# Retail Application Functionality in Microsoft Dynamics AX 2012 R2

## Part 1

**DISCLAIMER**

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## 1 ORGANIZATION

## OVERVIEW

In this module we will discuss the organization model in Microsoft Dynamics AX 2012 is used to create the hierarchical structures that can be used for the performance improvements cycle.

**An organization is a group of people who are working together to perform a business process or achieve a goal. Organizational hierarchies represent the relationships between the organizations that make up your business.**

The conceptual model for Retail Organizations is as shown in the Architecture – Retail Conceptual Model.
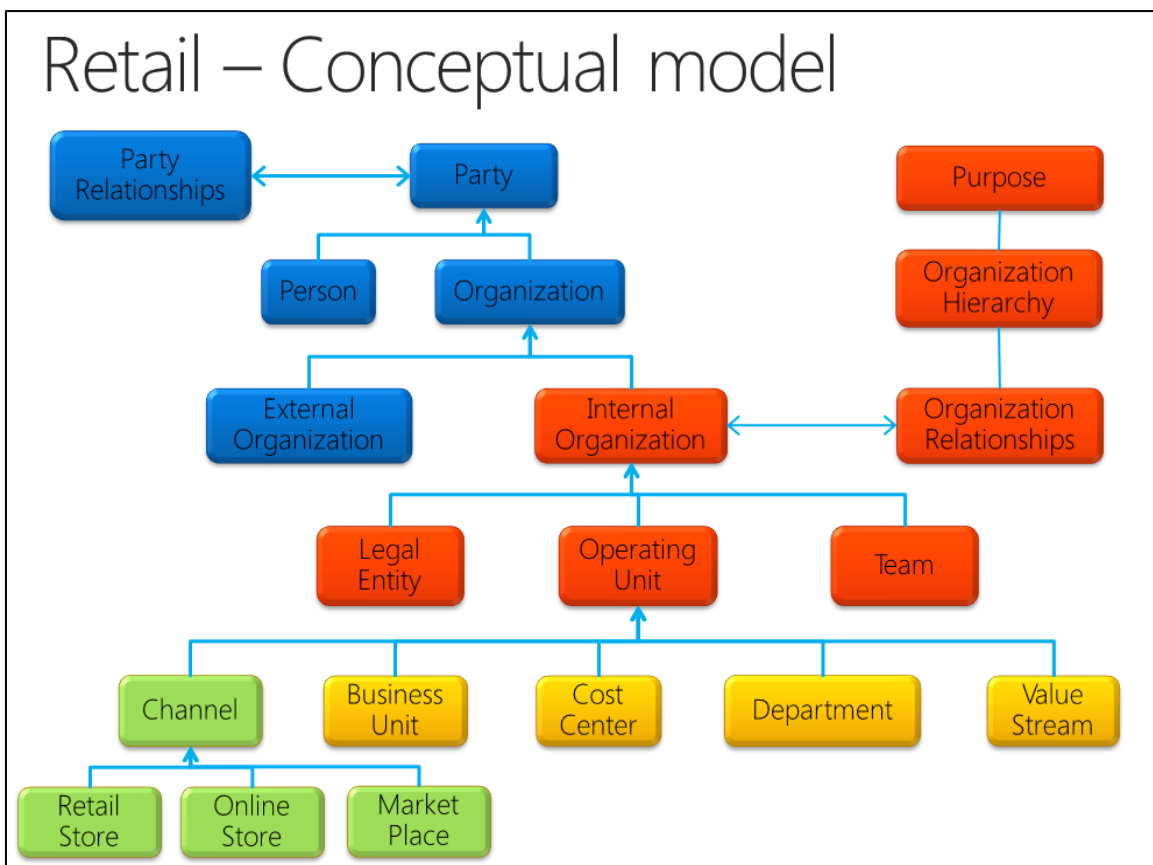


**Figure 1 – Architecture – Retail Conceptual Model**

International corporations can grow from inside or through mergers and acquisitions. They can also grow by targeting new markets, or they can establish new subsidiaries or obtain new legal entities in their own country or other countries. Additionally, International corporations can grow by targeting new consumer market segments or vertical industry segments. The new markets they serve might require new products and services. Effectively measuring the performance of such a growing business can become a challenge.

Typically, these corporations measure performance that is based on the **dimensions** of the business, such as **business units, business divisions, lines of business, or product lines**. Corporations can also be organized based on these dimensions, or on **functions** such as **sales, marketing, product development, production, human resources, and accounting**. In a mixed organization, services such as human resources and accounting are shared across business units.

Corporations might need both internal and external reporting structures. Generally, a legal or statutory structure is used for legal, regulatory, or external reporting requirements of federal, state, or local government entities. An operating or managerial structure is used for internal profit and loss reporting and for measuring the performance of the organization. Nonprofit, public sector, and governmental organizations can require an operating structure to create a statement of financial position.

Most corporations use an iterative operating cycle of **Monitor > Measure > Analyze > Improve**. The Analyze phase results in new business rules and policies, and new strategic and operational initiatives that are used to improve performance. This cycle of performance improvement also occurs at lower levels of the organization, such as business units, divisions, departments, and cost centers.

## 1.1 INTERNAL ORGANIZATION

There are two types of internal organizations—**legal entities** and **operating units**.

To create both types of organizations go to Organization **administration > Setup > Organizations** and then select **Legal entities** or **Operating unit**.
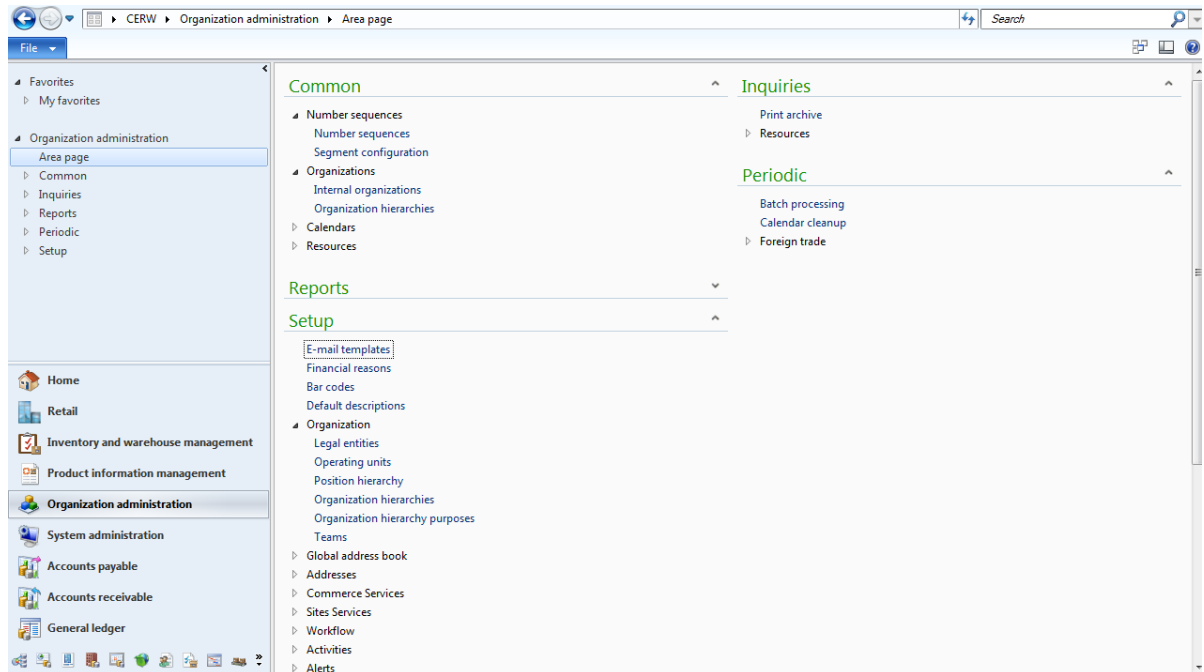
**Figure 2 – Microsoft Dynamics AX 2012 – Retail – Organization Administration Area Page**

## 1.2 ORGANIZATION HIERARCHY

Set up organizational hierarchies to view and report on your business from different perspectives. For example, you can set up a hierarchy of legal entities for tax, legal, or statutory reporting. Set up a hierarchy that is based on operating units to report financial information that is not legally required, and is still used for internal reporting. For example, you can create a purchasing hierarchy to control purchasing policies, rules, and business processes.

Organizations in a hierarchy can share parameters, policies, and transactions**.**

◆ **Important**

**An organization can inherit or override the parameters of its parent organization. However, shared master data, such as products and address books, applies to the whole organization and cannot be overridden for individual organizations.**

The following topics describe some suggestions and guidance about how to model organization hierarchies. However, business requirements should be the primary factor that determines your approach. The size and complexity of the business are important considerations in creating the hierarchy.

## 1.2.1  ORGANIZATION MODELING FOR A SMALL ORGANIZATION

Typically, small organizations have just one or a few legal entities. Frequently, the legal structure is also used as the operating structure, because the business includes a limited number of product lines or groups. A small organization can use the legal structure to measure performance and control operations for product lines.

An organizational hierarchy is not required for a small organization, if the business does not require complex internal control policies and data security access that are based on hierarchies. Simple policies and data security can be based on a list of legal entities that is not organized in a hierarchy. However, we recommend that you always create a single mixed hierarchy to support the organization as it grows. If more complex scenarios for internal control, such as audit control and invoice control become necessary, a small organization must define additional hierarchies that consist of legal entities only.

A typical retail organization has a single mixed hierarchy that has a legal entity at the top with department and cost centers rolling up to the top.
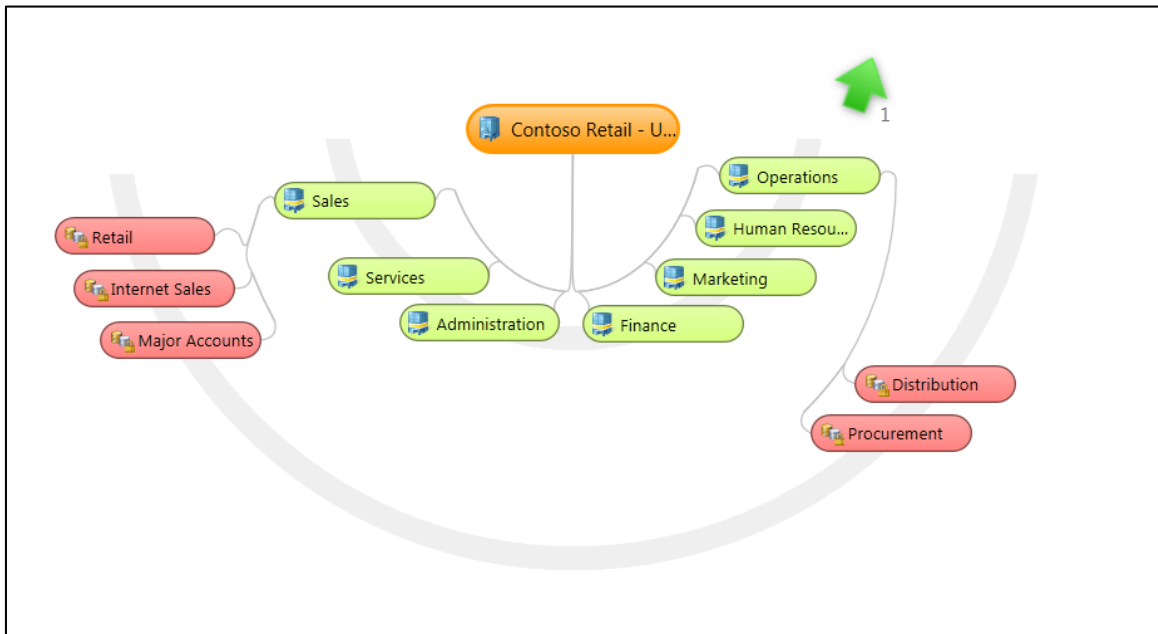


**Figure 3: Typical Retail Organization with a single mixed hierarchy**

## 1.2.2 ORGANIZATION MODELING FOR A MIDSIZED ORGANIZATION

Midsized organizations might require complex internal control policies and therefore might require separate hierarchies for legal entities and operating units.

The structure of the legal entities might be based on industries, consumers or product lines. In the following illustration, the legal entity structure is based on geographic regions.
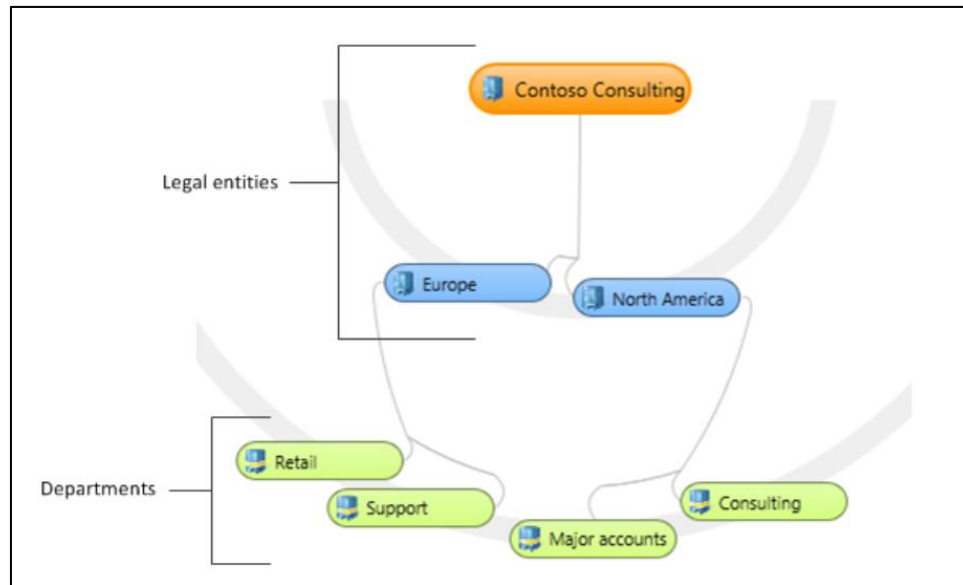


**Figure 4: Typical Midsized Organization – Based on Geographical Regions**

The hierarchy of operating units might have a legal entity at the top and business units under the legal entity. Each business unit might contain departments and each department might consist of cost centers. Departments that are inside a single legal entity in the legal entity hierarchy can roll up to different business units in the operating hierarchy, as is shown in the following illustration.
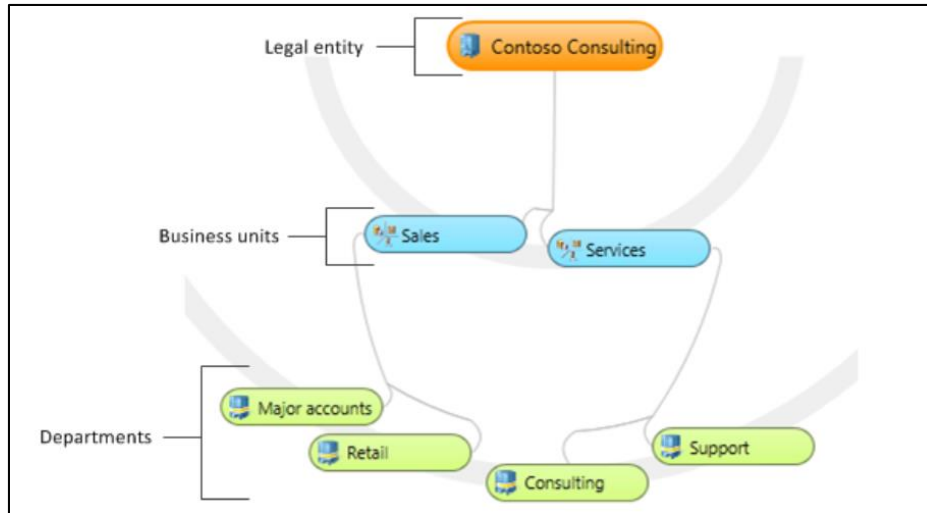
**Figure 5: Typical Midsized Organization – Based on Operating Hierarchy**

## 1.2.3 ORGANIZATION MODELING FOR A LARGE ORGANIZATION

Large organizations grow through mergers and acquisitions. Typically, leaders of these organizations want to analyze the business based on operating structures such as industries, consumers, or product lines. Additionally, leaders restructure their businesses to meet the requirements of the marketplace in an agile manner. A large organization requires an organizational structure that supports internal controls, effective performance measurement, and efficient delivery of goods and services. Large organizations must model multiple hierarchies to measure the effectiveness of restructuring, and to compare old and new organizational structures.

Larger organizations might require some hierarchies that are based on business units and other hierarchies that are based on shared services, such as human resources and IT. However, when you design hierarchies, make sure that cost centers are created in shared service departments, and that the cost centers are positioned inside the business units so that the costs of shared services are appropriately allocated.

## 1.2.4 CREATE OR MODIFY AN ORGANIZATION HIERARCHY

You can use organizational hierarchies to view and report on your business from several perspectives. **For example,** you can set up one hierarchy for tax, legal, or statutory reporting. You can then set up another hierarchy to report financial information that is not legally required, and can still be used for internal reporting.

This topic describes how to create and modify an organizational hierarchy.

Before you create an organizational hierarchy, you must create organizations. For more information, see **Create or modify a legal entity** or **Create or modify an operating unit**.

To create a hierarchy and assign a purpose to the hierarchy, use the following steps.

### 1.2.4.1   CREATE A HIERARCHY

1. Click **Organization administration** > **Setup** > **Organization** > **Organization hierarchies**.

2. Click **New**.

3. Enter a name for the organizational hierarchy.  Notice that the **Name** field is a mandatory field when you create a new hierarchy.

4. Press **CTRL+S** to save the new hierarchy.

5. Click the **Close** button to close the form. Refer to the next topic to assign a purpose to the newly created hierarchy.
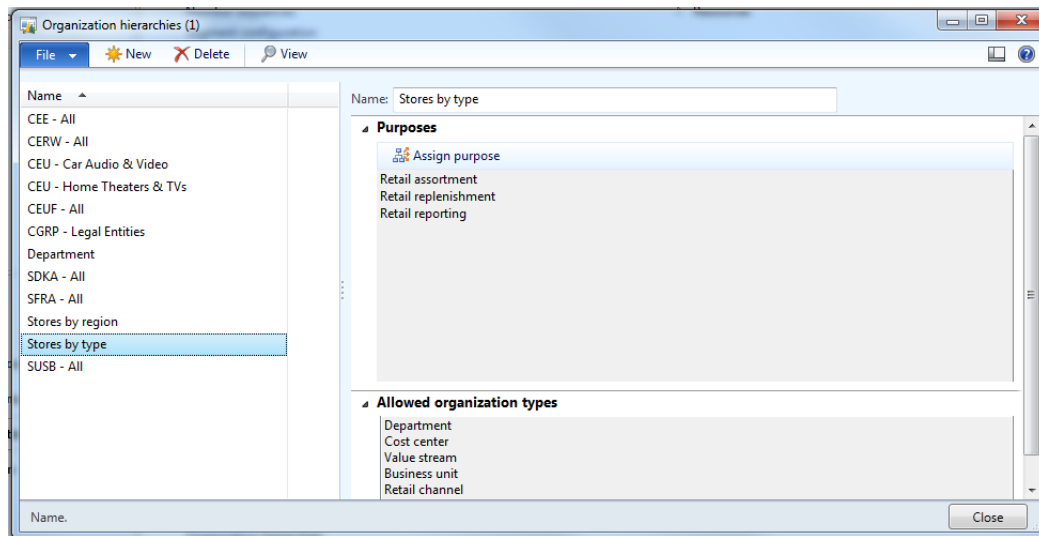


**Figure 6: Organization Hierarchy – Store by Type**



**Buttons**

The buttons that are used to create an organizational hierarchy are described in the following table.

| Button | Description |
|--------|-------------|
| New | Click **New** to create a new organization hierarchy. |
| Delete | Click **Delete** to remove an organization hierarchy.<br>**Caution**<br>Make sure to review the impact on the associated legal entities and operating units before you delete an organization hierarchy. |
| View | Click **View** to view the organization hierarchy structure that links with other legal entities and operating units. |
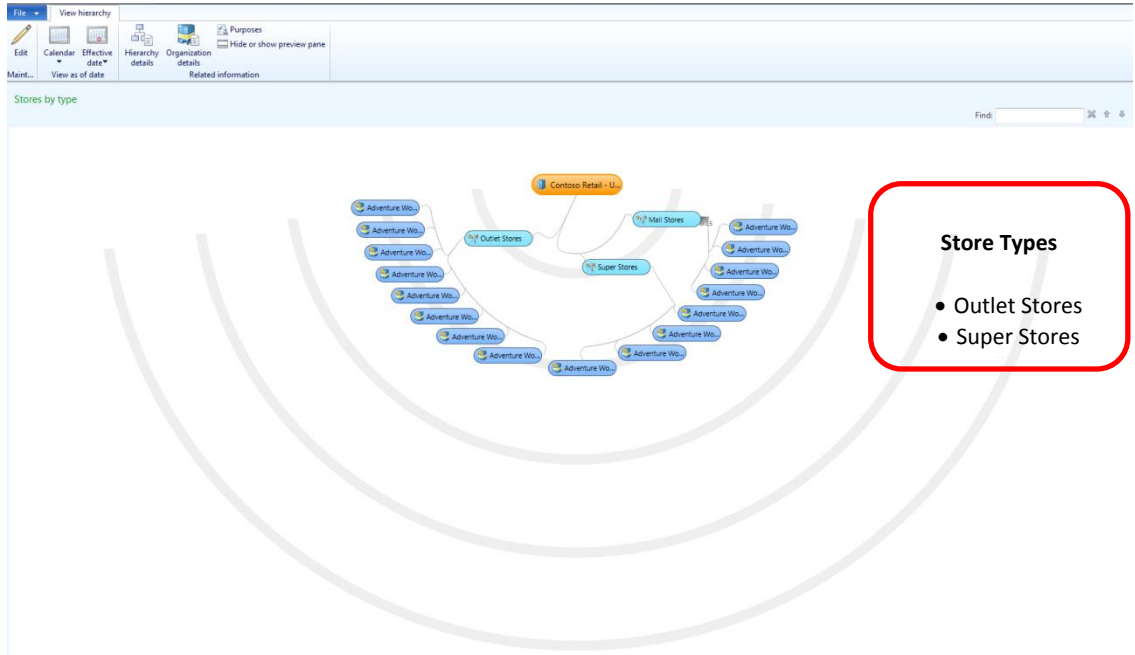


**Figure 7: Organization Hierarchy – Store by Type – Hierarchy Detail View**

### 1.2.4.2 ASSIGN A ORGANIZATION PURPOSE TO THE HIERARCHY

Before you add organizations to a hierarchy, you must select a purpose for the hierarchy. The purpose that you select determines the types of organizations that can be included in the hierarchy. The types of organizations that can be used for each default hierarchy purpose are described in the following table.

| Hierarchy purpose | Description | Organization types allowed |
|---|---|---|
| **Procurement internal control** | Used to define policies that control the purchasing process. | All |
| **Expenditure internal control** | Used to define policies for expense reports. | All |
| **Organization chart** | Used in Human resources to define reporting relationships. | All |
| **Signature authority internal control** | Used to define policies for signing limits. These policies control the spending and approval limits that are assigned to employees. | All |
| **Vendor payment internal control** | Used to define policies for the payment of vendor invoices. | Legal entities |
| **Audit internal control** | Used to define policies for identifying documents for audit. | Legal entities |
| **Centralized payments** | Used to make payments by one legal entity on behalf of other legal entities. | Legal entities |
| **Security** | Used to define the organization's security access to data. | All |

| Hierarchy purpose | Description | Organization types allowed |
|---|---|---|
| **Retail assortment** | Used to define the organization's assortment model for store models. | All |
| **Retail replenishment** | Used to define the organization's replenishment model for store fulfillment. | All |
| **Retail reporting** | Used to define the organization's reporting model for retail channels. | All |
| **Benefit Eligibility Control** | Use to define the benefits eligibility for the legal entities. | Legal Entity |
| **Budget Planning** | Use to define the organization's planning for the budget. | All |
| **Retail POS Posting** | Use to define the organization's posting of retail Point of Sale (POS). | All |
| **Project Management** | Use to define the model of project management for business units and legal entities. | Business Unit Legal Entity |

### Note

Organization hierarchy purposes are predefined in Microsoft Dynamics AX and they cannot be modified.

**The retail types on the organization hierarchy purposes are:**

- Retail assortment
- Retail replenishment
- Retail reporting

- Retail POS posting

To select the purpose and organization hierarchy, follow these steps.

1. **Click Organization administration** > **Setup** > **Organization** > **Organization hierarchy purposes**.
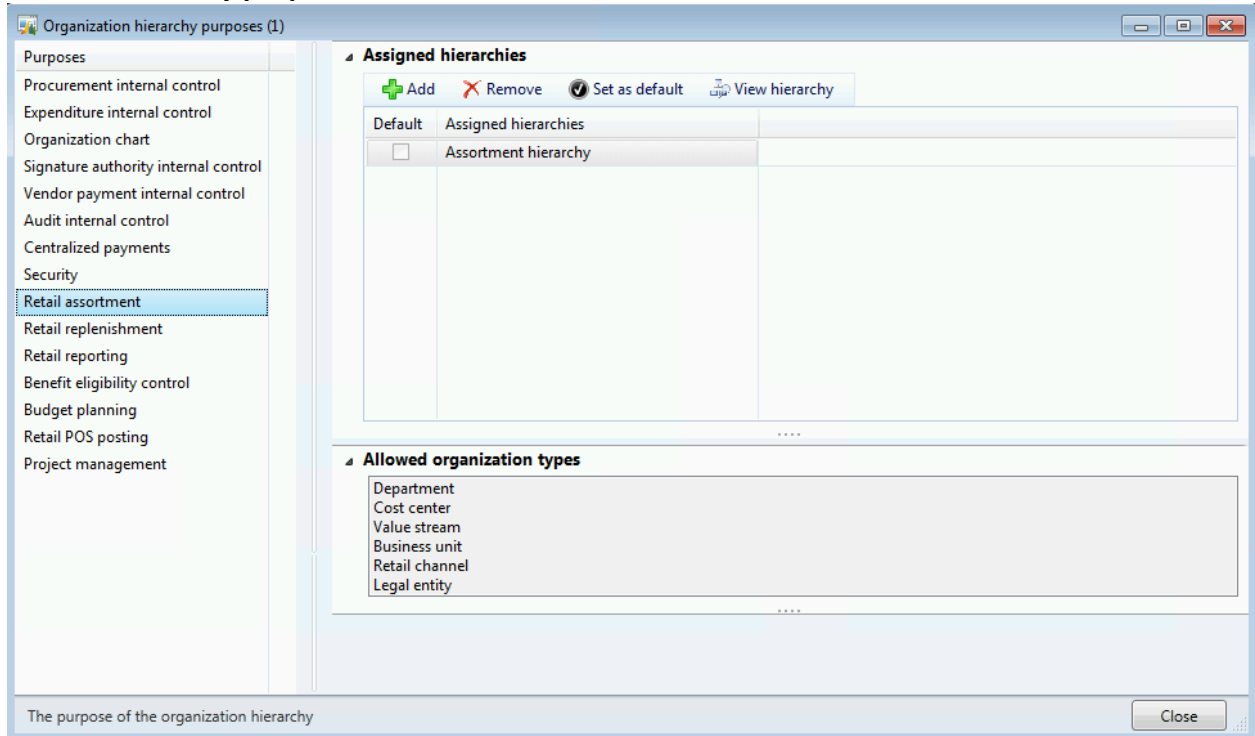


**Figure 8: Organization Hierarchy Purpose – Retail Assortment**

☑ **Note**

You can use the **Allowed organization types** with a list of organization types that you can associate to the purpose.

2. Select a purpose from the left hand list, and then click **Add**. The **Organizations** form is displayed.
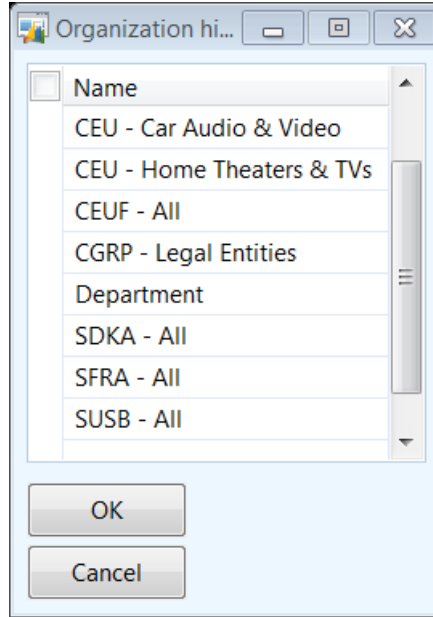
3.  Select the organizational hierarchy that you want to assign the purpose to and then click **OK**.   Select **View hierarchy** to add organizations to the selected organization or alternatively use the **Organization hierarchies** form to perform a similar operation.

4.  Click **Close** to close the form.



**Buttons**

The buttons that are used to select, add and delete purposes and hierarchies are described in the following table.

| Button | Description |
|---|---|
| Add | Click **Add** to add an organization hierarchy to the purpose that is selected from the left hand list. |
| Remove | Click Remove to remove the selected organization hierarchy from the purpose.<br><br>**Caution**<br><br>Make sure to review the impact on the draft assortments and replenishments that are associated with the organization hierarchy before you remove them from a purpose. |

| Button | Description |
|---|---|
| **Set as default** | Click **set as default** to set the selected organization hierarchy as the default for the purpose. |
| **View** | Click **View** to view the organization hierarchy structure. The form that is shown in the Organization Hierarchy Purpose – Retail Assortment – Hierarchy Purpose View figure opens. |
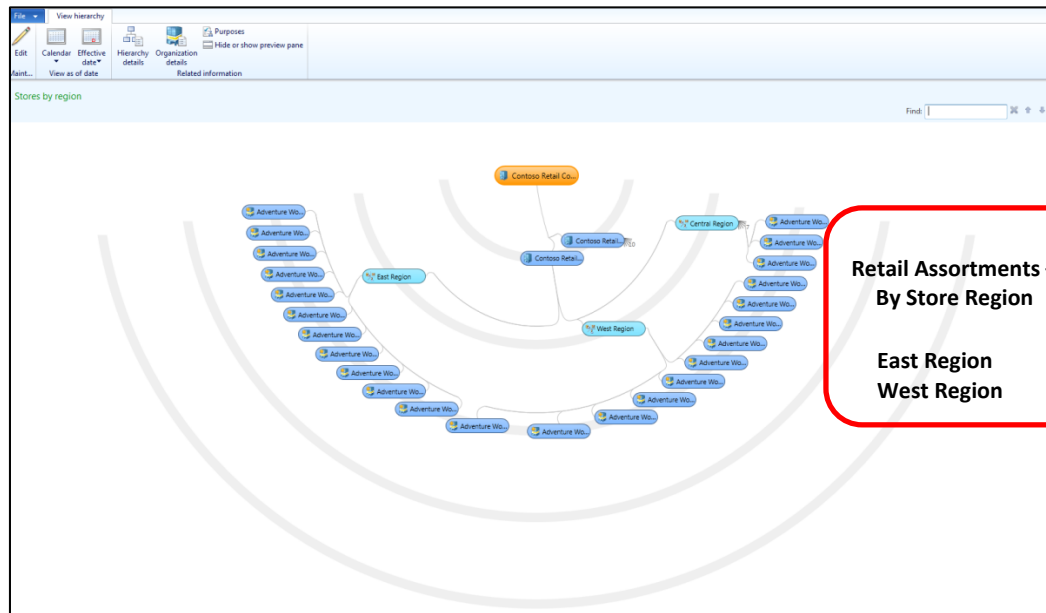


Figure 9: Organization Hierarchy Purpose – Retail Assortment – Hierarchy Purpose View

### 1.2.4.3    ADD ORGANIZATIONS TO THE HIERARCHY

You can add organizations to the hierarchy to represent the structure of the organization's business requirements.

Based on the organization hierarchy purpose, both legal entities and the operating unit can be added to the organization hierarchy.

☑ **Note**

An operating unit or legal entity cannot be added two times in the same organization hierarchy.

To add organizations to an organization hierarchy, follow these steps.

1. Click **Organization administration** > **Setup** > **Organization** > **Organization hierarchies**. Select a hierarchy, and then click **View**.

2. Click **Edit** to add or modify organization types to the organization hierarchy.
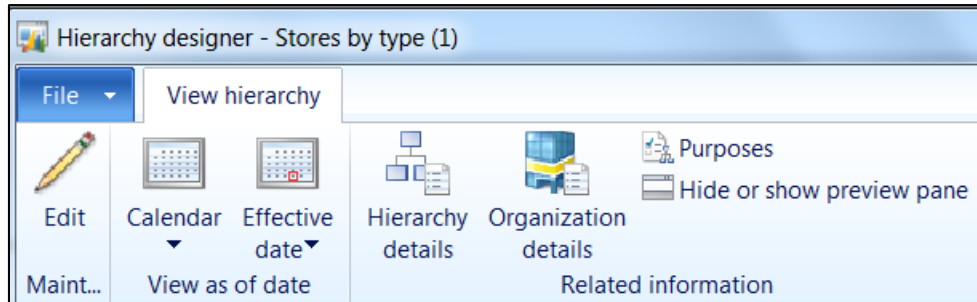


3. Click **Insert**, and then select an organization type. In the form that is displayed, select an organization type, and then click **OK**. (Legal Entity, Department, Cost Center, Value Stream, Business Unit or Retail Channel)
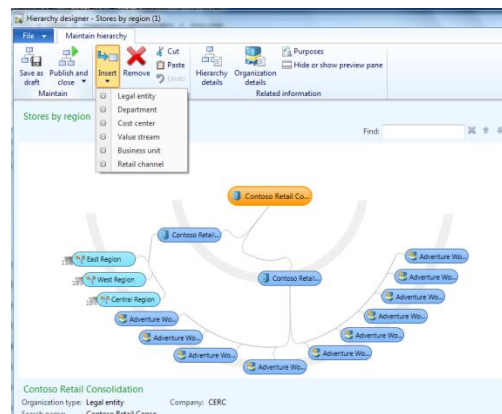


**Figure 10: Edit an Organization Hierarchy – View Insert Org Type Selection**

Example: If you select the legal entity as the organization type to insert, the following screen is displayed.
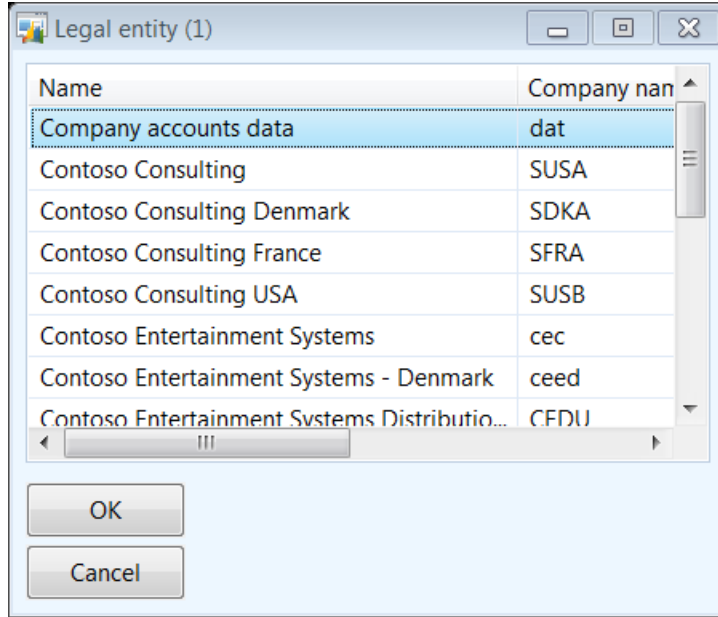
To add levels underneath an organization, select the organization type that you want to add to the levels, then select the value from the FactBox and then click **Insert**.

4. When you finish making changes, save the hierarchy.
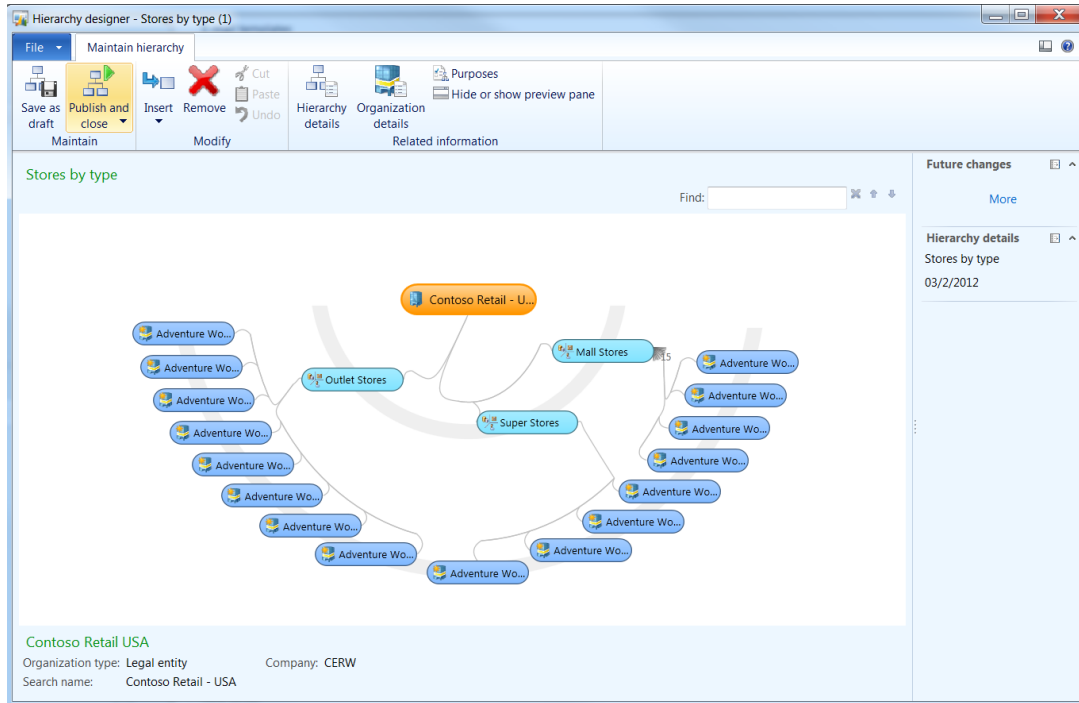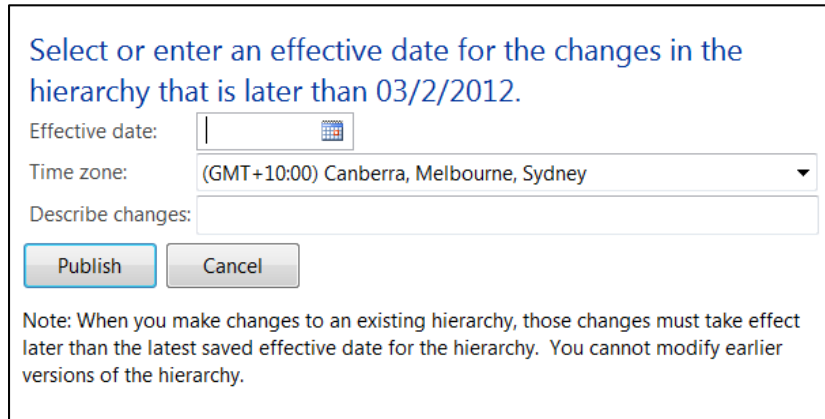


**Figure 11: Save an Organization Hierarchy**

5.  To save a draft, click **Save as draft**. Your changes are saved. However, the hierarchy does not become active.

6.  If you finish making changes to the hierarchy, click **Publish and close**. When you publish a hierarchy, **you must specify an effective date**. The effective date indicates when the hierarchy becomes active.
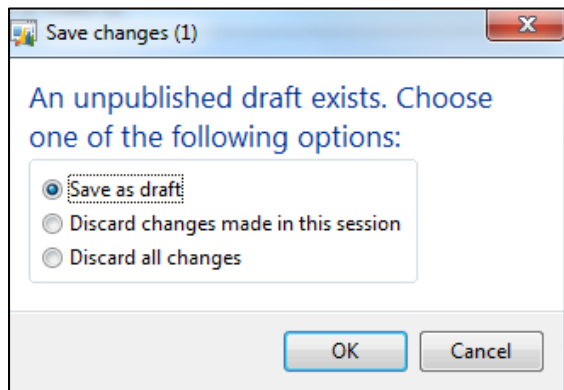


**Figure 12: Publish an Organization Hierarchy –- Enter Effective Date for Publish**

☑ **Note**

If you close the **Hierarchy designer** form without saving the changes, a FactBox appears, with options to save the hierarchy as a draft or to discard your changes. If you close the FactBox without making a selection, your changes will be discarded.



**Buttons**

The buttons that are used to change an organizational hierarchy are described in the following table.

| Button | Description |
|---|---|
| Save as draft | Click **Save as draft** to save the changes to the organization hierarchy as a draft. |
| Publish and close | Click **Publish and close** to commit the changes to the organization hierarchy and to publish the changes. |
| Insert | Click **Insert** to insert an organization type to the organization hierarchy. |
| Remove | Click **Remove** to remove an organization type from the organization hierarchy. |
| Cut | Click **Cut** to cut an organization type from the organization hierarchy. |
| Paste | Click **Paste** to paste an organization type to the organization hierarchy. |
| Undo | Click **Undo** to cancel the recent change to the organization hierarchy. |
| Hierarchy details | Click **Hierarchy details** to view the hierarchy details form for the selected organization type. |
| Organization details | Click **Organization details** for the details to view the organization hierarchy form. |
| Purposes | Click **Purposes** to view the organization hierarchy purpose form that is associated with the organization hierarchy. |
| Hide or show preview pane | Click **Hide or show preview pane** to view or hide details that are related to the selected organization type. |

## 1.2.4.4   MODIFY A HIERARCHY

If a reorganization, merger, or acquisition occurs, you must modify existing organizational hierarchies.

You can view or change a hierarchy as of any future date or as of an effective date is published. However, you cannot publish updates to the hierarchy between existing effective dates. Changes must take effect after the last effective date that is published for the hierarchy.

☑ **Note**

To view or modify a draft hierarchy, you must view the published hierarchy that the draft is based on, and then click **Edit**. Draft hierarchies cannot be accessed directly.

1. Click **Organization administration** > **Setup** > **Organization** > **Organization hierarchies**. Select a hierarchy, and then click **View**.

2. **Future Date Changes**: If you must make a correction, you can delete the last future published version of a hierarchy. In the **Future changes** FactBox, click **More** to open the **Future change dates** form.
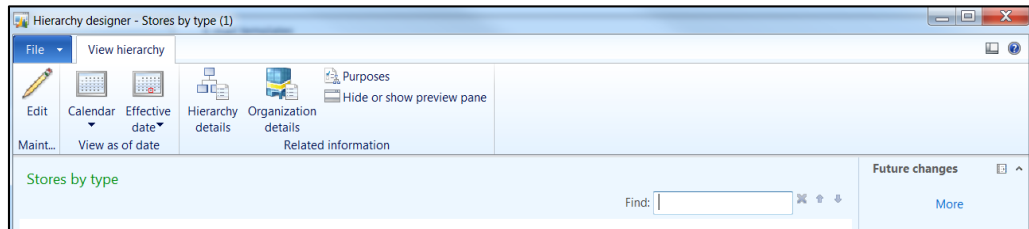


3. Click **Delete latest date**.
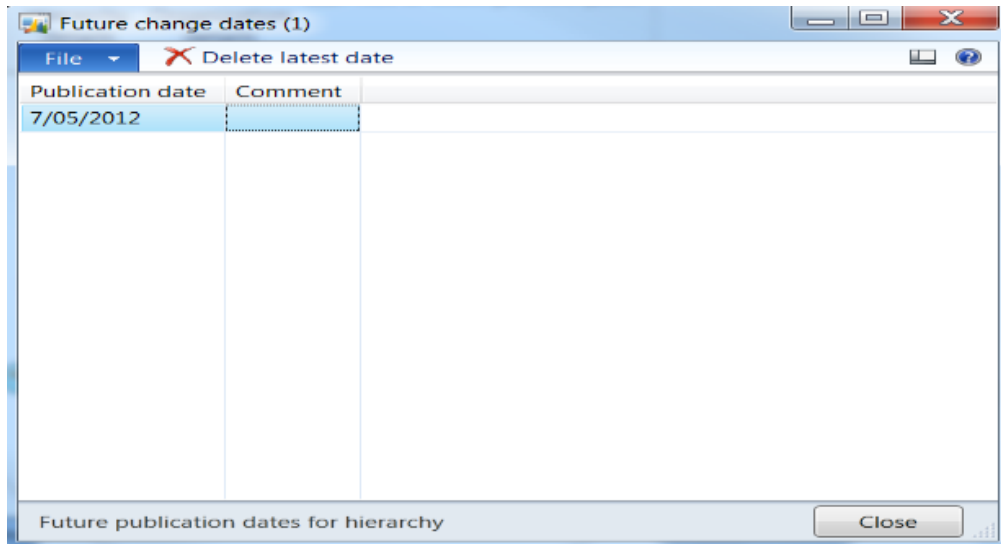


4. Click **Edit**.

   If a draft already exists for the hierarchy, a message appears when you click **Edit**. You can either continue to work on the draft, or delete the draft and start a new draft. You can save a draft for each effective date that is published.

5. Add or remove organizations, or change the position of organizations in the hierarchy.

6.  When you finish making changes, save the hierarchy.

    To save a draft, click **Save as draft**. Your changes are saved. However, the modified hierarchy does not become active. If you finish making changes to the hierarchy, click **Publish and close**. When you publish a hierarchy, you must specify an effective date. If versions of the hierarchy already exist that have future effective dates, your changes must take effect after the last effective date that is published for the hierarchy.

🖉 **Note**

If you close the **Hierarchy designer** form without saving the changes, a FactBox appears, with options to save the hierarchy as a draft or to discard your changes. If you close the FactBox without making a selection, your changes will be discarded.

## 1.3  LEGAL ENTITIES

A legal entity is an organization, and or a company that has a registered or legislated legal structure. Legal entities can enter into legal contracts and legal entities are required to prepare statements that report on their performance.

In Microsoft Dynamics AX, companies are the only legal entities that can be created with a company ID.

### 1.3.1  CREATE OR MODIFY A LEGAL ENTITY

To create or modify a legal entity, follow these steps.

1.  Click **Organization administration** > **Setup** > **Organization** > **Legal entities**.

2.  To create a new legal entity, click **New**. The **New legal entity** form is displayed. Here, you can enter the required information for a legal entity record. Enter information in the **Name**, **Company**, **Country/region** fields and then click **OK**.
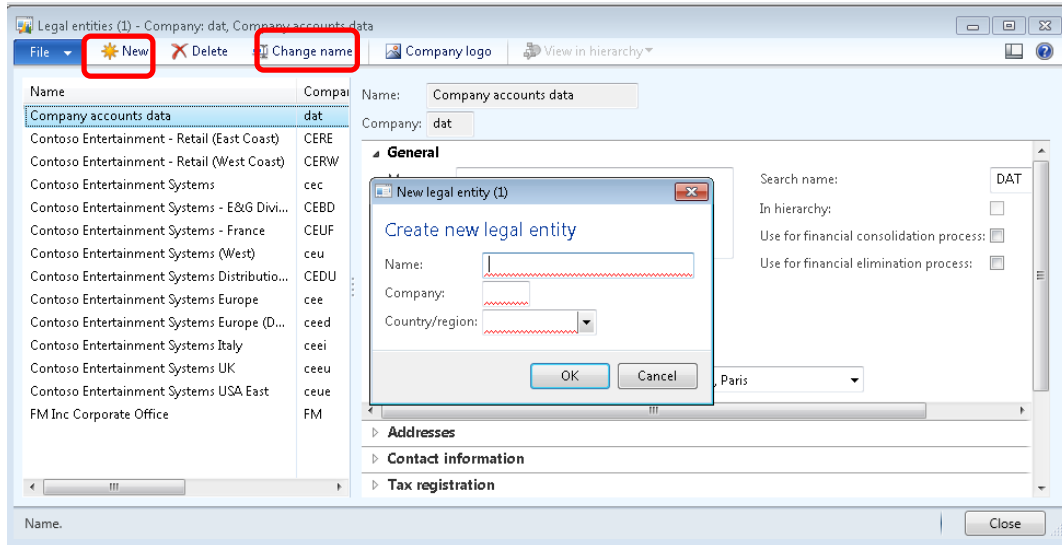
To modify an existing legal entity, select the legal entity in the list. To modify the name of an existing legal entity, click **Change name**. **You cannot change the company ID that is associated with an existing legal entity.**
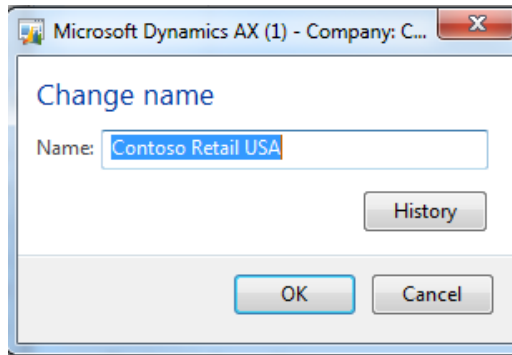


The **History** button on the **Change name** form displays the previous changes that are made to the legal entity.

 **Note:**

A company ID is a unique identifier for the data that is associated with the legal entity. A company can be associated with only one legal entity, and a legal entity can be associated with only one company.

3. On the **General** FastTab, provide the following general information about the legal entity:

- Enter the **Memo** information for the legal entity.

- Enter a **search name**, if a search name is required. A search name is an alternate name that can be used to search for this legal entity by using Enterprise Search.

- **In hierarchy** – The check box indicates if the legal entity is part of any organization hierarchy.

- **Use for financial consolidation process** - Select the check box if the legal entity is used as **a consolidation company.**

  In a consolidation, you gather transactions from several company accounts and combine these transactions into a single company. You can print reports, such as financial statements, from the consolidated company. However, you cannot use the company for daily transactions.

- **Use for financial elimination process** - Select the check box if the legal entity is used as an **elimination company**.

  When a parent company does business with one or more subsidiary companies and the parent company uses consolidated financial reporting, any transactions between the companies must be removed, or eliminated, from the financial reports. These transactions are called elimination transactions. The destination company for eliminations is called the elimination company.

- Select the default **Language** that is used for the legal entity.

- Select the **time zone** in which the legal entity will operate.

4. On the **Addresses** FastTab, enter address information, such as the street name and number, postal code, and city.

   Click **Add** to enter a new address record, or click **Edit** to modify an existing address record. For more information about the address fields, press **F1** in the forms that open when you click **Add** or **Edit**.

   Click the **Add** button on the grid. The new address form opens.

- Enter the Name or the description of the address. Notice that the **Name** field is a mandatory field for addresses.
- Select the **Purpose** of the address from the drop-down list box. This includes the business, delivery, invoice or payment, and so on. (The list is a pre-defined list of purposes.)
- Under the **Address** FastTab select the County/region. Enter the postal code and street name. Select city, state and county information. If you want to set the address as the primary address for the legal entity, select the **Primary** check box.
- Underneath the **Contact Information** FastTab, click the **Add** button on the grid to add new contacts. Enter the name or description for the contact.

Select the Type of contact. The options available for contact types include the following:
- o   Phone
- o   Email address
- o   URL
- o   Telex
- o   Fax
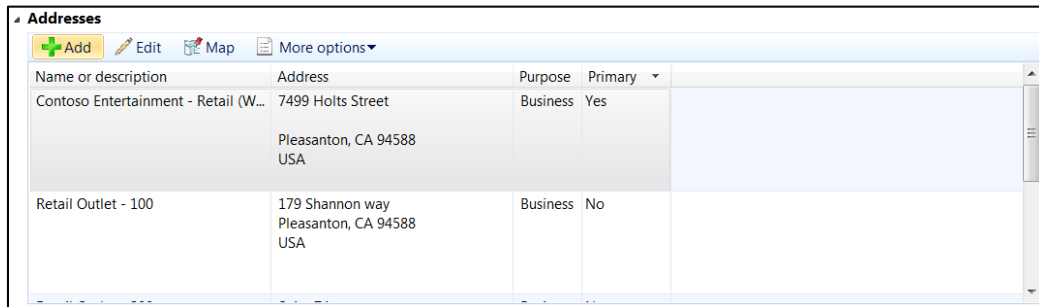
Enter the contact information or the address that is appropriate for the selected contact type.

- Underneath the **General** FastTab, select the **Default Sales tax** that applies to the address or location of the legal entity. Select the time zone in which the address or the location will operate. Select an effective date, if this is necessary, to indicate the date that the address will be active. Select an expiration date if the address is no longer active.
- Select the Time zone from the drop-down list box that applies to the legal entity.

☑ **Note:**

The country/region that you select for the primary address of the legal entity controls the country/region-specific features that are available for the legal entity.



5. On the **Contact information** FastTab, enter information about the methods of communication, such as email addresses, URLs, and telephone numbers. To enter a new communication record, click **Add**. To modify an existing communication record, click **More options > Advanced**. For more information about the communication fields, press **F1** in the forms that open when you click **New** or **Advanced**.

Click the **Primary** check box for the selected contact information to be set as the primary contact.

6. On the **Tax registration** FastTab, enter the registration number that is required by the country for tax reporting purposes.



7. On the **Tax 1099** FastTab, enter the tax 1099 information for the legal entity.



 **Note:**

**Applicable to USA only**: The fields on this tab are available only to legal entities whose primary address is in the United States.

8.  On the **Statutory reporting** FastTab, enter the registration numbers that are used for statutory reporting. Countries have different registration numbers and the registration numbers are based on the localization that is applied.



9.  On the **Bank account information** FastTab, enter bank accounts and routing numbers for the legal entity.

10. On the **Foreign trade and logistics** FastTab, enter shipping information for the legal entity. This shipping information includes **Intrastat** information.



11. On the **Number sequences** FastTab, you can view the number sequences that are associated with the legal entity. To change this information, use the **Number sequences** form. (Click **Organization administration > Common > Number sequences > Number sequences**.)

12. To view or change the logo that is associated with the legal entity, click **Company logo**.
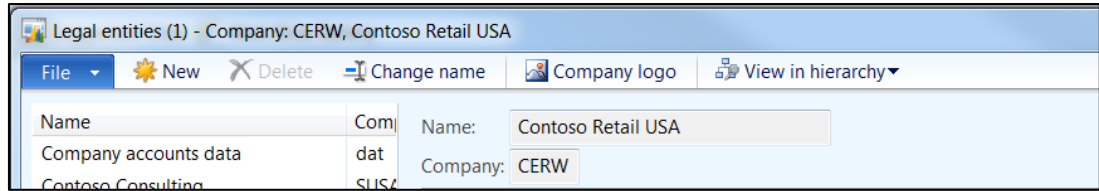


13. To view the legal entity in the organizational hierarchy, click **View in hierarchy**.

☑ **Note:**

Refer to the *Financials I* training manual for more information on legal entity set up.

## 1.4 OPERATING UNITS

An operating unit is an organization type that is used to divide the control of economic resources and operational processes in a business. Typically, people in an operating unit try to maximize the use of scarce resources, improve processes, and account for their performance.

In Microsoft Dynamics AX, the types of operating units include cost centers, business units, value streams, and departments. More information about each type of operating unit is described in the following table.

| Operating unit type | Description | Purpose |
|---|---|---|
| **Cost center** | An operating unit in which managers are accountable for budgeted and actual expenditures. | Used for the management and operational control of business processes that span legal entities. |
| **Business unit** | A semi-autonomous operating unit that is created to meet strategic business objectives. | Used for financial reporting that is based on industries or product lines that the organization serves independently of legal entities. |
| **Value stream** | An operating unit that controls one or more production flows. | Commonly used in lean manufacturing to control the activities and the flows required to supply a product or service to |

| Operating unit type | Description | Purpose |
|---|---|---|
| | | consumers. |
| **Department** | An operating unit that represents a category or a functional part of an organization that performs a specific task, such as sales or accounting. | Used to report on functional areas. A department might have profit and loss responsibility, and might consist of a group of cost centers. |
| **Retail Channel** | An operating unit that represents a retail store that is used to configure and manage stores. | Used to create and configure retail stores. Set the default company, warehouse, sales taxes and customer. |

☑ **Note**:

The retail category on the operating unit is the Retail channel where users can create and configure retail stores. The retail stores can be assigned to the organization hierarchy for assortment and replenishment purposes.

## 1.4.1　CREATE OR MODIFY AN OPERATING UNIT

The following information is a guide to create a new operating unit or modify an existing operating unit.

☑ **Note**:

The operating unit types are predefined in Microsoft Dynamics AX.

## 1.4.1.1 CREATE A BUSINESS UNIT

To create a new operating unit or modify an existing operating unit, follow these steps.

1. Click **Organization administration** > **Setup** > **Organization** > **Operating units**.
2. Click **New**. Select **Business Unit** as the operating unit type. Click **OK**.
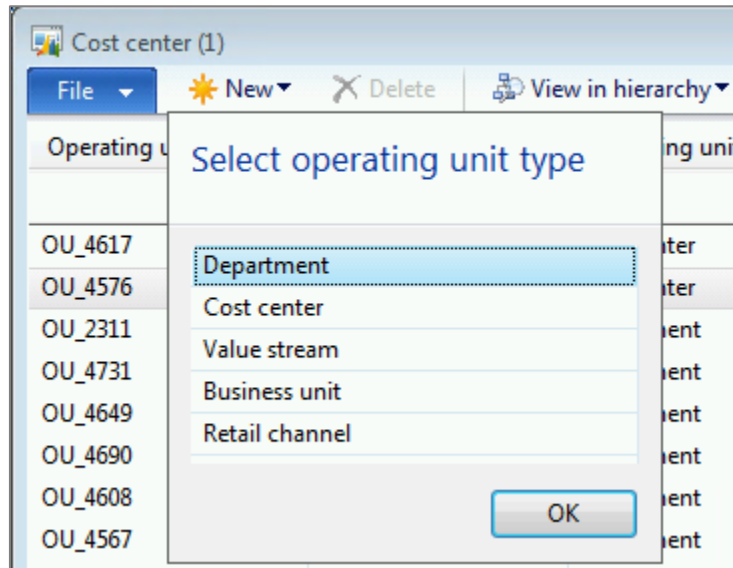


3. Enter the **Name** of the business unit and the **Business Unit number**. The **Name** field and the **Business unit number** field are mandatory.

4. Enter the **Search name** for the business unit.



5. Under the **General** FastTab, enter the **Memo** information if it is required.

6. **In hierarchy** – The check box is selected if the business unit is part of any organization hierarchy.

7. Enter the **DUNS number** for the business unit.

8. Assign the default **Manager** for the business unit.

9. Underneath the **Addresses** FastTab, click the **Add** button on the grid to add address information for the business unit. To edit an existing address, select the address line and click **Edit**.



10. Underneath the **Contact information** FastTab, click **Add** to add new contact information. To edit existing contact information, click **More options -> Advanced**.



### 1.4.1.2   CREATE A RETAIL CHANNEL

To create a retail channel, follow these steps.

1. Click **Organization administration** > **Setup** > **Organization** > **Operating units, and then** click **New**.

2.  Select **Retail Channel** as the operating unit type, and then click **OK**.
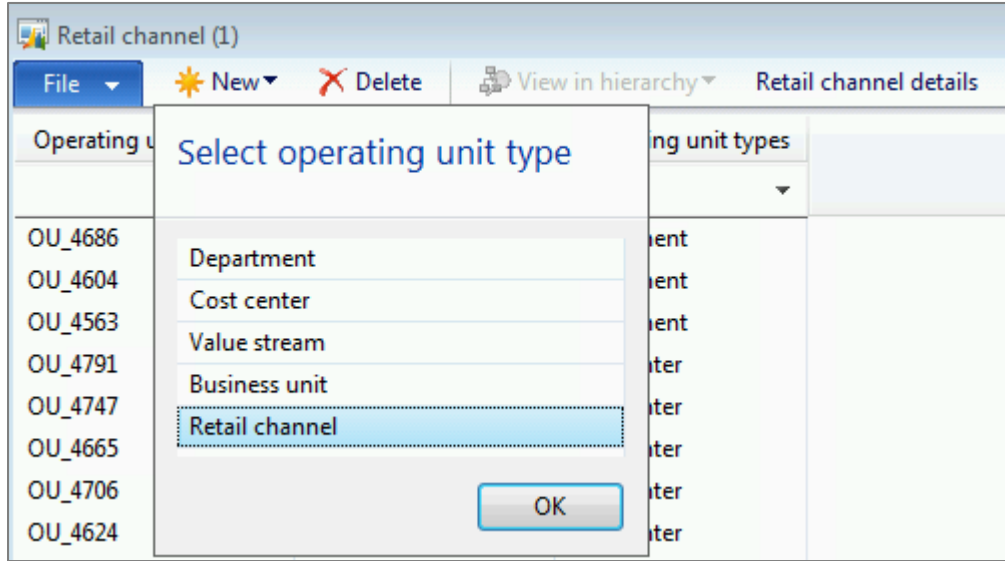


3.  Enter the **Name** of the retail channel.
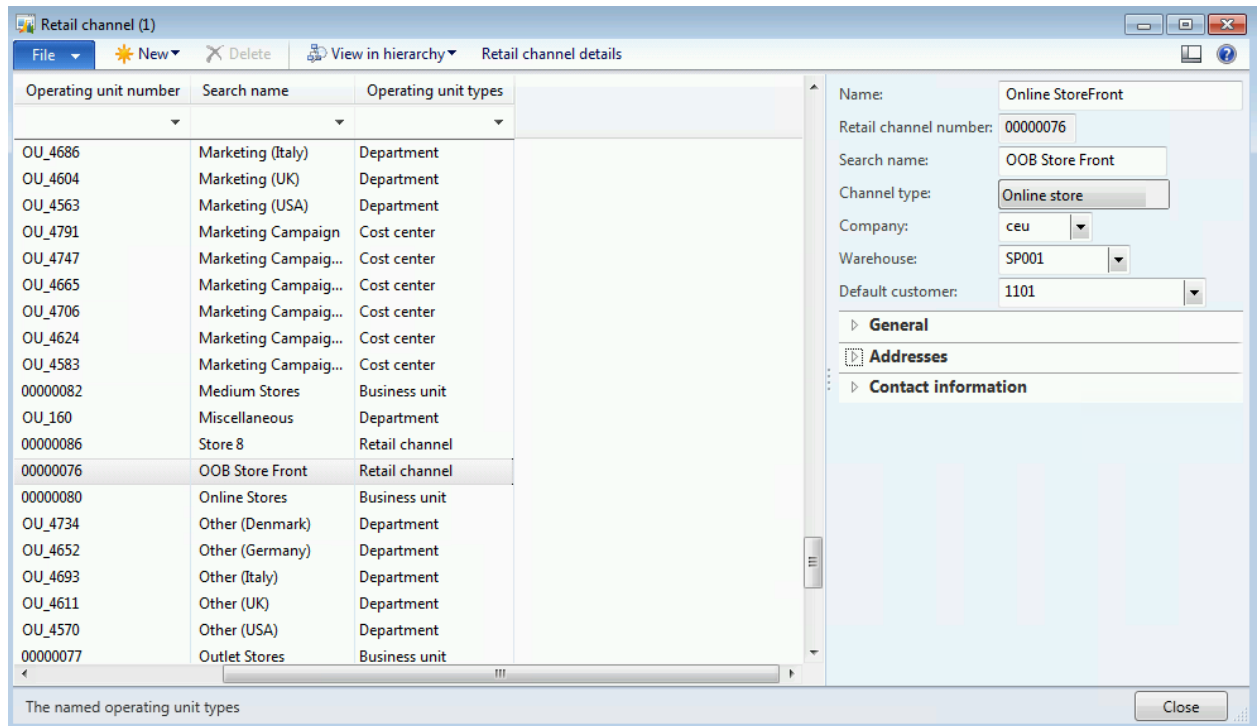


4.  Enter the **Retail channel number**. The retail channel number is the store number. This number is a unique number that you allocate to the store.

5. Enter the **Search name** for the retail channel. A search name is an alternate name that can be used to search for this operating unit by using Enterprise Search.

6. Select the Retail channel type. Options that are available include the following:

| Name | Description |
|---|---|
| **Retail Store** | Select this for a brick and mortal store. |
| **Obsolete online store** | Select this when the online store is deprecated. |
| **Online Marketplace** | Select Online marketplace for commerce services such as e-bay. |
| **Online Store** | Select Online store when this is accessed from the Microsoft SharePoint site. |

7. Select the **Company** from the drop-down list box. This specifies the legal entity that the retail channel will be associated with.  The company will default to the current company the user is working with.

8. Select the default **Warehouse** for the retail channel.

9. Select the default **Sales tax group** for the retail channel. The sales tax is important because it defines how the taxes are calculated at the stores.

10. Select the **Default customer** for the retail channel.

✒ **Note:**

The **Name** field, **Retail channel number** field, **Warehouse** field, **Sales tax group** field and the **Default customer** field are mandatory to create retail channels.

11. On the **General** FastTab, provide general information about the operating unit, such as an identification number, DUNS number, and manager.

12. On the **Addresses** FastTab, click **Add** to enter address information, such as the street name and number, postal code, and city. Click **Add** to enter a new address record, or click **Edit** to modify an existing address record.

13. On the **Contact information** FastTab, enter information about the methods of communication, such as email addresses, URLs, and telephone numbers. To enter a new communication record, click **Add**. To modify an existing communication record, click **More options > Advanced**. For more information about the communication fields, press **F1** in the forms that open when you click **Add** or **Advanced**.

14. To view the operating unit in the organizational hierarchy, click **View in hierarchy**.

The organization hierarchy for a retail company usually consists of the business unit and the stores that are associated to the business unit as is shown in the following illustration.
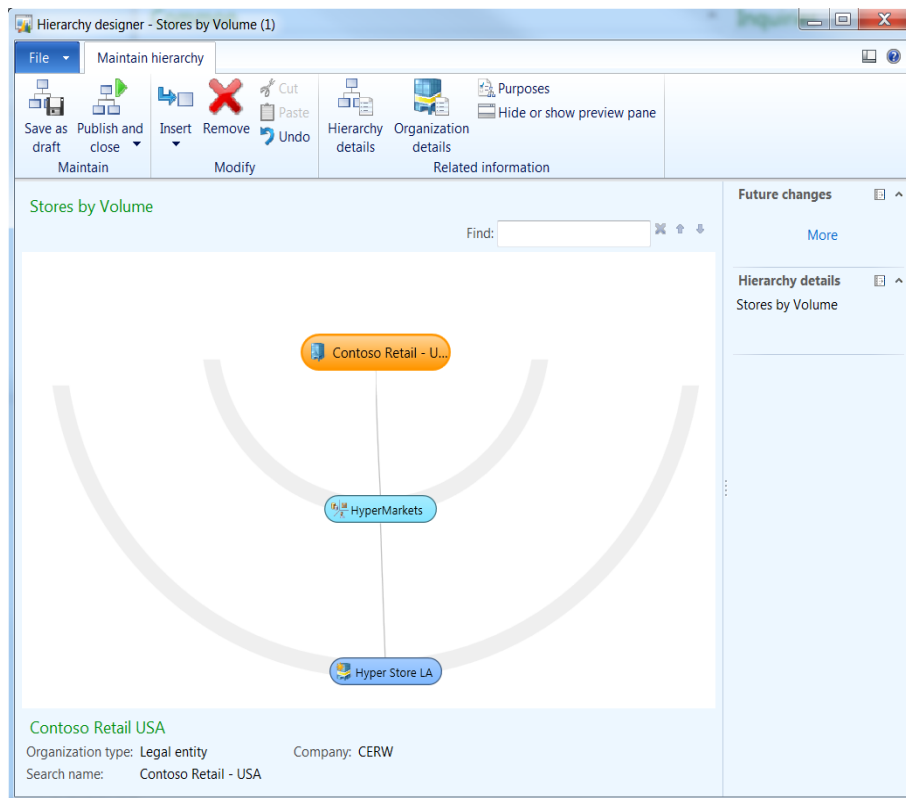


☑ **Note:**

In a Specific Retail Hierarchy, the retail channel can only be added one time.

15. Click **Retail channel details** to view the **Store details** form.
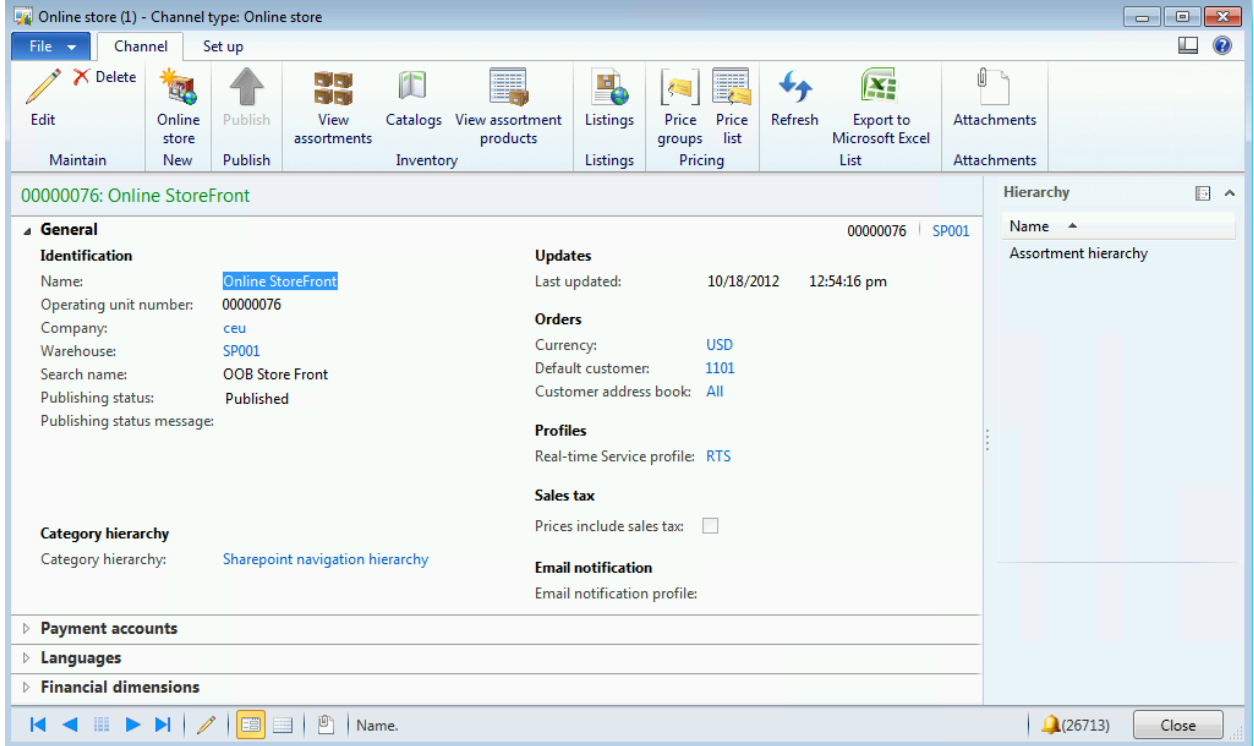


## 1.5 MASTER DATA AND PARAMETERS

| Retail entity | Visibility |
|---|---|
| Retail parameters | Legal entity and enterprise |
| Store | Enterprise |
| Terminal (incl. configuration) | Enterprise |
| Assortment | Enterprise |

| Retail entity | Visibility |
|---|---|
| Staff | Enterprise |
| Tender types | Enterprise |
| Scheduler | Enterprise |
| Discounts offers | Legal entity |
| Reason codes | Legal entity |
| Functionality profile | Legal entity |
| Retail product categories | Legal entity |
| Customer | Legal entity |
| Loyalty | Legal entity |

## 1.6 BEST PRACTICES FOR MODELING ORGANIZATION AND HIERARCHIES

Consider the following best practices when you implement an organization hierarchy:

- Create a department to model the intersection between a legal entity and a business unit. You can then roll up data from a department to a legal entity for

statutory reporting, and from a department to a business unit for internal reporting.

Departments can serve as profit centers. If you use departments, you do not have to use both legal entities and business units as dimensions in the account structure. You can just use departments as a dimension. However, you must use both cost centers and departments as dimensions in the account structure if cost centers are used only as cost accumulators, and departments are used for revenue recognition.

- Allocate the costs of shared service departments, such as Human Resources and Information Technology, so that the costs are accounted for in the profit and loss statements of profit centers, such as departments and business units.

- Model multiple hierarchies for operating units if you have complex requirements for reporting profit and loss.

- Do not model multiple hierarchies for one hierarchy purpose.

- Do not create a hierarchy for every purpose. Usually, you can use one hierarchy for multiple purposes. For example, one hierarchy of operating units can be assigned to all policy-related purposes.

- Create balanced hierarchies. In a hierarchy, all nodes that are the same distance from the root node are defined as a level. In a balanced hierarchy, only one type of operating unit can occur at each level, and the distance from the root node to each level is consistent. If there are intermediate levels between a department and a legal entity or a business unit, placeholder organizations might be required to create a balanced hierarchy.

- Do not model a separate hierarchy of operating units if the structure for legal entities is also your operating structure. A mixed hierarchy of legal entities and operating units might serve both purposes.

- Before you model major restructuring scenarios, use the hierarchy's effective dates to perform an impact analysis and a validation test.

- Use draft mode to change a hierarchy before you publish a new version in a production environment.

- Limit the number of people who have permissions to add or remove organizations from a hierarchy in a production environment. A smaller number reduces the chance that costly mistakes can occur and corrections must be made.

## 2   STORE LOCATOR

**OVERVIEW**

In this module we will discuss how to set up store locator groups, to create groups of stores based on location or other criteria. You can use the locator groups to direct customers to locations where products are available, based on the retail store or the online store where a product inquiry is made. You can set up store locator groups so that, when a customer or a cashier searches for a store where a product is available, only a subset of stores is displayed. For example, the customer is located in the northeast United States, so only stores in that region are displayed.

When you set up a store locator group, you can add one or more stores to the group. You can then assign one or more store locator groups to a store.

**Important**

The store locator feature uses the address for the default warehouse that is assigned to the customer, product, or store to determine the shipping information to use when product orders are shipped. If no address is defined for the default warehouse, an error can occur.

1. To set up a store locator group for a retail store or an online store, following these steps.
    o For a retail store: Click **Retail** > **Common** > **Retail channels** > **Retail stores**. In the **Retail stores** list, double-click a store. In the **Stores** form, on the Action Pane, click the **Set up** tab. Then, in the **Set up** group, click **Store locator group assignment**.
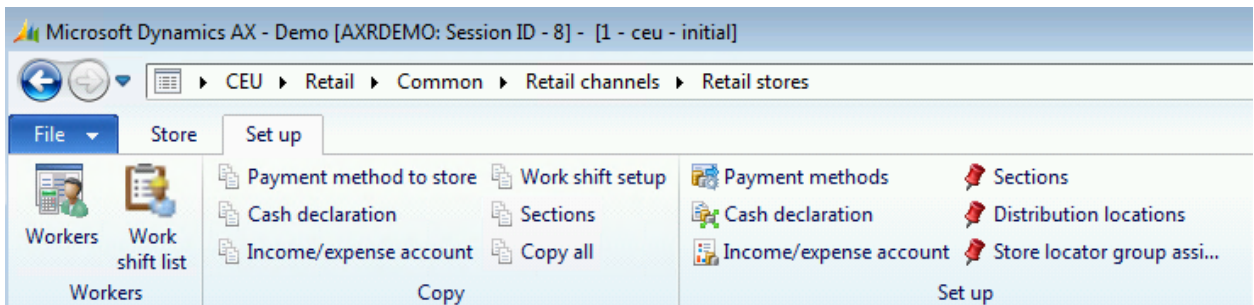


    o For an online store: Click **Retail** > **Common** > **Retail channels** > **Online stores**. In the **Online stores** list, double-click a store. In the **Online store**

form, on the Action Pane, click the **Set up** tab. Then, in the **Setup** group, click **Store locator group assignment**.
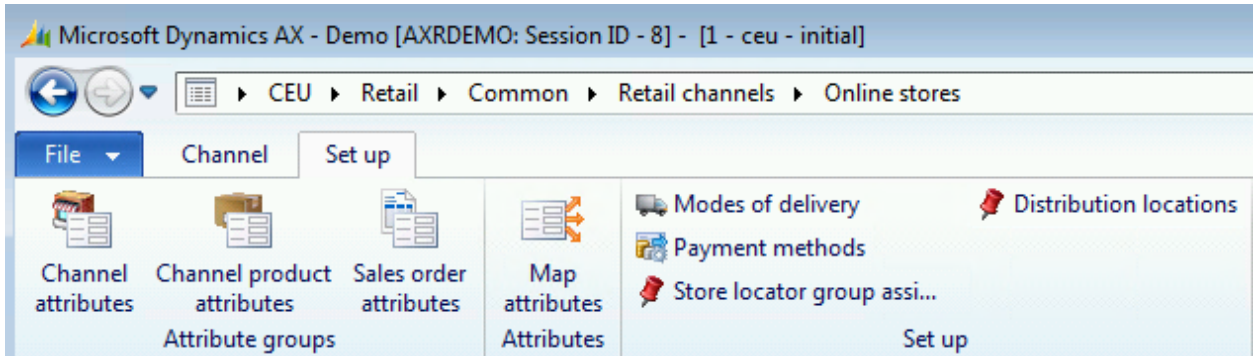


## 2.1.1    SETUP STORE LOCATOR GROUP

Use this form to define store locator groups. Add retail stores and online stores to store locator groups, and use the groups to direct customers to locations where products are available, based on the retail store or the online store where a product inquiry is made.

For example, a customer purchases a product at an online store and wants to pick up the product locally instead of paying for shipping. You can set up store locator groups to display product availability for retail stores only, and only in a specified geographical area.

To setup a store locator group, follow these steps:

1.  Click **Retail** > **Setup** > **Store locator groups**.

    **OR**

    Click **Retail** > **Common** > **Retail channels** > **Retail stores**. In the **Retail stores** list, double-click a store. In the **Stores** form, on the Action Pane, click the **Set up** tab. Then, in the **Set up** group, click **Store locator group assignment**. In the **Store locator group assignment** form, click **Store locator groups**.

    **OR**

    Click **Retail** > **Common** > **Retail channels** > **Online stores**. In the **Online stores** list, double-click a store. In the **Online store** form, on the Action Pane, click the

Set up tab. Then, in the **Setup** group, click **Store locator group assignment**. In the **Store locator group assignment** form, click **Store locator groups**.

2. In the **Store locator groups** form, click **New**, and then enter a name and description for the store locator group.



3. On the **Setup** FastTab, click **Add**, and then, in the **Store** field, select a store to add to the new store locator group. Add a new line for each store that you want to add to the group.
4. Close the form.

## 2.1.2    SETUP STORE LOCATOR GROUP ASSIGNMENT

Use this form to assign retail stores or online stores to a store locator group. When you assign stores to store locator groups, customers are directed to locations where products are available, based on the retail store or online store where a product inquiry is made.

To setup a store locator group assignment, follow these steps.

1. Click **Retail** > **Common** > **Retail channels** > **Retail stores**. In the **Retail stores** list, double-click a store. In the **Stores** form, on the Action Pane, on the **Set up** tab, in the **Set up** group, click **Store locator group assignment**.

   **OR**

Click **Retail** > **Common** > **Retail channels** > **Online stores**. In the **Online stores** list, double-click a store. In the **Online store** form, on the Action Pane, on the **Set up** tab, in the **Setup** group, click **Store locator group assignment**.

2.  In the **Store locator group assignment** form, in the **Locator group** field, select the store locator group to assign a store to.

## 3   RETAIL WORKFLOW

**OVERVIEW**

In this module we will discuss how to set up an approval process, you can create a workflow. A workflow represents a business process. It defines how a document flows through the system and indicates who must complete a task or approve a document. There are several benefits to using the workflow system in your organization. These benefits include the following:

- Consistent processes — The Approval Process can be defined by users for specific documents, such as purchase requisitions and expense reports. Using the workflow system helps to make sure that documents are processed and approved in a consistent and efficient manner.
- Process visibility — Users can track the status, history, and performance metrics of a specific workflow instance. This helps determine whether changes should be made to the workflow to improve efficiency.
- Centralized work list — Users can view a centralized work list to view the workflow tasks and approvals that are assigned to them. This work list is available from the Role Center pages in the Microsoft Dynamics AX client and the Enterprise Portal.

### 3.1.1   CONFIGURE THE WORKFLOW SYSTEM

In Microsoft Dynamics AX, to use the workflow functionality, Microsoft Dynamics AX administrators must complete the following procedures.

#### 3.1.1.1   Specify the workflow execution account

Complete the following procedure to select a domain account to serve as the workflow execution account. The workflow execution account runs business logic for the application and accesses Microsoft Dynamics AX data.

The domain account that you select to serve as the workflow execution account must have the following characteristics:

- Dedicated account—used only for a specific purpose
- Password that does not expire
- Minimal access to network resources

1. Click **System administration** > **Setup** > **System** > **System service accounts**.

2. Go to the **Workflow execution account** area of the form.
3. Specify a domain account to serve as the workflow execution account. You can specify the domain account in one of two ways:
   o Enter the domain and user name, or alias, of the account.
   o Select a Microsoft Dynamics AX user.

   The account that you specify is assigned to the Microsoft Dynamics AX system administrator role.

4. If you use Microsoft Dynamics AX 2012 R2, repeat steps 1 through 3 for each partition in your Microsoft Dynamics AX installation.

### 3.1.1.2   Select number sequences for the workflow system

An identification number is automatically assigned to every workflow that is created and every instance of a workflow that is generated. The identification numbers are based on number sequences. This topic provides information that will help you create number sequences. It also describes how to specify the number sequence that is used to generate IDs for workflows, and the number sequence that is used to generate IDs for workflow instances.

To specify which number sequences are used to generate workflow IDs and workflow instance IDs, follow these steps.

1. Click **System administration** > **Setup** > **System parameters**.
2. Click **Number sequences**.



3. On the **Workflow ID** row, in the **Number sequence code** field, select the number sequence to use to generate workflow IDs.
4. On the **Instance ID** row, in the **Number sequence code** field, select the number sequence to use to generate workflow instance IDs.

### 3.1.1.3   Configure the workflow batch jobs

The workflow system uses batch jobs to process messages, determine due dates for work items, and process notifications for line items.

1. Click **System administration** > **Setup** > **Batch group**.
2. Click **New** to create a new batch group.
3. In the **Group** field, enter a unique name for the batch group. For example, enter Workflow.
4. In the **Description** field, enter a description to help you identify the batch group.
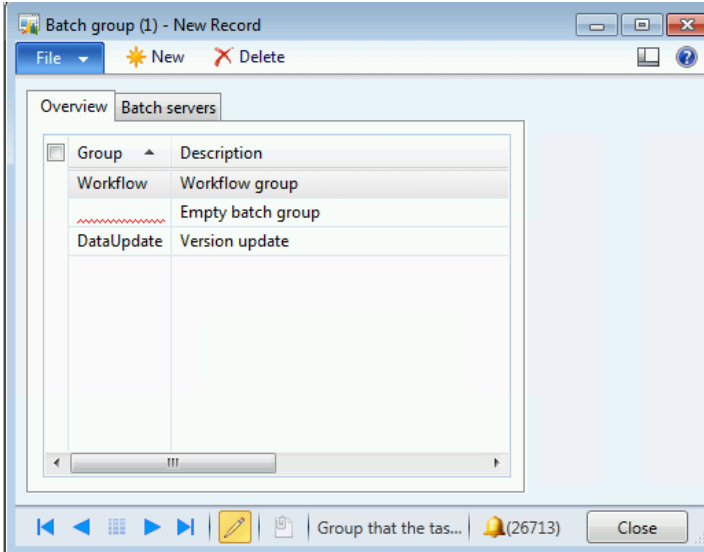
5. Click the **Batch servers** Tab.

   The **Selected servers** list displays the AOS instances that the batch group runs on. The **Remaining servers** list displays the remaining AOS instances that are available as batch servers.

6. Use the arrow buttons to add servers to the **Selected servers** list or to remove servers from the **Selected servers** list.

### 3.1.1.3.1  Run the Workflow infrastructure configuration wizard

Run the **Workflow infrastructure configuration wizard** to specify how often workflow batch jobs should run.

1. Click **System administration** > **Setup** > **Workflow** > **Workflow infrastructure configuration**.
2. On the **Welcome to the Workflow infrastructure configuration wizard** page, click **Next**.
3. On the **Configure the workflow message processing batch job** page, select a batch group, and then click **Next**.
4. On the **Configure the workflow due date processing batch job** page, specify how often workflow due dates should be calculated by doing the following:
   o Select a batch group.
   o Enter a number of hours to indicate how often the batch job should run.
   o Click **Next**.
5. On the **Configure the line-item workflow notifications batch job** page, specify how often line-item notifications should be processed by doing the following:
   o Select a batch group.

- o Enter a number of minutes to indicate how often the batch job should run.
- o Click **Next**.
6. On the **Completing the workflow infrastructure configuration wizard** page, click **Finish** to close the wizard.

### 3.1.1.4 Set up users for the workflow system

To make sure that Microsoft Dynamics AX users can participate in workflow processes, you must complete the following steps:

- **Assign users to roles** – Assign users to roles in Microsoft Dynamics AX.

  1. Click **System administration** > **Setup** > **Security** > **Assign users to roles**.
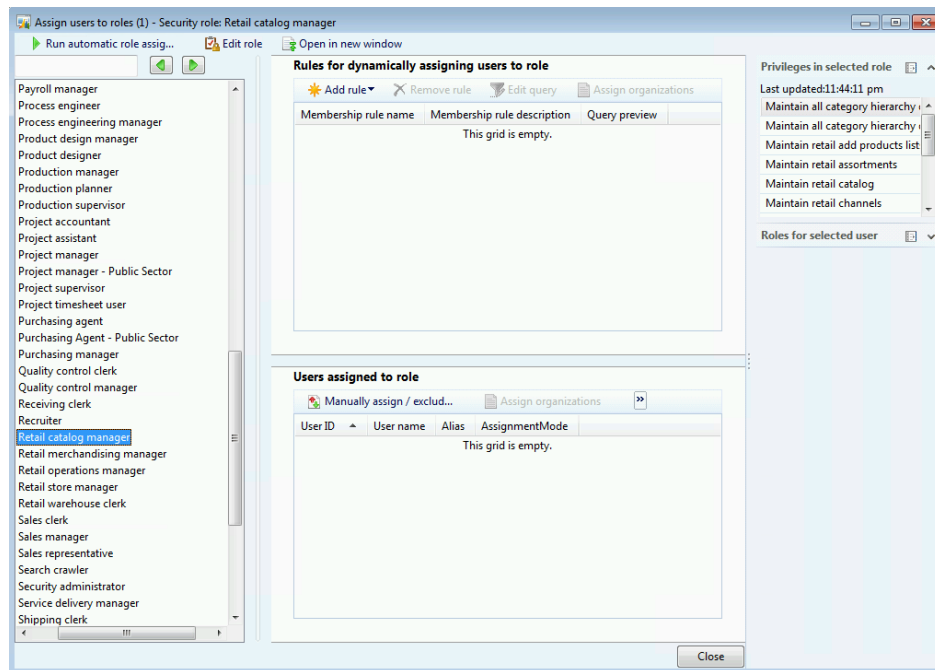


  2. Select a role. The users who are currently assigned to the role are displayed.
  3. In the **Rules for dynamically assigning users to role** pane, click **Add rule** to open a list of queries that can be used for automatic role assignment. Queries in the list use the UserInfo table as the primary data source, and the **User** field is included in the list of fields.

  **Important**

  By default, the **Security administrator** role has access to only a subset of

tables and fields in Microsoft Dynamics AX. If the **Security administrator** role is required to use other tables in a query, the permissions for the role must be modified to grant access to those tables.

4. Select a query in the list.
   a. To modify a query, select it, and then click **Edit query**. In the **Inquiry** form, use the **Range** FastTab to add or remove fields. Click **OK** to save the query. When you save a query, it runs immediately.
5. The rule is assigned a default name. If necessary, you can modify the name or add a description by typing in the list.

- **Assign users to employee IDs** – Assign each user to an employee ID by specifying user relations.

   1. Click **System administration** > **Common** > **Users** > **User relations**.
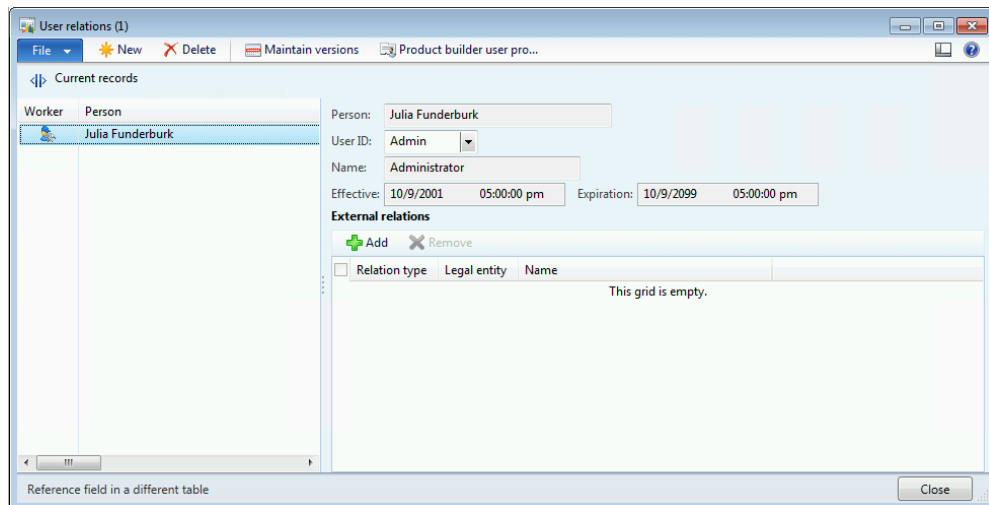


   2. Click **New**.
   3. In the **Person** list, select the person, and then click **OK**.
      a. If the person's name is not in this list, then the person has not completed the customer/partner on-boarding processes and he or she does not exist in the global address book.
   4. In the User ID list, select the Microsoft Dynamics AX user ID for this relation. If the user ID that you want to assign is not in this list, then make sure that the ID is added to the list of Microsoft Dynamics AX users.
   5. If the user is external to your business or organization, such as a customer or partner, click the **Add** button under External relations.

a. In the Relationship list, select the type of external relation for this user.
b. In the Party list, select the user's business or organization.
6. Click **Close** to save your changes.

