

Exercise Guide

Andreas Luszczak

Using Microsoft Dynamics AX

The New Dynamics 'AX 7'

Springer Vieweg,

5th edition 2016 (ISBN 978-3-658-13621-5)

October 2016

Registered and/or industrial names, trade names, trade descriptions etc. cited in this publication are part of the law for trademark protection and may not be used free in any form or by any means even if this is not specifically marked.

Sample companies, persons, products and names mentioned in this document are purely fictitious if not stated differently. No association of sample data with any real company, person, product or other name is intended or should be inferred.

This document, which is free of charge, is a support for readers of the related book. The author of the book is the author of this exercise guide, which has been compiled with utmost care. Nevertheless, it is not possible to guarantee that it is free of every possible mistake. Therefore, the author cannot accept any liability. Suggestions of additions and indications of errors as wells as other comments are most welcome, however.

Contact:

Website <http://axbook.addyn.com>

Email lua@addyn.com

Table of Contents

1	Information on the Exercise Guide	1
	Microsoft Dynamics AX Version Number	1
	Sample Company and Sample User	1
	Application Functionality	1
2	Getting Started: Navigation and General Options	3
	Exercise 2.1 – Logon and Navigation	3
	Exercise 2.2 – Favorites	5
	Exercise 2.3 – Detail Forms	6
	Exercise 2.4 – Inserting Records	8
	Exercise 2.5 – Lookup Fields	10
	Exercise 2.6 – Filtering	11
	Exercise 2.7 – Printing	15
	Exercise 2.8 – User Options	17
	Exercise 2.9 – Record Templates	18
	Exercise 2.10 – Global Address Book	19
3	Purchase Management	23
	Exercise 3.1 – Terms of Payment	23
	Exercise 3.2 – Vendor Record	24
	Exercise 3.3 – Ledger Integration	25
	Exercise 3.4 – Procurement Categories	26
	Exercise 3.5 – Product Record	28
	Exercise 3.6 – Trade Agreement	31
	Exercise 3.7 – Purchase Order	32
	Exercise 3.8 – Order Confirmation	34
	Exercise 3.9 – Product Receipt	36
	Exercise 3.10 – Partial Delivery	37
	Exercise 3.11 – Product Receipt Inquiry	39
	Exercise 3.12 – Purchase Order Invoice	40
	Exercise 3.13 – Partial Invoice for a Purchase Order	41

	Exercise 3.14 – Vendor Invoice Not Related to a Purchase Order	42
	Exercise 3.15 – Invoice Inquiry	43
	Exercise 3.16 – Credit Note.....	44
	Exercise 3.17 – Request for Quotation	45
4	Sales and Distribution	49
	Exercise 4.1 – Customer Record.....	49
	Exercise 4.2 – Ledger Integration	51
	Exercise 4.3 – Sales Categories.....	51
	Exercise 4.4 – Price List.....	53
	Exercise 4.5 – Line Discount.....	54
	Exercise 4.6 – Sales Order	55
	Exercise 4.7 – Charges.....	56
	Exercise 4.8 – Order Confirmation	58
	Exercise 4.9 – Packing Slip.....	59
	Exercise 4.10 – Picking List.....	60
	Exercise 4.11 – Packing Slip Inquiry	62
	Exercise 4.12 – Invoice	62
	Exercise 4.13 – Partial Invoice.....	64
	Exercise 4.14 – Shipping with Invoice	65
	Exercise 4.15 – Invoice Inquiry	66
	Exercise 4.16 – Free Text Invoice	67
	Exercise 4.17 – Credit Note.....	68
	Exercise 4.18 – Direct Delivery	70
5	Production Control.....	73
	Exercise 5.1 – Components.....	73
	Exercise 5.2 – Finished Item	75
	Exercise 5.3 – Bill of Materials	76
	Exercise 5.4 – Route Setup.....	77
	Exercise 5.5 – Resources and Resource Group	80
	Exercise 5.6 – Operation	82
	Exercise 5.7 – Route	84
	Exercise 5.8 – Production Order	86


Table of Contents	V
Exercise 5.9 – Change Status.....	87
Exercise 5.10 – Purchasing the Components	89
Exercise 5.11 – Picking List	89
Exercise 5.12 – Job Card.....	90
Exercise 5.13 – Ending Production.....	91
6 Operations Planning	93
Exercise 6.1 – Forecast Settings.....	93
Exercise 6.2 – Demand Forecast	94
Exercise 6.3 – Min./Max. Principle	95
Exercise 6.4 – Period Principle.....	97
Exercise 6.5 – Planned Purchase Order	99
7 Inventory and Product Management	101
Exercise 7.1 – Dimension Groups.....	101
Exercise 7.2 – Item Model Group	102
Exercise 7.3 – Product Record.....	103
Exercise 7.4 – Inventory Value of Transactions.....	105
Exercise 7.5 – Valuation of Purchase Orders	108
Exercise 7.6 – Valuation of Sales Orders	110
Exercise 7.7 – Closing Inventory	112
Exercise 7.8 – Journal Transaction	114
Exercise 7.9 – Transfer Journal	115
Exercise 7.10 – Inventory Counting	116
Exercise 7.11 – Transfer Order.....	117
Exercise 7.12 – Manual Quarantine	118
Exercise 7.13 – Manual Quality Order.....	120
8 Warehouse and Transportation Management.....	123
Exercise 8.1 – Warehouse Setup	123
Exercise 8.2 – Work Template, Location Directive, Wave Template.....	125
Exercise 8.3 – Mobile Device Menu and Work User	130
Exercise 8.4 – Released Product Settings for Warehouse Management	133
Exercise 8.5 – Warehouse Management in Purchasing Processes	135
Exercise 8.6 – Warehouse Management in Sales and Distribution.....	138

9	Financial Management.....	143
	Exercise 9.1 – Financial Dimensions	143
	Exercise 9.2 – Main Accounts.....	144
	Exercise 9.3 – Account Structures.....	145
	Exercise 9.4 – Bank Accounts	147
	Exercise 9.5 – Journal Names	147
	Exercise 9.6 – Segmented Entry in General Journals	148
	Exercise 9.7 – General Journal.....	150
	Exercise 9.8 – Purchase Invoice	152
	Exercise 9.9 – Vendor Payment	153
	Exercise 9.10 – Transaction Reversal.....	155

1 Information on the Exercise Guide

This guide is a free support for readers of the book “Using Microsoft Dynamics AX” in the 5th edition (ISBN 978-3-658-13621-5). It includes sample solutions of the exercises in this book and does not contain additional explanations. You can find these explanations and further information in the book itself.

Microsoft Dynamics AX Version Number

The exercise guide is based on Microsoft Dynamics AX including the May 2016 update. The internal build version of this release is 7.0. If you want to know in which version you are working, click the button /About in the navigation bar of the Dynamics AX client.

Microsoft Dynamics AX in the 2016 version hasn't got an official version number, it is just called “Microsoft Dynamics AX”. Since the label “Dynamics AX” does not always make clear if an instruction refers to this release or generally applies to all Dynamics AX releases, descriptions in this guide use the name ‘AX 7’ when pointing out specific items of this release.

Sample Company and Sample User

The instructions in this exercise guide refer to the company USMF (“Contoso Entertainment System USA”) in the Microsoft standard demo environment. If you complete the exercises in a different training company, replace the data mentioned in the exercise guide by similar data in your exercise company.

The user shown in the instructions has got the user ID “99”. Replace “99” by your user ID in order to comply with the instructions – in particular if you are working in a common database with other people.

Application Functionality

When you read this exercise guide, take into account that your options in a training company may be different from the options shown in the guide (for example caused by configuration and permission settings).

Descriptions and illustrations in this guide refer to the language “EN-US”. Some labels are different if you are using another language – “Sales tax” for example is shown as “VAT” in British English (“EN-GB”).

2 Getting Started: Navigation and General Options

Exercise 2.1 – Logon and Navigation

Your first task is to log on to a Dynamics AX training system, where you should access a company which is different from your default company.

Open the list page *All vendors*, first through the *Accounts payable* menu in the navigation pane, and then through the navigation search. Check if there are vendors with a name starting with “A”. Then open the workspace *Purchase order preparation* and try to find a vendor with a name starting with “A” there.

Finally, log out from the Dynamics AX.

Instructions

In order to log on to Dynamics AX, open a supported web browser like Microsoft Edge, Internet Explorer, or Google Chrome and access the web address (URL) of your Dynamics AX application. The browser then shows the logon dialog, where you have to enter your Azure Active Directory user account (Microsoft Office 365 account) and your password.

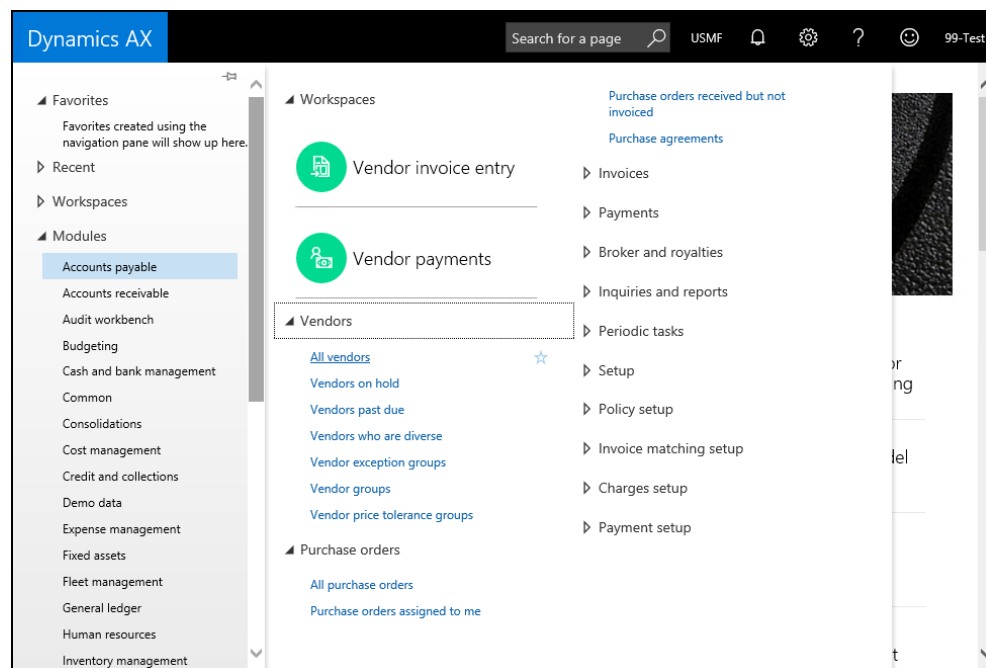





Figure 2-1: Accounts payable menu in the navigation pane

If no other start company account is specified in your Dynamics AX user options, the company “DAT” will be used as default. In order to access another company, open the company lookup by clicking the company field in the navigation bar. After selecting a company in the lookup, Dynamics AX immediately switches to the other company.

You can access the navigation pane through the keyboard shortcut *Alt+F1* or through the button  (*Navigation pane*) on the left-hand side of the navigation bar. If you want to show the navigation pane permanently, click the button  (*Pin*) on the top right-hand side of the navigation pane. The module button *Accounts payable* in the navigation pane provides access to the *Accounts payable* menu. In order to open the list page showing all vendors, click the menu item *Vendors> All vendors* in this menu.

If you want to use the navigation search, click the button  (*Search*) in the navigation bar and enter the page title or navigation path in the search field. You can limit the entered text to the first characters of the words – for example “a ve” to show the page *All vendors* as first search result. Then Click the menu item in the navigation search box to access the related page.

Enter the character “A” in the quick filter field to check if there are vendors with a name starting with “A”. In the drop dialog, which automatically displays then, select the column *Name* for the filter.

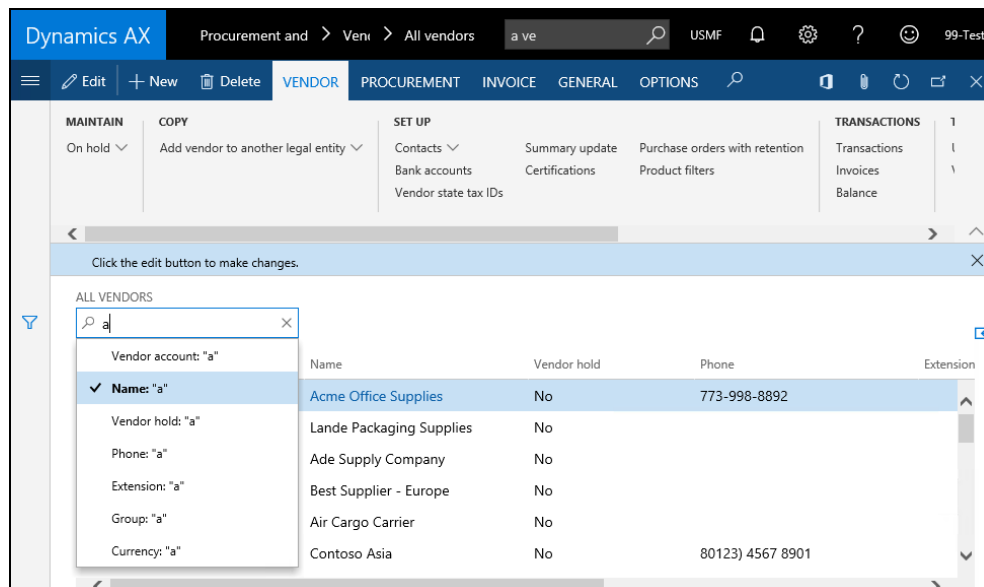



Figure 2-2: Selecting the column “Name” in the quick filter

You can access the workspace *Purchase order preparation* from the dashboard (click the button  on the left side of the navigation bar to access the dashboard)

and from the *Accounts payable* menu. In the workspace *Purchase order preparation*, switch to the tabbed list pane in the center and select the list *Find vendor*. In order to check if there are vendors with a name starting with “A”, enter the character “A” in the quick filter field above the grid of the tabbed list pane. In the drop dialog, which automatically displays then, select the column *Vendor name* for the filter.

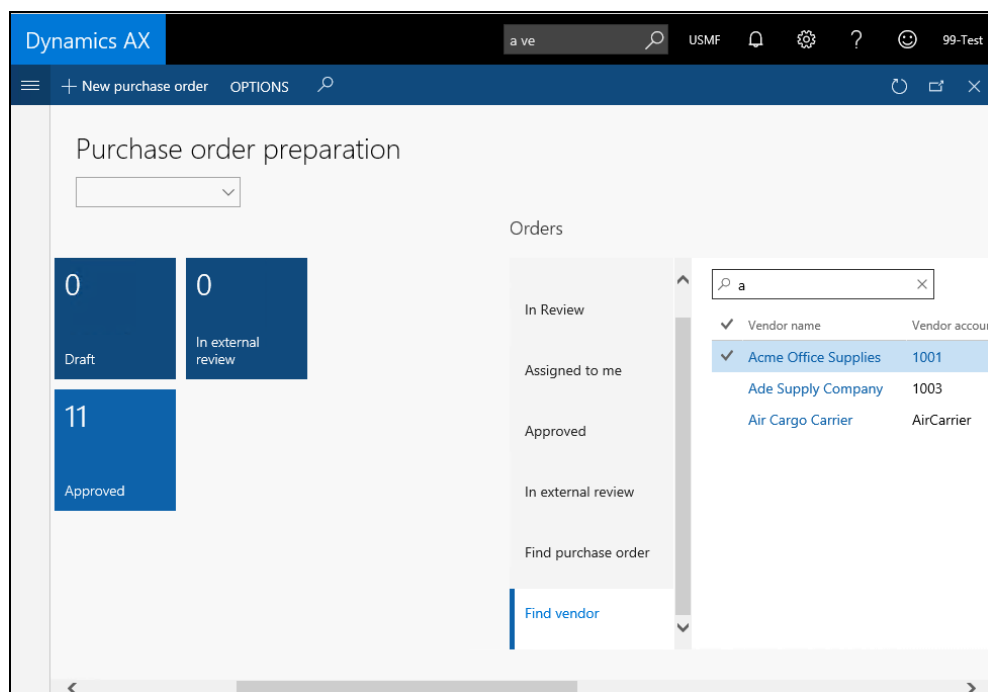




Figure 2-3: Searching vendors in the *Purchase order preparation* workspace


In order to log off from Dynamics AX, click the user name (or the button ) on the right-hand side of the Dynamics AX navigation bar and select *Sign out*.

Exercise 2.2 – Favorites

Start a client session in Dynamics AX, select the training company, and show the navigation pane. Add the list page *Released products*, which you can find in the menu *Product information management*, to your favorites. Then open this page from the favorites.

Instructions

Start the Dynamics AX client and switch to the training company as described in exercise 2.1. If the navigation pane is not shown permanently, you can display it by pressing the shortcut *Alt+F1* or by clicking the button  in the navigation bar.

In order to add the released products list page to your favorites, open the *Product information management* menu by clicking the appropriate module button. Move your mouse to the menu item *Released products* and click the empty star  on the right of this menu item.

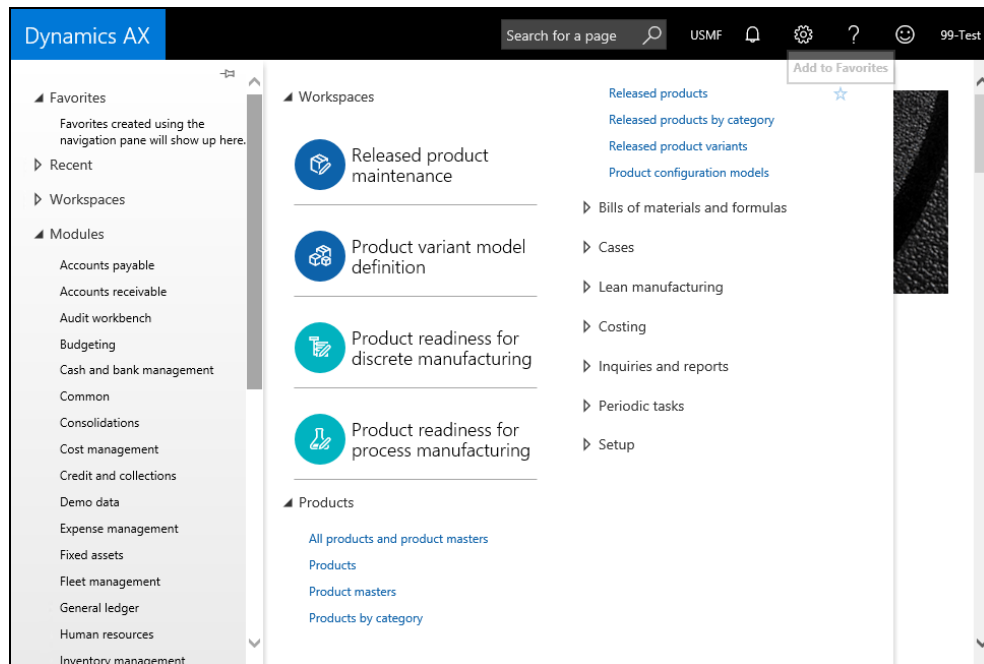


Figure 2-4: Adding the list page *Released products* to the favorites

Once the menu item is added to the favorites, it automatically shows in the favorites area at the top of the navigation pane. Clicking the menu item in the favorites area opens the page the regular way.

Exercise 2.3 – Detail Forms

As an example of detail forms in Dynamics AX, check the vendor detail form accessed through the vendor list page (*Accounts payable* > *Vendors* > *All vendors*). Review the details of the vendor in the third line of the list page and show an example of a field group and of a lookup field with and without main table.

Then show an example of a slider and of a checkbox field. What can you tell about fast tabs and FactBoxes? How do you proceed if you want to edit the vendor? Is there an option to edit multiple vendors in this form?

Instructions

After clicking the module button *Accounts payable* in the navigation pane, choose the menu item *Vendors* > *All vendors*. In order to view the details of the vendor in the

third line, open the detail form for this vendor by clicking the *Vendor account* field shown as link in the grid of the list page.

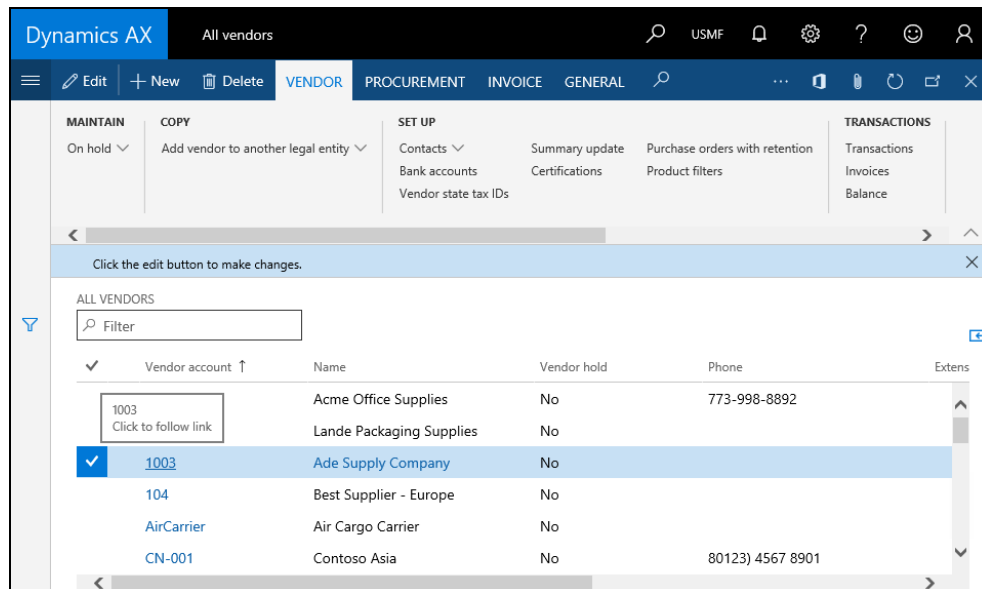



Figure 2-5: Opening the vendor detail form from the list page

If the detail form is in view mode, click the button *Edit* in the action pane or press the *F2* key to switch to the edit mode. In edit mode, all lookup fields show a lookup button  in the right part of the field.

Lookup fields with a related main table show as a link, which provides direct access to the corresponding administration form. Alternatively, you can access the detail form related to a lookup field through the option *View details* in the context menu (right-click on the field label, not on the field itself). The link (and the option *View details*) in the field *Group* on the tab *General* of the vendor detail form for example directly opens the *Vendor groups* form.

An example of a lookup field without a main table is the field *ABC code* on the tab *General* in the vendor detail form. Examples of checkbox fields can be found on the tab *Vendor profile*. An example of a slider is the field *Purchase order prices/amount* on the tab *Purchase order defaults*.

Fast tabs in detail forms give a logical structure of fields and field groups according to the functional area. Summary fields on the fast tabs display core data directly on the tab.





FactBoxes on the right-hand side of detail forms and list pages display additional information related to the selected record. If a page does not show the FactBoxes pane, you can click the button  (*Show*) on the top right of the page to view it.

Figure 2-6: Fields in the vendor detail form (edit mode, action pane collapsed)

If the full action pane is displayed and you need additional space, you can collapse it by clicking the button  (*Collapse*) on the bottom right of the action pane. Once collapsed, the action pane expands automatically after clicking an action pane tab. In order to show the full action pane permanently, click the button  (*Pin open*) on the bottom right of the action pane when expanded.

The view mode does not provide the option to modify data. If you want to update a record, switch to the edit mode by clicking the button *Edit* in the action pane or by pressing the *F2* key. You can return to the view mode by pressing the *F2* key again (or by clicking the button *OPTIONS/Edit/Read mode*).

In order to edit multiple vendors in the detail form, click the button  (*Show/Hide list*) to show the navigation list pane on the left-hand side of the form. If you select a record in the navigation list, the related detail data are immediately shown in the detail form. In this way you can easily move from one record to the next.


But you can also edit records in a list page after switching to the edit mode there.

Exercise 2.4 – Inserting Records

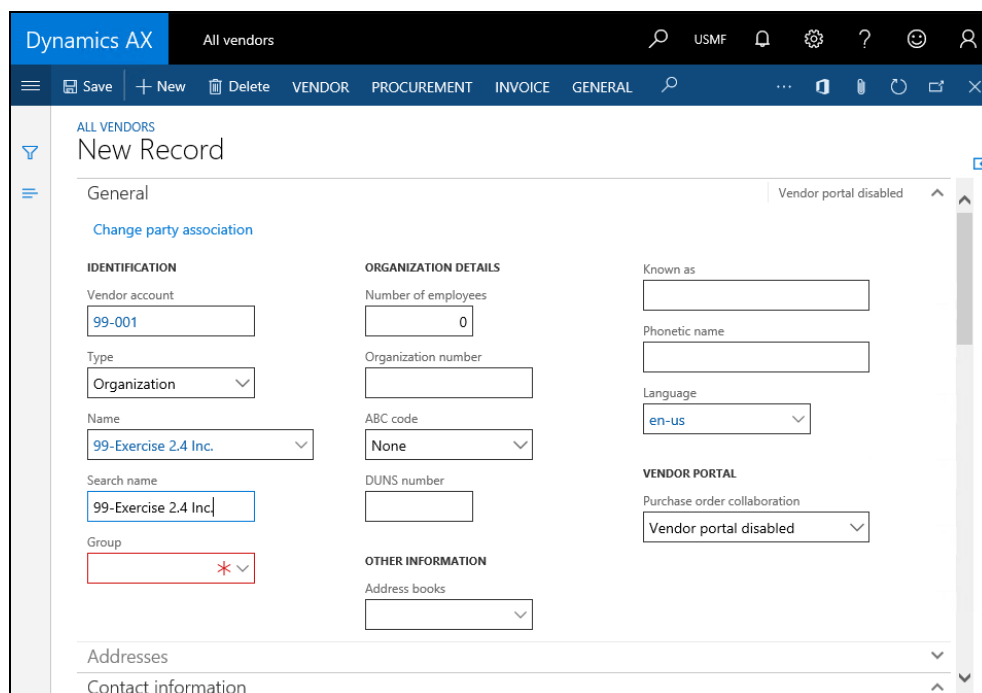
Create a new vendor without applying record templates. For the beginning, the only data for the vendor are the name “##-Exercise 2.4 Inc.” (## = your user ID) and any vendor group.

Notes: If the number sequence for vendor accounts is set to “Manual”, you have to enter the vendor number manually. If the *Accounts payable parameters* require a sales tax group or a tax-exempt number (VAT registration number), switch to the tab *Invoice and delivery* in the vendor form and enter the required information there.

Instructions

If the vendor list page or detail form is not displayed yet, access the list page through the menu item *Accounts payable > Vendors > All vendors* or through the navigation search (button  in the navigation bar).

In order to create a new vendor in the list page or detail form, click the button *New* in the action pane or press the shortcut key *Alt+N*. In case there are vendor templates, the template selection dialog shows next where you select the template “Blank” to avoid default data from a template.



The screenshot shows the Dynamics AX interface for creating a new vendor record. The top navigation bar includes 'Dynamics AX', 'All vendors', and various icons. The main pane is titled 'New Record' and contains the 'General' tab. The form is divided into several sections: 'IDENTIFICATION' with fields for Vendor account (99-001), Type (Organization), Name (99-Exercise 2.4 Inc.), and Search name (99-Exercise 2.4 Inc.); 'ORGANIZATION DETAILS' with fields for Number of employees (0), Organization number, ABC code (None), and DUNS number; 'VENDOR PORTAL' with a field for Purchase order collaboration (Vendor portal disabled); and 'OTHER INFORMATION' with a field for Address books. The form also has sections for 'Addresses' and 'Contact information' at the bottom.

Figure 2-7: Inserting the new vendor record

When you create a vendor without using a template, Dynamics AX shows an empty vendor detail form. In case the number sequence for vendor accounts is set to “Manual”, the field *Vendor account* remains empty and you have to enter a vendor number in this field.

If the vendor is a company and not a person, make sure that the option “Organization” is selected in the lookup *Type* on the tab *General* of the detail form. Then enter the name of the new vendor in the lookup field *Name*. In the example

shown in Figure 2-7, a user with the user ID “99” enters the vendor name “99-Exercise 2.4 Inc.”. Since the vendor group is a mandatory field, you have to select a group – in the current exercise it may be any group – in the lookup field *Group* before you can save the vendor record.

Note: If the new vendor is already a party in the global address book (e.g. already being a customer in parallel), select the existing party in the value lookup of the lookup field *Name*.

Exercise 2.5 – Lookup Fields

You want to update the vendor of exercise 2.4. While searching a *Buyer group* in the lookup of the appropriate field on the tab *Miscellaneous details* of the vendor form, you notice that the required group is not available. Create a new buyer group ##-P (## = your user ID) using the *View details* option. Then select the new group for your vendor.

Instructions

The screenshot shows the Microsoft Dynamics AX interface for the 'All vendors' form. The vendor name is '99-001 : 99-Exercise 2.4 Inc.'. The 'Miscellaneous details' tab is active. In the 'ADMINISTRATION' section, the 'Buyer group' field is selected, and a context menu is open with the following options: 'Form information', 'Personalize: Buyer group', and 'View details'. The 'View details' option is highlighted. Other fields visible include 'Credit rating', 'Credit limit' (0.00), 'CURRENT HOLD STATUS' (Vendor hold: No), 'INTERCOMPANY' (Active: No), and 'REBATE' (Vendor rebate group).

Figure 2-8: Selecting the option *View details* in the buyer group field

In order to insert a new buyer group for the vendor of exercise 2.4, access the buyer groups form through the option *View Details* in the context menu directly from the field *Buyer group* in the vendor detail form. The context menu opens by right-clicking on the field label (not on the field itself).

In the buyer groups form, click the button *New* in the action pane to insert a new group. Once you have completed the new group with ID and name, close the buyer groups form.

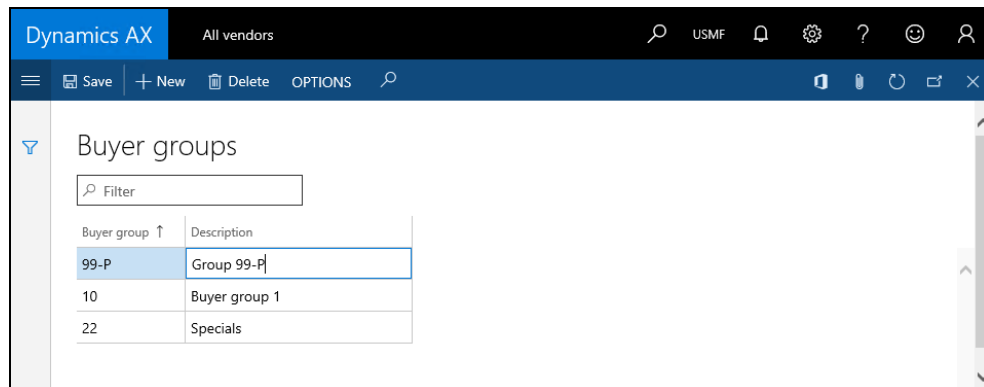


Figure 2-9: Inserting a new buyer group

Back in the vendor detail form, enter the new group code in the buyer group field (select it in the value lookup, or type it). The value lookup opens automatically when you start to type characters in the buyer group lookup field. You can manually open the lookup by clicking the button ☐ in the right part of the field or by pressing the shortcut key *Alt+Down*.

Exercise 2.6 – Filtering


In order to get some exercise with filtering, enter a few filters in the vendor list page as given below. Use the quick filter and the grid column filter for the first and the second filtering task. For the other filtering tasks, use the filter pane and the advanced filter.

Use following criteria one after the other and clear the filter after each task:

- All vendors with a name starting with "T"
- All vendors assigned to the vendor group selected in exercise 2.4
- All vendors with a name containing "in"
- Vendors with a number from US-101 to US-103 or higher than US-108 (use a similar filter if these vendor accounts do not exist)
- Vendors with a number ending with "1" and a name containing "of"
- Vendors with an "e" on the second character of the name
- Vendors with a name not starting with "C"

Once you have completed the filtering tasks given above, open the advanced filter and select all vendors who are not assigned to the *Terms of payment* "Net 30 days".

Instructions

Start this exercise in the list page *Accounts payable > Vendors > All vendors*. When you do the first task (using the quick filter to show all vendors with a name starting with "T"), make sure that the column *Name* is selected in the drop dialog after entering the character "t" in the quick filter field (see Figure 2-10). Then press the *Enter* key or click the search button  on the left-hand side of the filter field to apply the filter.

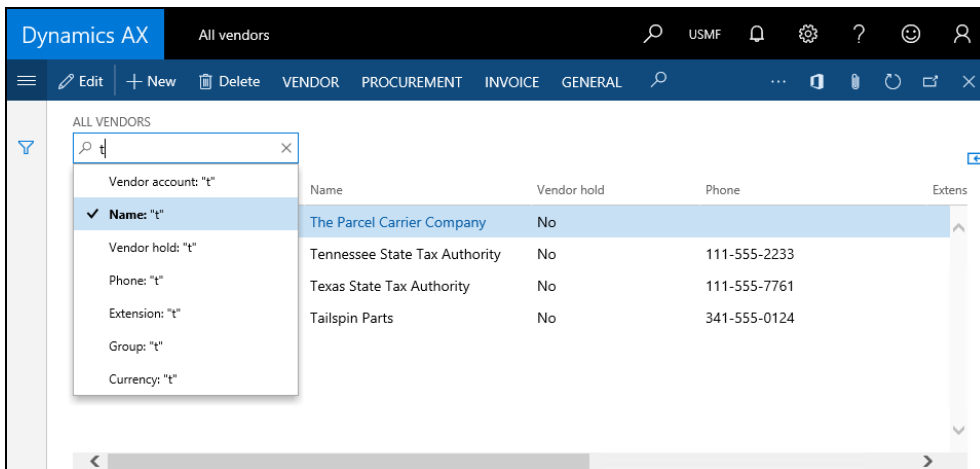



Figure 2-10: Selecting the field *Name* in the quick filter of the vendor list page

In order to clear the filter afterwards, click the button  on the right of the quick filter field (or remove the content in the quick filter field and press the *Enter* key).

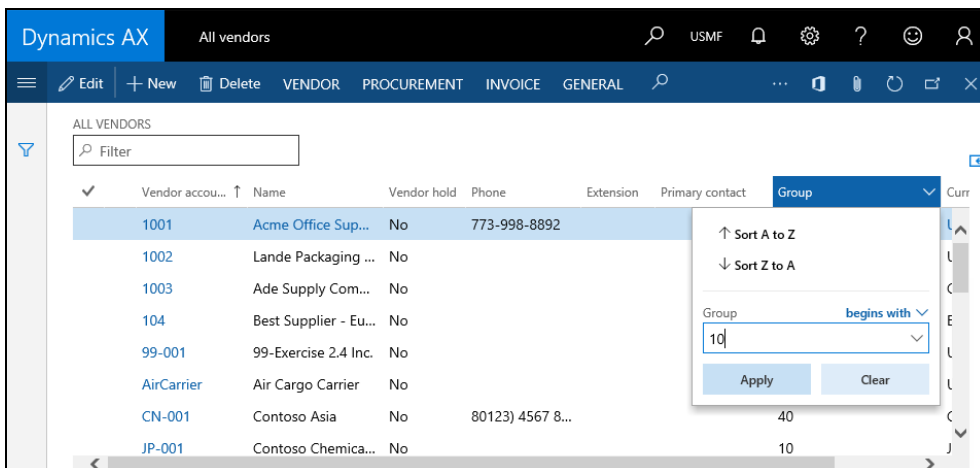



Figure 2-11: Entering the grid column filter on the vendor group

For the second filter task (showing all vendors assigned to the vendor group selected in exercise 2.4), open the grid column filter through a click on the header

field of the column *Group*. In the drop dialog, enter the appropriate vendor group in the filter field (see Figure 2-11) and press the *Enter* key or click the button *Apply*.

In order to clear the grid column filter, click the header field of the column *Group* again and click the button *Clear* in the drop dialog. Another way to clear the filter is to access the filter pane and to click the button *Reset* there.

As preparation for using the filter pane in the next filter task, open the filter pane (if not shown yet) by clicking the filter button  on the left-hand side of the page or by pressing the shortcut key *Ctrl+F3*. In the filter pane, click the button *Add a filter field* and select the field *Name* in the lookup. Then select the operator “Contains” and enter “in” in the filter field *Name* to show all vendors with a name containing “in” (see Figure 2-12). The filter applies after clicking the button *Apply*.

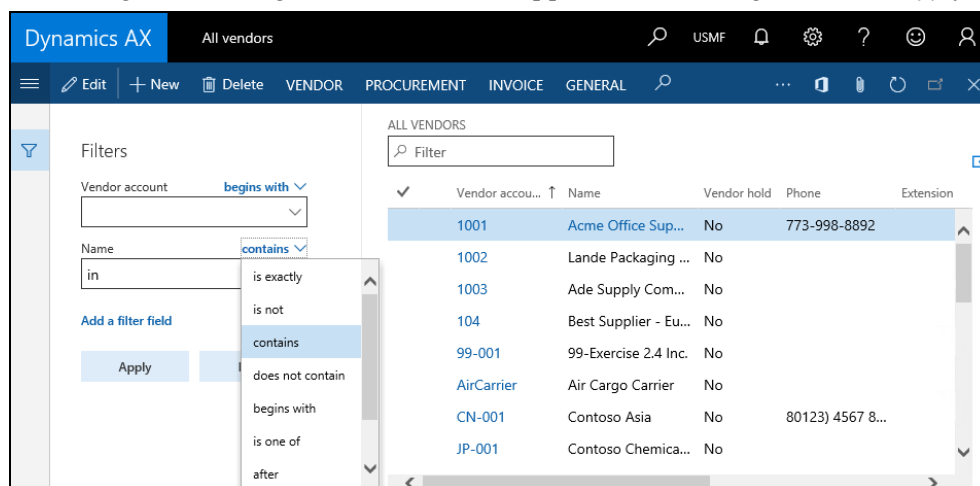



Figure 2-12: Entering the name filter in the filter pane

If you want to hide the filter pane, click the filter button  again (or press the *Esc* key after clicking in the filter pane). But hiding the filter pane does not remove the filter. In order to clear the filter, click the button *Reset* in the filter pane.

After clearing the previous filter, you can filter on vendors with a number from US-101 to US-103 or higher than US-108 in the grid column filter (use the operator *Matches*), or in the filter pane, or in the advanced filter. In order to access the advanced filter, press the shortcut key *Ctrl+Shift+F3* or click the button *OPTIONS/Page options/ Advanced Filter/Sort* in the action pane. In the advanced filter dialog, enter appropriate criteria in a filter line for the field *Vendor account* (see Figure 2-13). You can view the required field name in the header of the appropriate column in the vendor form. Clicking the button *OK* in the advanced filter dialog applies the filter.

The screenshot shows the 'Inquiry - Vendors' window in Dynamics AX. The 'Filter' pane on the left is open, showing a list of vendors. The 'Advanced Filter' dialog is open, showing the 'RANGE' tab. The 'Criteria' table is as follows:

Table	Derived table	Field	Criteria
Vendors	Vendors	Main contact	
Vendors	Vendors	Name	
Vendors	Vendors	1099 box	
Vendors	Vendors	Vendor account	US-101..US-103,>US-108

Buttons at the bottom: OK, Reset, Cancel.

Figure 2-13: Advanced filter on the vendor account number

After clearing the filter by clicking the button *Reset* in the filter pane or in the advanced filter dialog, complete the next filter task (vendors with a number ending with "1" and a name containing "of") in the filter pane or in the advanced filter. In both filters, the filter pane or the advanced filter, you have to enter two filter lines – one for the field *Name* and one for the field *Vendor account* (see Figure 2-14).

The screenshot shows the 'Inquiry - Vendors' window in Dynamics AX. The 'Filter' pane on the left is open, showing a list of vendors. The 'Advanced Filter' dialog is open, showing the 'RANGE' tab. The 'Criteria' table is as follows:

Table	Derived table	Field	Criteria
Vendors	Vendors	Main contact	
Vendors	Vendors	Name	*of*
Vendors	Vendors	1099 box	
Vendors	Vendors	Vendor account	*1

Buttons at the bottom: OK, Reset, Cancel.

Figure 2-14: Advanced filter on the vendor account number and name

After clearing the previous filter, start with the next filter task in the filter pane or in the advanced filter. Apply the criterion "e*" on the field *Name* to filter vendors

with an “e” on the second character of the name. If you work with the filter pane, use the operator *Matches*.

