkbox"/>	0,00
110160	Payroll checking account	Payroll checkin...	Balance	CASH	<input type="checkbox"/>	0,00
110170	Cash in bank - US (Fixed asset purch)	Cash in bank - ...	Balance	CASH	<input type="checkbox"/>	0,00
110180	Petty cash account	Petty cash acc...	Balance	CASH	<input type="checkbox"/>	0,00
119000	TOTAL CASH & CASH EQUIVALENTS	TOTAL CASH ...	Total		<input type="checkbox"/>	0,00
120000	SECURITIES	SECURITIES	Header		<input type="checkbox"/>	0,00
120100	Bonds	Bonds	Balance	SHORTTERMINVEST	<input checked="" type="checkbox"/>	0,00
120200	Other marketable securities	Other marketa...	Balance	SHORTTERMINVEST	<input checked="" type="checkbox"/>	0,00
120300	Bill of Exchange (BOE)	Bill of Exchang...	Balance	CASHEQUIV	<input checked="" type="checkbox"/>	0,00
120400	BOE Remitted for Collection	BOE Remitted f...	Balance	CASHEQUIV	<input checked="" type="checkbox"/>	0,00
120500	BOE Remitted for Discount	BOE Remitted f...	Balance	CASHEQUIV	<input checked="" type="checkbox"/>	0,00
120600	Protested BOE	Protested BOE	Balance	CASHEQUIV	<input checked="" type="checkbox"/>	0,00
129900	TOTAL SECURI...	TOTAL SECURI...	Total		<input type="checkbox"/>	0,00

Figure 3.3 General ledger accounts

If a company keeps accurate records, the accounting equation will always be “in balance,” meaning the left side should always equal the right side. The balance is maintained because every business transaction affects at least two of a company’s accounts. For example, when a company borrows money from a bank, the company’s assets will increase and its liabilities will increase by the same amount. When a company purchases inventory for cash, one asset will increase and one asset will decrease. Because there are two or more accounts affected by every transaction, the accounting system is referred to as double entry accounting.

A company keeps track of all of its transactions by recording them in accounts in the company’s general ledger. General ledger is that part of the accounting system which contains the balance sheet and income statement accounts used for recording transactions.

Let’s return to our Bottle item. We should create general ledger accounts for this item for any possible case. Luckily, I use the demo data and so do you. So, let’s use the existing Item group for the Bottle item. In my demo data, I select the *Packaging* item group.

The screenshot shows the 'Item group' setup window. It lists items grouped by item type. The 'Packaging' item group is selected, and its details are shown in the table below:

Item group	Item ty...
	Item
Item group	Name
Packaging	Packaging Materials
Parts	Speaker Parts

Figure 3.4 Item group

Item setup: Item group

How can we find out what general ledger accounts are assigned to the item? We can do it by either right-clicking in the **Item group** field and selecting the **Go to the main Table Form** option or by opening the **Item groups** form (**Inventory management > Setup > Item groups**). In the **Item group** form, we see different tabs with many fields. All these fields contain the information about which general ledger accounts will be used to store the amount of money for specific item status (sold item, purchased item, purchased but not paid item, applied discount amount, etc.). For example, go to the **Purchase order** tab, the **Invoice** field group, **Receipt** field. This field contains a general ledger account that stores the amount of money that has been spent for purchasing. The **Packing slip** field contains the general ledger account that stores the amount of money that will be spent for the item that is already in a warehouse (Vendor hasn't asked to pay for them yet).

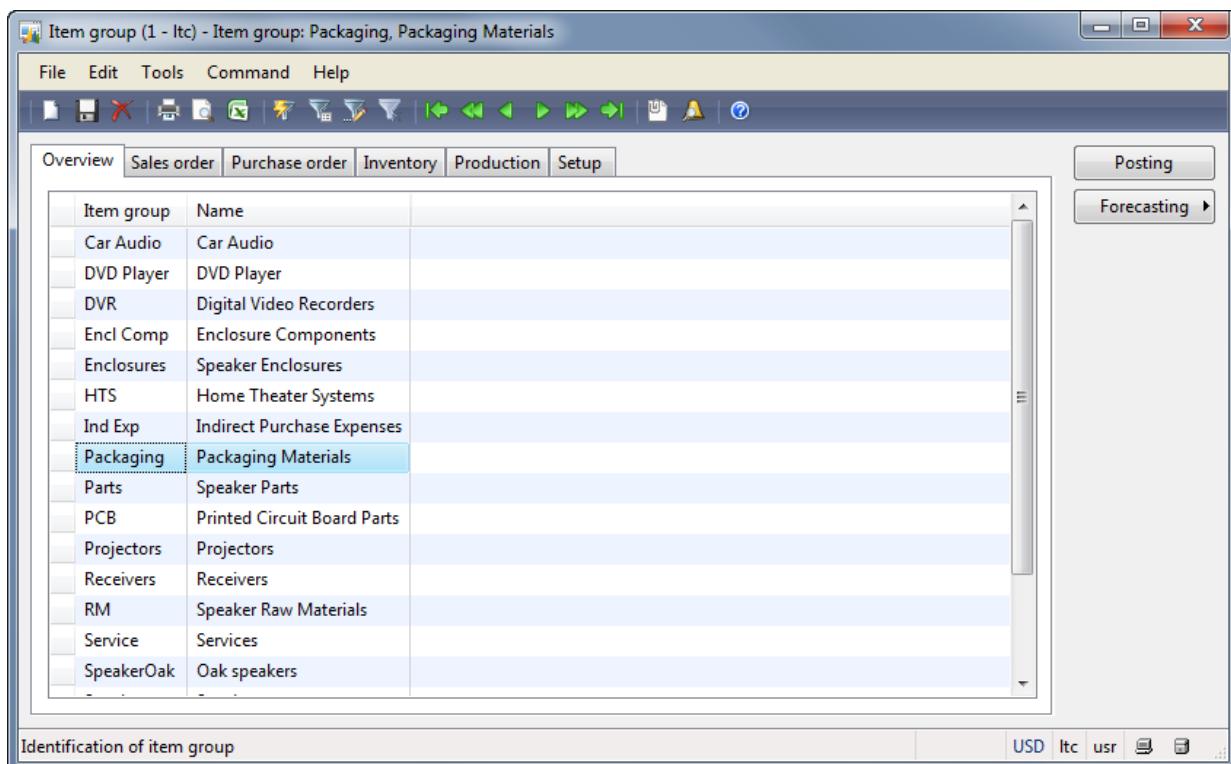


Figure 3.5 Item group form

Don't be frightened right now as we will understand AX features when we discuss certain business processes.

Training Lesson Summary:

In this lesson we have created a first item, got acquainted with mandatory fields, and given consideration to the Item group.

In the next lesson, we will get acquainted with the Inventory model group and Inventory dimension group.

4. Item setup: Inventory model group

In this training lesson, we continue setting up the Bottle item. Now, we will study Inventory model groups.

Why is this field mandatory? What else should we know about an item? As you understand it is not the size, weight, or color – it is something that all items must have. Let's assume that a company purchases four items for the cost of \$5 and three items for the cost of \$6. So, the total items' cost is $4 * \$5 + 3 * \$6 = \$38$. The company sells two items. Now, there are $4+3-2=5$ items in the company warehouse. And how much items' cost remains?

Possible variants:

1. $(4 - 2) * \$5 + 3 * \$6 = \$28$ (the company has sold two items that cost \$5)
2. $(4 - 1) * \$5 + (3 - 1) * \$6 = \$27$ (the company has sold one item that costs \$5 and one item that costs \$6)
3. $4 * \$5 + (3 - 2) * \$6 = \$26$ (the company has sold two items that cost \$6).

We can't answer this question accurately because we only know that there are six items remaining in the warehouse and we don't know which items are sold. The first and the main purpose of the Inventory model group is to set up the rules for calculating of item cost (of those items that are still in the warehouse and those that are sold).

We can set up the following rules for an inventory models to calculate item's cost:

- FIFO – First in First out. Means that the first purchased item is first sold. In our example, we purchased four items for the cost of \$5 first, so these items will be first sold. After the items are sold, the items' cost in the warehouse will be $(4 - 2) * \$5 + 3 * \$6 = \$28$.
- LIFO – Last in First out. Meaning that the first purchased item is last sold. In our example, we purchased three items for the cost of \$6 last, so these items will be first sold. After the items are sold, the items' cost in the warehouse will be $4 * \$5 + (3 - 2) * \$6 = \$26$.
- Weighted avg. – in this case, the average cost is calculated and subtracted from the warehouse items' cost when the item is sold. In our example, the average cost is $(4 * \$5 + 3 * \$6) / 7 = \$5.43$. After the items are sold, the items' cost in the warehouse will be $(7 - 2) * \$5.43 = \27.15 .
- Standard cost – this inventory model uses a specific price as cost. The price can be entered manually or calculated automatically. This price is used as cost for purchase and selling. For example, we have a standard cost price of \$5.5. So, we purchase all items for this price (\$5.5). The total items' cost before the selling is $4 * \$5.5 + 3 * \$5.5 = \$38.5$. After two items are sold, the items' cost in the warehouse will be $(7 - 2) * \$5.5 = \27.5 .
- LIFO date – this model equals to LIFO with the only difference being that purchase and selling dates are taken into account. For example, a company purchases four items for the cost of \$5 on October, 11, three items for the cost of \$6 on October, 11 and two items for the cost of \$7 on October, 13. The company sells two items on October 11, but the Sales manager was out of office and didn't post the sales. The Sales manager came back to the office on October, 13 and posted the sales backdate to October, 11. The sales posting process will decrease the cost of items in the warehouse at $2 * \$6$ (item's last cost as of October, 11). If the LIFO inventory model is used, the sales process will decrease the cost of items in the warehouse to $2 * \$7$ (because \$7 is the last cost received into the warehouse).

Item setup: Inventory model group

- Weighted avg. date. – this model equals to the Weighted avg with the only difference being that the average amount is calculated for a separate day. For example, a company purchases four items for the cost of \$5 on October, 11, three items for the cost of \$6 on October, 13 and two items for the cost of \$7 on October, 13. The company sells two items on October, 13. The average cost price will be $(3 * \$6 + 2 * \$7) / (3+2) = \$6.4$, note that four items at the price of \$5 are not included in the average cost price calculation because they have been purchased on another day.

We will use the FIFO inventory model group for the Bottle and Can items. The inventory model group called *FIFO* is already created in our [demo data](#) used for training.

You can create your own inventory model group. Go to **Inventory management > Setup > Inventory > Inventory model group** and create a new record with the following setup:

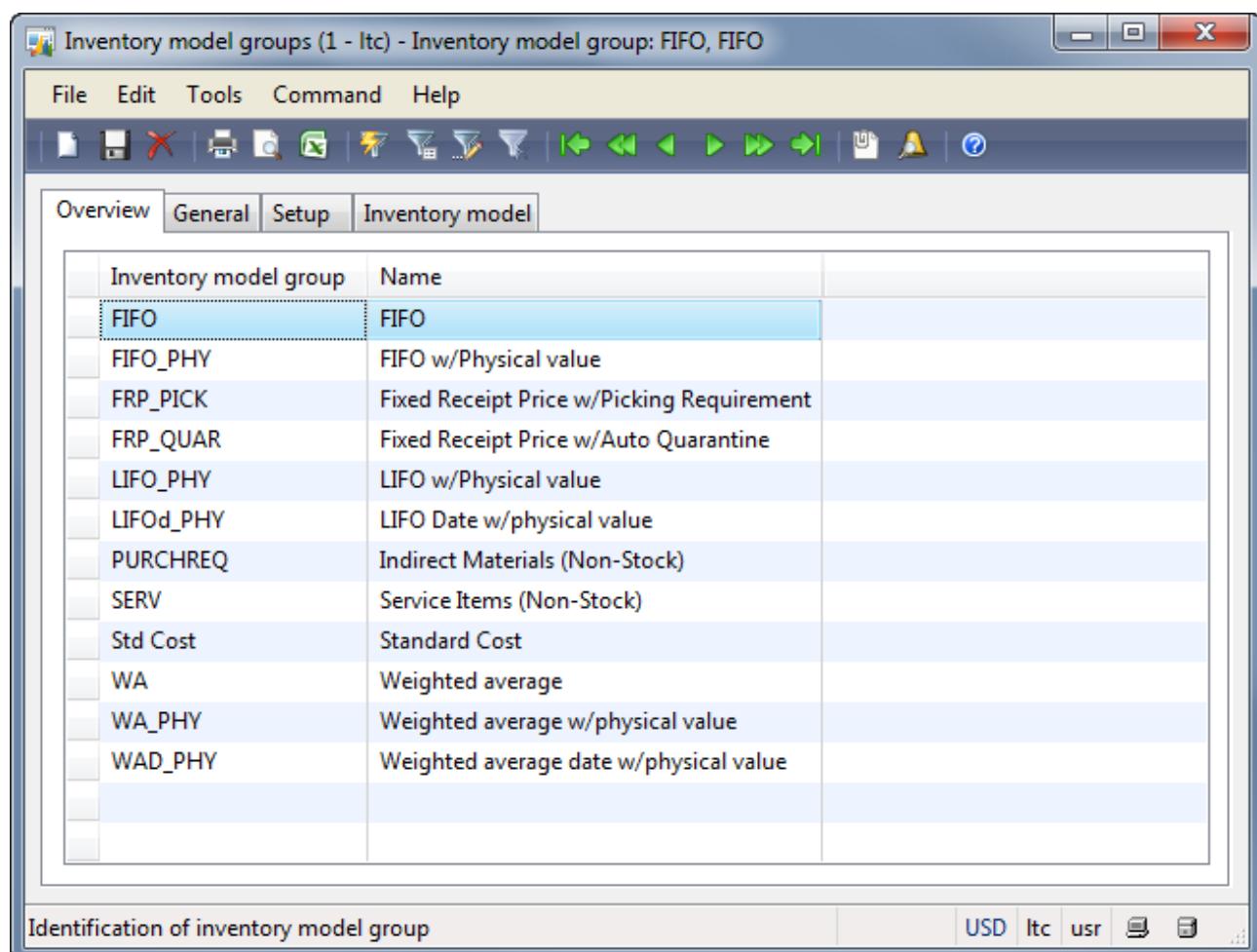


Figure 4.1 Overview tab

Item setup: Inventory model group

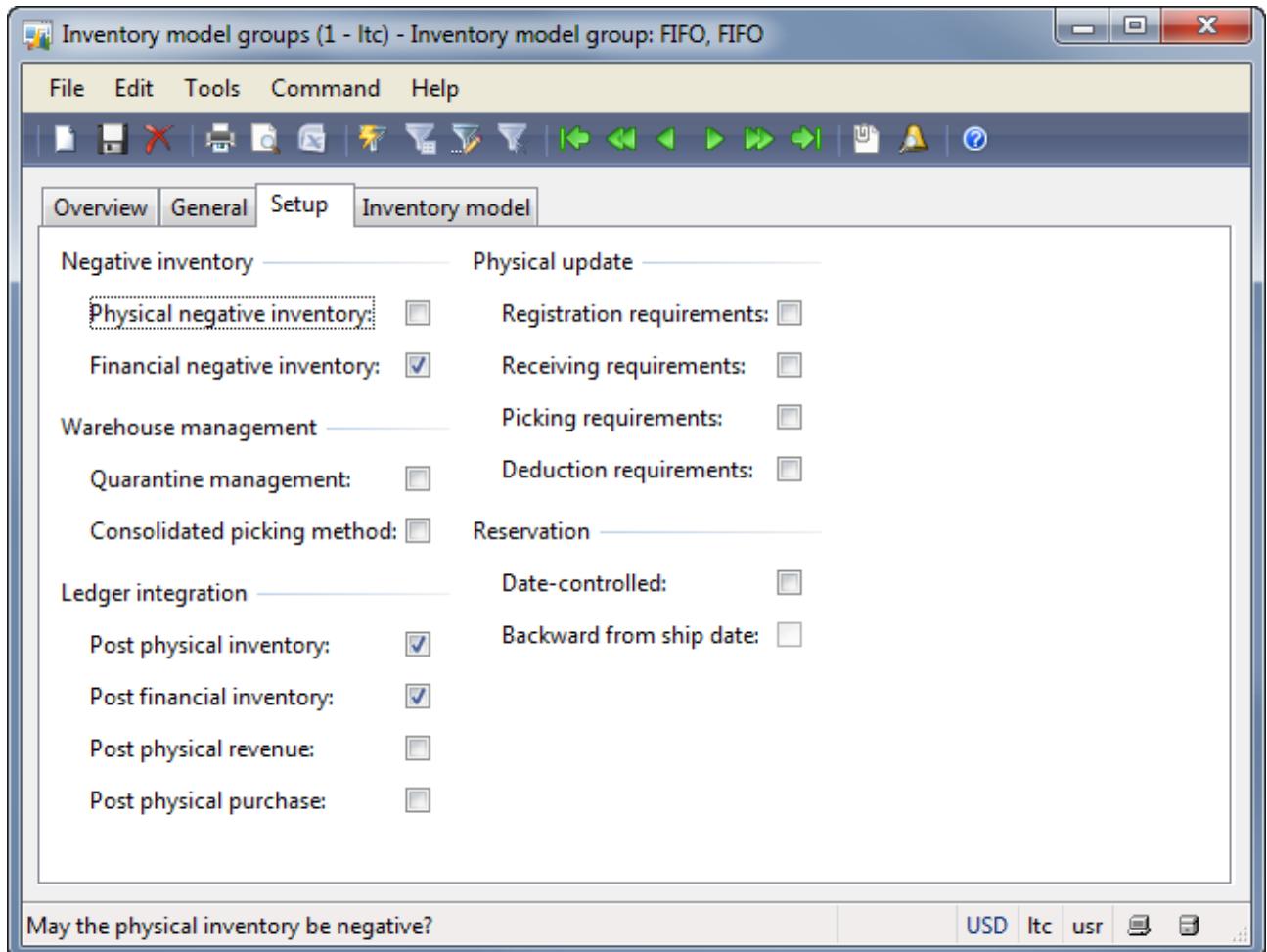


Figure 4.2 Setup tab

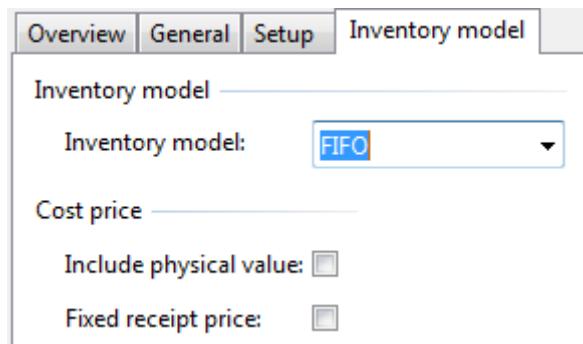


Figure 4.3 Inventory model tab

As you can see from screen shots an Inventory model group has a few more parameters. You can also specify the following parameters:

- Whether physical and financial negative inventory is permitted
- Whether inventory transactions are to be posted to the General ledger
- The workflow used when you send or receive items

Item setup: Inventory model group

- The reservation rules, when you create sales order lines for items where some or all of the quantity of the item has the status *Ordered*

These parameters will be explained later in practice.

Now, we assign an inventory model group to the Bottle item (back to the **Item > General tab**).

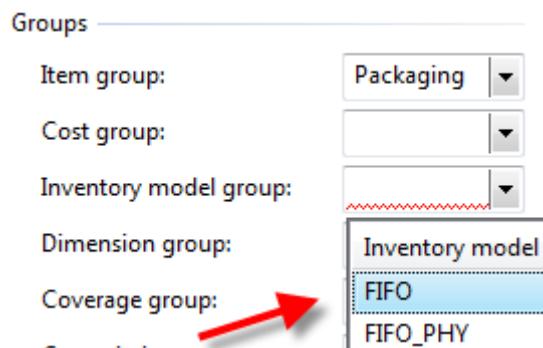


Figure 4.4 Assign inventory model group with Bottle item

Training Lesson Summary

In the Inventory model group training lesson, we understand the purpose of an Inventory model group.

Our new item named Bottle has the Packaging item group with a specific general ledger account and the FIFO inventory model group. In the next training lesson, we will study an Inventory dimension group and finish the item setup.

5. Item setup: Inventory dimension group

In this training lesson, we will finish the setup of the Bottle item. Today, we will study an Inventory dimension group, create, and activate Bottle dimensions.

What else should we know about an item? That is the item and storage dimensions. Item dimensions characterize an item by size, color, and configuration. Storage dimensions characterize an item by location, warehouse, serial number, etc. Item and storage dimension are known as Inventory dimension. Inventory dimensions are used to define physical characteristics of inventory items. Dimensions control how items are stored and drawn from inventory and enable inventory to be managed on a more detailed level.

Microsoft Dynamics AX provides the following Item dimensions:

- Size
- Color
- Configuration

Storage dimensions are as follows:

- Site
- Warehouse
- Batch number
- Location
- Pallet ID
- Serial number

For the Bottle item, we will use the Size and Color item dimensions and the Site and Warehouse storage dimensions.

Find or create a new inventory dimension group. Go to **Inventory management > Setup > Dimensions > Dimension groups**. If you use our demo data, find the appropriate dimension group (i.e. with Size, Color, Site, and Warehouse dimensions active).

Item setup: Inventory dimension group

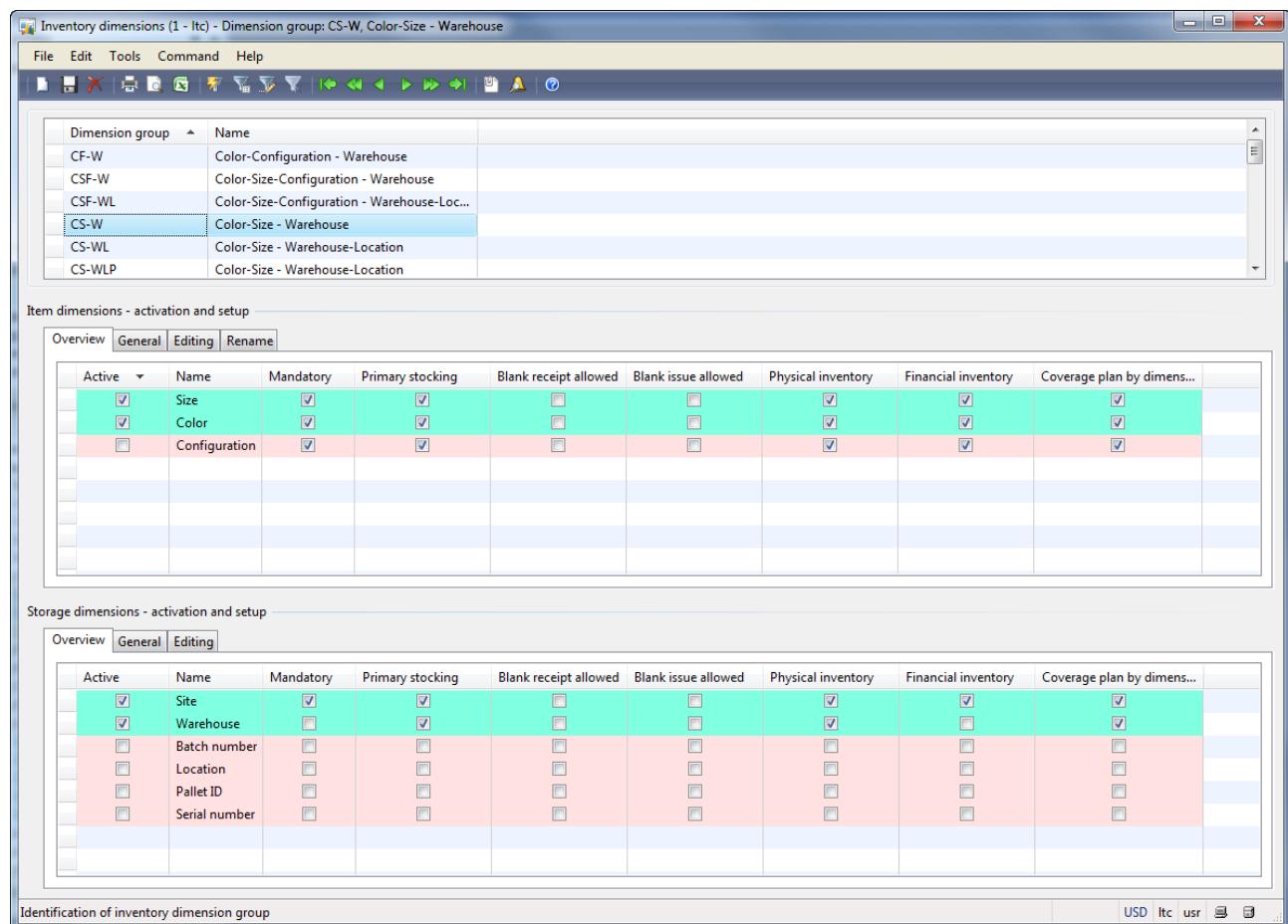


Figure 5.1 Inventory dimensions form

Or create yours:

1. Create a new record by pressing CTRL+N.
2. Fill in the dimension name; for example, CS-W.
3. Save the record by pressing CTRL+S.
4. Select the **Active** check box for the Size and Color item dimensions, and note that the Site and Warehouse storage dimensions have already selected by default.

This screenshot shows two side-by-side tables for dimension setup. The left table, 'Item dimensions - activation and setup', has tabs for 'Overview', 'General', 'Editing', and 'Rename'. The 'Overview' tab shows three dimensions: Size, Color, and Configuration, each with an 'Active' checkbox (all checked), a 'Name' field, and a 'Mandatory' checkbox (all checked). The right table, 'Storage dimensions - activation and setup', has tabs for 'Overview', 'General', and 'Editing'. The 'Overview' tab shows four storage dimensions: Site, Warehouse, Batch number, and Location, each with an 'Active' checkbox (all checked), a 'Name' field, and a 'Mandatory' checkbox (Site and Warehouse are checked).

Figure 5.2 Item and Storage dimensions areas

Item setup: Inventory dimension group

The **Inventory dimension** form also contains a lot of fields. The functions of these fields will be explained later.

Now, go to the **Item** form (**Inventory management > Common Forms > Item details > General tab**) and assign the inventory dimension group to the Bottle item.

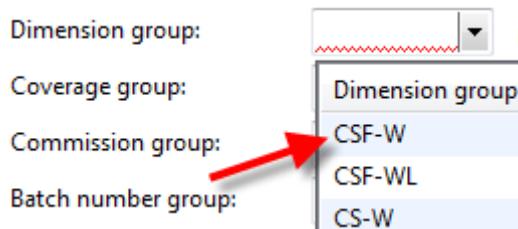


Figure 5.3 Assign inventory dimension group with Bottle item

Now all item's mandatory fields are filled in, we can save the record in the **Item** form. The Bottle item is now created.

Setup inventory dimensions

For the Bottle item, we select the *CS-W* dimension group with the Color and Size item dimensions active. Let's create a value for these dimensions.

First, create a value for the Size dimension:

1. In the **Item** form, click **Setup > Sizes**. The **Sizes** form opens.
2. Create two records with size dimensions 0.33 and 0.5.

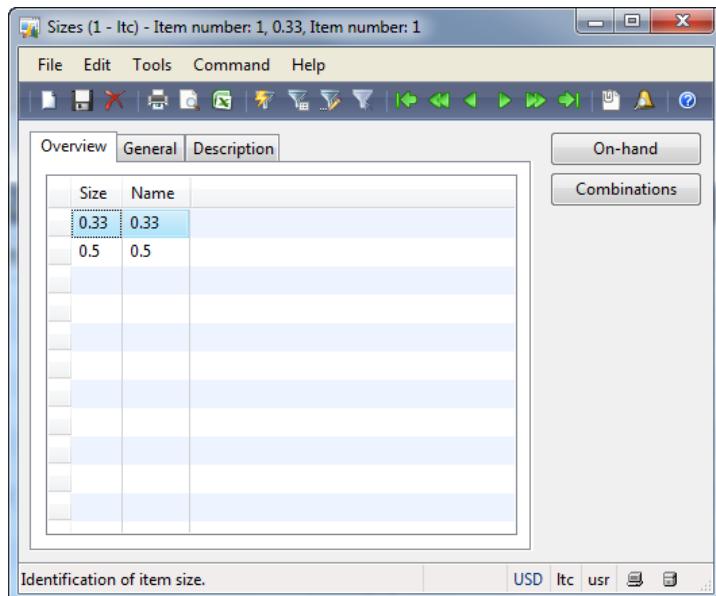


Figure 5.4 Bottle item's size dimensions

Item setup: Inventory dimension group

Then create a value for the Color dimension:

1. In the **Item** form, click **Setup > Colors**. The **Colors** form opens.
2. Create records for the following three colors: Blue, Red, and Green.

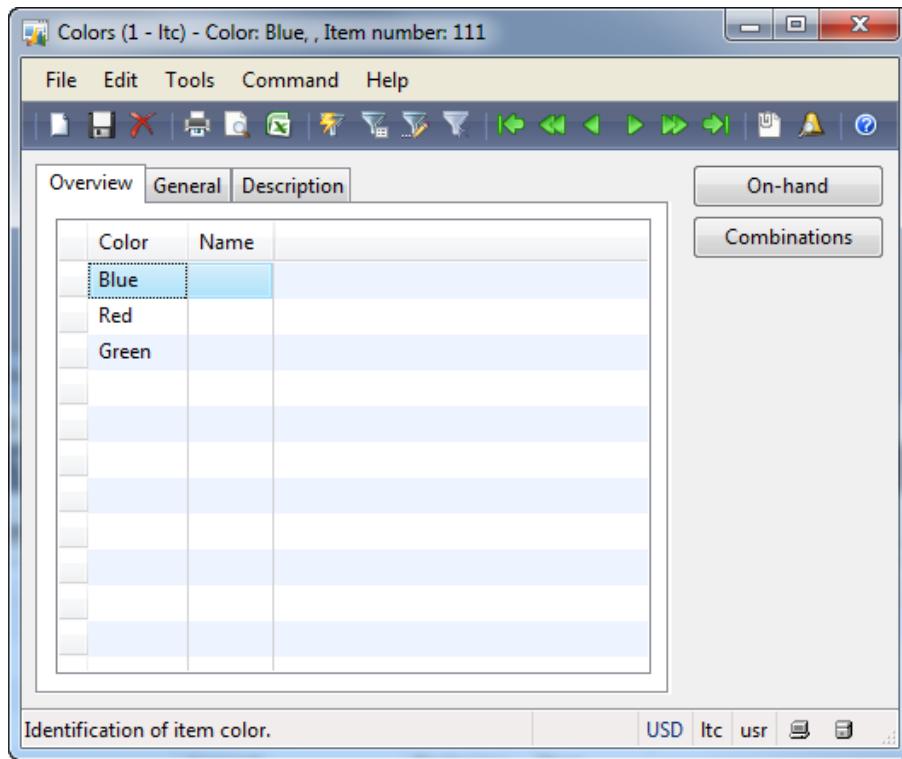


Figure 5.5 Bottle item's color dimensions

An item may be of different sizes and colors but a company may not purchase and/or sell item in every dimension combination. Available item dimension combinations must be created in the **Combinations of item dimensions** form. We will work with the Bottle items with the following dimension combinations:

- 0.33 Blue, Red, Green
- 0.5 Blue and Red (0.5 Green Bottle doesn't exist)

To create these dimension combinations, do the following:

1. In the **Item** form, click **Setup > Item dimension combination**.
2. In the **Combinations of item dimensions** form, create a new record by pressing CTRL+N. Select 0.33 in the **Size** field and *Blue* in the **Color** field. Save the record by pressing CTRL+S).
3. Click the **Create Combinations** button. This button can help in creating the item dimension combinations for a new item. If we click this button, dimension combinations that do not exist are shown.
4. In the **Combinations of item dimensions** form, click the **Select All** button and then click **OK**. All possible dimension combinations are created. Note that the form has the same name as the initial form.
5. Since there is no Bottle item of the size 0.5 and of Green color, we delete this record from the initial form. (Select the record and press ALT+F9).

Item setup: Inventory dimension group

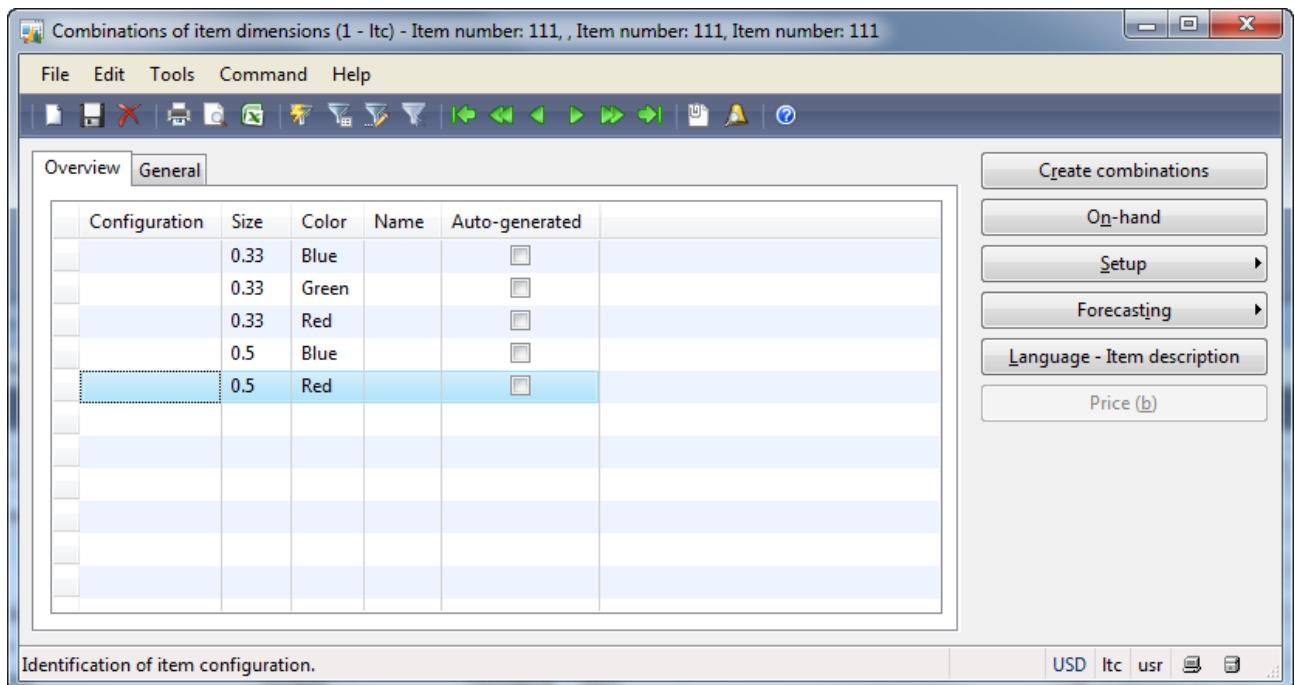


Figure 5.6 Item dimension combinations

Create dimension combinations automatically.

It is a very tedious process to activate a dimension combination when a new dimension value is created. If an item must have a dimension combination for all dimension values, we can set up Microsoft Dynamics AX to activate new dimension combinations automatically.

To achieve this, do the following:

1. In the **Item** form, click the **General** tab -> **Item dimension – Setup** field group
2. Select the **Autocreate combination** check box.

Now, create the *Orange* color dimension (click **Setup > Colors**). Make sure that the new dimension combinations 0.5 Orange and 0.33 Orange are created (click **Setup > Item dimension combinations**).

Item setup: Inventory dimension group

The screenshot shows a Microsoft Dynamics AX application window titled 'Combinations of item dimensions (1 - ltc) - Item number: 1, , Item number: 1, Item number: 1'. The window has a toolbar with various icons and a menu bar with 'File', 'Edit', 'Tools', 'Command', and 'Help'. Below the toolbar is a navigation bar with tabs 'Overview' and 'General'. The main area contains a table with columns: Configuration, Size, Color, Name, and Auto-generated. Red arrows point to the 'Auto-generated' column for the second and third rows, which have checked checkboxes. The table data is as follows:

Configuration	Size	Color	Name	Auto-generated
	0.33	Blue		<input type="checkbox"/>
	0.33	Green		<input type="checkbox"/>
	0.33	Orange		<input checked="" type="checkbox"/>
	0.33	Red		<input type="checkbox"/>
	0.5	Blue		<input type="checkbox"/>
	0.5	Orange		<input checked="" type="checkbox"/>
	0.5	Red		<input type="checkbox"/>

To the right of the table is a vertical panel with buttons for 'Create combinations', 'On-hand', 'Setup', 'Forecasting', 'Language - Item description', and 'Price (b)'. At the bottom of the window is a status bar with buttons for 'USD', 'ltc', 'usr', and other icons.

Figure 5.7 Item dimension combinations

Note that automatically created combinations have the **Auto-generated** check box selected.

Create the Can item

Now, we will create the Can item. It has similar parameters to those of the Bottle item. We will use the Bottle item template for this purpose.

To create the Bottle template, do the following:

1. In the **Item** form, right-click the Bottle record and select the **Record info** option from the menu. The **Record information** form appears.
2. Click the **User template** button. The **Create template** form opens. (This template will be available for the current User only. The template approach can be used for all forms in Microsoft Dynamics AX).
3. Enter the template name *Bottle* in the **Create template** form.
4. Click **OK**. And close the **Record information** form.

After a template is created, Microsoft Dynamics AX automatically shows the **Select a template for Item form** when we create a new item in the **Item** form.

Item setup: Inventory dimension group

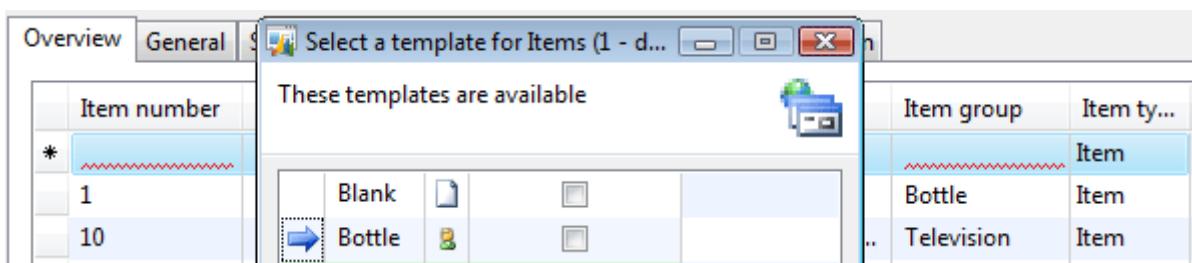


Figure 5.8 Select a template for Items form

To create the Can item, do the following:

1. In the **Item** form, click CTRL+N.
2. Select the **Bottle** template from the **Select a template for Items** form and click **OK**.
3. Type 11 in the **Item number** field and *Can* in the **Item name** field.
4. Make sure that all mandatory fields are filled in. Save the record.

Note: Item dimensions are not transferred from the Bottle item. So, we need to create new Size and Color dimensions and activate them in the **Dimension combination** form.

Create the following Sizes and Color dimensions for the Can item and activate them:

- Standard Black
- Standard Blue
- Double Black
- Double Blue

Training Lesson Summary

In the Inventory dimension group training lesson, we understand the purpose of a Dimension group.

The Item setup training lesson is now over. Our Company has two items to work with: Bottle and Can. The items have the following setup:

- *Packaging* item group with specific general ledger accounts
- *FIFO* inventory model group
- CS-W dimension group with active Color, Size, Site, and Warehouse dimensions

The Bottle item is set up with the following dimension combinations:

- 0.33 Blue
- 0.33 Green
- 0.33 Red
- 0.33 Orange
- 0.5 Blue
- 0.5 Red
- 0.5 Orange

Item setup: Inventory dimension group

The Can item has following dimension combinations:

- Standard Black
- Standard Blue
- Double Black
- Double Blue.

We have finished setting up the company's item list. Now, we will work with these items purchasing and selling it. In the next training, we will learn the process of purchasing an item.

6. Purchase business process

In this Microsoft Dynamics AX Training Lesson, we will understand the purchase business process.

In the previous training lessons, we have created two items – Bottle and Can which we will now use in our work.

Let's assume that our company needs 5,000 Bottles Red 0.5 and 3,000 Cans Standard Black. The company's Purchase Manager receives the information from one of the company managers to buy these items from the *Big Bottle* vendor.

The Purchase Manager creates a new purchase order with two lines, calls the vendor, and agrees order details – item quantity, delivery date, price, etc.

The Purchase Manager enters the agreed information into the purchase order. Then the Purchase Manager needs to confirm the order details and print the Confirmation document. This document is a guarantee that our company and the vendor have a preconcert. The Purchase Manager sends the Confirmation document to the supplier via a fax or an e-mail.

After that, the warehouse workers (on the Big Bottle company side) load a truck with necessary items. A truck driver starts out.

The Purchase Manager typically receives phone calls from the truck driver asking for a delivery. The Purchase Manager asks the driver for any purchase order numbers listed in his paperwork and finds the appropriate purchase order in the system.

The Purchase Manager uses the warehouse management system to determine a time slot, dock door, and duration for the delivery. The system evaluates all items on the purchase orders and determines what receiving door would result in the least travel time for the putaway.

The Purchase Manager accepts the desired dock door and date.

The Purchase Manager provides the truck driver with the dock door number, date and time of receipt.

When the truck arrives to the gate, a security guard logs that the truck is on site.

When the truck driver arrives to the warehouse office, the Purchase Manager physically collects the receiving paperwork from the truck driver. The Purchase Manager opens the purchase orders in the Warehouse Management System (WMS) and compares line item quantities in the truck driver's paperwork with the quantities displayed in the WMS. Any differences are entered into the WMS. (These totals should normally remain unchanged from the purchase order totals displayed, and will only vary when the supplier does not ship complete or, rarely, if there is a substitution.)

Once the expected quantities are entered, the WMS goes through putaway routines to determine where to store each inbound pallet. Locations are printed on pallet tags.

Purchase business process

As soon as the Purchase Manager makes sure that the order information matches the truck driver's paperwork, the following documents are printed and given to the Receiving Manager:

- [Pallet Tags](#), (one for each [pallet](#) expected)
- [Lumper's TI-HI report](#). A Lumper is a non-employee hired by a truck driver to help unload a trailer. The TI-HI report refers to the number of boxes/cartons stored in one layer (or tier of a pallet -TI) and the number of layers stacked on a pallet (HI).
- Receiver. A document listing each pallet expected with item quantity.

The Receiving Manager physically examines the arriving goods, affixes pallet tags, and validates the quantities on the Receiver.

When finished, the Receiving Manager returns the Receiver and any leftover labels to the Purchase Manager.

The Purchase Manager stamps the truck driver's paperwork and releases him.

The Purchase Manager then opens the Warehouse Management System again, opens the data entry function, and enters any quantity adjustments, code dates, etc. noted on the Receiver, and voids any leftover pallet tags.

In the warehouse, the forklift truck driver moves the pallets off the receiving dock and takes them to the location printed on a pallet tag. If for any reason he cannot put a product away, he takes the pallet to a special area sometimes called a twilight zone. Inventory management personnel will handle the problem from there.

The security gate logs trucks off the site.

When items are received, the Purchase Manager posts the Packing slip – this means that the items are already in the company warehouse (company's property) and we can use these items.

In the last step, the Purchase Manager confirms that our company must pay to the Big Bottle company. For this purpose, the Invoice document exists. The Purchase Manager receives an invoice from the Big Bottle Sales Manager and posts one. This process creates a ledger transaction – an Inventory account is debited (increased), Accounts Payable account is credited (also increased). To understand a financial transaction I recommend you read [this training](#) (<http://www.accountingcoach.com>).

There is still one more step exist is the payment process. But this process does not belong to the purchase business process. Even more, the payment is out of the Trade and Logistics scope. Payment will be studied in the Microsoft Dynamics AX (Axapta) Financial training.

Training Lesson Summary

In this training lesson, we have learnt the purchase business process. Let's review the key personas in this process:

- Purchase manager

Purchase business process

- Receiving manager
- Truck driver
- Forklift truck driver

The purchase order flow is as follows:

1. Create
2. Confirm
3. Arrive
4. Register (PutAway)
5. Packing slip (company property)
6. Invoice (must pay)

In the next training lessons, we will learn how the purchase process is implemented in Microsoft Dynamics AX. Also, we will understand that not all steps are implemented on an adequate level.

7. Setup initial data (Vendor, Warehouse, Equipment)

Hi Axapta People! Before we start the purchase business process, we must set up initial data in Axapta. In this training lesson, we will understand and set up the following:

- Vendor
- Warehouse structure
- Pallets and forklift

Let's begin.

As you may remember the initial data from our previous trainings is the follows:

- Company purchases 5,000 items of Bottle Red 0,5 and 3,000 items of Cans Standard Black
- Company vendor is *Big bottle* company

We need more data for a full-fledged purchase process including the following (I suppose that you have already downloaded the [demo data](#)):

- Company warehouse structure
- Company pallet types
- Company forklift trucks
- Extend the Bottle and Can dimension to be able to track a pallet and location

Vendor

We may now create the *Big Bottle* vendor:

1. Go to **Accounts payable > Common Forms > Vendor Details**. The **Vendors** form opens.
2. Create a new record by pressing CTRL+N. Fill in the following fields:
 - Vendor account = 1000
 - Name = *Big Bottle*
 - Group = 50
3. Save the record. (If you encounter an error “Number sequence for the reference Address book ID in parameters in the Global address book module has not been set up”, [do following](#).)

Now, we have set up the vendor. One field that we should discuss is the Group field. What is the **Group** field used for? In “3. Item setup: Item group” lesson, we have set up general ledger accounts for items. We have studied that a general ledger account contains information (in a money equivalent) about a concrete type of assets, liabilities, or shareholders' equities. If a company needs to distinguish the item cost (asset) purchased from different groups of vendors, then a vendor group helps. This field relates to the Financial training scope. So I won't explain it in details in this training. But, I will write [short example](#) that can help you understand what a vendor group is used for.

Company warehouse structure

A company's warehouse physical structure contains the following entities:

1. Sites. A site is a geographical location. A site includes one or several warehouses.
2. [Warehouses](#). A warehouse is a commercial building for storage of goods.
3. [Aisles](#). An aisle is a space for walking with rows of seats on either side or with rows of seats on one side and a wall on the other. In warehouses, rather than seats they have a rack to either side.
4. [Racks](#). A rack is a material handling storage aid system designed to store materials on pallets. [One more rack example](#).
5. Shelves. The rack system composed of shelves.
6. Bins. A bin is a position on a shelf.

A company's warehouse logical structure contains the following entities:

1. Locations. It is a physical place in a warehouse that must be used as one entity. A location can be an entire aisle or a rack, a shelf or a bin. If, for example, a warehouse has aisles and racks only (without shelves and bins), a location is an entire rack.
2. Store areas. Store areas group locations by dividing the warehouse into designated sections for inventory with similar characteristics. There are two types of store area, and every location is connected to one of the following areas: Input area and Picking area. An Input area is used in connection with a place where items are stored when they are received as inventory. A Picking area is used to determine picking routes.
3. Store zones. Store zones are used for prioritizing the store areas for arriving items. The store zones are thus made up of store areas. We will understand the meaning of this entity later in "9. Item arrival and registration" training lesson.

To set up a company warehouse structure (physical and logical), go to **Inventory management > Setup > Inventory breakdown**.

Setup initial data (Vendor, Warehouse, Equipment)

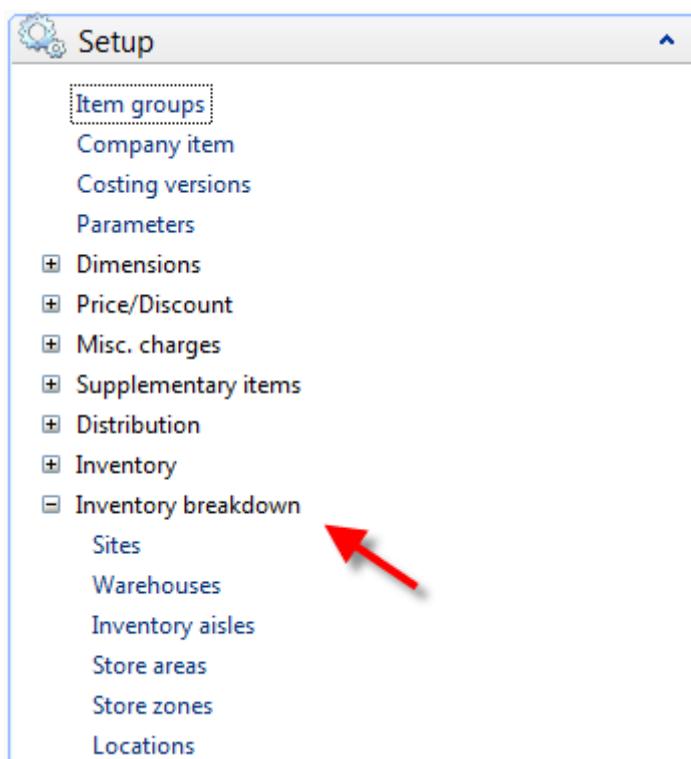


Figure 7.1 Inventory breakdown folder

Under the **Inventory breakdown** folder, we can find the **Sites, Warehouses, Inventory aisles, Store areas, Store zones** and **Locations** forms. Note that a rack, a shelf, and a bin are not warehouse entities. We can't create a rack, a shelf, or a bin and work with them (for example, associate to a location or inquire the on-hand for a shelf). In Microsoft Dynamics AX, Shelf, Rack, and Bin are properties of a Location. When a location is being created, the user chooses whether the location is rack, shelf, or bin. For example, in the following picture, a Location is a Bin that is situated in Bin 1, Shelf 2, Rack 1, Aisle 01 of Warehouse 22.

Setup initial data (Vendor, Warehouse, Equipment)

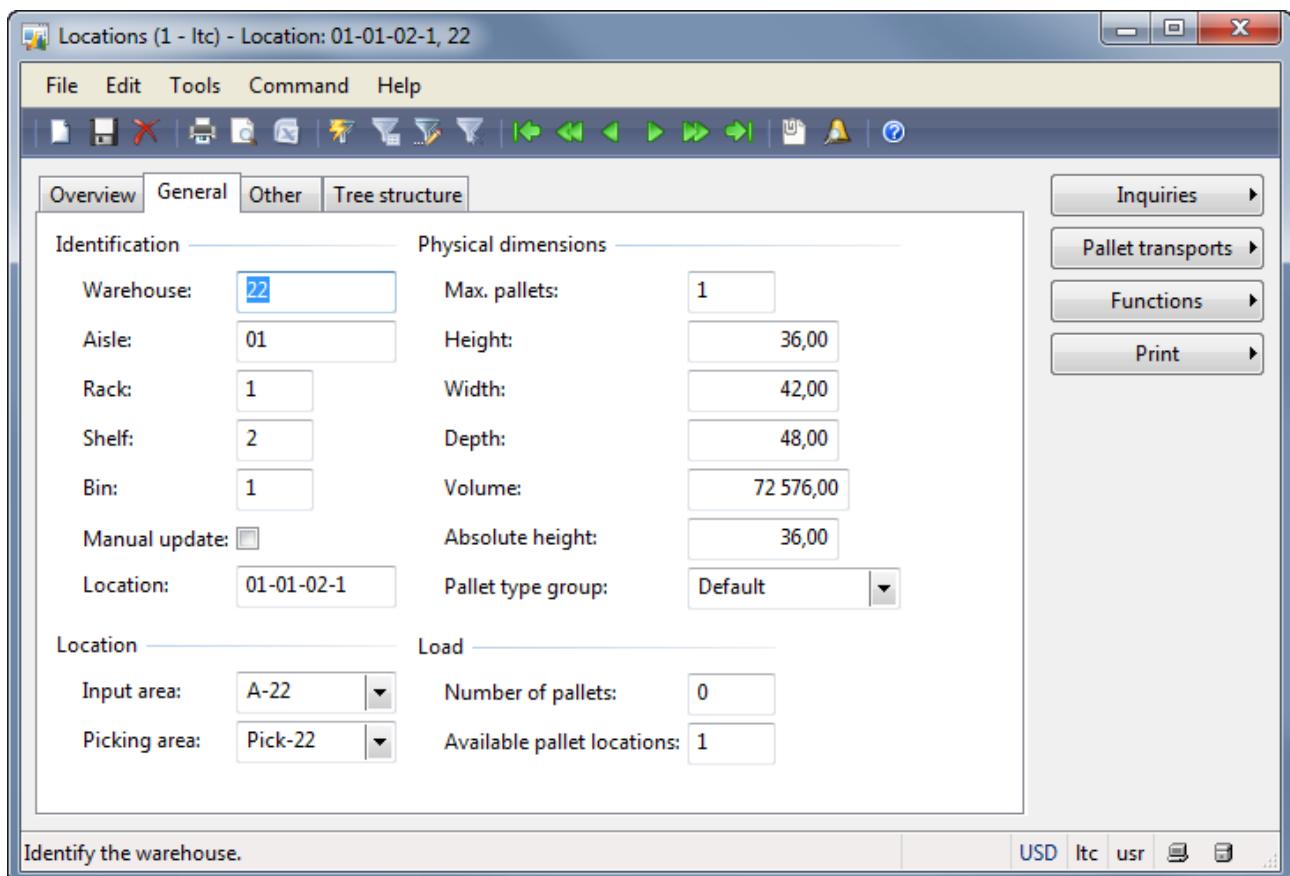


Figure 7.2 Location example

In our training, we will use warehouse 22. This warehouse contains seven aisles. Six aisles are used for storing goods and one aisle is used for receiving and issuing goods to and from warehouse. This one aisle is called *Special*. Each aisle (with the exception of *Special*) consists of 15 Racks with 3 Shelves each, each Shelf has one Bin. In this case, a Location is a Bin. A Location name consists of aisle, shelf, rack and bin IDs (names). The *Special* aisle doesn't have any racks (or shelves and bins), this "aisle" contains five inbound and five outbound [docks](#). An [Inbound or an outbound dock](#) is location. In this case, a Location is a part of an aisle. In our demo data, the location has the name (In_01 or Out_05). The EMPTY-P location is also a part of an aisle that will be used to store empty pallets.

Let's find all these settings in Microsoft Dynamics AX. I have prepared several screen shots from our demo data.

To find this setting, take the following steps:

1. To open the **Warehouses** form, go to **Inventory management > Setup > Inventory breakdown > Warehouses**.
2. To view inventory aisles that belong to the current warehouse, click **Inquiries > Inventory aisles** in the **Warehouses** form.
3. Each aisle (except the *Special*) contains racks, shelves, and bins. A Location in this case is a Bin.
4. From the **Inventory aisle** form, click the **Locations** button.
5. The **Locations** form opens. This form shows locations that belong to the current aisle.

Setup initial data (Vendor, Warehouse, Equipment)

Warehouse	Location	Location type	Max. pallets	Number of pallets	Available p	Last update
22	01-01-01-1	Picking location	1	0	1	2010-01-01 10:00:00
22	01-01-02-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-01-03-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-02-01-1	Picking location	1	0	1	2010-01-01 10:00:00
22	01-02-02-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-02-03-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-03-01-1	Picking location	1	2	-1	2010-01-01 10:00:00
22	01-03-02-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-03-03-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-04-01-1	Picking location	1	0	1	2010-01-01 10:00:00
22	01-04-02-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-04-03-1	Bulk location	1	0	1	2010-01-01 10:00:00
22	01-05-01-1	Picking location	1	0	1	2010-01-01 10:00:00

Figure 7.3 Locations form

A Location can be of several types:

- Bulk location. Storage of received items. Identifies locations where items are stored until they are either moved to an outbound dock or used to fill a picking location.
- Picking location. Storage of items ready to picking (for sales process).
- Inbound dock. Location in the warehouse where items are received.
- Outbound dock. Location in the warehouse where shipments take place.
- Production input location. Location is used in the Production module.

The following picture helps understand what different location types are used for.

Setup initial data (Vendor, Warehouse, Equipment)

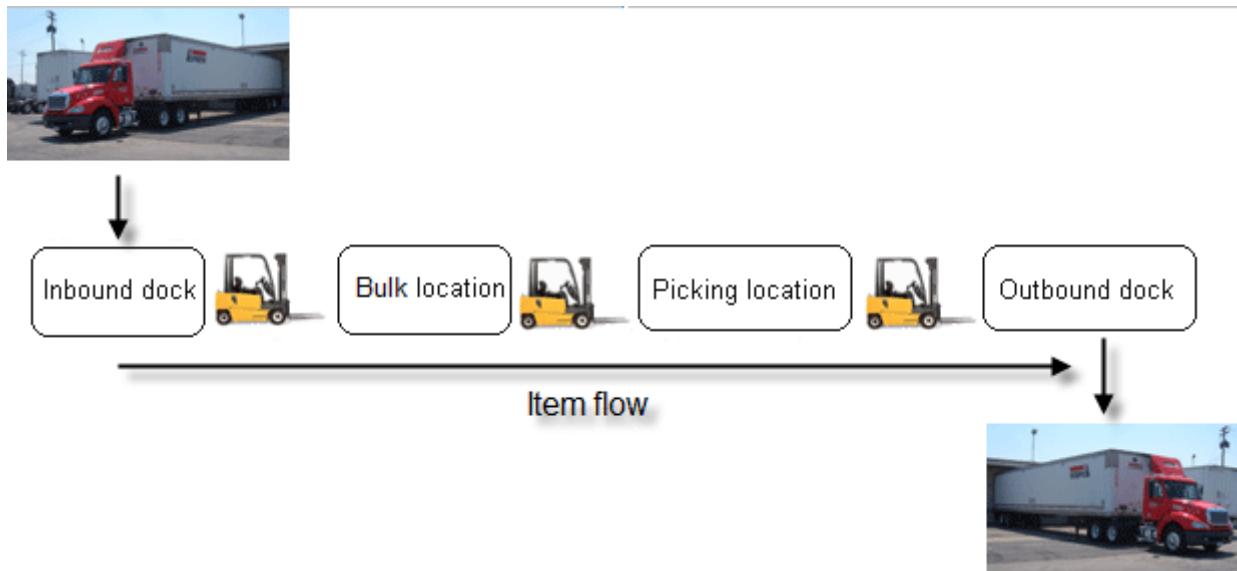


Figure 7.4 Location types

For example, in the Arrival journal (**Inventory management > Journals > Item arrival > Item arrival**), an item can arrive only to a location of the Inbound dock type.

A few words about a store zone and a store area. In Microsoft Dynamics AX, Warehouse Management store zones and areas are used for automatic placement of items into preferred locations. A store area groups locations. A store zone prioritizes store areas.

Let's assume that the Bottle item arrives to the In_01 (inbound dock) location. Where must this item be stored? An item is associated with a store zone. This is done through the **Warehouse item** form.

Take the following steps to associate the Bottle item with a store zone:

1. Go to **Inventory management > Common Forms > Item details**. The **Item** form opens.
2. Find the Bottle item. Select the record and click **Setup > Warehouse items**. The **Warehouse items** form opens.
3. For all Bottle item's dimensions, we will use the same setup. We assume that the Bottle item arrives in warehouse 22.
4. Create a new record by pressing CTRL+N. Leave the item's **Dimension** field empty and fill in the **Warehouse** field with the value 22.
5. To assign a store zone, click the **Locations** tab.
6. In the **Store zone** field, enter *All-22*.
7. Save the record by pressing CTRL+S.

Set up the Can item with the same value.

We have now set up the *All-22* store zone for the Bottle item. Let's find what store areas belong to this store zone and how store areas are prioritized.

Setup initial data (Vendor, Warehouse, Equipment)

1. Go to **Inventory management > Setup > Inventory breakdown > Store zones**. The **Store zone** form opens.
2. Find the **All-22** store zone and click the **Store areas** tab. The following tab opens:

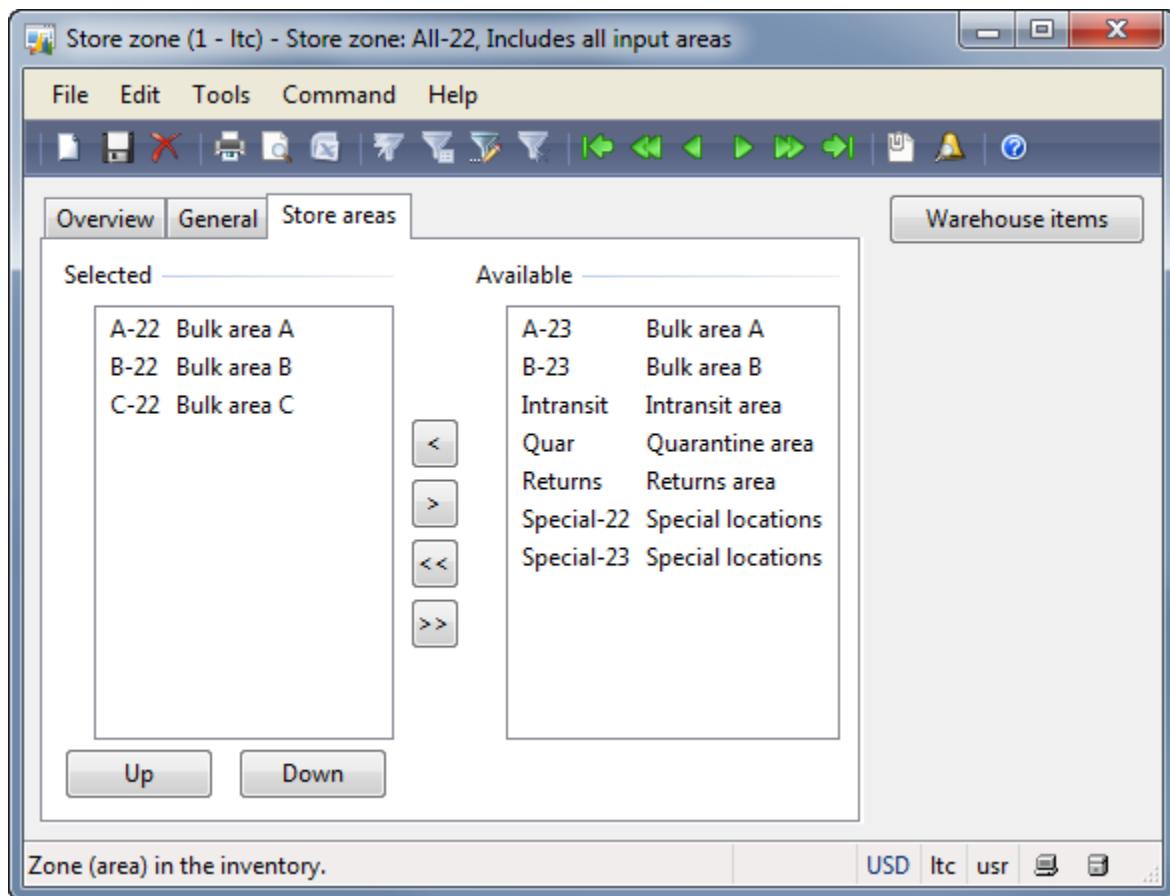


Figure 7.5 Store zone, Store areas tab

The information on this tab tells us that first, Microsoft Dynamics AX will try to put the Bottle item into a location from store area A-22. If there are no available locations, the location will be found in store area B-22. If there are no locations here also, the location will be found in store area C-22. If no appropriate location is found, an error message is shown: "Cannot find location for item Bottle at warehouse 22".

To find what locations belong to store area A-22, take the following steps:

1. Go to **Inventory management > Setup > Inventory breakdown > Store areas**. The **Store area** form opens.
2. Find and select the record for the A-22 store area. Click the **Locations** button
3. The **Location** form opens. This form tell us what locations are associated with the A-22 store area.

Setup initial data (Vendor, Warehouse, Equipment)

The screenshot shows the 'Locations' form in Microsoft Dynamics AX. The title bar reads 'Locations (1 - ltc) - Location: 01-01-01-1, 22, Input area: A-22'. The menu bar includes File, Edit, Tools, Command, and Help. Below the menu is a toolbar with various icons. The main area has tabs: Overview (selected), General, Other, and Tree structure. A large grid table displays location data with the following columns: Warehouse, Location, Location type, Max. pallets, Number of pallets, and Available p. The data in the grid is as follows:

Warehouse	Location	Location type	Max. pallets	Number of pallets	Available p
22	01-01-01-1	Picking location	1	0	1
22	01-01-02-1	Bulk location	1	0	1
22	01-01-03-1	Bulk location	1	0	1
22	01-02-01-1	Picking location	1	0	1
22	01-02-02-1	Bulk location	1	0	1
22	01-02-03-1	Bulk location	1	0	1
22	01-03-01-1	Picking location	1	2	-1
22	01-03-02-1	Bulk location	1	0	1
22	01-03-03-1	Bulk location	1	0	1
22	01-04-01-1	Picking location	1	0	1
22	01-04-02-1	Bulk location	1	0	1
22	01-04-03-1	Bulk location	1	0	1
22	01-05-01-1	Picking location	1	0	1

Below the grid, a message says 'Identify the warehouse.' On the right side, there are buttons for Inquiries, Pallet transports, Functions, and Print. At the bottom, there are buttons for USD, ltc, usr, and other navigation options.

Figure 7.6 Locations form

Extend item dimensions

The Bottle and Can items have the following storage dimensions: Site and Warehouse. Since we want to track pallets and locations, we need to change the dimension group. What does it mean “to track locations” (or pallets)? It means that all inventory transactions (except those of the status Ordered) must be recorded with a location ID (pallet ID). With the help of this ID, we can inquire about how many Bottles are stored at a certain location or how many Bottles there are on pallet 555, for example.

To change the item dimension, perform the following steps:

1. Go to **Inventory management > Common Forms > Item details**. The **Item** form opens.
2. Find and select the Bottle item. Click the **General** tab and change the **Dimension group** field value from **CS-W** to **CS-WLP**. The **CS-WLP** dimension group has active Color, Size, Warehouse, Location, and Pallet dimensions.

Note: If you have at least one transaction with this item, Microsoft Dynamics AX will not allow changing the dimension group. If you want to delete all transactions in the current company, [refer here for information](#).

Set up the Can item with the same value.

Inventory equipment

Now, we will set up pallet types and forklift trucks available in our company. This can be done under the following path: **Inventory management > Setup > Inventory equipment**.

Since a pallet can have different height, width, and depth dimensions, we need to create different pallet types. I suppose that you use the demo data, so I only present a screen shot of the **Pallet types** form:

The screenshot shows a Microsoft Dynamics AX 2009 application window titled "Pallet type (1 - ltc) - Pallet type: 20'Container, 20 ft Container". The window has a standard Windows-style title bar with minimize, maximize, and close buttons. Below the title bar is a toolbar with various icons for file operations like New, Open, Save, Print, and Search, along with navigation buttons and a help icon.

The main area contains two tabs: "Overview" (selected) and "General". On the right side of the main area, there is a button labeled "Pallets".

The central part of the window is a data grid table with four columns: "Pallet type", "Height", "Width", and "Depth". The table lists several pallet types with their dimensions:

Pallet type	Height	Width	Depth
20'Container	108,00	96,00	240,00
40"Cage	72,00	40,00	40,00
40"x40"	6,00	40,00	40,00
40'Container	108,00	96,00	480,00
42"Cage	72,00	42,00	42,00
42"X42"	6,00	42,00	42,00
45'Container	120,00	96,00	540,00
48"Cage	72,00	48,00	48,00
48"X40"	6,00	48,00	40,00
48"X48"	6,00	48,00	48,00
Picking cage	18,00	42,00	48,00

At the bottom of the window, there is a "Description of the bearer" field and a row of buttons for currency conversion (USD, ltc, usr) and other functions.

Figure 7.7 Pallet types form

Now, we need to create pallet groups. Each location has a pallet type group parameter specified under the following path: **Inventory Management > Setup > Inventory breakdown > Locations** form.

Setup initial data (Vendor, Warehouse, Equipment)

The screenshot shows the 'Locations (1 - ltc) - Location: 01-01-01-1, 22' window. The 'General' tab is selected. In the 'Identification' section, fields include Warehouse (22), Aisle (01), Rack (1), Shelf (1), Bin (1), and Location (01-01-01-1). In the 'Physical dimensions' section, fields include Max. pallets (1), Height (36,00), Width (42,00), Depth (48,00), Volume (72 576,00), and Absolute height (0,00). A dropdown menu labeled 'Pallet type group' is open, showing 'Default' as the selected option. On the right side of the window, there are four buttons: 'Inquiries', 'Pallet transports', 'Functions', and 'Print'. At the bottom left, a status bar says 'Identify the warehouse.' and at the bottom right, there are buttons for USD, ltc, usr, and other system icons.