### 3.1.1.5 Configure workflow notifications

You can configure the workflow system so that users receive email notifications when workflow-related events occur. For example, notifications can be sent to users who have documents to approve.

To use an email template for alerts, broadcasts, or other functions in Microsoft Dynamics AX, you must create an email ID and then specify this email ID for the function.

1. Click **Organization administration** > **Setup** > **E-mail templates**.
2. Press **CTRL+N** to create a new email ID.
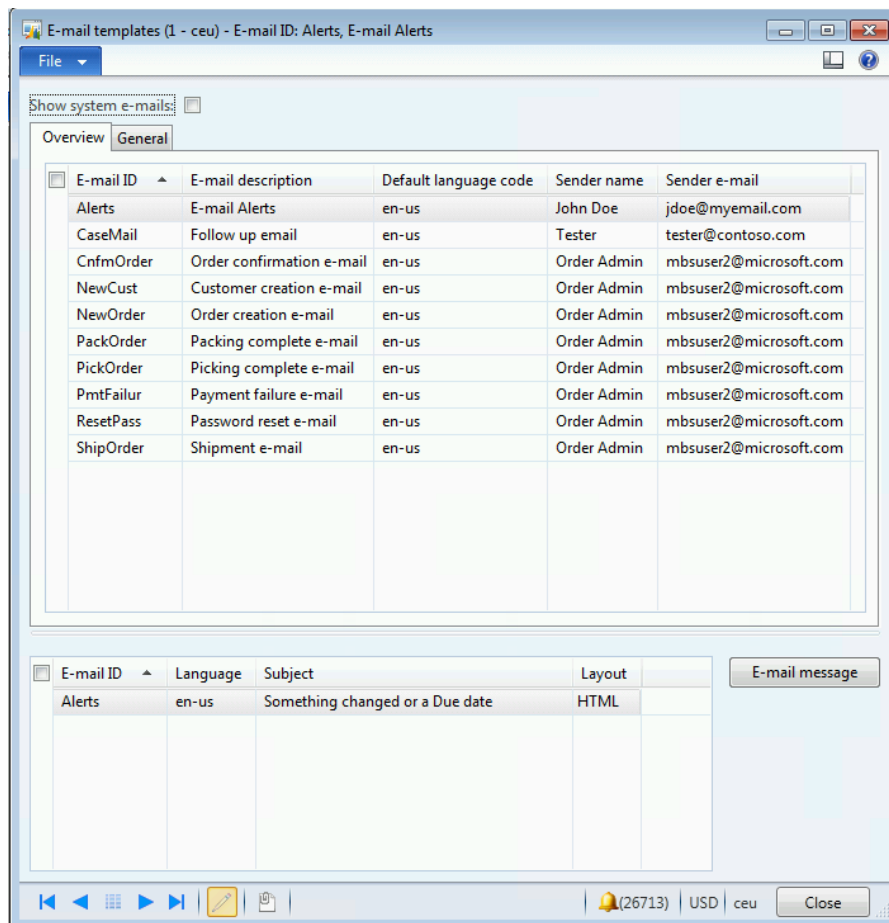
3.  Enter the following information for the email ID:
    - In the **E-mail ID** field, create an ID that corresponds to the function that the ID will be used for.
    - In the **E-mail description** field, create an optional description of the email ID.
    - In the **Default language code** field, select the language code. The language code determines the template to use when a user has set a language that is different from any available templates.
    - In the **Sender name** field, enter the sender name. This is the name that is visible in the recipient's inbox when he or she receives an email message.
    - In the **Sender e-mail** field, enter the email address.
    - In the **Priority** field on the **General** tab, enter a priority. This determines whether the email message appears with priority in the recipient's inbox.
    - In the **Batch group** field on the **General** FastTab, enter a batch group. This determines the batch that will process the email construction.
4.  In the lower pane, press **CTRL+N** to create a template. You can create a template for each language. For each template, enter the following information:
    - The email ID is automatically entered in the **E-mail ID** field, based on the ID that you created.
    - In the **Language** field, select the language code.
    - In the **Layout** field, select either **XSLT** or **HTML**. Depending on your selection in the **Layout** field, the message is displayed in either **XSLT** or **HTML**.
5.  Click **E-mail message** to open a form where you can type the contents of your message. Depending on your selection in the **Layout** field, the **XSLT editor** form or the **E-mail editor** form is opened.

**Tip**

A set of merge-data elements can be added to the email template. You can insert the merge-data elements into the body text and the subject line of the email template. For example, if you add the %subject% merge-data element, the actual value of %subject% is inserted into the email message when it is sent.

### 3.1.1.6   Configure work item queues

A manual task can be assigned to a *work item queue*. A work item queue is a collection of documents that must be processed. Every work item queue must have users assigned to it who are responsible for monitoring the queue and processing the documents that are in it. The following topics explain how to create and use work item queues.

When you create a queue, you are automatically assigned as the administrator of the queue. Queue administrators can change the status of the queue, assign users to the

queue or unassign users from the queue. Additionally, the administrator can specify the conditions for which the queue is used.

To configure a work item queue, follow these steps.

1. Click **Organization administration** > **Setup** > **Workflow** > **Work item queues**.
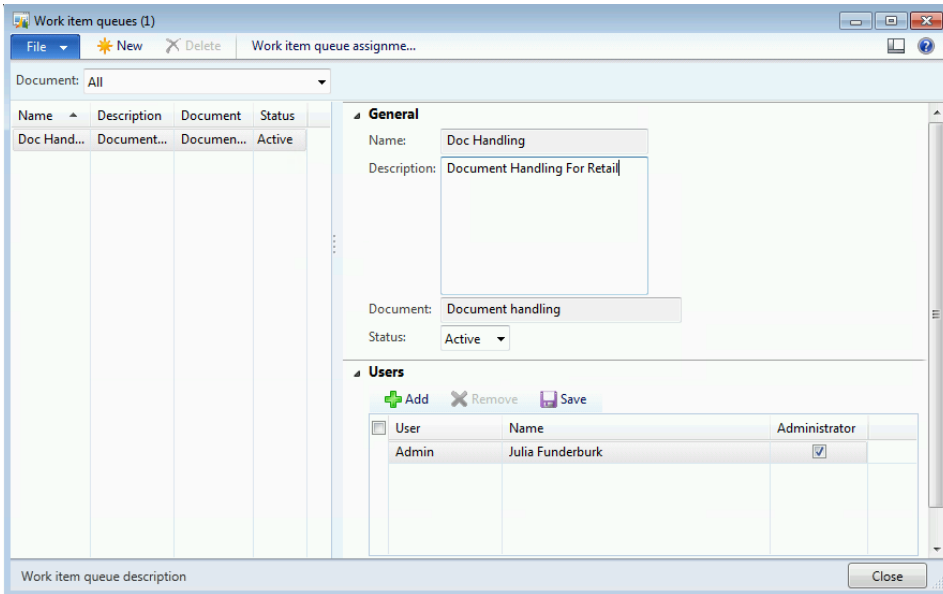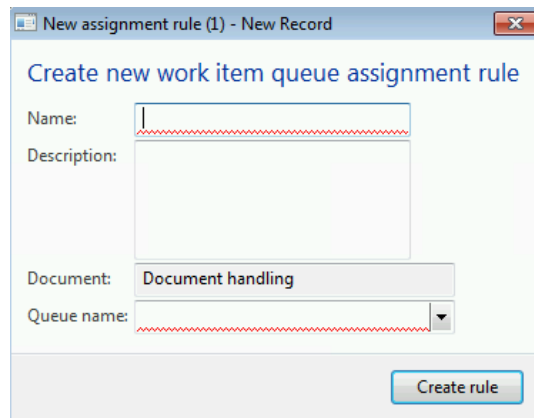


2. Click **New**.
3. In the **Name** field, enter a name for the queue.
4. In the **Description** field, enter a description to help you identify the queue.
5. In the **Document** field, select the type of document that will be sent to this queue for processing.
6. In the **Status** field, select one of the following options.

| Status | Description |
| --- | --- |
| **Active** | Documents can be sent to the queue for processing. |
| **On hold** | Documents cannot be sent to the queue for processing. Use this status when you want to process all the documents in the queue before you set the status of the queue to **Inactive**. |
| **Inactive** | Documents cannot be sent to the queue. |

7. Expand the **Users** FastTab.
8. To assign the user to the queue, click **Add, and then follow these steps**.

      a.  In the **User** field, select the user name of the Microsoft Dynamics AX user to assign to the queue.

      b.  Select the **Administrator** check box if this user should be the administrator of the queue.

         i.  A queue must have at least one administrator.

9. Click **Work item queue assignment rules**. The **Work item queue assignment rules** form is displayed.
10. Select a type of document from the **Document** list. This indicates that the rule applies to a queue that is configured for the selected type of document.
11. Click **New** to create a new assignment rule.



12. In the **Create new work item queue assignment rule** form that appears, follow these steps.
      a.  In the **Name** field, enter a name for the assignment rule.
      b.  In the **Description** field, enter a brief description to help identify the rule.
      c.  In the **Queue name** field, select a queue. Documents that meet the specified conditions of the rule will be sent to this queue.
      d.  Click **Create rule** to create the rule.
13. To specify the conditions for which this rule applies, follow these steps.
      a.  Select the rule in the left pane of the form.
      b.  Expand the **Conditions** FastTab.
      c.  Click **Add condition**.
      d.  Enter a condition.
      e.  Enter additional conditions, if they are required.
14. To specify when this rule is evaluated, select the **Move up** or **Move down** buttons.

To create a queue group, follow these steps.

1. Click **Organization administration** > **Setup** > **Workflow** > **Work item queue groups**.
2. Click **New**.
3. In the **Name** field, enter a name for the queue group.
4. In the **Description** field, enter a description to help identify the queue group.
5. Select the group to add queues to or remove queues from.
6. To add a queue to the group, select the queue in the **Available work item queues** list, and then click the arrow button to move it to the **Selected work item queues** list.
7. To remove a queue from the group, select the queue in the **Selected work item queues** list, and then click the arrow button to move it to the **Available work item queues** list
8. To view the work items in the queues that you administer, go to

   **Home** > **Common** > **Work items** > **Work items assigned to queues I administer**.

## 3.1.2    CREATE THE RETAIL WORKFLOW

To create a retail workflow, follow these steps.

1. Click **Retail** > **Setup > Retail workflows**.
2. On the Action Pane, click **New**.
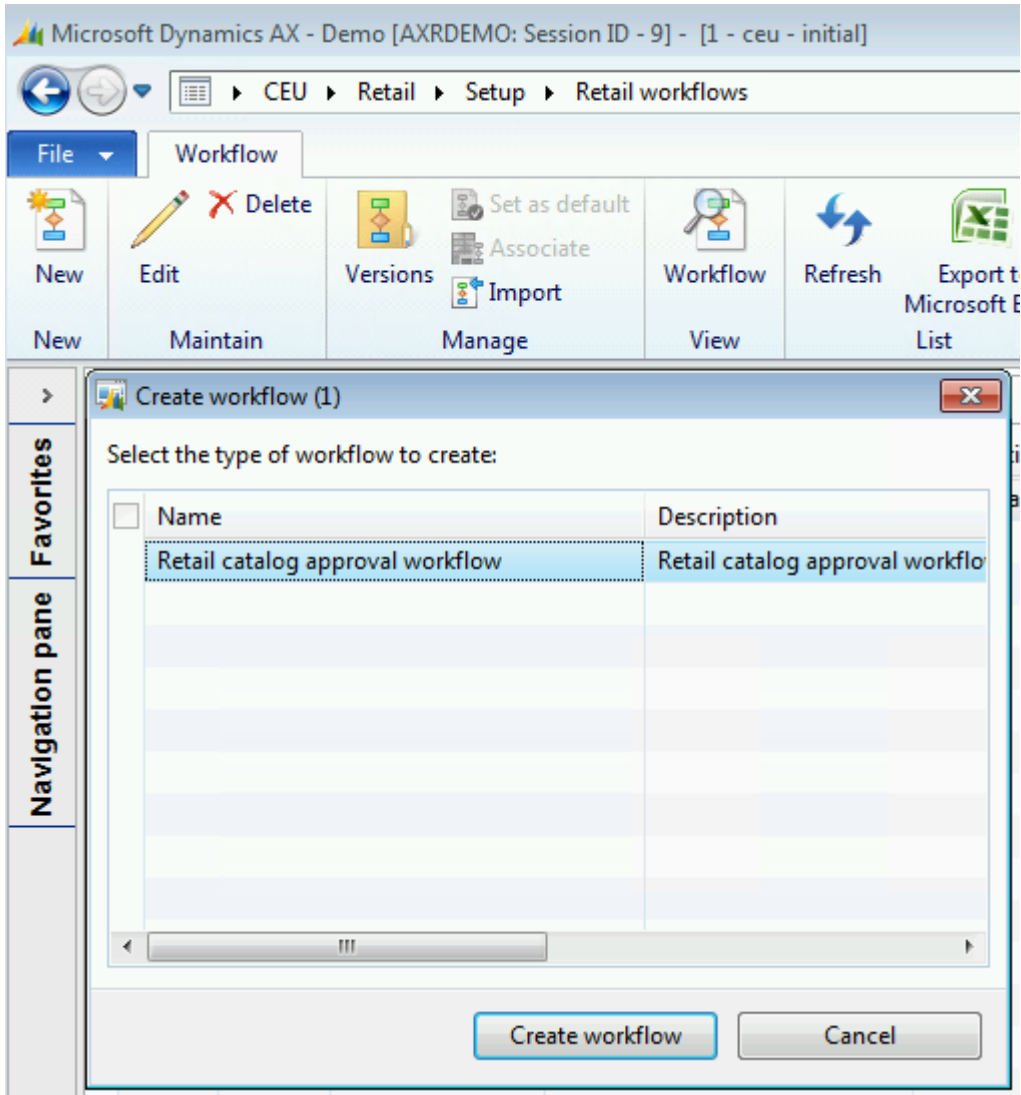
3. Select the type of workflow that you want to create, and then click **Create workflow**.

4. **The Workflow elements** area of the workflow editor contains the elements that you can add to your workflow. Drag the elements that you want to use to the canvas.

5. To connect one workflow element to another, hold the pointer over an element until connection points appear. Click a connection point and drag it to another element. Make sure that you connect all the elements.

### 3.1.3 CONFIGURE THE RETAIL WORKFLOW
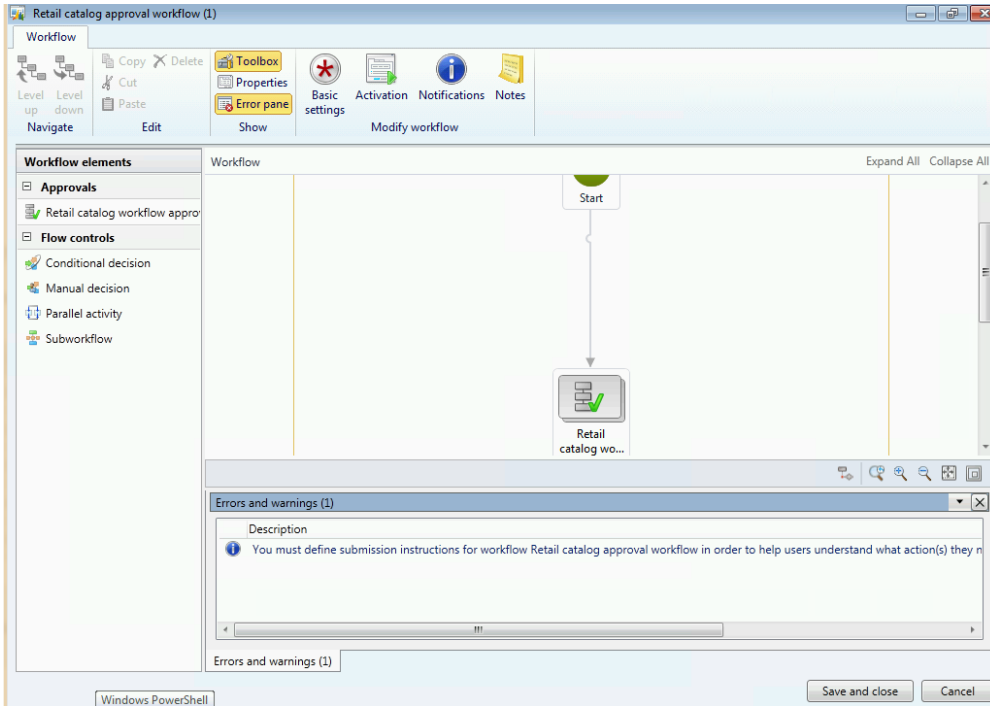


To configure the properties of a workflow, open the workflow in the workflow editor, by following these steps.

1. Click the canvas of the workflow editor and then click **Properties** to open the **Properties** form. In the left pane, click **Basic Settings**.
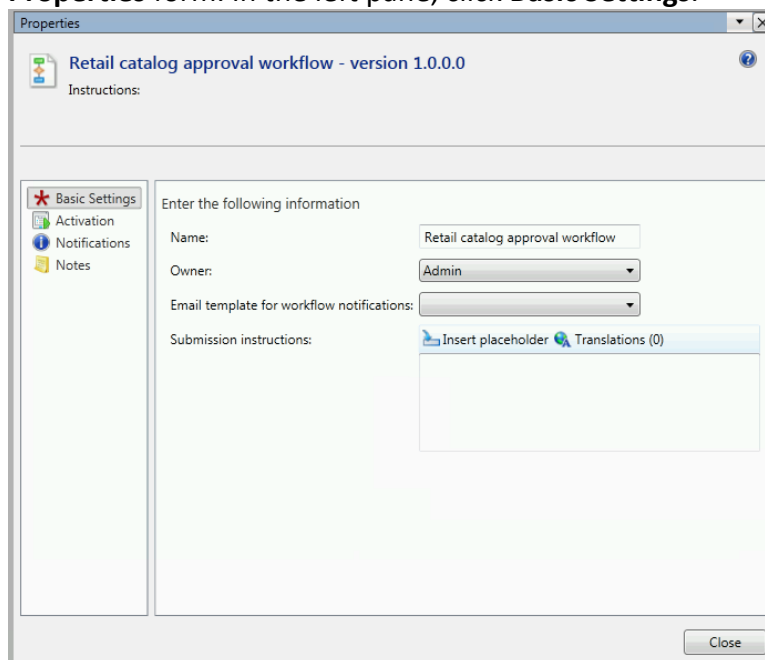
2. In the **Name** field, enter a unique name for the workflow.
3. From the **Owner** list, select the name of the person who will manage this workflow.
4. From the **Email template for workflow notifications** list, select the template.

   You can provide instructions to users who submit documents for processing and approval. This documentation refers to these users as originators. To view instructions, the originator clicks the icon in the workflow message bar.

5. In the **Submission instructions** box, enter the instructions.
6. To personalize the instructions, you can insert placeholders. The placeholders are replaced with the appropriate data when they are displayed to users. To insert a placeholder, follow these steps.
   a. Click in the box to specify where the placeholder should appear.
   b. Click **Insert placeholder**.
   c. From the list that is displayed, select the placeholder to insert.
   d. Click **Insert**.
7. To add translations for the instructions, click **Translations**. In the form that is displayed, follow these steps.
   a. Click the **Add** button.
   b. In the list that is displayed, select the language in which you will enter the text.
   c. In the **Translated** box, enter the text.
   d. To personalize the text, you can insert placeholders. Refer to previous step for instructions about how to enter a placeholder.
   e. Click **Close**.
8. On the left pane, click **Activation**.
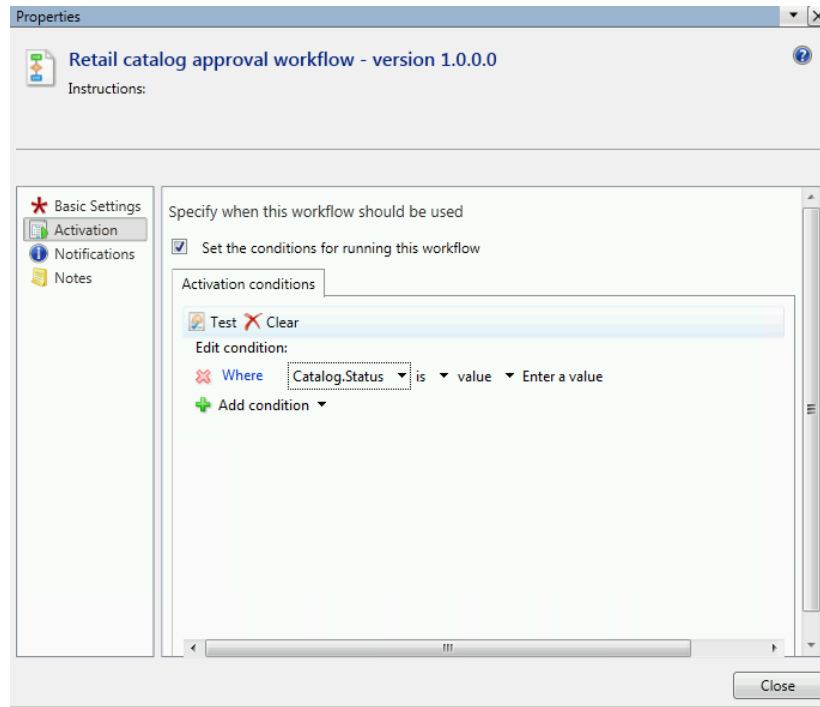
9. Select the **Set the conditions for running this workflow** check box.
10. Click **Add condition**.
11. Enter a condition.
12. Enter additional conditions, if they are required.
13. To make sure that the conditions that you entered are set correctly, click **Test**.
    The **Test workflow condition** form is displayed.

> i. Select a record in the **Validate condition** area of the form. Click **Test**. The system evaluates the record to determine whether it meets the conditions that you specified.
>> • For example, if you create a purchase requisition workflow for Spain, the **Validate condition** area of the form displays a list of purchase requisitions. When you click **Test**, the system evaluates the selected purchase requisition to determine whether the country/region = ES.

14. Click **OK** or **Cancel** to return to the **Properties** form.

To configure notifications, follow these steps.

1. On the left pane, click **Notifications**.
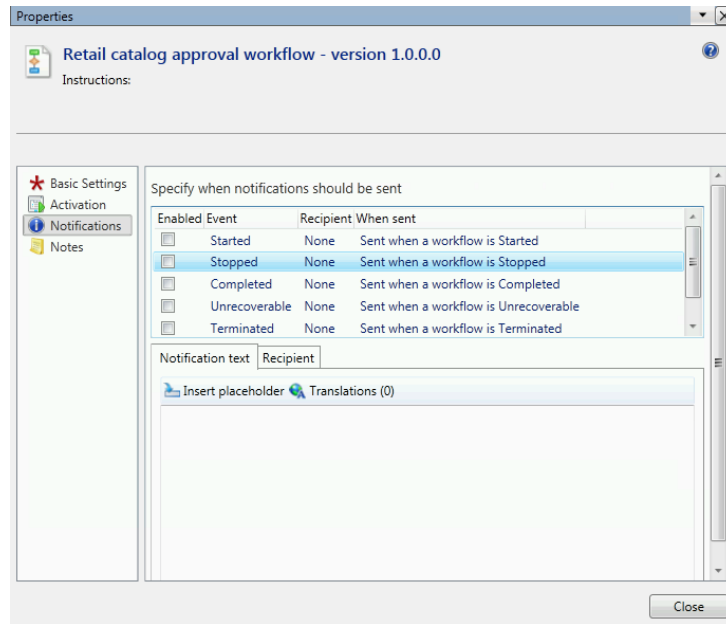
2. Select the check box for each event that will trigger notifications:
   - o **Started** - Send notifications when a workflow instance starts.
   - o **Stopped** - Send notifications when a workflow instance stops because of an error.
   - o **Completed** - Send notifications when a workflow instance is completed.
   - o **Unrecoverable** - Send notifications when a workflow instance stops because of an unrecoverable error.
   - o **Terminated** - Send notifications when a workflow instance is terminated.
3. Select the row of the event that you selected in step 2.
4. Click the **Notification text** FastTab.
5. In the text box, enter the text for the notification.
6. To personalize the text, you can insert placeholders. The placeholders are replaced with the appropriate data when they are displayed to the users. To insert a placeholder, follow these steps.
   - a. Click the text box to specify where the placeholder should appear.
   - b. Click **Insert placeholder**.
   - c. From the list that is displayed, select the placeholder to insert.
   - d. Click **Insert**.
VII. To add translations for the text, click **Translations**. In the form that is displayed, follow these steps.
   - i. Click the **Add** button.
   - ii. In the list that is displayed, select the language in which you will enter the text.
   - iii. In the **Translated text** box, enter the text.

iv. To personalize the text, you can insert placeholders. Refer to step 6 for instructions about how to enter a placeholder.

v. Click **Close**.

VIII. Click the **Recipient** tab.

IX. Specify who receives the notifications from the following options.

| Option | Select this option to send notifications to… | To send notifications, do this… |
|---|---|---|
| **Participant** | Users who are assigned to a specific group or role. | On the **Recipient** tab, click **Participant**.<br><br>Click the **Role based** tab.<br><br>From the **Type of participant** list, select the type of group or role to send notifications to.<br><br>From the **Participant** list, select the group or role to send notifications to. |
| **Workflow user** | Users who are participants in this workflow. | On the **Recipient** tab, click **Workflow user**.<br><br>Click the **Workflow user** tab.<br><br>From the **Workflow user** list, select a participant in this workflow. |
| **User** | Specific Microsoft Dynamics AX users. | On the **Recipient** tab, click **User**.<br><br>Click the **User** tab.<br><br>The **Available users:** The list includes all Microsoft Dynamics AX users. Select the users to send notifications to, and move the users to the **Selected users:** list. |

X. Repeat steps 3 through 9 for each event that you selected in step 2.

XI. In the left pane, click **Notes**.
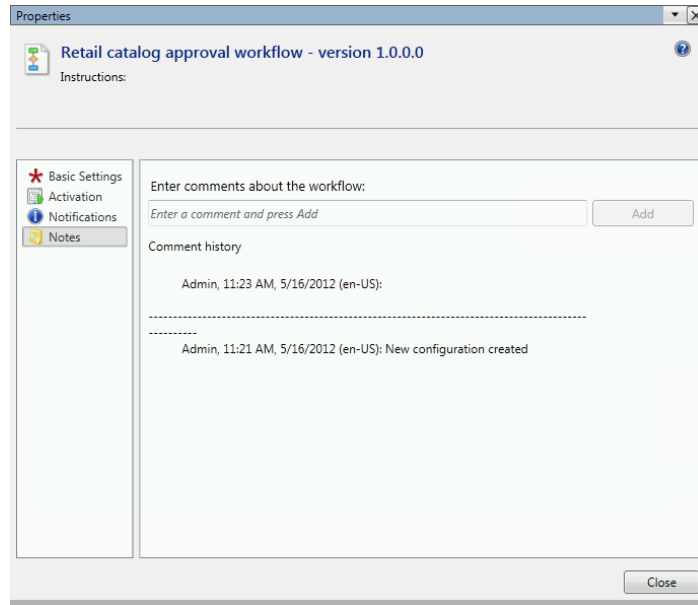
XII.    In the **Enter comments about the workflow** text box, enter your comments.

XIII.    Review your comments. After you add comments, you cannot modify the comments.

XIV.    Click **Add** to add comments to the **Comment history** area.

### 3.1.4    ACTIVATE THE RETAIL WORKFLOW

After you activate a workflow, users can submit documents to the workflow for processing. There can be several versions of a specific workflow. However, only one version can be the active version.

**Note**

The workflow version that you want to activate must not include any errors and warnings.

You can activate a valid workflow when you save it in the workflow editor. If there are multiple versions of the workflow, the older version is inactivated when you activate the new version.

To activate a workflow in the workflow editor, follow these steps.

1. Click **Save and close** to close the workflow editor. The Save workflow form is displayed.
2. Enter comments about the changes that you made to the workflow.
3. Click **OK**. The **Activate workflow** form is displayed.

4. Click **Activate the new version**.
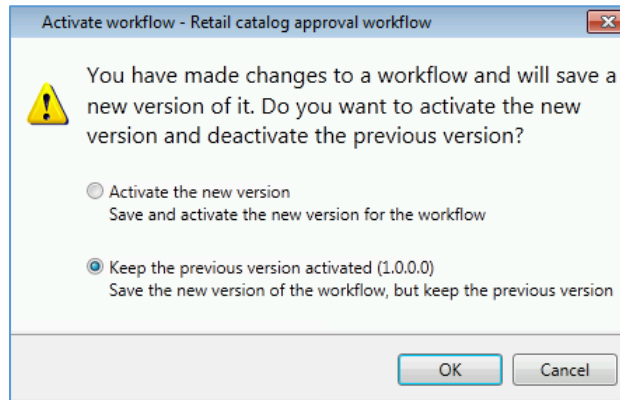


To activate the workflow from a list page, follow these steps.

1. Click **Retail > Setup > Retail workflows**. A list page is displayed.
2. Select the workflow to activate.
3. On the Action Pane, click **Versions** to open the **Workflow versions**.
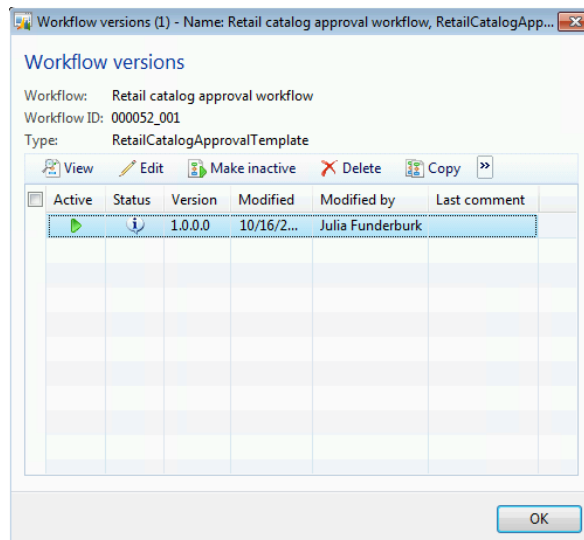


4. Select the workflow version to activate.
5. Click **Make active**.
6. Click **OK** to close the **Workflow versions** form.

**3.1.5    ASSOCIATE THE WORKFLOW WITH AN ORGANIZATION**

Some workflows are used to process documents that are associated with your whole organization. However, other workflows are used to process documents that are associated with a specific organization, such as a legal entity. For this kind of workflow, to select the specific organization that the documents in the workflow are associated with, follow these steps.

1.  Click **Retail > Setup > Retail workflows**.
2.  Select the workflow to associate with a specific organization.
3.  On the Action Pane, click **Associate**. The **Workflow association** form is displayed.
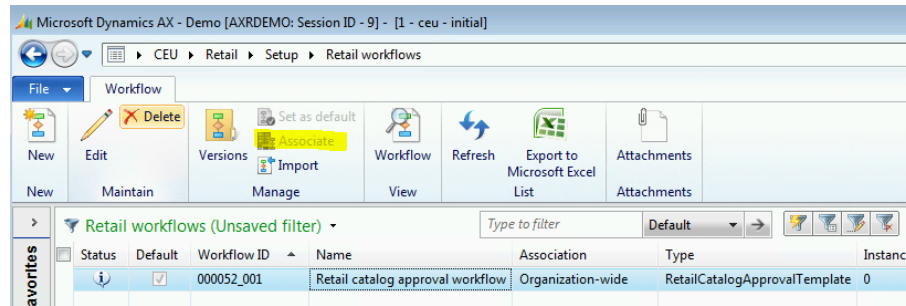


4.  Select the organization to use the selected workflow with.
5.  Click **Associate**.

**3.1.6    MONITOR THE STATUS OF WORKFLOWS**

To view the status and the history of a workflow instance, follow these steps.

1.  Click **Home** > **Inquiries** > **Workflow** > **Workflow history**.
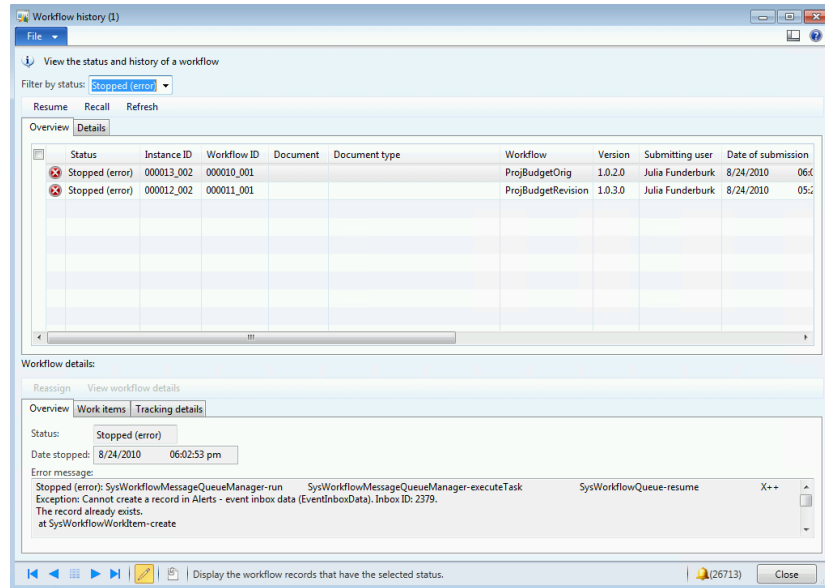
2. To filter the list of workflow instances that is displayed in the form, select a workflow status in the **Filter by status** field:
   - o **All** – Display all workflow instances.
   - o **Pending** – Display only workflow instances that are currently processing.
   - o **Completed** – Display only workflow instances that have completed the required processing.
   - o **Canceled** – Display only workflow instances that are canceled.
   - o **Stopped (error)** – Display only workflow instances that have stopped because of an error.
   - o **Unrecoverable** – Display only workflow instances that have stopped because of an unrecoverable error.
3. On the **Overview** tab in the upper part of the form, select a workflow instance.

   Details about the workflow instance are displayed on the following tabs in the lower part of the form:

   - o **Overview** – This tab displays the status of the workflow instance and indicates where the submitted document is in the workflow.
   - o **Work items** – Use this tab to assign a task or approval step to another user.
   - o **Tracking details** – This tab displays the history of the workflow instance.

To stop a workflow instance, follow these steps.

1. Click **Home** > **Inquiries** > **Workflow** > **Workflow history**.
2. From the **Filter by status** list, select one of the following statuses to filter the list:
   - o **Pending** – Display only workflow instances that are currently processing.

- o **Stopped (error)** – Display only workflow instances that have stopped because of an error.
3. Select the workflow instance that you want to stop.
4. Click **Recall**. The **Cancel workflow** dialog box is displayed.
5. Enter a comment that explains why you are canceling the workflow instance.
6. Click **OK**.

To resume the processing of the workflow instance that is stopped because of an error, follow these steps.

1. Click **Home** > **Inquiries** > **Workflow** > **Workflow history**.
2. From the **Filter by status** list, select **Stopped (error)**. All workflow instances that are stopped because of an error are listed in the form.
3. Select the workflow instance to restart.
4. Click **Resume**.

Microsoft Dynamics AX includes reports that can help track the history and the current status of business processes in the organization. Therefore, you can more easily identify processes that have become inefficient. To view the reports, follow these steps.

1. Click **Organization administration** > **Reports** > **Workflow**.
2. The following reports are available:
   - o Workflow automation report (WorkflowAutomationReport)
   - o Workflow elements automation report (WorkflowElementsAutomationReport)
   - o Workflow elements performance report (WorkflowElementsPerformanceReport)
   - o Workflow instance by status report (WorkflowInstanceByStatusReport)
   - o Workflow participants performance report (WorkflowParticipantPerformanceReport)
   - o Workflow performance report (WorkflowPerformanceReport)
   - o Workflow tracking report (WorkflowTrackingReport)

### 3.1.7 RESPOND TO WORK ITEMS IN THE WORKFLOW

Work items are workflow-related tasks that are assigned to you. For example, you might have to approve a document, make a decision about a document, or complete a task that is associated with a document. The following topics explain how to respond to the work items that are assigned to you.

1. Click **Home** > **Common** > **Work items** > **Work items assigned to me**.
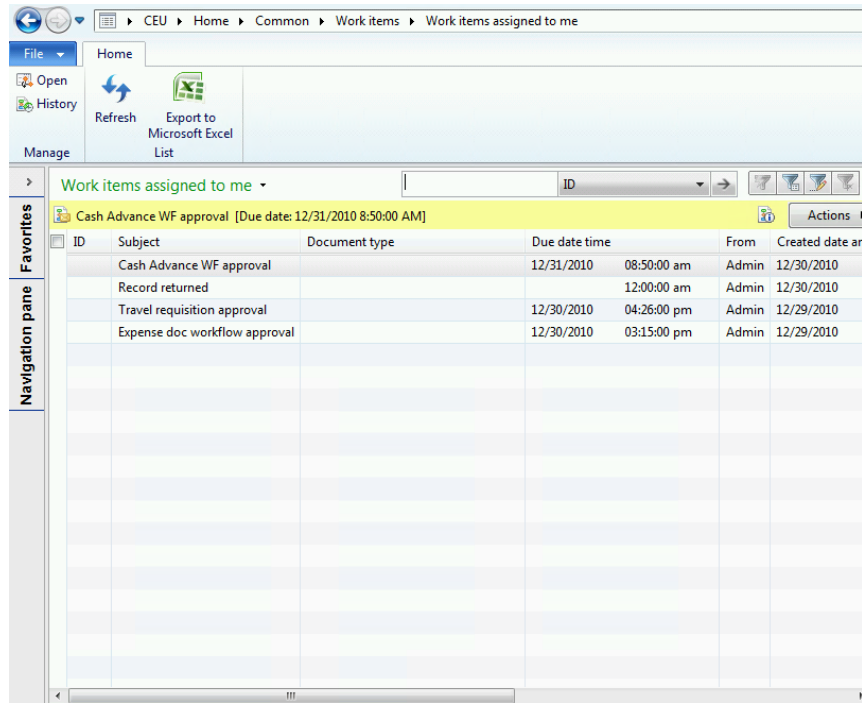
2.  Review the list of work items.

    Processes that are available include the following:

    - Act on a task
    - Review a document assigned to you for approval
    - Make a decision
    - Delegate work items in a workflow

### 3.1.7.1  Act on a task

A task is a unit of work that is associated with a specific business document. For example, the workflow for a purchase requisition can have a task that requires you to perform the following:

- Add a vendor to each line item on the purchase requisition.
- Call the vendors that are listed on the purchase requisition.

To act on a task that is assigned to you, follow these steps.

1.  Open the document that the task is associated with.
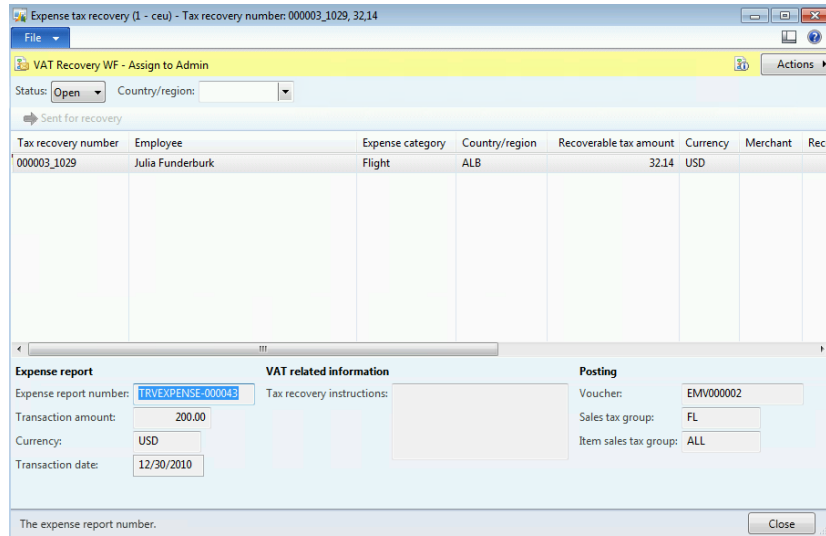
2. Review the message bar for information about the workflow process. To view detailed instructions, click the icon in the message bar.

3. A task can be assigned to multiple people. However, only one person can complete the task. If this task is assigned to multiple people, and you want to complete it, click **Actions** > **Accept**. This indicates that you will complete the task.

4. Click **Actions** and then click one of the options that are listed in the following table. The options that are visible can depend on how the task is configured.

| Option | Description |
| --- | --- |
| **Complete** | Indicates that you have completed the task.<br><br>A dialog box is displayed where you can enter a comment about the document. |
| **Reject** | Reject the document.<br><br>A dialog box is displayed where you can enter a comment about the document. |
| **Request change** | Request changes to the document.<br><br>A dialog box is displayed where you can enter a comment about the changes that you are requesting and select the user who should make the changes. |
| **Delegate** | Reassign the task to another user.<br><br>A dialog box is displayed where you can enter a comment and select the user to delegate the task to. |
| **Reassign** | Reassign the task to another work item queue. |

| | |
|---|---|
| | A dialog box is displayed where you can enter a comment and select the queue to reassign the task to. |
| **Release** | Reassign the task to the work item queue that it is originally assigned to. Select this option if you cannot complete the task. The task is returned to the queue so that another user can complete it.<br><br>A dialog box is displayed where you can enter a comment. |
| **View history** | View the workflow status and the history of the document.<br><br>The **Workflow history** form is displayed. |

### 3.1.7.2   Delegate work items in the workflow

If you plan to be out of the office or otherwise unavailable to act on work items, you can delegate, or reassign, your work items to other users.

You can configure the system to automatically delegate your work items, or you can manually delegate a specific work item to another user.

#### 3.1.7.2.1  Set up automatic delegation

To configure Microsoft Dynamics AX to automatically delegate your work items to other users, you must create delegation rules. These rules must specify when certain types of work items are delegated. To create a delegation rule, follow these steps.

1. Click **File > Tools > Options**.
2. In the left pane, click **Delegation**.
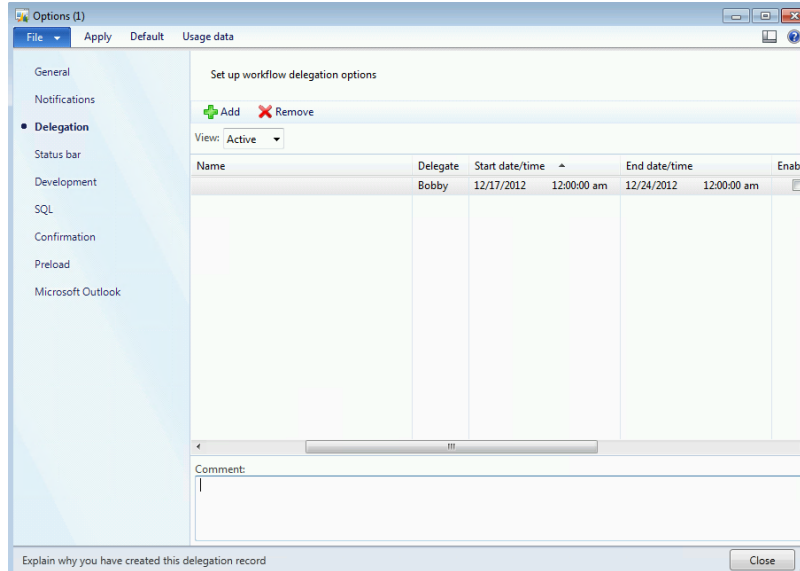
3. Click **Add** to create a delegation rule.
4. In the **Scope** field, select one of the following options:
   o **All** – Delegate all work items that are assigned to you.
   o **Module** – Delegate only the work items that are related to a specific type of workflow. If you select this option, you must select the type of workflow in the **Name** field.
   o **Workflow** – Delegate only the work items that are related to a specific workflow. If you select this option, you must select the workflow in the **Name** field.
5. In the **Delegate** field, select the user to delegate the work items to.
6. Use the **Start date/time** field and the **End date/time** field to specify when you want the work items to be automatically delegated.
7. Select the **Enabled** check box to activate the delegation rule.
8. In the **Comment** field, enter a comment that explains why you are delegating the work items.

### 3.1.7.2.2 Manually delegate a specific work item

To manually delegate the work item when you view a document, follow these steps.

1. Open the document that you are assigned the work item for.
2. On the workflow message bar, click **Actions** > **Delegate**. A dialog box appears.
3. Select the user to delegate the work item to.
4. Enter a comment that explains why you are delegating the work item.
5. Click **Delegate**.

## 4   REASON CODES

**OVERVIEW**

In this module we will discuss how to use reason codes to capture data at the point-of-sale (POS). Reason codes are information codes that capture additional information when a POS user performs several actions at the point-of-sale, such as an item sale, item return, or a customer selection. Microsoft Dynamics AX prompts the POS user that is at the register and asks for input that can be selected from a list or entered as a code, a numeric, a date or as text. Additionally, reason codes can be assigned to predefined store actions, retail items, tender types, customers, and specific POS activities.

Consider the following:

- When a business uses reason codes, the business can receive additional information that is needed at the time of the transaction, such as a flight number, reasons for returns, and so on.

- Reason codes can be set up for specific item prices that prompt the POS user that is at the register to select one of many prices.

- Reason codes can have a subcode that is linked to the reason codes that prompts the cashier at the register for input while he or she performs a specific activity.

- Items can be sold through the reason code as a normal sale, discounted sale, or a free item.

## 4.1   CREATE THE REASON CODE

To create the reason code, follow these steps.

1. Click **Retail > Setup > Reason Codes.**
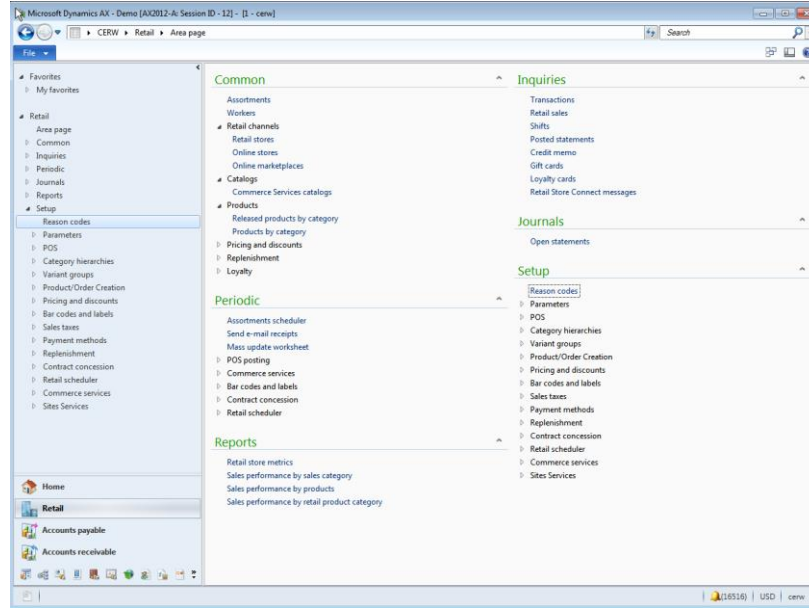
2. Click **Reason Code** to display the **Reason codes** form.

3. In the **Reason codes** form, click **New** to create the new reason code.
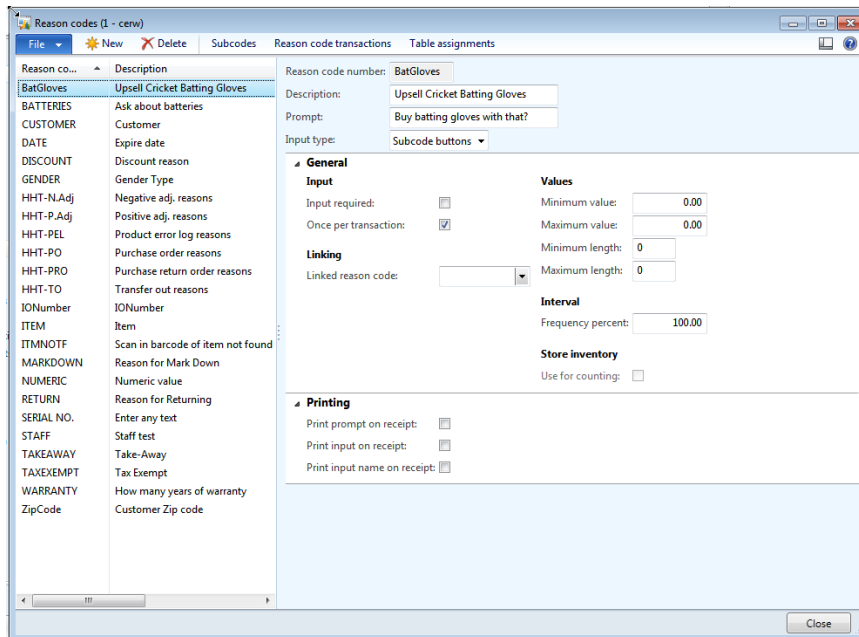


4. Enter the necessary information on the **Reason codes** form.
1. The fields that are displayed on the **Reason codes** form are described in the following table.

**Overview**

- **Reason Code Number**: Enter a unique identifier for the reason code.
- **Description**:  Enter a brief description about the reason code.
- **Prompt**: The title of the action that the POS user is requested to perform.
- **Input Type**: The predefined input type. The type is used for the validation of the data that is entered by the POS cashier.

  - **None** - A prompt on POS as a text box. The cashier can either input any text in this field or save the transaction with a blank reason code record.

  - **Sub code list:** Prompts and calls the function as it is defined in the **Trigger function** field that is on the **Sub code** forms. Select this option if the prompts and the call number are more than five. The functions appear as a list.
  - **Date** - A prompt to enter the date. The format in which the order that the date must be filled is MM/DD/YY.
  - **Numeric** - A prompt to the cashier for numeric data input. This value is not displayed on POS. However, the value is saved in the database. The value attaches a number to an item that is sold on POS.
  - **Item** - A list of retail items is displayed on the POS. The POS cashier must select an item that is not displayed on POS. However, this item must be stored in the database as information.
  - **Customer** - A list of retail customers is displayed on the POS, and the cashier can select the customer. The selected customer is not displayed on POS. However, the customer must be stored in the database as information for that record.
  - **Staff** - A prompt to enter the cashier staff ID. The cashier staff ID is not displayed. However, the cashier staff ID is stored in the database.
  - **Text** - A prompt for the input of an information text message.
  - **Sub code buttons** - Prompts and calls the function as it is defined in the **Trigger function** field on the **Sub code** form. Select this option if the prompts and the call number are five or less. The functions appear as buttons.
  - **Age limit** - Enter an integer that represents the age that is required for a customer to purchase an item.

**General FastTab**

The fields on the **General** FastTab are described as follows:

- Input

  - Input Required – Select whether the cashier is required to enter a response to the prompt for the reason code, and the frequency of that input.

- One time for each transaction.

- Linking

  - Linked Reason Code – Displays the associated reason code when the reason code is closed.

- Values

  - Minimum value – The minimum amount that staff can enter
  - Maximum value – The maximum amount that staff can enter
  - Minimum length – The minimum length of a reason code
  - Maximum length – The maximum length of a reason code

- Interval

  - Frequency percent – Set the frequency that the prompt for a reason code appears. For example, you want the cashier to ask for the customer's ZIP code or postal code before the start of every transaction. In this case, set **Frequency percent** to 100.

- Store Inventory

  - Use for counting – Select the check box if the reason code can be used for counting.

**Printing FastTab**

The fields on the **Printing** FastTab are described as follows:

- Print Prompt on receipt – Select the check box to print the prompt question on the receipt.
- Print input on receipt – Select the check box to print the input that is provided by the customer for the prompt question on the receipt.
- Print Input Name on receipt – Select the check box to print the input name of the information that is captured by the cashier on the receipt.

**Ribbon on the Reason code Creation Form**
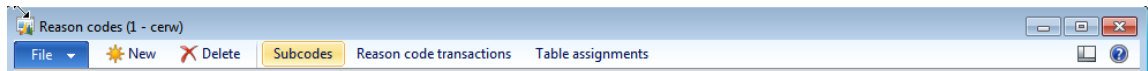


5. Click **Subcodes** to create the subcodes for a selected reason code. Refer to the following topic to create subcodes.

## 4.1.1 CREATE THE SUBCODE

You can set up the reason code to have a number of subcodes that are either displayed in a list or as buttons. The subcode triggers the action that is based on the reason codes that are static. Typically, the subcode is used to present the point-of-sale user with a list of available responses. For example, you could set up a subcode to remind staff to check age requirements or you could remind the POS user to select the subcode when he or she provides the customer a discount on the sale.

To create the subcode, follow these steps.

1. Click **Retail** > **Setup** > **Reason codes**.

2. On the **Reason Code** form, highlight the Reason code value in the left navigation pane that has an input type of **Subcode buttons** or the **Subcode list** for which the subcodes must be created.



3. Click the **Subcodes** on the tool bar of the **Reason Code** form.

4. Click **New** to create the new subcode or click **Delete** to delete the existing subcode.
5. Enter the necessary information on the **Subcodes** form. The fields on the **Subcodes** form are described as follows:
   a. **Sub-code number** – The unique ID for the subcode.

b. **Description** – The description of the subcodes. The description should include all the options that are available in the subcode. The selected value among these options is taken as the input for the reason code trigger.

c. **Trigger function** – Select an option that is responsible for taking action.

d. **Trigger Code** – The trigger code should be filled with an item number. This number attaches the item that is referenced in the Trigger code column when it is selected.

e. **Price type** – Select a price type from the drop-down list box. The price type defines where the price is selected from for the items that are attached to the reason code that is used for selling. The options that are available include the following:

   i. From product – The price will originate from the product.

   ii. Price – The price will be specified in the **Amount/Percent** field.

   iii. Percent – The discount percentage will be specified in the **Amount/Percent** field.

f. **Amount/Percent:**

   i. Price – The corresponding value in the Amount/Percent column should have a value other than the sales price that is mentioned in the **Price/Discount** FastTab on the **Retail items** form or in the Trade agreement.

   ii. Percent – The item that is displayed in the Trigger code column is called with a reduced price. The price that is reflected on POS is the sales price of the item in the **Retail item** form, minus the discount percentage that is displayed in the Amount/Percent column.

- From item – The charged price is taken from the **Price/Discount** tab on the **Retail items** form or in the Trade Agreement.

- Price – The corresponding value in the Amount/Percent column should have a value other than the sales price that is mentioned in the **Price/Discount** tab on the **Retail items** form or in the Trade agreement.

- Percent – The item that is displayed in the Trigger code column is called with a reduced price. The price reflected on POS is the sales price of the item in the **Retail item** form, minus the discount percentage that is displayed in the Amount/Percent column.

You can use the **Subcodes** form to create and edit subcodes. All actions that are triggered by this subcode are based on the setup criteria.
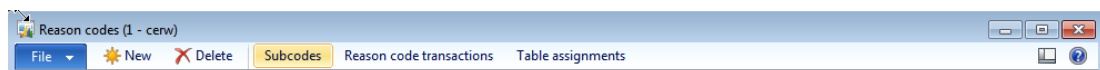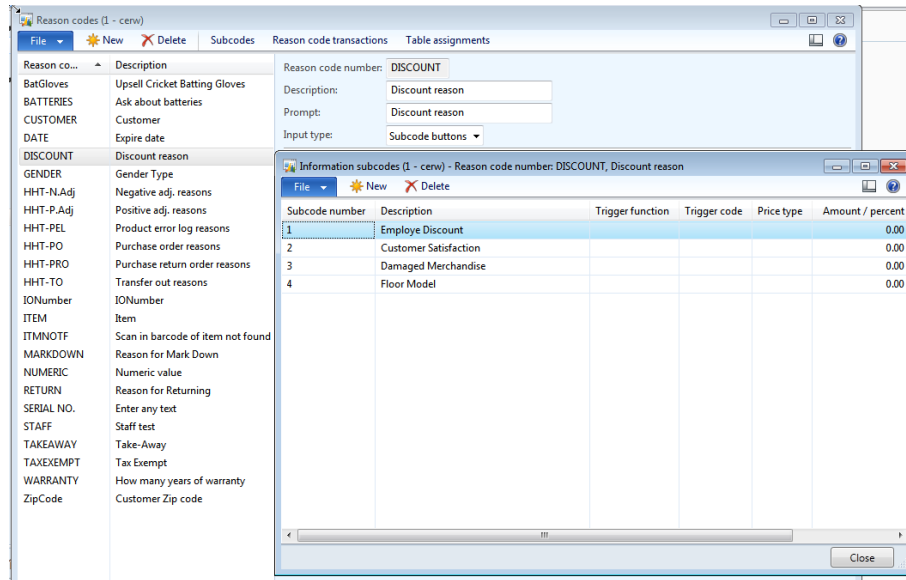
## 4.1.2  REASON CODE TRANSACTIONS

It helps to review the transactions at the POS that are assigned reason codes to understand the use and importance of the reason codes that are used from returns or from upselling.

To review reason code transactions, follow these steps.

6. Click **Retail** > **Setup** > **Reason codes**.
7. Click **Reason code transactions** from the tool bar that is located at the top of the screen. The **Reason code transactions** form opens.
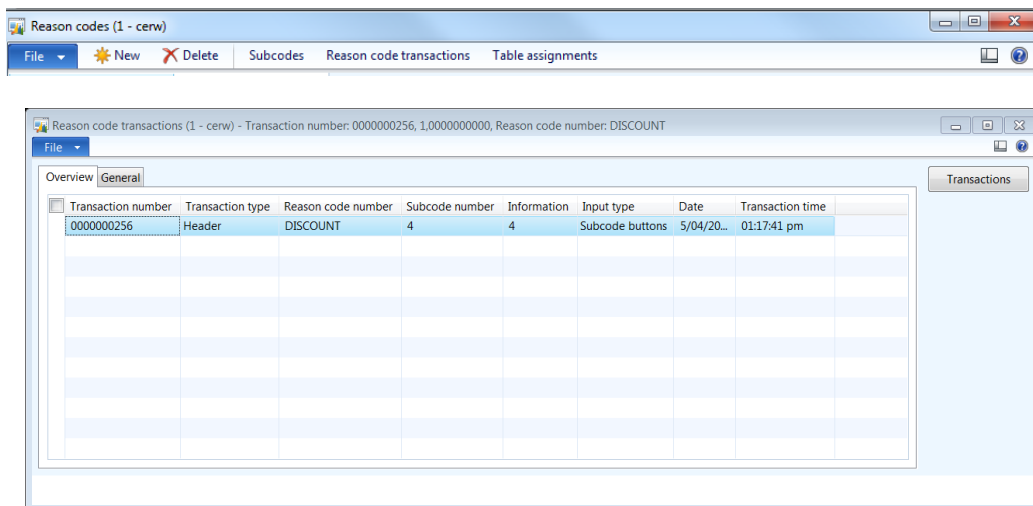
8. Click the **General** FastTab to review the details of the transaction header.



The main sections to review the Reason code, Transaction identification, Statement, Amount and Transaction origin.

9. To drill down to the transaction details, click the **Transactions** button on the right side of the form.



The **Overview** tab displays the sales transactions that are associated with the reason code.

10. Click the **General** tab to view transaction information about the following:
   a. Statement number to which the transaction is associated.
   b. Customer information if it is captured as part of the transaction.
   c. Loyalty card details if the customer is a loyalty customer.
   d. Transaction origin – This shows the details for the store where the transaction occurs.
11. Click the **Amoun**t FastTab to review the total of the transaction and the discount value if any discounts are applied as part of the transaction.
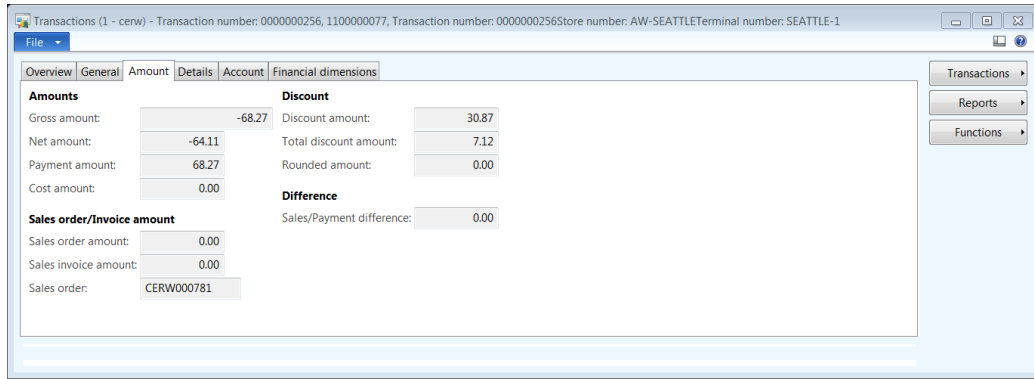
12. Click the **Details** FastTab to view the total lines in the transaction and the transaction date and time.
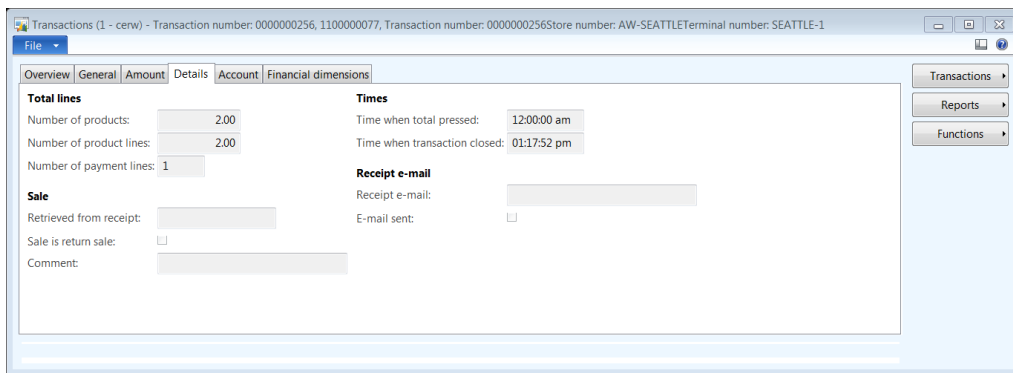


13. Click the **Account** FastTab to view the amount that will be posted on the account.
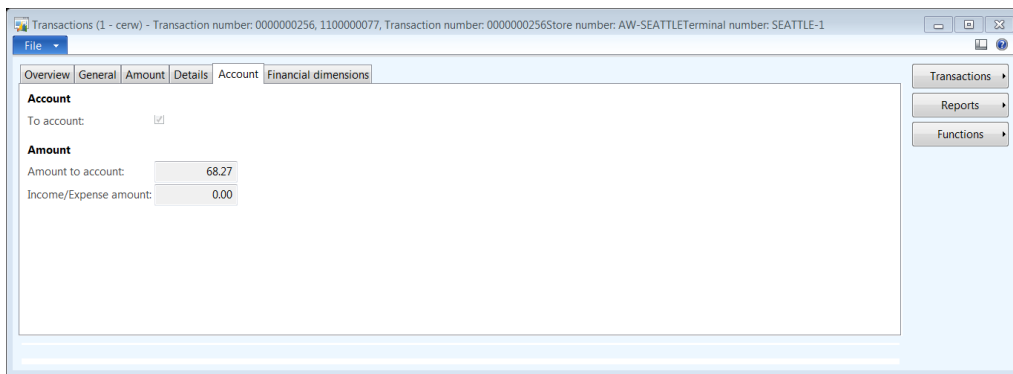


14. Click the **financial dimensions** to view the default financial dimensions for the transaction that will be inherited from the customer.
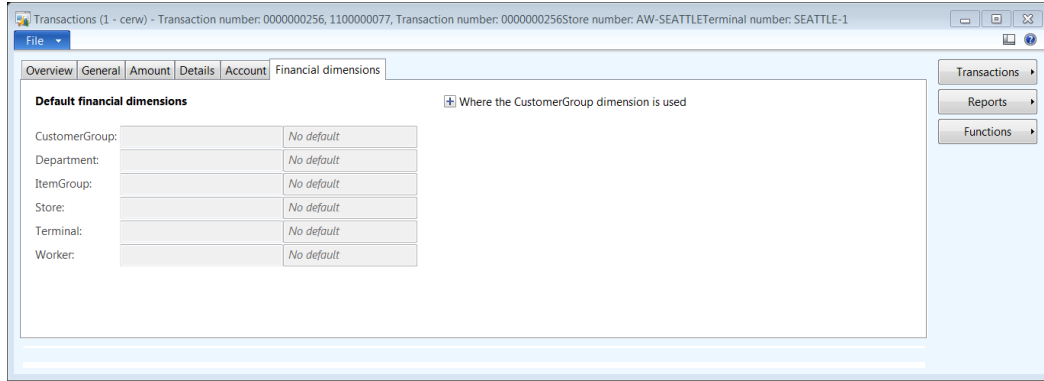
15. To view transaction related sales and payment information, click the **Transactions** button on the right side of the form.
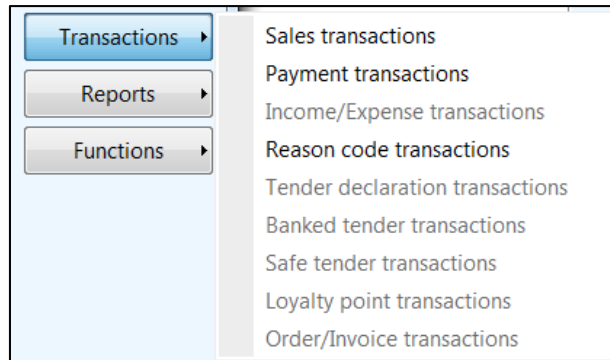


**Reason code table assignments**

You should review the retail tables and the reference fields that reference the reason codes.

To review reason code transactions, follow these steps.

16. Click **Retail** > **Setup** > **Reason codes**.
17. Click **Table assignments** from the tool bar that is located at the top of the screen. The **Reason code table assignment** form opens.

The form provides information on the table name, field reference and the prompt question that is specified for the table value.

## 5   UNIT OF MEASURE

I this module we will explain a unit of measure is a standard base or a derived division of quantity that is used for measurement or exchange. For example, when you enter an order in Microsoft Dynamics AX, you specify both a quantity and the unit of measure that the quantity represents.

## 5.1   CREATE THE UNIT

Click **Organization administration** > **Setup** > **Units** > **Units**.

To create the unit of measure, follow these steps.

1. Use the **Units** form to create units of measure. For example, when you enter an order in Microsoft Dynamics AX, you specify a quantity and the unit of measure that the quantity represents.



2. Click **New** to add the new unit of measure.

The fields on the **Units** form are described in the following table.

| Fields | Description |
|---|---|
| **Unit** | Identification of the unit of measure. Notice that the **unit** field is mandatory when you create the new unit of measure. Example: Each or Box |
| **Description** | A descriptive name of the unit of measure that is specified in the system language. |
| **Fixed unit assignment** | If this check box is selected, you can identify the unit of measure as one of the fixed units of measure that is listed in the **Fixed unit** field. |
| **Fixed unit** | The fixed unit association is used to identify a specific unit of measure. By using this association, specific units of measure can be identified by the business logic in Microsoft Dynamics AX and conversions between the units of measure can be completed. |
| **Unit class** | The classification for the unit of measure. The unit class represents a logical grouping of units of measure such as area, mass, or quantity. |
| **System of units** | The metric system of the unit of measure. Units of measure in the same unit class such as liter and gallon can belong to different metric systems. You can select one of the following: <br><br> **Note** <br><br> Units of measure that do not belong to the metric or the typical United States system of units. <br><br> **Tip:** Examples of units of measure that use the **None** category include box and pieces. <br><br> • **Metric units**: The international system of measurement. <br><br> • **United States customary units**: The most commonly used system of measurement in the United States. |
| **Base unit** | If this check box is selected, the unit of measure is defined as the base unit in the unit's unit class. The base unit helps streamline the conversion setup for the unit of measure. When a base unit is defined in the unit class, the number of conversion rules between units of measure in the class can be limited. |

| Fields | Description |
|---|---|
|  | For example, you have a conversion rule that lets milliliters be converted to liters, and another conversion rule that lets liters be converted to gallons. If you have specified liters as the base unit in the **Liquid volume** unit class, you can convert from gallons to milliliters without a conversion rule between these two units. |
| **System unit** | Unit of measure that is applied when a measurement or quantity is entered in fields in Microsoft Dynamics AX that are not associated with a specific unit of measure.<br><br>For example, you have a company where kilogram (kg) is set as the system unit. In this company, any weight measurement in the **Mass** unit class, such as net weight, that is entered for an inventory item is identified as kg. |
| **Decimal precision** | The number of decimals that the converted unit of measure is rounded to when a calculation is completed for the unit of measure. |

The following topics describe the controls that are available for unit of measures.
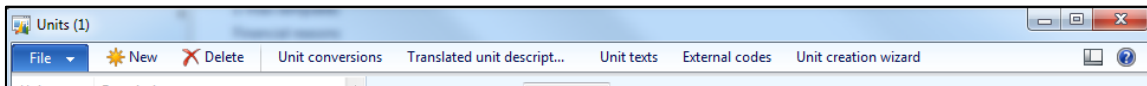


## 5.1.1  UNIT CONVERSIONS

Click **Organization administration** > **Setup** > **Units** > **Unit conversions**.

Use this **Unit conversions** form to set up conversion rules that control the conversion between units of measure.

◆ Important

- You can set up standard or product-specific conversion rules. If both a product-specific and a standard conversion rule exist for a unit of measure, the product-specific conversion rule is used to convert units of measure for the product.

- You must enter the EFT server name in the **Server name** field.

📝 Note

- A unit conversion that is defined to convert minutes to days is also used by Microsoft Dynamics AX to convert days to minutes. Each unit of measure can have multiple units of conversions associated with it.

A unit conversion supports three specific conversions. The three specific conversions are described in the following table.

| Links | Description |
|---|---|
| **Standard conversions** | Set up standard conversion rules that apply for all products.<br><br>☑ **Note:**<br><br>Standard conversion rules can only be set up for units of measure in the same unit class. |
| **Intra-class conversions** | Set up product-specific conversion rules for units of measure in the same unit class. For example, you can set up a conversion rule for a product that converts pieces to boxes. Pieces and boxes both reside in the **Quantity** unit class. |
| **Inter-class conversions** | Set up product-specific conversion rules for units of measure across unit classes. For example, you can set up a conversion rule for a product that converts kilograms to liters. Kilograms are in the **Mass** unit class and liters are in the **Liquid volume** unit class. |

For example, in a retail scenario, a box is always denoted as a collection of 24 items. This can be created by using the **Unit conversion** form that is shown in the following illustration.
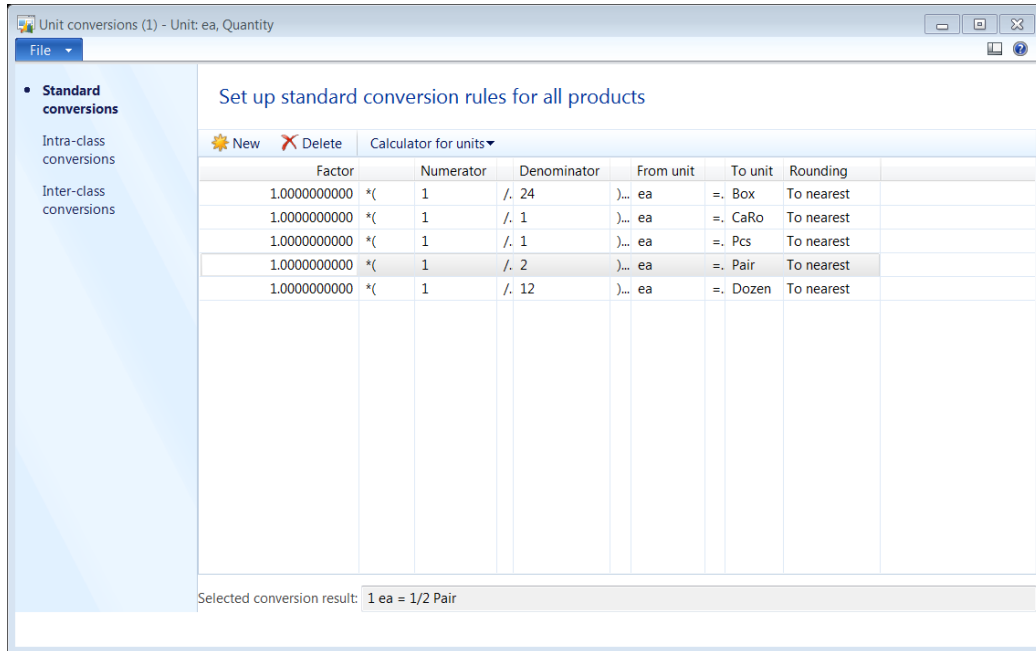
The fields in the **Unit conversion** form are described in the following table.

| Fields | Description |
| --- | --- |
| **Factor** | Conversion factor between the **From unit** and the **To unit**. For example, the conversion factor from each box is 24 because there will be 24 items in a box. |
| **Numerator** and **Denominator** | With the numerator and the denominator values, you can indicate whether the relation between the **From unit** and the **To unit** is a 1:1 ratio or if it is a fraction. For example, when you want to create a conversion rule for a product where only 24 products fit into a box. In this case you can set up a conversion factor with **From unit** = ea and **To unit** = box, and then enter 1 in the **Numerator** field and 24 in the **Denominator** field. |
| **From unit** | The unit of measure that will be converted. |
| **To unit** | The unit of measure that is the target of the conversion. |

| Inner offset | With the inner offset value, you can indicate a number that is added to the **From unit** before the factor and the fraction are applied.<br><br>📝 **Note**<br><br>This field is only shown for standard conversions with units of measure that belong to the **Temperature** unit class. |
|---|---|
| Outer offset | With the outer offset value, you can indicate a number that is added to the **From unit** after the factor and the fraction are applied.<br><br>📝 **Note**<br><br>This field is only shown for standard conversions with units of measure that belong to the **Temperature** unit class |
| Rounding | Rounding type that is used when you calculate units of measure to the **To unit**. |

## 5.1.2 TRANSLATED UNIT DESCRIPTIONS

To create language-specific descriptions for the unit of measure through translated unit descriptions, follow these steps.

1. Click **Translated unit descriptions** from the tool bar that is located at the top of the screen.
2. Click **New** to create a new translated unit description.
3. Select the **language** from the drop down list box.
4. Enter the **Description** of the unit for the language that is selected.
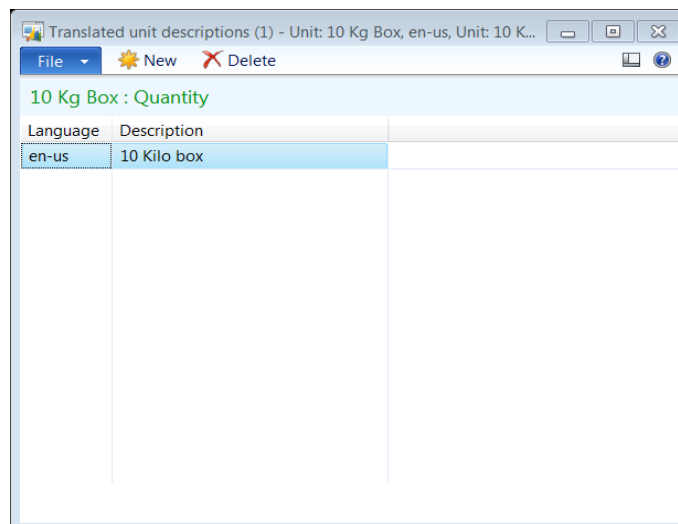
### 5.1.3 UNIT TEXTS

To create unit texts for external documents in customer - or vendor-specific languages, follow these steps.

- Click **Unit texts** from the tool bar that is located at the top of the screen.
- Click **New** to create new unit texts.
- Select the **language** from the drop down list box.
- Enter the **Text** of the unit for the language that is selected.

📝 Note

In new installations of Microsoft Dynamics AX, both the standard units and the conversions are automatically created.
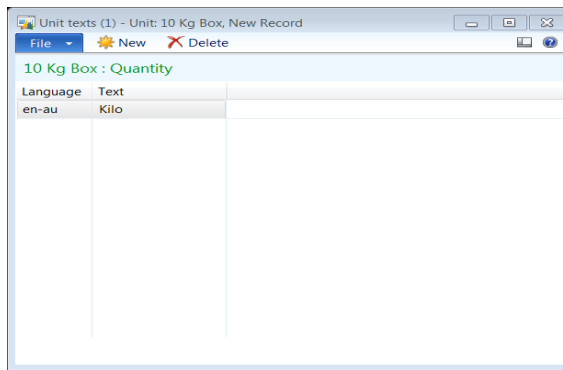


### 5.1.4 EXTERNAL CODES

External codes are used to view or maintain external codes for fields that are defined to send and receive documents electronically through the Microsoft Dynamics AX Application Integration Framework (AIF).

To select the **External codes** from the tool bar that is located at the top of the screen, follow these steps.

- Click **New** to create a new external code.
- Enter the code, and the external code definition value in the grid.
- If a default value exists for the code, then enter the **Value** of the code by clicking the **Add** button from the bottom grid.
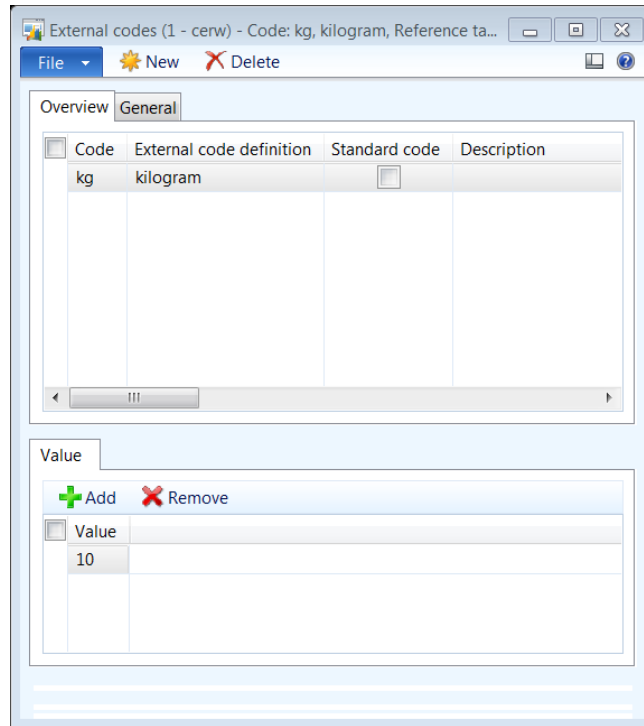
## 5.1.5  UNIT CREATION WIZARD

You can use unit creation wizards to create many standard units and conversions. By using the unit creation wizard, you can modify the existing standard units and the conversion factors.

## 6   RETAIL PARAMETERS

**OVERVIEW**

In this module we will focus on an organization with a retail business operation needs to set up retail and scheduler parameters as defaults per legal entity which will be applicable to the retail stores connected to that legal entity. Additional shared parameters are defined that are used across legal entities.

The user can initiate the creation of base configuration data which acts as the default configuration to drive specific areas like:

- Statement Posting
- Customer Orders
- Default store and terminal
- Scheduler configuration
- Shared parameters across legal entities etc.

For new installations please ensure the below steps are performed:

- Obtain the company ID and create a new legal entity.
- In Microsoft Dynamics AX, **click Retail > Setup > Retail scheduler > Table distribution** to open the Table distribution form. When it is first opened, the form is empty. Click Insert default setup, and then click through the confirmations to insert default data in the form. This step is necessary to enable data transfers between AX Retail and the POS terminals. For more information, click the **Help** button in the form.

### 6.1.1   RETAIL PARAMETERS

The retail parameters allows a company to specify the default setting for their retail business which is used both in Microsoft Dynamics AX Retail and Dynamics AX POS to determine the action to be taken based on the settings.

To put it in perspective we can set the customer minimum deposit % to be 25% providing the cashier to collect the minimum deposit amount as per the business policy at the POS level. For example if the customer wants to place an item worth $100 as a deposit order then they have to pay $25 as a minimum deposit.

To open the retail parameters form click **Retail > Setup > Parameters > Retail parameters**.

Let's go through in detail each of the sections to see how the retail business can leverage the default configuration.

### 6.1.1.1 GENERAL

On the Retail parameters form click on General on the left hand side navigation. The general section is used to specify store-wide parameters, such as the default item type and the European Article Number (EAN) license number.

The **Initialize** button is on the top tool bar of the Retail parameters form. The Initialize button is used to create base configuration data for Retail operations for the legal entity.

1. Enter the **EAN license number** that is used to create bar codes that are based on the EAN standard.
2. Select the **Default inventory journal** that is used by default when an inventory journal is posted in the Point of sale (POS) system.
3. Under the **Email notification** area select the default **Email notification profile** to be used to send email notifications to customer regarding the various status of the sales order. Ex. Order creation, Order confirmation, Order shipped etc.

Note: In Microsoft Dynamics AX, **click Retail > Setup > Parameters > Retail parameters** to open the Retail parameters form. Click Initialize, this step initializes configuration data for Retail. For more information, click the **Help** button in the form.

**Posting**

The posting section in Retail parameters form is used to specify parameters that are used to post discounts, inventory updates, settlements, and other retail operations.
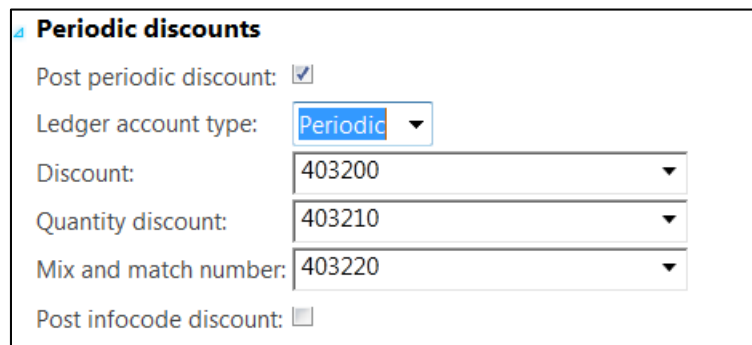
Click **Posting** from the left hand navigation on the **Retail Headquarters parameters** form.

**Periodic discounts**

1. Select the **Post periodic discount** check box to enable periodic offers to be posted to the ledger accounts. Periodic discounts include mix and match discounts, multi-buy discounts, and discount offers.
2. Select the ledger account type used to post periodic discounts. The options available are:
   - **Standard** – If the account type is standard then the ledger accounts are disabled. Microsoft Dynamics AX for Retail uses the ledger account that is defined for inventory posting in Microsoft Dynamics AX.
   - **Periodic** – If the account type is periodic then go to step 3 to specify the ledger accounts.
3. Select the **Discount** general ledger account that is used to post discounts.
4. Select the **Quantity discount** general ledger account that is used to post quantity discounts.
5. Select the **Mix and match number** general ledger account that is used to post mix and match discounts.

◆ Important
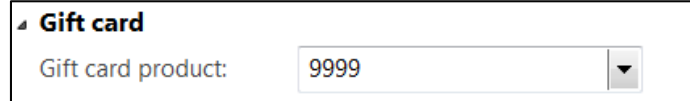
**Post infocode discount** feature is not implemented in this release and might be removed from future releases**.**
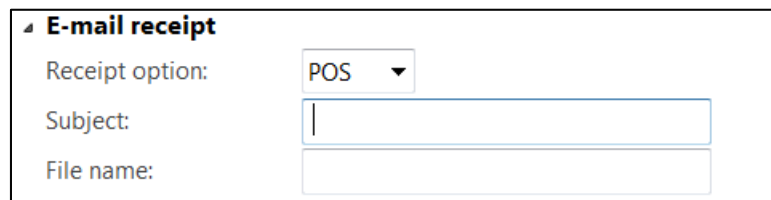
**Gift card**

Select the item number from the product list which represents the Gift Card item that will be used as default at the stores.



**E-mail receipt**

1. Select the **Receipt option** from the drop down list to define how the receipts are delivered in Microsoft Dynamics AX for Retail POS. The options available to send receipts are by email, print at POS or both.
2. Enter a **Subject** line for the email receipts.

3. Type a **File name** for the receipt attachment.



**Inventory update**

Inventory update process is a process to update the inventory without posting the statement. This basically means that the physical inventory is reserved. Then at a later time when the end of day statement is posted, the financial side is posted (revenue, issue, consumption, tax and so on).

1. Select the Detail level for inventory updates from the drop down list. The options available are:
   a. **Summary**: Inventory update will be generated by summarizing the inventory transactions until the point when the update is initiated by the user or a scheduled batch job. The transactions are summarized by store warehouse and product.
   b. **Details**: Inventory update will be generated for every inventory transaction until the point when the update is initiated by the user or a scheduled batch job.

**Settlement**

1. Select the Automatic settlement check box to automatically settle open invoices when a payment or credit note is updated. If the check box is cleared, you must settle accounts manually, either when you enter payments or later, by using open transaction editing.



**Aggregation**

The section is used to select if aggregation should be applied to safe drops, bank drops and voucher transactions at POS.

1. Select the **Safe drop** check box to aggregate safe drops at posting.
2. Select the **Bank drop** check box to aggregate bank drops at posting.
3. Select the **Voucher transactions** to aggregate voucher transactions at posting.

📝 **Note**

If the Voucher transaction is checked then at the time of posting the transactions being posted will be aggregated. These include sales revenue, taxes, customers, inventory transactions and more. This option speeds up the posting process and lowers the volumes of transactions created.



**Invoice**

The invoice section is used to define the default journal name and account number to capture customer payments.

1. Select the **Journal name** from the drop down list.

2. Select the **Account name** from the general ledger accounts list.

### 6.1.1.2  PRODUCT CREATION

The product creation section defines the default warehouses that will be used for purchase order, inventory and sales order processes.

Click **Product creation** from the left hand navigation on the **Retail Headquarters parameters** form.

**Default warehouse**

1. Select the default **Purchase order** warehouse used for purchase orders is creation.
2. Select the default **Inventory** warehouse used for inventory journals or orders when retail products are created.
3. Select the default **Sales order** warehouse used for sales order creation.

**Price**

1. **Always create trade agreement for variants –** Select this check box to define trade agreements at the variant level.

☑ **Note**

**Product variants** comprises of item dimension combination or unique combination of color, size and configuration.  Ex. Men shoes size 12, color black.

### 6.1.1.3 CUSTOMER ORDERS

The customer orders section is used to assign default parameters for sales order, quotation, order cancellations and charge codes.

To access customer orders click **Customer orders** from the left hand navigation on the **Retail Headquarters parameters** form.

**Default order type**

1. Select the default order type from the drop down list. The value selected will be defaulted when the user creates an order. The options available are:
   - Sales order
   - Quotation



**Sales order**
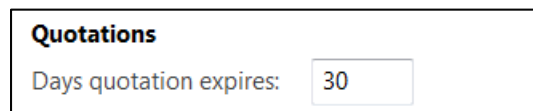
1. Enter the **Default deposit percentage** value of the order's total for customer deposits. The value entered will be enforced at the Point of Sale (POS) when cashiers are receiving customer deposits.
2. Select the **Pickup mode of delivery** from the drop down list. The pickup mode selected with will be the default delivery mode.
3. Select the **Disposition code** from the drop down list. The disposition code defines the default code used for customer return orders.



**Quotations**

1. Enter the default number of days until the quotation expires in the **Days quotation expires** field.

**Order cancellation**

1. Enter the default **Cancellation charge percentage** of the order's total.



**Charge code**

1. Select the default **Shipping charge code** from the drop down list.
2. Select the default **Cancellation charge code** from the drop down list.



**Card Payment**

1. Select the default **Terms of payment** from the drop down list.
2. Select the default **Method of payment** from the drop down list.



**6.1.1.4 REPLENISHMENT**

Click **Replenishment** from the left hand navigation on the **Retail Headquarters parameters** form.
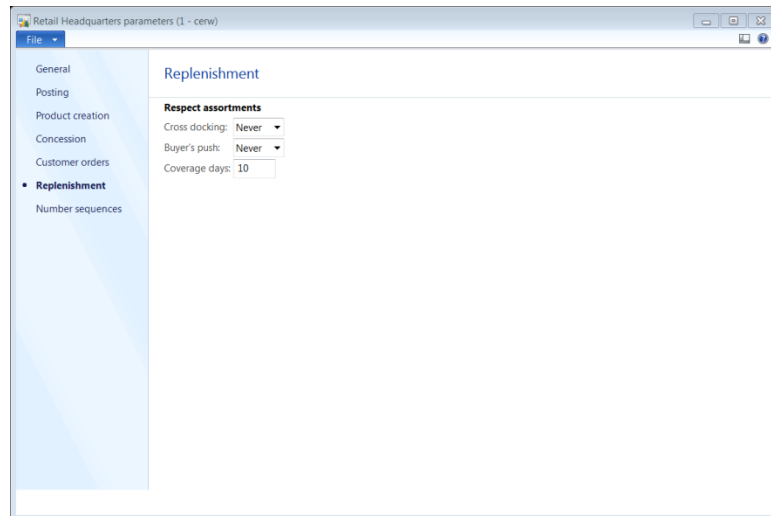
1. Select if assortments are respected during cross-docking process from the drop down list. The option selected will be enforced in the cross docking process. The options available are:
   - Never
   - Always
   - Manual
2. Select if assortments are respected during inventory allocation from the drop down list. The option selected will be enforced in the buyer's push process. The options available are:
   - Never
   - Always
   - Manual
3. Enter the number of coverage days for replenishment. Coverage days are the minimum days accounted by assortment and replenishment process to include the new changes in the organization hierarchy scheduled to be published.