A filter on vendors with a name which does not start with “C” is specified through the criterion “!C*” in the field *Name*. If you want to review the result of filtering, sort the records in the vendor list page by the field *Name*. In order to specify the sorting sequence, click on the related column header field in the list page (alternatively, enter an appropriate criterion on the tab *Sorting* of the advanced filter).

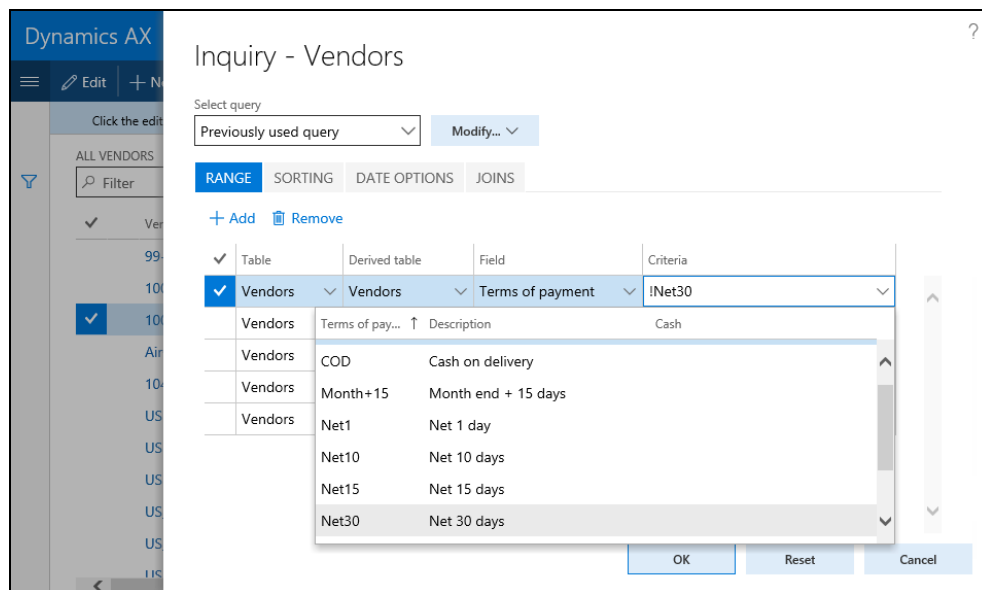


Figure 2-15: Filtering on terms of payment different from “Net 30 days”

In the last filter task (selecting vendors not assigned to the *Terms of payment* “Net 30 days”), enter a filter with the criterion “!Net30” for the terms of payment in the advanced filter dialog. In the advanced filter, you have to click the button *Add* to add a filter line with the field *Terms of payment* (see Figure 2-15) for this purpose.

Exercise 2.7 – Printing

Print a vendor list (*Accounts payable* > *Inquiries and reports* > *Vendor reports* > *Vendors*) and select the print preview as print destination.

Then close the print preview and print the vendor list again. Filter on any vendor group of your choice and select a PDF-file as print destination this time.

Instructions

If you access the menu item *Accounts payable* > *Inquiries and reports* > *Vendor reports* > *Vendors*, the report dialog for the vendor list is shown. You can access the settings

for the printout destination by clicking the button *Change* on the tab *Destination* in this dialog. If you want to create a print preview, select the destination “Screen” there (see Figure 2-16).

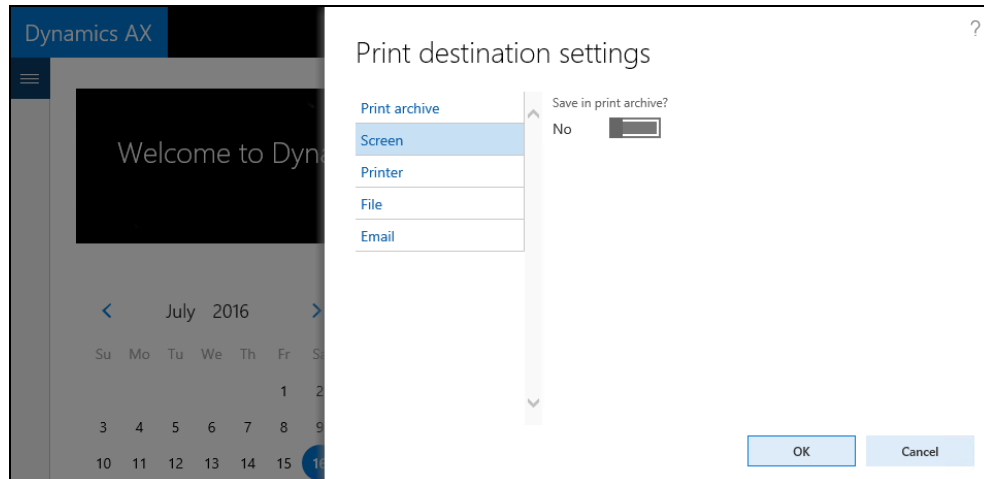


Figure 2-16: Print destination settings for a print preview

Then click the button *OK* in the print destination dialog to confirm the destination. After closing the destination settings dialog, click the button *OK* in the report dialog to generate the report which shows all vendors in a print preview.

If the report should only include particular vendors as requested in the second task of the exercise, click the button *Filter* on the tab *Records to include* of the report dialog. Dynamics AX then shows the advanced filter dialog, where you enter a filter line with the vendor group (see Figure 2-17).

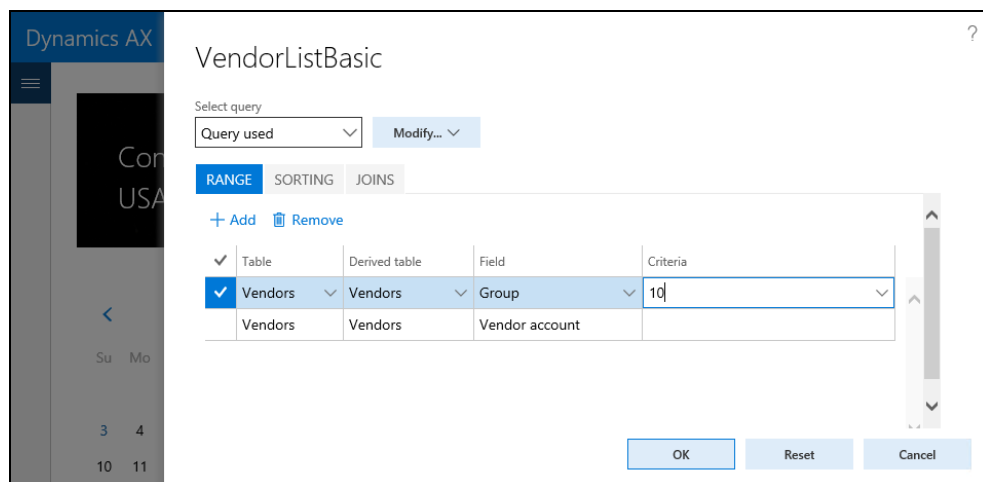


Figure 2-17: Entering the report filter


In order to generate a PDF file from the report, access the print destination settings (like in the first part of this exercise) and select the destination “File” (instead of the destination “Screen”). Then select the *File format* “PDF” and enter a file name as applicable. Downloading the PDF file then works like any other Internet download in your browser.

Alternatively, you can create a PDF file by printing to the screen and clicking the button *Export/PDF* in the print preview.

Exercise 2.8 – User Options

You want to access your user options in order to check your user name and e-mail address. In the visual options, select the high-contrast color theme and a small element size. In addition, select the training company as default which applies when logging on to Dynamics AX.

Instructions

Access your user options through the button /Options in the navigation bar, or through the menu item *Common> Setup> User options*. Your name and e-mail address are shown on the tab *Account* of the user options form.

On the tab *Visual*, you can select the high-contrast color theme and a small element size (see Figure 2-18).

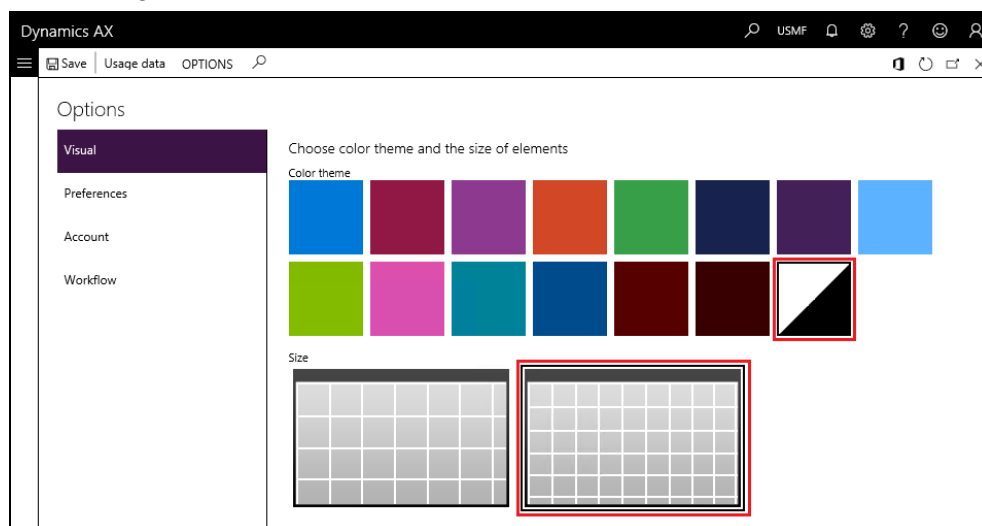


Figure 2-18: Choosing the color theme and the element size in the user options

Then select the appropriate training company (e.g. “USMF” in the Microsoft standard demo environment) in the lookup field *Company* on the tab *Preferences* of the user options. This company is used as default for the current company when logging in to Dynamics AX.

Exercise 2.9 – Record Templates

Set up a user template which is based on the vendor of exercise 2.4. Then create a new vendor with default data from this template.

Instructions

In order to create a user template based on your vendor, select the vendor in the vendor list page or detail form (*Accounts payable > Vendors > All vendors*). You can use the search and filtering options shown in previous exercises to find your vendor easily.

In the vendor page, open the record information dialog by clicking the button *OPTIONS/Page options/Record info*. Then click the button *User template* in the record information dialog to create the user template (see Figure 2-19). Before saving the template, you have to enter a name for the template in a separate dialog.

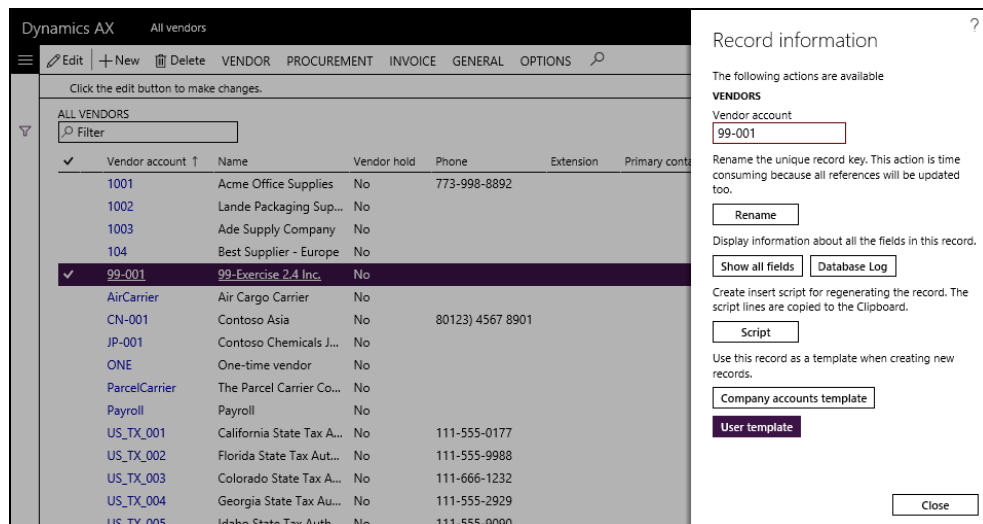



Figure 2-19: Creating a user template in the vendor form

Once the user template is created, close the record information dialog by clicking the button *Close*.

Whenever you create a new vendor afterwards, a dialog with applicable record templates displays (see Figure 2-20). Your user template shows the icon  and the name which you have entered when creating the template.

Select the appropriate line and click the button *OK* in the dialog to create the new vendor based on this template. In the vendor form, you have to enter the vendor name in the lookup field *Name* and – if vendor account numbers are set to “Manual” – the *Vendor account*.

Name	T...	Is Default
Blank	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Template 99-Test	<input type="checkbox"/>	<input type="checkbox"/>

Figure 2-20: Selecting a user template when inserting a new vendor

Note: If you do not need the user template any more, select it in the template selection dialog (see Figure 2-20) and delete it by pressing the shortcut key *Alt+F9*.

Exercise 2.10 – Global Address Book

In order to learn the functionality of the global address book, check if you can find the party record assigned to your vendor of exercise 2.4.

Then insert a new party with the name “##-Exercise 2.10” (## = your user ID) and a postal address in London. The new party becomes a vendor in your company. What do you do in Dynamics AX?

Instructions

Open the menu item *Common> Common> Global address book* to access the global address book. Once you have entered the name of the vendor of exercise 2.4 in the quick filter field (alternatively you can use any of the other search and filtering options), the party record of your vendor is shown in the grid (see Figure 2-21). You can click the *Name* field shown as link in the list page to access the party detail form, which shows the vendor account number and company on the tab *Roles*.

Click the button *New* in the action pane to create a new party in the global address book. Dynamics AX then shows an empty party detail form, where you make sure that the selected *Type* is “Organization” before you enter the name of the new party in the field *Name*.

Then click the button *Add* on the tab *Addresses* and enter the postal address details in the *New address* dialog (see Figure 2-22). For the primary address of a party, make sure that the slider *Primary* is set to “Yes” and the Slider *Private* to “No”. In case the address contains a completely new postal code, you have to insert it in the

ZIP/postal code table (access through *View details*) if required by the setting for ZIP/postal code validation in the address setup (*Organization administration > Global address book > Addresses > Address setup*).

Figure 2-21: Searching a party in the global address book

Figure 2-22: Entering address details of a new party

Once you have completed the party details, create the related vendor by clicking the button *PARTY/New/Vendor* in the action pane of the party detail form.

In case there are vendor templates, the template selection dialog shows next where you select the template “Blank” to avoid default data from a template. If you apply

the blank template (or no template at all), you have to select a vendor group in the field *Group* of the vendor detail form and – if vendor account numbers are set to “Manual” – the *Vendor account*.

After saving the vendor record, you can review the postal address and contact data (shared with the related party) in the appropriate tabs of the vendor detail form.

An alternative option to create a vendor related to an existing party is to insert the vendor record in the vendor form (*Accounts payable* > *Vendors* > *All vendors*). In this case, you have to select the existing party in the lookup field *Name* of the vendor detail form.

Note: Whereas parties in the global address book are shared across companies, vendor records are company-specific which is why you have to make sure that you are working in the training company before you create the vendor.

3 Purchase Management

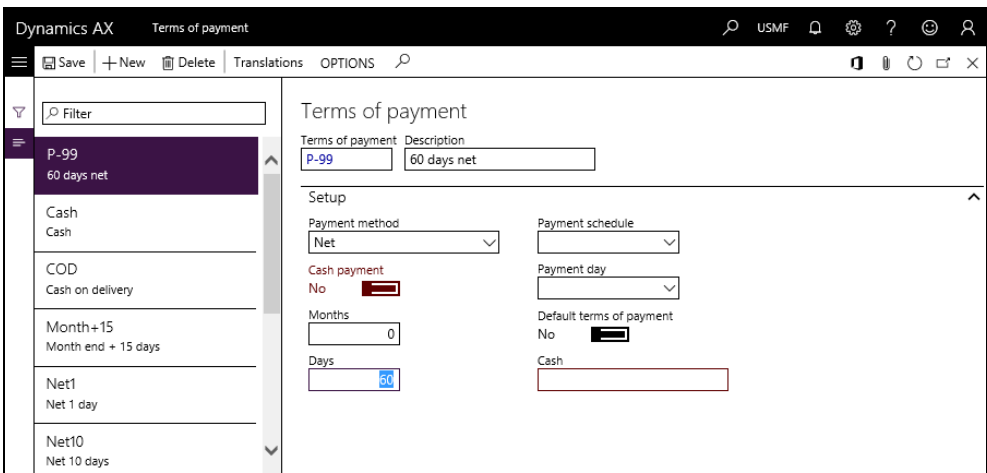
Exercise 3.1 – Terms of Payment

Your company wants to use new terms of payment “60 days net”. Enter these payment terms in Dynamics AX with a code P-## (## = your user ID).

In addition, a new cash discount D-## for “14 days with 3 percent discount” is required. Be sure to enter the values for due date and cash discount date calculation correctly and select main accounts which similar to the accounts in existing cash discounts.

Instructions

In order to register the new payment terms, insert a record with an appropriate ID and description in the form *Accounts payable> Payment setup> Terms of payment*. If you want to enter a description in foreign languages, click the button *Translations* in the toolbar. Due date calculation settings are available on the tab *Setup* as shown in Figure 3-1.



The screenshot displays the 'Terms of payment' form in Dynamics AX. On the left, a list of payment terms is shown, with 'P-99 60 days net' selected. The main area shows the 'Setup' tab for this term. The 'Terms of payment' field contains 'P-99' and the 'Description' field contains '60 days net'. Under the 'Setup' section, the 'Payment method' is set to 'Net'. The 'Cash payment' is set to 'No'. The 'Months' field is set to '0' and the 'Days' field is set to '60'. The 'Payment schedule' and 'Payment day' are dropdown menus. The 'Default terms of payment' is set to 'No', and the 'Cash' field is empty.

Figure 3-1: Setting up the terms of payment

Then open the form *Accounts payable> Payment setup> Cash discounts* where you create the cash discount. Enter the ID and description in a new record, and specify the discount calculation on the tab *Setup* as shown in Figure 3-2.


The screenshot shows the Dynamics AX 'Cash discounts' form. On the left, a list of discount codes is displayed, with 'D-99' (14 days with 3 percent discount) selected. The main area shows the setup for 'D-99'. The 'OVERVIEW' section includes the cash discount code 'D-99', its description '14 days with 3 percent discount', and a dropdown for the next discount code. The 'Setup' section is divided into three parts: 'DISCOUNT PRINCIPLE' with fields for 'Net/Current' (set to 'Net'), 'Months' (set to '0'), 'Days' (set to '14'), and 'Discount percentage' (set to '3.00'); 'ACCOUNTS RECEIVABLE' with 'Main account for customer discount' set to '403300'; and 'ACCOUNTS PAYABLE' with 'Discount offset accounts' set to 'Use Main account for vend...' and 'Main account for vendor discounts' set to '520200'.

Figure 3-2: Setting up the cash discount

Exercise 3.2 – Vendor Record

The responsible department accepts a new domestic vendor, who wants to ship items to your company. Do not use a template when you insert a record for this vendor which includes a name (starting with your user ID) and a primary address of your choice. Select the payment terms and the cash discount of exercise 3.1, and an appropriate vendor group and sales tax group for domestic vendors.

Instructions

Open the vendor list page from the procurement module (*Procurement and sourcing* > *Vendors* > *All vendors*) or from the accounts payable module (*Accounts payable* > *Vendors* > *All vendors*). Alternatively, you can use the navigation search (button  in the navigation bar) to access this page.

In the vendor list page or in the related detail form, insert a record by clicking the button *New* or by pressing the shortcut key *Alt+N*. In case there are vendor templates, the template selection dialog shows next where you select the template "Blank" to avoid default data from a template.

If the number sequence for vendor accounts is set to "Manual", the field *Vendor account* remains empty and you have to enter a vendor number in this field. Make sure to apply the *Type* "Organization" if you do not register a person as vendor. Then enter the vendor name in the field *Name* and select an appropriate vendor group (e.g. "10" in the Microsoft demo company USMF) in the field *Group*.

In order to specify the postal address, click the button *Add* on the tab *Addresses* and enter the address details in the *New address* dialog (similar to the postal address in the global address book in exercise 2.10).

The sales tax group, which you can select on the tab *Invoice and delivery*, is initialized from the vendor group and you can update it as required (e.g. select “CALA” in the Microsoft demo company USMF). Payment terms and cash discount are available on the tab *Payment*.

The screenshot shows the Dynamics AX 'All vendors' form for vendor 99-004. The form is divided into several sections:

- IDENTIFICATION:** Vendor account (99-004), Type (Organization), Name (99-Vendor of exercise 3.2), Search name (99-Vendor of exercis), Group (10).
- ORGANIZATION DETAILS:** Number of employees (0).
- OTHER INFORMATION:** Address books, Known as, Phonetic name, Language (en-us).
- ADDRESSES:** Primary address (1 Main Street, Farnham, EN, HA, GU10 5DX, GBR).
- CONTACT INFORMATION:** Recent activity, Roles, Relationships.
- MISCELLANEOUS DETAILS:** Miscellaneous details (0.00 | No).
- VENDOR PROFILE:** Purchasing demographics (USD), Invoice and delivery, Purchase order defaults.
- PAYMENT:** Terms of payment (P-99), Payment ID, Payment day.

Figure 3-3: Inserting the vendor record

Exercise 3.3 – Ledger Integration

You want to find out about ledger integration. To which summary account in the general ledger will an invoice from your new vendor post?

Instructions

The summary account for vendor invoices is depending on the applicable posting profile. The lookup field *Posting profile* in the section *Ledger and sales tax* of the accounts payable parameters (*Accounts payable> Setup> Accounts payable parameters*) determines the standard profile for vendor transactions.

In order to review the applicable summary account, which is specified in this standard posting profile, open the form *Accounts payable> Setup> Vendor posting*

profiles and check the *Summary account* on the tab *Setup* for the vendor group of the vendor. In the example shown in Figure 3-4, invoices of vendors linked to the group "10" are posted to the main account "200100" (the setting for the *Account code* "All" applies since there is no line for the vendor group "10").

The screenshot shows the 'Vendor posting profiles' form in Dynamics AX. The left-hand pane displays a list of profiles: 'GEN' (marked as 'Default posting profile') and 'PRE' (marked as 'Prepayments'). The main pane is titled 'Vendor posting profiles' and shows the 'Setup' tab for the selected 'GEN' profile. At the top, there are fields for 'Posting profile' (GEN) and 'Description' (Default posting profile). Below this is a 'Setup' section with a '+ Add' and '- Remove' button. It contains a table with two columns: 'Account code' and 'Account/Group number'. The table has three rows: 'Group' with value '40', 'Group' with value '50', and 'All' with value 'All'. To the right of the table are several dropdown menus: 'Account code' (set to 'All'), 'Account/Group number' (empty), 'Summary account' (set to '200100'), 'Sales tax prepayments' (empty), 'Arrival' (set to '200130'), and 'Offset account' (set to '200125'). At the bottom, there is a 'Table restrictions' section.

Figure 3-4: Specifying the vendor summary account in the posting profile

Exercise 3.4 – Procurement Categories

Your company purchases a new kind of services, for which you want to set up appropriate product categories in the procurement category hierarchy. Enter a new category node "##-services" which contains the categories "##-assembling" and "##-fees" (## = your user ID). The procurement categories should refer to the standard tax rate.

Instructions

In order to create the new procurement categories, open the list page *Product information management> Setup> Categories and attributes> Category hierarchies* and select the category hierarchy assigned to the hierarchy type "Procurement category hierarchy". You can view the hierarchy types linked to a hierarchy in the appropriate fact box of the list page.

Click the field *Name* of this hierarchy (shown as link) in the category hierarchy list page to access the related detail form with the hierarchy structure. In order to add a category node on top level in the detail form, select the first node in the tree structure and click the button *New category node* in the action pane. In the new category, enter the *Name*, the *Code*, and the *Friendly name*. Then select the new node

and click the button *New category node* to enter the new sub-categories (compare Figure 3-5).

The screenshot shows the 'Category hierarchies' form in Dynamics AX. On the left, a tree view under 'CORP PROCUREMENT CATEGORIES' has '99-services' selected. The right pane displays the details for this category. Fields include: Name (99-services), Code (99-services), Active (Yes), Import status (Not applicable), Created date (7/17/2016 05:47:42 AM), Modified date (7/17/2016 06:04:08 AM), Description, Friendly name (99-services), and Keywords. The 'Classify as tangible product' checkbox is unchecked.

Figure 3-5: Managing a category in the category hierarchy

Once you have completed the new categories, close the category hierarchy form and open the form *Procurement and sourcing> Procurement categories*. Select your new categories one after the other and enter the item sales tax group on the tab *Item sales tax groups* in this form.

The screenshot shows the 'Procurement categories' form in Dynamics AX. The left pane shows the same tree view as Figure 3-5. The right pane displays the details for 'Procurement categories: Procurement - Office Supplies'. The 'Buying legal entity' is set to 'Contoso Entertainment System'. The 'Item sales tax groups' tab is active, showing a dropdown menu with 'All' selected. Other tabs include General, Products, Product attributes, Inherited attributes, Vendors, Vendor evaluation criterion groups, Questionnaires, and Category attribute values.

Figure 3-6: Entering the item sales tax group in a procurement category

Note: The button *Edit category hierarchy* in the procurement categories form provides an alternative access to the related product category hierarchy.

Exercise 3.5 – Product Record

In order to process purchase orders in the following exercises, you want to set up a new product. Create a shared product with the product number I-## and the name “##-merchandise” (## = your user ID). It is a stocked product with inventory control at the level of site and warehouse. Variants and serial or batch numbers are not required. Select appropriate dimension groups in the shared product.

Then you want to release the product to your test company. In the released product, select an appropriate item group for merchandise and an item model group with FIFO-valuation. The item does not require approved vendors.

The item sales tax group for sales and for purchasing should refer to the standard tax rate. The unit of measurement for the item is “Pieces” in all areas, and the main vendor is the vendor of exercise 3.2. The base purchase price and the base cost price is USD 50, and the base sales price is USD 100.

Enter default quantities (*Multiple 20, Min. order quantity 40, Standard order quantity 100*) and select the main site for purchasing and sales in the *Default order settings*. In the *Site specific order settings*, enter the main warehouse of the main site.

Note: If the number sequence for product numbers is set up for automatic numbering, you don’t have to enter a product number.

Instructions

Create the shared product in the list page *Product information management> Products> All products and product masters*, where you click the button *New* to view the *New product* dialog. In order to create a regular product without variants, enter the *Product number* (if no automatic number sequence applies), the *Product name*, the *Search name*, and leave the default values in the other fields of this dialog as shown in Figure 3-7.

Figure 3-7: Entering the new product in the quick create dialog

Close the *New product* dialog by clicking the button *OK*. Then click the button *PRODUCT/Set up/Dimension groups* in the action pane of the released products

form, select the appropriate *Storage dimension group* and *Tracking dimension group* (see Figure 3-8) for the new product and click the button **OK** in the drop dialog.

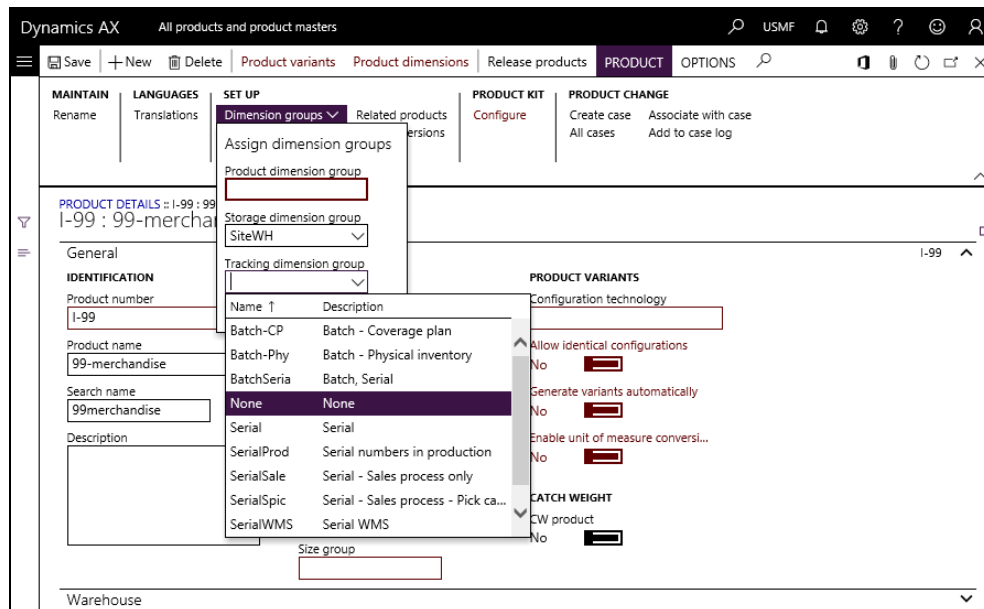


Figure 3-8: Selecting dimension groups for the shared product

In order to release the product, make sure that the new product is selected and click the button *Release products* in the action pane of the shared products to open the *Release products* wizard. Switch to the *Select companies* page of the wizard and put a checkmark in front of your training company. After clicking the button *Finish* on the last page of the wizard, the new product is available in your company.

The released products list page (*Product information management* > *Products* > *Released products*) now shows your new item. In order to enter the missing product data, select your item in the released products and click the link in the *Item number* field to access the related detail form. If the detail form is in view mode, click the button *Edit* in the action pane to switch to the edit mode.

The first field to be entered is the *Item model group* on the tab *General* of the released product detail form. Select the item model group “FIFO”, which refers to FIFO-valuation.

The tab *Purchase* of the released product form contains purchasing-related data. Enter the tax group in the field *Item sales tax group*, the base purchase price in the field *Price*, and the main vendor in the field *Vendor* (see Figure 3-9). In the lookup field *Approved vendor check method*, make sure that the option “No check” is selected.

Dynamics AX Released products

Save + New Delete PRODUCT PURCHASE SELL MANAGE INVENTORY ENGINEER PLAN

RELEASED PRODUCT DETAILS
I-99 : 99-merchandise

General I-99

Purchase ea | ALL | 50.00

PURCHASE ORDER	PRICE UPDATE	DISCOUNTS
Unit: ea	Latest purchase price: No	Line discount group:
Overdelivery: 0.00	Date of price:	Multiline discount:
Underdelivery: 0.00	PRICES	Total discount: Yes
Intercompany stopped: No	Price: 50.00	Supplementary item group:
ADMINISTRATION	Price unit: 1.00	Pricing precision:
Buyer group:	Price quantity: 0.00	VENDOR REBATE
Item price tolerance group:	CHARGES	Vendor rebate item group:
Vendor: 99-004	Charges group:	APPROVED VENDOR
TAXATION	Price charges: 0.00	Approved vendor check method: No check
Item sales tax group: ALL	Incl. in unit price: No	

Promote
Deliver
Sell ea | ALL | 100.00
Manage inventory es

Figure 3-9: Purchasing-related data on the tab *Purchase* of the released product

If your product requires a unit of measurement which is different from the default specified in the inventory parameters, update the inventory unit of your product in the field *Unit* on the tab *Manage inventory* before you change the purchase unit on the tab *Purchase*.

On the tab *Sell*, check the *Unit*, enter the base sales price (USD 100) in the field *Price*, and enter an appropriate *Item sales tax group*.

On the tab *Manage costs*, select an *Item group* for merchandise (e.g. "Audio" in the Microsoft demo company USMF) and enter the base cost price (USD 50) in the field *Price*.

In order to specify further default values for purchasing and for sales, click the button *MANAGE INVENTORY/Order settings/Default order settings* in the action pane. In the default order settings, make sure that the *Default order type* "Purchase order" is selected and enter the required settings on the tabs *Purchase order*, *Inventory*, and *Sales order* (see Figure 3-10).

Then close the default order settings and open the site-specific order settings by clicking the button *MANAGE INVENTORY/Order settings/Site specific order settings* in the action pane of the released product form. In the site-specific order settings,

enter a record for the main site with the default warehouse for purchase orders, inventory, and sales orders.

The screenshot shows the 'Default order settings' form in Dynamics AX. The form is titled 'I-99 : 99MERCHANDISE Default order settings'. It has a top bar with 'Save', '+ New', 'Delete', and 'OPTIONS'. The form is divided into several sections: 'IDENTIFICATION' with fields for 'Item number' (I-99) and 'Product name' (99-merchandise); 'ORDER TYPE' with a dropdown for 'Default order type' (Purchase order); 'SITE' with dropdowns for 'Purchase site', 'Inventory site', and 'Sales site' (all set to 1); 'PURCHASE QUANTITY' with fields for 'Multiple' (20.00), 'Min. order quantity' (40.00), 'Max. order quantity' (0.00), and 'Standard order quantity' (100.00); and 'OTHER' with fields for 'Purchase lead time' (0), 'Working days' (unchecked), and 'Stopped' (unchecked). At the bottom, there are tabs for 'Purchase order', 'Inventory', and 'Sales order'.

Figure 3-10: Entering order quantities in the default order settings

Note: You can directly access the released product from the shared product. For this purpose, click the link in the *Item number* field on the right-hand side of the FactBox *Released to companies* (select the line with the appropriate company) in the shared product form, and then click the link in the field *Item number* of the product information dialog.

Exercise 3.6 – Trade Agreement

You agree upon a lower price for the new item with your main vendor. Enter a trade agreement for the vendor of exercise 3.2 which specifies a purchase price of USD 45 for the item of exercise 3.5. There is no minimum quantity and no end date for this price.

Instructions

In order to set up new purchase prices, access the form *Procurement and sourcing> Prices and discounts> Trade agreement journals*. Click the button *New* in the action pane of the journal page to create a new journal. Select a journal name in the first column of the journal header line and optionally enter a description or remark in the column *Description*.

Then click the button *Lines* in the journal header to access the journal lines. Insert a journal line for the purchase price – make sure that the option “Price (purch.)” is selected in the column *Relation*. Select the option “Table” in the *Account code* and enter your vendor number in the column *Account selection*. In a price agreement, the *Item code* has to be “Table” and the product number has to be selected in the *Item relation*. Enter the price in the column *Amount in currency* (see Figure 3-11).

The screenshot shows the Dynamics AX interface for 'Trade agreement journals'. The main window displays 'PRIC : PRICE ADJUSTMENT JOURNAL' and 'Journal lines, trade agreement'. Below the header, there is an 'Overview' section with a filter box and several action buttons: 'Select', 'Copy and revise', 'Copy line', 'Clear journal', 'Add products', 'Inventory', and 'Select all agreements to be deleted'. A message states 'There are no active price search dimensions.' Below this is a table with columns: 'C...', 'Relation', 'Account code', 'Account selection', 'Item code', 'Item relation', 'Config...', 'Site', 'Warehouse', 'From', 'To', 'Unit', 'Amount in curr...', and 'Currency'. The first row is highlighted and contains the following values: 'Price (purch.)', 'Table', '99-004', 'Table', '1-99', 'USD', '0.00', '45.00', and 'USD'. At the bottom, there are sections for 'Details' and 'Error log'.

Figure 3-11: Entering the purchase price in the trade agreements journal lines

Once you have completed the journal line, click the button *Post* in the action pane to activate the price.

Exercise 3.7 – Purchase Order

In order to avoid processing purchase order approval, make sure that change management does not apply to your vendor of exercise 3.2.

You want to order your item of exercise 3.5 from your vendor of exercise 3.2. Enter the purchase order in the *Purchase order preparation* workspace. Which quantity and which price show in the order line, where do they come from? Order two hours of the procurement category “##-assembling” (entered in exercise 3.4) for a price of USD 100 in a second order line.

In the next step, determine all orders with your vendor. How do you proceed and how many orders are shown?

Instructions

If the slider *Activate change management* in the procurement parameters (*Procurement and sourcing* > *Setup* > *Procurement and sourcing parameters*, section *General*) is set to “Yes”, you have to deactivate change management specifically for your vendor. In this case, make sure that the slider *Allow override of settings per vendor* in the procurement parameters is set to “Yes” before you access the vendor

detail form. On the tab *Purchase order defaults* of the vendor form, set the slider *Override settings* for your vendor to “Yes” and the slider *Activate change management* to “No”.

In order to create the purchase order in the *Purchase order preparation* workspace, access this workspace and click the button *New purchase order* in the action pane. Dynamics AX then shows the *Create purchase order* dialog, where you have to select your vendor in the *Vendor account* field (you can trigger the vendor search by starting to type the first characters of the vendor name).

Once you click the button *OK* in the dialog, Dynamics AX creates a purchase order header (with default data from the selected vendor for fields like the language or currency) and shows the purchase order detail form opens in the *Lines* view. Enter or select the item number in the first order line (see Figure 3-12). The default for the order quantity derives from the *Standard order quantity* in the default order settings of the item. The *Unit price* in the order line derives from the trade agreement for the purchase price entered in exercise 3.6. The default for the *Line number* is shown when you leave or save the purchase order line.

In the second line, select the appropriate *Procurement category* instead of an item number and enter further line data as shown in Figure 3-12.

Line number	Item number	Product name	Procurement category	Site	Warehouse	CW...	Quantity	Unit	Unit price	Adjust
1	1-99	99-merchandise		1	13		100.00	ea	45.00	
2			99-assembling	1	13		2.00	hr	100.00	

Figure 3-12: Inserting an order line in the purchase order detail form (*Lines* view)

After closing the purchase order detail form, you can review existing purchase orders referring to your vendor in the list *Find purchase order* of the *Purchase order preparation* workspace (use a quick filter on the *Vendor account* or *Vendor name*). The list shows, that there is only the order of the current exercise for your vendor.

Purchase order preparation

12 Approved | 0 In external review

Orders

Draft

In Review

Assigned to me

Approved

In external review

Find purchase order

Find vendor

Search: 99

✓	Purchase order ↑	Vendor account	Vendor name	Invoice account
✓	00000045	99-004	99-Vendor of exercise 3.2	99-004

Figure 3-13: Viewing purchase orders in the *Purchase order preparation* workspace

Note: Apart from creating the purchase order in the workspace or in the purchase order list page, you can create the order in the vendor form (*Procurement and sourcing* > *Vendors* > *All vendors*). Select the vendor there and click the button *PROCUREMENT/New/Purchase order* for this purpose. Dynamics AX creates a purchase order with default data from your vendor and immediately shows the lines view of the purchase order detail form. If you are in the vendor list page and want to check the existing purchase orders for a vendor, click the button *PROCUREMENT/Related information/Purchase orders/All purchase orders* in the action pane of the vendor form.

Exercise 3.8 – Order Confirmation

Post and print the purchase order confirmation for the order which you have created in exercise 3.7. Generate a PDF file for the order confirmation.

Then change the quantity in the first line of the order of exercise 3.7 to 120 units. How do you proceed? Post the order confirmation and display it as a print preview.

Instructions

Since change management does not apply to your vendor (you have checked the setup in exercise 3.7), you can immediately post and print purchase order confirmations without prior approval.

In order to print the confirmation for the purchase order of exercise 3.7 directly in the purchase order form, click the button *PURCHASE/Generate/Confirmation* in the

action pane after selecting the order. In the posting dialog, set the sliders *Posting* and *Print purchase order* to “Yes”. Then click the button *Printer setup/Purchase order* in the posting dialog. Select the print destination “File” and the *File format* “PDF”, and enter a file name as applicable. After closing the print destination dialog, post and print the confirmation by clicking the button *OK* in the posting dialog.

Figure 3-14: Posting dialog for the purchase order confirmation

In order to change the quantity in the purchase order 3.7 after posting the confirmation, you have to access the lines view of the purchase order detail form in edit mode. If you are in view mode, click the button *Edit* in the action pane of the purchase order detail form. Once you have changed the order quantity in the column *Quantity* to 120 units for the first order line, you have to confirm the purchase order again before you can post a product receipt.

When confirming the purchase order, select the print destination “Screen” to generate a print preview. There is the option to generate a PDF file in the print preview (compare exercise 2.7) if required. If you don’t want to generate a printout or a print preview, set the slider *Print purchase order* in the posting dialog to “No”.

If you want to view the original order confirmation at a later time, you can access it by clicking the button *PURCHASE/Journals/Purchase order confirmations* in the action pane of the purchase order form. Click the button *Preview/Print* in the purchase order inquiry to reprint the original confirmation if required.

Notes:

If you do not leave the order line after changing the quantity, you have to save the record manually before you can post the second order confirmation.

Apart from the button *PURCHASE/Generate/Confirmation* in the purchase order, the button *PURCHASE/Actions/Confirm* provides another way to post the confirmation.