Figure 7.8 Pallet type group on the Locations form

The Pallet group shows what pallet type can be stored at this location.

In my demo data, I have the following pallet groups:

- *Default* pallet type group contains pallet types:
 - 40"x40"
 - 42"X42"
- *Large pallets* pallet type group contains pallet types:
 - 48"X40"
 - 48"X48"
- *Picking cages* pallet type group contains pallet type Picking cage

Let's now set up a [forklift](#) truck. I assume that we will use only one forklift truck in our company warehouse. So, refer to the **Forklift** form's screen shot for an example of forklift truck setup in Microsoft Dynamics AX:

Setup initial data (Vendor, Warehouse, Equipment)

Forklift ID	Operator	Input transports	Output transports	Refilling transports	Max. height
Forklift1	7210	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	36,00
Forklift2		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	36,00
Forklift3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	36,00
Forklift4		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	36,00
Forklift5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	108,00
Forklift6		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	108,00
Forklift7		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	108,00
Forklift8		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	108,00
Truck1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	999,00
Truck2		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	999,00
Truck3		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	999,00

Figure 7.9 Forklift form

OK, we have done a good work! We have set up all necessary data for the purchase business process (to be more specific, for its receiving part).

Training Lesson Summary

Today we have set up the initial data for the purchase business process, its receiving part.

Let's review what we have done:

- Have created the *Big Bottle* vendor.
- Have understood and set up the company warehouse structure (warehouses, aisles, racks, shelves, bins, and locations).
- Have extended the Bottle and Can dimensions (have added Location and Pallet).
- Have understood and set up company warehouse equipment (pallet types, pallet groups, and forklift trucks).

In the next training, we will create a purchase order.

8. Create purchase order

In this Microsoft Dynamics AX training lesson, we will create a purchase order, discuss its main fields, and understand how the user can control the purchase order process in Microsoft Dynamics AX.

We will use the following information from the “7. Setup initial data (Vendor, Warehouse, Equipment)” training lesson:

- Company purchases 5,000 Bottles Red 0.5 and 3,000 Cans Standard Black
- Company vendor is the *Big bottle* company

Before we start, I ask you to set up the following prices for Bottle and Can items:

- For the Bottle item, we will set up the purchase price to 5\$, its cost price to 5\$, and its sales price to 9\$.
- For the Can item, we will set up the purchase price to 7\$, the cost price to 7\$, and the sales price to 12\$.

Take the following steps to perform the price setup:

1. Go to **Inventory management > Common Forms > Item details**. Select the Bottle item and then click the **Price/Discount** tab.
2. Under the **Base purchase price** field group, type 5 in the **Price** field.
3. Under the **Base cost price** field group, type 5 in the **Price** field.
4. And under the **Base sales price** field group, type 9 in the **Price** field.

Repeat the procedure for the Can item.

Create purchase order

Go to **Accounts payable > Common Forms > Purchase order details**. The **Purchase order** form opens. The form provides two views Simple and Advanced. We will work in the Advanced form view. If you have the Simple form view, click the **Advanced** button.

Create purchase order

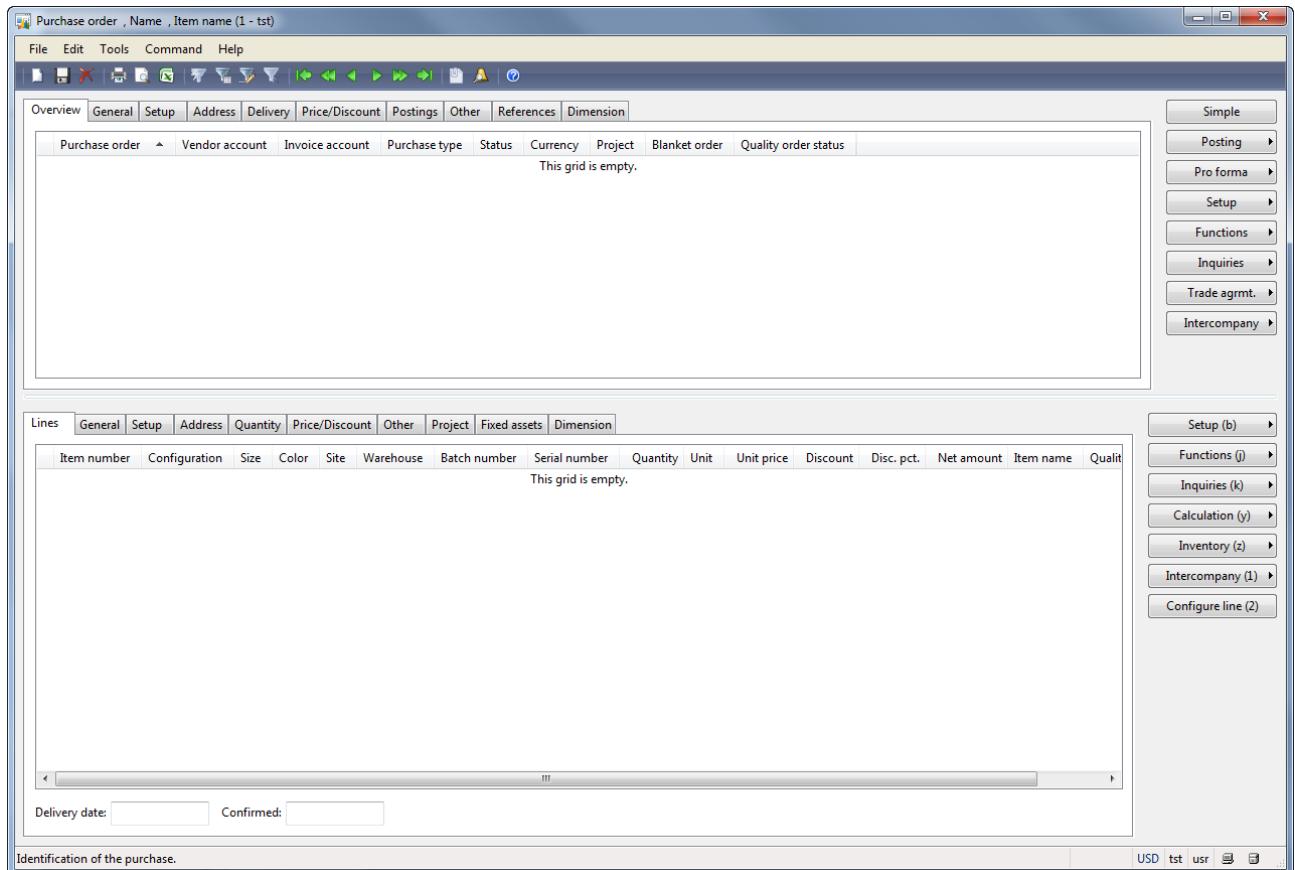


Figure 8.1 Purchase order form

In the form header, create a new record by pressing CTRL+N. The **Create purchase order** form opens.

In this form, we need to select a vendor. In our case, we select the *Big bottle* vendor. All vendor information including vendor name, vendor contact person, delivery type (this field isn't shown in this form) will be transferred to the purchase order.

Create purchase order

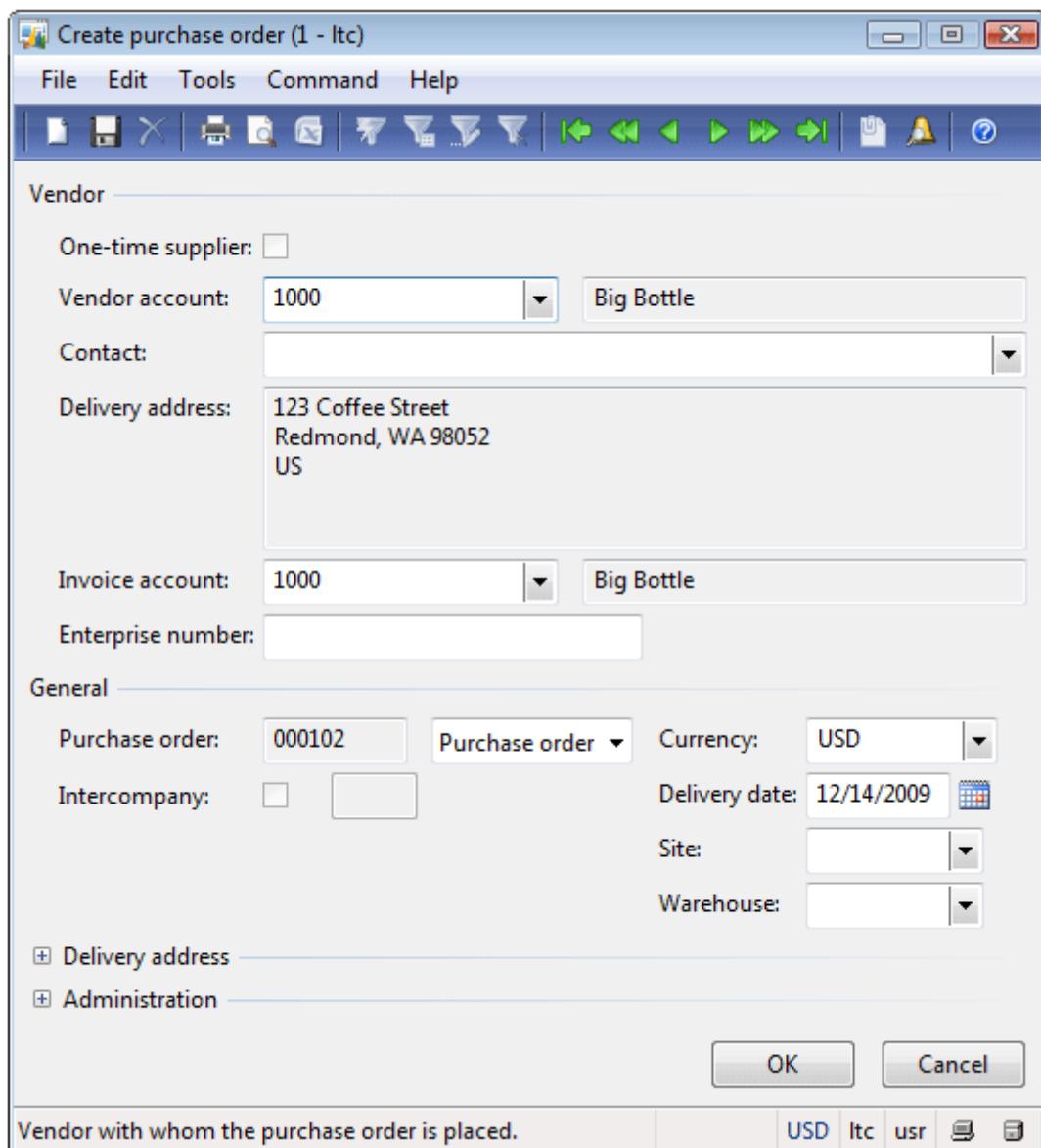


Figure 8.2 Create purchase order form

Expand the **Delivery address** field group. This group contains the information about the company address. We can change this address if, for example, a receiving warehouse has a different address. Company information is set up under the following path: **Basic > Setup > Company information**.

I want to say a few words about the **Orderer** field located under the **Administration** field group. This field contains the information about an employee who creates this purchase order. Microsoft Dynamics AX automatically fills in this field. The relation between a company employee and the Microsoft Dynamics AX user is set up under the following path: **Administration > Users >** (the **User** form will be shown) **> User relations button >** (the **User relations** form will be shown) **> General tab > Internal user field.**

After clicking **OK**, the new purchase order will be created.

Create purchase order

Overview	General	Setup	Address	Delivery	Price/Discount	Postings	Other	References	Dimension
Purchase order	▲	Vendor account	Invoice account	Purchase type	Status	Currency	Project	Blanket o	
000100		1000	1000	Purchase order	Open order	USD			

Figure 8.3 Purchase order header

The **Purchase order** form displays a new purchase order in the header. The order is of the status Open order. All fields in the purchase order header have been filled with the default values. The field that I need to mention is the **Posting profile** field. This field is located on the **Setup** tab, under the **Posting** field group. The Posting profile answers the questions what general ledger accounts will be used to reflect vendor transactions. When a company purchases items (i.e. during the last step – posting an Invoice), the following general ledger transaction is created:

Account payable		Inventory	
Debit	Credit	Debit	Credit
	1000	1000	

Figure 8.4 Ledger transaction

What general ledger account will be used instead of Inventory? Item group answers this question (**Inventory management > Setup > Item group**).

What general ledger account will be used instead of Accounts payable? Vendor posting profile answers this question.

A Posting profile is filled in the purchase order from the **Account payable parameters** form. A posting profile is set up under the following path: **Accounts payable > Setup > Parameters > Ledger and Sales tax tab > Posting profile** field.

We will return to the posting profile later when the purchase order will be invoice updated. (This field is only used when a purchase order is invoice updated).

Create purchase order line

Let's create a purchase order line:

1. In the line area, create new record by clicking CTRL+N).
2. In the **Item** field, select the *Bottle* item.
3. Select 0.5 in the **Size** field.
4. Select *Red* in the **Color** field.
5. Select 2 in the **Site** field.
6. Select 22 in the **Warehouse** field.
7. Fill in 5,000 in the **Quantity** field.
8. Save the record by pressing CTRL+S.

Create purchase order

The purchase price is automatically set up. We have set up the purchase price of the Bottle item to 5\$.

The purchase order line should have the following view:

Purchase Order Line View															
Lines	General	Setup	Address	Quantity	Price/Discount	Other	Project	Fixed assets	Dimension						
	Item number	Configuration	Size	Color	Site	Warehouse	Batch number	Serial number	Quantity	Unit	Unit price	Discount	Disc. pct.	Net amount	Item name
	1		0.5	Red	2	22			5 000,00	Pcs	5,00			25 000,00	Bottle

Figure 8.5 Purchase line

I want to explain one field from the purchase order line. Click the **Setup** tab and find the **Lot ID** field. Lot ID is a unique identifier for items that belongs to the current line. With the help of lot ID, we can find out what happens with line items inside the company. This field is used to find inventory transactions for the line items.

Now, create a second purchase order line yourself.

I will just show you my screen shot.

Purchase Order Lines View															
Lines	General	Setup	Address	Quantity	Price/Discount	Other	Project	Fixed assets	Dimension						
	Item number	Configuration	Size	Color	Site	Warehouse	Batch number	Serial number	Quantity	Unit	Unit price	Discount	Disc. pct.	Net amount	Item name
	1		0.5	Red	2	22			5 000,00	Pcs	5,00			25 000,00	Bottle
	11		Sta...	Black	2	22			3 000,00	Pcs	7,00			21 000,00	Can

Figure 8.6 Purchase order lines

Inventory transactions

How can we control what happens to items inside the company? For this purpose, inventory transactions exist. The main inventory transaction fields are item ID, item dimensions, quantity, and item status. Item status is divided to Receipt and Issue statuses. Receipt statuses are used when items are received into a warehouse. Issue statuses are used when items are issued from a warehouse. As we purchase items, we are more interested in the Receipt statuses.

Axapta has the following Receipt statuses:

- Quotation receipt – An item has this status when the Purchase Manager creates a Quotation. A Quotation is just a manager's suggestion to buy any item from a vendor. When the Purchase Manager calls and agrees the details with the vendor, the purchase order is created.
- Ordered – An item has this status when a purchase order is created.
- Arrived – An item has this status when it arrives into a warehouse (to an inbound dock).
- Registered – An item has this status when it is put away in a warehouse (to a bulk or a picking location).
- Received – An item has this status when the Purchase Manager posts a packing slip (Packing slip document guarantees that a company has received items).
- Purchased – An item has this status when the Purchase Manager posts an invoice (Invoice document guarantees that a company must pay to a vendor).

Create purchase order

In our case, we have created a purchase order. So, the item on purchase order lines must have inventory transactions of the *Ordered* status.

Inventory transactions can be viewed from the purchase order line area. Click **Inventory > Transactions**. The **Transactions** form opens.

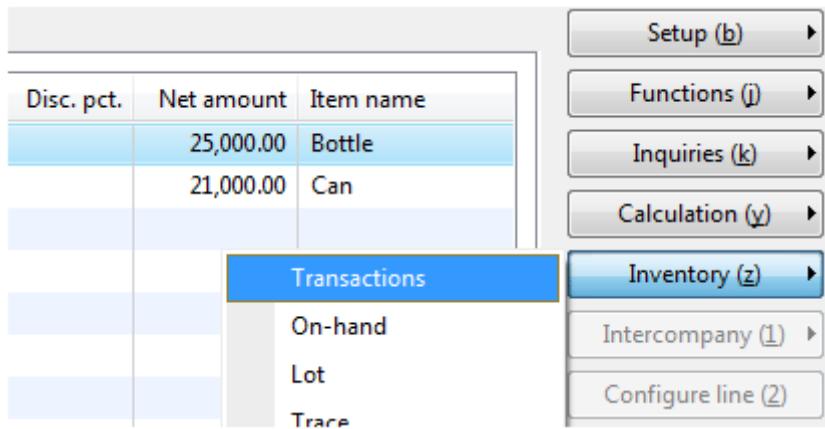


Figure 8.7 Inventory Transactions button

How can we control the item quantity in a warehouse, i.e. the item on-hand? Item on-hand is the sum of all item transactions. To get the item on-hand, click **Inventory > On-hand** menu button. The **On-hand** form opens. Notice that the on-hand quantities are shown per item statuses.

The purchase line with the Bottle item has the following on-hand quantities:

Create purchase order

On-hand (1 - ltc) - Closed: No, Item number: 1, New Record

Item name:	Bottle	Unit:	Pcs	Overview
Inventory dimensions				Ordered items
Size:	0.5	Unit:	Pcs	Items on order
Color:	Red			Net requirements
Site:	2			Intercompany on-hand
Warehouse:	22			Quantity adjustment
On-hand	Physical inventory			Counting history
Physical inventory:		Posted quantity:		Dimensions display
Physical reserved:		Deducted:		Units (b)
Available physical:		Picked:		
Ordered in total:	5,000.00	Received:		
Ordered reserved:		Registered:		
Available for reservation:	5,000.00	Ordered in total		
On order in total:		Arrived:		
Total available:	5,000.00	Ordered:	5,000.00	
Physical cost amount:		Various		
Financial cost amount:		On order:		
Cost price:	5.00	Quotation receipt:		
Describe the item and any configuration.				USD ltc usr

Figure 8.8 On-hand form

Training lesson summary

In this training lesson, we have studied the following:

- How to create a purchase order
- The main purchase order fields – Delivery address, Orderer, Posting profile, Lot ID
- How to control item statuses inside a company

Now, we have a purchase order and can control item statuses, so the receiving process can be started and a result can be checked! Let's begin...

9. Item arrival and registration

Good day! Today our Purchase manager calls a Vendor to agree such order details as quantity, delivery date, price, and other purchase order information. He or she then adjusts order information in Microsoft Dynamics AX confirms the order details, and then prints the Confirmation document. The Purchase manager expects to receive the items on the order into the warehouse today.

Open the **Purchase order** form and find the purchase order created in the previous lesson. It contains the following lines:

Purchase Order Lines														
Lines	General	Setup	Address	Quantity	Price/Discount	Other	Project	Fixed assets	Dimension					
1	Item number	Configuration	Size	Color	Site	Warehouse	Batch number	Serial number	Quantity	Unit	Unit price	Discount	Disc. pct.	Net amount
11		Standard	Black	0.5	Red	2	22		5,000.00	Pcs	5.00			25,000.00
									3,000.00	Pcs	7.00			21,000.00
														Can

Figure 9.1 Purchase order lines

The Purchase manager calls the vendor and agrees on the following order details: item quantity, delivery date, item price, etc.). In this very case the Purchase manager doesn't change any details as they are correct.

The Purchase manager prints the Purchase order document. This document confirms that our company and the Vendor agree on the purchase order details.

In the Purchase order upper pane, click **Posting -> Purchase order**. The **Posting purchase order** form appears.

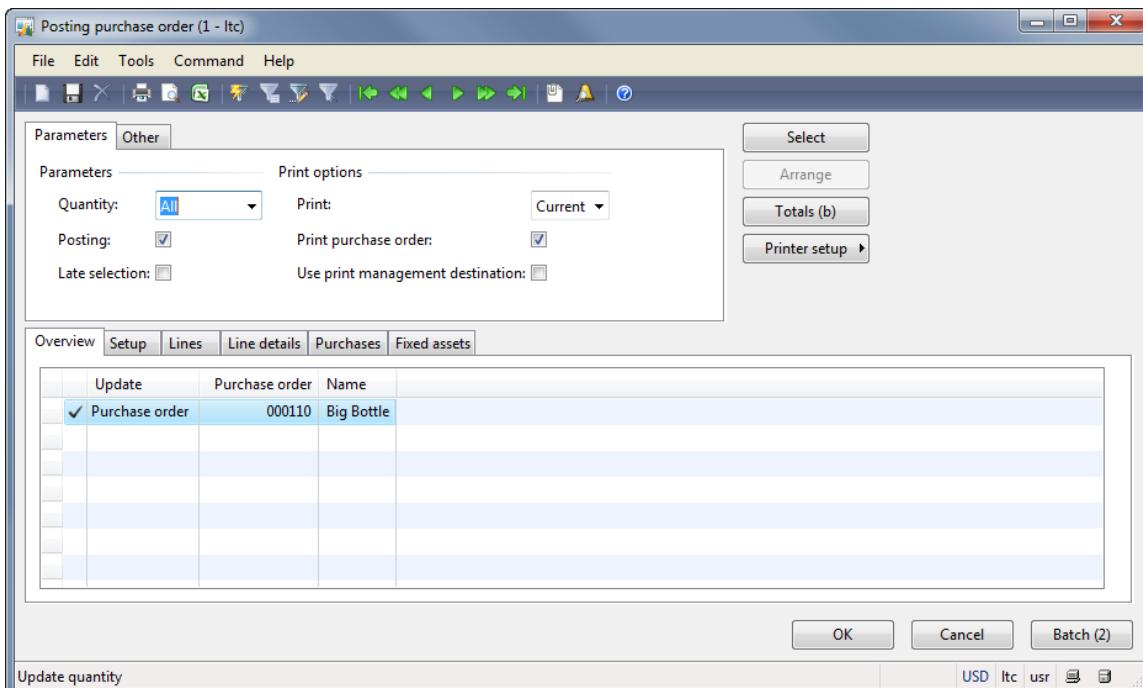


Figure 9.2 Posting purchase order

Item arrival and registration

Note: For detailed information about what different fields in this form are used for, click [here](#).

Select the **Print purchase order** check box on the **Parameters** tab. All other fields remain unchanged since all information in the form is automatically filled in from the purchase order.

Click **OK**. The purchase order posting process starts. The result of this process is a Purchase order document.

The Purchase manager sends the Purchase order document to the vendor via a fax or an e-mail.

The Purchase order document is also saved in Microsoft Dynamics AX. To view this document, clicks **Inquiries > Purchase order** button.

As the Purchase manager assumes that the Vendor delivers items today, he or she should check the purchase order delivery date.

Go to the **Purchase order** form. In the lower pane of the form, you can find the **Delivery date** field. Change the delivery date to the today's date.

The screenshot shows the Microsoft Dynamics AX Purchase Order form. The main grid displays two items: Item number 1 (Size 0.5, Color Red, Site 2, Warehouse 22, Quantity 5,000.00, Unit Pcs, Unit price 5.00) and Item number 11 (Size Standard, Color Black, Site 2, Warehouse 22, Quantity 3,000.00, Unit Pcs, Unit price 7.00). Below the grid, there is a toolbar with various buttons. At the bottom of the screen, there is a status bar with the text "Delivery date: 1/18/2010" and a calendar icon, followed by a "Confirmed:" field and another calendar icon.

Figure 9.3 Delivery date field

The Purchase manager will typically receive phone calls from a Truck driver asking for a delivery. The Truck driver can deliver multiple purchase orders at a time. But Microsoft Dynamics AX doesn't have the ability to group multiple purchase orders delivered by one truck. So the Purchase manager must work with each purchase order separately.

In the “6. Purchase business process” lesson, we have learned that the warehouse management system (WMS) evaluates all items on the purchase order and determines what receiving door (inbound dock) will result in the least travel time for a putaway. Axapta doesn't provide the functionality for warehouse doors, but for locations (inbound docks). Also, Microsoft Dynamics AX doesn't calculate the best inbound dock.

The inbound dock that will be used as a receipt location is set up on the Warehouse management tab of the **Warehouses** form (Inventory management > Setup > Inventory breakdown > Warehouses).

Item arrival and registration

Return to the **Purchase order** form. In the lower pane, click **Inventory > Dimension display**. The **Inventory dimensions** form opens. Select the **Location** check box and click **OK**. As a result, the purchase order line has the **Location** field populated.

Lines	General	Setup	Address	Quantity	Price/Discount	Other	Project	Fixed assets	Dimension			
	Item number	Configuration	Size	Color	Site	Warehouse	Batch number	Location	Serial number	Quantity	Unit	Unit price
	1		0.5	Red	2	22		In_01		5,000.00	Pcs	5.00
	11		Standard	Black	2	22		In_01		3,000.00	Pcs	7.00

Figure 9.4 Location field

Why does Microsoft Dynamics AX populates the **Location** field with location In_01? Because, as I have earlier said, Microsoft Dynamics AX doesn't calculate the best inbound dock. An inbound dock is set up for the entire Warehouse. Let's check what default receipt location belongs to warehouse 22. Go to **Inventory management > Setup > Inventory breakdown > Warehouses**. In the **Warehouse** form that opens, find warehouse 22. Click the **Warehouse management** tab and assure the **Default receipt location** field displays location In_01 (I use this [demo data](#)).

The Truck driver delivers the ordered items to warehouse location In_01.

The Purchase manager physically collects the receiving paperwork from the Truck driver. If the Truck driver's paperwork and the purchase order have any discrepancy in receiving quantity, volume, or weight, the Purchase manager **can't** adjust these. Any discrepancy will be adjusted by the Receiving manager.

The Receiving manager needs a receiving document, pallet tags, and a lumper's TI-HI report (see the definition in the "6. Purchase business process" lesson). Pallet tags contain information about store locations. To find a store location, WMS must go through putaway routines to determine where to store each pallet. Microsoft Dynamics AX doesn't have the functionality to support this process. The receiving document, pallet tags, and the lumper's TI-HI reports are not printed in this step.

In Microsoft Dynamics AX, the receiving manager works in the **Arrival overview** form. Go to **Inventory management > Periodic > Arrival overview**. The **Arrival overview** form opens.

Item arrival and registration

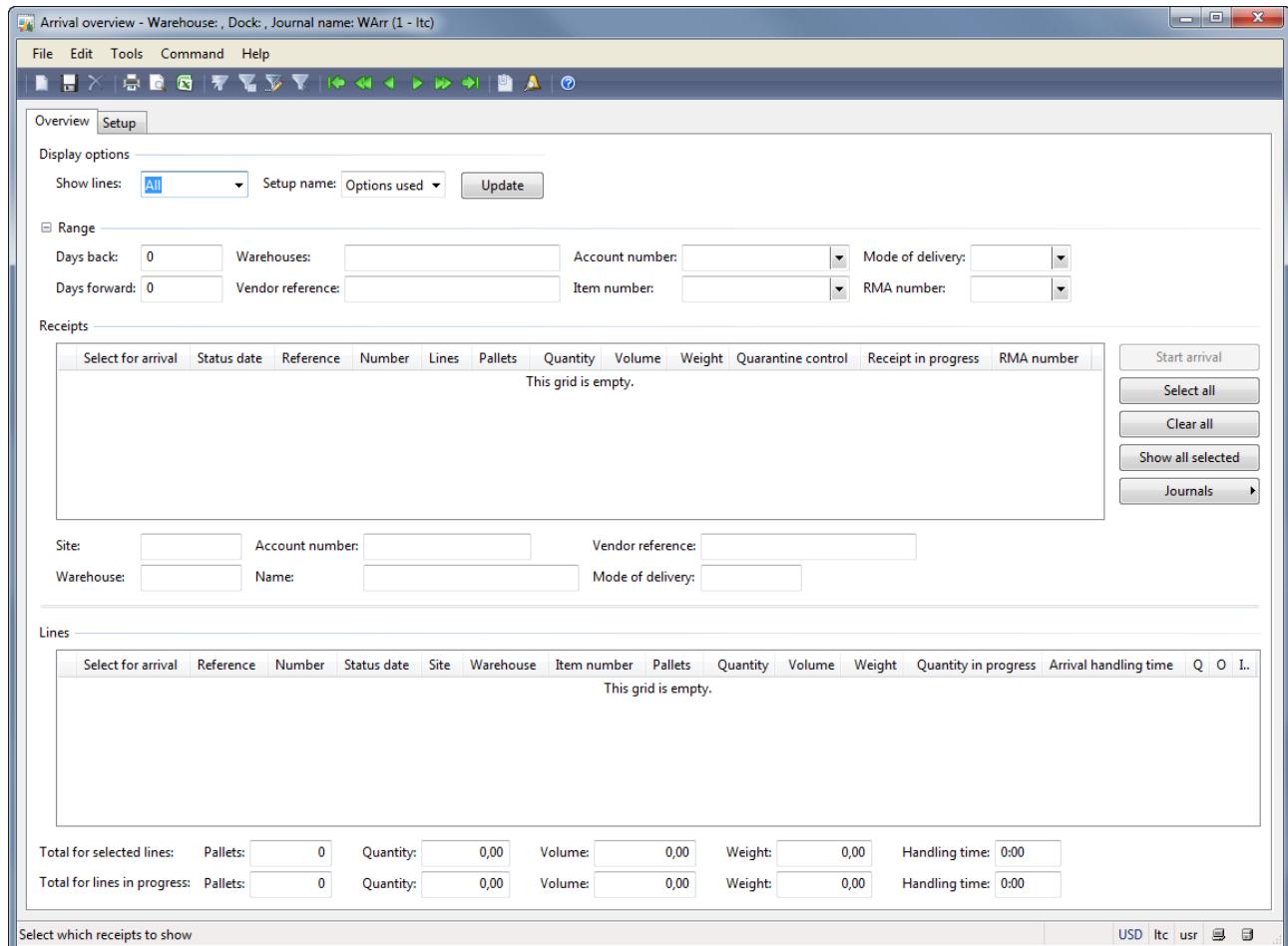


Figure 9.5 Arrival overview form

The form displays all purchase orders that are to be delivered. To view the purchase order that must be delivered today, under the **Display options** field group select *Today* in the **Setup name** field.

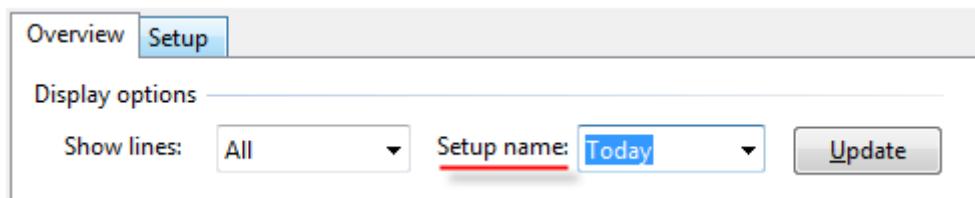


Figure 9.6 Display options

The Receiving manager finds the purchase order under the **Receipts** field group.

Item arrival and registration

Figure 9.7 Receipts

The Receiving manager selects the **Select for arrival** check box and clicks the **Start arrival** button when he or she starts receiving the items. After this an arrival journal is created and an information message appears. The Receiving manager can select the information message and click the **Show** button in the **Infolog** form to view the arrival journal (or manually open it from the main menu: **Inventory management > Journals > Item arrival > Item arrival**).

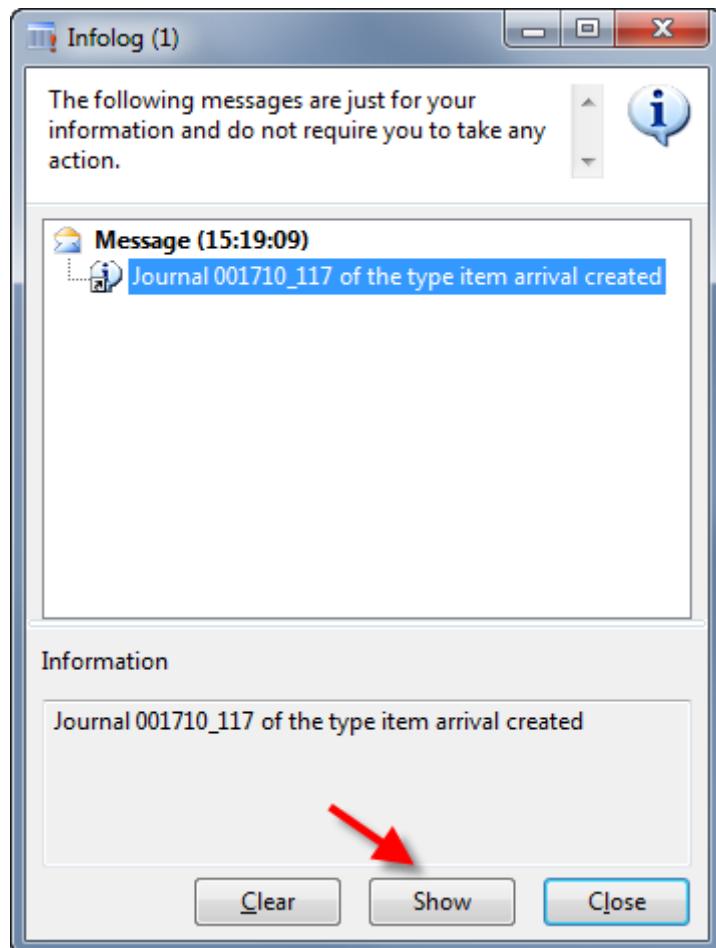


Figure 9.8 Infolog message

An arrival journal is used to find a putaway location, generate pallet transport, and adjust any discrepancies between the purchase order and the actual delivery quantities, etc.

Item arrival and registration

In our case the Receiving manager views the following journal:

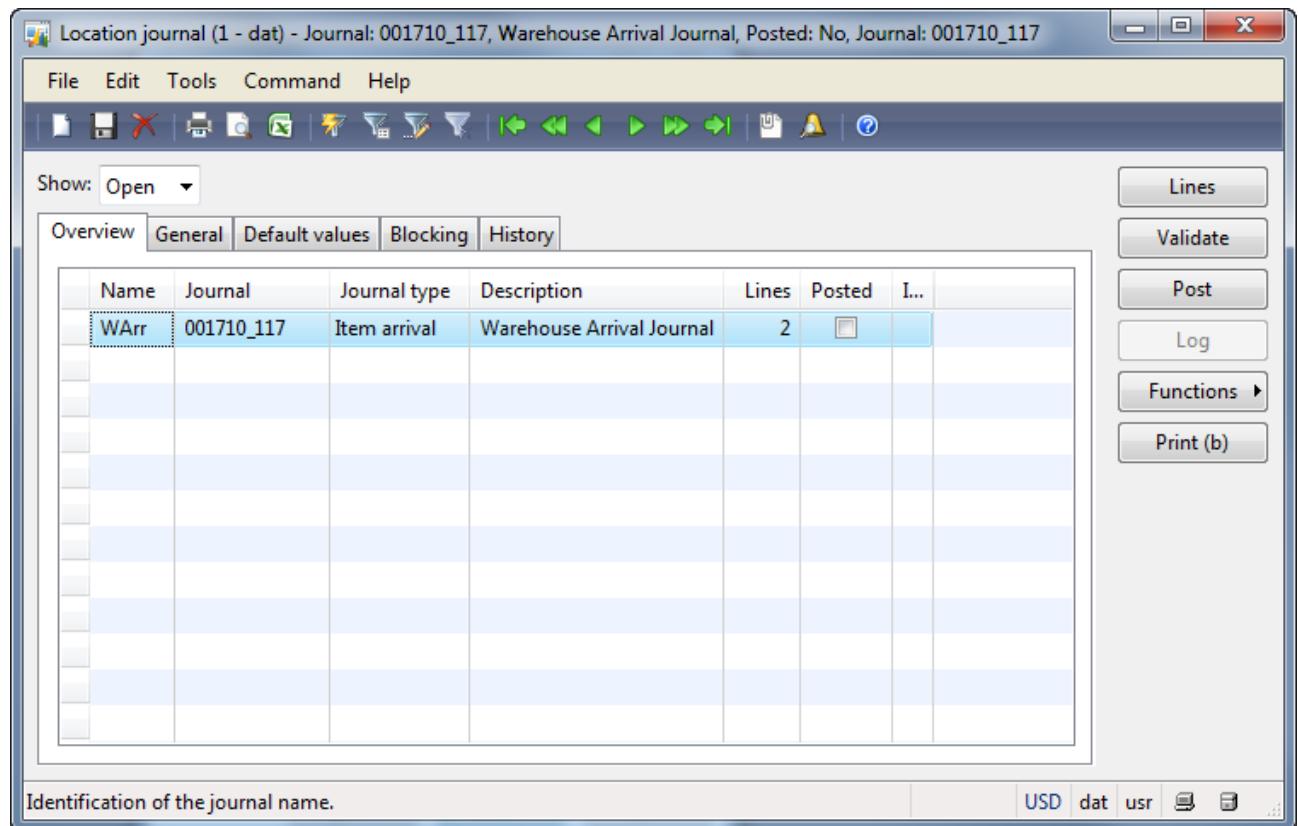


Figure 9.9 Item arrival journal

To work with the arrival journal, the Receiving manager clicks the **Lines** button.

The **Journal lines** form opens.

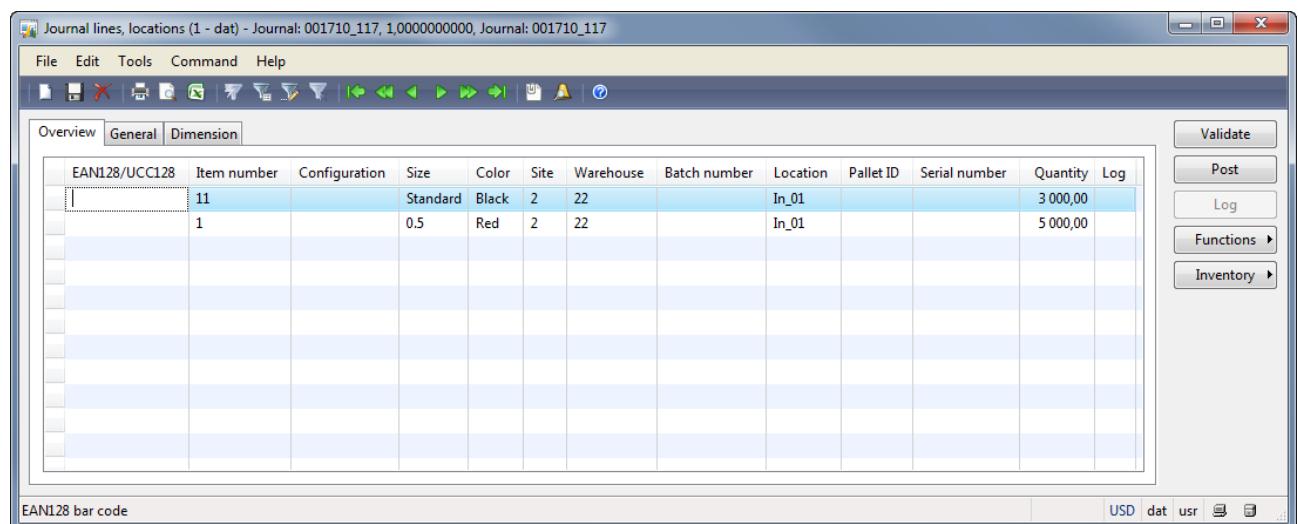


Figure 9.10 Arrival journal lines

Item arrival and registration

The Lumper unloads the truck and puts all items on pallets as desired (because Microsoft Dynamics AX 2009 doesn't have the functionality to define pallet's TI-HI) or as the Receiving manager asks. But the Dynamics AX 2009 has possibility to setup default pallet and pallet quantity: **Inventory management > Item details > Item form > Setup tab > Warehouse management** field group > **Pallet type** and **Pallet quantity** field. In our case the parameters are empty so Dynamics AX doesn't create separate line in the arrival journal for each default pallet.

The Receiving manager physically examines the delivered items, item dimensions, and quantities and compares them to those of the journal lines. If any discrepancies are found, the Receiving manager adjusts the journal lines.

We assume that all information in the arrival journal is correct (In other words, the Truck driver has delivered the same quantity of an item that the Purchase manager has ordered).

The Receiving manager generates a pallet tag for each pallet (click **Functions > Pallet ID**). In Microsoft Dynamics AX, a pallet tag is unique pallet identifier. A pallet tag doesn't contain the information about the destination location or the item (as all warehouses require). But this information can be found in the **Pallet** form. The number sequence for pallet tag is set up under the following path: **Inventory management > Setup > Parameters > Number sequences tab > Pallet ID** record.

Remember that all Microsoft Dynamics AX modules have the **Parameters** form located under the **Setup** folder, all these forms have the **Number sequences** tab which contains all number sequence used in the selected module.

The Receiving manager checks the pallet type for each arrival journal line (**General tab > Pallet** field group > **Pallet type** field). We assume that items are stacked on pallet 40"x40" and fill in the **Pallet type** field with this value.

Then the Receiving manager sets up the pallet transport (it means that the current pallet will be moved to the destination location with the help of a forklift truck). To do this, he or she selects the **Pallet transport** check box on the **General** tab.

The Receiving manager wants Microsoft Dynamics AX to put items into picking locations first. If picking locations don't have enough free space then it tries to put items into bulk locations. To set this up, the Receiving manager selects the **Check picking location** and **Check bulk location** check boxes on the **General** tab of journal lines.

The journal line will have following setup:

Item arrival and registration

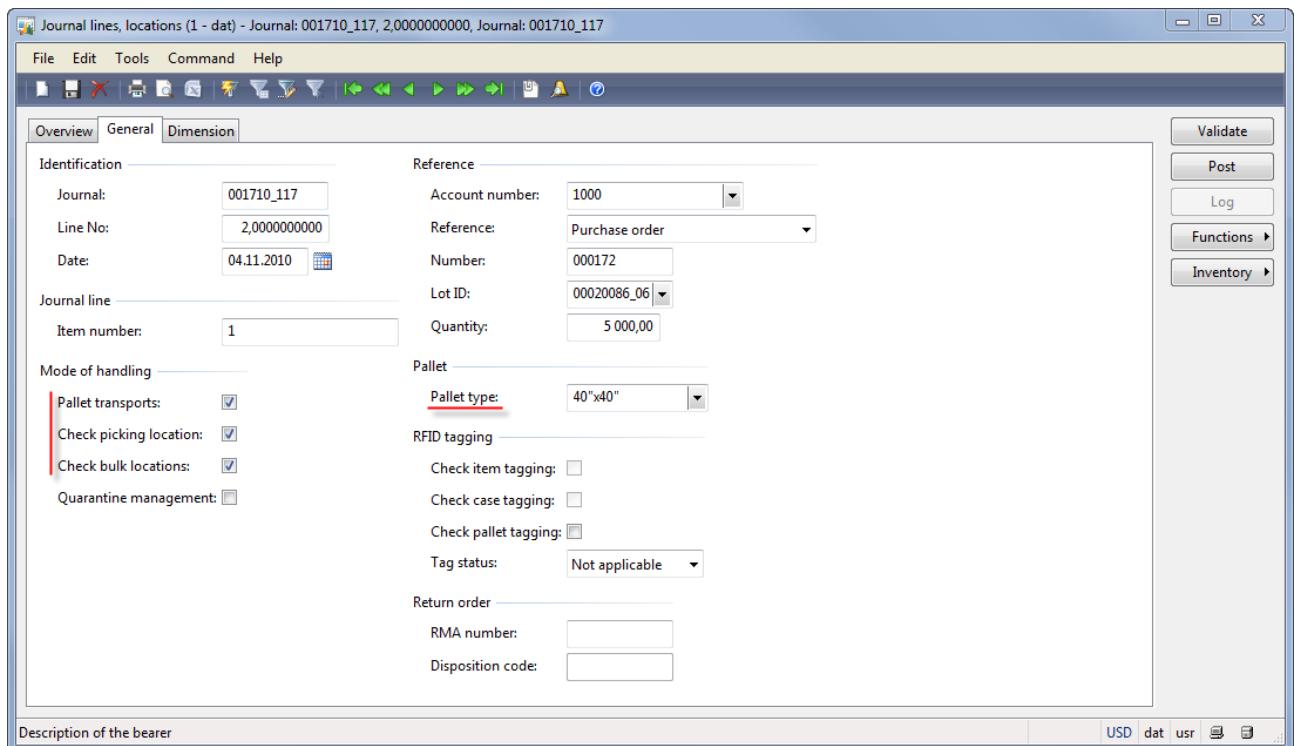


Figure 9.11 Line setup

Apply the same settings to the second journal line.

When finished, the Receiving manager directs the Truck driver to the Purchase manager and then posts the journal.

The Purchase manager then stamps the Truck driver's paperwork and releases him. (The Purchase manager must check the paperwork with the actual received item quantities. The Purchase manager uses the information from the arrival journal.)

When the arrival journal is posted, the destination location is found. The pallet transport is created from the inbound dock to the destination location.

Click the **Post** button in the **Journal lines** form. The “... item has no picking location” error message is shown. This happens because we select the **Check picking location** check box on the journal line, but the Bottle item doesn't have the default picking location.

Let's set up the picking location which is different for each warehouse in the Warehouse item form which contains the setup per item and warehouse.

1. Open the **Item** form (**Inventory management > Common Forms > Item details**) and locate and select the item Bottle.
2. Click **Setup > Warehouse item**. The **Warehouse item** form opens. In the previous lesson, we have already created the record for warehouse 22. Select this record to set a new parameter.
3. Click the **Locations** tab and fill in the **Picking location** field with 01-03-01-1 value.

Item arrival and registration

Perform the same setup for Can item with 01-03-01-1 picking location.

Now, we have set up the default picking location for the Bottle and Can items.

Let's return to the arrival journal line and click the **Post** button again. The journal is now successfully posted.

Now let's check the results. Go to the purchase order, select the line with the Bottle item and click **Inventory > Transaction** menu button. As we can't see the **Location** dimension field by default, click **Inventory > Dimension display** menu button and select the **Location** check box.

The inventory transaction has the following view.

The screenshot shows the Microsoft Dynamics AX Inventory Transaction screen. At the top, there are tabs: Overview, General, Update, Ledger, Reference, Other, and Dimension. On the right side, there is a navigation bar with buttons for Inventory, Ledger, Functions, and Configuration details. The main area displays a table with columns: Config..., Size, Color, Site, Warehouse, Batch number, Location, Serial number, Physical date, Financial date, Reference, Number, Receipt, Issue, and Quantity. A single row is visible in the table, representing a purchase order line for a bottle item. The 'Location' column contains the value '01-01-02-1'. The 'Receipt' column shows the status 'Arrived'. The 'Quantity' column shows the value '5,000.00'.

Config...	Size	Color	Site	Warehouse	Batch number	Location	Serial number	Physical date	Financial date	Reference	Number	Receipt	Issue	Quantity
	0.5	Red	2	22		01-01-02-1				Purchase order	000110	Arrived		5,000.00

Figure 9.12 Inventory transaction

For the Bottle item, Microsoft Dynamics AX finds location 01-01-02-1 and changes the receipt status of the item from *Ordered* to *Arrived*. For the Bottle item, we have selected the **Check picking location** check box, in this case Microsoft Dynamics AX must find and validate a picking location first. The picking location for the Bottle item is 01-03-01-1 but Axapta finds another location. Note that in my arrival journal the Botle item is on the second line.

Let's check the parameters for the picking location and understand why it happens.

1. Open the **Locations** form. Go to **Inventory management > Setup > Inventory breakdown -> Locations**.
2. Find location 01-03-01-1 (manually or with the help of filter).
3. The record contains the following information:

Item arrival and registration

Warehouse	Location	Location type	Max. pallets	Number of pallets	Available pallet locations
22	01-01-01-1	Picking location	1	0	1
22	01-01-02-1	Bulk location	1	0	0
22	01-01-03-1	Bulk location	1	0	1
22	01-02-01-1	Picking location	1	0	1
22	01-02-02-1	Bulk location	1	0	1
22	01-02-03-1	Bulk location	1	0	1
22	01-03-01-1	Picking location	1	0	0
22	01-03-02-1	Bulk location	1	0	1
22	01-03-03-1	Bulk location	1	0	1
22	01-04-01-1	Picking location	1	0	1
22	01-04-02-1	Bulk location	1	0	1
22	01-04-03-1	Bulk location	1	0	1
22	01-05-01-1	Picking location	1	0	1
22	01-05-02-1	Bulk location	1	0	1

Figure 9.13 Location form

- We can see that the picking location can store only one pallet (the **Max. pallets** field) and the picking location already has one pallet (the available place in location equals zero). Find the pallet that has already reserved the picking location.
- Click **Inquiries > Pallets** menu button to see all pallets for the current location.
- The empty **Pallet** form opens. So, there are no pallets currently in the location.
- Now let's check whether the pallet is coming into location. Click **Pallet transport > To location** menu button. The **Pallet transport handling** form opens. In this form we can see that the location is booked for pallet 00000250_114 (in my case).

Pallet ID	From warehouse	Pickup location	To warehouse	Destination location	Type	Handling status
00000250_114	22	In_01	22	01-03-01-1	Input transport	Activated

Figure 9.14 Pallet transport handling form

Item arrival and registration

Now, it is clear why the Bottle item can't be put away to the picking location.

Before we start to analyze why Axapta has selected location 01-01-02-1 as a destination location for the Bottle items, we can find out more information about pallet 00000250_114 that reserved the picking location.

1. Go to **Inventory management > Setup > Inventory equipment > Pallets**. The **Pallet** form opens.
2. Select pallet 00000250_114 and click the **On-hand** button to view what item is placed on this pallet.

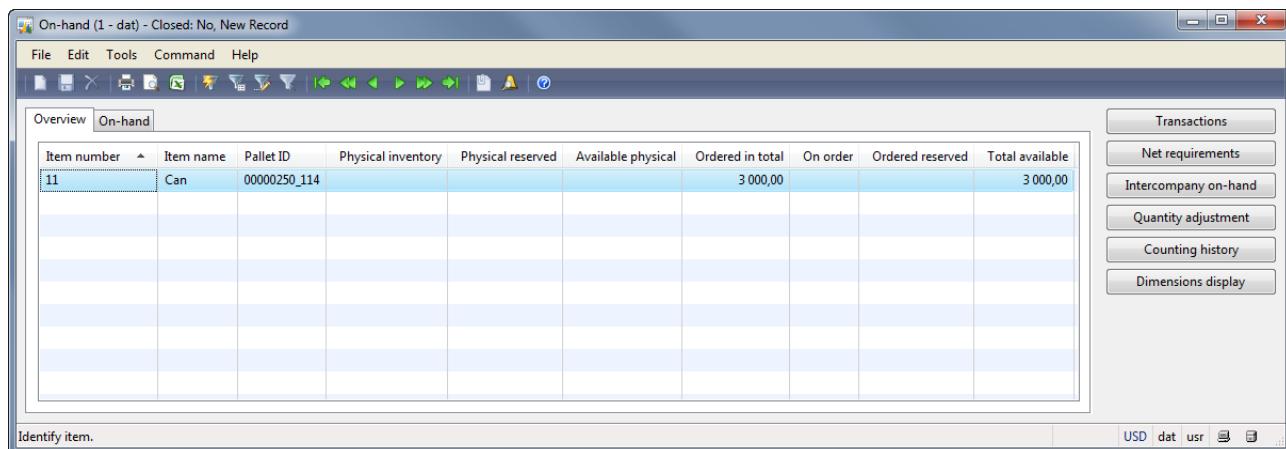


Figure 9.15 Pallet on-hand information

3. The pallet contains the Can items. If we click the **Transaction** button and go to the **General** tab of **Transaction** form, we can find the information that this item belongs to our purchase order.

A screenshot of the Transaction form in Microsoft Dynamics AX. The top navigation bar shows tabs for Overview, General, Update, Ledger, Reference, Other, and Dimension. The General tab is currently selected. The form is divided into several sections:

- Identification:** Item number: 11
- Inventory:** Lot ID: 00019392_06
- Reference:** Reference: Purchase order, Number: 000110
- Posting:** Receipt status: Arrived, Issue status: Value open: Yes, Quantity: 3,000.00, Expected date: 1/15/2010, Inventory date:
- Delivery:** Requested ship date: Confirmed ship date:
- Probability %:** 0

Figure 9.16 Transaction information

Item arrival and registration

- As we can see the picking location is reserved for the Can item. And why not the Bottle item? This happens because in our case the arrival journal lines have the following sequence: the first line contains the Can item, the second line contains the Bottle item.

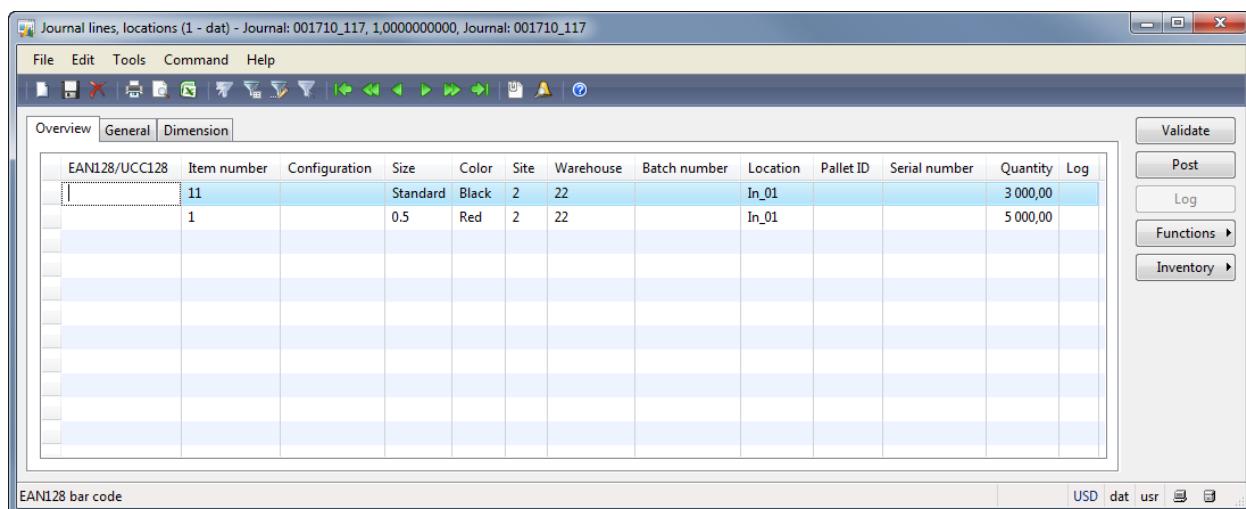


Figure 9.17 Arrival journal lines

Good work. Now, we will go through the Axapta putaway logic and understand why location 01-01-02-1 is a destination location for the Bottle items.

- Axapta can't put away to a picking location. In "7. Setup initial data (Vendor, Warehouse, Equipment)" training lesson, we have set up a store zone and store areas for the Bottle item. Now we will use them.
- Axapta finds the store zone for the Bottle item in warehouse 22. It is store zone All-22 (**Inventory management > Common Forms > Item details** > (select the Bottle item) > **Setup** button > **Warehouse item** -> (select the line with warehouse 22) > **Locations tab > Store zone** field).
- Store zone All-22 contains three store areas: A-22, B-22, C-22 (**Inventory management > Setup > Inventory breakdown > Store zone** > (select the line with store zone All-22) > the **Store area tab**). Axapta searches for a location in the first store area A-22.
- Store area A-22 contains a lot of locations (**Inventory management > Setup > Inventory breakdown > Store area** > (select the line with store area A-22) >**Locations** button).

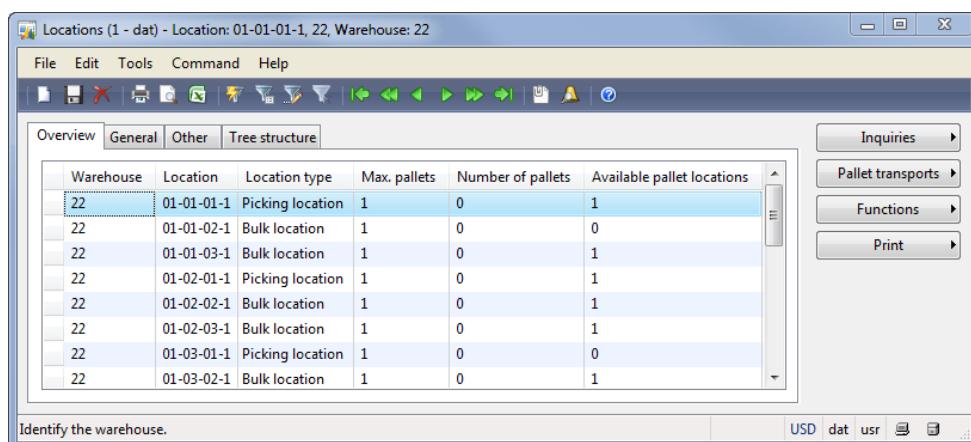


Figure 9.18 Location form

Item arrival and registration

5. Axapta starts analyzing locations from the first location in the form.
6. In our case, picking location 01-01-01-1 is the first location. Axapta validates this location and defines that it is a picking location, but the Bottle item has a different picking location and the validation doesn't pass.
7. The second location is 01-01-02-01. Axapta performs the following validations:
 - o Is it a picking location? – No, it is a bulk location.
 - o Does the location have free pallet space? – Yes, the **Available pallet locations** value is 1.
 - o Is the pallet height less than the location height? – The location height is set up in the **Locations** form > **General** tab. If you are interested how the pallet height is calculated, read [this short article](#).
 - o Does the location pallet type group have the current pallet type? – The pallet type group defines which pallet types can be stored in this location (**Locations** form > **General** tab > **Pallet type group** field). In our case, the location has pallet group Default and the current pallet type is 40"x40". To find out what pallet type is included into pallet type group Default, perform the following:
 1. Go to **Inventory management** > **Setup** > **Inventory equipment** > **Pallet type groups**.
 2. Find the record Default and then go to the **Pallet types** tab.

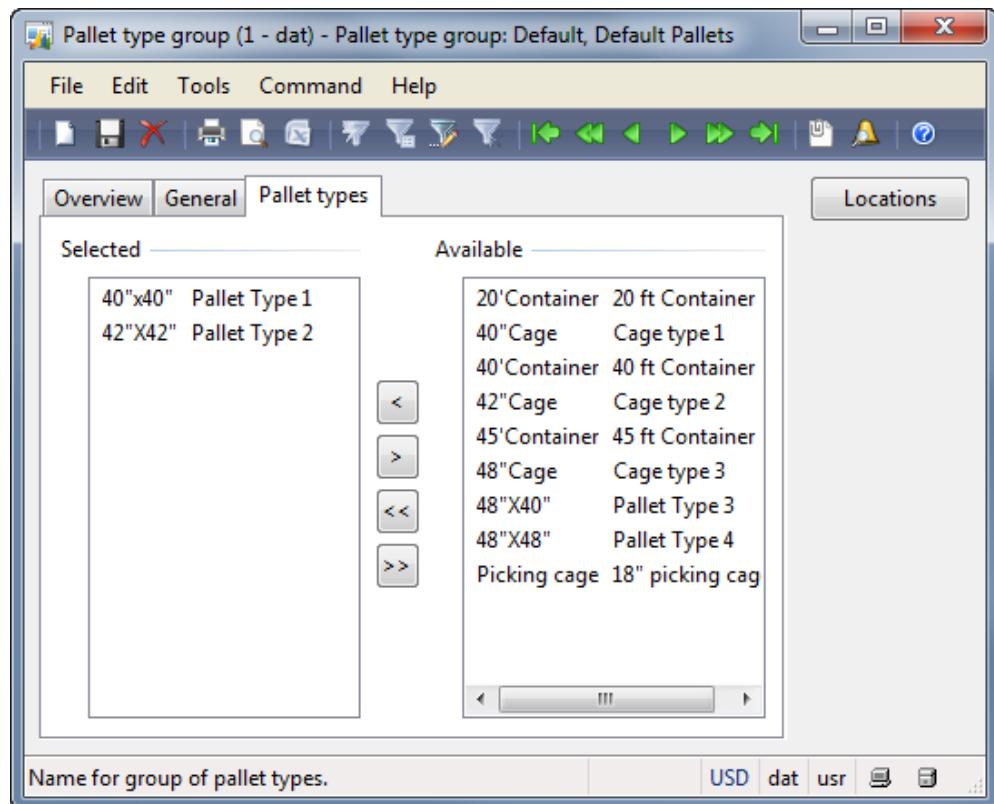


Figure 9.19 Pallet type groups form

- o We can see that pallet type 40"x40" is included into pallet type group Default.
8. Axapta accepts location 01-01-02-01.

Note: Axapta doesn't validate all parameters for bulk locations which are pallet width, depth, and volume. Therefore, a pallet with 1 meter width can be stored in the location with 0.5 meter width.

Item arrival and registration

Also, Axapta doesn't provide such necessary parameters as location weight limit, comingle, allowed minimum percent volume for pallets with the same item.

After posting, Axapta creates a pallet transport (because we have selected the **Pallet transport** check box on the journal lines). A pallet transport is used by the forklift truck driver (FTD). Imagine that the FTD has a touch screen under the rudder. This touch screen displays tasks in a grid that must be performed. A pallet transport is a task for a FTD. To view the active pallet transport (i.e. the tasks for the FTD), go to **Inventory management > Pallet transports**.

Started	Pallet ID	From warehouse	Pickup location	To warehouse	Destination location	Item number	Quantity	Tag status	To pallet required
<input type="checkbox"/>	00000250_114	22	In_01	22	01-03-01-1	11	3 000,00	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	00000251_114	22	In_01	22	01-01-02-1	1	5 000,00	<input type="checkbox"/>	<input type="checkbox"/>

Item number	Quantity	Configuration	Size	Color	Site	Batch number	Serial number	Item tagging	Tag status
11	3 000,00		Standard	Black	2			<input type="checkbox"/>	Not applicable

Figure 9.20 Pallet transports form

The FTD views the same form on the touch screen. As the FTD locks the first line, another FTD knows that that the line is already being processed. Click the **Lock transport** button.

The FTD views the information in the **From warehouse** and **Pickup location** fields and drives there. After the FTD arrives to the pickup location, he or she unloads the pallet recorded on the **Lines** tab. The FTD clicks the **Start transport** button to record into the system that the pallet is being transported. The **Start transport** form opens. She or he fills in the forklift ID and clicks OK (select Forklift1). After that the FTD drives the pallet to the destination location (the FTD has read the destination location from the pallet transport record).

When the FTD has arrived and unloaded the pallet to the destination location, he or she clicks the **Complete transport** button (do this).

Item arrival and registration

As a result, the pallet transport record disappears from the **Pallet transport** form.

Return to the purchase order and check the result. Select the line with the Can item and then click **Inventory > Transaction** button. As we can't see the **Location** dimension field by default, we can click **Inventory > Dimension display** menu button and select the **Location** check box to make it appear in the form.

The screenshot shows a software interface for managing item transactions. At the top, there are tabs: Overview, General, Update, Ledger, Reference, Other, and Dimension. On the right side, there is a vertical toolbar with buttons for Inventory, Ledger, Functions, and Configuration details. The main area displays a table with columns: Config..., Size, Color, Site, Warehouse, Batch number, Location, Serial number, Physical date, Financial date, Reference, Number, Receipt, Issue, and Quantity. A single row of data is visible, representing an item record. The 'Receipt' column contains the value 'Registered'. The 'Quantity' column shows '3,000.00'. The 'Reference' column shows 'Purchase order 000110'.

Config...	Size	Color	Site	Warehouse	Batch number	Location	Serial number	Physical date	Financial date	Reference	Number	Receipt	Issue	Quantity
	Standard	Black	2	22		01-03-01-1				Purchase order	000110	Registered		3,000.00

Figure 9.21 Transactions form

Axapta changes the receipt status of the item from *Arrived* to *Registered*. This status means that the item is already in the warehouse.

If we inquire on the on-hand information, we will see the following results (**Inventory > On-hand** menu button):

Item arrival and registration

The screenshot shows the 'On-hand' form for item number 11, which is a 'Can'. The form is divided into several sections:

- Item name:** Can
- Inventory dimensions:** Size: Standard, Color: Black, Site: 2, Warehouse: 22
- Unit:** Pcs
- On-hand:**
 - Physical inventory: 3,000.00
 - Physical reserved: [empty]
 - Available physical: 3,000.00
 - Ordered in total: [empty]
 - Ordered reserved: [empty]
 - Available for reservation: 3,000.00
 - On order in total: [empty]
 - Total available: 3,000.00
- Physical inventory:**
 - Posted quantity: 3,000.00
 - Deducted: [empty]
 - Picked: [empty]
 - Received: [empty]
 - Registered: 3,000.00
- Ordered in total:**
 - Arrived: [empty]
 - Ordered: [empty]
- Various:**
 - On order: [empty]
 - Quotation receipt: [empty]
 - Quotation issue: [empty]
- Financially entered quantity:** [empty]

Figure 9.22 On-hand form

Compare it to the on-hand information for the Bottle item from the previous lesson.

Training Lesson Summary

In this training lesson, we have understood how the Purchase manager, Receiving manager, and the Forklift truck driver work with Axapta. The following areas have been covered:

- Post purchase order document
- Arrival overview form
- Arrival journal
- Pallet transport

In the next training, we will learn and understand what a packing slip is.

10. Post the Packing slip

In the previous training, the Purchase manager received items into the warehouse. De facto, the items are already company property but the Purchase manager must anyway post a packing slip to guarantee that the company receives items. The Purchase manager receives a vendor packing slip document via a fax or an e-mail. Then He or She posts a packing slip document.

The following are the results of a packing slip posting:

- Packing slip document is printed
- Receipt type in the inventory transaction is updated from *Registered* to *Received*
- General ledger transactions are posted

From Wikipedia:

“Packing slip is a shipping document that accompanies delivery packages, usually inside an attached shipping pouch or inside the package itself. It commonly includes an itemized detail of the package contents and does not include pricing. It serves to inform all parties, including transport agencies, government authorities, and customers, about the contents of the package. It helps them deal with the package accordingly.”

The following procedure helps the Purchase manager post a packing slip:

1. Open the **Purchase order** form (**Account payable > Common Forms > Purchase Order Details**).
2. Find the purchase order created in lesson “8. Create purchase order”.
3. Click **Posting > Packing slip**. The **Posting packing slip** form opens.

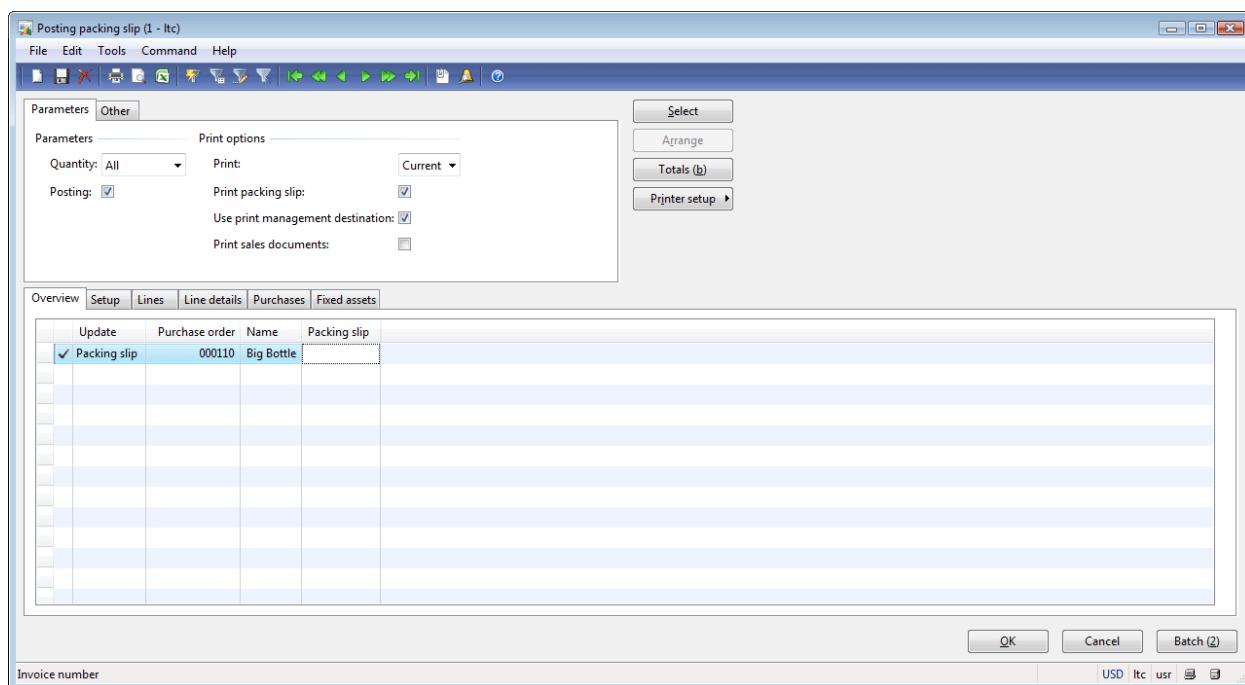


Figure 10.1 Posting packing slip

Post the Packing slip

This form contains the purchase order that must be packing slip updated. Since all information is set up by default, the Purchase manager can fill in the **Packing slip** field (number is taken from the vendor packing slip document) and click **OK** to post the packing slip.