### 6.1.1.5  NUMBER SEQUENCES
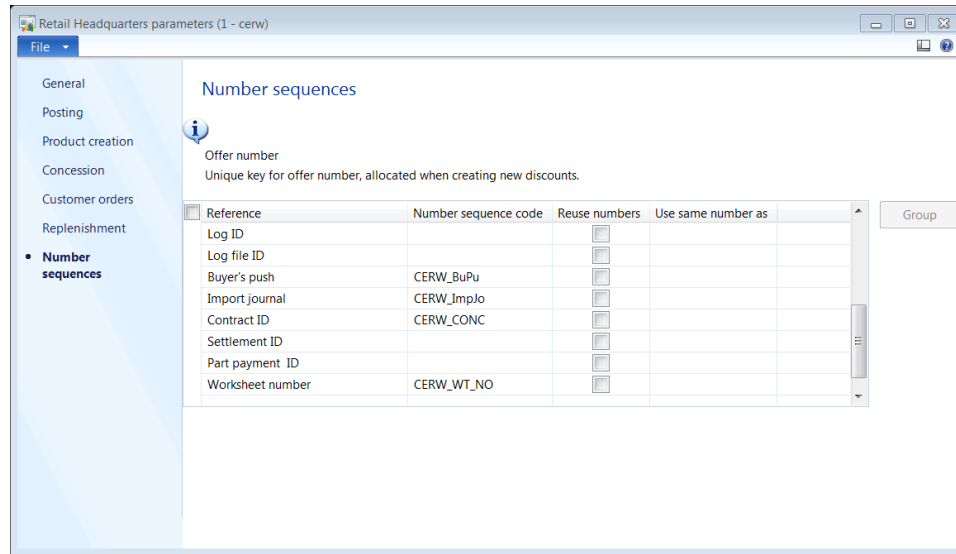
The number sequences are used to define unique numbers and codes for retail entities like:

- Credit memo
- Mix and match group
- Loyalty customer
- Buyer's push etc.

Click **Number sequences** from the left hand navigation on the **Retail Headquarters parameters** form.

The fields that define number sequences are:

1. **Reference**: The name of the number sequence.
2. **Number sequence code**: The ID number of the number sequence.
3. **Reuse numbers**: Select this check box to reuse numbers in the sequence that is no longer used.
4. **Use same number as**: The name of another number sequence that uses the same numbers.



☑ Note

To create Number Sequences right click on the respective number sequence code to view details and set-up scope parameters, segments, references and general set-up details.

- **Caution**

**If the number sequence is not assigned for Gift Cards, Loyalty Cards, etc.  Users are prompted to enter the respective numbers at the time of creation or sales, this could cause duplication of the numbers.**

## 6.1.2  RETAIL SCHEDULER PARAMETERS

The retail scheduler parameters are used to set default scheduler values and the related batch jobs. The default setting will be applied for new records. The default values can be changed for individual records as required.

To open retail parameters form click **Retail -> Setup -> Parameters -> Retail scheduler parameters**.

## 6.1.2.1 GENERAL
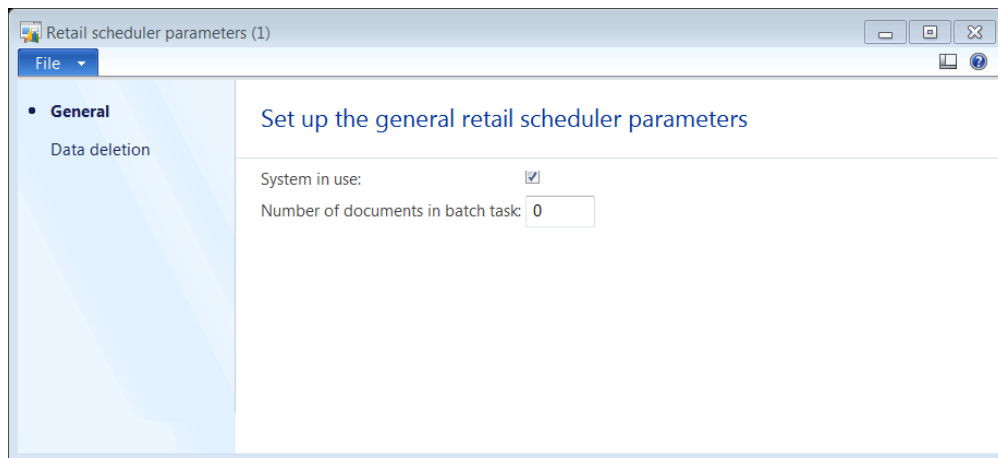
In the General section the user can select whether the retail information is distributed to stores, and specify how many documents are processed by distribution batch jobs.

1. Select the **System in use** check box to turn on the distribution system. If you clear the check box, pre-actions are not generated.

   - **Caution**

   If pre actions are not generated then changes to the retail information won't flow down to the stores.

2. Enter the largest number of documents that is processed in a single batch job in **the Number of documents in batch task** field.
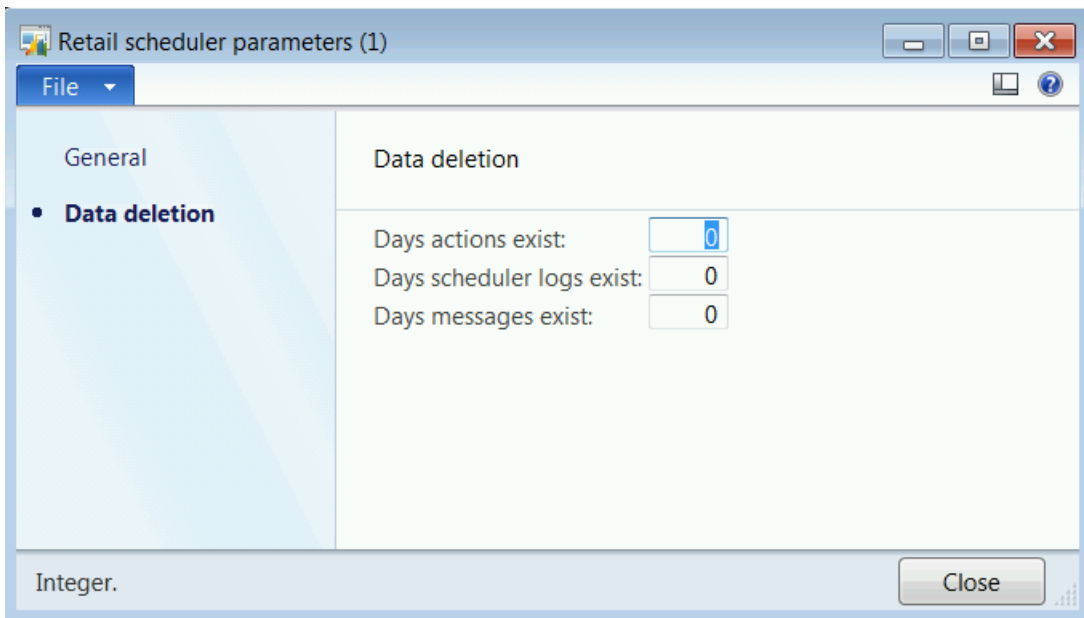


## 6.1.2.2 DATA DELETION

The data deletion section defines the number of days the actions, scheduler log files, messages, and pre-action log files are retained and then deleted as part of the clean-up process.

Click **Data deletion** from the left hand navigation on the **Retail scheduler parameters** form.

1. Enter the number of days in **Days actions exists** field until an action is automatically deleted. Enter 0 (zero) to prevent automatic deletion. To delete actions immediately, enter -1.

2. Enter the number of days in **Days scheduler logs exist** field until a log file for Retail Scheduler is automatically deleted. Enter 0 (zero) to prevent automatic deletion. To delete log files immediately, enter -1.

3. Enter the number of days in **Days messages exist** field until a message for Microsoft Dynamics AX for Commerce Data Exchange: Synch Service is automatically deleted. Enter 0 (zero) to prevent automatic deletion. To delete messages immediately, enter -1.

4. Enter the number of days in **Days pre-action logs exist** field until pre-action logs are automatically deleted. Enter 0 (zero) to prevent automatic deletion. To delete log files immediately, enter -1.



**Caution**

The data deletion setting needs to be evaluated based on the volume on the database, performance and audit requirements of the customer.

### 6.1.3 RETAIL SHARED PARAMETERS
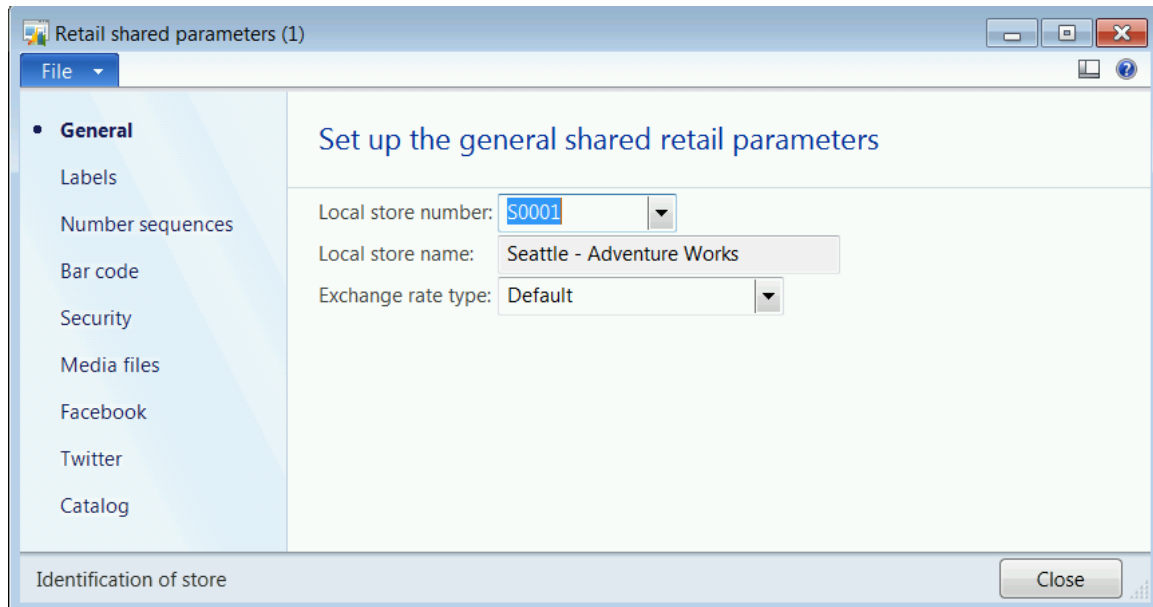
Some Retail parameters that were company-specific in Microsoft Dynamics AX 2009 have been converted to shared or global, parameters in Microsoft Dynamics AX 2012 R2.

To view shared parameters form click **Retail -> Setup -> Parameters -> Retail shared parameters.**

### 6.1.3.1   GENERAL

The general section allows the user to define the local store number and the default exchange rate used across all retail legal entities.

1. Select the **Local store number** from the drop down list which contains all the stores in the system.
2. Based on the local store selected, the **Local store name** field gets populated with the store name.
3. Select the default **Exchange rate type** used across all stores from the drop down list.



### 6.1.3.2   LABELS

The **Labels** section defines the label generation permission for products and shelf labels.

Click **Labels** from the left hand navigation on the **Retail shared parameters** form.

1. Select the **Create product labels for** generation from the drop down list. The options available are:
   - **All distribution members**: Selecting this option will apply the creation of product labels to all the stores.
   - **Default include list**: Selecting this option will apply the product label creation to the stores defined in the distribution location list called default include list.
   - **Local store only**: Selecting this option will apply the creation of product labels to the local store selected.

- **None**: selecting this option has doesn't have any impact on the creation of shelf labels.

2. Select the **Create shelf labels for** generation from the drop down list. The options available are:

   - **All distribution members**: Selecting this option will apply the creation of shelf labels to all the stores.
   - **Default include list**: Selecting this option will apply the shelf label creation to the stores defined in the distribution location list called default include list.
   - **Local store only**: Selecting this option will apply the creation of product labels to the local store selected.
   - **None**: selecting this option has doesn't have any impact on the creation of product labels.
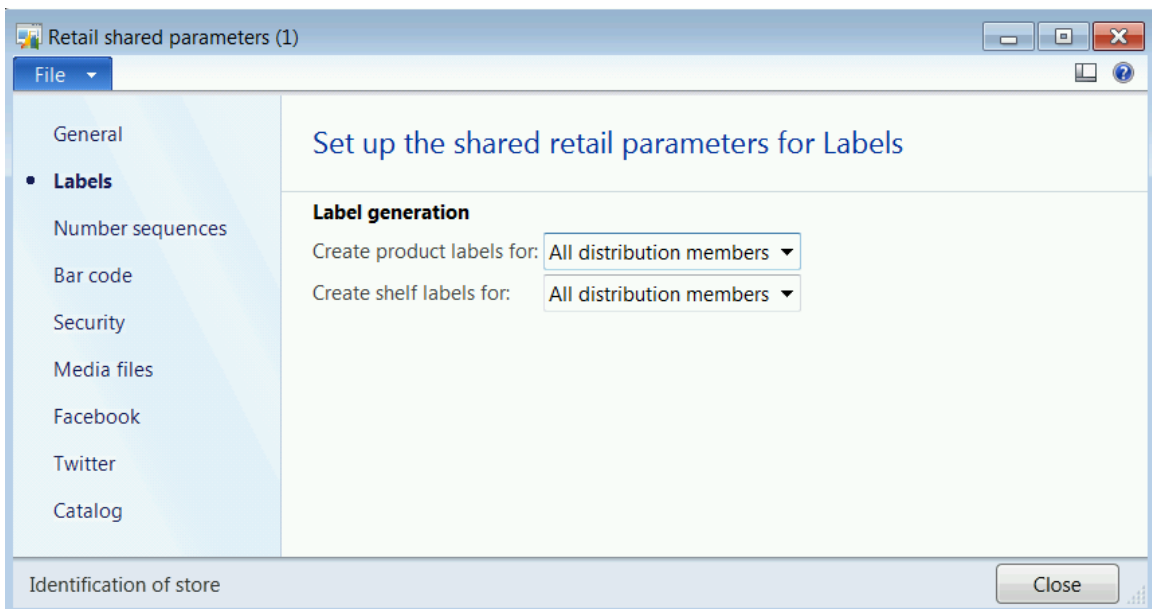


### 6.1.3.3   NUMBER SEQUENCES

The number sequences are used to define unique numbers and codes for retail entities like:

- Stores
- POS Terminals or Registers
- Assortments
- Discount codes etc.

Click **Number sequences** from the left hand navigation on the **Retail shared parameters** form.

The fields that define number sequences are:

5. **Reference**: The name of the number sequence.
6. **Number sequence code**: The ID number of the number sequence.
7. **Reuse numbers**: Select this check box to reuse numbers in the sequence that is no longer used.
8. **Use same number as**: The name of another number sequence that uses the same numbers.
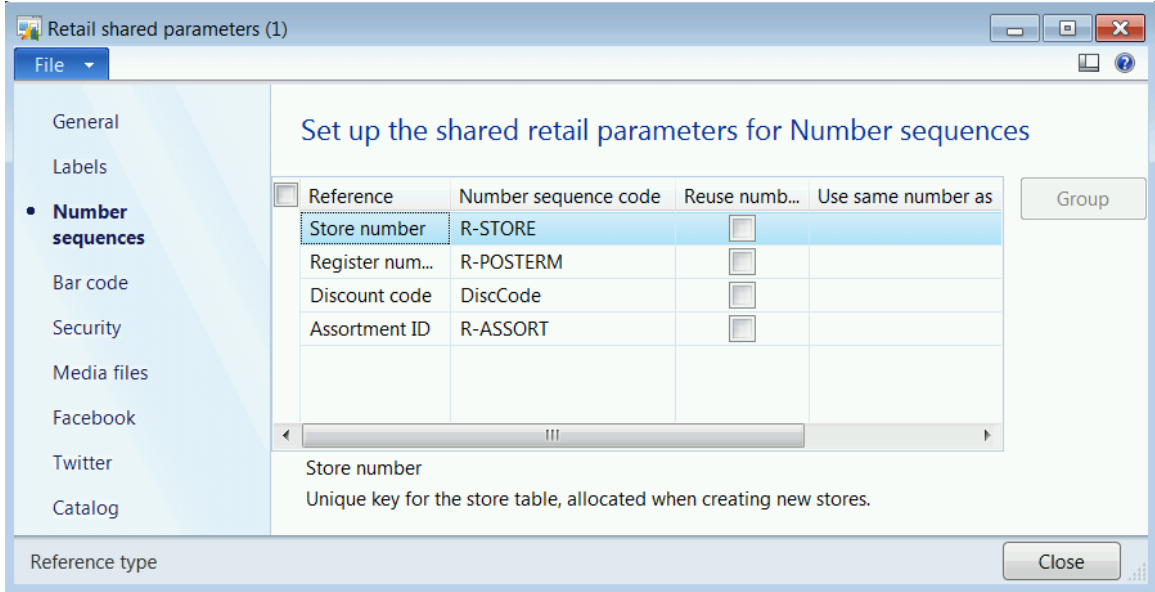


### 6.1.3.4 BAR CODE

1. Select the default **Bar code setup** format used for discounts from the drop down list.
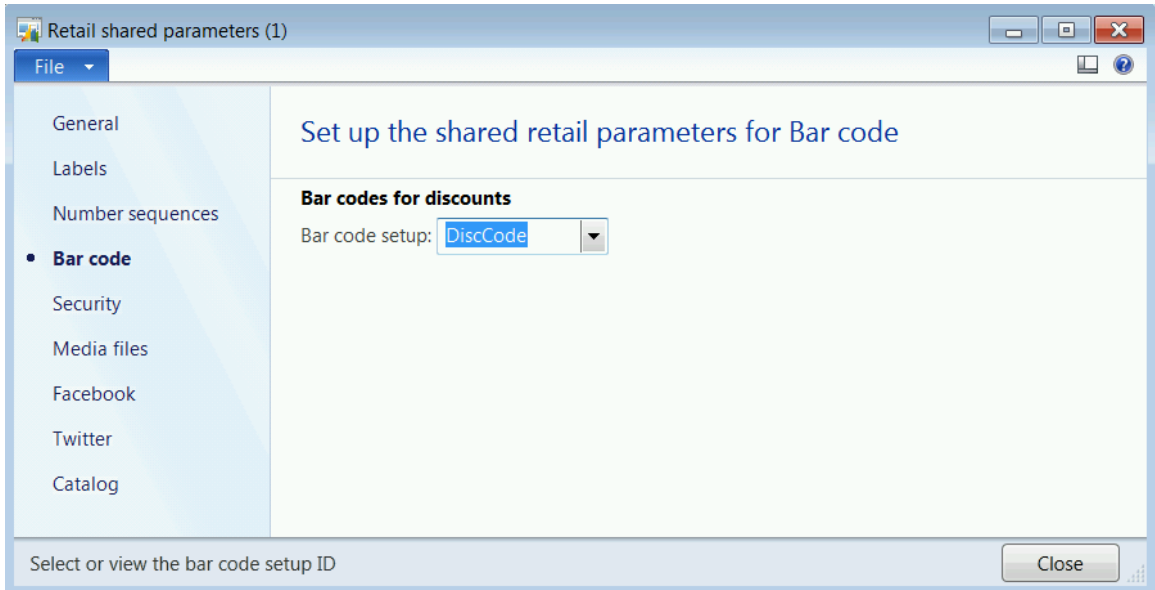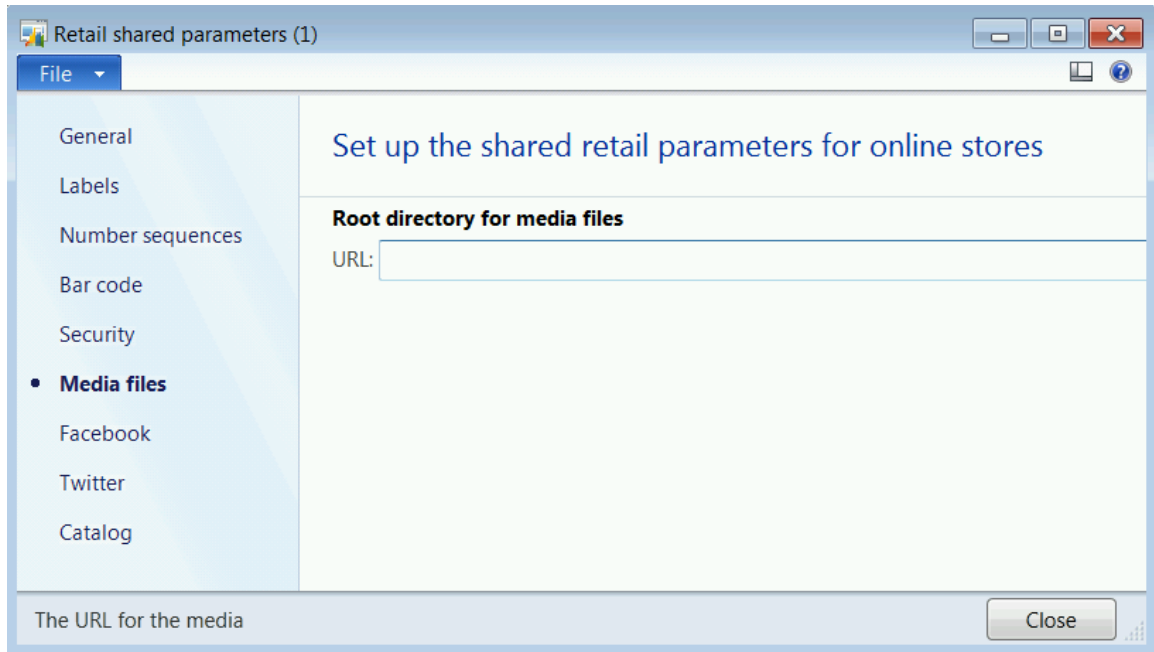
### 6.1.3.5 SECURITY

1. Enter the **EFT password encryption name** for EFTPOS security encryption.
2. Enter the **TS password encryption name** for the terminal services security encryption.
3. Enter the **Staff password hash name** for encryption of the staff password.
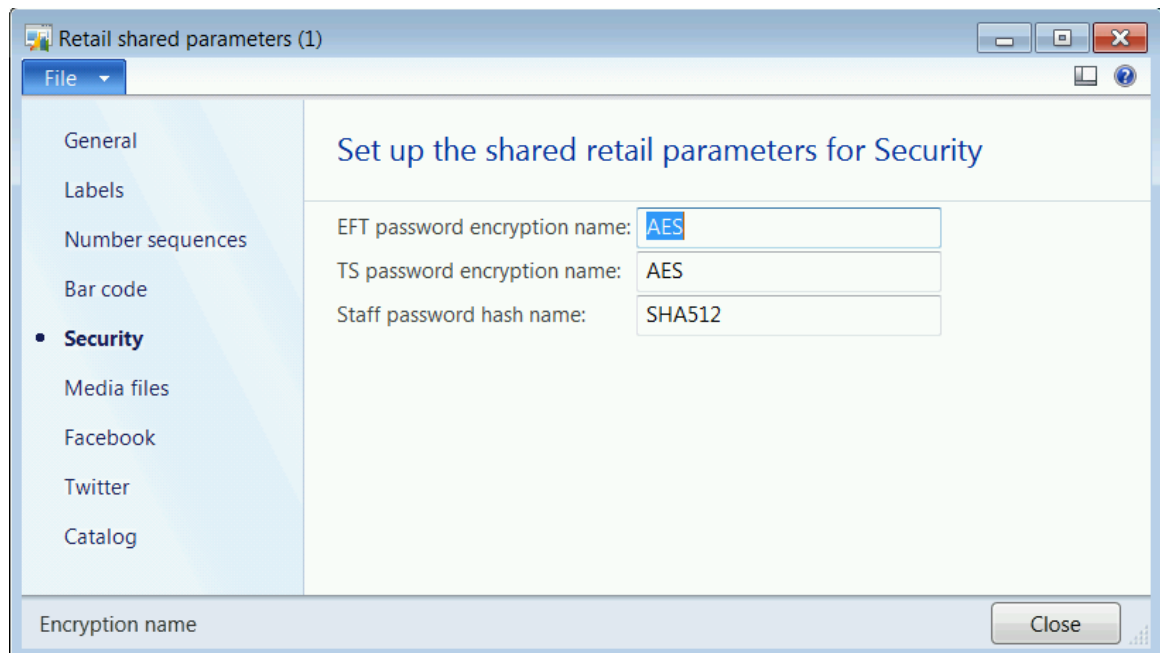
### 6.1.3.6  MEDIA FILES

Under the **Root directory for media files** enter the **URL** location for the media files repository used for product enhancement to attach additional media information like images, video and web description etc.



### 6.1.3.7  FACEBOOK

Enter the Application ID to integrate with Facebook application.
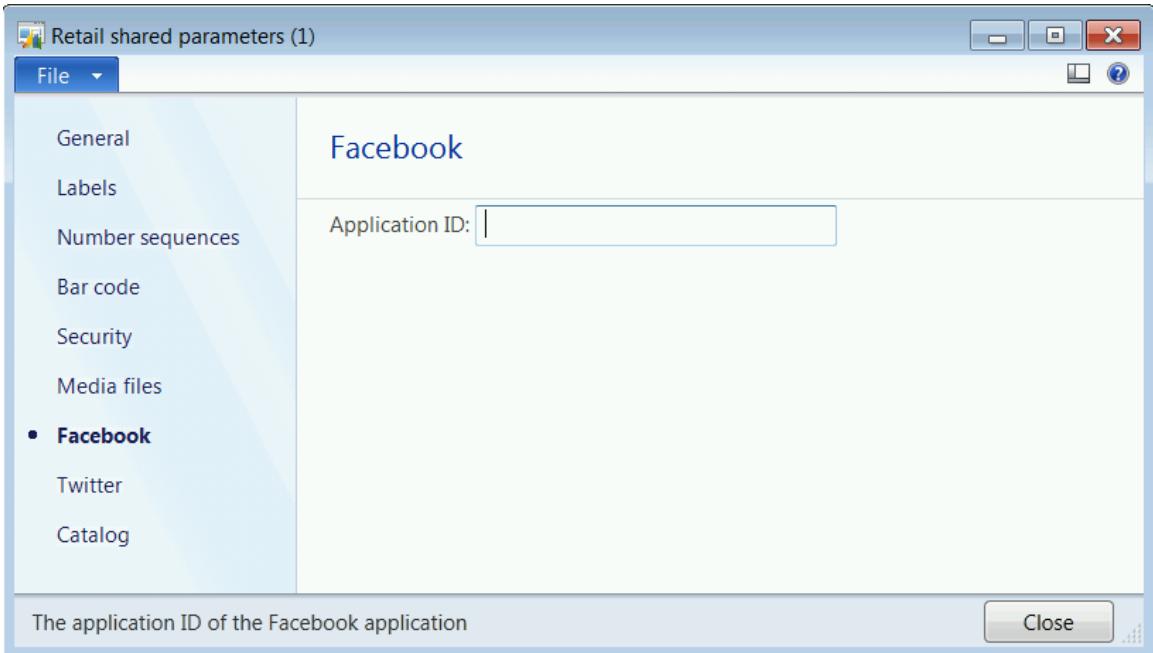
### 6.1.3.8 TWITTER

1. Enter the Consumer key which is the user identification name for the twitter account.
2. Enter the Consumer secret which is the twitter account password.
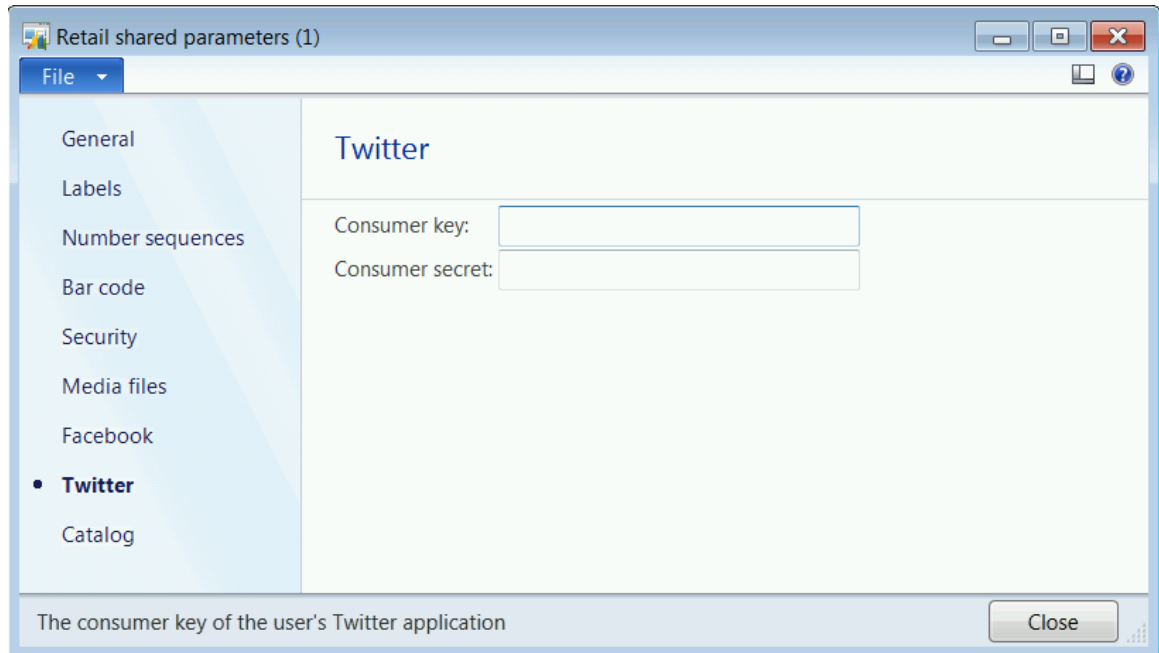
### 6.1.3.9 CATALOG

Enter the Maximum number of rows allowed for editing attributes in Excel.



## 6.1.4 RETAIL EMAIL NOTIFICATION PROFILE

To view Email notification profiles form click on **Retail > Setup > Parameters > Retail Email notification profile.**
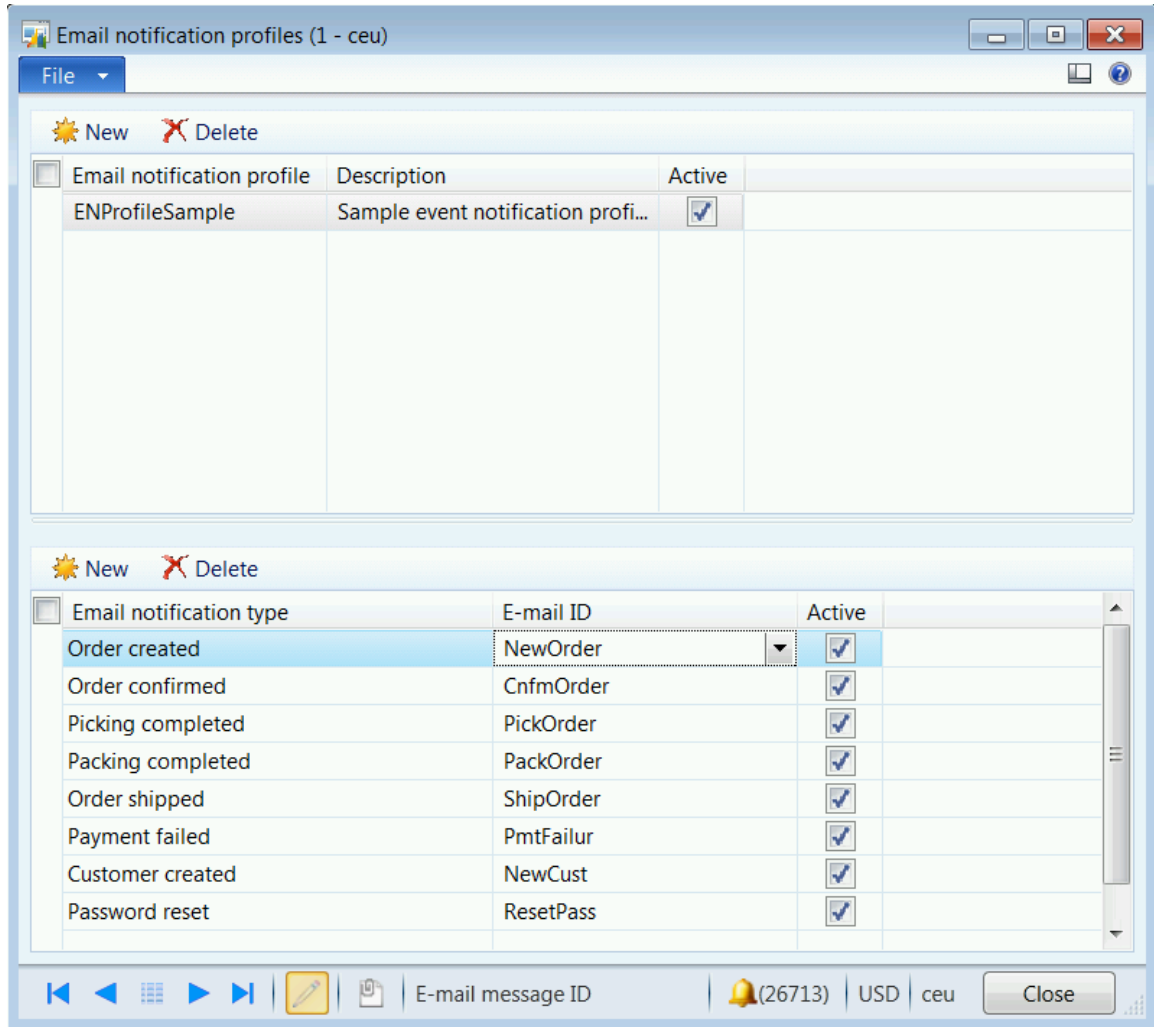
1. Click on **New** to create a new email notification profile.
2. Enter the **Email notification profile** name.
3. Enter a **Description** for the newly created email notification profile.
4. Select the **Active** check box to make use the email notification profile to send notifications to customers.
5. In the grid below click on **New** to attach notification types to the profile.
6. Select the **Email notification type** from the drop down list. The options available are:
   a. **Order created**: An email notification can be sent when a new order gets created for a customer.
   b. **Order confirmed**: An email notification can be sent when an order gets confirmed.

c. **Picking completed**: An email notification can be sent when the order items are picked for packing at a store or a distribution location.
d. **Packing completed**: An email notification can be sent when the packing is complete and the order item are ready to be shipped.
e. **Order shipped**: An email notification can be sent when the order is shipped advising the customer on the delivery date and tracking information based on the shipping method selection.
f. **Payment failed**: Email notification can be sent advising the customer regarding the payment failure for the order.
g. **Customer created**: Email notification can be sent for new customers.
h. **Password reset**: Email notifications to advise customers on password reset for their account.

7. Select the **E-mail ID** template to be used for the email notification type from the drop down list.
8. Set the **Active** check box to enable the email notification type for the newly created profile.

**Note**:

Default email templates have been included out of-box in AX 6.2 release; however retailers can add their own templates or modify the default templates to meet their requirements.

One or more email notification profiles can be setup in AX; however only can be set as default profile in Retail parameters form.

The existing AX email notification infrastructure has been leveraged for this feature.

**6.1.4.1 CREATE AN EMAIL TEMPLATE**

To open the E-mail templates form right click on the **E-mail ID** field of the email notification form and select **View Details**.
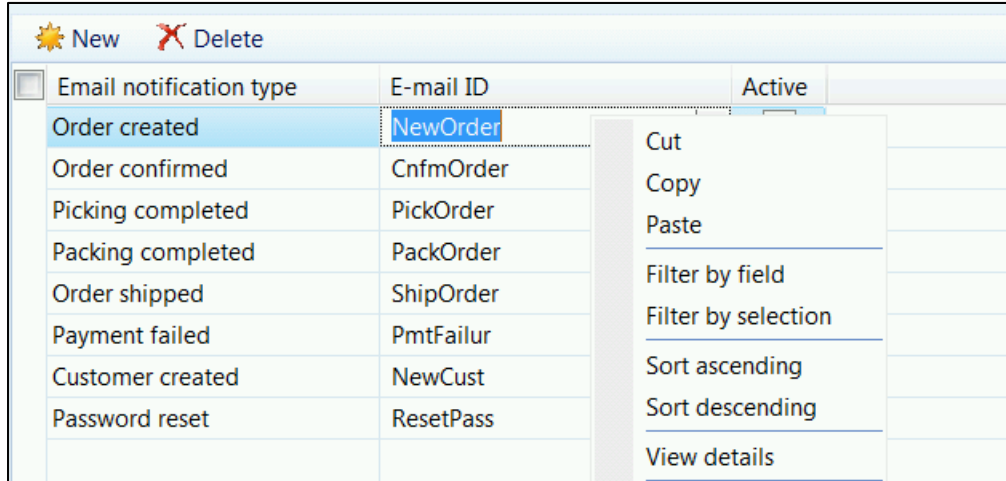
On click of View Details the E-mail templates form will open.
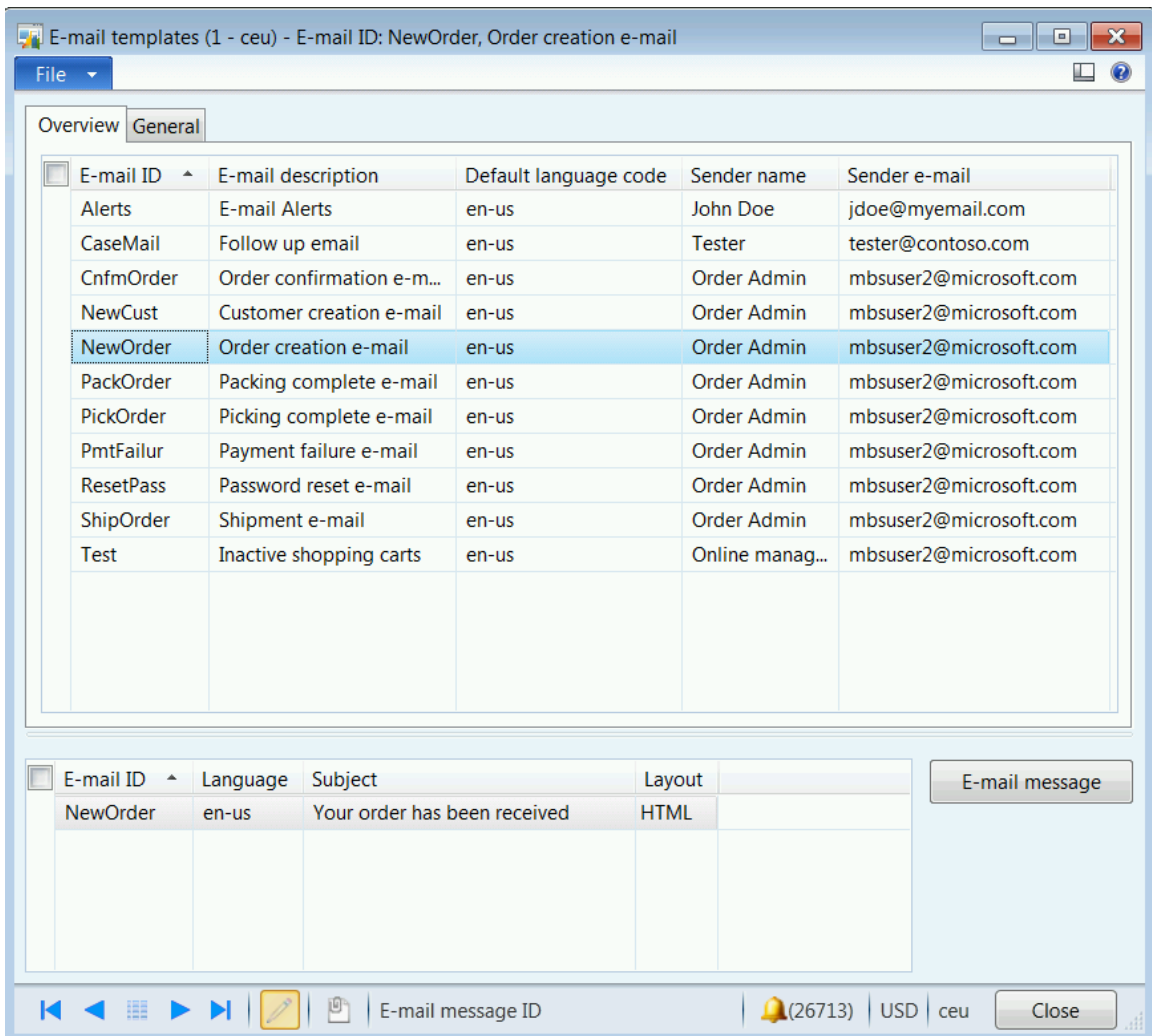
1. Click on **File > New** to create a new e-mail template.
2. Click on **General** tab; enter the **E-mail ID** template name.



3. Enter the **E-mail description** for the template.
4. Select the **Default language code** from the drop down list.
5. Enter the **Sender name** to be displayed in the email notification sent to the customer.
6. Enter the **Sender e-mail** to be displayed in the email notification sent to the customer.
7. Under the **Sender** section enter the **Sender name** to be displayed in the email notification sent to the customer.
8. Enter the **Sender e-mail** to be displayed in the email notification sent to the customer.
9. Under the **Priority** section select the **Priority** level to be set for the notification. The priority level options are:
   a. Low
   b. Normal
   c. High
10. Under the **Batch** section select the **Batch group** the e-mail template belongs from the drop down list.
11. Select the grid below and click on **File > New** to add a new record.
12. The **E-mail ID** field is default with the e-mail template name.
13. Select the **Language** from the drop down list.

14. Enter a **Subject** to be included as the subject line in the email notification.
15. Select the Layout from the drop down list. The options available are:
    a. HTML: The email message template is designed using the HTML format.
    b. XLST: The email message template is designed using the XML transformation to generate XML documents.
16. Click on the **E-mail message** button to define the body for the email template.
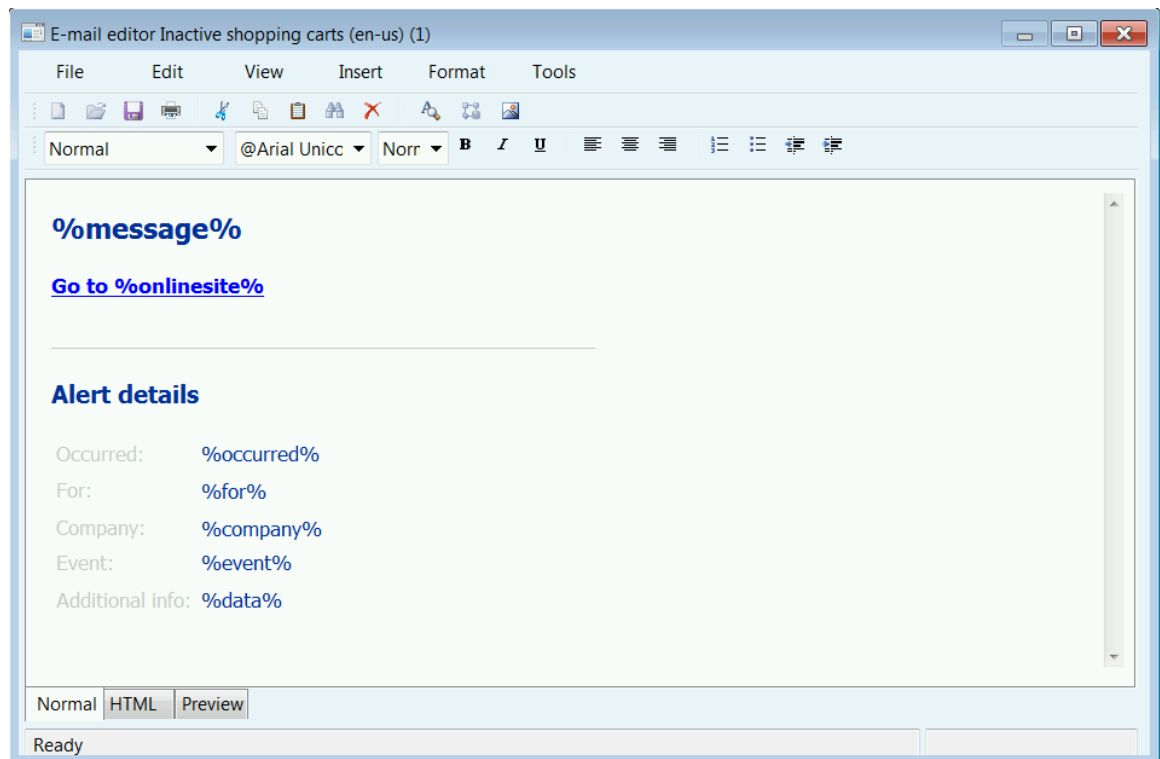


17. Select the Tabs at the bottom to define the body of the e-mail template in a specific format.
18. After the body for the email template is defined click on File > Save to confirm and save the changes.
19. Close the form to return to the e-mail templates form.

## 7   RETAIL POINT OF SALE – SET-UP

In this module we will discuss Microsoft Dynamics AX for Retail POS is the point-of-sale (POS) program for Microsoft Dynamics AX for Retail. You can use Microsoft Dynamics AX for Retail POS to perform the following tasks:

- Process sales

- Operate the cash drawer

- Scan bar codes

- Print customer receipts

- Calculate the sales total

- Calculate tax

- Calculate the change that is due back from the amount that is paid

The POS tasks are performed by using a POS register. Each POS register is uniquely identified by a register number. You can use the POS register to complete the following store transactions:

- Process product sales

- Issue product refunds

- Suspend transactions

- Process customer loyalty transactions

- Issue credit memos

- Issue gift cards

- Scan bar codes

- Receive payments

- Print receipts

- Track customer orders

- Process debit cards and credit cards

- Connect to other systems on the network

- Check inventory

Retail POS is built on the Microsoft .NET Framework. The easy-to-use graphical user interface (GUI) can be set up to meet the needs of many industries, such as food service, fashion, and grocery.

This section includes instructions for the following tasks:

- POS Profiles
  - o Offline profile
  - o Functionality profile
  - o Receipt profile
  - o Hardware profile
  - o Visual profile
  - o Transaction service profile
  - o Custom fields
- Setting up POS terminals
- Setting up receipt formats
- Setting up screen layouts
- Setting up  button grids
- Adding images
- Setting up keyboard mapping groups
- Setting up Operations
- Setting up the POS permission groups

Changes made to the POS profiles and the layouts on Microsoft Dynamics AX for Retail POS do not take effect at a store until the registers are restarted.

## 7.1    POS PROFILES

### 7.1.1 OFFLINE PROFILE

An *offline profile* is used to define the database structure that is synchronized between a store database and the offline databases at the registers. Each offline profile consists of several *offline scopes*. Offline scopes define the order in which data is synchronized, and the database tables that will be synchronized. Microsoft Dynamics AX for Retail POS includes a default offline profile that is named "Default pr." The offline scopes that are included in the default offline profile reflect the organization of jobs in Retail Scheduler.

> ◆ **Important**

You can modify the default offline profile that is included with Microsoft Dynamics AX for Retail POS. However, if you modify a store's offline profile after you have created the store's offline databases, you must run the Store Database Utility again on all the registers in the store to re-provision the offline databases for those registers.

The default offline profile is generated during the initialization process to create base configuration data.

To set up an offline profile, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Profiles** > **Offline profile**.
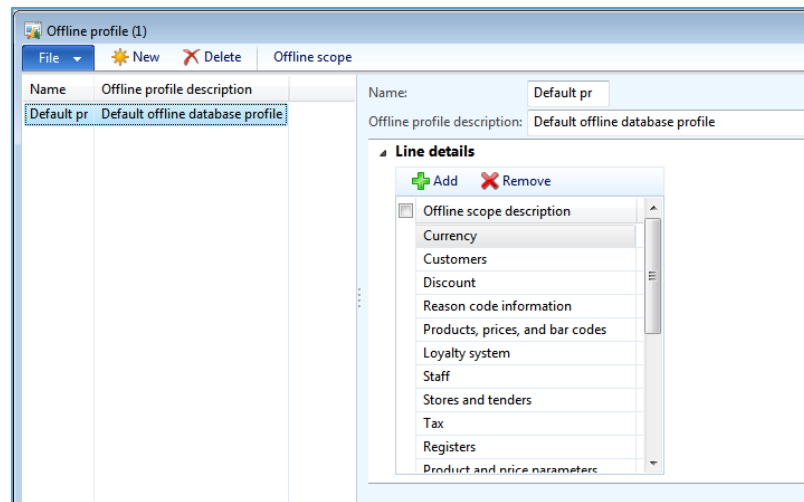


2. Click **New** to create a new offline profile, or select an existing profile.

3. In the **Name** field, type a name for the profile. In the **Offline scope description** field, type a description.

4.  On the **Line details** FastTab, click **Add** or select an existing offline scope.

5.  In the **Offline scope description** field, select an offline scope.

    To set up the new or existing offline scope, refer to the following procedure.

6.  Repeat steps 4 and 5 for each offline scope that is included in the offline profile.

To set up an offline scope, follow these steps.

1.  Click **Retail** > **Setup** > **POS** > **Profiles** > **Offline profile**.

2.  In the **Name** field, select an offline profile.

3.  On the **Line details** FastTab, click **Add** or select an existing offline scope, and then click **Offline scope**.



4.  In the **Offline scope** form, in the **Synchronization direction** field, specify the direction in which data is moved during synchronization. Select one of the following options:

    o  **Download** – Data is only downloaded from the store database to the offline databases.

    o  **Upload** – Data is only uploaded from the offline databases to the store database.

    o  **Bidirectional** – Data is downloaded from the store database and uploaded from the offline databases.
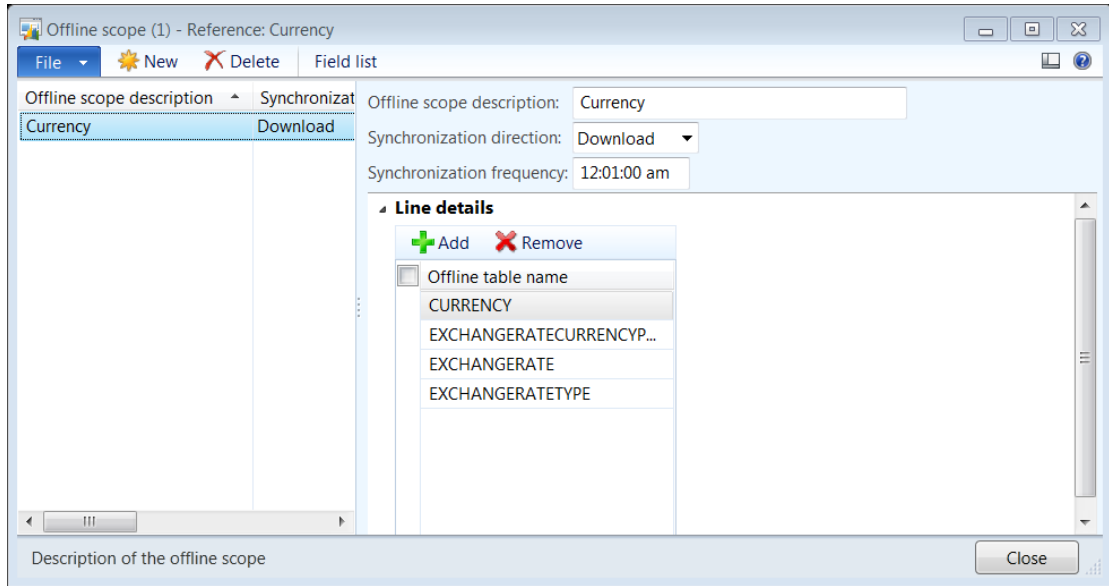
5.  On the **Line details** FastTab, click **Add** to add a database table, or select a database table, and then click **Remove**.

6.  To view the fields in the selected table, click **Field list**.
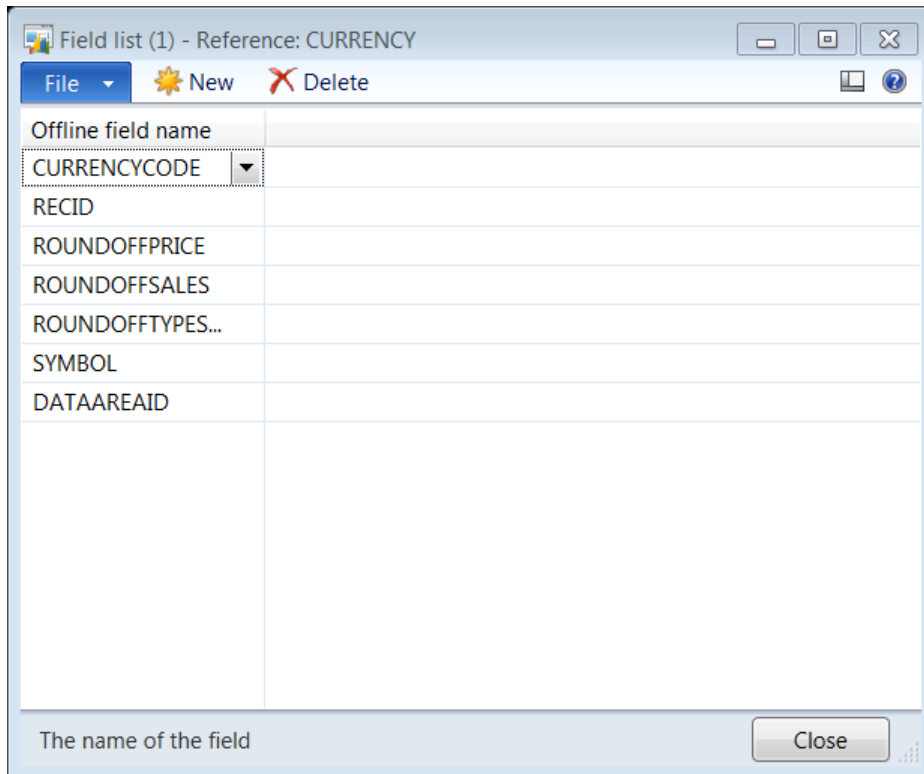


7.  Repeat steps 3 through 6 for each offline scope that you want to set up.

**Functionality profiles**

The functionality profile is used to configure the point-of-sale functionality for all registers in the store. The functionality profile contains settings that apply to all registers in a store, such as staff logon limitations, secondary currency information, item and payment aggregation, reason codes defaults for several operations, and being able to use X and Z reports and additional features that control policies at the POS level.

After the functionality profile is set up, assign it to the appropriate store or stores.

To set up functionality profiles, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Profiles** > **Functionality profile**.



2. Click **New** to enter a new profile or select an existing one.

3. Enter information, and if it is necessary, refer to the following information.

**POS Functionality profile** form

**Overview**

  i.   **Profile** – The name of the functionality profile.

  ii.  **Description** – The description of the functionality profile.

**General FastTab**

 **iii.** **Locale**

   • **ISO** – Select the locale for the store.

 **Important**

Selecting the incorrect location in this field can have an effect on the posting and tax calculations.

**Functions FastTab**
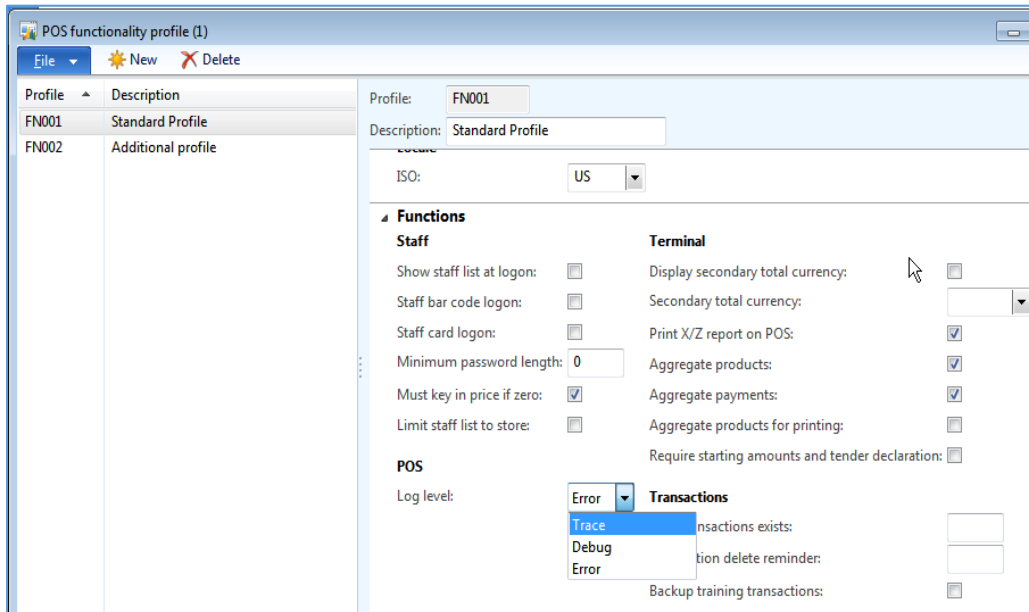


iv. **Staff**

- **Show staff list at logon** – Select the check box so that a list of staff is displayed at the point-of-sale at the time of logon.

- **Staff bar code logon** – This feature is not implemented in this release and might not appear in future releases.

- **Staff card logon** – Select the check box so that only a MSR card swipe must be used for logon at the point-of-sale—no keyboard input is allowed.

- **Minimum password length** – Enter the minimum length of the password that should be entered while logging on to the point-of-sale.

- **Must key in price if zero –** Select the check box so that the point-of-sale cashier must enter the price of an item manually if the price of the item is zero.

- **Limit staff list to store** – Select the check box to set the staff list based on the assignment of stores in the staff card. This option is only available when the **Show staff list at logon** check box is selected.

v. **POS**

- **Log level** – Select the level of event logging that is written to the POSIsLog table in the store or terminal database.

    - **Trace** – Most events are written to the database. This setting can substantially increase the size of the database.

- **Debug** – Key events, such as program startup (the initialization of the log file), employee logon and logoff, and failed logon attempts, are written to the database.

- **Error** – Only error events are written to the database.

- **Terminal**

  - **Display secondary total currency** – It displays the total amount in secondary currency.

  - **Secondary total currency -** Select the secondary currency for the transaction at the point-of-sale.

  - **Print X/Z reports on POS** – Select the check box so that X/Z reports can be printed at the point-of-sale.

  - **Aggregate Products** – Select the check box so that when a product is selected more than once at the point-of-sale, the first, existing line is updated.

  - **Aggregate payments** – Select the check box so that when multiple transaction payments are made with the same tender type, the first, existing line is updated.

  - **Aggregate items for printing** – Select the check box so that when the same item is sold more than once at the point-of-sale, it appears in a single line on the point-of-sale receipt.

vi. **Transactions**

  - **Days transactions exist** – Feature not implemented.

  - **Transaction delete reminder** – Feature not implemented.

  - **Backup training transactions** – Feature not implemented.

**Amount FastTab**

  - **Maximum price** – Enter the maximum transaction price.

  - **Maximum quantity** – Enter the maximum transaction quantity.

**Reasons Codes FastTab**

**Reasons codes** - Select the Reasons code that is visible to the cashiers during specific tasks.

  - **Negative adjustment** – This feature is not implemented in this release and might be removed from future releases.

  - **Void Product –** Select the Reason code number that runs when the **Void** button is pressed at the point-of-sale.

  - **Void transaction** – Select the Reason code number that runs when the **Void Transaction** button is pressed at the point-of-sale.

  - **Void payment** – Select the Reason code number that runs when the **Void Payment** button is pressed at the point-of-sale.

  - **Return transaction** – When a transaction is selected for return.

- o **Product discount** – When a product discount is performed.

- o **Mark up –** This feature is not implemented in this release and might be removed from future releases.

- o **Override price** – Select the Reason code number that runs when the **Price Override** button is pressed at the point-of-sale.

- o **Total discount** – When a total discount is performed.

- o **Tender declaration** – Select the Reason code number that runs when the **Tender Declaration** button is pressed at the point-of-sale.

- o **At start of transaction** – Select the Reason code number that runs at the start of a transaction at the point-of-sale.

- o **At end of transaction** – Select the Reason code number that runs at the end of each transaction at the point-of-sale.

- o **Serial number** – When a serial number is entered.

- o **Add sales person** – This feature is not implemented in this release and might be removed from future releases.

- o **The Product is not on file** – Select the Reason code number that runs when a product is not in the point-of-sale database.

- o **Return product** – When a product is returned.

- o **Transaction tax change** – Select the Reason code number that runs when the cashier overrides the tax on a transaction.

- o **Line product tax change** – Select the Reason code number that runs when the cashier overrides the tax on a line item.

**vii. Receipt numbering**



Specify the formats for the receipt transaction type in the store.

The formats that you set up determine how receipts are numbered. By default, the five types of receipts—Sale, Return, Payment, Sales order and Quote —use the same number sequence, which is set to **1** when you create the Retail POS database. When you set up receipt number formats, you decide whether receipts are numbered from this default number sequence or from independent number sequences. Consider the following examples:

viii.    If **you do not set up** receipt number formats, or if you set up receipt number formats and do not select the **Independent sequence** check box described as follows, receipt numbers are incremented regardless of the type of receipt. You receive a sequence such as sale number 1, followed by return number 2, followed by sale number 3, followed by customer payment number 4.

ix.    If **you set up** receipt number formats and select the **Independent sequence** check box **for all three types of receipts**, the three types of receipt numbers are incremented in separate sequences. You start with sale number 1, return number 1, and customer payment number 1.

x.    If **you set up** receipt number formats and select the **Independent sequence** check box for only **one type of receipt, such as Sale,** that type of receipt is numbered in a separate sequence while the other two share the default number sequence. As a result, you receive a sequence such as sale number 1, sale number 2, sale number 3, return number 1, and customer payment number 2.

### Important

Set up formats so that receipt numbers are unique for each store, terminal, and receipt type. The easiest way to do this is to include the store number, the terminal number, and a unique character that represents the receipt type in each receipt number format.

If you use the same format for each receipt type, we recommend clearing the **Independent sequence** check box for each receipt type.

xi.    **Receipt transaction type** – Select the format for the receipt from the following options.

- **Sale** – Select this option to set a format for transactions where the total amount is positive or zero.

- **Return** – Select this option to set a format for transactions where the total amount is negative.

- **Payment** – Select this option to set a format for customer payments.

- **Sales order – Receipt number format for sales orders created at POS.**

- **Quote – Receipt number format for quote orders created at POS.**

xii.    **Format** – Type the mask for the receipt number. Use the mask characters shown in the following table. For the non-date mask characters, repeat each character as often as necessary to accommodate the data that you include in the receipt number.

| Mask character | Description |
|---|---|
| # | Receipt number |
| S | Store number |
| T | Terminal number |
| C | Staff ID |
| ddd | Day of the year (1 through 366) |
| MM | Two-digit month |
| DD | Two-digit day of the month |
| YY | Two-digit year |

Characters other than those in the table appear in the receipt number. If you scan the receipt bar codes, avoid the use of special characters in the mask.

## 7.1.2  RECEIPT PROFILES

A receipt profile is a group of form layouts that can be assigned to the point-of-sale (POS) printers by using a hardware profile. A receipt profile provides a set of receipt templates for the printers at the registers. Form layouts and receipt profiles must be set up to print receipts and other documents from Microsoft Dynamics AX for Retail POS.

The receipt profiles must be set up to a hardware profile that will be used by the POS registers to print the receipt.

To set up a receipt profile, follow these steps.

1.  Click **Retail** > **Setup** > **POS** > **Profiles** > **Receipt profile**.
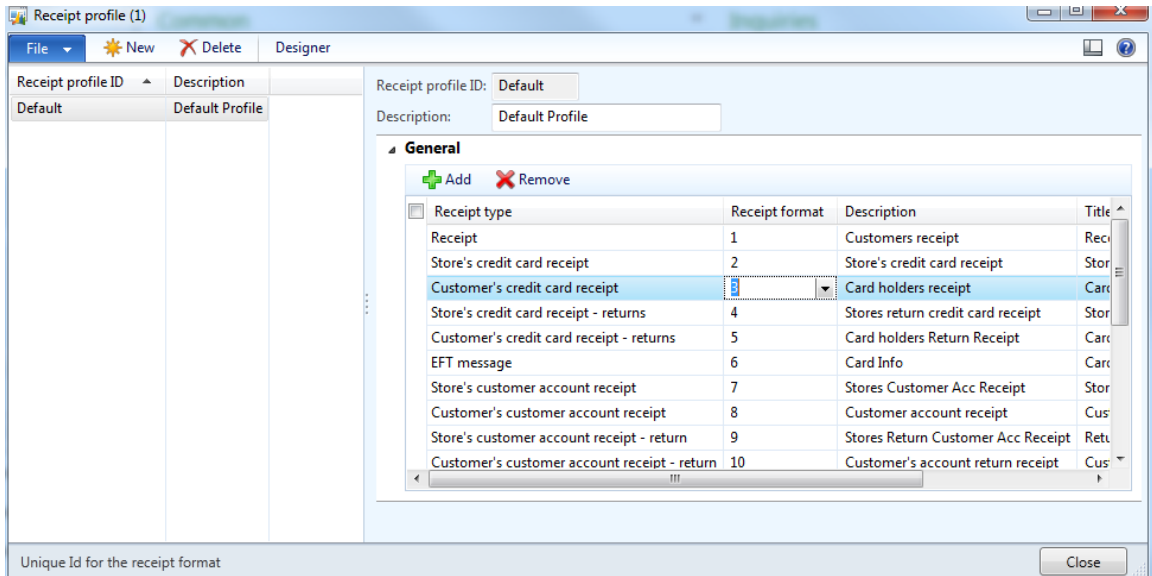
2. In the **Receipt profile** form, click **New** to create a new receipt profile, or select an existing receipt profile.

3. In the **Receipt profile ID** field, type a unique identifier for the profile.

4. In the **Description** field, type a name for the profile.

5. On the **General** FastTab, click **Add** to add a receipt format to the profile.

6. In the **Receipt type** field, select the type of receipt that you are creating a profile for. The type of receipt that you create a profile for is the type that is printed from the POS register.

7. In the **Receipt format** field, select the receipt format to add.

8. Enter Description for the Receipt Type.

9. Enter Title for the receipt type.

10. Click **Designer** to view the selected receipt format. Refer to the following section to design a receipt format.

☑ **Note**

**Assign a receipt profile to a hardware profile.**

The receipt profile that you select in a hardware profile assigns a set of receipt formats to the printers on the registers that use that hardware profile.

To select a hardware profile, follow these steps.
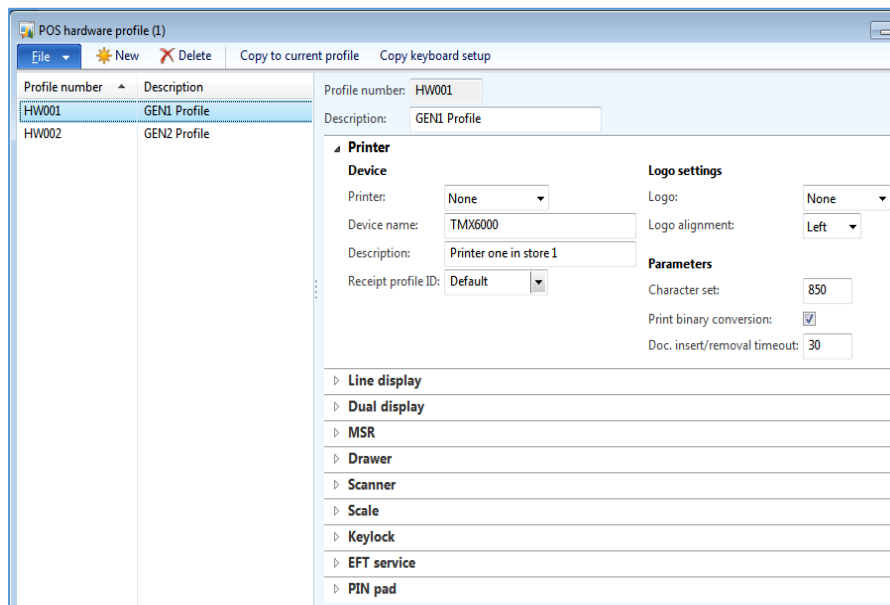
1.  Click **Retail** > **Setup** > **POS** > **Profiles** > **Hardware profiles**.

2.  In the **POS hardware profile** form, select the hardware profile from the list on the left side.

3. In the **Printer** FastTab, select the **Receipt profile ID** from the drop down list box.

## 7.1.3  HARDWARE PROFILES

Hardware profiles are created to set preferences and properties for a register and for the peripheral devices that are connected to the register. These devices include receipt or document printers, customer displays, magnetic strip readers, cash drawers, bar code scanners, scales, key locks, keyboards; electronic funds transfer (EFT) hardware, and closed-circuit television (CCTV) cameras.

☑ **Note**

*   Microsoft Dynamics AX for Retail POS supports OPOS-compliant hardware. OPOS is a standard that the retail industry uses for the point-of-sale (POS) devices.

*   A hardware profile must be assigned for each set of hardware that is used for the registers. A single hardware profile can be assigned to all the terminals if a store uses same hardware peripherals. If each register has a unique set of peripherals, you must assign a unique hardware profile for each register.



To set up hardware profiles, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Profiles** > **Hardware profiles**.

2. Click **New** to enter a new profile, or select an existing profile.

3. On the following FastTabs, enter information about the appropriate hardware devices:

   o **Printer** – Specify the settings for the printer that is used to print receipts and other documents for customers.

   o **Printer 2** – Specify the settings for a second print that can be used to print receipts or A4 size documents for customers.

   o **Line display** – You can set up an optional customer display. The customer can use this display to view transaction totals, payment amounts, and optional customized messages. The customer display can also display advertising.

   o **Dual display** – If a second monitor is set up in a Windows-based application, you can use the monitor as a line display. This monitor can also display advertising.

   o **MSR** – Specify the settings for a magnetic stripe reader (MSR). An MSR reads the information that is encoded in the magnetic stripe on the back of a plastic card. The stripe is read through physical contact and when the stripe is swiped past a reading head. Magnetic stripes are typically used on credit cards, identity cards, and transportation tickets.

   o **Drawer** – Specify the settings for the cash drawer. A valid signal from the computer or receipt printer opens the cash drawer.

   o **Drawer 2** – Specify the settings for the second cash drawer. A valid signal from the computer or receipt printer opens the cash drawer.

   o **Scanner** – Specify the settings for a product scanner. Because of the constant flow of sales in retail stores, cashiers can scan items into the POS system more accurately than they can enter items manually.

   o **Scanner 2** – Specify the settings for a second product scanner. Because of the constant flow of sales in retail stores, cashiers can scan items into the POS system more accurately than they can enter items manually.

   o **Scale** – Specify the settings for a scale. A scale is a weighing instrument that is connected to the POS hardware. If you sell items by a weighable unit of measure, the weight of an item is calculated by a POS scale and recorded in the register.

- **Caution**

You must set the base unit of measure for a product to a unit of weight.

- o **Keylock** – Specify the settings for your key lock. The key lock settings specify whether an OPOS key lock or a logon dialog box controls access to the register.

- o **Keyboard** – Specify the settings for keyboards. If you use a POS system that does not include a touch screen, the keyboard serves as the primary interface for the POS system. The keyboards that are used for a POS system can vary in complexity and technology. Examples include a standard 101-key keyboard and industry-specific POS keyboards. Grocery stores and restaurants might require special functions that only programmable keyboards can provide. When you select a keyboard, consider the size and your business's requirements for programmable keys.

- **Caution**

  The **Keyboard** FastTab does not display by default on the form. You must right-click on the form to personalize and add the keyboard mapping group assign values.

- o **EFT service** – Specify the settings for your EFT hardware. Use EFT for electronic payments and collections. EFT is based on a deferred net settlement (DNS), in which transactions are settled in batches at a specific time.

- o **PIN pad** – Specify the settings for the PIN pad.

- o **Signature capture** – Specify the settings to configure the device for signature capture during customer transactions and payments.

To assign a hardware profile to a register, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **POS terminals**.

2. On the **POS terminals** list page, select the terminal to assign a hardware profile to.

3. On the Action Pane, in the **Maintain** group, click **Edit**.

4. In the **POS terminals** form, on the **General** FastTab, in the **Hardware profile** field, select the appropriate hardware profile.

**POS hardware profile field details**

Click **Retail** > **Setup** > **POS** > **Profiles** > **Hardware profiles**.

Use the **POS hardware profile** form to create a hardware profile. Use a hardware profile to set preferences and properties for a register and peripherals of the register, such as the cash drawer and the receipt printer.



The tabs and the fields that are used in the **POS hardware profile** form are described in the following tables.

**Tabs**

| Tab | Description |
| --- | --- |
| **General** | Select a profile number and a description for the hardware profile. |

| Tab | Description |
|-----|-------------|
| **Printer** | Specify settings for the printer. |
| **Printer 2** | Specify settings for the second printer. |
| **Line display** | Specify settings for the line display.<br><br>The customer display, or pole display, is an optional part of the point-of-sale (POS) system. The customer display is a lighted display on which the customer can view transaction totals and payment amounts. Some customer displays can also display customized messages. The customer display can also be used to display advertisements. |
| **Dual display** | Specify settings for a dual display.<br><br>A dual display has two sections—an advertisement area and a receipt area that displays the current transaction. If there is no current transaction, the advertisement section is expanded to fill the screen. In the advertisement area, you can display a static image, a series of changing images, or a webpage. |
| **MSR** | Specify settings for a magnetic stripe reader (MSR).<br><br>An MSR device reads the information that is encoded in the magnetic stripe on the back of a plastic card. The stripe is read through physical contact and by swiping the card past a reading head. Magnetic stripes are frequently used on credit cards, identity cards, and transportation tickets. |
| **Drawer** | Specify settings for the cash drawer.<br><br>The cash drawer is an important part of the POS system. Money, credit card receipts, and other paperwork are stored in a cash drawer. A valid signal from the computer or receipt printer opens the cash drawer. |

| Tab | Description |
|-----|-------------|
| **Drawer 2** | Specify settings for the second cash drawer.<br><br>The cash drawer is an important part of the POS system. Money, credit card receipts, and other paperwork are stored in a cash drawer. A valid signal from the computer or receipt printer opens the cash drawer. |
| **Scanner** | Specify settings for the bar code scanner.<br><br>Because of the constant flow of sales in a retail store, it is almost impossible to manually key in sales items at the point-of-sale with a high degree of accuracy. |
| **Scanner 2** | Specify settings for the second bar code scanner.<br><br>Because of the constant flow of sales in a retail store, it is almost impossible to manually key in sales items at the point-of-sale with a high degree of accuracy. |
| **Scale** | Specify settings for the weight scale.<br><br>A scale is a weighing instrument that is connected to the POS register. If you price and sell items in a weighable unit of measure, Microsoft Dynamics AX for Retail POS calculates and records the weight of an item when the item is put on the scale.<br><br>• **Caution**<br><br>You must set the base unit of an item to a unit of measure for weight. |
| **Key lock** | Specify settings for the key lock.<br><br>The key lock determines whether an OPOS key lock or a logon dialog box is used to control access to the register. |

| Tab | Description |
|---|---|
| **Keyboard** | Specify the keyboard mapping group to the hardware profile. |
| **EFT service** | Specify settings for the electronic funds transfer (EFT) service.<br><br>EFT is used for electronic payments and collections. EFT operates on a deferred net settlement (DNS) basis. DNS settles transactions in batches at a specific time. |
| **PIN pad** | Specify settings for the PIN pad. |
| **Signature capture** | Specify settings for the signature capture device. |

**Fields**

| TAB/Field | Description |
|---|---|
| **General** | Below are the fields under the General Section. |
| **Profile number** | The unique ID number of the hardware profile. After a profile is created, it must be linked to each register. |
| **Description** | The name of the hardware profile. |
| **Printer** | Select the type of printer that is used at the register:<br><br>• **None** – No printer is used. Receipts are not printed for any kind of transaction.<br>• **OPOS** – An OPOS printer is used to print the POS receipts. An OPOS printer is a local printer that is installed at every register.<br>• **Windows driver** – A Windows-based printer is used to print the POS receipts. If you select this option, you must specify the name of the Windows-based printer that is set up at the |

| TAB/Field | Description |
|---|---|
| | POS register. Windows-based printers cannot print bar codes. |
| **Device name** | Type the logical device name of the printer. This name must match the name that is defined in the operating system. |
| **Description** | Type a more detailed description of the printer. For example, the description of the printer that is installed at the entrance of the store is "Printer at entrance of store." |
| **Receipt profile ID** | Select the receipt profile for the hardware profile. The receipt profile specifies the set of form layouts that is used to print receipts. |
| **Logo settings** | This feature is not implemented in this release and might not appear in future releases. Select the Logo setting from the drop down list box. The options include the following: <ul><li>None</li><li>Download</li><li>EPSON Flash</li></ul> |
| **Logo alignment** | Select the logo alignment from the drop down list box. The options include the following: <ul><li>Left</li><li>Center</li><li>Right</li></ul> |
| **Character set** | Type the character set that is used for the printer. The default character set is 850. |
| **Print binary conversion** | Select this check box to convert the printed text to binary text. In other words, each byte becomes two bytes. |
| **Doc. insert/removal timeout** | Type the maximum time, in seconds, that the system waits for a document, such as an invoice, to be inserted into or removed from the printer. |
| **Printer 2** | Printer 2 section |

| TAB/Field | Description |
|---|---|
| **Printer** | Select the type of printer that is used at the register:<br><br>• **None** – No printer is used. Receipts are not printed for any kind of transaction.<br>• **OPOS** – An OPOS printer is used to print the POS receipts. An OPOS printer is a local printer that is installed at every register.<br>• **Windows driver** – A Windows-based printer is used to print POS receipts. If you select this option, you must specify the name of the Windows-based printer that is set up at the POS register. Windows-based printers cannot print bar codes. |
| **Device name** | Type the logical device name of the printer. This name must match the name that is defined in the operating system. |
| **Description** | Type a more detailed description of the printer. For example, the description of the printer that is installed at the entrance of the store is "Printer at entrance of store." |
| **Receipt profile ID** | Select the receipt profile for the hardware profile. The receipt profile specifies the set of form layouts that is used to print receipts. |
| **Logo settings** | This feature is not implemented in this release and might not appear in future releases.<br>Select the Logo setting from the drop down list box. The options include the following:<br>• None<br>• Download<br>• EPSON Flash |
| **Logo alignment** | Select the logo alignment from the drop down list box. The options include the following:<br>• Left<br>• Center<br>• Right |

| TAB/Field | Description |
|---|---|
| **Character set** | Type the character set that is used for the printer. The default character set is 850. |
| **Print binary conversion** | Select this check box to convert the printed text to binary text. In other words, each byte becomes two bytes. |
| **Doc. insert/removal timeout** | Type the maximum time, in seconds, that the system waits for a document, such as an invoice, to be inserted into or removed from the printer. |
| **Line Display** | Line Display Section |
| **Display** | Select the type of line display that is used at the register:<br><br>• **None** – No line display is used.<br>• **OPOS** – The POS register includes a line display, and this display is used in the store.<br>• **Windows driver** – A Windows-based display is used. If you select this option, you must specify the name of the Windows-based driver for the display. |
| **Display device name** | Type the device name of the line display. |
| **Display description** | Type the identification number of the display device. |
| **Display total text** | Type the text that appears on the customer display together with the total amount when the register displays the total amount of a transaction. |
| **Display balance text** | Type the text that appears on the customer display together with the balance amount. |
| **Display terminal closed** | Select the check box to display the terminal as closed in the line display. |
| **Display closed line 1** | Type the text that appears on the first of the two lines that are displayed when the register is closed. |
| **Display closed** | Type the text that appears on the second of the two lines that are |

| TAB/Field | Description |
|---|---|
| **line 2** | displayed when the register is closed. |
| **Display binary conversion** | Select this check box to convert the text that appears on the display to binary text. In other words, each byte becomes two bytes. |
| **Display character set** | Type the character set that is used for the display. The default character set is 850. |
| **Display additional products** | Select this check box to display other products on the display. |
| **Delay for additional products** | Type the interval, in seconds, at which other products appear on the display. |
| **Dual Display** | Dual Display Section |
| **Dual display in use** | Select this check box to indicate that a dual display is used. |
| **Receipt width percentage** | Type the percentage of the display area that is used for the receipt. |
| **Advert type** | Select the type of advertisement that is displayed:<br><br>• **Logo** – A static image is displayed.<br>• **Image rotator** – A series of images is displayed. These images change, or rotate, periodically, at an interval that you specify.<br>• **Webpage** – A webpage is displayed. You can also specify the URL for a web server that periodically changes images. |
| **Image rotator path** | Click the **folder** icon, and then select a folder that contains the images to rotate. |
| **Image rotator interval** | Type the time, in seconds, that each image appears on the display. |
| **Web page URL** | Click the **Internet** button, and then select a webpage. |

| TAB/Field | Description |
|---|---|
| **MSR** | MSR Section |
| **MSR** | Select the type of MSR device that is used at the register:<br><br>• **None** – No MSR device is used.<br>• **OPOS** – The POS register includes an MSR device, and this MSR device is used in the store.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the MSR device. |
| **Description** | Type a description of the MSR device. |
| **Start track 1** | If this field is not empty, the track is cut starting from, and including, the position that you specify. |
| **Separator** | Type the character that is used as a separator between card numbers. |
| **End track 1** | If this field is not empty, the track is cut ending, and including, the position that you specify. |
| **Drawer** | Drawer Section |
| **Drawer** | Select the type of cash drawer that is used at the register:<br><br>• **None** – No cash drawer is used.<br>• **OPOS** – The POS system includes a cash drawer, and this cash drawer is used in the store.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases.<br>• **Manual** |
| **Device name** | Type the name of the cash drawer. |
| **Description** | Type a description of the cash drawer. |
| **Drawer 2** | Drawer 2 Section |

| TAB/Field | Description |
|---|---|
| **Drawer** | Select the type of cash drawer that is used at the register:<br><br>• **None** – No cash drawer is used.<br>• **OPOS** – The POS system includes a cash drawer, and this cash drawer is used in the store.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases.<br>• **Manual** |
| **Device name** | Type the name of the cash drawer. |
| **Description** | Type a description of the cash drawer. |
| **Scanner** | Scanner Section |
| **Scanner** | Select the type of bar code scanner that is used at the register:<br><br>• **None** – No bar code scanner is used.<br>• **OPOS** – An OPOS bar code scanner is used.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the bar code scanner. |
| **Description** | Type a description of the bar code scanner. |
| **Scanner 2** | Scanner 2 Section |
| **Scanner** | Select the type of bar code scanner that is used at the register:<br><br>• **None** – No bar code scanner is used.<br>• **OPOS** – An OPOS bar code scanner is used.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the bar code scanner. |
| **Description** | Type a description of the bar code scanner. |

| TAB/Field | Description |
|-----------|-------------|
| **Scale** | Scale Section |
| **Scale** | Select the type of weight scale that is used at the register:<br><br>• **None** – No weight scale is used.<br>• **OPOS** – An OPOS weight scale is used.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the weight scale. |
| **Description** | Type a description of the weight scale. |
| **Timeout in sec** | Type the number of seconds that Retail POS waits for a weight from the scale. |
| **Manual input allowed** | Select this check box to allow cashiers to enter the weight manually. |
| **Keylock** | Keylock Section |
| **Keylock** | Select whether an OPOS key lock or a logon dialog box is used to control access to the register:<br><br>• **None** – No key lock is used. A logon dialog box is used instead.<br>• **OPOS** – An OPOS key lock device is used. |
| **Device name** | Type the name of the keylock device. |
| **Description** | Type a description of the keylock device. |
| **Keyboard** | Keyboard Section |
| **Keyboard mapping group** | Select the keyboard mapping group that includes all the keyboard shortcuts that are created for POS operations. For more information, refer to **Set up keyboard mapping groups**. |
| **EFT Service** | EFT Section |

| TAB/Field | Description |
|---|---|
| EFT service | Select the type of EFT server that the register connects to:<br><br>• **None** – The register does not connect to an EFT server.<br>• **External** – The register connects to an external EFT server. If you select this option, you must enter the name of the EFT server in the **Server name** field.<br><br>📝 **Note**<br><br>Depending on the authorization system that the store uses, you might not have to enter the server name.<br><br>• **Payment Connector:** The register uses the payment processing service that is offered by Payment Services for Microsoft Dynamics ERP. |
| Service ID | If you selected **External** in the **EFT service** field, type the name of the EFT server. |
| Merchant ID | Enter the Merchant ID that is provided by the bank or the payment services operator. |
| Username | Type the user ID. |
| Password | Type the user password. |
| Configuration | Select the list of commerce services that provide the EFTPOS interface. |
| Server Name | Enter the server name of the location. |
| Description | Type the description for the EFT service. |
| EFT server port | Type the TCP/IP port for the EFT server. |
| ABC code | The options include the following:<br>• None<br>• A<br>• B |

| TAB/Field | Description |
|---|---|
| | • C |
| **Hardware profile version** | Select the hardware profile version that is used at the POS. The options include the following:<br><br>• Microsoft Dynamics AX 2012 R2<br><br>• Microsoft Dynamics AX 2012 Feature Pack<br><br>• Microsoft Dynamics AX 2009 |
| **PinPad** | Pin Pad Section |
| **PIN pad** | Select the type of PIN pad that is used at the register:<br><br>• **None** – No PIN pad is used.<br>• **OPOS** – An OPOS PIN pad is used.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the PIN pad. This name must match the name of the service object driver. |
| **Description** | Type a description of the PIN pad. |
| **Signature Capture** | Signature Capture Section |
| **Signature Capture** | Select the type of Signature capture driver that is used at the register:<br><br>• **None** – No Signature capture is used.<br>• **OPOS** – An OPOS signature capture is used.<br>• **Windows driver** – This feature is not implemented in this release and might not appear in future releases. |
| **Device name** | Type the name of the signature capture device. This name must match the name of the service object driver. |
| **Description** | Enter a description for the signature capture. |
| **Form name** | Enter the form name for the signature capture. |

## 7.1.4 VISUAL PROFILES

A visual profile contains basic information that determines the appearance of the Retail POS registers. Use the **POS visual profiles** form to select menus that appear on the register screen, and to define the colors and bars that are visible.

You can create several visual profiles and select specific profiles to run on specific registers. You can also decide whether a store can modify the visual profile that is assigned to the register.

**Set up visual profiles**

To create and modify a visual profile, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Profiles** > **Visual profiles**.

2. In the **POS visual profiles** form, select an existing visual profile, or click **New** to create a new visual profile.

3. In the **Profile number** field, enter a unique identifier for the profile.

4. In the **Description** field, enter a brief description for the profile.

5. In the **Picture ID** field, select a picture to be displayed as the background on the POS terminals that use the selected profile. If you select zero (0), no image is displayed.

6. In the **Screen** section, select the settings for the POS terminals that use the selected profile. The screen height must be at least 768 pixels. The screen width must be at least 1024 pixels. Select the **Design allowed on POS** check box so that a store can modify the profile design on a terminal.

☑ **Note**

**Assign a visual profile to a terminal**

To assign a visual profile to a POS terminal, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **POS terminals**.

2. In the **POS terminals** list, select the terminal that you want to modify.

3.  On the **General** FastTab, in the **Visual profile** field, select the appropriate visual profile.

**POS visual profiles**

Click **Retail** > **Setup** > **POS** > **Profiles** > **Visual profiles**.
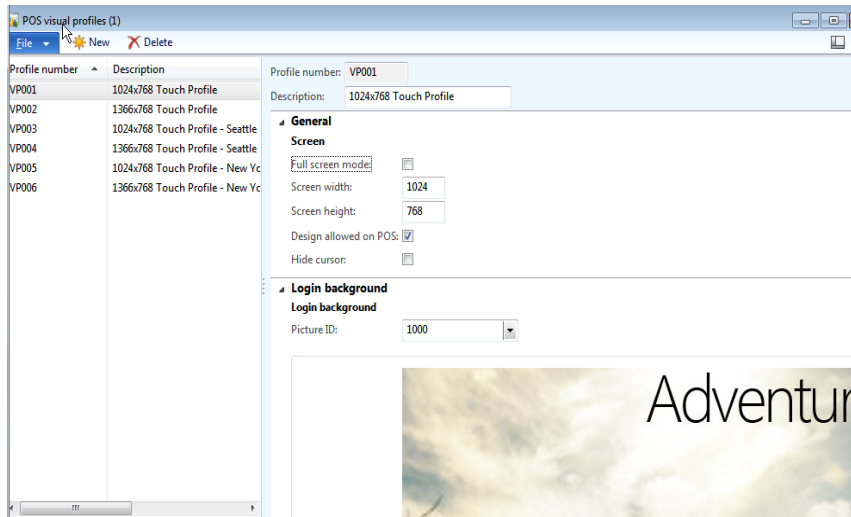


The **POS visual profiles** form can be used to set up visual profiles. You can create several visual profiles and select specific profiles to run on specific registers.

The fields that are used in the **POS visual profiles** form are described in the following table.

**Fields**

| Field | Description |
| --- | --- |
| **General** | General Section |
| **Profile number** | Enter a unique number for the visual profile. |
| **Description** | Enter a description of the visual profile. |
| **Full screen mode** | Select whether to display the profile by using the full screen. |

| Field | Description |
| --- | --- |
| **Screen height** | Select a height for the profile. The screen height must be at least 768 pixels. |
| **Screen width** | Select a width for the profile. The screen width must be at least 1024 pixels. |
| **Design allowed on POS** | Select whether a store can modify the profile design on a terminal. |
| **Hide cursor** | Select whether to hide the pointer for this profile. |
| **Login Back ground** | Login Background Section |
| **Picture ID** | Select an image to display in the background of the screen for the selected profile. |

## 7.1.5 TRANSACTION SERVICE PROFILES

Transaction service profiles are used to set up and configure the connection information for the transaction service that will be used by the retail stores to access Application Object Server (AOS) to retrieve or update information.

The transaction service is an agent for Microsoft Dynamics AX for Retail POS. Microsoft Dynamics AX for Retail POS submits queries to the transaction service, and then it accesses the remote AOS instance to read or update the necessary data. However, Microsoft Dynamics AX for Retail POS does not access the remote AOS instance. Before Microsoft Dynamics AX for Retail POS can submit any queries, it must have access to a transaction service on the network.

To set up the Commerce Data Exchange: Real-time Service profiles, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Profiles** > **Real-time service profiles**.