Exercise 3.9 – Product Receipt

Your vendor ships the goods and services ordered in exercise 3.7 with packing slip PS309. Before posting the receipt, check following items in the purchase order:

- Order status and document status
- Inventory quantity of the ordered item (button *Inventory/On-hand*)
- Inventory transaction related to the order line of the product

Then post a product receipt for the complete order quantity (120 units for the first line after the update in exercise 3.8) with the vendor packing slip number given above. You can post the receipt directly from the purchase order form.

Now review the status of the points in the list above again. What is different after product receipt posting?

Instructions

You can find the order status in the column *Purchase order status* of the purchase order list page (*Procurement and sourcing> Purchase orders> All purchase orders*). The *Document status* is shown on the tab *General* in the header view of the purchase order detail form, which you can access by clicking the link in the *Purchase order* field in the list page (in the detail form, click the button *Header* in the line below the action pane or press the shortcut key *Ctrl+Shift+H* to switch to the header view).

Since you have confirmed the purchase order of exercise 3.7 in exercise 3.8, the *Purchase order status* is “Open order” and the *Document status* is “Purchase order”. After switching to the lines view, you can access the inquiries on the inventory quantity and the inventory transactions by clicking the button *Inventory/On-hand* or *Inventory/Transactions* in the toolbar of the *Purchase order lines* tab. These inquiries show following results for the first order line:

- Since you did not post any transaction up to now, the on-hand inventory of your item is zero.
- The inventory transactions show a line with the ordered quantity in the receipt status “Ordered”. The date fields *Physical date* and *Financial date* in the transaction are empty.

In order to post the product receipt in the purchase order form, click the button *RECEIVE/Generate/Product receipt* in the action pane. Select the option “Ordered quantity” in the field *Quantity* on the tab *Settings* of the posting dialog, which applies the total quantity as default for the receipt quantity – 120 units for the first line (modified in exercise 3.8) and 2 hours for the second line. You can check and modify the receipt quantity on the tab *Lines* of the posting dialog.

Posting product receipt

Settings

Select Arrange Printer setup View charges

PARAMETERS

Quantity: Ordered quantity

Posting: Yes

PRINT OPTIONS

Print: Current

Print product receipt: No

Use print management destinat...: No

Print sales documents: No

Print shelf labels: No

Print product labels: No

SETUP

Check credit limit: None

SUMMARY PURCHASE

Summary update for: None

Overview

+ Add Remove Totals Sales tax

	Update	Purchase order	Name	Product receipt	Product receipt date	Do
✓	Product receipt	00000045	99-Vendor of exercise 3.2	PS309	7/17/2016	

Lines

Details

OK Cancel Batch

Figure 3-15: Posting dialog for the product receipt

Before you can finally post the transaction by clicking the button **OK** in the posting dialog, you have to enter the packing slip number of the printed vendor document in the column *Product receipt* of the posting dialog.

After posting the product receipt, the inquiries show following results:

- Order status “Received”; Document status “Product receipt”
- Inventory on-hand: 120 units (old quantity plus the received quantity)
- Inventory transaction receipt status “Received”;
Physical date according to the product receipt;
Financial date empty

Exercise 3.10 – Partial Delivery

You want to order your item of exercise 3.5 from your vendor another time. Enter a purchase order for 80 units and post the product receipt of packing slip PS310 with a partial delivery of 50 units. Then post the product receipt PS311 of a second partial delivery with 10 units.

Do you know how to show the remaining quantity? Check the order status, the inventory quantity, and the inventory transactions like in exercise 3.9. What is different in comparison to exercise 3.9?

Instructions

Enter the new purchase order similar to exercise 3.7 and confirm it like in exercise 3.8 (click the button *PURCHASE/Generate/Confirmation* in the purchase order form). The inquiries of the order status and inventory transactions show the same results as the inquiries for the order at the beginning of exercise 3.9. The on-hand inquiry shows a quantity of 120 units (received in exercise 3.9).

In order to prepare posting a partial quantity, you can enter the quantity of the transaction in the column *Receive now* of the order lines in the purchase order detail form. The field *Receive now* is also available in the *Line quantity* form, which you can access by clicking the button *GENERAL/Related Information/Line quantity* in the action pane of the purchase order form.

Then open the product receipt posting dialog by clicking the button *RECEIVE/Generate/Product receipt* in the action pane of the purchase order form. Select the option "Receive now quantity" in the field *Quantity* to initialize the product receipt quantity with the *Receive now* quantity entered before.

Alternatively, you can record a partial receipt without entering a *Receive now* quantity for the purchase order line. For this purpose, select the option "Ordered quantity" in the lookup field *Quantity* of the posting dialog and enter the correct quantity in the column *Quantity* of the tab *Lines* in the posting dialog.

Line	Item	Product name	Procure	Quantity	Invoiced	Invoice remai...	Pending Invo...	Received	Deliver remai...	Register...	Arrived	Ordered
1	L-99	99-merchandise		80.00					80.00			80.00

CW quantity

Receive now

CW receive now

Receive now 50.00

Line quantity in inventory unit 80.00 | 80.00 | 50.00

Figure 3-16: Entering a *Receive now* quantity in the line quantity form

After posting the first and the second partial product receipt, the remaining quantity shows in the column *Deliver remainder* of the *Line quantity* form (access by clicking the button *GENERAL/Related Information/Line quantity* in the action pane of the purchase order form).

Unlike the order in exercise 3.9, the purchase order in the current exercise still shows "Open order" in the field *Purchase order status* after posting the product receipt. The field *Document status* shows "Product receipt" after posting the

product receipt (like in exercise 3.9). The inventory quantity now additionally includes the quantity received in the current exercise.

Because of the partial receipt transactions, the inventory transaction inquiry displays three lines linked to the purchase order line: One line with 50 units for the first receipt, one line with 10 units for the second receipt (both showing the receipt status “Received”), and one line with the remaining 20 units showing the receipt status “Ordered”.

Exercise 3.11 – Product Receipt Inquiry

You want to view the product receipt of exercise 3.9. For this purpose, open the product receipt inquiry from the appropriate purchase order. In a second step, open the product receipt inquiry in the procurement and sourcing menu. Check the product receipt header and lines, and try to find out if there are related ledger transactions.

Instructions

If you want to access the posted product receipt directly from the purchase order form, click the button *RECEIVE/Journals/Product receipt* in the action pane after selecting the appropriate order. The tab *Lines* in the product receipt inquiry shows the lines of the product receipt selected on the tab *Overview*.

✓	Purchase order	Product receipt ↑	Date	Terms	Mode of delivery	Company	Sales order	Posted via int...
✓	00000045	PS309	7/17/2016					<input type="checkbox"/>

Figure 3-17: Viewing the product receipt inquiry

In the product receipt inquiry, click the button *Vouchers* in the toolbar of the tab *Overview* to access the form showing the related ledger transactions.

If you want to access the posted product receipts from the procurement and sourcing menu, open the form *Procurement and sourcing> Purchase orders> Receiving products> Product receipt*. In the product receipt inquiry, you can find the appropriate product receipt through a filter – for example a grid column filter on the purchase order number or on the vendor account number (column *Invoice account*).

Exercise 3.12 – Purchase Order Invoice

Your vendor submits the invoice VI312, which refers to the goods and services received in exercise 3.9. Before posting the invoice, check following items:

- Order status and document status of the purchase order
- Inventory transaction related to the order line with the product (button *Inventory/Transactions*)

Then register and post the vendor invoice for the received quantity in the pending vendor invoices page. Check the invoice total before you post the invoice.

Now review the status of the points in the list above again. What is different?

Instructions

Since there have not been any updates of the purchase order in exercise 3.9 after finishing that exercise, the order status still is “Received” and the document status “Product receipt”. The inventory transaction shows the receipt status “Received”, the *Physical date* complies with the product receipt, and the *Financial date* is empty.

Dynamics AX Accounts payable > Invoices > Pending vendor invoices

Search for a page USMF 99-Test

Save | + New | Delete | Match product receipts | Update match status | Totals | Post | Default from: Product receipt quantity

VENDOR INVOICE
VI312 : 99-Vendor of exercise 3.2

Vendor invoice header

VENDOR
Invoice account: 99-004
99-Vendor of exercise 3.2

RELATED DOCUMENTS
Purchase order: 00000045
Product receipt: PS309

INVOICE IDENTIFICATION
Number: VI312
Invoice description:

INVOICE DATES
Invoice date:

Posting date: 7/18/2016
Due date: 9/16/2016

INVOICE STATUS DETAILS
On hold: No
Match status: Not performed
Header budget check results: Budget check not performed

Invoice totals
Currency: USD
Subtotal amount: 5,600.00
Total discount: 0.00
Charges: 0.00
Sales tax: 1,386.00
Invoice amount: 6,986.00
Cash discount amount: 168.00
Applied prepayment amount: 0.00

et check...	Item number	Item name	Procurement category	Quantity	Unit	CW...	Unit price	Line net amo...	Site
	1-99	99-merchandise	99-assembling	120.00	ea		45.00	5,400.00	
				2.00	hr		100.00	200.00	

Figure 3-18: Registering a vendor invoice and checking the invoice totals

In order to register the invoice, open the pending vendor invoice list page (*Accounts payable > Invoices > Pending vendor invoices*) and click the button *New* in the action pane. Alternatively, you can access the *Vendor invoice entry* workspace and create a pending vendor invoice by clicking the button *New vendor invoice* there.

In the quantity selection (button *Default from* in the action pane), leave the default “Product receipt quantity” to post an invoice for the received quantity. Select the vendor number in the field *Invoice account* and the appropriate order in the lookup *Purchase order*. Then enter the invoice number, which you can find on the received

vendor invoice, in the invoice header field *Number*. Before you post the invoice finally, check the invoice total in the FactBox *Invoice totals* of the vendor invoice form (compare Figure 3-18).

If the displayed invoice totals match the actual invoice, post the invoice by clicking the button *Post* in the action pane of the invoice form. Depending on the invoice matching setup, you have to click the button *Update match status* before you can post the invoice.

After posting the vendor invoice, the inquiries in the purchase order form show following results:

- Order status “Invoiced”; Document status “Invoice”
- Inventory transaction receipt status “Purchased”;
Physical date according to the product receipt;
Financial date according to the invoice

Exercise 3.13 – Partial Invoice for a Purchase Order

You receive the invoice VI313, which applies to the goods received with packing slip PS310 in exercise 3.10. Post the vendor invoice from the purchase order form and make sure that the posted invoice only contains the items received with packing slip PS310.

Instructions

After selecting the purchase order of exercise 3.10 in the purchase order form, you can check the quantity of packing slip PS310 in the product receipt inquiry (tab *Lines*) as described in exercise 3.11.

In order to post the invoice starting in the purchase order form, click the button *INVOICE/Generate/Invoice* in the action pane of the purchase order. If the quantity selection in the invoice form (button *Default from* in the action pane) shows the option “Product receipt quantity”, the default for the line quantities is the total received quantity.

If you want to assign the invoice to a particular product receipt, click the button *Match product receipts* in the action pane of the vendor invoice form. In the match dialog, select the checkbox *Match* only for the packing slip PS310 (compare Figure 3-19). After closing the dialog (click the button *OK*) and clicking the button “Yes” in the message bar which asks whether to update the invoice quantity, the selected product receipt is shown in the field *Product receipt* of the vendor invoice header.

Before you can finally post the invoice by clicking the button *Post* in the action pane of the invoice form, enter the vendor invoice number in the header field *Number* and – if required – update the match status (button *Update match status*).

Match product receipts to invoice

Invoice: Vendor account: 99-004

ITEMS

Select all lines Deselect all lines Inventory

Filter

Line number	Item	Item Name	Procurement category	Site
1	L-99	99-merchandise		1

OVERVIEW GENERAL

Select all product receipts Deselect all product receipts

Match	Product receipt	Date	CW quantity t...	Product recei...	Inventory qua...	Unmatched C...	Unmatched
<input checked="" type="checkbox"/>	PS310	7/17/2016		50.00	50.00		
<input type="checkbox"/>	PS311	7/18/2016		0.00	0.00		

OK Cancel

Figure 3-19: Selecting the product receipt for invoice posting

Note: If you want to stop entering an invoice without saving it as a pending invoice, you have to delete it (button *Delete* in the action pane).

Exercise 3.14 – Vendor Invoice Not Related to a Purchase Order

Your vendor now submits the invoice VI314, which contains a line with one hour of the procurement category “##-assembling” (created in exercise 3.4) for a price of USD 105. The invoice does not refer to a purchase order.

You accept this invoice and want to register it in the pending vendor invoices page. Check the invoice total before you post the invoice.

Instructions

In order to enter the invoice, open the *Vendor invoice entry* workspace and click the button *New vendor invoice* in the workspace, or access the pending vendor invoice list page (*Accounts payable > Invoices > Pending vendor invoices*) and click the button *New* in the list page.

Leave the default “Product receipt quantity” in the quantity selection (button *Default from* in the action pane) for the new invoice. After selecting the vendor number in the field *Invoice account*, add an invoice line by clicking the button *Add line* on the tab *Lines* and enter the line similar to an order line for a procurement category (see Figure 3-20).

Before you can finally post the invoice by clicking the button *Post* in the action pane, enter the vendor invoice number in the header field *Number*.

Vendor invoice header

VENDOR
 Invoice account: 99-004
 99-Vendor of exercise 3.2

RELATED DOCUMENTS
 Purchase order:
 Product receipt:
 Purchase agreement:

INVOICE IDENTIFICATION
 Number: VI314
 Invoice description:

INVOICE DATES
 Invoice date:

Posting date: 7/18/2016
Due date: 9/16/2016

INVOICE STATUS DETAILS
 On hold: No
 Match status: Not performed
 Header budget check results: Budget check not performed

Invoice totals
 Currency: USD
 Subtotal amount: 105.00
 Total discount: 0.00
 Charges: 0.00
 Sales tax: 25.99
 Invoice amount: 130.99
 Cash discount amount: 3.15
 Applied prepayment amount: 0.00

Lines

Budg...	Item number	Item name	Procurement category	Quantity	Unit	CW...	Unit price	Line net amou...	Site
<input checked="" type="checkbox"/>		99-assembling		1.00	hr		105.00	105.00	1

Figure 3-20: Registering a vendor invoice not related to a purchase order

Exercise 3.15 – Invoice Inquiry

You want to view the invoice of exercise 3.12. For this purpose, open the invoice inquiry from the related order in the purchase order form. As an alternative, choose the appropriate menu path. Check the invoice header, the invoice lines, and the related ledger transactions.

In exercise 3.3, you were looking for the summary account for your vendor. Can you find the ledger transaction for this account? Then open the transaction origin form and check to which modules your invoice has posted.

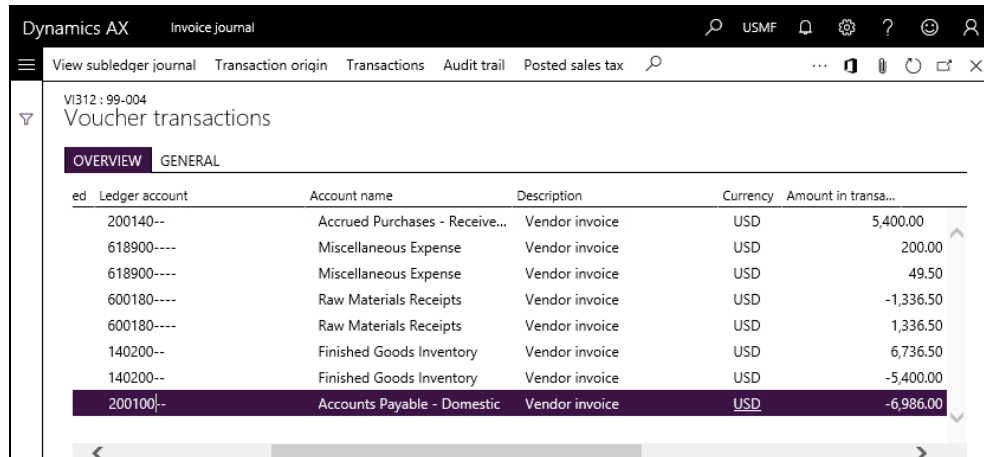
Instructions

In order to access the invoice inquiry directly from the purchase order, click the button *INVOICE/Journals/Invoice* in the action pane of the purchase order form after selecting the appropriate order. If you want to access the invoice inquiry from the menu, open the menu item *Accounts payable> Inquiries and reports> Invoice> Invoice journal* and use a filter to select the appropriate invoice.

With a tab *Overview*, which shows the invoice header data, and a tab *Lines*, which shows the lines of the invoice selected on the tab *Overview*, the invoice inquiry is similar to the product receipt inquiry.

After clicking the button *Voucher* on the tab *Overview* of the invoice inquiry, the related ledger transactions show in a separate form. In Figure 3-21, the ledger transaction with the vendor summary account (account "200100" according to the setup shown in exercise 3.3) shows in the highlighted line. The button *Transaction origin* provides access to the transaction origin form, which shows related

transactions in all modules (including vendor transactions, inventory transactions, sales tax transactions, and ledger transactions).



ed	Ledger account	Account name	Description	Currency	Amount in transa...
	200140--	Accrued Purchases - Receive...	Vendor invoice	USD	5,400.00
	618900----	Miscellaneous Expense	Vendor invoice	USD	200.00
	618900----	Miscellaneous Expense	Vendor invoice	USD	49.50
	600180----	Raw Materials Receipts	Vendor invoice	USD	-1,336.50
	600180----	Raw Materials Receipts	Vendor invoice	USD	1,336.50
	140200--	Finished Goods Inventory	Vendor invoice	USD	6,736.50
	140200--	Finished Goods Inventory	Vendor invoice	USD	-5,400.00
	200100--	Accounts Payable - Domestic	Vendor invoice	USD	-6,986.00

Figure 3-21: Ledger transactions referring to the selected purchase invoice

Exercise 3.16 – Credit Note

The goods received in exercise 3.9 show serious defects. You return them to your vendor and receive the credit note VC316. The vendor does not send a replacement. Which ways do you know for registering the credit note?

You decide to register the credit note in the original order. Enter the required data and post the credit note.

Instructions

There are following options to enter a credit note related to a purchase order:

- Register a negative receipt in a new line of the original purchase order
- Register a negative receipt in a new purchase order (purchase type “Purchase order” or “Returned order”)

It is not possible to post a credit note in the original purchase order, if the approval status of the order is “Finalized” or if the order is completely invoiced and the procurement parameter *Safety level of invoiced orders* is set to “Locked”.

Otherwise, you can process a credit note in the original purchase order (make sure that you are in edit mode) by entering the credited quantity with a negative sign in a new order line (see Figure 3-22). Depending on the safety level parameter settings, you have to confirm that you want to change an invoiced purchase order.

In order to link the inventory value of the returned/credited item to the corresponding item receipt, select the new order line afterwards and click the button *Inventory/Marking* in the toolbar of the purchase order lines. In the marking dialog, select the checkbox *Set mark now* in the line with the original order to link

the transactions for valuation purposes. Since changing a purchase order requires a confirmation, you have to post it (click the button *PURCHASE/Generate/Confirmation* in the purchase order form).

T...	Budget...	Line number	Item number	Product name	Procurement category	Site	Warehouse	CW...	Quantity	Unit	Unit price	Ad
✓		1	I-99	99-merchandise		1	13		120.00	ea	45.00	
		2		99-assembling	99-assembling	1			2.00	hr	100.00	
✓			I-99	99-merchandise		1	13		-120.00	ea	45.00	

Figure 3-22: Registering the credit note in the original purchase order

Then post the credit note by clicking the button *INVOICE/Generate/Invoice* in the purchase order. In the vendor invoice form, click the button *Default from* in the action pane and select the option “Ordered quantity”. Since there is no other order line with an open quantity apart from the new line with the negative quantity, only this line is shown on the tab *Lines* of the vendor invoice form.

Before you can finally post the credit note by clicking the button *Post* in the action pane of the invoice form, enter the credit note number in the header field *Number* and – if required – update the match status (button *Update match status*).

Exercise 3.17 – Request for Quotation

You want to receive vendor quotations for your item. For this purpose, enter a new request which contains a line with the item of exercise 3.5 in the request for quotations form. The RFQ reply defaults for the request should include the header field *Reply valid to* and the line fields *Quantity* and *Unit price*.

You want to send the request to your vendor of exercise 3.2 and another vendor of your choice. Once you have finished entering the request, choose the option *Send* in order to post and print the RFQ for these vendors.

After a while, you receive quotes with quantities and prices of your choice from both vendors. In order to track the quotes, enter them as request for quotation replies assigned to the original request. Your vendor of exercise 3.2 has submitted the better quote, which you want to accept and to transfer to a purchase order. Then send a quotation rejection to the other vendor.

Instructions

In order to register the request for quotation (RFQ), click the button *New* in the action pane of the form *Procurement and sourcing> Requests for quotations> All requests for quotations*. Check the default values in the create dialog (e.g. the *Purchase type* has to be “Purchase order” for a purchase order request) and adjust the *Delivery date* and the *Expiration date and time* as required before you create the RFQ by clicking the button *OK*.

On the lines tab of the RFQ detail form, insert a new record with your item and the related default values for warehouse and quantity as shown in Figure 3-23.

Figure 3-23: Inserting the item line in the request for quotation detail form

Next you can access the RFQ reply fields by clicking the button *QUOTATION/ Replies/Set RFQ reply defaults* in the action pane of the RFQ form. Make sure that the checkboxes *Reply valid to*, *Quantity* and *Unit price* are selected there.

In order to specify the vendors, who receive the request for quotation, switch to the tab *Vendor* in the header view and insert lines for the particular vendors. Then post and print the RFQ by clicking the button *QUOTATION/Process/Send*.

Once you receive a quotation from your vendor, record it in the form *Procurement and sourcing> Requests for quotations> Requests for quotations follow-up> Request for quotation replies*. In the RFQ reply list page, select the line which shows your RFQ in the column *Request for quotation case* and your vendor in the column *Vendor account*, and access the reply detail form (click the link in the field *Request for quotation case* or click the button *REPLY/Maintain/Edit*). In the reply detail form, optionally click the button *REPLY/Process/Copy data to reply* if you do not want to enter all required fields manually. Then enter or modify the *Quantity* and the *Unit price* on the lines tab as shown in Figure 3-24.

Mark	Line type	Line...	Proc...	Item...	Site	Warehouse	Product name	Delivery date	Expiration...	Status	Quantity	Unit	Unit price
<input type="checkbox"/>	Item	1		I-99	1	13	99-merchandise	8/31/2016	8/31/2016...	Received	100.00	ea	44.00

Figure 3-24: Entering a vendor quotation in the RFQ reply detail form

Once you have completed the first RFQ reply, close the reply detail form. After refreshing the reply list page (button or shortcut key *Shift+F5*), the RFQ reply shows the lowest/highest status “Received”.

Then select the line for the quotation of the second vendor in the reply list page and access the reply detail form for this quotation. Enter the reply the same way as the first reply, but with a higher unit price.

Close the reply detail form and the reply list page, and return to the RFQ form (*Procurement and sourcing> Requests for quotations> All requests for quotations*). After selecting your RFQ, click the button *QUOTATION/Replies/Compare replies* in the action pane to access the *Compare request for quotation replies* form.

Mark	Vendor account	Type	Line...	Rank	Total score	Total amount	Item...	Product name	Quantity	Unit price	Line discounts
<input type="checkbox"/>	99-003	Header				8,000.00					0.00
<input type="checkbox"/>	99-003	Line	1			8,000.00	I-99	99-merchandise	100.00	80.00	
<input checked="" type="checkbox"/>	99-004	Header				5,489.00					0.00
<input checked="" type="checkbox"/>	99-004	Line	1			4,400.00	I-99	99-merchandise	100.00	44.00	

Figure 3-25: Accepting a vendor quotation in the *Compare RFQ replies* form

Check the quantity and amount shown in the compare form and select the better quote (from your vendor of exercise 3.2), which you can convert to a purchase order by clicking the button *Accept* as shown in Figure 3-25. When accepting a quotation, Dynamics AX also displays the reject dialog to reject the other quote.


4 Sales and Distribution

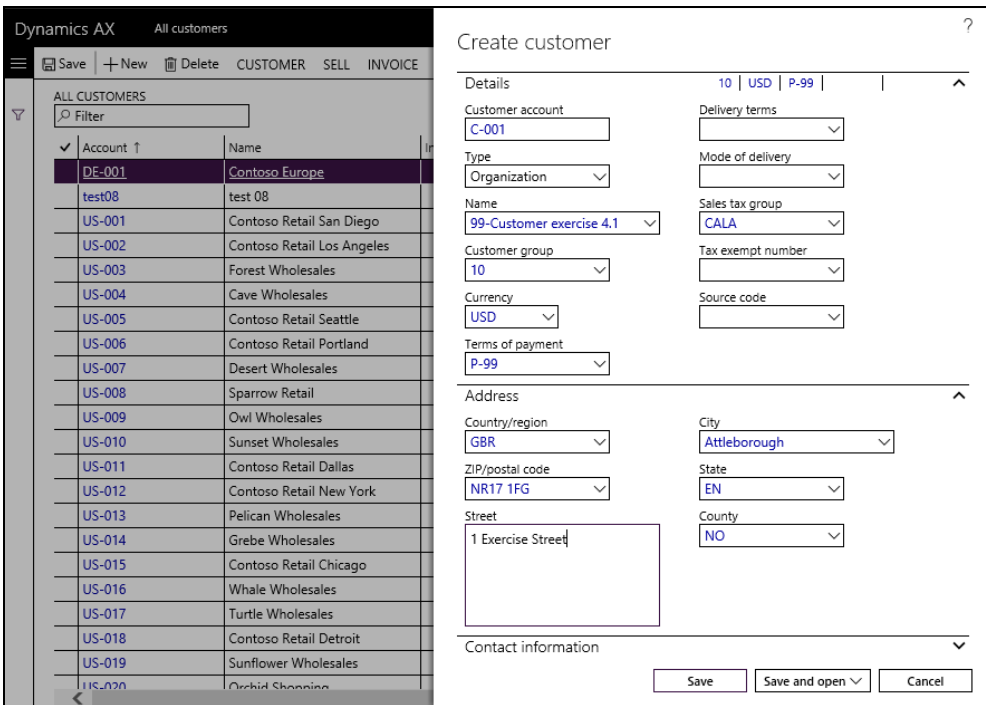
Exercise 4.1 – Customer Record

A new domestic customer wants to place an order. Create a record for this customer with a name (starting with your user ID) and a primary address of your choice. Select the payment terms and the cash discount of exercise 3.1, and an appropriate customer group and sales tax group for domestic customers.

The customer wants you to ship ordered goods to a separate delivery address. Enter a domestic delivery address of your choice for this purpose, which should be the default for orders of this customer.

Instructions

Create the new customer in the customer list page, which you can access from the sales and marketing module (*Sales and marketing* > *Customers* > *All customers*) or from the accounts receivable module (*Accounts receivable* > *Customers* > *All customers*). Alternatively, you can use the navigation search (button  in the navigation bar) to access the customer page.



Dynamics AX All customers

Save + New Delete CUSTOMER SELL INVOICE

ALL CUSTOMERS

Filter

Account	Name
DE-001	Contoso Europe
test08	test 08
US-001	Contoso Retail San Diego
US-002	Contoso Retail Los Angeles
US-003	Forest Wholesales
US-004	Cave Wholesales
US-005	Contoso Retail Seattle
US-006	Contoso Retail Portland
US-007	Desert Wholesales
US-008	Sparrow Retail
US-009	Owl Wholesales
US-010	Sunset Wholesales
US-011	Contoso Retail Dallas
US-012	Contoso Retail New York
US-013	Pelican Wholesales
US-014	Grebe Wholesales
US-015	Contoso Retail Chicago
US-016	Whale Wholesales
US-017	Turtle Wholesales
US-018	Contoso Retail Detroit
US-019	Sunflower Wholesales
US-020	Orchid Wholesales

Create customer

10 | USD | P-99

Details

Customer account: C-001

Delivery terms: 10

Type: Organization

Mode of delivery: P-99

Name: 99-Customer exercise 4.1

Sales tax group: CALA

Customer group: 10

Tax exempt number:

Currency: USD

Source code:

Terms of payment: P-99

Address

Country/region: GBR

City: Attleborough

ZIP/postal code: NR17 1FG

State: EN

Street: 1 Exercise Street

County: NO

Contact information

Save Save and open Cancel

Figure 4-1: Entering customer data in the create dialog

In the customer list page or in the related detail form, insert a record by clicking the button *New* or by pressing the shortcut key *Alt+N*. Dynamics AX then shows the *Create customer* dialog, which contains the core fields of the customer record. If the number sequence for customer accounts is set to “Manual”, the field *Customer account* remains empty and you have to enter a customer number in this field. Make sure to apply the *Type* “Organization” if you do not register a person as customer. Then enter the customer name in the field *Name*, select an appropriate *Customer group* (e.g. “10” in the Microsoft demo company USMF), and enter the *Sales tax group* and the *Terms of payment*. In the section *Address and contact information* of the create dialog, enter the primary address of your customer (see Figure 4-1).

Once you close the create dialog by clicking the button *Save*, the customer detail form is displayed. Switch to the edit mode (click the button *Edit* or press the *F2* key) if you are in view mode. Then click the button *Add* in the toolbar of the tab *Addresses* and enter the delivery address with a *Purpose* “Delivery” in the *New address* dialog (see Figure 4-2). Back in the customer form, select the *Cash discount* of exercise 3.1 on the tab *Payment defaults*.

Name or description	Address	Purpose
99-Customer exercise 4.1	1 Exercise Street Attleborough EN NO NR17 1FG GBR	Business

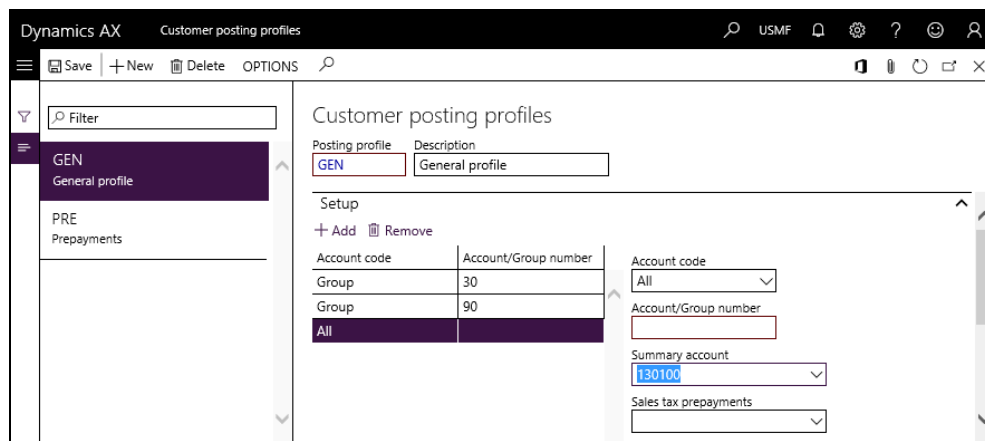
Figure 4-2: Entering the alternative delivery address in the customer form

Exercise 4.2 – Ledger Integration

You want to find out about ledger integration. To which summary account in the general ledger will an invoice to your new customer post?

Instructions

Like for vendors, the summary account for customers is depending on the applicable posting profile. In the accounts receivable parameters (*Accounts receivable* > *Setup* > *Accounts receivable parameters*), the lookup field *Posting profile* in the section *Ledger and sales tax* determines the standard posting profile for customer transactions.



The screenshot shows the 'Customer posting profiles' form in Dynamics AX. The form has a left-hand pane with a tree view containing 'GEN General profile' and 'PRE Prepayments'. The main area is titled 'Customer posting profiles' and contains a table with columns 'Account code' and 'Account/Group number'. The table has three rows: 'Group' with '30', 'Group' with '90', and 'All'. The 'All' row is selected. To the right of the table, there are several fields: 'Account code' (set to 'All'), 'Account/Group number' (set to '130100'), 'Summary account' (set to '130100'), and 'Sales tax prepayments' (set to 'All').

Figure 4-3: Specifying the customer summary account in the posting profile

In order to review the applicable summary account, which is specified in this standard posting profile, open the form *Accounts receivable* > *Setup* > *Customer posting profiles* and check the *Summary account* on the tab *Setup* for the customer group of the customer. In the example shown in Figure 4-3, invoices to customers with the group “10” are posted to the main account “130100” (the setting for the *Account code* “All” applies since there is no line for the customer group “10”).

Exercise 4.3 – Sales Categories

Your company offers installation services to your customers. For this purpose, enter a new category “##-installation” (## = your user ID) in the sales category hierarchy. The sales category should refer to the standard tax rate.

Instructions

In order to register a new sales category, open the menu item *Sales and marketing* > *Setup* > *Categories* > *Sales categories* and click the button *Edit category hierarchy* in the action pane to access the product category hierarchy assigned to sales.

The *Category hierarchy* form then displays, where you can add the new category which is independent from the structure created in exercise 3.4. Select the first node in the tree structure for this purpose and click the button *New category node* in the action pane. In the new category, enter the *Name*, the *Code*, and the *Friendly name* (compare Figure 4-4).

Figure 4-4: Inserting the new sales category in the category hierarchy

Then close the *Category hierarchy* form. Back in the *Sales categories* form, select the new category and enter the tax group on the tab *Item sales tax group* (you might need to close and re-open the form to view the new category).

Figure 4-5: Entering the item sales tax group of a sales category

Exercise 4.4 – Price List

Your company requires an additional price list for new sales markets. Enter a new customer price group P-## (## = your user ID) for this price list and attach it to your customer of exercise 4.1.

The new price list includes a price of USD 90.00, which is valid from the current date, for the item of exercise 3.5. Enter and post this price in a trade agreement journal. Then check if the price shows correctly on your customer.

Instructions

In order to register a new price list (price group), open the form *Sales and marketing> Prices and discounts> Customer price/discount groups*. In the customer price/discounts groups, make sure to select the option “Price group” in the lookup field *Show* and click the button *New*.

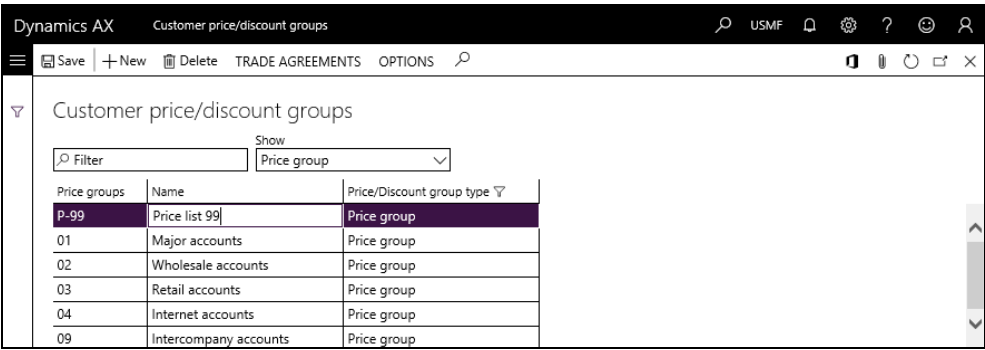


Figure 4-6: Creating a new price list (price group)

Then access the form *Sales and marketing> Prices and discounts> Trade agreement journals* to specify the prices in the new price group. In the journal form, click the button *New* in the action pane to create a new journal header. Select a journal name in the first column, enter a description or remark in the column *Description*, and select the option “Price (sales)” in the column *Default relation* (initialized from the journal name) to apply an appropriate default for the lines.

In order to access the journal lines, click the button *Lines* in the journal header. Insert a journal line for the sales price – make sure that the option “Price (sales)” is selected in the column *Relation*. Select the option “Group” in the column *Account code* and enter your new price group in the column *Account selection*. In a price trade agreement, the *Item code* has to be “Table” and the product number has to be selected in the *Item relation*. Enter the price in the column *Amount in currency* and the current date as starting date in the field *From date* at the bottom of the form (see Figure 4-7).

Once you have completed the journal line, click the button *Post* in the action pane to activate the price.

Dynamics AX Trade agreement journals

Save + New Delete Post Validate Adjustment Attribute-based pricing details OPTIONS

S_PRICE : SALES PRICES 99
Journal lines, trade agreement

Overview

Filter

Select Copy and revise Copy line Clear journal Add products Inventory Select all agreements to be deleted

There are no active price search dimensions.

✓	C...	Relation	Account code	Account selection	Item code	Item relation	Config...	Site	From	To	Unit	Amount in curr...	Currency	Att
✓	⊕	Price (sales)	Group	P-99	Table	L-99			0.00		sa	90.00	USD	

Details

From date: 7/18/2016

To date:

Discount percentage 1: 0.00

Discount percentage 2: 0.00

Include generic currency: No

Find next: No

Figure 4-7: Entering the sales price referring to the new price list

In order to assign your customer to the new price list, select the customer in the customer list page (*Sales and marketing > Customers > All customers*) and click the link in the *Account* field to access the customer detail form. Select the new price group in the lookup field *Price* on the tab *Sales order defaults* of the detail form. In order to check if the price applies correctly to your customer, click the button *SELL/Trade agreements/Sales price/Sales price* in the action pane of the customer detail form.

Exercise 4.5 – Line Discount

You agree with your customer of exercise 4.1 to grant a line discount of 10 percent on all items. Enter and post a trade agreement for this discount, which only applies to your customer. Which setting is required to use the discount in sales order lines?

Instructions

In order to register the new line discount, open the form *Sales and marketing > Prices and discounts > Trade agreement journals* and click the button *New* in the action pane to create a new journal header. Select a journal name in the first column and click the button *Lines* to access the journal lines.

Insert a journal line for the line discount – make sure that the option “Line discount (Sales)” is selected in the column *Relation*. Select the option “Table” in the column *Account code* and enter the customer number of your customer in the column *Account selection*. In the column *Item code*, select the option “All” to specify a line discount for all items. Then enter the discount percentage in the percentage field on the tab *Details* at the bottom of the form (see Figure 4-8). The column *Amount in currency* in the journal line is used to specify a discount amount.

Once you have completed the journal line, click the button *Post* in the action pane to activate the line discount.

The screenshot shows the Dynamics AX interface for 'Trade agreement journals'. The title bar indicates 'S_DISCOUNT : 99 DISCOUNT ADJUSTMENT' and 'Journal lines, trade agreement'. The ribbon includes 'Save', '+ New', 'Delete', 'Post', 'Validate', 'Adjustment', 'Attribute-based pricing details', and 'OPTIONS'. The 'Overview' section has a 'Filter' box and buttons for 'Select', 'Copy and revise', 'Copy line', 'Clear journal', 'Add products', 'Inventory', and 'Select all agreements to be deleted'. A message states 'There are no active price search dimensions.' Below this is a table with columns: C... Relation, Account code, Account selection, Item code, Item relation, Config..., Site, From, To, Unit, Amount in curr..., and Currency. The first row is highlighted and contains: 'Line discount (Sales)', 'Table', 'C-001', 'All', and '0.00' in the 'Amount in curr...' column, with 'USD' in the 'Currency' column. The 'Details' section includes 'From date', 'To date', 'Discount percentage 1' (set to 10.00), 'Discount percentage 2' (set to 0.00), 'Include generic currency' (set to No), and 'Find next' (set to Yes).

Figure 4-8: Inserting the line discount for a particular customer

As a prerequisite to use this line discount in sales orders, the slider for the combination “Customer” / “All items” on the tab *Line discount* in the price/discount activation (*Sales and marketing* > *Setup* > *Prices and discounts* > *Activate price/discount*) has to be set to “Yes”.

Exercise 4.6 – Sales Order

Your customer of exercise 4.1 orders 20 units of the item of exercise 3.5. You want to register the sales order starting in the customer form. Which quantity and which price show as default, where do they come from?

Switch to the header view of the sales order and review the delivery address and the price group afterwards.

Instructions

In order to create the order from the customer form, open the customer list page (*Sales and marketing* > *Customers* > *All customers*). Select your customer in the grid and click the button *SELL/New/Sales order* in the action pane.

Dynamics AX creates a sales order with default data from your customer and immediately shows the lines view of the sales order detail form. When you select your item in the first order line, the *Unit price* is initialized from the trade agreement for the sales price entered in exercise 4.4. The line discount percentage derives from the trade agreement for the customer entered in exercise 4.5.

Since the default order quantity (from the default order settings) is different from the requested quantity, you have to override it. A message bar then asks whether to insert the minimum quantity specified in the default order settings (see Figure 4-9). Since you want to order the entered quantity nevertheless, the appropriate choice in the message bar is “No”.