To understand some fields in this form, we will complicate the task for the Purchase manager. Let's assume that the Purchase manager should print one copy of a packing slip document in another printer and add a "Happy New Year" text to the document's footer.

1. The Purchase manager selects the **Print packing slip** check box. In this case, a copy of the packing slip will be printed.
2. The Purchase manager selects the **Use print management destination** check box. Doing so enables the print management system.

Print management system

Print management system allows specifying the following options:

- Different printers for different documents (Purchase order, Picking list, Packing slip, or Invoice, etc.)
- Number of copies to be printed
- Footer text

The print management settings are set up in a hierarchy, with each level overriding the one underneath. Level: Module, Vendor, or Purchase order.

To add the "Happy New Year" text as a footer on each packing slip document, the Purchase manager opens and edits the **purchase module** print management settings:

1. Go to **Account payable > Setup > Forms > Form setup > General tab > Print management** button.
2. In the left pane of the form, select the packing slip document and type "Happy New Year" in the **Footer text** field.

Post the Packing slip

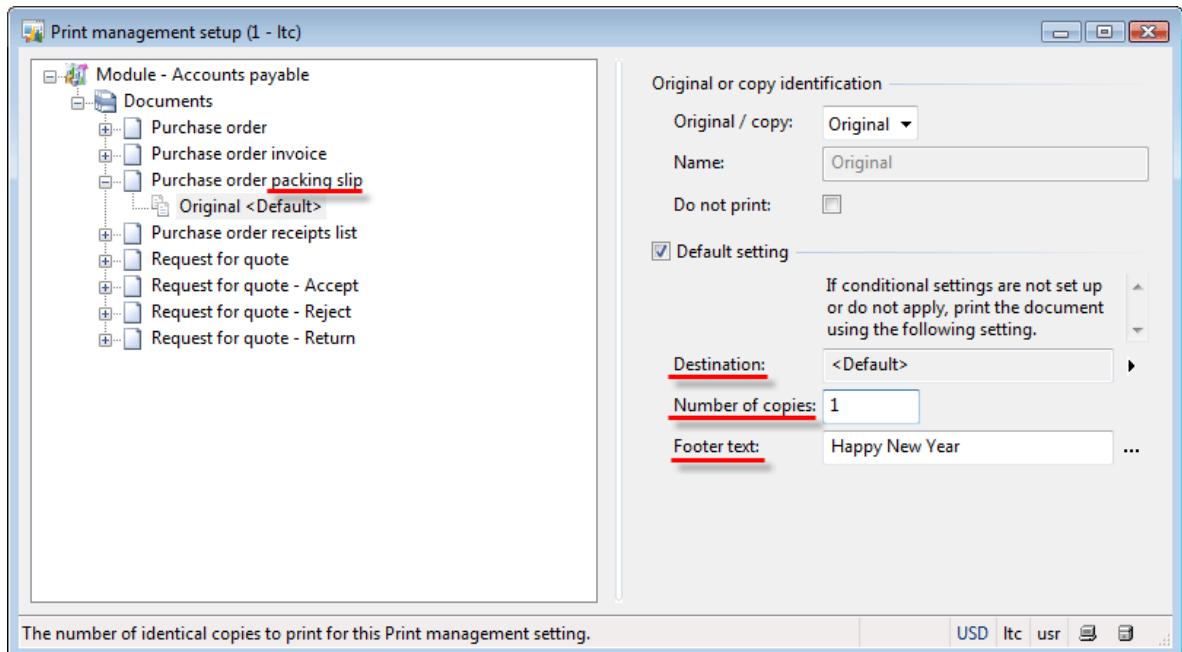


Figure 10.2 Print management setup

If the Purchase manager wants two copies of a packing slip document to be printed in a specific printer for vendor supplying the Bottle item, he or she opens and edits the **vendor** print management settings:

1. Go to **Accounts payable > Common Forms > Vendor Details > Setup menu button > Print management**.
2. In the left pane of the form, select the packing slip document. Right-click the Original document node and select **Override**.

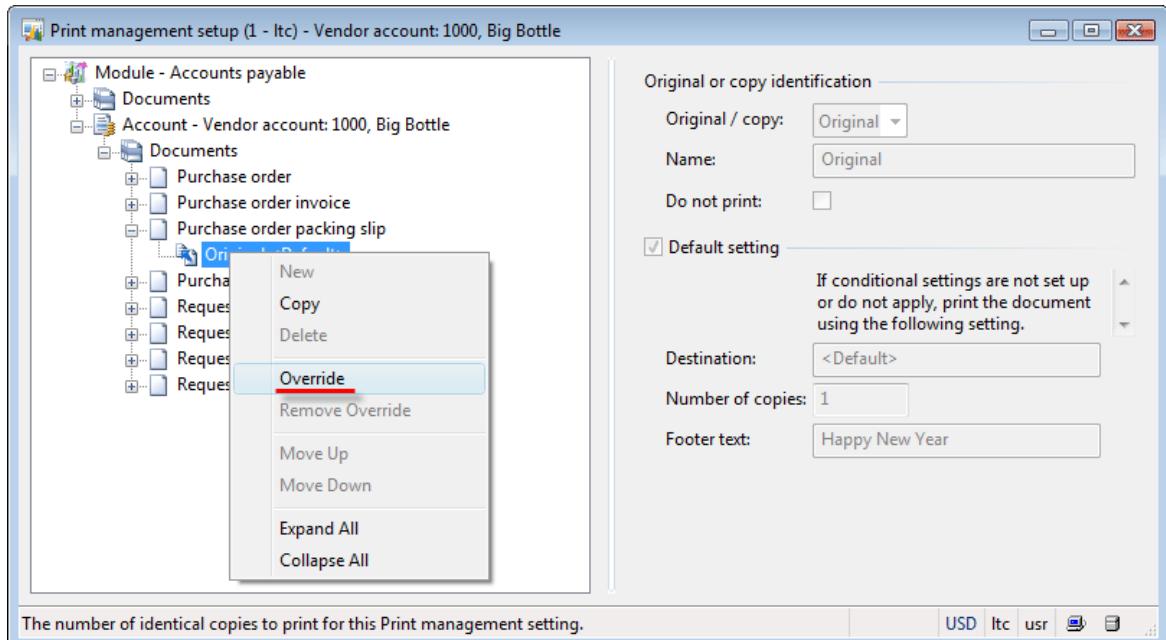


Figure 10.3 Print management setup (Vendor layer)

Post the Packing slip

3. Type 2 in the **Number of copies** field.
4. Click the “>” button near the **Destination** field and select another printer (we will leave the one selected).

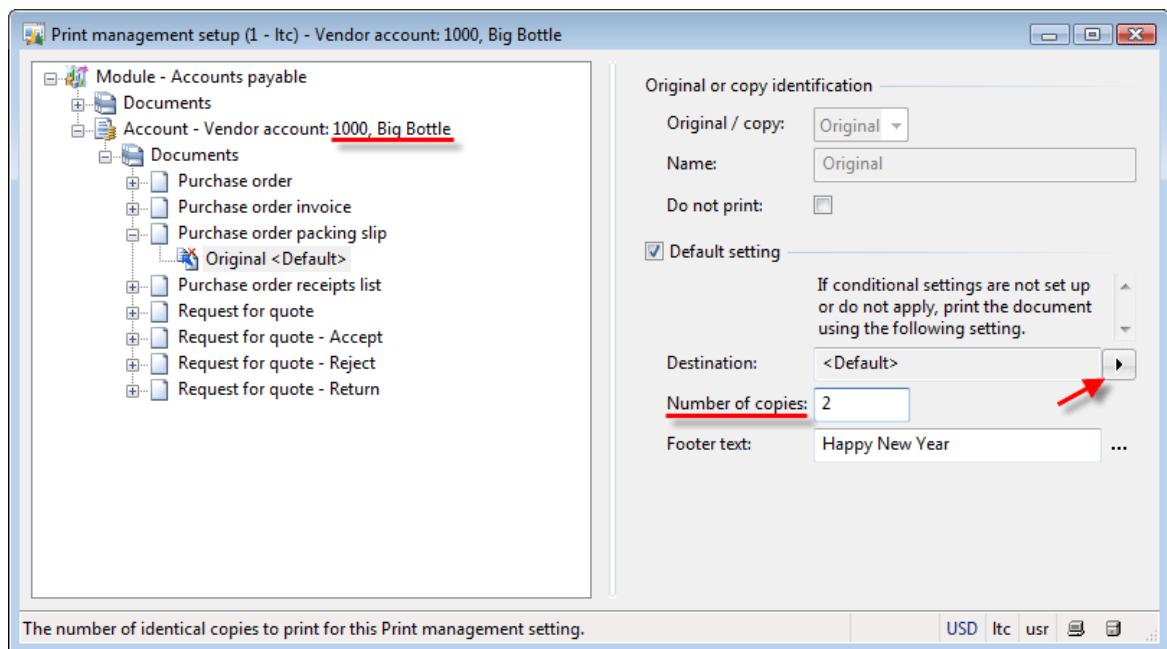


Figure 10.4 Print management setup (Vendor layer)

The Purchase manager can add a new document to be printed when a packing slip for this vendor is posted:

1. Go to **Accounts payable > Common Forms > Vendor Details > Setup menu button > Print management**.
2. In the left pane of the form, select Packing slip document. Right-click the Purchase order packing slip node and then select **New**.
3. In the right pane, click in the **Name** field and type *Copy of Packing slip*.
4. Type *It is just a copy* in the **Footer text** field.

Post the Packing slip

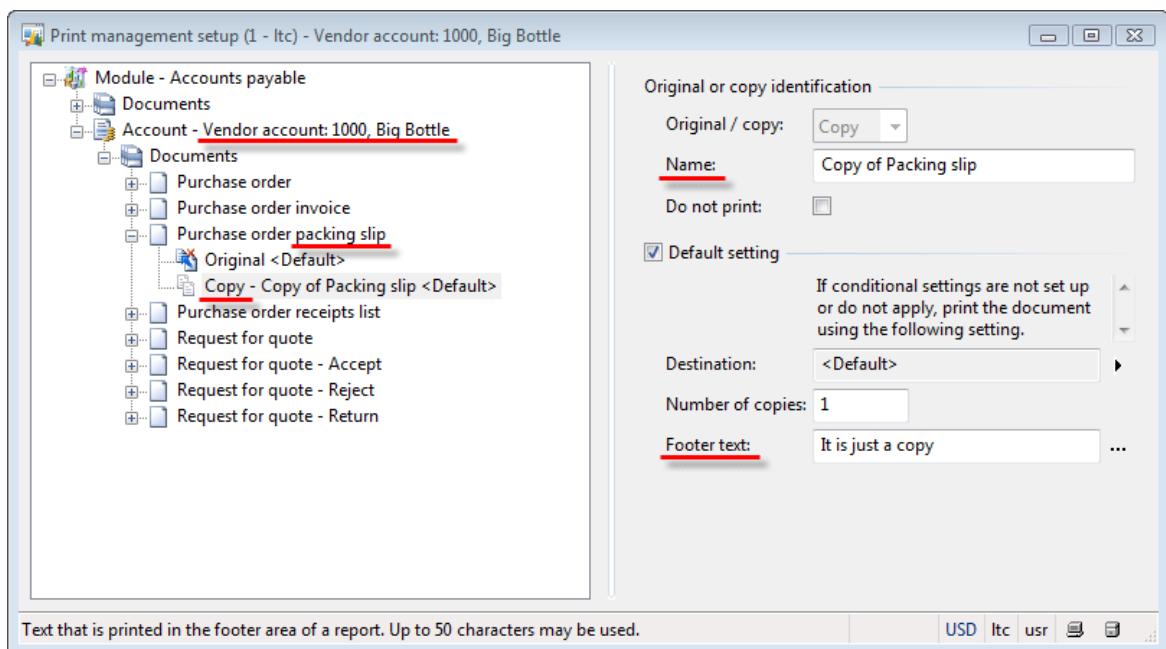


Figure 10.5 Vendor print management setup. Add new document.

As you understand the Purchase manager can also set up the print management system for a separate **Purchase order**. She or he can do this in the **Print management setup** form located under **Accounts payable > Common Forms > Purchase Order Details > Setup** menu button > **Print management**.

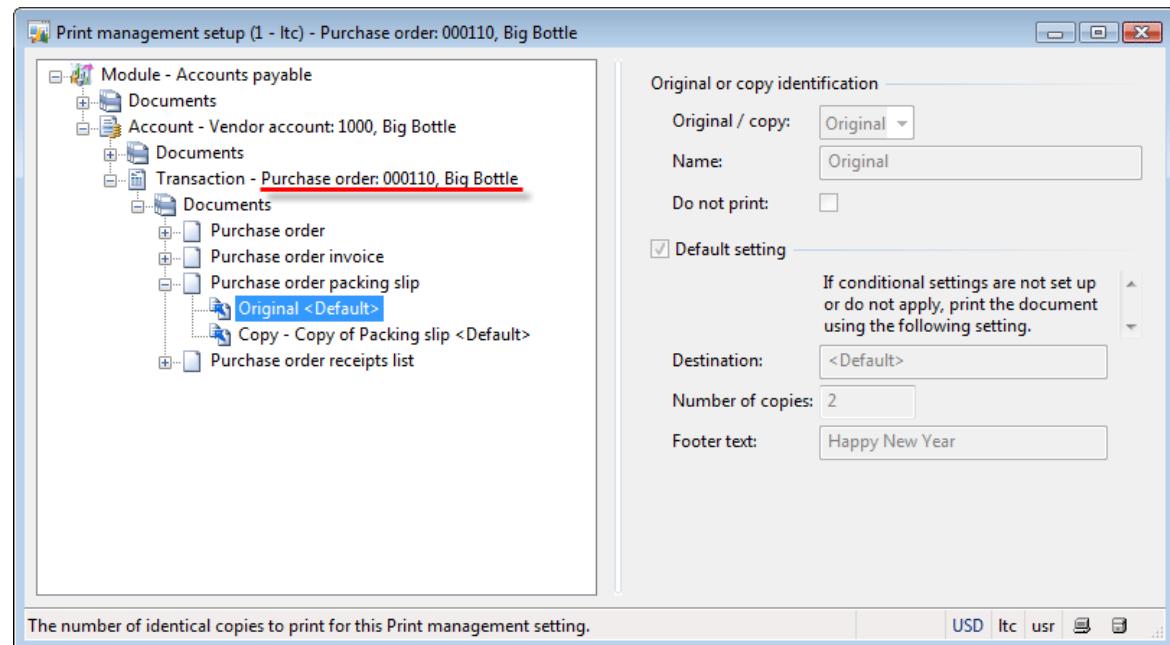


Figure 10.6 Print management setup (Purchase order level)

Now we understand what the **Use print management destination** check box in the **Posting packing slip** form is used for. And we will see the "Happy New Year" text in the footer of the packing slip document.

Post the Packing slip

The Purchase manager returns to the **Posting packing slip** form. The **Parameters** tab has following setup:

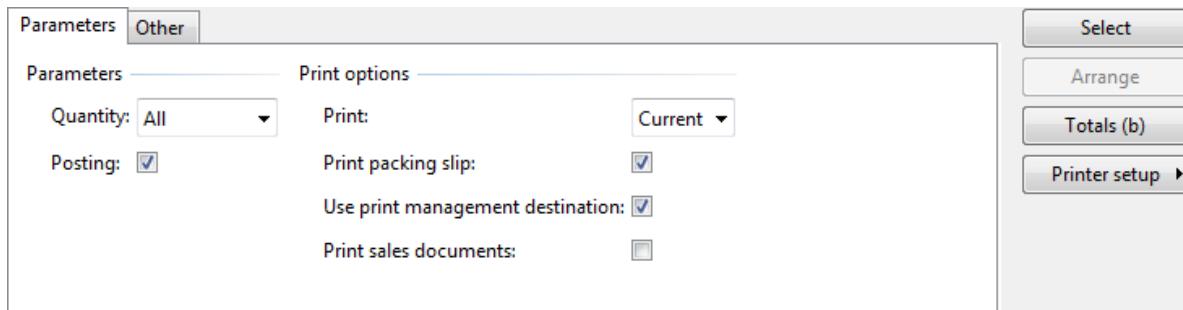
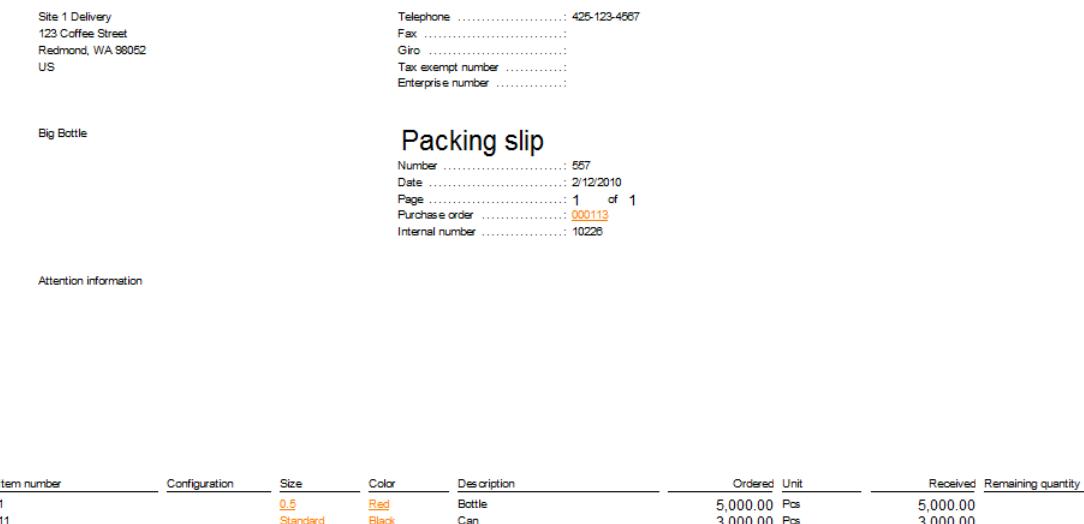


Figure 10.7 Packing slip parameters

The Purchase manager clicks **Ok**.

The packing slip and the copy of packing slip documents are shown on the screen.



Happy New Year

Figure 10.8 Packing Slip Document

Post the Packing slip

Posting results

Let's check the posting results:

- We can see the “Happy New Year” text in the packing slip footer.
- Two documents are shown: a packing slip and a copy of a packing slip. The copy of the packing slip document contains the “It is just a copy” text in the footer.
- Inventory transaction’s status has changed from *Registered* to *Received*:
 1. Return to the **Purchase order** form.
 2. Select the purchase order line with the Bottle item.
 3. Click **Inventory > Transaction**
 4. Find the **Receipt** field and make sure that the receipt type of the inventory transaction is *Received*.

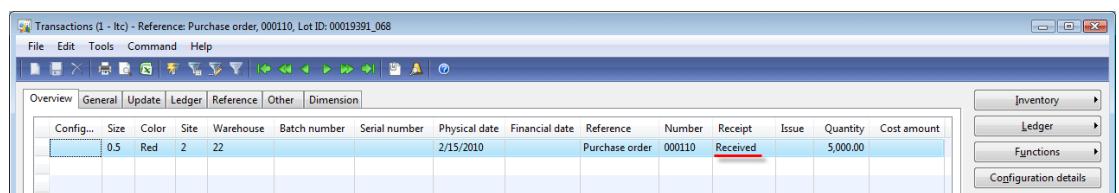


Figure 10.9 Inventory transactions form

- General ledger transactions are created.
 1. A company can use general ledger accounts to track amounts of money before an invoice. It is set up in the inventory model group: **Inventory management > Setup > Inventory > Inventory model group** > Find the *FIFO* inventory model group (because the Bottle item uses the FIFO inventory model group) > **Setup tab > Ledger integration** field group > **Post physical inventory** check box.

Post the Packing slip

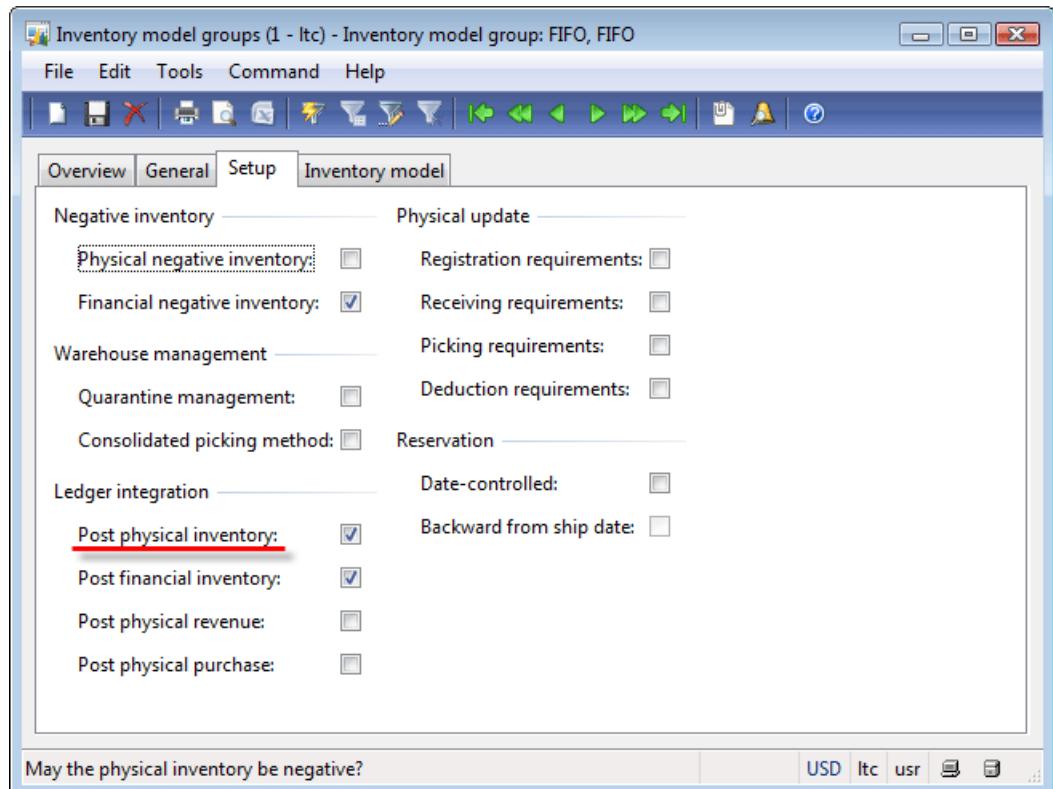


Figure 10.10 Inventory model groups form

2. To view general ledger transactions generated from the packing slip, do the following:
3. In the **Purchase order** form, click **Inquiry > Packing slip**. The **Packing slip journal** form opens.

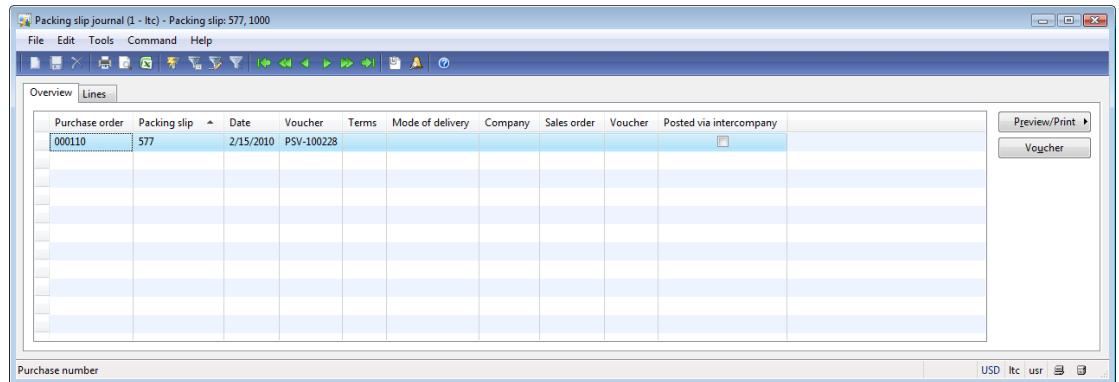


Figure 10.11 Packing slip journal form

4. Click the **Voucher** button. The **Voucher transaction** form opens. This form contains the information about general ledger transactions generated from a packing slip.

Post the Packing slip

Figure 10.12 Voucher transaction form

5. 46\$ will be added to account 142100 – Inventory, Received, un-invoiced because the purchase order lines net amount is 46\$ (the asset account increased with a positive value). The same amount will be added to account 211250 – Account payable (the liability account increases with a negative value). To understand a financial transaction, refer to the [Accounting training](#).

Good work!

Next, I will create a separate article where you can learn what the remaining fields in the **Posting packing slip** from are used for. The [Posting packing slip form](#) description.

In the next training lesson we will post an Invoice.

11. Post an Invoice

This is the final step in updating a Purchase order. The Purchase Manager receives a hard copy of an Invoice from the supplier. After the Purchase Manager posts an Invoice, the company must pay for the delivered items to the supplier. An Invoice is a guarantee that the company will pay for delivered items.

The following are the results of an invoice posting:

- Invoice document is printed.
- Receipt type in the inventory transaction is updated from *Received* to *Purchased*.
- Vendor transaction is created.
- General ledger accounts are posted.
- Purchase order type changes from *Received* to *Invoiced*.

[From Wikipedia:](#)

“An invoice or bill is a commercial document issued by a seller to the buyer, indicating the products, quantities, and agreed prices for products or services the seller has provided the buyer. An invoice indicates the buyer must pay the seller, according to the payment terms. The buyer has a maximum amount of days to pay these goods and are sometimes offered a discount if paid before.”

To post an Invoice, the Purchase Manager performs the following steps:

1. Open the **Purchase order** form (**Accounts payable > Common Forms > Purchase Order Details**).
2. Find the purchase order created in lesson “8. Create purchase order”.
3. Click **Posting > Invoice**. The **Posting invoice** form opens.

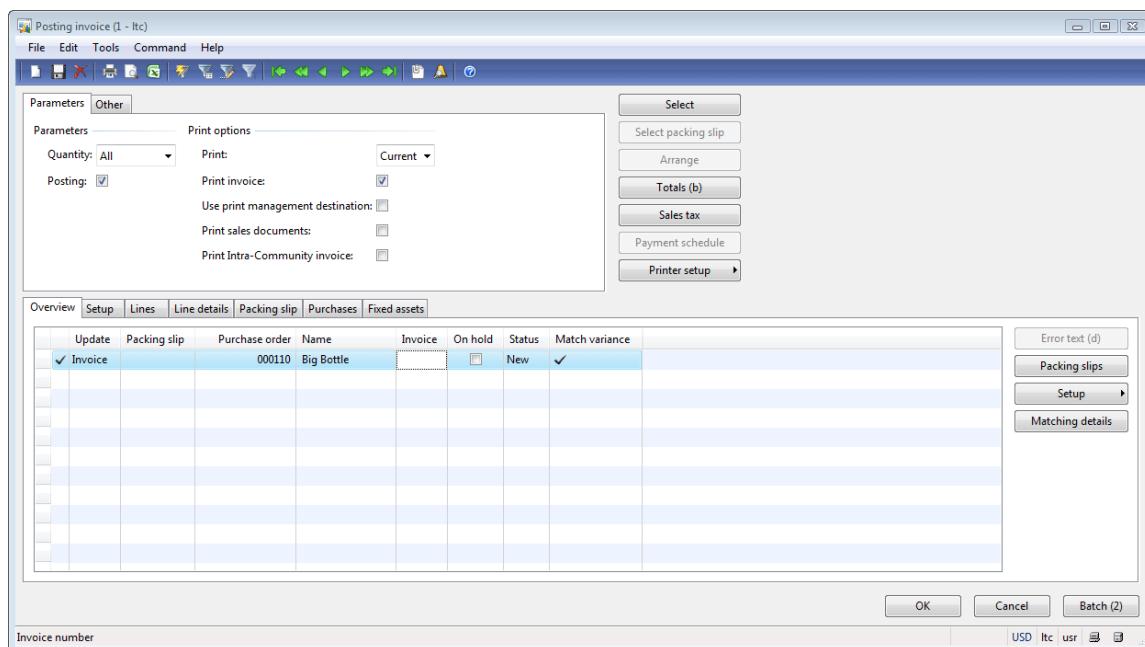


Figure 11.1 Posting invoice form

Post an Invoice

In the **Posting invoice** form, the Purchase Manager can set up a payment method, currency exchange rate, purchase charges, and discounts.

The **Posting invoice** form contains a number of fields similar to those of the **Posting packing slip** form. You can find more information about specific field(s) in the [Posting invoice form](#) field guide.

The Purchase Manager can use the print management system. Find the information about how it can be used in the previous lesson.

The Purchase Manager can use the Invoice matching functionality. Invoice matching is the process of matching a vendor invoice with a purchase order or a vendor invoice with a packing slip. For example, a Packing slip represents an actual shipment, but an Invoice can be received with another quantity or price. To see the difference in the **Posting invoice** form, Invoice matching functionality is used.

The Purchase Manager fills in the **Invoice** field with the number from the vendor Invoice, checks the lines' details, selects the **Print Invoice** check box, and then clicks **OK**. The Invoice is now posted.

Posting results

Let's check the posting results:

- The Invoice document is printed.
- Inventory transaction status has changed from *Received* to *Purchased*.
 1. Return to the **Purchase order** form.
 2. Select the purchase order line for the Bottle item.
 3. Click **Inventory > Transaction**.
 4. Find the **Receipt** field and make sure that the receipt type of the inventory transaction is *Purchased*.

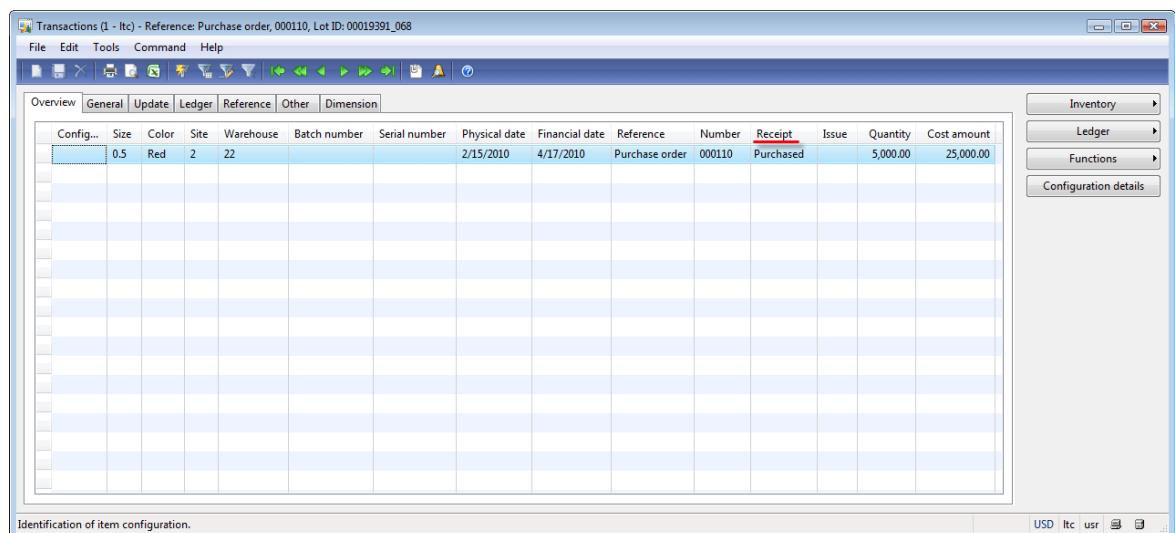


Figure 11.2 Transactions form

Post an Invoice

- The vendor transaction is created. To view the vendor transaction, go here **Accounts payable > Common Forms > Vendor Details** > Find the Big Bottle vendor > Click the **Transactions** button.
- General ledger transactions are created.

To view general ledger transactions generated from the invoice, do the following:

- In the **Purchase order** form, click **Inquiry > Invoice**. The **Invoice journal** form opens.

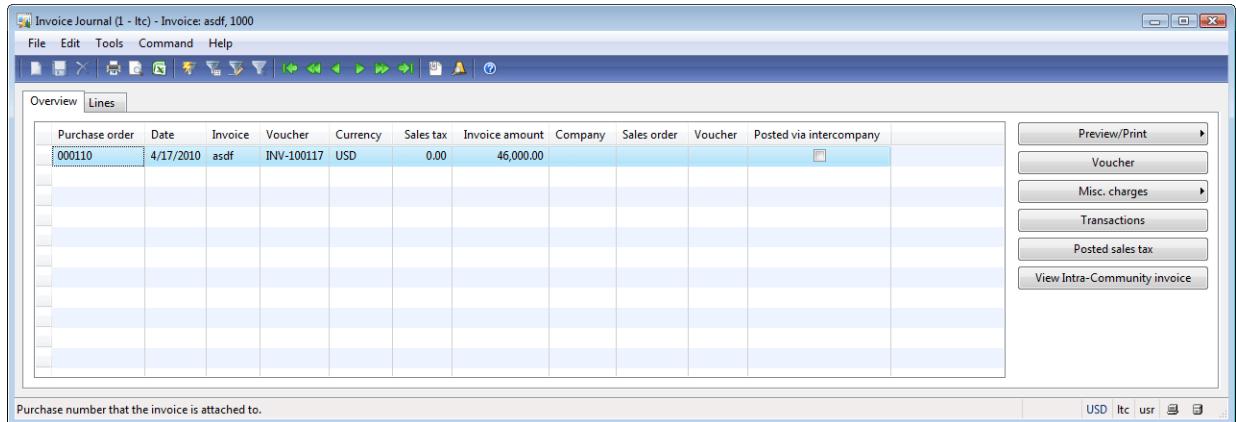


Figure 11.3 Invoice Journal form

- Click the **Voucher** button. The **Voucher transactions** form opens. This form contains the information about general ledger transactions generated from an invoice.

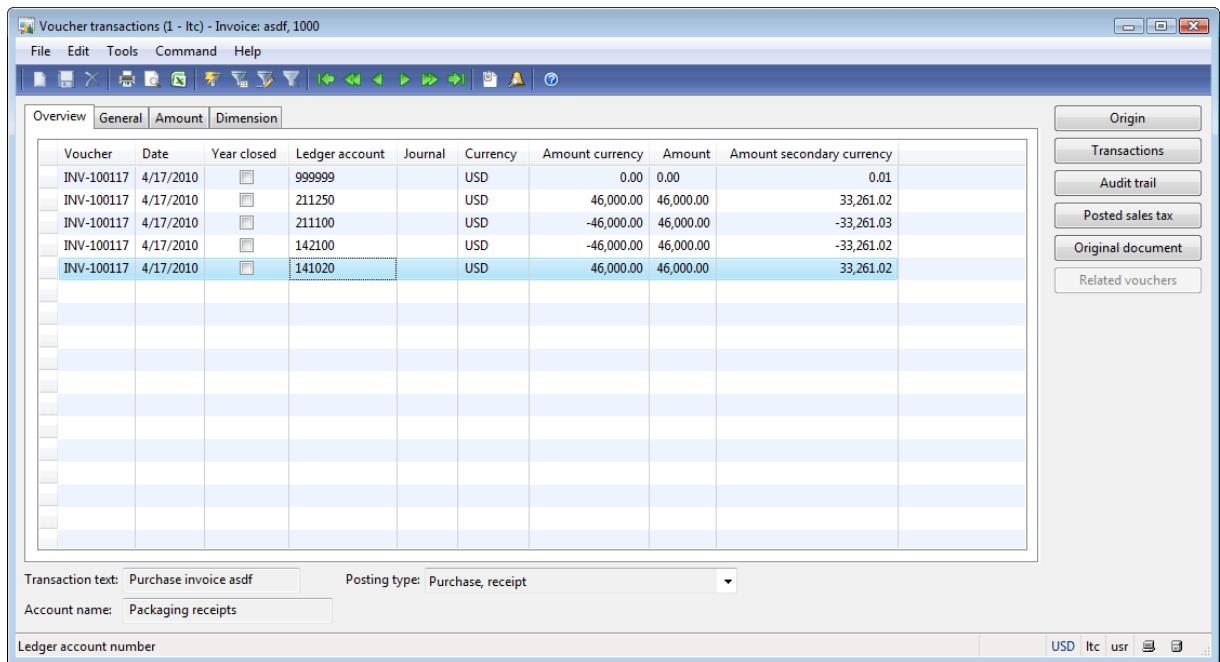


Figure 11.4 Voucher transactions form

- 46\$ will be added to account 141020 – Inventory, Receipt because the purchase order lines' net amount is 46\$ (the asset account increased with a positive value). The same amount will be added to account 211100 – Account payable (the liability account increases with a negative value). Also

Post an Invoice

the system reverses transactions generated during the posting of the Packing slip (refer to previous training and find what transactions are generated).

Purchase order financial posting

The Purchase Manager finishes work with the purchase order. But let's try to investigate how an Invoice is posted to general ledger accounts.

After the Purchase Manager has posted an Invoice, the following happens:

1. He or She agrees to pay the vendor for the received items. A vendor transaction is generated. A vendor transaction contains the information that the Big Bottle vendor must be paid 46\$. To view the vendor transaction, go here **Accounts payable > Common Forms > Vendor Details > Find the Big Bottle vendor > Click the Transactions button.**

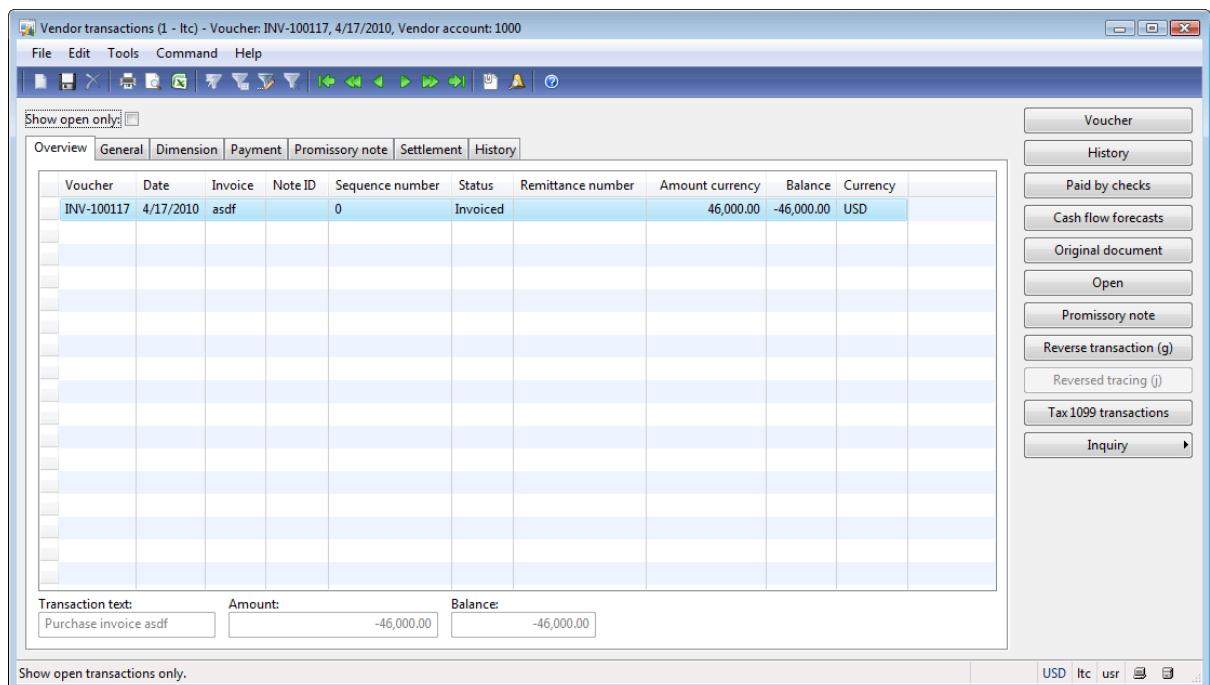


Figure 11.5 Vendor transactions form

2. When the Purchase Manager posts an Invoice, inventory transaction type changes to *Purchased* (inventory transactions are generated when the purchase order is created). Inventory transactions contain the information that 5,000 Bottles Red 0.5 items are purchased and 3,000 Cans Standard Black items are also purchased. To view Inventory transactions for a certain item, go here: **Inventory management > Common Forms > Item Details > Find the Bottle item > Click the Transactions button.**

Post an Invoice

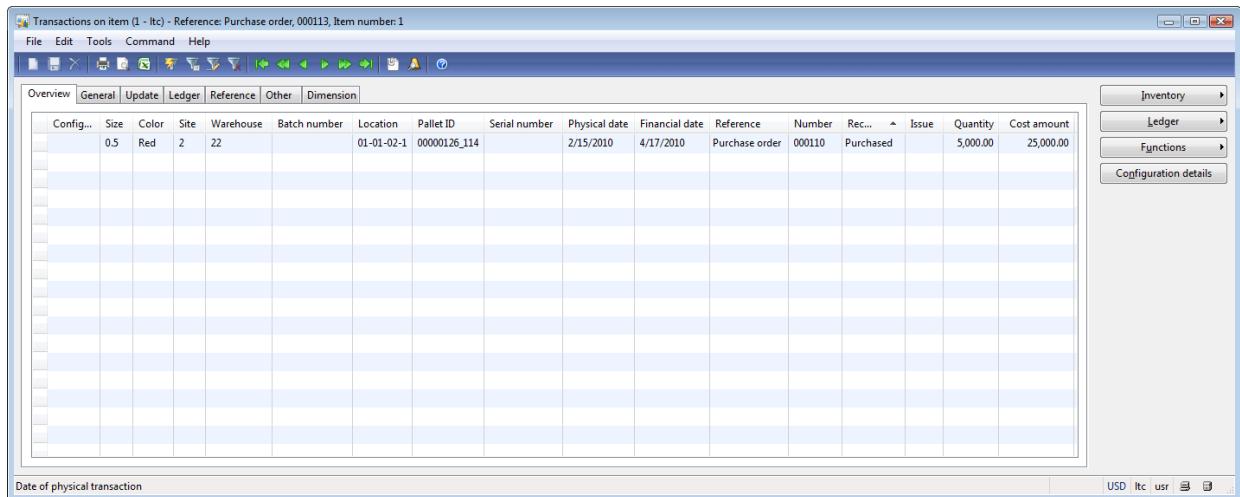


Figure 11.6 Transactions on item form

Note that from the vendor transaction we can't find for what items the company must pay to this vendor. The vendor transaction contains only the amount of money that must be paid. Also, inventory transactions contain information only about an item (Still, we can find out from whom we purchase items because this information can be used in supply chain management).

All company transactions (vendor transactions, inventory transactions, customer transactions, production transactions, etc.) are reflected in general ledger transactions. In our case, a vendor transaction and an inventory transaction with the status *Purchased*, are reflected in the general ledger accounts. General ledger accounts contain the information only about the amount of money.

The Accountant sets up the correspondence between a vendor transaction and a general ledger account. When a vendor transaction is generated, a corresponding general ledger transaction is generated for the general ledger account. The correspondence is set up in the vendor posting profile that is located under **Accounts payable > Setup > Posting profiles > Setup tab**.

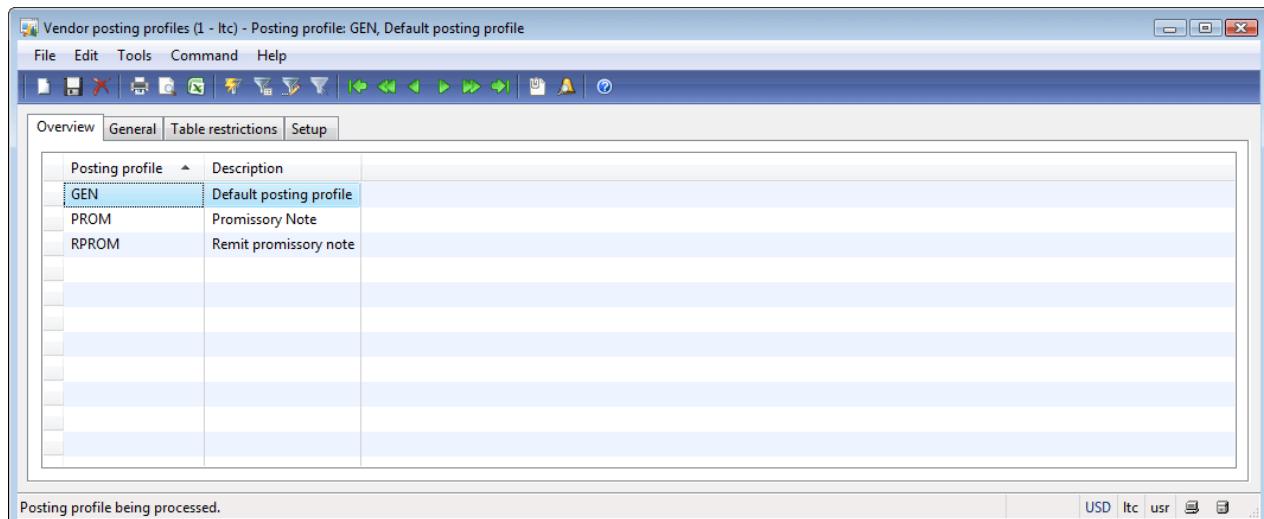


Figure 11.7 Vendor posting profiles form

Post an Invoice

Only one vendor posting profile can be active at a time. An active vendor posting profile is set up under **Accounts payable > Setup > Parameters > Ledger and sales tax tab > Posting profile** field. For a prepayment, separate vendor posting accounts can be used. These are located under **Accounts payable > Setup > Parameters > Ledger and sales tax tab > Posting profile with prepayment** field.

The Accountant sets up the correspondence between inventory transactions and general ledger accounts. When an inventory transaction is generated, a corresponding ledger transaction is also generated. To set up the correspondence between inventory transactions and a general ledger account, go to **Inventory management > Setup > Posting > Posting**.

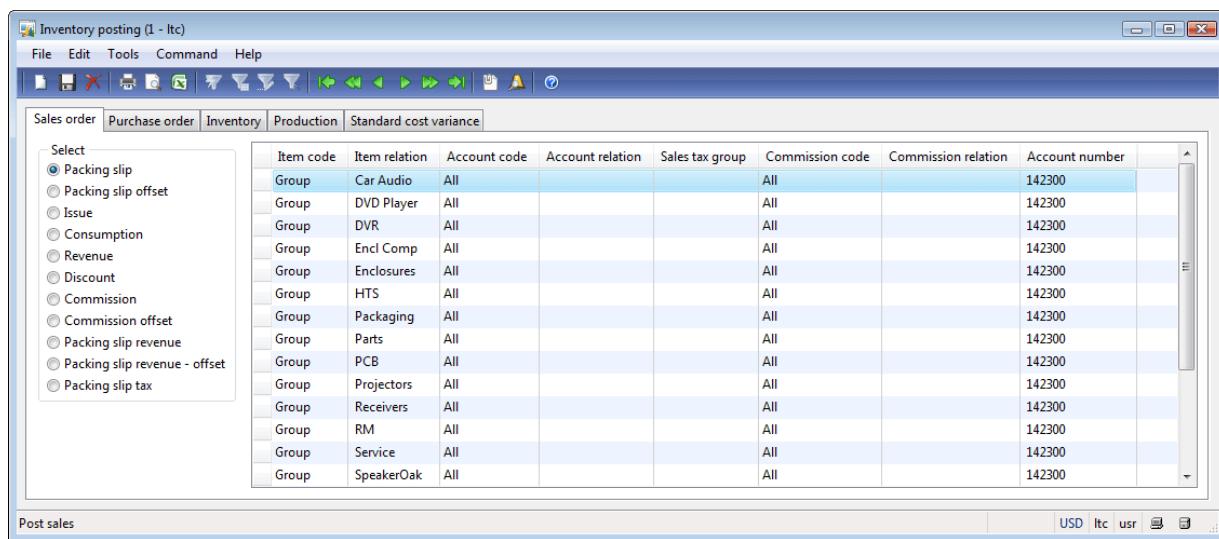


Figure 11.8 Inventory posting form

When an Invoice is posted, all generated general ledger transactions are grouped in a Voucher.

Let's check what general ledger transactions are generated for the Invoice.

1. Click **Accounts payable > Common Forms > Vendor Details** > Find the Big Bottle vendor > Click the **Transactions** button.
2. In the **Vendor transactions** form, click the **Voucher** button. The **Voucher transactions** form opens. Since a Voucher groups all general ledger transactions from one Invoice there are several lines exist. A Voucher can be accessed from the **Purchase order** and **Item transactions** form also (**Purchase order form > Inquiry button > Invoice button > Voucher button**; **Item form > Transactions button > Ledger button > Financial voucher button**).

Post an Invoice

Figure 11.9 Voucher transactions form

First, general ledger transactions are generated to reverse the general ledger transactions generated during the posting of the Packing slip. We can check what transactions are generated during the posting of the Packing slip here: **Purchase order** form > **Inquiry** button > **Packing slip** button> **Voucher** button. It's are transactions for 211250 and 142100 general ledger accounts.

Then, a general ledger transaction is generated for the 211100 account. I know that this transaction is generated from the vendor transaction because the **Posting type** field (on the **Voucher transactions** form) contains the *Vendor balance* value.

Let's check:

1. Find out what vendor posting profile is active (**Accounts payable > Setup > Parameters > Ledger and sales tax tab > Posting profile** field). In my case, this is the *GEN* posting profile.
 2. Go to the **Vendor posting profiles** form (**Accounts payable > Setup > Posting profiles**). Find *GEN* and go to the **Setup** tab.

Post an Invoice

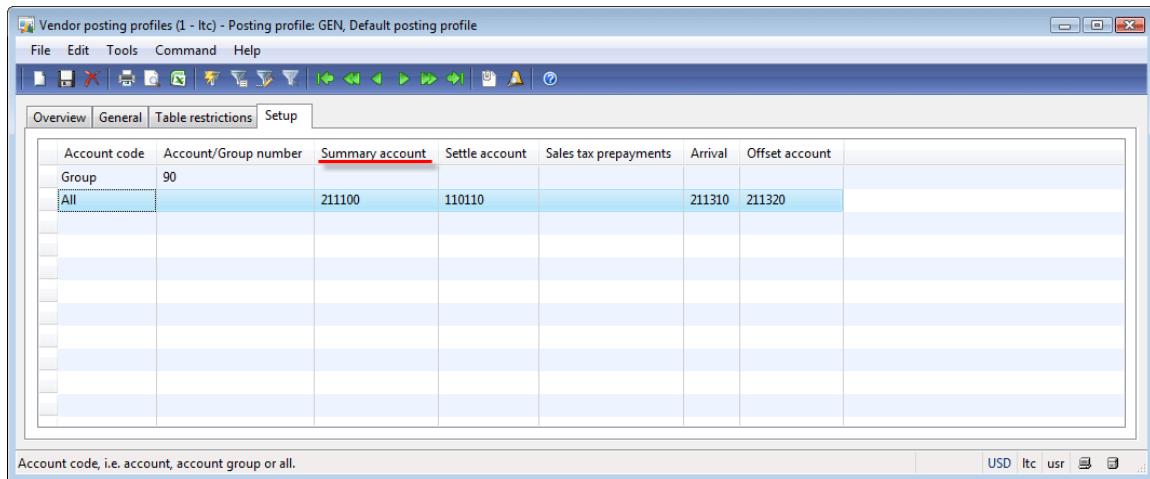


Figure 11.10 Vendor posting profiles form, Setup tab

The Big Bottle vendor doesn't belong to the 90 vendor group. The **Summary account** field contains a general ledger account that will be used when a transaction for the Big Bottle vendor is generated. This field contains the 211100 general ledger account just like in the Voucher.

Then, a general ledger transaction is generated for the 141020 account. This transaction is generated from the inventory transaction.

Let's check:

1. Go to **Inventory management > Setup > Posting > Posting**.
2. Go to the **Purchase order** tab.
3. Click the **Receipt** option button.

Inventory transactions are generated for the Bottle and Can items. These items belong to Packaging item group (**Inventory management > Common Forms > Item details** form > Find the Bottle item > **Item group** field). Find the record where Item code = *Group* and Item Relation = *Packaging*. For this combination, the corresponding general ledger account is 141020.

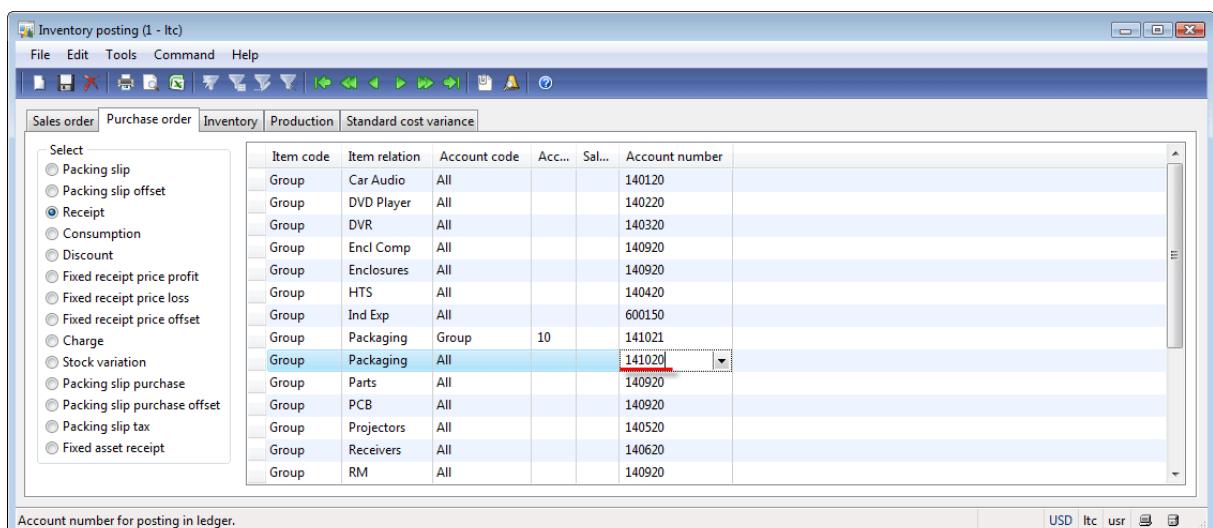


Figure 11.11 Inventory posting form, Purchase order tab

Post an Invoice

Note: Since two inventory transactions are reflected to one general ledger account, they have been summarized during the posting of an invoice and only one general ledger transaction has been generated.

As we discussed earlier, general ledger accounts are used to define the following:

- If the company receives profit or loss during a period of time
- Different balances (payable, receivable, inventory)

I recommend you go through the [Accounting training](#), or at least read articles from the site. I also study Accounting from this site.

Now we have finished the purchase business process.

Training summary

In this training, we have done the following:

1. Set up a vendor, a warehouse, and equipment
2. Created a purchase order
3. Went through the item arrival and registration
4. Posted a Packing slip
5. Posted an Invoice

Thank you for your attention and enjoy your work with Microsoft Dynamics AX. 😊

12. Sales business process

Hi Axapta mate! In this training lesson we examine the sale flow.

The following roles are involved in the sales process:

- Sales Manager
- Shipment Manager
- Warehouse Worker
- Truck Driver
- Customer

First of all, the Sales Manager needs to find customers. For this purpose, the Sales Manager uses different techniques such as searching in targeted magazines and blogs, using telemarketing, direct marketing, taking part in job fairs, etc and noting, noting, and noting contacts of potential customers. All notes are recorded in the Customer Relationship Management system (CRM). Microsoft Dynamics AX also has the CRM module. In it, can find Business relations, Contacts, Leads, Opportunity, and Sales quotations. All these forms are used to manage the process of finding clients. We don't go deep inside the customer search process, we just take this into account in order to understand that it is also an interesting flow. If we decide to create training for the CRM module, we will consider this flow together =).

Let's assume that the Sales Manager has found a Customer. The Customer wants 1,000 items Bottle Red 0.5 and 200 items Can Standard Black.

The Sales Manager creates a sales order with two lines. The Sales Manager calls the Customer and agrees order details. Then, the Sales Manager prints the confirmation document. This document contains the information about items, item quantities, and prices. After that the Sales Manager sends this document to the Customer via fax or e-mail. The confirmation document is a guarantee that the Sales Manager and the Customer have cut a deal.

The Sales Manager creates warehouse orders (or posts a picking list). A warehouse order contains the information about the items to pick. A picking list contains warehouse orders.

At the same time, an empty truck stops near the warehouse door and is ready for loading the items.

The Shipment Manager registers the truck information in the system; this includes truck capacity, truck type, warehouse door, etc. Then, the Shipment Manager assigns warehouse orders that must be loaded into the truck.

After this the Shipment Manager runs a specific program that takes into account all assigned warehouse orders and determines where an item from the warehouse order must be picked from. Then, he or she generates picking routes.

Picking routes are used by the Warehouse Worker and contain the information about an item, its quantity, its picking and destination location.

Sales business process

The Warehouse Worker selects and reads the information from the picking route and performs following steps:

1. Goes to the picking location.
2. Picks items.
3. Moves items to the destinations location.
4. Loads items into the truck.

When all warehouse orders are processed, i.e. loaded by warehouse workers into the truck, the Shipment Manager prints the Shipment list.

[From Wikipedia:](#)

“The Shipment list is a shipping document that accompanies delivery packages, usually inside an attached shipping pouch or inside the package itself. It commonly includes an itemized detail of the package contents and does not include customer pricing. It serves to inform all parties, including transport agencies, government authorities, and customers, about the contents of the package. It helps them deal with the package accordingly.”

Then, the Shipment Manager prints the Bill of lading and gives it to the Truck Driver to sign (we assume that the items will be delivered by the carrier company and the Truck Driver works in this company). The Truck Driver returns the signed Bill of lading to the Shipment Manager. The Shipment Manager releases the truck.

[From Wikipedia:](#)

“The Bill of lading is a document issued by a carrier to a shipper, acknowledging that specified goods have been received on board as cargo for conveyance to a named place for delivery to the consignee who is usually identified. It is evidence of contract between carrier and shipper.”

In our case, a bill of lading is document that guarantees that 1000 Bottles and 200 Cans are received on board and will be delivered to the Customer. At the same time, our company should pay a specific amount of money to the carrier company.

When items are delivered, the Sales Manager posts, prints, and sends the Packing slip document to the Customer. The Packing slip document is a guarantee that the Customer receives items.

Finally, the Sales Manager posts, prints, and sends an invoice document to the Customer. This document confirms that the Customer must pay some amount of money to the company. This process creates a ledger transaction – the Inventory account is credited (decreased), the Accounts Receivable account is debited (increased).

Just the same as in the purchase business process, there is still one more step. It is the payment process. But it does not belong to the sales business process. Even more, the payment is out of the Trade and Logistics scope. Payment will be studied in the Microsoft Dynamics AX (Axapta) Financial training.

Training Lesson Summary

In this training lesson, we have learnt the sales business process. Let's review the key personas and what they do:

- Sales Manager
 - Finds a Customer
 - Creates a Sales order
 - Confirms a sales order (a guarantee that the Customer agrees the order details)
 - Creates warehouse orders
- Truck Driver
 - Drives the truck to a specific warehouse door
- Shipment Manager
 - Registers the truck
 - Determines picking locations for warehouse orders
 - Creates picking routes
- Warehouse Worker
 - Reads the picking routes
 - Goes to the picking location
 - Picks the items from the picking location
 - Moves the items to the destination location
 - Loads the items into the truck
- Shipment Manager
 - Prints the Shipment list
 - Prints the Bill of lading (a guarantee that the carrier has received the items)
- Truck Driver
 - Signs and returns the Bill of lading
 - Leaves the warehouse (with the items and the Shipment list)
- Sales Manager
 - Posts the Packing slip document (a guarantee that the items are received by the Customer)
 - Posts the Invoice document (a guarantee that the Customer must pay)

In the next training lessons, we will understand how the sales process is implemented in Microsoft Dynamics AX.

13. Create sales order

In this training lesson, we are going to create a Customer and a Sales order.

From the previous lesson, we have the following information:

- The Sales Manager has found a Customer
- The Customer wants to purchase 1,000 items Bottle Red 0.5 and 200 items Can Standard Black

The Sales Manager creates a record for the Customer in the system:

1. Go to **Accounts receivable > Common Forms > Customer Details**. The **Customers** form opens.
2. Create a new line by pressing CTRL + N and fill in the Customer information. (We assume that the Sales Manager has already acquired the necessary information from the Customer). All the other fields remain filled in by default.
3. Click the **Overview** tab and fill in the following fields:
 - **Customer account** = 1000
 - **Name** = Natural Juice
 - **Customer group** = 20 (Major customers). Customer group is used to group customers that have common properties, such as terms of payment, settle period, ledger posting table for inventory transactions. You can read about the ledger posting table for inventory transactions [here](#) (the article describes a vendor group).
4. On the **Setup** tab, enter the following information:
 - **Delivery terms** = FOB_DS (FOB destination). Delivery terms answer the following questions: which party (a buyer or a seller) pays for which shipment and loading costs and which party takes the responsibility for the goods. [FOB](#) (from wikipedia) – **Free on board** means that the seller delivers when the goods pass the ship's rail at the named port of shipment. This means that the buyer has to bear all costs and risks of loss or damage to the goods from that point. If we go to the FOB_DS parameters (**Accounts receivable > Setup > Distribution > Terms of delivery** > find FOB_DS record > **Setup** tab), we can find that the **Freight charge terms** field contains N/A (not available). It means that delivery charges are not included in an invoice and all delivery charges must be paid by the Customer himself/herself.
 - **Mode of delivery** = 10 (Truck)
 - **Receipt calendar** = Standard. Receipt calendar is used to specify days of week when the Customer can receive the items.
5. Click the **Sales** order tab (we assume that the items for this Customer will be taken from the warehouse 11).
 - **Site** = 2
 - **Warehouse** = 21
6. On the **Address** tab, fill in the following information:
 - **Name** = Main
 - **Address type** = Delivery
 - **Street name** = 678 Central Avenue
 - **ZIP/Postal Code** = 30005
 - **City** = Alpharetta
 - **County** = FULTON
 - **State** = GA
 - **Country/region** = US

Now, the Sales Manager can proceed to create a Sales order.

Create sales order

Go to **Accounts receivable > Common Forms > Sales order details**. The **Sales order** form opens.

Create a new line by pressing **CTRL + N**. The **Create sales order** form opens.

The screenshot shows the 'Create sales order (1 - Itc)' dialog box. In the 'Customer account' section, the 'Customer account' dropdown is set to '1000'. Below it is a grid of customer records:

Customer account	Address book ID	Name	Search name	Our account number	Telephone
1000	ARP000117	Natural Juice	Natural Juice		
1101	191	Forest Wholesales	Forest Wholesales		
1102	192	Sunset Wholesales	Sunset Wholesales		123-555-0160
1103	193	Cave Wholesales	CEU&CEE		123-555-0161
1104	194	Desert Wholesales	Desert Wholesales		123-555-0162
1201	36	Sparrow Wholesales	Sparrow Wholesales		123-555-0163
1202	196	Owl Wholesales	CEU&CEE		123-555-0164
1203	197	Pelican Wholesales	Pelican Wholesales		123-555-0165
1204	198	Kingbird Wholesales	International - CNY		123-555-0166
1301	199	Whale Wholesales	CEU&CEE		123-555-0167
1302	200	Turtle Wholesales	Turtle Wholesales		123-555-0168

Below the grid are several dropdowns: Currency, Mode of delivery, Site, Warehouse, Delivery date control (set to 'Sales lead time'), and Confirm dates. The 'Shipping location time zone' dropdown shows '(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius'. The 'References' section contains fields for Customer requisition and Reference, and buttons for Delivery address, Shipping, and Administration. At the bottom are OK and Cancel buttons, and a currency selector with USD, Itc, usr, and other options.

Figure 13.1 Create sales order form

Select **1000** in the **Customer account** field.

If the **Prompt for customer information** check box is selected (**Accounts receivable > Setup > Parameters > General tab > Setup** field group > **Prompt for customer information** check box), the following dialog box appears:

Create sales order

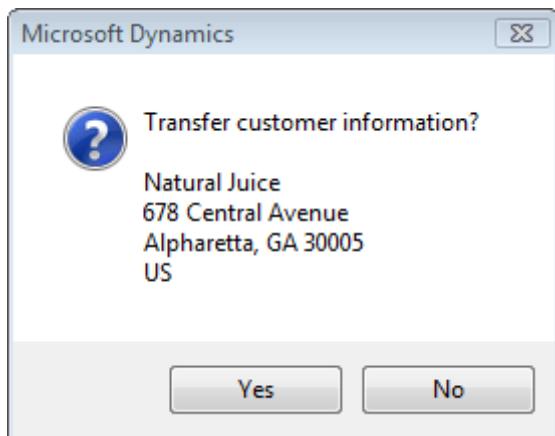


Figure 13.2 Dialog box: Transfer customer information

Click **Yes**.

All customer information will be transferred to the Sales order. Note that the Sales order information will be transferred to a sales line when it will be created.

Prior to clicking the **OK** button in the **Create sales order** form, let us discuss several fields.

The **Delivery date control** field is used to define the algorithm of calculating the available receipt date. Delivery date control function is used to primarily give realistic and complete delivery promises to a customer during a sales order entry and shorten the sales order entry time.

For example, the Customer asks to deliver items today. The Sales Manager enters the current date in the **Requested receipt date** field. As a result, the **Available ship and receipt dates** form opens. This form contains the information that the entered date is not valid. The form grid contains the information about the available dates.

Create sales order

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010
Thursday	6/3/2010	Thursday	6/3/2010

Figure 13.3 Available ship and receipt dates form

The Sales Manager informs the Customer that the items can be delivered only on May, 14. If the Customer agrees, the Sales Manager sets the cursor in the 5/14/2010 line and clicks the **Transfer to requested** button.

Why are the records for Tuesday, Wednesday and Thursday not available? Axapta has two types of delivery date control – Sales lead time and Available to Promise (ATP). Sales lead time calculates the first available date in the following manner: current date + sales lead time. The following parameters are taken into account: coverage calendar, order entry deadline, customer receipt calendar, transport time, and transport calendar. We will discuss all these parameter later in this training. Our demo data already contains setup for sales lead time: **Accounts receivable > Setup > Parameters > Shipments tab > Delivery control field group > Sales lead time field**. Sales lead time is 3 days.

For example, the company knows that ALL items for the sales order can be purchased, received into the warehouse, and shipped to the Customer within 3 days. In this case, the Sales Manager enters 3 in the **Sales lead time** field for the sales order.

The sales lead time can be set up under the following path:

- For a sales order: **Accounts receivable > Setup > Parameters > Shipments tab > Delivery control field group > Sales lead time field**.

Create sales order

- For an individual item: **Inventory management > Common Forms > Item details** > select necessary item > **Setup** button > **Site specific order settings** > **Sales order** tab > select the **Override** check box > **Sales lead time** field.
- For an individual item and a Customer: **Inventory management > Common Forms > Item details** > select necessary item > **Trade agrmt.** button > **Sales price** button > **Delivery** field group > **Lead time** field.

Note: When an item is added to the Sales order, the requested receipt date is verified (if verification is not successful, the **Available ship and receipt dates** form opens).