2. In the **Commerce Data Exchange: Real-time Service profile** form, select an existing profile, or click **New** to create a new profile.

3. Enter a name and a description for the profile.

4. Click the **Connection** FastTab, and then enter the following information:

   o In the **Server** field, enter the server name or the IP address where the transaction service is running.

- o In the **Port** field, enter the number of the port that Commerce Data Exchange: Real-time Service listens to. The default port is 1239. However, you can specify another port.

- o In the **Passphrase** field, enter the configuration passphrase for Commerce Data Exchange: Real-time Service that is used to authenticate the point-of-sale (POS) connection.

- o In the **Language** field, select the language that is used by the AOS instance.

5. Click the **Settings** FastTab, and then select the **Commerce Data Exchange: Real-time Service staff** check box so that Microsoft Dynamics AX for Retail POS can validate the operator logon through the transaction service.

To assign the Commerce Data Exchange: Real-time Service profile to a terminal, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **POS terminals**.

2. On the **POS terminals** list page, open the terminal to modify, or create a new terminal.

3. In the **POS terminals** form, on the **General** FastTab, in **Profiles**, in the **Commerce Data Exchange: Real-time Service profile** field, select the appropriate Commerce Data Exchange: Real-time Service profile.

4. In the remaining fields, enter the information that is required to set up the POS terminal.



The tabs and the fields that are used in the **POS terminals** form are described in the following tables.

**Tabs**

| Tab | Description |
|---|---|
| Overview | Enter a name and description for the profile. |
| Connection | Enter the connection settings for the profile. |
| Settings | Make Microsoft Dynamics AX for Retail POS be available to validate access privileges for the transaction service. |

**Fields**

| Field | Description |
|---|---|
| Profile | The name of the Commerce Data Exchange: Real-time Service profile. |
| Description | The description of the Commerce Data Exchange: Real-time Service profile. |
| Connection | Connection Section |
| Server | The server name or the IP address where the transaction service is running. |
| Port | The port that Commerce Data Exchange: Real-time Service listens to. The default port is 1239. However, you can specify another port. |
| Passphrase | The configuration passphrase for Commerce Data Exchange: Real-time Service that is used to authenticate the point-of-sale (POS) connection. |
| Language | The language that is used by the AOS instance. |
| Settings | Settings Section |
| Commerce Data Exchange: Real-time Service staff | Select the check box so that Microsoft Dynamics AX for Retail POS can validate the operator logon through the transaction service. |

## 7.1.6  CUSTOM FIELDS

The custom fields can be used by Independent Service Vendors (ISVs) and partners to extend the display with additional fields in Microsoft Dynamics AX for Retail POS or for the customization that is built as vertical solutions.

To add the **Custom fields** form, click **Retail > Setup > POS > Profiles > Custom fields**, and then follow these steps.
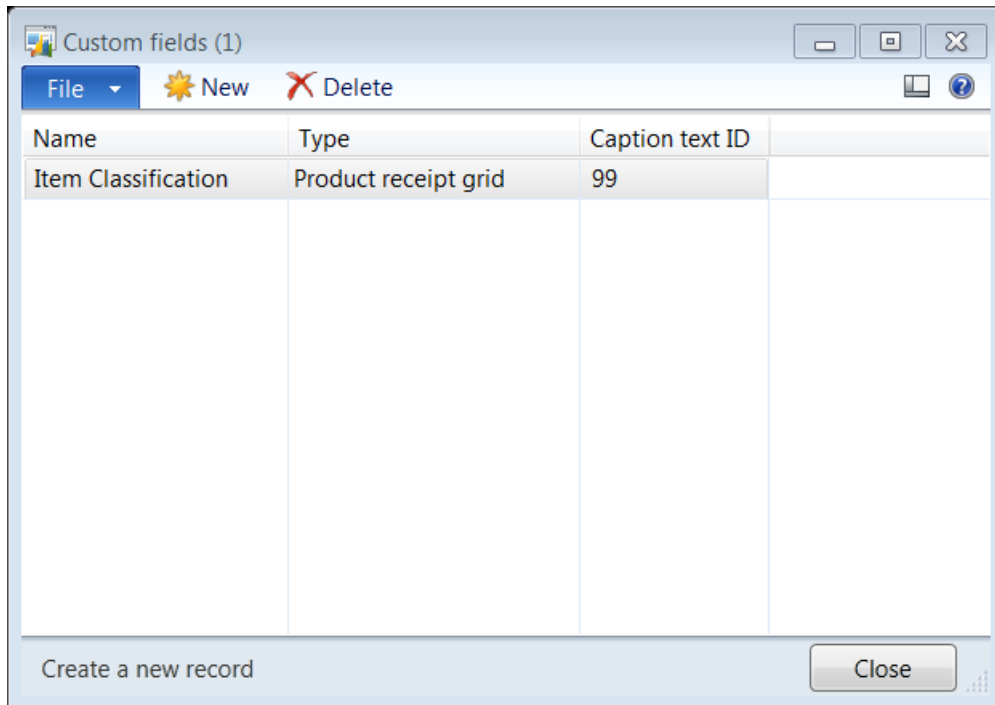


1.  Click **New** to create a new custom field.

2.  Enter the **Name** of the custom field.

3.  Select the Type from the drop down list box. The type defines the area where the custom field will be displayed at the point-of-sale. The options include the following:

    - **Product receipt grid** – Makes the custom field available to be added to the product receipt grid on the POS screen layout.

    - **Payment grid** – Makes the custom field available to be added to the payment grid on the POS screen layout.
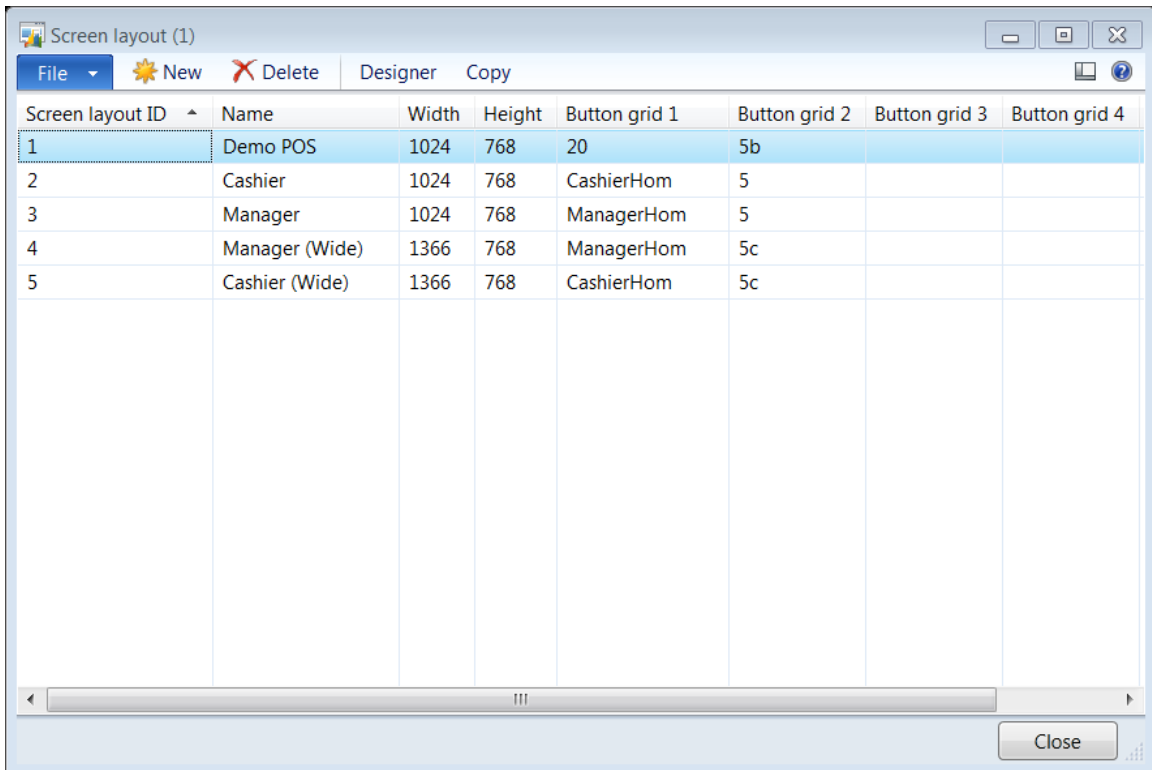
- **Total area** – Makes the custom field available to be added to the totals area on the POS screen layout.

- **Receipt** – Makes the custom field available to be added to a receipt format.

4. Enter the **Caption text ID** for the custom field to display the text in local language.

**Add a custom field to the POS screen layout**

After the custom fields are added, the fields must be displayed on the POS screen layout.

To open the **Screen layout** form, click **Retail > Setup > POS > Screen layout**, and then follow these steps.



1. Select a screen layout from the list and click **Designer** from the tool bar at the top of the screen to open the **Designer** form.
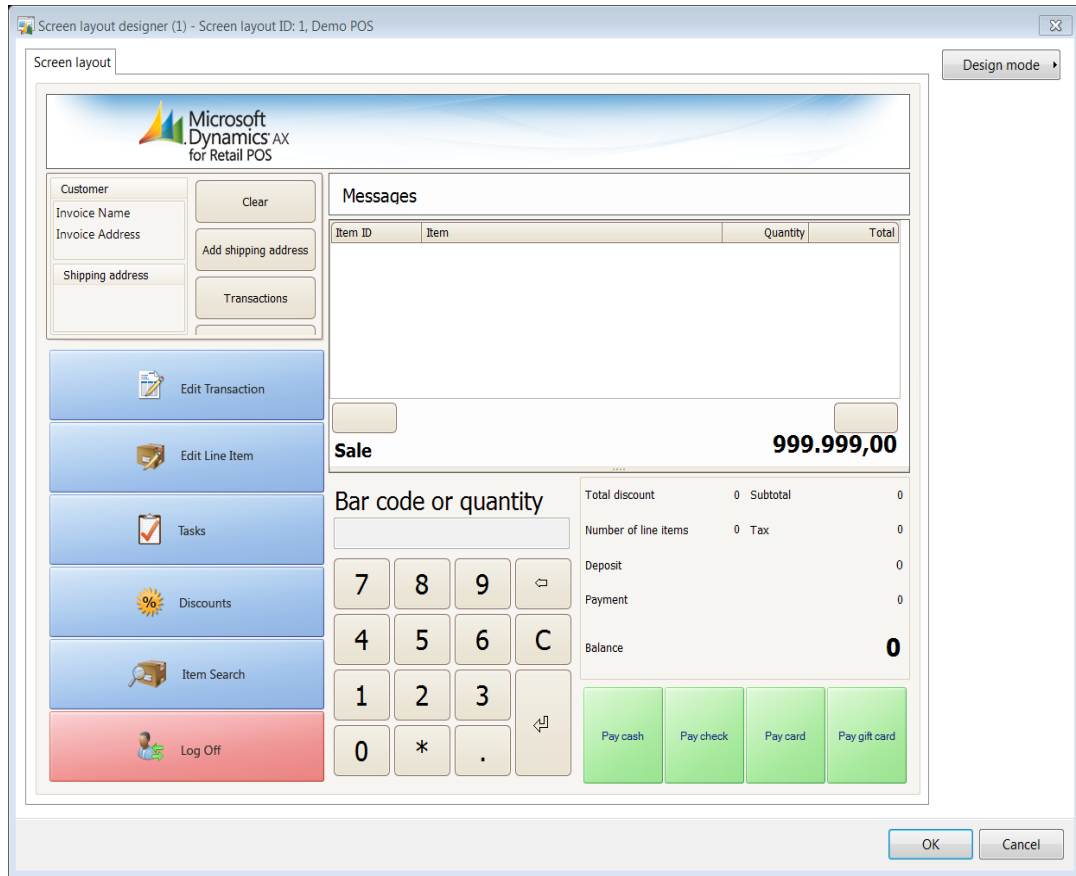
2. To add the custom fields to the product receipt grid, right-click in the product receipt grid column header and then select **Column chooser** from the menu list.
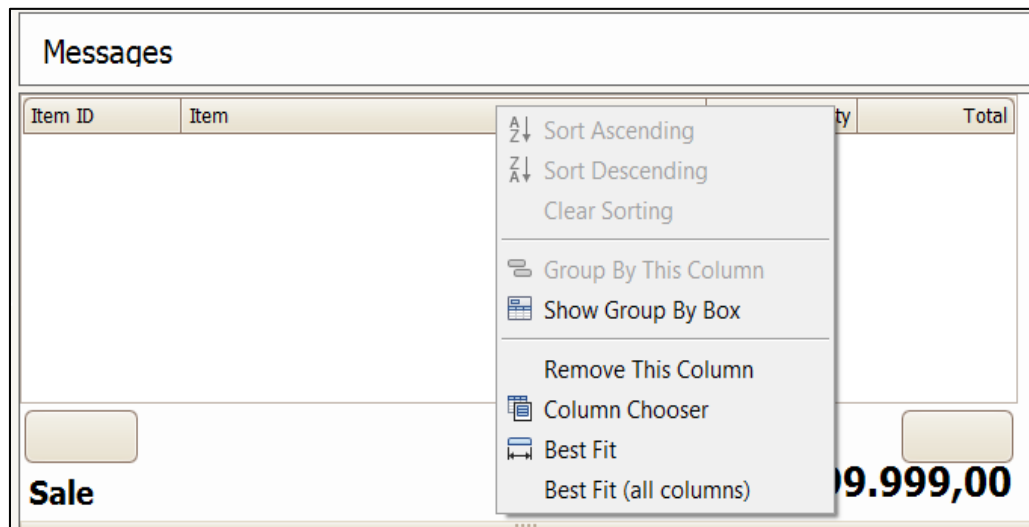
3. The list of fields that can be added to the product receipt grid will be displayed. To add the custom fields to the product receipt grid, select the custom field from the list and drag the column and drop it on the product receipt grid.
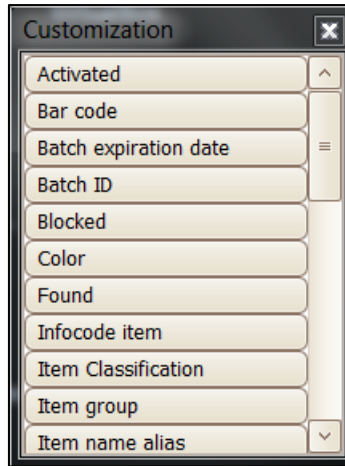


The custom field that is added will be displayed on the product receipt grid.
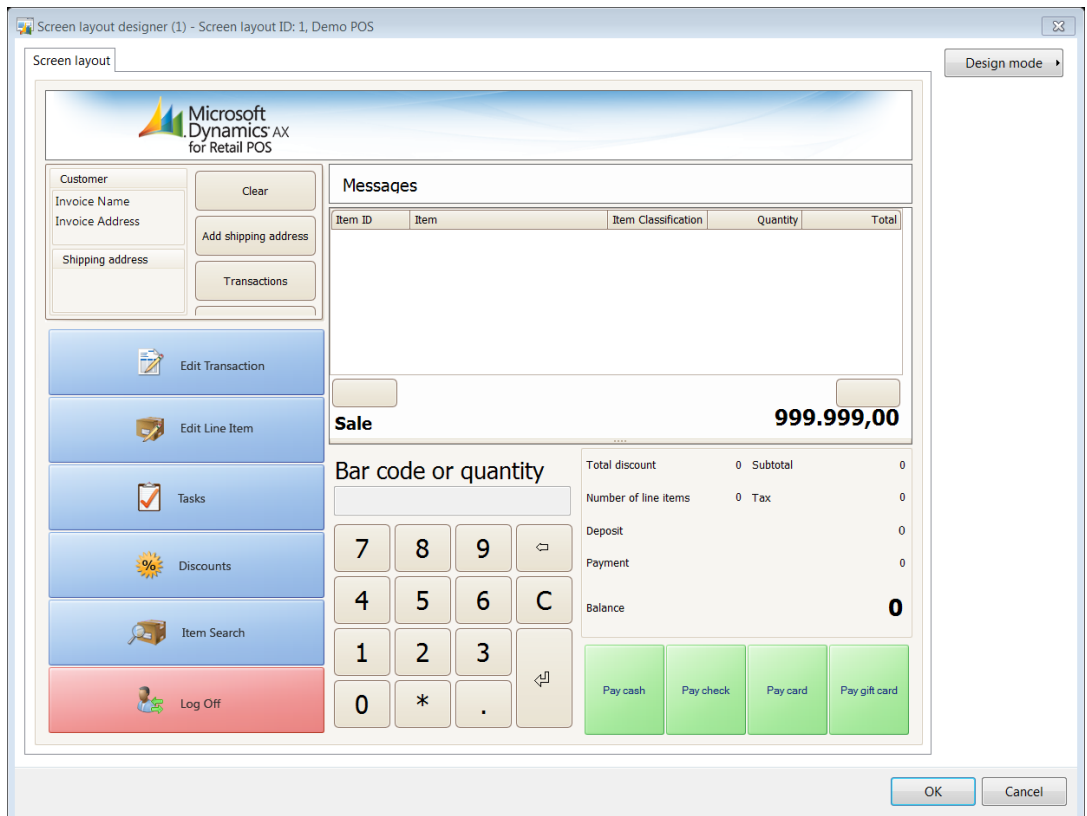


4. Click **OK** to save the changes on the screen layout.

5.  Run the A-1090 job from the **Retail scheduler** form to move the changes from the screen layout to the stores.

-   Caution

By using the **Custom fields** form, the ISV can add only more fields to the POS screen layout. To have meaningful data display in the custom fields requires the efforts of both the ISV and partners.

**Extensible Interface for development**

The POS plug-in is used by ISVs and partners to extend the functionality in the point-of-sale system.

By using Microsoft Dynamics AX .Net 4.0, the POS plug-in shows the placeholder data that ISVs can use to populate data in custom fields.

Three placeholders are available in the following areas:

-   POS Transaction header object
-   POS Transaction lines
-   POS Transaction payment

The dynamic data type is called **PartnerData**. The syntax for populating the value for the custom field is:

> transactionObject.PartnerData.MyCustomField = "MyValue";

Refer to the section on **POS extensibility** for more information about how to install and develop custom code for ISV and partner customizations.

## 7.2    POS TERMINALS

When you set up a terminal in Microsoft Dynamics AX for Retail POS, you select a hardware profile and a visual profile for the terminal. A hardware profile determines the physical configuration of a terminal and a visual profile determines the screen characteristics of a terminal.

You can assign the profiles to a specific terminal or to a group of terminals. You can also modify the profiles that are assigned to a terminal. **Certain configuration changes do not take effect at stores until the terminals in the store are restarted**. Generally, if you modify something that affects the POS terminal setup or the configuration of one or more terminals, you must restart the affected terminal.

Before you set up terminals, complete the following prerequisites:

- Create a store

- Create the Retail POS functionality profiles and assign them to stores

- Create a hardware profile

- Create a visual profile

- Create a screen layout

To set up the terminal and assign profiles to the terminal, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **POS terminals**.

2. In the **POS terminals** list, on the Action Pane, in the **New** group, click **Terminal** to create a new terminal.

3. In the **POS terminals** form, on the **General** FastTab, in the **Terminal number** field, enter a unique number for the terminal.

4. In the **Reference** field, select a store for the register.

5. In the **Hardware profile** field, select a profile for the register.

6. In the **Visual profile** field, select a profile for the register.

7. On the **General** FastTab, enter values in the remaining fields.

8. In the **POS terminals** form, enter values on the other FastTabs.


Click **Retail** > **Setup** > **POS** > **POS terminals**. On the **POS terminals** list page, on the Action Pane, in the **New** group, click **Terminal**.

# Retail Application Functionality in Microsoft Dynamics® AX 2012 R2
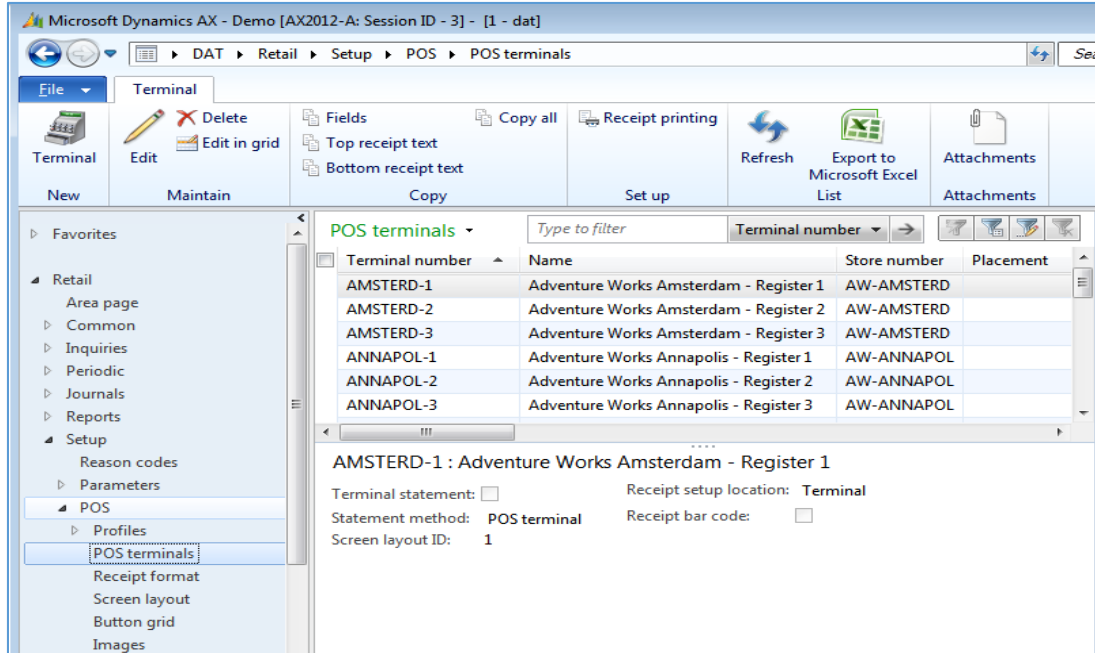


**Tabs**
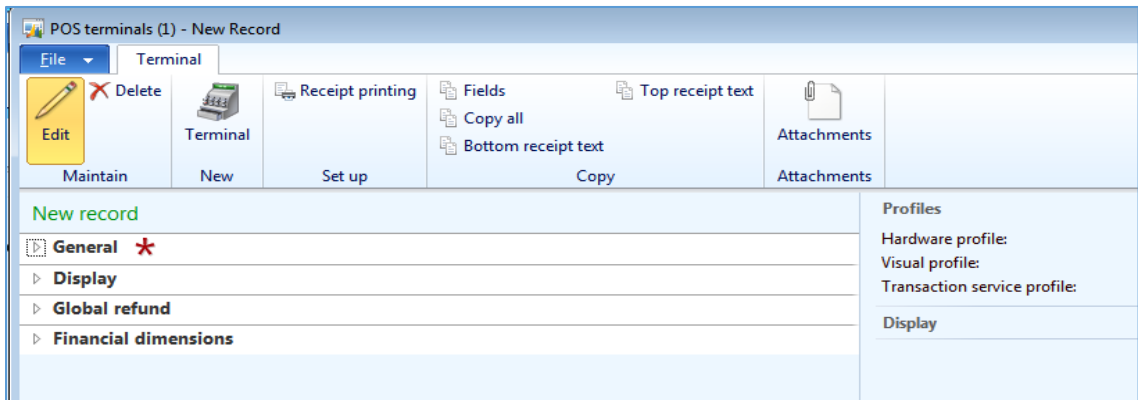


The tabs and the buttons that are used in the **POS terminals – New Record** form are described in the following tables.

| Tab | Description |
| --- | --- |
| **Terminal** | Configure the point-of-sale (POS) registers, and set up distribution locations and parameters to print receipts. |

| Tab | Description |
| --- | --- |
| **General** | Specify general settings for the register, such as the POS register's number, name, and placement, and the store number for the register. |
| **Setup** | Specify a number sequence group. |
| **Display** | Specify parameters for the register's customer-facing display. |
| **Financial dimensions** | View information about financial dimensions, such as the default dimensions and where the dimensions are used in account structures and advanced rule structures. |

**Buttons**

| Button | Description |
|---|---|
| **Copy fields** | Copy the setup fields from another register to this register. |
| **Copy top receipt text** | Copy, from another register to this register, the receipt text that is configured to appear at the top of the receipt. The receipt text is set up in the **POS terminal receipt printing** form. |
| **Copy bottom receipt text** | Copy, from another register to this register, the receipt text that is configured to appear at the bottom of the receipt. The receipt text is set up in the **POS terminal receipt printing** form. |
| **Copy all** | Copy all settings from another register to this register. |
| **Terminal** | Create a new register. |
| **Receipt printing** | Open the **POS terminal receipt printing** form. Here, you can configure the receipt settings for this register. You can also enter the receipt text that appears at the top and the bottom of the receipt when it is printed. |

**Fields**

The fields in the **POS terminals – New Record** form are described in the following table.



| Field | Description |
|---|---|
| **Terminal number** | The unique register number. Register numbers can be automatically generated or manually assigned. Number sequences must be assigned in the store card. |
| | You can enter a maximum of 10 alphanumeric characters, and each number must be unique. |
| | You can create as many registers as you require. |
| **Name** | Type a name for the register. |
| **Placement** | Type a description of the physical location of the register in the store. |

| Field | Description |
|---|---|
| **Reference** | Select the store to which the register is assigned or linked. A register can be linked to only one store. |
| **Hardware profile** | Select the appropriate hardware profile. A hardware profile defines a set of properties for various hardware peripherals that are connected to a register. The profile can include settings for a printer, scanner, drawer, scale, display screen, key lock, keyboard, EFT, and other devices. |
| **Visual profile** | Select the visual profile. A visual profile defines a set of properties for the colors, resolution, and menus for the Retail POS screen. |
| **Commerce Data Exchange: Real-time Service profile** | Select the Commerce Data Exchange: Real-time Service profile. The register uses the profile to connect to Application Object Server (AOS) to retrieve or update information. |
| **POS Configure** | POS Configure Section |
| **IP address** | Update the IP address for the POS register. |
| **Update Service Port** | Update the port details for the POS terminal. |
| **Stand Alone** | If the terminal is operating as a standalone. |
| **Receipt setup location** | Select whether the receipt layout is defined for each register or for each store.<br><br>• **Terminal** – A different layout can be set for each register.<br>• **Store** – The same layout is used for all registers in a store. |
| **Receipt bar code** | Select the check box to indicate that a bar code for the receipt number is printed at the bottom of each receipt at the POS terminal. A bar code is also printed for suspended transactions. |
| **Terminal statement** | Select the check box so that terminal statements can be generated.<br><br>The method that is used to generate terminal statements is defined in the store setup. However, you can define a new statement method. |
| **Statement** | Select the statement method, based on the statement lines that |

| Field | Description |
|---|---|
| **method** | are created in the statement journal. This option is only available if the **Terminal statement** check box is selected.<br><br>• **Staff** – Create a statement line for each tender by worker.<br>• **POS terminal** – Create a statement line for each tender by the point-of-sale terminal.<br>• **Total** – Create a statement line for each tender in the transactions. |
| **Reference** | The store number that is used for electronic funds transfer (EFT) transactions. Microsoft Dynamics AX for Retail POS populates this field automatically when the store number is assigned to the register. However, you can manually change the EFT store number. |
| **EFT POS register number** | The register number that is used for EFT transactions. Microsoft Dynamics AX for Retail POS populates this field automatically when the register is created. However, you must change the EFT register number so that it matches the number that you receive from your payment provider. |
| **Exit after each transaction** | Select the check box to indicate that Microsoft Dynamics AX for Retail POS logs off automatically after each transaction. This option is suitable for a highly secure environment, because cashiers must log on before they can process transactions. |
| **Auto logoff timeout (minutes)** | Enter the time, in minutes, after which a Microsoft Dynamics AX for Retail POS session ends if the computer is left unused. This setting can be used for terminals that have relatively few transactions and lots of idle time. |
| **Open drawer at logon/logoff** | Select the check box to indicate that the cash drawer is opened every time that Microsoft Dynamics AX for Retail POS users log on or log off. |
| **Post difference to vendor** | Select the concession vendor to post the counting difference to when the tender amount in the drawer differs from the tender amount that is counted. |
| **Maximum text length** | The maximum length of each line of text on the customer-facing display. The default length is 20 characters. |
| **Customer display text 1** | The first line of text that is displayed on the line display between customer transactions. |

| Field | Description |
|---|---|
| **Customer display text 2** | The second line of text that is displayed on the line display between customer transactions. |
| **Screen layout ID** | Select the screen layout that is used for the register. |
| **Global Refunds** | |
| **Print Tax Refund Checks** | |
| **Financial Dimensions** | |
| **Customer Group** | A default group can be selected if users have not set the customer with the appropriate group. |
| **Department** | Select the default department from the drop down list. |
| **Item Group** | Select the Item group from the drop down list. |
| **Store** | Select the Store the terminal belongs to from the drop down list. |
| **Terminal** | Select the terminal from the drop down list. |
| **Worker** | Select the default worker using the terminal from the drop down list. |

## 7.3   RECEIPT FORMAT

The **Receipt format** form is used to set up receipt formats. You can set up a receipt format for each printer at the point-of-sale. One or more receipt formats can then be assigned to a receipt profile. Then, this receipt profile is assigned to a hardware profile for a store's registers.

Click **Retail** > **Setup** > **POS** > **Receipt format**.
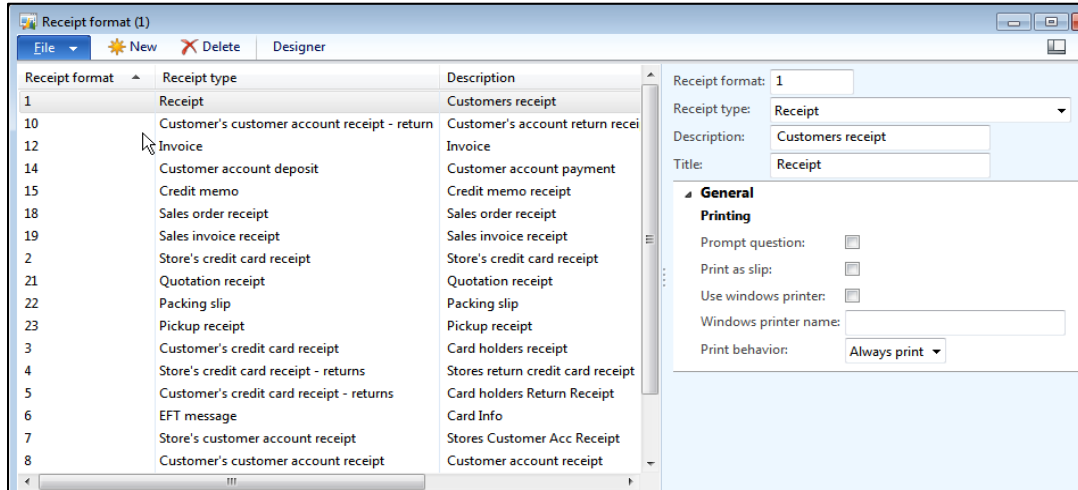


The tabs, buttons, and fields that are used in the **Receipt format** form are described in the following tables.

**Tabs**

| Tab | Description |
| --- | --- |
| **General** | Specify the print settings for the receipt format. |

**Buttons**

| Button | Description |
| --- | --- |
| **Designer** | Open the selected receipt format in the **Receipt format designer** form. |

**Fields**

| Field | Description |
|---|---|
| **Receipt format** | The ID number of the receipt format. |
| **Receipt type** | Select the type of receipt that the receipt format is used for. |
| **Description** | Type a description of the receipt format. |
| **Title** | Type a name for the receipt format. |
| **Prompt question** | This feature is not implemented in this release and might not appear in future releases. |
| **Print as slip** | Select this check box to print the receipt format as a slip. |
| **Use windows printer** | Select this check box to indicate that a Windows-based printer is used to print the receipt format in Microsoft Dynamics AX for Retail POS. |
| **Windows printer name** | Type the network host name of the Windows-based printer. The path must be in the Universal Naming Convention (UNC) format: \\*servername*\*sharename*. |
| **Print behavior** | Select one of the following print options:<br><br>• **Always print** – Receipts are always printed in Retail POS.<br>• **Do not print** – Receipts are not printed in Retail POS.<br>• **Prompt user** – The cashier is prompted to select whether a receipt is printed at the register. |

## 7.3.1  SET UP RECEIPT FORMATS

You can create and modify form layouts to control how receipts, invoices, and other documents are printed. Microsoft Dynamics AX for Retail POS includes a form layout designer that you can use to easily and graphically create and modify different kinds of form layouts.

⚠ **Important**

You must set up form layouts and receipt profiles to print receipts and other documents from Microsoft Dynamics AX for Retail POS. You can include multiple form layouts in a receipt profile, and then assign the receipt profile to a printer by modifying a hardware profile.

To set up receipt profiles, follow these steps.

1.  Click **Retail** > **Setup** > **POS** > **Receipt format**.

2.  In the **Receipt format** form, click **New** to create a new form layout, or select an existing form layout.

3.  In the **Receipt format** field, enter an identifier for the form layout, and then select the type of receipt that this layout is used for. You can also enter a description and short name for the receipt in the **Title** field.

4.  On the **General** FastTab, set the following print options:

    o   **Print as slip** – Select this check box to print a form as a slip.

    o   **Use windows printer** – Select this check box to indicate that a Windows printer is used to print receipts from Retail POS.

    o   **Windows printer name** – Type the name of the network host of the Windows printer. The path must be in the Universal Naming Convention (UNC) format: \\*servername*\*sharename*.

    o   **Print behavior** – Select when the receipt is printed from Microsoft Dynamics AX for Retail POS. You can specify that a receipt is always printed or is never printed, or that the cashier selects whether a receipt is printed.

Use the form layout designer to graphically create the layout of the form document. The **Receipt format designer** form has three sections—**Header**, **Lines**, and **Footer**. Some types of form layout use elements from all three sections, whereas other types use elements from only one or two sections. To view the elements that are available for each section, click the appropriate button in the navigation pane on the left side of the form.

**Report Designer**

To design the form, follow these steps.

1.    Click **Retail** > **Setup** > **POS** > **Receipt format**.

2.    In the **Receipt format** form, select a form layout, and then click **Designer**.

3.    To create the elements of the form, select the **Header**, **Lines**, or **Footer** section, and then drag an element from the section to the workspace. Most elements contain variables, and usually these variables are automatically populated with data from the database. Other elements, such as Text, let you print custom text on the receipt.



⚠ **Caution**

You can specify how many lines each of the three sections spans by adjusting the number in the lower-right corner of the section. To make it easier to modify a

section, increase the height of the section by dragging the sizing bar at the bottom of the section. The height of the section on the workspace does not affect the number of lines on the actual receipt.

4.   After you drag the element to the workspace, set the properties for the part in the Object information pane at the bottom of the form. Enter one or more of the following settings:

o   **Align** – Set the alignment of the field to either Left or Right.

o   **Fill char** – Specify the white-space character. By default, an empty space is used. However, you can enter any character.

o   **Prefix** – Type the value that appears at the beginning of the field. This setting only applies the **Lines** section of the layout.

o   **Characters** – Specify the maximum to the elements in the number of characters for the variable. If the text in the field is more than the number of character that you specify, the text is truncated to fit the field.

o   **Variable** – This check box is selected automatically if the element is a variable and the variable cannot be customized.

o   **Font type** – Set the font style to either Normal or Bold. Bold letters use two times the space that normal letters use. Therefore, some characters might be truncated.

o   **Delete** – Click this button to remove the selected part from the form layout.

## 7.4    SCREEN LAYOUTS

The graphical design of the interface for Microsoft Dynamics AX for Retail POS is controlled by the till layout. A layout controls the position of various objects. Examples include the total layout, item grid layout, customer layout, payment layout, and the layout of various menu buttons. Layouts also include how the sales interface will appear for Microsoft Dynamics AX for Retail POS when it is presented to workers.

The screen layout for the point-of-sale register (till) contains information that controls the visual appearance of objects on the screen. This can include menus, submenus, tasks or action items that can be position on the screen based on business process requirements and the frequency of use by the cashier or the store manager. When you use the screen layout, you can define colors, images, layout by user or department and the screen layout can be controlled at the head-office level.

You can design several screen layouts for a retail business operation, and then select the layout that can be used for specific register(s). The **Screen layout ID** field in the **POS terminals** form identifies the till layout that is used for the register.

You can also assign a specific till layout to a specific register, worker, or store. When Microsoft Dynamics AX for Retail POS starts, it determines whether a specific layout is assigned to the worker who logged on, the register, or the store, in this order.

After you set up a till layout, you must assign the layout to a store, register, or worker. You can also assign the layout to more than one of these entities.

A till layout can optionally contain pictures and custom button grids.

### Note

Frequently, the Microsoft Dynamics AX for Retail POS screen layout is specified at the headquarters office by using Microsoft Dynamics AX for Retail Headquarters, and then sent to the stores. In this case, any local customizations that are performed at the stores are **overridden by the HQ configuration**.

### 7.4.1  SET UP THE SCREEN LAYOUT

The screen layout specifies how the screen is displayed on the point-of-sale (POS) register. Additionally, the screen layout specifies the position of several objects. For example, the screen layout specifies the total layout, product grid layout, customer layout, and payment layout. The screen layout also specifies the position of several menu buttons and how the sales interface screen layout will appear for Microsoft Dynamics AX for Retail POS when it is presented to the worker. You can configure a screen layout after all the button grids for the layout are created.

To set up the screen layout, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Screen layout**.
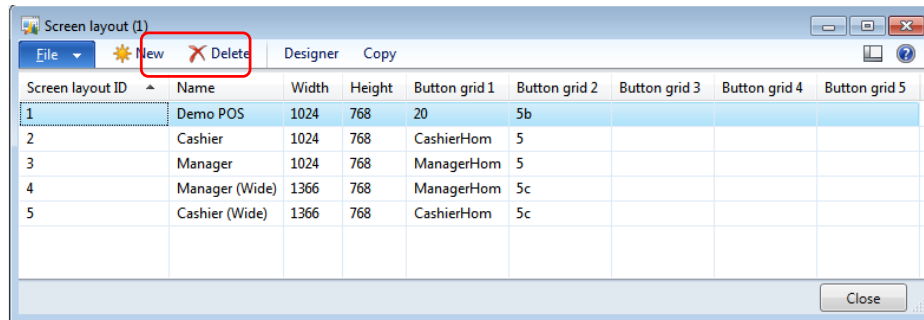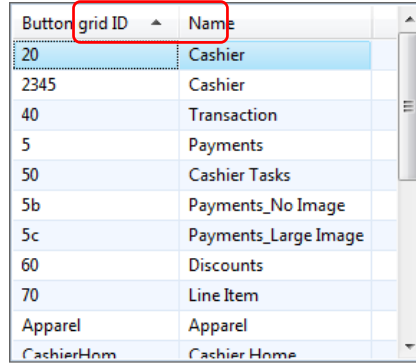


Use this form to set up a screen layout that is used by the point-of-sale (POS) registers. The screen layout specifies the position of several objects. For example, the screen layout specifies the total layout, item grid layout, customer layout, and payment layout. The screen layout also specifies the location of several menu buttons and the appearance of the sales interface for Microsoft Dynamics AX for Retail POS that is displayed to the worker.

2. In the **Screen layout** form, click **New** to create a new layout, or select an existing screen layout to modify.
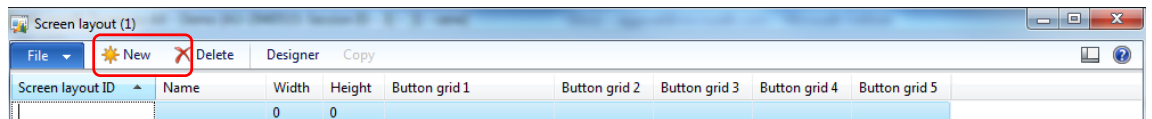


3. In the **Screen layout ID** field, enter a unique ID for the screen layout, and then enter a name for the layout.

4. In the **Width** and **Height** fields, enter a combination of a width and height to specify a screen resolution. This screen resolution is used in the **Screen layout designer** form to provide a workspace that closely resembles the screen resolution of the POS register.

5. In the **Button grid 1** through the **Button grid 5** fields, select the button grids to display on the POS register that uses this layout. A button grid is a group of similar buttons, such as buttons for products, operations, or payments.
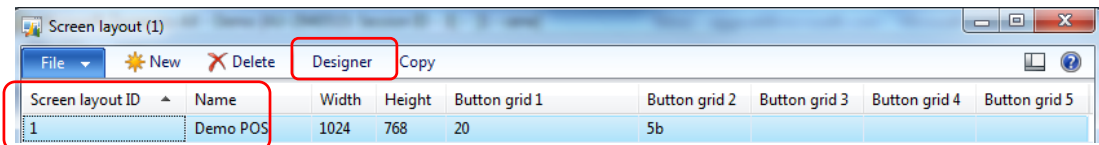
**For example**, you define one layout for a store and another layout for a manager who works in that store. The general store layout includes a standard set of button grids that is always displayed. The store manager layout includes an additional button grid for operations that only the store manager performs. **For example**, this layout includes buttons that are used for overrides or the approval of large transaction amounts.

## 7.4.2 DESIGN A SCREEN LAYOUT

To design a new screen layout, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Screen layout**.

2. To create a new layout, press **CTRL+N**, and then, in the **Screen layout ID** field, type an ID for the layout.



3. Select the layout that is created or select another layout to modify an existing layout, and then click **Designer**.
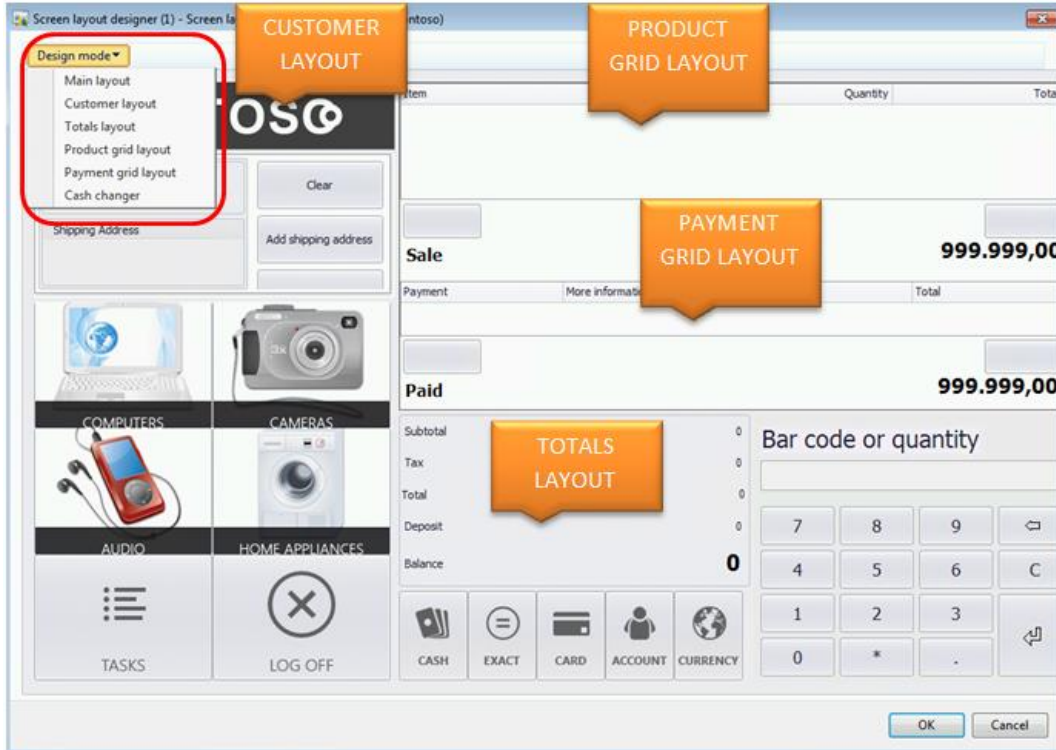
☑ **Note**

The POS layout has different parts that can be accessed through the submenu option by clicking the **design mode**. The layout option includes the Main Layout, Customer Layout, Totals Layout, Product Grid Layout, Payment Grid layout and Cash changer layout.

4. Click **Design mode**, and then click **Main layout**. The parts that are available include the following:
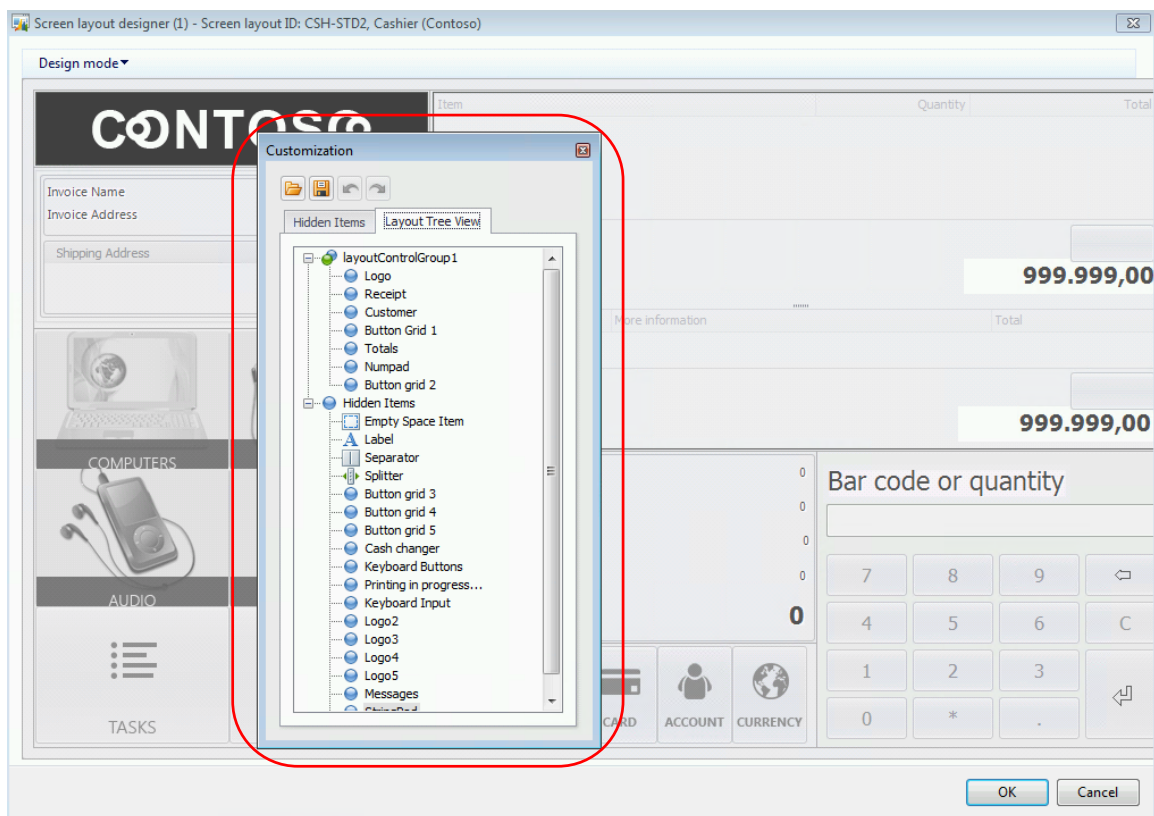
- o **Empty Space Item** – Insert space between button grids.

- o **Label** – Insert a text label.

- o **Separator** – Insert a separator between parts.

- o **Splitter** – Insert a separator that you use to resize the screen layout grid in Microsoft Dynamics AX for Retail POS.

- o **Button grid 1 to Button grid 5** – The button grids that are created and selected to appear when Microsoft Dynamics AX for Retail POS starts.

- o **Cash changer** – Insert a pane that displays information about a cash changer, if one is in use at the register.

- o **Customer** – Information about the customer.

- o **Logo** – An image box that displays the company's logo.

- o **Message** – A pane that displays a message whenever a function is performed in Microsoft Dynamics AX for Retail POS.

- o **Receipt** – A pane that displays sales information, such as the item number, product name, price, and sales tax.

- o **Numpad** – A pane that displays only numbers. This part can be used to enter item numbers, bar codes, and product quantities.

- o **Totals** – A pane that displays sales transactions. The information that is displayed includes discounts, taxes, line numbers, and balance amounts.

5. Select a part, and then drag the part onto the layout designer.

    **Examples**

    - Click **Receipt**, and then drag this part to the layout designer. Receipt no longer appears in the **Customization** form, because each layout can have only one receipt part.
    - Select Label, and then drag this part to the layout designer. Label still appears in the **Customization** form, because each layout can have several label parts.

    **Note**

    When you select a part, and then move the mouse pointer over the design window and to the edge of the part, a thick dashed black line appears. When you release the mouse button while the mouse pointer is over this line, the button grid appears there. After the button grid appears in the layout designer window, you can change the size of the button grid.

    To remove a part from the layout, drag the part back into the **Customization** form.

6. After you finish designing the Main layout section, you can design the Customer layout section. Click **Design mode**, and then click **Customer layout**.

    The parts that are available include the following:

    - o **Empty Space Item** – Insert space between button grids.

    - o **Splitter** – Insert a separator that you use to resize the screen layout grid in Microsoft Dynamics AX for Retail POS.

    - o **Invoice Account** – The customer account to which the invoice is addressed, if this account differs from the customer account number.

    - o **Invoice Name** – The customer account name to which the invoice is addressed.

    - o **Invoice address** – The customer account address to which the invoice is addressed.

- o **Shipping Name** – The customer's shipping address name. This might differ from Invoice Name.

- o **Shipping Address** – The customer's shipping address. This might differ from Invoice Address.

- o **Customer Id** – The customer's actual ID or account number.

- o **Balance Status** – The customer's current balance status.

- o **Balance** – The customer's balance.

- o **Credit Limit** – The customer's credit limit.

📝 **Note**

You can add these parts only to the **Customer layout** section of a screen layout. When you drag a part, you will know whether you are in the correct section, because when you put the mouse pointer in the correct section, the **X** will be visible.

7. Click **Design mode**, and then select **Totals layout**.

The parts that are available include the following:

- o **Empty space item** – Insert space between button grids.

- o **Splitter** – Insert a separator that you use to resize the screen layout grid in Microsoft Dynamics AX for Retail POS.

- o **Label** – Insert a text label.

- o **Separator** – Insert a separator between parts.

- o **Amount** – The gross amount of the transaction.

- o **Line discount** – The amount of the discounts that are applied to line items.

- o **Misc charge total** – The total amount of miscellaneous charges.

- o **Number of items** – The total number of items in the transaction.

- o **Number of line items** – The number of line items in the transaction.

- o **Payment** – The payment applied to the transaction.

- o **Rounded** – The amount of rounding that is applied to the total.

- o **Subtotal** - The net amount of the transactions.

- o **Tax** – The tax amount of the transaction.

- o **Subtotal (without tax)** – The net amount of the transaction's total, excluding tax.

- o **Sum of discounts with tax** – The total amount of discounts that are applied to the transaction, including tax.

- o **Subtotal (with tax)** – The net amount of the transaction's total, including tax.

- o **Sum of discounts** – The total amount of discounts that are applied to the transaction.

- o **Total discount** – The amount of the discount that is applied to the transaction's total.

- o **Total discount with tax** – The amount of the discount that is applied to the transaction's total, including tax.

- o **Total** – The total net amount of all the transactions including tax, discount and miscellaneous charges.

- o **Balance** – The total amount owed.

**Note**

You can add these parts to, or remove them from, only the **Totals layout** section of a screen layout

8. Click **Design mode**, and then select **Product grid layout**.

    The **Customization** form displays the columns that you can drag to and from the transaction's product grid (the pane that displays the line items that are added to the transaction).

**Note**

You can add these parts to, or remove them from, only the **Product grid layout** section of a screen layout.

| Customization | ☒ |
|---|---|
| Activated | |
| Bar code | |
| Batch expiration date | |
| Batch ID | |
| Blocked | |
| Color | |
| Found | |
| Infocode item | |
| Item group | |
| Item ID | |
| Item name alias | |
| Line ID | |
| Linked Item | |
| Offer | |
| Original Price | |
| Payment index | |
| Payment name | |
| Retail Price | |
| RFID | |
| Selected | |
| Should be manually removed | |
| Size | |
| Style | |
| Tax Amount | |
| Tax Code | |
| Tax percentage | |
| Total | |
| Unit of measure | |
| VAT Cat. | |
| Voided | |

## 7.5    BUTTON GRID

You can use the Button grid to group similar buttons of the same type, such as buttons for products, operations, or payments. Microsoft Dynamics AX for Retail POS can display up to five button grids in a screen layout.

When you create a new button grid, buttons are created based on the number of columns and rows that you specify. For example, if you create a grid that has four columns and five rows, 20 buttons are created. These buttons can then be configured for specific operations.

The button grid keeps information about how the buttons appear on the register, such as the color of the buttons, and the features that are visible and hidden on the Microsoft Dynamics AX for Retail POS screen. The button grid also keeps information about the functions that the buttons are used for.

To create a button grid, follow these steps.

1.   Click **Retail** > **Setup** > **POS** > **Button Grid**.
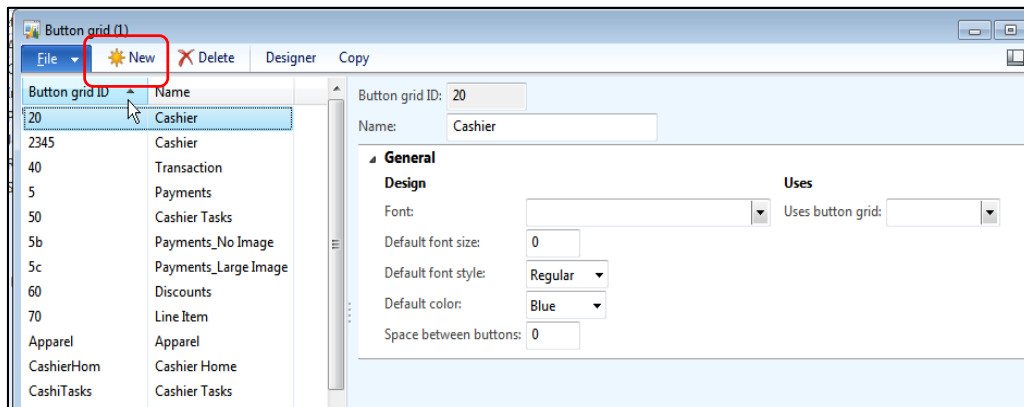


2.   In the **Button grid** form, click **New** to create a new grid.

3.   Enter a unique **Button grid ID** for the new button grid.

4.   Enter the **Name** of the button grid.

5.   On the **General** FastTab, select the **Font** that is used to display the button grid.

6.    Select the **Default font size** for the button grid.

7.   Select the **Default font style** for the button grid. The options include the following:

- Regular

- Bold

- Italic

- Bold Italic

8. Select the Default color for the button grid. The options include the following:

- Blue

- Dark blue

- Red

- Green

- Purple

- Pink

- Gold

9. Enter the space between the buttons that shows the number of blank characters that are inserted between adjacent buttons in the selected button grid.

10. In the Uses area, select the **Uses button grid** to select an existing button grid.

11. Click **Designer on the tool bar at the top of the screen. The Button grid design form will open**.
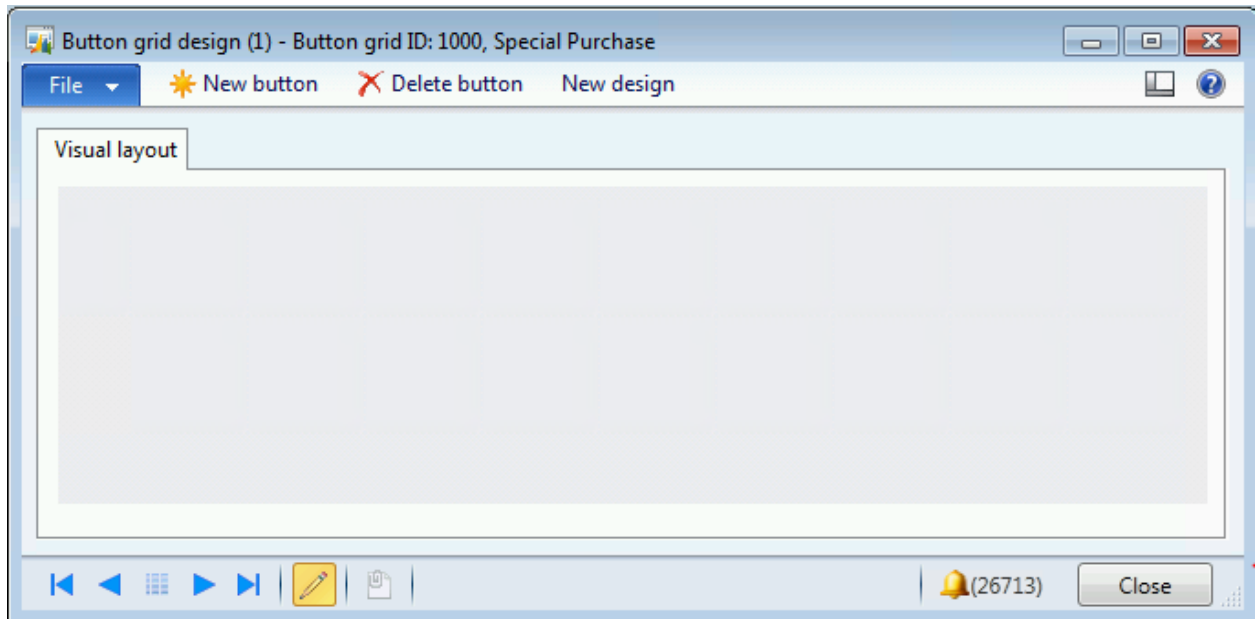
12. On the **Visual layout** FastTab, click **New design**.

13. In the **Rows** and **Columns** fields, enter the number of rows and columns of buttons that the button grid contains, and then click **OK**.
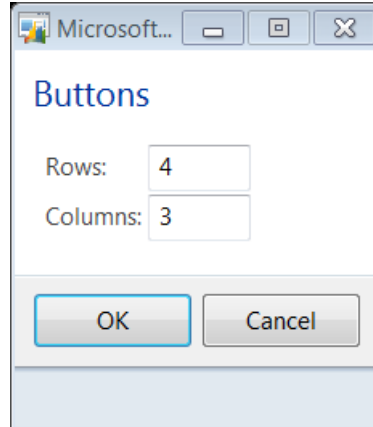


The buttons are created according to how they are specified in the **Rows** field and the **Columns** field.
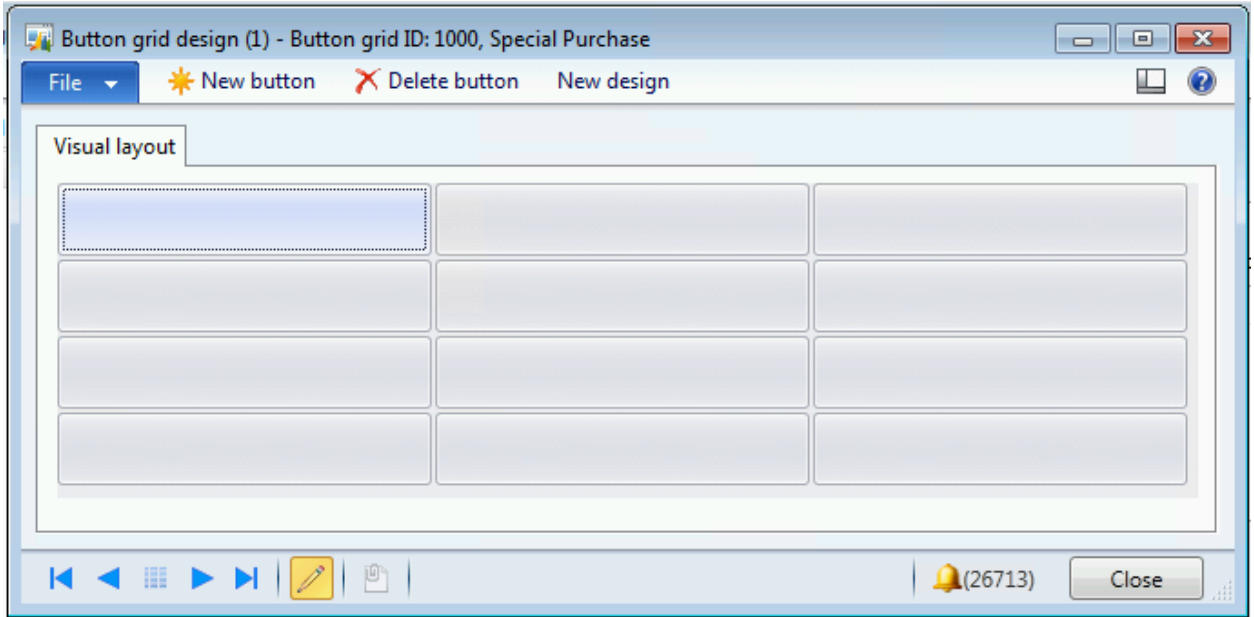
14. Right-click each button, and then click the button properties. The **configure button** form will open.
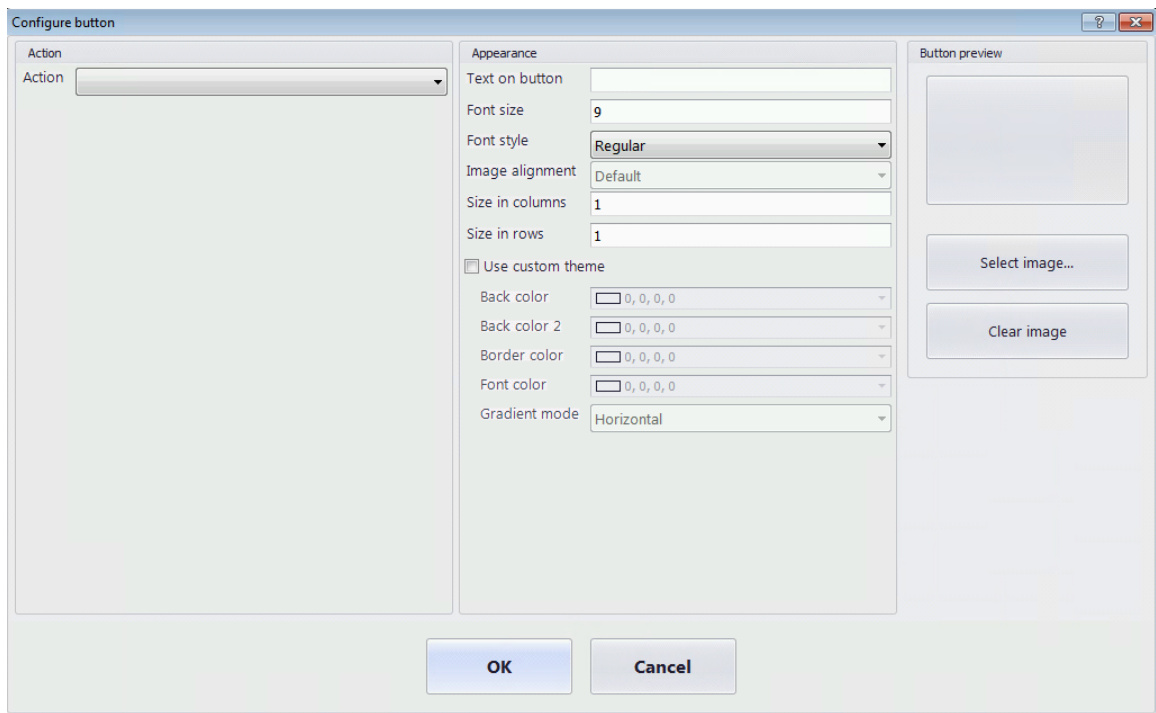


15. In the **Actions** area, select the **Item** that is the point-of-sale operation to perform when you click the button.

16. In the **Configure button screen**, enter the **Text on button** that will be displayed on the button.

17. Enter the Font size for the text that will be displayed on the button.

18. Select the **Font style** for the text on the button. The font style is inherited from the button grid settings. You can override the button grid settings, if this is necessary.

19. Select the **Image alignment** from the drop down list box if an image is selected to be used on the button. The options include the following:

    - Default

    - Near

    - Center

    - Far

20. Enter the **Size in columns** for the button.

21. Enter the **Size in rows** for the button.

22. The button color is inherited from the button grid settings. You can customize the button grid settings, if this is necessary.  Enter a checkmark so that **Use Custom Theme** is available and then select the following:

    o **Back Color:** The primary color of the button. Here, you can pick a color option. The options are Standard, Web and System.
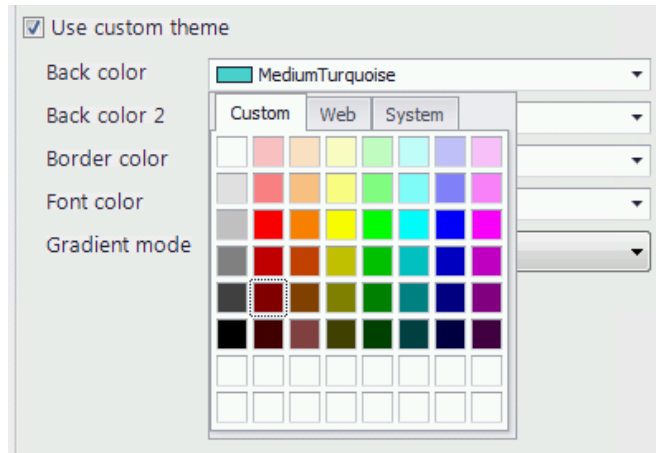
- **Back Color 2:** The secondary color of the button. This is used for the second color for the gradient.

- **Border Color**: The border color of the button.

- **Font Color**: The color of the font for the button.

- **Gradient Mode:** The direction of the gradient for the button colors.
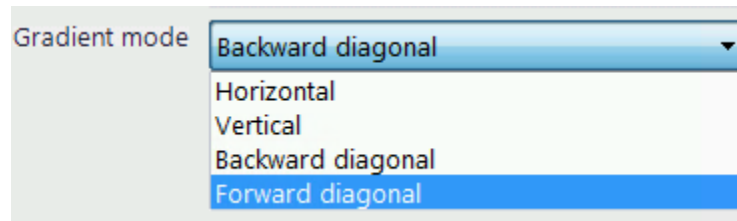


23. At the bottom, on the right-side, click the **Select image** button to add an image to the button.
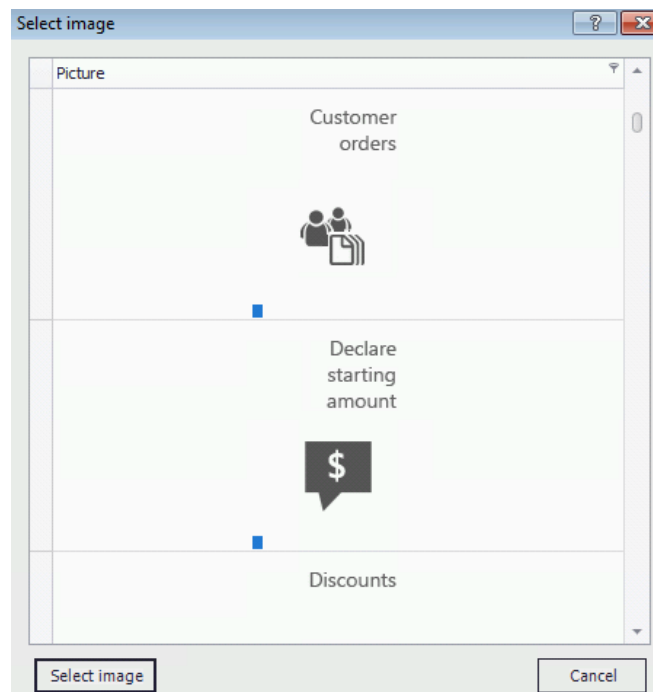


24. Click **Clear image** if you want to remove the image on the button.

25. Click the **OK** button to confirm the changes.

26. Right-click the button to provide more functionalities, such as the following:

- **Delete button**: To delete a button, select the button, and then click **Delete button**.

- **Add row**: To add a row of buttons, right-click anywhere in the grid, and then click **Add row**. Microsoft Dynamics AX for Retail POS adds a new row at the bottom of the grid.

- **Add column**: To add a column of buttons, right-click anywhere in the grid, and then click **Add column**. Microsoft Dynamics AX for Retail POS adds a new column on the right side of the grid.

- **Delete row**: To delete a row of buttons, right-click a button in the row, and then click **Delete row**.

- **Delete column**: To delete a column of buttons, right-click a button in the column, and then click **Delete column**.

```
Button properties
Delete button

Add row
Add column

Delete row
Delete column
```
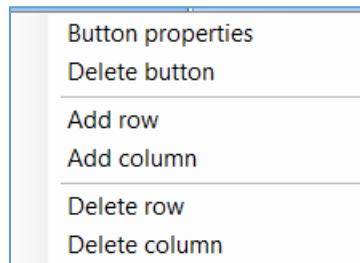
27. To add or delete a new button, use the buttons on the top of the **Button design** form.
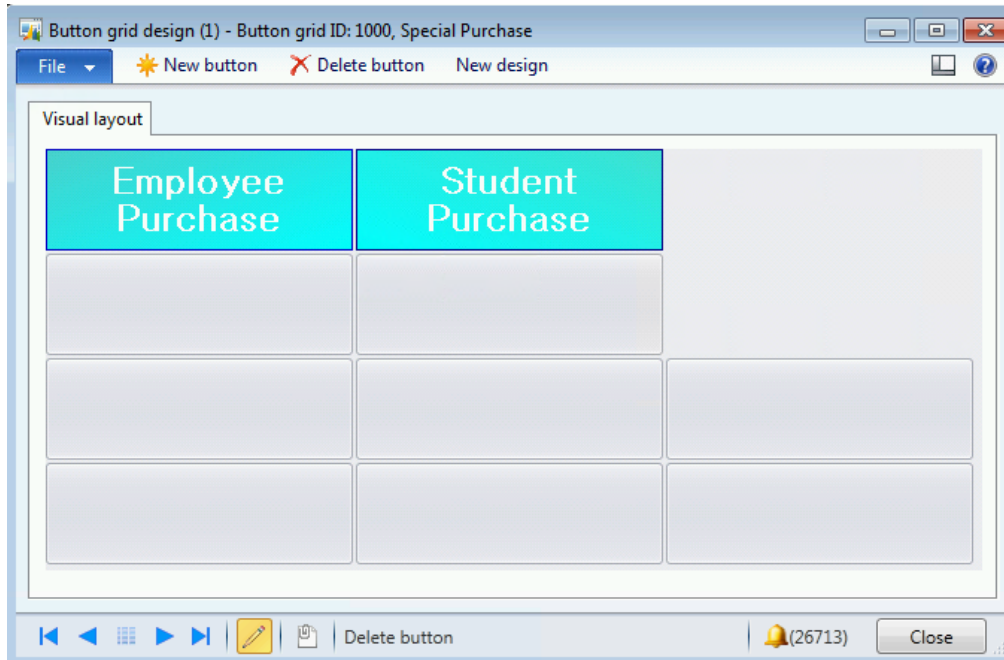
### Note

You can only use the Designer if you are granted special permissions to the database.

## 7.6 IMAGES

Images can be stored, and each image is assigned a unique ID. Images can also include logos, pictures of items, and icons. The images can be used in button grids that are displayed in Microsoft Dynamics AX for Retail POS. After the button grids are set up, they can be added to a screen layout, and then they can be displayed on a point-of-sale register at a store.

To select and, or delete an image, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Images**.

2. In the **Images** form, click **Select image** to open a browser window where you can search for and select an image.

   When you select an image, the image is assigned a unique ID, and a preview of the image is displayed in the form.

3. To delete an image from the list, select the image ID, and then click **Remove image**.

### 7.6.1 SET UP IMAGES

Click **Retail** > **Setup** > **POS** > **Images**.
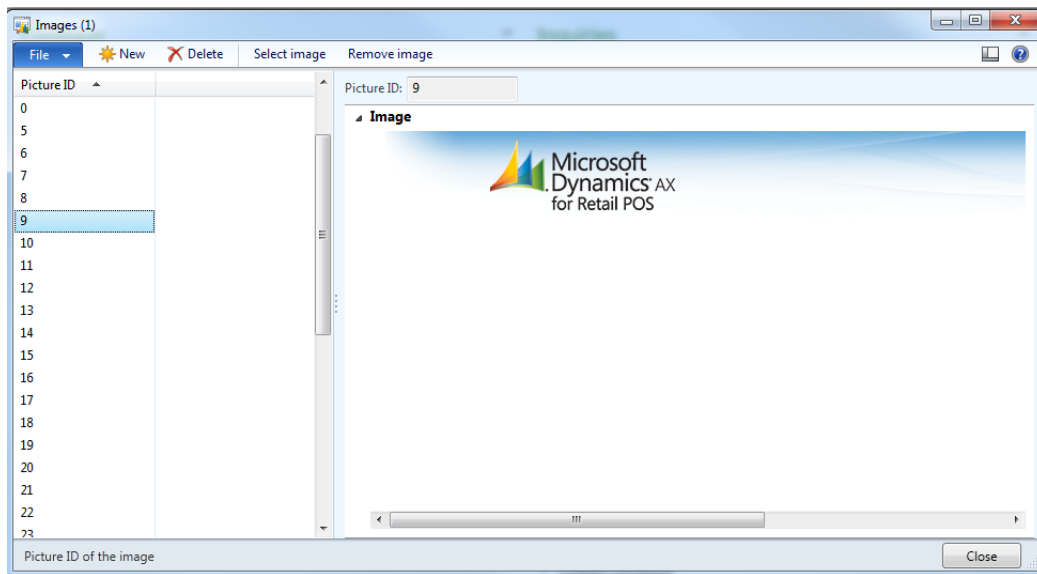


The **Images** form can be used to set up images that can be used in button grids that are displayed in Microsoft Dynamics AX for Retail POS.

The buttons and the fields that are used in the **Images** form are described in the following tables.

**Buttons**

| Button | Description |
|--------|-------------|
| **Select** | Add a new image to the list. |
| **Remove** | Remove the selected image from the list. |

**Fields**

| Field | Description |
|-------|-------------|
| **Picture ID** | The unique ID of the image. |

## 7.7 KEYBOARD MAPPING GROUPS

The **Keyboard mapping group** form can be used to set up and view the keyboard mapping groups and the keyboard mappings that are used by the point-of-sale registers in a store. A keyboard mapping can include all the shortcut keys that are created for operations in Microsoft Dynamics AX for Retail POS. Therefore, Microsoft Dynamics AX for Retail POS can use several kinds of POS keyboards by mapping the keys to the codes for the regular PC keyboard. Additionally, you can disable specific keys on the PC keyboard, or map the keys to other key combinations. When you configure the hardware profile for Microsoft Dynamics AX for Retail POS, you reference the keyboard mapping group in the **POS hardware profile** form.

To create keyboard mapping groups, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Keyboard mapping group**.

2. In the **Keyboard mapping group** form, click **New** to create a new mapping group, or select an existing keyboard mapping group in the list.

3. Enter or view the name and description of the keyboard mapping group.

To create keyboard mappings, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Keyboard mapping group**.

2. In the **Keyboard mapping group** form, select a keyboard mapping group, and then click **Keyboard mapping**.

3. In the **Keyboard mapping** form, click **New** to create a new keyboard mapping.

4. In the **Key char** field, enter the character to use as a shortcut key in Microsoft Dynamics AX for Retail POS. The **ASCII value** field is automatically populated with the ASCII value for the character.

5. In the **Operation ID** field, select the operation that is performed by using the shortcut key. The **Action property** field is automatically populated with the appropriate action for the operation.

## 7.7.1  KEYBOARD MAPPING

The **Keyboard Mapping group** form is used to set up a mapping between key combinations and operations in Microsoft Dynamics AX for Retail POS. In Microsoft Dynamics AX for Retail POS, several point-of-sale keyboards can be used by mapping the keys on the keyboards to the codes for regular computer keyboards. You can also disable specific keys on a computer keyboard or map the keys to other key combinations.

Click **Retail** > **Setup** > **POS** > **Keyboard mapping group**.
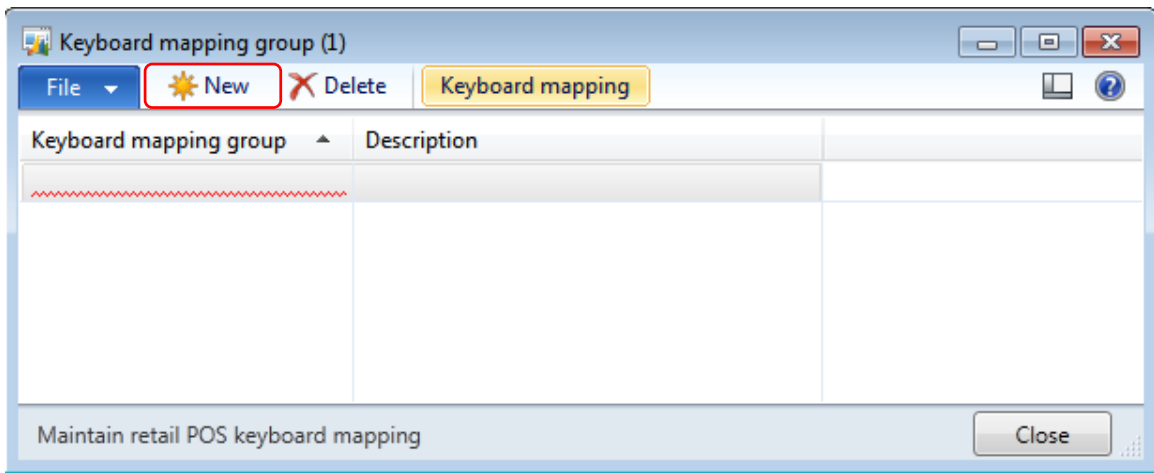


The buttons and the fields that are used in the **Keyboard mapping group** form are described in the following tables.

**Buttons**

| Button | Description |
|--------|-------------|
| **Keyboard mapping** | Opens the **Keyboard mapping** form. Here, you can configure keyboard mappings. |

**Fields**

| Field | Description |
|-------|-------------|
| **Keyboard mapping group** | The unique identifier of the keyboard mapping group. This column includes the entire keyboard mapping groups that are assigned to hardware profiles. |
| **Description** | The name of the keyboard mapping group. |

In the **Keyboard mapping group** form, click **Keyboard mapping**.
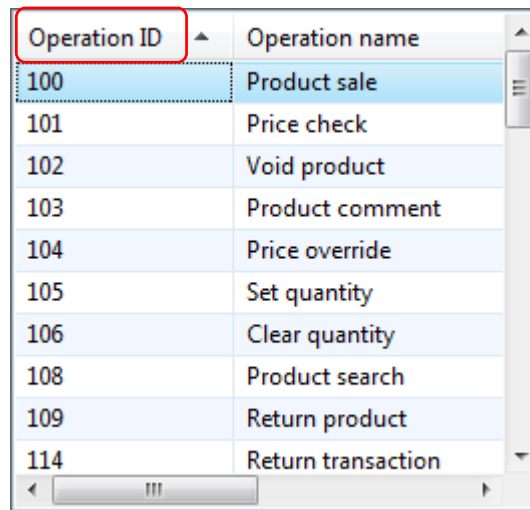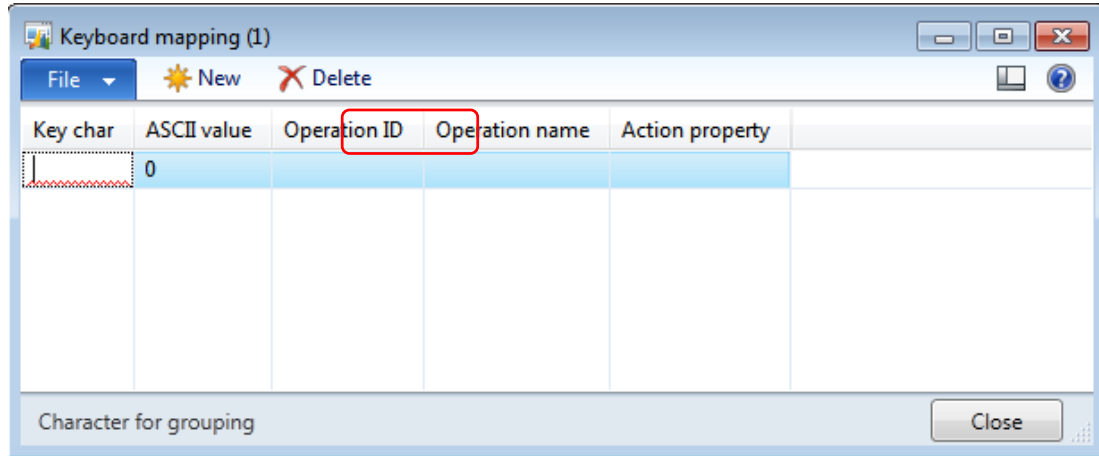




The fields in the **Keyboard mapping group** form are described in the following table.

| Field | Description |
|---|---|
| **Key char** | Type the character that is used as a shortcut key in Microsoft Dynamics AX for Retail POS. |
| **ASCII value** | The ASCII value of the key that you specified in the **Key char** field. |
| **Operation ID** | Select the operation that is performed in Microsoft Dynamics AX for Retail POS when the character that you specified in the **Key char** field is pressed on the POS keyboard. |

| Field | Description |
|---|---|
| **Operation name** | The name of the operation that you selected in the **Operation ID** field. |
| **Action property** | The action property of the operation that you selected in the **Operation ID** field. |

## 7.8 OPERATIONS

In Microsoft Dynamics AX for Retail POS, a series of safeguards are performed every time a staff member performs an operation to make sure that the staff member has permission to perform the operation.

You can link a single permission to operations that are performed at the point-of-sale, or you can link a single permission to operations that are performed in the **Operations** form. Typically, a single permission is linked to one operation. However, you can also link a single permission to multiple operations.

Staff members can be assigned to the POS permission groups. Permissions for staff members can be modified after the staff members are assigned to the POS permission group.

To set up tasks and create permissions, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **Operations**.

2. In the **Operations** form, select an existing operation. Or, click **New** to add a new operation, and then enter an ID number and a name for the operation.

3. In the **Permission ID** column, select the permissions to link the operation to.

4. In the **Permission ID2** column, select the permissions to link the operation to.

5. In the **Check user access** column, select the check box to indicate that Microsoft Dynamics AX for Retail POS checks a user's permissions before the operation is performed.

6. In the **User operation** column, select the check box to indicate that the operation can be used.

7. In the **Action lookup** column, select one of the following options:

- **Retail product** – The operation can be used only for retail products.

- **Payment method** – The operation can be used only for payment methods.

- **Menu** – The operation can be used only for menus.

- **None** – Use of the operation is not limited.

**Now, you can create permissions and the Permissions form opens.**

8. **Click New to create a new permission.**
9. **Enter a unique Permission ID for the new permission.**
10. **Click the Permission name for a list of fields that are available to select. Double-click the field that will be populated in the Permission name field.**
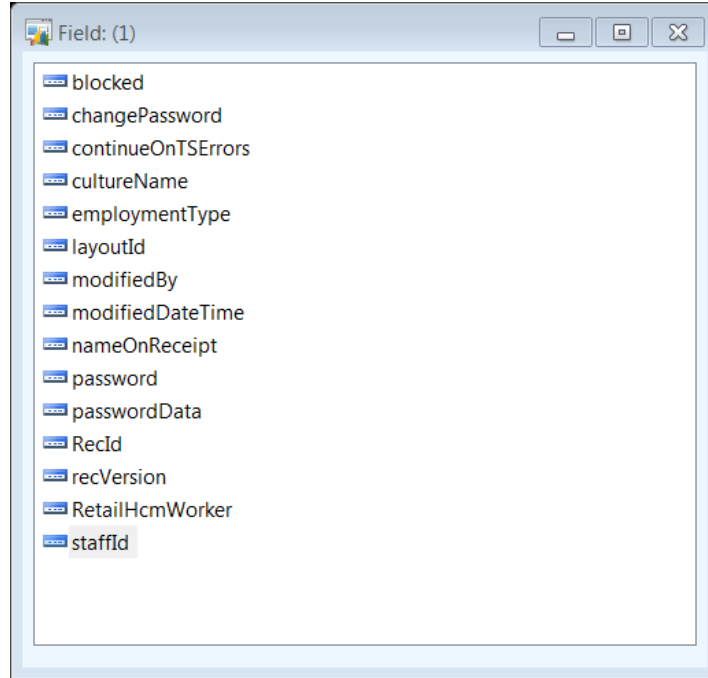
11. **The new permission that is created can be selected on the operations that it is created for.**

📝 **Note**

The **Permissions** field displays the field names from the POS permission group table. The POS permission group table defines the default settings that are associated with the cashier and the manager.

The operations that a staff member can perform are described in the following table.

| Name | Description |
|------|-------------|
| Add Shipping Address | Adds a shipping address for the customer on the transaction. |
| Add to Gift Card | Adds money to the specified gift card. |
| Bank Drop | Records the amount of money that is sent to the bank and other information, such as the bank bag number. |
| Blank Operation | Represents a button that can be customized and programmatically changed by a software developer for any specialized operation that is needed by the business. |
| Change Unit of Measure | Changes the scanned item's unit of measure. |
| Clear Qty (quantity) | Resets the quantity of an item to 1. |

| Name | Description |
|---|---|
| Clear Salesperson | Clears any salesperson from the transaction. |
| Close Shift | Closes the current cashier shift. |
| Customer | Displays the on-screen keyboard so that the cashier can type a customer ID to search for. If a customer is found, the cashier can then add the customer to the transaction. |
| Customer Account Deposit | Makes a payment to a customer's account. |
| Customer Add | Displays the **Customer Add** dialog box. Here, the cashier can enter information about the new customer. Saving the information adds the new customer to the customer list. |
| Customer Clear | Clears the customer from the transaction. If any price agreements apply to the customer, prices and discounts in the transaction might change. |
| Customer Search | Searches for the customer when the customer is added to the transaction. |
| Customer Transactions | Displays the transactions for the selected customer. |
| Customer Transactions Report | Prints a report showing the transactions for the selected customer. |
| Declare Start Amount | Declares the amount in the drawer when the day or the shift is started. |
| Design Mode Disable | Prevents changes to the screen layout of the terminal. The functionality profile of the terminal specifies whether the cashier has access to this operation. |
| Design Mode Enable | Allows changes to the screen layout of the terminal. The functionality profile of the terminal specifies whether the cashier has access to this operation. |
| Display Total | Displays the balance of the transaction on the customer display. |
| End of Day | Performs an end-of-day procedure. |
| End of Shift | Performs an end-of-shift procedure. |
| Expense Account | Records money that is removed from the cash drawer for occasional expenses. |
| Float Entry | Registers a float entry to the drawer, such as an addition or change. |

| Name | Description |
| --- | --- |
| Gift Card Balance | Displays the balance of a gift card. |
| Income Account | Records any money that is put in the cash drawer that is not from sales. |
| Inventory Lookup | Looks up on-hand inventory for the current store and other available locations. |
| Invoice Comment | Enters a comment about the transaction. The comment is saved with the transaction and printed on the receipt or invoice. |
| Issue Credit Memo | Issues a central credit memo through Commerce Data Exchange: Real-time Service, together with a printed copy. |
| Issue Gift Card | Issues a gift card through Commerce Data Exchange: Real-time Service, together with a printed copy. |
| Item Comment | Adds a comment to the selected line item in the transaction. The comment is saved with the transaction and the comment appears on the receipt. |
| Item Sale | Adds an item to the transaction. The button must be configured for the particular item. |
| Item Search | Searches for an item. You can search for an item by item ID, item description, or item category. Sorting the search results is also possible. |
| Line Discount Amount | Enters a discount amount for a line item in the transaction. This is for discountable items only and must be within specified discount limits. |
| Line Discount Percent | Enters a discount percentage for a line item in the transaction. This is for discountable items only and must be within specified discount limits. |
| Lock Terminal | Locks the terminal, when the cashier must leave the register. Unlock the terminal by logging on. |
| Log Off | Logs off the terminal, suspending any sales until the next logon. |
| Loyalty Request | Enters the customer's loyalty card number. This operation can also be started by swiping a loyalty card. The loyalty request can be performed at any time during the transaction. Microsoft Dynamics AX for Retail POS calculates loyalty points at the end of the transaction. |

| Name | Description |
|---|---|
| | The number of loyalty points awarded for the items in the transaction depends on how the loyalty program is set up in Microsoft Dynamics AX Retail Headquarters. |
| Minimize POS Window | Minimizes the Microsoft Dynamics AX for Retail POS window. |
| Open Drawer | Opens the cash drawer without a sale. This operation is recorded in the database. |
| Override line item tax | Overrides the tax on the selected line item with a different tax. First, the different tax must be specified in Microsoft Dynamics AX Retail Headquarters. |
| Override line item tax from list | Overrides the tax on the selected line item with a tax that the cashier selects from a list. First, the list of taxes must be specified in Microsoft Dynamics AX Retail Headquarters. |
| Override transaction tax | Overrides the tax on a transaction with a different tax. First, the different tax must be specified in Microsoft Dynamics AX Retail Headquarters. |
| Override transaction tax from list | Overrides the tax on a transaction with a tax that the cashier selects from a list. First, the list of taxes must be specified in Microsoft Dynamics AX in Retail Headquarters. |
| Pay Card | Accepts a credit card or debit card as payment. The cashier types the card's number and the expiration date. Overpayment or underpayment can also be specified, if this is allowed by the store. <br><br> This operation can also be started by swiping a credit card or debit card. If this occurs, Microsoft Dynamics AX for Retail POS automatically completes the transaction. |
| Pay Cash | Accepts cash as payment. The cashier can select to pay the transaction total, overpayment, or underpayment, if this is allowed by the store. <br><br> If overpayment is allowed, Microsoft Dynamics AX for Retail POS displays the amount that exceeds the transaction total. |
| Pay Cash Quick | Completes the transaction with "one touch," and assumes that the customer paid the exact amount of the transaction total in cash. |
| Pay Check | Accepts a check as payment for the transaction. |

| Name | Description |
|---|---|
| Pay Corporate Card | Accepts a corporate card as payment. The cashier types the card number and the expiration date. This operation can also be started by swiping a credit card or debit card. If this occurs, Microsoft Dynamics AX for Retail POS automatically completes the transaction.<br><br>The authorization for corporate cards can differ from that of credit cards and debit cards. You can also specify restrictions for corporate cards, and allow or disallow the purchase of certain items. |
| Pay Credit Memo | Accepts a credit memo that is issued by the store. |
| Pay Currency | Accepts payment in many currencies. The cashier selects the payment currency, and Microsoft Dynamics AX for Retail POS calculates the transaction total in that currency.<br><br>Overpayment or underpayment can also be specified, if this is allowed by the store. |
| Pay Customer Account | Charges a transaction to a customer account, and an underpayment or overpayment, if this allowed by the store. Microsoft Dynamics AX for Retail POS also checks whether the customer is blocked.<br><br>If it is necessary, you can add the customer to the transaction at this time.<br><br>You can also check a customer's credit before allowing the payment, if credit checking is set up in Microsoft Dynamics AX Retail Headquarters. |
| Pay Gift Card | Accepts a gift certificate or gift card that is issued by the store. |
| Picking and Receiving | Displays the **Picking and receiving** dialog box. You can use this dialog box to select a purchase order or transfer order to receive or pick merchandise for. |
| Popup Menu | Selects a button grid to be associated with the button.<br><br>When the button is clicked, Microsoft Dynamics AX for Retail POS displays the selected button grid in its own window. |
| Price Check | Checks the price of an item. Microsoft Dynamics AX for Retail POS asks for the item number. You can scan the item or search for the item. |

| Name | Description |
|---|---|
| | When the item is found, Microsoft Dynamics AX for Retail POS displays the price of the item with the option to add the item to the transaction. |
| Price Override | Overrides the price of an item if the item is set up to allow it. Microsoft Dynamics AX for Retail POS displays a number pad to enter the new price. |
| Print X (X report) | Prints an X report. |
| Print Z (Z report) | Prints a Z report. |
| Recall Transaction | Recalls a suspended transaction. |
| Return Item | Performs a return of individual items. The next scanned item is noted as a returned item with a negative quantity and price. |
| Return Transaction | Performs a return of an entire transaction. |
| Safe Drop | Performs a safe drop to move money from the register to a safe. |
| Sales Invoice | Displays information about a sales invoice for a specific customer. |
| Sales Order | Displays information about sales orders for a specific customer. |
| Search Shipping Address | Displays a form that is used to search for a shipping address. |
| Set Qty (quantity) | Changes the quantity of a line item in the transaction. |
| Show Journal | Views the register's journal. You can then view transactions, reprint receipts, or print invoices. |
| Stock Count | Displays the **Stock Counting** form for scanning or entering bar codes. |
| Sub Menu | Selects a button grid to be associated with the button. When the button is clicked, Microsoft Dynamics AX for Retail POS displays the selected button grid in place of the exiting button grid. |
| Suspend Transaction | Suspends a transaction that you can recall later. |
| Tender Declaration | Performs a tender declaration. |
| Tender Removal | Records removing money from the cash drawer. |
| Total Discount Amount | Enters a total discount amount that is divided between all items in the transaction. |
| Total Discount Percent | Enters a total discount percentage that is divided |

| Name | Description |
|---|---|
| | between all items in the transaction. |
| Transaction Comment | Adds a comment to the transaction. The comment is saved with the transaction and appears on the receipt. |
| Void Item | Voids a line item in the transaction. The line item is removed from the transaction total and appears marked as voided. |
| Void Payment | Voids all payment methods that are applied to the transaction. |
| Void Transaction | Voids the transaction. Voided transactions are saved in the database with a voided status. |

## 7.9   POS PERMISSION GROUP

The POS Permission group is used to define the default set of permissions that apply to the cashiers and the managers at the retail store.