The screenshot shows the Dynamics AX interface for a Sales Order. The header view is active, displaying the sales order number 000776 and the customer name '99-Customer exercise 4.1'. Below the header, a table lists the sales order lines. The first line is selected, showing a quantity of 20.00. A dialog box is displayed in the center of the screen, asking: 'Min. quantity is 40.00 Quantity here is 20.00 Insert min. quantity?'. The dialog has two buttons: 'Yes' and 'No'.

✓	T...	Vari...	Item number	Product name	Sales cat...	CW...	Quantity	Unit	Adjusted...	Site	Warehouse	Unit price	Discou...	Discount perc...
✓			L-99	99-merchandise			20.00	ea	0.00000	1	13	90.00		10.00

Figure 4-9: Dialog showing the minimum quantity when entering the sales order line

In order to switch to the header view, click the button *Header* in the line below the action pane of the detail form (or press the shortcut key *Ctrl+Shift+H*). The applicable *Price group* of the sales order shows on the tab *Price and discount* of the order header.

Since your customer has got an alternative delivery address, this address is the default for delivery address in the order. The delivery address is shown on the tab *Address* in the header view and – on order line level – on the sub-tab *Address* in the line details.

Exercise 4.7 – Charges

Your company wants to invoice a handling fee to customers. Create an appropriate charges code C-## (## = your user ID) with the standard tax rate, the posting type “Customer revenue”, and an appropriate revenue account for credit posting.

In the header of the sales order of exercise 4.6, add an amount of USD 10.00 with this new handling fee as additional charge to the customer .

Instructions

Open the form *Accounts receivable> Charges setup> Charges code* and click the button *New* in the action pane to create the charge. Enter the *Charges code*, the *Description*, and the applicable *Item sales tax group* of the new charge. On the tab *Posting*, enter

applicable ledger posting settings as shown in Figure 4-10. Then close the charges code form.

The screenshot shows the 'Charges code' form in Dynamics AX. On the left, a list of charges codes is displayed, with 'C-99 Handling fee 99' selected. The main area shows the details for 'C-99', including 'Description: Handling fee 99' and 'Item sales tax group: ALL'. The 'Posting' section is expanded, showing 'DEBIT' and 'CREDIT' settings. The 'DEBIT' side has 'Type: Customer/Vendor', 'Posting: ', 'Account: ', and 'Foreign trade: '. The 'CREDIT' side has 'Type: Ledger account', 'Posting: Order fee', and 'Account: 403150'.

Figure 4-10: Settings for ledger posting of the new sales charges code

Open the sales order list page (*Accounts receivable*> *Sales orders*> *All sales orders*) and select your order of exercise 4.6. Then click the button *SELL/Charges/Charges* in the action pane of the sales order to access the charges transactions assigned to the order header.

Select your new *Charges code* in the charges transaction form and make sure to choose the *Category* “Fixed” for a fixed charges amount (compare Figure 4-11).

The screenshot shows the 'Maintain charges' form in Dynamics AX. The form is for a sales order header with ID '000776 : 99-CUSTOMER EXERCISE 4.1'. A table lists charges with columns: Charges code, Description, Category, Keep, Charges value, Currency, Broker contra..., Sales tax group, and Item sales tax group. The first row shows 'C-99 Handling fee 99' with Category 'Fixed', Charges value '10.00', and Currency 'USD'. Below the table, there are sections for 'LEDGER' (Voucher, Date, Amount in transaction currency, Calculated value) and 'INTERCOMPANY' (Company, Intercompany invoice number). The 'Amount in transaction currency' and 'Calculated value' are both set to '0.00'.

Figure 4-11: Entering the fixed charge for the sales order header

Exercise 4.8 – Order Confirmation

In the *Sales order processing and inquiry* workspace, post the order confirmation for the order of exercise 4.6 and print it as a print preview. Can you tell which amount is shown in the order line and where the confirmation prints the charges?

Instructions

In the *Sales order processing and inquiry* workspace, select your order on the tab *Unconfirmed* in the tabbed list pane and click the button *Confirm* in the toolbar to print the order confirmation. The posting dialog is shown then, where you set the sliders *Posting* and *Print confirmation* on the tab *Parameters* to “Yes”. You can check the print destination (“Screen”) by clicking the button *Printer setup/Confirmation* in the posting dialog.

The lines in the printed order confirmation show the item quantity, the price, and the discount as entered in exercise 4.6. The charges entered in exercise 4.7 are printed in the footer part of the order confirmation.

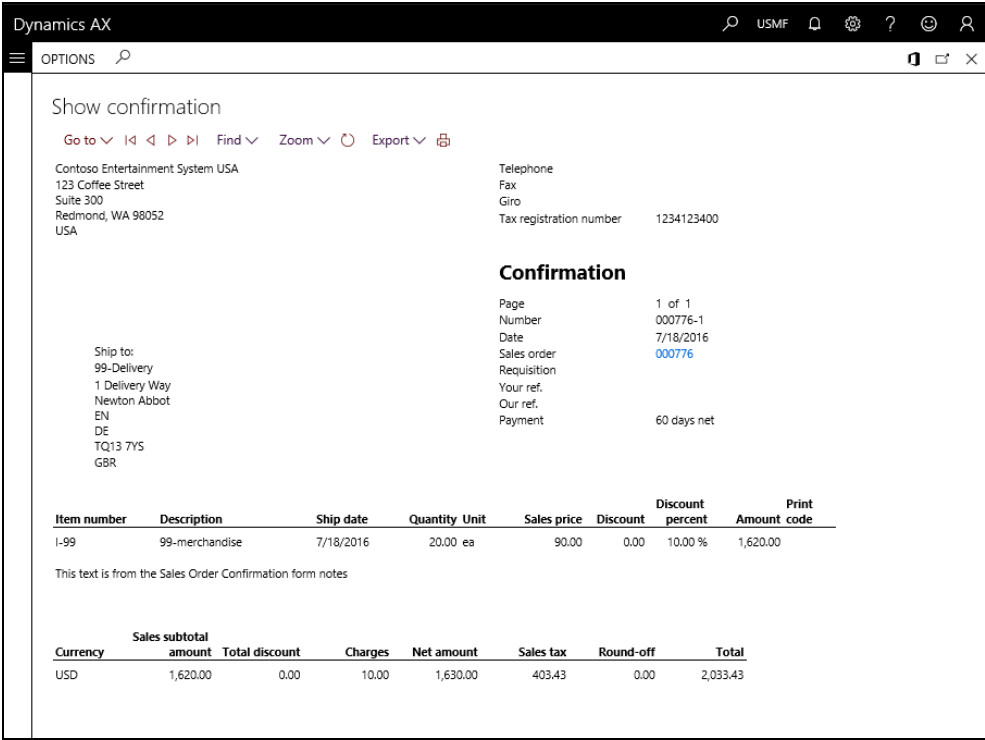


Figure 4-12: Print preview of the order confirmation

Exercise 4.9 – Packing Slip

You want to check which order lines are available for shipping. The inquiry should not be limited to your orders, but include all applicable orders in your company. Which options do you know?

Your order of exercise 4.6 is among the orders to be shipped. Review following points in this order before you post the packing slip:

- Order status and document status
- Inventory quantity of the ordered item (button *Inventory/On-hand inventory*)
- Inventory transactions related to the order line (button *Inventory/Transactions*)

Post and print a packing slip for the complete order quantity in the sales order form and select a print preview as print destination.

Now review the status of the points in the list above again. What is different after packing slip posting?

Instructions

There are multiple options to show the order lines which are delayed or should be shipped until a particular date. These options include the following inquiries:

- *Sales order processing and inquiry workspace*, list *Delayed order lines*
- *Sales and marketing*> *Sales orders*> *Open orders*> *Backorder lines*
- *Sales and marketing*> *Sales orders*> *Open orders*> *Open sales order lines*
- *Inventory management*> *Periodic tasks*> *Release sales order picking*

Whereas the first three inquiries are only used to display data, the release picking form provides the option to post a picking list.

In order to check the status of the sales order of exercise 4.6, open the sales order list page (*Sales and marketing*> *Sales orders*> *All sales orders*). The order status is shown in the column *Status* of the list page. The *Document status* is shown on the tab *General* in the header view of the sales order detail form.

Since you have confirmed the order of exercise 4.6 in exercise 4.8, the *Status* is “Open order” and the *Document status* is “Confirmation”. After switching to the lines view, you can access the inquiries on the inventory quantity and on the transactions by clicking the button *Inventory/On-hand* or *Inventory/Transactions* in the toolbar of the *Sales order lines* tab. These inquiries show following results:

- The physical inventory is 60 units as a total of the product receipts posted in exercise 3.10 (the receipt of packing slip PS309 in exercise 3.9 has been reversed with the credit note in exercise 3.16).
- The inventory transactions show a line with the ordered quantity in the issue status “On order”. The date fields *Physical date* and *Financial date* in the transaction are empty.

Click the button *PICK AND PACK/Generate/Packing slip* in the action pane of the sales order to start packing slip posting. In the posting dialog, select the option “All” in the field *Quantity* on the tab *Parameters* to initialize the packing slip quantity with the total order quantity. You can check and edit the packing slip quantity in the column *Update* on the tab *Lines* of the dialog. Set the sliders *Posting* and *Print packing slip* on the tab *Parameters* to “Yes” before you click the button *OK* to post the packing slip finally.

Packing slip posting

Arrange Select Printer setup

Parameters

PARAMETER

Quantity: All

Posting: Yes

Late selection: No

Reduce quantity: No

COMPLIANCE DOCUMENTS

Prevent sales pack slip/invoice...: No

Print product safety data sheet: No

PRINT OPTIONS

Print: Current

Print packing slip: Yes

Use print management destinat...: No

Print COD: No

SETUP

Check credit limit: Balance+All

SUMMARY ORDER

Summary update for: None

Overview

Update	Customer pack	Sales order	Site	Name	Currency
✓	Packing slip	000776	1	99-Customer exercise 4.1	USD

OK Cancel Batch

Figure 4-13: Posting dialog for the sales packing slip

After posting the packing slip, the inquiries show following results:

- Order status “Delivered”; Document status “Packing slip”
- Inventory on-hand: 40 units (old quantity minus the shipped quantity)
- Inventory transaction issue status “Deducted”;
Physical date according to the packing slip;
Financial date empty

Note: If the checkbox *Picking requirements* is selected in the *Item model* group of your item, you have to post a picking list before packing slip posting.

Exercise 4.10 – Picking List

Your customer of exercise 4.1 orders another 20 units of the item which you have created in exercise 3.5. Enter an appropriate sales order.

The warehouse requires a picking list this time. Post and print a picking list which contains only 10 units of the ordered item.

Can you tell which setting controls whether you need to execute a picking list registration? If required, perform the picking list registration. Then post the packing slip for the picked items.

Instructions

Before you start to post the picking list, check if you need to enter a picking list registration. If the accounts receivable parameter *Picking route status* (*Accounts receivable* > *Setup* > *Accounts receivable parameters*, section *Updates*, tab *Picking list*) is set to “Completed”, you do not need to post a picking list registration before the packing slip.

You can enter the new sales order in this exercise the same way as the order in exercise 4.6. In order to prepare posting a partial quantity, enter the transaction quantity of 10 units in the column *Deliver now* of the sales order lines.

Then open the posting dialog for the picking list by clicking the button *PICK AND PACK/Generate/Picking list* in the action pane of the sales order form. Select the option “Deliver now” in the field *Quantity* to initialize the packing slip quantity with the *Deliver now* quantity which you have entered before. Make sure that the sliders *Posting* and *Print picking list* on the tab *Parameters* are set to “Yes” (compare Figure 4-14) and click the button *OK* to post the picking list.

Sales order	Site	Warehouse	CW update	Available	Item number	Update
000777	1	13		40.00	1-99	10.00

Figure 4-14: Posting the picking list

If required (according to the setting in the accounts receivable parameters), post the picking list registration: Click the button *PICK AND PACK/Generate/Picking list registration* in the action pane of the sales order form, and click the button *Updates/Update all* in the picking list registration form to register all lines.

Then post the packing slip related to the picking list by clicking the button *PICK AND PACK/Generate/Packing slip* in the action pane of the sales order form. In the posting dialog for the packing slip, select the option “Picked” in the field *Quantity* to apply the picked quantity to the packing slip. Set the sliders *Posting* and *Print packing slip* to “Yes” before you post the packing slip by clicking the button *OK*.

Exercise 4.11 – Packing Slip Inquiry

You want to view the packing slip of exercise 4.10. Open the packing slip inquiry from the sales order form. In a second step, open the packing slip inquiry through the appropriate menu path. Check the packing slip header and the lines and try to find out, if there are related ledger transactions.

Instructions

In order to access the posted packing slip from the sales order, click the button *PICK AND PACK/Journals/Packing slip* in the action pane of the order form. The tab *Lines* in the packing slip inquiry shows the lines of the packing slip selected on the tab *Overview*. Click the button *Vouchers* on the tab *Overview* of the inquiry to view the ledger transactions related to the packing slip.

If you want to access the posted packing slips from the sales and marketing menu, choose the menu item *Sales and marketing> Sales orders> Order shipping> Packing slip*. In the packing slip inquiry, you can find the appropriate packing slip through a filter – for example a grid column filter on the sales order number or on the customer account number (column *Invoice account*) as shown in Figure 4-15.

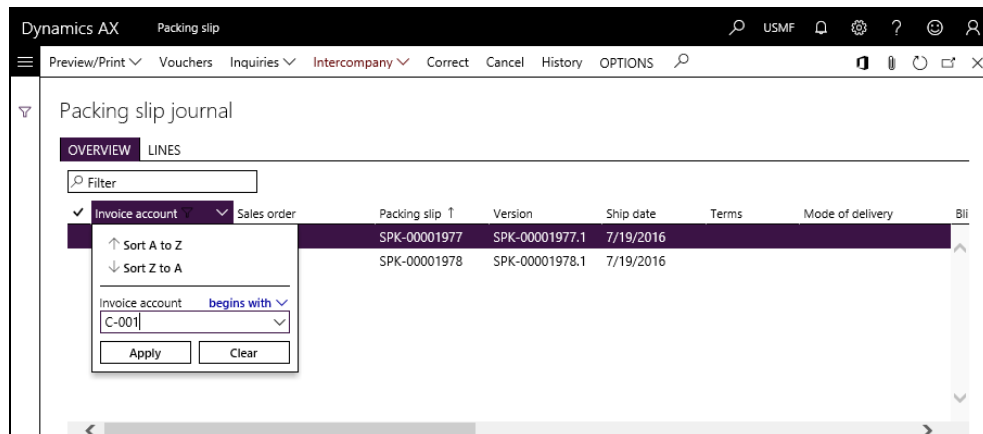


Figure 4-15: Packing slip inquiry when using a grid column filter

Exercise 4.12 – Invoice

You want to invoice the items which you have shipped in exercise 4.9. Before posting the invoice, review following points:

- Order status and document status of the sales order
- Inventory transaction related to the order line (button *Inventory/Transactions*)

Post and print the invoice directly in the sales order form and check the invoice total in the posting dialog.

Then review the status of the points in the list above again. What is different now?

Instructions

Since there have not been any updates of the sales order in exercise 4.9 after finishing that exercise, the order status still is “Delivered” and the document status “Packing slip”. The inventory transaction shows the issue status “Deducted”, the *Physical date* complies with the packing slip, and the *Financial date* is empty.

In order to post the invoice in the sales order form, select the sales order and click the button *INVOICE/Generate/Invoice* in the action pane. In the invoice posting dialog, make sure that the option “Packing slip” is selected in the field *Quantity* to invoice the shipped quantity. The button *Totals* in the toolbar of the tab *Overview* in the posting dialog provides the option to check the invoice total before posting the transaction.

Figure 4-16: Posting dialog for the sales invoice

After closing the *Totals* form, set the sliders *Posting* and *Print invoice* in the posting dialog to “Yes” and click the button *OK* to post and print the invoice.

Once you have posted the invoice, the inquiries show following results:

- Order status “Invoiced”; Document status “Invoice”
- Inventory transaction issue status “Sold”;
Physical date according to the packing slip;
Financial date according to the invoice

Exercise 4.13 – Partial Invoice

You want to invoice the items which you have picked and shipped in exercise 4.10. Post and print the invoice in the sales order form and make sure to invoice only the shipped items.

Instructions

Select the sales order of exercise 4.10 in the sales order form and click the button *GENERAL/Related information/Line quantity* to access the line quantity form which shows that only a quantity of 10 units has been delivered. Alternatively, you can check the shipped quantity on the tab *Lines* of the packing slip inquiry.

In order to post the invoice, click the button *INVOICE/Generate/Invoice* in the action pane of the sales order form. In the posting dialog, make sure that the option “Packing slip” is selected in the field *Quantity* to initialize the invoice quantity with the total quantity of all shipments not yet invoiced.

Figure 4-17: Accessing the tab *Lines* in the invoice posting dialog

The tab *Lines* of the posting dialog shows the item quantity for the invoice in the column *Update*. In case there are multiple partial shipments related to an order, you can select the packing slips which you want to include in the invoice. For this purpose, the button *Select packing slip* in the toolbar of the tab *Overview* in the posting dialog provides access to the appropriate *Select* dialog.

If required, you can change the update quantity in the posting dialog after selecting the option “All” instead of “Packing slip” in the lookup field *Quantity*. Make sure that the sliders *Posting* and *Print invoice* in the posting dialog are set to “Yes” before you click the button *OK* to post and print the invoice finally.

Exercise 4.14 – Shipping with Invoice

Your customer of exercise 4.1 orders another unit of the product of exercise 3.5. In addition, he wants to order one hour of the installation service of exercise 4.3 for a price of USD 110. This time you do not post a packing slip, but you want to ship the items with the invoice.

Enter an appropriate sales order and immediately post the invoice. After posting the invoice, review the order status, the document status, and the inventory transaction of the product.

Instructions

You can enter the sales order in this exercise the same way as the order in exercise 4.6. Since the default order settings of your item include a minimum quantity of 40 units and a lot size (*Multiple quantity*) of 20 units, you have to click the button “No” in the message bar to reject the proposals for the minimum and for the multiple quantity when selling a quantity of one unit.

In addition to the order line for the item, enter a second line with the *Sales category* of exercise 4.3 (see Figure 4-18).

The screenshot shows the Dynamics AX interface for a Sales Order. The window title is "Dynamics AX All sales orders". The main area displays the "Sales order lines" table with two rows. The first row is for item "99-merchandise" with a quantity of 1.00 and a unit price of 90.00. The second row is for the sales category "99-install" with a quantity of 1.00 and a unit price of 110.00. The interface includes various tabs at the top (SALES ORDER, SELL, MANAGE, PICK AND PACK, INVOICE, RETAIL, GENERAL) and a toolbar with icons for Save, New, Delete, and other actions. The "Sales order lines" table has columns for Item number, Product name, Sales cat..., CW..., Quantity, Unit, Adjusted..., Site, Warehouse, Unit price, Discou..., and Discount perc....

Item number	Product name	Sales cat...	CW...	Quantity	Unit	Adjusted...	Site	Warehouse	Unit price	Discou...	Discount perc...
99-merchandise				1.00	ea	0.00000	1	13	90.00		10.00
99-install				1.00	hr	0.00000	1		110.00		10.00

Figure 4-18: Inserting the sales order line for the sales category

Since you do not require an order confirmation or a packing slip this time, you can immediately post the invoice by clicking the button *INVOICE/Generate/Invoice* in the action pane of the sales order form. In the invoice posting dialog, select the option “All” in the lookup field *Quantity*.

After posting the invoice, the inquiries show following results:

- Order status “Invoiced”; Document status “Invoice”
- Inventory transaction issue status of the item line “Sold”;
Physical date and *Financial date* according to the invoice

Exercise 4.15 – Invoice Inquiry

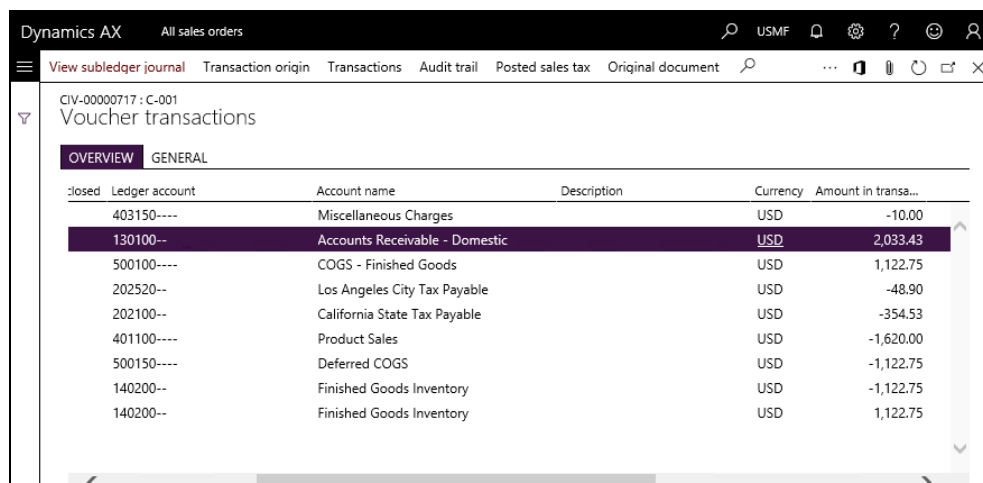
You want to view the invoice posted in exercise 4.12. Open the invoice inquiry and check the invoice header, the invoice lines, and the related ledger transactions.

In exercise 4.2, you were looking for the summary account for your customer. Can you find the ledger transaction on this account? Then open the transaction origin form and check, to which modules your invoice has posted.

Instructions

In order to access the invoice inquiry directly from the sales order, click the button *INVOICE/Journals/Invoice* in the action pane of the sales order form after selecting the appropriate order. If you want to access the posted invoices from the accounts receivable menu, choose the menu item *Accounts receivable> Inquiries and reports> Invoices> Invoice journal* and use a filter to select the appropriate invoice.

The invoice inquiry shows the list of posted invoices. Click an invoice number shown as link in the grid if you want to open the related invoice detail form where you can view the invoice lines on the tab *Lines*.



Ledger account	Account name	Description	Currency	Amount in transa...
403150----	Miscellaneous Charges		USD	-10.00
130100--	Accounts Receivable - Domestic		USD	2,033.43
500100----	COGS - Finished Goods		USD	1,122.75
202520--	Los Angeles City Tax Payable		USD	-48.90
202100--	California State Tax Payable		USD	-354.53
401100----	Product Sales		USD	-1,620.00
500150----	Deferred COGS		USD	-1,122.75
140200--	Finished Goods Inventory		USD	-1,122.75
140200--	Finished Goods Inventory		USD	1,122.75

Figure 4-19: Ledger transactions referring to the selected sales invoice

If you want to view the ledger transactions related to the invoice, open the voucher transactions form by clicking the button *Voucher* in the invoice inquiry. In Figure 4-19, the ledger transaction to the customer summary account (account “130100” according to the setup shown in exercise 4.2) is shown in the highlighted line.

The button *Transaction origin* in the voucher transactions provides access to the transaction origin form, which shows related transactions in all modules (including customer transactions, inventory transactions, sales tax transactions, and ledger transactions).

Exercise 4.16 – Free Text Invoice

You want to invoice particular services, for which no product or sales category is available, to your customer of exercise 4.1. Enter and post a free text invoice with an appropriate revenue account.

What is the difference between a free text invoice and a sales order invoice?

Instructions

Open the form *Accounts receivable > Invoices > All free text invoices* and click the button *New* in the action pane to create the free text invoice. Alternatively, you can click the button *INVOICE/New/Free text invoice* in action pane of the customer form after selecting your customer.

The screenshot shows the Dynamics AX interface for creating a free text invoice. The form is titled "FREE TEXT INVOICE : C-001 : 99-CUSTOMER EXERCISE 4.1". It has three main tabs: "CUSTOMER", "INVOICE", and "PAYMENT". The "CUSTOMER" tab is currently selected, showing fields for "Customer account" (C-001), "Name" (99-Customer exercise 4.1), "Invoice account" (C-001), "Name" (99-Customer exercise 4.1), "One-time customer" (No), and "Accounting status" (In process). The "INVOICE" tab shows "Date" (7/19/2016), "Due" (9/17/2016), "Invoice", "Currency" (USD), and "Accounting status" (In process). The "PAYMENT" tab shows "Terms of payment" (P-99), "Method of payment", "Payment specification", "Bank account", "Payment schedule", and "Cash discount". Below the tabs is the "Invoice lines" section, which contains a table with one line item: "Line for exercise 4.16" with a quantity of 1.00, a unit price of 100.00, and a total amount of 100.00.

Description	Main account	Sales tax group	Item sales tax group	Quantity	Unit price	Amount
Line for exercise 4.16	401200	CALA	AU/VI	1.00	100.00	100.00

Figure 4-20: Entering the free text invoice line

Make sure that your customer is selected in the lookup field *Customer account* of the header before you switch to the tab *Invoice lines*. In the invoice lines, enter an

explaining text in the column *Description* and select an appropriate account in the column *Main account*. You can either enter the line amount directly in the column *Amount*, or enter a *Quantity* and a *Unit price*.

Then post the invoice by clicking the button *Post* in action pane of the free text invoice form. Like in the posting dialog for a sales order invoice, the sliders *Posting* and *Print invoice* in the free text invoice posting dialog have to be set to “Yes” in order to post and print the invoice.

Unlike a sales order invoice, a free text invoice does not include a product and does not refer to a posted delivery.

Exercise 4.17 – Credit Note

Your customer complains about defects on the items invoiced in exercise 4.12. You agree to accept an item return and to credit the invoice. Enter a return order and post the item receipt with an appropriate disposition code. Then post the packing slip return, and finally post and print the credit note.

Instructions

Open the list page *Sales and marketing> Sales returns> All return orders* to register the item return. After clicking the button *New* in the action pane of the return order list page, a create dialog is shown where you have to select the customer before you can click the button *OK*.

Find sales order

Inventory ▾

Parameters ▾

Invoices ▴

SELECT	Sales order	Invoice account ▾	Delivery name	Invoice	Date
<input checked="" type="checkbox"/>	000776	C-001	99-Delivery	CIV-00000716	7/19/2016
<input type="checkbox"/>	000777	C-001	99-Delivery	CIV-00000717	7/19/2016
<input type="checkbox"/>	000778	C-001	99-Delivery	CIV-00000718	7/19/2016

LINES

SELECT	Item	Sales category	Description	Site	Warehouse	CW...	Quantity to return	Unit	Unit price
<input checked="" type="checkbox"/>	I-99		99-merchandise	1	13		20.00	ea	90.00

Selected lines or header to be copied ▾

OK Cancel

Figure 4-21: Selecting the invoice for the return order

The new return order is then shown in the return order detail form. If you want to generate the return order line based on the posted order invoice of exercise 4.12, click the button *RETURN ORDER/Return/Find sales order* and select the proper invoice (see Figure 4-21). Then click the button *OK* in the *Find sales order* dialog to transfer the selected invoice line to the return order lines.

Close the return order form and open the item arrival journal (*Inventory management> Journal entries> Item arrival> Item arrival*), where you click the button *New* in the action pane to create a journal header. Dynamics AX then displays a create dialog where you select a journal name and specify the reference to the return order through the *Reference* “Sales order” and the *RMA number* of the return order (see Figure 4-22). If you select a *Disposition code* in the dialog, it is used as default value in the journal lines (make sure to select a disposition code with the value “Credit” in the column *Action* of the lookup).

Figure 4-22: Entering the return order reference in the item arrival journal

Click the button *Functions/Create lines* in the action pane to generate an arrival journal line which refers to the return order line. In the *Create lines* dialog, you can set the slider *Initialize quantity* to “Yes” if you want to apply the return order quantity as default for the arrival quantity.

Then post the item arrival by clicking the button *Post* and close the arrival journal.

Open the return order list page again (*Sales and marketing> Sales returns> All return orders*) and select your return order before you click the button *RETURN ORDER/Generate/Packing slip* to post the product receipt. In the posting dialog for the packing slip, make sure to select the option “All” in the lookup field *Quantity*. In

order to prepare credit note posting, take a note of the *Sales order* assigned to your return order (shown as header field in the return order detail form).

Then open the regular sales order form (*Sales and marketing > Sales orders > All sales orders*) and select the sales order assigned to your return order. The *RMA number* is displayed on the tab *General* in the header view of the sales order detail form. Finally post the credit note covering the posted packing slip of the return order by clicking the button *INVOICE/Generate/Invoice* in the action pane of the sales order.

Exercise 4.18 – Direct Delivery

Your customer of exercise 4.1 orders 100 units of the item of exercise 3.5. In order to avoid stocking this large quantity in your warehouse, you want to process a direct delivery. Enter an appropriate sales order and choose the option *Direct delivery* to generate a purchase order to your vendor of exercise 3.2.

Your vendor confirms shipping the item with packing slip PS418. Post this product receipt in the purchase order. In the next step, check the status of the sales order before you post and print the sales invoice. Finally, you receive the purchase invoice VI418 which you post in the pending vendor invoices.

Instructions

You can enter the sales order in the sales order form (*Sales and marketing > Sales orders > All sales orders*) or in the customer form (*Sales and marketing > Customers > All customers*) the same way as the orders in the previous exercises. But you should select a separate warehouse for direct deliveries to avoid mixing direct deliveries and regular inventory transactions in the warehouse.

The screenshot shows the 'Create direct delivery' form in Microsoft Dynamics AX. The form has a header section with four checkboxes: 'Include all' (Yes), 'Adjust quantity to within permit...' (No), 'Transfer delivery address' (Yes), and 'Search for purchase agreements' (No). Below this is a 'Lines' section with a table. The table has columns: 'Include', 'Vendor account', 'Item number', 'Site', 'Warehouse', 'CW...', 'Quantity', 'Unit', 'Currency', 'Purchase unit price', and 'Net'. There is one line item with a checked 'Include' box, 'Vendor account' 99-004, 'Item number' I-99, 'Site' 1, 'Warehouse' 12, 'Quantity' 100.00, 'Unit' ea, 'Currency' USD, and 'Purchase unit price' 45.00. Below the table is a 'Line details' section. At the bottom right are 'OK', 'Cancel', and 'Validate' buttons.

Include	Vendor account	Item number	Site	Warehouse	CW...	Quantity	Unit	Currency	Purchase unit price	Net
<input checked="" type="checkbox"/>	99-004	I-99	1	12		100.00	ea	USD	45.00	

Figure 4-23: Creating the direct delivery out of the sales order

Once you have completed the sales order, click the button *SALES ORDER/New/Direct delivery* in the action pane of the sales order form to create the purchase order for direct delivery. In the *Create direct delivery* dialog, select the checkbox *Include* (in the lines) or set the slider *Include all* (in the header part) to “Yes” to specify the lines which you want to purchase with direct delivery (see Figure 4-23). If required, you can override the vendor number (initialized from the released product) and the purchase price before you finally generate the purchase order by clicking the button *OK*.

If your customer wants an order confirmation, you can post and print it as described in exercise 4.8.

You can access the direct delivery purchase order from the sales order by clicking the button *GENERAL/Related information/Purchase order* in the action pane of the sales order form. Like any other purchase order, the purchase order has to be confirmed (click the button *PURCHASE/Actions/Confirm* in the purchase order) before you can post the product receipt.

When you post the product receipt by clicking the button *RECEIVE/Generate/Product receipt* in the action pane of the purchase order, the direct delivery automatically posts the packing slip of the sales order in parallel. After product receipt posting, the status of purchase order is “Received” and the status of the sales order is “Delivered”.

Finally, you can post the sales invoice (similar to exercise 4.12) and the purchase invoice (similar to exercise 3.12) independent from each other.

5 Production Control

Exercise 5.1 – Components

Your company wants to produce a new finished item, which consists of two components. Create these components in the released product form – one item with the product number I-##-C1 and the name “##-Component 1” (## = your user ID) and one item with the number I-##-C2 and the name “##-Component 2”. Variants and serial/batch numbers are not required. Inventory control is at the level of site and warehouse.

For both items, choose proper settings for the product type, product subtype, dimension groups, item group (raw material/parts), and production type. The item model group should refer to the inventory model “FIFO”. Approved vendors are not required.

The base purchase price and the base cost price of both items is USD 100. Your vendor of exercise 3.2 is the main vendor for the items and the flushing principle is “Manual”. For purchasing and inventory, enter the main site in the *Default order settings* and the main warehouse of the main site in the *Site specific order settings*.

Note: If the number sequence for product numbers is set up for automatic numbering, don’t enter a product number.

Instructions

Instead of creating shared products and releasing them as described in exercise 3.5, you can create the components in the current exercise directly in the released products list page (*Product information management > Products > Released products*). Click the button *New* in the action pane of the released product form to open the *New released product* dialog. In this dialog, enter the *Product number* (if no automatic number sequence applies), the *Product name*, the *Search name*, the *Item model group*, the *Item group* (e.g. “AudioRM” in the Microsoft demo company USMF), the *Storage dimension group*, and the *Tracking dimension group*. Leave the default values in the other fields as shown in Figure 5-1.

Then close the dialog by clicking the button *OK*. In the released product detail form, you can edit the product data which you have entered in the dialog (except the product name). If you want to edit the product name, you have to do it in the shared product form (*Product information management > Products > All products and product masters*).

Dynamics AX Released products

Save + New Delete PRODUCT PURCHASE SELL MA

RELEASED PRODUCT DETAILS

Filter

Item number ↑	Product name	Search
1000	Surface Pro 128 GB	1001
4401	Proseware 50W Car Radio	Prose
4402	Northwind Traders 50W Car R...	North
4403	A. Datum 50W Car Radio	A. Da
A0001	HDMI 6' Cables	HDMI
A0002	HDMI 12' Cables	HDMI
C0001	Microsoft Natural Keyboard E...	Micro
C0002	Microsoft Arc™ Keyboard	Micro
C0003	Microsoft Arc™ Mouse	Micro
C0004	Lifecam HD 5000	Lifeca
D0001	MidRangeSpeaker	MidR
D0002	Cabinet	Cabin
D0003	StandardSpeaker	Stand
D0004	HighEndSpeaker	High
D0005	Car Audio System	CarAu
D0006	Speaker solution	Speak
D0007	Speaker Pro Kit	Speak
D0008	Licensed High End Speaker	Licen
D0010	Active speaker	Active
D0011	Laser Projector	Laser
D0012	Electrical Assembly	Electr
D0013	SpecialSpeaker	Speci

New released product

Product type: Item

Product subtype: Product

REFERENCE GROUPS

Item model group: FIFO

Item group: AudioRM

Storage dimension group: SiteWH

Tracking dimension group: None

Reservation hierarchy:

IDENTIFICATION

Product number: I-99-C1

Product name: 99-Component1

Search name: 99Component1

COMPANY-SPECIFIC IDENTIFICATION

Item number: I-99-C1

Search name: 99Component1

Retail category:

UNITS OF MEASURES

Inventory unit: ea

Purchase unit: ea

Sales unit: ea

BOM unit: ea

CATCH WEIGHT

No ☒

SALES TAXATION

Item sales tax group:

ADMINISTRATION

Apply template:

PURCHASE TAXATION

OK Cancel

Figure 5-1: Entering product data in the *New released product* dialog

Expand the tab *Purchase* in the released product detail form and enter the base price of USD 100 in the field *Price*. Then select your vendor of exercise 3.2 in the field *Vendor* to specify the main vendor for the item. In the lookup field *Approved vendor check method*, make sure that the option “No check” is selected.

On the tab *Engineer*, select the *Flushing principle* “Manual” to specify that item consumption in production has to be posted manually. You can optionally select the option “None” in the *Production type* to indicate that the item is a purchased item.

On the tab *Manage costs*, enter the base cost price of USD 100 in the field *Price* (for items assigned to a standard cost price valuation, you would need to enter and activate the cost price in the item price form).

Then click the button *MANAGE INVENTORY/Order settings/Default order settings* in the action pane of the released product. Enter the main site (e.g. “1” in the Microsoft demo company USMF) in the fields *Purchase site* and *Inventory site* of the default order settings. Since you want to purchase the components, make sure that the *Default order type* “Purchase order” is selected.

Close the default order settings and click the button *MANAGE INVENTORY/Order settings/Site specific order settings* in the released product to open the site-specific order settings. In the site-specific order settings, create a record and enter the *Site*

(main site as selected in the default order settings), the *Purchase warehouse*, and the *Inventory warehouse* (e.g. warehouse “11” in the Microsoft demo company USMF).

Figure 5-2: Entering purchase related data in the released product form

Once you have completed the first product, you can enter the second component. In order to facilitate data entry, you can create a template based on the first product by clicking the button *PRODUCT/New/Template/Create personal template* in the released product form before you create the second product. When you create the second product in this case, select the template in the lookup field *Apply template* of the *New Released product* dialog. But even if you apply a template, you have to enter the default order settings and the site-specific order settings manually.

Exercise 5.2 – Finished Item

For the finished product, create an item with the product number I-##-F (if no automatic number sequence applies) and the name “##-Finished product” in the released product form. Variants and serial/batch numbers are not required. Inventory control is at the level of site and warehouse.

Choose proper settings for the product type, product subtype, dimension groups, item group (finished product), and production type. The item model group should refer to the inventory model “FIFO”. The base cost price is USD 500 and the base sales price is USD 1,000. In the *Default order settings*, make sure that the appropriate

Default order type is selected and enter the main site in the settings for inventory and sales. Then enter the main warehouse as default for inventory and sales in the *Site specific order settings*.

Instructions

Open the released products form and create the finished product with *Product number*, *Product name*, *Search name*, *Item model group*, *Storage dimension group*, and *Tracking dimension group* as described in the previous exercise. But since finance usually requires to post inventory for finished products to separate ledger accounts, the finished item has another *Item group* (e.g. “Audio” in the Microsoft demo company USMF) than the components.

On the tab *Sell* of the released product detail form, enter the base sales price of USD 1,000 in the field *Price*. Then make sure that the option “BOM” is selected in the lookup field *Production type* on the tab *Engineer* and enter the base cost price of USD 500 in the field *Price* on the tab *Manage costs*.

IDENTIFICATION		ORDER TYPE	SITE		
Item number	I-99-F	Default order type	Purchase site	Inventory site	Sales site
Product name	99-Finished product	Production	1	1	1

Purchase order	▼
Inventory	▼
Sales order	▼

Figure 5-3: Entering default order settings for the finished product

In order to access the default order settings, click the button *MANAGE INVENTORY/Order settings/Default order settings* in the action pane. Enter the main site (e.g. “1” in the Microsoft demo company USMF) in the fields *Inventory site* and *Sales site* of the default order settings. Since you want to manufacture the finished product, select the *Default order type* “Production”.

Then close the default order settings and open the site-specific order settings, where you create a record with the *Site* (main site as selected in the default order settings), the *Inventory warehouse*, and the *Sales warehouse* (e.g. warehouse “13” in the Microsoft demo company USMF).

Exercise 5.3 – Bill of Materials

After entering the item records for the finished item and its components in the previous exercises, you can set up a bill of materials for the item of exercise 5.2.

Create a site-specific BOM for the main site which contains two units of the first and one unit of the second item of exercise 5.1. Components should be picked from the main warehouse. Once you have completed the BOM lines, approve and activate the BOM version.

Instructions

In order to create a bill of materials starting in the released products, click the button *ENGINEER/BOM/BOM versions* in the action pane of the released products form after selecting the finished product. In the BOM version form, click the button *New/BOM and BOM version* in the action pane to create a new bill of materials.

The screenshot shows the Dynamics AX interface for the BOM version form. The title bar indicates 'Released products'. The main pane shows the BOM version 000124 for the item I-99-F : 99-Finished product. The 'Bill of materials lines' table is visible, containing the following data:

Item number	Size	Warehouse	Resource con...	Quantity	Per series	Unit	Configuration group
I-99-C1		11	<input type="checkbox"/>	2.0000	1	ea	
I-99-C2		11	<input type="checkbox"/>	1.0000	1	ea	

Figure 5-4: Working in the BOM version form

In the *Create BOM* dialog, enter the item name in the field *Description* and select the main site in the field *Site*. Then close the dialog by clicking the button *OK* and enter the components on the tab *Bill of materials lines* as shown in Figure 5-4.

Once you have completed the BOM lines, approve the bill of materials by clicking the button *BOM VERSION/Maintain BOM version/Approve* in the action pane. In the approve dialog, select the responsible employee in the field *Approved by* and set the slider *Do you also want to approve the bill of materials?* to "Yes" before you click the button *OK* to approve the BOM and the BOM version in parallel.