ATP (Available to promise) is a more interesting method. ATP provides a response to the customer's order enquiries based on resource availability. It generates available quantities of the requested product and delivery due dates. ATP supports order promising and fulfillment aiming to manage the demand and match it to production plans. This method does not use the **Sales lead time** and calculates the available date base on the following:

- Issues and receipts (only primary stocking is considered)
- Issues and receipts from the planned orders

Like the Sales lead time method, this one also takes into account the following parameters:

- Coverage calendar
- Order entry deadline
- Transport time
- Transport calendar
- Customer receipt calendar

If we select **ATP** in the **Delivery date control** field, the **Requested receipt date** is changed to the current date. When we click the **Simulate delivery dates** button, the following information is shown in the **Available ship and receipt dates** form.

Create sales order

The screenshot shows the 'Available ship and receipt dates' dialog box. At the top, there are input fields for 'Mode of delivery' (set to 10), 'Site' (2), 'Warehouse' (21), 'Lead time' (0), and 'Transport days' (0). Below these are sections for 'Order entry deadline', 'Current date and time', and 'Time zone'. Under 'Order entry deadline', 'My time' is 09:00 pm, 'My date' is 5/19/2010, 'My time' is 06:19 pm, and 'Time zone' is (GMT+02:00) H. Under 'Shipping location time', 'Shipping location time' is 02:00 pm, 'Shipping location date' is 5/19/2010, 'Shipping location time' is 11:19 am, and 'Time zone' is (GMT-05:00) Ea. The main area is a grid table with columns 'Day', 'Available ship date', 'Day', and 'Available receipt date'. The first row shows Wednesday, 5/19/2010, Wednesday, 5/19/2010. Subsequent rows show dates from 5/20/2010 to 6/3/2010. At the bottom left, 'Records displayed:' is set to 30. At the bottom right are 'Transfer to requested' and 'Cancel' buttons.

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010
Thursday	6/3/2010	Thursday	6/3/2010

Figure 13.4 Available ship and receipt dates form. ATP method.

We can see that all dates from today are available. This happens because we have not set the time fence for the ATP calculation. (If we, for example, set the time fence for 10 days, all days remain available because the sales lead time is not used and no sales order line exists.) When we create a first sales order line, the system recalculates the available receipt date based on the item availability. So we will discuss the ATP method a little later when creating a sales order line.

Having returned to the **Create sales order** form, the Sales Manager selects **ATP** in the **Delivery date control** field.

The **Delivery address** field group contains the Customer address. The Information is transferred from the **Customer** form.

The **Shipping** field group contains the information about delivery terms. The Information is transferred from the **Customer** form as well.

The **Administration** field group contains the information about the Recipient (is taken from **Administration > Users** > select current user > **User relations** button > **General** tab > **Employee** field) and the Sales responsible (this employee receives commission for a sale).

The Sales Manager clicks the **OK** button. A Sales order with no lines is created.

Create sales order

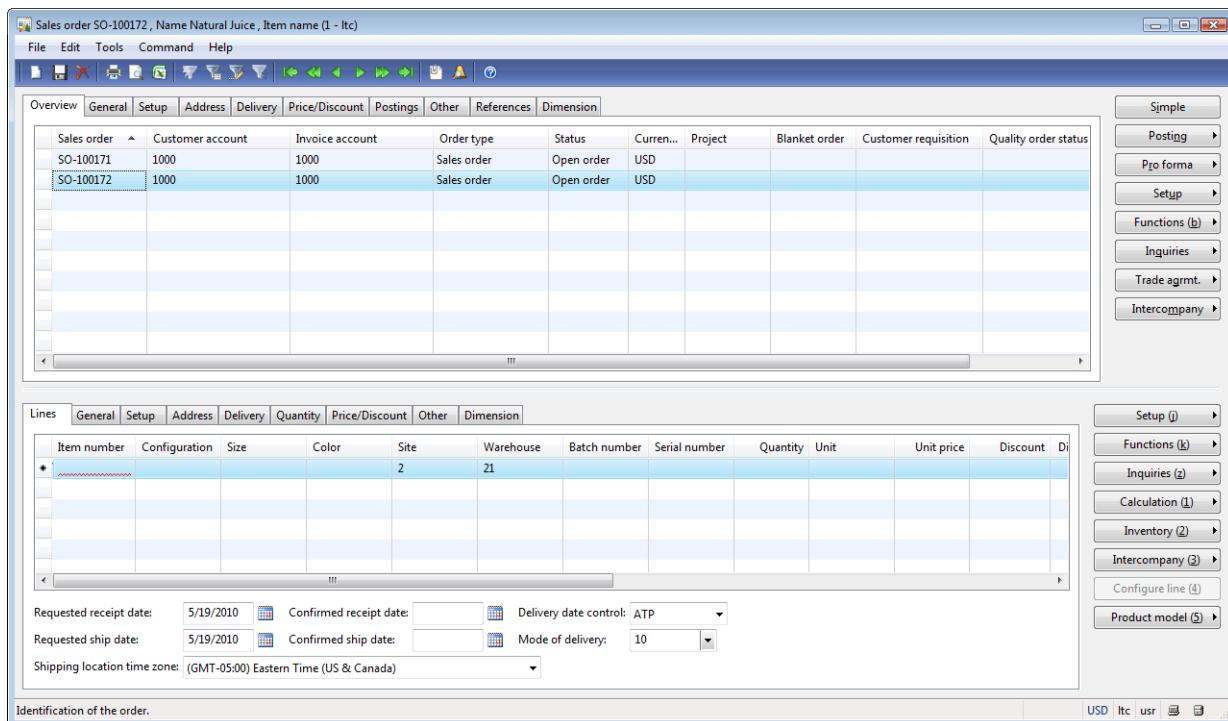


Figure 13.5 Sales order form

Now, the Sales Manager can proceed to create sales order lines:

1. In the line area, select the *Bottle* item in the **Item number** field.
2. Select *0.5* in the **Size** field.
3. Select *Red* in the **Color** field.
4. The **Site** field is filled in from the sales order with the value *2*.
5. The **Warehouse** field is also filled in from the sales order with the value *21*.
6. Fill in *1000* in the **Quantity** field.
7. Unit price is automatically filled in from the **Item** form. (Remember that we have set up a sales price for an item in “8. Create purchase order” lesson).
8. Save the line by pressing **CTRL +S**.

We may note that the Requested receipt date for the line is the current date + 1. Let's now analyze how the ATP works.

Available to promise (ATP)

As we said earlier, ATP provides an available receipt date to the customer's order enquiries based on resource availability.

The following parameters are taken into account:

- ATP time fence – it is the number of days that will be considered. Let's set the ATP time fence to 10 days. Go to **Accounts receivable > Setup > Parameters > Shipments tab > Delivery control** field group > **ATP time fence** field and type 10. Note: The ATP time fence can be set up for an individual

- item under **Inventory management** > select necessary item > **Setup** button > **Site specific order settings** > **Sales order** tab > select the **Override** check box > **ATP** field group > **ATP time fence** field.
- Issues and receipts (only primary stocking is considered). Find the primary stocking dimensions for the Bottle items:
 - Go to **Inventory management** > **Common Forms** > **Item details**. The **Item** form opens.
 - Find the Bottle item and locate its dimension group (**Item** form > **General** tab > **Groups** field group > **Dimension group** field).
 - It is the **CS-WLP** dimension group. We have set up this group in “7. Setup initial data (Vendor, Warehouse, Equipment)” lesson.
 - Right-click in the **Dimension group** field and select **Go to the Main Table Form**. The **Inventory dimensions** form opens. This form contains the dimension setup. Find the dimensions with the **Primary stocking** check box selected. These are Size, Color, Site, and Warehouse, so this dimension is a primary stocking.

Let's check the issue and receipt.

5. Go to **Inventory management** > **Common Forms** > **Item details**. The **Item** form opens.
 6. Find the Bottle item and then click the **Transactions** button.
 7. In the **Transactions** form, click the **Inventory > Dimension display** button, select all dimensions, and then click **OK**.
 8. Now, among all transactions, find the transactions with primary stocking dimensions same as those of the sales order line dimension. No receipt transaction exists, because in the previous lessons we received the purchased item to warehouse 22. Warehouse 21 doesn't contain the required item. No issue transaction also exists, because it is our first sale.

Since there are no items in warehouse 21, we can't promise any receipt date for the Customer. Check if we have correctly reflected on the issue. Return to the **Sales order** form, in the line area, go to the **Delivery** tab and click the **Simulate delivery dates** button. The following form opens.

Create sales order

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Wednesday	5/26/2010	Wednesday	5/26/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010

Figure 13.6 Available ship and receipt dates form. ATP time fence = 10 days.

Since the ATP time fence is 10 days, the item can't be delivered to the Customer during this period because the on-hand values are zero. The Sales Manager can't promise anything. The Sales Manager decides to take the item from warehouse 22. The Sales Manager returns to the Sales order line and fills in 22 in the **Warehouse** field. Then, the Sales Manager opens the **Available ship and receipt dates** form again and finds the following results.

Create sales order

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Wednesday	5/26/2010	Wednesday	5/26/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010

Figure 13.7 Available ship and receipt dates form. 22 warehouse.

Now, the Sales Manager can select any date because the item is available in the warehouse.

Issues and receipts from the planned orders. This parameter is only taken into account if the **ATP incl. planned orders** check box is selected

- Global setup: **Accounts receivable > Setup > Parameters > Shipments tab > Delivery control** field group > **ATP incl. planned orders** field.
- Per item: **Inventory management > Common Forms > Item details** > select necessary item > **Setup** button > **Site specific order settings > Sales order tab** > select the **Override** check box > **ATP incl. planned orders** field.

Coverage calendar is used to specify the dates when a warehouse works i.e. items can be shipped from the warehouse. The coverage calendar for the warehouse is set up under **Inventory management > Setup > Inventory breakdown > Warehouses > Master planning tab > Item coverage** field group > **Calendar** field. In the coverage calendar, you can set up open and closed days for the warehouse. If the requested shipping date falls on a closed day, then the next open day is used for the requested shipping date. If you do not set up a coverage calendar, the open and closed days defined in the company shipping calendar are used (**Basic > Company information > Other tab > Shipping** field group > **Shipping calendar** field).

In our case, **Coverage calendar** = Whse. Let's look what information is in this calendar: Go to **Basic > Calendar** > find the **Whse** calendar > click the **Working times** button. The **Working times** form opens.

Create sales order

The screenshot shows the 'Working times (1 - Itc) - Calendar: Whse, Warehouse Calendar, Calendar: Whse' window. The main area displays a grid of working days from May 17 to May 26, 2010. The grid includes columns for Date, Day, Week, Month, Control, and Closed. The 'Control' column shows 'Base calendar' for most days except Saturday and Sunday, which are marked as 'Base calendar'. The 'Closed' column is empty for all days. A button labeled 'Compose working times' is visible in the top right. Below the grid, there is a table for setting working hours, showing 'BaseCtrl' from 12:00 am to 24:00 with an efficiency of 100.00%. A 'Hours:' field shows 24.00. At the bottom, there is a 'Date of working time' section and a toolbar with buttons for USD, Itc, usr, and other functions.

Figure 13.8 Working times form. Whse calendar.

Calendar days' controls are taken from the *BaseCtrl* base calendar. If we open the **Working times** form for the *BaseCtrl* calendar, we can see that on Monday the warehouse works 24 hours from 12:00 AM to 24:00. If we set the cursor to Saturday or Sunday, we can see that the warehouse doesn't work. i.e. the warehouse works 5 days except Saturday and Sunday. Let's assume that the warehouse doesn't work on 5/26/2010. Find this date in the **Working times** form and select **Closed** in the **Control** field.

Create sales order

Date	Day	Week	Month	Control	Closer
5/20/2010	Thursday	20	May	Base calendar	
5/21/2010	Friday	20	May	Base calendar	
5/22/2010	Saturday	20	May	Base calendar	
5/23/2010	Sunday	20	May	Base calendar	
5/24/2010	Monday	21	May	Base calendar	
5/25/2010	Tuesday	21	May	Base calendar	
5/26/2010	Wednesday	21	May	Closed	
5/27/2010	Thursday	21	May	Base calendar	
5/28/2010	Friday	21	May	Base calendar	
5/29/2010	Saturday	21	May	Base calendar	

Calendar	From	To	Efficiency in percentage	Property
BaseCtrl	12:00 am	24:00	100.00	

Hours: 24.00

Working time applicable to the work center

Figure 13.9 Working times form. 5/26/2010 is closed.

Now, we will check the result. Return to the **Delivery** tab of the sales order line and click the **Simulate delivery date** button.

Create sales order

The screenshot shows the 'Available ship and receipt dates' dialog box. At the top, there are dropdowns for 'Mode of delivery' (10), 'Site' (2), 'Warehouse' (22), and 'Lead time' (0). Below these are fields for 'Order entry deadline' (My time: 09:00 pm, My date: 5/19/2010, My time: 05:12 pm, Time zone: (GMT+02:00) H), 'Shipping location time' (02:00 pm), 'Shipping location date' (5/19/2010), and 'Shipping location time' (10:12 am, Time zone: (GMT-05:00) Ea). The main area is a grid showing 'Day', 'Available ship date', 'Day', and 'Available receipt date'. The grid lists days from Wednesday, May 19, 2010, to Thursday, June 3, 2010. A red vertical bar highlights the date May 26, 2010, which is missing from the grid. The grid also includes a 'Records displayed' field set to 30 and three buttons at the bottom: 'Transfer to requested', 'Transfer to confirmed', and 'Cancel'.

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010
Thursday	6/3/2010	Thursday	6/3/2010

Figure 13.10 Available ship and receipt dates form. Coverage calendar.

We can see that there is no 5/26/2010 date in the form.

Make the 5/26/2010 date available by yourself

Order entry deadline determines the cut-off time after which orders are shipped one day later. It is possible to set up an individual order entry deadline for a site (a group of sites) and a customer (a group of customers).

Each customer can be assigned to an order entry deadline group under **Accounts receivable > Common Forms > Customer details > Sales order tab > Sales order field group > Order entry deadline group** field. A site is assigned to an order entry deadline group under **Inventory management > Setup > Inventory breakdown > Sites > General tab > Order entry field group > Order entry deadline group** field.

Let's assume that in our company the order entry deadline is set to 14:00 for all customers and all sites. Go to **Inventory management > Setup > Distribution > Order entry deadlines**. The **Order entry deadlines** form opens.

Create sales order

The screenshot shows the 'Order entry deadlines (1 - Itc) - Select' window. At the top, there's a toolbar with icons for file operations like Open, Save, Print, and Help. Below the toolbar is a menu bar with File, Edit, Tools, Command, and Help. The main area has two tabs: Overview and General, with General selected. The General tab displays a grid table with columns for Site, Select, Order entry deadline group, Select, Monday through Sunday, and a currency converter at the bottom.

Site	Select	Order entry deadline group	Select	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
All		All		02:00 pm	02:00 pm	02:00 pm	02:00 pm	02:00 pm	12:01 am	12:01 am
All		Specific	Internal	04:00 pm	04:00 pm	04:00 pm	04:00 pm	03:30 pm	12:01 am	12:01 am
Specific	1	Specific	Premium	02:30 pm	02:30 pm	02:30 pm	02:30 pm	02:00 pm	12:01 am	12:01 am
Specific	2	Specific	Premium	03:00 pm	03:00 pm	03:00 pm	03:00 pm	02:00 pm	12:01 am	12:01 am
Specific	3	Specific	Premium	04:00 pm	04:00 pm	04:00 pm	04:00 pm	03:00 pm	12:01 am	12:01 am

Specify whether setup applies to a single site or all sites

USD Itc usr

Figure 13.11 Order entry deadlines form

As we can see, our demo data already contains the record with required values. I mean the first record which shows that for all sites and all customers the order entry deadline is set to 14:00 during 5 working days.

Let's check how it works. Return to the sales order line, go to the **Delivery** tab, and then click the **Simulate delivery dates** button. Let's check the **Available ship and receipt dates** form more attentively.

The screenshot shows the 'Available ship and receipt dates (1 - Itc)' window. At the top, there are fields for Mode of delivery (10), Site (2), Warehouse (22), Lead time (0), and Transport days (0). Below these are sections for Order entry deadline, Current date and time, and Time zone. The Time zone section shows My time: 05:22 pm (GMT+02:00) H and Shipping location time: 10:22 am (GMT-05:00) Ea. The main area features a large grid table with columns for Day, Available ship date, Day, Available receipt date, and a footer section with Records displayed: 30 and buttons for Transfer to requested, Transfer to confirmed, and Cancel.

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Wednesday	5/26/2010	Wednesday	5/26/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010

Records displayed: 30

Transfer to requested Transfer to confirmed Cancel

Figure 13.12 Available ship and receipt dates form. My time.

Create sales order

Now, my time is set to 17:22, we set up the order entry deadline to 14:00, but the system allows using the 5/19/2010 date as a receipt date. Why doesn't the system shift the available receipt and ship date to one date? This happens because that order entry deadline is set up for a warehouse. But, a warehouse can be situated in one place and the Sales Manager in another place. Let's check if I am the Sales Manager and I sit in Kyiv, Ukraine. My time is 17:22 and the Time zone is GMT +2. Where is the Warehouse situated? Go to **Inventory management > Setup > Inventory breakdown > Warehouses** > find warehouse 22. This warehouse belongs to site 2. Go to the site parameters under **Inventory management > Setup > Inventory breakdown > Sites** > find site 2 > **General** tab > **Order entry** field group > **Time zone** field.

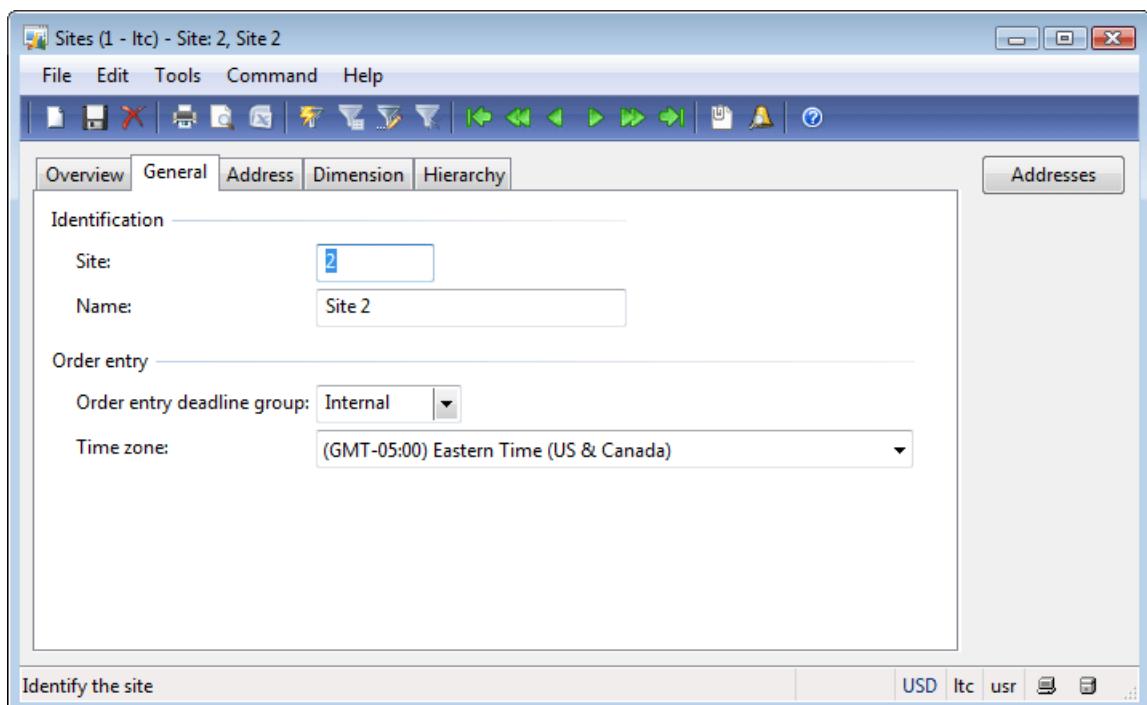


Figure 13.13 Sites form. Order entry field group.

We see that the warehouse is situated in the GMT -05 time zone. Since the order entry deadline is set up for warehouse other than the order entry deadline for the Sales Manager who is located in Kyiv, the time will be calculated as follows $14:00 + (2:00 - (-5:00)) = 21:00$. We can find this information in the **Available ship and receipt date form (Order entry deadline field group > My time field)**. The available receipt (ship) date will be one day shifted only if the Sales Manager will find available dates after 21:00. You can check this if you temporarily set the time on your computer to 21:00. I set it and click the **Simulate delivery dates** button in the sales order line. The following result appears:

Create sales order

The screenshot shows the 'Available ship and receipt dates' dialog box. At the top, there are dropdown menus for 'Mode of delivery' (set to 10), 'Site' (set to 2), 'Warehouse' (set to 22), 'Lead time' (set to 0), and 'Transport days' (set to 0). Below these are sections for 'Order entry deadline', 'Current date and time', and 'Time zone'. Under 'Order entry deadline', 'My time' is set to '09:00 pm', 'My date' is '5/19/2010', 'My time' is '09:29 pm', and the 'Time zone' is '(GMT+02:00) H'. Under 'Shipping location time', 'Shipping location date' is '5/19/2010', 'Shipping location time' is '02:29 pm', and the 'Time zone' is '(GMT-05:00) Ea'. The main area is a grid showing available ship and receipt dates for the next two weeks. A warning icon (yellow exclamation mark) is visible in the grid for the Monday row, May 31, 2010. The grid has columns for 'Day', 'Available ship date', 'Day', and 'Available receipt date'. The bottom of the dialog box shows 'Records displayed: 30' and buttons for 'Transfer to requested', 'Transfer to confirmed', and 'Cancel'.

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Wednesday	5/19/2010
Thursday	5/20/2010	Thursday	5/20/2010
Friday	5/21/2010	Friday	5/21/2010
Monday	5/24/2010	Monday	5/24/2010
Tuesday	5/25/2010	Tuesday	5/25/2010
Wednesday	5/26/2010	Wednesday	5/26/2010
Thursday	5/27/2010	Thursday	5/27/2010
Friday	5/28/2010	Friday	5/28/2010
Monday	5/31/2010	Monday	5/31/2010
Tuesday	6/1/2010	Tuesday	6/1/2010
Wednesday	6/2/2010	Wednesday	6/2/2010

Figure 13.14 Available ship and receipt dates form. Order entry deadline.

It is the expected result. Unfortunately, we can't click the warning icon and get detailed description about the reason. Let us hope this will be possible the future version...
Don't forget to set the right time on your computer 😊

Transport time. Set up the transport time between a warehouse in your company and a customer address in the **Transport** form. This form is opened by clicking **Inventory management > Setup > Distribution > Transport**.

Create sales order

The screenshot shows the 'Transport (I - Itc)' window. At the top, there's a toolbar with various icons. Below it is a 'Filter' section with fields for 'Shipping point' and 'Receiving point'. The 'Shipping point' section includes dropdowns for Type (Warehouse), Warehouse, ZIP/postal Code, County, State, and Country/region. The 'Receiving point' section includes dropdowns for Type (Address), Warehouse, ZIP/postal Code, County, State, and Country/region. Below the filter is a table with tabs for 'Overview' and 'General'. The 'General' tab is selected, showing a list of shipping records. The columns include Shipping warehouse, Country/region, State, County, ZIP/postal C..., Receiving w..., Tran..., and a small icon. One record is selected, showing details: Shipping warehouse 11, Country/region US, State NJ, County BERGEN, ZIP/postal C... 07010, Receiving w... 5, Tran... 20. Below this is another table for 'Mode of delivery' with columns Mode of delivery, Description, Transport days, and D. The entries are: 10 Truck (selected), 20 Air, and 30 Rail.

Shipping warehouse	Country/region	State	County	ZIP/postal C...	Receiving w...	Tran...
11	DE					20
11	US	NJ	BERGEN	07010	5	
11	US	TX	DALLAS	75201		3
11	US	WA	KING	98052		1
11	US	WA	SNOHOMISH	98021		1
12	US	NJ	BERGEN	07010		5
12	US	TX	DALLAS	75201		3
12	US	WA	KING	98052		1
21	DE					20
21	US	NJ	BERGEN	07010		4
21	US	TX	DALLAS	75201		1
22	US	WA	KING	98052		2

Mode of delivery	Description	Transport days	D.
10	Truck	5	<input checked="" type="checkbox"/>
20	Air	2	<input type="checkbox"/>
30	Rail	8	<input type="checkbox"/>

Identify the warehouse. USD Itc usr

Figure 13.15 Transport form.

Let's assume that the transport time between warehouse 22 and the Customer 1000 (Natural Juice) is 3 days by truck. And now, check how the result in the **Available ship and receipt date** form is changed.

0. Open the **Transport** form by clicking **Inventory management > Setup > Distribution > Transport**.
1. Fill in 30005 in the **ZIP/postal Code** field under **Filter** field group > **Receiving point** field group (30005 is the Customer's ZIP/Postal code).
2. Create a new record by pressing CTRL + N.
3. Select 22 in the **Shipping warehouse** field.
4. Save the line.
5. Create a new line in the lower part of the form.

Create sales order

6. Select the **Truck** mode of delivery (fill in 10 in the **Mode of delivery** field).
7. Fill in 3 in the **Transport days** field.
8. Save the line.

Check the result in the **Available ship and receipt date** form. Go to the line area, click the **Delivery** tab, and then click the **Simulate delivery dates** button. The following result shows:

The screenshot shows the 'Available ship and receipt dates' dialog box. At the top, the 'Mode of delivery' is set to 10, 'Site' to 2, 'Warehouse' to 22, 'Lead time' to 0, and 'Transport days' is highlighted and set to 3. Below this, there are sections for 'Order entry deadline', 'Current date and time', and 'Time zone'. Under 'Order entry deadline', 'My time' is 09:00 pm. Under 'Current date and time', 'My date' is 5/19/2010, 'My time' is 05:37 pm, and the 'Time zone' is (GMT+02:00) H. Under 'Shipping location time', 'Shipping location date' is 5/19/2010, 'Shipping location time' is 10:37 am, and the 'Time zone' is (GMT-05:00) Ea. The main table lists available ship and receipt dates for the next few weeks, showing how the receipt date is shifted by the transport days value. The table has columns for Day, Available ship date, Day, and Available receipt date. The first row shows Wednesday, 5/19/2010, followed by Monday, 5/24/2010. The last row shows Wednesday, 6/2/2010, followed by Monday, 6/7/2010. At the bottom, there are buttons for 'Transfer to requested', 'Transfer to confirmed', and 'Cancel'.

Day	Available ship date	Day	Available receipt date
Wednesday	5/19/2010	Monday	5/24/2010
Thursday	5/20/2010	Tuesday	5/25/2010
Friday	5/21/2010	Wednesday	5/26/2010
Monday	5/24/2010	Thursday	5/27/2010
Tuesday	5/25/2010	Friday	5/28/2010
Wednesday	5/26/2010	Monday	5/31/2010
Thursday	5/27/2010	Tuesday	6/1/2010
Friday	5/28/2010	Wednesday	6/2/2010
Monday	5/31/2010	Thursday	6/3/2010
Tuesday	6/1/2010	Friday	6/4/2010
Wednesday	6/2/2010	Monday	6/7/2010

Figure 13.16 Available ship and receipt dates form. Transport days.

We can see that the available receipt date is changed, because the transport days value is set to 3. Is it interesting to know what happens if the Sales Manager requests available dates after 21:00 (the order entry deadline)? The available date is shifted to one day (to May, 25). You can check this yourself. One note: If a sales order line contains only a site (without a warehouse), the transport time in the **Transport** form is searched for a fallback warehouse. This is set up under **Inventory management > Setup > Distribution > Fallback warehouse for site**.

Transport calendar is used to set up open days for the transport. Transport calendar can be set up per mode of delivery or per mode of delivery in a specific warehouse. Transport calendar is set up under **Accounts receivable > Setup > Distribution > Modes of delivery** > select Truck mode > **Transport calendar** button > find warehouse 22. We can find the Transport1 calendar under **Basic > Calendar**. If we click the **Working times** button, we can see that 5 working days are open in the transport calendar (see the 24Hours base calendar).

Customer receipt calendar is used to specify open days for the Customer. If no receipt calendar is specified for the customer, all days are open days for the Customer. You can specify the customer receipt

Create sales order

calendar under **Accounts receivable > Customer details > Setup tab > Delivery field group > Receipt calendar** field. For Customer 1000, the **Receipt calendar** field contains the *Standard* value. If we go to **Basic > Calendar**, we can find that the open days for the customer are from Monday to Friday (see the *BaseCtrl* calendar since this is a base calendar).

Training lesson summary

We have studied how available dates are calculated.

All these parameters are taken into account by the system. The only thing that the Sales Manager must do is to enter a sales order line, click the **Simulate delivery dates** button, select the first available date, click the **Transfer to requested** button, and then tell the available date to the Customer.

The Sales Manager performs all these steps and as a result, the **Requested receipt date** field contains 5/24/2010 the **Requested ship date** 5/19/2010.

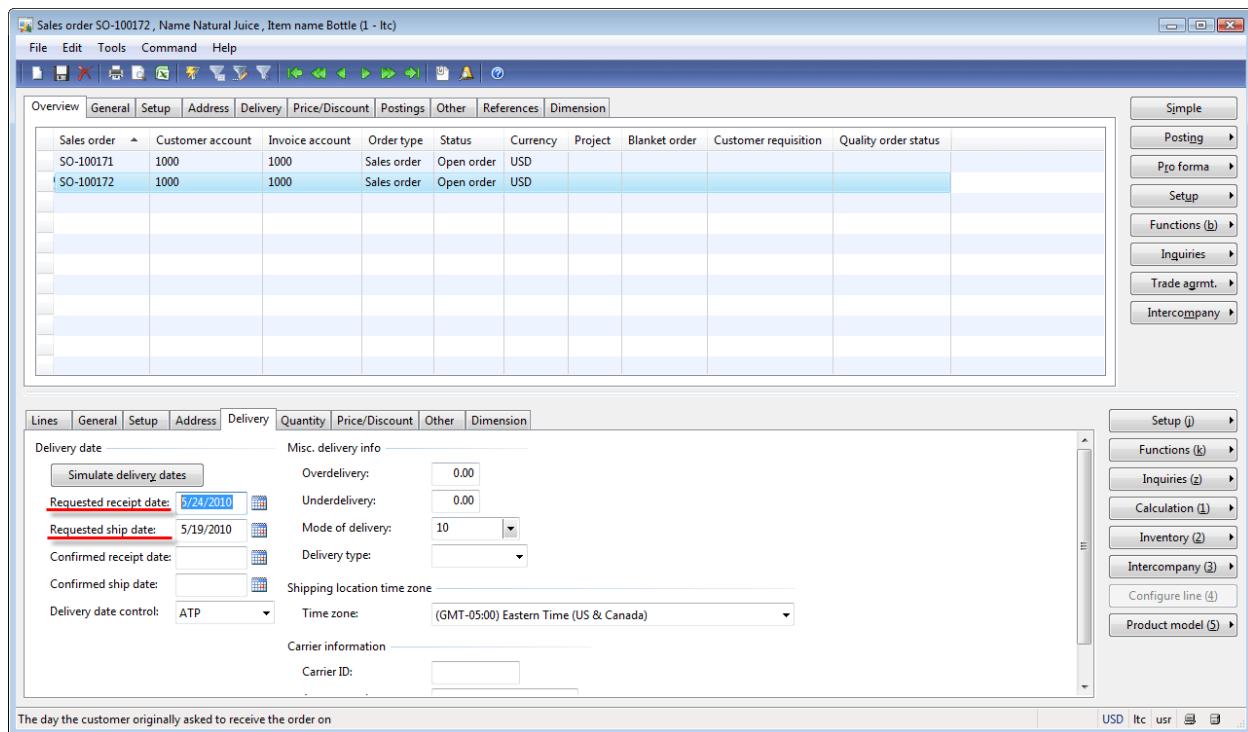


Figure 13.17 Sales order form. Delivery tab.

The Sales Manager enters another sales line for 200 items Can Standard Black. And, also provides the Customer with the information about the receipt date. Create a sales line yourself.

In the next training lesson, we will study the shipment process.

14. Shipment

Hello! Today the Sales Manager confirms the sales order and starts the shipment process.

As you may remember, in the previous training lesson, we have created the sales order with two lines.

Confirmation

The Sales Manager calls the Customer and agrees the order details. Since all order details are correct, the Sales Manager prints the Confirmation document.

The Sales Manager goes to **Accounts receivable > Common Forms > Sales order details**. The **Sales order** form opens. The Sales Manager clicks **Posting > Confirmation** menu button. The **Posting confirmation** form opens. Then, the Sales Manager selects the **Print confirmation** check box and clicks the **OK** button. The Confirmation document is printed.

Contoso Entertainment Systems 123 Coffee Street Suite 300 Redmond, WA 98052 US	Telephone: 425-123-4567 Fax: Giro: Tax exempt number: Enterprise number:																																				
Confirmation																																					
Number: SO-100171-1 Date: 5/17/2010 Page: 1 of 1 Sales order: <u>SO-100171</u> Requisition: Your ref.: Our ref.: 7210 Payment: Net 30 days																																					
<table border="1"><thead><tr><th>Item number</th><th>Configuration</th><th>Size</th><th>Color</th><th>Description</th><th>Quantity</th><th>Unit</th><th>Unit price</th><th>Ship date</th><th>Disc.</th><th>Discount</th><th>Amount</th></tr></thead><tbody><tr><td>1</td><td>Quantity : 1,000.00 Warehouse : 22</td><td><u>0.5</u></td><td><u>Red</u></td><td>Bottle</td><td>1,000.00</td><td>Pcs</td><td>9.00</td><td>5/17/2010</td><td></td><td></td><td>9,000.00</td></tr><tr><td>11</td><td>Quantity : 200.00 Warehouse : 22</td><td><u>Standard</u></td><td><u>Black</u></td><td>Can</td><td>200.00</td><td>Pcs</td><td>12.00</td><td>5/17/2010</td><td></td><td></td><td>2,400.00</td></tr></tbody></table>		Item number	Configuration	Size	Color	Description	Quantity	Unit	Unit price	Ship date	Disc.	Discount	Amount	1	Quantity : 1,000.00 Warehouse : 22	<u>0.5</u>	<u>Red</u>	Bottle	1,000.00	Pcs	9.00	5/17/2010			9,000.00	11	Quantity : 200.00 Warehouse : 22	<u>Standard</u>	<u>Black</u>	Can	200.00	Pcs	12.00	5/17/2010			2,400.00
Item number	Configuration	Size	Color	Description	Quantity	Unit	Unit price	Ship date	Disc.	Discount	Amount																										
1	Quantity : 1,000.00 Warehouse : 22	<u>0.5</u>	<u>Red</u>	Bottle	1,000.00	Pcs	9.00	5/17/2010			9,000.00																										
11	Quantity : 200.00 Warehouse : 22	<u>Standard</u>	<u>Black</u>	Can	200.00	Pcs	12.00	5/17/2010			2,400.00																										
<table border="1"><thead><tr><th>Sales balance</th><th>Total discount</th><th>Misc. charges</th><th>Sales tax</th><th>Round-off</th><th>Total</th></tr></thead><tbody><tr><td>11,400.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>0.00</td><td>11,400.00 <u>USD</u></td></tr></tbody></table>		Sales balance	Total discount	Misc. charges	Sales tax	Round-off	Total	11,400.00	0.00	0.00	0.00	0.00	11,400.00 <u>USD</u>																								
Sales balance	Total discount	Misc. charges	Sales tax	Round-off	Total																																
11,400.00	0.00	0.00	0.00	0.00	11,400.00 <u>USD</u>																																

Figure 14.1 Confirmation document

The Sales Manager sends this document to the Customer. This document is a guarantee that the Sales Manager and the Customer have cut a deal.

Shipment

Before starting the shipment process, let's check what inventory transaction is generated when a sales order line is created.

In the line area of the **Sales order** form, click the **Inventory > Transactions** menu button. The **Transactions** form opens.

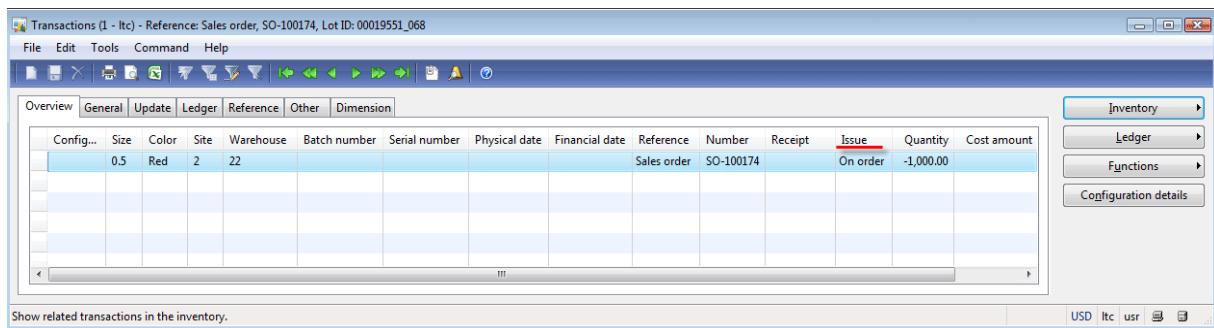


Figure 14.2 Inventory transactions. Issue status is OnOrder

The **Transactions** form contains a lot of information, but we will keep track of the quantity, dimension, and status of transactions.

The *On order* issue status means that the item is ordered for pick.

Let's view all dimensions in the **Transactions** form. Click **Inventory > Dimensions display** > select all check boxes (the **Save setup** check box also) > click **OK**.

The following information appears:

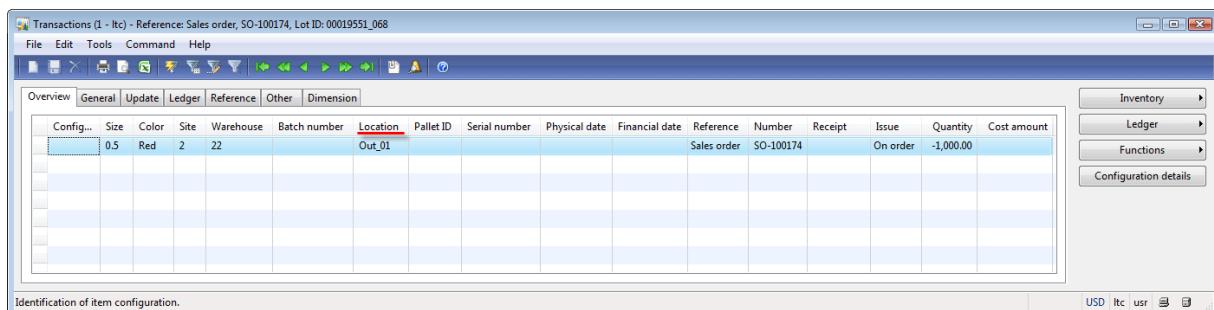


Figure 14.3 Inventory transactions

The Location dimension is set to *Out_01*. That is because when we create a sales line, default values are taken from the warehouse setup: **Inventory management > Setup > Inventory breakdown > Warehouses** > set cursor to warehouse 22 > click **Warehouse management tab > Default issue location** field.

Default issue location can be set up for each item under **Inventory management > Common Forms > Item details** > find the Bottle item > **Setup** button > **Warehouse items** button > **Locations** tab > **Default issue location** field.

Create Output Order

First of all the Sales Manager creates warehouse orders. Warehouse orders are created from sales lines. In Axapta, a warehouse order has the following types: output order, transport order, and a pick order. For the shipment process, the output order is required. Remember that an output order is a kind of a warehouse order.

To create an output order, the Sales Manager performs the following steps:

1. In the **Sales order** form, the Sales Manager selects the first line and clicks **Inventory > Output orders** button.

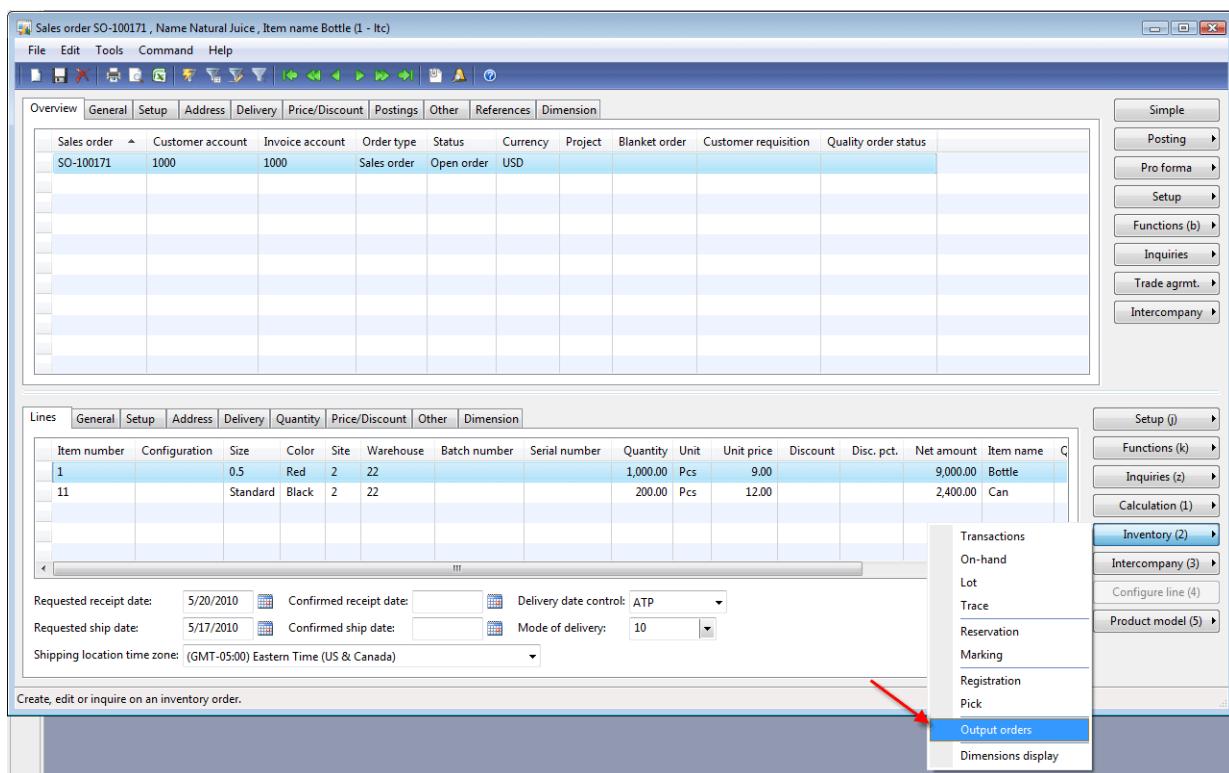


Figure 14.4 Sales order form, Output orders button

2. The **Create inventory order** form appears. The Sales Manager clicks **OK**.

Shipment

Create inventory order (1)

Reference:	Sales order
Number:	SO-100171
Item number:	1
Lot ID:	00019501_068
Quantity:	1000.00

Quantity in the inventory units of the item.

Figure 14.5 Create inventory order form

3. The **Output order** form appears. This form contains an output order that has been generated.

Output order (1 - Itc) - Inventory order: 00001207_112, 1, Lot ID: 00019501_068

File Edit Tools Command Help

View ended:

Transactions

Inventory

Functions

Overview General Shipment Quantity details

Inventory order	Lot ID	Item number	Configuration	Size	Color	Site	Warehouse	Inventory order quantity
00001207_112	00019501_068	1		0.5	Red	2	22	1,000.00

Also include output orders with the status Completed?

USD Itc usr

Figure 14.6 Output order form

The **Transactions** button shows the output order lines. For example, order lines can contain the following information – 400 bottles loaded, 300 bottles picked,... etc. If we click this button, the empty **Inventory order transaction** form opens.

If we look at the inventory transaction (clicking **Inventory > Transactions**), we will find that nothing is changed – Issue status is *On order*.

Create the output order for the Can item yourselves.

Now, the Sales Manager finishes his or her work.

Create shipment

The Shipment Manager must register an empty truck in the system. But, unfortunately Axapta doesn't have the ability to manage trucks. Instead of this the shipment is used.

The Shipment Manager creates one shipment:

1. Go to **Inventory management > Shipments**. The **Shipment** form opens.
2. Create a new line by pressing CTRL + N.
3. The **Create shipment** wizard opens. Click the **Next** button.
4. On the following Identification page, select the shipment template. In our demo data, we have only one shipment template "100_all". Select it. A shipment template can be set up under **Inventory management > Setup > Distribution > Shipment templates**. A shipment template contains the following major information: outbound dock (only an output order moved to this dock is taken into account), reservation principle (how an item will be reserved before a pick-up process).
5. Click **Next**.
6. On the Configuration page, all the information is filled in by default. Click **Next**.
7. The Inventory order page contains the information about orders that can be assigned to the shipment. The Shipment Manager can delete an order from the grid.

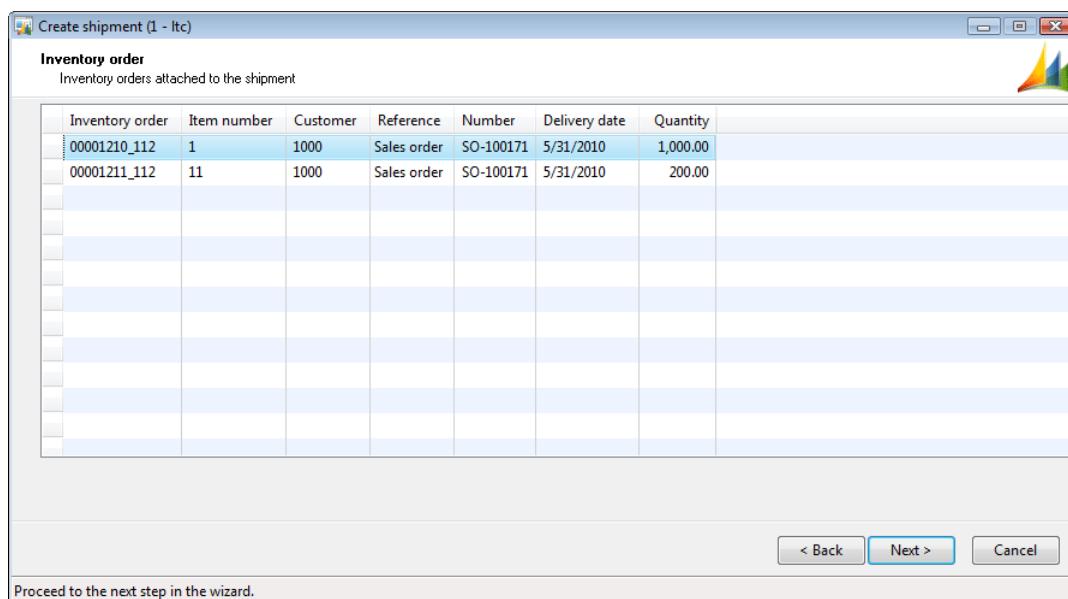


Figure 14.7 Create shipment wizard

Click **Next**.

8. On the Ready page, the Shipment Manager clicks the **Finish** button.

The new shipment is created and the two output orders generated from our sales order are assigned to this shipment

Shipment

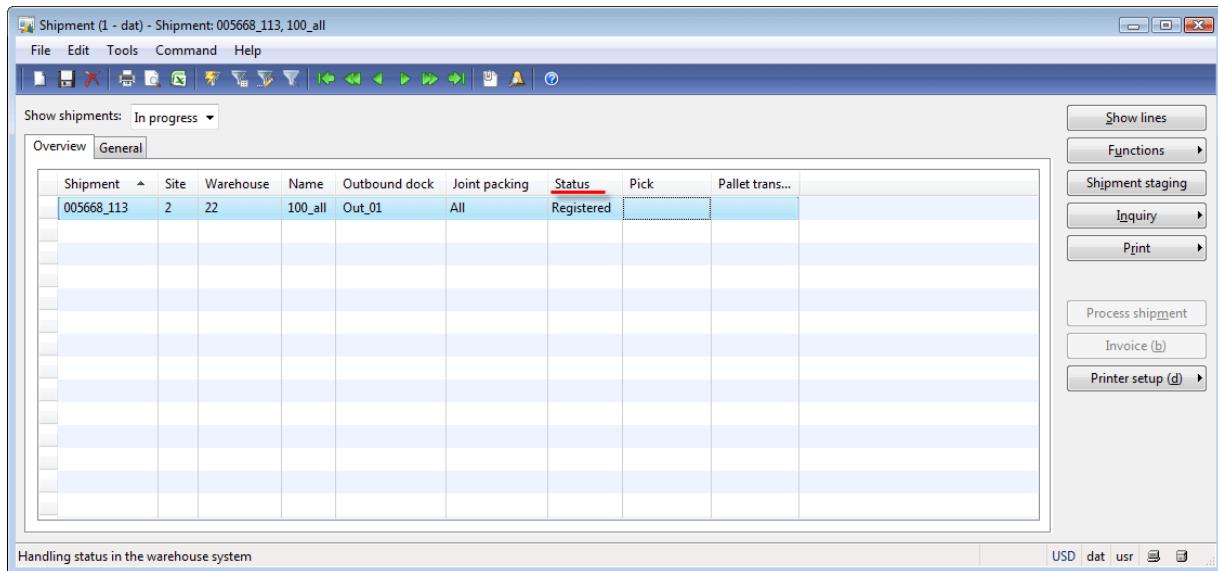


Figure 14.8 Shipment form. Registered status.

If we click the **Show lines** button, the output order lines will be shown. Be aware that it is not the output order but the output order lines. These lines were generated during the shipment creation process.

We can return to the **Sales order** form and click **Inventory > Output orders > Transactions**. The **Inventory order transaction** form now contains the following information:

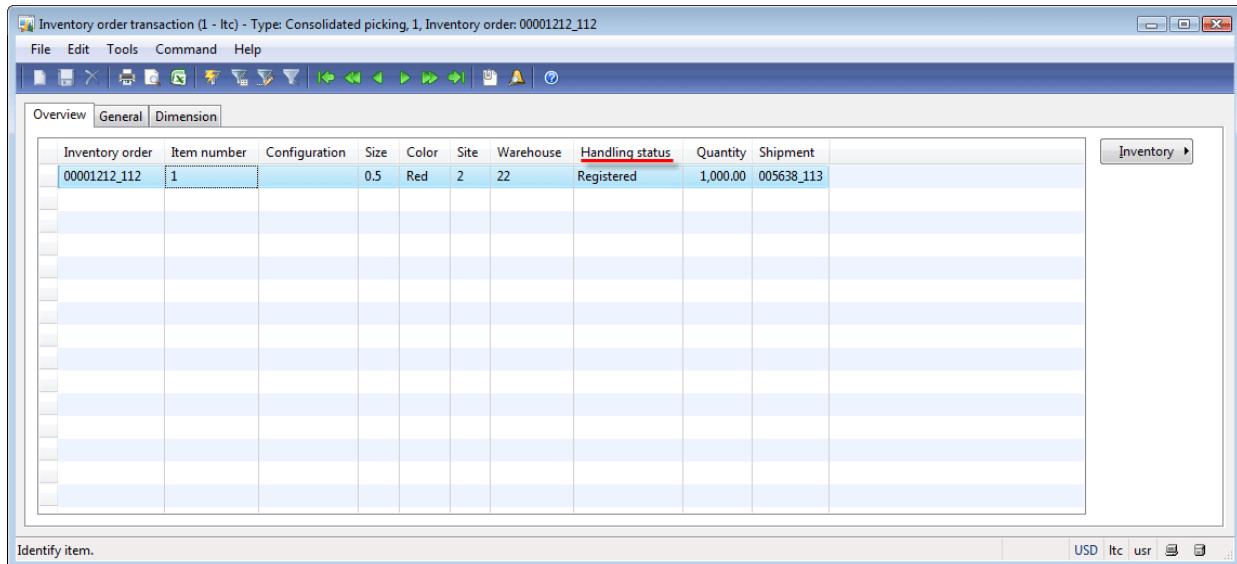


Figure 14.9 Inventory order transaction form. Handling status is Registered

We will look at the **Handling status** field. The *Registered* status means that the output order line is created and assigned to the shipment.

The inventory transaction status remains *OnOrdered*.

Prepare for Picking. Reservation

The Warehouse Worker will transfer the items to the outbound location on the pallet, so the requested output order quantity is divided to parts that will fit the pallet capacity.

In Axapta, we can set up the pallet capacity per item. Unfortunately, if an item is received in different units, we can't set up the pallet capacity for items in a specific unit. For example, a pallet 42*42 contains 50 boxes of cakes containing 100 cakes each which equals to the total amount of 5000 cakes, but the same pallet may contain 1 package of cake containing 6000 cakes.

In this training, we will not set up the pallet capacity for items. It means that all pallet types can include all quantities of Bottle and Can items.

The pallets and physical dimensions of items are set up under **Inventory management > Common Forms > Item details** > find Bottle item > **Setup** tab > **Warehouse management** field group.

Axapta defines a picking location automatically. The available quantity on location is taken into account. But in what sequence the location will be searched?

In our demo data, picking locations are searched in the following sequence:

1. Bulk locations that contain full pallets with required items. A full pallet will be transferred from a bulk location to the outbound location.
2. Default (or primary) item picking location. This is set up under **Inventory management > Common Forms > Item details** > find necessary item > **Setup** button > **Warehouse items** > find necessary dimension combination > **Locations** tab > **Picking location setup** field group > **Picking location** field.
Note: For the Bottle item, it is the 01-03-01-1 location, for the Can item, it is also the 01-03-01-1 location.
3. All picking locations
4. All bulk locations
5. Inbound locations
6. Outbound locations

When a full pallet is found in a bulk location, a pallet transport from this bulk location to the outbound location is created. This type of picking is called a direct picking or an output transport.

If an item to be shipped is stored on different pallets located in different locations or in primary picking location, a picking route is created. A picking route contains picking lines with the information about picking locations and quantity available to pick. The Warehouse Worker uses a picking route to fill one pallet and transport it to the outbound location.

When the Warehouse Worker goes to the picking location, the system must guarantee that the necessary item quantity will be available (not picked by another employee). So, when a picking location is found, the planned picked quantity is reserved. The reserved quantity can't be taken from the location for other purpose.

In Axapta, the sequence in which a picking location is searched is called "shipment reservation sequence" because during the reservation process, a picking location is searched and the quantity

Shipment

is reserved. Shipment reservation sequence is set up in the shipment template and is transferred to the shipment when it created.

The shipment reservation sequence is attached to the template under **Inventory management > Setup > Distribution > Shipment templates > General tab > Reservation field group > Sequence ID field**.

The shipment reservation sequence is set up under **Inventory management > Setup > Distribution > Shipment reservation sequences** (it contains the setup for sequence combination per warehouse).

The shipment reservation combination is set up under **Inventory management > Setup > Distribution > Shipment reservation combinations**.

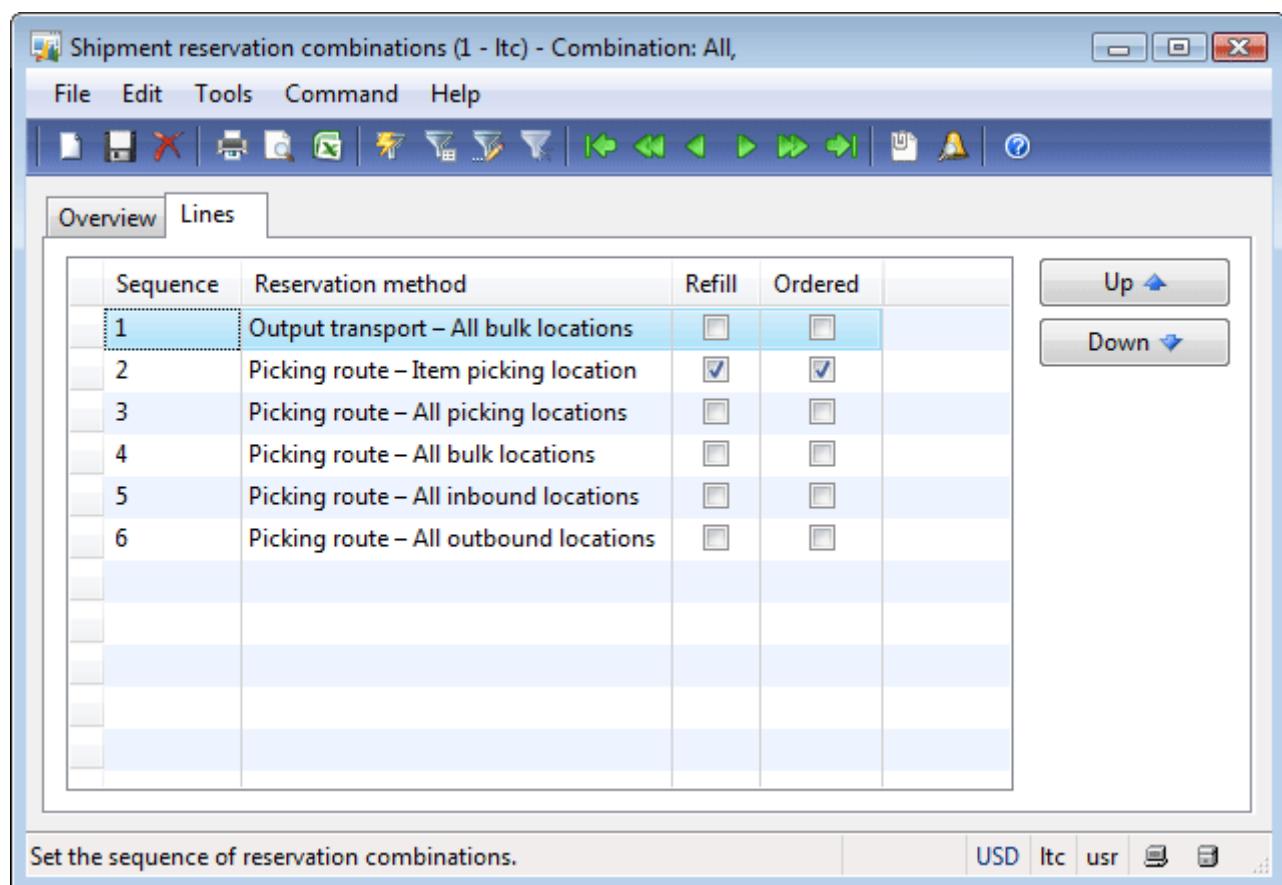


Figure 14.10 Shipment reservation combinations form

We can see that a shipment reservation combination presented in the form is the same as we discuss.

The Shipment Manager starts the reservation for the shipment:

1. Go to **Inventory management > Shipments** > find created shipment
2. **Functions** button > **Reserve now** button.

Shipment

Axapta automatically performs the following operations:

1. Divide the output order line to match the pallet capacity (if necessary).
2. Define the picking location for each output order line.
3. Create picking routes and output transport and refill the transport if necessary.
4. Reserve the picked quantity in the location.

A few words about refill transport. A refill transport is a pallet transport that has been created to refill a default item picking location from a bulk location. A refill transport is created when the minimum picking location quantity is reached. The purpose of this is to keep the default item picking location with the on-hand inventory. The minimum picking location quantity is set up under **Inventory management > Common Forms > Item details >** find necessary item **> Setup button > Warehouse items >** find necessary dimension combination **> Locations tab > Picking location setup field group > Required minimum field.**

Let's check and analyze the result of the reservation process.

Go to the **Shipment** form. The form has the following view,

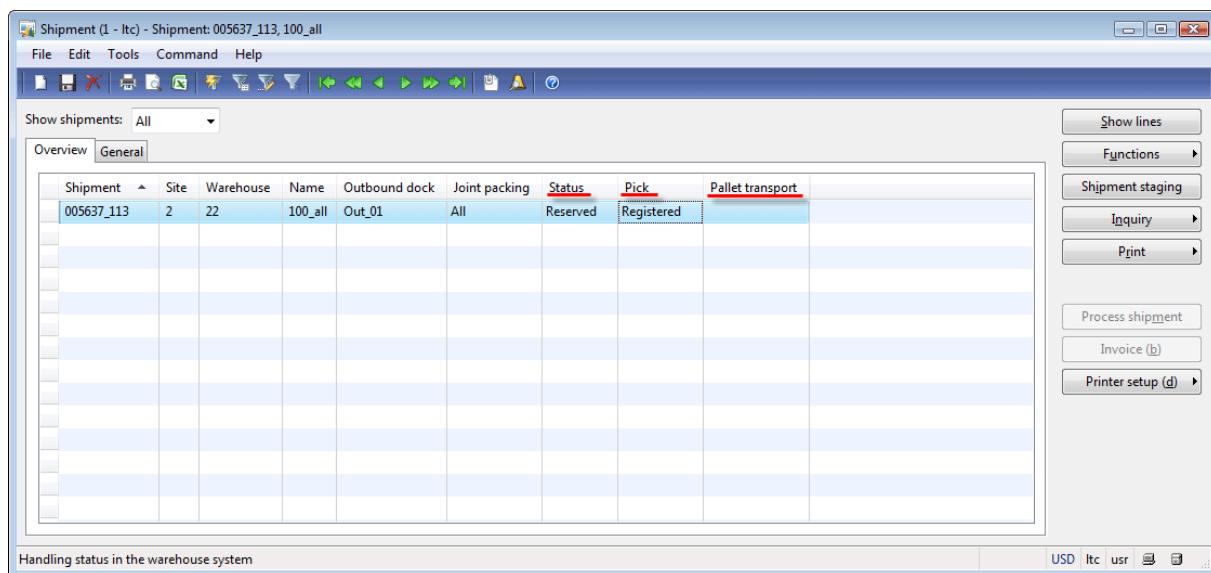


Figure 14.11 Shipment form. Reserved status.

The Shipment status (the **Status** field) is *Reserved*, it means that all lines (the output order lines) are reserved. Click the **Show lines** button to make sure.

Shipment

The screenshot shows the 'Shipment lines (I - Itc) - Shipment: 005637_113,100_all' window. The main area is a grid table with columns: Inventory order, Item number, Configuration, Size, Color, Site, Warehouse, Location, Pallet ID, Handling status, Quantity, Reserved (checkbox), and Route. Two rows are visible:

Inventory order	Item number	Configuration	Size	Color	Site	Warehouse	Location	Pallet ID	Handling status	Quantity	Reserved	Route
00001207_112	1		0.5	Red	2	22	01-03-01-1	00000126_114	Registered	1,000.00	<input checked="" type="checkbox"/>	005478_116
00001208_112	11		Standard	Black	2	22	01-03-01-1	00000125_114	Registered	200.00	<input checked="" type="checkbox"/>	005478_116

On the right side of the grid, there are buttons for 'Add', 'Inventory', and 'Functions'. Below the grid, there is a toolbar with various icons. At the bottom, there is a footer bar with buttons for 'USD', 'Itc', 'usr', and other system-related functions.

Figure 14.12 Shipment lines form. Reserved checkbox.

Note: that the shipment lines have the *Registered* status and the **Route** field is filled in.

The status of picking routes (the **Pick** field in the **Shipment** form) is *Registered*. It means that picking routes are created. Registered picking routes can be viewed in the **Picking list registration** form located under **Inventory management > Periodic > Picking list registration** or by clicking **Inquiry > Picking routes** button in the **Shipment** form. In our case, we have only one 005478_116 picking route.

The status of output transports (the **Pallet transport** field in the **Shipment** form) is empty. It means that no output transport is created for this shipment.

Let's go through the reservation steps to understand why picking is created and an output pallet isn't created.

Remember that in "9. Item arrival and registration" training lesson we received 3000 Cans to the 01-03-01-1 primary picking location and 5000 Bottles to the 01-01-02-01 bulk location.

According to the shipment reservation sequence:

1. Reservation program tries to find a full pallet with 200 Cans in bulk locations. We have only one pallet with 3000 Cans in primary picking location. So the Reservation program doesn't create an output transport and proceeds to the next step.
2. Reservation program tries to find 200 Cans in the primary picking location (i.e. 01-03-01-1). We have this quantity in primary picking locations. Reservation program creates a picking route with one line that contains the information that 200 Cans must be taken from the 01-03-01-1 location and transferred to the Out_01 location. Reserve this quantity in the 01-03-01-1 location.
3. Reservation program tries to find a full pallet with 1000 Bottles in bulk locations. We don't have a pallet with 1000 Bottles in bulk locations and we only have a pallet with 5000 Bottles in bulk

Shipment

locations. So, the reservation program doesn't create an output transport and proceeds to the next step.

4. Reservation program tries to find 1000 Bottles in the primary picking location (i.e. 01-03-01-1). We have no Bottles in the primary picking location. But, the reservation combination requirement creates a refill if the primary picking location quantity is below the minimum. We don't have the setup for the minimum quantity, but, by default, it is set to zero. So, Reservation program creates a refill (pallet transport) from the 01-01-02-1 bulk location to the 01-03-01-1 picking location. The full pallet with 5000 Bottles will be transferred to the picking location. The Reservation program adds a new line to the picking route. Reserves the projected quantity.

We will check our considerations in the next topic.

Picking

The Shipment Manager activates all picking routes and output transports for the shipment. It means that the picking process is started.

In the **Shipment** form, click **Functions** > **Activate** menu button.

Note: The Shipment Manager can activate picking routes or an output transport separately. Under the **Functions** button menu, the **Activate picking** and the **Activate pallet transports** menu buttons are available.

The **Shipment** form has the following view:

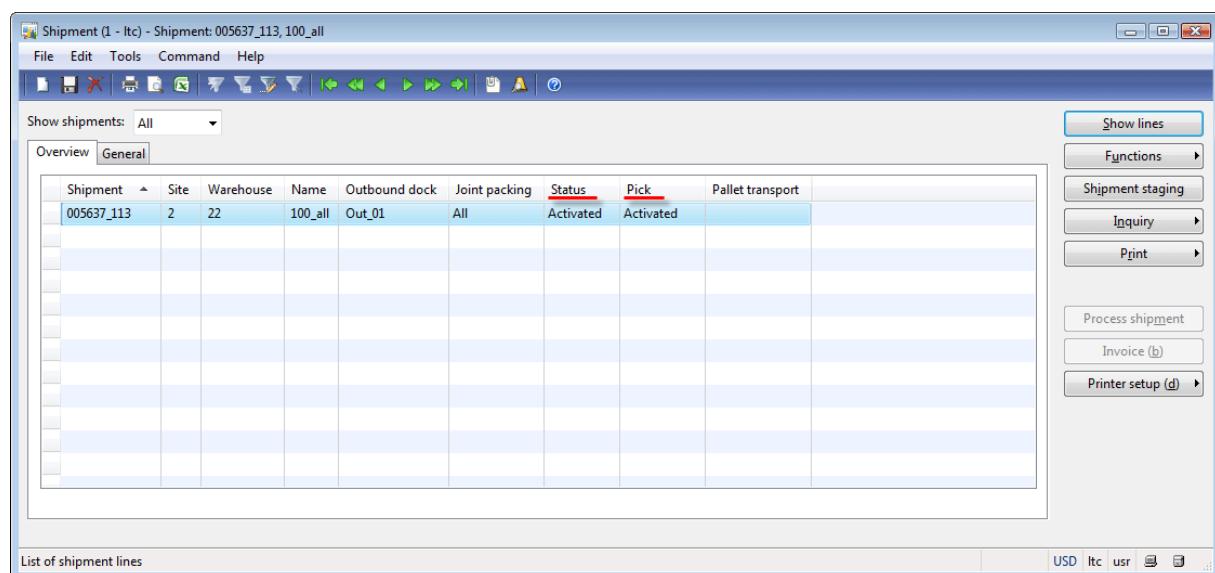


Figure 14.13 Shipment form. Activated status.

The shipment status is *Activated* which means that all shipment lines (output order lines) are activated. Check it yourself.

The status of picking routes is *Activated*. It means that the picking routes can be started.

Shipment

The Warehouse Worker uses the **Pick** form. This form contains picking routes of the *Activated* status. Open this form from **Inventory management > Picking routes**.