To create a new permissions group, follow these steps.

1.   Click **Retail** > **Setup** > **POS** > **POS permission groups**.
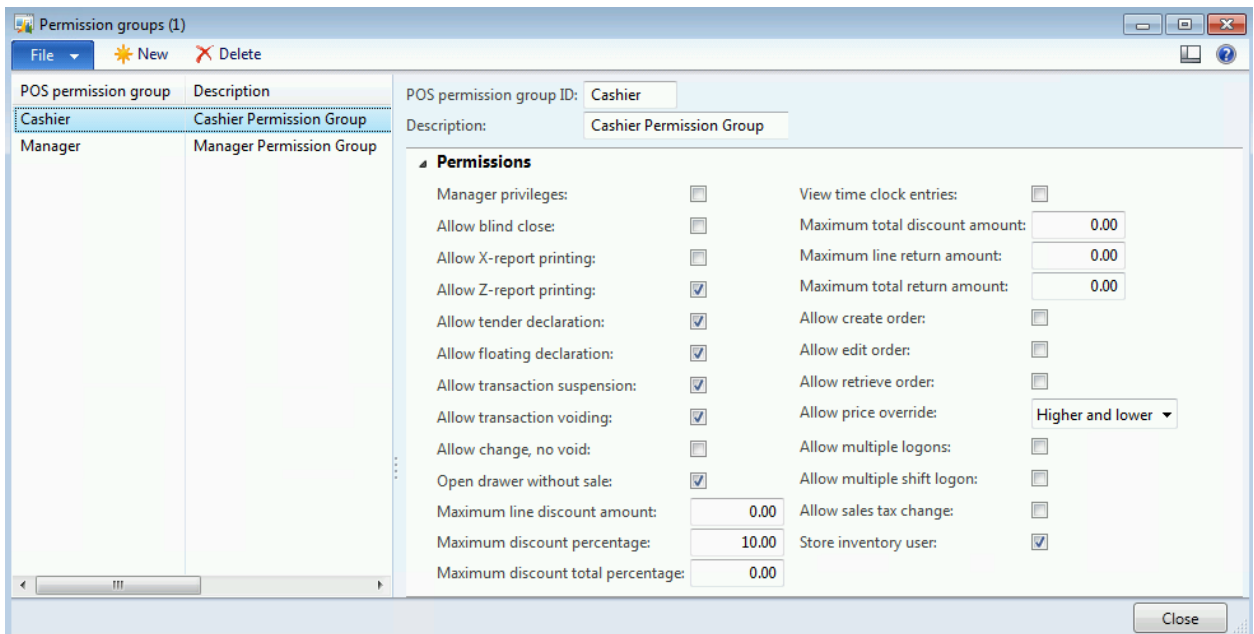
2. Press **CTRL+N** or select the **New** button, to create a new permission group. Then, enter a group name and a description for the POS permission group.

3. On the **Permissions** FastTab select the **Manager Privileges** check box to indicate that the cashier has managerial privileges in point-of-sale activities. For example, executing return transactions might be part of this privilege.

4. Select the **Allow blind close** check box to indicate that the cashiers can blind close the shifts at the terminal. The proper tendering and Z-report generation will be performed from the back office.

5. Select the **Allow X-report printing** check box if the cashier can print X reports.

6. Select the **Allow Z-report printing** check box if the cashier can print Z reports.

7. Select the **Allow tender declaration** check box if the cashier can declare collections at the end of the day or at the end of the shift.

8. Select the **Allow floating declaration** check box if the cashier can enter float in point-of-sale.

9. Select the **Allow transaction suspension** check box if the cashier can keep a transaction on hold and retrieve it later.

10. Select the **Allow transaction voiding** check box if the cashier can declare a transaction void.

11. Select the **Allow change, no void** check box if the cashier can modify a transaction but cannot void it.

12. Select the **Open drawer without sale** check box if the cashier can open the cash drawer without a sale.

13. Enter the **Maximum line discount amount** that a staff member can enter on a line.

14. Enter the **Maximum discount (%)** percentage that a cashier can give in Microsoft Dynamics AX for Retail point-of-sale.

15. Enter the **Maximum total discount (%)** percentage that a cashier can give in Microsoft Dynamics AX for Retail point-of-sale.

16. Select the **View time clock entries** check box so that time entries can be viewed by the selected group.

17. Enter the **Maximum total discount amount** a staff member can enter for a transaction.

18. Enter the **Maximum line return amount** that a staff member can enter on a line.

19. Enter the **Maximum total return amount** that a staff member can enter for a transaction.

20. Select the **Allow create order** check box so that point-of-sale users can create sales quotes and customer orders.

21. Select the **Allow edit order** check box so that point-of-sale users can edit existing sales quotes and customer orders.

22. Select the **Allow retrieve order** check box so that point-of-sale users can retrieve existing sales quotes and customer orders.

23. Select an **Allow price override** from the drop down list box to manually change the product price. The options include the following:

    1. **Higher and lower**: The cashier can enter a price that is more than or less than the Microsoft Dynamics AX for Retail price for an item.

    2. **Higher only**: The cashier can only enter a price that is more than the Microsoft Dynamics AX for Retail price for an item.

    3. **Lower only**: The cashier can only enter a price that is less than the Microsoft Dynamics AX for Retail price for an item.

    4. **None allowed**: The cashier cannot change the system price.

24. Select the **Allow multiple logons** check box if the cashier can log on to more than one point-of-sale terminal in the store at the same time.

25. Select the **Allow multiple shift logons** check box if multiple cashiers can log on to a single shift at the retail store.

26. Select the **Allow sales tax change** check box so that cashiers can make changes to the sales tax at the point-of-sale.

Select the **Store inventory user** check box so that cashiers can perform inventory checks from the point-of-sale terminal.

## 8   CATEGORY HIERARCHIES

## OVERVIEW

In this module we will explain retail category hierarchies are created to organize and group products sold through the retail channels. Default values for products created and attached to categories can be configured by category.  These default values may be modified by product at the time of creation. Category hierarchies can be utilized in different areas of the application which includes Managing Promotions by category, managing customer loyalty schemes, managing assortments and reporting.

For example, only product hierarchies that are assigned the **Retail vendor product hierarchy** type are referenced when you import product data from retail vendors.

The following table lists the types of retail category hierarchies that are available and the general purpose of each type.

| Category hierarchy Type | Purpose |
|---|---|
| **Retail product hierarchy** | Use this hierarchy type to define the overall product hierarchy for your organization. You can use this hierarchy type for merchandising, pricing and promotions, reporting, and assortment planning. Only one retail product hierarchy can be assigned this hierarchy type. |
| **Supplemental retail hierarchy** | Use this hierarchy type for any additional retail category hierarchies that you want to create. For example, in the spring, you have a promotion for swimwear. Therefore, you include your swimwear products in a separate category hierarchy and apply the promotional pricing to the various product categories. |
| **Retail vendor product hierarchy** | Use this hierarchy type when you import product data from vendors. You can create a product category hierarchy for a vendor, and then map the product categories for the vendor to your retail product categories. |
| **Retail channel navigation hierarchy** | Use this hierarchy type for defining the navigation structure for online stores. Multiple navigation hierarchies can be defined |

| | and assigned to an online store. |
|---|---|
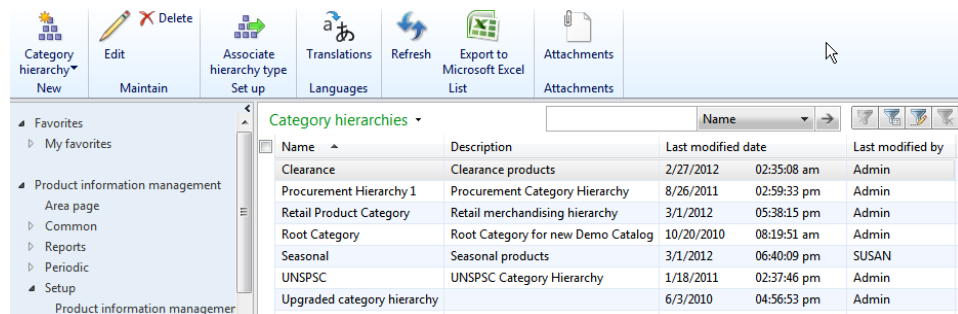
Retail Hierarchy can be used to structure the product default attributes to ensure quick creation or maintenance of the products. These attributes and properties include settings for product dimensions and point of sale (POS) settings Products which are assigned to the categories automatically inherit the attributes and properties that you define. You can also copy the property settings for any product to multiple products in a selected category at the same time.

Retail category hierarchies use the category hierarchy features in Microsoft Dynamics AX.

## 8.1.1 CATEGORY HIERARCHY AND ASSIGN A HIERARCHY PURPOSE – SET UP

Before the creation of the Retail Product Hierarchy the Category Hierarchy Types must be set-up by clicking Product information management → Category→ Category Hierarchy Types.  Then process with setting up the category hierarchies.

1. Click **Product information management** > **Setup** > **Categories** > **Category hierarchies**. On the **Category hierarchies'** list page, on the Action Pane, click **Category hierarchy**.



2. In the **Create a category hierarchy** form, enter a unique name and an optional description for the hierarchy, and then click **Create**. By default, the new category hierarchy **Active** status is set to **yes**.

3. In the **Category hierarchy** form, on the Action Pane, click **New category node** to add the parent and child categories that you use to categorize your products. The first category that you create for a new category hierarchy is always the parent category of all other categories in the hierarchy. Add as many categories and subcategories as your organization requires.
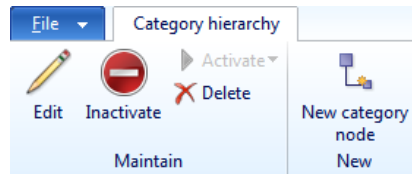


4. On **Category attribute groups** FastTab; click **Add** to assign attribute groups to the category.

5. On the **Commodity codes** FastTab, add subcategories from imported commodity codes.

6. Select the category level under which you wish to create new sub categories and click **New category** on the **New** group of the **Category hierarchy** tab.
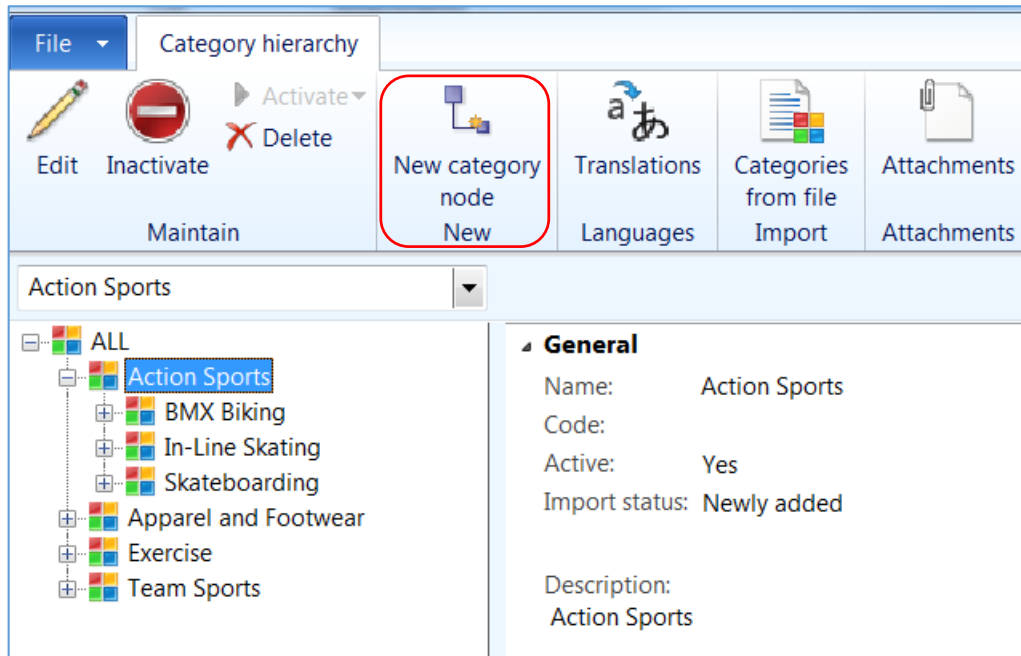


7. After you have finished setting up the category hierarchy, click Close to save the category hierarchy and return to the **Category hierarchy's** list page.

8. On the **Category hierarchies'** list page, select the retail product hierarchy that you created, and then, on the Action Pane, in the **Set up** group, click **Associate hierarchy type**.
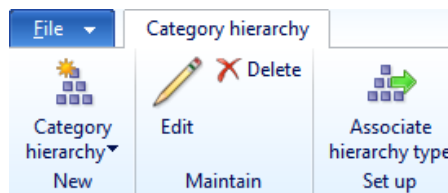


9. In the **Category hierarchy types** form, click New to add a new row.

10. In the **Category hierarchy type** field, select one of the following category hierarchy types in the list:

- o **Retail product hierarchy** – Select this hierarchy type to create the main retail product hierarchy for your organization. You can assign this category type to only one category hierarchy.

- o **Supplemental retail hierarchy** – Select this hierarchy type to create an additional retail product hierarchy. For example, these hierarchies can be used for special pricing and promotions, or for loyalty programs. You do not have to create retail supplemental hierarchies. You can create as many retail supplemental hierarchies as you require.

- o **Retail vendor product hierarchy** – Select this hierarchy type if you import product data from retail vendors, and you have received a product category hierarchy from a vendor. You do not have to create retail vendor product hierarchies. You can create as many retail vendor product hierarchies as you require.

- o Retail channel navigation hierarchy – Select this hierarchy type to create additional online store navigation structure. The navigation hierarchy assigned to an online store will be used by the e-commerce website to group the products assigned to the category.

11. In the **Category hierarchy** field, select the category hierarchy to assign to the selected category hierarchy type.
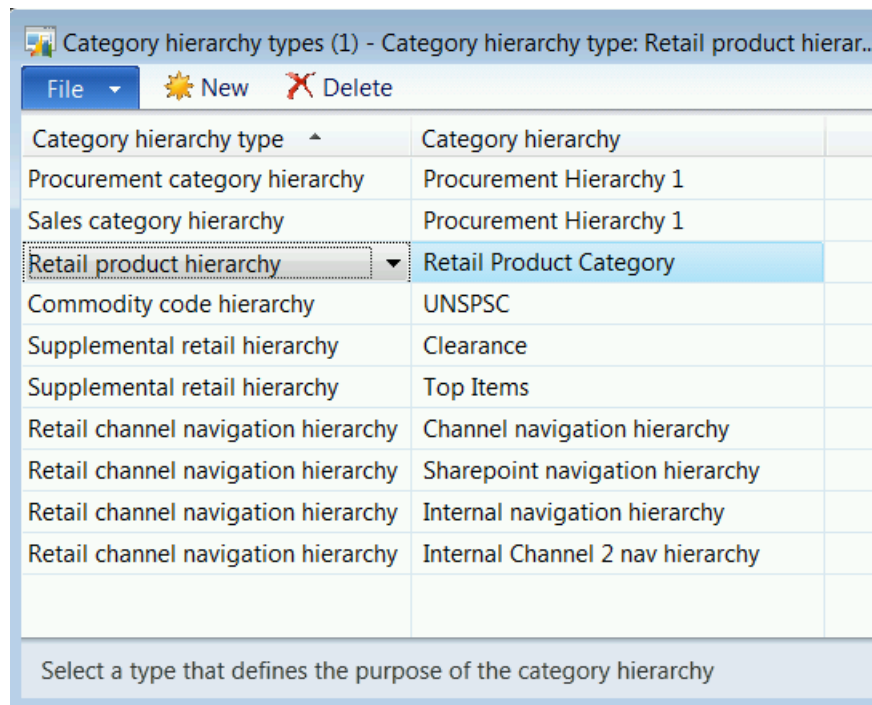
For detailed information about the fields in the **Category hierarchy** form, see Category hierarchy (form).

## 8.1.2    ATTRIBUTE AND ATTRIBUTE GROUPS

Attributes are additional information that can be associate either to a product or a category. Attributes can be used to search for products or as refiners in the online web searches.

### 8.1.2.1   CREATE AN ATTRIBUTE

To create an attribute go to **Product information management > Setup > Attributes**.

Let's quickly look at the attribute types to understand the various types that are available out of the box for users to define different attribute types.
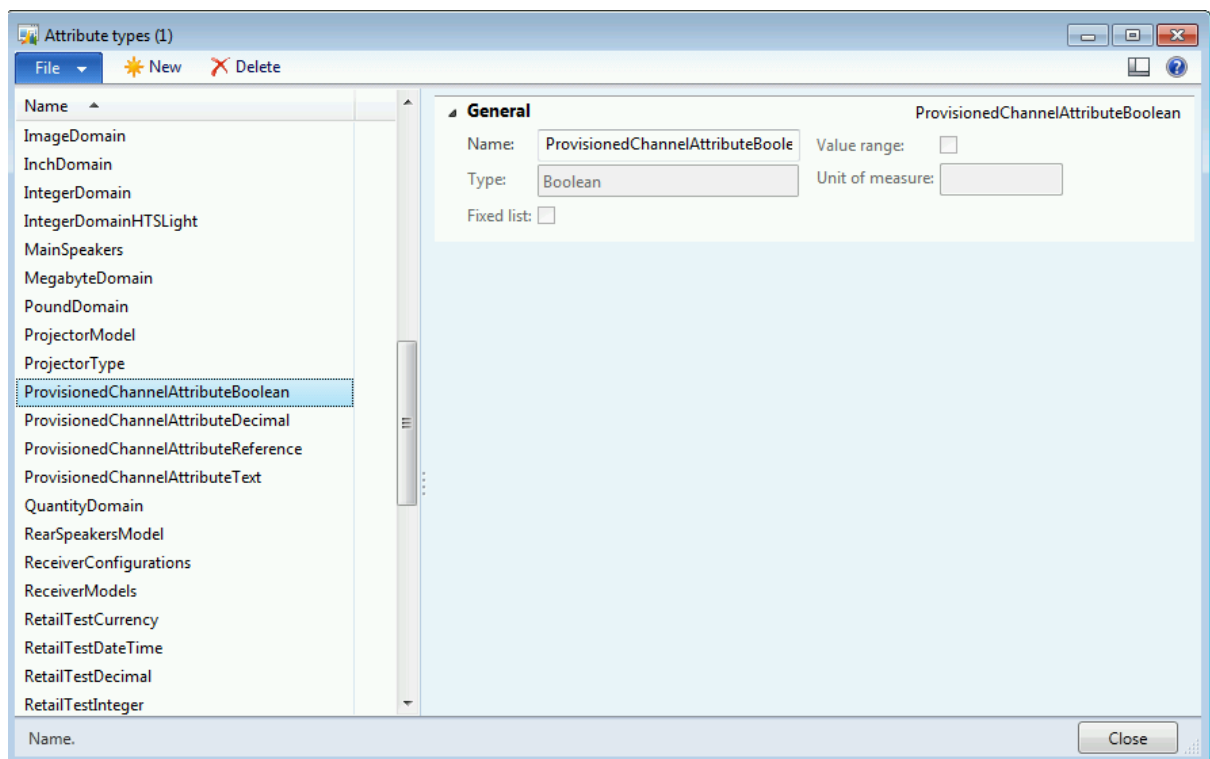


From an e-commerce perspective additional attribute types have been added to facilitate product related information to be readily available to the web users to search on the attributes.

The attribute types that are newly added for online are:

- **ProvisionedChannelAttributeBoolean**: This attribute type of Boolean is made available through an attribute group by product by channel. Ex. **New product** and **Customer favorites**.
- **ProvisionedChannelAttributeDecimal**: This attribute type of Decimal is made available through an attribute group by product by channel. Ex. **Review rating**
- **ProvisionedChannelAttributeReference**: This attribute type picks the default value assigned to a product and allows the value to be modified for a channel. Ex. **Product description** can be different for an online store and retail store.
- ProvisionedChannelAttributeText: This attribute type of text is made available through an attribute group by product by channel. Ex. **Brand**.

Click on **Product information management > Setup > Attributes > Attributes** to open the attributes form.

1. Click on **New** to create a new attribute.
2. Enter the **Name** of the attribute.
3. Enter a **Friendly name** for the new attribute being created.
4. Enter a **Description** for the attribute.
5. Enter a **Help text** for the attribute.
6. Select the **Attribute type** from the drop down list.
7. Depending on the attribute type selected, either you can select or enter a **Default value** for the attribute.

**8.1.2.2   CREATE AN ATTRIBUTE GROUP**

Click on **Product information management > Setup > Attributes > Attribute groups** to open the attribute groups form.

1. Click on **New** to create a new attribute group.
2. Under the **General** section enter a **Name** for the attribute group.
3. Enter a **Friendly name** for the attribute group.
4. Enter the **Description** for the attribute group.
5. Enter a **Help text** for the new attribute group.
6. Under the Attributes section, click on Add to add attributes to the attribute group.
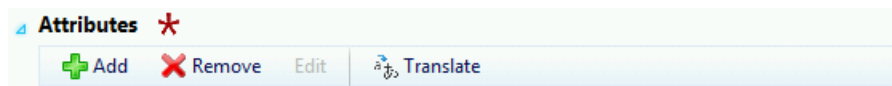


7. Select the attributes by marking the check box from the list and click Select to add them to the below selected box.
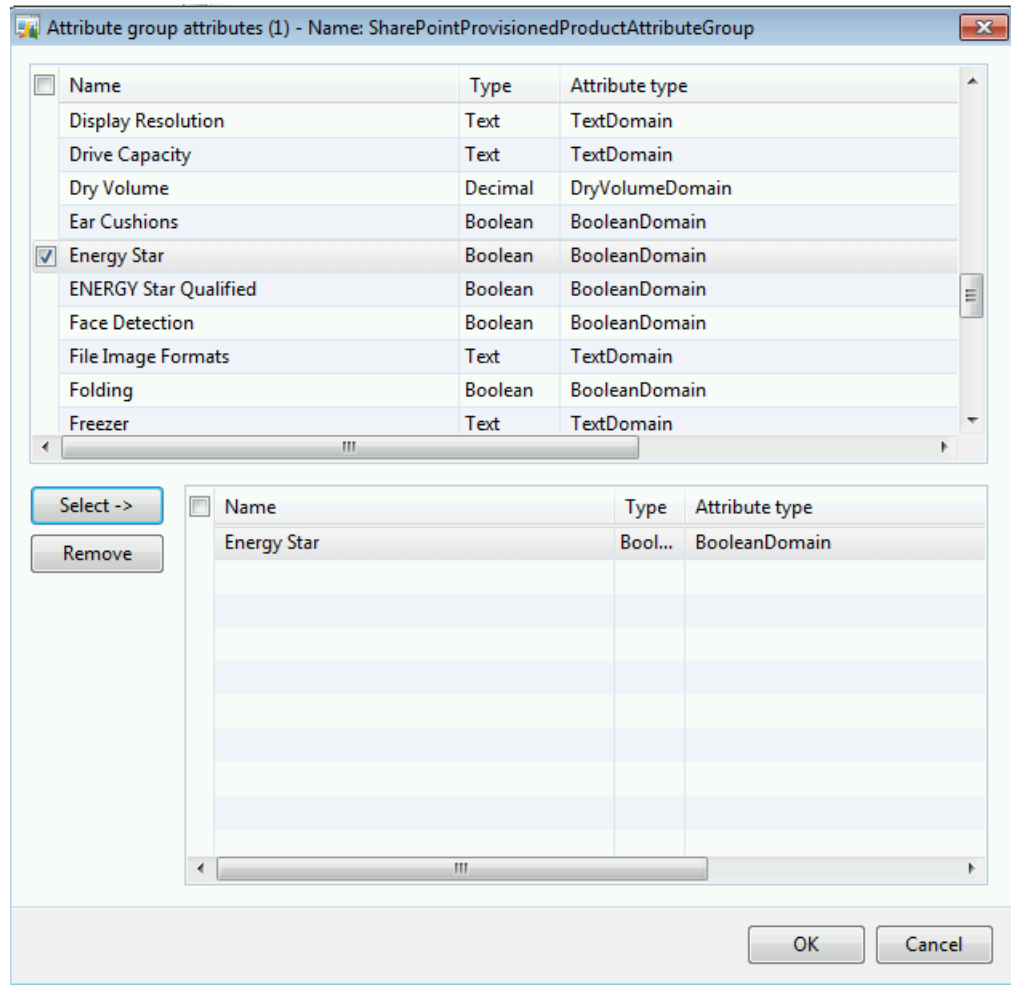
8. Click **OK** to add the selected attributes to the attribute group.
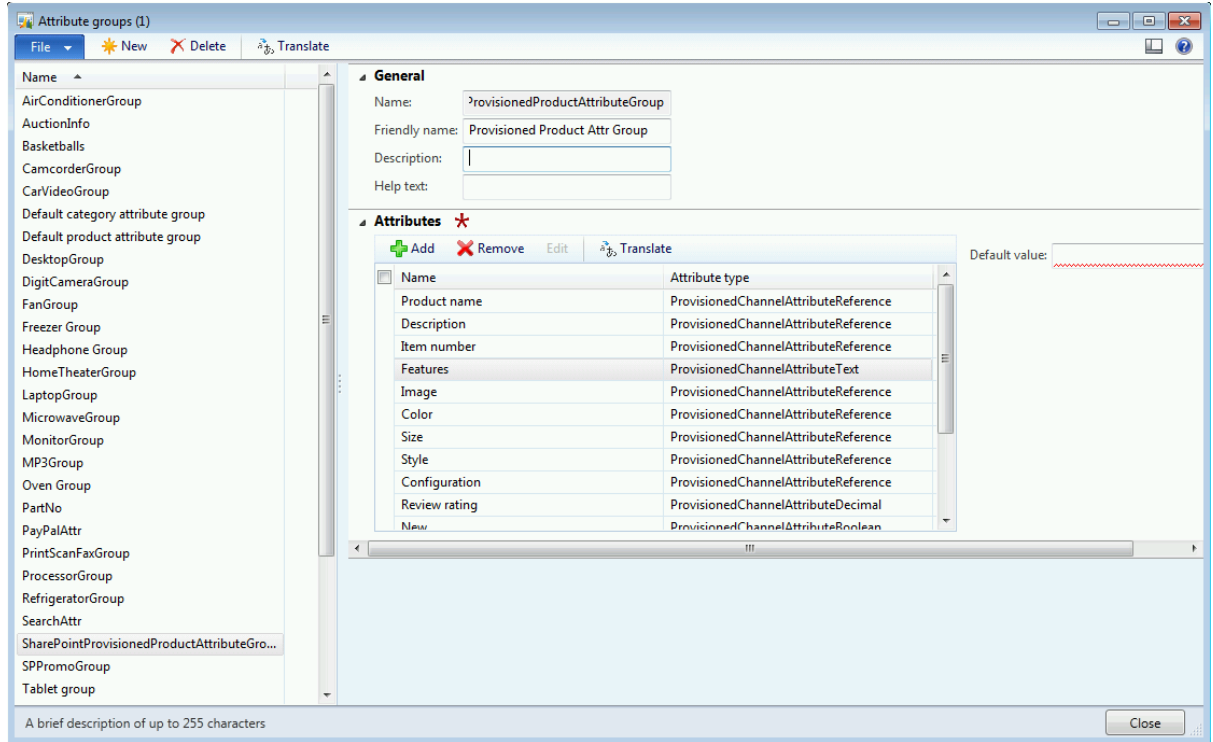
9. Enter or select the Default value for the attribute based on the attribute type defined.

## 8.1.3 MAINTAIN THE RETAIL PRODUCT HIERARCHY

The retail product hierarchy can be created by following the steps outlined below:

1. Click **Retail** > **Setup** > **Category hierarchies** > **Retail product hierarchy**.

2. In the **Retail product hierarchy** form, in the left pane, review the tree structure of product categories. On the **General** FastTab, view the name, friendly name, status, and other details about the category.

3. Click **Edit category hierarchy** to open the **Category hierarchy** form, and then modify the structure of the category hierarchy. Close the form to return back to the Retail product hierarchy form.
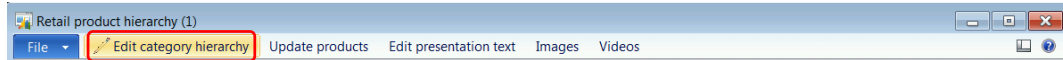


4. Click on Edit in the Category hierarchy form to edit the tree structure of the retail hierarchy. On completion of the edit close the form by clicking the close button at the bottom of the form.
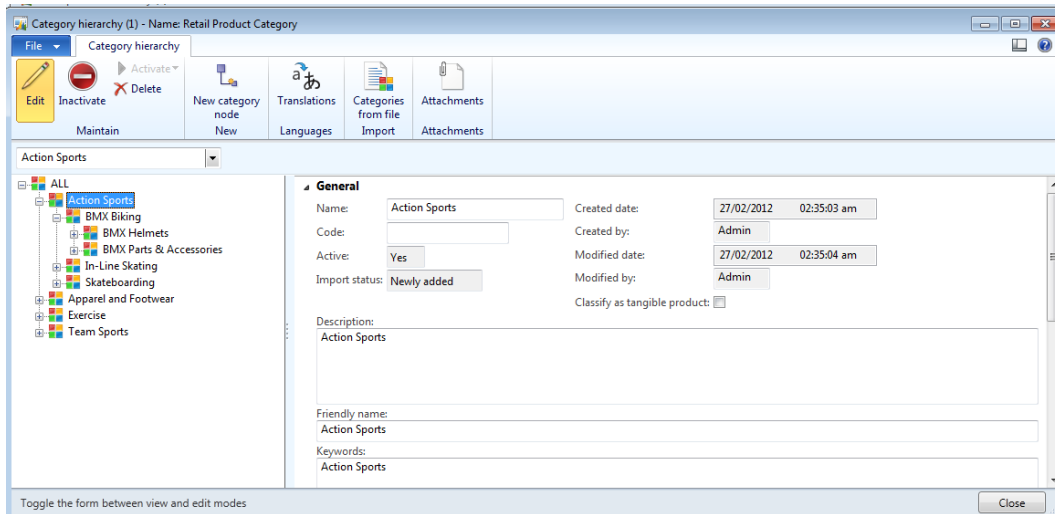


5. In order to Add or move Products to a category go to the Category Hierarchy Form and in the left pane, select a category in the tree structure. Then, on the **Products** FastTab
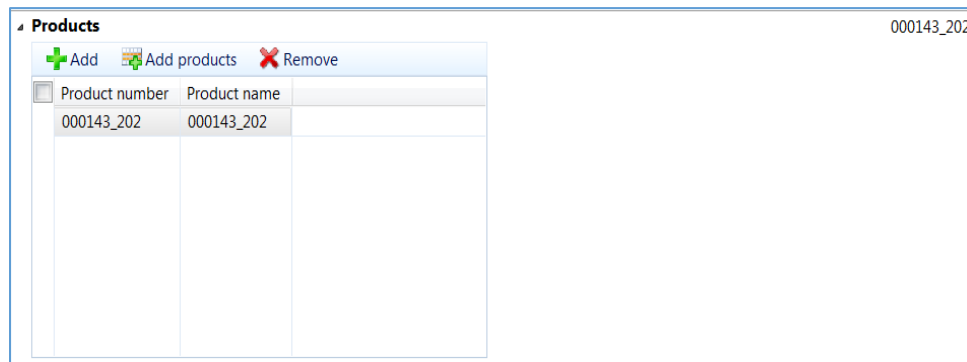


I. Option 1 Click **Add** to add one or more products from the organization-wide product list.
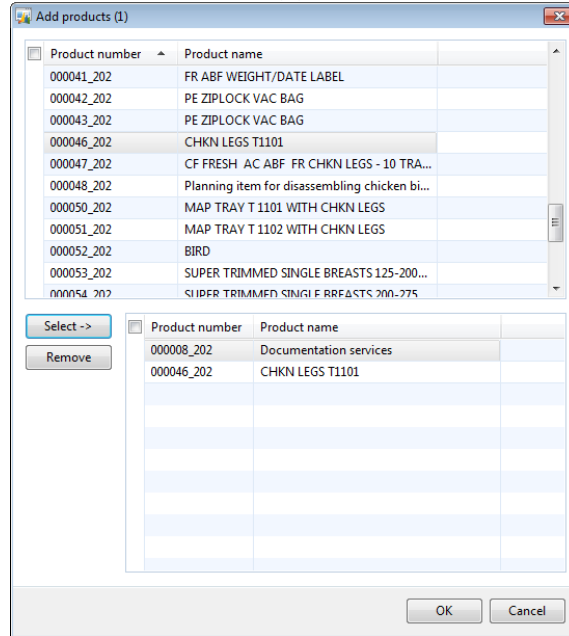
II.     Option 2 alternatively, click **Add products** to open the **Add products** form, and then add one or more products to a selected category. If you use the **Add products** form to add products to the category, you can select products from any existing category hierarchies.  During the selection process if a wrong product is selected you can use the remove button placed on the top right hand side of the form to remove the product selected.
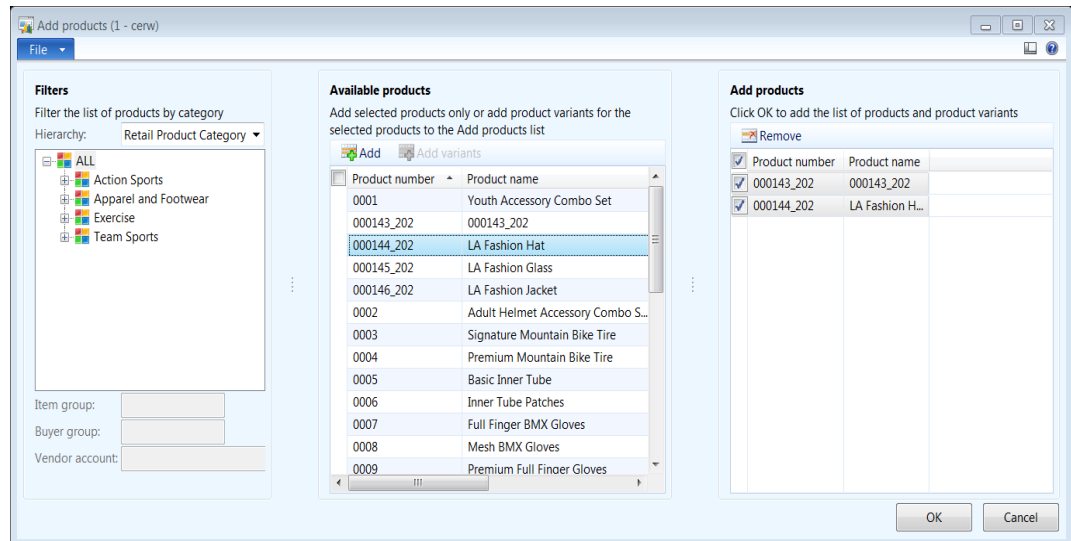


6.   Click the **Retail product properties** FastTab, and then enter default settings for the retail product properties. These settings are automatically inherited by all

products that are assigned to the category. However, you can override the settings for an individual product.

I.   Under the **Groups** area select the **Tracking dimension group** from the drop down list that would be defaulted to the product assigned to the category.

II.  Select the **Storage dimension group** from the drop down list that would be defaulted to the product assigned to the category.

III. Select the **Product dimension group** from the drop down list that would be defaulted to the product assigned to the category.

IV.  Under the **Variant groups** area select the **Size group** from the drop down list that would be defaulted to the product assigned to the category.

V.   Select the **Color group** from the drop down list that would be defaulted to the product assigned to the category.

VI.  Select the **Style group** from the drop down list that would be defaulted to the product assigned to the category.

VII. Under the **Barcode** area select the **Use EAN standard bar code** check box if the product should follow the International article number (EAN) standard for bar codes.

VIII. Under the **POS terminals** area select the **Keying in price** from the drop down list. The options available are:

   1. Not mandatory: It is not required to key in the price.

   2. Must key in new price: It is necessary to key in the new price.

   3. Must key in higher/equal price: Must key in a price higher to or equal to the standard price.

   4. Must key in lower/equal price: Must key in a price lower or equal to the standard price.

   5. Must not key in price: The price must not be keyed in at the terminal.

IX.  Select the Keying in quantity from the drop down list. The options available are:

1. Not mandatory: It is not required to key in the quantity.

2. Must key in quantity: It is necessary to key in the quantity.

3. Must not key in quantity: The quantity must not be keyed in at the terminal.

X.  Select the **Scale product** check box to indicate the product in required to be weighed on the scale.

XI.  Select the **Must key in comment** check box to enforce the cashier to enter comment for the products during sales operations at the point of sale.

XII.  Select the **Zero price valid** check box to indicate the product can have zero pricing and can be sold at the point of sale.

XIII.  Select the **Quantity becomes negative** check box to indicate that the inventory can go negative.

XIV.  Check the **No discount allowed** check box to enforce cashiers not to provide discounts at the point of sale.

XV.  Under the **Activation** area select the **Issue date** for the product assigned to the category.

XVI.  Under the **Blocking** area select the **Blocked at register** check box to block the products assigned to a category from being sold at POS terminals.

XVII.  The **Date blocked** field will display the date the category / products were blocked.

XVIII.  Select the **Date to be blocked** field to assign a future date when the products needs to be blocked.

**Retail product properties**

**Groups**

| | | **POS registers** | |
|---|---|---|---|
| Tracking dimension group: | | Key in price: | Not mandatory |
| Storage dimension group: | | Key in quantity: | Not mandatory |
| Product dimension group: | | Scale product: | ☐ |
| **Variant groups** | | Must key in comment: | ☐ |
| Size group: | | Zero price valid: | ☐ |
| Color group: | | Quantity becomes negative: | ☐ |
| Style group: | | No discount allowed: | ☐ |
| **Bar code** | | **Activation** | |
| Use EAN standard bar code: | ☐ | Issue date: | |
| | | **Blocking** | |
| | | Blocked at register: | ☐ |
| | | Date blocked: | |
| | | Date to be blocked: | |

7. Click the **Basic product properties** FastTab, and then enter settings for the base product properties. These settings are automatically inherited by all products that are assigned to the category, across one or more legal entities. However, you can override the settings for an individual product.

   I. Select the **Edit by legal entity** button to set up default configuration by legal entity. Select the legal entity from the drop down list.

   II. Under the **Units** area enter the **Purchase price unit**.

   III. Enter the **Sales price unit**.

   IV. Select the **Purchase unit** from the drop down list.

   V. Select the **Inventory unit** from the drop down list.

   VI. Select the **Sales unit** from the drop down list.

   VII. Select the **BOM unit** from the drop down list.

   VIII. Select the **Base comparison unit** from the drop down list.

   IX. Under the **Groups** area select the **Item group** from the drop down list.

   X. Select the **Coverage group** from the drop down list.

   XI. Select the **Counting group** from the drop down list.

XII.    Select the **Inventory model** from the drop down list.

XIII.   Under the **Sales tax** area select the **Purchase order sales tax group** from the drop down list.

XIV.    Select the **Sales order tax group** from the drop down list.

XV.     Under the **Default warehouses** area select the default **Site** from the drop down list.

XVI.    Select the default **Purchase warehouse** from the drop down list.

XVII.   Select the default **Inventory warehouse** from the drop down list.

XVIII.  Select the **Sales warehouse** from the drop down list.

XIX.    Under the **Default reports** area select the **Shelf label report** from the drop down list that would be defaulted to the product assigned to the category.

XX.     Select the **Product label report** from the drop down list that would be defaulted to the product assigned to the category.

XXI.    Under the **Location replenishment** area select the **Replenishment rule** that will be applied to the products assigned to the category.

XXII.   Under the **Bar code** area select the **Bar code setup** format from the drop down list that would be defaulted to the product assigned to the category.

I. Select the **Edit in grid** button to configure the default settings using the table view grid.

II. Select the **Property group** option to configure from the drop down list. The options available are:

- **Bar code:** Configure the bar code set up for the category from the drop down list by legal entity.

- **Default reports:** Configure the default shelf and product label reports for the category by legal entity.

- **Default warehouses**: Configure the default warehouses for the products assigned to the category.

- **Fiscal information**: The fiscal information currently doesn't have any fields associated in the current release.

- **Groups:** Configure the Item and coverage groups for the products assigned to the category.

- **Location replenishment:** Configure the default replenishment hierarchy for the category by legal entity.

- **Sales tax**: Enter the sales tax groups for purchase order and sale orders.

- **Units**: Select the unit of measure for the products assigned to the category.

III. Enter the values based on the selection in the grid table by legal entity.



8. Click the **Product attribute groups** FastTab to add other attribute groups to the products in the hierarchy.

I. Click on **Add** to assign attribute groups to the category so that products assigned to the category automatically inherit the attributes from the selected group. The product attribute groups form opens.

II. Select the check boxes next to the attribute group and click Select button to add the selected attribute groups to the bottom screen.
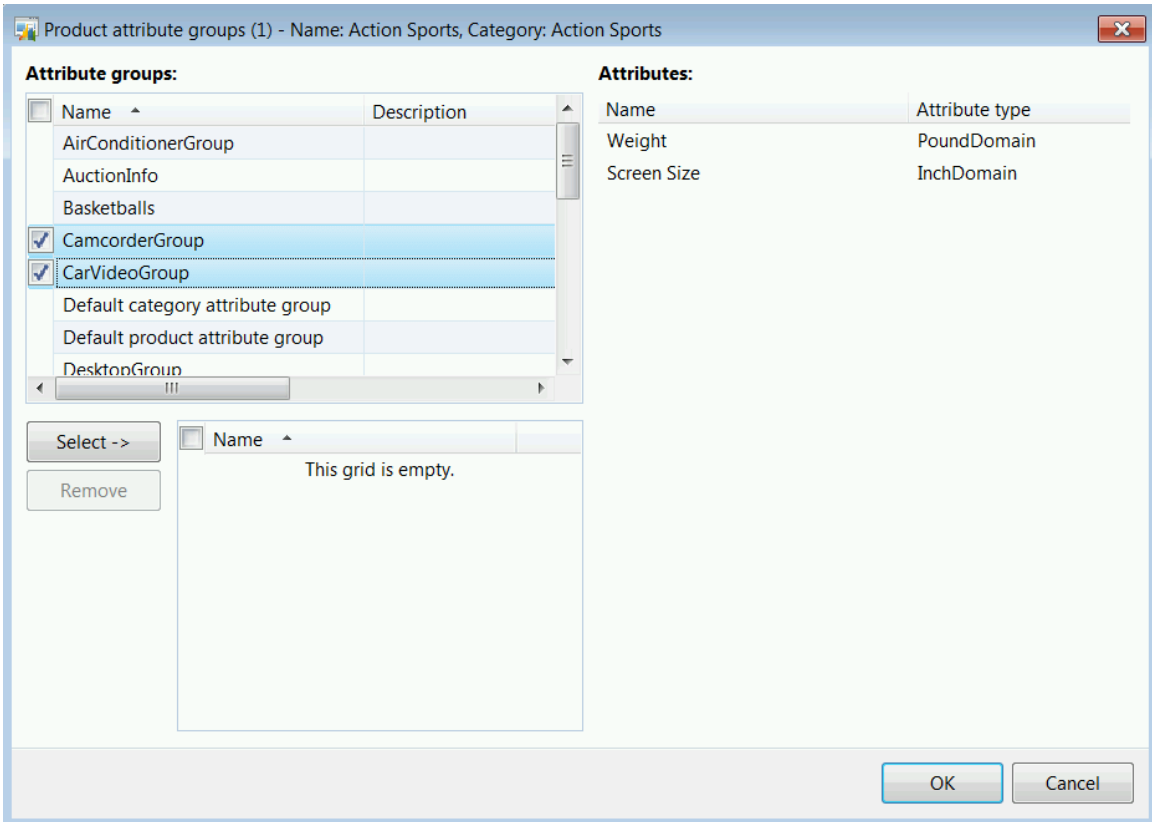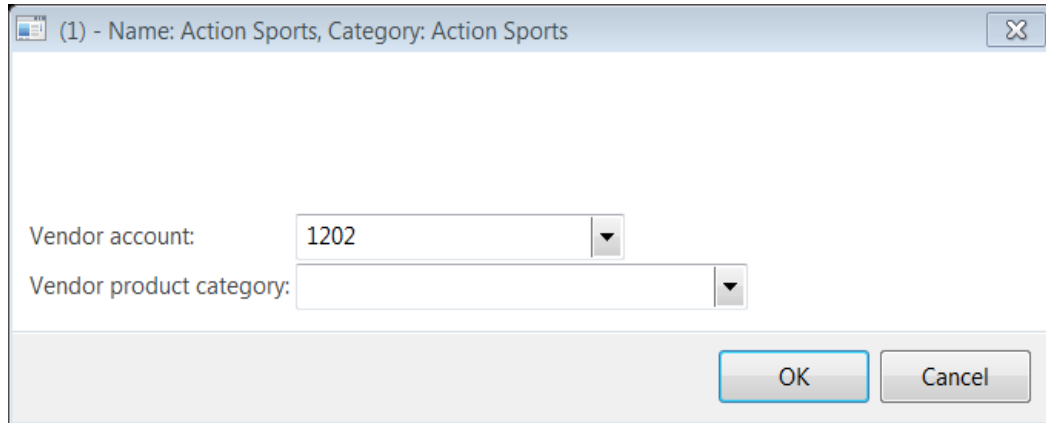
III.     Click **OK** to confirm to add the selected attributes to the category.



IV.     Select the **Inherit attributes from parent** category check box to inherit attributes properties from parent attributes selected in the list.

9.   Click the **Map vendor categories** FastTab to map the vendor's product categories to the retail product categories in which the vendor is authorized to supply products.

I.   Click on **Add** to select a vendor and related vendor hierarchy to associate with the retail category.

II.  Select the **Vendor account** from the drop down list.

III. Select the **Vendor product category** from the drop down list.
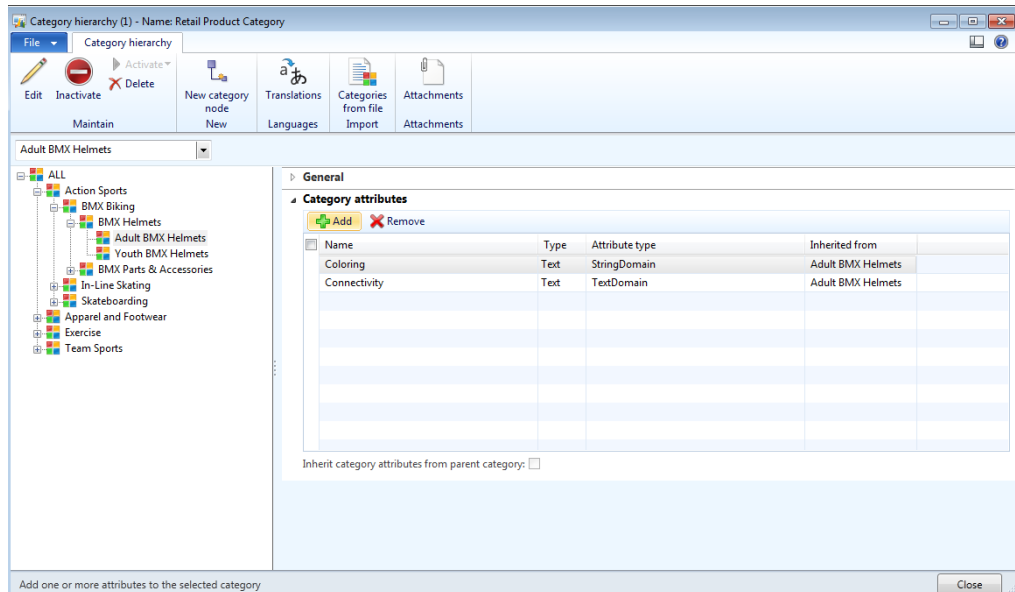


- Click **OK** to confirm the selection.

10. Click the **Category attribute values** FastTab to view values for the category attributes.  To add category attributes Click on the Edit Category hierarchy to go to the **Category hierarchy** form, then click on Edit, once the form is in edit mode highlight the category and click on the Add Attributes.



Close the Category Hierarchy Form and then proceed to the next step.

11. Click on **Edit presentation** text to enter description for the category to be displayed on the e-commerce website.
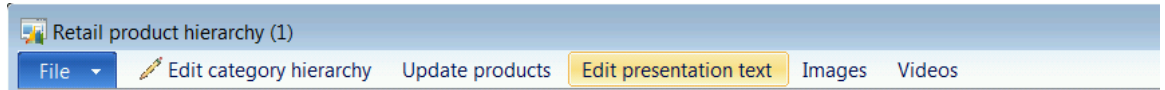


The **Catalog product presentation** form will open. Click **Edit** to open an editor to enter the presentation text.
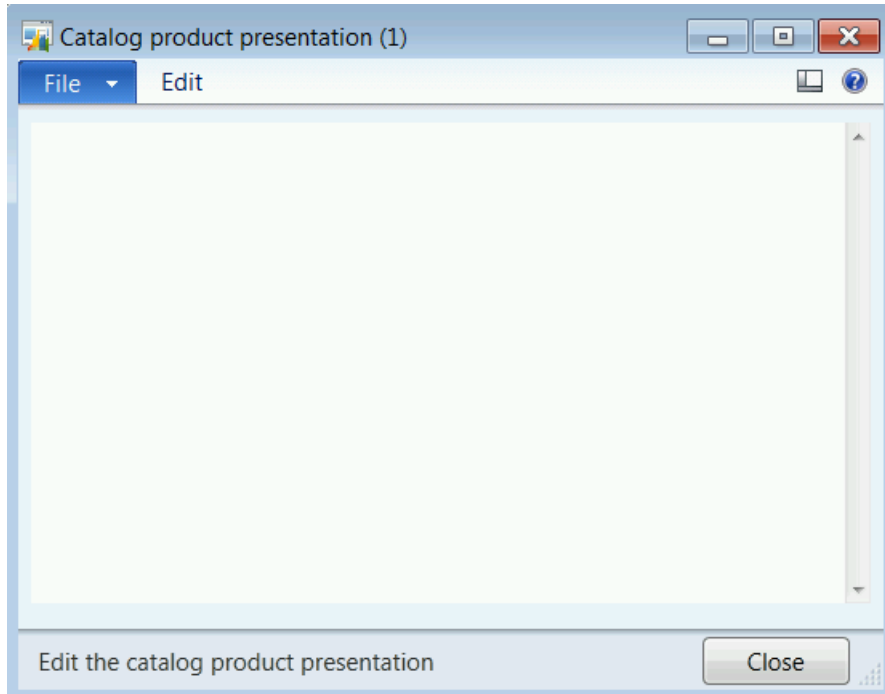


Click **File > Save** to save the changes to the presentation text.
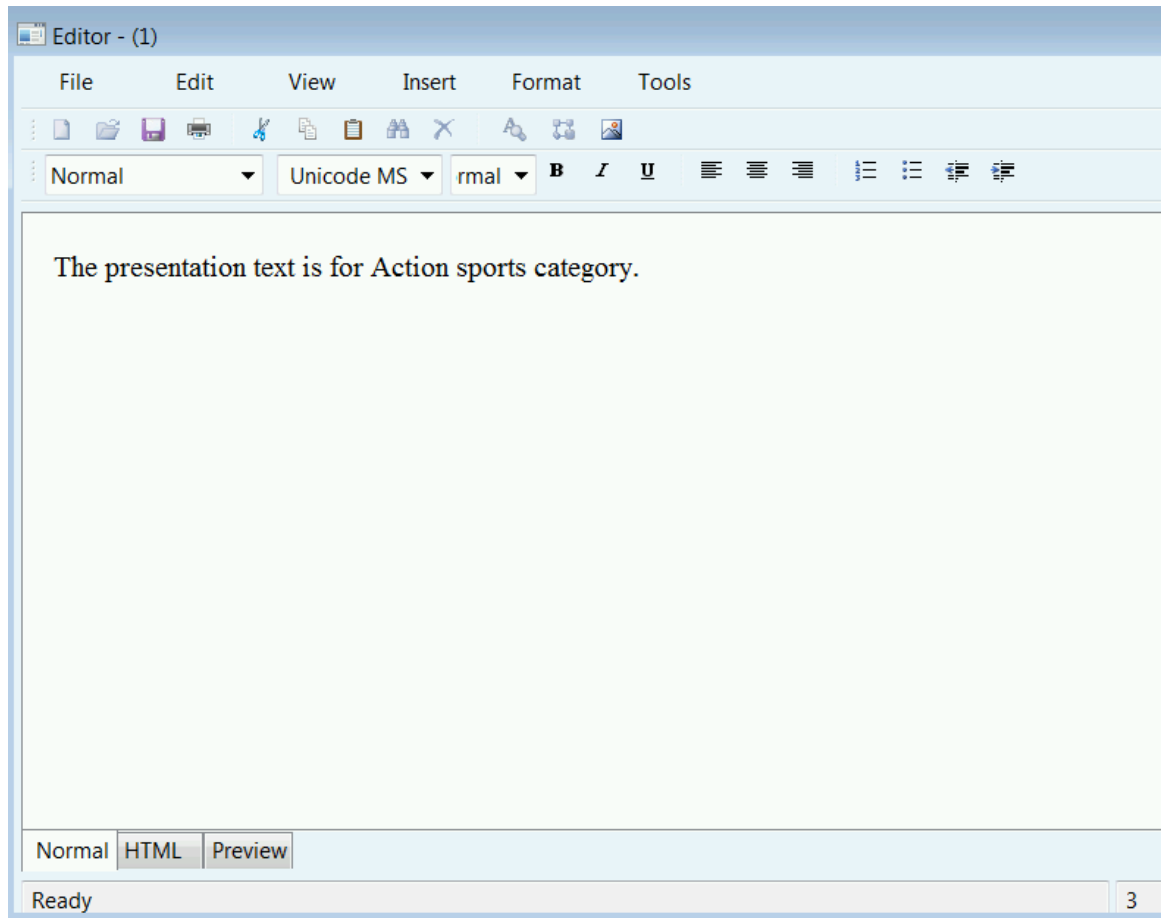
Close the **Catalog product presentation** from to save the changes.
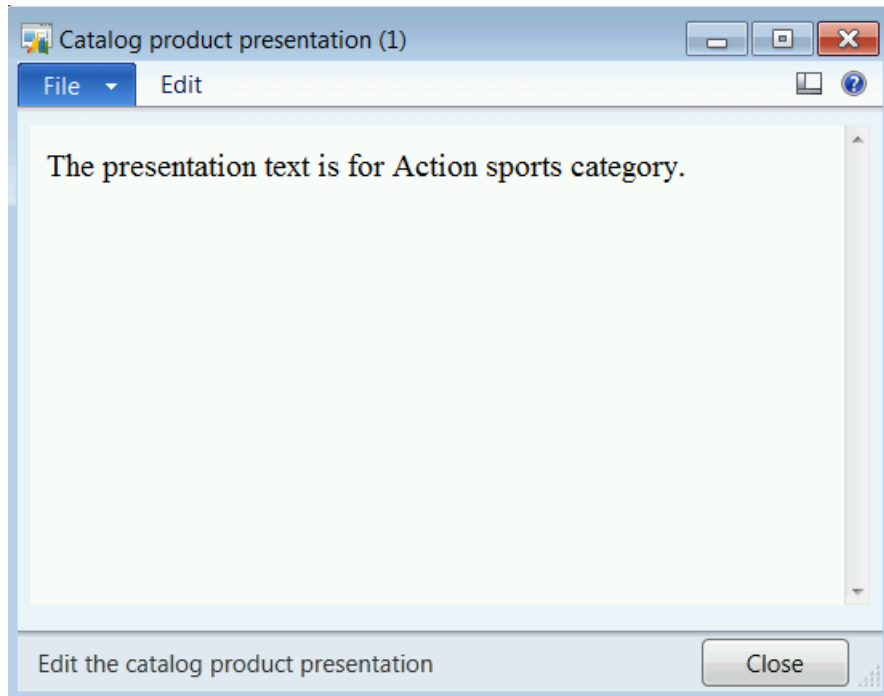
12. Click on **Images** to add multiple images for the selected category to display on
the e-commerce website.
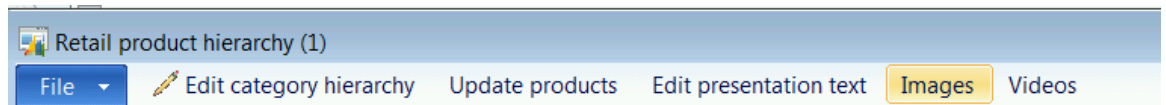


The **Images** form will open.
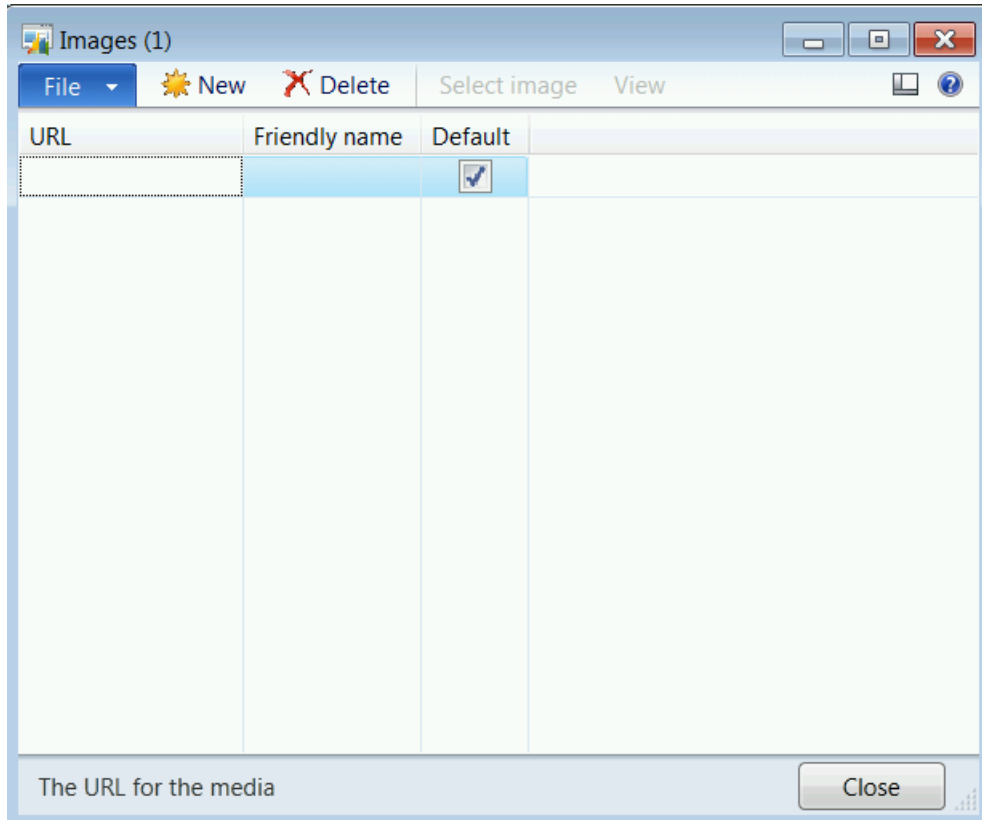
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

- Enter a **Friendly name** for the image.

- Select the **Default** check box if you wish to set the image as the default image for the category.

13. Click on **Videos** to add multiple videos for the selected category to display on the e-commerce website.
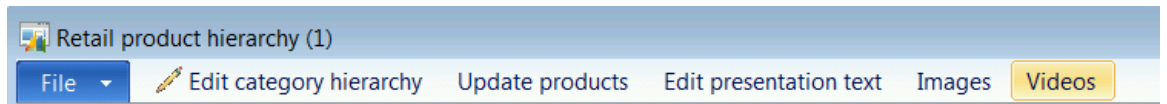


The **Videos** form opens.
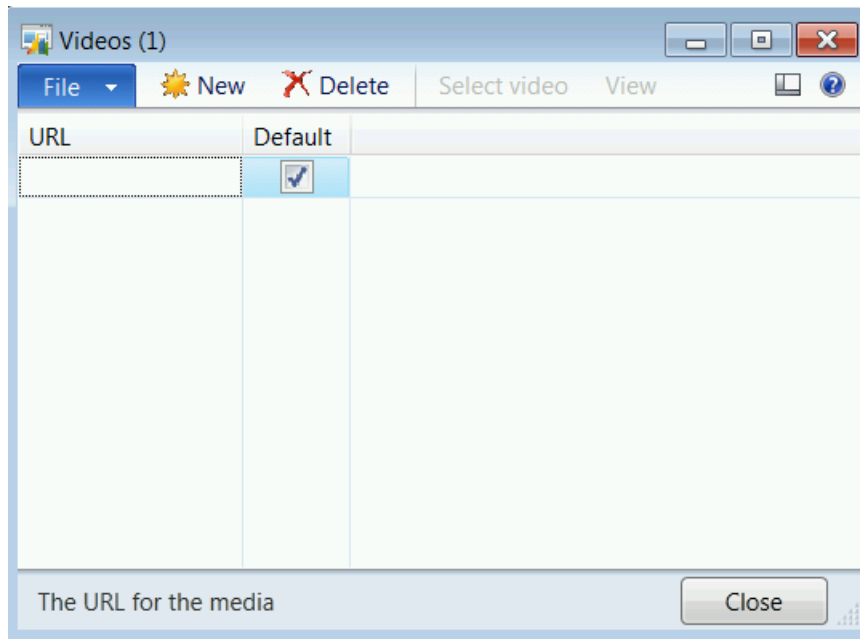
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

- Select the **Default** check box if you wish to set the image as the default image for the category.

14. Click on **Update products** on the top tool bar of the retail product hierarchy form on completion of the edit or add action on this operation.

- The update product form will open.

- Select the Select All check box to update all fields listed below on the form.

- Under the **Retail group properties** FastTab select the fields by marking the check boxes to update the products associated to the category.

- Under the **Basic product properties** FastTab select the fields by marking the check boxes to update the products associated to the category.

- Select the **Include products in all sub-categories** check box to include products in sub category to update on the selected fields.

- Select the **Include products with overridden attributes** to update products which have over-ridden attributes.

- Click on **Update** to update the products with the selected fields.

- If you wish to run the update as a schedule job then click on **Schedule batch job** button. An infolog appears with a confirmation dialog.
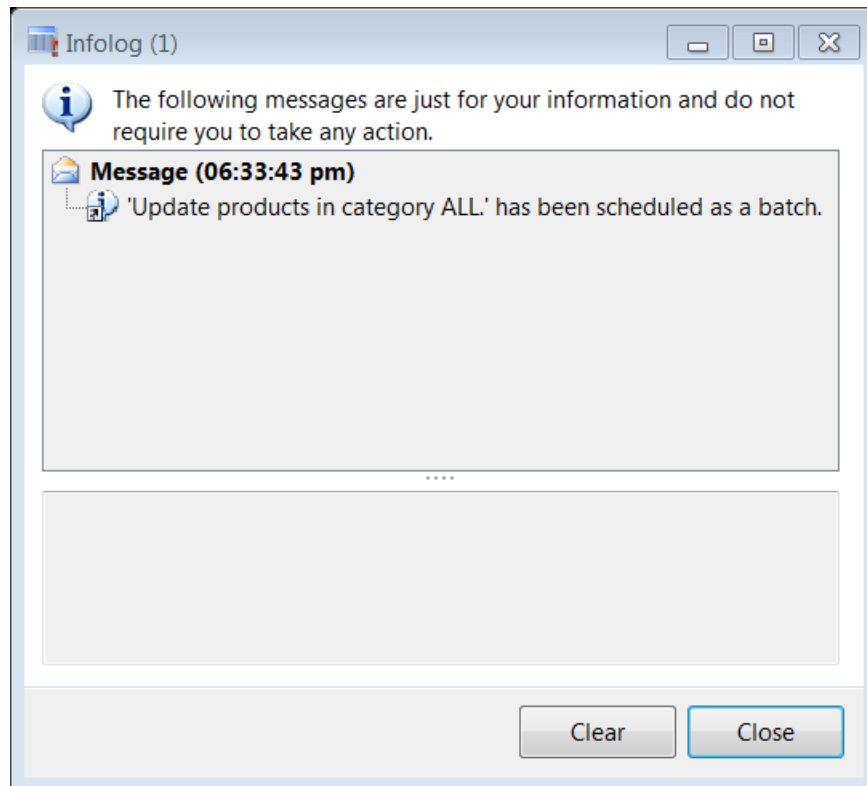
⚠ Note: **The updates are made for the products based on the above selection across all legal entities.**

## 8.1.4  MAINTAIN A RETAIL SUPPLEMENTAL HIERARCHY

Supplemental hierarchies can be created to categorize a subset of products for a specific purpose, such as special pricing, promotions, or special product discounts.

1. Click **Retail** > **Setup** > **Category hierarchies** > **Supplemental retail hierarchies**.

2. On the **Supplemental retail hierarchies'** list page, in the **New** group, click **Category hierarchy** to create a new category hierarchy.

3. To modify a hierarchy highlight the line in the list view and then Click **Edit category hierarchy** or double click the highlighted line to open the **Category hierarchy** form, and then modify the structure of the category hierarchy.

4. In the left pane, select a category in the tree structure.

5. To Add a product on the **Products** FastTab, click **Add** to add one product at a time from the organization-wide product list. Alternatively, click **Add products** to open the **Add products** form, and then add one or more products or product variants to a selected category. If you use the **Add products** form to add products to the category, you can select products from any existing product hierarchies.



The **Add products** button will open the add products form to allow selection of multiple products by category. Click **OK** to confirm and add the products to the retail category.

6. Click the **Product attribute groups** FastTab to add other attribute groups to the products in the hierarchy.

   1. Click on **Add** to assign attribute groups to the category so that products assigned to the category automatically inherit the attributes from the attribute groups. The product attribute groups form opens.

   2. Select the check boxes next to the attribute and click Select button to add the selected attributes to the bottom screen.



   3. Click **OK** to confirm to add the selected attribute groups to the category.

4.  Select the **Inherit attributes from parent** category check box to inherit attributes properties from parent attributes selected in the list.

7.  Click the **Map vendor categories** FastTab to map the vendor's product categories to the supplemental retail categories in which the vendor is authorized to supply products.

    1.  Click on **Add** to select a vendor and related vendor hierarchy to associate with the retail category.

    2.  Select the **Vendor account** from the drop down list.

    3.  Select the **Vendor product category** from the drop down list.
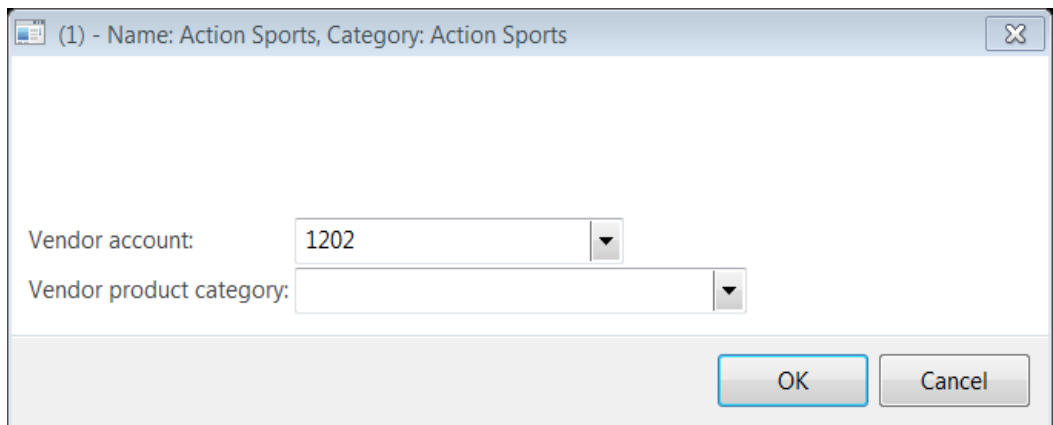


•  Click **OK** to confirm the selection.

8.  Click the **Category attribute values** FastTab to view values for the category attributes. You add category attributes in the **Category hierarchy** form.

9.  Click on **Edit presentation** text to enter description for the category to be displayed on the e-commerce website.
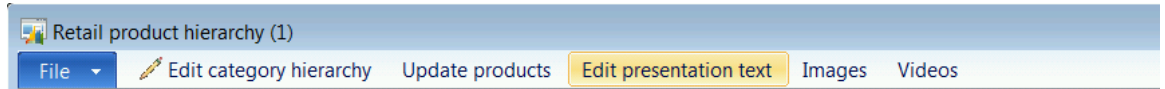


The **Catalog product presentation** form will open. Click **Edit** to open an editor to enter the presentation text.
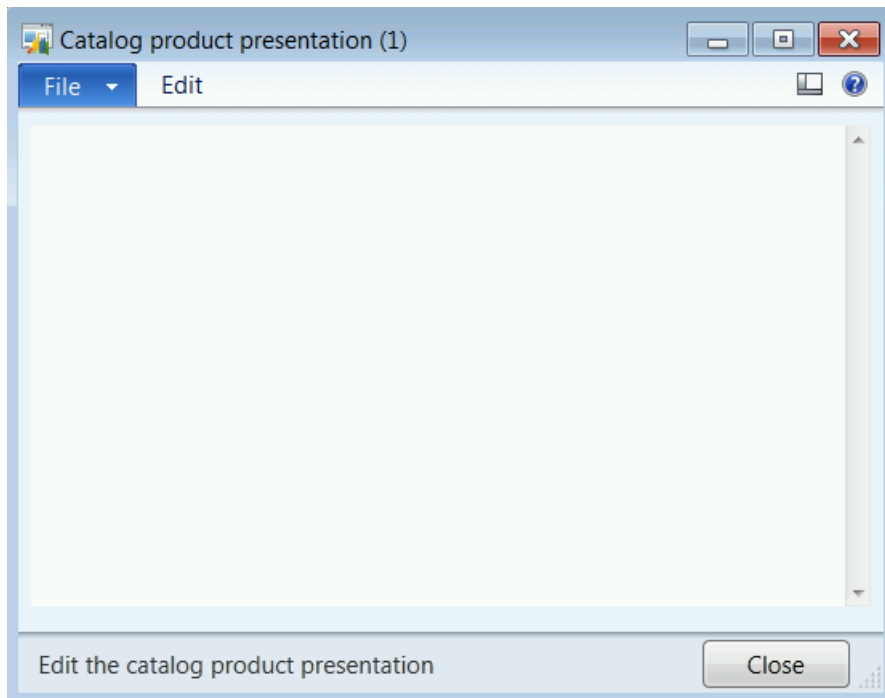


Click **File > Save** to save the changes to the presentation text.
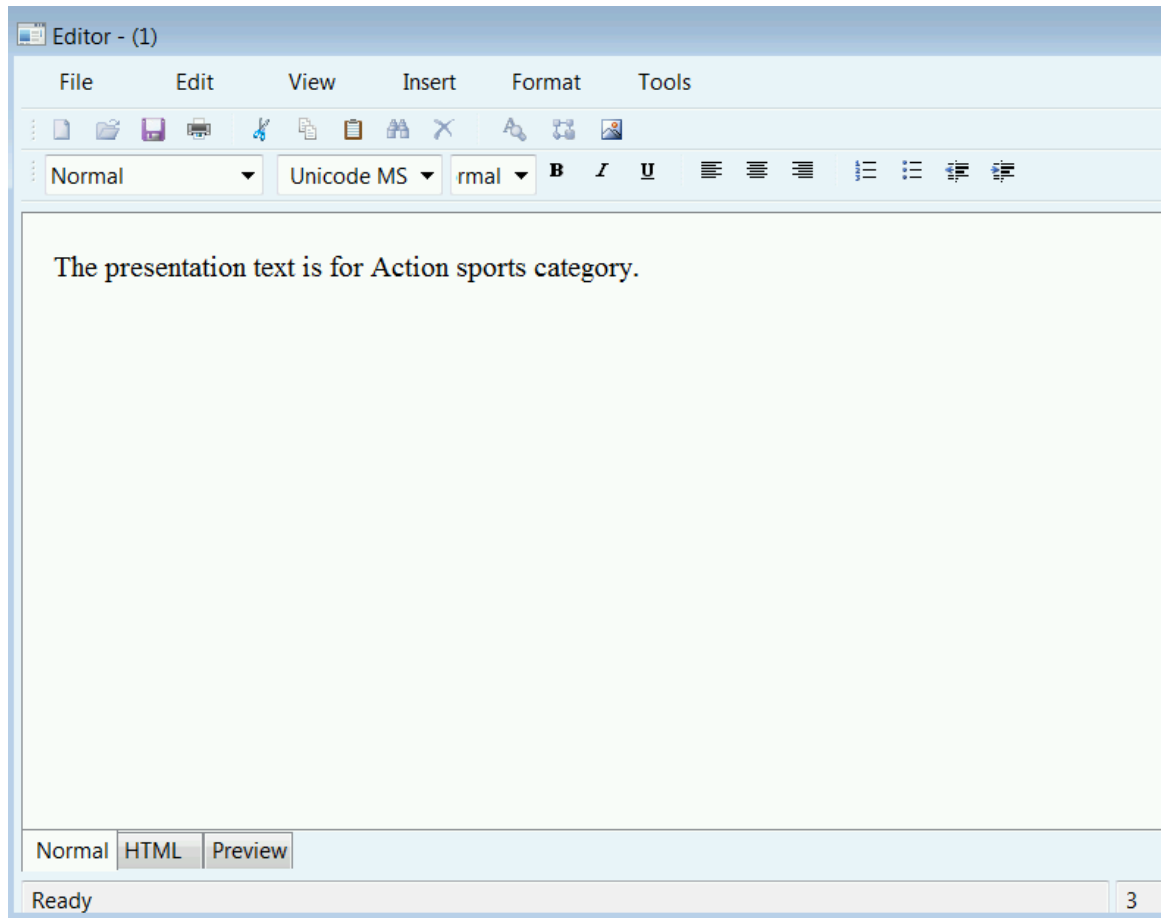
Close the **Catalog product presentation** from to save the changes.
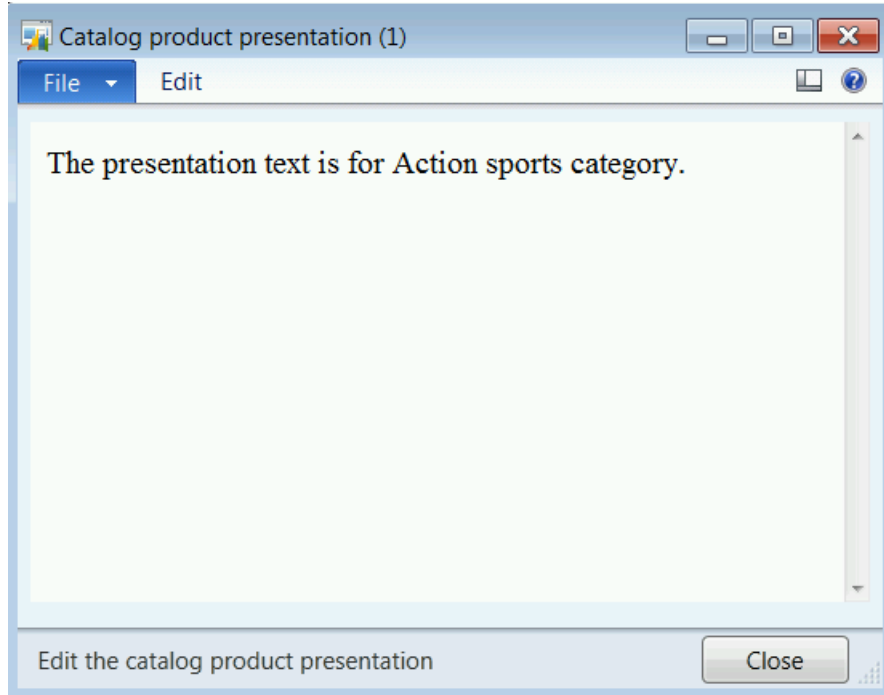
10. Click on **Images** to add multiple images for the selected category to display on the e-commerce website.
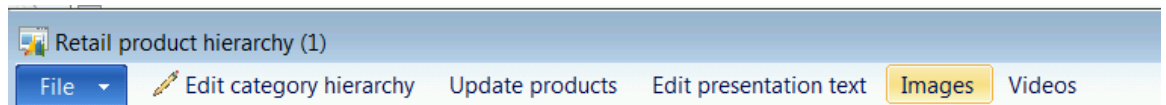


The **Images** form will open.
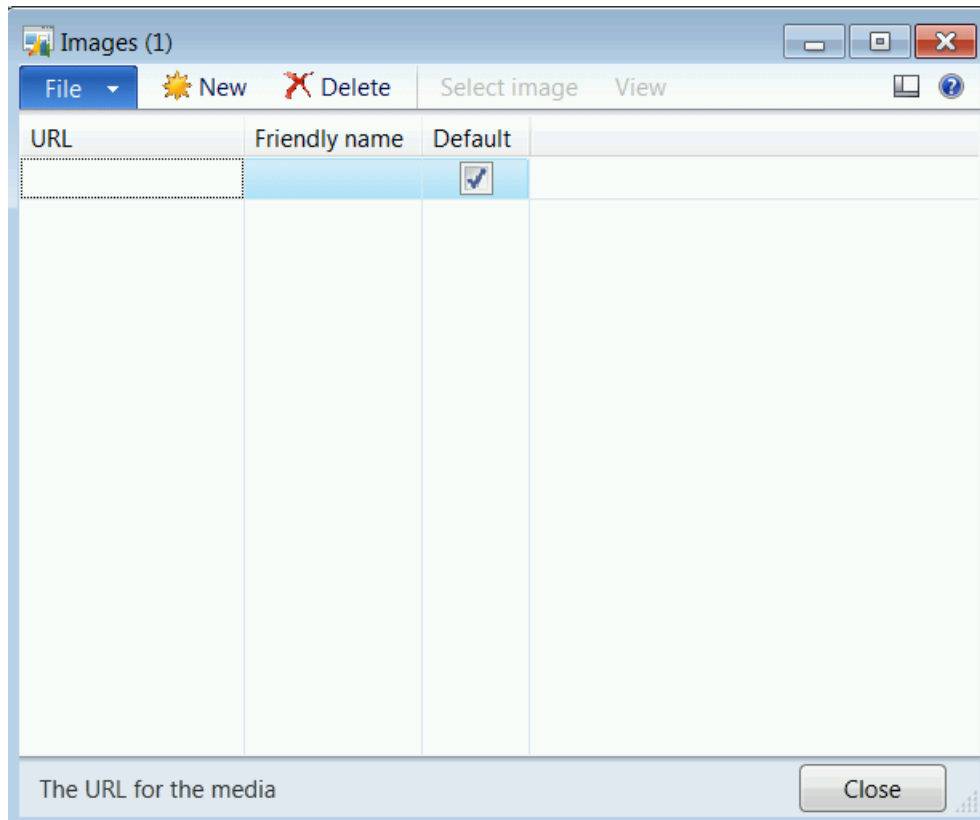
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

- Enter a **Friendly name** for the image.

- Select the **Default** check box if you wish to set the image as the default image for the category.

11. Click on **Videos** to add multiple videos for the selected category to display on the e-commerce website.
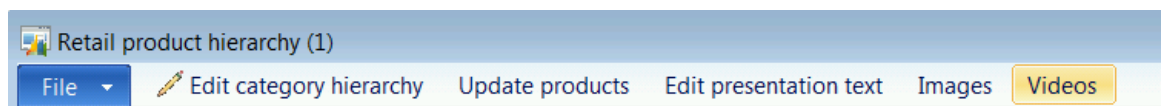


The **Videos** form opens.
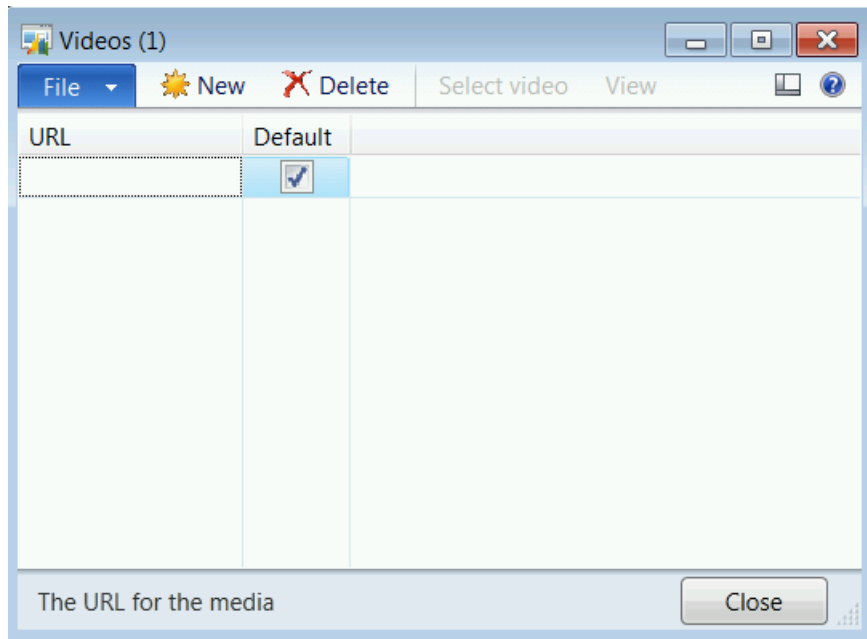
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

- Select the **Default** check box if you wish to set the image as the default image for the category.

### 8.1.5 MAINTAIN A RETAIL CHANNEL NAVIGATION HIERARCHY

Retail channel navigation hierarchies can be created to categorize all or a subset of products for online stores to define the navigation structure on how the products are grouped and displayed.

Click **Retail** > **Setup** > **Category hierarchies** > **Retail channel navigation hierarchies**.

12. On the **Retail channel navigation hierarchies'** list page, in the **New** group, click **Category hierarchy** to create a new category hierarchy.

13. To modify a hierarchy highlight the line in the list view and then Click **Edit category hierarchy** or double click the highlighted line to open the **Category hierarchy** form, and then modify the structure of the category hierarchy.

14. In the left pane, select a category in the tree structure.

15. To **Add** a product on the **Products** FastTab, click **Add** to add one product at a time from the organization-wide product list. Alternatively, click **Add products** to open the **Add products** form, and then add one or more products or product variants

to a selected category. If you use the **Add products** form to add products to the category, you can select products from any existing product hierarchies.



The **Add products** button will open the add products form to allow selection of multiple products by category. Click **OK** to confirm and add the products to the retail category.
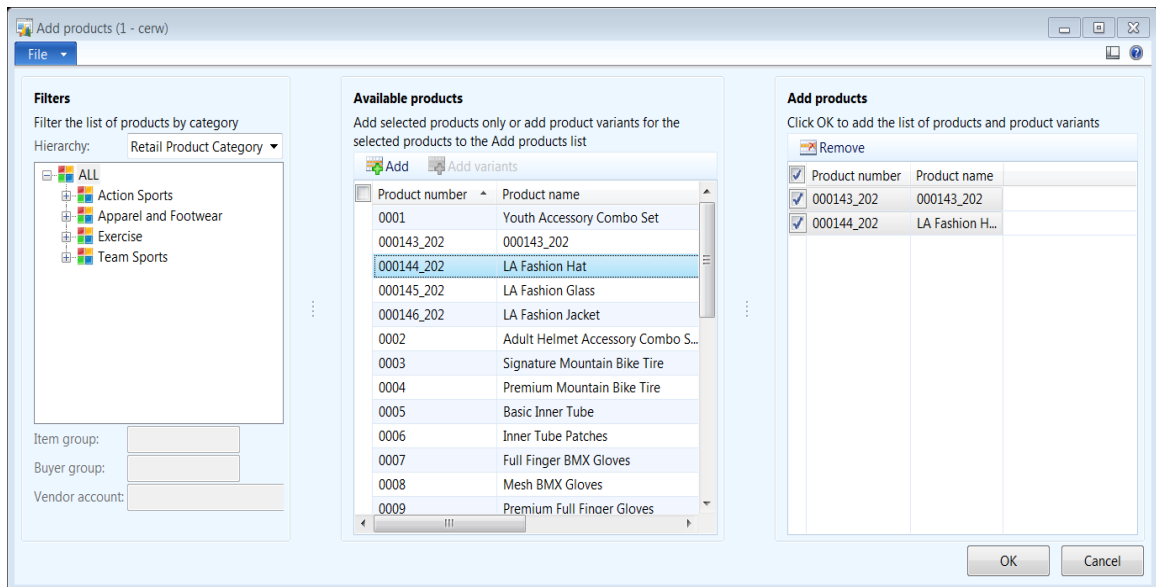


16. Click the **Product attribute groups** FastTab to add other attribute groups to the products in the hierarchy.

1. Click on **Add** to assign attribute groups to the category so that products assigned to the category automatically inherit the attributes from the attribute groups. The product attribute groups form opens.