Finally click the button *BOM VERSION/Maintain BOM version/Activate* in the BOM version form to activate the BOM version. The slider *Active* on the tab *BOM version* then shows that the BOM version is active. The active BOM version, which must be unique per site, date, and quantity, is the default BOM version for the finished item.

Exercise 5.4 – Route Setup

In order to learn the function of capabilities, route groups, and cost categories, you want to set up an example. As a start, create a capability C-## (## = your user ID) with the name "##-specific". Then enter a route group R-## for manual posting of

working time consumption. Estimation and costing should only be based upon setup time and run time.

Finally, set up a new cost category G-## for production together with the related shared category. In the cost category, select an appropriate cost group of your choice and enter main accounts similar to the settings in existing cost categories. For the hourly rate, enter and activate a cost price of USD 100 with a costing version of the costing type “Planned cost” and the main site.

Instructions

Open the form *Production control> Setup> Resources> Resource capabilities* and click the button *New* in the action pane to create the capability. In the new record, enter the ID and the description of the capability (see Figure 5-5).

Figure 5-5: Creating a new capability

Then create the route group in the form *Production control> Setup> Routes> Route groups*. Click the button *New* in the action pane and enter the group ID and the name in the new record. On the tab *General*, set the sliders *Setup time* and *Run time* in the field group *Estimation and costing* to “Yes” to include the setup time and the run time in the cost calculation (for estimation and costing).

In order to make sure, that time consumption is posted manually, set all sliders in the field group *Automatic route consumption* to “No” (compare Figure 5-6). Close the route groups form afterwards.

Figure 5-6: Setting up the new route group

Before you can create the new cost category, you have to set up a related shared category in the form *Production control> Setup> Routes> Shared categories*. Click the button *New* in the shared category form, enter the category ID and the name, and set the slider *Can be used in Production* to “Yes”.

Figure 5-7: Entering the shared category

Once you have completed the shared category, you can create the related cost category in the form *Production control> Setup> Routes> Cost categories*. Click the button *New* in the action pane of the cost categories form and select the new shared category in the lookup *Category ID*. Then select an appropriate *Cost group* (e.g. “L2” in the Microsoft demo company USMF) on the tab *Production*. On the tab *Ledger-resources*, enter applicable main accounts (refer to existing cost categories to get to know appropriate accounts in your training company).

In order to manage the applicable cost price, click the button *CATEGORY SETUP/Category setup/Price* in the cost category form. In the cost category price form, insert a line with a *Version* of the costing type “Planned cost” (e.g. “20” in the Microsoft demo company USMF), the *Site* (e.g. “1” in the Microsoft demo company USMF),

and the *Price* (USD 100). Then activate the price by clicking the button *Activate* in the cost category price form.

The screenshot shows the 'Cost categories' form in Dynamics AX. The left pane lists various cost categories, with 'G-99 99-General use' selected. The main pane displays the details for this category. The 'Category ID' is 'G-99' and the 'Category name' is '99-General use'. The 'Usage' is set to 'Production'. Under 'Production', the 'Category' is 'G-99', the 'Worker' is empty, the 'Cost price' is '100.00', and the 'Cost group' is '1'. The 'Ledger postings' section is expanded, showing two columns: 'ACCOUNTS - PHYSICAL' and 'ACCOUNTS - FINANCIAL'. Under 'ACCOUNTS - PHYSICAL', 'Estimated manufacturing cost absorbed' is '600500' and 'Estimated cost of manufacturing consumed' is '150100'. Under 'ACCOUNTS - FINANCIAL', 'Manufacturing cost absorbed' is '600500' and 'Cost of manufacturing consumed' is '150200'.

Figure 5-8: Editing the production cost category

Exercise 5.5 – Resources and Resource Group

New resources are required to produce the finished product of exercise 5.2. Enter a new resource group W-## with the name “##-assembly”, which is assigned to the main site and an appropriate production unit. The resource group applies the cost category of exercise 5.4 for setup time and for run time. Select a regular calendar of your choice as resource group calendar.

Then create two new resources, W-##-1 and W-##-2, of the type “Machine”. For both resources, the route group and – for setup time and for run time – the cost category of exercise 5.4 applies. Choose main accounts for the resources which are similar to the settings in existing resources. Assign both resources to the new resource group W-##, but only the resource W-##-2 to the capability of exercise 5.4. The resources use the same calendar as the resource group.

Instructions

Open the form *Production control> Setup> Resources> Resource groups* and click the button *New* in the action pane to create the resource group. In the new record, enter the identification, the *Description*, and the *Site*. Then select the *Production unit* on the tab *General* and switch to the tab *Operation* where you select the cost category of exercise 5.4 in the *Setup category* and in the *Run time category*. On the tab *Calendars*, assign a calendar to the resource group (see Figure 5-9).

The screenshot displays the Dynamics AX 'Resource groups' form. On the left, a list of resource groups is shown with columns for 'Resource g...' and 'Description'. The group 'W-99' is selected, with a description of '99-assembly'. The main area on the right provides a detailed view of this group. It includes a 'General' tab with fields for 'Resource group', 'Description', and 'Site'. Below this are tabs for 'Operation', 'SCHEDULING', 'CAPACITY', 'COST CATEGORIES', and 'Calendars'. The 'Operation' tab is currently active, showing fields for 'Route', 'Scrap percentage', 'Setup category', 'Run time category', and 'Quantity category'. The 'SCHEDULING' tab shows 'Operations scheduling percentage', 'Finite capacity', 'Bottleneck resource', and 'Sequence group ID'. The 'CAPACITY' tab shows 'Capacity unit', 'Capacity', and 'Batch capacity'. The 'Calendars' tab shows a list of calendars with 'Production' selected and 'Never' for expiration. At the bottom, there are expandable sections for 'Resources', 'Work cell capacity', 'Ledger postings', and 'Financial dimensions'.

Figure 5-9: Entering the new resource group

Then close the resource groups form and open the resources form (*Production control* > *Setup* > *Resources* > *Resources*). Click the button *New* in the action pane to create the first resource. Enter the identification and the *Description*, and leave the default value “Machine” in the lookup field *Type*. On the tab *Operation*, enter the *Route group*, the *Setup category*, and the *Run time category* (select the groups created in exercise 5.4).

On the tab *Calendars* of the resources form, assign a calendar to the resource. Switch to the tab *Resource groups* afterwards, where you assign your new resource group to the resource (see Figure 5-10).

On the tab *Ledger*, select main accounts similar to the accounts specified on existing resources. The account fields on the resource may remain empty, if the production control parameter *Ledger posting* is not set to “Item and resource” (*Production control* > *Setup* > *Production control parameters*, section *General*).

Once you have completed the first resource, enter the second resource the same way. In addition to the settings in the first resource, the second resource has to be assigned to the capability of exercise 5.4 (click the button *Add* in the toolbar of the tab *Capabilities* and select the capability).

The screenshot shows the Dynamics AX 'Resources' form. On the left, a list of resources is displayed with columns 'Resource' and 'Description'. The resource 'W-99-1' is selected, with description '99-assembly 1'. On the right, the 'Resources' form is open, showing fields for 'Resource' (W-99-1), 'Description' (99-assembly 1), and 'Type' (Machine). Below these fields, there are tabs for 'General', 'Operation', 'Calendars', 'Capabilities', and 'Resource groups'. The 'Resource groups' tab is active, showing a table with columns 'Resource group', 'Expiration', 'Input warehouse', and 'Input location'. The table contains one entry: 'W-99' with 'Never' for expiration. At the bottom, there are links for 'Select View', 'Ledger postings', and 'Financial dimensions'.

Figure 5-10: Entering a resource and assigning it to the resource group

Exercise 5.6 – Operation

In order to produce your product, you need a new operation. Create the operation O-## (## = your user ID) with the name “##-processing”. In general, the setup time for this operation is one hour and the run time two hours per unit. Select the resource W-##-1 of exercise 5.5 as costing resource which provides default values for the route group and cost categories. Only resources of the resource group W-## with the capability C-## of exercise 5.4 can execute the operation.

Instructions

Open the form *Production control> Setup> Routes> Operations* and create a record with operation ID and name.

Then click the button *Relations* in the operations form to access the operation details (operation relations). In the operation relation form, click the button *New* and leave the default value “All” in the field *Item code* and in the field *Route code*. The All/All relation determines the operation settings at general level.

Switch to the tab *Setup* in the operation relation and select the first resource of exercise 5.5 in the lookup field *Costing resource* (see Figure 5-11). A message bar displays, where you click the button “Yes” to transfer default values from the costing resource to the operation.

The screenshot shows the 'Dynamics AX Operations' window. The 'Operation relation' tab is active. The 'Item code' is 'All'. The 'Configuration' is 'G-99'. The 'Route relation' is 'All'. The 'Route code' is 'All'. The 'Site' is 'All'. The 'Route' is 'R-99'. The 'Setup' section is expanded, showing 'CONSUMPTION CALCULATION' and 'COST CATEGORIES'. Under 'CONSUMPTION CALCULATION', the 'Formula' is 'Standard', the 'Factor' is '1.00', and the 'Costing resource' is 'W-99-1'. Under 'COST CATEGORIES', the 'Setup' is 'G-99', the 'Run' is 'G-99', and the 'Quantity' is empty. The 'Times' section shows 'Resource load' as '0 | 0.00'. The 'Resource requirements' section is collapsed.

Figure 5-11: Selecting the costing resource in the operation relation

Then enter the *Setup time* (one hour) and the *Run time* (two hours) on the tab *Times* of the operation relation. On the tab *Resource requirements*, insert a line which refers to the resource group of exercise 5.5 and a second line which refers to the capability (see Figure 5-12). In the message bar which displays after selecting the resource group requirement, click the button “No” to avoid that default data from the resource group override the data which you have entered. Finally close the operation relations form and the operations form.

The screenshot shows the 'Dynamics AX Operations' window. The 'Operation relation' tab is active. The 'Item code' is 'All'. The 'Configuration' is 'G-99'. The 'Route relation' is 'All'. The 'Route code' is 'All'. The 'Site' is 'All'. The 'Route' is 'R-99'. The 'Setup' section is collapsed. The 'Times' section shows 'Resource load' as '1 | 100.00'. The 'Resource requirements' section is expanded, showing a table with two lines:

Requirement type	Requirement	Description	Operation sc...	Job scheduling
Resource group	W-99	99-assembly	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Capability	C-99	99-specific	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

The 'OPTIONS' section shows 'Minimum level needed' as '0.00'. The 'Description' section is collapsed.

Figure 5-12: Specifying the resource requirements for the operation

Exercise 5.7 – Route

In order to manufacture your product, you need a new route which is based on the elements of the previous exercises. Select the item I-##-F of exercise 5.2 in the released product form and access the route from the released product. Create a new route, which contains the operation O-## of exercise 5.6 as the only route operation. There is no setup time, and the run time for the operation is one hour per unit. The other settings in the route operation – including costing resource, route group, cost categories, and resource requirements – are the same as the applicable settings in the general operation relation which you have entered in exercise 5.6.

Once you have completed the route details, approve and activate the route. Can you check which resources can execute the route operation? Finally, check which operation relations are assigned to the operation of exercise 5.6.

Instructions

Entering a new route works similar to entering a new bill of materials. Select the finished product in the released product form (*Product information management> Products> Released products*) and click the button *ENGINEER/View/Route* in the action pane. In the route versions form, click the button *New/Route and route version* in the action pane to create a completely new route.

Enter the item name in the field *Description* of the *Create route* dialog and select the main site in the field *Site*. Then close the dialog by clicking the button *OK* and click the button *New* in the lower pane of the route form to insert the route operation.

The screenshot shows the Dynamics AX interface for the 'Released products' form. The 'Route' form is open for item 'I-99-F: 99FINISHEDPRODUCT'. The 'VERSIONS' tab is selected, displaying a table with the following data:

Route number	Name	Site	From date	To date	From qty.	Active	Approved by	Approved
000098	99-Finished product	1			0.00	<input type="checkbox"/>		<input type="checkbox"/>

Below the versions table, the 'OVERVIEW' tab is selected, showing a table with the following data:

Oper. No.	Priority	Operation	Run time	Process qty.	Next	Route group	Item code	Route code	Configuration
10	Primary	O-99	2.00	1.00	0	R-99	All	All	

Figure 5-13: General details in the route operation after selecting the operation

In the operation line, select your operation of exercise 5.6 as shown in Figure 5-13. Since you have entered a general operation relation for this operation, the related details are used in the current route operation (indicated by the option “All” in the

column *Route code*). But the times in the current operation are different from the general operation relation settings entered in exercise 5.6, which is why you have to edit the times in the current route operation.

Override the *Setup time* (enter “0”) and the *Run time* (enter “1”) on the tab *Times* for this purpose. Overriding general data in the route version form automatically creates a route-specific operation relation – indicated by the option “Route” in the column *Route code*. Alternatively, you can click the button *Copy and edit relation* in the toolbar of the lower pane to create a route-specific operation relation.

Once you have completed the route operation, approve the route by clicking the button *ROUTE VERSION/Maintain route version/Approve* in the action pane. In the approve dialog, select the responsible employee in the field *Approved by* and set the slider *Do you also want to approve the route?* to “Yes” before you click the button *OK* to approve the route and the route version in parallel.

Finally click the button *ROUTE VERSION/Maintain route version/Activate* in the route version form to activate the route version. The active route version, which must be unique per site, date, and quantity, is the default route version for the finished item.

In order to check which resources can execute the route operation, click the button *Applicable resources* in the lower pane of the route version form. The *Applicable resources* dialog only shows the resource W-##-2 of exercise 5.5, because it is the only resource which fulfills both resource requirements of the operation.

You can check the applicable resources for all operations of a route in the *Route feasibility* form, which you can access by clicking the button *ROUTE VERSION/View/Route feasibility* in the action pane of the route version form.

The screenshot shows the 'Applicable resources' dialog box in Dynamics AX. The dialog has a title bar 'Dynamics AX' and a subtitle 'Applicable resources'. Below the title bar, there are tabs: 'Previous day', 'Next day', 'Use for costing', and 'View resource'. The 'View resource' tab is selected. The dialog contains a table with the following data:

Resource	Description	Type	Resource group	Site	Production unit
W-99-2	99-assembly 2	Machine	W-99	1	

At the bottom right of the dialog, there is an 'OK' button.

Figure 5-14: Checking applicable resources for the route operation

In order to check which operation relations are assigned to the operation of exercise 5.6, open the form *Production control> Setup> Routes> Operations* and select

the operation before you click the button *Relations* in the action pane. The operation relations form now shows two lines – one with the general operation relation entered in exercise 5.6 and one with the route-specific relation generated in the current exercise.

Exercise 5.8 – Production Order

There is a demand of five pieces of the finished item created in exercise 5.2. Enter a corresponding production order and check the BOM and the route in the order.

Instructions

In order to create a production order, open the form *Production control> Production Orders> All production orders* and click the button *New production order* in the action pane. Select your finished item in the *Create production order* dialog which is shown next (see Figure 5-15). The finished item determines the default value for the *BOM number* and the *Route number* in the dialog. In the field *Quantity*, enter the order quantity of five units before you click the button *Create*.

The screenshot shows the Dynamics AX interface for creating a production order. The left pane displays a list of production orders under 'ALL PRODUCTION ORDERS'. The right pane is the 'Create production order' dialog, which is divided into several sections:

- IDENTIFICATION:** Production (P000185), Item number (I-99-F), Name (99-Finished product).
- GROUPINGS:** Pool, Production group.
- SETUP:** Ledger, Item and category.
- INVENTORY DIMENSIONS:** Site (1), Warehouse (13), Reservation (Estimation), Release to warehouse (Allow partial reservation).
- PRODUCTION:** Type (Standard), Quantity (5.00), Delivery (7/20/2016), Time (10:00 AM).
- PROJECT:** Project ID, Activity number.
- POSTING METHOD:** Posting method (None).
- FINISHED ITEM:** Category, Line property, Sales currency, Unit.
- BOM/ROUTE:** BOM date (7/20/2016), BOM number (000124), Route number (000098).

The 'Create' button is highlighted at the bottom right of the dialog.

Figure 5-15: Entering the order quantity in the create production order dialog

The new production order has the status “Created”. If you want to view or edit the production bill of materials, click the button *PRODUCTION ORDER/Production*

details/BOM in the action pane of the production order form. The button *PRODUCTION ORDER/Production details/Route* in the production order provides access to the production route.

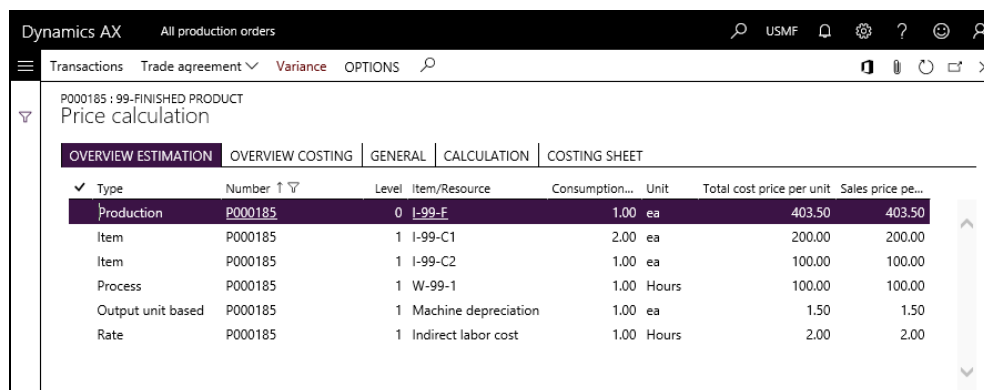
Exercise 5.9 – Change Status

You want to process the production order of exercise 5.8. Start with the estimation and check the price calculation afterwards. Then execute operations scheduling and job scheduling one after the other. Once you have completed scheduling, release the order from the *Production floor management* workspace.

Finally start the order and print a complete picking list as a print preview. You do not want to post the picking list. Is it possible to apply these settings as a default for all users?

Instructions

Select your order in the production order form and run the estimation by clicking the button *PRODUCTION ORDER/Process/Estimate* in the action pane. In order to check the price calculation, which is based on the costs of the BOM line items and the resource operations, click the *MANAGE COSTS/Calculations/View calculation details* in the action pane of the order form. The tab *Overview estimation* of the calculation form then shows the cost price and the sales price per unit of your finished item (see Figure 5-16) based on the production order quantity.



Type	Number	Level	Item/Resource	Consumption...	Unit	Total cost price per unit	Sales price pe...
Production	P000185	0	I-99-F	1.00	ea	403.50	403.50
Item	P000185	1	I-99-C1	2.00	ea	200.00	200.00
Item	P000185	1	I-99-C2	1.00	ea	100.00	100.00
Process	P000185	1	W-99-1	1.00	Hours	100.00	100.00
Output unit based	P000185	1	Machine depreciation	1.00	ea	1.50	1.50
Rate	P000185	1	Indirect labor cost	1.00	Hours	2.00	2.00

Figure 5-16: Inquiry of the price estimation

Back in the production order form, first click the button *SCHEDULE/Production order/Schedule operations* to execute operations scheduling and then the button *SCHEDULE/Production order/Schedule jobs* to execute job scheduling.

Close the production order form afterwards and open the *Production floor management* workspace. Click the tile *Production orders to release* in the left pane of this workspace to open the *Production orders to release* form, which shows the production orders which you can release (with the related material availability).

Select your production order (you can filter on the item number to find the order) and click the button *Release* in the toolbar. Then close the *Production orders to release* form and click the link *All production orders* on the left-hand side of the workspace to access the production order list page.

The screenshot shows the 'Start' dialog in Dynamics AX. The left pane lists production orders, with 'P000185' selected. The main pane shows the 'GENERAL' tab. The 'IDENTIFICATION' section has 'Batch order' set to 'P000185' and 'Name' set to '99-Finished product'. The 'START' section has 'Date' set to '7/20/2016' and 'CW quantity' set to '5.00'. The 'OPERATIONS' section has 'From Oper. No.' and 'To Oper. No.' set to empty. The 'PICKING LIST JOURNAL' section has 'Picking list' set to 'Pick', 'Automatic BOM consumption' set to 'Flushing principle', and 'Create journal per' set to 'Route'. The 'JOURNALS' section has 'Show journal info' set to 'Yes'. The 'ROUTE CARD JOURNAL' section has 'Route card' set to 'Route', 'Automatic route consumption' set to 'Route group dependent', 'End-mark route' set to 'No', and 'Post route card now' set to 'Yes'. The 'Complete picking list journal' slider is set to 'Yes', 'End-mark picking list' is set to 'No', 'Pick negative' is set to 'No', and 'Print picking list' is set to 'Yes'. The 'Print options' button is visible at the bottom right.

Figure 5-17: Settings in the dialog for starting the production order

Select your order in the production order form and click the button *PRODUCTION ORDER/Process/Start* to start the production order. In order to print the complete picking list when starting the order, set the sliders *Complete picking list journal* and *Print picking list* on the tab *General* of the dialog to “Yes” (see Figure 5-17). Set the slider *Post picking list now* to “No” to prevent picking list posting. Since the option selected in the lookup *Automatic BOM consumption* is “Flushing principle” and you have set the flushing principle of your BOM items to “Manual” in exercise 5.1, the picking list journal will not contain a consumption quantity.

Then click the button *Print options* in the *Start* dialog and select the print destination “Screen” to show a print preview.

In order to apply the current settings as default for all users, click the button *Default values* in the *Start* dialog. In the *Default values* dialog, you have to adjust the update settings before you click the button *Make default for all users*.

Exercise 5.10 – Purchasing the Components

In order to process the production order of exercise 5.8, the required components have to be available in inventory.

Enter a purchase order with your vendor of exercise 3.2 and nine units of the first and five units of the second item of exercise 5.1. Confirm the purchase order and post the product receipt and the vendor invoice.

Instructions

In order to create the purchase order, open the vendor list page (*Procurement and sourcing*> *Vendors*> *All vendors*) and select your vendor before you click the button *PROCUREMENT/New/Purchase order* in the action pane (compare exercise 3.7). In the current exercise, enter two order lines with the BOM line items as shown in Figure 5-18.

The screenshot shows the Dynamics AX interface for 'All vendors'. The top navigation bar includes 'Save', '+ New', 'Delete', 'PURCHASE ORDER', 'PURCHASE', 'MANAGE', 'RECEIVE', 'INVOICE', and 'RETAIL'. The main area displays a 'PURCHASE ORDER' for vendor '99-004 - 99-Vendor of exercise 3.2'. The 'Purchase order lines' table is visible, showing two lines:

Line number	Item number	Product name	Procurement category	Site	Warehouse	CW...	Quantity	Unit	Unit price	Adjuste
1	I-99-C1	99-Component1		1	11		9.00	ea	100.00	0
	I-99-C2	99-Component2		1	11		5	ea	100.00	0

Figure 5-18: Entering the purchase order to supply the components

Confirm the purchase order by clicking the button *PURCHASE/Generate/Confirmation* in the action pane and receive the products by clicking the button *RECEIVE/Generate/Product receipt*.

In order to post the invoice, click the button *INVOICE/Generate/Invoice* (compare exercise 3.13).

Exercise 5.11 – Picking List

You can pick the components required for the production order of exercise 5.8 now. Enter and post a picking list journal which includes nine units of the first and five units of the second component. You do not expect any additional consumption. Pick from the warehouse in which you have received the items in exercise 5.10.

Instructions

Select your order in the production order form (*Production control* > *Production Orders* > *All production orders*) and click the button *VIEW/Journals/Picking list* to access the picking list journals related to your production order. The picking list journal form shows the picking list which has been created when starting the order in exercise 5.9. The journal is not posted since the slider for posting the picking list in the *Start* dialog has been set to “No”.

The screenshot shows the Dynamics AX interface for the 'PICKING LIST' form. The title bar indicates 'All production orders'. The main pane displays 'PICKING LIST :: P000185 : 99-FINISHED PRODUCT 00934 : Pick List Journal'. Below the header, there is a 'Journal lines' section with a table of journal entries. The table has columns for Date, Lot ID, Item number, Proposal, Consumption, Unit, End, Log, Batch disposition code, and Batch disposition. The first line is highlighted in blue and has the 'End' checkbox checked. The second line is also highlighted in blue and has the 'End' checkbox unchecked.

Date	Lot ID	Item number	Proposal	Consumption	Unit	End	Log	Batch disposition code	Batch disposition
7/20/2016	012462	I-99-C1	10.00	9.00	ea	<input checked="" type="checkbox"/>			
7/20/2016	012463	I-99-C2	5.00	5.00	ea	<input type="checkbox"/>			

Figure 5-19: Entering the consumed quantity in picking list journal lines

Click the journal ID shown as link in the grid of the journal page to switch to the journal lines of the picking list. In the journal lines, enter the picked quantity in the column *Consumption* as shown in Figure 5-19. You report a quantity which is less than the estimated quantity for the first item. Since you do not expect to pick a second time for the current order, select the checkbox *End* in the line with the first item to clear the remaining quantity. Then click the button *Post* to post the journal.

Alternatively, you can delete the existing journal and create a new journal using a consumption proposal (click the button *Picking list/Create lines* in the action pane of the journal header) or not using a proposal (select the appropriate *Lot ID* when you enter a journal line manually).

Exercise 5.12 – Job Card

You want to record the actual working time needed to execute the operation in a job card journal. Enter and post a job card referring to the production order of exercise 5.8, which records the production of five units in the time between 8:00 AM and 2:00 PM. You do not want to report the order as finished in parallel.

Instructions

Select your order in the production order form and click the button *VIEW/Journals/Job card* in the action pane to access the job card journals referring to your order. In the job card journals, click the button *New* and select an appropriate journal name in the *Create* dialog.

Then insert a job card line as shown in Figure 5-20 and enter the *Job identification*, the *Resource*, the start and end time (Dynamics AX calculates the number of hours deducting the breaks specified in the working time calendar), and the produced quantity. Make sure that the checkbox *Production report as finished* in the line is not selected and click the button *Post* to post the journal.

The screenshot shows the Dynamics AX interface for 'Production floor management'. The main window is titled 'JOB CARD :: P000185 : 99-FINISHED PRODUCT 00935 : Job Card Journal'. Below the title bar, there is a menu bar with options like Save, New, Delete, Validate, Post, and Log. The main area displays a table of journal lines. The table has columns for Date, Job identification, Resource, Worker, Start time, End time, Hours, Good quantity, CW..., Error quant..., Processing perc..., and End. A single line is visible with the following data: Date: 7/21/2016, Job identification: 005603, Resource: W-99-2, Worker: (blank), Start time: 08:00 AM, End time: 02:00 PM, Hours: 5.50, Good quantity: 5.00, and End: (checkbox checked). The checkbox 'Production report as finished' is unchecked.

Figure 5-20: Entering the job card line

Exercise 5.13 – Ending Production

Report the entire quantity of the production order in exercise 5.8 as finished. Then end the production order and check the price calculation inquiry to compare estimation and costing.

Instructions

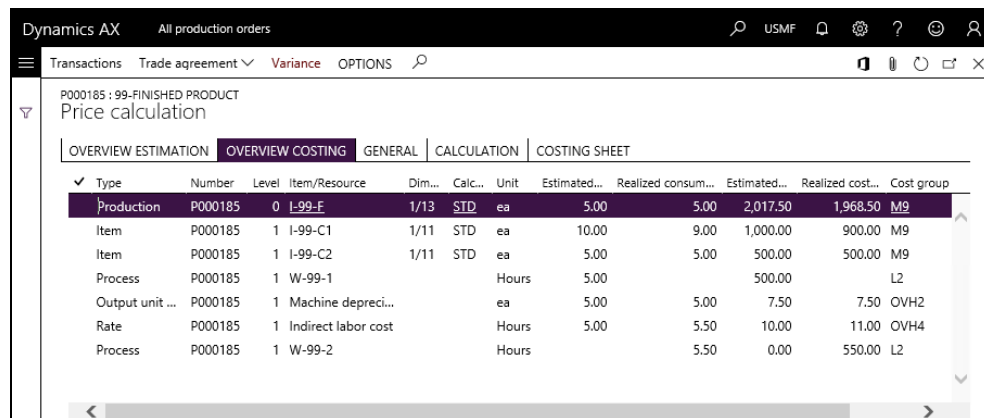
In order to receive the finished product in inventory, select your order in the production order form and click the button *PRODUCTION ORDER/Process/Report as finished* in the action pane. On the tab *General* of the *Report as finished* dialog, check the *Good quantity* and set the slider *End job* to “Yes” to post a final receipt of the order. In case there is an open consumption (e.g. a missing consumption of material, if you did not select the checkbox *End* in the picking list line in exercise 5.11), set the slider *Accept error* on the tab *General* to “Yes” to report as finished in spite of the open consumption. Then click the button *OK* in the *End* dialog.

If you want to view the inventory transaction of the finished product, click the button *PRODUCTION ORDER/Inventory/Transactions* in the action pane of the production order. The quantity in inventory (five units after receiving the finished

item) is shown in the on-hand inquiry, which you can access by clicking the button *PRODUCTION ORDER/Inventory/On-hand* in the production order form.

Finally, you can cost and end the production order by clicking the button *PRODUCTION ORDER/Process/End* in the action pane. After ending, it is not possible to post any transaction for the order.

Click the button *MANAGE COSTS/Calculations/View calculation details* in the action pane of the production order form to access the price calculation form afterwards. In the price calculation form, switch to the tab *Overview Costing* (see Figure 5-21) to view a comparison of the estimated and the actual quantity and value per item and operation (including overhead costs, if specified in the costing sheet).



Type	Number	Level	Item/Resource	Dim...	Calc...	Unit	Estimated...	Realized consum...	Estimated...	Realized cost...	Cost group
Production	P000185	0	I-99-E	1/13	STD	ea	5.00	5.00	2,017.50	1,968.50	M9
Item	P000185	1	I-99-C1	1/11	STD	ea	10.00	9.00	1,000.00	900.00	M9
Item	P000185	1	I-99-C2	1/11	STD	ea	5.00	5.00	500.00	500.00	M9
Process	P000185	1	W-99-1			Hours	5.00		500.00		L2
Output unit ...	P000185	1	Machine deprec...			ea	5.00	5.00	7.50	7.50	OVH2
Rate	P000185	1	Indirect labor cost			Hours	5.00	5.50	10.00	11.00	OVH4
Process	P000185	1	W-99-2			Hours		5.50	0.00	550.00	L2

Figure 5-21: Price calculation inquiry comparing estimated and actual consumption

6 Operations Planning

Exercise 6.1 – Forecast Settings

You are asked to enter a new sales forecast for the items, which you have set up in the previous exercises. This forecast should be in a scenario which is separate from other forecast scenarios.

In order to meet this requirement, create a new forecast model F-## (## = your user ID) without submodels. Then create a new forecast plan Y-##. Assign your forecast model to this forecast plan and make sure that demand forecasts are included in this plan. Select number sequences similar to the settings in existing forecast plans.

Instructions

Open the form *Master planning> Setup> Demand forecasting> Forecast models* and click the button *New* to create the new forecast model with model ID and name (see Figure 6-1).

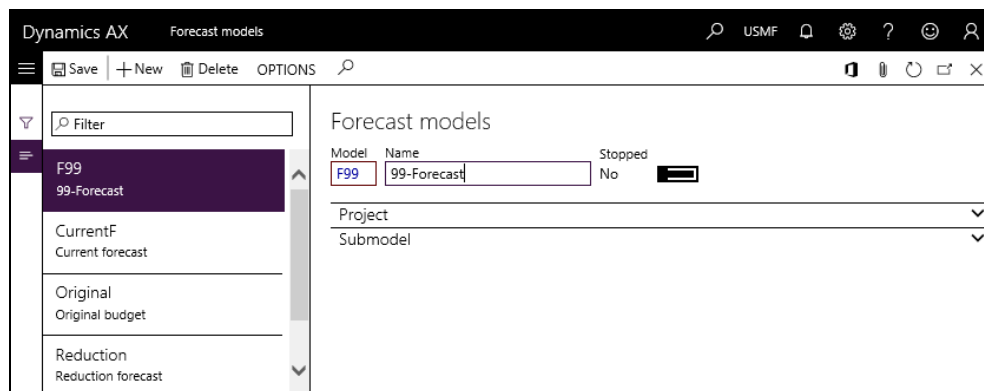
The screenshot shows the 'Forecast models' form in Dynamics AX. The left-hand pane contains a list of existing models: 'F99 99-Forecast', 'CurrentF Current forecast', 'Original Original budget', and 'Reduction Reduction forecast'. The right-hand pane shows the details for the selected model 'F99 99-Forecast'. It includes fields for 'Model' (F99), 'Name' (99-Forecast), and 'Stopped' (No). Below these are dropdown menus for 'Project' and 'Submodel'.

Figure 6-1: Creating the new forecast model

Then open the form *Master planning> Setup> Plans> Forecast plans* and create the new forecast plan. Set the slider *Include demand forecast* to "Yes" and enter the new *Forecast model* on the tab *General* of the forecast plan to assign the forecast model to the forecast plan (see Figure 6-2).

The screenshot shows the Dynamics AX interface for managing forecast plans. On the left, a list of forecast plans is displayed, with 'Y-99 99-Forecast' selected. The main area shows the 'Forecast plans' form. The 'Plan' field is 'Y-99' and the 'Name' field is '99-Forecast'. The 'Forecast model' is set to 'F99'. The 'Skip coverage calculations' is set to 'No'. The 'Include supply forecast' is set to 'No'. The 'Include demand forecast' is set to 'Yes'. The 'Method used to reduce forecast r...' is set to 'None'. The 'Planned orders' is set to 'Mast_43'. The 'Session' is set to 'Mast_44'. The 'Time fences in days' and 'Safety margins in days' are both set to 'None'.

Figure 6-2: Assigning the forecast model to the forecast plan

Exercise 6.2 – Demand Forecast

You expect that the customer of exercise 4.1 orders 200 units of the merchandise item of exercise 3.5 and 100 units of the finished item of exercise 5.2 on the first day of the next three months.

Enter this demand in a demand forecast with the forecast model of exercise 6.1. Then run forecast planning for your forecast plan and check the results.

Instructions

A way to access the demand forecast (sales forecast) of an item is to click the button *PLAN/Forecast/Demand forecast* in the action pane of the released product form after selecting the appropriate item.

Create a new line in the demand forecast and select your forecast model in the column *Model*. Then enter the *Date*, the *Customer account* number, and the *Sales quantity*, and save the record. The sales amount is automatically calculated based on the sales price of the item. In order to register the monthly forecast for the requested period, you can either use an allocation method (click the button *Allocate forecast* in the toolbar on the tab *Overview* and enter the allocation details in the dialog as shown in Figure 6-3) or manually enter three lines in the upper pane.

Then close the demand forecast for the first item. Select the second item in the released product form and enter the demand forecast for this item in the same way as for the first item (but with a different quantity).

In order to execute forecast planning afterwards, open the menu item *Master planning> Forecasting> Forecast planning* and select your *Forecast plan* in the dialog before you click the button *OK*.

Figure 6-3: Entering the sales forecast in the demand forecast form

The results of forecast planning are shown in the gross requirements form, which you can access by clicking the button *PLAN/Requirement/Gross requirement* in the action pane of the released product form after selecting the appropriate item. In the gross requirements form, select your forecast plan in the lookup field *Plan* to review the scheduling results of the current exercise.

Exercise 6.3 – Min./Max. Principle

You want to apply a Min./Max. coverage principle to the finished item of exercise 5.2. Select an appropriate coverage group in the released product form and enter a minimum quantity of 500 units and a maximum quantity of 1000 units in the item coverage of the item.

Then run master planning in the net requirements form and review the result. In a second step, change the minimum quantity to one unit. Can you explain the result after executing master planning a second time?

Instructions

In order to review the applicable coverage groups, open the form *Master planning> Setup> Coverage> Coverage groups* and check which group is assigned to a *Coverage code* "Min/Max".

Dynamics AX Coverage groups

Click the edit button to make changes.

Filter

Auto
Automatic replenishment of raw m...

Group
Replenishment per requirement gr...

RawM5D
Raw material 5 days lead time

Req
Replenishment per individual requir...

Coverage groups

Coverage group Name Calendar

Auto Automatic replenishment of r... Production

General

COVERAGE

Coverage code Min./Max.

Coverage period 0

Coverage time fence (days) 0

ON-HAND INVENTORY

Consume on-hand inventory Before all other supply

OTHER

Use the specified BOM or form... No

Figure 6-4: Reviewing the coverage code in the coverage group

Then open the released products list page and select your finished item. Switch to the related detail form where you select the appropriate *Coverage group* on the tab *Plan* (see Figure 6-5). Click the button *PLAN/Coverage/Item coverage* in the action pane of the released product to access the item coverage of the item. In the item coverage, enter a new line with the minimum quantity of 500 units (column *Minimum*) and the maximum quantity of 1000 units (column *Maximum*).

Dynamics AX Released products

Save + New Delete PRODUCT PURCHASE SELL MANAGE INVENTORY ENGINEER PLAN

RELEASED PRODUCT DETAILS

I-99-F : 99-Finished product

General I-99-F

Purchase ea | 0.00

Promote

Deliver

Sell ea | 1,000.00

Manage inventory ea

Engineer ea | BOM

Plan Auto

Coverage group Auto

Manage costs 500.00

Figure 6-5: Selecting the coverage group in the released product form

Close the item coverage and open the net requirements form by clicking the button *PLAN/Requirement/Net requirements* in the action pane of the released product. The net requirement form shows data for the plan which is selected in the header field *Plan* of the form. The default for this plan is the current dynamic master plan (specified in the master planning parameters).

In order to update the net requirements in the selected plan, click the button *Update/Master planning* in the action pane. Since the five units received in exercise 5.13 are available in inventory, master planning generates a planned production order of 995 units to reach the maximum quantity of 1000 units (see Figure 6-6).

Dynamics AX Released products

Update OPTIONS

Forecast planning
Master planning
Continuity scheduling
DynPlan

PRODUCT
ents, Item number I-99-F, 99-Finished product, Sorting: Requirement date

OVERVIEW ITEM COVERAGE SUMMARY PERIOD

Warehouse	Site	CW minimum	Minimum	CW maximum	Maximum	Coverage group
13	1		500.00		1,000.00	Auto

OVERVIEW GENERAL ACTION

Inquiries

Reference	Number	Item number	Requirement date	Expiration date	Requirement
On-hand		I-99-F			5.00
Planned production orders	004121	I-99-F	7/22/2016		995.00

PEGGING

Figure 6-6: Master planning update in the net requirements

If you change the minimum quantity in the item coverage to one unit and run the master planning update in the net requirements form again, the update will remove the existing planned order and will not generate a new planned order. The reason is that the quantity on hand is higher than the minimum quantity which would trigger the creation of a planned order.

Exercise 6.4 – Period Principle

You want to apply a coverage principle which summarizes the requirements per period for the finished item of exercise 5.2. Choose an appropriate coverage group in the released product and delete the Min./Max. record in the item coverage.

Your customer of exercise 4.1 orders 100 units of the finished item. Enter a sales order for this requirement and do not post a packing slip or invoice. Execute master planning in the net requirements form and review the results.

Then enter another order of your customer with 150 units of the finished item and the same delivery date as the first order. Start master planning a second time and check the result again.

Instructions

Like in exercise 6.3, open the form *Master planning> Setup> Coverage> Coverage groups* and review the applicable coverage groups (this time searching for a group with the *Coverage code* "Period").

Then open the released products list page and select your finished item. Switch to the detail form where you select the appropriate *Coverage group* (assigned to the coverage code "Period") on the tab *Plan*. Click the button *PLAN/Coverage/Item coverage* in the action pane of the released product to access the item coverage and delete the item coverage record which you have entered in exercise 6.3.

The screenshot shows the Dynamics AX interface for a Sales Order. The title bar indicates 'Dynamics AX' and 'All customers'. The main window has a ribbon with tabs: Save, + New, Delete, SALES ORDER, SELL, MANAGE, PICK AND PACK, INVOICE, RETAIL. The 'SALES ORDER' tab is active, showing a sales order header for '000781 : 99-Customer exercise 4.1'. Below the header, there is a section for 'Sales order lines'. A table lists the sales order lines with columns: T..., Vari..., Item number, Product name, Sales cat..., CW..., Quantity, Unit, Adjusted..., Site, Warehouse, Unit price, Discou..., and Discount. One line is visible with Item number 'I-99-F', Product name '99-Finished pr...', Quantity '100.00', Unit 'ea', and Site '13'. The 'Line details' section is visible at the bottom.