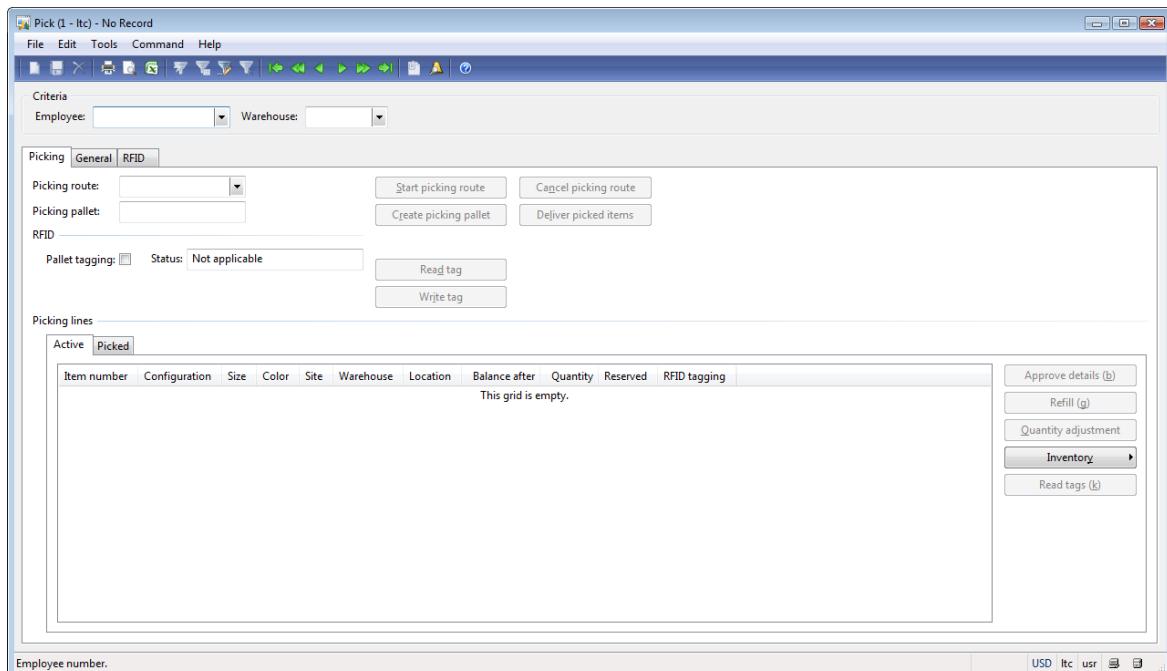


Figure 14.14 Pick form

The **Employee** field is filled in automatically. The Warehouse Worker selects the picking routes in the **Picking route** field. In our case it is 005478_116 picking route. This picking route contains two picking lines.

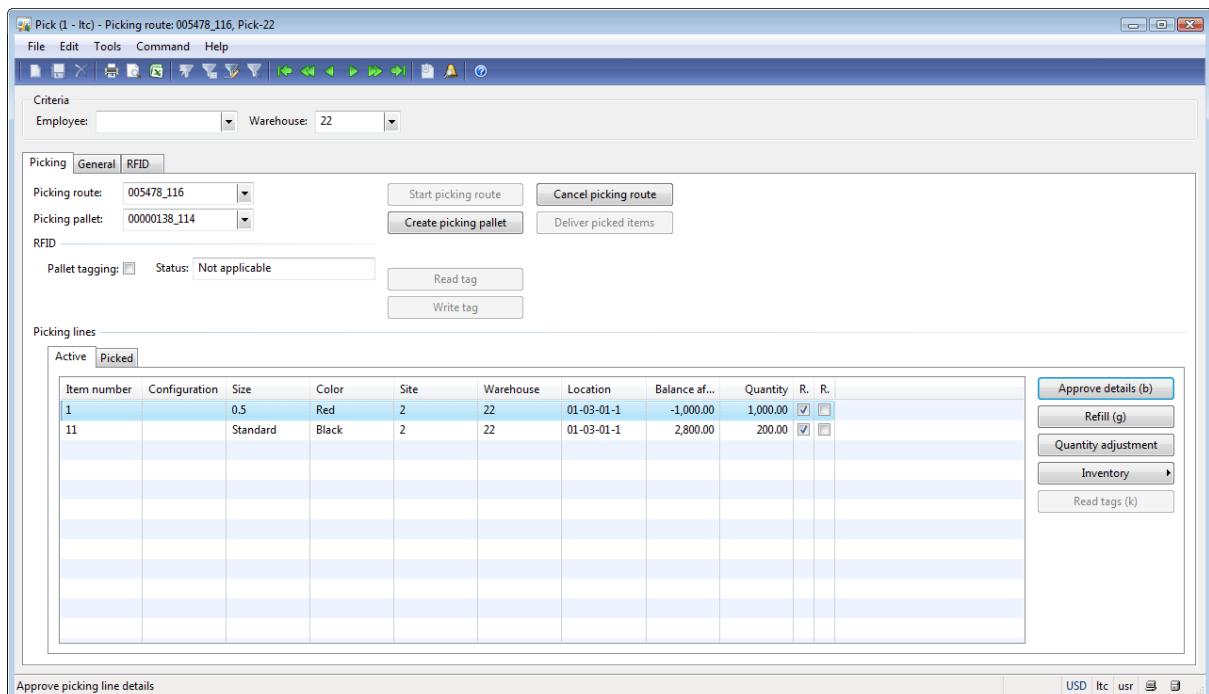


Figure 14.15 Pick form. Picking route.

Shipment

We can check that the result of the Reservation program is the creation of one picking route with two picking lines. Both picking lines have the 01-0-01-1 location as picking location.

We see that the Bottle item can't be picked from the 01-03-01-1 location but the necessary quantity is reserved. How can this be?! This happens because Axapta can reserve the ordered quantity. During the reservation process, the 01-03-01-1 location is selected as a picking location for Bottles. (This location is a primary picking location for the Bottle item and requires a refill if the on-hand quantity becomes below the minimum). The system calculates that if 1000 items are picked, the on-hand quantity becomes below zero, and thus, the system creates a refill pallet transport. And, it reserves the quantity beforehand. This type of reservation is called a "reserve ordered".

A refill is a pallet transport, so it can be viewed in the **Pallet transport** form located under **Inventory management > Pallet transports**.

To lock the picking route, the Warehouse Worker clicks the **Start picking route** button.

Then, the Warehouse Worker creates a new pallet that will be used for collecting items. Click the **Create picking pallet** button. The **Create picking pallet** form opens.



Figure 14.16 Create picking pallet form

This form contains the new pallet name and the pallet type. The pallet type is filled in with the default value. The default pallet type is set up under **Inventory management > Setup > Parameters > General tab > Locations** field group > **Pallet type** field.

To finish creating a new pallet, the Warehouse Worker clicks **OK**.

The Warehouse Worker sees that the Bottle item is not yet in the picking location because the **Balance after** field contains the value **-1000**.

The Warehouse Worker takes an empty pallet and goes to the picking location from the second picking line (i.e. the 01-03-01-1 location). When the Warehouse Worker reaches the picking location, she or he picks the necessary quantity.

Shipment

When the necessary quantity has been picked and put on the pallet, the Warehouse Worker records this into the system. He or she clicks the **Approve details** button. The **Approve line** form opens.

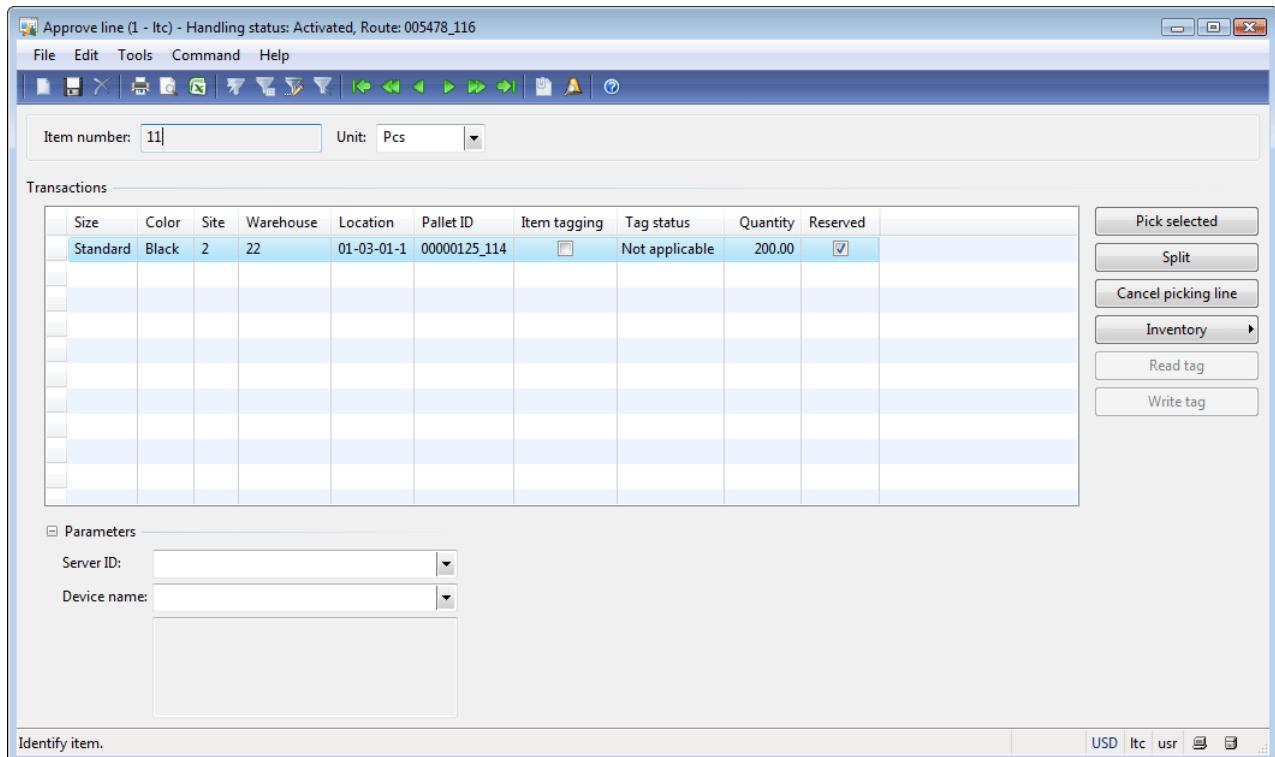


Figure 14.17 Approve line form. Can item.

The warehouse worker clicks the **Pick selected** button and closes the **Approve line** form.

Now, the picking line with the Can items is displayed on the **Picked** tab of the **Pick** form.

Shipment

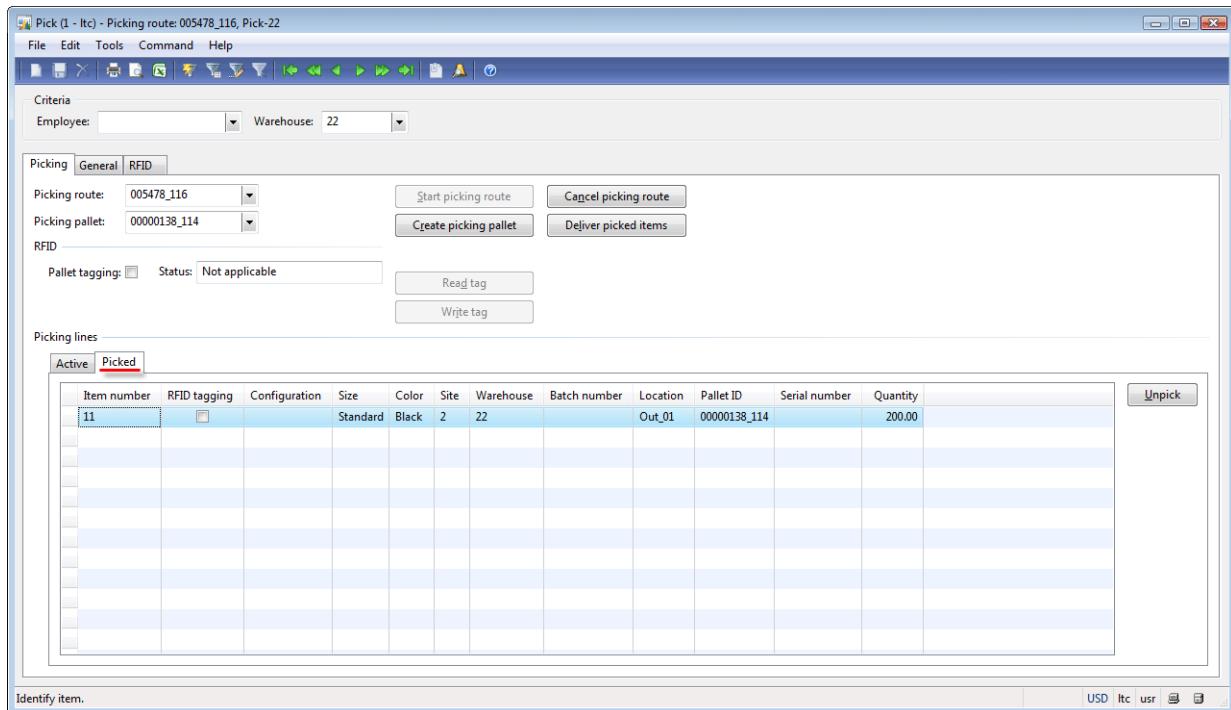


Figure 14.18 Pick form. Picked tab.

The second Warehouse Worker works with a forklift and uses the **Pallet transports** form. She or he transfers pallets from one location to another one. This form can be accessed by clicking **Inventory management > Pallet transports**.

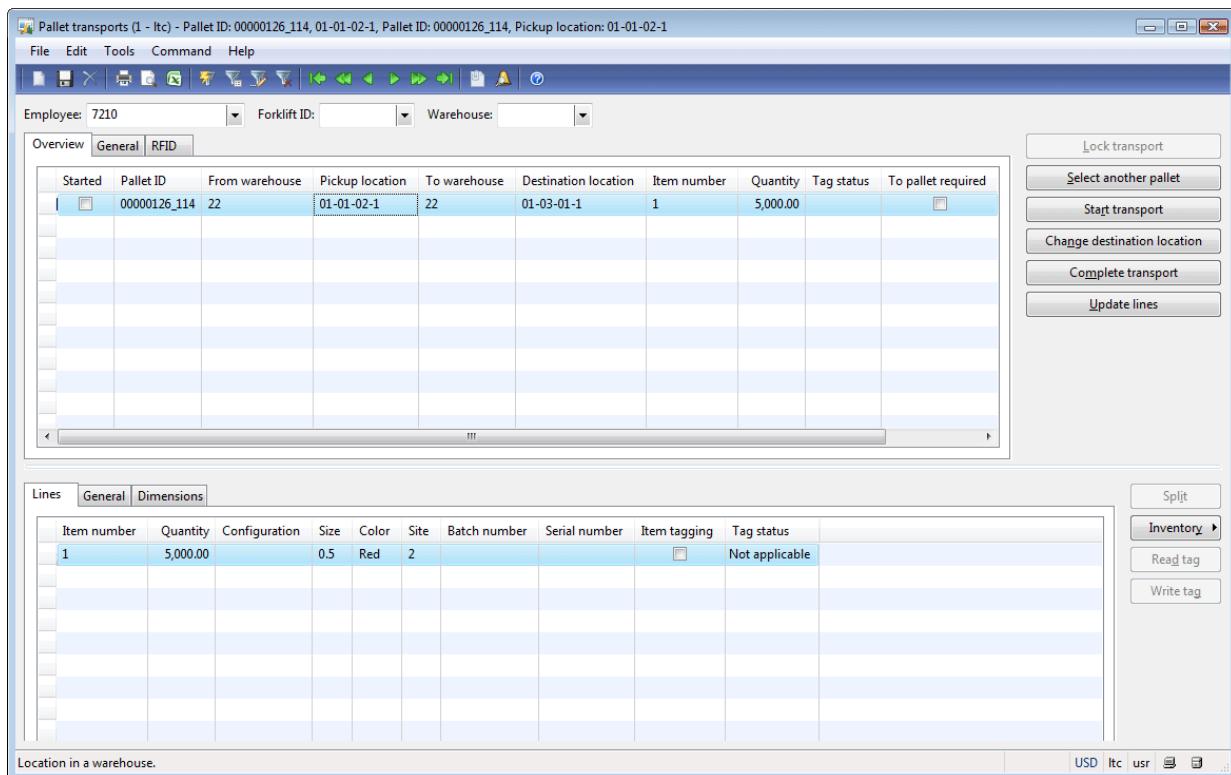


Figure 14.19 Pallet transports form

Shipment

The second Warehouse Worker performs the following actions:

1. Locks the transport (clicks the **Lock transport** button).
2. Starts the pick-up pallet (click the **Start transport** button).
3. Moves the items to the destination location and clicks the **Complete transport** button.

I ask you perform all the steps that the second Warehouse Worker will do. Note that the second Warehouse Worker transfers the pallet from location 01-01-02-1 to location 01-03-01-1 (our picking location). So, this pallet transport is a refill pallet transport.

When the second Warehouse Worker completes the transportation, the **Pick** form will contain the following data:

The screenshot shows the 'Pick (1 - Itc) - Picking route: 005478_116, Pick-22' window. The 'Picking' tab is selected. In the 'Picking lines' section, there is one active line for item number 1, configuration 0.5, color Red, site 2, warehouse 22, and location 01-03-01-1. The 'Balance af...' column shows 4,000.00, and the 'Quantity' column shows 1,000.00 with a checked checkbox. To the right of the table are several buttons: 'Approve details (b)', 'Refill (g)', 'Quantity adjustment', 'Inventory...', and 'Read tags (k)'. At the bottom left, it says 'Identification of item configuration.'

Figure 14.20 Pick form after refill.

We see that the on-hand inventory in the 01-03-01-1 location is 5000 items, and after we pick 1000 items, it becomes 4000.

The Warehouse Worker can now go to the 01-03-01-1 location and pick the necessary quantity.

The Warehouse Worker performs the same steps as for the picking line with the Can item:

1. Goes to the picking location.
2. Picks the necessary quantity on the pallet.
3. Registers the performed work in the system.
 - o Click the **Approve details** button. The **Approve line** form opens.
 - o Click the **Pick selected** button.

Shipment

The **Deliver picked items** form opens. The Warehouse Worker will use this form after he or she physically transfers the pallet to the outbound dock. (Close this form).

When the Warehouse Worker transfers items to the outbound dock, he or she registers the performed work via the **Deliver picked items** form.

The Warehouse Worker clicks the **Deliver picked items** button in the **Pick** form. The **Deliver picked items** form opens.

The screenshot shows the 'Deliver picked items' window with the title 'Deliver picked items (1 - Itc) - Picking route: 005478_116, Pick-22'. The window has a toolbar with various icons. Below the toolbar is a section titled 'Items to deliver' with tabs 'Overview' and 'Details'. The 'Overview' tab is selected, showing a table with columns: Route, Pallet ID, Location, Warehouse, Total quantity, and Number of lines. One row is highlighted with a blue border, showing values: 005478_116, 00000138_114, Out_01, 22, 1,200.00, and 2. To the right of the table is a 'Deliver items' button. Below the table is a 'Deliver to destination' section with fields for Warehouse (22), Location (Out_01), and Pallet ID (00000138_114). A checkbox 'Deliver pallet at destination' is checked. At the bottom of the window is a 'Picking route or pallet transport' bar with buttons for USD, Itc, usr, and other options.

Figure 14.21 Deliver picked items form.

Note that there is only one line because we have picked two lines onto one pallet. The Warehouse Worker clicks the **Deliver items** button.

The Warehouse Worker has finished the picking route. Close the **Pick** form.

Return to the **Shipment** form and analyze what has changed.

Shipment

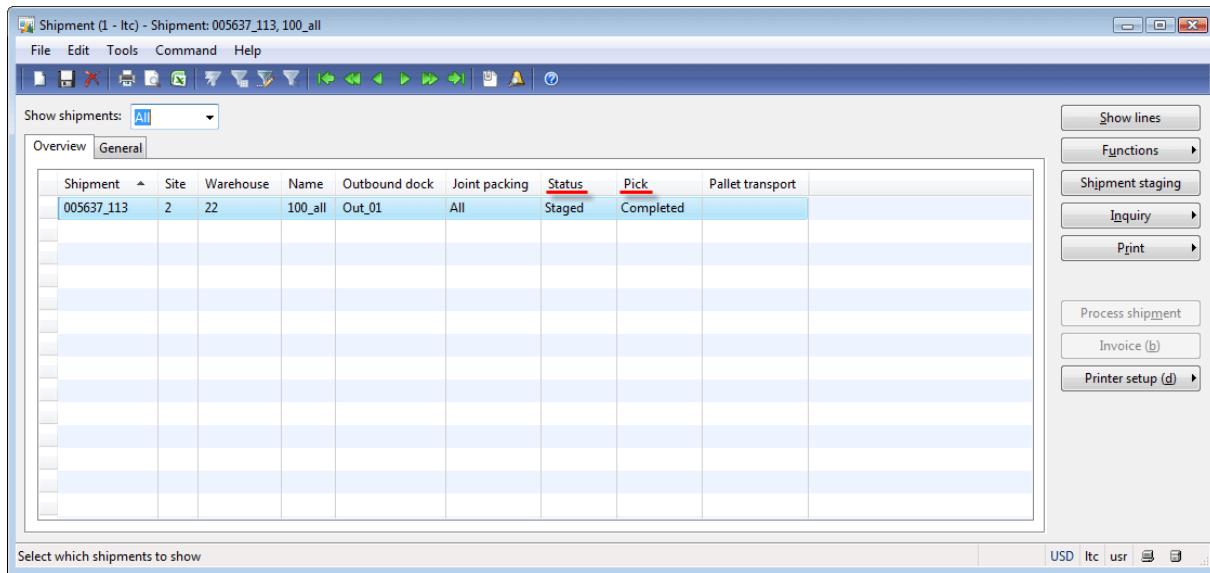


Figure 14.22 Shipment form. Staged status.

The shipment status is *Staged*. It means that all shipment lines are already in the outbound dock but are not yet loaded into the truck. If we check the shipment lines (output order lines), we can find that the Handling status is also *Staged*.

The Pick status is *Completed*. It means that all pickings are completed.

What about inventory transactions? Let's check.

Open the **Sales order** form (**Account receivable > Common Forms > Sales Order Details**) and find our sales order. In the line area, select the sales line with the Bottle item and click **Inventory > Transactions** menu button. The **Transactions** form opens.

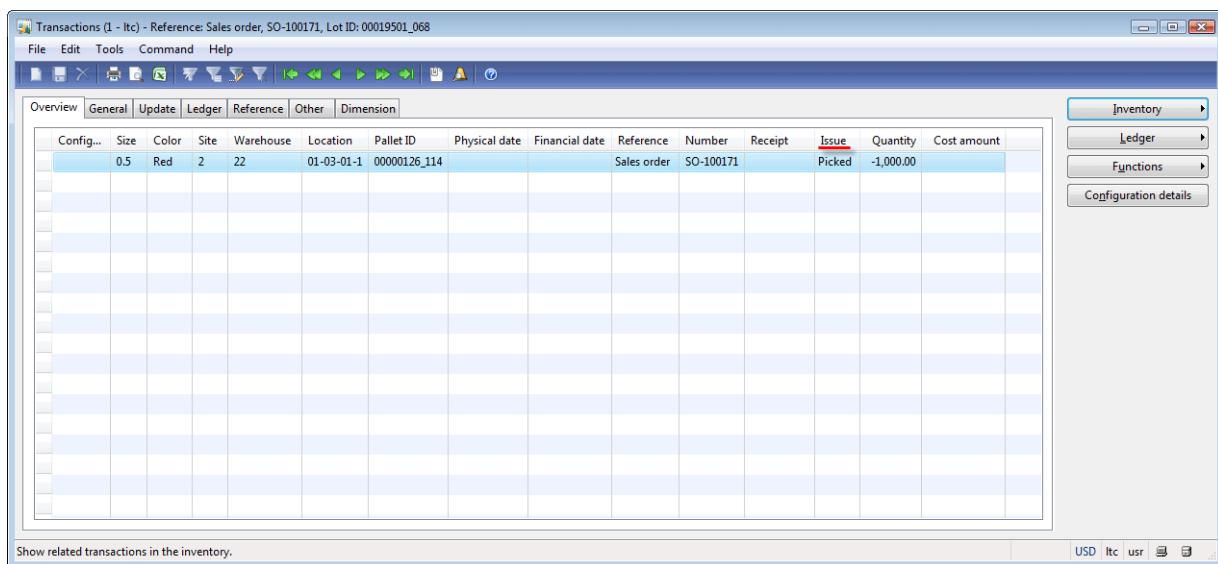


Figure 14.23 Inventory transactions. Picked status.

Shipment

We can see that the inventory transaction issue status is changed from *On order* to *Picked*. I have forgotten to show you the inventory transactions statuses after we reserve items. After the reservation the inventory transaction issue status for Cans is changed from *On order* to *Reserved physical*, for the Bottle item it changes from *On order* to *Reserved ordered*. When the refill pallet transport for Bottles is completed, the inventory transaction issue status changes from *Reserved ordered* to *Reserved physical*. You can check it yourself if you create a new sales order and perform the same steps. So, an inventory transaction is changed from *Reserved physical* to *Picked*.

Loading

Other warehouse workers load the trucks. When the truck has been loaded, the Shipment Manager registers this in the system. In the **Shipment** form, click the **Shipment staging** button. The **Shipment staging** form opens.

The screenshot shows the 'Shipment staging' form in Microsoft Dynamics AX 2009. The top section, 'Overview', displays a grid of shipment details. One row is selected, showing:

Shipment	Handling status	Site	Warehouse	Location	Pallet ID	Quantity	Lines
005637_113	Staged	2	22	Out_01	00000138_114	1,200.00	2

The bottom section, 'Lines', displays a grid of line items. Two lines are visible:

Number	Reference	Item number	Quantity	Move quantity
SO-100171	Sales order	1	1,000.00	
SO-100171	Sales order	11	200.00	

Figure 14.24 Shipment staging form.

Shipment

The Shipment Manager clicks **Functions > Load** menu button and closes the form.

The **Shipment** form has the following information.

The screenshot shows the Shipment form with the title bar "Shipment (1 - Itc) - Shipment: 005637_113_100_all". The menu bar includes File, Edit, Tools, Command, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Search. A dropdown menu "Show shipments" is set to "All". The main area has tabs "Overview" and "General", with "General" selected. A table displays shipment details:

Shipment	Site	Warehouse	Name	Outbound d...	Joint packing	Status	Pick	Pallet tran...
005637_113	2	22	100_all	Out_01	All	Loaded	Completed	
Show shipments that are ready for packing.								

On the right side, there is a vertical toolbar with buttons for "Show lines", "Functions", "Shipment staging", "Inquiry", "Print", "Process shipment", "Invoice (b)", and "Printer setup (d)". The bottom right corner shows buttons for USD, Itc, usr, and a printer icon.

Figure 14.25 Shipment form. Loaded status.

The Shipment status is changed from *Staged* to *Loaded*. It means that all shipment lines (output order lines) are loaded into the truck.

Release Shipment

The last step in the shipment process is the paperwork. The Shipment Manager prints the shipment list, gives it to the Truck Driver, and creates a bill of lading.

The Shipment Manager clicks **Functions > Send** menu button in the **Shipment** form. The **Send shipment** form opens.

The screenshot shows the "Send shipment (1)" dialog box. It has a "Documents" section with two checkboxes: "Create bill of lading" (checked) and "Print shipment list" (checked). At the bottom are four buttons: "OK", "Cancel", "Select", and "Options". Below the buttons is a text input field "Create bill of lading when dispatching..." and a row of buttons for "USD", "Itc", "usr", and a printer icon.

Figure 14.26 Send shipment form

Shipment

The Shipment Manager selects the **Create bill of lading** and the **Print shipment list** check boxes and clicks **OK**.

The following shipment list is printed.

Shipment list											Page 1 5/27/2010 02:18:35 pm	
Shipment ...	Customer	Reference	Number	Item number	Configuration	Size	Color	Site	Batch number	Serial number	Pallet	Quantity
Outbound dock : Out_01	1000	Sales order	SO-100171	1		9.5	Red	2		00000138_114		1.000.00
Item number : 1												1.000.00
Outbound dock : Out_01	1000	Sales order	SO-100171	11		Standard	Black	2		00000138_114		200.00
Item number : 11												200.00
Shipment ...	000637_113											1.200.00

Figure 14.27 Shipment list

The Shipment Manager can access the Bill of lading by clicking **Inquiry > Bill of lading** menu button in the **Shipment** form.

The **Bill of lading** form opens. The Shipment Manager can print the Bill of lading from the form by clicking the **Print** button.

The **Shipment** form has following view:

The screenshot shows the Microsoft Dynamics AX 2009 Shipment form. The title bar reads "Shipment (I - Itc) - Shipment: 000637_113, 100_all". The main area displays a grid of shipment details. One row is selected, showing:

Shipment	Site	Warehouse	Name	Outbound d...	Joint packing	Status	Pick	Pallet tran...
000637_113	2	22	100_all	Out_01	All	Sent	Completed	

To the right of the grid is a vertical toolbar with buttons for "Show lines", "Functions", "Shipment staging", "Inquiry", "Print", "Process shipment", "Invoice (b)", and "Printer setup (d)". At the bottom, there are buttons for "USD", "Itc", "usr", and "Printer setup".

Figure 14.28 Shipment form. Sent status.

We can see that the shipment status is changed from *Loaded* to *Sent*. It means that the shipment is finished and the truck is released.

Shipment

The shipment lines handling status is now *Completed*.

The Inventory transactions issue status remains *Picked*.

The Shipment Manager releases the truck.

Summary

In this training, we have gone through the shipment process. The following steps have been discussed:

1. The Sales Manager confirms the sales order.
2. The Sales Manager creates output orders.
3. The Shipment Manager creates a shipment.
4. The Shipment Manager runs the Reservation program. As a result, the picking route and the refill transport are created.
5. The Shipment Manager activates the shipment.
6. The First Warehouse Worker picks the Can items from the picking locations.
7. The Second Warehouse Worker refills the picking location with the Bottle items.
8. The First Warehouse Worker picks the Bottle items from picking locations.
9. The First Warehouse Worker delivers the picked items to the destination location.
10. The Warehouse Workers loads the truck.
11. The Shipment Manager prints the Shipment list and releases the truck.

In the next training lesson, we will discuss what a Packing slip is.

15. Post the packing slip

Hi! In this training lesson, we are going through the packing slip posting process.

The following are the results of the packing slip posting process:

1. Packing slip document is printed.
2. Item is taken from the warehouse.
3. If the company uses general ledger accounts to track customer's un-invoiced (packing slip) balance, ledger transactions are created. One general ledger transaction relates to the Customer's transaction and another one relates to inventory transactions.

Flow description

Before leaving the warehouse, the truck driver goes to the Sales Manager and takes the Packing slip document. This document is sent to the Customer with the items. When the Customer receives items, he or she signs the packing slip document. The Packing slip is a guarantee that the Customer receives items.

To post the packing slip, the Sales Manager performs the following operations:

1. Open the **Sales order** form and find the created sales order (**Accounts receivable > Common Forms > Sales order details**).
2. Click the **Posting > Packing slip** menu button. The **Posting packing slip** form opens.

Note that under the **Posting** menu button, the **Posting picking list registration** menu button is available. Microsoft Dynamics AX has another flow for picking items from the warehouse with the help of the **Posting picking list** and **Posting picking list registration** forms. But, we have studied a more complex flow in the "14. Shipment" training lesson.

The **Posting packing slip** form has the following view:

Post the packing slip

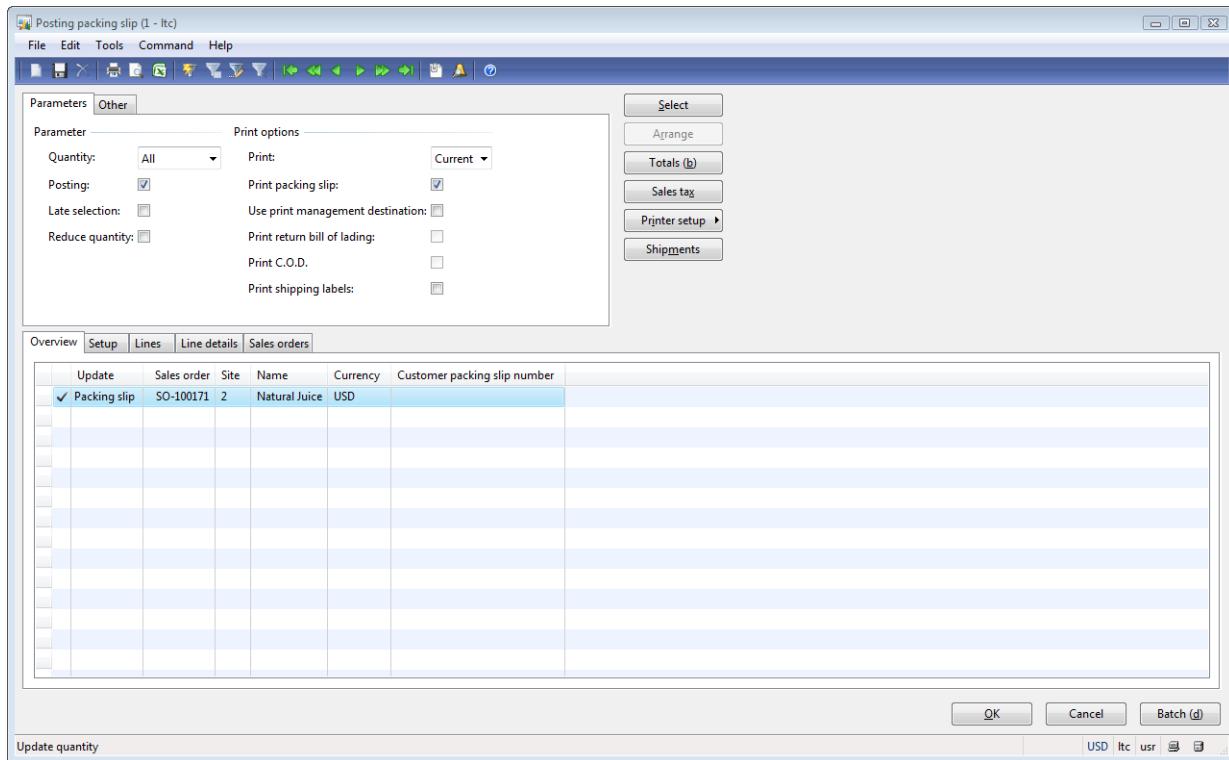


Figure 15.1 Posting packing slip form

In the [field guide](#), you can find detailed field description almost about all fields from the **Posting packing slip** form. Note that, in the field guide, the **Posting packing slip** form from the Accounts payable module is described.

All information in the form is filled in by default. The **Quantity** field contains the *Picked* value. You can check that the **Lines** tab contains two lines and the line quantity is correct. To post and print the packing slip, the Sales Manager selects the **Print packing slip** check box and clicks the **OK** button. (Don't do this right now). We will complicate the task. Close the **Packing slip** form.

Shipping carrier interface

Let's assume that our Company uses a carrier to ship items to the Customer. The Carrier is an independent company. The Carrier has the price list that contains prices for shipping different types of goods and weights. Each time items are shipped to the Customer, we must pay specific amount of money for the carrier service (according to the price list). Our company charges the Customer with the amount of money for the Carrier's service. In other words, we include it into the Invoice. And when we receive payment for the invoice amount, we send the money to the Carrier.

Our company selects the UPS shipping company to perform carrier functions. When the Sales Manager posts the Packing slip, the information about the items to be shipped is transferred to the UPS. UPS calculates the price and sends it back to our Company. The interaction between the Company and the UPS is performed via the Web service. The charges are stored in Microsoft

Post the packing slip

Dynamics AX. When the Sales Manager posts the Invoice, the carrier charges are included into the total invoice amount as miscellaneous charges.

Set Up Carrier

To set up a Carrier, we must fill in the information in the **Carrier interface**, **Carrier company**, and **Carrier** forms. Let's understand what these forms are used for.

Carrier Interface form. The **Carrier interface** form allows you to activate/deactivate a carrier.

1. Go to **Inventory management > Setup > Shipping carrier > Carrier interface**. The **Carrier interface** form opens.

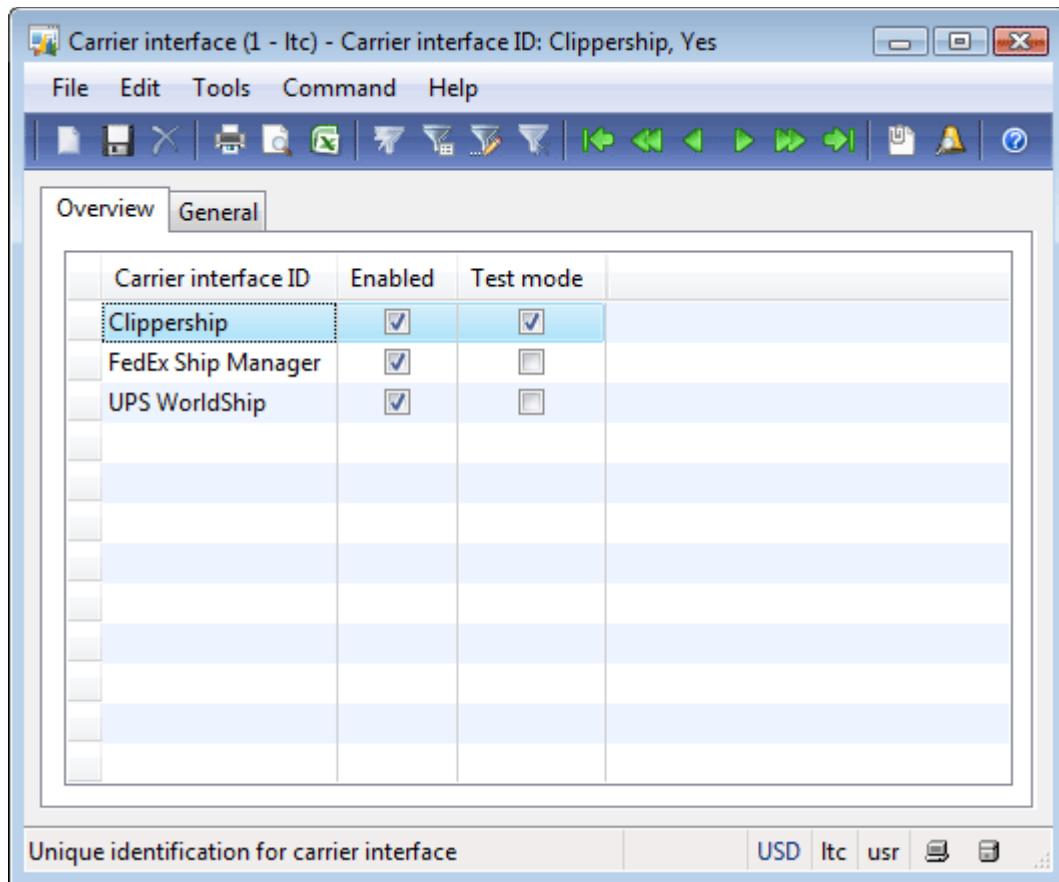


Figure 15.2 Carrier interface form

In Microsoft Dynamics AX 2009, it is impossible to add a new carrier interface, but it seems that we already have the UPS interface in the grid.

2. Select the **Test mode** check box for the UPS WorldShip interface since we don't have an account on the <https://www.ups.com> site. We will enter charges for the carrier service manually when posting the packing slip.

Carrier Company form. The **Carrier Company** form is used to define additional setup options for the carrier interface in your company.

Post the packing slip

1. Go to **Inventory management > Setup > Shipping carrier > Carrier company**. The **Carrier company** form opens.

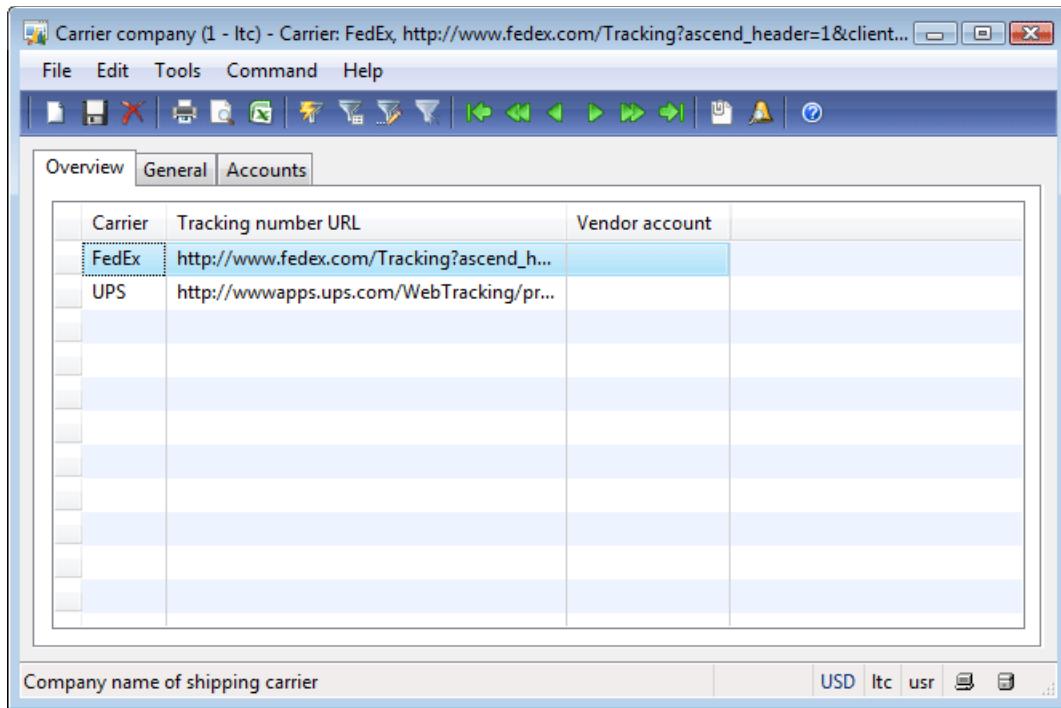


Figure 15.3 Carrier company form

2. [Our demo data](#) already contains additional setup for the UPS Company. Since we use the Test mode, only the miscellaneous charges accounts from the **General** tab will be taken into account.

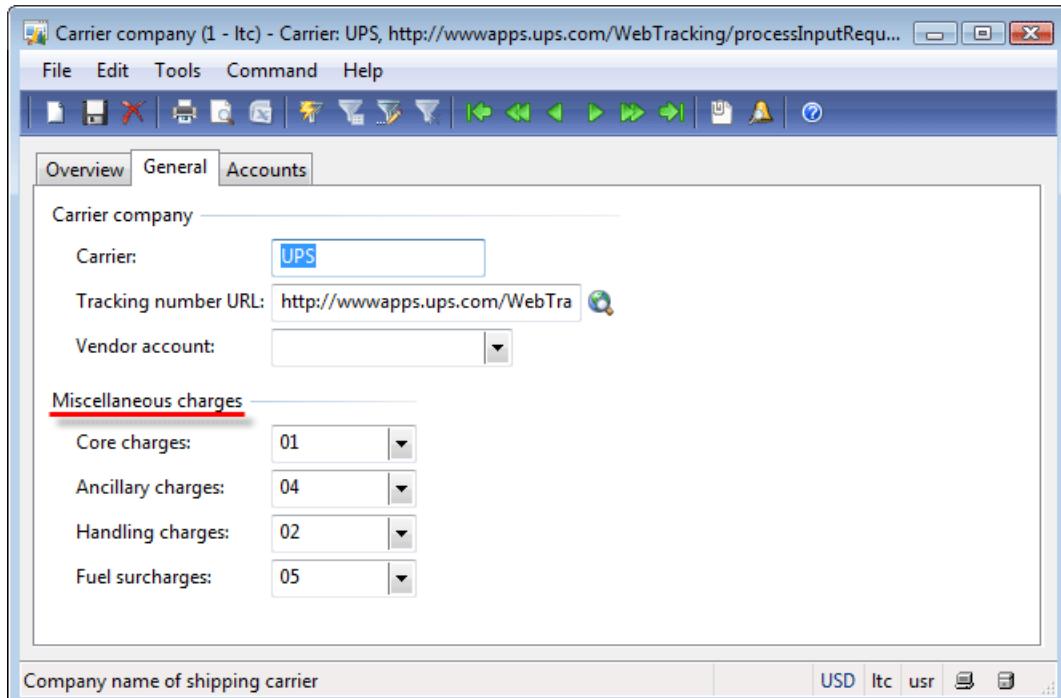


Figure 15.4 Carrier company form, Miscellaneous charges

Post the packing slip

We can see that all charges are specified for the UPS carrier.

Carrier form. The **Carrier** form is used to associate the Carrier company with the Carrier interface.

1. Go to **Inventory management > Setup > Shipping carrier > Carrier IDs**. The **Carrier** form opens.

Carrier ID	Carrier service description	Carrier company	Carrier interface ID
F06	FedEx Standard Overnight	FedEx	FedEx Ship Manager
U01	UPS Next Day Air	UPS	Clippership
U11	UPS Ground	UPS	UPS WorldShip

Figure 15.5 Carrier form

2. We will use the U11 carrier ID.

We have set up the Carrier. What will be next? How is the Carrier associated with the Sales order? The Carrier is associated with the Sales order via the mode of delivery. Remember that in “13. Create sales order” training lesson we have set up the *10 (Truck)* mode of delivery.

Let’s check the *10 (Truck)* mode of delivery settings:

1. Go to **Accounts receivable > Setup > Distribution > Modes of delivery**. The **Modes of delivery** form opens.
2. Find mode of delivery *10*.
3. Click the **Setup** tab.

Post the packing slip

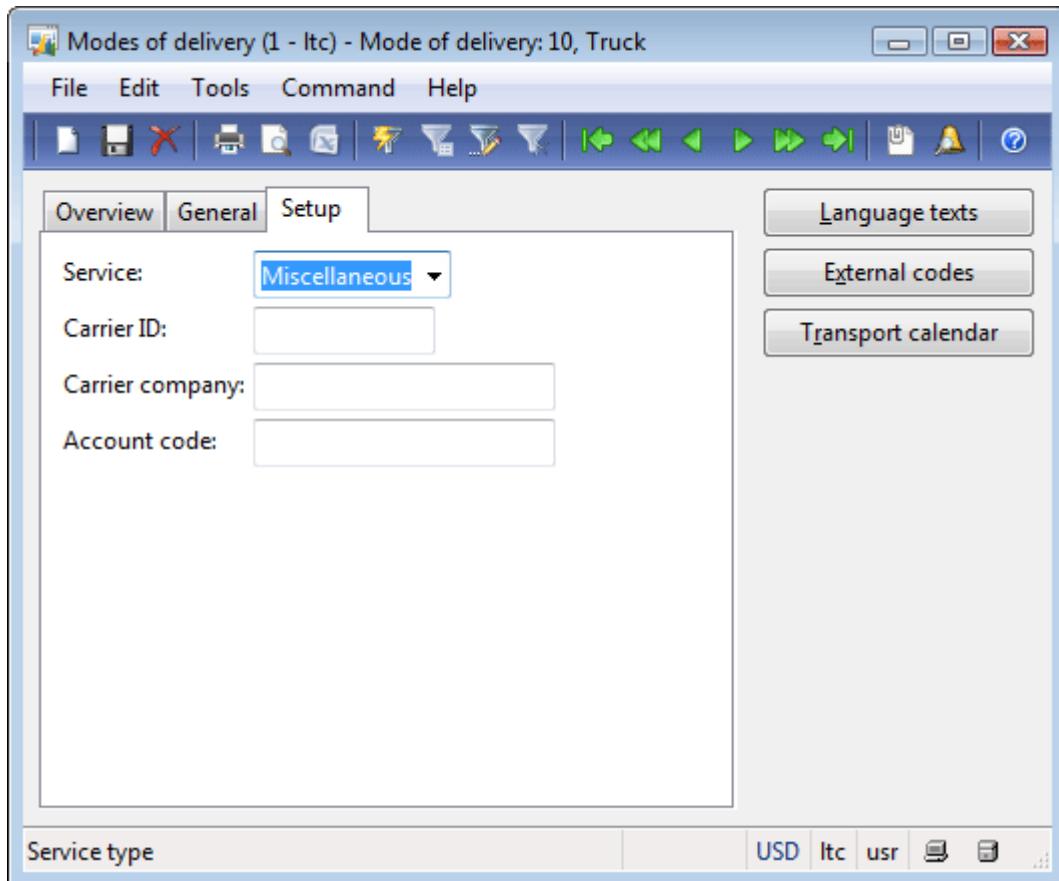


Figure 15.6 Modes of delivery form, Setup tab. "10" mode of delivery.

4. We can see that the **Carrier ID** field is empty and not editable. The **Carrier ID** field is editable when the **Service** type is either *Ground* or *Air*.

Our demo data already contains a delivery mode that is assigned to the U11 carrier. It is the 11 (UPS Ground) mode of delivery.

Post the packing slip

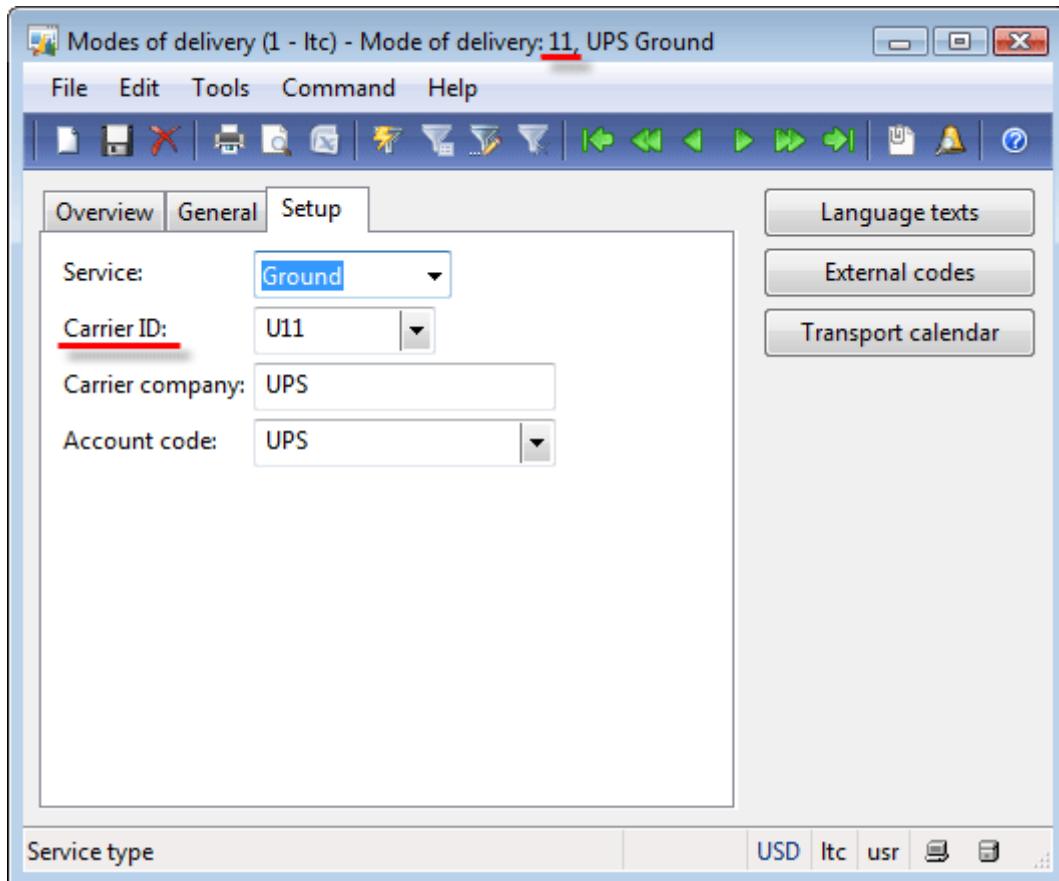


Figure 15.7 Modes of delivery form, Setup tab. "11" mode of delivery.

Set New Delivery Mode

Set up the 11 delivery mode on the sales order lines:

1. Go to **Accounts receivable > Common Forms > Sales order details**. The **Sales order** form opens.
2. Find our sales order.
3. In the line area, click the **Delivery** tab and locate the **Misc. delivery info** field group.
4. Select **11** in the **Mode of delivery** field.
5. Note that the Carrier information is filled in automatically.

Post the packing slip

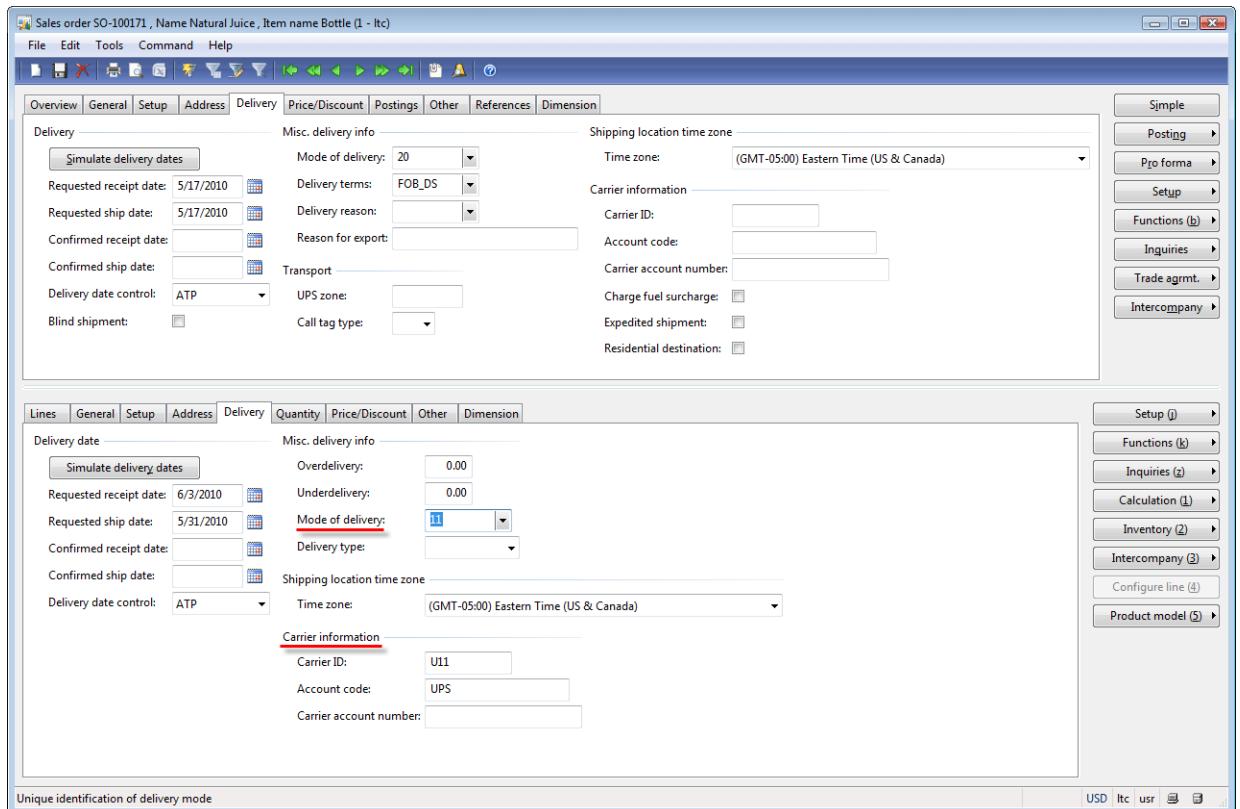


Figure 15.8 Sales order form. Carrier info

6. Save the order information by pressing CTRL + S.
7. If you created the Sales order one week ago, the “Delivery date control is disregarded because the receipt date 5/17/2010 is before today” message appears. Just close this infolog.

Perform the same steps for the Can item.

Set New Term of Delivery

We have already set up the new mode of delivery. According to this mode of delivery, UPS is our carrier and the following charges will be calculated:

- Core charges
- Ancillary charges
- Handling charges
- Fuel surcharges

We haven't set up our Company to pay these charges. And, UPS can take charges either from our Company or from the Customer.

If our Company pays the charges, the Company can negotiate with the UPS shipping company what charges will be paid. For example, for some reason the company doesn't pay the handling charges.

All these requirements are set up in the **Terms of delivery** form.

Post the packing slip

Remember that in the previous training lesson, we set up the *FOB_DS* delivery term for the Sales order.

Let's check the *FOB_DS* parameters (what charges our company will pay). Go to **Accounts receivable > Setup > Distribution > Terms of delivery** > find the *FOB_DS* delivery term > **Setup** tab > **Freight charge terms** field.

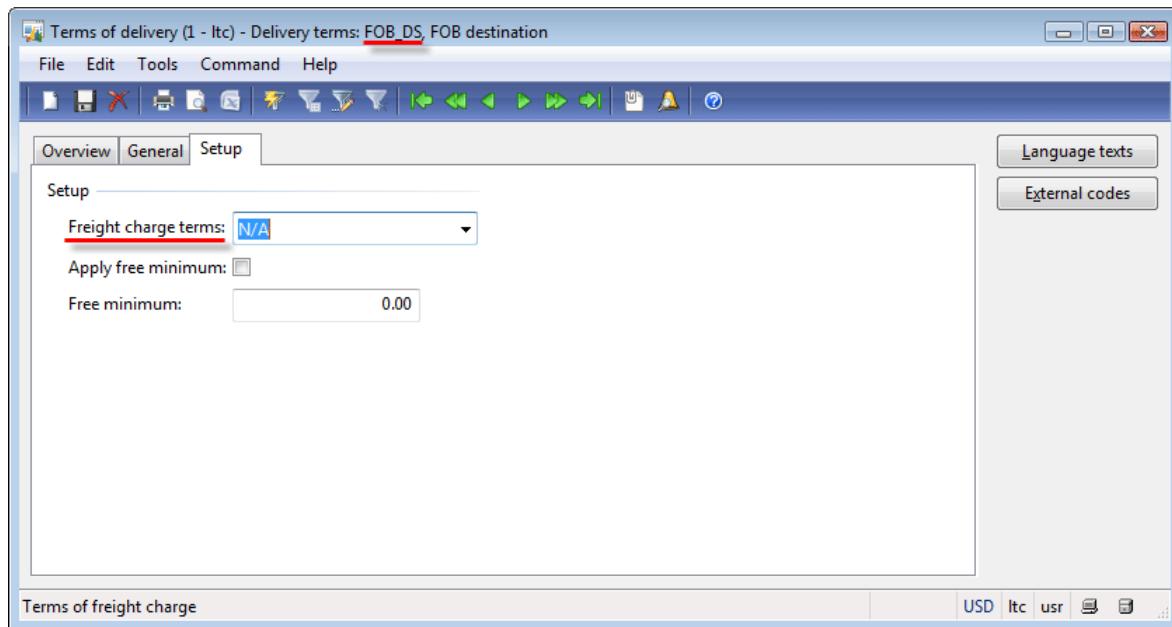


Figure 15.9 Terms of delivery, FOB_DS

We can see that the company doesn't pay any charges. It means that the company doesn't care about the carrier charges at all. It becomes possible when the Customer pays for the carrier service himself or herself. Or when the Company doesn't use the carrier and the Customer uses her or his own transport to deliver the items or the Company delivers the items but includes the delivery cost in the item price.

Since we assume that the Company pays all carrier charges, this term of delivery is not relevant for our situation. Our demo data already contains relevant terms of delivery – CIF.

The *CIF* term of delivery has the following setup:

Post the packing slip

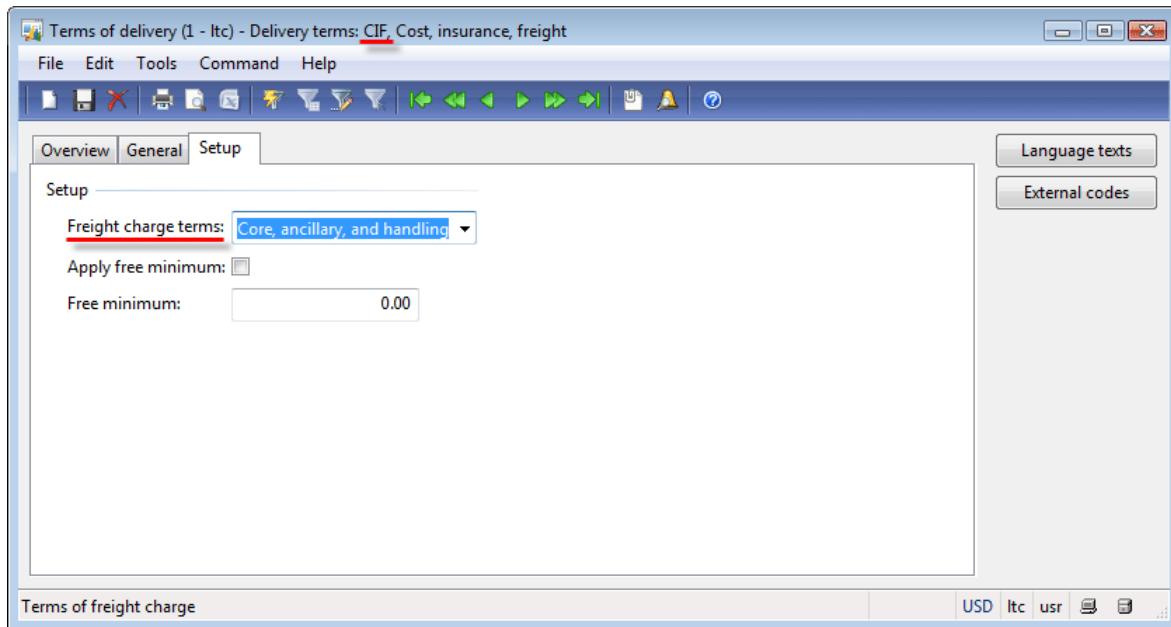


Figure 15.10 Terms of delivery, CIF

According to this setup, our Company will pay the core, ancillary, and handling charges to the carrier. The fuel surcharge is set up directly in the **Sales order** form (**Sales order** form > **Delivery** tab > **Charge fuel surcharge** check box).

The Company can pay its own money as charges or include the charges into the invoice total amount. The Company can negotiate it with each Customer separately. We assume that the Company will include the charges into the invoice total amount.

The charge accounts answer the questions about the money source – the Customer or the Company.

The **Carrier company** form contains the setup of the carrier charge accounts. (**Inventory management** > **Setup** > **Shipping carrier** > **Carrier company** > **General** tab > **Miscellaneous charges** field group).

Let's open the *01* charge account:

1. Go to **Accounts receivable** > **Setup** > **Misc. charges** > **Misc. charges code**. The **Misc. charges code** form opens.
2. Select the *01* charge and go to the **Posting** tab.

Post the packing slip

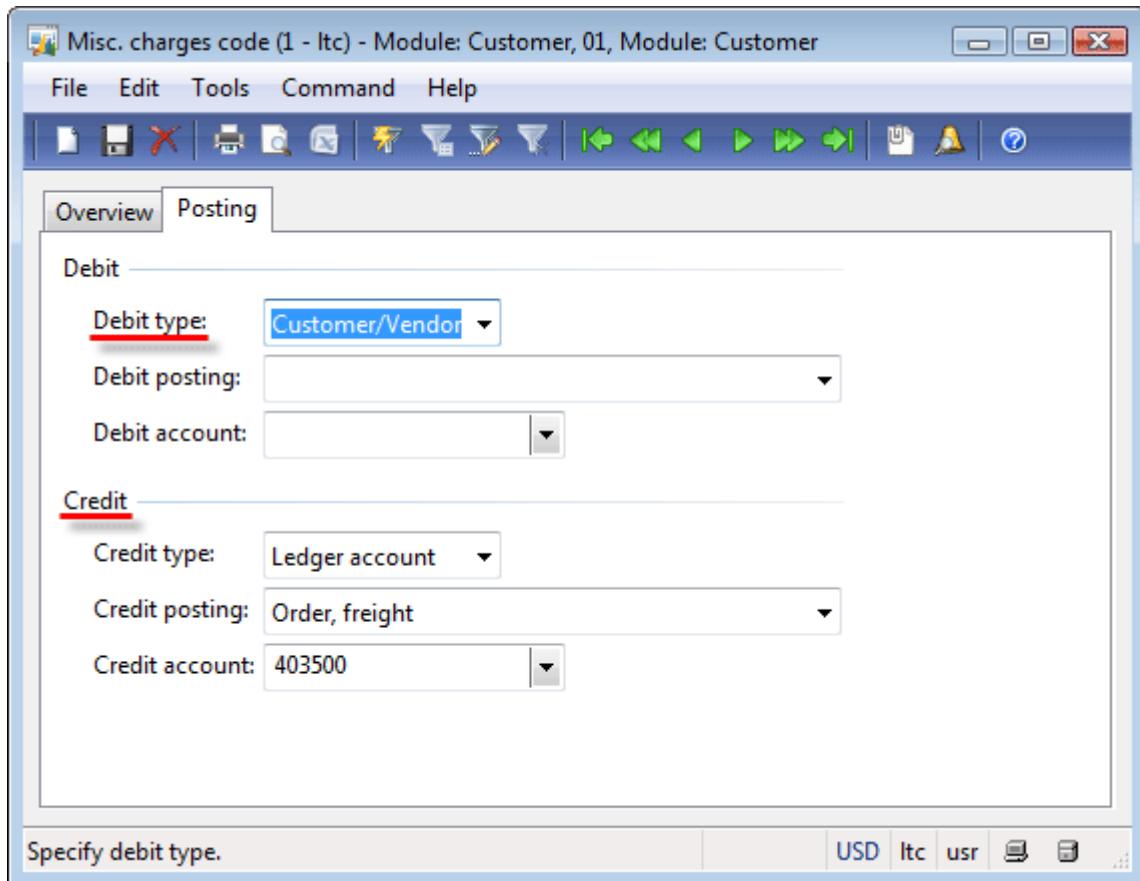


Figure 15.11 Misc. charges code, Posting tab

The **Debit type** field is the “source” of money, the **Credit type** field is the “destination”. In the previous form, we can see that the source is the Customer and the destination is the general ledger account. The general ledger account is used to track the income from the customer that must be paid to the Carrier (i.e. to track the charge amount paid by the Customer).

Other charge accounts from the UPS shipping company also have the **Debit type** field set to *Customer/Vendor*.

So our Company collects charges from the Customer and pays them to the Carrier. That is exactly what is required.

Let's set up the new *CIF* term of delivery for the Sales order:

1. Open the **Sales order** form. Find our sales order.
2. Go to the **Delivery** tab.
3. Under the **Misc. delivery info** field group, find the **Delivery terms** field.
4. Change the value from *FOB_DS* to *CIF*.
5. Save the sales order.

Post Packing Slip

After setting up the Shipping carrier interface, we can post the packing slip.

Post the packing slip

We don't set up weigh and volume for the Bottle/Can item. So, our package has zero volume and weight. The item setup is located under **Inventory management > Common Forms > Item details** > find the Bottle/Can item > **Setup** tab > **Item data** and **Physical dimensions** field groups.

But, since we work in the test mode, we can set any charges even for the zero weight package:

1. Open the **Sales order** form and find our sales order.
2. Click **Posting > Packing slip** menu button in the **Sales order** form. The **Posting packing slip** form opens.
3. Select **Picked** in the **Quantity** field under the **Parameter** field group.
4. Select the **Print packing slip** check box.
5. Make sure that two lines are available on the **Lines** tab and the **Quantity** field contains the correct value (1000 for the Bottle item and 200 for the Can item).
6. Post the packing slip. Click the **OK** button.
7. Since the Test mode is used, the **Test mode** form opens.

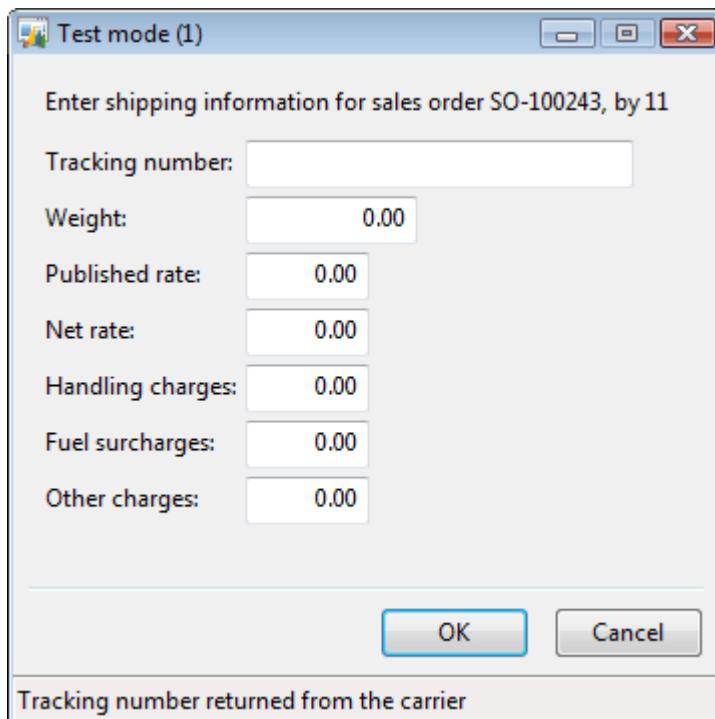


Figure 15.12 Test mode form

8. Enter **400** in the **Publish rate** field. These are the Core charges.
9. Enter **30** in the **Handling charges** field.
10. Enter **270** in the **Fuel charges** field.
11. Enter **105** in the **Other charges** field. These are the ancillary charges.
12. Click the **OK** button.