2.  Select the check boxes next to the attribute and click **Select** button to add the selected attributes to the bottom screen.
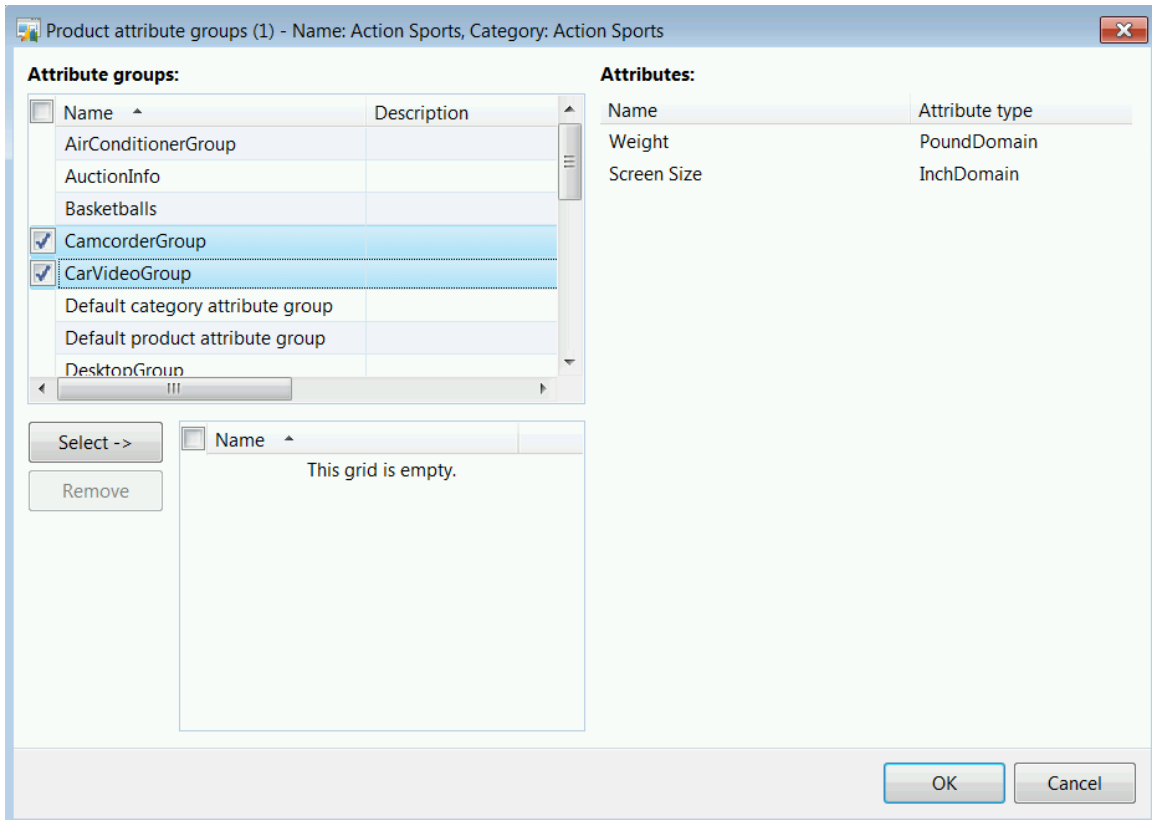


3.  Click **OK** to confirm to add the selected attribute groups to the category.
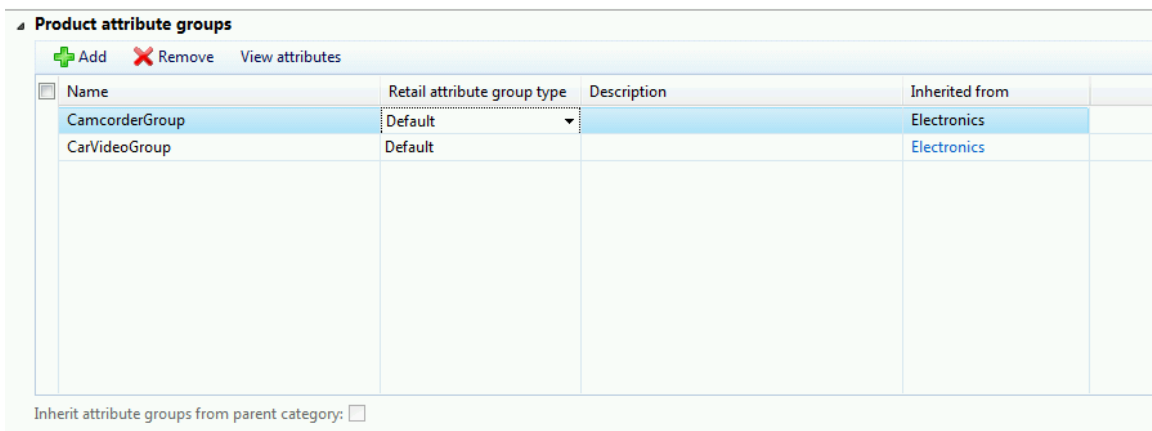


4.  Select the Retail attribute group type from the drop down list. The options available are:

- **Default**: The attribute group and the associated attributes is stored as an individual attributes in the online database.

- **Specification**: All the attributes within the attribute group are combined as one field and stored in the online database.

5. Select the **Inherit attributes from parent** category check box to inherit attributes properties from parent attributes selected in the list.

17. Click the **Category attribute values** FastTab to view values for the category attributes. You add category attributes in the **Category hierarchy** form.

18. Click on **Edit presentation** text to enter description for the category to be displayed on the e-commerce website.
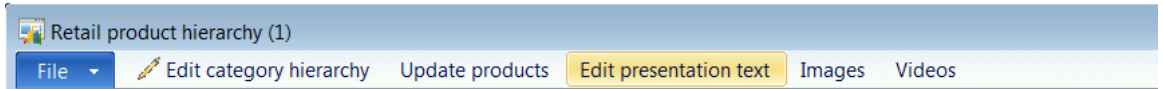


The **Catalog product presentation** form will open. Click **Edit** to open an editor to enter the presentation text.
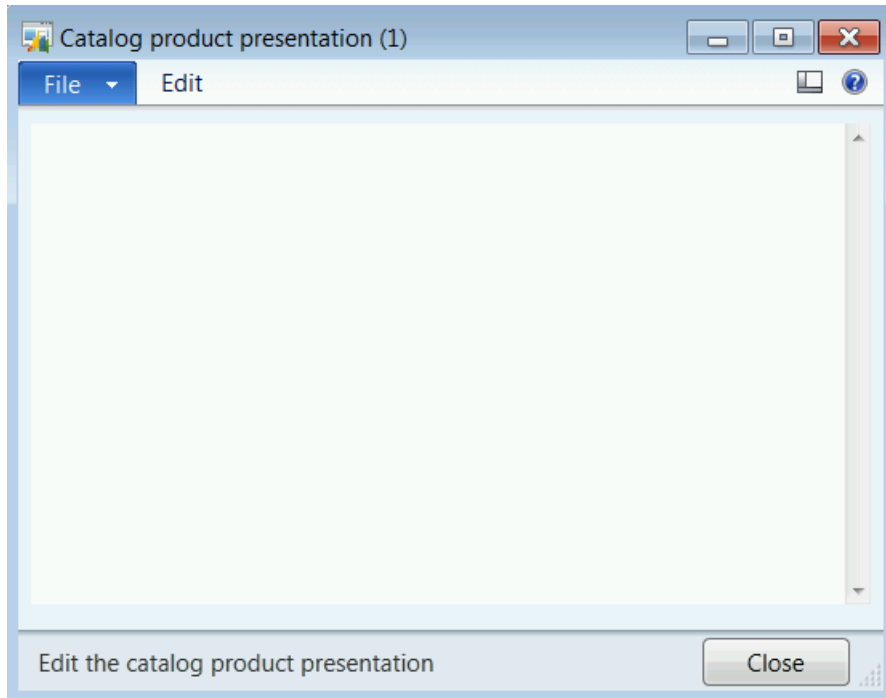


Click **File > Save** to save the changes to the presentation text.
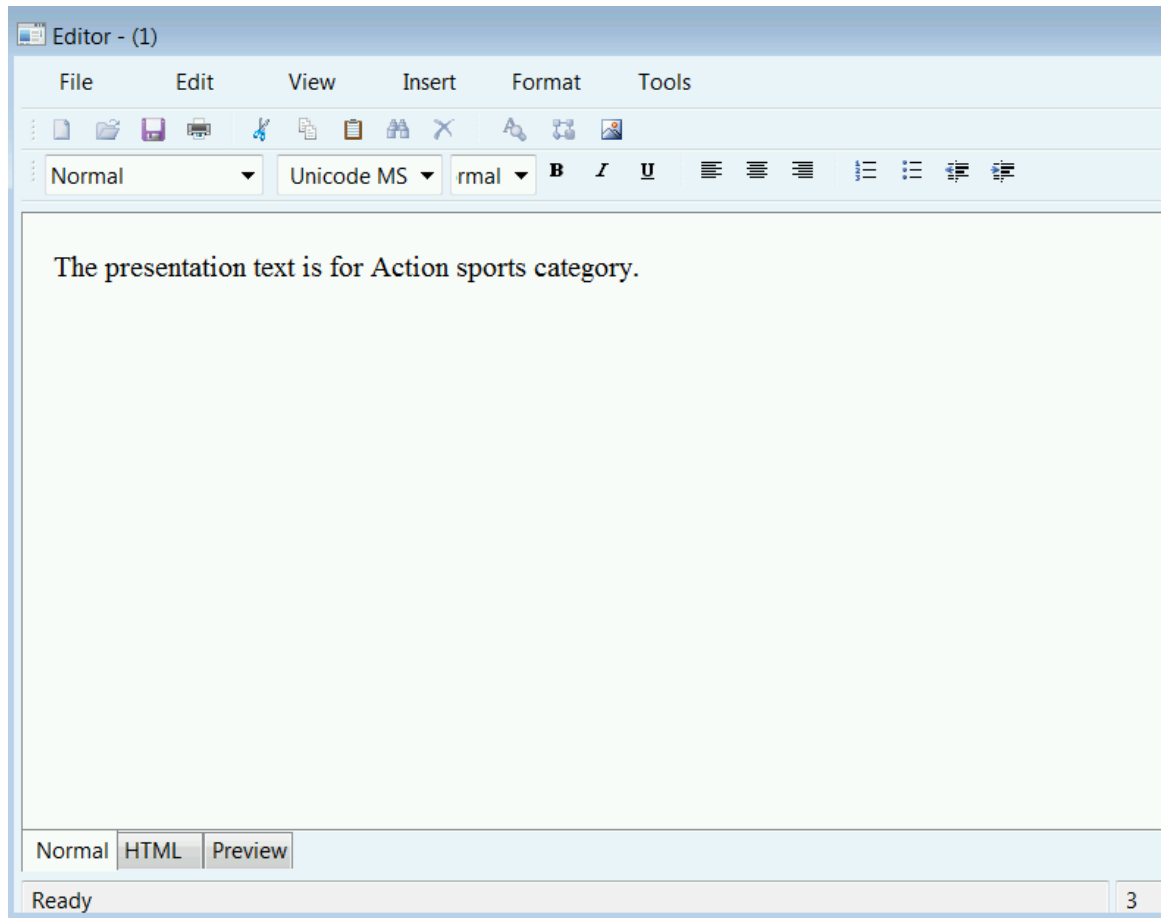
Close the **Catalog product presentation** from to save the changes.
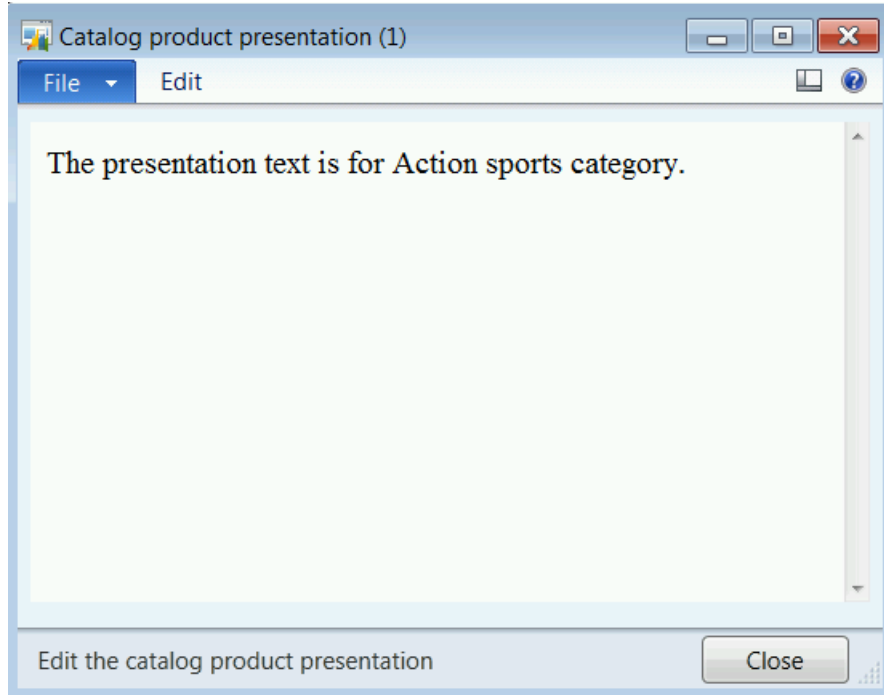
19. Click on **Images** to add multiple images for the selected category to display on the e-commerce website.
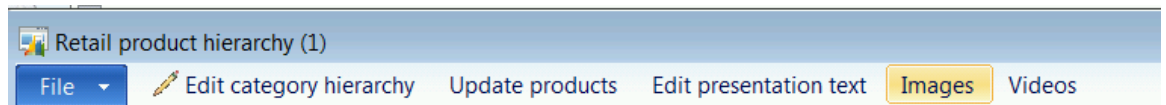


The **Images** form will open.
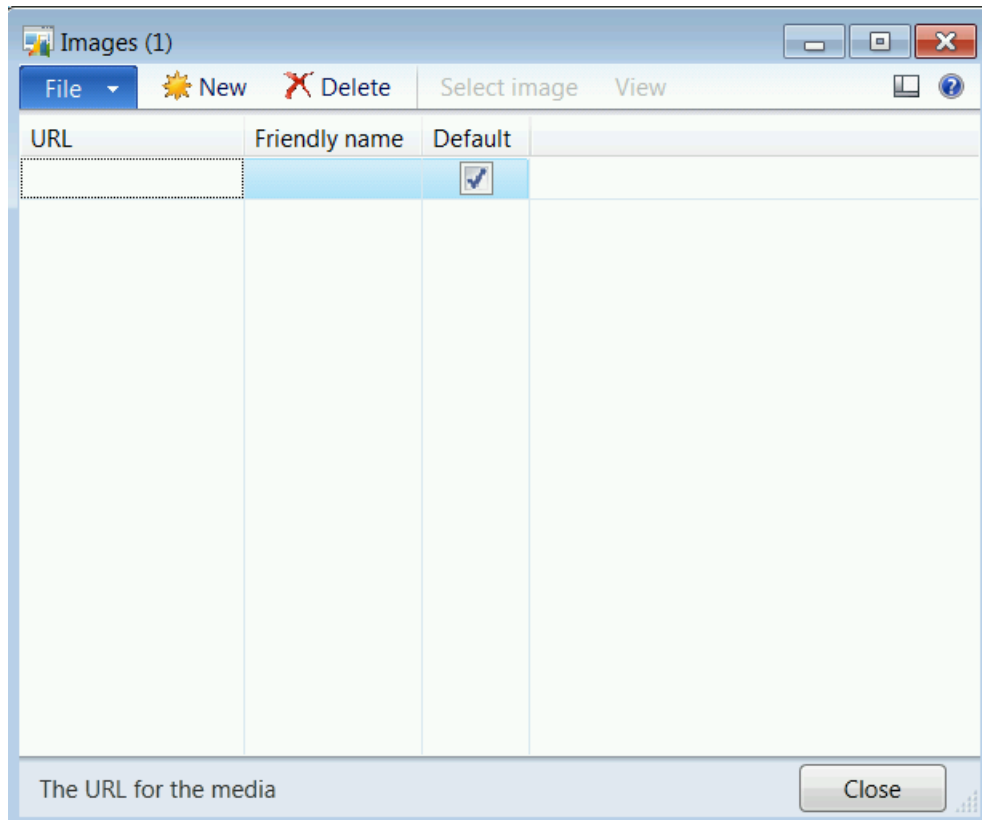
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

- Enter a **Friendly name** for the image.

- Select the **Default** check box if you wish to set the image as the default image for the category.

20. Click on **Videos** to add multiple videos for the selected category to display on the e-commerce website.
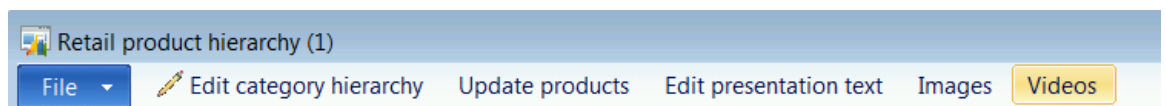


The **Videos** form opens.
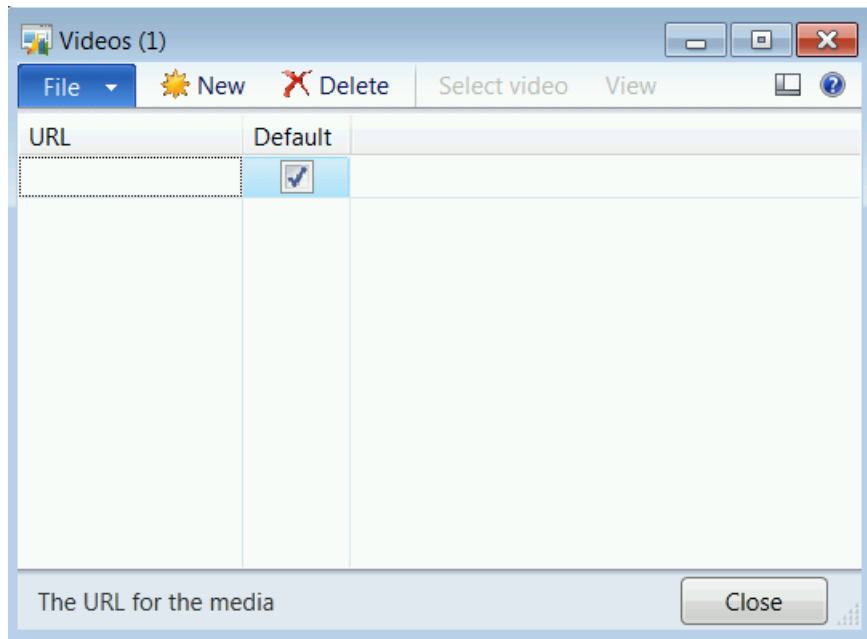
- Click on **New** to link a new image to the category.

- Enter the **URL** location of the new image.

Select the **Default** check box if you wish to set the image as the default image for the category.

## 9 ASSORTMENTS

**OVERVIEW**

In this module we will describe that an assortment is a collection of retail categories and, or products that are allocated as a range that is offered by an individual store or retail channels. Multiple assortments can be assigned to each store or a group of stores.

Range defines all the products that are offered by the store or the retail channel.

Typically, assortments are created as geographical locations to group stores based on the business requirements. To use the assortment setup, organization hierarchies must be created and assigned a retail assortment purpose.

### 9.1 SET UP THE ASSORTMENT

To set up the assortment, follow these steps.

1.  Click **Retail Headquarters** > **Common** > **Assortments**.
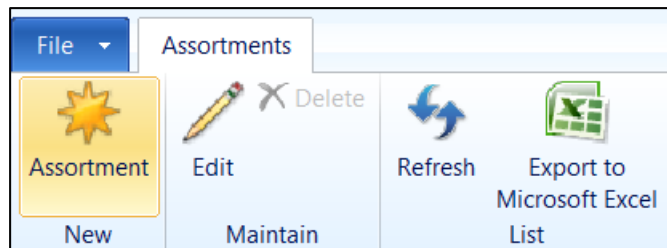


2.  To set up a new assortment, click **Assortment** in the **New** group of the **Assortments** FastTab.

3.  In the **General** FastTab, enter a unique assortment number.

4.  Enter the **Assortment name** for the newly created assortment.

5.  Enter the **Effective date** to display the date that the assortment will be effective in the retail stores that are identified.

6.  Enter the **Expiration date** to display the date that the assortment will expire.

    - The **Status** field displays the status of the assortment and it displays if the assortment is in draft mode or if the assortment is published.

    - The **Submitted date and time** shows the date and the time that the assortment is last submitted for publication.

- The **Modified date and time** shows the date and time that the assortment is last modified.



7. In the **Retail Channels** FastTab, to add stores to the assortment, click the **Add line** button and then follow these steps.



i.   Select the **Organization hierarchy** from the drop down list box.

- The **Available organization nodes** list is updated based on the selection.
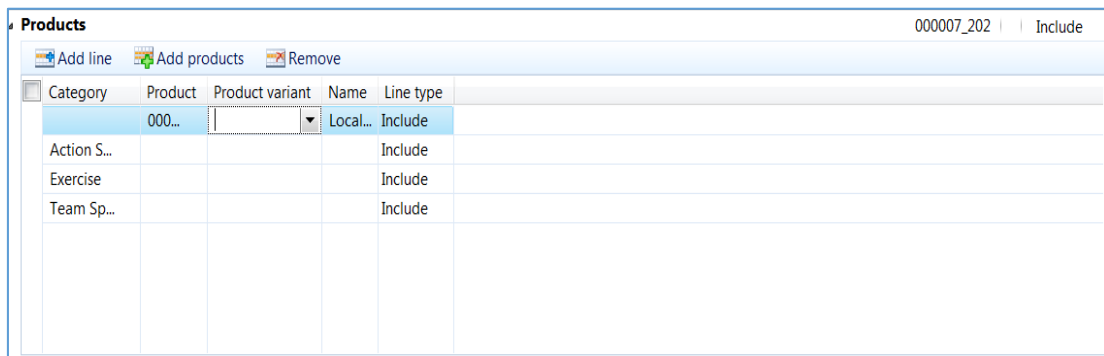
ii. Select the stores or the business unit from the left pane list and click the **Add** button to add to the **Selected organization nodes** list. Follow steps i to iii to add more nodes to the assortments.

iii. Click the **Close** button to confirm that more stores are added to the assortment.
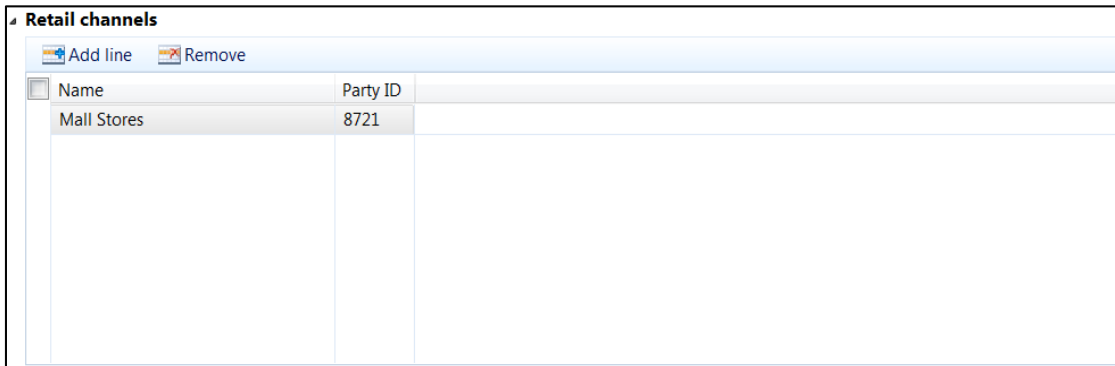


8. Under the **Products** FastTab, click the **Add line** button to add products to the assortment by using one of the following ways:

xiii. Click in the grid, press **CTRL+N**, and then select an item, variant, or group of items that is part of this assortment. Repeat this step for any additional items, variants, or groups of items.

xiv. Click the **Add line** button on the grid.

i. Select the retail product **Category** from the drop down list box if the assortment is obtained based on categories.
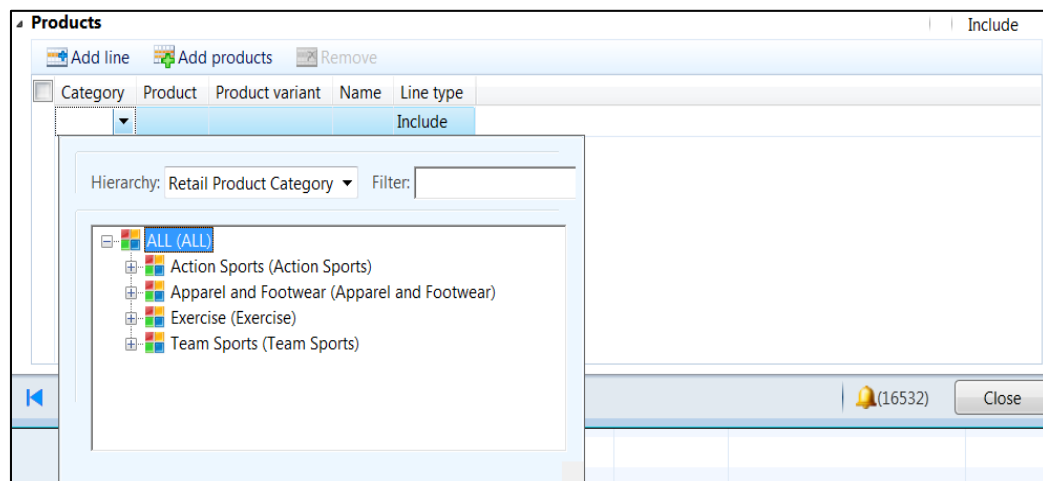
    ii.    Select the **Product** from the drop down list box if a specific product must be added to the assortment.

    iii.    Select the **Product variant** from the drop down list box if only a specific variant must be added to the assortment.

- The **Name** field is automatically populated based on the product selection.

    iv.    Select the **Line type** from the drop down list box. The options include the following:

- **Include**: Select to include the product or the category as part of the assortment.

- **Exclude**: Select to exclude the product or the category as part of the assortment.

    v.    Follow steps i. to v. to add more categories, products, variants, inclusions, and, or exclusions to the assortment.

| Products | | | | | 000007_202 | Include |
|----------|--------|-----------------|------|-----------|---|---|
| Add line | Add products | Remove | | | | |
| Category | Product | Product variant | Name | Line type | | |
| | 000... | ▼ | Local... | Include | | |
| Action S... | | | | Include | | |
| Exercise | | | | Include | | |
| Team Sp... | | | | Include | | |

    vi.    Another way to add multiple products to the assortment is to click the **Add products** button. As soon as you do this, click the **OK** button to add the selected products to the assortment.
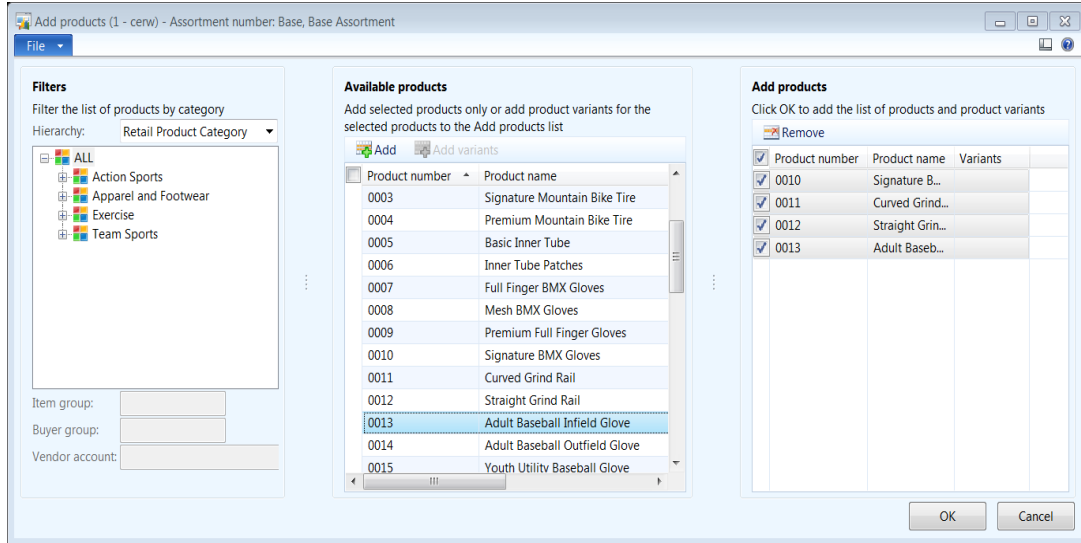
9. To activate the assortment, click **Publish** from the Maintain group on the **Assortments** FastTab.

✎ **Note**

Assortments will be effective at the retail stores based on the date that is set in the **Effective date** field. The assortment must be published for the changes to be sent to the retail stores.

The assortment must be published at least one time to perform the revert operation.
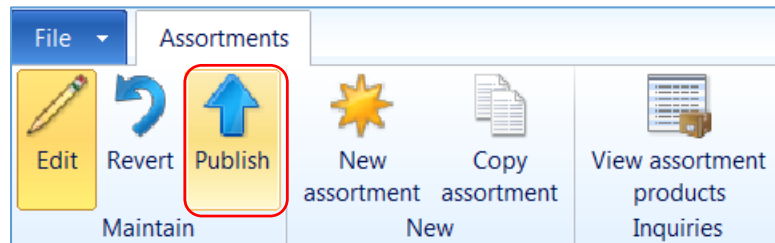


- A window opens to confirm that the assortment changes are published.

10. Click **Yes**.
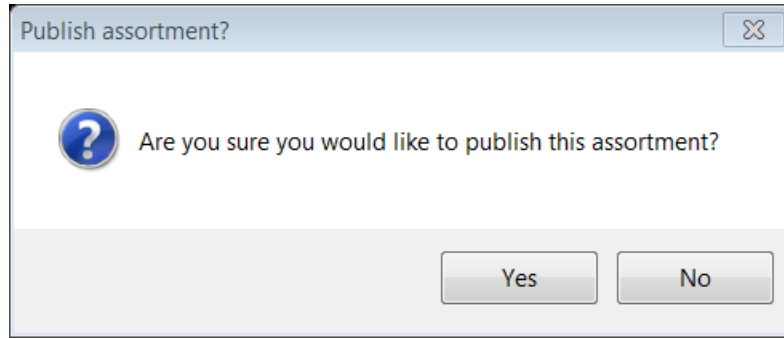
11. To revert the changes that are performed on the assortment, click the **Revert** button on the **Maintain** group of the **Assortments** FastTab. By doing this, all the changes that are made to the assortment are canceled, and the assortment is reverted to the last one that is published.
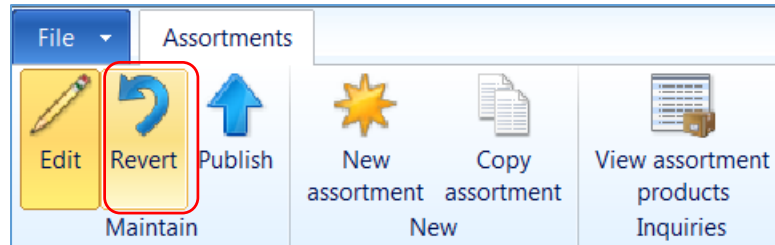


- A window opens to confirm the revert operation.

12. Click **Yes**.
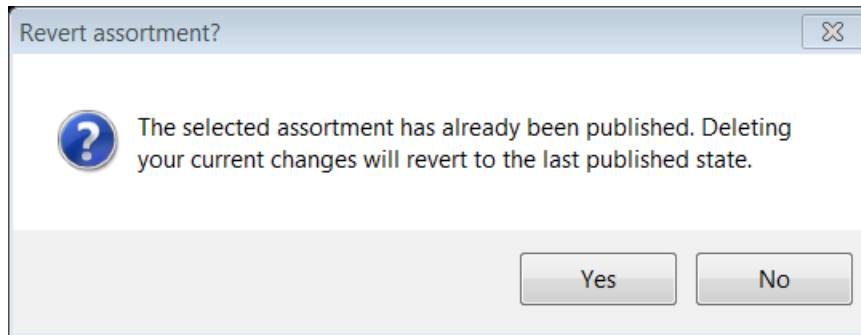


13. To view products that are assigned to the assortment, click **View assortment products** on the **Inquiries** group of the **Assortments** FastTab.
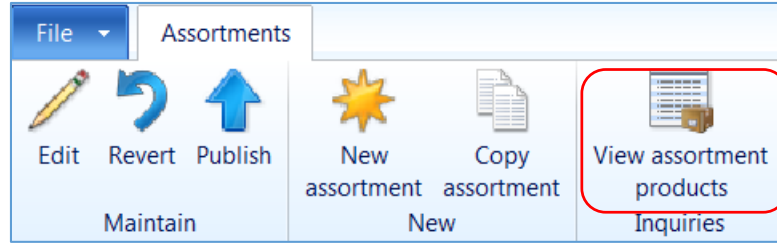
14. The **Products list** form opens with a list of products that are assigned to the assortment.



15. To create a new assortment from an existing assortment, click the **Copy assortment** button from the **New** group under the **Assortments** FastTab.
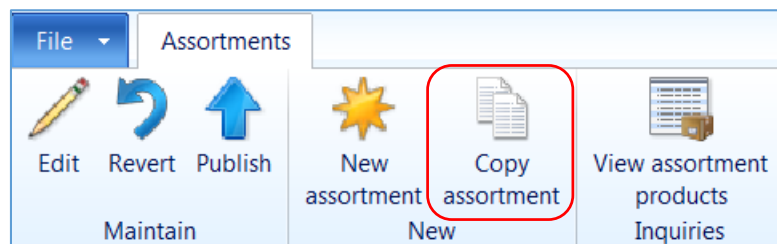
The copy assortment functionality creates a new assortment with a new unique assortment number. The new assortment includes the retail channels and the products that are copied and will be modified and published.

## 10 VARIANT

**OVERVIEW**

In this module we will learn a *variant* is a product with specific attributes that are called *dimensions*. Microsoft Dynamics AX includes three dimensions—Size, Color and Style. After you set up the size, color, and style dimensions, you organize the dimensions into dimension groups. For example, you might have a size group named *Men's Shoes* with specific sizes that are assigned to the group, or a color group named *Ladies Summer Colors* with colors such as *White, Pink, and Purple that are* assigned to this group.

You have products that are the **Product** or **Product master** subtype. After you define a product as a product master, you can create product variants that are based on the product master.

Product dimensions are characteristics that differentiate a product variant, such as the size, color, and style. You can use combinations of product dimensions to define product variants. To create a product variant, you must define at least one product dimension for a product master. You can also rename dimensions.

To create variants, follow these steps.

1. Create sizes, colors, and styles.
2. Create size, color and style groups.
3. Assign sizes, colors and styles to groups.

### Note

The variant group size, color and style can be assigned to a category as the default in the retail product hierarchy in the **Retail product properties** FastTab.

The variant for a product master can be assigned in the **Product details** form in the **Retail** FastTab.

To scan product variants at the Point-of-Sale (POS) level, each product variant must be set up with a bar code. However, if a variant is not set up with a bar code, the cashier can select the product by the variant so that the variant is processed at the POS level.

## 10.1  SIZES, COLORS, AND STYLES

To set up the size, follow these steps.

1.  To create sizes, click **Retail** > **Setup** > **Variant groups** > **Sizes**.
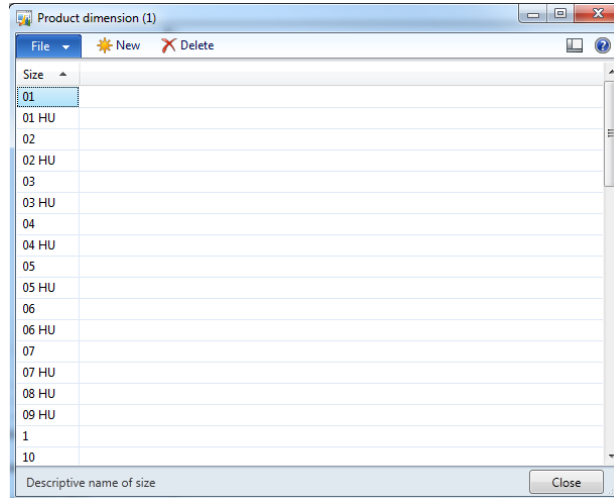


2.  In the **Product dimension** form, click **New** to create a new size.

3.  In the **Size** field, type the name of the size.

To set up the color, follow these steps.

1.  To create color, click **Retail** > **Setup** > **Variant groups** > **Color**.
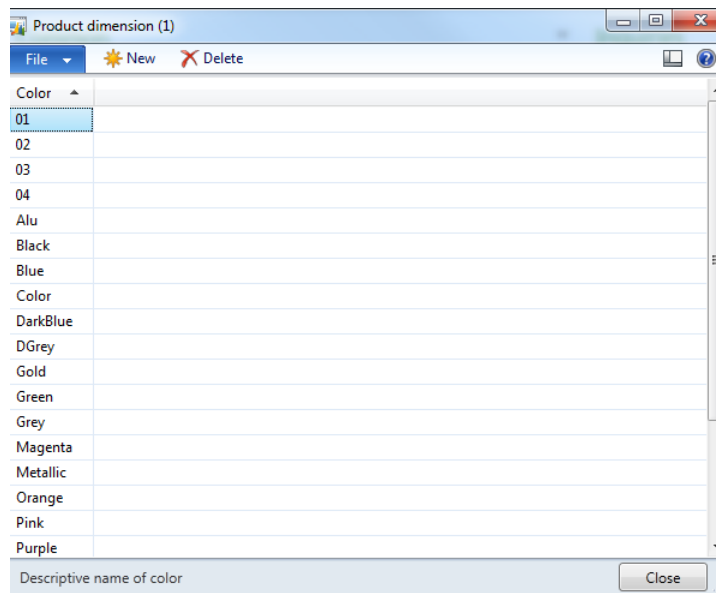
2. In the **Product dimension** form, click **New** to create a new color.

3. In the **Color** field, type the name of the color.

To set up the style, follow these steps.

1. To create the style, click **Retail** > **Setup** > **Variant groups** > **Style**.
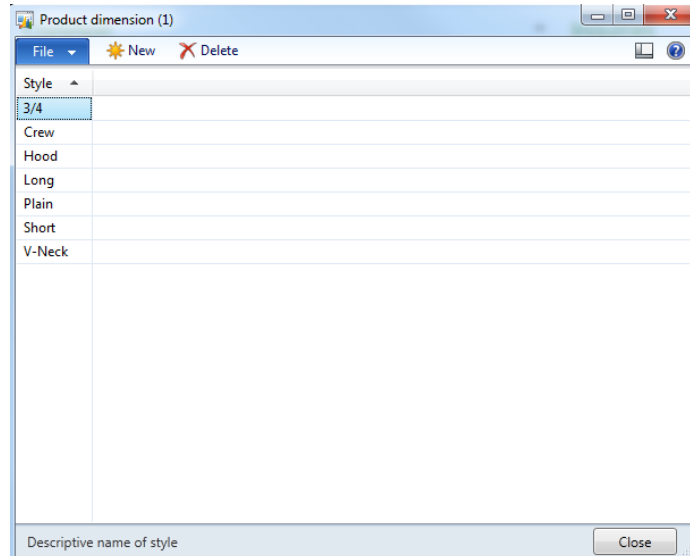


2. In the **Product dimension** form, click **New** to create a new style.

3. In the **Style** field, type the name of the style.

## 10.2 ASSIGN SIZES, COLORS AND STYLES TO THE DIMENSION GROUPS

The dimension group (size, color or style) can be assigned directly to a product or to a category in a retail product hierarchy. After a new product is created and assigned to a category in the retail product hierarchy, the product inherits the variant that is assigned to the category. The variant setting can be edited at the product level.

To edit the variant setting at the product level, follow these steps.

1. Click **Retail** > **Setup** > **Category hierarchies** > **Retail product hierarchy**> **Select Category** and click the **Retail product properties** FastTab by hierarchy level.
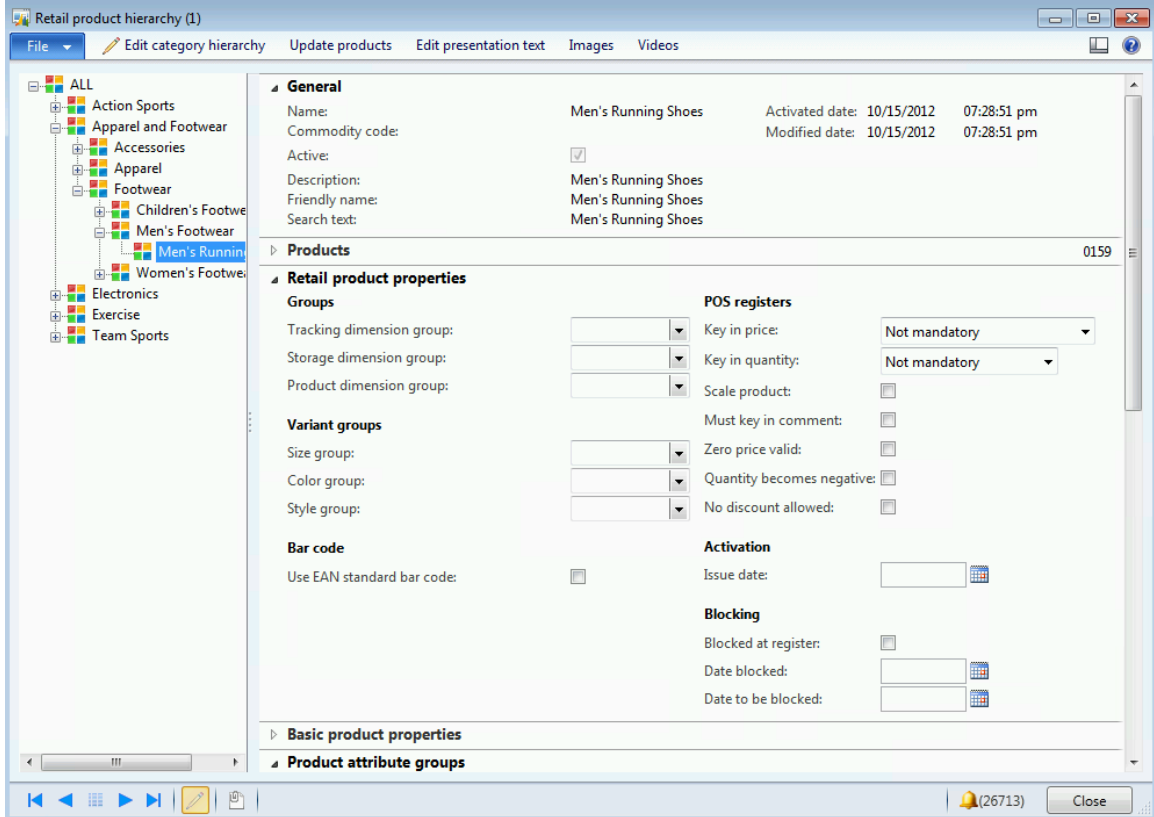
2.  Click **Retail** > **Setup** > **Variant groups** > **Size group**.
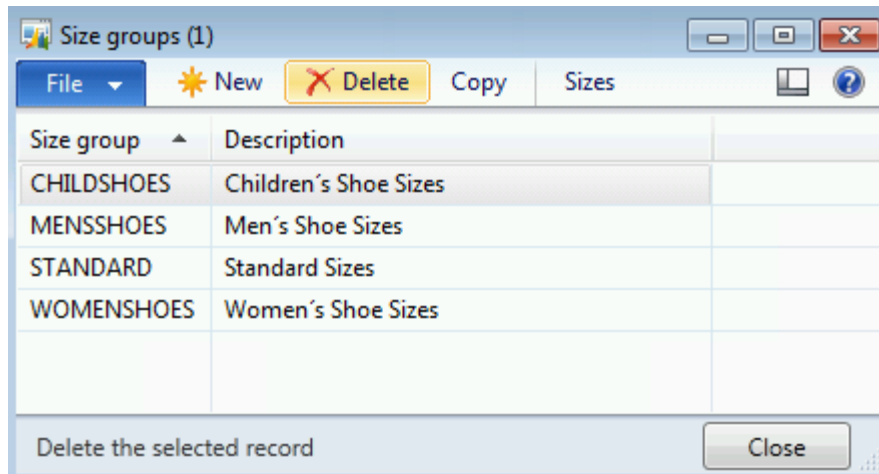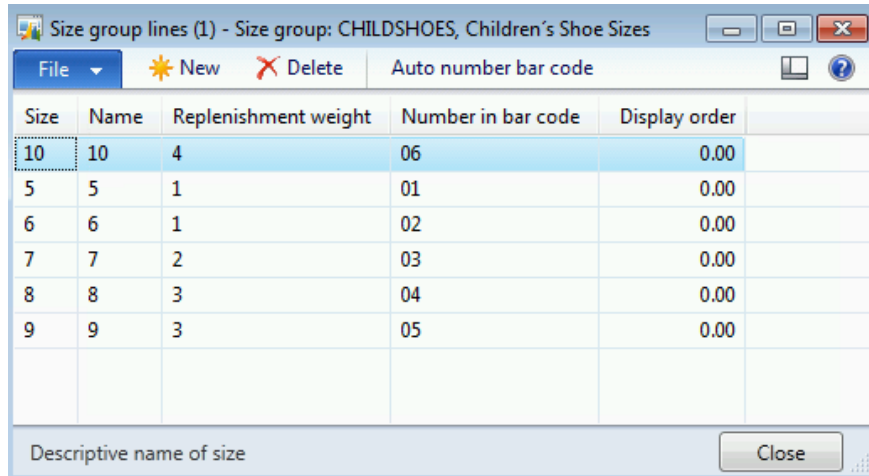


3.  In the **Size groups** form, click **New** to create a new group.

4.  In the **Size group** field, type an ID number for the group.

5.  In the **Description** field, type a description of the group.

6.  Click **Copy** to copy an existing sizing group. This automatically copies the sizes in the size group that is being copied. It requires a unique size group name.

7.  Click **Sizes** to select sizes to add to the size group.



8.  Click **New** to create a new record.

9.  In the **Size** field, select the size that you want.

    The **Name** field displays the name of the size, color, or style.

10. In the **Replenishment weight** field, specify how many of this variant are replenished in relation to the other variants. For example, you can order three size 8 shoes for every size 5 shoe you order.

11. In the **Number in bar code** field, type the number that is automatically assigned to the group after the bar codes are created for the variants.

12. In the **Display order** field, type the number that shows the order for the display.

13. Repeat steps 6 through 11 to add other sizes, colors, or styles to the group.

14. As soon as you receive the message to update all items in the group, click **Yes**.

The **Auto number bar code** automatically numbers all the numbers in the **Number in bar code** column sequentially with as many leading zeros as might be required.

## 10.3 ASSIGN DIMENSION GROUPS TO THE RETAIL CATEGORY

Dimension groups can be assigned to retail categories. The dimension groups are inherited by the products after the dimension groups are assigned to a retail category.

Based on the allocated dimensions for a product master, a variant suggestion can be used to create variant combinations.

To create variant combinations, follow these steps.

1. Click **Retail** > **Setup** > **Category Hierarchies** > **Retail Product Hierarchy**.

2. Select the category in the hierarchy to allocate variants.

3. On the **Retail product properties** FastTab, under **Variant groups**, select a group in the **Size group**, **Color group**, and **Style group** fields.
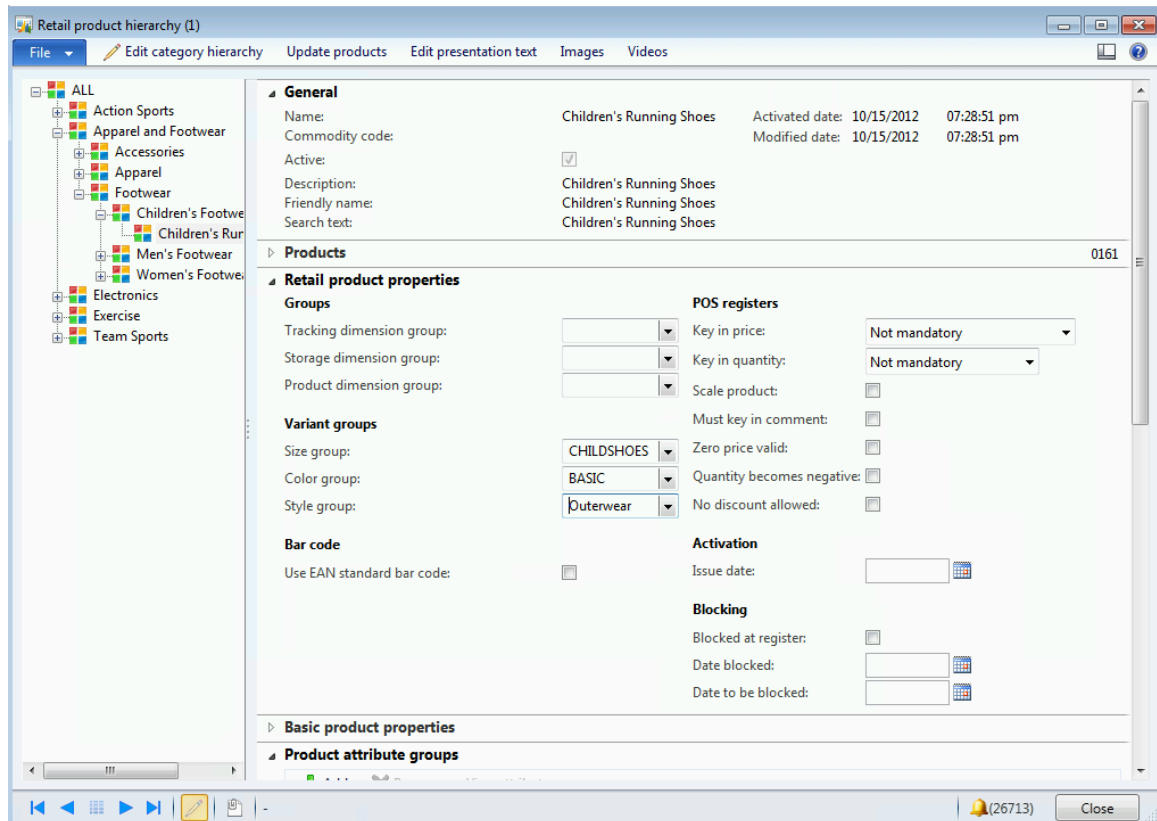
## 10.4 ASSIGN VARIANT TO A PRODUCT

In scenarios where the retail product hierarchy is not used or variant/dimension groups are not allocated to a retail category, the Variant (Dimensions) groups must be assigned directly to a product. The sizes, colors, and styles in the dimension groups are then automatically associated with the product.

To add a dimension group, follow these steps.

1. Click **Retail** > **Common** > **Products** > **Released products by category**.

2. In the **Released product details** form, select the product to add a dimension group to. Then, on the Action Pane, in the **Maintain** group, click **Edit**.

3. In the second **Released product details** form, on the **Retail** FastTab, in the **Variant field**, select an appropriate dimension group in the **Size group:**, **Color group:**, and **Style group:** fields.

You can view or modify the sizes, colors, and styles of a product. On the **General** FastTab, view or modify the values in the **Size**, **Color**, and **Style** fields.

## 10.5 DEFINE PRODUCTS AND CREATE PRODUCT VARIANTS

You define products from the following locations:

- **Products** – Use this list page to define products that are the **Product** subtype.

- **Product masters** – Use this list page to define products that are the **Product master** subtype.

- **All products and product masters** – Use this list page to define products that are both subtypes.

- **Product details** – Use this form to create a detailed product definition. For example, for a product master, you can specify new variants to be generated at the time when new dimensions are associated with the product master.

  **Tip:** To open the **Product details** form, define a product on the **Products**, **Product masters**, or **All products and product masters** list page. Then, on the Action Pane, in the **Maintain** group, click **Edit**.

- **Released products** – Use this list page to create product definitions and release product definitions.

## Note

If you use this list page to create a product definition, you can specify information, such as the item model group, when you create the product definition. However, for example, if you create a product definition in the **Products** list page, and then release the product definition to a company, you must add the item model group to the product after the product release.

# 11 PRODUCT - ORDER CREATION AND VENDOR SETUP

**OVERVIEW**

In this module we will describe the vendor sales margin, and vendor product numbers and the reasons why this set up in important.

**Vendor sales price margins**

The vendor sales price margin contains a formula that converts the vendor's suggested retail price or the vendor's purchase price into a sales price in local currency. This method is only used if an entry in the vendor's sales price points does not exist for the item. The sales price margin calculation is applicable to product catalogue import process and doesn't get calculated during manual product creation.

### ☑ Note

If no suggested retail price in the item line is being imported to the journal, the sales price can be calculated based on the purchase price. Retail uses this form to calculate the sales price.

For vendor sales price margin set up to work, vendor category must be mapped to a retail category in the retail product hierarchy form.

**Set up a vendor sales price margin**
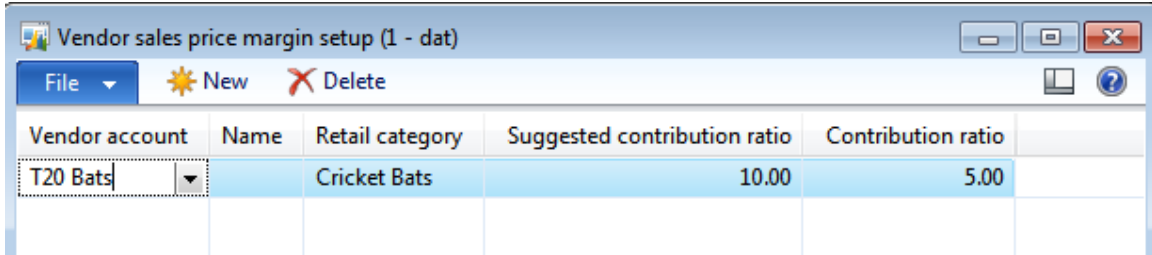
1. Click **Retail > Setup > Product/Order creation > Vendor sales price margin setup**.

2. Click **New** to create a new vendor sales price margin setup.

**Vendor sales price margin setup form**

**Overview tab**

- **Vendor account** – Select a vendor account from the drop down list.

- **Name** – The name of the vendor selected in the **Vendor account** column.

- **Retail category** – Select a category from the retail product hierarchy list.

- **Suggested contribution ratio** – The suggested factor from the vendor that is used for calculating the sales price of a product.

- **Contribution ratio** – Enter a contribution ratio to be used to calculate the sales price for the product.



## 11.1 VENDOR SALES PRICE POINT SET-UP

**Vendor sales price points**

The vendor sales price point setup contains the conversion of the vendor's suggested retail price to the sales price in the local currency. The sales price point calculation is applicable to product catalogue import process and doesn't get calculated during manual product creation.

### ☑ **Note**

For vendor sales price margin set up to work, vendor category must be mapped to a retail category in the retail product hierarchy form.
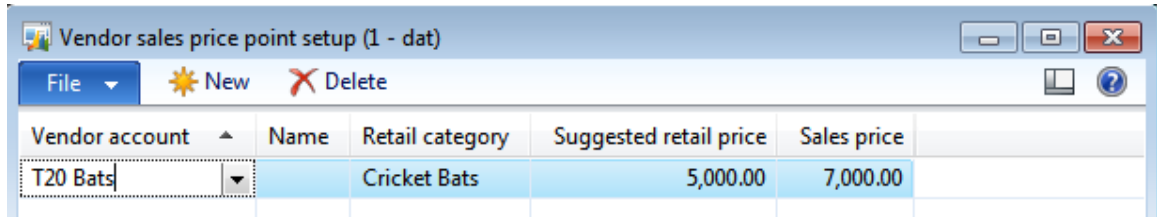
**Set up vendor sales price points**

1. Click **Retail > Setup > Product/Order creation > Vendor sales price point setup**.
2. Click **New** to create a new vendor sales price points.

**Vendor sales price point setup form**

**Overview tab**

- i. **Vendor account** – Select the vendor account from the drop down list.
- **Name** – The name of the vendor selected in the **Vendor account** column.
- **Retail category** – Select the retail category from the drop down list.
- **Suggested retail price** – The factor that is used for calculating the sales price.
- **Sales price** –The price at which the product is sold.

## 11.2 VENDORS PRODUCT NUMBERS

**Vendor item numbers**

The vendor product number is classified as an external number for products in Dynamics AX for Retail. This external item number is associated with the product number created in Dynamics AX for Retail.

Invoices can be printed with item numbers and descriptions that are specific to a particular recipient.

The external item number(s) can be set up for a specific vendor, including the variants associated with the product master.

**Set up a vendor's item number**

1. Click **Retail > Setup > Product/Order creation > Vendor's product numbers.**
2. Select an external item number or click **New** to create a new vendor product number.

Follow the steps below to enter create external item numbers:

**External item descriptions form**

**Overview Tab**

- **External item number** – Enter the vendor product number to be assigned to an existing product in Dynamics AX for Retail.
- **Item number** – Select a product from the drop down list that maps to the vendor external number.
- **Product name** – The name of the product selected.
- **Vendor** – Select the name of the vendor from the drop down list.
- **Name** – The name field displays the name of the vendor selected.

**General Tab**

- **Enter the External item text that will be printed on the vendor invoice.**
- **Under Description area select an ABC code from the drop down list.**
- **Enter a Description regarding the ABC classification.**

- **Under Inventory dimensions area product, tracking and storage dimension information are displayed.**
- **Configuration** – The configurations for on-hand inventory items and BOM items.
- **Size** – Displays the size variant of the product.
- **Color** – Displays the color variant of the product.
- **Style** – Displays the style variant of the product.
- **Site** – The default site number assigned to the product.
- **Warehouse** – The default warehouse number assigned to the product.
- **Batch number** – The batch number assigned if the item is a serialized product.
- **Location** – The location of the product.
- **Pallet ID** – The pallet ID the product belongs to.
- **Serial number** – The serial number assigned to a product of type serialized product.

## 12 PRICING AND DISCOUNT GROUPS

**OVERVIEW**

In this module we will discuss that *retail price group can be defined for retail channels. The retail price group includes the products that have defined retail prices or discounts.* You can use price groups to offer an item at different prices to different groups of retail channels.

### ☑ Note

Prices in price groups are distributed with trade agreements.

### 12.1.1CREATE A RETAIL PRICE GROUP

To create a new retail price group, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Retail price groups.** The **Retail price group** form opens.

2. Click **New** to create a new retail price group.

3. In **Price groups**, enter the **Price groups** ID. This ID is a unique code for the retail price group.

4. In **Name,** enter the **Name** of the retail price group.

5. In **Is retail group,** select the check box to specify that the price group is a retail price group.

   The following topic describes how to add products and define pricing to the retail price group.

## 12.1.2CREATE THE RETAIL TRADE AGREEMENT

To create the retail trade agreement for a retail price group, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Retail price groups**. The **Retail price group** form opens.

2. Select the price group to create the trade agreement.

3. Click **trade agreement** and then click **Trade agreements > Create trade agreements**.
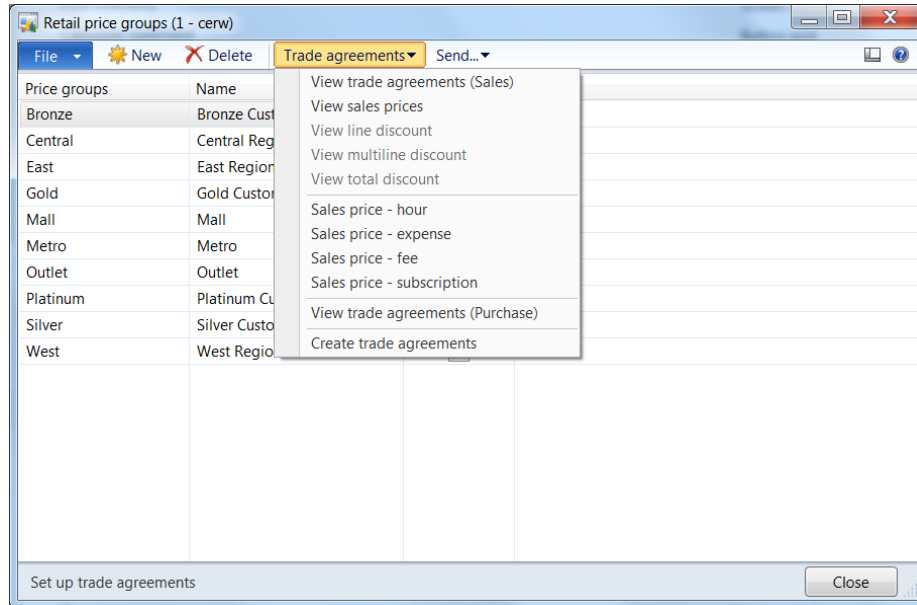
- The **Price/discount agreement journals** form opens.

4. Select the **Name** of the agreement journal from the drop down list box.

- The **Price/discount journal number** will be auto-generated based on the number sequence.

5. Enter the **Name** of the agreement journal.

- The **Posted** check box specifies if the agreement journal is posted.
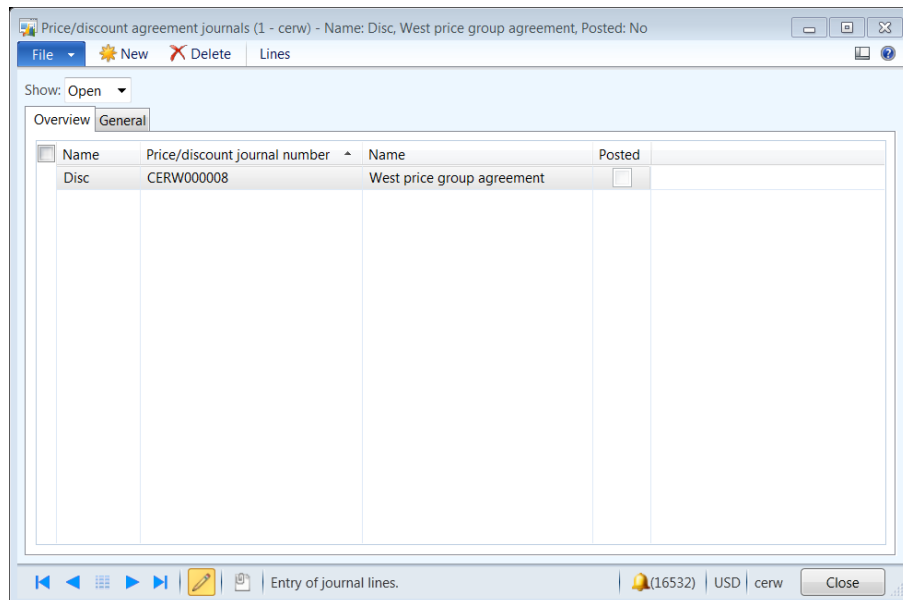
6.  Click **Lines** on the top tool bar to add lines to the agreement journal. The **Journal lines form** opens.

7.  On the **Overview** tab, select the **Relation** from the drop down list box. The relation defines the type of price that is being defined for the customer, vendor or products. The options include the following:
    i.      **Price (purch.):** Use this relation to create standard vendor pricing for the vendor or vendor groups that are specific to products or price groups.
    ii.     **Line disc. (purch.):** Use this relation to create line level discount pricing for the vendor or vendor groups that are specific to products or price groups.
    iii.    **Multiline disc. (purch.):** Use this relation to create multi-line discount pricing for the vendor or vendor groups that are specific to products or price groups.
    iv.     **Total disc. (purch.):** Use this relation to create total discount pricing for the vendor or vendor groups that are specific to products or price groups.
    v.      **Price (sales):** Use this relation to create standard customer pricing for the customer or customer groups that are specific to products or price groups.
    vi.     **Line discount (sales):** Use this relation to create line level discount pricing for the customer or customer groups that are specific to products or price groups.
    vii.    **Multiline disc. (sales):** Use this relation to create multi-line discount pricing for the customer or customer groups that are specific to products or price groups.
    viii.   **Total disc. (sales):** Use this relation to create total discount pricing for the customer or customer groups that are specific to products or price groups.
8.  Select the **Account code** from the drop down list box. The options include the following:
    i.      **Table:** Used to select an individual customer or vendor based on the relation that is selected.
    ii.     **Group:** Used to select a customer group or vendor group based on the relation that is selected.
    iii.    **All:** Offers the price to all customers or vendors based on the relation that is selected.
9.  Select the **Account selection** from the drop down list box. The list differs based on the relation and the account code selection.
10. Select the **Item code** from the drop down list box. The options include the following:
    i.      **Table:** Used to select an individual product.
    ii.     **Group:** Used to select price groups.

      **iii.**     **All:** Applies the price changes to all the products.

11. Select the **Item selection** from the drop down list box. The list differs based on the item code selection.

12. Select the **Configuration** product dimension value if the product selected is a variant.

13. Select the **Size** product dimension value if the product selected is a variant.

14. Select the **Color** product dimension value if the product selected is a variant.

15. Select the **Style** product dimension value if the product selected is a variant.

16. Select the **Site** from the drop down list box.

17. Select the **From** quantity to specify the lower range to apply to the product pricing.

18. Select the **To** quantity to specify the higher range to apply to the product pricing.

19. Select the **Unit** of measure of the product from the drop down list box.

20. Enter the **Amount in currency** for the price of the product.

21. Select the **Currency** in which the amount is specified.

- The **Dimension validation** field specifies if the dimensions for the product are valid.

- The **Trade agreement validation** field specifies if the trade agreement is validated.
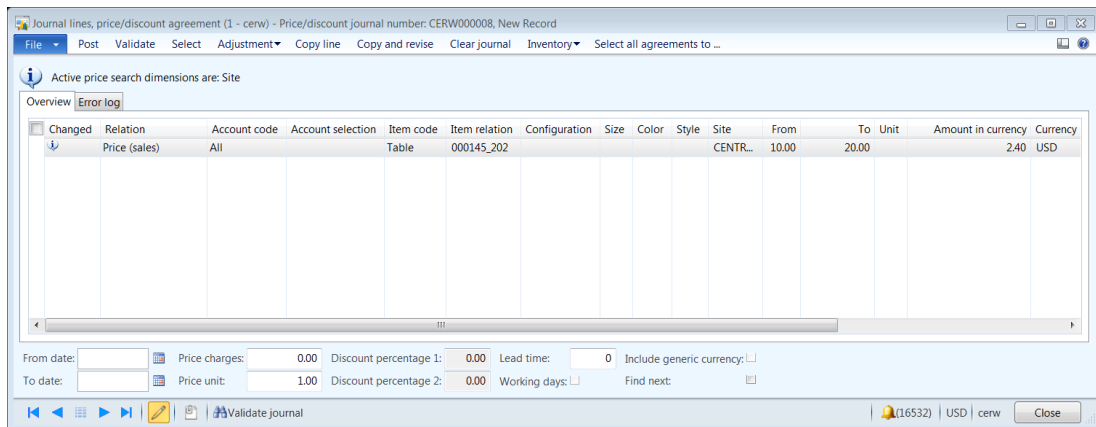


22. Click **Validate** on the top tool bar to validate if all the mandatory fields are populated. A message is displayed and the message states if the validation is successful or it is not successful.
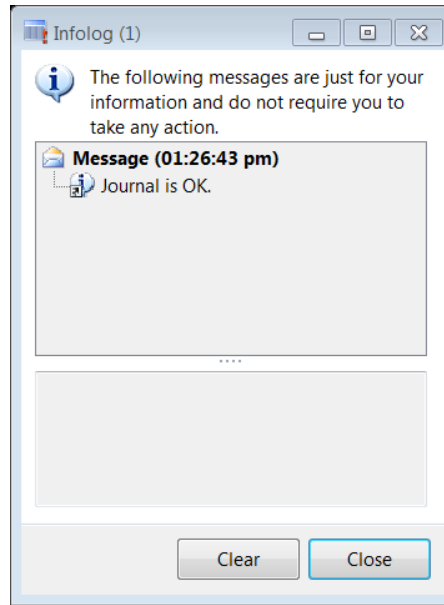
**23.** Click **Post** on the top tool bar to post the price group additions.

- A message is displayed and the message confirms if the agreement journal posted.
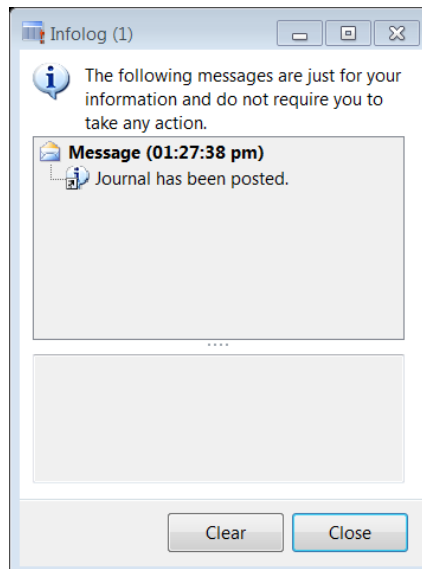
## 12.1.3 VIEW TRADE AGREEMENTS

To view trade agreements for both sales and purchasing for the retail price group, follow these steps.

1. Click **Retail -> Setup -> Pricing and discount -> Retail price groups.** The retail price group form opens.

2. Select the price group to create the trade agreement.

3. Click **Trade agreements > View trade agreements (Sales)**.
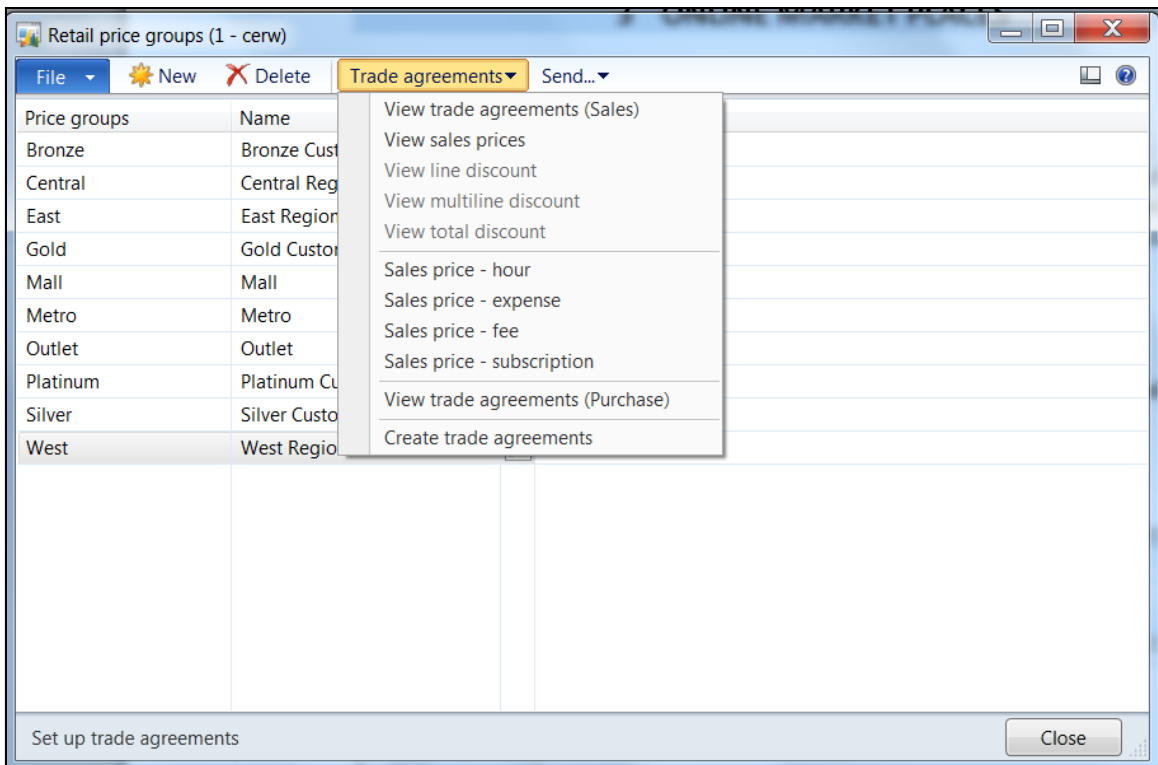


📝 Note

The discount trade agreements are not available because the retail price groups are created to define normal sales and purchase pricing for the retail stores.

- The **View trade agreements** form opens.

- The form displays a list of relations, item details and the pricing for the products.
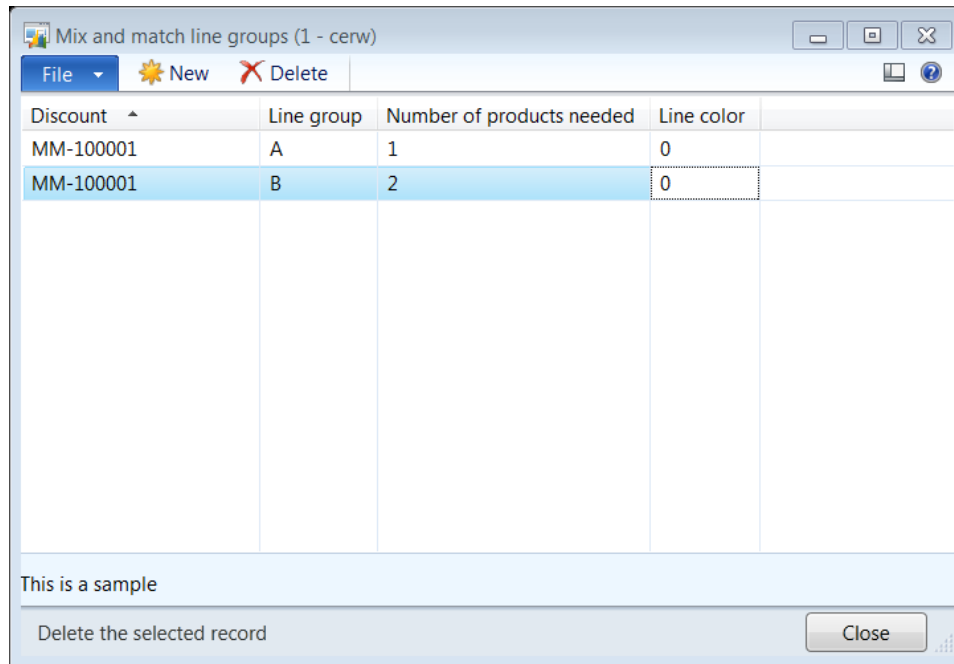
## 12.2 MIX MATCH LINE GROUPS

The mix and match line groups is used to associate line groups with mix and match promotions. Additionally, the mix and match line groups are used to define the combination of products that are required to qualify for the discounted price at the retail channels.

To link mix and match promotions with groups, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Mix and match line group.** The **Mix and match line group** form opens.
2. Click New to create a new mix and match group.
3. Select the mix and match **Discount** from the drop down list box.
4. Select the **Line group** from the drop down list box.
5. Enter the **Number of products needed** to specify the quantity that must be purchased by the customer to qualify for the discount offer.
- The **Line color** is auto-populated based on the line group that is selected.

☑ **Note**

Discounts are not affected by the Line color column if the discounts are not being used to visually differentiate the products that are allocated to specific line groups.

## 12.3 MIX AND MATCH LINE GROUP SET UP

The mix and match line group set up is used to create templates for the number of products that are required as a combination to qualify for discount offers.

To set up mix and match line groups, click **Retail > Setup > Pricing and discount > Mix and match line group set up**. The **Mix and match line group setup** form opens.

To create a new mix and match line group, follow these steps.

1. Click **New** to create a new mix and match group.
2. Enter the **Line group** number for the mix and match group.
3. Enter the **Number of products needed** to qualify for the discount.
4. Click the **Line color** to open the color cue list to select a color for the line group.



### Note

Discounts are not affected by the Line color column, if the discounts are not being used to visually differentiate between products that are allocated to specific line groups.

## 12.4 DISCOUNT PERIOD

Discount periods are used to define the specific time periods that the discounted prices can be offered at the retail channels. The discount periods that are created can be assigned to quantity discounts and mix and match promotions to define the period and time that the discount prices will be offered at the retail channels.

The time period can be specified by using a start date and an end date, or specific days of the week and specific times in a day.

To setup discount periods, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Discount period**. The **Discount period** form opens.
2. Click **New** to create the new discount period.
3. Enter the **Discount period number** for the new discount that is created.
4. Enter a **Description** for the discount period.
5. In the **General** FastTab, in the **Period** area, enter the **Start Date** to specify a starting date for the discount period.
6. Enter the **End date** to specify an ending date for the discount period.
7. Enter the **Starting time** to specify when the discount period will start.
8. Enter the **Ending time** to specify when the discount period will finish.
9. Select the **Time within bounds** check box to specify that the discount offer is within the time period of the start date and the end date. If the time in the **Bounds** check box is not selected, then the discount offer will continue to be offered after the start date and the end date that is specified.
10. Select the **Ending time after midnight** check box to specify that the discount offer ends at midnight every day or on the end date that is specified.
11. The **Dates within bounds** area is controlled by the section underneath. This section specifies if the offer is within the limits of the starting time and the specific end date.



12. In the **Monday** area, enter the **Starting time** of the discount.

13. Enter the **Ending time** of the discount.
14. Select the **Time within bounds** check box to include Monday in the period that will be within the limits of the time that is specified.
15. Select the **Ending time after midnight** to specify that the discount period ends after midnight.

⊿ **Monday**
**Period**
Starting time:      02:00:00 pm
Ending time:      04:00:00 pm
Time within bounds:   ✔
Ending time after midnight: ☐

16. In the **Tuesday** area, enter the **Starting time** of the discount.
17. Enter the **Ending time** of the discount.
18. Select the **Time within bounds** check box to include Tuesday in the period that will be within the limits of the time that is specified.

19. Select the **Ending time after midnight** to specify the discount period ends after midnight.

⊿ **Tuesday**
**Period**
Starting time:      02:00:00 pm
Ending time:      04:00:00 pm
Time within bounds:   ✔
Ending time after midnight: ☐

20. In the **Wednesday** area, enter the **Starting time** of the discount.
21. Enter the **Ending time** of the discount.
22. Select the **Time within bounds** check box to include Wednesday in the period that will be within the limits of the time that is specified.
23. Select the **Ending time after midnight** to specify that the discount period ends after midnight.

⊿ **Wednesday**
**Period**
Starting time:      02:00:00 pm
Ending time:      04:00:00 pm
Time within bounds:   ✔
Ending time after midnight: ☐

24. In the **Thursday** area, enter the **Starting time** of the discount.
25. Enter the **Ending time** of the discount.

26. Select the **Time within bounds** check box to include Thursday in the period that will be within the limits of the time that is specified.
27. Select the **Ending time after midnight** to specify that the discount period ends after midnight.

```
◢ Thursday
  Period
  Starting time:            02:00:00 pm
  Ending time:              04:00:00 pm
  Time within bounds:       ☑
  Ending time after midnight: ☐
```

28. In the **Friday** area, enter the **Starting time** of the discount.
29. Enter the **Ending time** of the discount.
30. Select the **Time within bounds** check box to include Friday in the period that will be within the limits of the time that is specified.
31. Check the **Ending time after midnight** to specify the discount period ends after midnight.

```
◢ Friday
  Period
  Starting time:            02:00:00 pm
  Ending time:              04:00:00 pm
  Time within bounds:       ☑
  Ending time after midnight: ☐
```

32. In the **Saturday** area, enter the **Starting time** of the discount.
33. Enter the **Ending time** of the discount.
34. Select the **Time within bounds** check box to include Saturday in the period that will be within the limits of the time that are specified.
35. Select the **Ending time after midnight** to specify the discount period ends after midnight.

```
◢ Saturday
  Period
  Starting time:            12:00:00 pm
  Ending time:              04:00:00 pm
  Time within bounds:       ☑
  Ending time after midnight: ☐
```

36. In the **Sunday** area, enter the **Starting time** of the discount.
37. Enter the **Ending time** of the discount.
38. Select the **Time within bounds** check box to include Sunday in the period that will be within the limits of the time that is specified.
39. Select the **Ending time after midnight** to specify the discount period ends after midnight.

## 12.5 ROUNDING METHOD GROUP

The Rounding Method Group is used to group different types of rounding methods for pricing and discounts.

To set up discount periods, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Rounding Method Group**. The Rounding method group form opens.
2. Click **New** to create a new round method groups.
3. Enter the **Rounding group number** for the new group that is created.
4. Enter a **Description** for the rounding method group.
5. Click **Rounding Method** to add rounding methods to the group.
6. Click **New** to create the new record.
7. Enter the **Minimum amount** that is required for the rounding to take effect.
8. Enter the value in **Added before** for a transaction to which the rounded method is rounded. For example, if you want Microsoft Dynamics AX for Retail to round an amount to a number that has no decimal places, enter 1.0 in this field. If you want Microsoft Dynamics AX for Retail to round an amount to two decimal places, enter 0.01 in this field.
9. Enter the **Type** of rounding. The options include **Up**, **Down** and **Nearest**.
10. Enter the **Precision** amount that is required for the rounding.
11. Enter the value in **Added after** that a transaction for the rounded method is rounded to.
12. Repeat steps 3 through 11 to add other rounding methods for this rounding method group.
    - 
    -

## 12.6 PRICE POINT GROUP

Price Point Groups are used to define specific price points, if rounding occurs.

To set up Price Point groups, follow these steps.

1. Click **Retail > Setup > Pricing and discount > Price Point Group**. The **Price Point Group** form opens.
2. Click **New** to create the new Price Point Group.
3. Enter the **Price Point Group Number** for the new discount that is created.
4. Enter a **Description** for the Price Point Group.
5. Enter the **Default rounding** to specify how to round the Price Point Group. The options include **Up**, **Down**, and **Nearest**.
6. Enter the **Price** points to specify when the Price Point Group will be affected.

## 13  BAR CODES AND LABELS

**OVERVIEW**

In this module we will learn how bar codes are unique codes allocated to products that are used to assist cashiers to sell, track and replenish products at a retail channel. You can also use bar codes to issue and endorse coupons, gift cards and credit memos.

Bar codes can be set up to have standard or custom formats based on the business requirements. Bar codes can represent the unique codes of a product that is assigned by various manufacturers or by the variant information, based on size, color or style. Additionally, bar codes can include the weight or the price of a product.

In Microsoft Dynamics AX for Retail products can be assigned to multiple bar codes. Bar code masks are defined and specify the template that is used to generate bar codes.

🖉 **Note**

For product variants to be scanned at the Microsoft Dynamics AX for Retail Point-of-Sale (POS) level each product variant must be set up with a bar code. If no bar code is set up by variant, the cashier can search and select the product by each variant so that the product can be processed at the POS level.

Each size, color, and style group can be assigned a unique number that identifies that group in the bar code. Microsoft Dynamics AX for Retail uses the bar code mask to generate bar codes automatically for each variant combination. This functionality can be useful if there are many sizes, colors, and styles.  Additionally, this increases the number of combinations significantly as each variant code is added.

If bar code masks are not used, then bar codes must be manually assigned to each product variant combination.

## 13.1 SET UP

Bar codes can be generated automatically or bar codes can be manually assigned to a product. To set up and configure bar codes, follow these steps.

1.  Set up bar code mask characters.

2.  Set up bar code mask**s.**

3.  Set up bar code setups.

4. Create bar codes for specific items.


## 13.1.1 MASK CHARACTERS

**Set up bar code mask characters**

*Bar code mask characters* are alphabetic characters that are replaced with numbers when Microsoft Dynamics AX for Retail uses a bar code mask to generate a bar code.

Unique bar code masks can be assigned to create unique types of bar codes that are created for products, customers and workers.

 **Note**

> To automate how a bar code is generated for a product variant and other entities, bar code masks must be set up. If there is no requirement about how to automatically generate the bar code, then the bar code can be assigned manually when the product is created.
>
> If a bar code is manually assigned for a product that has a bar code mask set up, then all the mask validations are bypassed except for check digits. If the check digit comparison fails, then an error message is displayed. For example: "Expecting check digit 8 but found 3."
>
> To create a new bar code mask character, follow these steps.


1. To open the **Mask characters** form, click **Retail** > **Setup** > **Bar codes and labels** > **Mask characters**.

2. Click **New** to create a new bar code mask character.



3. In the **Type** field, select the type of mask character. The options include the following:

1. Product

2. Any number

3. Check digit

4. Size digit

5. Color digit

6. Style digit

7. EAN license code

8. Price

9. Quantity

10. Employee

11. Customer

12. Data entry

13. Discount code

4. Enter the **Character** that represents the mask type. It can be any character from A through Z.

5. In the **Description** field, type a description of the mask character.

## 13.1.2 SET UP BAR CODE MASKS

Bar code masks are used to create and check bar codes and reduce bar code errors. Bar code masks can be set up for both standard bar codes and in-house bar codes.

**In-house bar code masks**

If you set up the custom bar code masks, you must be familiar with the requirements of the scanners that are used at the retail store. Some scanners only validate bar codes with a specific format and check digit.

Bar code masks for an item with variants can be set up to generate the bar codes for each size, color, and style combination.

**Standard bar code masks**

Bar codes often have a fixed structure; for example, European Article Number (EAN) standard bar codes have a modulus check digit as the last digit. Microsoft Dynamics AX for Retail determines if the bar code is input is valid and, if necessary, calculates the check digit and changes the input into a standard EAN bar code.

**Supported standards**

Bar code masks can be based on any of the following bar code standards:

  ii.  No bar code

 iii.  EAN128/UCC128

 iv.  Code 39

  v.  Interleaved 2 of 5

 vi.  Code 128

vii.  UPC A

viii.  UPC E

 ix.  EAN13

  x.  EAN8

 xi.  PDF397

xii.  Maxicode

## 13.1.3 BAR CODE MASK SET UP

To create a new bar code mask, follow these steps.

1. Click **Retail** > **Setup** > **Bar codes and labels** > **Bar code mask setup**.
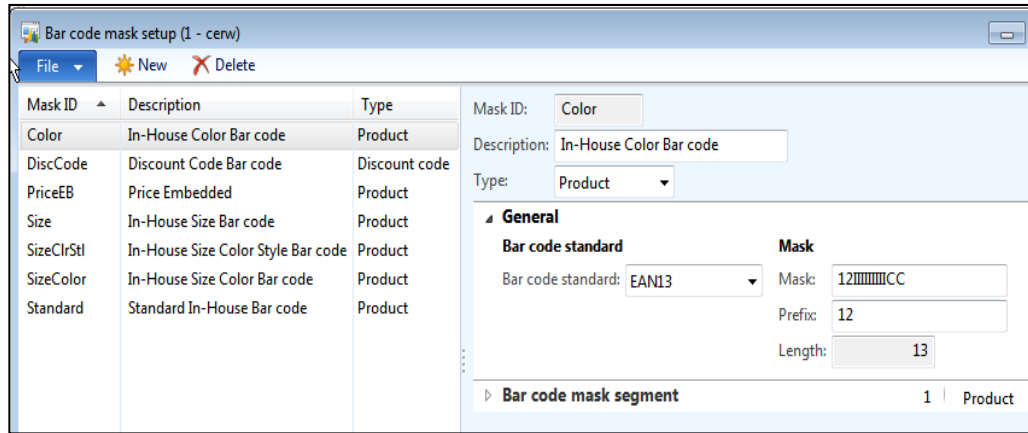
2.  Click **New** to create a new bar code mask.

3.  In the **Mask ID** field, type an ID number, and then, in the **Description** field, type a description for the bar code mask.

4.  In the **Type** field, select the type of bar code mask. The options include the following:

    1.  **Product**: Set up a bar code mask for products.

    2.  **Customer**: Set up a bar code mask for customers.

    3.  **Employee**: Set up a bar code mask for employees.

    4.  **Coupon**: Set up a bar code mask for coupons.

    5.  **Data entry**: Set up a bar code mask for data entry.

    6.  **Discount code**: Set up a bar code mask for discounts.

5.  On the **General** FastTab, in the **Bar code standard** field, select the bar code standard for the mask.

6.  Under the **Mask** area, enter the unique ID for the **Mask** for the bar code. This is the result of the segments that are defined in the **Bar code mask segment** Fast Tab, together with the prefix.

7.  **Prefix** – The first character that is used in the bar code mask. The recommended setting is to set a prefix for each bar code mask to avoid overlapping sets of bar codes.

8.  **Length** – The required length of the bar code. The value in this column is calculated by Microsoft Dynamics AX for Retail, and is the total for the characters in the prefix and all segments.

9. Under the **Bar code mask segment** FastTab, click **Add** to create a new segment and then specify information about the segment.

10. Enter the **Segment number** for the bar code mask.

11. Select the **Type** from the drop down list box. The list displays the bar code masks that are created to assign a unique character to each bar code type.

12. Enter the **Length** of the mask segment.

13. Enter the **Character** that represents the mask segment. This can be any character from A through Z.

14. Enter the **Decimals** that represent the mask segment.

| Bar code mask segment | | | | | 1 | Product |
|---|---|---|---|---|---|---|
| Segment number | Type | Length | Character | Decimals | | |
| 1 | Product | 9 | I | | | |
| 2 | Color digit | 2 | C | | | |

## 13.1.4CONFIGURE BAR CODE SETUPS

To configure bar codes, follow these steps.

1. Click **Organization administration** > **Setup** > **Bar codes** to open the **Bar codes** form.
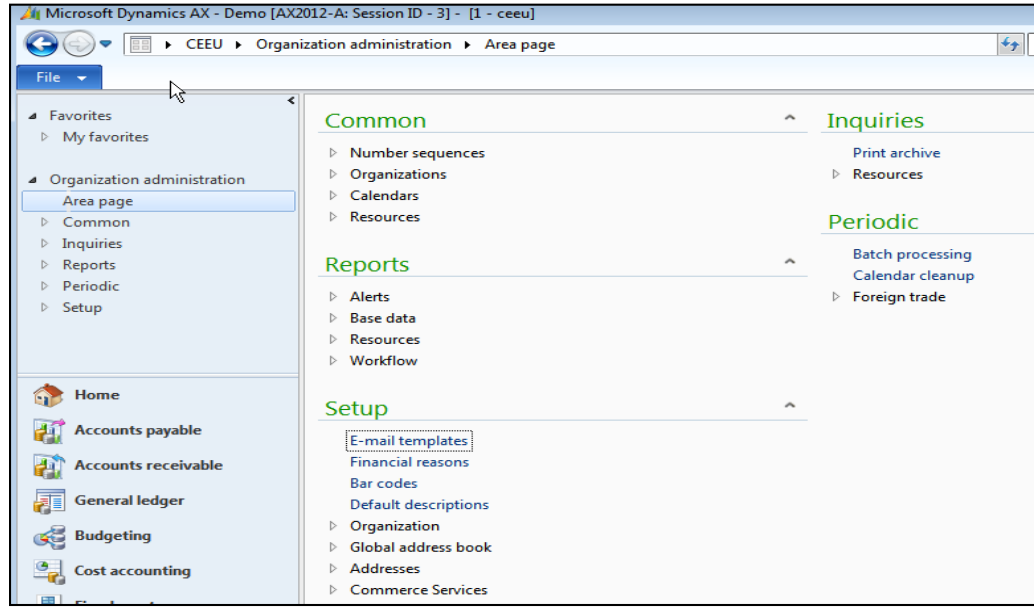


2. Click **New** to create a new setup for bar codes.
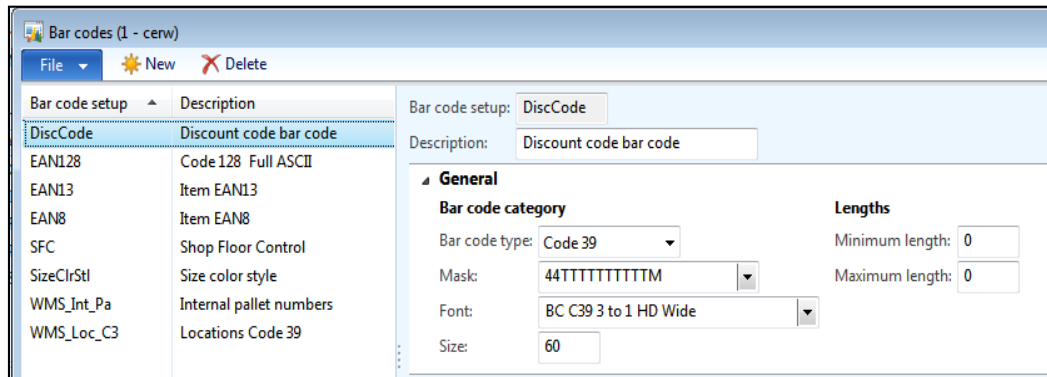


3. In the **Bar code setup** field, type an ID for the setup.

4. Enter a **Description** for the bar code setup.

5. On the **General** FastTab, in the **Bar code type** field, select a standard type for the bar code.

6. Select a **Mask** for the bar code from the drop down list box.

7. In the **Font** and **Size** fields, select a font for the bar code, and type a size for the font.

8. In the **Minimum length** and **Maximum length** fields, type the minimum and maximum number of characters that the bar code can contain.