Figure 6-7: Entering the sales order line

In order to enter the sales order of 100 units, open the customer list page (*Sales and marketing* > *Customers* > *All customers*) and select your customer. Then click the button *SELL/New/Sales order* in the action pane to create a sales order (compare exercise 4.6). Enter a sales order line as shown in Figure 6-7.

The screenshot shows the Dynamics AX interface for Item Coverage. The title bar indicates 'Dynamics AX' and 'All customers'. The main window has a ribbon with tabs: Update, OPTIONS. The 'Update' tab is active, showing a net requirements form for '000781 : I-99-F'. The 'Plan' dropdown is set to 'DynPlan'. Below the header, there is a section for 'ITEM COVERAGE'. A table lists the item coverage records with columns: Warehouse, Site, CW minimum, Minimum, CW maximum, Maximum, and Coverage group. One record is visible with Warehouse '13', Site '1', and Coverage group 'Group'. Below the table, there is a section for 'GENERAL' and 'ACTION'. The 'GENERAL' section shows a table of inquiries with columns: Reference, Number, Item number, Requirement date, Expiration date, and Requirement. Three inquiries are visible: 'On-hand' (5.00), 'Sales order' (-100.00), and 'Planned production orders' (95.00). The 'Planned production orders' inquiry is selected.

Figure 6-8: Planned production order covering the first sales order

You can access the net requirements directly from the sales order by clicking the button *Product and supply/Net requirements* in the toolbar of the tab *Sales order lines*. Click the button *Update/Master planning* in the action pane of the net requirement form to start local master planning, which generates a planned production order of 95 units based on the settings entered in the current exercise (see Figure 6-8).

After entering the second sales order, which contains a line with the same item and delivery date as the first order, master planning in the net requirements will generate a planned production order which covers the requirement of both sales orders (see Figure 6-9).

000782 : I-99-F
Net requirements, Item number I-99-F, 99-Finished product, Sorting: Requirement date

Plan
DynPlan

OVERVIEW | ITEM COVERAGE | SUMMARY | PERIOD

Warehouse	Site	CW minimum	Minimum	CW maximum	Maximum	Coverage group
13	1		0.00		0.00	Group

OVERVIEW | GENERAL | ACTION

Inquiries

Reference	Number	Item number	Requirement date	Expiration date	Requirement
On-hand		I-99-F			5.00
Sales order	000781	I-99-F	7/28/2016		-100.00
Sales order	000782	I-99-F	7/28/2016		-150.00
Planned production orders	004123	I-99-F	9/2/2016		245.00

PEGGING

Figure 6-9: Planned production order covering both sales orders

Exercise 6.5 – Planned Purchase Order

A minimum inventory quantity of 100 units (more than the available quantity) on the main warehouse is required for the first item of exercise 5.1. After entering this minimum quantity, open the net requirements form for the item and update the master plan. What is the result of this master planning update?

Open the planned purchase order form in the procurement and sourcing menu. If required, switch to the dynamic master plan which has been used when updating the net requirements. Select the planned order referring to your item and transfer it to a purchase order.

Instructions

Open the released products form, select the item “Component 1” (entered in exercise 5.1) and click the button *PLAN/Coverage/Item coverage* in the action pane of the released product to access the item coverage of the item. In the item coverage, enter a new line with the minimum quantity of 100 units in the column *Minimum*.

Close the item coverage and open the net requirements form by clicking the button *PLAN/Requirement/Net requirements* in the action pane of the released product. In order to update the net requirements in the plan selected in the header field *Plan* of the form (default is the current dynamic plan), click the button *Update/Master planning* in the action pane. In this exercise, master planning generates a planned purchase order of 100 units to cover the minimum quantity (see Figure 6-10).

Dynamics AX Released products

Update OPTIONS

I-99-C1: 99-COMPONENT1

Net requirements, Item number I-99-C1, 99-Component1, Sorting: Requirement date

Plan
DynPlan

OVERVIEW ITEM COVERAGE SUMMARY PERIOD

Warehouse	Site	CW minimum	Minimum	CW...	Maximum	Coverage group	Planned order type
✓ 11	1		100.00		0.00	Req	Purchase order

...

OVERVIEW GENERAL ACTION

Inquiries

Reference	Number	Item number	Requirement date	Expiration date	Requirement...	Requirement...
Planned purchase orders	004124	I-99-C1	7/22/2016		490.00	
✓ Planned purchase orders	004125	I-99-C1	7/22/2016		100.00	
BOM line	004123	I-99-C1	7/22/2016		-490.00	

PEGGING

Figure 6-10: Planned purchase order in the net requirements

This planned purchase order is shown in the list page *Procurement and sourcing> Purchase orders> Planned purchase orders> Planned purchase orders*. In order to find the planned order, filter on the item number (use the quick filter field) and on the *Plan* which you have used for the master planning update in the net requirements. The vendor in the planned order derives from the main vendor, which you have entered in the released product record.

After selecting the planned order, click the button *Firm* in the action pane to transfer it to a purchase order. The new purchase order is then shown in the purchase order form (*Procurement and sourcing> Purchase orders> All purchase orders*).

7 Inventory and Product Management

Exercise 7.1 – Dimension Groups

In order to review the functionality of dimension groups, create a new storage dimension group DS-## and a tracking dimension group DT-## (## = your user ID). Set up the dimension groups in a way that the dimensions *Site*, *Warehouse* and *Batch number* are required in every transaction. For the warehouse dimension, separate financial inventory valuation should apply.

Instructions

In order to create the new storage dimension group, open the form *Product information management> Setup> Dimension and variant groups> Storage dimension groups*. Click the button *New* in the action pane and enter the *Name* and *Description*.

The screenshot shows the 'Storage dimension groups' form in Dynamics AX. The left pane lists dimension groups, with 'DS-99' (99-Site, warehouse) selected. The main pane shows the 'Storage dimensions' table and the 'Warehouse specific setup' section.

Name	Active	Blank receipt...	Blank issue all...	Physical inven...	Financial inve...	Coverage pla...	For pur...
Site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Warehouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inventory st...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
License plate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Warehouse specific setup

Use warehouse management pr... ☐ No ☒ Yes

WAREHOUSE SPECIFIC SETUP

Mandatory ☒ Yes ☐ No

Primary stocking ☐ Yes ☒ No

Figure 7-1: Specifying the dimension settings of the storage dimension group

You have to save the new dimension group (click the button *Save* or press the keyboard shortcut *Alt+S*) before you can access the related dimension settings on the tab *Storage dimensions* of the form. According to the exercise instructions, the checkbox *Active* should only be selected for the dimensions *Site* and *Warehouse*. In addition to the checkbox *Physical inventory*, the checkbox *Financial inventory* has to be selected in the warehouse dimension line to enable inventory valuation at warehouse level (calculating a separate cost price per warehouse). You can optionally set the slider *Mandatory* on the tab *Warehouse specific setup* to “Yes” if

you want to enforce entering the warehouse in order lines already at order entry (otherwise the warehouse can remain empty until posting the physical transaction, e.g. the product receipt in a purchase order).

Once you have completed the storage dimension group, create the tracking dimension group in the form *Product information management> Setup> Dimension and variant groups> Tracking dimension groups*. According to the exercise instructions, select the checkboxes *Active* and *Physical inventory* in the *Batch number* line.

Tracking dimension groups	
Name	Description
DT-99	99-Batch

Tracking dimensions							
Name	Active	Active in sales...	Primary stock...	Blank receipt...	Blank issue all...	Physical inven...	Financ
Batch number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Serial number	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Serial numbers: None

Figure 7-2: Specifying the dimension settings of the tracking dimension group

Exercise 7.2 – Item Model Group

As preparation for the next exercise, create a new item model group T-## (## = your user ID) with FIFO valuation (inventory model “FIFO”). The ledger integration for physical and financial inventory should be active. The item model group applies to stocked products and a negative financial inventory is allowed. All other checkboxes remain cleared, approved vendors are not required.

Then set up a second item model group S-## for standard cost valuation, which got the same settings as the first group, except that the inventory model is “Standard cost” and a negative physical inventory is allowed.

Instructions

Open the form *Inventory management> Setup> Inventory> Item model groups* and click the button *New* in the action pane to create the new item model group. Enter the group ID and the name before you switch to the tab *Costing method & cost recognition*, where you make sure that the checkboxes *Stocked product*, *Post physical inventory* and *Post financial inventory* are selected as shown in Figure 7-3. Select the option “FIFO” in the field *Inventory model* and make sure that the checkbox *Fixed receipt price* is cleared.

On the tab *Inventory policies*, select the checkbox *Financial negative inventory* and select the option “No check” in the lookup field *Approved vendor check method*.

The screenshot shows the Dynamics AX 'Item model groups' form. On the left, a list of item model groups is displayed, with 'T-99' and '99-FIFO' selected. The main area shows the settings for the selected group. The 'Costing method & cost recognition' section includes the following settings:

- INVENTORY POLICY:** ☒ Stocked product
- INVENTORY MODEL:** Inventory model dropdown set to 'FIFO'
- COST PRICE:** ☐ Include physical value, ☐ Fixed receipt price
- LEDGER INTEGRATION:** ☒ Post physical inventory, ☒ Post financial inventory
- RECOGNITION OF COST:** ☐ Post to Deferred Revenue Account on Sales Delivery, ☒ Accrue liability on product receipt

The 'Inventory policies' section includes the following settings:

- NEGATIVE INVENTORY:** ☐ Physical negative inventory, ☒ Financial negative inventory
- WAREHOUSE MANAGEMENT:** ☐ Quarantine management
- PHYSICAL UPDATE:** ☐ Registration requirements, ☐ Receiving requirements, ☐ Picking requirements, ☐ Deduction requirements
- RESERVATION:** ☐ FIFO date-controlled, ☒ Backward from ship date
- Item sales reservation:** Default dropdown
- Pick criteria:** Expiration date (highlighted with a red box)
- BATCH DISPOSITION CODE:** Batch disposition code dropdown
- VENDOR BATCH:** ☐ Purchase registration
- APPROVED VENDOR LIST:** Approved vendor check method dropdown set to 'No check'

Figure 7-3: Settings in the item model group for FIFO valuation

Then enter the second item model group for standard cost valuation which has got the same settings except that the checkbox *Physical negative inventory* is selected and that the option “Standard cost” is selected in the lookup field *Inventory model*.

Exercise 7.3 – Product Record

Enter two new items in the released product form as a preparation for examining the effects of the settings in the dimension groups and the item model groups:

- Item I-##-S with standard costs (item model group S-## from exercise 7.2)
- Item I-##-T with FIFO valuation (item model group T-## from exercise 7.2)

For both items, the product subtype is “Product” and the storage and the tracking dimension group are the groups which you have set up in exercise 7.1. Select an item group for merchandise and an item sales tax group for purchasing and for sales which refers to the standard tax rate. The unit of measurement is “Pieces”.

The base purchase price and the base cost price is USD 50. The base sales price is USD 100. For purchasing, inventory and sales, enter the main site in the *Default order settings* and the main warehouse of the main site in the *Site specific order settings*.

For the item I-##-S, you have to enter and to activate a standard cost price. Specify a standard cost price of USD 50 for the main site in the item price form.

Instructions


Open the released products form and create the two items with *Product number*, *Product name* (use appropriate item names to clearly distinguish the items), *Search name*, *Item model group*, *Item group*, *Storage dimension group*, and *Tracking dimension group* (compare exercise 5.1). In order to facilitate data input, you can optionally create a personal template like in that exercise before you insert the new products. The template in the current exercise should be based on the item of exercise 3.5.

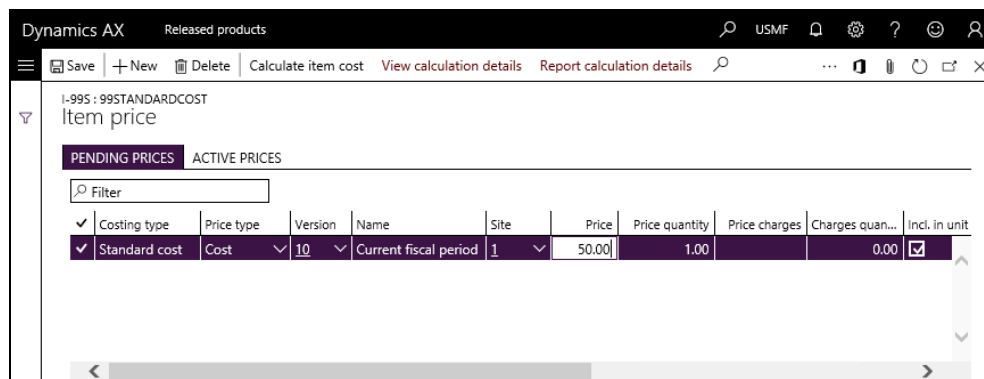
Figure 7-4: Creating the standard cost item

If you use this template, you only need to change following data in the *New released product* dialog:

- *Storage dimension group* and *Tracking dimension group* (from exercise 7.1)
- *Item model group* (from exercise 7.2, select the “Standard cost valuation” group for the standard cost item and the “FIFO” group for the FIFO item)

In addition, you have to enter the main site in the default order settings and the main warehouse in the site-specific order settings of the two items.

Then enter the standard cost price for the standard cost item. Select the item in the released product form for this purpose and click the button *MANAGE COSTS/Set up/Item price* in the action pane. In the item price form, make sure that you are on the tab *Pending prices* and insert an item price record including *Price type*, *Version* (select a costing version which refers to the *Costing type* “Standard costs”), *Site*, and *Price* as shown in Figure 7-5. Save the price and click the button *Activate pending price(s)* in the action pane of the item price form (in a narrow screen, click the button  to view all buttons of the action pane). The active price is then shown on the tab *Active prices* of the form.



The screenshot shows the Dynamics AX interface for the 'Item price' form. The 'PENDING PRICES' tab is active. A table lists pending price records. The first record is selected, showing 'Standard cost' as the costing type, 'Cost' as the price type, version '10', and a price of '50.00'.

Costing type	Price type	Version	Name	Site	Price	Price quantity	Price charges	Charges quan...	Incl. in unit
Standard cost	Cost	10	Current fiscal period	1	50.00	1.00		0.00	<input checked="" type="checkbox"/>

Figure 7-5: Entering the standard cost price in the pending prices

Exercise 7.4 – Inventory Value of Transactions

Enter and confirm a purchase order with your vendor of exercise 3.2 and 100 units of the first item and 100 units of the second item of exercise 7.3. In this order, the purchase price for both items is 60 USD.

Check if you can post a product receipt without a batch number. Then access the batch table through the option *View details* in the batch number column and create the batch number B001 for both items. Insert this batch number in both purchase order lines.

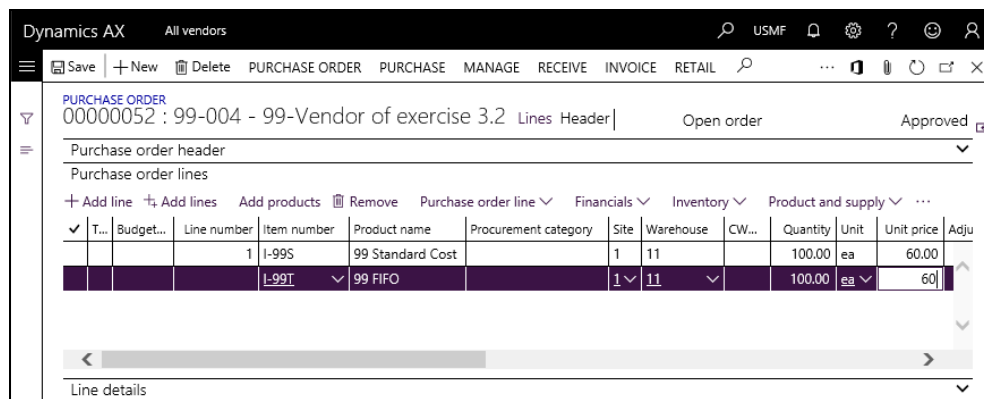
In the next step, post the product receipt and the invoice receipt for the complete quantity. If you look at the item transactions and the quantity on hand, can you explain the difference of the cost amount and the cost price for the two items?

Note: In order to facilitate the tracking of inventory valuation, update the vendor with a sales tax group which does not apply sales tax before you enter the order.

Instructions

Open the vendor list page (*Procurement and sourcing*> *Vendors*> *All vendors*) and select your vendor before you switch to the detail form where you select the *Sales tax group* “No-Tax” (or similar) on the tab *Invoice and delivery*.

Then click the button *PROCUREMENT/New/Purchase order* in the action pane of the vendor form (compare exercise 3.7). In the current exercise, enter two order lines with the items of exercise 7.3 as shown in Figure 7-6. Since you want to order the items at a purchase price which is different from the default value in the item record, you have to change the price in the order lines.



The screenshot shows the Dynamics AX interface for 'All vendors'. The 'PURCHASE ORDER' tab is active, displaying a table with two lines. The first line is for '99 Standard Cost' and the second line is for '99 FIFO'. Both lines have a quantity of 100.00 and a unit price of 60.00.

Line number	Item number	Product name	Procurement category	Site	Warehouse	CW...	Quantity	Unit	Unit price	Adju
1	I-99S	99 Standard Cost		1	11		100.00	ea	60.00	
2	I-99T	99 FIFO		1	11		100.00	ea	60.00	

Figure 7-6: Entering the purchase order lines

Confirm the purchase order (click the button *PURCHASE/Actions/Confirm*) and try to post the product receipt (click the button *RECEIVE/Generate/Product receipt*).

An error message displays when you try to post the packing slip receipt without a batch number. The reason is that the tracking dimension group of the ordered items requires batch numbering.

Since you have not specified a *Batch number group* (which generates automatic batch numbers) on the tab *Manage inventory* of the released product form for your items in exercise 7.3, the batch numbers have to be entered manually. You can access the batch number table through the option *View details* as shown in Figure 7-7 for this purpose. Once you have created a batch number in the batch number table, you can enter it in the batch number field in the purchase order line.

Note: Instead of the purchase order line, you can also use an item arrival journal to register the item receipt and to enter the batch number.

The screenshot shows the Microsoft Dynamics AX interface for a purchase order. The top navigation bar includes 'Save', '+ New', 'Delete', 'PURCHASE ORDER', 'PURCHASE', 'MANAGE', 'RECEIVE', 'INVOICE', and 'RETAIL'. The main header displays 'PURCHASE ORDER 00000052 : 99-004 - 99-Vendor of exercise 3.2 Lines Header | Open order Approved'. Below this is a table of purchase order lines with columns: T..., Budget..., Line number, Item number, Product name, Procurement category, Site, Warehouse, Batch number, CW..., and Quantit. Two lines are visible: Line 1 for '99 Standard Cost' and Line 2 for '99 FIFO'. The 'Line details' pane is open for Line 2, showing tabs for GENERAL, SETUP, ADDRESS, PRODUCT, DELIVERY, PICKING, PRICE AND DISCOUNT, PROJECT, PRODUCT PACKAGES, and VARIANTS. The 'PRODUCT' tab is selected, displaying fields for PRODUCT DIMENSIONS (Configuration, Size, Color, Style), STORAGE DIMENSIONS (Site, Warehouse, Location, License plate, Inventory status), and PLANNED-ORDER REFERENCE (Number, Master plan, Reference type, Reference number, Reference lot). A dropdown menu is open for the 'Batch number' field, showing options like 'Form information', 'Personalize: Batch number', and 'View details'.

Figure 7-7: Accessing the batch number table from the purchase order line

Entering a batch number in an order line is a change of the purchase order which is why you have to confirm the order again (click the button *PURCHASE/Actions/Confirm*) before you can post the product receipt (click the button *RECEIVE/Generate/Product receipt*).

Then click the button *INVOICE/Generate/Invoice* in the action pane of the purchase order to post the invoice (compare exercise 3.13).

Once the invoice is posted, the item with FIFO valuation shows an inventory value (financial cost amount) of 6,000 USD and a cost price of 60 USD. In order to view the value in the inventory transaction and in the inventory quantity, click the button *Inventory/Transactions* or *Inventory/On-hand* in the appropriate order line.

The item with standard cost valuation shows a value of 5,000 USD and a cost price of 50 USD in the on-hand quantity (and in the related transaction). This is the standard cost price, which you have specified in the item price form in exercise 7.3. The difference between the standard cost amount and the purchase amount is shown in the field *Adjustment* on the tab *Updates* of the transaction details form (see Figure 7-8), which you can access by clicking the button *Transaction details* in the

action pane of the inventory transaction. The adjustment is posted to the main account for purchase price deviation.

Figure 7-8: Inventory value adjustment of the standard cost item

Exercise 7.5 – Valuation of Purchase Orders

You want to order 100 units of the first and 100 units of the second item of exercise 7.3 from your vendor of exercise 3.2 again. Enter an appropriate purchase order with the batch number B001 and a purchase price of 80 USD in both order lines.

Once you have entered the order, confirm it and post the product receipt and the vendor invoice for the entire quantity. In the *Product receipt date* (on the tab *Setup* of the product receipt posting dialog) and in the *Posting date* (in the vendor invoice), enter the day after the posting date of exercise 7.4 (e.g. July 2, if exercise 7.4 has been on July 1).

After posting the invoice, check the inventory transactions, the inventory quantity, and the inventory value (cost amount) of the two items.

Instructions

Enter the new purchase order similar to the order in exercise 7.4, this time with a purchase price of 80 USD in both order lines. Optionally, you can create the order lines by copying (click the button *PURCHASE ORDER/Copy/Copy from all*) the lines of the purchase order of exercise 7.4 after creating the new purchase order header. In the copied order lines, make sure to change the purchase price.

Then click the button *PURCHASE/Actions/Confirm* to confirm the purchase order. In order to establish a clear chronological order for the product receipt, which you post by clicking the button *RECEIVE/Generate/Product receipt*, set the posting date (*Product receipt date* on the tab *Overview* of the posting dialog) to a day after the posting date of exercise 7.4. When you post the vendor invoice, update the field *Posting date* in the vendor invoice form to the same date.

The screenshot shows the Dynamics AX interface for an 'On-hand' inquiry. The top navigation bar includes 'Transactions', 'Net requirements', 'Intercompany on-hand', 'Quantity adjustment', and 'Counting history'. The main form is titled 'I-99T : 99FIFO On-hand' and has three tabs: 'OVERVIEW', 'CATCH WEIGHT OVERVIEW', and 'ON-HAND' (which is selected). The 'ON-HAND' tab contains several sections: 'ITEM' with fields for 'Item number' (I-99T) and 'Product name' (99 FIFO); 'UNITS' with a 'Show' dropdown set to 'Inventory unit' and a 'Unit' field set to 'ea'; 'INVENTORY VALUE' with fields for 'Physical cost amount', 'Financial cost amount' (14,000.00), and 'Cost price' (70.00); and an 'ON-HAND' table. The table has two columns: 'QUANTITY' and 'CW QUANTITY'. It lists 'PHYSICAL INVENTORY' (200.00), 'PHYSICAL RESERVED' (empty), and 'AVAILABLE PHYSICAL' (200.00).

	QUANTITY	CW QUANTITY
PHYSICAL INVENTORY	200.00	
PHYSICAL RESERVED		
AVAILABLE PHYSICAL	200.00	

Figure 7-9: On-hand inquiry of the FIFO item after posting the invoice

Once you have posted the vendor invoice, close the purchase order and open the released product form (*Product information management> Products> Released products*).

Select the FIFO item and click the button *MANAGE INVENTORY/View/On-hand inventory* in the action pane of the released products. As shown in Figure 7-9, the tab *On-hand* in the on-hand inquiry shows a financial cost amount (inventory value) of 14.000 USD for the FIFO item, which is the total purchase amount of exercise 7.4 and 7.5 for the item. The cost price of the item is 70 USD, which is the average of both exercises.

If you check the standard cost item, the cost price of this item still shows 50 USD in the on-hand inquiry because differences to the standard price are posted as adjustment (as explained in exercise 7.4).

Note: According to the sales tax group selected for the vendor in exercise 7.4, sales tax is not included in the calculation.

Exercise 7.6 – Valuation of Sales Orders

Your customer of exercise 4.1 orders 150 units of the first and 150 units of the second item of exercise 7.3. Enter an appropriate sales order with the batch number B001 in both order lines. Then post the sales invoice for the entire order. In the *Invoice date* on the tab *Setup* of the posting dialog, enter the day after the posting date of exercise 7.5 (e.g. July 3, if exercise 7.5 has been on July 2).

After posting the invoice, check the inventory transactions, the inventory quantity, and the inventory value (cost amount) of the two items again.

Instructions

Open the customer list page (*Sales and marketing > Customers > All customers*), select your customer, and click the button *SELL/New/Sales order* in the action pane to create the sales order (compare exercise 4.6). In the current exercise, you have to enter two order lines with the items of exercise 7.3 and a quantity of 150 units (compare Figure 7-10).

If the column *Batch number* is not shown in the sales order lines, click the button *Sales order line/Display/Dimensions* in the toolbar of the order lines and select the checkbox *Batch number* in the dimensions display dialog.

Then click button *INVOICE/Generate/Invoice* in the action pane of the sales order to post the invoice. In the invoice posting dialog, select the option “All” in the lookup field *Quantity*. In order to ensure the required chronological order of transactions, set the posting date (*Invoice date* on the tab *Setup* of the posting dialog) to a day after the posting date of exercise 7.5 if you do the current exercise on the same day as exercise 7.5.

The screenshot shows the 'Dynamics AX' interface for 'All customers'. The 'SALES ORDER' form is open, displaying '000783 : 99-Customer exercise 4.1'. The 'Lines' tab is active, showing a table with two lines. The first line is for '99 Standard C...' and the second line is for '99 FIFO'. Both lines have a quantity of 150.00 and a unit price of 100.00. The batch number 'B001' is entered for both lines.

✓	T...	Vari...	Item number	Product name	Sales cat...	CW...	Quantity	Unit	Adjust...	Site	Warehouse	Batch number	Unit price	Discou...
✓			I-99S	99 Standard C...			150.00	ea	0.000...	1	11	B001	100.00	
✓			L-99T	99 FIFO			150.00	ea	0.000...	1	11	B001	100.00	

Figure 7-10: Entering the sales order lines

Once you have posted the invoice, select the order line of the standard cost item and click the button *Inventory/Transactions* in the toolbar of the order lines to display the inventory transaction. The column *Cost amount* of the inventory transaction shows an amount of 7,500 USD, which is 150 units multiplied with the cost price of 50 USD.

In order to view the current on-hand inventory, close the transaction inquiry and click the button *Inventory/On-hand inventory* in the order line. The tab *On-hand* in the on-hand inquiry shows a financial cost amount of 2,500 USD, which is the remaining quantity of 50 units multiplied with 50 USD.

Dynamics AX All customers USMF

INVENTORY LEDGER OPTIONS

012514 : I-99T
Transaction details

General

Updates

PHYSICAL

Financially posted Yes ☒

Physical date 7/28/2016

Physical turnover posted No ☒

Physical voucher INV-100007...

Physical charge posted No ☒

Route

Financial charge posted No ☒

Packing slip

Physical cost amount -10,500.00

Financial date 7/28/2016

Physical revenue

Financial voucher INV-100007...

LEDGER

Physically posted Yes ☒

Invoice CIV-000007...

SETTLEMENT

Financially closed

Covered CW quantity

Settled quantity

Amount settled

Cost amount -10,500.00

Adjustment

Profit and loss, posted amount 10,500.00

Unposted invoice

Ledger postings

References

Figure 7-11: Preliminary valuation for the sales transaction of the FIFO item

Unlike the standard cost item, the FIFO item applies an average price for the preliminary cost amount of inventory transactions. If you click the button *Inventory/Transactions* in the order line to access the inventory transaction and then click the button *Transaction details*, you can view the *Cost amount* of 10,500 USD (which is 150 units multiplied with 70 USD) as shown in Figure 7-11.

In order to view the current on-hand inventory, close the transaction inquiry and click the button *Inventory/On-hand inventory* in the order line. The on-hand inventory shows a financial cost amount of 3,500 USD, which is the remaining quantity of 50 units multiplied with 70 USD.

The final cost amount for items referring to FIFO valuation is not available immediately after posting a transaction. In order to view the final cost price, you have to close or recalculate inventory as shown in the next exercise.

Exercise 7.7 – Closing Inventory

Run a *Recalculation* in the inventory closing form to calculate the correct inventory value according to the valuation method. In the recalculation form, set the recalculation date to the posting date of exercise 7.6 (e.g. July 3) and enter an appropriate filter which restricts the calculation to the two items of this exercise.

For these two items, check the cost price and the inventory value (cost amount) in the inventory transactions and in the inventory on-hand quantity. Which changes are caused by the recalculation, can you explain the result?

Instructions

Open the form *Inventory management > Periodic tasks > Closing and adjustment* and click the button *Recalculation* in the action pane to run the inventory recalculation. In the *Recalculate inventory* dialog, adjust the date *Recalculate inventory up to* as specified in the current exercise and set a filter to select the items of the previous exercise (see Figure 7-12).

Figure 7-12: Recalculation with a filter on the item number

For the standard cost item, recalculation does not change the inventory value.

But for the FIFO item, the recalculation of the transactions determines the new transaction value of the sales order line as follows:

- USD 6,000 for 100 units of the first purchase order
(100 units with a price of 60 USD)
- USD 4,000 for 50 units of the second purchase order
(50 units with a price of 80 USD)
- Total cost amount of the inventory issue therefore: USD 10.000
(USD 6,000 + USD 4,000)

In order to view the inventory transactions, open the released product form (*Product information management* > *Products* > *Released products*) and select the FIFO item. Then click the button *MANAGE INVENTORY/View/Transactions* in the action pane of the released products. The transaction referring to the sales order now shows a total of USD 10.000 in the column *Cost amount*. After clicking the button *Transaction details* in the inventory transaction, you can view the field *Adjustment* on the tab *Updates* which contains the difference of 500 USD (see Figure 7-13) to the preliminary cost amount of USD 10,500 (compare Figure 7-11). This adjustment is posted by the recalculation.

Transaction details		
General		
Updates		
PHYSICAL	FINANCIALLY POSTED	COST AMOUNT
Physical date 7/28/2016	Financially posted Yes	Cost amount -10,500.00
Physical voucher INV-100007...	Physical turnover posted No	Adjustment 500.00
Route	Physical charge posted No	Profit and loss, posted amount 10,500.00
Packing slip	Financial charge posted No	Unposted invoice
Physical cost amount -10,500.00	FINANCIAL	SETTLEMENT
Physical revenue	Financial date 7/28/2016	Financially closed
LEDGER	Financial voucher INV-100007...	Covered CW quantity 10,500.00
Physically posted Yes	Invoice CIV-000007...	Settled quantity
		Amount settled
Ledger postings		
References		

Figure 7-13: Adjustment in the issue transaction of the FIFO item

Then close the transaction inquiry and click the button *MANAGE INVENTORY/View/On-hand inventory* in the action pane of the released product form for the FIFO item. On the tab *On-hand* in the on-hand inquiry, you can view that the inventory value (financial cost amount) of the remaining quantity of the FIFO item is now 4,000 USD. This is the result of adding the adjustment amount of 500 USD to the original amount of 3,500 USD (see exercise 7.6). The cost price of the current

inventory is 80 USD (4.000 USD divided by the current quantity of 50 units), which is the purchase price of the second purchase order.

Exercise 7.8 – Journal Transaction

You find 100 units of the item I-## of exercise 3.5 in the main warehouse. Post an appropriate transaction in an inventory adjustment journal.

Instructions

Open the form *Inventory management > Journal entries > Items > Inventory adjustment* and create a new journal by clicking the button *New* in the action pane. In the *Create inventory journal* dialog, select a *Name* (journal name) and click the button *OK*. Dynamics AX then creates a journal header and immediately switches to the journal detail form in lines view.

The screenshot shows the 'Inventory adjustment' form in Dynamics AX. The title bar indicates 'Dynamics AX' and 'Inventory adjustment'. The ribbon includes 'Save', '+ New', 'Delete', 'Validate', 'Post', 'Functions', 'Print', and 'OPTIONS'. The main area displays 'INVENTORY ADJUSTMENT 00076 : Inventory adjustment journal' with a 'Lines Header' button. Below this is the 'Journal header details' section, followed by the 'Journal lines' section. The 'Journal lines' section contains a table with columns: Date, Item number, Site, Warehouse, Location, CW quant..., CW unit, Quantity, Cost price, Cost amount, and Log. A single line is entered with the following values: Date: 7/26/2016, Item number: I-99, Site: 1, Warehouse: 13, Location: (blank), CW quant...: (blank), CW unit: (blank), Quantity: 100.00, Cost price: 50.00, Cost amount: 5,000.00, and Log: (blank). At the bottom, there is a 'Line details' section with a date field set to 7/26/2016.

Date	Item number	Site	Warehouse	Location	CW quant...	CW unit	Quantity	Cost price	Cost amount	Log
7/26/2016	I-99	1	13				100.00	50.00	5,000.00	

Figure 7-14: Entering the journal line

On the tab *Journal lines* in the journal detail form, insert a line and enter the item number and the quantity. The *Site*, *Warehouse*, and *Cost price* are initialized with default values from the released product record. Since your item of exercise 3.5 only includes the site and warehouse as active dimensions, you do not need to enter the value for another dimension like the batch or serial number.

When you record a receipt transaction (quantity with a positive sign), pay attention to the cost price in the transaction. Since there is no second transaction which determines the financial value (in purchase orders, there is the invoice which sets the value of the product receipt), the cost price in the journal line specifies the final inventory value of the transaction. For issue transactions (quantity with a negative sign), Dynamics AX adjusts the cost amount according to the valuation principle when closing inventory as described in the previous exercise.

Once you have completed the journal line, click the button *Post* in the action pane of the journal list page or detail form to post the journal.

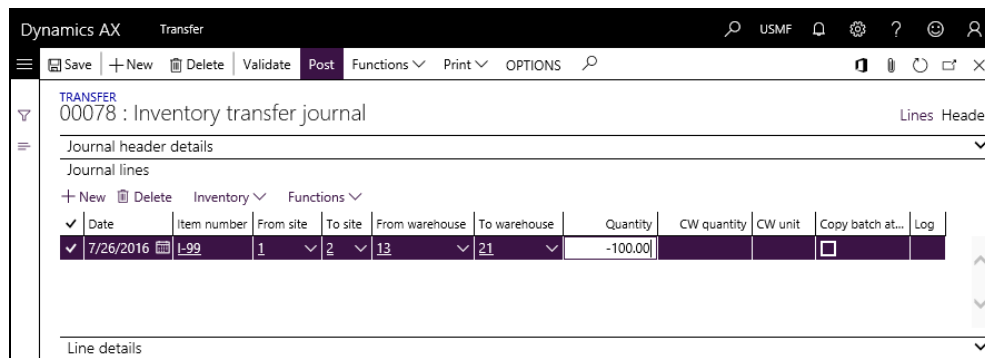
Exercise 7.9 – Transfer Journal

The quantity which you have received in exercise 7.8 is transferred to another warehouse. Register and post this transaction in an inventory transfer journal. Then check the transactions and the quantity of the item in the selected warehouse.

Instructions

In order to register the item transfer, open the form *Inventory management> Journal entries> Items> Transfer* and enter the journal header and line similar to the inventory adjustment journal in exercise 7.8.

But unlike the lines in the inventory adjustment journal, the lines in the transfer journal include a to-site and to-warehouse in addition to the from-site and from-warehouse (see Figure 7-15). If the item has further active inventory dimensions, you have to enter appropriate from- and to-values for these additional dimensions.



The screenshot shows the Dynamics AX 'Transfer' form. The title bar indicates 'Dynamics AX Transfer'. The ribbon includes 'Save', '+ New', 'Delete', 'Validate', 'Post', 'Functions', 'Print', and 'OPTIONS'. The main area is titled 'TRANSFER 00078 : Inventory transfer journal'. Below this is a 'Journal header details' section. The 'Journal lines' section contains a table with the following data:

✓	Date	Item number	From site	To site	From warehouse	To warehouse	Quantity	CW quantity	CW unit	Copy batch at...	Log
✓	7/26/2016	I-99	1	2	13	21	-100.00			<input type="checkbox"/>	

Below the table is a 'Line details' section.

Figure 7-15: Entering the item transfer journal line

In order to transfer the quantity from the from-dimensions (*From site, From warehouse*) to the to-dimensions (*To site, To warehouse*), you have to enter a negative sign in the quantity field.

Once you have completed the journal line, click the button *Post* in the action pane of the journal list page or detail form to post the journal.

After posting the inventory transfer journal, you can check the posted transactions by clicking the button *Inventory/Transactions* in the toolbar of the transfer journal lines (or click the button *MANAGE INVENTORY/View/Transactions* in the action pane of the released product form). Although you have entered the transfer in a single journal line, the posted transactions show two lines: One with a negative quantity for the item issue from the main warehouse and one with a positive quantity for the item receipt at the other warehouse.

In order to check the inventory quantity after the transfer, click the button *INVENTORY/View/On-hand list* in the action pane of the transaction inquiry (or click the button *MANAGE INVENTORY/View/On-hand inventory* in the action pane

of the released product form). You can view that the item quantity is at the to-warehouse now.

Exercise 7.10 – Inventory Counting

You want to execute inventory counting for the item I-## of exercise 3.5 in the main warehouse. The counted quantity is 51 units. You can create a counting journal line either by entering it manually or by generating it automatically (with a filter on your item and the main warehouse). Once you have entered the counted quantity, post the journal and check the quantity on hand.

Instructions

Open the form *Inventory management > Journal entries > Item counting > Counting* and create a new journal by clicking the button *New* in the action pane. Dynamics AX then shows a create dialog, where you select a journal name and set the slider for the dimension *Warehouse* on the tab *Counting by* to “Yes” before you click the button *OK*. Dynamics AX then creates a journal header and immediately switches to the journal detail form in lines view.

Click the button *Create lines/Items* in the action pane of the counting journal detail form if you want to generate the counting line automatically. In the *Create item counting journal* dialog, select the main warehouse and apply a filter on your item (see Figure 7-16) before you click the button *OK*.

The screenshot shows the 'Create item counting journal' dialog box in Dynamics AX. The dialog is titled 'Create item counting journal' and has a question mark icon in the top right corner. It is divided into two main sections: 'Parameters' and 'Records to include'. The 'Parameters' section includes fields for 'Journal' (00079), 'Counting date' (7/26/2016), 'Max. number of lines' (999), 'Physical transactions' (No), 'Not counted since', 'Counting group', 'Site' (1), and 'Warehouse' (13). The 'Records to include' section includes a 'Filter' section with 'ITEMS' (Auto-report as finished: No, Item number: I-99) and a 'Run in the background' checkbox. The dialog has 'OK' and 'Cancel' buttons at the bottom right.

Figure 7-16: Generating counting journal lines for your item

Once you have generated (or manually entered) the counting journal line, record the counted quantity of 51 units in the column *Counted*. Dynamics AX immediately

calculates the difference of two units between the counted quantity and the posted physical quantity. As you can view in Figure 7-17, the posted physical quantity is shown in the column *On-hand* and the counting difference in the column *Quantity*.

The screenshot shows the 'Counting' form in Dynamics AX. The title bar indicates 'Dynamics AX Counting'. The ribbon includes 'Save', '+ New', 'Delete', 'Validate', 'Post', 'Create lines', 'Functions', 'Print', and 'OPTIONS'. The main area displays 'COUNTING 00079 : Inventory counting journal'. Below this, there's a 'Journal header details' section and a 'Journal lines' table. The table has columns: Date, Item number, Site, Warehouse, CW..., On-hand, Counted, Quantity, Worker, and Log. A single line is visible with the following data: Date 7/26/2016, Item number 1-99, Site 1, Warehouse 13, On-hand 49.00, Counted 51.00, and Quantity 2.00. The 'Quantity' column is highlighted in blue.

Date	Item number	Site	Warehouse	CW...	On-hand	Counted	Quantity	Worker	Log
7/26/2016	1-99	1	13		49.00	51.00	2.00		

Figure 7-17: Entering the counted quantity in the counting journal line

Click the button *Post* in the action pane of the journal list page or detail form to post the journal next. Posting the counting journal creates transactions for the counting difference in the column *Quantity*, adjusting the posted physical quantity to the counted quantity.

After posting the counting journal, you can check the posted transaction by clicking the button *Inventory/Transactions* in the toolbar of the journal lines. In order to check the inventory quantity, click the button *INVENTORY/ View/On-hand list* in the transaction inquiry.