The information entered in the **Test mode** form will be used during invoicing. The **Test mode** form simulates the charges received from the Carrier web service.

Post the packing slip

Analyze Result

Now, we will check the result of the packing slip posting process:

- Packing slip document is printed. This document will be sent to the Customer with the items.

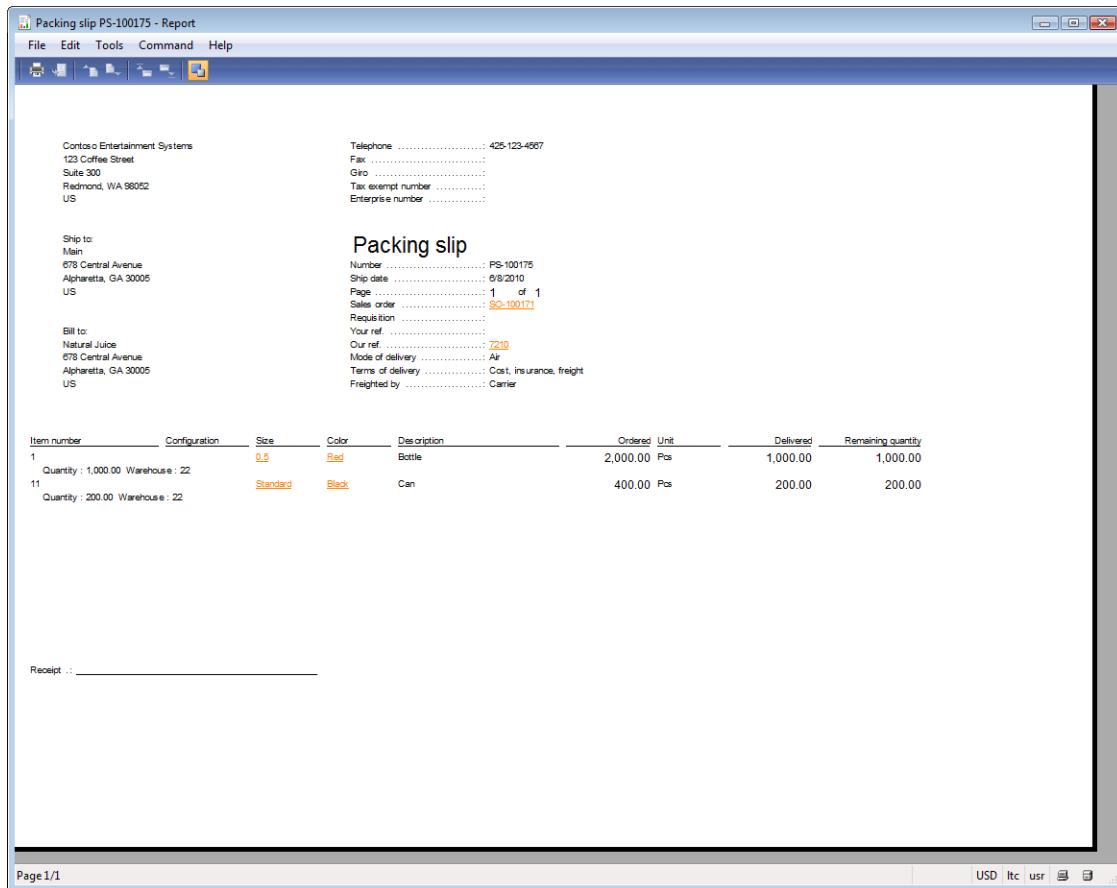


Figure 15.13 Packing slip document

- The item is deducted from inventory. The item issue status is changed from *Picked* to *Deducted*.
 - In the line area of the **Sales order** form, click **Inventory > Transactions** menu button. The **Transactions** form opens.
 - Make sure that the **Issue** field contains the *Deducted* value.
- General ledger transactions are generated because the Bottle/Can item belongs to the *FIFO* inventory model group. This inventory model group requires posting packing slip transactions to the general ledger accounts (**Inventory management > Setup > Inventory > Inventory model groups** > select the *FIFO* record > **Setup tab > Post physical inventory** check box). General ledger accounts are taken from the item group (**Inventory management > Setup > Item groups** > select *Packaging item* group (because the Bottle and Can items belong to it) > **Sales order tab > Packing slip** and **Packing slip offset** fields).

Post the packing slip

The screenshot shows the 'Item group (1 - Itc) - Item group: Packaging, Packaging Materials' window. The 'Sales order' tab is selected. The 'Packing slip' section contains fields for 'Packing slip:' (142300), 'Packing slip offset:' (130300), 'Packing slip revenue:', 'Packing slip revenue - offset:', and 'Packing slip tax'. The 'Invoice' section contains fields for 'Issue:' (141050), 'Consumption:' (510190), 'Revenue:' (401190), 'Discount:', and 'Commission' (602140). The 'Commission offset:' field is also present. The 'Sales tax' section contains a 'Item sales tax group:' dropdown. On the right side, there are buttons for 'Posting' and 'Forecasting'. At the bottom, there is a note 'Account for posting physical item issue' and currency selection buttons for USD, Itc, andusr.

Figure 15.14 Item group form, Sales order tab

Let's check:

1. In the header area of the **Sales order** form, click **Inquiries > Packing slip**. The **Packing slip journal** form opens.
2. Click the **Voucher** button. The **Voucher transactions** form opens. This form contains transactions generated during the packing slip update process.

The screenshot shows the 'Voucher transactions (1 - Itc) - Packing slip: PS-100175, 1000' window. The 'General' tab is selected. A table lists two vouchers: PSVO-100175 and PSVO-100175. The table columns include Voucher, Date, Year closed, Ledger account, Journal, Currency, Amount currency, Amount, and Amount secondary currency. The values for PSVO-100175 are: Date 6/8/2010, Year closed 2010, Ledger account 142300, Journal, Currency USD, Amount currency -6,400.00, Amount 6,400.00, and Amount secondary currency -4,627.62. The table has 10 rows in total. On the right, there is a sidebar with buttons for 'Origin', 'Transactions', 'Audit trail', 'Posted sales tax', 'Original document', and 'Related vouchers'. At the bottom, there are fields for 'Transaction text' (Packing slip PS-100175), 'Posting type' (Order offset account packing slip), 'Account name' (Accounts Receivable - Clearing), and 'Transaction voucher number'. There are also currency selection buttons for USD, Itc, andusr.

Figure 15.15 Voucher transactions form, Packing slip transactions.

Post the packing slip

- Carrier charges are recorded in the system:
 - In the header of the **Sales order** form, click **Inquiries > Packing slip**. The **Packing slip journal** form opens.
 - Go to the **Order tracking** tab and find the necessary information.

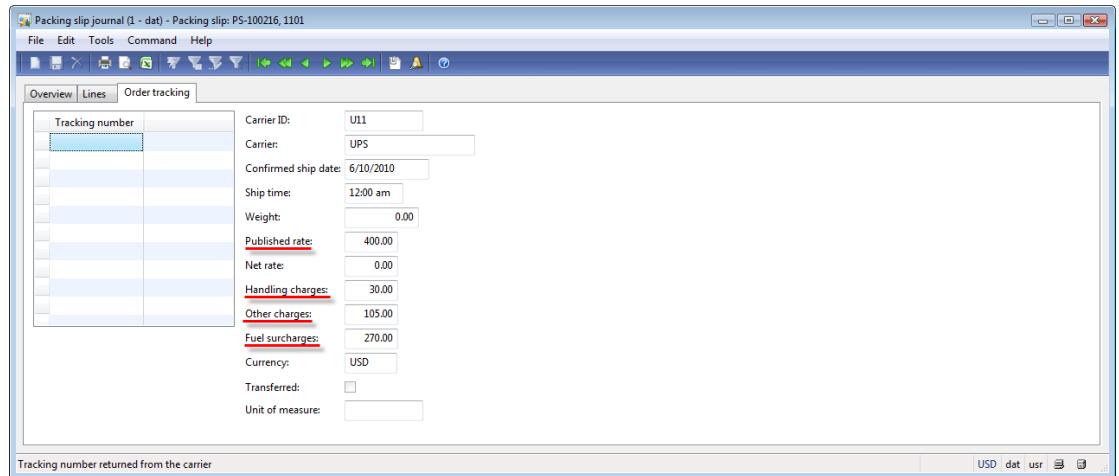


Figure 15.16 Packing slip journal form, Order tracking tab

Summary

In this training lesson we have performed the following:

- Have gone through the steps required to post the packing slip
- Have set up the shipping carrier interface
- Have posted the packing slip
- Have analyzed the results

I recommend that you read the white paper about the [Shipping carrier interface](#).

In the next training lesson, we will post the Invoice and analyze the results. We will see that carrier charges are added to the invoice as miscellaneous charges.

16. Post an Invoice

Hi, in this training lesson, we will finalize the work with the sales order. The last step in the sales order processing is posting and printing a Sales order invoice.

We go through the main steps of the process, understand sales order financial posting, and analyze the results (include the shipping carrier charges).

Overview

The Sales Manager posts an Invoice to record in the system that the items are sold. During this process, an Invoice document is printed. The Invoice document is a guarantee that the items are sold to the Customer and the Customer must pay for them during a certain period. This document is sent via a fax or an e-mail to the Customer for sign.

The results of the invoice posting process are as follows:

1. The Invoice document is printed.
2. General ledger transactions are generated: inventory account is decreased, cost of goods sold is increased, Customer account is increased, Sales account is decreased.
3. Inventory transactions issue status is changed from *Deducted* to *Sold*

Post an Invoice Workflow

The Sales Manager performs the following actions:

1. Open the **Sales order** form and find an appropriate sales order.
2. Click the **Posting > Invoice** menu button. The **Posting invoice** form opens.

Post an Invoice

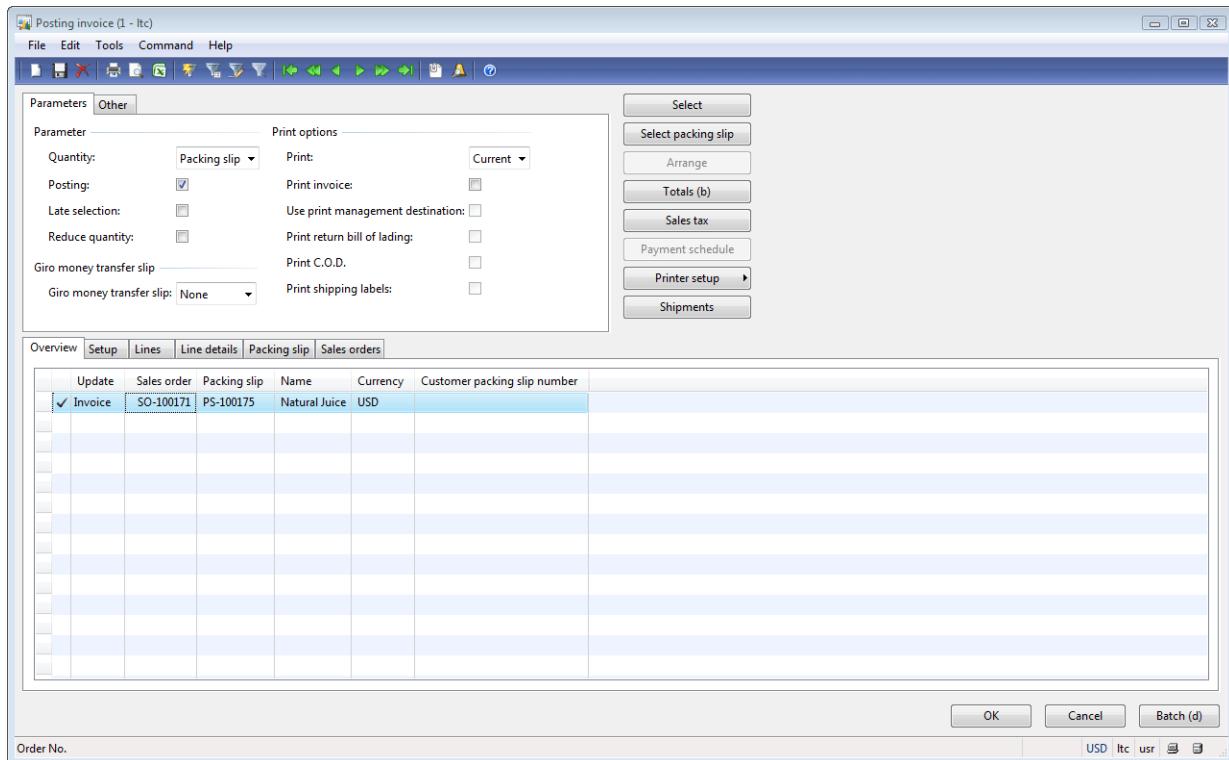


Figure 16.1 Posting invoice form

3. The Sales Manager verifies the line quantities and prices.
4. Select the **Print invoice** check box.
5. Click the **OK** button (don't do this right now).

Let's complicate the task. The Sales Manager wants to set up sales taxes for sales order lines. Let's assume that the company is in California. So, the Sales Manager must set up 8.5% sales tax for the sales order.

Sales Taxes

Sales taxes of different kinds are applied in every country. Sales taxes have a lot of types (see [here](#)). Each country (even a district) has a lot of different taxes; see for example [sales taxes in the United States](#).

To set up a Sales tax for the Sales order, the Sales Manager takes the following steps:

1. Open the Sales order form.
2. Find an appropriate sales order.
3. In the lines area, go to the **Setup** tab.
4. Under the **Sales tax** field group, fill in the **Item sales tax group** and **Sales tax group** fields.

Item sales tax group and sales tax group contain sales tax codes. Sales tax codes included into both groups are applied to the sales order line.

Post an Invoice

The Sales tax code contains the rules on how the tax will be included into an invoice.

Sales tax codes are set up under **General ledger > Setup > Sales tax > Sales tax codes**.

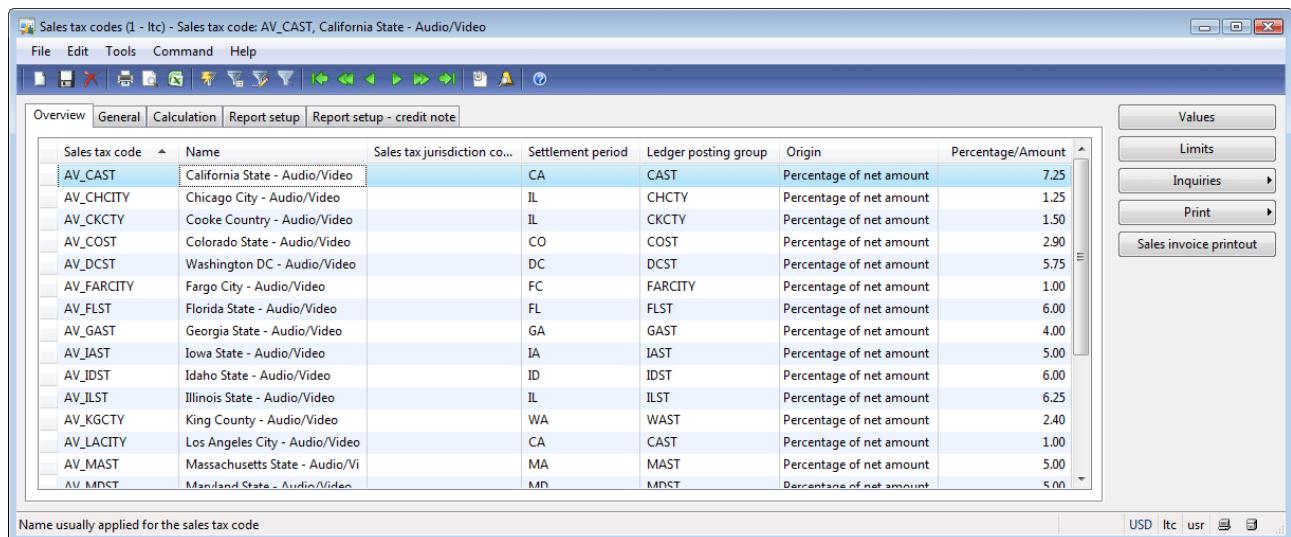


Figure 16.2 Sales tax codes form

We don't need to create a new sales tax code because our demo data already contains an appropriate one. It is the AV_CAST sales tax code. This code contains the following setup: 7.25 (**Percentage/Amount** field) percent will be calculated from the net invoice amount (**Origin** field) and must be paid as a sales tax to California Authorities in the end of the quarter (**Settlement period** field). We see that the sales tax code from our demo data contains 7.25%, but currently the sales tax for California is 8.25%. That is because California governor Arnold Schwarzenegger increased the sales tax by 1% in year 2009. You can read about California budget crisis in [Wikipedia](#).

To set up 8.25%, click the **Values** button in the **Sales tax codes** form. In the **Values** form, enter 8.25 in the **Value** field. Close the form.

As you understand, each sales tax code belongs to the Settlement period which is set up under **General ledger > Setup > Sales tax > Sales tax settlement periods**.

Post an Invoice

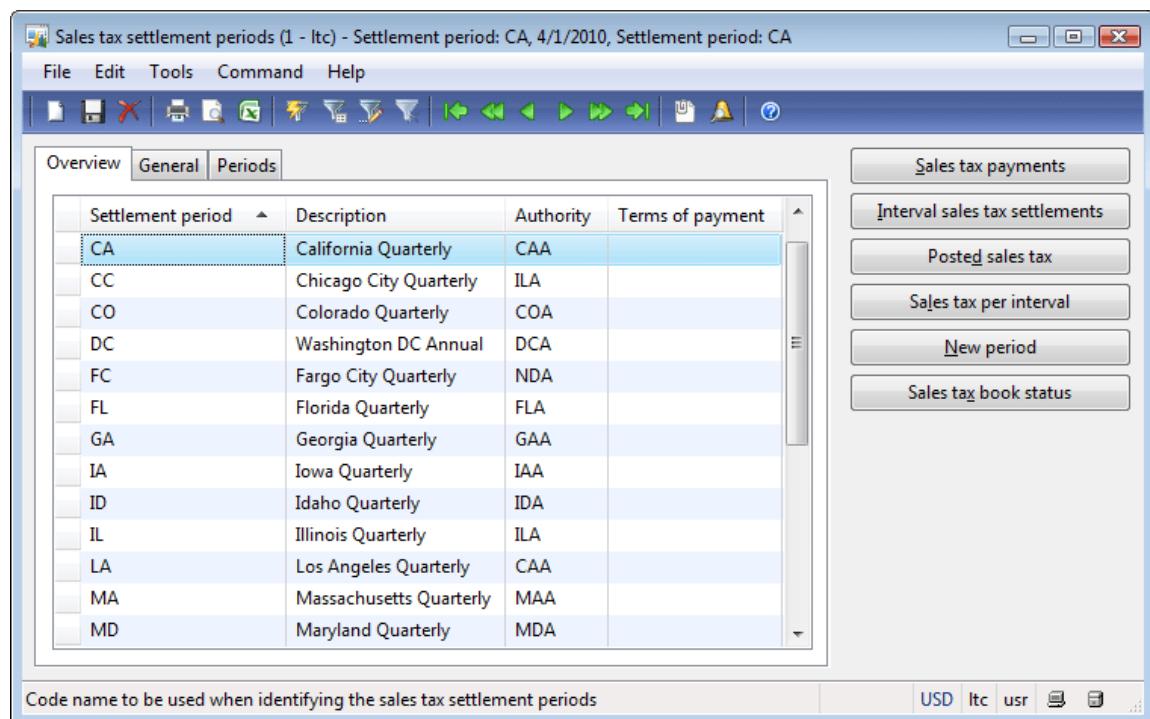


Figure 16.3 Sales tax settlement periods form

The **Settlement period** form contains the information about the authority and the period.

Authorities are created and set up under **General ledger > Setup > Sales tax > Sales tax authorities**.

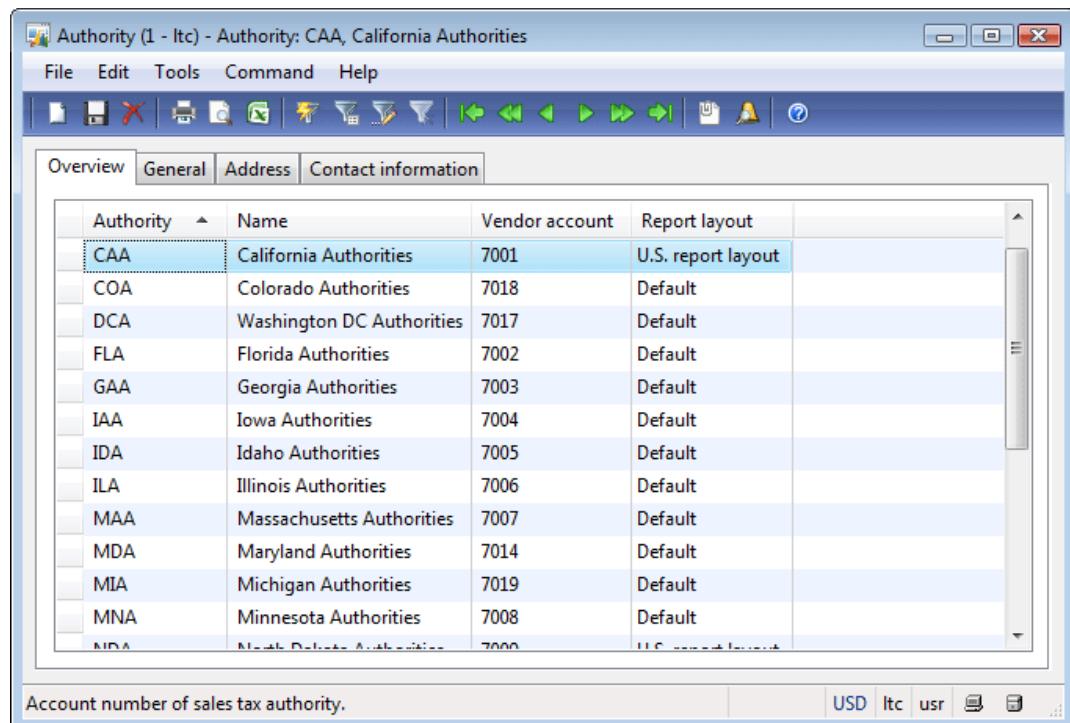


Figure 16.4 Authority form

Post an Invoice

An authority contains different information but the major one is the Vendor account. The vendor account will be used to track amounts of money that must be paid and that were paid by the Company to the California authority.

In other words, the Authority is vendor. Our company buys nothing from this vendor and pays money =).

The AV_CAST sales tax code will be paid to the CAA authority which is 7001 Vendor.

When the invoice is posted, the vendor transaction is created.

Also, the general ledger transaction is created. Each sales tax code belongs to the ledger posting group (**General ledger > Setup > Sales tax > Sales tax codes** form > **Overview** tab > **Ledger posting group** field). This group contains the information about general ledger accounts that will be used for different types of sales tax during invoice posting.

Let's find out what general ledger account will be used for tracking the authority (vendor) transactions:

1. Go to **General ledger > Setup > Sales tax > Ledger posting groups**. The **Account group** form opens.
2. Find the *CAST* ledger posting group (the AV_CAST sales tax code belongs to it).

Ledger posting group	Description	Sales tax payable	Use tax payable	Settlement account
CAST	California State Tax	220110	222100	221100
CHCTY	Chicago County Tax	220220	222100	221100
CKCTY	Cook County Tax	220220	222100	221100
COST	Colorado State Tax	220120	222100	221100
DCST	Washington DC Tax	220170	222100	221150
FARCTY	Fargo City Tax	220260	222100	221100
FLST	Florida State Tax	220180	222100	221100
GAST	Georgia State Tax	220190	222100	221100
IAST	Iowa State Tax	220200	222100	221100
IDST	Idaho State Tax	220210	222100	221100
ILST	Illinois State Tax	220220	222100	221100
LACTY	Lake County Tax	220110	222100	221100

Figure 16.5 Account group form

3. The **Sales tax payable** field contains the general ledger account that will be used during invoice posting.

We can see that it is the 220110 general ledger account. Remember this account because when we post an invoice, we make sure that 8.25% tax amount on net invoice amount is recorded onto this account.

Post an Invoice

We already know that in the sales order lines, only the sales tax group and the item sales tax group are set up. So, we should find or create a sales tax group that contains the AV_CAST sales tax code and find or create an item sales tax group that contains the AV_CAST sales tax code.

Sales tax groups are set up under **General ledger > Setup > Sales tax > Sales tax groups**. The **Sales tax groups** form already contains the CA (California) sales tax group. Click the **Setup** tab to make sure that the AV_CAST sales tax code belongs to this group.

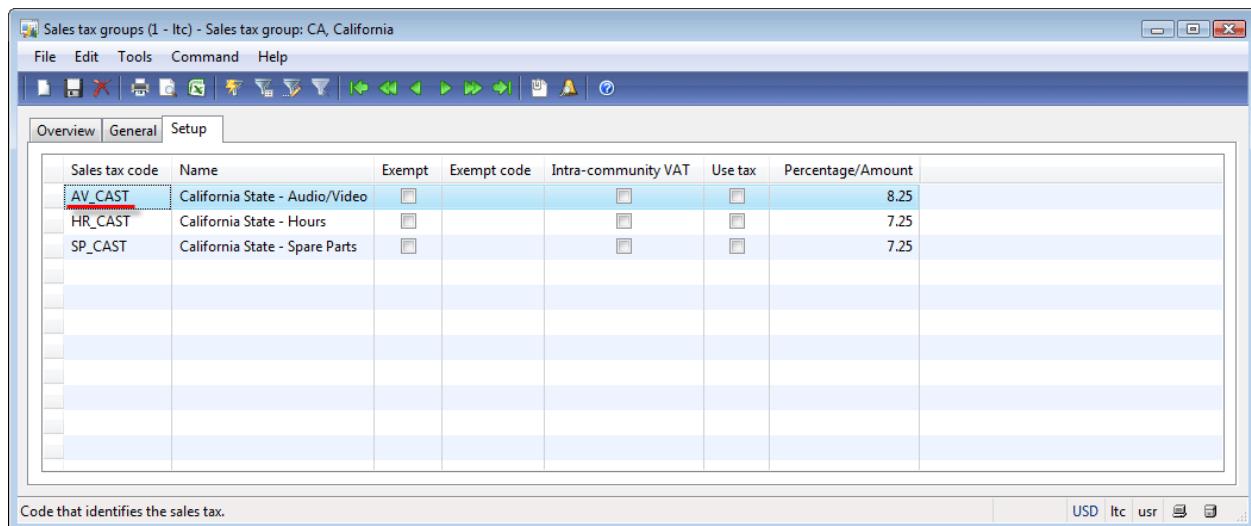


Figure 16.6 Sales tax groups form

We can see that the CA sales tax group contains three sales tax codes.

We have discussed earlier that sales tax codes included into both groups (sales tax and item sales tax) are applied to the sales order line. So, the Item sales tax group must exclude the HR_CAST and SP_CAST sales tax codes and include the AV_CAST sales tax code.

The item sales tax group is set up under **General ledger > Setup > Sales tax > Item sales tax groups**.

We don't need to create new item sales tax groups, because our demo data already contains a relevant item sales tax group. This is the AU/VI item sales tax group. Let's check that the AV_CAST sales tax code belongs to this group and HR_CAST and SP_CAST do not belong. In the **Item sales tax groups** form, go to the **Setup** tab.

Post an Invoice

Sales tax code	Name	Percentage/Amount
AV_CAST	California State - Audio/Video	8.25
AV_CHCITY	Chicago City - Audio/Video	1.25
AV_CKCTY	Cooke Country - Audio/Video	1.50
AV_COST	Colorado State - Audio/Video	2.90
AV_DCST	Washington DC - Audio/Video	5.75
AV_FARCITY	Fargo City - Audio/Video	1.00
AV_FLST	Florida State - Audio/Video	6.00
AV_GAST	Georgia State - Audio/Video	4.00
AV_IAST	Iowa State - Audio/Video	5.00
AV_IDST	Idaho State - Audio/Video	6.00
AV_ILST	Illinois State - Audio/Video	6.25
AV_KCCTV	Kane County - Audio/Video	2.40

Figure 16.7 Item sales tax groups form

We can see that this group contains the AV_CAST sales tax code and other sales tax codes, but they are not included into the CA sales tax group.

Good. Now, let's set up the CA sales tax group and the AU/VI item sales tax group in the sales order line:

1. Open the **Sale order** form. Find an appropriate sales order.
2. In the sales order line area, go to the **Setup** tab.
3. Fill in **AU/VI** in the **Item sales tax group** field.
4. Fill in **CA** in the **Sales tax group** field.
5. Save the line. The "Delivery date control is disregarded because the receipt date 6/10/2010 is before today" message will be shown. Ignore it.

Perform the same steps for the second line.

We can now check the sales tax amount:

In the header of the **Sales order** form, click the **Setup > Sales tax** menu button.

The **Temporary sales tax transactions** form shows.

Post an Invoice

Figure 16.8 Temporary sales tax transactions form

We can see that the total sales tax amount is 940.5 ($9000 * 8.25 + 2400 * 8.25 = 940.5$).

In our case, the Sales Manager sets up the item sales tax group and sales tax group manually. In real life, they are filled in by default.

Item sales tax group is set up per item under the following path **Inventory management > Common Forms > Item Details > References tab > Sales order field group > Item sales tax group** field.

Sales tax group is set up per customer under **Accounts receivable > Common Forms > Customer Details > Setup tab > Sales tax field group > Sales tax group** field.

Commissions

Let's assume that the Sales Manager must receive a 10% commission for each sale.

The Sales Manager has an employee account. An employee account is set up per Microsoft Dynamics AX User under **Administration > Common Forms > Users > User relations button > General tab > Internal user field group > Employee** field.

So, when you log on to Microsoft Dynamics AX, the system finds your employee account.

Link your User to employee account 7210 by following the steps:

1. Go to **Administration > Common Forms > Users**.

Post an Invoice

2. Find your account in the **Users** form (You can get the information about your account under **Administration > Common Forms > Online users**).
3. Click the **User relations** button. The **User relations** form opens.
4. Go to the **General** tab.
5. Fill in **7210** in the **Employee** field.

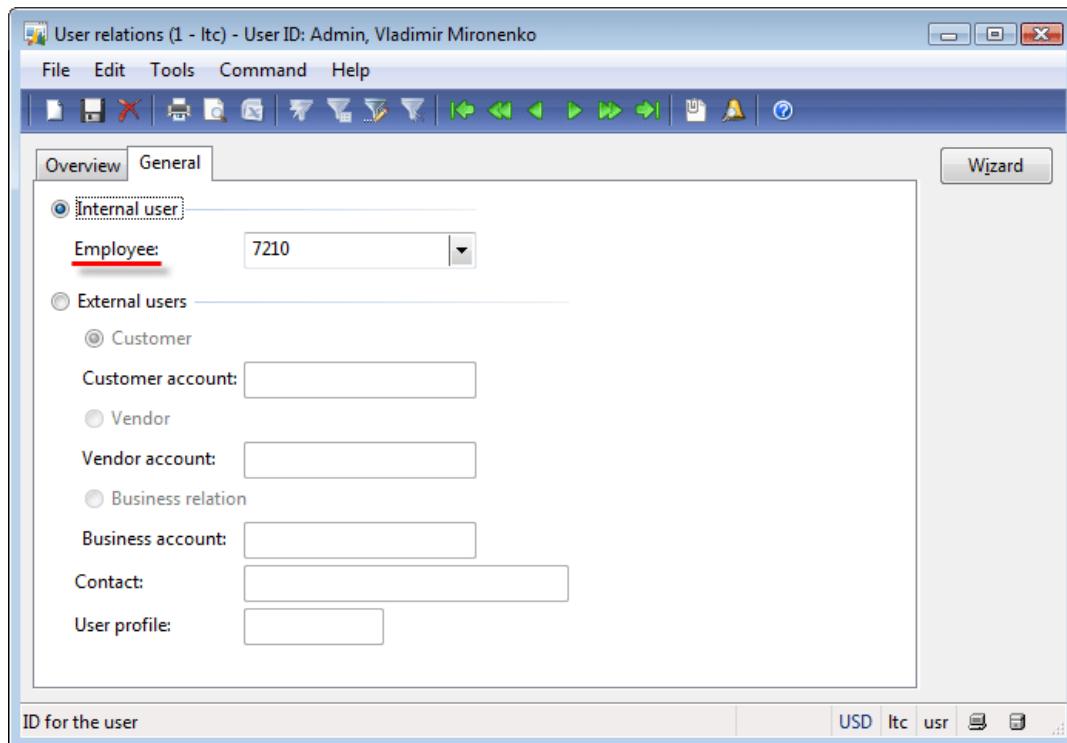


Figure 16.9 User relations form

6. Close the form.

Let's understand how commission is calculated. I have retyped a paragraph from the Microsoft Official Training Materials for Microsoft Dynamics: "Microsoft Dynamics® AX2009 calculates sales commissions at the sales line level upon invoicing a sales order. When calculating the commission of a sales line, Microsoft Dynamics AX 2009 searches for the related sales representative, item, and customer combination set up in the **Commission calculation** form. In this form, relationships are set up between the combinations of items, customers, and sales representatives to define the commission rate an employee is paid from a sale". The sales representative is the Employee account that is associated with the User ID.

To open the **Commission calculation** form, go to **Accounts receivable > Setup > Commission > Commission calculation**.

Post an Invoice

Figure 16.10 Commission calculation form

Let's analyze the form and find what commission will be calculated for our sales order.

We can see that the commission is set up only per a commission item group, because the item code = *Group* for all lines.

Find the commission group that the Bottle item belongs to:

1. Go to **Inventory management** > **Common Forms** > **Item details**. The **Item** form opens.
 2. Find the Bottle item.
 3. Go to the **General** tab > **Groups** field group > **Commission group** field.

The **Commission group** field for the Bottle (and Can) item is empty. So, the commission calculation for these items is not set up in the **Commission calculation** form, because this form contains the setup only for the item commission group.

Create a new commission calculation:

1. Create a new line in the **Commission calculation** form.
 2. Select **Table** in the **Item code** field.
 3. Fill in **1 (Bottle)** in the **Item relation code** field.
 4. Setup Customer:
 - o If we want the Sales Manager to receive commission when invoicing any customer, select **All** in the **Customer code** field.
 - o It is possible to set up specific customer commission group. In this case, select **Group** in the **Customer code** field. The Customer commission group is created under **Accounts receivable > Setup > Commission** > Customer groups for commission. A Customer is assigned to a Customer commission group under **Accounts receivable > Common Forms >**

Post an Invoice

- Customer details > Sales order tab > Sales order field group > Commission customer group field.**
- It is possible to set up specific Customer. In this case, select *Table* in the **Customer code** field.

We assume that the Sales Manager must receive commission when he or she invoices only the 1000 (Natural Juice) Customer.

5. Select *Table* in the **Customer code** field.
6. Fill in 1000 (Natural Juice) in the **Customer relation** field.
7. Perform settings for the Sales Manager:
 - If we want all Sales Managers to receive commission when invoicing the Natural Juice Customer buying the Bottle item, we must select *All* in the **Sales rep. code** field.
 - If only a certain sales team must receive commission, we must select *Group* in the **Sales rep. code** field and fill in the necessary group in the **Sales rep. relation** field. The Sales team belongs to the sales commission group. The sales commission group is set up under **Accounts receivable > Setup > Commission > Sales groups**. (The **Commission sales group** form opens.) We can assign a new Sales Manager to the sales team in the **Commission sales group** form > **Sales rep.** button > create new record. Or under **Basic > Common Forms > Employee details > Commission** menu button > **Sales groups** button > create new record.

If the Sales Manager belongs to the sales team, the commission is received by each member of the team as it is divided between all members according to the percent parameter. The percent is set up in the **Sales rep.** form (click the **Sales rep.** button in the form).

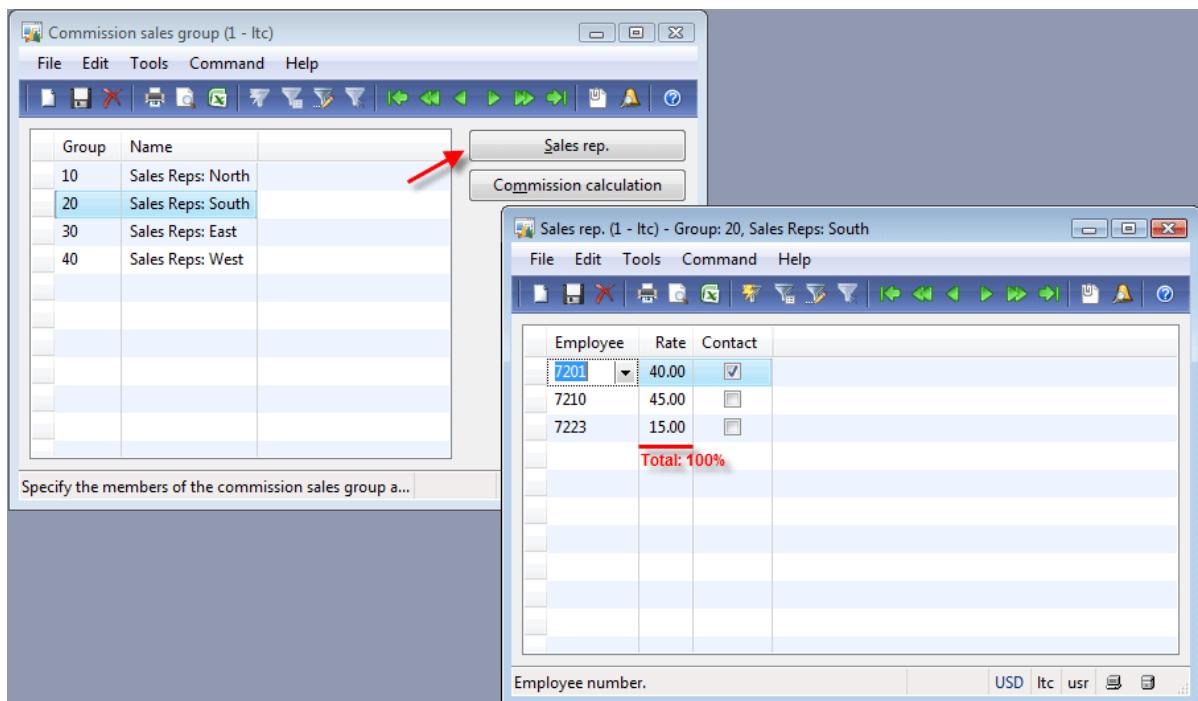


Figure 16.11 Sales rep. form

Post an Invoice

Only two choices are available (All sales managers or sales team). We assume that only the sales team that our Sales manager belongs to must receive the commission. So let's find the Sales commission group that includes employee 7210:

- 1) Go to **Basic > Common Forms > Employee details**. The **Employee** form opens.
- 2) Find the employee account that is associated with our User ID (It is employee account 7210).
- 3) Click the **Commission > Sales groups** menu button. The **Commission shares** form opens.

The screenshot shows the 'Commission shares' form with the title bar 'Commission shares (1 - ltc) - Employee: 7210,'. The menu bar includes File, Edit, Tools, Command, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Search. The main area is a grid table with columns 'Group' and 'Rate'. Two rows are visible: one for group 20 with a rate of 45.00, and another for group 30 with a rate of 20.00. At the bottom, there is a status bar with 'Commission sales group' and currency buttons for USD, ltc, and usr.

Group	Rate
20	45.00
30	20.00

Figure 16.12 Commission shares form

We can see that the Sales Manager belongs to sales teams 20 and 30. The Sales Manager receives 45% of all commission earned by sales team 20 and 20% of that earned by sales team 30.

Let's assume that the Sales Managers included into sales commission group 20 can receive commission.

Select **Group** in the **Sales rep. code** field.

Fill in **20** in the **Sales rep. relation** field.

Fill in **10** in the **Origin** field. Note: all sales team will receive 10% commission; our Sales manager will receive 45% of this commission (4.5%). So, it is less than we assumed.

Our new record looks as follows:

Post an Invoice

The screenshot shows the 'Commission calculation (1 - ltc)' window. At the top, there's a toolbar with various icons. Below it is a menu bar with File, Edit, Tools, Command, and Help. The main area has two tabs: Overview (selected) and Setup. The Overview tab displays a grid with columns: Item code, Item relation, Custo..., Customer relation, Sales r..., Sales rep. rel..., and Origin. The first row has 'Table' in Item code and '1' in Item relation. The 'Origin' column for this row contains '10.00', which is highlighted with a red arrow. Other rows show different configurations like 'Group' relations and specific customer numbers.

Figure 16.13 Commission calculation form

Create the same record for the Can item.

During posting of an Invoice, the commission amount will be recorded to special general ledger accounts.

The **Commission posting** form is used to link General ledger accounts to a commission transaction. When a sales order is invoice-updated, the commission amount on the posted sales line is:

- Debited to the Commission account.
- Credited to the Commission offset account.

To access the **Commission posting** form, go to **Accounts receivable > Setup > Commission > Commission posting**.

The screenshot shows the 'Commission posting (1 - ltc)' window. It has a toolbar at the top and a menu bar with File, Edit, Tools, Command, and Help. On the left, there's a 'Select' dropdown with 'Commission' (which is checked) and 'Commission offset' options. The main area contains a grid with columns: Item code, Item relation, Account code, Account relation, Sales tax group, and Account number. The 'Account number' column for the first row contains '602140'. The bottom of the screen shows a status bar with 'Post sales' and currency buttons (USD, ltc, usr).

Figure 16.14 Commission posting form

Remember general ledger account 602140. This account belongs to the Expenses group. Also, remember general ledger account 211500. This account is used to store amounts of money that must be paid to Sales Managers. This account belongs to the Vendor group. So, from the Company's point of view, the Sales Manager is the vendor who delivers order invoices.

We can't see the commission amount on the sales order until we post an invoice.

If we want the commission to be taken into account during invoice posting, we must set up a commission sales group on the sales order line (in the line area of the **Sales order** form, go to the **Setup** tab and fill in the **Sales group** field group with 20. Make the same setup for the second line. (When we save the line, the "Delivery date control is disregarded because the receipt date 6/10/2010 is before today" message appears; just close it).

Posting

The Sales Manager sets up sales taxes and commission, reviews the charges for the carrier. Now, it is time to post the Invoice.

The Sales Manager goes to the **Sales order** form, finds an appropriate sales order, and clicks the **Posting > Invoice** menu button. The **Posting invoice** form opens. The Sales Manager selects *Packing slip* in the **Quantity** field of the **Parameter** field group. Go to the **Lines** tab and make sure that the quantities and other parameters are correct. Select the **Print invoice** check box. And finally, he or she clicks the **OK** button.

The result of the posting process is as follows:

1. The Invoice document is printed.

Post an Invoice

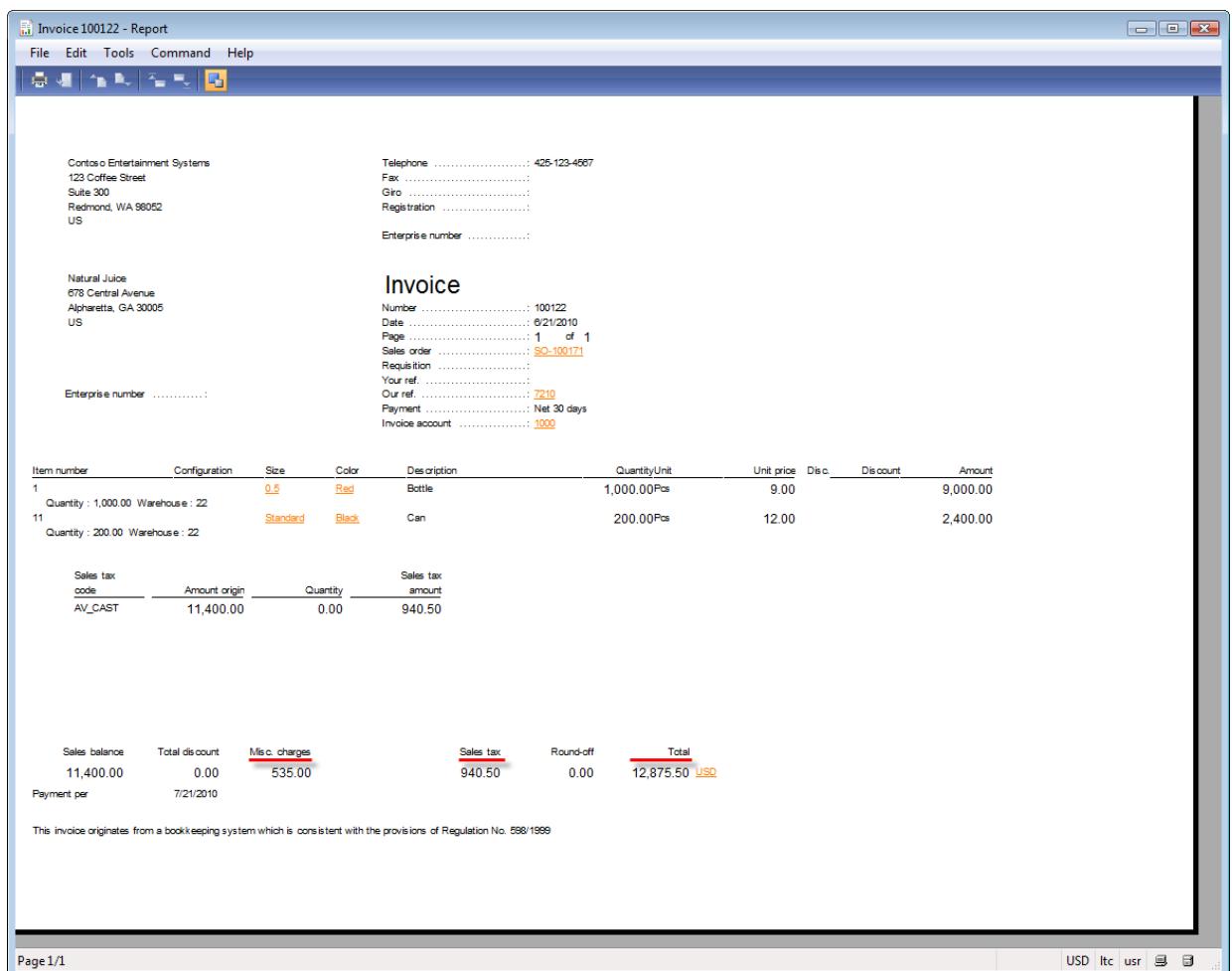


Figure 16.15 Invoice document

In the Invoice document, we can find the information about the invoice total amount (12,875), sales tax amount (940.50), and carrier charges included in the misc. charges (535). The Invoice total amount is calculated as item price + misc charges + sales tax, i.e. $12,875 = 11,400 + 535 + 940.50$.

Check the sales tax. In this training lesson, we have set up 8.25 % sales tax. The sales price is 11,400, so the sales tax is $11,400 * 0.0825 = 940.50$. Good, it is just like in the invoice.

Check the carrier charges. Remember that in the previous training, we set up the following charges – core charges = 400, handling charges = 30, fuel surcharge = 270, and ancillary charges = 105. The total charge amount is $400 + 30 + 270 + 105 = 805$. In the Invoice document, the misc. charges value is 535. Why is there such difference ($805 - 535 = 270$)? That is because we have forgotten to select the **Charge fuel surcharge** check box in the **Sales order form** (**Sales order form > Header area > Delivery tab > Carrier information field group > Charge fuel surcharge** check box). So, the fuel surcharge is not included in the Invoice total amount.

Commission amount is not printed in the Invoice document.

Post an Invoice

2. Issue status on inventory transactions is changed from *Deduct* to *Sold*. To check this, in the lines area of the **Sales order** form, click the **Inventory > Transactions** menu button. The **Transactions** form opens.

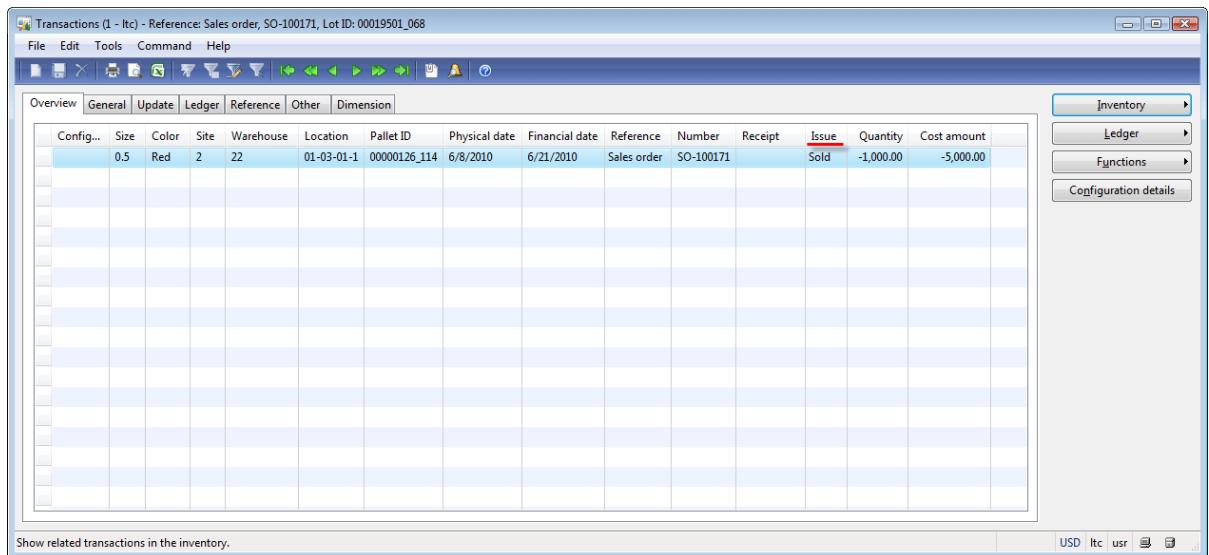


Figure 16.16 Transactions form. Sold status.

3. General ledger transactions are generated. Let's check the general ledger transactions that are created during posting of an invoice document. All information about the invoice can be viewed under **Sales order** form > Header area > **Inquiry** button > **Invoice** menu button. The **Invoice journal** form opens.

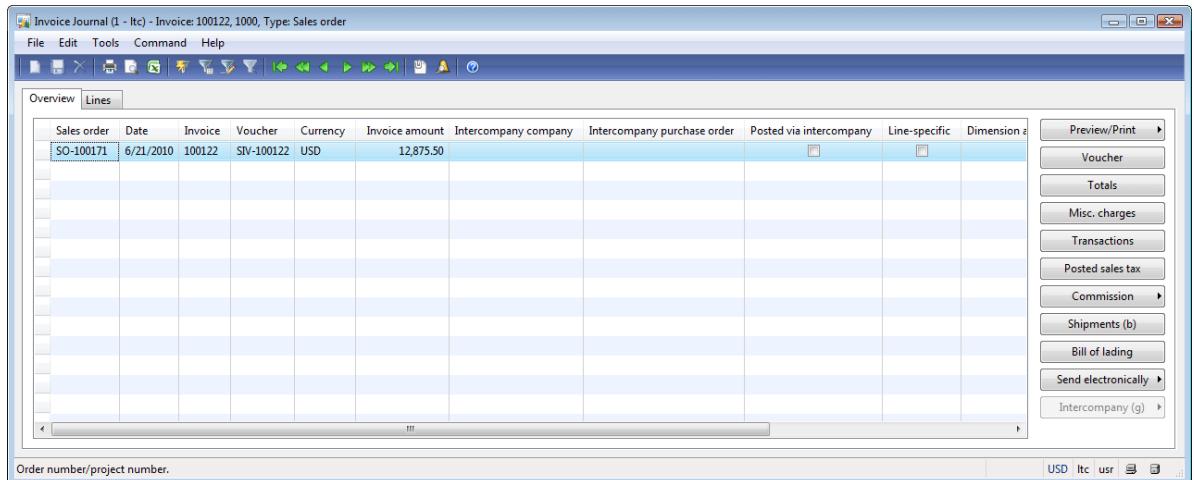


Figure 16.17 Invoice journal form

Before we check the general ledger transactions, let's recall the sales tax, carrier charges, and commission amounts.

To find the posted sales tax amount, click the **Posted sales tax** button in the **Invoice journal** form. The **Sales tax transactions** form opens.

Post an Invoice

The screenshot shows a software application window titled "Sales tax transactions (1 - ltc) - Voucher: SIV-100122, 6/21/2010, Date: 6/21/2010, Voucher: SIV-100122". The window has a toolbar with various icons and a menu bar with File, Edit, Tools, Command, and Help. Below the toolbar is a status bar showing "Sales tax amount in total: 940.50" and "Investment tax: 0.00". A "Voucher" button is located in the top right corner. The main area contains four tabs: Overview, General, Posting, Amount, and History. The Overview tab is selected and displays a grid of data. The grid columns include Voucher, Date, Source, Sales tax code, Sales tax direction, Voucher currency, Amount origin, Sales tax amount, and Corrected amount in currency. Two rows of data are visible:

Voucher	Date	Source	Sales tax code	Sales tax direction	Voucher currency	Amount origin	Sales tax amount	Corrected amount in currency
SIV-100122	6/21/2010	Sales or...	AV_CAST	Sales tax payable	USD	2,400.00	198.00	0.00
SIV-100122	6/21/2010	Sales or...	AV_CAST	Sales tax payable	USD	9,000.00	742.50	0.00

At the bottom of the grid, there is a note: "Voucher number in ledger." To the right of the grid, there are buttons for USD, ltc, usr, and other currency options.

Figure 16.18 Sales tax transactions form

The total posted sales tax amount is 940.50.

To find the carrier charges included into the invoice, click the **Misc. charges** button in the **Invoice journal** form. The **Misc. charges transactions** form opens.

The screenshot shows a software application window titled "Misc. charges transactions (1 - ltc) - Invoice: 100122, 1000, Type: Sales order". The window has a toolbar with various icons and a menu bar with File, Edit, Tools, Command, and Help. Below the toolbar is a status bar showing "Identification of the misc. charges". A "USD" button is located in the bottom right corner. The main area contains two tabs: Overview and General. The General tab is selected and displays a grid of data. The grid columns include Misc. charges code, Transaction text, Category, Misc. charges value, Currency, and Keep. Three rows of data are visible:

Misc. charges code	Transaction text	Category	Misc. charges value	Currency	Keep
01	Freight	Fixed	400.00	USD	<input type="checkbox"/>
04	Ancillary charges	Fixed	105.00	USD	<input type="checkbox"/>
02	Handling	Fixed	30.00	USD	<input type="checkbox"/>

Figure 16.19 Misc. charges transactions form

The total carrier charge is $400 + 105 + 30 = 535$.

Post an Invoice

To find the commission amount, click the **Commission > Commission transactions** menu button. The **Commission transactions** form opens.

Figure 16.20 Commission transactions form

Since the commission is received by the sales team, we can see that our Sales Manager (employee account 7210) will receive the 405\$ commission for selling Bottle items and the 108\$ commission for selling the Can items. The total commission amount is $(10\% * 11,400) / 100\% = 1,140$. (If we sum all employee commissions, we receive the same amount – 1,140).

So, again (all amounts are in one place):

- Total invoice amount is 12,875.50.
 - Sales tax is 940.50.
 - Carrier charges amount is 535 (Core charges = 400, Ancillary charges = 105, Handling charges = 30).
 - Commission is 1,140.
 - Items sales price is 11,400.

Let's check the general ledger transactions. In the **Invoice Journal** form, click the **Voucher** button. The **Voucher transactions** form opens. This form contains general ledger transactions generated during the invoice posting process.

Post an Invoice

The screenshot shows the 'Voucher transactions (1 - Itc) - Invoice: 100122, 1000, Type: Sales order' window. The main area is a grid with columns: Voucher, Date, Year closed, Ledger account, Journal, Currency, Amount currency, Amount, and Amount secondary currency. The grid contains 13 rows of transaction details. On the right side, there are several buttons: Origin, Transactions, Audit trail, Posted sales tax, Original document, and Related vouchers. Below the grid, there are input fields for Transaction text (Sales invoice 100122), Posting type (Customer balance), Account name (Accounts Receivable - US), and Transaction voucher number. At the bottom right, there are buttons for USD, Itc, usr, and other icons.

Figure 16.21 Voucher transactions form

Analyze the voucher transactions (i.e. general ledger transactions):

- Total invoice amount is 12,875.50. This amount is recorded to account 130100. So, this account is used to track Customers' balances (the amount of money that must be paid to our Company from customers).

This general ledger account is taken from the default posting profile that is set up in the **Account receivable parameters** form located under **Accounts receivable > Setup > Parameters > Ledger and sales tax tab > Posting field group > Posting profile** field. Our demo data contains *GEN* in the **Posting profile** field. To find the posting profile setup, go to **Accounts receivable > Setup > Posting profiles > find GEN posting profile > Setup tab**.

The screenshot shows the 'Customer posting profile (1 - Itc) - Posting profile: GEN, General profile' window. The main area is a grid with columns: Account code, Account/Group number, Summary account, Settle account, Sales tax prepayments, Liabilities for discount account, Collection letter sequence, and Interest code. The grid contains several rows of profile settings. A note at the bottom states: 'Account code, i.e. account, account group or all.' At the bottom right, there are buttons for USD, Itc, usr, and other icons.

Figure 16.22 Customer posting profile form

The Natural Juice customer belongs to customer group 20 (Major Customers). So, only the last record is right one for our Customer. The summary account for this record is 130100.

- Sales tax is 940.50. This amount is recorded to general ledger account 220110. So this account is used to track the Authority balance (the amount of money that must be paid to the Authority).

The 220110 account is taken from the ledger posting group that is set up on the sales tax codes. We have already studied how a general ledger account is set up for the sales tax in the Sales taxes chapter of this training lesson.

- Carrier charge is 535. In the previous training lesson, we analyzed that the carrier charges are taken from the Customer and stored in special general ledger accounts. This is set up in the **Misc. charges code** form located under **Accounts receivable > Setup > Misc. charges > Misc. charges code > Posting tab > Credit account** field.

In our demo data, for the Core or Freight charges, general ledger account 403500 is used, for the Handling charges, it is the 403150 general ledger account, for the Ancillary charges, it is also the 403500 general ledger account.

So, in the **Voucher transactions** form, we can see that $400 + 105 = 505\$$ is recorded to account 403500, and 30 is recorded to account 403150.

- Commission is 1,140\$. This amount is recorded to accounts 211500 and 602140. Account 211500 is used to track commission (the amount of money that must be paid to sales persons). Since the commission is included into the invoice amount, we must record that the commission is an expense (net profit must exclude the commission). This amount is recorded to account 602140. These general ledger accounts are taken from the **Commission posting** form located under **Accounts receivable > Setup > Commission > Commission posting**.

We have already studied how general ledger accounts are set up for the commission in the Commissions chapter of this training lesson.

- Item sales price (or revenue) is 11,400. This amount is recorded to account 401190. So, this account is used to track the revenue (the amount of money that must be paid for sales items).

This general ledger account is taken from the item group. The Bottle and Can items belong to the Packaging item group.

Go to **Inventory management > Setup > Item groups**. The **Item group** form opens.

Go to the **Sales order** tab.

Post an Invoice

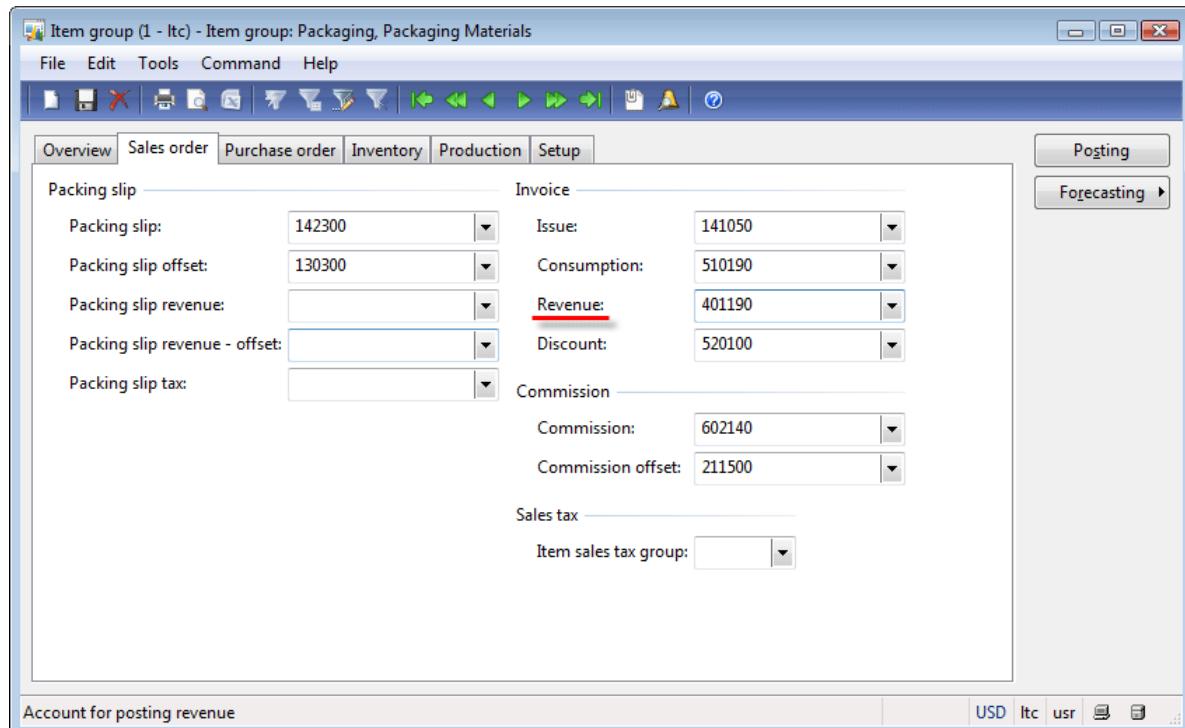


Figure 16.23 Item group form

The **Revenue** field contains the general ledger account that will be used to track the revenue amount. We can see that this field contains general ledger account 401190.

- Inventory transaction. Inventory transaction is also reflected in the general ledger accounts. When the items are sold, the cost amount must be excluded from inventory value and included as cost of goods sold. Remember that in “8. Create purchase order” training lesson, we set up the Bottle item cost to be 5 and the Can item cost to be 7. So, the total cost amount is $1000*5 + 200*7 = 6,400\text{\$}$. This amount is recorded to accounts 510190, 142300, 141050, and 130300.

Account 510190 is used to track the cost of goods sold. Account 141050 is used to track the inventory value (cost of items in the warehouse). These accounts are set up in the **Item group** form > **Sales order** tab > **Invoice** field group > **Issue** and **Consumption** fields (see the previous picture).

When we post the packing slip, general ledger transactions are generated for accounts 142300 and 130300. Find these transactions in “15. Post the packing slip” training lesson (the “Voucher transactions form, Packing slip transactions” image). During posting of an invoice, these general ledger transactions must be reversed.

- Penny difference. Sometimes it happens that the amount in the general ledger account and the amount in the offset account(s) are not equal because of rounding. If we sum all general ledger amounts, we must receive zero. Because nothing disappears but only changes its form. In our case, if we sum all amounts in the secondary currency (the **Amount secondary currency** fields), we receive -0.01. So, Microsoft Dynamics AX generates

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additional general ledger transactions for amount 0.01. This amount is recorded to account 999999. This general ledger account is set up under **General ledger > Setup > Posting > System accounts**.

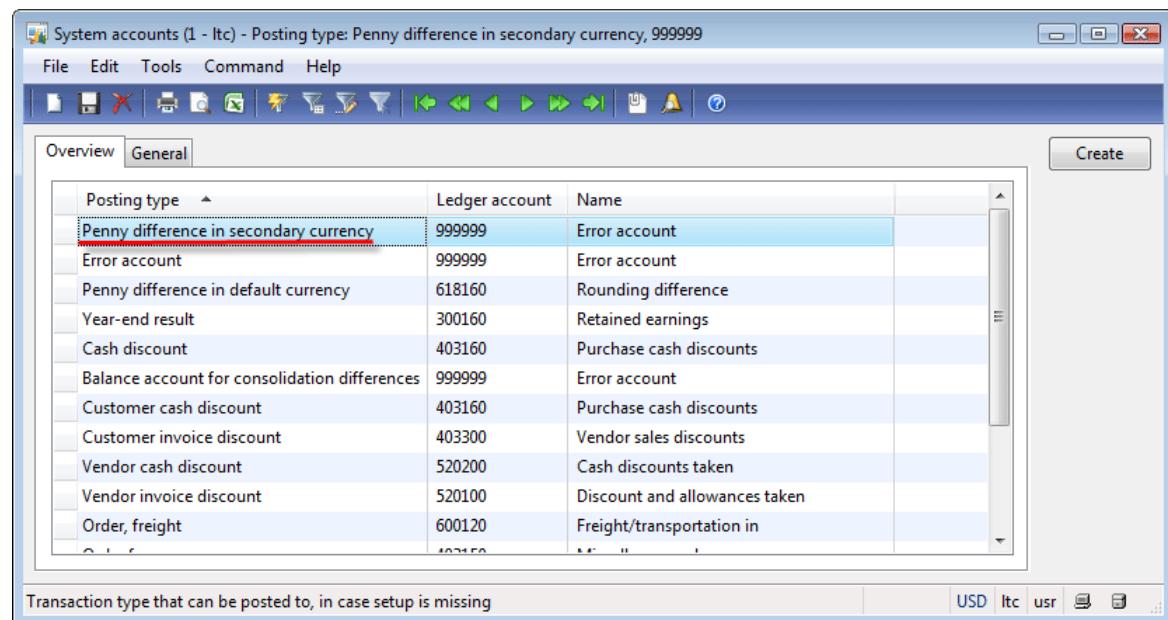


Figure 16.24 System accounts form

Note: If you do not feel confident in finance I recommend that you go through [this financial training](#). When I was learning finance in Microsoft Dynamics AX, it was an essential source of knowledge.

Training lesson summary

In this training lesson we have done the following:

1. Set up sales tax.
2. Set up commission.
3. Post an invoice.
4. Analyze results of invoice posting process (invoice document, inventory transactions, and general ledger transactions).

This is the last lesson in the Trade and Logistics training. I hope this training will help you understand the Microsoft Dynamics AX Trade and Logistics module.

The following issues have been covered during the Trade and logistics training:

1. How to create an Item
2. What an item group, an inventory model group, and an inventory dimension group are
3. Purchase business process
4. How to create a Vendor
5. Warehouses, aisles, racks, shelves, bins, store zones, store areas, and locations

Post an Invoice

6. Forklifts and pallet types
7. How to create a Purchase order
8. Item arrival and registration process in Microsoft Dynamics AX
9. Print management system
10. Purchase order posting: Packing slip and Invoice
11. Sales business process
12. How to create a Sales order
13. Available to promise
14. Shipment process in Microsoft Dynamics AX
15. Shipping carrier interface
16. Miscellaneous charges, sales tax, and commissions
17. Sales order posting: Packing slip and Invoice

The following issues are not included into the training:

1. Serial and batch numbers
2. Quarantine management
3. Vendor returns
4. Customer returns
5. Over/Under Delivery
6. Customer and Vendor Trade Agreements
7. Request For Quote
8. Purchase Requisitions
9. Sales Quotation
10. Quality Management
11. Transfer Orders
12. Inventory Journals
13. Inventory Reporting and Statistics

I am planning to create a video training to be paid for the Trade and Logistics module that will cover all these areas. You can follow me on [Facebook](#) or [Twitter](#) and be informed about the status and the progress of trainings.

Thank you all for nice words. You really support me! 😊

17. Quarantine management

Hi! In this training lesson, we will study the Quarantine Management functionality in Microsoft Dynamics AX.