   For example, a bar code of the EAN-8 type always contains eight characters when it is printed. Therefore, for an EAN-8 bar code, both the minimum length and the maximum length are eight. For a bar code that contains a fixed string of five characters plus a number from 1 to 100, the minimum length is six, and the maximum length is eight.

## 13.1.5 CREATE BAR CODES FOR SPECIFIC PRODUCTS

To assign barcodes to products and variants, follow these steps.

1. Click **Retail** > **Setup** > **Bar codes and labels** > **Bar codes**.
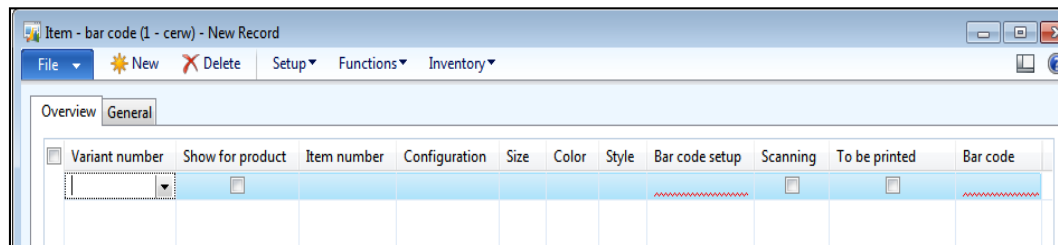


2. Click **New** to create a new bar code for the product.

3. On the **General** tab, under **Item**, select the item number from the drop down list box.

4. Select an inventory dimension number from the drop down list box.

5. Enter a Quantity for the selected product.

6. Select a **Unit** of measure for the product for which the bar code is assigned.
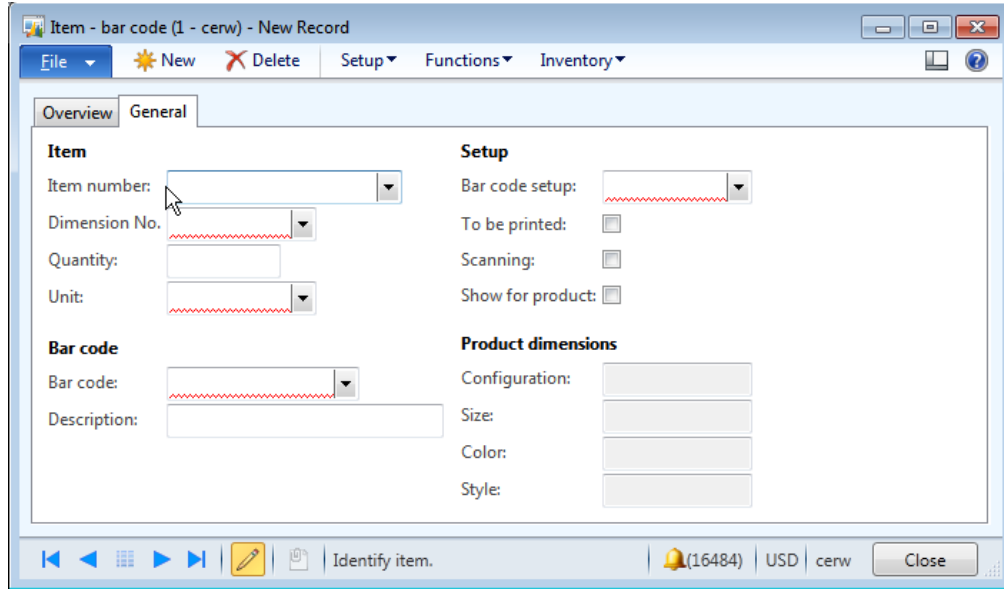
7. Under **Bar code**, select the bar code format that is being assigned for the product.
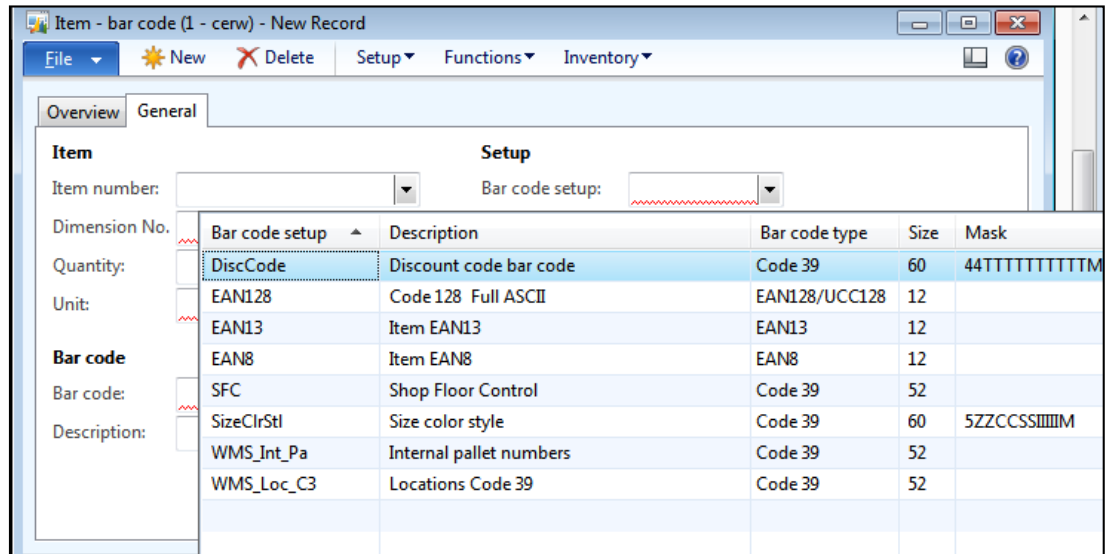


8. Under **Setup**, select the setup for the bar code from the drop down list box.

9. **To be printed** – Select the check box if the bar code that is generated must be printed.

10. **Scanning** – Select the check box if the bar code will be used for scanning at the retail stores.

11. If the bar code number must be displayed on the **Retail** FastTab of the **Released product details** form, select the **Show for product** check box. If this check box is not selected for any bar code number, Microsoft Dynamics AX for Retail automatically displays the smallest bar code number for the item.

12. Under **Product dimensions**, specify the variant's dimensions.

The **Overview tab** displays the information that is entered from the **General** FastTab.
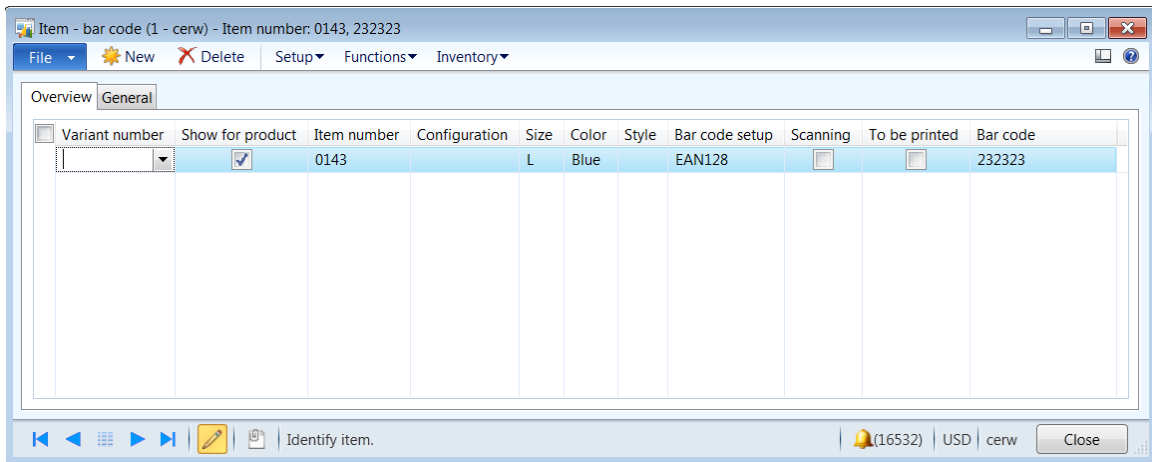


**Set up button**

To assign the store and section to the product, follow these steps.

- Click **Setup > Product section location** to assign the store and section to the selected product.

- The **Item number** displays the product number for the selected product from the **Item – bar code** form.

- The Name displays the description of the selected product.

- Select the **Store number** from the drop down list box.

- Select the **Section number** from the drop down list box.

- The **Name** field displays the name of the selected section.

- Select the **Shelf label** from the drop down list box.

- The **Name** field displays the name of the selected shelf.

- **Shows sales statistics** – The **Shows sales statistics** field has no functionality associated in the current version of Microsoft Dynamics AX for Retail.



**Functions button**

- **Click Functions > Create bar codes** to create or update the bar code for the selected item.

📝 **Note**

This feature cannot be used for bar codes that have items with configuration variants.

- **Item number** – The item selected on the **Item – bar code** form. This field cannot be edited.

- **Product name** – The item selected on the **Item – bar code** form. This field cannot be edited.

- **Unit** – The default value in this field is updated when the item is selected.

- **Bar code setup** – Select the bar code setup that contains the bar code type, font, size, and mask information that you want.

- **Create bar code in all legal entities where this product is released** – Select this check box to generate the bar code for all the legal entities to which the selected product is released.

- **Create bar codes from number sequence** – Use to create a bar code for imported items. This is required when a vendor does not provide a bar code for an item.

  - **Item number** – The item selected on the **Item – bar code** form. This field cannot be edited.

  - **Product name** – The item selected on the **Item – bar code** form. This field cannot be edited.

  - **Use product** – The default value in this field is the same as the **Item number**. However, you can select another value.

  - **Vendor account** – Select the vendor account number for the items that are imported.

  - **Unit** – The default value in this field is updated when the item is selected.

  - **Bar code setup** – Select the bar code setup that contains the bar code type, font, size, and mask information that you want.

  - **Create** – Click the **Create** button to generate the bar code for the selected product.

## 13.1.6 VIEW THE BAR CODES FOR A PRODUCT

To view the bar codes for a product, follow these steps.

1. Click **Retail > Common Forms** > **Products > Released Product by category.**
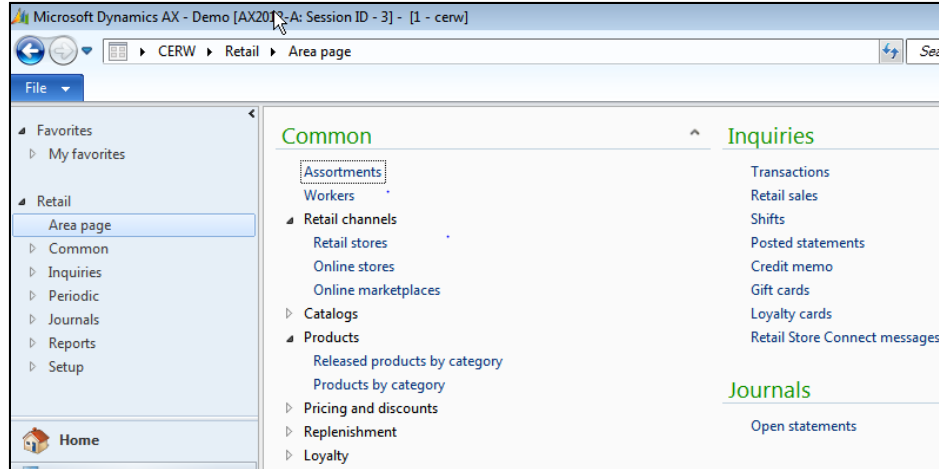
2. Select the product from the list and double-click to open the **Product details** form. Expand the **Retail** FastTab.
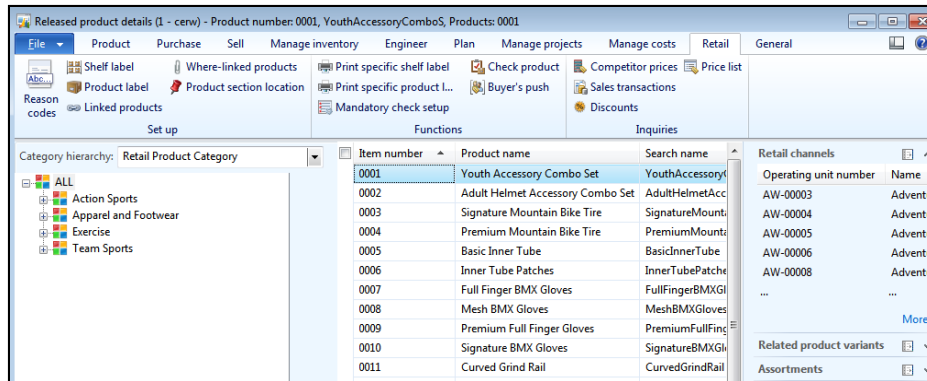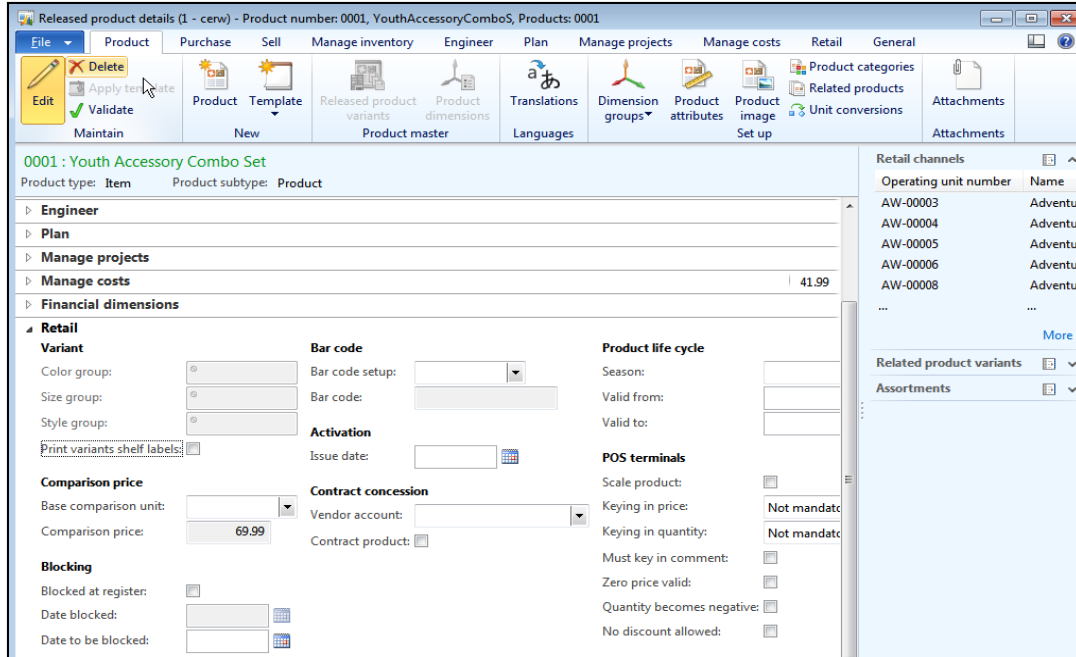
### 13.1.7 PRODUCT LABEL REPORTS

Product labels are placed on a product which provides information on pricing, unit of measure and bar code that are used to scan the product. The label can also have the batch number, serial number, and expiration date.

In Microsoft Dynamics AX for Retail, product label reports can be created and selected to have a specific size based on the business requirements.

You can configure Microsoft Dynamics AX for Retail to create product labels whenever the price or the comparison price of a product changes at the retail store.

Products must be assigned to the label reports to print the label reports as price changes occur in Microsoft Dynamics AX for Retail.

Product labels can be created and manually assigned to the products. An easy way is to assign a default label report to a category so all the products assigned to the specific category can inherit the label printing settings.

After the labels are printed, you can view the quantity in the **Quantity** column and the number of labels that printed in the **Printed quantity** column of the **Product label printing** form.

To set up parameters for product label reports, follow these steps.

1. Click **Retail** > **Setup** > **Bar codes and labels** > **Product label reports**.
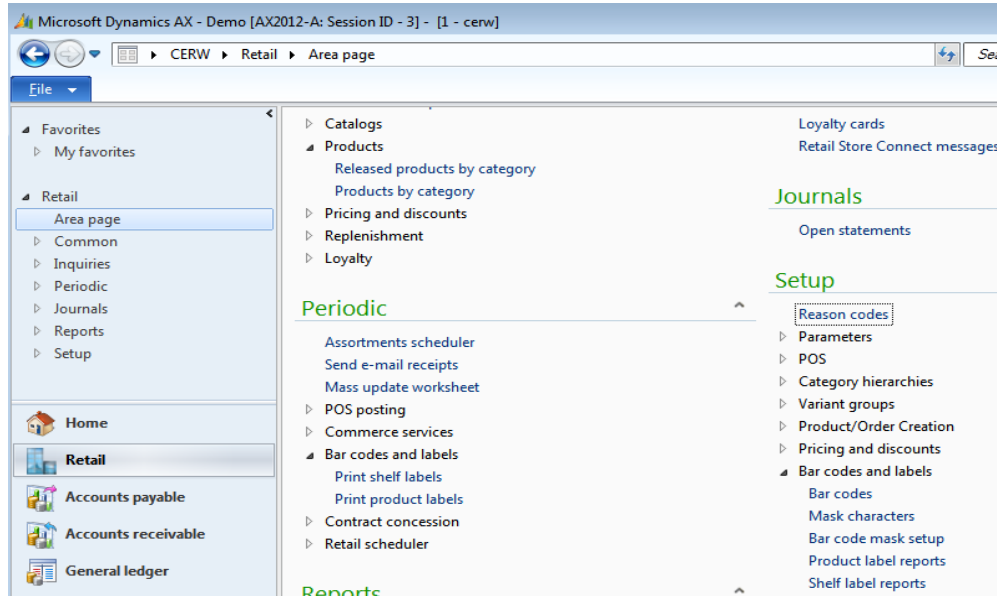


2. In the **Product label report setup** form, in the **Report name** field, select the product label report to use. The **Report name** field contains a list of the reports that are available in the Application Object Tree (AOT).
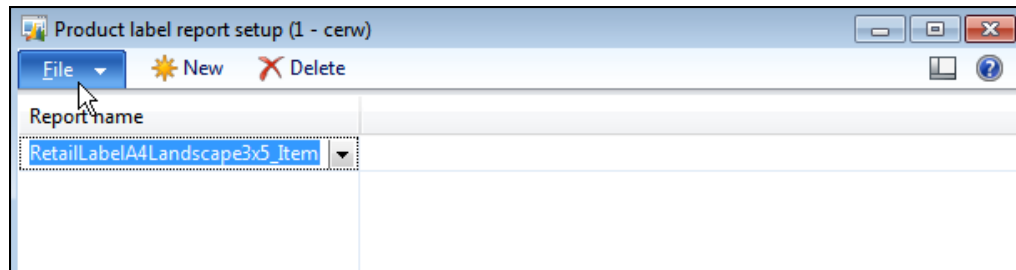


3. Add as many product label reports as you require for your products.

📝 **Note**

Custom reports can be created based on the business requirements and the reports can be added to the **Product label report setup** form.

To print product labels, follow these steps.

1. Click **Retail** > **Periodic** > **Bar codes and labels** > **Print product labels**.

2. In the **Product label printing** form, in the **Store number** field, select a store. Then select the date that the labels become valid.

3. Click **Create > Create label by product** to generate labels. In the **Create labels** form, enter the filter information to filter the list of products.



4. Click **OK** to confirm the settings.

Microsoft Dynamics AX for Retail creates product label entries for items for which the registered price on the product label has changed.

5. In the **Product label printing** form, change the values in the **Quantity** column if you require different quantities.

6. Click **Print**, and then click **Print labels**.

7.  Select the printer to use to print the product labels, and then click **OK**.

**View product labels**

Before you print product labels, you can view a list of labels for which printing is pending. You can also view a list of labels that are already printed.

1.  Click **Retail** > **Periodic** > **Bar codes and labels** > **Print product labels**.

2.  In the **Product label printing** form, click **Transactions**. Then click **Labels to print** to view the list of labels that are set up to be printed. Or, click **Printed labels** to view the list of labels that are already printed.



**Create and print labels overview**

Use Microsoft Dynamics AX for Retail to generate labels for use at retail stores. A label is a piece of paper, polymer, cloth, metal, or other material that is attached to a container or an item. A label can also be printed directly on a container or a product.

Labels have many uses, such as the following:

- Product identification

- Name tags

- Bar codes

- Pricing

- Warnings

- Batch numbers

- Expiration dates

Microsoft Dynamics AX for Retail offers two types of labels for product at retail store—shelf labels and item labels.

Product labels are always variant-specific. However, shelf labels are not required to be variant specific.

## 13.1.8 PRINT SHELF LABELS

Shelf labels are put on a store rack or shelf where items are displayed or stored. A shelf label can include all the information about the product, except the batch number, serial number, expiration date, and so on.

Microsoft Dynamics AX for Retail can be set up to create shelf labels whenever the price or the comparison price of the product changes in the store.

To create shelf labels, following these steps.
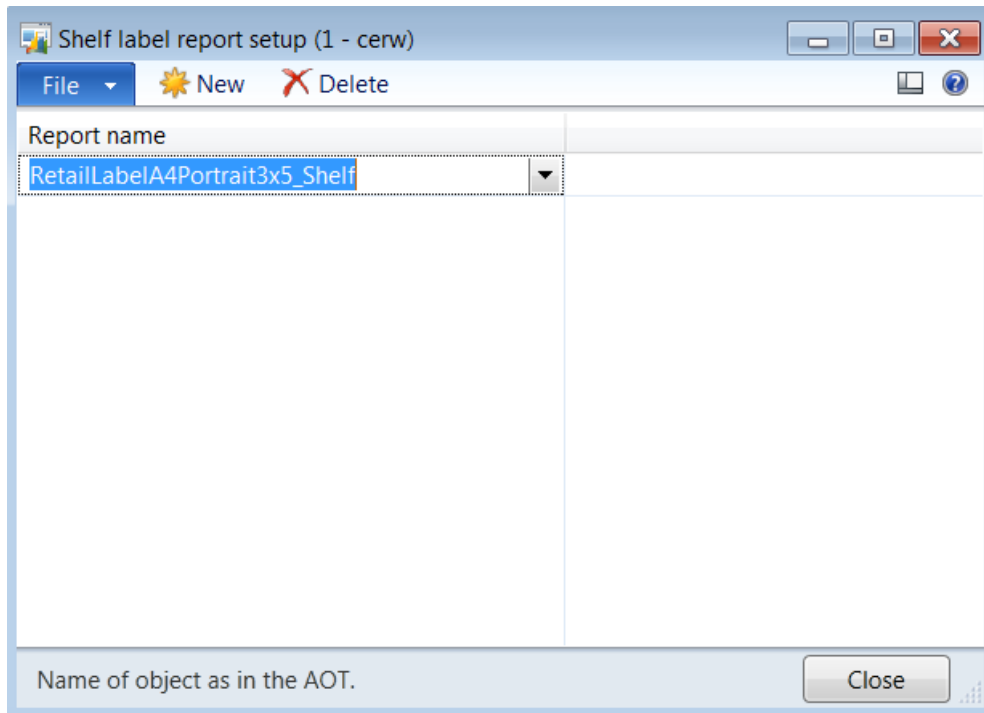
- Determine the shelf label configuration to use.
- Set up the shelf label parameters in the **Shelf label report setup** form. In the list of shelf label reports that are available in the Application Object Tree (AOT), select the reports to use.
- Shelf label reports must be assigned to the products. An easy way is to assign the default shelf label report to a category so that products that are assigned to the specific category can inherit the shelf label settings.
- Print the labels by using the **Shelf label printing** form.

**Set up parameters for shelf label reports**

To set up shelf labels, follow these steps.

1. Click **Retail** > **Setup** > **Bar codes and labels** > **Shelf label reports**.

2. In the **Shelf label report setup** form, on the **Overview** tab, in the **Report name** field, select the shelf label report to use. The **Report name** field contains a list of the reports that are available in the AOT.

3. Add as many shelf label reports as you require for your products.



**Note**

Custom reports can be created based on the business requirements and the custom reports can be added to the **Shelf label report setup** form.

To print shelf labels, follow these steps.

1. Click **Retail** > **Periodic** > **Bar codes and labels** > **Print shelf labels**.

2. In the **Shelf label printing** form, in the **Store number** field, select a store. Select the date that the labels become valid.

3. Click **Create**, and then click **Create label by product**.

4. In the **Create labels** form, enter information about the store and the products, if this information is required.

5. Click **OK**.

6. In the **Shelf label printing** form, in the **Quantity** field, change the number of labels to print for the product, if multiple copies are required.

   Microsoft Dynamics AX for Retail creates shelf label entries for products for which the registered shelf label price has changed.

7. Click **Print**, and then click **Print labels**.

8. Select the printer to use to print the shelf labels, and then click **OK**.

   After the labels are printed, the number of labels that printed is displayed in the **Printed quantity** field.

### View shelf labels

Before you print shelf labels, you can view a list of labels for which printing is pending, or you can print a list of labels that you already printed.

1. Click **Retail** > **Periodic** > **Bar codes and labels** > **Print shelf labels**.

2. In the **Shelf label printing** form, click **Transactions**, and then click **Labels to print** to view a list of labels that are set up to be printed. Click **Printed labels** to view a list of labels that you already printed.

The buttons and fields on the **Label** form are described in the following tables.



**Buttons**

| Button | Description |
|---|---|
| **Transactions** | Open a menu with the following items:<br><br>• Click **Labels to print** to view the labels that are ready to print.<br>• Click **Printed labels** to view information about labels you already printed. |
| **Create** | Click **Create label by product** to create shelf labels for a specific product. |
| **Print** | Open a menu with the following items:<br><br>• Click **Print labels** to print shelf labels.<br>• Click **Reprint labels** to reprint labels that you already printed. |

**Fields**

| Field | Description |
|---|---|
| **Store number** | Select the store for which to print labels. |
| **Label valid on date** | Select the date that the information on the label, such as pricing, becomes valid. |
| **Report name** | Select the name of the report for the labels you want to print. Set up the report in **Shelf label report setup**. |
| **Quantity** | If multiple copies of the labels are required, enter the number of labels to print for the product. |
| **Printed quantity** | The number of labels that are printed. |

## 14 SALES TAXES

**OVERVIEW**

In this module we will describe sales tax codes, item sales tax groups and sales tax groups must be set up under the **General ledger** module.

To assign override taxes in Microsoft Dynamics AX for Retail operations, you must set up the following:

- **Required**: Assign sales tax groups to stores.

- **Required**: Specify inclusive or exclusive tax.

- **Optional**: Set up sales tax overrides.

- **Optional**: Set other tax options for stores.

In Microsoft Dynamics AX for Retail, two types of tax groups are used. Sales tax groups are assigned to customers, and item sales tax groups are assigned to products. For each product that is sold, Microsoft Dynamics AX for Retails calculates tax by determining the sales tax codes that apply to both the product and the customer to whom the product is sold. If a tax group is not assigned to either the product or the customer, no tax is applied.

In Microsoft Dynamics AX for Retail, sales tax groups must be assigned to stores. For each product that is sold, Microsoft Dynamics AX for Retail calculates tax by determining the sales tax codes that apply to both the product and the store where the product is sold. If an item sales tax group is not assigned to the product, no tax is applied.

Microsoft Dynamics AX for Retail calculates taxes for return transactions by using the schedules for sales tax rates that are assigned to each sales tax code. Set up these schedules to guarantee that you do not refund more tax than you collected.

 Note

- Microsoft Dynamics AX for Retail Point -of-Sales (POS) uses only tax settings that are related to retail tax calculation.

- If a customer is added to the transaction, the sales tax group for the customer is used in tax calculations only if the tax options for the store require that the sales tax group be used.

- Microsoft Dynamics AX for Retail POS does not support the **Check sales tax group's** option in the **General ledger parameters** form.

Assign sales tax groups to stores

A sales tax group is mandatory for every retail channel.

To assign the sales tax group, follow these steps.

1. Click **Retail** > **Common** > **Retail channels** > **Retail stores**.
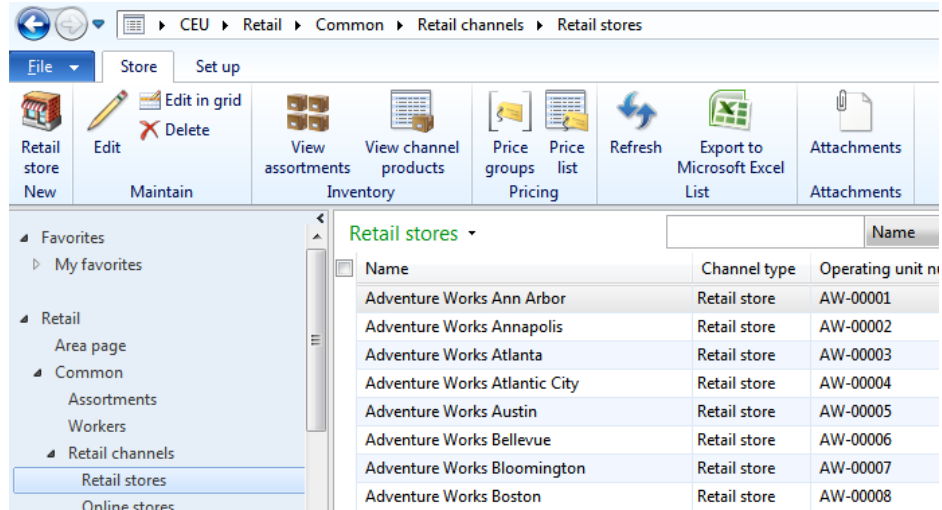


2. In the **Retail stores** list, select the store to modify by double-clicking the retail store.

3. In the **Stores** form, on the **General** FastTab, under **Sales tax**, in the **Sales tax group** field, select the sales tax group for the store.
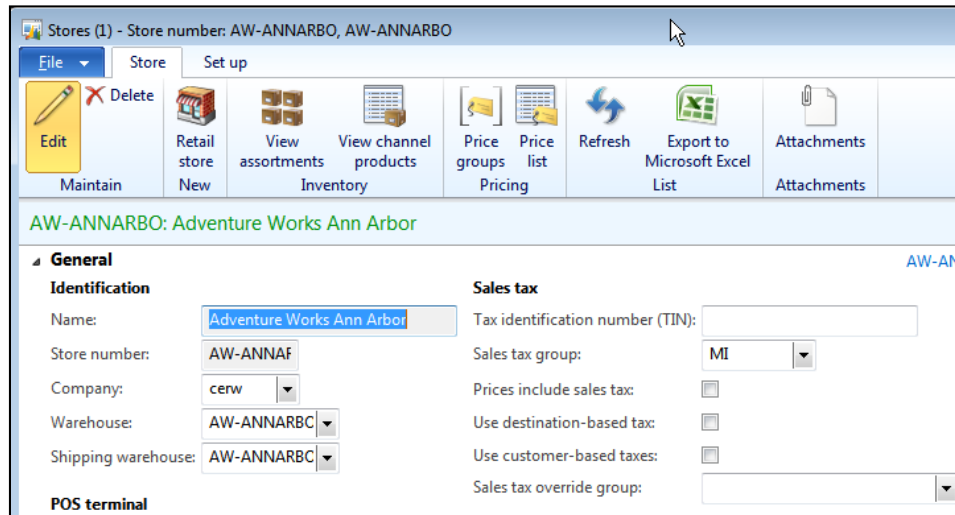
4. **Prices include sales tax:** – Select the check box if the product retail price is inclusive of tax.

5. **Use destination-based tax:** – Select the check box if tax is calculated based on the shipping address of the customer.

6. **Use customer-based taxes:** – Select the check box if tax needs to be calculated based on the tax settings for customers.

The following section describes how to set up sales tax overrides.

📝 **Note**

Inclusive taxes are included in product prices. Value-added tax (VAT) is one example of inclusive tax. Exclusive taxes are not included in product prices.

When tax is calculated, the settings for inclusive and exclusive tax that are specified for a customer override the settings that are specified for a store.

## 14.1 SET UP SALES TAX OVERRIDES

Sales tax overrides are set up for cashiers to modify the amount of tax on a sales transaction. Sales tax overrides are useful in several scenarios. Consider the following examples:

- Specific customers, such as charitable organizations, children, and indigenous people, are subject to different tax rates.

- Some products are subject to different tax rates under certain conditions. For example, food items that are consumed in the store are taxed differently than food items that are carried out of the store.

Each sales tax override specifies the sales tax group or item sales tax group that is overridden, and the sales tax group or item sales tax group that is used instead. Sales tax overrides are organized into sales tax override groups, so that several overrides can be available at each store.

Sales tax overrides are applied by cashiers. For example, the item sales tax group for an item includes a Food sales tax code, but the customer is exempt from taxes on food items. Therefore, the cashier overrides the item sales tax group by using an item sales tax group that does not include the Food sales tax code.

To set up sales tax overrides, follow these steps.

1. Click **Retail** > **Setup** > **Sales taxes** > **Sales tax overrides**.



2. In the **Sales tax overrides** form, click **New** to create the new sales tax override.

3. In the **Sales tax override** field, type the unique identifier for the override. Then, in the **Description** field, type the name for the sales tax override.

4. In the **Status** field, select **Enable**.

   ✎ **Note**

   If you select **Disable** in the **Status** field, the override is not used when an override group that includes the override is applied to the transaction.

5. On the **Override** FastTab, in the **Type** field, select the type of sales tax code that is overridden at the point of sale. The options include the following:

   - **Item sales tax group** – Select this type if the override tax must be from the item sales tax group.
   - **Sales tax group** – Select this type if the override tax must be from sales the tax group.

6. In the **From** field, select the tax group that is overridden at the point of sale. The options include the following:

- **No tax group** – Select this option not to override a tax group.

- **Any tax group** – Select this option to override from any tax group.

- **Specified tax group** – Select this option if the specific tax group must be overridden.

> 🖉 **Note**
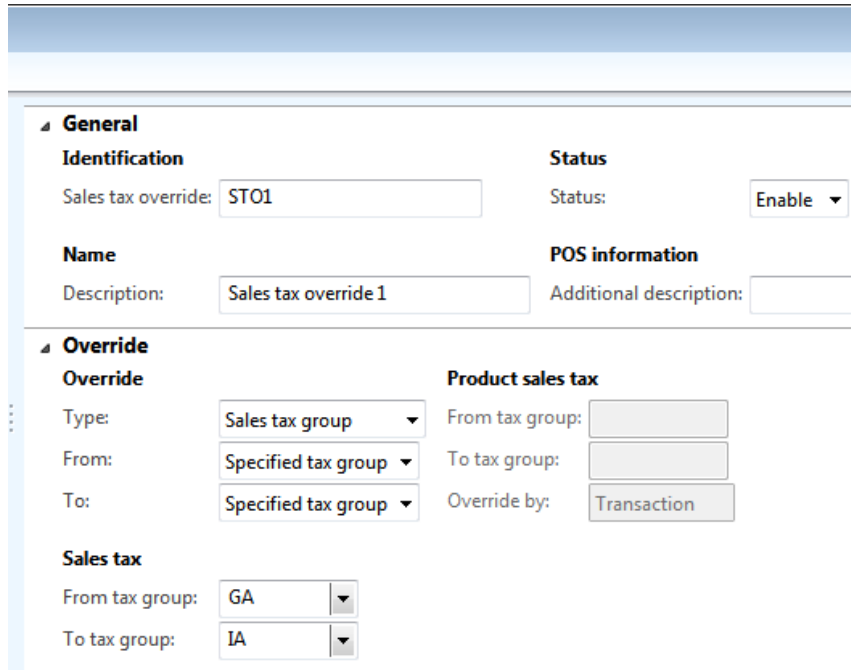
Depending on the option that is selected in the **Type** field, the **Product sales tax or Sales tax** FastTab will be available to select the specific tax group that will be overridden at retail stores.

7. Now, in the **To** field, select the tax group that is used instead. The options include the following:

- **No tax group** – Select this option not to apply tax overrides.

- **Specified tax group** – Select this option to apply the specific tax override group.

> 🖉 **Note**

Depending on the option that is selected in the **Type** field, the **Product sales tax or Sales tax** FastTab can be selected for the specific tax group that will be applied at the retail store.

8. In the **Override by** field, select whether the tax override is applied to the products on specific lines or to the whole transaction.
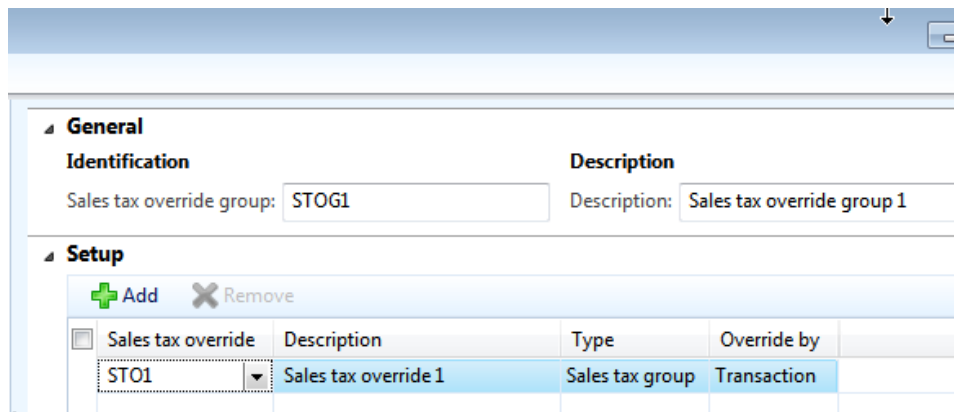
In addition to setting up sales tax overrides, before you can use the sales tax overrides at the point of sale, you must complete the following steps.

- o  Set up sales tax override groups at **Retail** > **Setup** > **Sales taxes** > **Sales tax override groups**.



- o  Select sales tax override groups for stores at **Retail** > **Common** > **Retail channels** > **Retail stores**.

- To set up reason codes for sales tax overrides browse to **Retail** > **Setup** > **Reason codes**.



- Set permissions so that specific cashiers can apply overrides at **Retail** > **Setup** > **POS** > **Profiles > POS permission groups**.
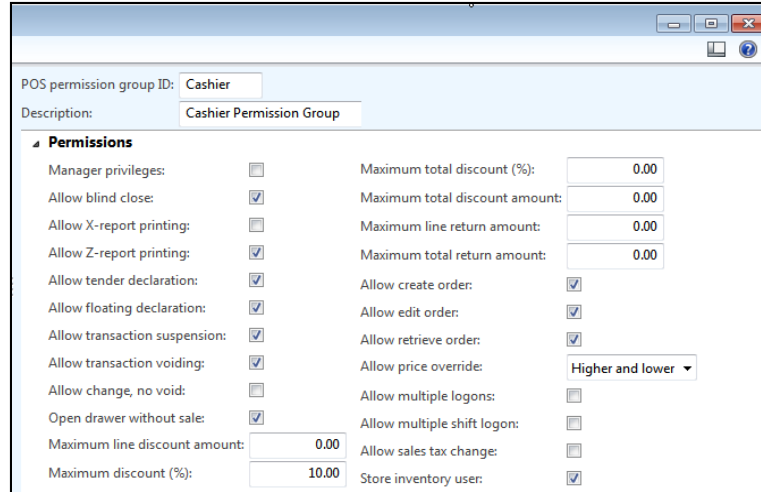
- o **Allow sales tax change:** – Select this option to apply sales tax overrides at retail stores.

## 14.2 SET UP SALES TAX OVERRIDE GROUPS

When you set up sales taxes for retail stores, you can specify several settings. For example, you can assign sales tax groups to stores, specify inclusive taxes or exclusive taxes, and set up overrides.

To set up sales tax override groups, follow these steps.

1. Click **Retail > Setup > Sales taxes** > **Sales tax override group**.
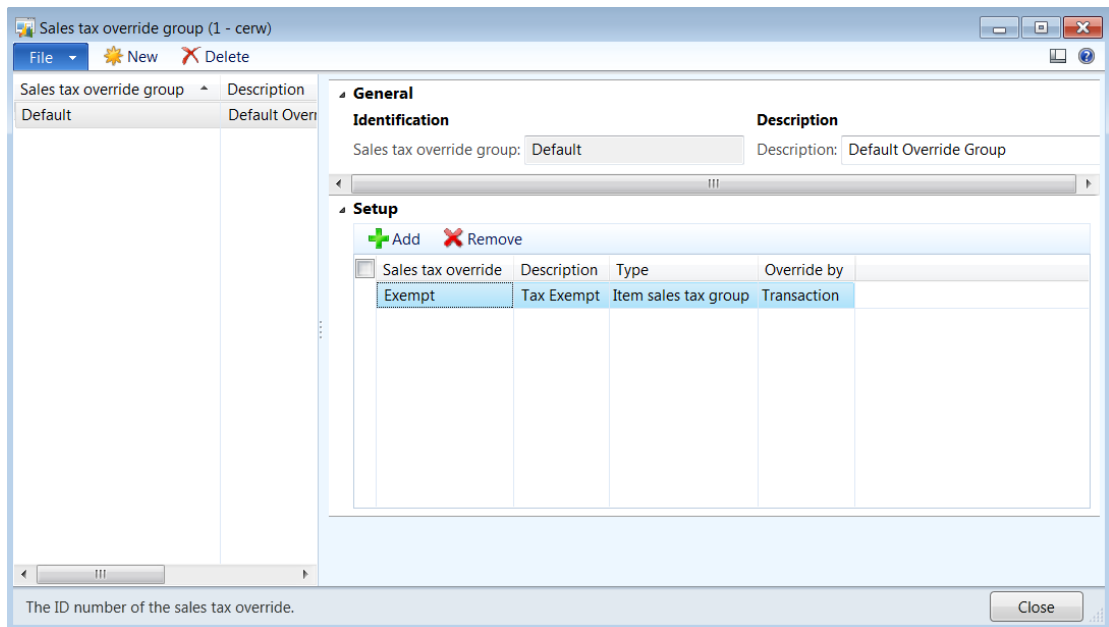
2. Click **New** to create the new sales tax override group.

3. On the **General** FastTab, in the **Identification** area, enter a unique name for **Sales tax override group**.

4. In the **Description** area, enter the **Description** for the sales tax override group.

5. In the **Setup** FastTab, click **Add** to add sales tax overrides to the group.

6. Select the **Sales tax override** from the drop down list box.

- The **Description** field displays the name of the selected sales tax override.
- The **Type** field displays the type of sales tax override.
- The **Override by** field displays if the selected sales tax override will be applied at the product or transaction level.

## 15 PAYMENT METHODS

In this module we will discuss payment methods. Retail Business Operations accept different methods of payment in exchange for the products and services they sell to their customers. Cash is the most common form of payment. However, retailers can receive payment in the form of checks, credit cards, vouchers, gift cards, redemption points, and so. The methods of payment accepted by the retailer must be configured in Microsoft Dynamics AX for Retail Point of Sales (POS) when the system is set up.

In Microsoft Dynamics AX for Retail POS, different payment methods can be configured as follows:

- **Cash** – Money in the physical form of currency, such as banknotes and coins. This currency can be either the company currency or the store's local currency. Typically, the denomination break down of the selected currency is required to be configured.

- **Check** – A negotiable instrument that instructs payment for a specific amount of a specific currency, and that is drawn on a specific bank. A check is typically valid for six months after the date of issue, unless another period of validity is specified. This period differs, depending on the bank that the check is drawn. There are many kinds of checks, such as order checks, counter checks, bearer checks, and account payee checks.

  Checks can be set up as a payment method for each store and checks can be accepted in the currency that is defined either at the company level or the store level.

- **Currency** – The primary form of payment other than the company's default currency. Coins and paper money are both forms of currency.

  The currency payment method represents all currency that is used in Microsoft Dynamics AX for Retail POS. To use this payment method, you must configure this payment type and set up related foreign currencies with the required exchange rates.

- **Card** – In Microsoft Dynamics AX for Retail POS, all types of credit cards or card types can be configured, such as debit cards and credit cards. At the organization level, it is recommended to create one card payment method to represent every type of card.  At the store level, a payment method can be configured for different card types by using the one card payment method.  Cards that are supported by the retailer as a method of payment must be configured and allocated to a store to make sure that the card can be used as a tender at the point of sale (POS) level.

- **Credit memo** – Credit memos are issued or redeemed at the point of sale. The credit memo is a credit or a return credit memo issued against a return sale. If credit memos are only partially redeemed, the program issues a new credit memo for the new balance. The new credit memo has a new number. A credit memo can be used only one time, and the system keeps a record of all the numbers that are used. The record can be viewed in the **Credit memo table** form. Click **Retail** > **Inquiries** > **Credit memo**. A customer cannot redeem more than the value of the credit memo.

- **Gift Card** – Gift cards are issued and redeemed at the point of sale. Most retailers sell gift cards with different values that are loaded on the gift card. Then, the values are attached to a serial number, which provides an effective way to track the balance and the expiry date. Overpayment is not allowed on gift cards.

- **Customer account** – Customer account payment method typically is a tender type that is used by cashiers to charge an account for which a customer has an established credit limit.

To set up payment methods in Microsoft Dynamics AX for Retail POS, follow these steps.
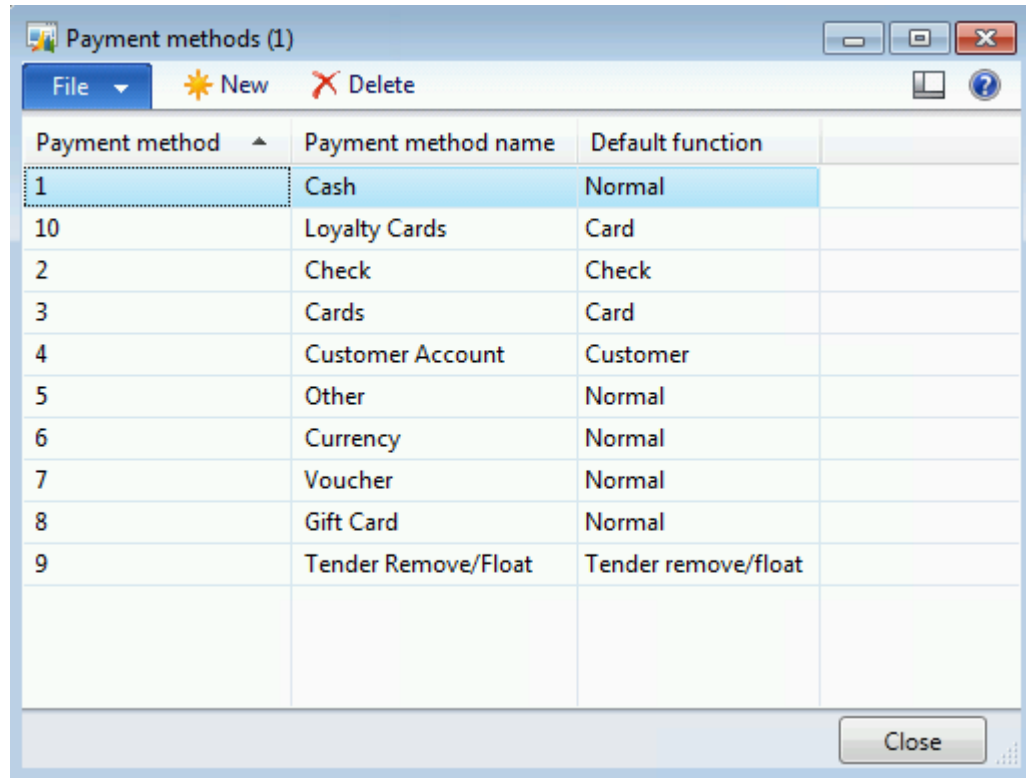
1. Set up organization-wide payment methods. Create the payment methods that are accepted by the whole organization.

2. Create card types and card numbers. If credit cards or debit cards are accepted, create at least one payment method for the cards, and then create the organization-wide card types and card numbers.

3. Set up store payment methods. Associate payment methods with each store, and then enter the store-specific settings for each payment method.

## 15.1 ORGANIZATION-WIDE PAYMENT METHODS

Your business might accept payment in forms other than cash. If you accept payments that are made by using checks, credit cards, debit cards, corporate charge cards, gift cards, customer credit, and other forms of payment, you must set up each payment method for your organization in **Retail**. You can assign specific payment methods to each store and then set up store-specific settings for each payment method.

To set up payment methods, follow these steps.

1. Click **Retail** > **Setup** > **Payment methods** > **Payment methods**.

2. In the **Payment methods** form, press **CTRL+N** to create a new payment method.
3. In the **Payment method** field, enter a unique name for the payment method.
4. In the **Payment method name**, enter a brief description of the payment method.

5. In the **Default function** field, select a function. The payment methods that are described for the following functions are examples of typical retail payment methods:

   o **Normal** – Use this function for currency.
   o **Card** – Use this function for debit cards, credit cards, corporate cards, and other forms of card payment.
   o **Check** – Use this function for personal checks and other negotiable documents.
   o **Customer** – Use this function if you extend credit to customers and then collect payment later.
   o **Tender remove/float** – Use this function if you add cash to, or remove cash from, the point of sale (POS) register drawer.

**Note**
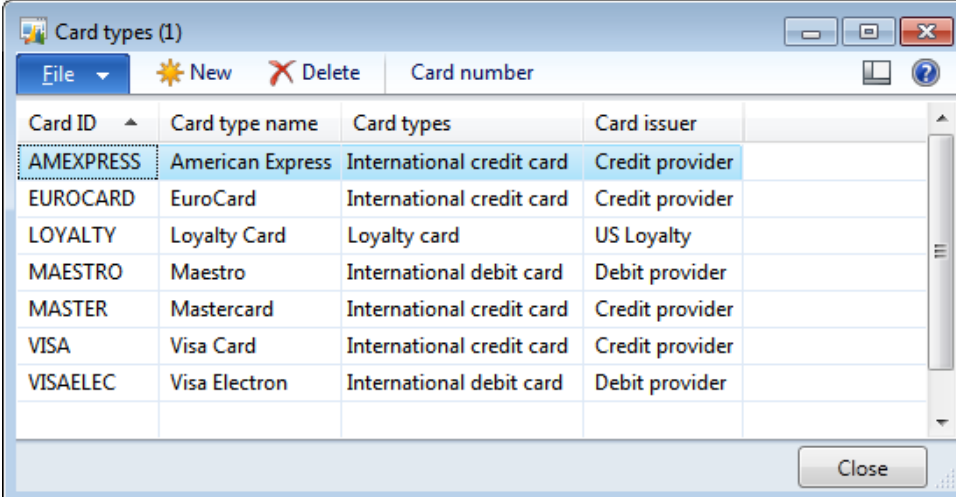
Each default function applies special settings to the store-specific payment methods that are based on the organization-wide payment methods.

## 15.2 CARD TYPES

Create a card type for each type of card that is accepted by the retail business operations, such as debit cards, credit cards, loyalty cards, and corporate cards.

To set up new card types, follow these steps.

1. Click **Retail** > **Setup** > **Payment methods** > **Card types**.



2. Click **New** to set up a new card type.

3. Enter the following information:

   o **Card ID** – The card ID that is assigned to the store to use as a store payment type. You must create card IDs for all cards that your business accepts.

   o **Card type name** – The name of the card.

   o **Card types** – Select a type of card from the following types: **International credit card**, **International debit card**, **Loyalty card**, or **Corporate card**. Each card ID must be assigned a card type.

   o **Card issuer** – The card-issuing authority.
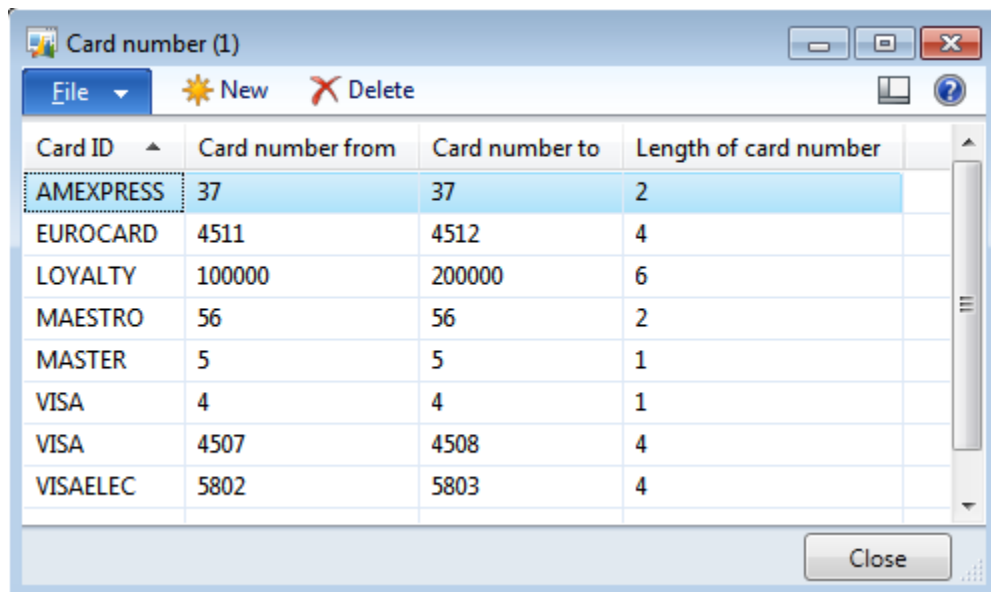
## 15.3 CARD NUMBER

Card number validation is required for payment processing when a customer presents a card. For certain types of cards, the length and range of card numbers that are acceptable for each card type can be set up.

For example, the numbers for a credit card and a corporate card both start with the number four. The credit card number has 16 digits and the corporate card number has four digits. For the credit card, you set up a card number with a range of 4000 through 4999 and a length of 16. For the corporate card, you set up the range of numbers that the cards are issued in, such as 3900 through 3999, and a length of four digits. These card types can be assigned to a store. When a card is swiped at a store register and the card number starts with the number four, the cashier is prompted to identify the type of card that is being used. The card number is automatically validated according to the settings for that card type.

To open the **Card number** form, follow these steps.

1. Click **Card number** to open the **Card number** form.

| Card ID ▲ | Card number from | Card number to | Length of card number |
|---|---|---|---|
| AMEXPRESS | 37 | 37 | 2 |
| EUROCARD | 4511 | 4512 | 4 |
| LOYALTY | 100000 | 200000 | 6 |
| MAESTRO | 56 | 56 | 2 |
| MASTER | 5 | 5 | 1 |
| VISA | 4 | 4 | 1 |
| VISA | 4507 | 4508 | 4 |
| VISAELEC | 5802 | 5803 | 4 |

2. Type a starting number in the **Card number from** field and an ending number in the **Card number to** field.

3. In the **Length of card number** field, enter the number of acceptable digits in the card number. For example, if a validation is required for a card that is four digits in length, type 4 in this column.

4. To add card numbers to this card type, click **New**, and then repeat steps 2 and 3.

☑ Note

Payment Methods can be allocated by store.

## 16 REPLENISHMENT – SET-UP

**OVERVIEW**

In this module we will discuss four key areas in setting up replenishments

- Product Packages
- Replenishments Rules
- Replenishment Hierarchies
- Replenishment Service Categories

## 16.1 REPLENISHMENT RULES

A product package is a group of products that are ordered from a vendor. Packages can help to create purchase orders, because you do not have to select products individually. Instead, you can select a package that includes the products that are grouped together that will be used to order from a vendor. Order lines are automatically updated when the items in a package are changed.

The same product can be included in several packages for one or more vendors. After you add a package to a purchase order, you cannot remove a product from the order line if that product is part of a package. Instead, you must remove the whole package and add the products to the purchase order individually.

To set up product packages, follow these steps.

1. Click **Retail** > **Setup** > **Replenishment** > **Product packages**.
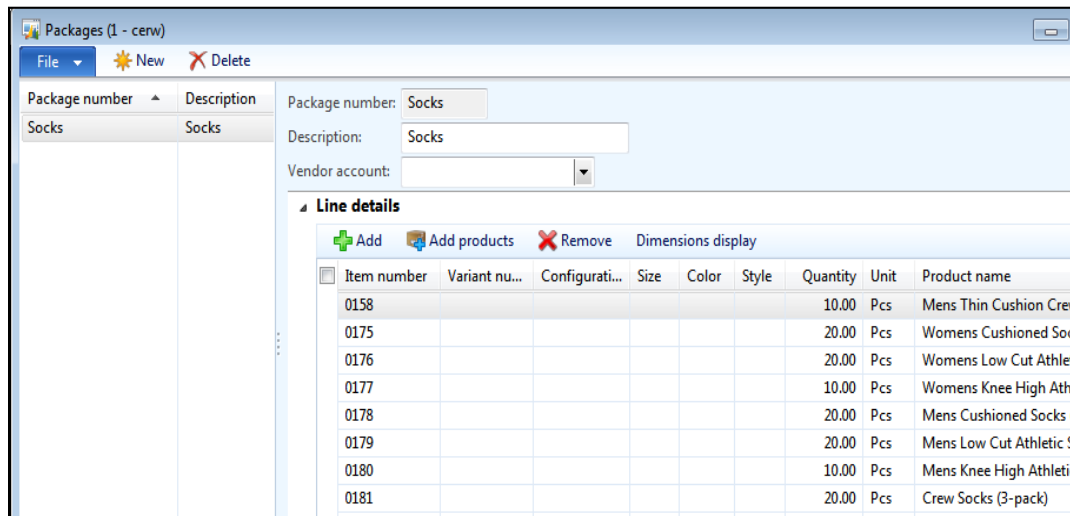
2. In the **Packages** form, click **New** to create a new package.

3. Enter a **package number** and a **description**.

4. Select the **vendor account** that supplies the products in the package. This field is used to filter the list of available packages. To limit the availability of this package to a specific vendor, you can select the vendor account. Otherwise you can leave this field blank.

5. On the **Line details** FastTab, click **Add** to add a product to the package, and then enter settings for the new product.

6. To add groups of products to the package at the same time, follow these steps.

   i. Click **Add products** at the top of the form.
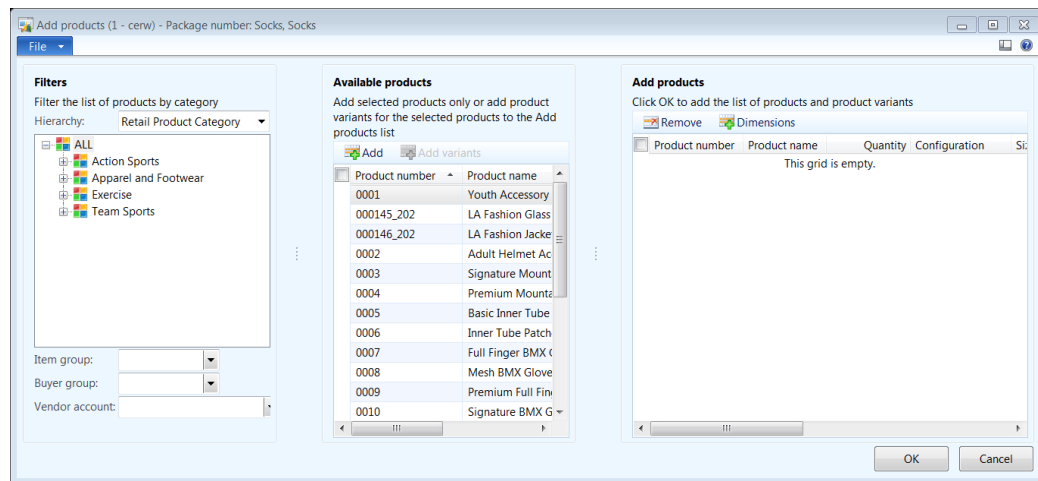


   ii. In the **Add products** form, select the products to add to the package.

      You can filter the list of products by selecting a category hierarchy. You can then select all products that are assigned to a specific category, and add those products to the package.

7. Select the **Variant number** if the selected product is a product master.

   - The **Configuration** field displays the configuration dimension for the selected variant.
   - The **Size** field displays the size dimension for the selected variant.
   - The **Color** field displays the color dimension for the selected variant.
   - The **Style** field displays the style dimension for the selected variant.

The tabs, buttons, and fields for the **Packages** form are described in the following tables.

**Tabs**

| Tab | Description |
|---|---|
| **Line details** | Specify line details for the package. |

**Buttons**

| Button | Description |
|---|---|
| **Dimensions display** | Open the **Dimensions display** form. Here, you can select the dimensions that will be displayed in the **Line details** grid. |
| **Add products** | Open the **Add products** form. Here, you can select products to add to the package. You can filter the product list by selecting a category hierarchy, and then by selecting the products to add to the package. |

**Fields**

| Field | Description |
|---|---|
| **Package number** | The unique identification number of the package. This number can be created either manually or automatically. This depends on the setup for the number sequences. |
| **Description** | A description of the package. |
| **Vendor account** | The vendor that supplies the products in the package. This field is used to filter the list of available packages. To limit the availability of this package to a specific vendor, you can select the vendor account. Otherwise, you can leave this field blank. |
| **Item number** | Select a product in the list. |
| **Variant number** | If the product has variants, such as sizes, colors, or styles, select a variant number. |
| **Configuration** | If the product has a configuration, select the configuration. |
| **Size** | If the product has a size, select the size. |
| **Color** | If the product has a color, select the color. |

| Field | Description |
|---|---|
| Style | If the product has a style, select the style. |
| Quantity | The quantity of the product to order. |
| Unit | The unit type of the product. |
| Product name | Microsoft Dynamics AX for Retail POS automatically populates this column with the name of the product that is selected in the **Item number** field. |

**Assign Product packages to a purchase order**

To create purchase orders, follow these steps.

1. Click **Retail > Common > Replenishment > Purchase orders**.
2. To create a new purchase order, click **Purchase order** from the **New** group of the **Purchase order** FastTab.
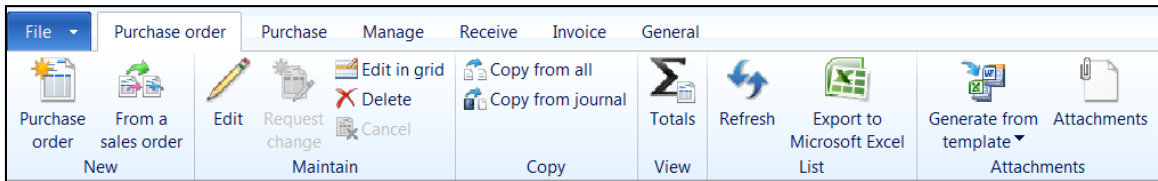


3. Select the Vendor account from the list and click **OK**.
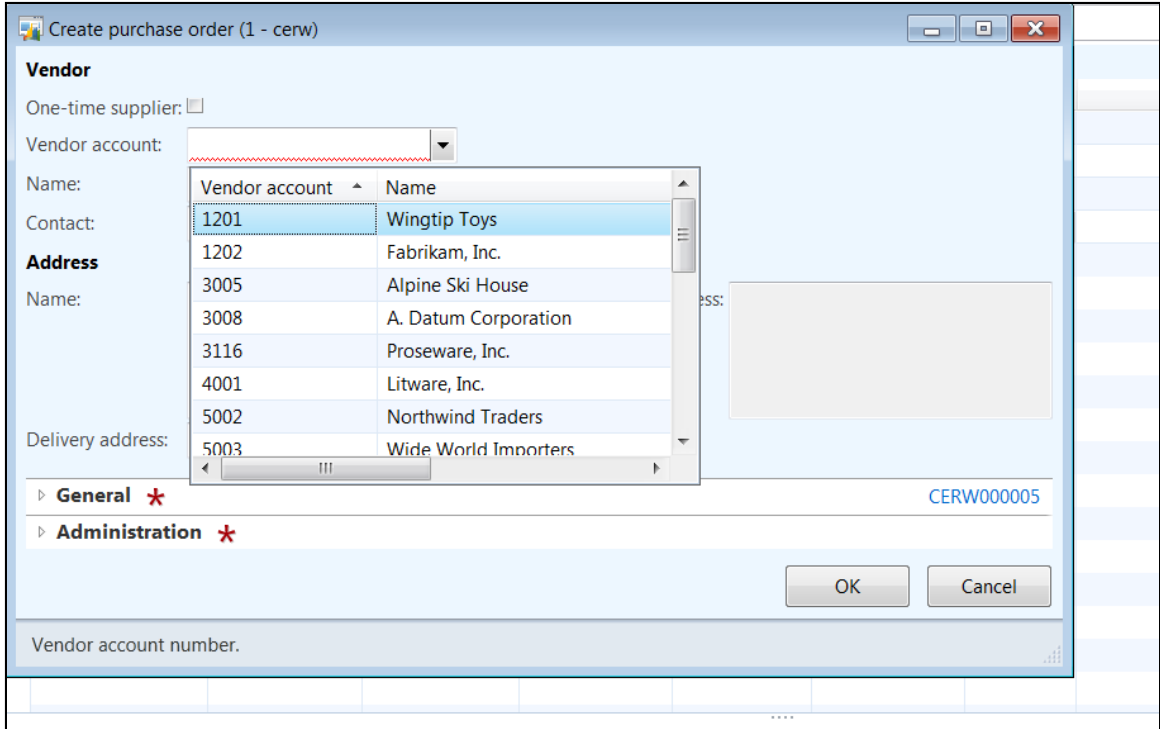
4. In the **Purchase order lines** FastTab, click **Purchase order line > Create lines from package**.
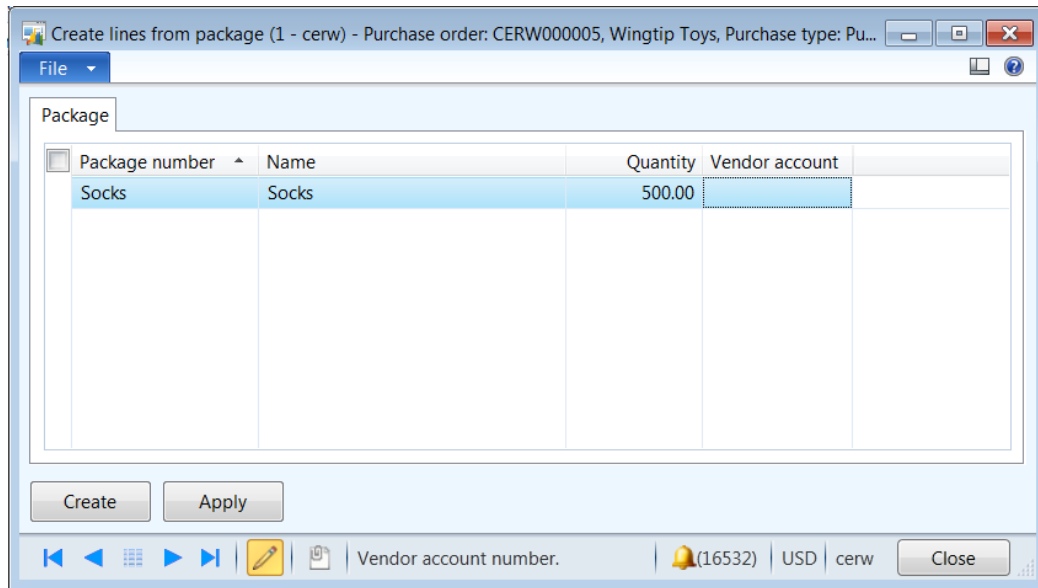


5. Select the **Package number** from the drop down list box.

- The **Name** field displays the name of the selected product package.

6. Enter the total **Quantity** to be ordered from the vendor. The quantity that is specified will be distributed to the products that are defined in the packages.

7. Click **Create** to add the product lines to the purchase order.

8. Confirm and finalize the purchase order.

## 16.2 REPLENISHMENT RULES

Replenishment rules are used to automatically distribute stock to retail channels based on the settings that are defined by the retail channel or the retail product hierarchy. The default weight and the default percentage that are used in the replenishment rules are based on the replenishment weight that is defined on the **Retail** FastTab in the **Warehouses** form.

New weight and percentage can be defined for replenishment rules for each channel or hierarchy. The new values take precedence over the default values.

**Note**

Retail channels can be used to define replenishment rules. If a retail channel that is selected does not have a retail warehouse created, then the retail channel will be excluded from the distribution calculation.

To identify a warehouse as a store, select the **Store** check box on the **Retail** FastTab in the **Warehouses** form.

To create replenishment rules, follow these steps.

1. Click **Retail** > **Setup** > **Replenishment** > **Replenishment rules**.

2. In the **Replenishment rules** form, select a replenishment rule, or click **New** to create the new rule.

3. If you are creating the new replenishment rule, type a name in the **Replenishment rule** field and a description in the **Description** field.

4. On the **Lines** FastTab, click **Add** to define replenishment rules.

5. In the **Type** field, select one of the following options:

   o **Replenishment hierarchy** – Select this option if the replenishment rule applies to a replenishment hierarchy. Then, in the **Name** field, select a category.

   o **Channel** – Select this option if the replenishment rule applies to a retail channel. Then, in the **Name** field, select a channel.

6. In the **Weight** field, enter the weight for the selected hierarchy or channel.

   The **Percent** field is updated automatically based on the value that is entered in the **Weight** field.

7. The **default weight** for the hierarchy or the channel is automatically updated, depending on the value that you selected in the **Type** field.

☑ **Note**

The value in this field reflects the proportional weight that is specified for the variants.

8. The **default weight** field is automatically updated, and all lines are recalculated, based on the value that is selected in the **Type** field.

9. Repeat steps 4 through 9 to add more replenishment rules.

📝 **Note**

Assign the default replenishment hierarchy for categories in the **Retail product hierarchy** form. The default replenishment rule that is assigned will be used if buyers push or if cross docking is used to distribute quantities to the retail channels.

## 16.3 REPLENISHMENT HIERARCHIES

Replenishment hierarchies are set up to group the stores that must be replenished. The groupings can be based on the organization, size, turnover, or the type of stores.

To set up the replenishment hierarchy, follow these steps.

1. Click **Organization administration** > **Setup** > **Organization** > **Organization hierarchies**.

2. Select the hierarchy.

3. In the **Name** field, enter the unique name for the replenishment hierarchy.

4. On the **Purposes** FastTab, click **Assign purpose**.

5. In the **Purposes** field, select **Retail replenishment**, and then click **Add**. Then, select the organization hierarchy that you created in step 3.

6. Close the **Organization hierarchy purposes** form, and then, in the **Organization hierarchies** form, click **View**.

   Microsoft Dynamics AX for Retail POS displays the **Hierarchy designer** form. You can use this form to create a visual representation of the retail hierarchy.
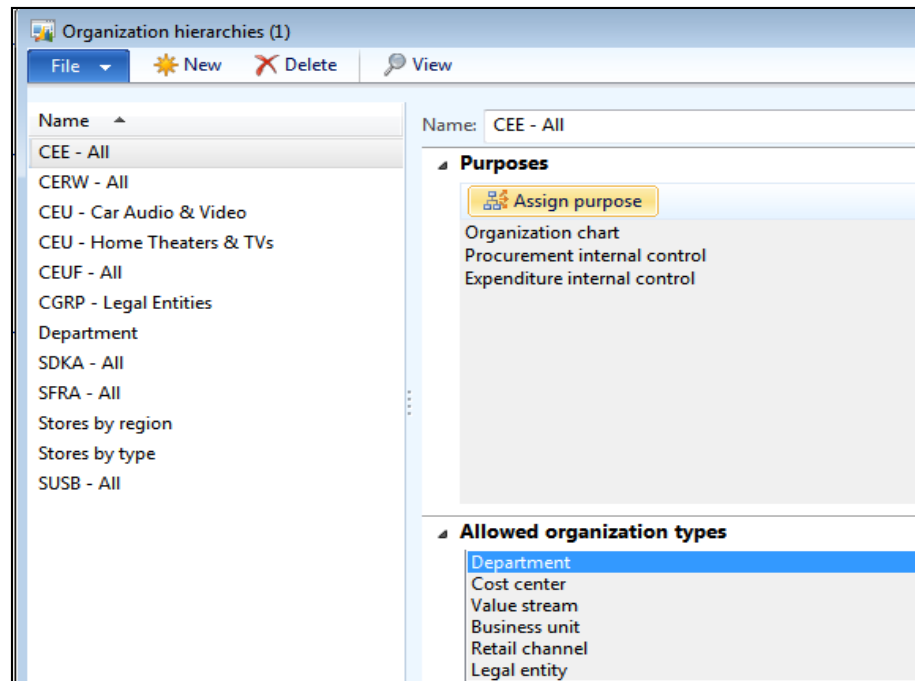
7.  In the **Save as draft** group, click **Edit**.

8.  In the **Modify** group, click **Insert**, click the type of organization to which the retail hierarchy corresponds, and then click the organization to insert.

9.  In the **Modify** group, click **Insert**, click **Retail channel**, and then click the channel to insert.

10. If you want to save the hierarchy so that you can complete it later, click **Save as draft**. Or, if you finish designing the hierarchy, click **Publish and close**.
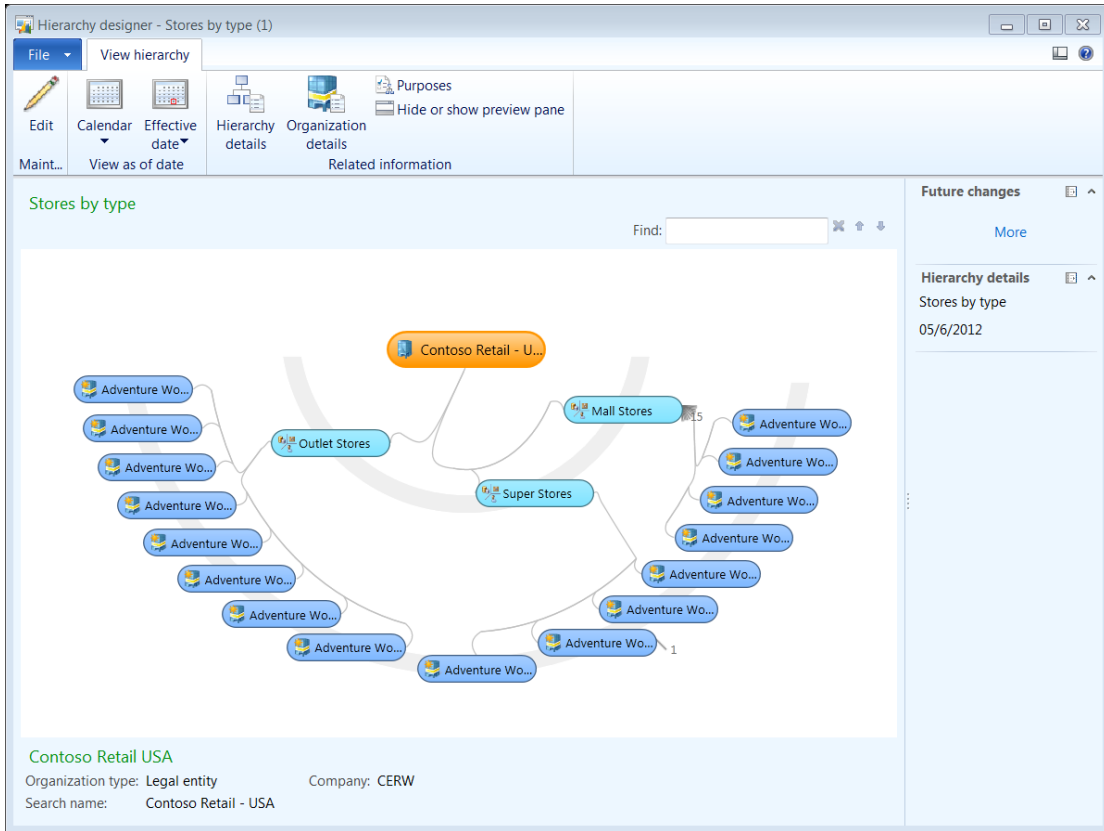
## 16.4 REPLENISHMENT SERVICE CATEGORIES

Service categories are used to define replenishment rules and the availability calculation that will be used for cross docking to distribute products from a planned purchase order.

The service category is linked to the vendor on the **Retail** FastTab in the **Vendors** form.

The service category provides information about the availability of the goods that are for sale and the delivery time. The service category also supports automatic and manual cross docking.

To set up a service category, follow these steps.

1. Click **Retail** > **Setup** > **Replenishment** > **Service category**.



2. In the **Service category** form, select the service category, or click **New** to create the new service category.

3. In the **Service category** field, type an ID number.

4. Enter the **Description** for the newly created service category.

5. Enter the **Sale date** for the service category. This date is dynamic and is based on the planned purchase order.

6. Enter the **Local delivery date** that will be calculated based on the planned purchase order that is associated with the service category.

7. Select the **Calendar** type from the drop down list box.

8. Select the **Cross docking warehouse** from the drop down list box.

9. Select the default **Replenishment rule** that will be used by cross docking to distribute stock to the retail channels.

10. Select the **Warehouse** where the products will be stocked.

The fields on the **Service category** form are described in the following table.

**Fields**

| Field | Description |
|---|---|
| **Service category** | The unique identification code of the service category. |
| **Description** | The name or description of the service category. |
| **Sales date** | The number of days that are added to the delivery date when the sales date is calculated for a new purchase order. |
| **Local delivery date** | The number of days that are added to the delivery date when the local delivery date is calculated for a new purchase order. |
| **Calendar** | The calendar that defines the capacity and work time in the production system. The whole calendar is listed in this field after the calendar is created in Microsoft Dynamics AX for Retail POS. |
| **Cross docking warehouse** | The cross docking warehouse. If a cross docking warehouse is defined for a service category, cross docking is automatically performed when a planned order is finalized in the master planning system. If the cross docking warehouse is the same as the warehouse that is used for the planned purchase order, no cross docking is performed. |
| **Replenishment rule** | The rule that is defined for automatic replenishment. |
| **Warehouse** | The location of the warehouse. If automatic replenishment is required, the warehouse must not be the same as the cross docking warehouse. |

## 17 Charge Code

**OVERVIEW**

In this module we will discuss Charge Codes. For instance if you have to track sales amounts or purchase amounts in addition to line items, you can use charges codes. For example, you might pay freight and insurance on a purchase order, and these amounts might be itemized separately on the purchase order. You can specify whether these amounts are posted to expense accounts, or whether they are added to the cost of the items.

You can create charges codes for Accounts receivable, Accounts payable and Retail.

To create charges codes, follow these steps.

1. Use one of the following menu paths:
   - Click **Retail > Setup > Charges > Charges code**.
   - Click **Accounts receivable > Setup > Charges > Charges code**.
   - Click **Accounts payable > Setup > Charges > Charges code**.

2. Click **New** to create the new charge code.
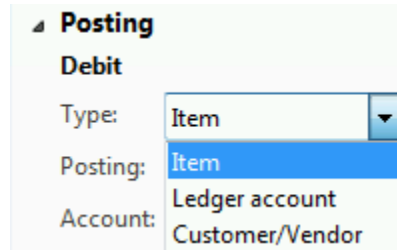


3. In the **Charges code** field, type the code for the charge.

4. In the **Description** field, type the description of the charge.

5. In the **Item sales tax group** field, select the sales tax group. This is optional.

6.    On the **Posting** FastTab, specify how the charge is automatically debited and credited.

I.    Select the **Type** of posting.



II.    If you selected **Ledger account** as the debit type or the credit type, the **Posting** type must be specified in the **Posting** fields, and the main account must be specified in the **Account** fields.

Example

Your customer pays the charge. Therefore, the charge is added to the sales order totals. You set up the following posting information:

- In the **Type:** field in the **Debit** field group, select **Customer/Vendor** to add the invoice charge to the customer's account.
- In the **Type:** field in the **Credit** field group, select **Ledger account**. Then, in the **Account** field, select the main account for the revenue from the invoice charges.

**NOTE**:

- You can enter a different currency for the charge transaction if the debit type or the credit type is either **Ledger account** or **Item** for the selected code.
- You can print the text for charges in the language that is assigned to the customer. Click **Translations** to specify text for the charges code in other languages.

## 17.1 DELIVERY CHARGES GROUPS

Use this form to create delivery charges groups. If you open the form from **Retail**, you can specify the charges groups to use for customer delivery. You can also open the **Charges groups** form from **Accounts receivable** to specify the charges groups to use in sales orders. Charges groups help you do the following:

- Set up group charges in the **Charges code** form.
- Set up automatic charges in the **Auto charges** form.

If a charges group is assigned to a customer or vendor, the charges codes that are set up in the specified charges group are calculated when you create orders.
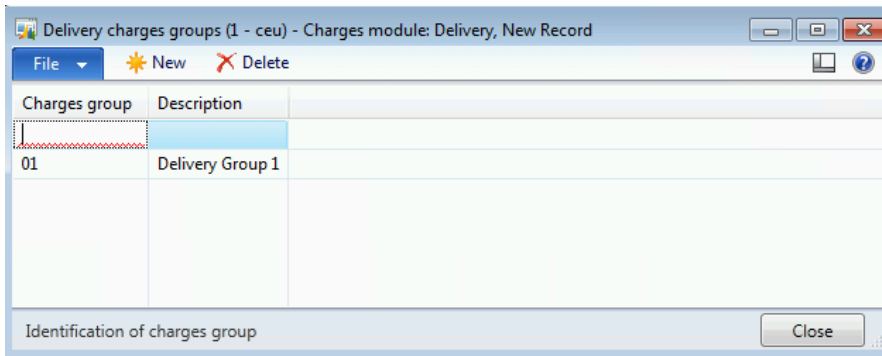
To create delivery charges groups, follow these steps.

1.      Click **Accounts receivable** > **Setup** > **Charges** > **Delivery charges groups**, or click **Retail** > **Setup** > **Charges** > **Delivery charges groups**.


📝**Note**


The **Delivery charges groups** form is available only if Microsoft Dynamics AX 2012 R2 is installed.
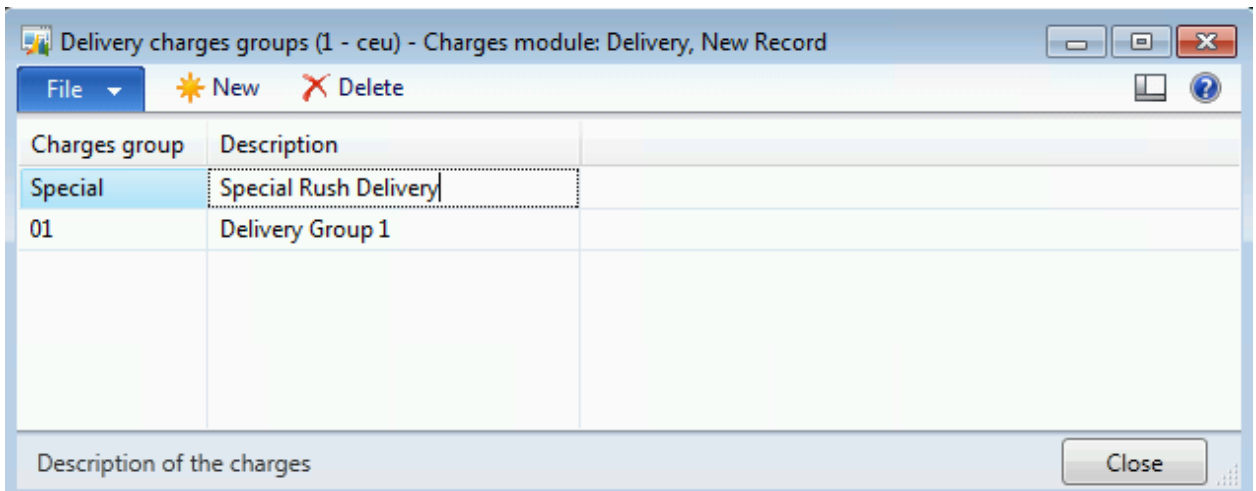

2.      Click **New** to create the new delivery charge group.



3.      Enter a code for the **charges group**. Both letters and numbers can be used to identify the group

4.      Enter a **description** that describes the charges group.

5.    Close the form.

## 17.2 AUTO CHARGES

You can open the **Auto charges** form from Microsoft Dynamics AX for Retail POS only if Microsoft Dynamics AX 2012 R2 is installed.

Use the **Auto charges** form to specify the sales or purchase charges that you want the system to assign to orders.

To set up auto charges, follow these steps.

1. To start, use one of the following menu paths:

   - 
   - Click **Accounts receivable > Setup > Charges > Auto charges**.
   - Click **Accounts payable > Setup > Charges > Automatic charges**.
   - Click **Procurement and sourcing > Setup > Charges > Automatic charges**.
   - Click **Retail > Setup > Charges > Auto charges**.



   - 
2. Select **Main** or **Line** to indicate the level at which the charges should be calculated.

- 
3. Click **New** to create a new record.
4. Select an **Account code** to specify whether the charge is to be calculated for a specific account, a specific account group, or all accounts.
- If you set the value in the **Account code** field to **Table**, specify the account number for which the charge is being created.
- If you select **Group**, specify the charge group for which the charge is being created.
- If you select **All**, the charge is calculated on the order line, regardless of the item number that is selected.

- 

**Note**

If you open the form from **Accounts receivable** or **Retail**, the **Customer relation** field is displayed. If you open the form from **Accounts payable or Procurement and sourcing**, the **Vendor relation** field is displayed.

5. Specify whether the shipping charge for the sales orders is to be calculated for a specific mode of delivery, a specific mode-of-delivery group, or all modes of delivery.

- 
- When the value in the **Mode of delivery code** field is Table or Group, the shipping charges are applied only when you create sales orders, not when you create sales quotations.

- 
6. Specify the mode of delivery relation.
- If the value in the **Mode of delivery code** field is Table, specify the mode of delivery for which the shipping charge is created.
- If the value in the **Mode of delivery code** field is Group, specify the mode of delivery group for which the shipping charge is created.
- If the value in the **Mode of delivery code** field is All, the shipping charge is calculated for all modes of delivery.

7. On the **Lines** FastTab, enter the following information:



- 
  a. Specify the **currency code** for the charges transaction.
  b. Select one of the charges that are defined in the **Charges code** form.
  c. For **Category**, select the method by which the charge should be calculated:
     i. Fixed – The charge is entered as a fixed amount on the line. Fixed charges can be used on charges in the order header and the order lines.
     ii. Pcs. – The charge is based on the unit. These charges can be used only on order lines.
     iii. Percent – The charge is entered as a percentage on the line. Percent charges can be used on charges in the order header and the order lines.
  d. Intercompany percent – The charge is entered as a percentage on the line for intercompany orders. Intercompany percent charges can be used only on order lines.
  e. External – The charge is calculated by a third-party service that is associated with one or more shipping carriers.

8. Enter the **Charge Value**. If you want to validate charges for Accounts payable, and if the charges are calculated as a fixed amount instead of a percentage, this value must be less than the maximum amount that is specified in the **Charges code** form.

9. Select the **Charges currency Code**.

- 

10. For sales orders, specify the **from amount** for a range of transaction totals in which the shipping charge is applied.

- For example, to specify free shipping for orders over 100.00 United States dollars (USD), enter 100 in the **From amount** field, 0 in the **To amount** field, and 0.00 in the **Charges value** field.

- 

11. For sales orders, enter the ending or **To amount** for a range of transaction totals in which the shipping charge is applied.

12. Specify the **Sales tax group** for the charges transaction.

13. Make available the **Keep** field if you want to keep the charges transaction after invoicing. This means that the charge is applied every time that you create a new invoice for the selected customer account.

## 18 SET-UP RETAIL SCHEDULER

**Overview**

In this module we will learn that in Microsoft Dynamics® AX for Retail, the Retail Scheduler features are used to manage the distribution of data through Retail Commerce Data Exchange: Synch Service, starting from the headquarters office database to the appropriate store databases. Retail Scheduler can also be used to do the following:

- Manage updates of the headquarters office database with sales and inventory data that received from the stores
- Create distribution locations
- Set up table distribution
- Schedule the jobs and subjobs that send information to stores

## 18.1 SCHEDULER JOB

Jobs are used to distribute data to the locations. Each job has a location filter. The location filter is the set of distribution locations to which the data is distributed by the job. Jobs are made up of subjobs. Subjobs are specific instructions that are used to distribute data in selected tables and selected table fields.

To run jobs, follow these steps.

    i.    Set up distribution locations and distribution schedules.
   ii.    Initialize jobs and subjobs.
  iii.    Configure subjobs.
  iv.    Configure jobs.
   v.    Change pre-actions to actions.
  vi.    Run jobs or batches of jobs.

**Types of jobs**

In Microsoft Dynamics AX for Retail, three types of jobs are available:

- **Action (A) jobs** – Use A jobs to send data from the headquarters office to stores. The data in the jobs includes the modifications to records that are tracked by the action filters. The locations that receive the data are determined by the

distribution settings that are specified for the changed records or their parent records.

- **Normal (N) jobs** – N jobs are not dependent on actions. N jobs delete all existing data in the destination tables and then inserts the whole set of data. Use N jobs to send data from the headquarters office to the locations that are specified in the job.

- **Pull (P) jobs** – Use P jobs to update the data in the Microsoft Dynamics AX for Retail database by extracting data, such as sales and inventory transactions, from the locations that are specified in the job.

## 18.2 SCHEDULER SUBJOB

Microsoft Dynamics AX for Retail includes predefined scheduler jobs and subjobs that meet the replication needs of most organizations. To populate these jobs and the subjobs, you must start Microsoft Dynamics AX for Retail.

New jobs can be added or existing jobs can be customized based on the business requirements.

📝 Note

The following procedure is performed during the deployment of Microsoft AX for Retail. This deployment creates the base configuration data that includes the scheduler jobs and the subjobs.