Exercise 7.11 – Transfer Order

A quantity of 60 units of the item, which you have transferred in exercise 7.9, has to be moved back to the main warehouse in a transfer order. Before you create the transfer order, make sure that a transit warehouse is assigned to the warehouse from where the item is shipped. Then enter the transfer order and post the shipment. Check the inventory transactions and the inventory quantity of your item in all warehouses after the shipment. Finally, receive the item transfer in the main warehouse.

Instructions

Open the warehouse form (*Inventory management> Setup> Inventory breakdown> Warehouses*) and select the warehouse to which the item has been transferred in exercise 7.9 – this is the shipping warehouse now. On the tab *General* in the warehouse form, make sure that a *Transit warehouse* is assigned to this warehouse.

In order to create the transfer order, open the form *Inventory management> Outbound orders> Transfer order* and click the button *New* in the action pane. After selecting the *From warehouse* and the *To warehouse* on the tab *Transfer order header* in

the transfer order detail form, switch to the tab *Transfer order lines* where you enter the transfer order line as shown in Figure 7-18.

Dynamics AX Transfer order

TRANSFER ORDERS
Transfer order: 000003

Lines Header | Created

Transfer order header

OVERVIEW

Transfer number: 000003

To warehouse: 13

From warehouse: 21

Ship date: 7/26/2016

Receipt date: 7/26/2016

STATUS

Transfer status: Created

Transfer order lines

+ Add + Add products Remove Work details Deliver remainder Inventory

Item number	Transfer quantity	CW transfer qty	Ship date	Receipt date	Product name	Reserve items...	Packing quan...
1-99	60.00		7/26/2016	7/26/2016	99-merchandise		0.00

Line details

Figure 7-18: Entering the transfer order

Then click the button *SHIP/Operations/Ship transfer order* in the action pane of the transfer order to post the shipment. On the tab *Overview* of the posting dialog, select the option “All” in the column *Update* before you click the button *OK*.

You can check the inventory transactions by clicking the button *Inventory/Transactions* in the toolbar of the transfer order lines afterwards. The transaction inquiry shows four lines which refer to the transfer order: Two posted transactions (the issue from the shipping warehouse and the receipt at the transfer warehouse) and two open transactions (the issue from the transit warehouse and the receipt at the final warehouse).

The on-hand inquiry of the item, which you can access by clicking the button *INVENTORY/View/On-hand list* in the action pane of the transaction inquiry, shows the shipped quantity of the item in the transit warehouse.

In order to receive the item in the main warehouse, click the button *RECEIVE/Operations/Receive* in the action pane of the transfer order. On the tab *Overview* of the posting dialog, select the option “All” in the column *Update* before you click the button *OK* to post the receipt.

Exercise 7.12 – Manual Quarantine

Because of reported quality issues, you want to block the quantity which you have transferred in exercise 7.11. Enter a manual quarantine order and select an appropriate quarantine warehouse. Check the quantity on hand of your item and

start the quarantine order. After some time, you get to know that there is no problem with the item. End the quarantine and check the inventory quantity before and after ending.

Instructions

You can check the inventory quantity in the released product form, where you select the item before you click the button *MANAGE INVENTORY/View/On-hand inventory* in the action pane.

Then open the form *Inventory management> Periodic tasks> Quality management> Quarantine orders* and create the quarantine order by clicking the button *New*. In the quarantine order detail form, enter the *Item number* and *Quantity* on the tab *General*, the *Site* and *Warehouse* on the tab *Inventory dimensions*, and the quarantine warehouse (default from the quarantine warehouse of the original warehouse) in the field *Warehouse* on the tab *Quarantine inventory dimensions* (see Figure 7-19).

The screenshot displays the Dynamics AX interface for creating a new quarantine order. The top navigation bar includes 'Save', '+ New', 'Delete', 'Start', 'Report as finished', 'End', and 'Functions'. The main form is titled 'QUARANTINE ORDERS New Record'. The 'General' tab is selected, showing the following fields:

- IDENTIFICATION**: Quarantine number (000004)
- Status**: Created
- CATCH WEIGHT**: 60.00
- QUANTITY**: Quantity (60.00), Remaining quantity
- QUARANTINE ORDER**: Item number (I-99), Name (99-merchandise)
- INVENTORY**: Lot ID, Dimension number (000072)

The 'Inventory dimensions' tab is also visible, showing fields for Configuration, Size, Color, Style, Site (1), Warehouse (13), Batch number, Location, Serial number, Inventory status, and License plate.

Figure 7-19: Entering the quarantine order

In order to move the item quantity to quarantine, click the button *Start* in the quarantine order. You can check the inventory transactions then by clicking the button *Inventory/Transactions* in the action pane of the quarantine order. The transaction inquiry shows four lines which refer to the quarantine order: Two posted transactions (the issue from the original warehouse and the receipt at the quarantine warehouse) and two open transactions (the issue from the quarantine warehouse and the receipt back at the original warehouse).

The on-hand inquiry, which you can access by clicking the button *INVENTORY/View/On-hand list* in the action pane of the transaction inquiry, shows the quarantine quantity in the quarantine warehouse.

In order to end quarantine and to transfer the item back to the original warehouse, click the button *End* in the action pane of the quarantine order form (make sure your quarantine order is selected when you end quarantine).

The transaction inquiry, which you can access by clicking the button *Inventory/Transactions* in the action pane of the quarantine order, now shows that all four transactions which refer to the quarantine order are posted. In the on-hand inquiry, which you can access by clicking the button *INVENTORY/View/On-hand list* in the transaction inquiry, you can view that the item quantity is in the warehouse where it has been before quarantine.

Exercise 7.13 – Manual Quality Order

In order to prevent further quality issues, you want perform quality tests. Create a new test T-## to measure the length of an item in centimeters (including decimals). Then create a test group G-## which only includes this test. The standard length is 100 cm with a tolerance of 10 percent above and below.

Enter and process a quality order with this test to examine 10 units of the item I-## of exercise 3.5 in the main warehouse. The length of all tested items is 105 cm.

Instructions

Create the test in the form *Inventory management> Setup> Quality control> Tests*, where you insert a line with the test ID and *Description*. Select the *Type* “Fraction” and the *Unit* “cm”.

The screenshot shows the Dynamics AX 'Test groups' form. The 'OVERVIEW' tab is selected, displaying a table of test groups. Below this, the 'TEST' tab is selected, showing a table of tests. The test group 'G-99' is highlighted, and its details are shown in the 'TEST' tab.

Test group	Description	Acceptable q...	Item sampling	Destructive test
G-99	99-Length	100.00		<input type="checkbox"/>
Concentrat	Concentration	100.00	1 pcs	<input type="checkbox"/>
Impedance	Impedance	100.00	1 pcs	<input type="checkbox"/>

Sequence number	Test	Effective	Expiration	Test value determination	Attribute	Update inventory...
1	T-99		Never			<input type="checkbox"/>

Figure 7-20: Setting up the test group

Then open the form *Inventory management> Setup> Quality control> Test groups* and create a test group in the upper pane of the form. In the lower pane of the test groups form, create a line with the new test (see Figure 7-20). Switch to the tab *Test* in the lower pane next, where you enter “100” in the field *Standard*, “90” in the field *Min*, and “110” in the field *Max* (alternatively you can enter the percentages).

In order to create the manual quality order, open the form *Inventory management> Periodic tasks> Quality management> Quality orders* and click the button *New* in the action pane. In the create dialog, enter the *Item number*, the *Test group*, the *Quantity*, the *Site*, and the *Warehouse* (see Figure 7-21).

The quality order header is shown in the upper pane of the quality order form and the test specified in the test group shows in the lower pane. The tested quantity is blocked through inventory blocking.

The screenshot displays the Dynamics AX 'Quality orders' form. The left-hand pane shows a table with one entry: Quality order 1, Item number 000001, and Site 3. The right-hand pane contains the 'Quality orders' form with the following fields: Reference type (Inventory), Site (1), Warehouse (13), Location, Item number (I-99), Product name (99-merchandise), Test group (G-99), CW qty, Quantity (10.00), License plate, Inventory status, Batch number, Serial number, Configuration, Size, Color, and Style. The bottom right corner features 'OK' and 'Cancel' buttons.

Figure 7-21: Creating the quality order

Click the button *Results* in the toolbar of the lower pane to report the test result. In the *Quality order line results* form, enter “10” in the column *Result quantity* and “105” in the column *Test result* before you close the form.

Back in the quality order form, click the button *Validate* in the action pane and select the responsible employee in the *Validate the quality order* dialog. Since the results are within the tolerance specified in the test group, the column *Status* in the quality order header shows “Pass” afterwards. Inventory blocking is removed and the tested quantity is available again.

8 Warehouse and Transportation Management

Exercise 8.1 – Warehouse Setup

In order to investigate the options for warehouse setup, create a new location format L-## (## = your user ID) with two segments: A segment with a length of one digit, followed by the separator “-” and a 3-digit segment.

Then set up a location profile F-## for floor locations and a location profile B-## for bulk locations. Both location profiles refer to the new location format L-## and allow cycle counting, but only floor locations use license plate tracking. Accept the default settings in the other fields of the location profile form.

After finishing the basic setup, create a new warehouse WH-## which applies advanced warehouse management processes. This warehouse has got the receiving location “RECV”, the shipping location “SHIP”, three floor locations (“F-001” to “F-003”), and six bulk locations (“1-001” to “2-003”). Floor locations and bulk locations refer to the appropriate location profiles which you have created before. The location “RECV” is the *Default receipt location* in your warehouse.

Instructions

The screenshot shows the Dynamics AX 'Location formats' form. On the left, a list of existing location formats is visible: L-99 (Format L-99), ARSB (Aisle Rack Shelf Bin), BAYDOOR (Baydoor), BULK (Bulk), CARSB (Cluster Pick Aisle Rack Shelf Bin), FLOOR (Floor), and PACK (Pack). The main area shows the details for the selected 'L-99' format. The 'Location format' field contains 'L-99' and the 'Name' field contains 'Format L-99'. Below this, a table lists the segments for the format:

Line number	Segment description	Length	Separator
1.0000000000	Aisle	1	-
2.0000000000	Rack	3	

At the bottom, an 'Example' field shows the resulting format '0-000'.

Figure 8-1: Setting up the location format

In order to set up the new location format, open the form *Warehouse management> Setup> Warehouse> Location formats* and insert a record with two segments as shown in Figure 8-1.

Figure 8-2: Setting up the location profiles

Then open the location profiles (*Warehouse management> Setup> Warehouse> Location profiles*) and create a new record for bulk locations and a new record for floor locations as shown in Figure 8-2. In both location profiles, enter the *Location format* created in the current exercise and set the slider *Allow cycle counting* to “Yes”. The slider *Use license plate tracking* should only be set to “Yes” in the profile for floor locations.

Figure 8-3: Setting up the new warehouse

In order to create the new warehouse, open the warehouse form (*Warehouse management> Setup> Warehouse> Warehouses*) and insert a new warehouse with *Warehouse ID*, *Name*, and *Site*. Accept the default value “Default” in the lookup

field *Type* and switch to the tab *Warehouse*, where you set the slider *Use warehouse management processes* to “Yes” before you save the record.

Then click the button *WAREHOUSE/View/Inventory locations* in the action pane of the warehouse form to access the warehouse locations. Create a *Location* "RECV" for the receiving location and a *Location* "SHIP" for the shipping location. In the location "RECV", select a *Location profile ID* for receiving locations. The location profile selected for the location "SHIP" has to refer to the *Location type* "Baydoor" (*Final shipping location type* in the warehouse management parameters).

Dynamics AX
Warehouses

Save
+ New
Delete
Gen

WH-99 : WAREHOUSE 99
Locations

Filter

Warehouse ↑	Location
WH-99	1-001
WH-99	1-002
WH-99	1-003
WH-99	2-001
WH-99	2-002
WH-99	2-003
WH-99	RECV
WH-99	RF Gen
WH-99	SHIP

Location setup wizard

Warehouse
Zone ID
Location profile ID

WH-99
F-99

✓	Line number ↑	Segment description	From number	To number	Static text
	1.0000000000	Aisle	0	0	F
✓	2.0000000000	Rack	1	3	

Create
Cancel

Figure 8-4: Creating the locations

You can use the location setup wizard to set up the remaining locations. For this purpose, click the button *Location setup wizard* and select the new *Warehouse* and the *Location profile ID*, which you have created for bulk locations, in the upper pane of the location setup wizard. Then enter “1” in the *From number* and “2” in the *To number* of the first segment and “1” to “3” in the second segment before you click the button *Create*. After creating the bulk locations, open the location setup wizard again and generate the floor locations: Select the *Location profile ID*, which you have created for floor locations, and enter the character “F” in the column *Static text* (instead of a number in the columns *From number* and *To number*) for the first segment as shown in Figure 8-4.

Close the locations form afterwards and switch to the tab *Inventory and warehouse management* of the warehouse form, where you select the location “RCV” in the lookup field *Default receipt location*.

Exercise 8.2 – Work Template, Location Directive, Wave Template

You want to register the purchase put-away work for your new warehouse WH-## in separate menu items on the mobile device. Create a new work class PO-## (## = your user ID) for this purpose.

Then create a work template for purchase orders, which only refers to your warehouse and this work class. In addition, create a work template for sales orders which only applies to your warehouse and contains one pair of pick and put work (no staging). This work template refers to an existing sales order work class.

In order to use the warehouse in purchasing and in sales, related location directives are required. Create a location directive for your warehouse WH-##, which specifies to put purchase order receipts to bulk locations in case of full pallets and to floor locations otherwise. Then enter a location directive for sales picking which should pick full pallets from bulk locations. Other units should be picked from floor locations first, and in second line from bulk locations (if all floor locations are empty). The sales order put location directive should direct to the location "SHIP".

Finally set up a wave template "T-##" for your warehouse WH-## which does not apply any automatic action.

Instructions

Open the form *Warehouse management> Setup> Work> Work classes* and click the button *New* to set up the new work class for purchase put-away work. In the new record, enter the *Work class ID* and the *Description*, and select the *Work order type* "Purchase order".

Figure 8-5: Setting up the new work class

Then open the work templates (*Warehouse management> Setup> Work> Work templates*) and select the option "Purchase orders" in the lookup field *Work order type*. Click the button *New* in the action pane to create a work template on the tab *Overview*. In this work template, enter an ID in the column *Work template* and save the record before you click the button *Edit query* and enter a filter on the warehouse of exercise 8.1 (see Figure 8-6). Confirm the dialog to reset grouping when you close the filter dialog and switch to the lines of the new work template. Insert a line with the *Work type* "Pick" and a second line with the *Work type* "Put". In the

column *Work class Id* of both lines, select the new work class which you have created in the current exercise.

Once you have completed the template for purchase orders, select the option “Sales orders” in the lookup field *Work order type* to set up the work template for sales order picking. Create the work template on the tab *Overview*, enter the warehouse filter, and insert the lines the same way as the purchase order template (except for the *Work class ID* in the lines, which has to be a sales work class).

Note: If there are work templates for all purchase orders or all sales orders (these work templates have no filter criteria in the *Edit query* dialog), make sure to change the *Sequence number* of these templates to a higher number in order to apply your new templates first in sequence!

Figure 8-6: Setting up the purchase work template with a filter on the warehouse

In order to set up the location directives, access the menu item *Warehouse management> Setup> Location directives*. Select the *Work order type* “Purchase orders” in the left pane before you create a record with your warehouse and the *Work type* “Put” on the tab *Location directives* in the right pane. Save the record and switch to the tab *Lines*, where you enter two lines with the *From quantity* “0” and the *To quantity* “9999”. Select the checkbox *Restrict by unit* in the first line, save the line, and click the button *Restrict by unit* in the toolbar of this tab. In the *Restrict by unit* form, select the *Unit* “Pallets”. Back in the location directives form, make sure that the first line on the tab *Lines* is selected and switch to the tab *Location Directive Actions*. Create a new location directive action with the name “To bulk”, save this line, and click the button *Edit query* in the toolbar of the location directive actions tab (see Figure 8-7).

Location directives

Sequence number: 9 Name: WH-99-PO

Location directives

Work type: Put Directive code:
 Site: 1 Disposition code:
 Warehouse: WH-99 Multiple SKU: No

Lines

Sequence number	From quantity	To quantity	Unit	Locate quantity	Restrict by unit	Locate packin...
1	0.00	9,999.00		None	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	0.00	9,999.00		None	<input type="checkbox"/>	<input type="checkbox"/>

Location Directive Actions

Sequence number	Name	Fixed location usage	Allow negativ...	Batch enabled	Strategy
1	To bulk	Fixed and non-fixed loca	<input type="checkbox"/>	<input type="checkbox"/>	None

Figure 8-7: Setting up the location directive for purchase orders

In the query form, add a filter on the *Field* "Location profile ID" and select the profile for bulk locations which you have created in exercise 8.1 (see Figure 8-8). Close the query form, select the second line on the tab *Lines* of the location directives, and enter a location directive action "To floor" with a query filter on the location profile which you have created for floor locations.

Location directives

68719476808|68719476813

Select query: Query used Modify...

RANGE SORTING JOINS

+ Add Remove

Table	Derived table	Field	Criteria
Locations	Locations	Warehouse	WH-99
Locations	Locations	Location profile ID	8-99

OK Reset Cancel

Figure 8-8: Entering the query filter on the location profile for bulk locations

Once you have completed the purchase orders location directive, select the *Work order type* "Sales orders" in the left pane of the form and create the location

directive for the *Work type* “Pick” which is similar to the purchase order directive. But whereas the location directive action “From bulk” for the first record on the tab *Lines* (for pallets) is not different to the corresponding purchase order directive, there have to be two location directive actions for the second line: One action “From floor” with a query filter on your location profile for floor locations, and a second action “From bulk” with a query filter on your location profile for bulk locations.

When you set up the second sales order location directive (with the *Work type* “Put”), you only need to create one record with a *From quantity* “0” and a *To quantity* “9999” and no restriction by unit on the tab *Lines*. In the location directive action for this line, enter a query filter on the location “SHIP” in your warehouse (instead of the filter on location profiles).

Location directives

Sequence number: 27 Name: WH-99-SO

Location directives

Work type: Pick Directive code:
 Site: 1 Disposition code:
 Warehouse: WH-99 Multiple SKU: No

Lines

Sequence nu...	From quantity	To quantity	Unit	Locate quantity	Restrict by unit	Locate packin...
1	0.00	9,999.00	None	None	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	0.00	9,999.00	None	None	<input type="checkbox"/>	<input type="checkbox"/>

Location Directive Actions

Sequence...	Name	Fixed location usage	Allow negativ...	Batch enabled	Strategy
1	From floor	Fixed and non-fixed loca...	<input type="checkbox"/>	<input type="checkbox"/>	None
2	From bulk	Fixed and non-fixed loca...	<input type="checkbox"/>	<input type="checkbox"/>	None

Figure 8-9: Setting up the location directive for sales order picking

The last step is to create the wave template in the form *Warehouse management> Setup> Waves> Wave templates*. Insert a new template for the *Wave template type* “Shipping” with a *Wave template name* and select your warehouse of exercise 8.1 in the field *Warehouse*. Leave the default settings in all other fields.

The screenshot shows the Dynamics AX 'Wave templates' form. On the left, a list of wave templates is displayed, with 'WH-99' selected. The main area shows the configuration for 'WH-99'. The 'Wave template name' is 'WH-99', 'Wave template sequence' is '8', and 'Warehouse' is 'WH-99'. The 'Wave template description' is 'WH 99 default', 'Site' is '1', and 'Template status' is 'Valid'. The 'General' tab is active, showing 'WAVE TEMPLATE INFORMATION' with options for 'Automate wave creation', 'Assign to open waves', 'Process wave at release to ware...', and 'Process wave automatically at t...'. The 'Automate wave release' and 'Automate replenishment work r...' options are set to 'No'. The 'WAVE THRESHOLDS' section shows 'Wave weight threshold' as '0.00', 'Shipment threshold' as '0', and 'Line threshold' as '0'. The 'DEFAULT VALUES' section shows four attributes, each with a dropdown menu.

Figure 8-10: Setting up the wave template for sales order picking

Exercise 8.3 – Mobile Device Menu and Work User

A new mobile device menu is required to execute the warehouse work in the following exercises. Create following mobile device menu items for this purpose:

- Menu item “##-PO-Receive” with the *Work creation process* “Purchase order line receiving” for the initial receipt of purchase shipments
- Menu item “##-PO-Put” (referring to the work class created in exercise 8.2 and *Directed by* = “User directed”) for putting the purchase receipt from the default receipt location to floor or bulk locations
- Menu item “##-SO-Direct” (referring to the sales order work class selected in exercise 8.2 and *Directed by* = “User grouping”) for sales order picking

Then set up a new mobile device menu “##-Main” which contains these menu items. In addition, the menu should include a menu item “About” and a menu item for logging off.

In the next step, set up a warehouse worker who is linked to any worker employed in the current company. On the tab *Work users* of the warehouse worker form, enter a user with the user ID U##, the menu name which you have created in the current exercise, and the warehouse WH-## of exercise 8.1.

Instructions

Open the form *Warehouse management> Setup> Mobile device> Mobile device menu items* and click the button *New* in the action pane to create the first new mobile device menu. In the new record, enter a *Menu item name* for purchase receipts, select the *Mode* “Work”, and make sure that the slider *Use existing work* is set to

“No”. On the tab *General*, select the *Work creation process* “Purchase order line receiving” and accept the default settings in all other fields.

Then create the second menu item (for moving the purchase receipt) with the required *Menu item name* and the *Mode* “Work”. Set the slider *Use existing work* in this menu item to “Yes”. On the tab *General*, select the option “User-directed” in the lookup field *Directed by*. In order to make sure that this menu item only contains work which is created through the purchase order work template of exercise 8.2, create just one line with the work class of exercise 8.2 on the tab *Work classes*.

The setup of the third menu item (for sales order picking) is similar to the second menu item, except that you have to select the option “User-grouping” in the lookup *Directed by* and that the selected *Work class ID* on the tab *Work classes* has to match the work class which you have selected in the work template for sales order picking in exercise 8.2 (see Figure 8-11).

The screenshot displays the 'Mobile device menu items' form in Dynamics AX. The left pane lists various menu items, with '99-SO-Direct' selected. The main pane shows the configuration for this item. The 'Menu item name' is '99-SO-Direct', the 'Title' is '99-SO-Direct', and the 'Mode' is 'Work'. The 'Use existing work' slider is set to 'Yes'. The 'General' tab is active, showing settings for 'Display inventory status' (No), 'Override license plate during put' (No), 'Group put away' (No), 'Directed by' (User grouping), 'Allow splitting of work' (No), 'Pick oldest batch' (None), 'Generate license plate' (No), 'Keep work locked by user' (No), 'Audit template ID' (None), 'Anchoring' (No), 'Display summary of pick screen' (No), 'Allow over pick' (No), 'Override target license plate' (No), and 'Disable cycle count thresholds' (No). The 'Work classes' tab shows a single line with 'Sales' as the work class ID and 'Sales orders' as the work order type.

Figure 8-11: Setting up the mobile device menu item for sales order picking

Once you have finished the setup of the menu items, open the form *Warehouse management> Setup> Mobile device> Mobile device menu* to create the mobile device menu. Click the button *New* in the action pane and enter a *Name* and a *Description* for the menu. Then switch to the tab *Mobile device menus* and assign the required menu items by moving them from the left pane to the right pane (see Figure 8-12).

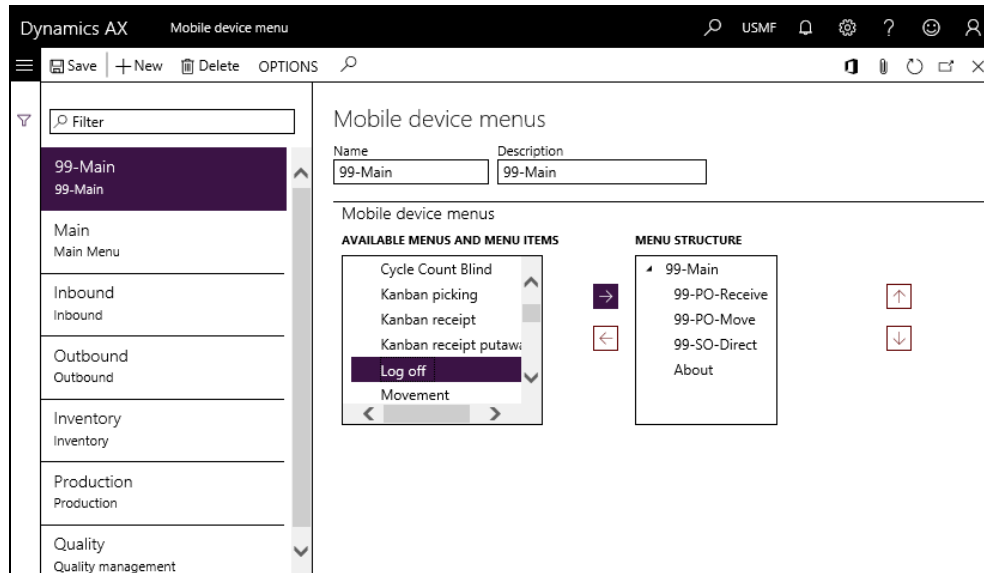


Figure 8-12: Setting up the mobile device menu

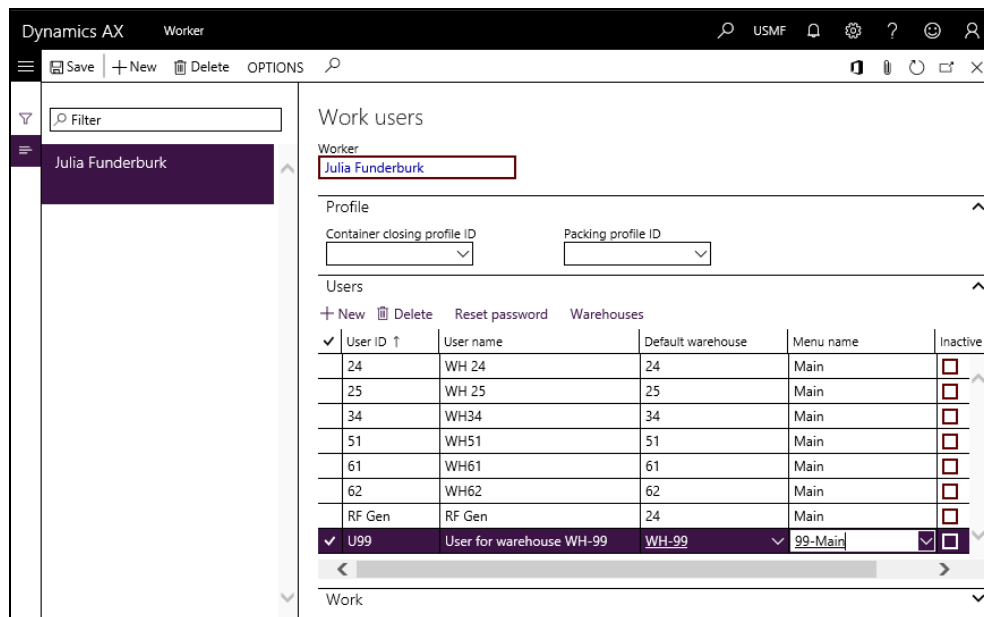


Figure 8-13: Setting up the warehouse worker

Finally, set up the warehouse worker in the form *Warehouse management> Setup> Worker*. You can either click the button *New* in the action pane to create a new warehouse worker (based on a worker record created in the *Human resources* module), or select an existing warehouse worker. Then switch to the tab *Work users* and create a new work user with the appropriate *User ID*, the *Menu name* created in

the current exercise, and the *Default warehouse* created in exercise 8.1. When you save the record, a dialog is shown where you should enter a password which is easy to remember (e.g. “1”).

Exercise 8.4 – Released Product Settings for Warehouse Management

In order to apply the advanced warehouse management to a product, you need an appropriate storage dimension group, a reservation hierarchy, and a unit sequence group. In this exercise, you can use an existing storage dimension group, but you should create a new reservation hierarchy R-## which does not contain tracking dimensions, and a unit sequence group U-## which includes pieces and pallets (pallets as default unit for purchasing).

Then create an item the ID “I-##-W” and the name “##-AdvWarehouseMgmt” in the released product form. It is a regular stocked product without variants or batch numbers, but you want to use the advanced warehouse processes. Select an item group for merchandise, and an item model group with FIFO-valuation. The item does not require approved vendors. The base purchase price and the base cost price is USD 50. The base sales price is USD 100. The unit of measurement for the item is “Pieces” in all areas except purchasing. In purchasing, you want to use pallets (1 pallet = 10 pieces) as default unit for the item. Make sure to select the same units of measurement which you have selected in the unit sequence group U-##. Then assign the new item to the unit sequence group U-## and the reservation hierarchy R##.

Instructions

Enter the new reservation hierarchy in the form *Warehouse management> Setup> Inventory> Reservation hierarchy*.

The screenshot shows the 'New reservation hierarchy' dialog in Dynamics AX. The 'Name' field contains 'R-99' and the 'Description' field contains 'Hierarchy 99'. Below these are two list boxes. The 'AVAILABLE' list contains 'Batch number' and 'Serial number', with 'Serial number' selected. The 'SELECTED' list contains 'Site', 'Warehouse', 'Inventory status', 'Location', and 'License plate'. Arrows point from 'AVAILABLE' to 'SELECTED' and vice versa. At the bottom are 'OK' and 'Cancel' buttons.

Figure 8-14: Creating the reservation hierarchy

After clicking the button *New* in the action pane of the reservation hierarchy form, a dialog is shown where you enter the name and description for the hierarchy before you move the tracking dimensions from the pane *Selected* to the pane *Available*. Then click the button *OK* to create the reservation hierarchy.

In order to create the unit sequence group, open the form *Warehouse management> Setup> Warehouse> Unit sequence groups*. Click the button *New* in the action pane to insert a new group with ID and name, and switch to the tab *Line details* where you enter two lines with the applicable units of measurement as shown in Figure 8-15.

The screenshot shows the 'Unit sequence groups' form in Dynamics AX. On the left, there is a list of unit sequence groups, with 'U-99 Sequence group 99' selected. On the right, the 'Line details' tab is active, showing a table with two lines. The first line has a line number of 1, unit 'ea', and is checked for 'License plate group' and 'Use unit for cycle count'. The second line has a line number of 2, unit 'PL', and is checked for 'License plate group' and 'Use unit for cycle count'.

Line number	Unit	Lic...	License plate group...	Use unit for cycle count...	Default unit for purch...	Default unit f...
1.0000000000	ea	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.0000000000	PL	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Figure 8-15: Creating the unit sequence group

Then open the released products list page (*Product information management> Products> Released products*) and click the button *New* in the action pane to create the product. In the *New released product* dialog, enter the *Product number* (if no automatic number sequence applies), the *Product name*, the *Search name*, the *Item model group*, the *Item group*, the *Tracking dimension group*, the *Item sales tax group* for purchase and for sales, and the units of measurement as shown in Figure 8-16. In the *Storage dimension group*, make sure to select a group with enabled warehouse management processes, and select the *Reservation hierarchy* which you have created in the current exercise. Then close the dialog by clicking the button *OK*.

In the released products form, make sure that your new product is selected before you click the button *PRODUCT/Set up/Unit conversions* in the action pane. Enter an *Intra-class conversion* with the definition “1 pallet = 10 pieces” (select the units of the unit sequence group which you have created in the current exercise).

Then close the unit conversion form and expand the tab *Purchase* in the released product where you select the unit “Pallets” in the field *Unit*. Enter a base purchase price of 500 USD (per pallet, which is equivalent to a price of 50 USD per piece) in

the field *Price*. In the lookup field *Approved vendor check method*, make sure that the option “No check” is selected.

The screenshot shows the 'New released product' dialog box in Dynamics AX. The left pane displays a list of released products, with 'I-99' selected. The right pane shows the configuration for the new product, including reference groups, identification, company-specific identification, units of measures, catch weight, administration, sales taxation, and purchase taxation.

Item number	Product name	Search name
A0001	HDMI 6' Cables	HDMI 6' Cables
A0002	HDMI 12' Cables	HDMI 12' Cables
C0001	Microsoft Natural Keyboard E...	Microsoft Natural Keyboard E...
C0002	Microsoft Arc™ Keyboard	Microsoft Arc™ Keyboard
C0003	Microsoft Arc™ Mouse	Microsoft Arc™ Mouse
C0004	Lifecam HD 5000	Lifecam HD 5000
D0001	MidRangeSpeaker	MidRangeSpeaker
D0002	Cabinet	Cabinet
D0003	StandardSpeaker	StandardSpeaker
D0004	HighEndSpeaker	HighEndSpeaker
D0005	Car Audio System	Car Audio System
D0006	Speaker solution	Speaker solution
D0007	Speaker Pro Kit	Speaker Pro Kit
D0008	Licensed High End Speaker	Licensed High End Speaker
D0010	Active speaker	Active speaker
D0011	Laser Projector	Laser Projector
D0012	Electrical Assembly	Electrical Assembly
D0013	SpecialSpeaker	SpecialSpeaker
D0111	Ruggedized Laser Projector	Ruggedized Laser Projector
I-99	99-merchandise	99-merchandise
I-99-C1	99-Component1	99-Component1
I-99-C2	99-Component2	99-Component2
I-99-F	99-Finished product	99-Finished product

Product type
Item

Product subtype
Product

IDENTIFICATION
Product number: I-99-W
Product name: 99-AdvWarehouseMgmt
Search name: 99AdvWarehouseMgm

REFERENCE GROUPS
Item model group: FIFO
Item group: Audio
Storage dimension group: Ware
Tracking dimension group: None
Reservation hierarchy: I-99

COMPANY-SPECIFIC IDENTIFICATION
Item number: I-99-W
Search name: 99AdvWarehouseMgm
Retail category:

UNITS OF MEASURES
Inventory unit: ea
Purchase unit: ea
Sales unit: ea
BOM unit: ea

CATCH WEIGHT
No

ADMINISTRATION
Apply template:

SALES TAXATION
Item sales tax group: ALL

PURCHASE TAXATION
Item sales tax group: ALL

Figure 8-16: Creating the item in the create released product dialog

On the tab *Sell* in the released product detail form, enter the base sales price of 100 USD in the field *Price*. Then enter the base cost price of 50 USD in the field *Price* on the tab *Manage costs*.

Finally, expand the tab *Warehouse* in the released product and select the *Unit sequence group* which you have created in the current exercise.

Exercise 8.5 – Warehouse Management in Purchasing Processes

You want to order 34 units of the item I-##-W (created in exercise 8.4) from any vendor (e.g. the vendor of exercise 3.2) to be received in the warehouse WH-## of exercise 8.1. Enter an appropriate purchase order and confirm it. Check the inventory transaction related to the purchase order line afterwards.

Then log on to the warehouse mobile device portal with the credentials of the work user U-## of exercise 8.3. Access the menu item for receiving the purchase order and post the receipt for the complete quantity of your purchase order. Which status do the inventory transactions of your item show afterwards? Open the inquiry “On hand by location” in the warehouse management menu, filter on your

warehouse WH-## and take a note of the license plate shown for the posted quantity.

In the next step, open the mobile device menu item for the put-away of the purchase receipt. Post the transaction there (refer to the license plate shown in the previous inquiry) and review the inventory transactions and the inquiry “On hand by location” for your warehouse WH-## again. What is different now? Finally post the product receipt based on the mobile device transactions of the current exercise.

Instructions

In order to create the purchase order, open the vendor list page (*Procurement and sourcing*> *Vendors*> *All vendors*) and select the vendor before you click the button *PROCUREMENT/New/Purchase order* in the action pane (compare exercise 3.7).

In the lines view of the purchase order form, insert a line with the item of exercise 8.4 and the warehouse of exercise 8.1 (see Figure 8-17). Change the *Unit* in the line to “Pieces” before you enter the quantity of 34 units. Then save the order line and click the button *Inventory/Transactions* in the toolbar of the order lines to view the related inventory transaction. This transaction shows a quantity of 34 pieces in the *Receipt* status “Ordered”.

The screenshot shows the Dynamics AX interface for a Purchase Order. The header indicates 'PURCHASE ORDER 00000056 : 99-004 - 99-Vendor of exercise 3.2'. The 'Lines' tab is active, showing a table with one line item. The table has columns for 'T...', 'Budget...', 'Line number', 'Item number', 'Product name', 'Procurement category', 'Site', 'Warehouse', 'CW...', 'Quantity', 'Unit', 'Unit price', and 'Adj'. The first line item has 'L-99-W' as the item number, '99-AdvWarehouseMgmt' as the product name, '1' as the site, 'WH-99' as the warehouse, '34.00' as the quantity, 'ea' as the unit, and '50.00' as the unit price. The 'Line details' section is visible at the bottom.

T...	Budget...	Line number	Item number	Product name	Procurement category	Site	Warehouse	CW...	Quantity	Unit	Unit price	Adj
✓			L-99-W	99-AdvWarehouseMgmt		1	WH-99		34.00	ea	50.00	

Figure 8-17: Entering the purchase order line

In the next step, confirm the purchase order by clicking the button *PURCHASE/Generate/Confirmation* in the action pane.

In order to register the warehouse transactions, open the form *WHWorkExecute* through the web address <https://XX.com/?f=WHWorkExecute&cmp=USMF> (XX.com= Dynamics AX URL, USMF = Training company) and sign in with the credentials of the warehouse user of exercise 8.3.

After logging on with this user, the mobile device menu which you have created in exercise 8.3 is shown. Select the menu item for purchase order receiving and enter the purchase order number and the line number of the purchase order created in the current exercise (compare Figure 8-18). Change the unit to “Pieces” and enter the quantity “34” before you click the button OK.

Purchase order line receiving ?

99-PO-Receive

PONum
00000056

LineNum
1

Item
I-99-W

99-AdvWarehouseMgmt

Qty

Unit
ea

1 PL = 10.00 ea

OK

Cancel

Exception

Figure 8-18: Receiving the purchase order on the mobile devices

In a second form which displays next, enter a license plate – e.g. ##-001 (## = your user ID). After clicking the button *OK* in this form, the receipt is posted and the next form shows the message “Work completed”. Click the button *Cancel* to close the form.

In order to view the inventory transaction, open the purchase order list page (*Procurement and sourcing > Purchase orders > All purchase orders*) and switch to the detail form for the order of the current exercise. Then click the button *Inventory/Transactions* in the toolbar of the order lines to view the related inventory transaction. This transaction now shows the quantity of 34 pieces in the *Receipt* status “Registered”.

The on-hand quantity of the item is shown in the form *Warehouse management > Inquiries and reports > On hand by location*. Enter your warehouse in the filter field *Warehouse* at the top of this form and select the checkbox *Refresh across locations* to view the quantity of 34 pieces with the appropriate *License plate* on the location “RECV” in the lower pane.

Switch to the warehouse mobile devices portal and select the menu item for purchase order moving (put away). Insert the license plate number which you have entered when receiving the purchase order on the mobile device. After clicking the button *OK*, a second form is displayed which shows the information that you have to pick 34 pieces from the location “RECV”. Once you have clicked the button *OK* in this form, the next form shows that you have to put 3 pallets to the bulk location “1-001” (according to the location directive of exercise 8.2).

After confirming the put transaction for the pallets by clicking the button *OK*, the next form shows that you have to put 4 pieces to the floor location “F-001” (according to the location directive of exercise 8.2). Click the button *OK* one more

time to post the put away movement. The next form shows the message “Work completed”. Click the button *Cancel* to close this form.

User directed ?

Purchase orders : Put

Loc
1-001

LP
99-001

Item
I-99-W

Qty: 3 PL; 30 ea

99-AdvWarehouseMgmt

OK

Cancel

Split Put

Skip

Figure 8-19: Putting the pallets to the bulk location

In order to view the inventory transaction again, open the purchase order list page, switch to the detail form for the order of the current exercise, and click the button *Inventory/Transactions* in the toolbar of the order lines. The transaction still shows the quantity of 34 pieces in the *Receipt* status “Registered”. If you want to view all transactions, open the released product form and select the item before you click the button *MANAGE INVENTORY/View/Transactions* in the action pane. If you display the dimension “Location” in this form (click the button *Display dimensions* in the action pane), you can view the work transactions from the location “RECV” to your user location and from your user location to the final bulk and floor locations.

The on-hand quantity inquiry (*Warehouse management> Inquiries and reports> On hand by location*) for your warehouse shows a quantity of 30 pieces on the location “1-001” and 4 pieces on the location “F-001”. There is no quantity on the location “RECV” any more.