Introduction

The quarantine management is used to manage items that must be quality controlled (quarantine items). For example, the Fans Company purchases fans and sells them. Customers often return a lot of fans because they don't work. The Fans Company decides to check the purchased fans. As a result, the company creates a special place in the warehouse. All fans which arrive to the warehouse are transported to this place for quality control. The Quality Manager will randomly pick fans from each case and will check how they work. If a selected fan works, whole case is marked as checked. Then, the checked cases will be transported to the destination location.

Microsoft Dynamics AX uses a quarantine order to control quarantine items. Let's check how this works in the application.

Create and Set Up an Item

We will work with [this demo data](#). Let's create the Fan item. We have already studied how to create an item in [this training lesson](#), so you need to create an item with the following values:

1. Item number = *101*
2. Item name = *Fan*
3. Item group = *Packaging*
4. Inventory model group = *FRP_QUAR*
5. Dimension group = *N-WLP*

There are two groups attached to an item which affect whether an item can be used in quarantine management:

1. Inventory model group. An inventory model group can be accessed from **Inventory Management > Setup > Inventory > Inventory model groups**. The **Quarantine management** check box on the **Setup** tab must be selected. We have set up the **FRP_QUAR** inventory model group for the Fan item, this group has the following setup:

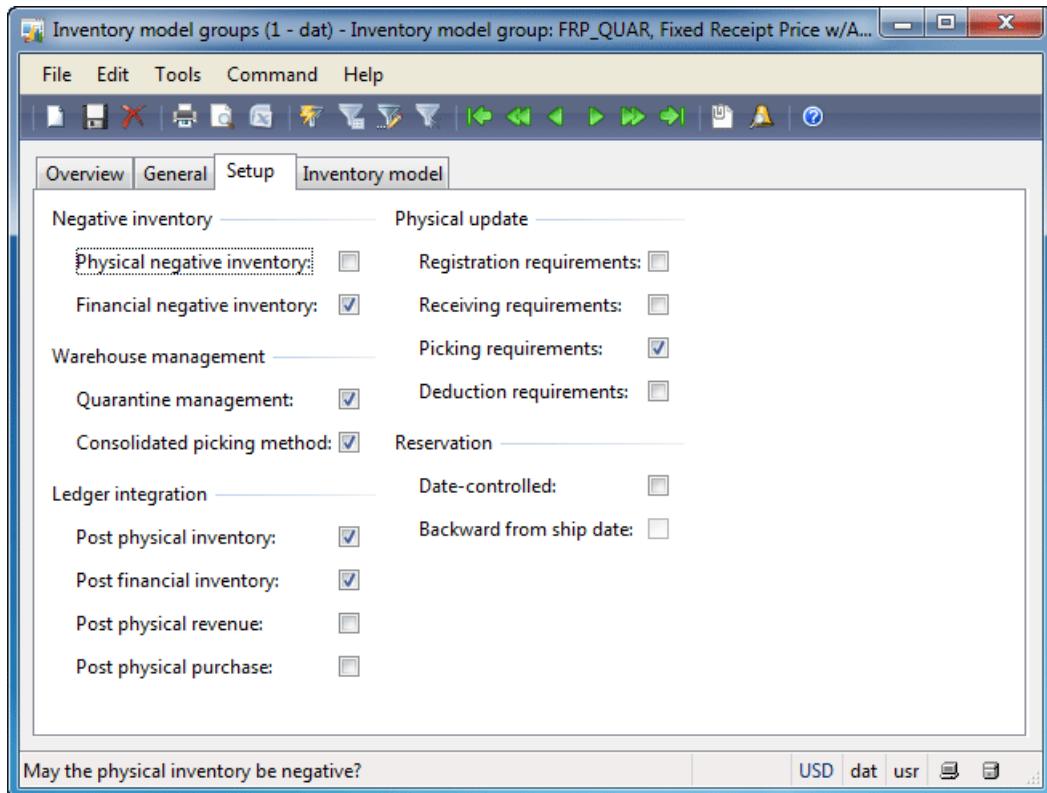


Figure 17.1 Inventory model groups form

2. Dimension group. This group determines what parameters are required to store an item. The minimum setup is *Site* and *Warehouse*. The **Dimension groups** form can be accessed from **Inventory Management > Setup > Dimensions > Dimensions groups**. We have set up the N-WLP dimension group for the Fan item, this group has the following setup:

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The screenshot shows the 'Inventory dimensions' form in Microsoft Dynamics AX 2009. The main title bar reads 'Inventory dimensions (1 - dat) - Dimension group: N-WLP, Standard - Warehouse-Location-Pallet ID'. Below the title bar is a toolbar with various icons. The main area is divided into three tabs: 'Dimension group', 'Item dimensions - activation and setup', and 'Storage dimensions - activation and setup'. The 'Item dimensions' tab is currently active, showing two sections: 'Overview' and 'General'. The 'General' section contains a table with columns: Active, Name, Mandatory, Primary stocking, Blank receipt allowed, Blank issue allowed, Physical inventory, Financial inventory, and Coverage plan by dimens...'. The 'Storage dimensions' tab also has an 'Overview' section with a similar table. The bottom of the form includes a status bar with 'Identification of inventory dimension group' and several small icons.

Figure 17.2 Inventory dimensions form

Let's set up additional parameters for the Fan item. We suppose that:

1. The Fan item will be transported on the 42*42 pallet. In the **Item** form, go to the **Setup** tab > **Warehouse management** field group, and fill in 42"X42" in the **Pallet type** field. Save the line (CTRL + S).
2. The default pallet quantity is 12. In the **Warehouse management** field group, find the **Pallet quantity** field and fill in 12. Save the line.
3. There will be three levels of items stored on the pallet, each level containing four pieces.. In the **Warehouse management** field group, find the **Quantity per layer** field and fill in 4. Save the line.
4. We suppose that the purchase price for the Fan item will be 5\$. In the **Item** form, go to the **Price/Discount** tab > **Base purchase price** field group and fill in 5 in the **Price** field. Save the line.
5. The default purchase order quantity will be 100. In the **Item** form, click the **Setup** > **Default order setting** menu button. The **Default order settings** form opens. On the **Purchase order** tab > **Purchase quantity** field group fill in 100 in the **Standard order quantity** field. Save the line.

Set Up a Warehouse

In introduction, we have mentioned about a special place in a warehouse where the item will be placed in order to verify its quality (a quarantine place). Let's understand how we can set up quarantine places in Microsoft Dynamics AX.

If we go to the **Locations** form (**Inventory Management > Setup > Inventory breakdown > Locations**) and look through the location types we will not find the quarantine type. We can't set up a separate location as a quarantine one. Microsoft Dynamics AX allows creating only a quarantine warehouse. So, if the company uses one warehouse for storing and controlling the quality of items, the space in the warehouse must be divided into two logical parts – a warehouse and a quarantine warehouse. A quarantine warehouse can have the same types of locations as the general warehouse has (i.e. bulk locations, picking locations, outbound and inbound docks).

Since the company can have several quarantine warehouses, each quarantine warehouse is assigned to a warehouse.

We assume that the Fan company receives fans to the warehouse 22, and the identification of the quarantine warehouse is 28.

I use the demo data, so the warehouse 22 already exists, let's check its setup:

1. Go to **Inventory Management > Setup > Inventory breakdown > Warehouses**. The **Warehouses** form opens.
2. Find the warehouse 22 and go to the **General** tab. Make sure that the **Quarantine warehouse** field is filled in with the value 28.

Quarantine Management

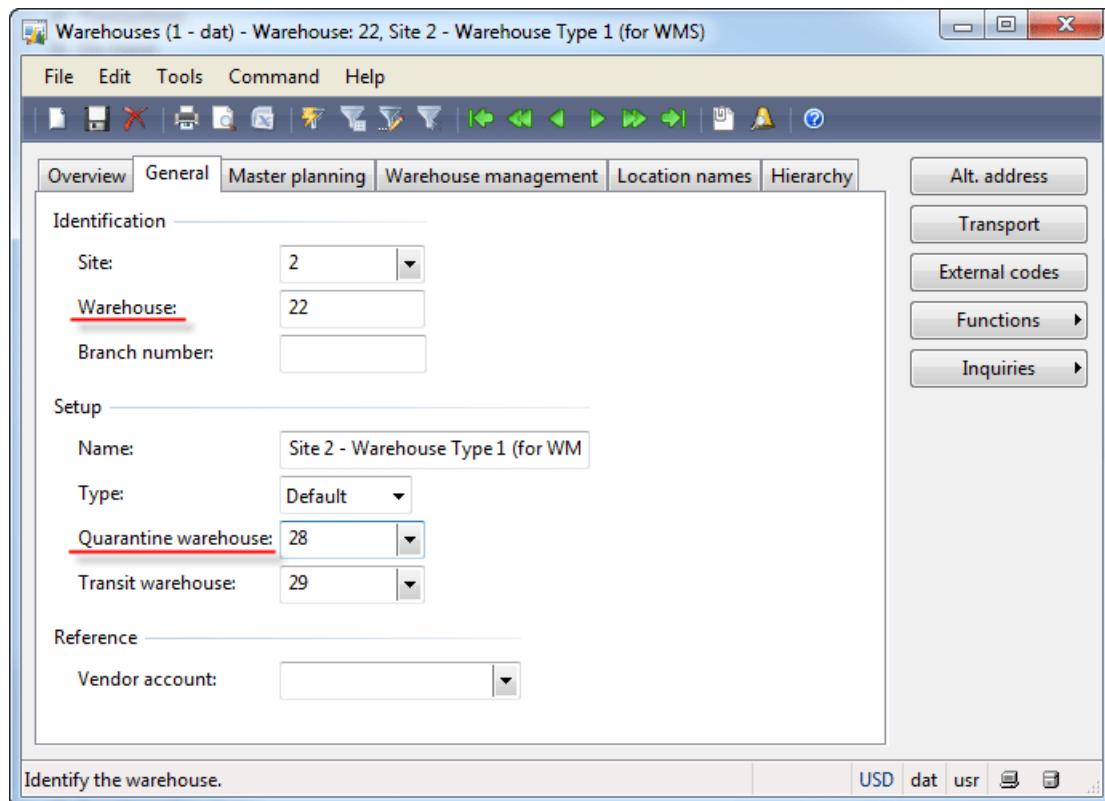


Figure 17.3 Warehouses form

If an item will be received to a warehouse that doesn't have the quarantine warehouse set up and the item must be quarantine controlled, the receival process will be stopped and an error message will be shown.

Order Items

We assume that the Purchase Manager orders 100 Fans from the 1001 the Earth Televisions vendor.

Create a purchase order:

1. Go to the **Accounts Receivable > Common Forms > Purchase Order Details**. The **Purchase order** form opens.
2. Create a new line. The **Create purchase order** form opens. Select the 1001 vendor.
3. In the lines area, create a new line with the following values:
 - o Item number = 101
 - o Site = 2
 - o Warehouse = 22
4. Save the line. Note that the **Quantity** field is automatically filled in with 100 and the **Unit price** field is filled in with the value 5.

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We assume that the vendor packs the items and delivers them to the Fan company the same day. Check that the **Delivery date** field contains the current date (displayed in the lower part of the **Purchase order** form).

Let's check the inventory transactions:

1. Open the **Items** form and find the 101 item.
2. Click the **Transactions** button. The **Transactions on item** form opens.
3. Add the Location and Pallet dimension in the form: click the **Inventory > Dimensions display** button. In the **Inventory dimensions** form, select the **Location** and **Pallet id** check boxes and click **OK**. The **Transactions on item** form will have the following view:

The screenshot shows the 'Transactions on item' form with the reference 'Purchase order, 000095, Item number: 101'. The main grid displays a single row of data:

Configuration	Size	Color	Site	Warehouse	Batch number	Serial number	Physical date	Financial date	Reference	Number	Receipt	Issue	Quantity	Cost amount
	2	22							Purchase order	000095	Ordered		100.00	

On the right side of the form, there are several buttons: 'Inventory', 'Ledger', 'Functions', and 'Configuration details'. At the bottom left, it says 'Identification of item configuration.' and at the bottom right, there are buttons for 'USD', 'dat', 'usr', and other icons.

Figure 17.4 Transactions on item form, Ordered

Item Arrival and Registration

For more information, see the [Item arrival and registration training lesson](#).

When the truck with the Fan items arrives to the warehouse 22, the Purchase Manager starts the arrival and registration process:

1. Go to the **Inventory Management > Periodic > Arrival overview**. The **Arrival overview** form opens.
2. Find the created purchase order and select the **Select for arrival** check box.
3. Click the **Start arrival** button.
4. The Infolog with the information about the created arrival journal ID will be shown.
5. Click the **Show** button in the **Infolog** dialog box or go to **Inventory Management > Journals > Item arrival > Item arrival**. The **Location journal** form opens. Find the last journal.
6. Click the **Lines** button in the **Location journal** form. The **Journal lines** form opens.

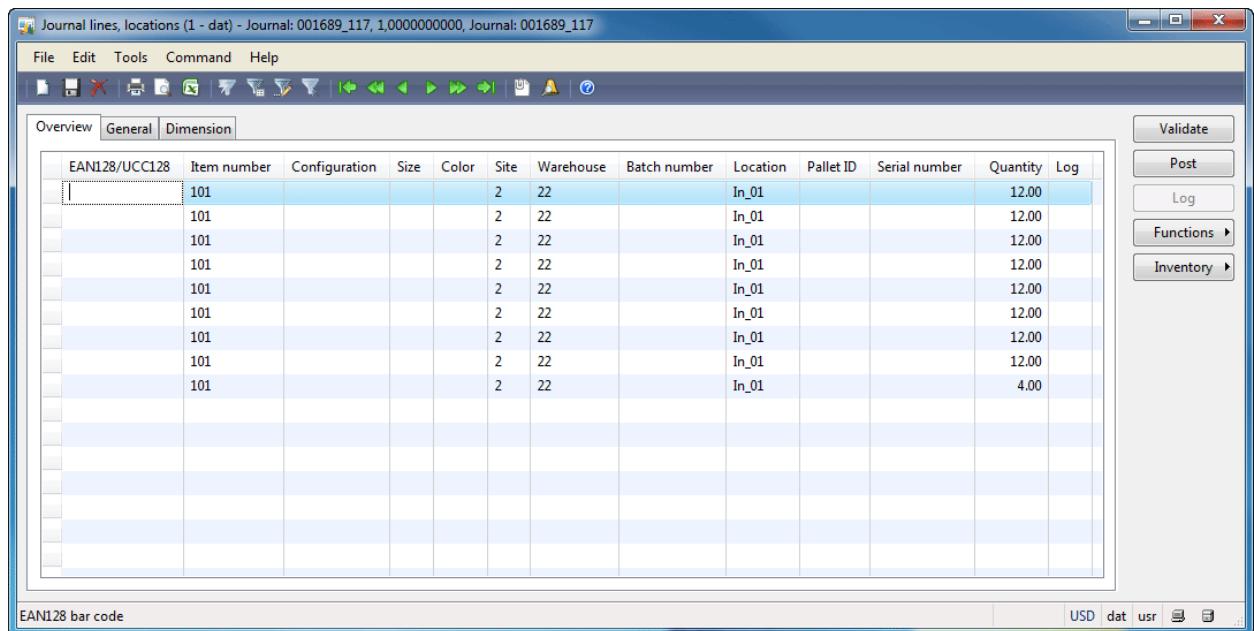


Figure 17.5 Journal lines form

We can see that one purchase order line with 100 fans is divided into 9 separate arrival journal lines with 12 fans. This is because we store items on pallets and the default pallet quantity for the Fan item is 12 (**Item form > Setup tab > Warehouse management** field group > **Pallet quantity** field). Each pallet will be transported to an individual place (location) in the warehouse. The items are received from the truck and placed onto pallets with the help of a Lumper. For more information, see the [Purchase business process lesson](#).

7. The Purchase Manager examines received pallets and generates pallet numbers for them. Pallet numbers are required because the Fan item uses the N-WLP inventory dimension group (i.e. when fan items are registered in the warehouse, they must be stored on pallets in a specific location). For each journal line, click the **Functions > Pallet id** menu button in the **Journal lines** form.
8. Now, the Purchase Manager creates tasks for the forklift driver to transport pallets from an inbound dock to the destination location. A pallet transport task will be created during the posting process if the **Pallet transport** check box is selected for the journal line. In the **Journal lines** form go to the **General tab > Mode of handling** field group and make sure that the **Pallet transport** check box is selected for each journal line. The destination location will be searched during the posting process. The quarantine location will be searched only if the **Quarantine management** check box is selected for the journal line. In the **Journal lines** form, go to the **General tab > Mode of handling** field group and make sure that the **Quarantine management** check box is selected for each journal line. Note that the **Pallet transport** check box is selected by default if the item dimension group has the Pallet ID dimension active. Note that the **Quarantine management** check box is selected by default on the journal line if item inventory model group has the **Quarantine management** check box selected.

The screenshot shows the Microsoft Dynamics AX Journal lines form. The General tab is selected. The Identification section contains fields for Journal (001689_117), Line No (1.0000000000), Date (1/10/2011), Item number (101). The Reference section includes Account number (1001), Reference (Purchase order), Number (000095), Lot ID (00019281_06), and Quantity (12.00). The Pallet section shows Pallet type (42"X42"). The Return order section has RMA number and Disposition code fields. On the right side of the screen, there are several buttons: Validate, Post, Log, Functions, and Inventory. A red box highlights the 'Quarantine management' checkbox in the Mode of handling group.

Figure 17.6 Journal lines form, General tab

The Purchase Manager clicks the **Post** button in the **Journal lines** form.

9. The “Item 101, dimensions: Warehouse=28, has no picking location in warehouse 28” error message will appear.

How is the destination location for the pallet searched? The Microsoft Dynamics AX has several parameters to control the process of destination location searching. First of all, each arrival journal line has the parameters to control what type of location must be included in the search. In the **Journal lines** form, go to the **General tab > Mode of handling** field group. There are the **Check picking location** and **Check buffer location** check boxes. In our case, both check box are selected this means that Microsoft Dynamics AX will look through the picking and bulk locations in the quarantine warehouse.

Let's check what locations there are in the quarantine warehouse 28. Go to the **Inventory Management > Setup > Inventory breakdown > Warehouses**. The **Warehouses** form opens. Find the warehouse 28 and navigate to **Inquiries > Locations**. The **Locations** form opens.

Quarantine Management

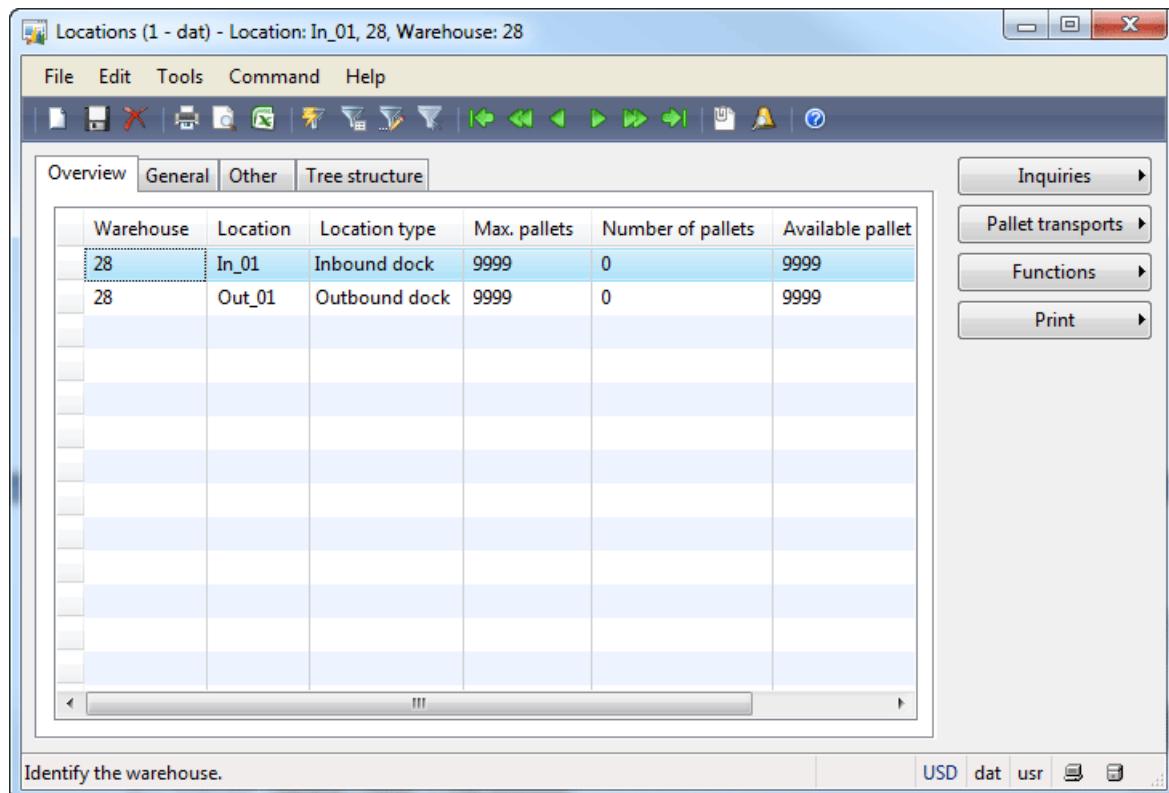


Figure 17.7 Locations form

We can see that the quarantine warehouse 28 contains neither picking nor bulk locations.

In the **Locations** form, create a new location with the following parameters:

- Location type = *Picking location*
- Warehouse = 28
- Aisle = 01
- Rack = 1
- Max. pallets = 1000 (we assume that all pallets will be inspected in one quarantine location.)
- Height = 10 000

Quarantine Management

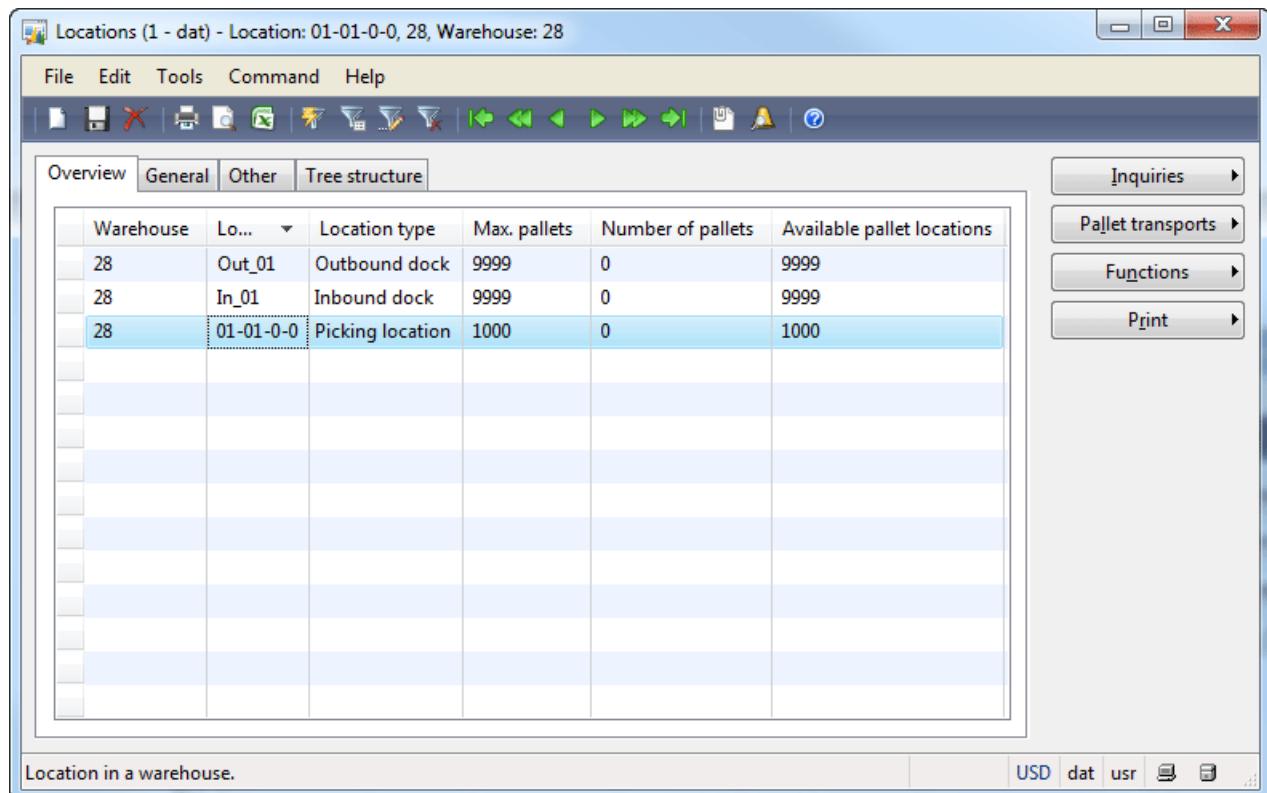


Figure 17.8 Locations form, new picking location

Now, we need to set up the picking location for the Fan item in the warehouse 28. Because each item has a definite picking location:

1. Open the **Item** form and find the Fan item (**Inventory Management > Common Forms > Item details**).
2. Click the **Setup > Warehouse items** menu button. The **Warehouse items** form opens. This form contains item settings for a specific warehouse. Create a new setting for the warehouse 28.
3. Create a new line with Warehouse = 28 setting. Save the line.
4. Go to the **Locations** tab. This tab contains parameters used when a destination location for the Fan item is searched in the warehouse 28. A Store zone is used when searching among bulk locations in the warehouse (for more information, see the [Item arrival and registration lesson](#)). Since we create a large picking location, the store zone will not be used in the search. But, the store zone must be filled in. Lets select the *Quar*(Quarantine zone) in the **Store zone** field (ignore the info message). In the **Picking location** field, select the 01-01-0-0 picking location. This location has a lot of available places to store the pallets. Save the line.

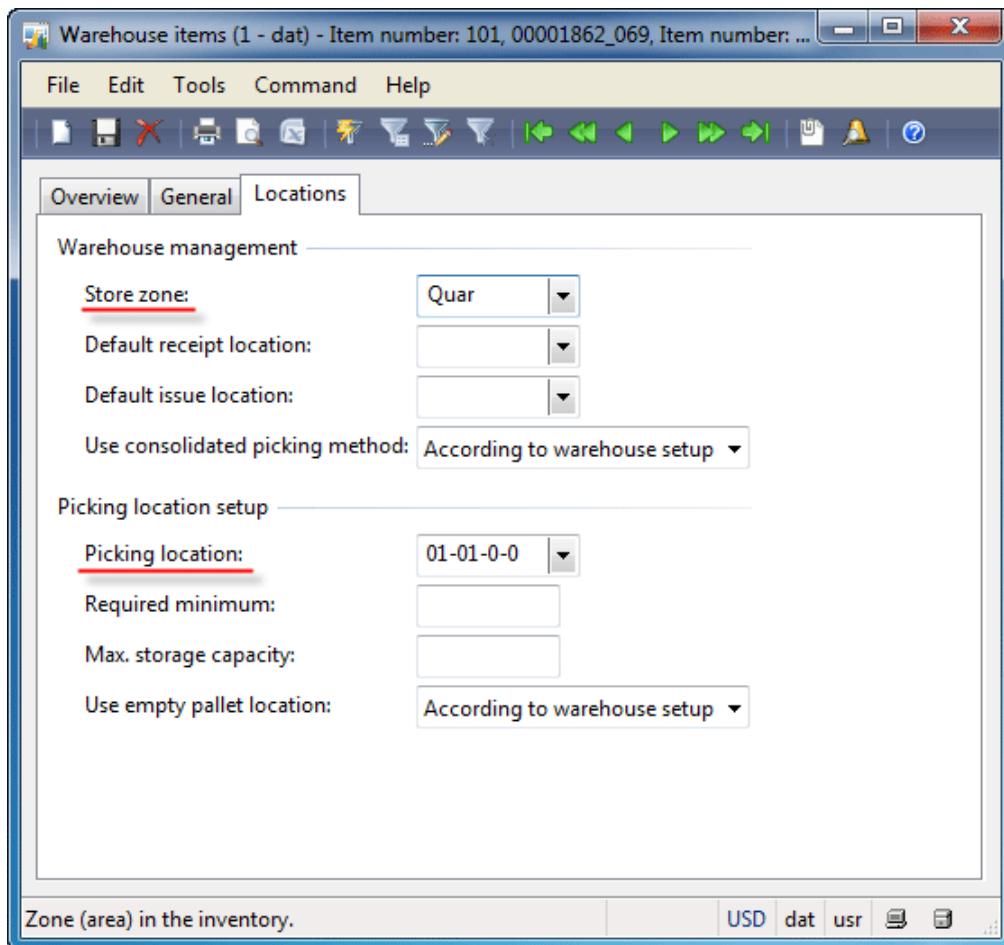


Figure 17.9 Warehouse items form, 28 warehouse

Let's return to the **Journal lines** form and click the **Validate** button. The **Infolog** dialog box with the "Journal is OK" message appear. So, now we can post the journal. Click the **Post** button.

Let's check the posting results:

- Inventory transactions. Open the **Items** form and find the 101 item. Click the **Transactions** button. The **Transactions on item** form opens. Add the Location and Pallet dimension in the form: click the **Inventory > Dimensions display** button. In the **Inventory dimensions** form, select the **Location** and **Pallet id** check boxes and clear the **Configuration**, **Size**, **Color**, **Batch number** and **Serival number** check boxes and click **OK**. The **Transactions on item** form will have the following view:

Quarantine Management

Figure 17.10 Transactions on item form, Arrived

We can see that the Fan items are registered as arrived to the In_01 location in the warehouse 22. So, items are already in the warehouse.

- Pallet transports. Let us check the pallet transport. A pallet transport is an instruction for a forklift driver, it contains the information about the location of pallets to be taken and the location to which they must be placedGo to the **Inventory Management > Pallet transports**. The **Pallet transports** form opens.

Quarantine Management

The screenshot shows the 'Pallet transports' form in Microsoft Dynamics AX 2009. The main grid displays 13 transport tasks, each with a checkbox, Pallet ID (e.g., 0000095_114), From warehouse (22), Pickup location (In_01), To warehouse (28), Destination location (01-01-0-0), Item number (101), Quantity (12.00 or 4.00), Tag status (checkboxes), and To pallet required (checkbox). Below the grid is a 'Lines' tab showing a single row for item 101 with quantity 12.00, configuration 2, and tag status 'Not applicable'. On the right side, there are buttons for Lock transport, Select another pallet, Start transport, Change destination location, Complete transport, and Update lines. A 'Split' button is also present. At the bottom, there are buttons for Inventory, Read tag, and Write tag.

Figure 17.11 Pallet transports form

We can see that pallet transports from the inbound dock In_01 (warehouse 22) to the picking location 01-01-0-0 in the quarantine warehouse 28 are generated.

Transfer Pallets to Quarantine Warehouse

Forklift drivers receive the pallet transport task. It can be done in different ways – via an RF terminal or it can be paper-based. Forklift drivers start to move pallets from the inbound dock to the destination location. When a forklift driver picks a pallet, this information must be recorded in Microsoft Dynamics AX. For this purpose, the **Start transport** button can be used. When this button is clicked, the pallet will be marked as started and another forklift driver will know about it. When the forklift driver puts away the pallet to the destination location this information must be recorded into Microsoft Dynamics AX. For this purpose, the **Complete transport** button exist. When this button is clicked, the pallet will be registered in the destination location.

Let's begin:

1. Select the first line in the **Pallet transports** form (**Inventory management > Common Forms > Pallet transports**) and click the **Start transport** button. The **Start transport** form opens. Click **OK**.
2. Click the **Complete** button. Note that the pallet transport line disappears from the **Pallet transport** form.

Quarantine Management

3. Repeat the same steps for each line.

Let's check inventory transactions. Open the **Items** form and find the 101 item. Click the **Transactions** button. The **Transactions on item** form opens.

Site	Warehouse	Location	Pallet ID	Physical date	Financial date	Reference	Number	Receipt	Issue	Quantity	Cost amount
2	22	In_01	00000095_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000096_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000097_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000098_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000099_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000100_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000101_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000102_114			Purchase order	000095	Registered		12.00	
2	22	In_01	00000103_114			Purchase order	000095	Registered		4.00	
2	22	In_01	00000095_114			Quarantine order	00000004_077	Ordered		12.00	
2	28	01-01-0-0	00000095_114			Quarantine order	00000004_077	Reserved physical	-12.00		
2	22	In_01	00000096_114			Quarantine order	00000005_077	Ordered		12.00	
2	28	01-01-0-0	00000096_114			Quarantine order	00000005_077	Reserved physical	-12.00		
2	22	In_01	00000097_114			Quarantine order	00000006_077	Ordered		12.00	
2	28	01-01-0-0	00000097_114			Quarantine order	00000006_077	Reserved physical	-12.00		
2	22	In_01	00000098_114			Quarantine order	00000007_077	Ordered		12.00	
2	28	01-01-0-0	00000098_114			Quarantine order	00000007_077	Reserved physical	-12.00		
2	22	In_01	00000099_114			Quarantine order	00000008_077	Ordered		12.00	
2	28	01-01-0-0	00000099_114			Quarantine order	00000008_077	Reserved physical	-12.00		
2	22	In_01	00000100_114			Quarantine order	00000009_077	Ordered		12.00	
2	28	01-01-0-0	00000100_114			Quarantine order	00000009_077	Reserved physical	-12.00		
2	22	In_01	00000101_114			Quarantine order	00000010_077	Ordered		12.00	
2	28	01-01-0-0	00000101_114			Quarantine order	00000010_077	Reserved physical	-12.00		
2	22	In_01	00000102_114			Quarantine order	00000011_077	Ordered		12.00	
2	28	01-01-0-0	00000102_114			Quarantine order	00000011_077	Reserved physical	-12.00		
2	22	In_01	00000103_114			Quarantine order	00000012_077	Ordered		4.00	
2	28	01-01-0-0	00000103_114			Quarantine order	00000012_077	Reserved physical	-4.00		
2	22	In_01	00000095_114	1/10/2011		Quarantine order	00000004_077	Received		12.00	
2	28	01-01-0-0	00000095_114	1/10/2011		Quarantine order	00000004_077	Deducted		-12.00	
2	22	In_01	00000096_114	1/10/2011		Quarantine order	00000005_077	Received		12.00	
2	28	01-01-0-0	00000096_114	1/10/2011		Quarantine order	00000005_077	Deducted		-12.00	
2	22	In_01	00000097_114	1/10/2011		Quarantine order	00000006_077	Received		12.00	
2	28	01-01-0-0	00000097_114	1/10/2011		Quarantine order	00000006_077	Deducted		-12.00	
2	22	In_01	00000098_114	1/10/2011		Quarantine order	00000007_077	Received		12.00	
2	28	01-01-0-0	00000098_114	1/10/2011		Quarantine order	00000007_077	Deducted		-12.00	
2	22	In_01	00000099_114	1/10/2011		Quarantine order	00000008_077	Received		12.00	
2	28	01-01-0-0	00000099_114	1/10/2011		Quarantine order	00000008_077	Deducted		-12.00	
2	22	In_01	00000100_114	1/10/2011		Quarantine order	00000009_077	Received		12.00	
2	28	01-01-0-0	00000100_114	1/10/2011		Quarantine order	00000009_077	Deducted		-12.00	
2	22	In_01	00000101_114	1/10/2011		Quarantine order	00000010_077	Received		12.00	
2	28	01-01-0-0	00000101_114	1/10/2011		Quarantine order	00000010_077	Deducted		-12.00	
2	22	In_01	00000102_114	1/10/2011		Quarantine order	00000011_077	Received		12.00	

Figure 17.12 Transactions on item form, Received in quarantine location

Since the **Transactions on item** form contains the information about all pallets with Fan items, it is difficult for us to analyze the result. So, let us limit the result to one pallet and examine it.

Right-click the **Pallet id** field with the 00000095_114 value and select the **Filter by Selection** option (your pallet id can differ). The **Transactions on item** form will have the following view:

Quarantine Management

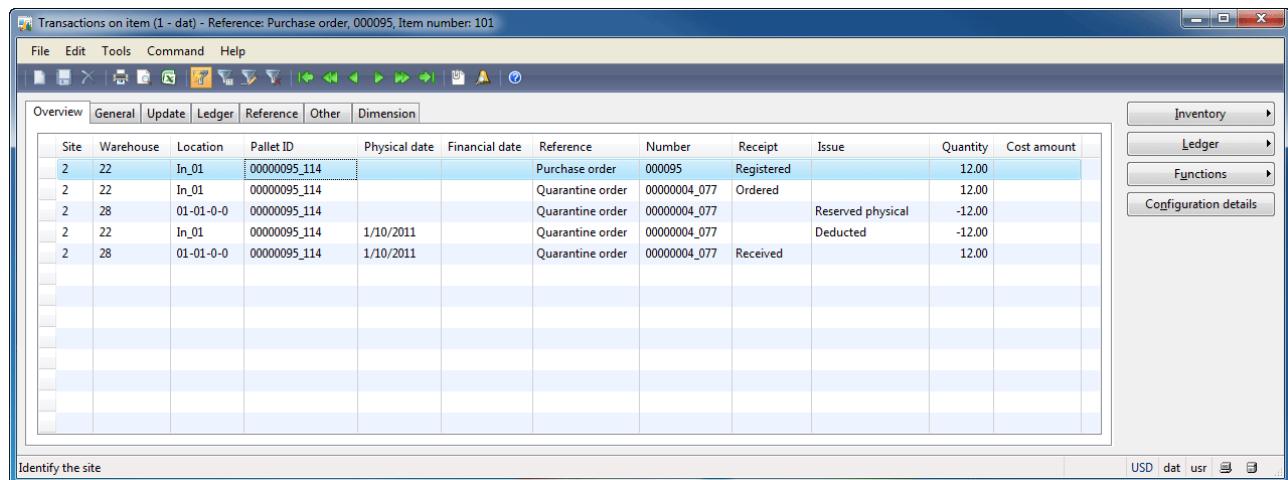


Figure 17.13 Transactions on item form, for one pallet

When we click the **Complete transport** button, the following happens:

1. The pallet is registered in the In_01 location and is deducted from it as it is moved to the destination location (the pallet can't be deducted if it is not registered).
2. The pallet is received in the 01-01-0-0 location and is reserved in it as it is placed in this location and can't be further sold.
3. The pallet is ordered from the In_01 location as Microsoft Dynamics AX assumes that after the quality check, it will return to this location.

The same inventory transactions are generated for all pallets with the Fans item.

Quarantine Management

When we click the **Complete transport** button, a quarantine order is created. When the quarantine order is created, inventory transactions with the reference = Quarantine order are generated.

To view quarantine orders, go to **Inventory Management > Periodic > Quality management > Quarantine orders**. The **Quarantine order** form opens.

Quarantine Management

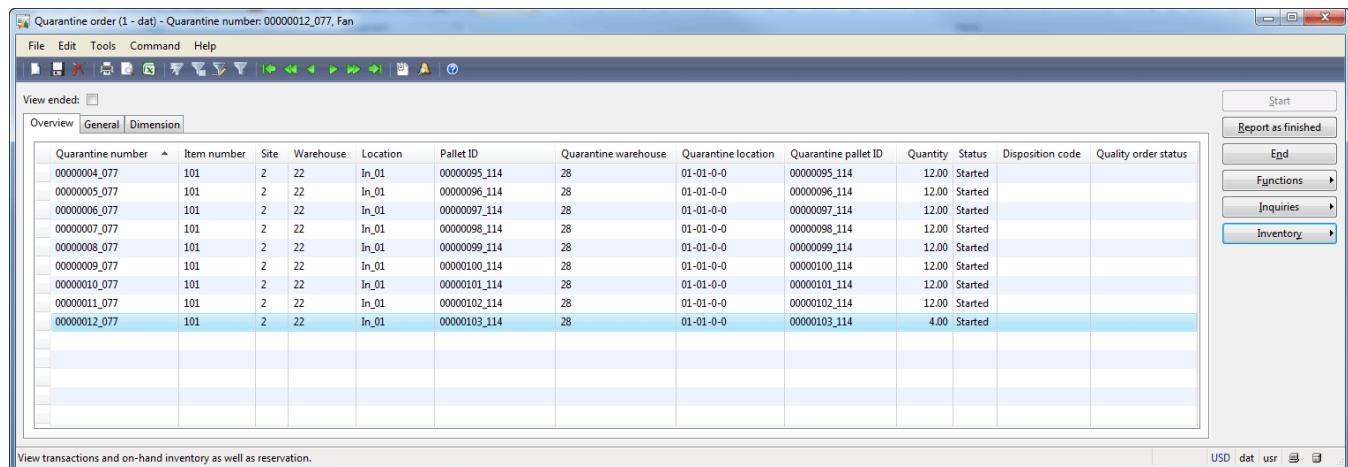


Figure 17.14 Quarantine order form

We can see that for each pallet the quarantine order is created. So, each pallet will be inspected for quality. A Quarantine order of the *Started* status means that the pallet is already moved from the inbound dock to the quarantine warehouse.

The Quality Manager will examine the pallet. In Microsoft Dynamics AX, it is possible to create a Quality order. This Order will define the rules how an item must be examined. We will learn the Quality management in the next training lesson. We assume that the Quality Manager takes one Fan from each pallet and checks whether it works. The Quality Manager can approve a pallet, return items with defects to the vendor or scrap items.

If the Quality Manager returns items with defects, the Purchase order with negative quantity for the specific vendor must be created manually (a Return order).

We assume that all pallets are checked and approved. To record into Microsoft Dynamics AX that pallets are approved, the Quality Manager clicks the **Report as finished** button in the **Quarantine order** form.

Select all quarantine orders in the grid and click the **Report as finished** button. The **Report as finished** form opens. Click **OK**.

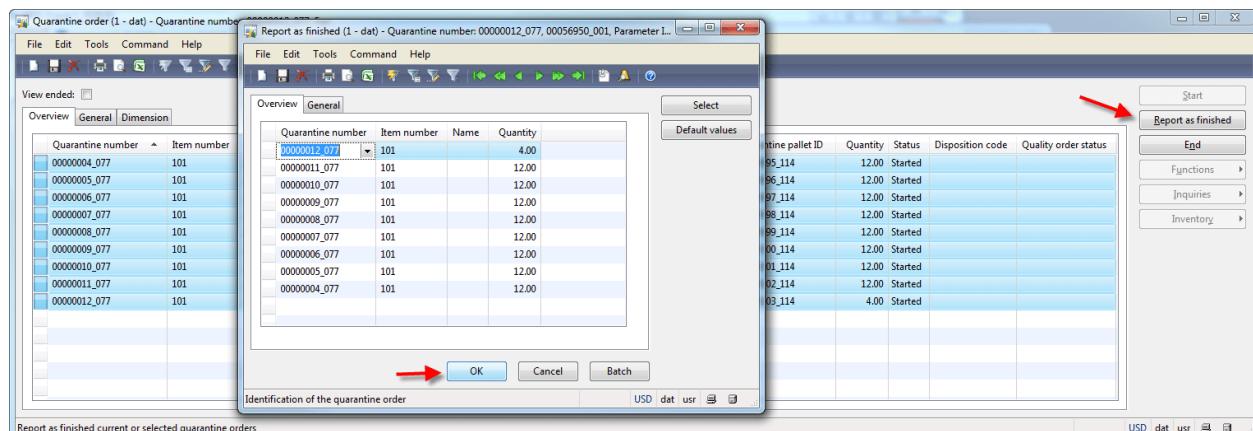


Figure 17.15 Report as finished form

Transfer Pallets to Destination Location

When pallets are checked in the quarantine warehouse, they must be moved to destination locations. To perform this action, the Warehouse Manager does the following:

1. Open the **Arrival overview** form. Go to **Inventory Management > Periodic > Arrival overview**. The **Arrival overview** form opens.

Select for arrival	Status date	Reference	Number	Lines	Pallets	Quantity	Volume	Weight	Quarantine control	Receipt in progress	RMA number
<input type="checkbox"/>	1/10/2011	Quarantine order	0000004_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000005_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000006_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000007_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000008_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000009_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000010_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000011_077	1	1	12.00	0.00	0.00	<input type="checkbox"/>	None	
<input type="checkbox"/>	1/10/2011	Quarantine order	0000012_077	1	1	4.00	0.00	0.00	<input type="checkbox"/>	None	

Below the grid:

- Site: 2 Account number: Vendor reference:
- Warehouse: 22 Name: 28 Mode of delivery:

Select for arrival	Reference	Number	Status date	Site	Warehouse	Item number	Pallets	Quantity	Volume	Weight	Quantity in progress	Arrival handling time	Q	O	I.
<input type="checkbox"/>	Quarantine...	000000...	1/10/2011	2	22	101	1	12.00	0.00	0.00	00:00				

Total for selected lines: Pallets: 0 Quantity: 0.00 Volume: 0.00 Weight: 0.00 Handling time: 0:00
Total for lines in progress: Pallets: 0 Quantity: 0.00 Volume: 0.00 Weight: 0.00 Handling time: 0:00

Select which receipts to show

Figure 17.16 Arrival overview form

As we can see, the form contains all quarantine orders.

2. Select the **Select for arrival** check box for all quarantine orders.
3. Click the **Start arrival** button. The **Infolog** dialog box with the created journal number will appear. Note that one journal for all lines will be created.
4. Click the **Show** button in the **Infolog** dialog box or go to the **Inventory Management > Journals > Item arrival > Item arrival**. The **Location journal** form opens.
5. Click the **Lines** button. The **Journal lines** form opens.

The screenshot shows the 'Journal lines, locations (1 - dat) - Journal: 001690_117, 1,0000000000, Journal: 001690_117' window. The main grid displays journal lines for item number 101, located in site 2, warehouse 22, at location In_01. The grid columns include EAN128/UCC128, Item number, Site, Warehouse, Location, Pallet ID, Quantity, and Log. The 'Quantity' column shows values such as 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, 12.00, and 4.00. The 'Log' column is empty. On the right side of the window, there are buttons for Validate, Post, Log, Functions, and Inventory. The 'Inventory' button is highlighted. At the bottom, there are links for Show related transactions, USD, dat, usr, and a help icon.

EAN128/UCC128	Item number	Site	Warehouse	Location	Pallet ID	Quantity	Log
	101	2	22	In_01	0000095_114	12.00	
	101	2	22	In_01	0000096_114	12.00	
	101	2	22	In_01	0000097_114	12.00	
	101	2	22	In_01	0000098_114	12.00	
	101	2	22	In_01	0000099_114	12.00	
	101	2	22	In_01	0000100_114	12.00	
	101	2	22	In_01	0000101_114	12.00	
	101	2	22	In_01	0000102_114	12.00	
	101	2	22	In_01	0000103_114	4.00	

Figure 17.17 Journal lines form

6. We have already seen this form with the same values, but now the **Quarantine management** check box is not editable (**General** tab > **Mode of handling** field group > **Quarantine management** field).
7. Just as earlier, when we click the **Post** button, the Microsoft Dynamics AX will create the pallet transport from the inbound dock to the destination location. The destination location will be searched among the picking and bulk locations in warehouse 22. **Note:** The pallet is in the quarantine warehouse, but the journal lines contain the inbound location. As a result, the pallet transport from the inbound dock to the destination location will be created. In this case, when the forklift driver goes to the inbound dock, he will not find the pallet. I think this is a bug and arrival journal lines must contain the quarantine inventory dimensions. The workaround: manually change these values in the journal. Let's change warehouse 22 to 28 and location In_01 to 01-01-0-0. Perform this for all journal lines.

The screenshot shows a Microsoft Dynamics AX application window titled "Journal lines, locations (1 - dat) - Journal: 001690_117, 1,0000000000, Journal: 001690_117". The window has a menu bar with File, Edit, Tools, Command, and Help. Below the menu is a toolbar with various icons. The main area contains three tabs: Overview (selected), General, and Dimension. The Overview tab displays a grid of data with the following columns: EAN128/UCC128, Item number, Site, Warehouse, Location, Pallet ID, Quantity, and Log. The data grid shows multiple rows for item number 101, with Site 2 and Warehouse 28. The Pallet ID column contains values like 00000095_114, 00000096_114, etc. The Quantity column shows values like 12.00, 12.00, etc. The Log column is empty. On the right side of the window, there are several buttons: Validate, Post, Log, Functions, and Inventory. At the bottom, there is a status bar with USD, dat, usr, and other icons.

EAN128/UCC128	Item number	Site	Warehouse	Location	Pallet ID	Quantity	Log
	101	2	28	01-01-0-0	00000095_114	12.00	
	101	2	28	01-01-0-0	00000096_114	12.00	
	101	2	28	01-01-0-0	00000097_114	12.00	
	101	2	28	01-01-0-0	00000098_114	12.00	
	101	2	28	01-01-0-0	00000099_114	12.00	
	101	2	28	01-01-0-0	00000100_114	12.00	
	101	2	28	01-01-0-0	00000101_114	12.00	
	101	2	28	01-01-0-0	00000102_114	12.00	
	101	2	28	01-01-0-0	00000103_114	4.00	

Figure 17.18 Journal lines form, modified values

8. Let's click the **Validate** button. We will come across with the same issue – the Fan item doesn't have the picking location in warehouse 22 (in the previous issue, it was warehouse 28).
9. Create a warehouse item for warehouse 22:
 1. Open the **Item** form. Find the 101 (Fan) item.
 2. Click **Setup > Warehouse items**. The **Warehouse items** form opens.
 3. Create a new line with the following values:
 - Warehouse = 22
 - Store zone = All-22
 - Picking location = 01-01-01-1
 4. Save the line.
10. In the **Journal lines** form, click the **Validate** button to make sure that everything is right.
11. Post the journal (click the **Post** button).

Pallet transports from the inbound dock to the destination location are created.

Let's check inventory transactions. Open the **Items** form and find the 101 item. Click the **Transactions** button. The **Transactions on item** form opens. Filter the result for the 00000095_114 pallet. The **Transactions on item** form will have the following view:

Quarantine Management

Figure 17.19 Transactions on item form

Microsoft Dynamics AX finds the 01-01-01-1 destination location in warehouse 22 for the pallet. For more information about the search process, see the [Item arrival and registration training lesson](#).

We can see that only one this is changed after posting:

- An inventory transaction for the In_01 location of the status *Ordered* is changed to location 01-01-01-1 of the status *Arrived*. This is because Microsoft Dynamics AX defines the destination location and changes it from In_01 to 01-01-01-1.

Pallet transports from the quarantine location to the destination location are created (**Inventory Management > Common Forms > Pallet transports**).

Quarantine Management

The screenshot shows the 'Pallet transports (1 - dat) - Pallet ID: 00000095_114, 01-01-0-0' window. The 'General' tab is active, showing a list of transports. Each transport entry includes fields for Started, Pallet ID, From warehouse, Pickup location, To warehouse, Destination location, Item number, Quantity, Tag status, and To pallet required. On the right side, there are several buttons: Lock transport, Select another pallet, Start transport, Change destination location, Complete transport, and Update lines. Below the main table, there are tabs for Lines, General, and Dimensions. The Lines tab displays item details like Item number (101), Quantity (12.00), Configuration, Size, Color, Site (2), Batch number, Serial number, Item tagging, and Tag status (Not applicable). The Dimensions tab is partially visible. At the bottom, there are buttons for Split, Inventory (with Read tag and Write tag options), and a toolbar with USD, dat, usr, and other icons.

Figure 17.20 Pallet transports form

The last step is to complete the pallet transports. For each pallet transport, click the **Start transport** and **Complete transport** buttons.

Let's check inventory transactions. Open the **Items** form and find the 101 item. Click the **Transactions** button. The **Transactions on item** form opens. Filter the result for the 00000095_114 pallet. The **Transactions on item** form will have the following view:

The screenshot shows the 'Transactions on item (1 - dat) - Reference: Purchase order, 000095, Item number: 101' window. The 'General' tab is active, showing a list of transactions for item 101. The table includes columns for Site, Warehouse, Location, Pallet ID (00000095_114), Physical date, Financial date, Reference, Number, Receipt, Issue, Quantity, and Cost amount. The transactions listed include Purchase order, Quarantine order, and Purchased status. On the right, there are buttons for Inventory (with Read and Write options), Ledger, Functions, and Configuration details. A note at the bottom states 'Unique ID for the pallet (Serial Shipping Container Code)'. At the bottom, there are buttons for USD, dat, usr, and other icons.

Figure 17.21 Transactions on item form

Quarantine Management

We can see that

- The pallet is sold (deducted financially) from the In_01 inbound location.
 - The pallet is sold (deducted financially) from the 01-01-0-0 quarantine location.
 - The pallet is purchased (received financially) to the 01-01-01-1 destination location.

Also, we can check the on-hand quantity for all mentioned locations:

1. Go to **Inventory Management > Setup > Inventory breakdown > Locations**. The **Locations** form opens.
 2. Find the In_01 location (22 warehouse) and click the **Inquiries > On-hand** menu button. The empty **On-hand** form is shown.
 3. Find the 01-01-0-0 location and open the **On-hand** form. The empty **On-hand** form is shown.
 4. Find the 01-01-01-1 location. Open the **On-hand** form. The following form is shown:

Figure 17.22 On-hand form

Training Lesson Summary

In this training lesson, we go through all steps of receiving quarantine items. The topic studied uses the warehouse management functionality. Note that the number of steps can be decreased if an item doesn't use the warehouse management (a pallet, location dimensions are inactive).

We have studied the followings:

1. Created a quarantine item.
2. Set up a quarantine warehouse.
3. Ordered items.
4. Received items to the inbound dock.
5. Transferred items to the quarantine locations.
6. Used Quarantine management.
7. Transferred items to the destination locations.

All the best! 😊

18. Quality management

Hi there! In this training lesson, we will study what the Quality order and Nonconformance document are and how to work with them.

Introduction

Let's begin. As you may have noticed, the name of the current training lesson is Quality Management. Quality management allows the following:

- Set up quality tests
- Track items that must be quality controlled

When an item must be verified, a Quality order is created. A Quality order contains information about an item, the quantity to verify, and test instructions. Quality order does not generate inventory transactions, because all quality tests are performed in one place. But, if the item is destructed during the quality test, an inventory transaction must be generated.

Optionally, if the item does not pass the quality tests, a Non conformance is created. A Non conformance document contains information about non conforming items and allows managing these. A Non conformance can be created not only from a quality order, but also for example, based upon the customer's complaints against the returned item.

If a Quality order is created automatically as part of the business process (when purchasing, selling, or producing an item), it is not possible to move to the next business process step until the quality order is validated and closed.

The result of the quality verification is the certification of analysis.

In Microsoft Dynamics AX, we can find two terms – quality control and quality management.

From the Microsoft official documents:

- “The quality control component is used to set up and manage the quality testing requirements for a company.”
- “The quality management component is used to manage non conforming products and items, such as damaged or defective goods, and to track and resolve customer or vendor problems, such as product complaints or performance issues.”

Let's assume that a company resells speakers and the Quality team decides to test these items during the purchase.

Set Up Initial Data

To enable the Quality Management functionality in Microsoft Dynamics AX, locate the **Quality management** tab of the **Parameters** form in the **Inventory management** module. (**Inventory management > Setup > Parameters**) and select the **Use quality management** check box.

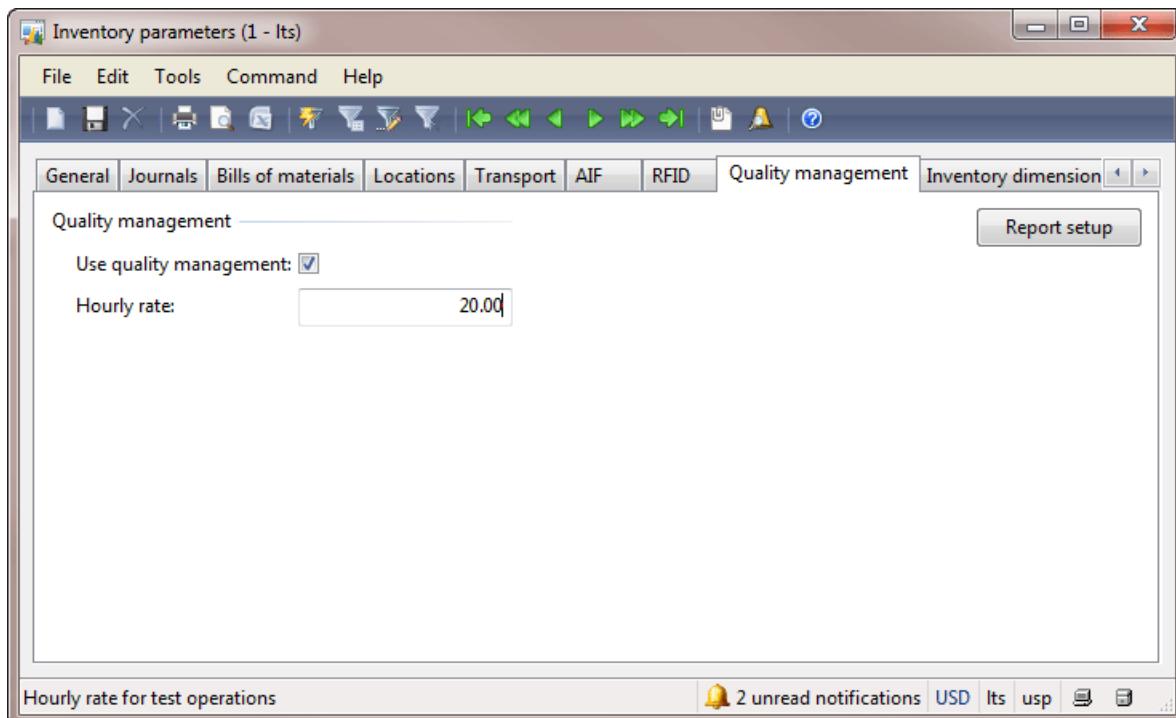


Figure 18.1 Inventory parameters

When the **Use quality management** check box is cleared, the fields related to quality management will not appear in the forms throughout Microsoft Dynamics AX 2009, and quality orders cannot be created.

Set Up Test Area

Test area is the name of the places where tests are performed. In Microsoft Dynamics AX 2009, the test area is only used for grouping the instruments. That is because different test areas can contain different sets of instruments. But, this information is not used in the system, only for informative purpose.

The following image provides test areas which are available in my demo data (**Inventory management > Setup > Quality control > Test areas**).

Quality Management

Figure 18.2 Test areas form

Set Up Test Instruments

The instruments that can be used to carry out tests are set up in the **Test instruments** form (**Inventory management > Setup > Quality control > Test instruments**).

The following image displays the test instrument available in my demo data.

Test instruments (1 - Its) - Test instrument: Measuring tape, Speaker enclosure

File Edit Tools Command Help

Overview General

Test instrument	Test area	Description	Unit
Measuring tape	Speaker enclosure	Speaker enclosure measuring	Mm

Test instrument.

USD Its usp

Figure 18.3 Test instruments form

Quality Management

On the **General** tab, there is the **Precision** field which is not used in the system. The main purpose of the test instrument is to assign a unit of measure to the quality test.

Change the value in the **Unit** field from *Option* to *Mm* (Millimeters).

Set Up Tests

Tests are used to determine whether quality processes meet predefined specifications and standards.

A test can be quantitative (with specifications and test results expressed as values for a specified unit of measure) or qualitative (with specifications and test results expressed as user-defined outcomes that reflect pass or fail).

Microsoft Dynamics AX 2009 has the following test result types:

- *Fraction*
 - *Integer*
 - *Option*

The first two relate to quantitative tests and the last one relates to qualitative tests.

The tests are set up in the **Tests** form (**Inventory management > Setup > Quality control > Tests**).

The following image displays qualitative test available in my demo data.

Figure 18.4 Tests form

Quality Management

Let's change the Enclosure measuring test type from *Option* (qualitative test) to *Fraction* (quantitative test). Click **Functions > Change quality test type**. In the form that opens, select the *Fraction* value in the **New type** field and then click **OK**.

Create a new Sound quality test with the following values:

- Test = *Sound quality*
- Description = *Sound quality*
- Type = *Option*

The screenshot shows the 'Tests' form in Microsoft Dynamics AX 2009. The window title is 'Tests (1 - Its) - Test: Sound quality, Sound quality'. The menu bar includes File, Edit, Tools, Command, and Help. Below the menu is a toolbar with various icons. The main area has tabs for Overview and General, with 'General' selected. A table displays test details:

Test	Description	Type	Test instrument	Unit
Sound quality	Sound quality	Option		
Enclosure measuring	Measuring the enclosure dimensions	Fraction	Measuring tape	Mm

At the bottom, there are buttons for Test result type, USD, Its, usp, and a save icon.

Figure 18.5 Tests form

Set Up Test Variables

In Microsoft Dynamics AX 2009, the qualitative tests use test variables as a test result. Each test variable contains acceptable and unacceptable test results.

Let's create a new Sound test variable with two possible outcomes – No acoustic noise and Acoustic noise. If there is acoustic noise in a speaker, the test result is failed.

1. Open the **Test variables** form (**Inventory management > Setup > Quality control >Test variables**).
2. Create a new Sound variable.
3. Click the **Outcomes** button. The **Test variable outcomes** form opens.
4. Create a new outcome with the following data:
 - Outcome = *No acoustic noise*
 - Outcome status = *Pass*

Quality Management

5. Create one more outcome:
 - o Outcome = *Acoustic noise*
 - o Outcome status = *Failed*

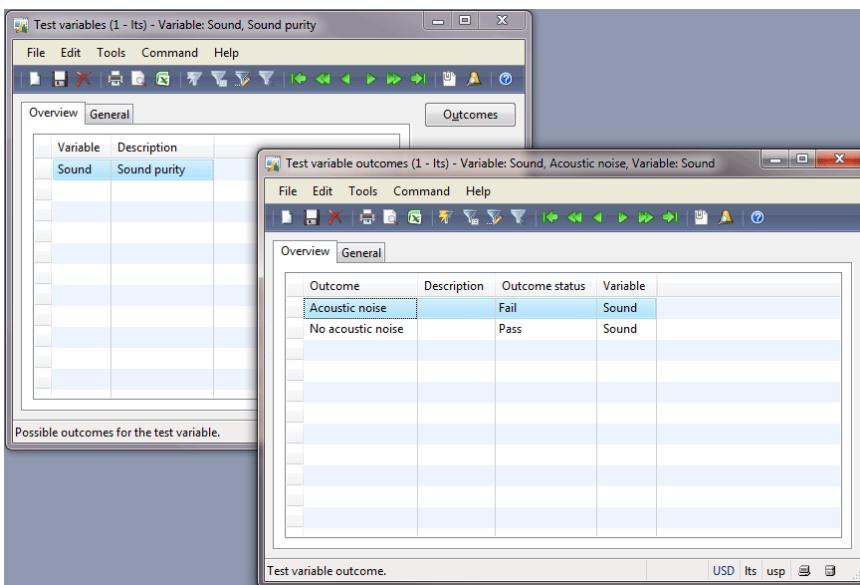


Figure 18.6 Test variables form

Set Up Item Sampling

The quantity of sample items to be tested is set up manually. Go to **Inventory management > Setup > Quality control > Item sampling**.

In my demo data, I have the item samplings displayed in the following screenshot.

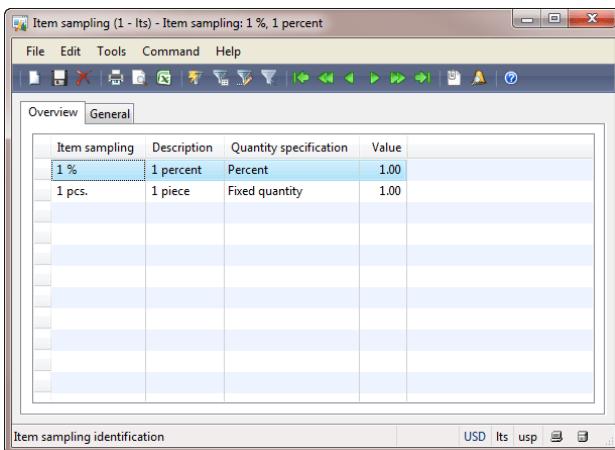


Figure 18.7 Item sampling

The quantity specified can be either a fixed or a percentage amount.

Set Up Test Groups

The test group contains the tests that must be performed for an item, item sampling parameter, and an acceptable quality level parameter. Note that a quality order is created on the basis of the test group.

Let's create the Acoustic test group:

1. Go to **Inventory management > Setup > Quality control > Test groups**. The **Test groups** form opens.
2. Create a new line with the following parameters:
 - Test group = *Acoustic*
 - Acceptable quality level = *50*. This means that 50% of tests must be passed.
 - Item sampling = “*1 %*”. This means that we will test only 1% of delivered for testing items.
 - Destructive test is cleared. It means that after the testing, the item will be returned back to the group of items delivered for testing.
3. In the bottom grid, we will add tests that will be performed in this test group.
4. First, a speaker will be measured. Let's assume that all speakers must be no more or less than 50 mm length. In the bottom grid, create a new line with the following parameters:
 - Sequence = *1*
 - Test = *Enclosure measuring*
 - On the **Test** tab, fill in the standard (acceptable) value for this test. Fill in *70* in the **Standard** field.
 - Note that the **Min** field contains the *0* and the **Max** field contains the *140* values. This means that all values from 0 to 140 are acceptable. In our case, it is not true. So, fill in *70* in the **Min** and **Max** fields.
 - Note that on the **Test** tab, the **Test instrument** field is automatically filled in with the *Measuring tape* value from the **Test** form. On the **General** tab, the **Certificate of analysis report** field is selected and the **Acceptable quality level** field is set to *100* by default.
5. Second, a speaker will be checked for the sound quality. In the bottom grid, create a new line with the following parameters:
 - Sequence = *2*
 - Test = *Sound quality*
 - For the qualitative test, a test variable must be set up. Go to the **Test** tab.
 - Variable = *Sound*
 - Default outcome = *No acoustic noise*

Quality Management

The **Test groups** form will have the following view:

Figure 18.8 Test groups form

Set Up Automatic Quality Order Generation

Let's assume that the Company decides to check the quality of purchased speakers from all vendors. The Quality Manager sets up the automatic generation of a quality order during the purchase process. A quality order will be generated after a packing slip is received.

Quality Management

This requirement is set up in the **Quality associations** form as follows:

1. Go to **Inventory management > Setup > Quality control > Quality associations**. The **Quality associations** form opens.
2. Create a new line with the following values:
 - o Site = 2
 - o Reference type = *Purchase order*
 - o Item code = *Table*
 - o Item = *1101*
 - o Account cod = *All (all vendors)*
 - o Test group = *Acoustic*
 - o Document type = *Packing slip*
 - o Execution = *After*

The **Quality associations** form will have the following view:

The screenshot shows the Microsoft Dynamics AX 2009 Quality associations form. The window title is "Quality associations (1 - Its) - Reference type: Purchase order, Packing slip". The main grid displays one row of data with the following values:

Site	Reference type	Item code	Item	Account code	Account selection	Work center code	Work center	Test group	Document type	Execution	Show info
2	Purchase order	Table	1101	All		All		Acoustic	Packing slip	After	<input checked="" type="checkbox"/>

Below the grid, there is a "Date interval" section with fields for "Valid from" (12:00:00 am) and "Valid to" (1/1/2015 01:59:59 am). At the bottom, there is a "Time of execution of the quality order" section and a toolbar with buttons for USD, Its, usp, and other options.

Figure 18.9 Quality associations form

To set up quality association for a group of items, a quality group containing these items must be created.

A quality group is created under **Inventory management > Setup > Quality control > Quality groups**. To add a new item, click **Setup > Add items** in the **Quality groups** form. You can view the grouped items in the **Item quality groups** form.

Quality Order

Now, we will purchase speakers and check whether a quality order is automatically generated.

Create a purchase order with the following values under **Accounts payable > Common Forms > Purchase order details:**

- Vendor = 1001
- Item number = 1101
- Site = 2
- Warehouse = 21
- Quantity = 400

Let's assume that the items were already delivered and now are stored in the warehouse.

To reflect this in the system, the Purchase Manager clicks **Posting > Packing slip** in the **Purchase order** form. The **Posting packing slip** form opens. Fill in any value in the **Packing slip** field. Click **OK**.

The packing slip is posted. You can find more information about what a packing slip is in [this training lesson](#). After the posting, the following Infolog appears:

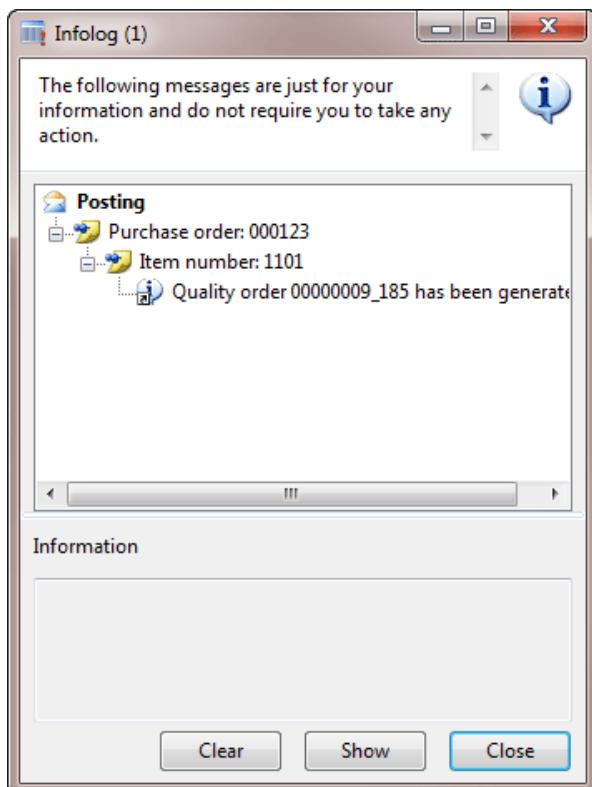


Figure 18.10 Infolog

Quality Management

A quality order containing 4 speakers is created (because of the sampling items parameter set on the test group). We can open the quality order by double-clicking on the Infolog line or going to **Inventory management > Periodic > Quality management > Quality orders**.

Figure 18.11 Quality orders form

We can see that the **Quality orders** form is very similar to the **Test groups** form. The quality order contains only test instructions. Note that when a quality order is created, the verified items are not transferred to a special location in the warehouse. For example, the quality order is created for the purchase order. The Quality Manager prints the quality order and goes to the place where the purchase order items are stored. This is not acceptable for companies with big warehouses. For big warehouses, the [Quarantine management](#) must be used. Received items will be transferred to a quarantine location. Quality orders will be generated based on a

quarantine order. And the Quality Manager will check the received items in the quarantine location instead of finding them in the warehouse.

In our case, we assume that the Quality Manager easily finds the received items in the warehouse.

Let's try to post an invoice for the purchase order. Since the quality order isn't closed, we expect that an invoice isn't posted. Let us return to the **Purchase order** form. Note that the **Quality order status** field is filled in. Click **Posting > Invoice**. Fill in any invoice number and then click **OK**. The invoice is posted! But from the official documentation we can read that "An infolog can warn that the quality order failed or is not yet closed when performing the next step in the business process.". But this works only if the quality order is automatically generated before the document (see what we set up in the "Set Up Automatic Quality Order Generation" chapter).

The Quality Manager finds the stored items and starts testing themes. The Quality Manager can write testing results on the paper and then enter these in the system. Unfortunately, in Microsoft Dynamics AX 2009, it is impossible to print a quality order with test instructions for the Quality Manager.

We assume that the Quality Manager receives the following testing results:

1. Enclosure measuring test results:
 - 3 speakers have the 70mm length
 - 1 speaker has the 72 mm length
2. Sound quality:
 - 4 speakers do not have acoustic noise

The Quality Manager returns to the working place and enters these results in the system:

1. Open the **Quality orders** form (**Inventory management > Periodic > Quality management > Quality orders**) and find the necessary order.
2. Select the Enclosure measuring test and click **Results** in the lower pane. The **Quality order line results** form opens.
3. Enter the test result:
 - Result quantity = 3, Test result = 70
 - Result quantity = 1, Test result = 72

Quality Management

The screenshot shows a Microsoft Dynamics AX application window titled "Quality order line results (1 - Its) - Quality order: 00000009_185, Enclosure measuring, Quality order: 00...". The menu bar includes File, Edit, Tools, Command, and Help. The toolbar contains various icons for file operations and navigation. The main area has tabs for Overview and General, with General selected. A table displays test results:

Result quantity	Outcome	Test result	Include in result	Test result
3.00		70.00	<input checked="" type="checkbox"/>	✓
1.00		72.00	<input checked="" type="checkbox"/>	✗

Below the table, a section labeled "Used symbols" shows "✗ Fail" and "✓ Pass". The status bar at the bottom indicates "The order line result.", "2 unread notifications", and navigation buttons for USD, Its, usp, and back/forward.

Figure 18.12 The Quality order line results form

Close the form.

4. Select the Sound quality test and click **Results**. In the **Quality order line results** form, enter the test result:
 - o Result quantity = 4, Outcome = No acoustic noise

The screenshot shows the same application window as Figure 18.12, but the table data reflects a Sound quality test result:

Result quantity	Outcome	Test result	Include in result	Test result
4.00	No acoustic noise	0.00	<input checked="" type="checkbox"/>	✓

The status bar at the bottom indicates "Quality order test-result quantity.", "USD", "Its", "usp", and navigation buttons.

Figure 18.13 The Quality order line results form

Close the form.

Quality Management

5. After entering the test results, the Quality Manager validates the entire quality order according to the acceptable quality level parameter. Click the **Validate** button in the **Quality order** form.
6. Select employee ID in the **Validate by** field and then click **OK**.
7. The **Quality orders** form will have the following view:

The screenshot shows the Microsoft Dynamics AX 2009 Quality orders form. The window title is "Quality orders (1 - Its) - Quality order: 00000009_185, High End Speaker - ash/12 inches, Quality order: 00000009_185". The menu bar includes File, Edit, Tools, Command, and Help. The toolbar has standard icons for file operations. The main area contains two tabs: Overview and General. The Overview tab shows a table with columns: Quality order, Item number, Test group, Quantity, Status, and Reference type. One row is visible with values: 00000009_185, 1101, Acoustic, 4.00, Pass, Purchase order. The General tab shows a table with columns: Sequence number, Test, Test result, Results entered, Include results, and D. Two rows are visible:

Sequence number	Test	Test result	Results entered	Include results	D
1	Enclosure measuring	✗	✓	✓	✓
2	Sound quality	✓	✓	✓	✓

A "Results" button is located on the right side of the General tab. At the bottom left, there is a "Used symbols" section with "✗ Fail" and "✓ Pass". At the bottom right, there is a status bar with "Validate the quality order", "2 unread notifications", "USD", "Its", "usp", and other icons.

Figure 18.14 Quality orders form

All tests for the quality order successfully passed and nothing is changed in the inventory and finance areas. So, the main purpose of the quality order is storing test results. In the end, the Quality Manager can create and print a certificate of analysis for a quality order. A certificate of analysis certifies that materials or products are tested and found to comply with redefined specifications or standards (from official manuals).

To create and print the certificate of analysis, the Quality Manager performs the following steps:

1. Click the **Inquires > Certificate of analysis** button in the **Quality orders** form. The **Certificate of analysis** form opens.

Quality Management

2. Create a new line.
3. Save the record.
4. Click the **Print** button to print the certificate.

In our case, the certificate of analysis will have the following view:

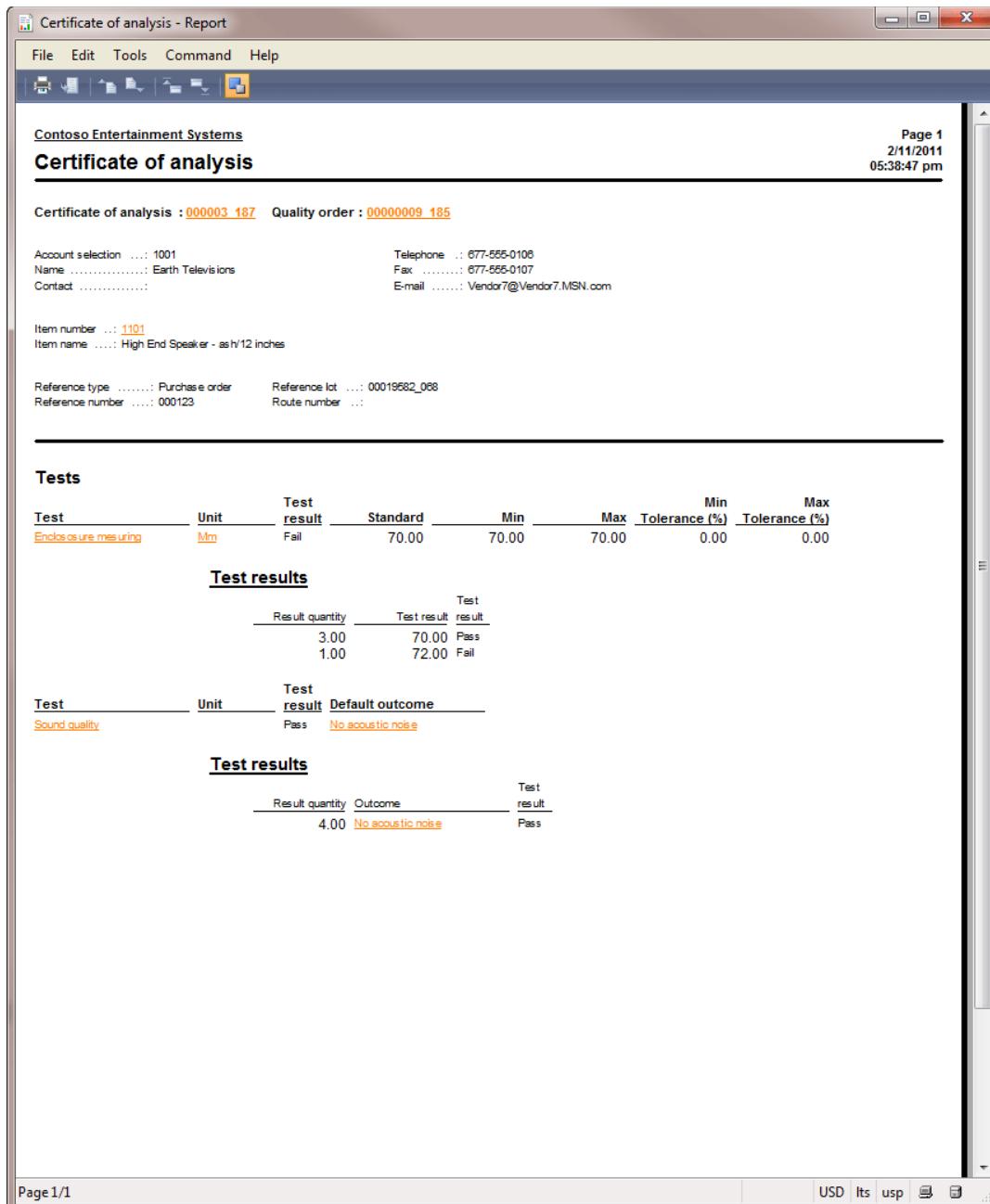


Figure 18.15 Certificate of analysis

In the next chapter, we will study how to handle the damaged or defective items that have been found during the testing.

Non Conformance

If the Quality Manager finds damaged or defective items, he or she will create a non conformance. A non conformance document describes the products and items that do not comply with the predefined performance or the quality standards and the problem source.

The problem source is defined as a non conformance type (Internal, Customer, Vendor, Service request, Production).

In Microsoft Dynamics AX 2009, the only thing that we can do with the damaged or defective item is printing and attaching a non conformance tag. Any scrap, movement, or returns are not available now. Also, non conformance doesn't affect the quality order and vise versa. It means that if all tests for the quality order passed, the non conformance can be created.

The Quality Manager wants to print a special label for the damaged item. To do this, he or she performs the following steps:

1. Prerequisite: set up a problem type
 1. **Inventory management > Setup > Quality management > Problem types.** The **Problem types** form opens.
 2. Create a new line with the following value: Problem type = *Size*.
 3. Click the **Non conformance types** button. The **Problem/Non conformance types validation** form opens.
 4. Create a new line with the following value: *Vendor*
2. In the **Quality orders** form, click **Inquiries > Non conformances.** The **Non conformance** form opens.
3. Create a new line with the following values:
 - o Problem type = *Size*
 - o Defective = 1

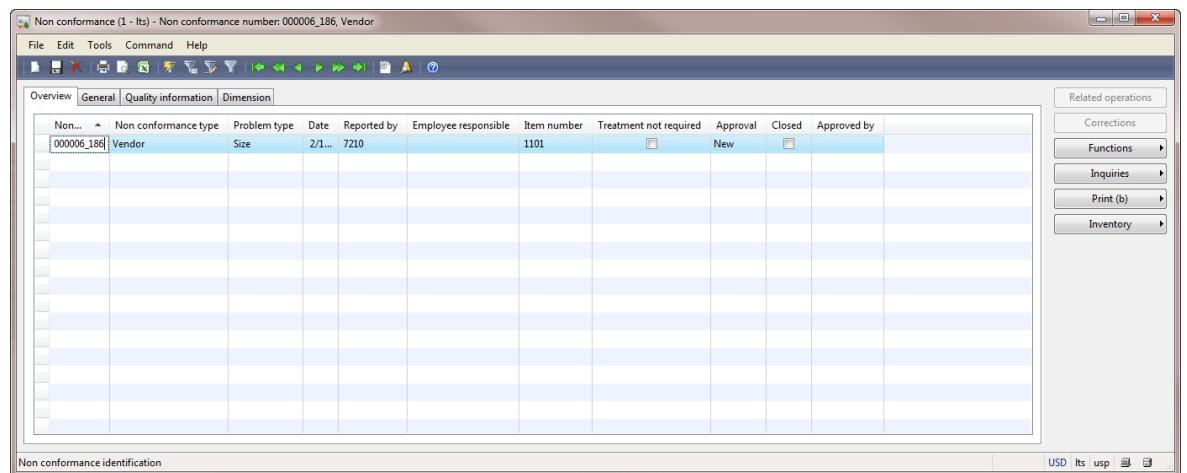


Figure 18.16 Non conformance form

Click **Functions > Approve non conformance**.

The Quality Manager can add the following information for the approved non conformance:

- operations with cost amount
- diagnostics

But this information is not used in the system it is only for the informational purpose.

The Quality Manager closes the non conformance: click the **Functions > Close non conformance** button.

Print a special tag for the item: **Print > Non conformance tag**. In our case, the non conformance tag will have the following view:

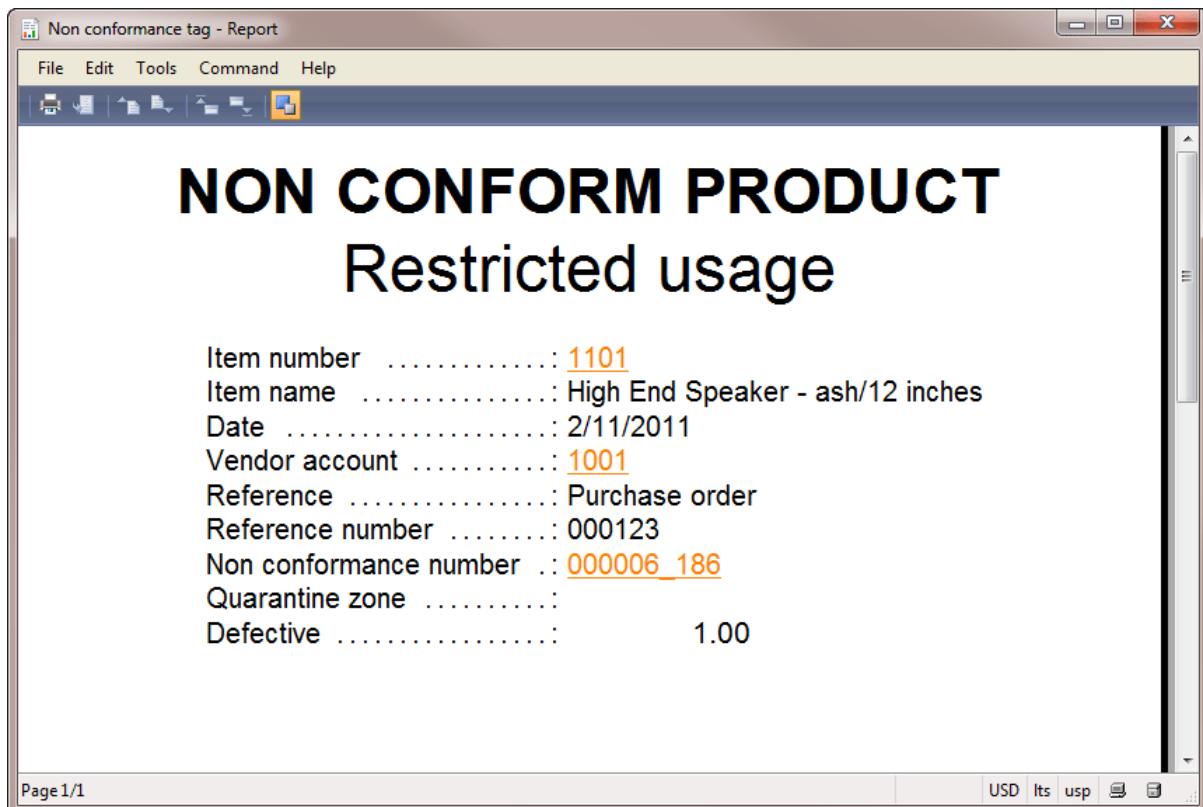


Figure 18.17 Non conformance tag

Training Lesson Summary

In this training lesson, we have studied the Quality Management functionality:

1. Set up a test group.
2. Automatically generate the quality order.
3. Work with a quality order.
4. Handle the damaged or defective items.

The following conclusion has been created:

1. The quality order doesn't allow going to the next business process step if it is generated before the document.
2. The quality order doesn't generate any inventory or general ledger transactions. The quality order stores test results only.
3. The result of quality verification is printing the certificate of analysis document. It is printed from the quality order.
4. For damaged or defective items, the non conformances are created. Non conformance doesn't generate any inventory or general ledger transaction. It only stores the information about damaged or defective items. The only thing that can be done with these items is attaching a non conformance tag to them.

19. Transfer orders

Hi there! In this training lesson, we will study how to work with a transfer order in Microsoft Dynamics AX.

Introduction

The transfer order is used for registering in the system the items that must be moved from one warehouse to another and for managing this process. What is the difference between a transfer journal and a transfer order? With the help of the **transfer journal**, the Inventory Manager transfers the items from one dimension (warehouse, location, color, etc) to another one **instantaneously**. The **Transfer order** is used for managing the transfer process itself – that is all steps of transferring an item from one place to another. (Transfer journals are located under **Inventory management > Journals > Item transaction > Transfer**.)

Transfer orders are located under **Inventory management > Periodic > Transfer orders**.

We will study the most complex flow when items must be picked and registered in the system (i.e. we will use the Warehouse Management functionality). I will use [this demo data](#).

Let's assume that the Inventory Manager wants to move 5 Standard Digital Video Recorder Model 01 (1601) items from warehouse 22 to warehouse 23.

Prerequisite Step

We need to have the Standard Digital Video Recorder Model 01 (1601) items on-hand in the warehouse 22.

You can perform all required purchase steps to have it on-hand (i.e. create a purchase order, arrive items, register items, and post a packing slip and an invoice). For more information, you can read [this training lesson](#).

Or, we can add item on-hand with the help of the counting journal:

1. Go to **Inventory management > Journals > Item counting**. The **Inventory journal** form opens.
2. Click the **Create new** button. The **Inventory dimension** form opens.
3. Select the **Warehouse** check box and then click **OK**. The **Journal lines** form opens.
4. Create a line with the following values:
 - o Item number = 1601
 - o Site = 2
 - o Warehouse = 22

Transfer Orders

- Location = *01-03-01-1* (any location)
- Pallet = *00000125_114* (you can create a new pallet and use one)
- Quantity = *50* (the new on-hand quantity)

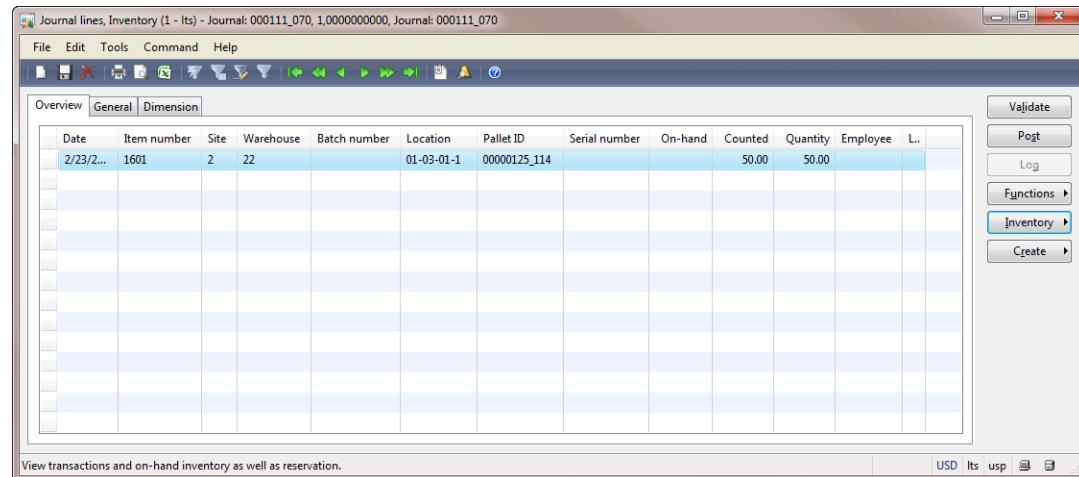


Figure 19.1 Counting journal lines

5. Click the **Post** button.

The counting journal has been posted. Let's check the on-hand inventory for the 1601 item:

1. Go to **Inventory management > Common Forms > Item details**. The **Item** form opens.
2. Find and select the 1601 item and then click the **On-hand** button. The **On-hand** form opens.

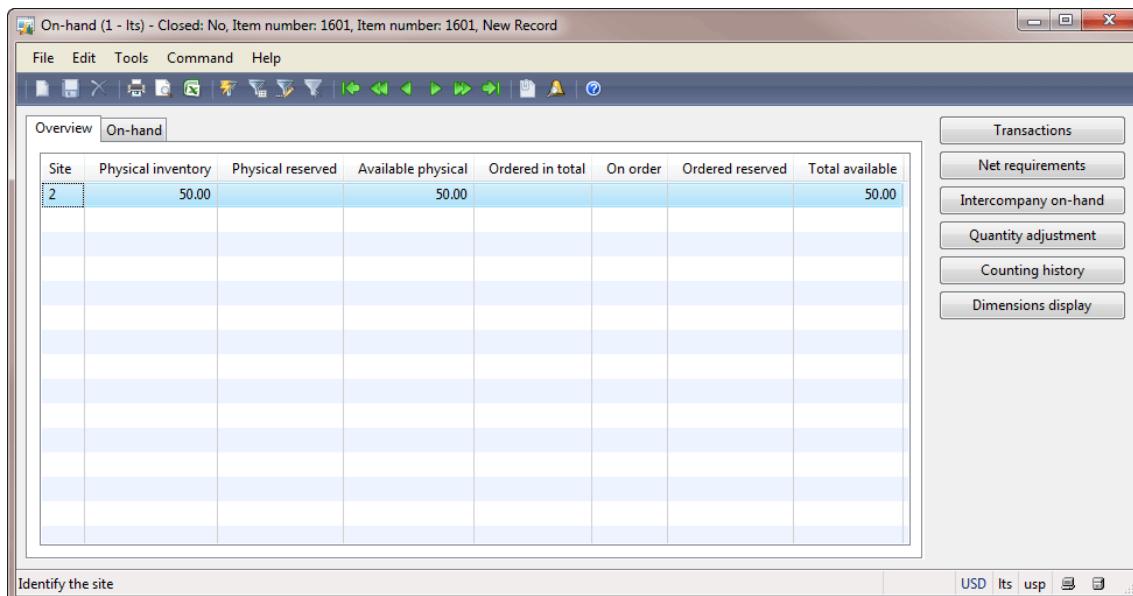


Figure 19.2 On-hand form

Transfer Orders

Note: to view the warehouse, location, and pallet dimensions, click the **Dimension display** button and then select the corresponding check boxes.

We have added the on-hand for the 1601 item in the warehouse 22, so now we can transfer 5 items from the warehouse 22 to the warehouse 23.

Prerequisite Setup

Where is the item on-hand recorded when it is half way from the warehouse 22 to the warehouse 23? These warehouses don't have the on-hand for the transported items.

In Microsoft Dynamics AX, the transit warehouse is available for these purposes. When items are half way from one warehouse to another one, they are recorded to the transit warehouse.

In our case, the warehouse 22 must have the transit warehouse. Let's check:

1. Go to **Inventory management > Setup > Inventory breakdown > Warehouses**. The **Warehouses** form opens.
2. Find the warehouse 22 and then go to the **General** tab.

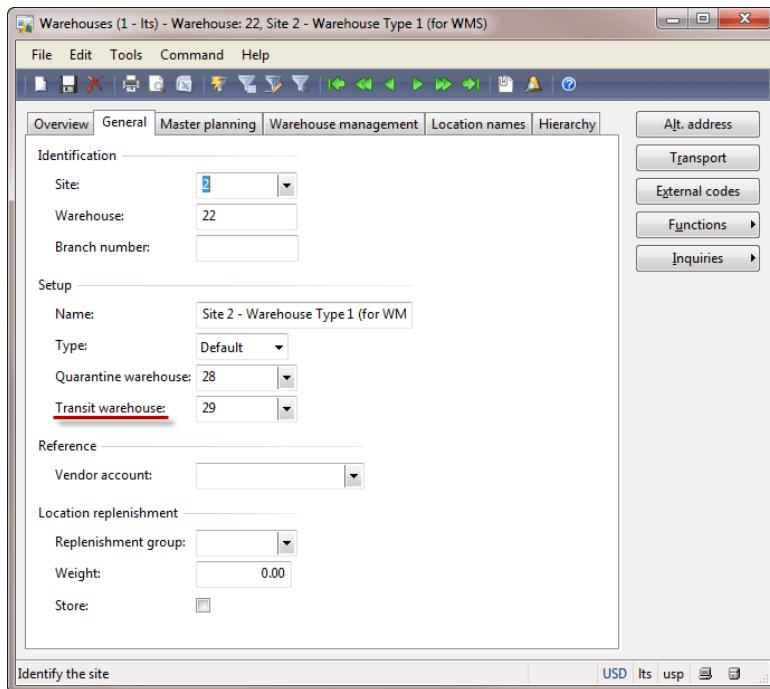


Figure 19.3 Warehouses form

We can see that the warehouse 22 uses the warehouse 29 as transit warehouse.

Let's create a transfer order and analyze generated inventory transactions.

Create Transfer Order

Now, the Inventory Manager will create the transfer order:

1. Go to **Inventory management > Periodic > Transfer orders**. The **Transfer orders** form opens.
2. The transfer order consists of the header and lines.
3. Create new line. Fill in the transfer order header with the following values:
 - o From warehouse = 22
 - o To warehouse = 23
 - o Shipment date = *today*. The **Available ship and receipt dates** form opens.

The screenshot shows the 'Available ship and receipt dates' dialog box. At the top, a message box displays: 'Message (18:09:51)' and 'The entered ship date 2/23/2011 is not valid because it is within the sales lead time period.' Below the message are input fields for 'Mode of delivery', 'Warehouse' (set to 22), 'Lead time' (set to 3), and 'Transport days' (set to 0). Under 'Order entry deadline', the current date and time are shown as '2/23/2011 06:09 pm'. The 'Time zone' section shows '(GMT+02:00) H' for My time and '(GMT-05:00) Ea' for Shipping location time. A large grid table below lists days from Wednesday to Saturday, their available ship dates, and available receipt dates. The first row (Wednesday) has a warning icon next to the receipt date. The bottom of the dialog shows 'Records displayed: 30' and buttons for 'Disable dlv. date control', 'Transfer to requested', and 'Cancel'.

Day	Available ship date	Day	Available receipt date
Wednesday	2/23/2011	Wednesday	2/23/2011 ⚠
Thursday	2/24/2011	Thursday	2/24/2011 ⚠
Friday	2/25/2011	Friday	2/25/2011 ⚠
Saturday	2/26/2011	Saturday	2/26/2011
Sunday	2/27/2011	Sunday	2/27/2011
Monday	2/28/2011	Monday	2/28/2011
Tuesday	3/1/2011	Tuesday	3/1/2011
Wednesday	3/2/2011	Wednesday	3/2/2011
Thursday	3/3/2011	Thursday	3/3/2011
Friday	3/4/2011	Friday	3/4/2011
Saturday	3/5/2011	Saturday	3/5/2011

Figure 19.4 Available ship and receipt dates form

This is because the transfer order, like a sales order uses the Delivery date control functionality. To get more information about it, read the [Create Sales order](#) article. In this training lesson, we will not use the Delivery date control functionality. Click the **Disable dlv. date control** button in the **Available ship and receipt dates** form.

- o Receipt date = *today*.

Transfer Orders

4. Create a transfer order line with the following values:
 - o Item number = 1601
 - o Transfer quantity = 5
5. The **Transfer orders** form will have the following view:

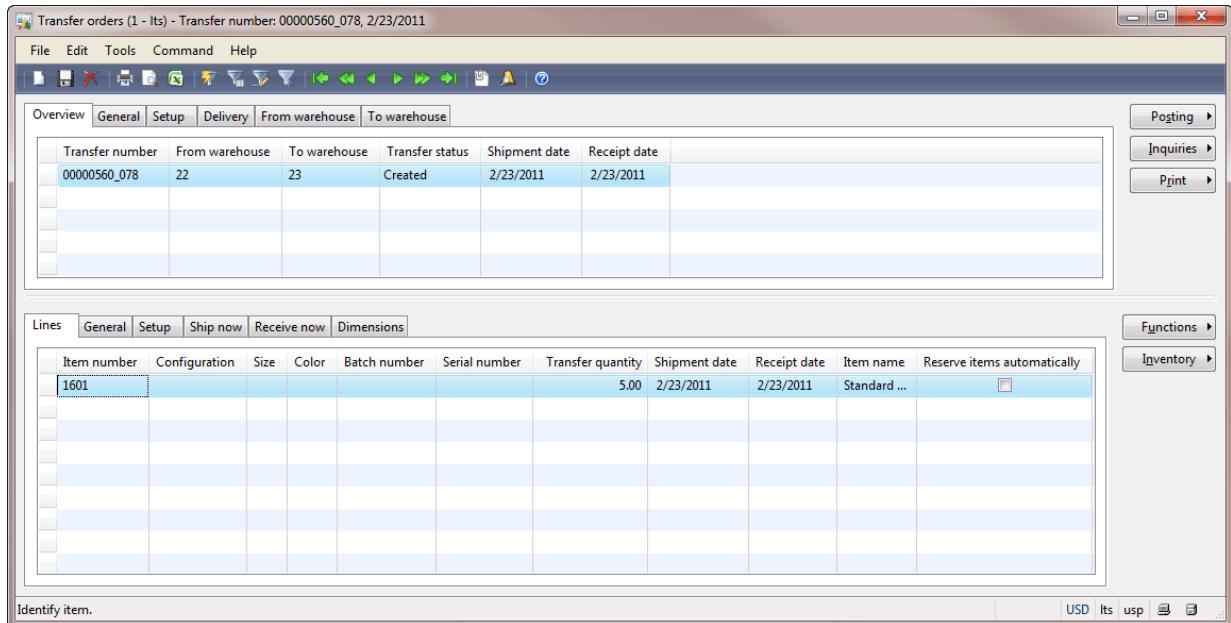


Figure 19.5 Transfer orders form

The transfer order has been created. Let's analyze what inventory transactions have been created. In the **Transfer orders** form, click **Inventory > Transactions**. The **Transactions** form opens.

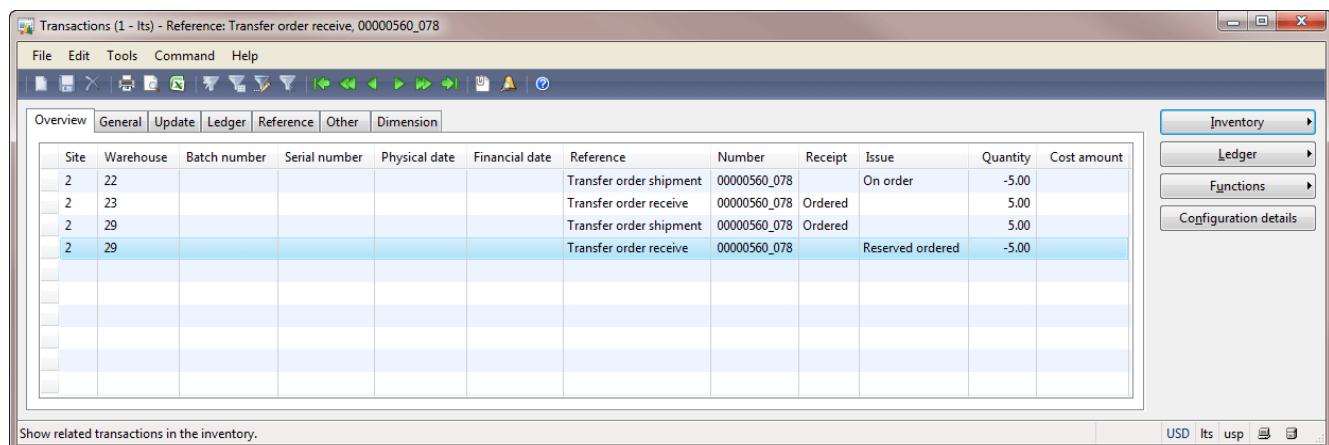


Figure 19.6 Transactions form. The transfer order has been created.

Transfer Orders

We can see the following:

- 5 items are ordered in the warehouse 22 for issue, i.e. they will leave the warehouse 22. The issue status is *On order*.
- 5 items are ordered in the warehouse 29 for receipt, i.e. they will be delivered to the warehouse 29. The receipt status is *Ordered*.
- The same time, 5 items are reserved for issue in the warehouse 29. That is 5 ordered items will leave the warehouse 29 and they can't be used for other purposes.
- 5 items are ordered in the warehouse 23 for receipt, i.e. the items will be delivered to the warehouse 23.

The following picture illustrates these inventory transactions:

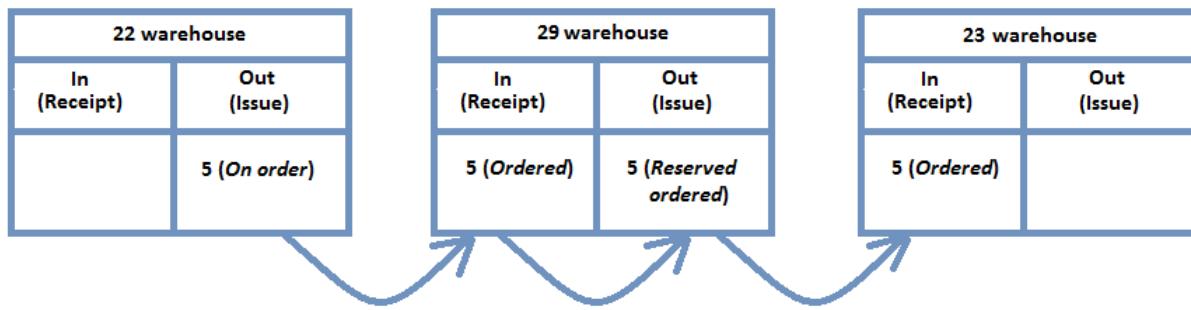


Figure 19.7 Transfer order has been created

Pick Items to Transfer

The transfer order picking process is similar to the sales order picking process. For more information about picking and shipment processes, read [this training lesson](#).

The Inventory Manager creates the output orders:

1. In the lines area of the **Transfer order** form, click **Inventory > Output orders**. The **Create inventory order** form with the item quantity opens. Click **OK**.
2. The **Output order** form with the created output order opens.

Transfer Orders

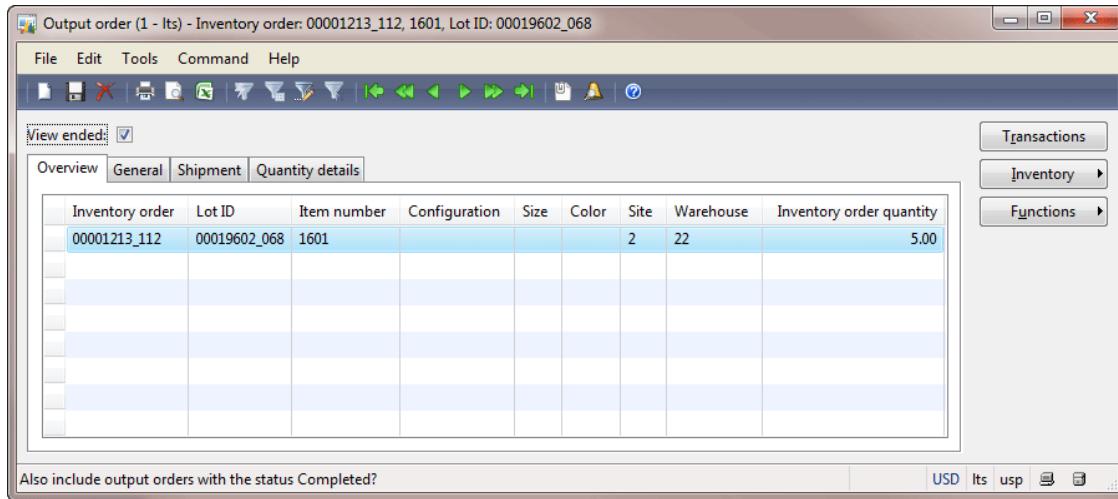


Figure 19.8 Output order form

The Inventory Manager creates a shipment:

1. Go to **Inventory management > Common Forms > Shipments**. The **Shipment** form opens.
2. Create a new line. The **Create shipment** wizard appears.
3. Click **Next** on the Welcome page.
4. Select the **100_all** shipment template and then click **Next** on the Identification page.
5. Click **Next** on the Configuration page.
6. Make sure that the inventory order is available on the Inventory order page. Click **Next**.
7. Click **Finish** on the Ready page.
8. The shipment is created:

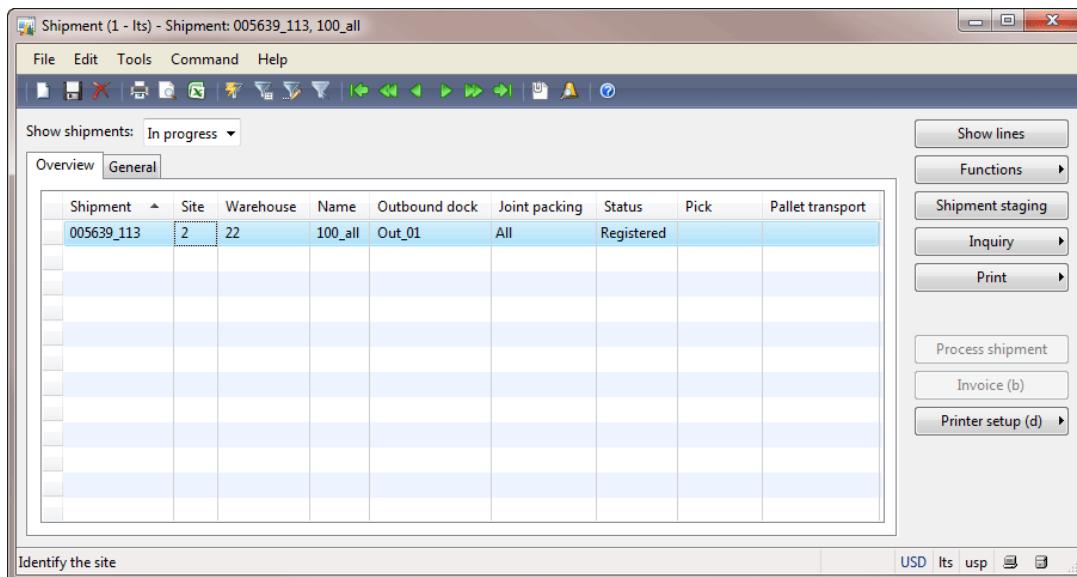


Figure 19.9 Shipment form, the shipment is created

Transfer Orders

The Inventory Manager creates the picking route (picking instruction):

1. In the **Shipment** form, click **Functions > Activate**.
2. The picking route is created. Make sure that the **Pick** field is set to *Activated*.

The Warehouse Worker picks the items and registers this information in the system:

1. Go to **Inventory management > Common Forms > Picking routes**. The **Pick** form opens.
2. In the **Picking route** field, select the last picking route number.
3. Click the **Create picking pallet** button. In the **Create picking pallet** form, click **OK**.
4. The **Pick** form will have the following view:

The screenshot shows the 'Pick (1 - Its) - Picking route: 005479_116, Pick-22' window. The window has a toolbar with standard file operations like Open, Save, Print, and a search bar. Below the toolbar is a 'Criteria' section with dropdowns for 'Employee' (7210) and 'Warehouse' (22). The main area has tabs for 'Picking', 'General', and 'RFID'. Under 'Picking', fields include 'Picking route' (005479_116), 'Picking pallet' (00000140_114), and buttons for 'Start picking route', 'Cancel picking route', 'Create picking pallet' (which is highlighted in blue), and 'Deliver picked items'. An 'RFID' section shows 'Pallet tagging' and 'Status: Not applicable' with buttons for 'Read tag' and 'Write tag'. The 'Picking lines' section has tabs for 'Active' and 'Picked'. A table lists items with columns: Item number, Configuration, Size, Color, Site, Warehouse, Location, Balance after, Quantity, Reserved, and RFID tagging. The first row shows item 1601 with quantity 5.00 and a checked 'Reserved' box. To the right of the table are buttons for 'Approve details (b)', 'Refill (g)', 'Quantity adjustment', 'Inventory', and 'Read tags (k)'. At the bottom, there's a note 'Create the data for the pallet on which items are collected during picking' and a toolbar with buttons for USD, Its, usp, and other icons.

Figure 19.10 Pick form

5. Click the **Approve details** button. The **Approve line** form opens.

Transfer Orders

The screenshot shows the 'Approve line (1 - Its) - Handling status: Activated, Route: 005479_116' window. The main area displays a table titled 'Transactions' with columns: Site, Warehouse, Location, Pallet ID, Item tagging, Tag status, Quantity, and Reserved. A single row is selected with the following values: Site 22, Warehouse 01-03-01-1, Location 00000125_114, Item tagging (checkbox checked), Tag status Not applicable, Quantity 5.00, and Reserved checked. To the right of the table are several buttons: Pick selected, Split, Cancel picking line, Inventory, Read tag, and Write tag. Below the table, there are 'Parameters' sections for Server ID and Device name, and a note 'Identify the site'. At the bottom, there are tabs for USD, Its, usp, and a back button.

Figure 19.11 Approve line form

6. Click the **Pick selected** button. Since all picking route quantity is approved, the **Deliver picked items** form opens.

The screenshot shows the 'Deliver picked items (1 - Its) - Picking route: 005479_116, Pick-22, Picking route: 005479_116' window. The main area displays a table titled 'Items to deliver' with columns: Route, Pallet ID, Location, Warehouse, Total quantity, and Number of lines. One item is listed: Route 005479_116, Pallet ID 00000140_114, Location Out_01, Warehouse 22, Total quantity 5.00, and Number of lines 1. To the right of the table is a 'Deliver items' button. Below the table, there is a 'Deliver to destination' section with fields for Warehouse (22), Location (Out_01), and Pallet ID (00000140_114). A checkbox 'Deliver pallet at destination' is checked. At the bottom, there is a note 'Picking route or pallet transport.' and a tab bar with USD, Its, usp, and a back button.

Figure 19.12 Deliver picked items form

7. Click the **Deliver items** button.

Transfer Orders

The items are picked and transported to the outbound location.

If we return to the **Shipment** form, we can see the following results:

The screenshot shows the Microsoft Dynamics AX Shipment form. The title bar reads "Shipment (1 - Its) - Shipment: 005639_113, 100_all". The menu bar includes File, Edit, Tools, Command, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Search. A dropdown menu "Show shipments" is set to "In progress". The main area has two tabs: "Overview" (selected) and "General". The "Overview" tab displays a table with one row for shipment 005639_113. The columns are: Shipment, Site, Warehouse, Name, Outbound dock, Joint packing, Status, Pick, and Pallet transport. The "Status" field is highlighted with a red border and contains the value "Staged". The "Pick" field is also highlighted with a red border and contains the value "Completed". To the right of the table is a vertical toolbar with buttons for "Show lines", "Functions", "Shipment staging", "Inquiry", "Print", "Process shipment", "Invoice (b)", and "Printer setup (d)". At the bottom left is a status message "Status of the shipment." and at the bottom right are notification icons (bell) and links for "2 unread notifications", "USD", "Its", "usp", and "Print".

Figure 19.13 Shipment form. The items are transported to the outbound location

We can see that the **Pick** field is set to *Completed* and the shipment status is *Staged*.

The Warehouse Worker performs the last optional step he or she records in the system that the pallets are loaded into the truck.

1. In the **Shipment** form, click **Shipment staging**. The **Shipment staging** form opens.
2. Click **Functions > Load**. The **Handling** status is changed to *Loaded*. Note that no inventory transactions are created or updated. Close the form.
3. In the **Shipment** form, the **Status** field value is changed from the *Staged* to *Loaded*.

Let's check the inventory transactions:

1. Go to **Inventory management > Common Forms > Item details**. The **Item** form opens.
2. Find the 1601 item and then click the **Transactions** button. The **Transactions on item** form opens.

Transfer Orders

Figure 19.14 Transactions on item form. Transfer order items have been picked

Note that the **Item** form displays all inventory transactions for this item, among them we can see the inventory transactions generated from the counting journal. Don't take this transaction into account.

We can see the following changes: 5 items are picked from the warehouse 22. The other transactions remain unchanged.

The following picture illustrates these inventory transactions:

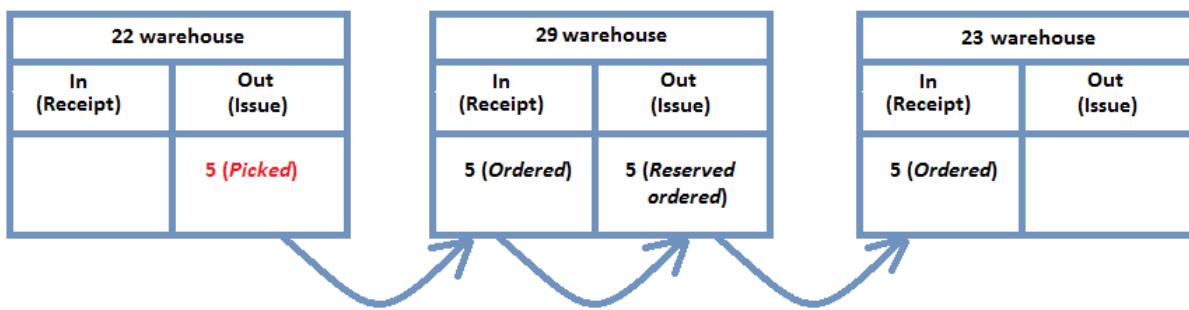


Figure 19.15 Items have been picked

Ship Transfer Order

The Inventory Manager ships the transfer order. It means that the items have been taken from the warehouse 22 and are half way from the warehouse 22 to the warehouse 23.

Let's ship the transfer order and analyze inventory transactions:

1. Open the **Transfer order** form and find and select our order.

Transfer Orders

2. Click **Posting > Ship transfer order**. The **Shipment** form opens.
3. In the **Update** field, select the *All* value.
4. Select the **Edit lines** check box. The line appears in the lines area.
5. The **Shipment** form will have the following view:

The screenshot shows the Microsoft Dynamics AX Shipment form. The title bar indicates the form is for Transfer number 00000560_078. The General tab of the Overview section is selected, showing a table with columns: Transfer number, Update, Posting date, Tracking ID, Edit lines, Explode lines, Autoreceive, and Print transfer shipment. The Transfer number row has a checked checkbox in the first column and 'All' in the Update column. The Posting date is 2/23/2011. The Edit lines checkbox is checked. The Lines tab is selected in the main area, showing a table with columns: Item number, Item name, Configuration, Size, Color, Batch number, Serial number, Ship quantity, and Close. One row is present for item 1601 with a ship quantity of 5.00. At the bottom of the form, there is a message 'Which quantity should be shipped?' and a toolbar with buttons for OK, Cancel, Batch, and Inventory.

Figure 19.16 Shipment (transfer order posting) form

6. Click **OK**.

The transfer order status is changed from *Created* to *Shipped* in the **Transfer orders** form.

Let's analyze the inventory transactions:

1. In the **Transfer orders** form, click **Inventory > Transactions**.
2. The **Transactions** form opens.

Transfer Orders

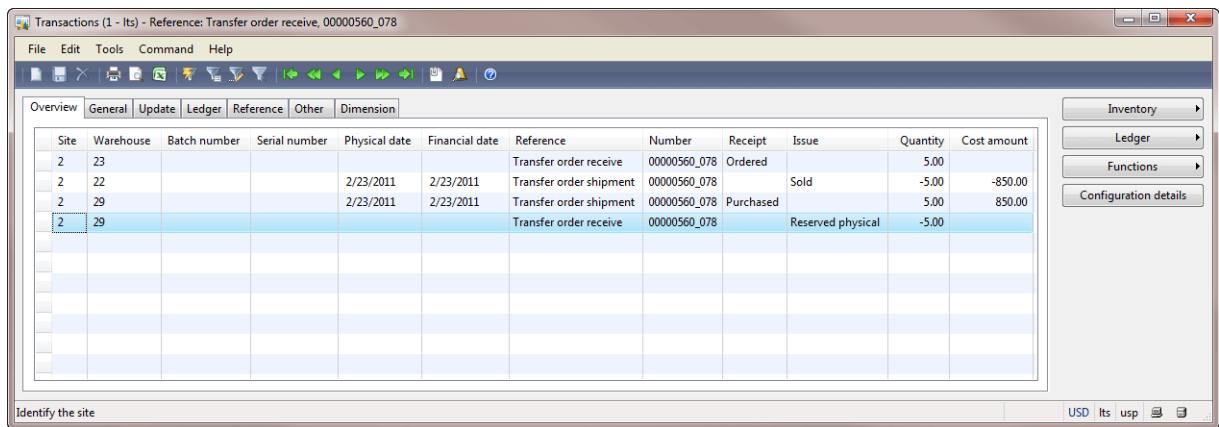


Figure 19.17 Transactions form. The transfer order has been shipped

We can see the following changes:

- 5 items are sold in the warehouse 22. This means that the item quantity is decrease in the warehouse 22 and the cost of the item is decreased in the warehouse 22.
- 5 items are purchased in the warehouse 29. It means that the item quantity is increased in the warehouse 29 and the cost of the item is increased in the warehouse 29.
- 5 items are reserved physically in the warehouse 29, because the item is physically available in the warehouse.

The following picture illustrates these inventory transactions:

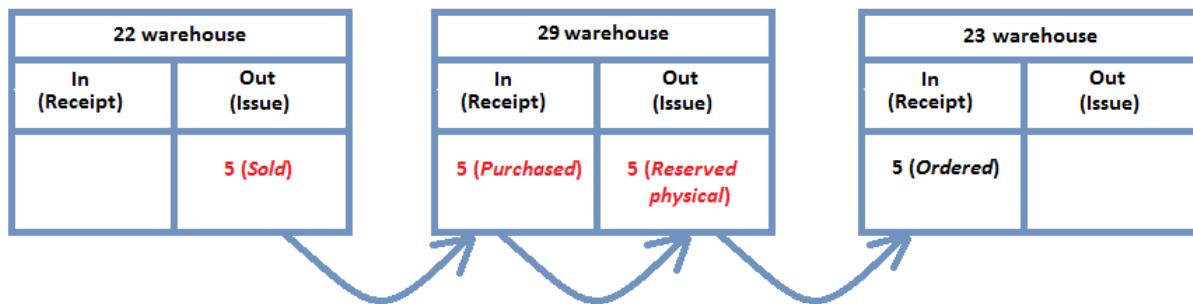


Figure 19.18 Ship the transfer order

Item Arrival and Registration

When items reach the destination warehouse, they must be handled by workers. First the Inventory Manager must record arrived items to the system and create pallet transport instructions, then the warehouse workers need to transport items from the inbound dock to the destination locations according to the pallet transport instruction. This process is called Item arrival and registration.

Transfer Orders

Now, we will quickly go through all steps of the item arrival and registration processes. For more information about this, read the [Item arrival and registration](#) training lesson.

When items arrive to the warehouse 23, the Inventor Manager does the following:

1. Go to **Inventory management > Periodic > Arrival overview**. The **Arrival overview** form opens.
2. Select the **Select for arrival** check box.

The screenshot shows the 'Arrival overview' window with the following details:

- Display options:** Show lines: All, Setup name: Options used, Update.
- Range:** Days back: 0, Warehouses: [empty], Account number: [empty], Mode of delivery: [empty]; Days forward: 0, Vendor reference: [empty], Item number: [empty], RMA number: [empty].
- Receipts:** A table showing a single row:

Select for arrival	Status date	Reference	Number	Lines	Pallets	Quantity	Volume	Weight	Quarantine control	Receipt in progress	RMA number
<input checked="" type="checkbox"/>	2/23/2011	Transfer order receive	00000560_078	1	1	5.00	8,820.00	44.00	<input type="checkbox"/>	None	
- Lines:** A table showing a single row:

Select for arrival	Reference	Number	Status date	Site	Warehouse	Item number	Pallets	Quantity	Volume	Weight	Quantity in progress	Arrival handling time	Q	O	I.
<input checked="" type="checkbox"/>	Transfer o...	000005...	2/23/2011	2	23	1601	1	5.00	8,820.00	44.00	00:00				
- Total for selected lines:** Pallets: 1, Quantity: 5.00, Volume: 8,820.00, Weight: 44.00, Handling time: 0:00.
- Total for lines in progress:** Pallets: 0, Quantity: 0.00, Volume: 0.00, Weight: 0.00, Handling time: 0:00.

Figure 19.19 Arrival overview form

3. Click the **Start arrival** button. An Arrival journal is created.
4. Click the Infolog message or go to **Inventory management > Journals > Item arrival > Item arrival**.
5. The **Location journal** form opens. Click the **Lines** button. The **Journal lines** form opens.

Transfer Orders

Figure 19.20 Arrival journal lines form

6. In the **Journal lines** form, click **Functions > Pallet ID**. The new pallet ID is generated.
 7. Click **Post**. The journal has been posted.

As a result, the system finds the destination location and the pallet transport from the inbound to the destination location is created. The system automatically finds the destination location based on warehouse item parameters, you can find more information in [this training lesson](#).

Let's analyze the inventory transactions:

1. Open the **Transfer orders** form.
 2. Find our transfer order and then click **Inventory > Transactions**.
 3. The **Transactions** form opens.

Figure 19.21 Transactions form, items are arrived to the warehouse 23

Transfer Orders

We can see the following changes: 5 items have arrived to the warehouse 23. This means that the item arrival process is completed.

The following picture illustrates these inventory transactions:

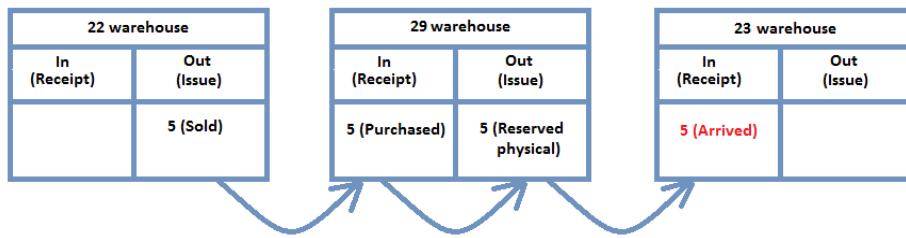


Figure 19.22 Items have been arrived to the warehouse 23

Now, the Warehouse Worker will move the pallet from the inbound dock to the destination location (the process is called item registration):

1. Open the pallet transport instructions. Go to **Inventory management > Common Forms > Pallet transports**. The **Pallet transports** form opens.

The screenshot shows the 'Pallet transports' application window. At the top, the title bar reads 'Pallet transports (1 - Its) - Pallet ID: 00000141_114, In_01'. The menu bar includes File, Edit, Tools, Command, and Help. Below the menu is a toolbar with various icons. The main area has dropdown menus for Employee (7210), Forklift ID, and Warehouse. A 'Lock transport' button is visible.

The primary data view is a table titled 'Overview' with tabs for General and RFID. The table columns are Started, Pallet ID, From warehouse, Pickup location, To warehouse, Destination location, Item number, Quantity, Tag status, and To pallet required. One row is populated with values: Started (checkbox), Pallet ID (00000141_114), From warehouse (23), Pickup location (In_01), To warehouse (23), Destination location (03-01-1-1), Item number (1601), Quantity (5.00), Tag status (checkbox), and To pallet required (checkbox).

On the right side, there are several buttons: 'Select another pallet', 'Start transport', 'Change destination location', 'Complete transport', and 'Update lines'. Below these buttons are tabs for Lines, General, and Dimensions. The Lines tab displays a table with columns: Item number, Quantity, Configuration, Size, Color, Style, Site, Batch number, Serial number, Item tagging, and Tag status. One row is shown with Item number (1601), Quantity (5.00), Site (2), and Tag status (Not applicable). To the right of the Lines tab are more buttons: Split, Inventory (with sub-options Read tag and Write tag), and USD, Its, usp, and a print icon.

At the bottom left, there's a checkbox for 'Inventory dimensions' and input fields for 'Batch number' and 'Serial number'. The bottom right corner shows currency codes USD, Its, usp, and a print icon.

Figure 19.23 Pallet transports form

2. The Warehouse Worker starts moving the pallet. To record this information into the system, click **Start transport**. The **Start transport** form opens. Click **OK**.

Transfer Orders

3. The Warehouse Worker finds the information about the destination location in the pallet transport header and moves the pallet there.
4. The Warehouse Worker puts away the pallet to the destination location. To record this information into the system, click **Complete transport**. This means that the item is registered in the destination location.

Let's analyze the inventory transactions:

1. Open the **Transfer orders** form.
2. Find our transfer order and then click **Inventory > Transactions**.
3. The **Transactions** form opens.
4. To view the Location dimension, click **Inventory > Dimension display**. In the **Inventory dimensions** form, select the **Location** check box and then click **OK**.

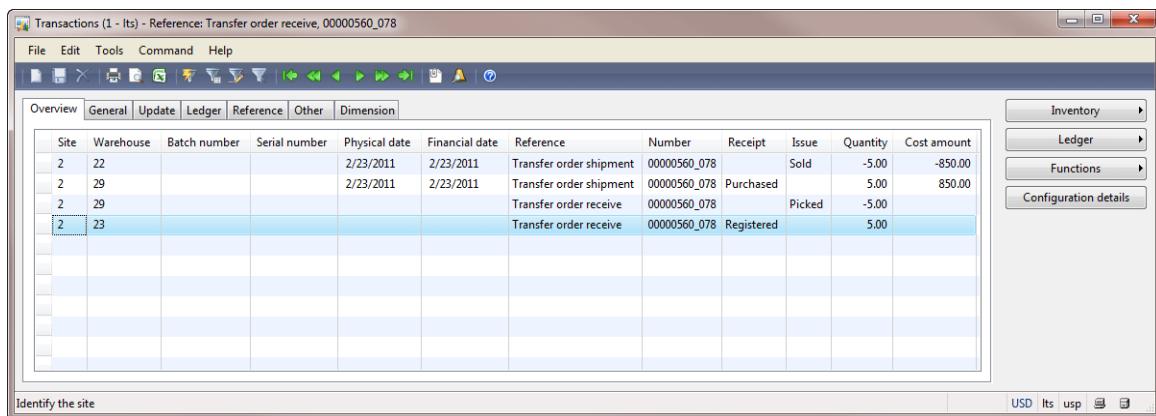


Figure 19.24 Transactions form. Pallets have been moved to destination locations

We can see the following changes:

- 5 items are picked from the warehouse 29.
- 5 items are registered in the location 03-01-2-1 of the warehouse 23. This means that the item registration process is completed.

The following picture illustrates these inventory transactions:

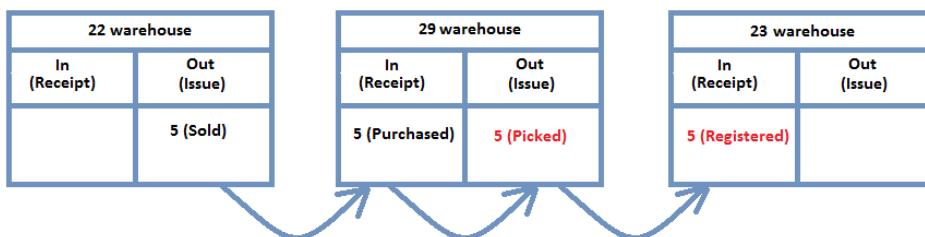


Figure 19.25 Items have been registered in the warehouse 23

Transfer Orders

Items have arrived to the warehouse 23 and were registered there, so now we can receive the transfer order.

Receive Transfer Order

The Inventory Manager of the warehouse 23 indicates that the transfer order is received. It means that the items are not half way; they are in the destination warehouse.

Let's perform his or her work and analyze the inventory transactions.

1. Open the **Transfer order** form and find our order.
2. Click **Posting > Receive**. The **Receive** form opens.
3. In the **Update** field, select the **All** value.
4. Select the **Edit lines** check box. A line appears in the Lines area.
5. The **Receive** form will have the following view:

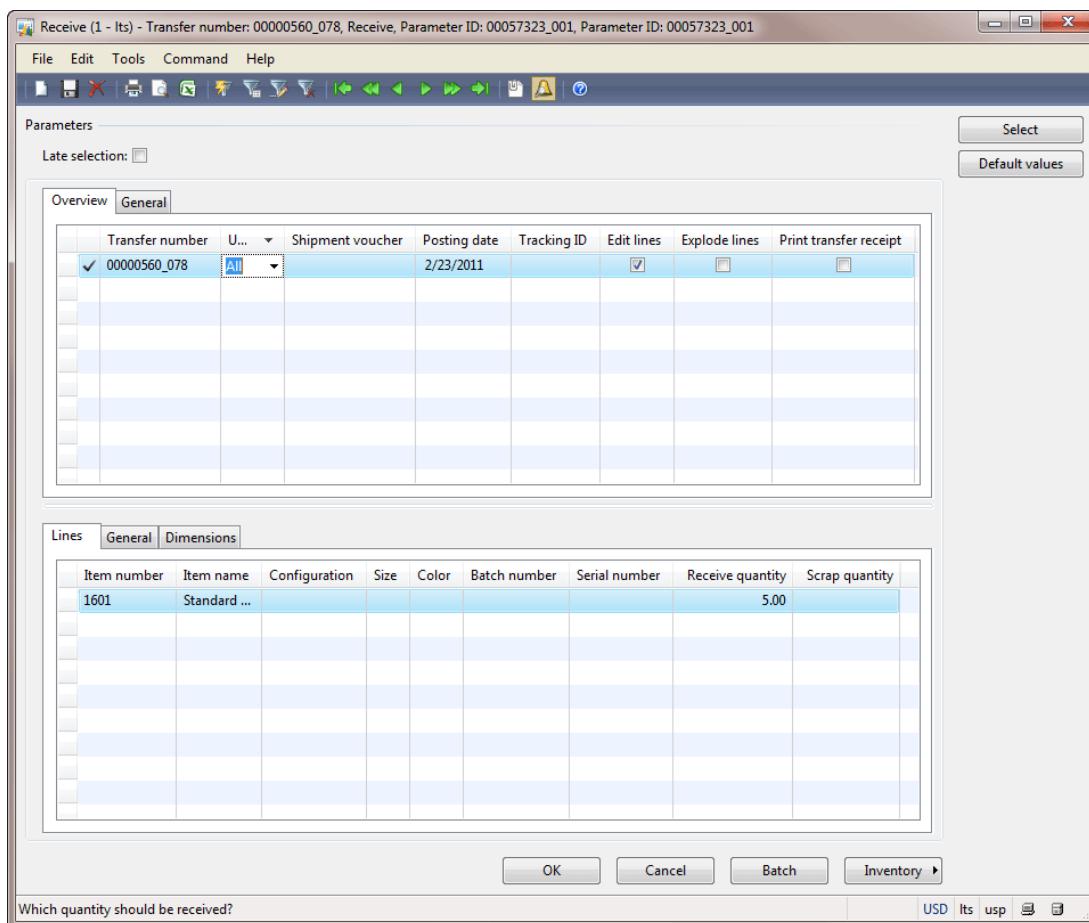


Figure 19.26 Receive form

6. Click **OK**.

Transfer Orders

The value of the **Transfer status** field in the **Transfer order** form is changed from *Shipped* to *Received*.

Let's analyze the inventory transactions:

1. In the **Transfer orders** form, click **Inventory > Transactions**.
2. The **Transactions** form opens.

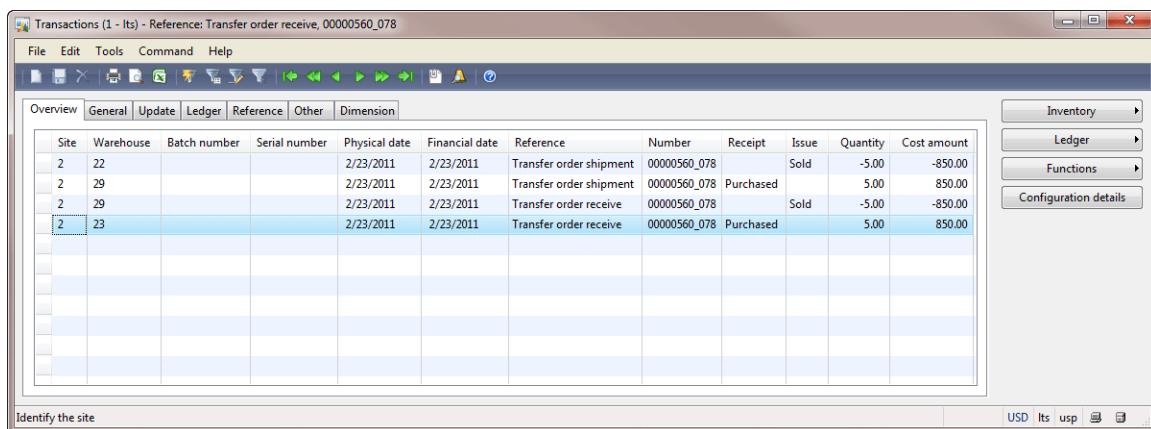


Figure 19.27 Transactions form. The transfer order has been received

We can see the following changes:

- 5 items are sold from the warehouse 29. This means that the item quantity is decreased in the warehouse 29 and cost of items is decreased in 29 warehouse.
- 5 items are purchased in the warehouse 23. It means that the item quantity is increased in the warehouse 23 and the cost of items is increased in the warehouse 23.

The following picture illustrates these inventory transactions:

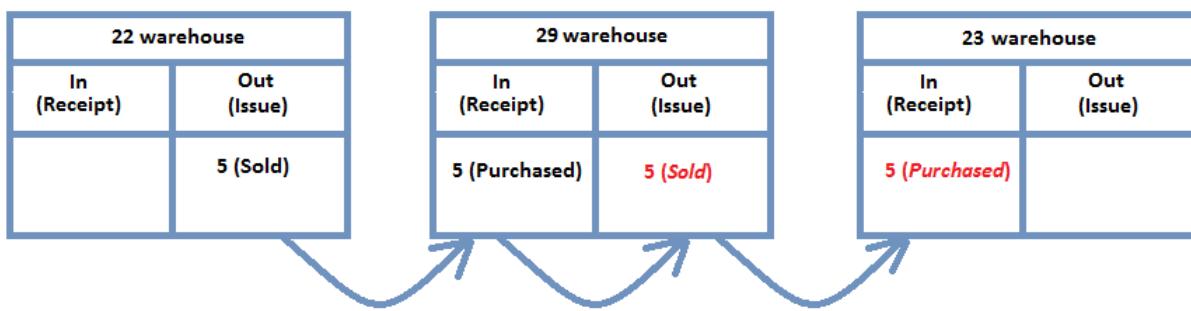


Figure 19.28 The items are transferred from one warehouse to another one

That is all, the items are transferred from one warehouse to another one.

Training Lesson Summary

In this training lesson, we have studied how to set up the transit warehouse and how to work with a transfer order. We also studied the main steps of the transfer flow.

Let's recall the main steps of the transfer flow, they are as follows:

1. Creating a transfer order
2. Picking items for the transfer order
3. Shipping the transfer order
4. Items arrival and registration in the destination warehouse
5. Receiving the transfer order

All the best 😊