In order to post the product receipt, open the purchase order form and select the order of the current exercise again. Click the button *RECEIVE/Generate/Product receipt* in the action pane and select the option “Registered quantity” in the lookup field *Quantity* of the posting dialog to make sure that the product receipt refers to the quantity registered on the mobile device. Before you finally post the transaction by clicking the button *OK* in the posting dialog, enter the packing slip number of the printed vendor document in the column *Product receipt*.

Exercise 8.6 – Warehouse Management in Sales and Distribution

A customer (e.g. your customer of exercise 4.1) orders 12 units of your item I-##-W, which you have purchased in the previous exercise. Enter an appropriate sales

order to be shipped from your warehouse WH-##, reserve the quantity, and create the shipment. What is the status of the inventory transactions now?

Create a load for the shipment, and then a wave which is based on the wave template T-## of exercise 8.2. Take a note of the *Work ID* which is generated when processing the wave, and release the wave. Check the inventory transactions of your item again, what is different now? Then review the inquiry “On hand by location” for your warehouse WH-## and take a note of the license plate shown for the floor location.

In the next step, log on to the warehouse mobile devices portal with the credentials of the work user U-## of exercise 8.3 and access the mobile device menu item for sales order picking. Post the picking transaction related to the work ID and – when you pick from the floor location – the license plate noted before.

Check the inventory transactions and the inquiry “On hand by location” for your warehouse WH-## again. What is different now? Finally, post the packing slip for the sales order based on the mobile device transactions of the current exercise.

Instructions

Open the customer list page (*Sales and marketing > Customers > All customers*) and select your customer before you click the button *SELL/New/Sales order* in the action pane (compare exercise 4.6). In the current exercise, enter a line with your item of exercise 8.4 and the warehouse of exercise 8.1 (see Figure 8-20).

The screenshot shows the Dynamics AX interface for 'All customers'. The 'SALES ORDER' tab is active, displaying a sales order for '000784 : 99-Customer exercise 4.1'. The 'Sales order lines' section is expanded, showing a table with one line item. The table has columns for 'T...', 'Vari...', 'Item number', 'Product name', 'Sales cat...', 'CW...', 'Quantity', 'Unit', 'Adjust...', 'Site', 'Warehouse', 'Unit price', and 'Discou...'. The first line item has 'I-99-W' as the item number, '99-AdvWarehouseMgmt' as the product name, a quantity of '12.00', and a unit of 'ea'. The warehouse is set to 'WH-99' and the unit price is '100.00'.

T...	Vari...	Item number	Product name	Sales cat...	CW...	Quantity	Unit	Adjust...	Site	Warehouse	Unit price	Discou...
✓	✓	I-99-W	99-AdvWarehouseMgmt			12.00	ea	0.000...	1	WH-99	100.00	

Figure 8-20: Entering the sales order line

After saving the order line, click the button *Inventory/Reservation* in the toolbar of the order lines to access the reservation form. Click the button *Reserve lot* in the action pane of the reservation form to reserve the required quantity. Then close the reservation form and click the button *WAREHOUSE/Actions/Release to warehouse* in the action pane of the sales order form to create the shipment.

In order to view the inventory transaction related to the sales order line, click the button *Inventory/Transactions* in the toolbar of the order lines. The transaction shows a quantity of -12 pieces in the *Issue* status “Reserved physical”.

Close the inventory transactions and the sales order form, and open the shipments form (*Warehouse management> Shipments> All shipments*). Select your shipment – it shows the sales order with your item in the lower pane – and click the button *SHIPMENTS/Shipments/Transfer shipment to new load* in the action pane of the shipment to create the load. Dynamics AX shows a dialog next, where you select a *Load template ID* before you click the button *OK*.

The screenshot displays the Dynamics AX 'All waves' form. The 'WAVE' tab is active, showing details for wave USMF-000000009, which is in a 'Released' status. The form is divided into several sections: 'WAVE' (Wave ID, Description), 'STORAGE DIMENSIONS' (Site, Warehouse), 'ATTRIBUTES' (Attribute 1, 2), 'WORK' (Work creation number, Work created, Work remaining), and 'HISTORY' (Release date and time, Processing date and time, Held status date and time, Completion date and time). The 'Wave lines' section at the bottom shows a table with shipment details.

Shipment	Shipment ID	Load ID	Work order type	Order number
✓	USMF-000003	USMF-000005	Sales orders	000784

Figure 8-21: Viewing the wave after releasing

Then create the wave in the form *Warehouse management> Outbound waves> Shipment waves> All waves* by clicking the button *New* in the action pane. Enter a *Description* and select your *Wave template* of exercise 8.2 in the *Create shipment wave* dialog. After creating the wave, click the button *WAVE/Wave/Maintain shipments* in the wave form to assign the shipment. Select your shipment on the tab *Shipments* *not on a wave* in the *Maintain shipments* form before you click the button *Add to wave* in the toolbar of this tab. Back in the wave form, you can process the wave by clicking the button *WAVE/Wave/Process* and finally release the wave by clicking the button *WAVE/Wave/Release*.

In order to view the work generated when processing the wave, click the button *WAVE/Related information/Work* in the action pane of the wave form. Take a note of the *Work ID* shown in the upper pane of the work form.

In order to view the inventory transaction again, open the sales order list page, switch to the detail form for the order of the current exercise, and click the button *Inventory/Transactions* in the toolbar of the order lines. The transaction still shows the quantity of -12 pieces in the *Issue* status “Reserved physical”. If you want to view all transactions, open the released product form and select the item before you click the button *MANAGE INVENTORY/View/Transactions* in the action pane. If you display the dimension “Location” in this form (click the button *Display dimensions* in the action pane), you can view the work transactions (future transactions, without a physical date) generated from the wave for picking from the bulk and from the floor location.

The on-hand quantity inquiry (*Warehouse management> Inquiries and reports> On hand by location*) for your warehouse shows a quantity of 30 pieces on the location “1-001” and 4 pieces on the location “F-001” with the license plate entered in exercise 8.5.

In order to register the warehouse transactions, access the web address <https://XX.com/?f=WHSWorkExecute&cmp=USMF> (XX.com= Dynamics AX URL, USMF= Training company) and sign in with the credentials of the warehouse user of exercise 8.3. After logging on with this user, the mobile device menu which you have created in exercise 8.3 is shown.

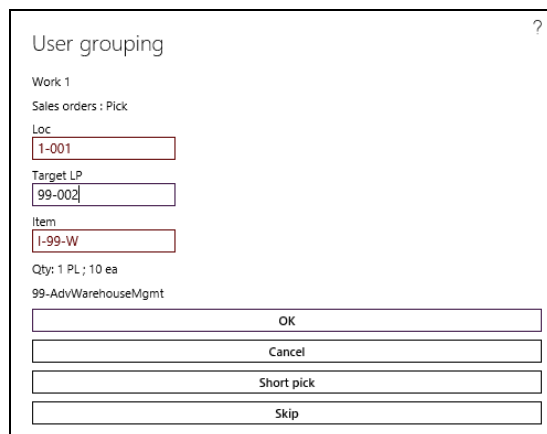


Figure 8-22: Picking the pallet from the bulk location

Select the menu item for sales order picking and enter the *Work ID* of the work generated from your wave in the picking form. In a second form, which shows the required information to pick the pallet from the bulk location, enter a target license plate – e.g. ##-002 (## = your user ID).

After clicking the button *OK*, the form shows that you have to pick another two pieces from the floor location (since this location is license plate controlled, you have to enter from which license plate you are picking). Enter the required license plate (originally entered in exercise 8.5) and click the button *OK*.

Since your menu item refers to a principle *Directed by* = "User grouping", a form displays where you can enter the next work which you want to pick in common with the items which you have picked already. You do not want to pick additional items, which is why you click the button *Done* there.

The following form then shows the information that you have to put 12 pieces to the shipping location "SHIP" (you can manually enter this location if there is no applicable location directive). After clicking the button *OK*, the put away movement is posted and the next form shows the message "Work completed". Click the button *Cancel* to close the form.

In order to view the inventory transaction after processing the warehouse transactions, open the sales order list page, switch to the detail form for the order of the current exercise, and click the button *Inventory/Transactions* in the toolbar of the order lines. The transaction now shows the quantity of -12 pieces in the *Issue* status "Picked".

The on-hand quantity inquiry (*Warehouse management > Inquiries and reports > On hand by location*) for your warehouse shows a quantity of 20 pieces on the location "1-001" and 2 pieces on the location "F-001".

As the last step in the outbound warehouse process, confirm the shipment in the shipment form (*Warehouse management > Shipments > All shipments*) by clicking the button *SHIPMENTS/Shipments/Confirm shipment* after selecting your shipment. Then select the checkbox *Display closed shipments*, select your shipment again, and post the packing slip by clicking the button *SHIPMENTS/Generate/Packing slip* in the shipment form.

9 Financial Management

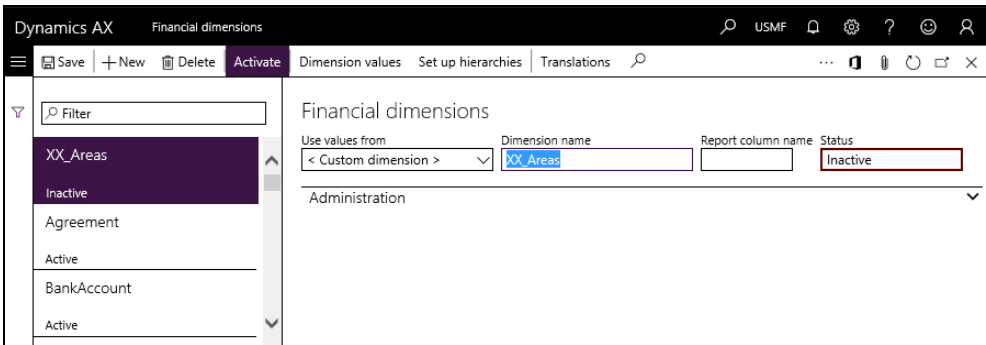
Exercise 9.1 – Financial Dimensions

Your organization introduces “Business areas” for reporting purposes. In order to support this requirement, create and activate a new financial dimension “##Areas” (custom dimension) with the shared values “Area ## 1” and “Area ## 2” (## = your user ID).

Note: Numbers are not allowed in the dimension name.

Instructions

Open the form *General ledger > Chart of accounts > Dimensions > Financial dimensions* and click the button *New* in the action pane to create the financial dimension. In the new dimension, select the option “<Custom dimension>” in the lookup *Use values from* and enter the *Dimension name*. Save the record and click the button *Activate* in the action pane to activate the dimension.



The screenshot shows the Dynamics AX interface for the 'Financial dimensions' form. The 'Activate' button is highlighted in the top action pane. The main form area displays the 'Financial dimensions' table with the following data:

Use values from	Dimension name	Report column name	Status
< Custom dimension >	XX_Areas		Inactive

Below the table, the 'Administration' section is visible, showing a list of dimensions: 'Inactive', 'Agreement', 'Active', 'BankAccount', and 'Active'.

Figure 9-1: Creating the new financial dimension

Then click the button *Dimension values* in the action pane to access the dimension values form. In the dimension values form, click the button *New* in the action pane and enter the dimension values with ID and description (see Figure 9-2).

The screenshot shows the Dynamics AX Financial dimensions form. On the left, there is a list of dimension values: Area-99-2, Area-99-2, Area-99-1, and Area-99-1. The main area is titled 'Financial dimension values' and contains a table with two columns: 'Dimension value' and 'Description'. The first row shows 'Area-99-2' in both columns. Below the table, there are several settings: 'Active from' and 'Active to' (both empty), 'Suspended' (set to 'No'), 'Group dimension' (empty), 'Calculate total from multiple di...' (set to 'No'), 'Do not allow manual entry' (set to 'No'), 'Owner' (a dropdown menu), and 'Require the dimension value to...' (set to 'No'). At the bottom, there is a section for 'Legal entity overrides'.

Figure 9-2: Creating the financial dimension values

Exercise 9.2 – Main Accounts

Following new main accounts are required in your company (## = your user ID):

- Main account "111C-##", Name "##-Petty cash", Account type "Balance Sheet"
- Main account "111B-##", Name "##-Bank", Account type "Balance Sheet"
- Main account "6060##", Name "## - Consulting", Account type "Expense"
- Main account "ZZ##", Name "##-Account structure test", Account type "Balance Sheet"

Create these accounts in the proper chart of accounts.

Instructions

In order to verify the applicable chart of accounts, open the ledger form (*General ledger> Ledger setup> Ledger*) and review the field *Chart of accounts* which determines the chart of accounts of your company.

When you open the main accounts list page (*General ledger> Chart of accounts> Accounts> Main accounts*), Dynamics AX displays the accounts included in this chart of accounts. In order to create the first new main account, click the button *New* in the action pane of the main accounts form. Enter the account ID and the name, and select the option "Balance sheet" in the lookup field *Main account type* (see Figure 9-3).

Once you have completed the first account, create the other accounts the same way and make sure to select the *Main account type* according to the exercise instructions.

The screenshot shows the Dynamics AX 'Main accounts' form. The left pane lists various accounts, with '111C-99, 99-Petty cash' selected. The right pane shows the configuration for this account. The 'General' section includes 'Totals', 'Assign template', 'Additional consolidation accounts', and 'Currency code validation'. The 'IDENTIFICATION' section includes 'Main account' (111C-99), 'Name' (99-Petty cash), 'Main account type' (Balance sheet), 'Reporting type' (Do not allow manual entry), 'Main account category', 'DB/CR default', and 'DB/CR requirement'. The 'LEDGER' section includes 'Main account type' (Balance sheet), 'Reporting type' (Do not allow manual entry), 'Main account category', 'DB/CR default', and 'DB/CR requirement'. The 'RELATED ACCOUNTS' section includes 'Offset account', 'Opening account', and 'SRU code'. The 'CONSOLIDATION' section includes 'Default consolidation account'. The 'CURRENCY' section includes 'Default Currency' and 'Validate currency code' (Optional). The 'Legal entity overrides' section includes 'Posting validation', 'Financial reporting', and 'Advanced rules'.

Figure 9-3: Creating the new main account

Exercise 9.3 – Account Structures

Unlike the other main accounts created in exercise 9.2, your main account ZZ## is not included in an account number range covered by the existing account structures. For this reason, set up a new account structure which only applies to this main account.

Create and activate a new account structure ZS##, which contains the main accounts and the financial dimension “##Areas” as segments (and additionally the balancing dimension, if interunit accounting applies). The main account ZZ## is the only applicable main account in this account structure. Assign the account structure to your test company.

Note: In order to avoid confusion in case you are sharing the Dynamics AX training database, delete the account structure once you have finished all exercises.

Instructions

Open the menu item *General ledger > Chart of Accounts > Structures > Configure account structures* and click the button *New* in the action pane to create the new account structure. In the *Create an account structure* drop dialog, enter the identification and the description of the new structure and make sure that the slider *Add main account* is set to “Yes” before you click the button *Create*.

In order to apply the account structure to the “ZZ” main account, which you have entered in exercise 9.2, enter a filter on this account in the column *MainAccount* or on the tab *Allowed value details* (see Figure 9-4).

The screenshot shows the 'Configure account structures' window in Dynamics AX. The 'ACCOUNT STRUCTURES' tab is active, showing the account structure 'ZS99' with the description '99-Account structure' and status 'Draft'. The 'Segments and allowed values' section has a table with one row: 'MainAccount' with value 'ZZ99'. The 'Allowed value details' section has a filter: 'MainAccount' is 'ZZ99'.

Figure 9-4: Entering a filter on the main account in the account structure

Then click the button *Add segment* in the toolbar of the tab *Segments and allowed values* to add your financial dimension to the account structure. In the *Add segment* dialog, select the financial dimension of exercise 9.1 and click the button *Add segment*.

The screenshot shows the 'Ledger' window in Dynamics AX. The 'Ledger' tab is active, showing the 'Contoso Entertainment System' ledger. The 'Account structures' section shows a list of account structures, with 'ZS99' (99-Account structure) selected.

Figure 9-5: Assigning the account structure in the ledger form

If a balancing dimension applies to your company (this is the case if a *Balancing financial dimension* is selected in the form *General ledger> Ledger setup> Ledger*), add a third segment with the balancing dimension to the account structure.

Then click the button *Activate* in the *Configure account structures* form and the button *Activate* in the following dialog to activate the new account structure.

Once the account structure is activated, open the ledger form (*General ledger> Ledger setup> Ledger*) and click the button *Add* on the tab *Account structures* to assign the account structure to the training company. In the drop dialog, select the new account structure and click the button *Select* (see Figure 9-5).

Exercise 9.4 – Bank Accounts

Your company opens a new bank account at your preferred bank. Create a bank account B-## with any routing number and bank account number. Assign the main account 111B-## of exercise 9.2 to this bank account.

Instructions

In order to create the bank account, open the form *Cash and bank management> Bank accounts* and click the button *New* in the action pane. In the new record, enter the required bank account data as shown in Figure 9-6.

The screenshot shows the Dynamics AX 'Bank accounts' form with the 'New Record' tab selected. The form is divided into several sections:

- General:**
 - Routing number type: None (dropdown)
 - Bank account: B-99 (text box)
 - Routing number: 9999 (text box)
 - Bank account number: 999999 (text box)
 - Destination name: (empty text box)
 - Name: 99-Bank account (text box)
 - Bank groups: (empty dropdown)
 - CURRENCY: USD (dropdown)
 - Allow transactions in additional...: No (radio button)
 - ACCOUNT ACTIVE STATUS: Active from: (empty date picker)
 - Active to: (empty date picker)
 - Bank account status: Active for all transactions (dropdown)
 - Credit limit: (empty text box)
 - POSITIVE PAY FORMAT: Format: (empty dropdown)
 - Positive pay start date: (empty date picker)
- INTERNAL INFORMATION:**
 - Main account: 111C-99 (dropdown)
 - Company statement name: (empty text box)
- Additional identification:** (empty text box)
- Payment management:** (empty text box)

Figure 9-6: Creating the new bank account

Exercise 9.5 – Journal Names

You want to register the transactions of the next exercises in your own journals. For this purpose, create a journal name G-## (## = your user ID) with the type

“Daily”, a journal name I-## with the type “Vendor invoice recording”, and a journal name P-## with the type “Vendor disbursement”. Choose an existing number sequence in all these journal names.

Instructions

In order to create the journal names, open the form *General ledger> Journal setup> Journal names* and insert new records as shown in Figure 9-7. Make sure to select the right *Journal type* when you register the individual journal names.

The screenshot shows the Dynamics AX 'Journal names' form. On the left, a list of journal names is displayed, with 'P-99 99-Vendor payment' selected. The main area shows the configuration for this journal name. The 'General' section includes 'Journal type' (Vendor disbursement), 'New voucher' (In connection with balance), and 'Detail level' (Details). Other sections include 'APPROVAL', 'APPROVAL WORKFLOW', 'BLOCKING', 'VOUCHER NUMBER', 'OFFSET ACCOUNT PROPOSAL', 'POSTING', 'CURRENCY', and 'SALES TAX'.

Figure 9-7: Setting up the journal names

Exercise 9.6 – Segmented Entry in General Journals


You want to transfer USD 50.00 from the main account ZZ## in “Area ## 1” to the petty cash account 111C-## (accounts from exercise 9.2). Register this transaction in a general journal with your journal name G-##.

Which segments apply to the main account ZZ##? Review the value lookup for these segments. Then post the journal and check the balance and the transactions of both accounts of the current exercise.

Instructions

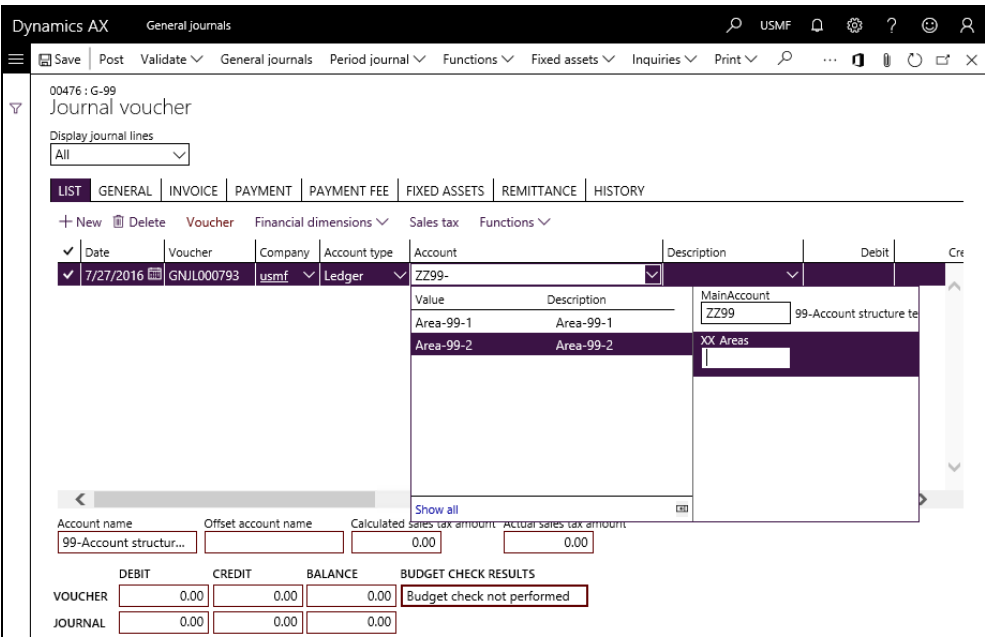
In order to register the transaction in a general journal, open the form *General ledger> Journal entries> General journals* and click the button *New* to create a new journal header. Then select the journal name of exercise 9.5 in the column *Name*.

Click the button *Lines* in the action pane to access the journal lines next (alternatively, you can click the *Journal batch number* shown as link in the grid of the journal list page). In the journal lines, enter a new record and accept the default values in the columns *Date* (current date) and *Account type* (“Ledger”).

In the field *Account*, click the button  or press the shortcut key *Alt + Down* to access the value lookup. Type “ZZ” in the field *MainAccount* (shown in the right pane of the lookup) to filter on main accounts starting with “ZZ” in the account ID or description. Then click on the appropriate main account in the left pane of the lookup.

According to the account structure which you have created and assigned to the “ZZ” main account in exercise 9.3, the financial dimension of exercise 9.1 applies as second segment. This segment now shows below the field *MainAccount* in the right pane of the lookup (see Figure 9-8). Click the segment field in the right pane to view the applicable dimension values in the left pane of the lookup and select an appropriate financial dimension value.

If you have included a balancing dimension in the account structure, select a dimension value for this dimension in a third segment.



The screenshot shows the Dynamics AX General journals interface. The top navigation bar includes 'Save', 'Post', 'Validate', 'General journals', 'Period journal', 'Functions', 'Fixed assets', 'Inquiries', and 'Print'. The main area displays a 'Journal voucher' for '00476 : G-99'. Below the voucher header, there are tabs for 'LIST', 'GENERAL', 'INVOICE', 'PAYMENT', 'PAYMENT FEE', 'FIXED ASSETS', 'REMITTANCE', and 'HISTORY'. The 'GENERAL' tab is active, showing a table with columns: 'Date', 'Voucher', 'Company', 'Account type', 'Account', 'Description', 'Debit', and 'Credit'. A row is selected with 'Date' 7/27/2016, 'Voucher' GJUL000793, 'Company' usmf, 'Account type' Ledger, and 'Account' ZZ99-. Below the table, there is a 'Show all' button. At the bottom, there are fields for 'Account name', 'Offset account name', 'Calculated sales tax amount', and 'Actual sales tax amount'. The 'Account name' field is set to '99-Account structur...'. The 'Offset account name' field is empty. The 'Calculated sales tax amount' and 'Actual sales tax amount' fields both show 0.00. Below these fields, there is a table with columns: 'DEBIT', 'CREDIT', 'BALANCE', and 'BUDGET CHECK RESULTS'. The 'DEBIT' and 'CREDIT' columns show 0.00 for both 'VOUCHER' and 'JOURNAL' rows. The 'BALANCE' column shows 0.00 for both rows. The 'BUDGET CHECK RESULTS' column shows 'Budget check not performed' for both rows.

Figure 9-8: Segmented entry control when entering a ledger account

Then leave the *Account* field and enter a transaction text in the column *Description* and the transaction amount of 50 USD in the column *Credit*.

Make sure that the *Offset account type* is “Ledger” and enter your petty cash account in the *Offset account* field (similar to entering the account in the *Account*

field before). Depending on the account structure which applies to the offset account, it is necessary to enter several financial dimension values (including a value for the balancing dimension) in the offset account.

Once you have completed the journal line, click the button *Post* in the action pane of the journal lines or the journal header to post the journal.

In order to check the account balance, open the trial balance form (*General ledger> Inquiries and reports> Trial balance*) and view the column *Closing balance* for your "ZZ" main account (- 50.00 USD) and for your petty cash account (+ 50.00 USD). If you want to view the posted ledger transactions, click the button *All transactions* in the trial balance form after selecting the account. In the transaction inquiry, you can view a complete voucher by clicking the button *Voucher*.

Exercise 9.7 – General Journal

You want to withdraw USD 100.00 from the bank account "B-##" of exercise 9.4 and put it to the petty cash account "111C-##" of exercise 9.2. Register this transaction in a general journal with your journal name G-##.

Before posting, check the balance and transactions for the bank account and the petty cash account. Then post the journal and check the balances and transactions again.

Instructions

In order to check the bank account balance, open the form *Cash and bank management> Bank accounts* and select your bank account. You can view the balance in the appropriate FactBox or in the balance form, which you can access by clicking the button *Balance* in the action pane (compare Figure 9-10, which shows the balance after posting the journal). The button *Transactions* in the action pane of the bank accounts page provides access to the bank transactions.

If you want to check the balance of the petty cash account, open the trial balance form (*General ledger> Inquiries and reports> Trial balance*) and view the column *Closing balance*. You can access the posted ledger transactions by clicking the button *All transactions* in the trial balance form after selecting the account.

Since you have not posted any transaction for your bank account, it shows a balance of zero and no transaction. Balance and transactions on the petty cash account are a result of the transaction posted in exercise 9.6.

In order to register the cash withdrawal in the current exercise, open the general journals (*General ledger> Journal entries> General journals*) and click the button *New* to create a journal header. Then select the journal name of exercise 9.5 in the column *Name*.

Click the button *Lines* in the action pane to access the journal lines next. In the journal lines, enter a new record and select the option “Bank” in the column *Account type* before you select your bank account in the column *Account* (see Figure 9-9). After typing an appropriate transaction text, enter the transaction amount in the column *Credit*.

The screenshot shows the Dynamics AX General Journals interface. The title bar indicates 'Dynamics AX' and 'General journals'. The main pane shows a 'Journal voucher' for '00477 : G-99'. Below the title, there are tabs for 'LIST', 'GENERAL', 'INVOICE', 'PAYMENT', 'PAYMENT FEE', 'FIXED ASSETS', 'REMITTANCE', and 'HISTORY'. The 'GENERAL' tab is active. A table of journal lines is displayed with columns: Date, Voucher, Company, Account type, Account, Description, Debit, Credit, Offset com..., Offset acc..., Offset account, and Of. A new line has been added with the following data: Date: 7/27/2016, Voucher: GNJL000794, Company: usmf, Account type: Bank, Account: B-99, Description: Withdrawal 9.7, Debit: 100.00, Credit: 100.00, Offset com...: usmf, Offset acc...: Ledger, Offset account: 111C-99-. Below the table, there are fields for 'Account name' (99-Bank account), 'Offset account name' (99-Petty cash), 'Calculated sales tax amount' (0.00), and 'Actual sales tax amount' (0.00). At the bottom, there is a 'BUDGET CHECK RESULTS' section with a table showing 'VOUCHER' and 'JOURNAL' with 'DEBIT' and 'CREDIT' amounts, all set to 0.00. A message 'Budget check not performed' is displayed.

Figure 9-9: Entering the general journal line

Then select the *Offset account type* “Ledger” and enter your petty cash account of exercise 9.2 in the offset account. Depending on the account structure which applies to the offset account, it is necessary to enter several financial dimension values in the offset account.

The screenshot shows the Dynamics AX Bank accounts interface. The title bar indicates 'Dynamics AX' and 'Bank accounts'. The main pane shows a list of bank accounts with columns: Bank account, Name, Bank groups, Routing num..., Bank account number, Main accou, and Bank account balance. The selected account is 'B-99' with Name '99-Bank account', Bank groups 'BankUSA', Routing num... '9999', Bank account number '999999', and Main accou '111C-9'. To the right of the list, a detailed view of the selected account is shown, including fields for 'Date', 'Currency' (USD), 'Balance in currency' (-100.00), 'Accounting currency' (-100.00), and 'Credit limit'. Below these fields, there are expandable sections for 'Bank account transactions', 'Bank account remittance', 'Bank account promissory not...', and 'Bank account bill of exchange...'.

Figure 9-10: Inquiry of the bank account balance after posting the transaction

Once you have completed the journal line, click the button *Post* in the action pane of the journal lines or the journal header to post the journal.

After posting, you can check the balance and the transactions again (as described above in this exercise). Your bank account now shows a balance of – 100.00 USD as a result of the posted withdrawal.

Exercise 9.8 – Purchase Invoice

The vendor of exercise 3.2 submits the invoice “VI908” with a total of USD 50.00. This invoice covers expenses, for which you have created the main account 6060## in exercise 9.2.

Record the invoice in an invoice journal with your journal name I-##. The terms of payment and the cash discount of exercise 3.1 apply to this invoice.

Before posting, check the vendor transactions and the vendor balance and – for the expense account – the ledger transactions and the ledger balance. Then post the invoice and check the balances and the transactions again.

Instructions

Open the vendor form (*Accounts payable> Vendors> All vendors*) and select your vendor. Click the button *VENDOR/Transactions/Balance* in the action pane of the vendor form to view the vendor balance, and the button *VENDOR/Transactions/Transactions* to view the vendor transactions.

Then check the balance and the transactions on your expense account in the trial balance form as described in exercise 9.6.

In order to register the invoice in the current exercise, open the form *Accounts payable> Invoices> Invoice journal* and click the button *New* to create a journal header. Then select the journal name of exercise 9.5 in the column *Name*.

Click the button *Lines* in the action pane to access the journal lines next. In the journal lines, enter a new record and select your vendor in the column *Account* (see Figure 9-11). Dynamics AX then retrieves default values for the terms of payment and the cash discount from the vendor record, which you can view in the lower pane of the journal line form. Enter the invoice number in the column *Invoice* and the invoice amount in the column *Credit*. Make sure that the offset account type is “Ledger” before you enter the expense account in the column *Offset account*. Depending on the account structure which applies to the offset account, it is necessary to enter several financial dimension values in the offset account. Then select the responsible employee in the field *Approved by* on the tab *Invoice* of the journal line.

Once you have completed the journal line, click the button *Post* in the action pane of the journal lines or the journal header to post the journal.

The screenshot shows the Dynamics AX 'Invoice journal' form. The 'INVOICE' tab is selected. A table lists journal lines with columns: Date, Voucher, Account type, Account, Account name, Invoice date, Invoice, Description, Debit, Credit, Curr..., Offset a..., Offset account, and Sa. The first line is selected, showing details for invoice VI908.

Date	Voucher	Account type	Account	Account name	Invoice date	Invoice	Description	Debit	Credit	Curr...	Offset a...	Offset account	Sa
7/27/16	API000002	Vendor	99-004	99-Vendor ...		VI908			50.00	USD	Ledger	6060-99----	

Below the table, the 'INVOICE' tab shows details for the selected line:

INVOICE		SALES TAX		CASH DISCOUNT	
Terms of payment	P-99	Calculated sales tax amount	0.00	Cash discount	D-99
Due date	9/25/2016	Actual sales tax amount	0.00	Cash discount date	8/10/2016
				Cash discount amount	-1.50

At the bottom, the 'BUDGET CHECK RESULTS' section shows:

DEBIT	CREDIT	BALANCE	BUDGET CHECK RESULTS
VOUCHER 0.00	0.00	0.00	Budget check not performed
JOURNAL 0.00	0.00	0.00	

Figure 9-11: Entering the invoice journal line

After posting, you can check the balance and transactions again (as described above in this exercise). Depending on the setting of the slider *Amounts include sales tax* on the tab *Setup* in the invoice journal header, the applicable sales tax is included in the amount which you have entered in the invoice journal line.

Exercise 9.9 – Vendor Payment

You want to pay the invoice “VI908” which you have posted in the previous exercise. Register the payment in a vendor payment journal with your journal name P-#. Pay from the bank account B-## of exercise 9.4 and reduce the payment amount by the applicable cash discount.

Before posting, check the vendor balance and the bank account balance. Then post the payment and check the balances, the voucher transactions, and the transaction origin for the payment.

Instructions

Proceed the same way as described in the previous exercises to check the vendor balance and the bank account balance.

In order to register the vendor payment in the current exercise, open the form *Accounts payable > Payments > Payment journal* and click the button *New* to create a journal header. Then select the journal name of exercise 9.5 in the column *Name*.

Click the button *Lines* in the action pane to access the journal lines next. In the journal lines, enter a new record and select your vendor in the column *Account*.

Save the record and click the button *Settle transactions* in the toolbar of the journal line to access the settlement dialog, which provides the easiest option to apply a

payment to a particular invoice. In this dialog (see Figure 9-12), select the checkbox *Mark* in the line with the invoice of exercise 9.8 and close the dialog by clicking the button *OK*.

Settle transactions for 99-Vendor of exercise 3.2

OVERVIEW GENERAL PAYMENT SETTLEMENT REMITTANCE CASH DISCOUNT FINANCIAL DIMENSIONS WITHHOLDING TAX

Mark selected Unmark all Apply payment schedule

✓	Mark	Fully settle	Invoice	Due date ▼	Cash discount date	Amount	Currency
✓	<input type="checkbox"/>	<input type="checkbox"/>	VI-705	9/25/2016	8/10/2016	16,000.00	USD
✓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VI908	9/25/2016	8/10/2016	50.00	USD

LINE DETAILS

CASH DISCOUNT

	AMOUNT	TAKEN	TO TAKE	FULL SETTLEMENT	INVOICE DATE	COMPANY
TRANSACTION CURRENCY: USD	-1.50	0.00	-1.50	0.00	7/27/2016	usmf
PAYMENT CURRENCY: USD	-1.50	0.00	-1.50	0.00		
USE CASH DISCOUNT	Normal					

TOTALS

	PAYMENT AMOUNT	SETTLEMENT BALANCE	ESTIMATED CASH DISCOUNT	VENDOR BALANCE
ACCOUNTING CURRENCY: USD	0.00	-48.50	1.50	-32,637.37
PAYMENT CURRENCY: USD	0.00	-48.50	1.50	

OK

Figure 9-12: Selecting the invoice to be paid in the open transaction settlement form

The payment amount is then transferred to the *Debit* field in the payment journal line. Since your payment is within the cash discount period, cash discount is deducted from the invoice amount.

Select the offset account type "Bank" and enter your bank account in the column *Offset account* as shown in Figure 9-13. Then click the button *Post* in the action pane of the journal lines or the journal header to post the journal.

Payment journal

00479 : P-99 Vendor payments

LIST GENERAL PAYMENT PAYMENT FEE REMITTANCE BANK HISTORY POSTDATED CHECKS

+ New Delete Settle transactions Financial dimensions Sales tax Payment status Voucher View marked transactions

✓	Date	Voucher	Company	Account	Vendor name	Description	Debit	Credit	Curre...	Offset acc...	Offset account	Me
✓	7/27/2016	APPM000395	usmf	99-004	99-Vendor of exe...		48.50		USD	Bank	8-99	

DEBIT CREDIT BALANCE

	DEBIT	CREDIT	BALANCE
VOUCHER	48.50	48.50	0.00
JOURNAL	48.50	48.50	0.00

Figure 9-13: Journal line before posting the vendor payment

In order to check the bank account balance after posting the vendor payment, open the form *Cash and bank management > Bank accounts* and select your bank account. You can view the balance, which now is the total of the current transaction and the transaction of exercise 9.7, in the appropriate FactBox or in the balance form (click the button *Balance* in the action pane to access this form). The button *Transactions* in the action pane of the bank accounts page provides access to the bank transactions. In the bank transactions, click the button *Voucher* to access the ledger transactions related to a bank transaction. In the ledger transactions (voucher transactions), click the button *Transaction origin* to view related transactions in all modules.

If you want to view the vendor balance and transactions, access the vendor form where similar inquiries are available (compare exercise 9.8).

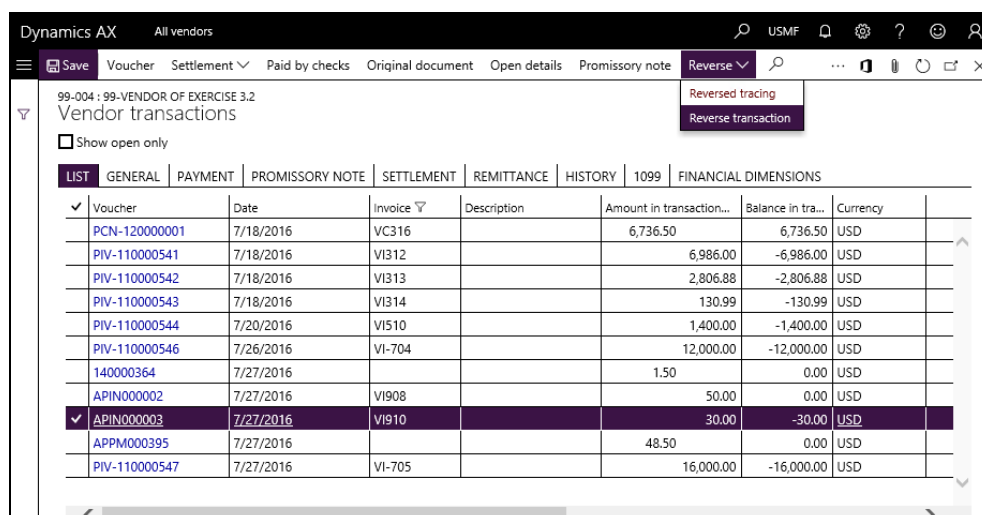
Exercise 9.10 – Transaction Reversal

Your vendor of exercise 3.2 now submits the invoice “VI910” with a total of USD 30.00. Register and post this invoice.

After posting you notice that the posted transaction is incorrect. You want to reverse it for this reason. Before reversing, check the vendor transactions and the vendor balance and – for the expense account – the ledger transactions and the ledger balance. Then reverse the invoice and check the balances and the transactions again.

Instructions

Open the form *Accounts payable > Invoices > Invoice journal* and register the invoice (similar to exercise 9.8). After posting the invoice, open the vendor form to check the balance and the transactions like in exercise 9.8.



LIST	GENERAL	PAYMENT	PROMISSORY NOTE	SETTLEMENT	REMITTANCE	HISTORY	1099	FINANCIAL DIMENSIONS
✓	Voucher	Date	Invoice	Description	Amount in transaction...	Balance in tra...	Currency	
	PCN-120000001	7/18/2016	VC316		6,736.50	6,736.50	USD	
	PIV-110000541	7/18/2016	VI312		6,986.00	-6,986.00	USD	
	PIV-110000542	7/18/2016	VI313		2,806.88	-2,806.88	USD	
	PIV-110000543	7/18/2016	VI314		130.99	-130.99	USD	
	PIV-110000544	7/20/2016	VI510		1,400.00	-1,400.00	USD	
	PIV-110000546	7/26/2016	VI-704		12,000.00	-12,000.00	USD	
	140000364	7/27/2016			1.50	0.00	USD	
	APIN000002	7/27/2016	VI908		50.00	0.00	USD	
✓	APIN000003	7/27/2016	VI910		30.00	-30.00	USD	
	APPM000395	7/27/2016			48.50	0.00	USD	
	PIV-110000547	7/27/2016	VI-705		16,000.00	-16,000.00	USD	

Figure 9-14: Reversing an invoice in the vendor transactions

In order to reverse the current invoice, access the vendor transactions first (click the button *VENDOR/Transactions/Transactions* in the vendor form after selecting the vendor). Select the appropriate invoice and click the button *Reverse/Reverse transaction* in the transaction form as shown in Figure 9-14 next. In the following dialog, you can edit the *Reversal posting date* before you click the button *OK* to post the reversing transaction.

After posting the reversal, you can check the balance and the transactions as you have done in the previous exercises.