To create the base configuration data including the scheduler jobs and subjobs, follow these steps.

1. Click **Retail** > **Setup** > **Parameters** > **Retail Parameters**.
2. On the **Retail Headquarters parameters** forms, on the General FastTab, click **Initialize**.
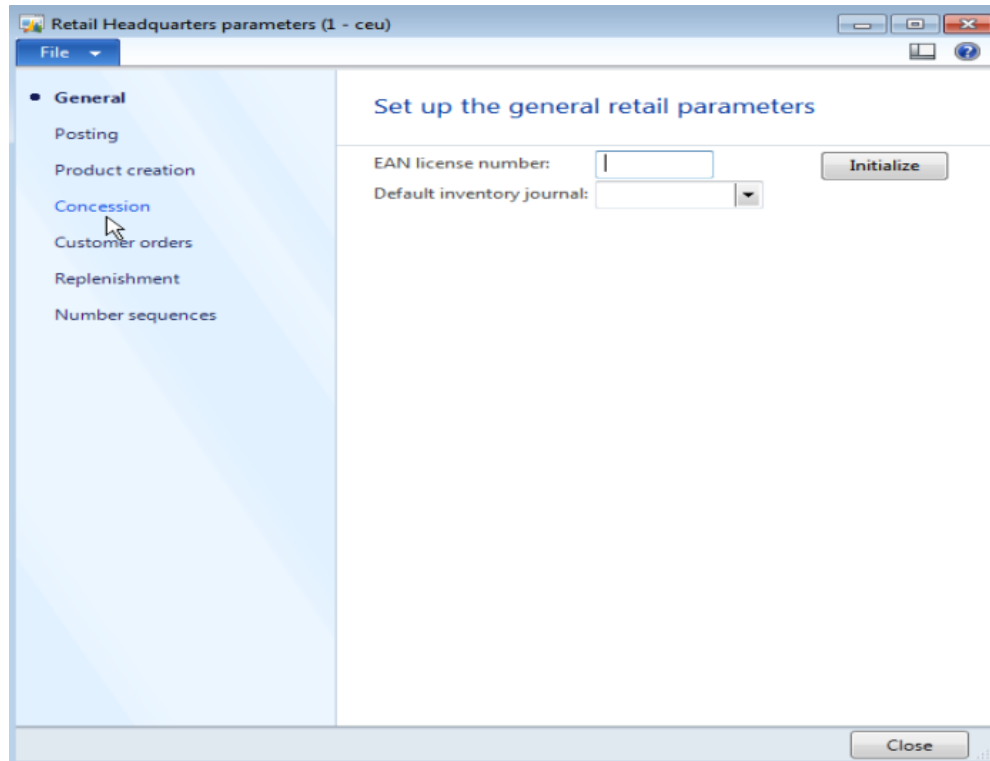
## 18.2.1CONFIGURE SUBJOBS

To create, configure and, or modify the subjob, follow these steps.

1.	Click **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjobs**.
2.	Click **New** to create a new subjob, or select the subjob that you want to modify from the left side list.
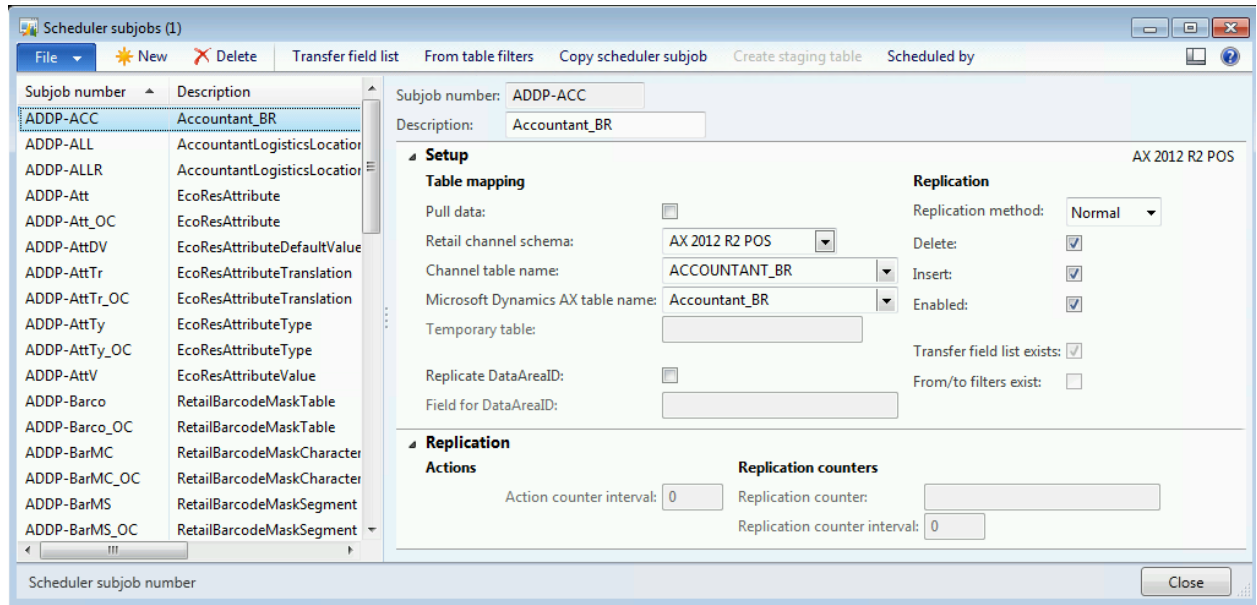
3. Enter the **Subjob number.** This number is a unique ID provided to identify the subjob.

4. Enter the **Description** of the subjob.

5. On the **Setup** FastTab and the **Table mapping** area, enable the **Pull data** check box to indicate the job needs to extract data from retail stores to the headquarters office.

6. Select the **Retail channel schema** from where you want to extract the information in the headquarters office.

7. Select the **Channel table name** from the drop-down list box. This box provides a list of tables to retrieve information from a retail channel.

8. Select the **Microsoft Dynamics AX table name** from the drop-down list box. This box provides a list of tables to populate information in at the retail channel.

9. Enter the name of the **Temporary table** that will be used as the staging table to upload the data when the data is extracted.

10. Enable the **Replicate DataAreaid** check box to indicate that the legal entity ID must be replicated at the retail channel or the headquarters office.

    **Caution**

    Use the **Replicate dataareaid** field with caution because it can result in invalid data being populated in incorrect fields.

11. Select the **Field for DataAreaid** field from the drop-down list box.

12. On the **Replication** area, select the **Replication method:** from the drop-down list box. The options include the following:

    a. **Normal** – Select normal if the subjob created is for a normal job to send all the data to the retail store.

     b. **By actions** – Select by actions if the subjob created is for sending differential data to the retail store.

13. Select the **Delete** check box if the replication is performed when a record is deleted.

14. Select the **Insert** check box if the replication is performed when a record is created.

15. Select the **Enabled** check box to start the subjob.

    The **Transfer field list exists** check box is automatically selected if transfer fields are specified for the table that is replicated to the retail store.

    The **From/To filters exist** check box is automatically selected if filters are specified for the tables that are selected in the subjob.

16. On the **Replication** FastTab, in the **Actions** area, enter the **Action counter interval**. A value in this field can only be entered if the **Replication method** is selected by the actions in the **Replication** area.

17. On the **Replication counters** area, enter the **Replication counter** value.

18. Select the **Replication counter interval** value.

📝 Note

  A subjob can be assigned to more than one job.

To select fields to be distributed to stores, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjob**.

2. Select the subjob from the left side list and click **Transfer field list** to select the fields that will be distributed to the retail stores.
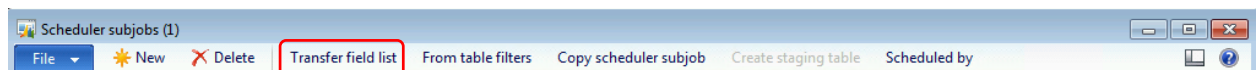


The **Transfer field list** form opens.

3.  Select the **From field** on the **Field list** window.

    The **Field type** will be automatically selected based on the field selection.

4.  Select the **To field** from the drop-down list box.

    The **Field type** will be automatically selected based on the **To field** selection.

5.  Select the **Conversion type** from the drop-down list box. The options include the following:

    a.  **None**: Select the option not to apply any conversion rules.

    b.  **Equals (=):** Select this option to specify the filter value in the **Value** field.

    c.  **Substring**: Enter the substring value in the **Value** field.

    d.  **Today():** Select this option if the filter is based on the current date timestamp.

    e.  **TimeNow():** The time will populate the current time.

    f.  **Skip text conversion**: Select this option to skip the conversion process.

    g.  **Time to integer**: Select this option to convert the time value to an integer.

    h.  **Integer to time**: Select this option to convert the integer to a time value.
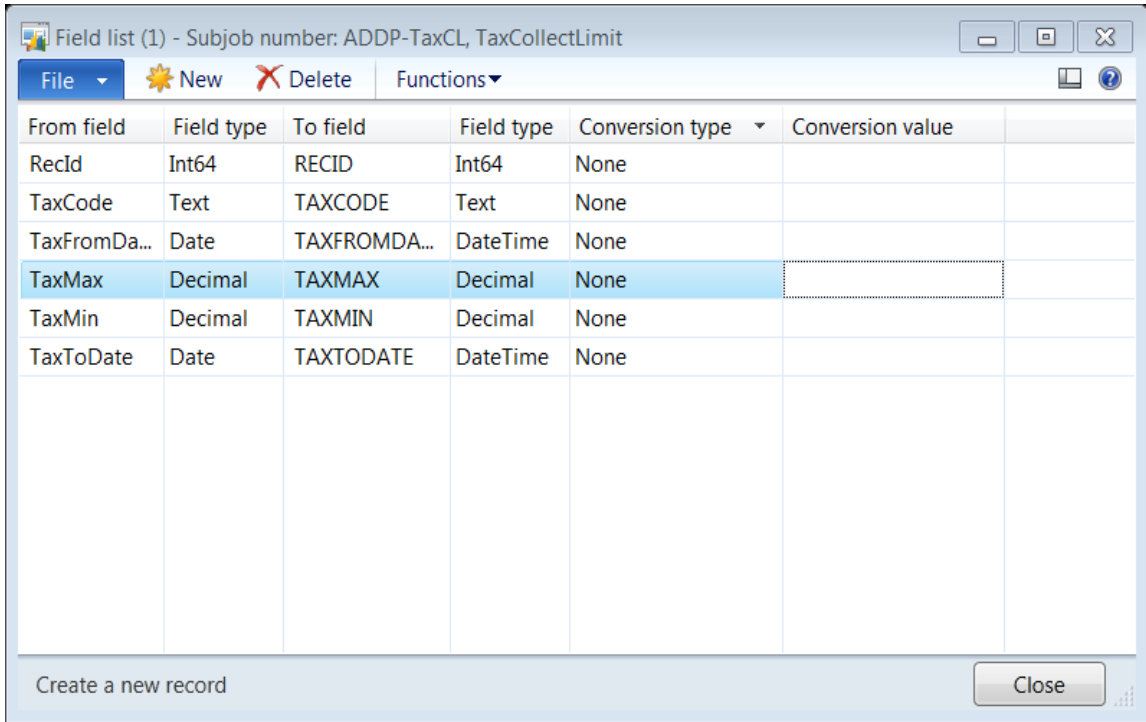
To open the scheduler subjob from table filters, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjob**.

2. Select the subjob from the left side list and click **From table filters** to set filters on the from table that is selected.
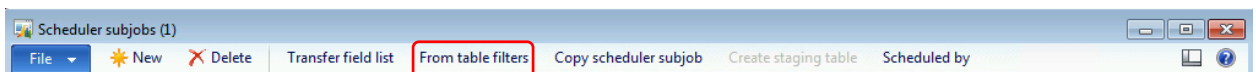


The **From table filters** form opens.

3. Click **New** to create a new filter.

4. Select the field name from the drop-down list box. A new window opens with a list of fields to select.
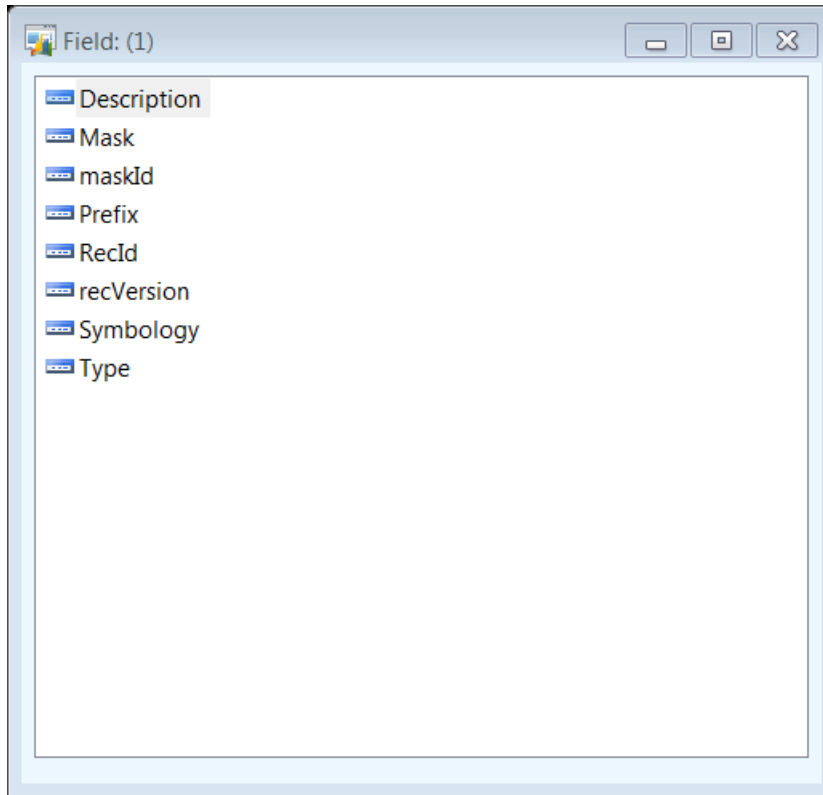
5. Select a **Filter** from the drop-down list box.

6. Enter the filter value in the **Value1** field.

7. Enter the filter value in the **Value2** field.
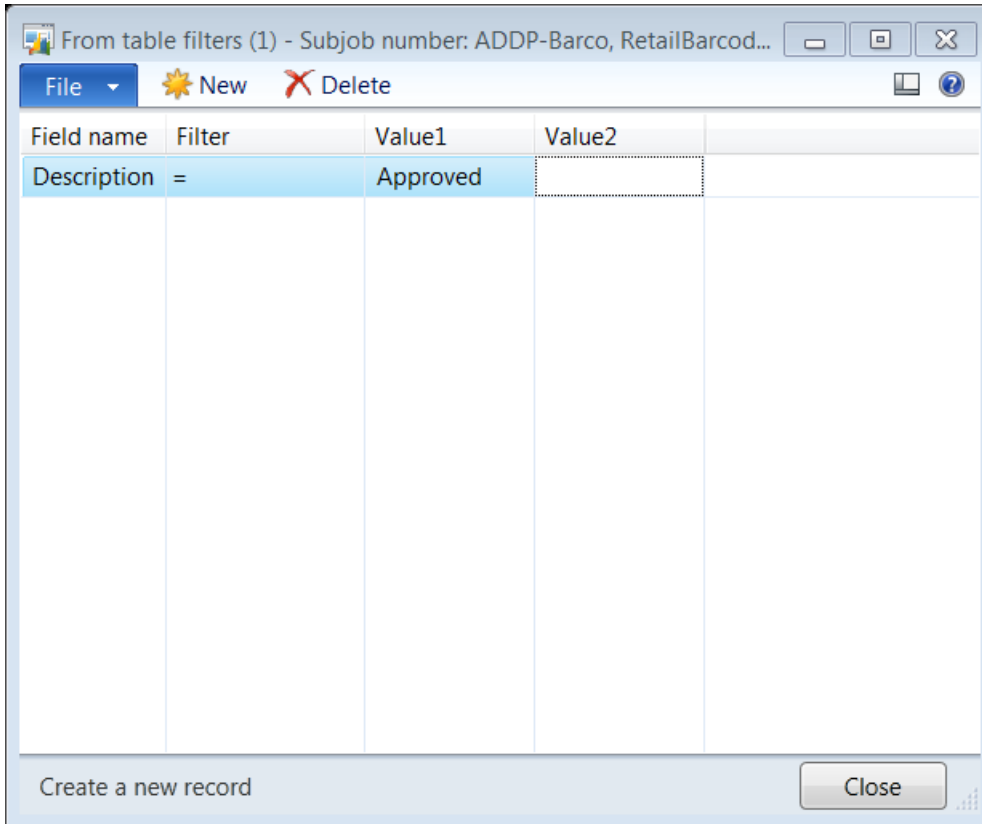
To copy the scheduler subjob, follow these steps.

1.  Open the Scheduler subjob by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjob**.

2.  Select the subjob from the left side list and click **Copy scheduler subjob** to copy an existing job to create a new subjob.
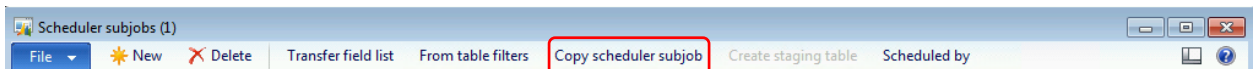


A new scheduler subjob will be created.

To create the staging table, follow these steps.

1.  Open the Scheduler subjob and create the temporary staging table by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjob**.

2. Select the subjob from the left side list and click **Create staging table** to create the temporary table that is described in the **Temporary table** field.
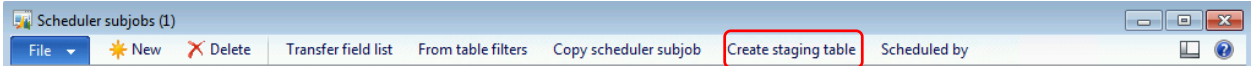


A new staging table will be created.

To use scheduled by, follow these steps.

1. Open the Scheduler subjob and view the scheduled jobs that run the subjob by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler subjob**.

2. Select the subjob from the left side list and click **Scheduled by** to view the scheduler job that runs the subjob.
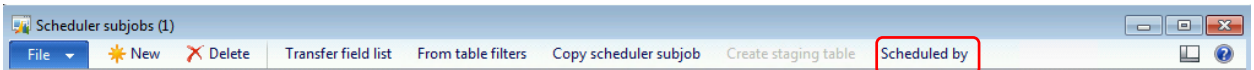


The **Scheduled by** form opens.
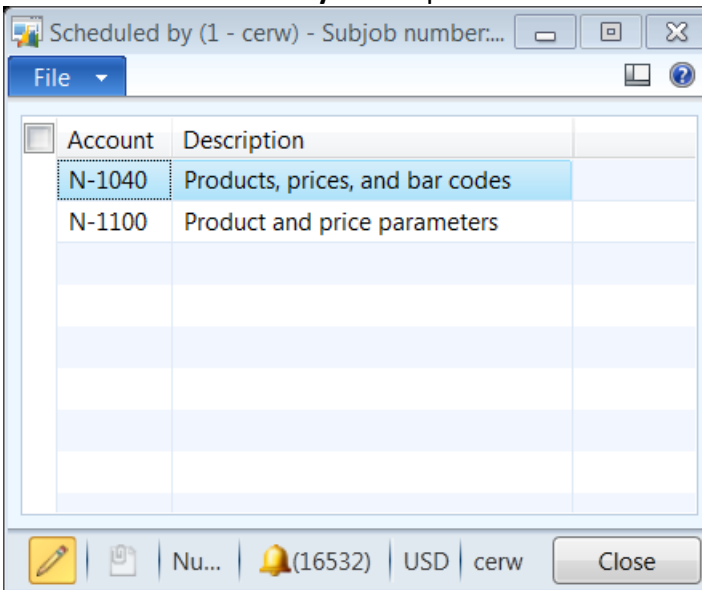


### 18.2.2 CONFIGURE JOBS

Jobs should contain subjobs that are related. For example, the Currency job contains the subjobs that update currencies and exchange rates. Jobs should also contain

subjobs that use replication methods that are consistent with the type of job. As a general rule, N jobs and P jobs should contain subjobs with **Normal** replication, and A jobs should contain subjobs with **By actions** replication.

To create a new job or modify an existing job, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Scheduler job**.
2. Click **New** to create a new job, or select the job that you want to modify.
3. Enter a unique **Job number** for the new scheduler job.
4. Enter the **Description** of the job.
5. On the **General** FastTab, select the **Retail channel schema**.
6. Select the **Execution class** that will be running.
7. Select the **Data processing class** if the job will be processing data.

| Job number: | N-1080_OC | |
|---|---|---|
| Description: | Tax (Online Channel) | |

**General** — AX 2012 R2 Online Channel

**General**

| | |
|---|---|
| Retail channel schema: | AX 2012 R2 Online Cha |
| Job execution class: | RetailConnReplicationNJob |
| Data processing class: | |

8. On the **Subjobs** FastTab, click **Add** to assign subjobs to the scheduler job.
9. Select the **Subjob number** from the drop-down list box.
   The **Description** field displays the name of the subjob that is selected.
10. Select the **Enabled** check box to enable the subjob to be started.
   The **Subjob replication method** displays the replication method of the subjob that is selected.
   The **Table name** displays the table name from the subjob that is selected.

**Subjobs**

New · Delete

| Subjob number | Description | E.. | Subjob rep... | Table name |
|---|---|---|---|---|
| ADDP-ExcCu | Currency | ✓ | Normal | Currency |
| ADDP-ExcPa | ExchangeRateCurrencyPair | ✓ | Normal | ExchangeRateCurrencyPair |
| ADDP-ExcRa | ExchangeRate | ✓ | Normal | ExchangeRate |
| ADDP-ExcTy | ExchangeRateType | ✓ | Normal | ExchangeRateType |

11. On the **Object setup** FastTab, select the Type from the drop-down list box.

📝 **Caution**

The selection menu displays all Application Object Tree (AOT) object types, but only Class is supported.

12. On the **Free variables** area, enter the **Text** for the scheduler job.

☑ **Note**

**Free variable**: Enter additional data to be passed to the application object to provide context for the job that is being started. This feature is not used as a default feature in Microsoft Dynamics AX. This feature  is made available to facilitate partner customizations.
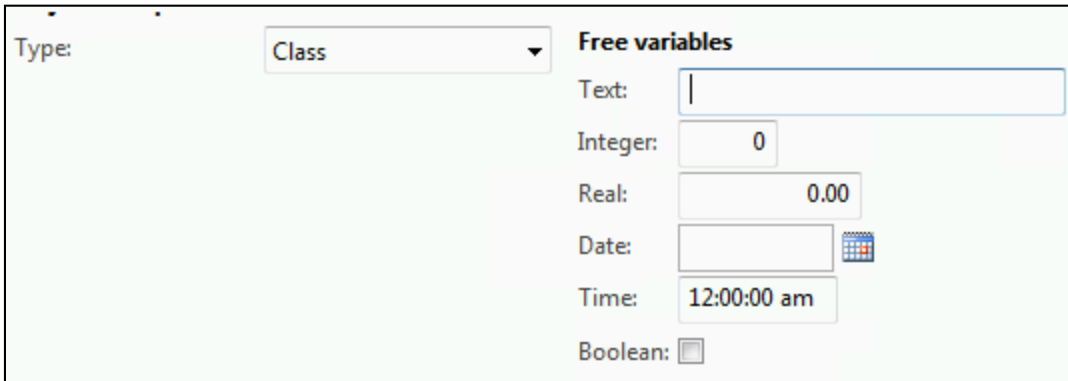
13. Enter the **Integer** value for the scheduler job.
14. Enter the **Real** value for the scheduler job.
15. Enter the **Date** value for the scheduler job.
16. Enter the **Time** value for the scheduler job.
17. Select the **Boolean** value for the scheduler job.



To create the staging table for P jobs, follow these steps.

1. Open the Scheduler job by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler job**.

2. Select the P job from the left side list and click **Create staging table** to create the staging database for P job tables.
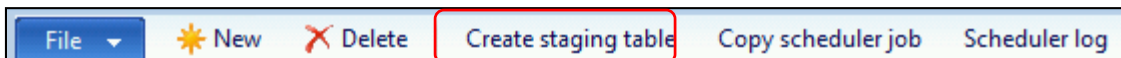


By clicking the button, the TempDB staging tables are created for the specified P job target table. Microsoft Dynamics AX for Retail Commerce Data Exchange: Synch Service uses temporary tables before writing point-of-sale (POS) transactions to

Microsoft Dynamics AX. You must create a staging table each time you change a P Job definition. Then, a window opens with a list of steps that are performed to create the temporary database.

**Copy scheduler job**

To copy an existing job to create a new scheduler job, follow these steps.

1. Open the Scheduler job by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler job**.

2. Select the job from the left side list and click **Copy scheduler job** to copy an existing job to create a new scheduler job.
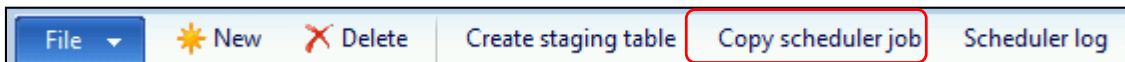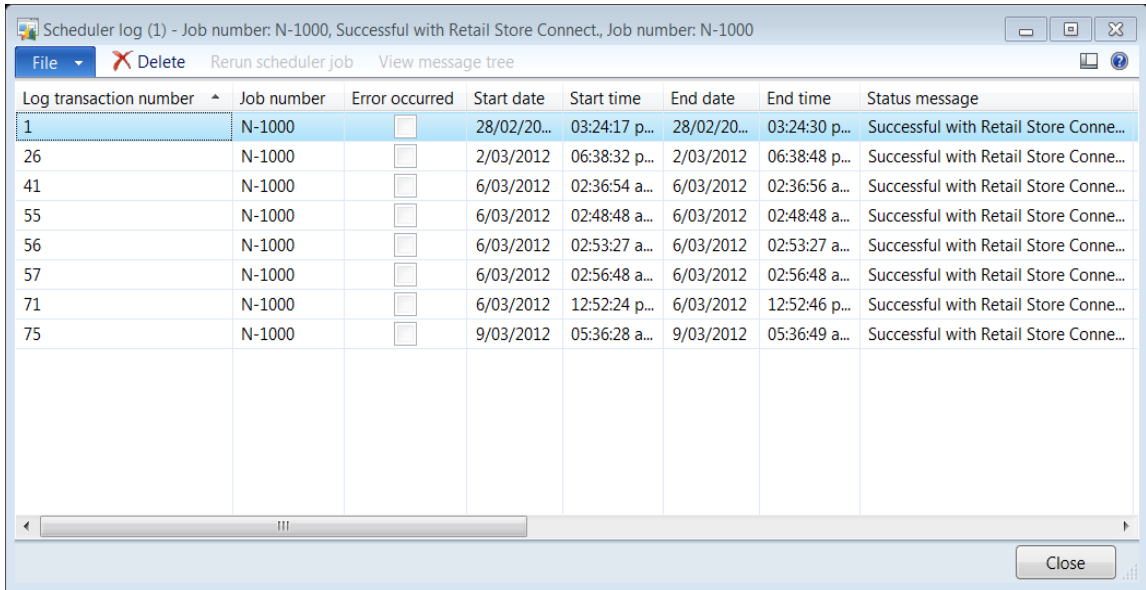


**Scheduler log**

To view historic information on the job execution, follow these steps.

1. Open the Scheduler job by clicking **Retail** > **Setup** > **Retail scheduler** > **Scheduler job**.

2. Select the job from the left side list and click **Scheduler log** to view the historic information on the job execution.
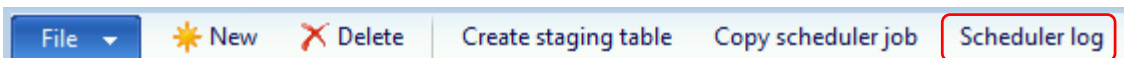


The **Scheduler job** form opens.

## 18.3 DATA DISTRIBUTION

Data distribution settings are created and specify how data in the headquarters office database is sent to store databases. You can specify that certain records are sent only to the locations where the records apply. You can also specify how changes to some tables and table fields are distributed.

Data distribution starts and ends with a record that is changed.

To perform data distribution, follow these steps.

1. Set up data distribution locations for stores.
2. Set up action filters to specify which tables and fields, if any, are monitored for changes.
3. Set up table distributions. When a record in one of the selected tables is modified, the distribution settings for the table determine whether that modified record is distributed, and whether records in parent or child tables should be distributed with it.
4. When a record is modified, the appropriate data is sent to the appropriate locations by means of jobs. The settings of the jobs provide more information about the specifics of the distribution.

## 18.4 DISTRIBUTION LOCATIONS

A distribution location is a record that represents the destination for distributed data. When you create a store, a corresponding distribution location is automatically created. Generally, you must have a distribution location for each store location that has its own database.

**Create distribution locations**
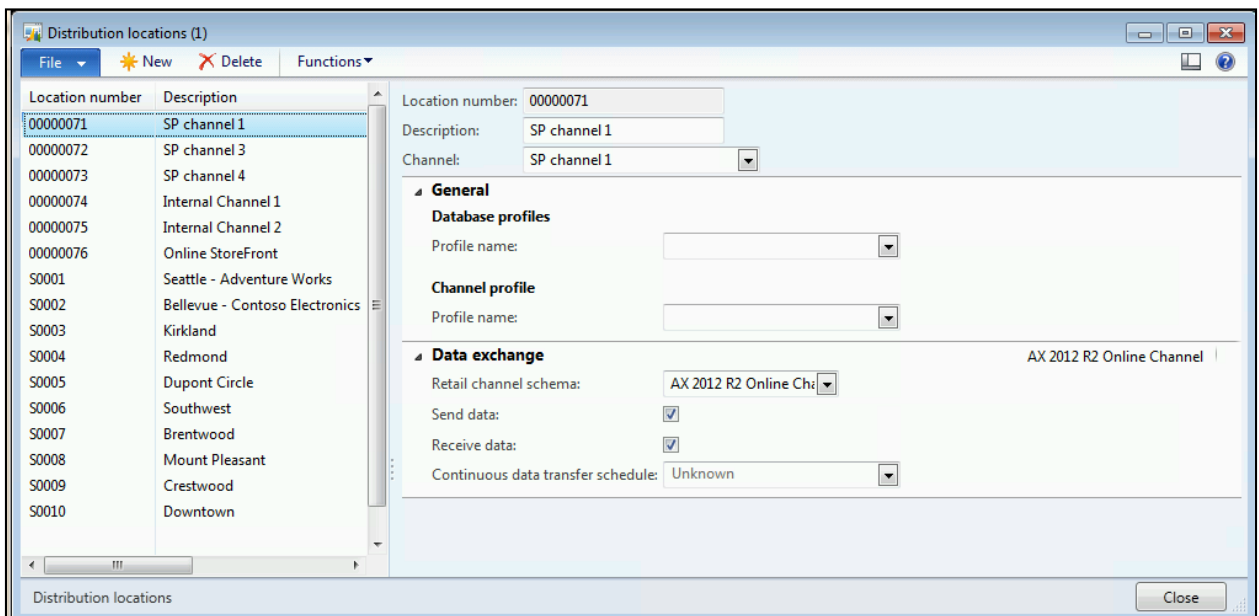
Typically, the distribution locations that are automatically created when you create stores are sufficient. However, you can also create new distribution locations.

📝 Note

If you manually create a distribution location, make sure that the distribution location ID matches the ID for the store that the distribution location represents.

To create distribution locations, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Distribution locations**.
2. In the **Distribution locations form**, click **New**.
3. Complete the following information for each distribution location.



**Fields**

- **Location number** – Enter a unique ID for the distribution location.
- **Description** – Enter a description of the distribution location.
- **Channel** – Select the channel. For a store location select the store.
- **Database profile** – Select the database connection profile for this location.
- **Channel Profile** – Select the channel or store profile for this location.
- **Retail Channel Schema** – Select the retail channel schema for this location.
- **Send data** – Enable whether you will send data from the headquarters office to the location.
- **Receive data**  - Enable whether you will receive data from the location.
- **Continuous data transfer schedule** - Select the job or all jobs for the schedule.

**Buttons**
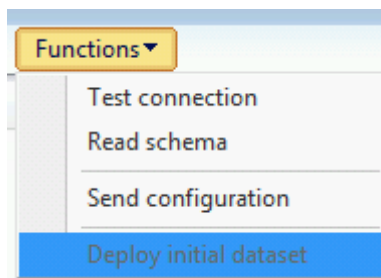


**Functions** – Open a menu where you can select from the following options:

- **Test connection** – Test the connection to the instance of Retail Commerce Data Exchange: Synch Service that is selected in the connection profile for this location.
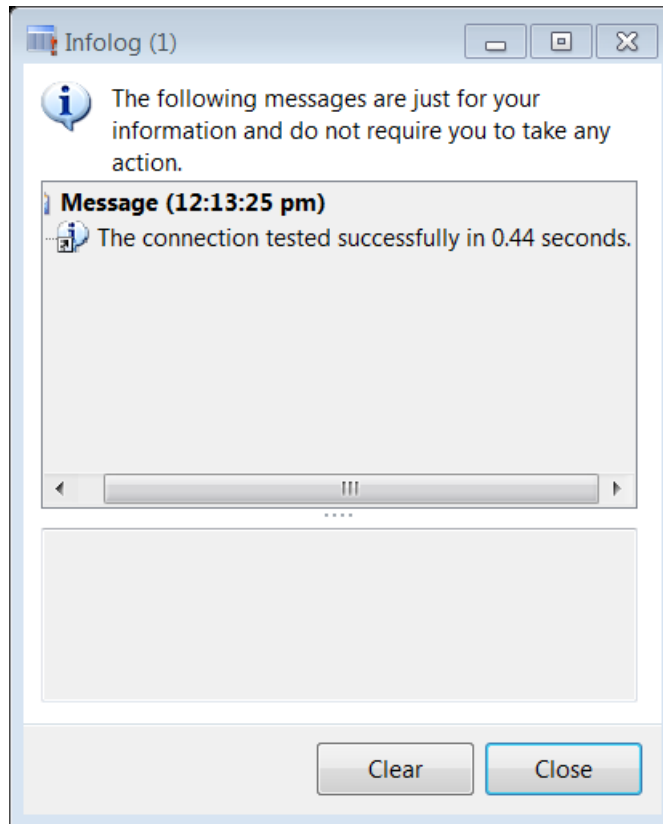
- **Read schema** – Read the database schema for the selected location, and create the list of location tables. The design must be read only for locations that are used to define the database design in jobs. By default, all jobs are set up to use the design of the default store, location S0001. As soon as Microsoft Dynamics AX for Retail is installed, this default location is created.

☑ Note

Do not use this function if the selected location is the headquarters office location.

For store locations, use this function only to read third-party tables from the store database. You might prefer to manually set up the function to read third-party point of sale (POS) databases instead of location tables.

- **Send configuration** – Send the Commerce Data Exchange: Real-time Service profile that is selected in the connection profile for this location to the instance of Commerce Data Exchange: Synch Service that is selected in the connection profile. The Commerce Data Exchange: Real-time Service profile uses the upload of Commerce Data Exchange: Synch Service status messages from the store to the headquarters office.

- **Deploy initial dataset** – Deploy initial dataset is a mechanism for sending all necessary data for provisioning a new database for use as a channel database.

  Deploy initial dataset depends on A jobs and table distribution. By default, when the deployment is first started, certain jobs are started because they are linked to the A-0001_OC schedule in default seed-data. These jobs include the following:

  - o     All A jobs ending with _OC
  - o     N-1080_OC
  - o     N-1100_OC
  - o     N-1110_OC
  - o     N-1115_OC

**Identifying rows to replicate**

Each distribution location is mapped to a channel. Only the data that is mapped to that channel is replicated when deploy initial dataset is started for the distribution location. To determine the set of rows to be replicated from each table, a pre-action is created for the RetailConnDistributionLocation table. This is the root table in the table distribution. The first internal dataset deployment starts the change from the pre-action to the action that results in a set of actions. Typically, there is one action for each table that is present in RetailConnDistributionLocation in the table distribution. All jobs in A-0001_OC are scheduled to be started, and all the A jobs process the necessary actions and replicate data to the destination distribution location. To prevent unnecessary data transfer, the N jobs in A-0001_OC are scheduled so that they only send data to the distribution location for which initial deployment is being run, regardless of the distribution list that is associated with the N jobs.

**How to customize**

To add a new table to the set of tables to be replicated during the first deployment, you can perform one of the following options:

- Add the table to one of the A jobs ending with _OC
  - o  Must       add       the       table       in       table       distribution       in RetailConnDistributionLocation.
- Add the table to one of the N jobs that are started during the first deployment (refer to the previous list).

The first option is the recommended option to use.  However, if there are cases where the table cannot be linked to a location, then you can use the second option.

## 18.5 DISTRIBUTION LOCATION LIST

In Microsoft Dynamics AX 2012 for Retail, you can create a distribution schedule that connects one or many locations (distribution location lists) with one or many scheduler jobs.

To add a new retail channel to the distribution location list, follow these steps.

1.  Click **Retail > Setup > Retail scheduler > Distribution location list**.
2.  In the **Distribution location list form**, click **New**.
3.  Click **Add** to add a new retail channel to the distribution location list.
4.  Select the **Location number** from the drop-down list box.
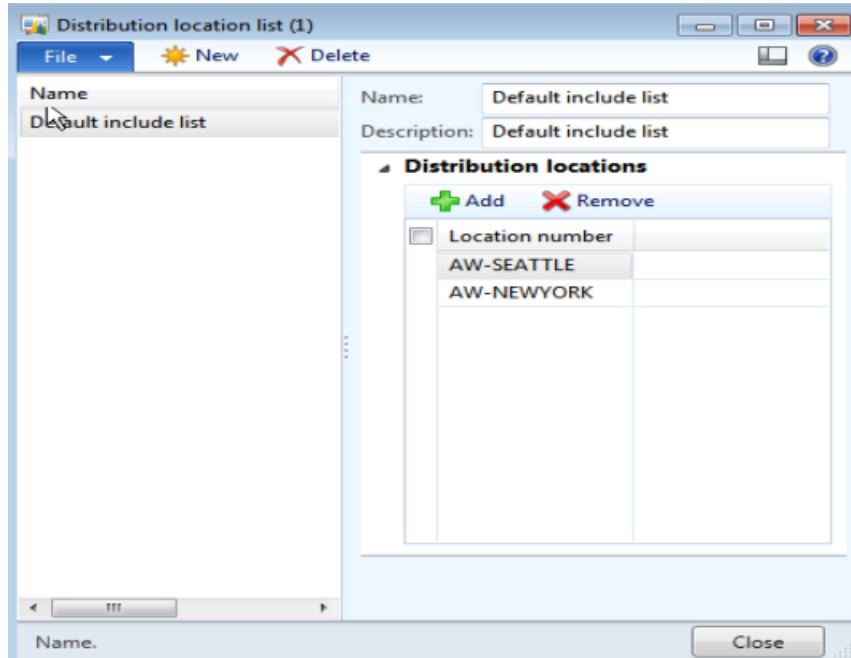


## 18.6 FILTER ON ACTION CREATIONS

When you set up an action filter, you should consider whether any transactions affect specific fields in tables. If an employee creates, modifies, or deletes a record in a selected table, the action filter automatically gathers the changed information in a pre-action. A pre-action is a data record that has information about the data that changed, when it changed, and who made the change. A pre-action contains a set of instructions that inform you about the corresponding changes that you must make at the locations affected by the table modifications.

If you want to view modifications that are only specific to fields in a table, you can select those fields in the action filter. Do not select specific fields if you want to monitor all changes to a table.

To create action filters for specific stores, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Filter on action creations**.
2. On the **Filter on action creations** form, click **New** to create a new action filter.
3. Complete the information in the **Filter on action creations** form. For help completing the form, open the form, and then press **F1**.
4. On the **Field** FastTab, click **Add** to add a new field.
5. Select the field number from the drop-down list box.
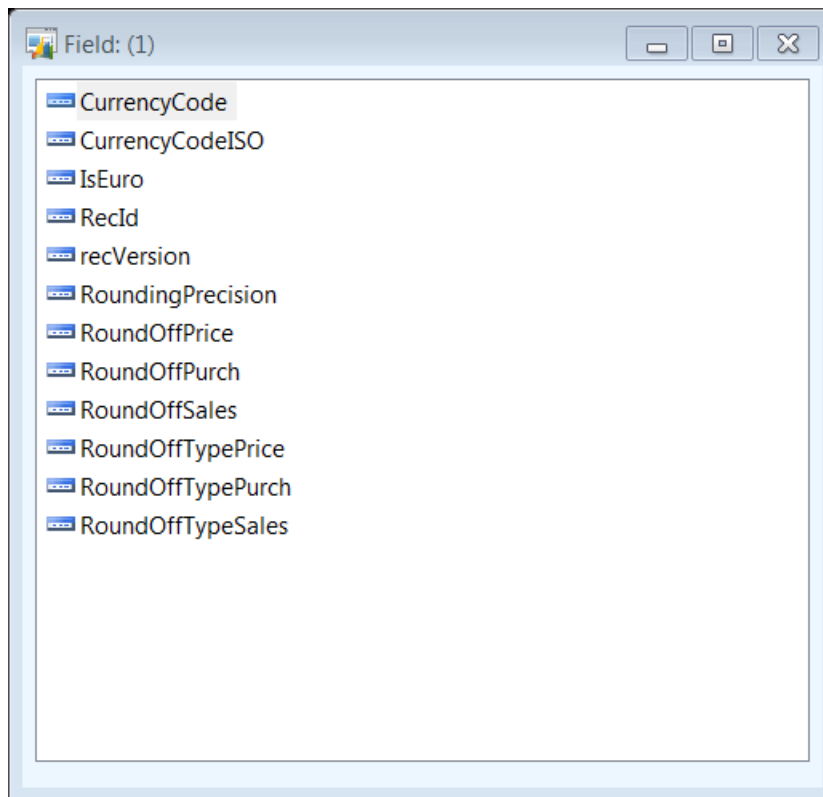


The **Field name** displays the name of the field that is selected.
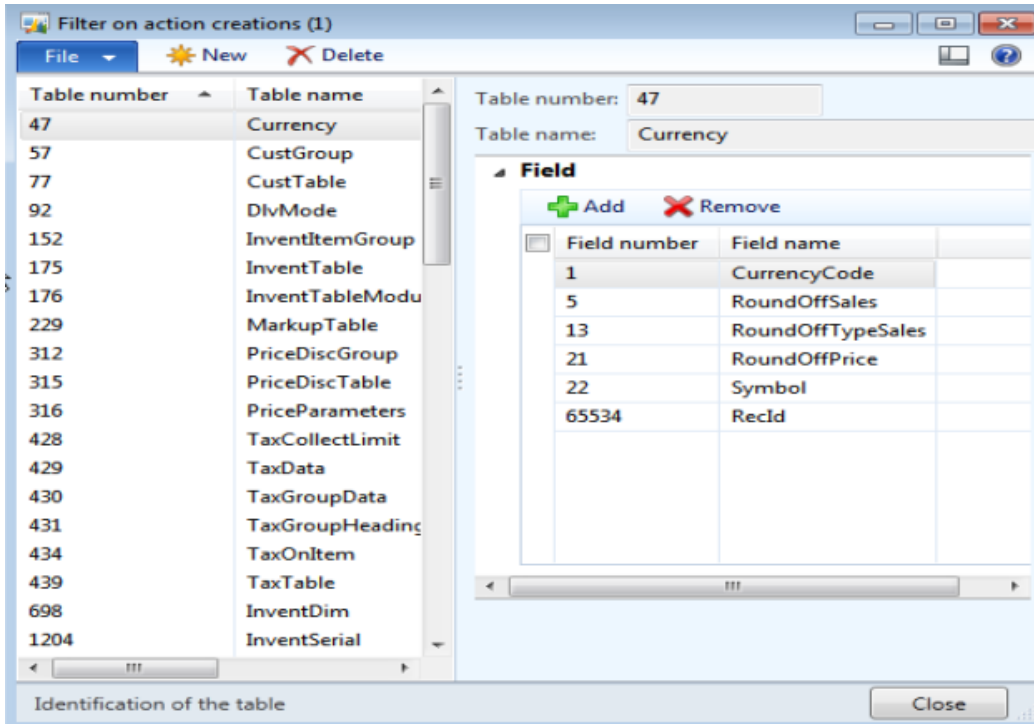
## 18.7 TABLE DISTRIBUTION

A table distribution is the hierarchy that is used to distribute data from the headquarters office database to store locations. For each table that is included in the table distribution, you can specify the type of distribution that occurs. You can also define the parent and, or child relationships for the tables in the table distribution.

The way that you distribute changes that are made to the data in a table depends on the purpose of the table. For example, you want to distribute the Product Posting Group table to all store locations. However, you want to distribute the Item table only to selected store locations, because your organization sells items only in specific stores.

If you create an action filter for a table that is not included in the table distribution, the changes that are made to the records in the table are automatically sent to all locations. For example, you want to distribute all the changes in the Product Posting Group table to all stores. Therefore, you do not add that table to the table distribution. However, if the table is already included in the table distribution, you must select a distribution type for the table.

## 18.7.1 DISTRIBUTION TYPES

The distribution type for the table determines how the table is distributed. The distribution types that are available include the following:

- **All distribution locations** – Distribute modifications to the records in a table to all locations. This is the default distribution type.

- **Same as parent distribution** – Distribute modifications based on the distribution type of the parent table. Select this distribution type for records that must always be accompanied by other records. For example, the items and the bar codes for the items that must have the same data distribution.

  *(Note:* If you select this distribution type, you must set up table links that describe the relationship between the child table and its parent table.)

- **By distribution groups** – Distribute modifications based on the distribution list for the record that is changed in the table. For example, changes made to an item are sent only to the stores that sell that item.

  *(Note:* Typically, you select this distribution type only for tables at the top of the table distribution hierarchy.)

- **No distribution** – Do not distribute modifications. If a table of this distribution type is the parent of another table, and the distribution type of the child table is set to "Same as parent distribution," changes to the child table are not distributed.

**Parent/child relationships**

If you use a table distribution to establish a parent/child relationship between two tables, you must complete the following steps.

1. For the child table, set up table links to describe the relationship between the child table and its parent table. For more information, refer to the "Set up table links," later in this section.
2. For the parent table, specify the types of actions (insert, update, or delete) that cause any child tables to be distributed together with the parent table. These linked settings also include any linked child tables of the child tables.

**Create a New Distribution**

To create a new distribution, follow these steps:

1. Click **Retail > Setup > Retail scheduler > Table distribution**. The **Table distribution** form opens.
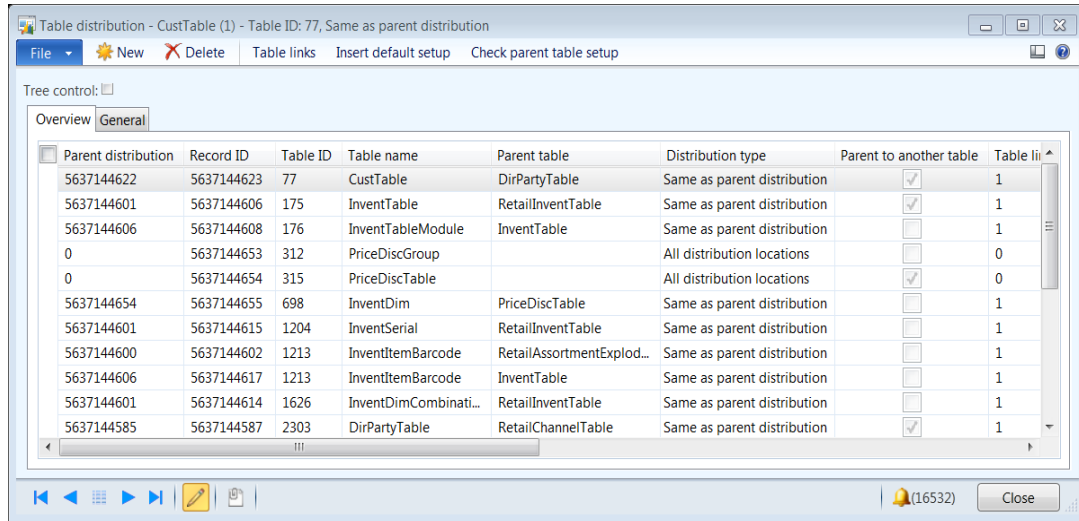


2. In the **Table distribution** form, click **New**.
3. Select the **Parent distribution** from the drop-down list box.
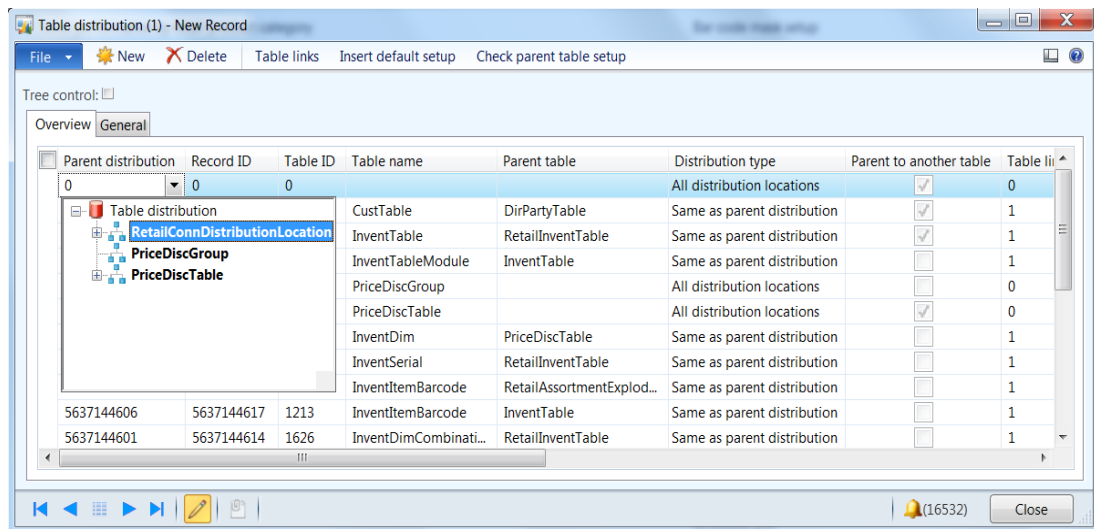


   The **Record ID** will be automatically populated based on the assigned number sequence.
4. Select the **Table ID** from the window that opens.
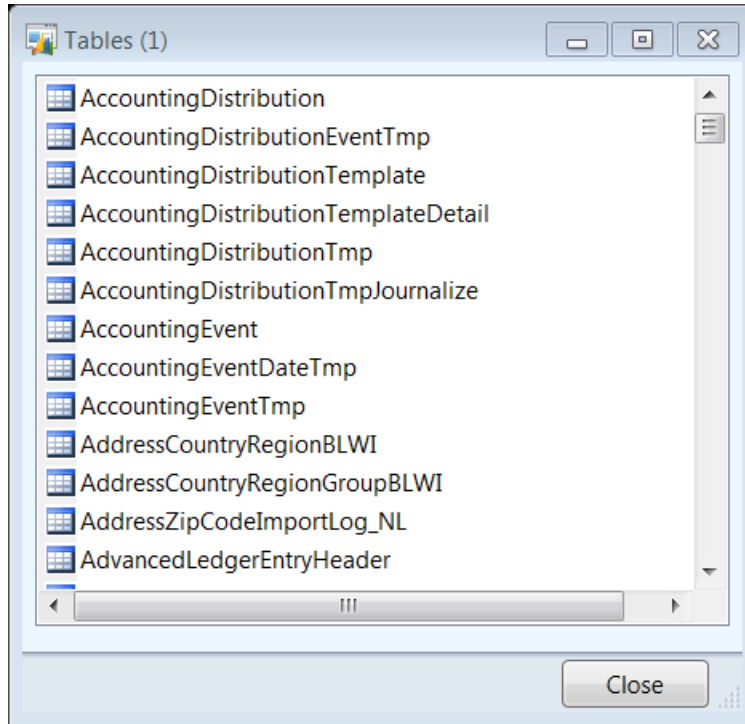
The **Table name** displays the name of the table that is selected.

5. Select the **Distribution type** from the drop-down list box. The options include the following:
   a. All distribution locations
   b. Same as parent distribution
   c. By distribution group
   d. No distribution

   The **Parent to another table** check box is automatically marked if the selected parent table is also a parent table to other tables.

   The **Table links** check box indicates if a parent and, or child link is created between the two tables. The table link must be created if the distribution type that is selected is the same as the parent distribution.

   The **No actions** check box is marked to indicate that no action is required for changes that occur to the selected table. To use **No actions** the parent table must be empty or set to zero.

6. Select the **Linked actions on insert** check box to indicate that the distribution occurs when new records are created in the selected table.

7. Select the **Linked actions on update** check box to indicate that the distribution occurs when existing records are updated in the selected table.

8. Select the **Linked actions on delete** check box to indicate that the distribution occurs when a record is deleted.

9. The **General** FastTab displays the information entered in the **Overview** FastTab.

**Insert the default table distribution**

Generally, the default setup for table distribution is used by most organizations. However, if you want to customize the table distribution and save time, you can insert the default setup.

📝 Note

If you insert the default setup during deployment of Microsoft Dynamics AX for Retail, you can skip this procedure.

To insert the default setup, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Table distribution**.
2. In the **Table distribution** form, click **Insert default setup**.



**View the table hierarchy**

You can view the hierarchy for the parent and, or child relationships between tables in the **Table distribution** form.

To view the hierarchy for the parent and, or child relationships, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Table distribution**.
2. In the **Table distribution** form, select the **Tree control check box**.
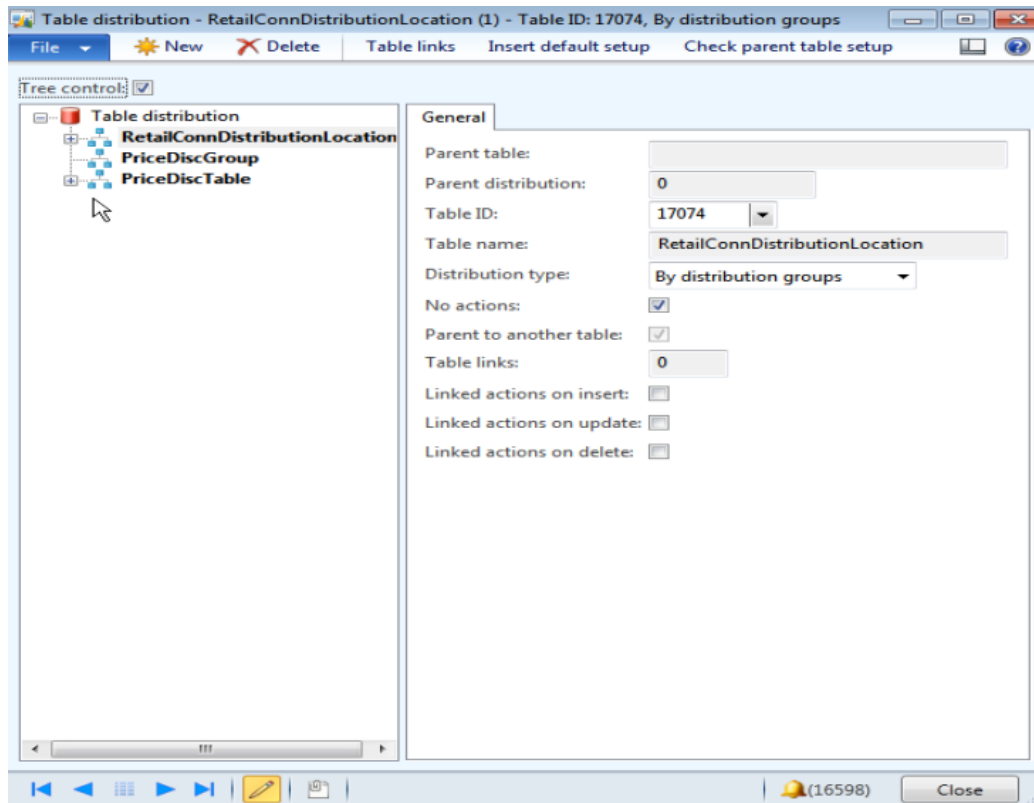
3. Complete one of the following steps:
   - To expand a parent table to view or modify its child tables, click the plus sign (**+**) next to the table name.
   - To view or modify the settings for a table, select the table.

 Note

A table can be the child of more than one parent table. In this case, the child table is displayed in the hierarchy more than one time. Depending on the settings, changes to a record in the child table might be distributed through multiple parent tables.

To delete a table distribution entry, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Table distribution**.
2. On the **Table distribution** form, clear the **Tree control check box**.
3. Select the table entry that you want to delete, and then click **Delete** on the toolbar.
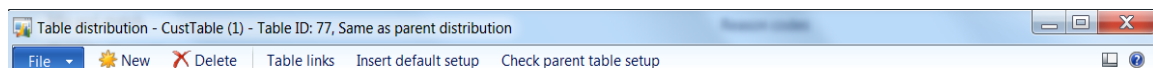
**Set up table links**

Table links define the conditions that must be met for the records in the child table to be distributed according to the distribution type of the parent table. The effect of setting up a table link is comparable to the effect of setting up a link between a primary key and a foreign key in SQL Server.

However, a table link applies only to data distribution. Table links are required only for tables for which you select a distribution type of "Same as parent distribution."

There must be a logical relation between the tables that you link. For example, you cannot link the Item table to the Customer table, because there is no logical relation between the two tables.

For parent fields, you must select fields that are part of the primary key for the parent table.

For child fields, we recommend that you select fields that are either part of the primary key or part of a properly indexed foreign key for the child table.

**How table links work**

When a record in a child table is modified, and the resulting pre-action changes to an action, Retail Scheduler checks whether the modified record is in a table for which distribution is controlled by the settings of the parent table. If the modified table is linked to the parent table for data distribution, Retail Scheduler checks whether the modified record meets the criteria for distribution that are specified in the parent table's settings.

If a table link includes multiple criteria, all the criteria must be met for distribution to occur based on that link. If a modified record does not meet the criteria of any of the links to the parent table, distribution does not occur.

To set up table links, follow these steps.

1.  On the **Table distribution** form, select the table that you want to link to its parent table.

📝 Note

The parent table must already be listed in the table distribution.

2.  Click **Table links**. The **Table links** form opens.
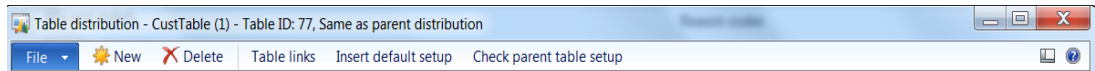


3.  On the **Table links form**, click **New**.
4.  On the **General** FastTab, the child table information is populated in the **Table ID** and **Parent table ID** with descriptions.
5.  In the **Parent distribution** field, select a parent table ID. (**Note:** If there are multiple entries in the list, meeting the criteria of any one table link creates the link (SQL OR operation).
6.  In the **Field ID** field, select the field that you want to link to a field in the parent table. The field name is displayed automatically. (**Note:** If there are multiple entries in the list, all the criteria must be met for the link to be created.
7.  In the **Parent** field, select the field in the parent table that you want the child field to be linked to. The parent field name is displayed automatically.
8.  Select the **Type** to specify the type of check that is required from the drop-down list box. The options include the following:
    a.  **Field**: The field specifies that the distribution will occur if the logical relation between the fields specified in the parent and child table matches.
    b.  **Filter**: The Filter version is not supported in the current version of Microsoft Dynamics AX for Retail.
    c.  **Equals (=)**: Specify the value in the **Value** field to make sure that the field value during distribution is correct.
9.  If the parent field must contain a specific value, type that value in the **Value** field.
10. Repeat steps 4 through 7 for any additional criteria for this table link.
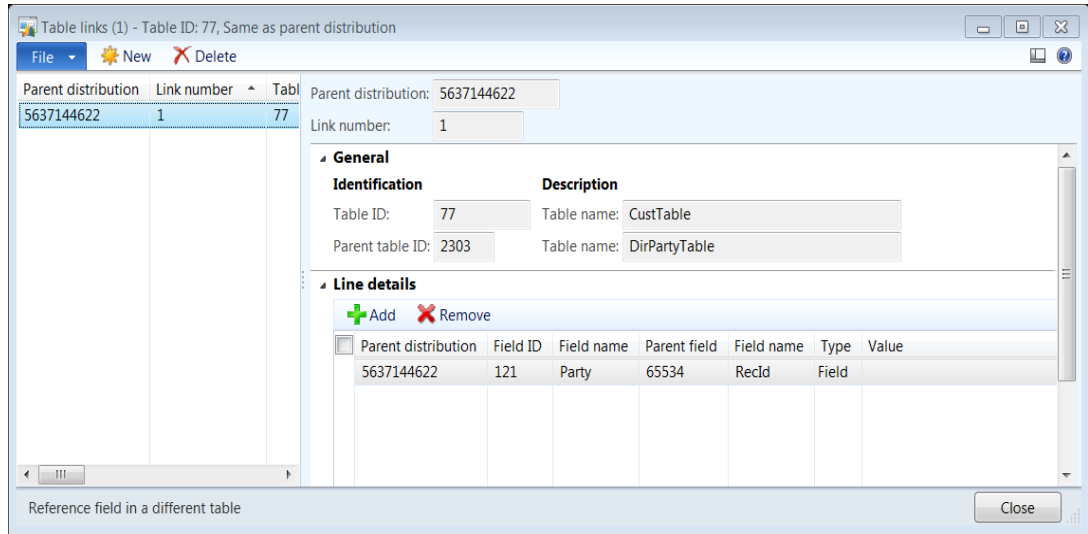
To check the parent table setup, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Table distribution**.
2. Select the table distribution record and click the **Check parent table setup** button on the top toolbar.
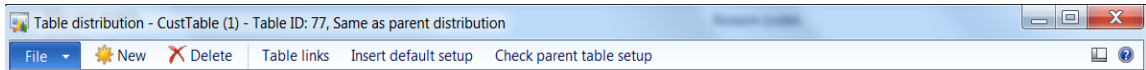


3. You will receive a confirmation message on the status of the set up. Click **OK**.
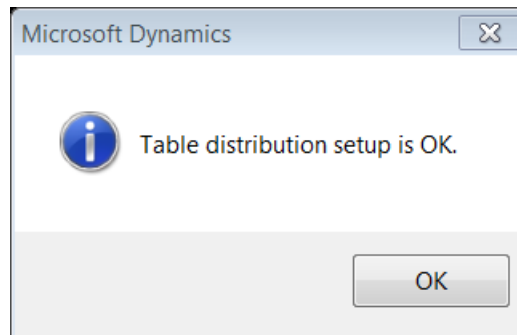


## 18.8 RETAIL CHANNEL SCHEMAS

To set up the retail channel schemas, use the **Retail Channel Schemas** form.

To create a new retail channel schema, follow these steps.

1. Click **Retail > Setup > Retail Scheduler > Retail Channel Schema**.
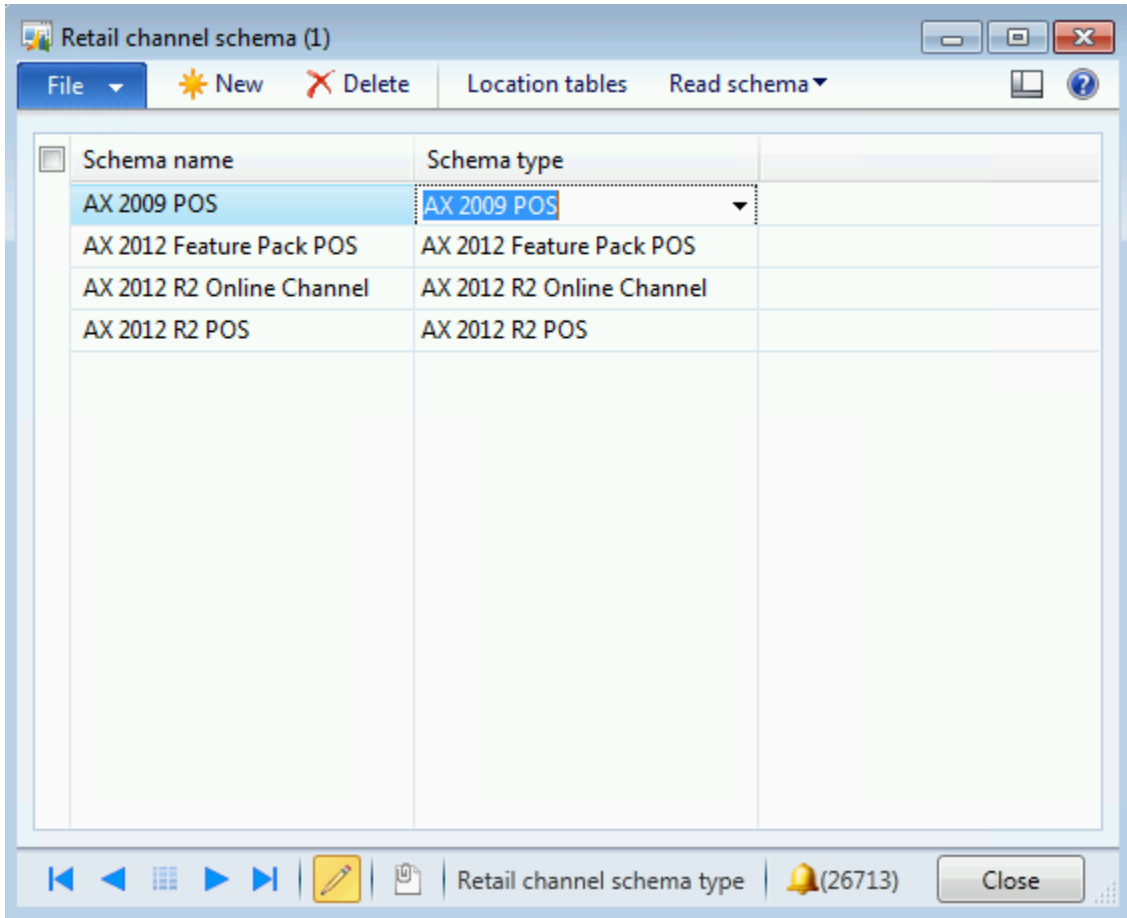
2. Click **New** to create a new schema.
3. Enter the **Schema name**.
4. Select the **Schema type**.  The channel types include the following:

   1. **AX 2009 POS** – A point of sale (POS) channel in Microsoft Dynamics AX 2009.

   2. **AX 2012 Feature Pack POS** – A POS channel in Microsoft Dynamics AX 2012 Feature Pack.

   3. **AX 2012 R2 Online Channel** – An online channel in Microsoft Dynamics AX 2012 R2.

   4. **AX 2012 R2 POS** – A POS channel in Microsoft Dynamics AX 2012 R2.

5. To associate the Location Table for the retail channel schema, click the **Location Table button**.
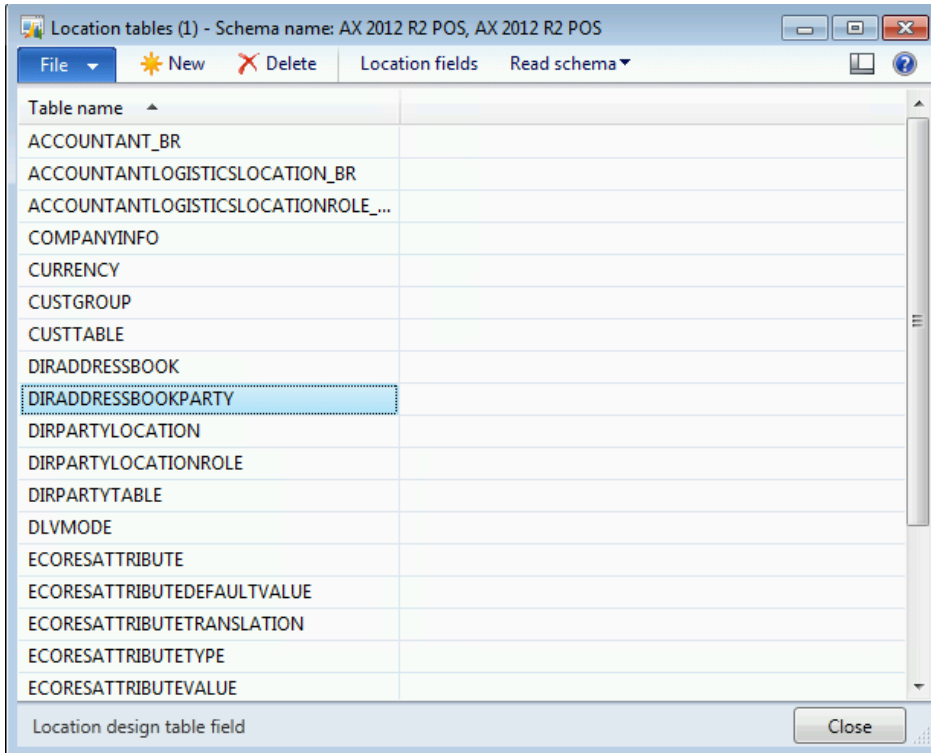
6. Enter the table and the associated fields by clicking the **Location Fields** button.
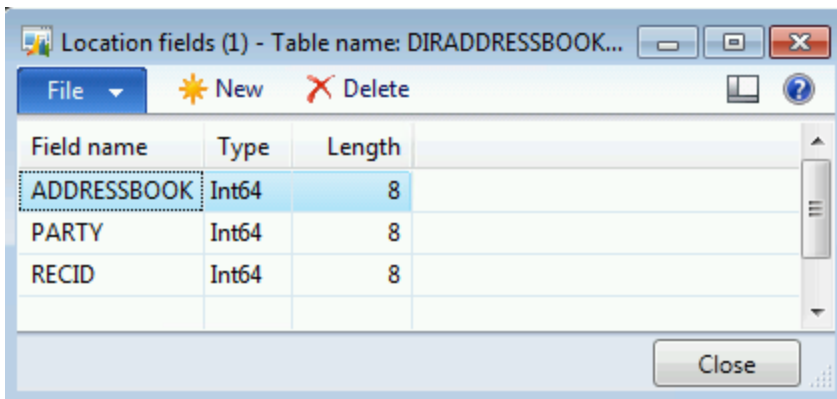


7. Close the form after all the Location table and field information is entered.
8. Click the **Read Schema** button and select the distribution location that the schema will be read from.
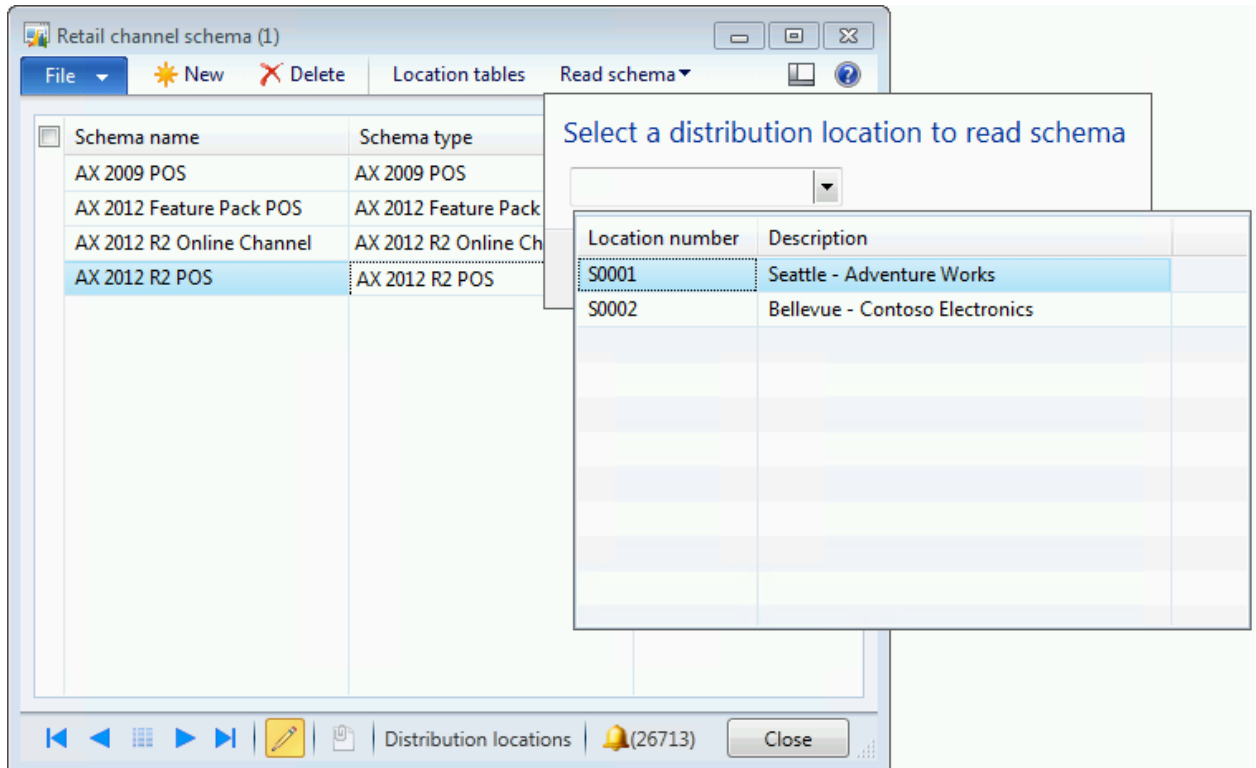
# 19 STORE INTEGRATION

**OVERVIEW**

In this module we will discuss the Synch Service Upload Options and Profiles.

## COMMERCE DATA EXCHANGE: SYNCH SERVICE OPTIONS

Microsoft Dynamics AX Retail includes resources that can be used to monitor Commerce Data Exchange: Synch Service. These resources include the following:

- Commerce Data Exchange: Synch Service Messages
- Windows Event Log

**Commerce Data Exchange: Synch Service Messages**

Commerce Data Exchange: Synch Service status and error messages can be viewed in the **Commerce Data Exchange: Synch Service messages** form.

To open the **Commerce Data Exchange: Synch Service** form, click **Retail > Inquiries > Commerce Data Exchange: Synch Service messages**.

You can trace the history of a message by selecting the message and then clicking **View message tree**. This opens the **Commerce Data Exchange: Synch Service message tree** form. Here, you view the message's origin and routing.
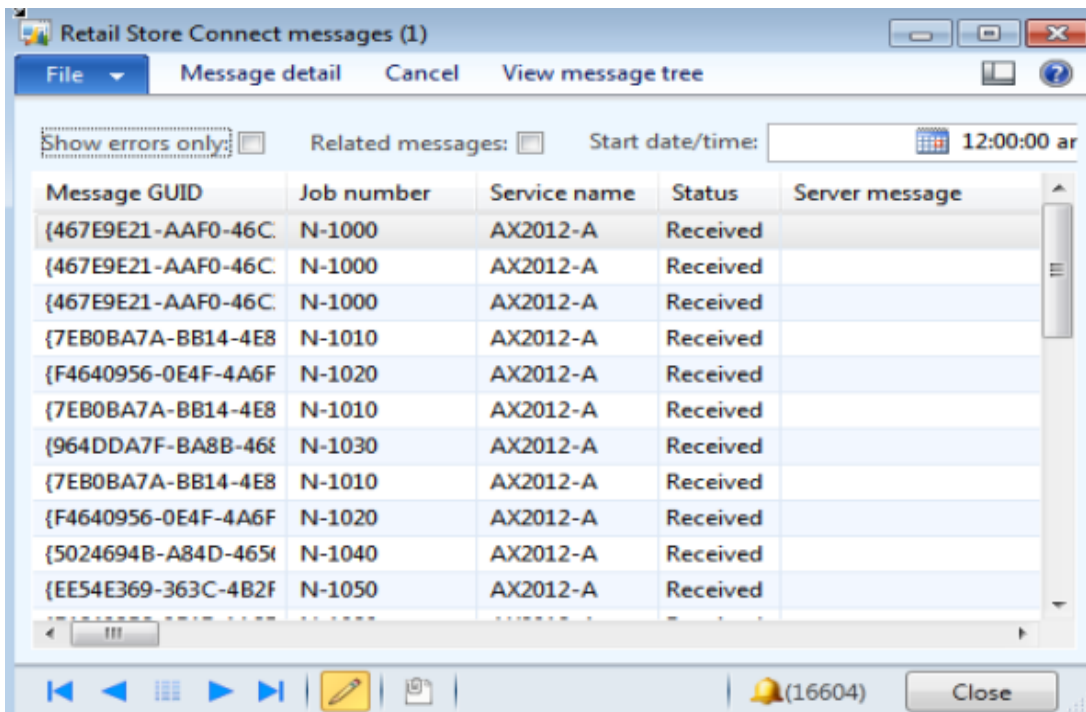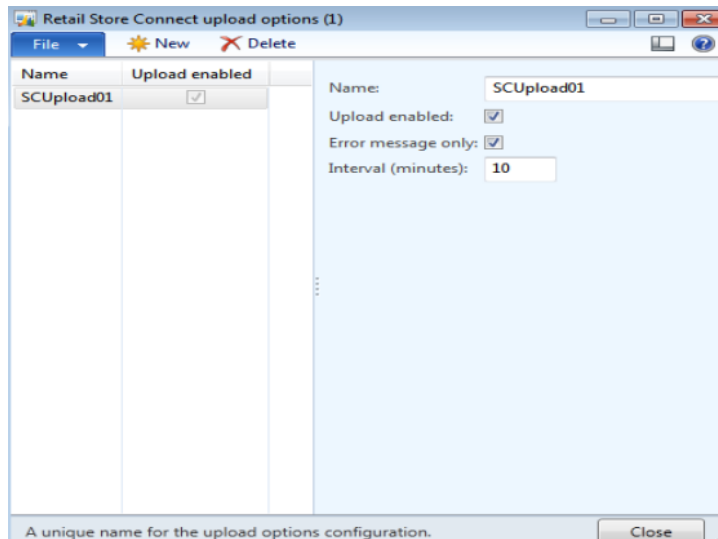
☑ **Note**

You must configure an upload profile before the messages will be available in Microsoft Dynamics AX.

Profiles are created by using the **Commerce Data Exchange: Synch Service upload options** form.

To open the **Commerce Data Exchange: Synch Service upload options** form, follow these steps.

1. Click **Retail > Setup > Retail scheduler > Store integration > Commerce Data Exchange: Synch Service upload options.**



2. Click **New** to create a new upload option.

3. Enter the **Name** of the store connect upload option.

4. Select the **Upload enabled** check box to indicate that the Commerce Data Exchange: Synch Service upload option is active.

5. Select the **Error message only** check box to upload only error messages to the retail headquarters.

6. Enter the **Interval (minutes)** to indicate the time when the upload will be performed.

**Windows Event Log**

Full logging of Commerce Data Exchange: Synch Service events can be viewed in the Windows event log of the host computer.

## 19.1 COMMERCE DATA EXCHANGE: SYNCH SERVICE PROFILES

A Commerce Data Exchange: Synch Service profile in the headquarters office of Microsoft Dynamics AX provides the connection string that lets Microsoft Dynamics AX Retail Headquarters communicate with an instance of Commerce Data Exchange: Synch Service.

To create a new Commerce Data Exchange: Synch profile, follow these steps.

1. Click **Retail** > **Setup** > **Retail Scheduler** > **Store integration** > **Commerce Data Exchange: Synch Service profiles**.
2. Click **New** to create a new Commerce Data Exchange: Synch Service profile.
3. Type the following information:
   - **Service name** – The name of the service as it is specified in the Commerce Data Exchange: Synch Service Settings (**Start** > **All Programs** > **Microsoft Dynamics AX 2012** > **Commerce Data Exchange: Synch Service** > **Commerce Data Exchange: Synch Service Settings**).
   - **Server name** – The name of the server where Commerce Data Exchange: Synch Service is installed.
   - **Port** – The port used by this instance of Commerce Data Exchange: Synch Service.
   - **Disable IPsec** – Select the check box to disable IPsec. IPec is a framework of open standards that are used to protect communications over Internet Protocol (IP) networks through the use of cryptographic security services. (**Important :** IPsec should only be disabled if there are other means in place to provide secure communication channels for Commerce Data Exchange: Synch Service.)
   - **Force IPV4** – Select to stop connections that use IPV6.
   - **Timeout (seconds)** – Type the time in seconds.

- **Commerce Data Exchange: Real-time Service profile** – The name of a Commerce Data Exchange: Real-time Service profile.
    - **Commerce Data Exchange**: Synch Service uses this profile to connect to Commerce Data Exchange: Real-time Service to monitor the status of jobs. If you do not want this instance of Commerce Data Exchange: Synch Service to monitor status, leave this field blank.
- **Commerce Data Exchange: Synch Service upload options** – The names of the upload options that are used by Retail.
    - **Store Connect**: If you configure upload options, you must post the configuration to Commerce Data Exchange: Synch Service and restart the service for the settings to take effect.
4. Click **Test connection** to confirm that the connection string for the selected Commerce Data Exchange: Synch Service profile is correct.
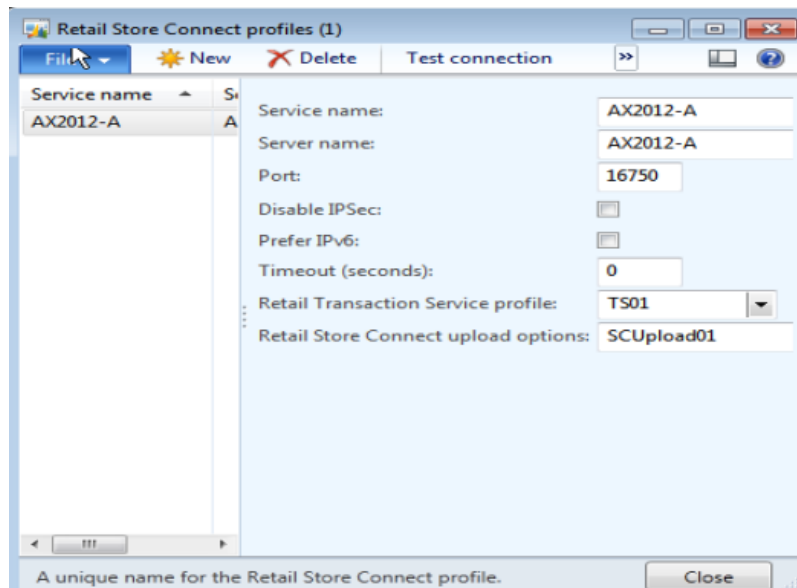


## 19.2 AOS PROFILES

An AOS profile provides the connection string that is used for Microsoft Dynamics AX Retail Headquarters to communicate with the headquarters office database.
To create a new AOS profile, follow these steps.

1. To open the **AOS profiles** form, click **Setup** > **Retail Scheduler** > **Store integration** > **AOS profiles**.

2. Click **New** to create a new AOS profile.

3. Type the following information:

    i. **Name** – A unique name for the profile.

ii.    **Server name** – The name of the AOS server.
iii.   **Instance name** – The name of the AOS instance.
iv.   **TCP/IP port** – The TCP/IP port for the AOS instance.
v.    **Commerce Data Exchange: Synch Service** – Select the profile for the correct instance of Commerce Data Exchange: Synch Service.
4. Click **Test connection** to confirm that the connection string for the selected AOS profile is correct.
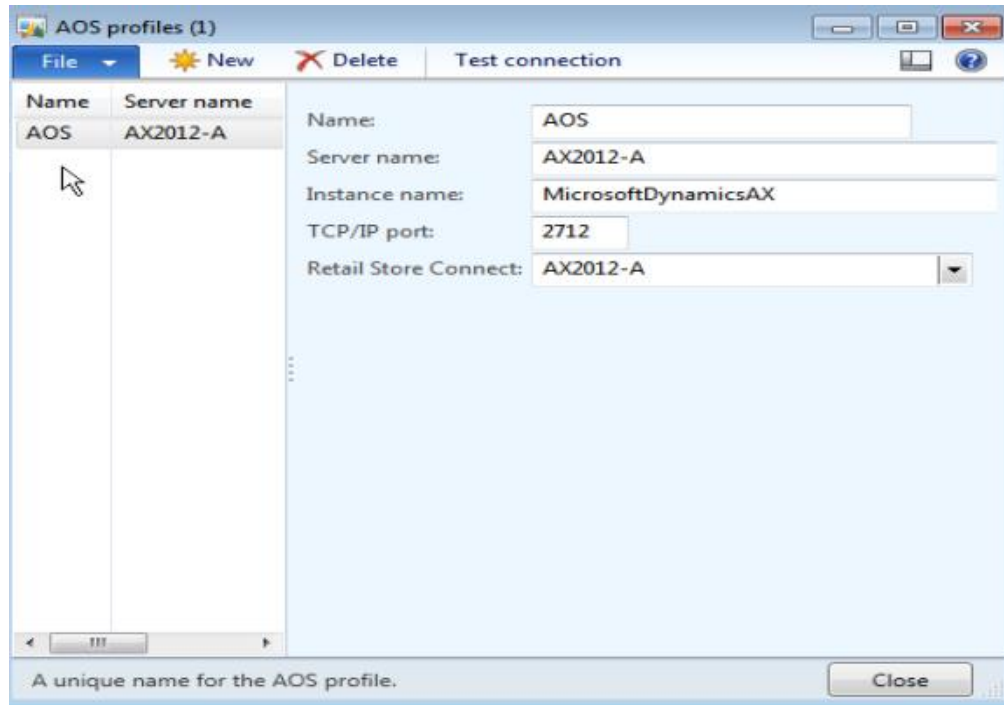
## 19.3 DATABASE PROFILES

A database profile provides the connection string that is used for Microsoft Dynamics AX Retail Headquarters to communicate with a store database.

To create a new database profile, follow these steps.

1. To open the **Database profiles** form, click **Setup > Retail Scheduler > Store integration > Database profiles**.
2. Press **New** to create a new database profile. Optionally, you can click **Duplicate** to create a new profile that is based on a currently selected profile.
3. Enter the following information:
   - **Name** – Type a name for the profile.
   - **Version** – Select the SQL Server version for the database.
   - **Server name** – Type the name of the database server.
   - **Database name** – Type the name of the database.
   - **Encrypt database connection** – Select the check box to encrypt the database connection.
   - **Commerce Data Exchange: Synch Service** – Select the profile for the correct instance of Commerce Data Exchange: Synch Service.
4. Click **Test connection** to confirm that the connection string for the selected database profile is correct.

# Retail Application Functionality in Microsoft Dynamics AX 2012 R2 2012 R2

**Part 2**

**DISCLAIMER**

# TABLE OF CONTENTS

## ASSORTMENT

### OVERVIEW

In this module, we will discuss how an assortment is a collection of related products that the retail business assigns to the retail channel, such as a brick and mortar store or an online store.

Assortments are used to identify the products that are available in each store. An assortment can include categories of products. Therefore, all products that are assigned to a specific category are included in the assortment. An assortment can also include specific products and specific variants of products. By setting up an assortment, you can assign thousands of products to the retail channels at the same time, in any combination that the stores require.

Multiple assortments can be set up for the retail store. Each product can be included in one or more assortments, and each assortment can be assigned to one or more retail channels.

For example, you can define one assortment that includes a base set of products that all stores receive. You can then define another assortment that includes only large sporting equipment that only larger stores receive.

The following diagram illustrates how products can be assigned to assortments, and how those assortments can be assigned to retail channels.
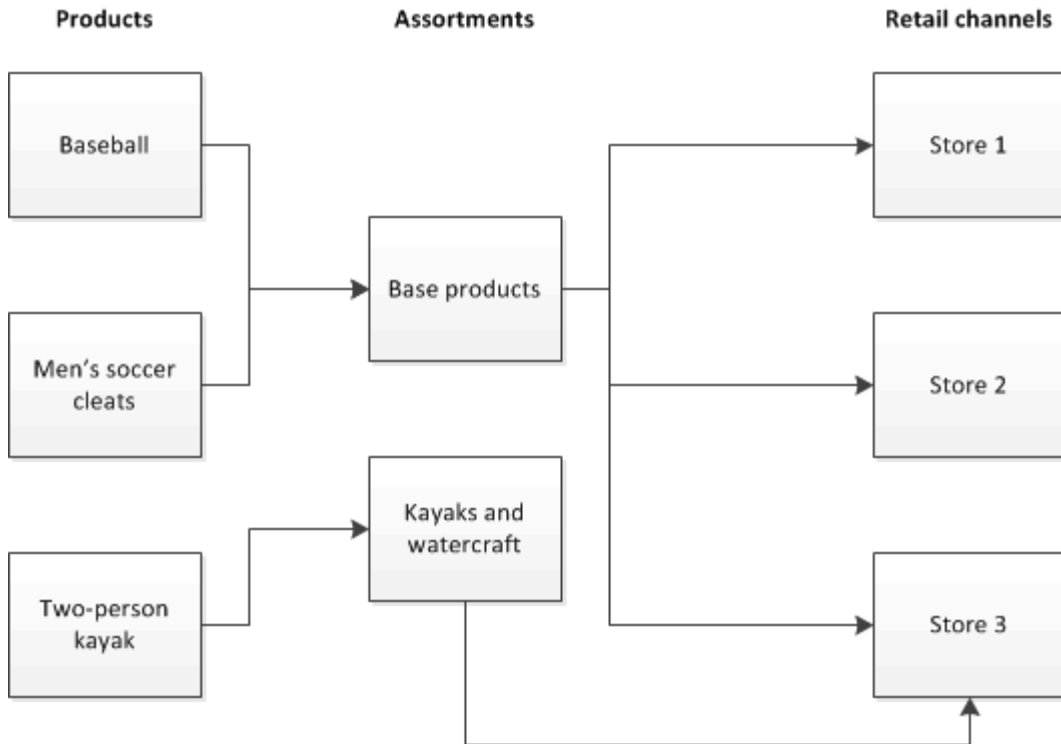
## 20.1 PROCESS ASSORTMENT

### Retail assortments job

The retail assortments job periodically aggregates and then de-normalizes all of the valid assortments into a flattened list of products and variants for each channel. This improves data replication performance and provides the data necessary for the improved visibility features.

The process assortment helps to improve the performance of the batch job. When you use the process assortment, consider the following:

- Only published assortments are processed
- Only the delta is processed
- Only the relevant pre-actions are created
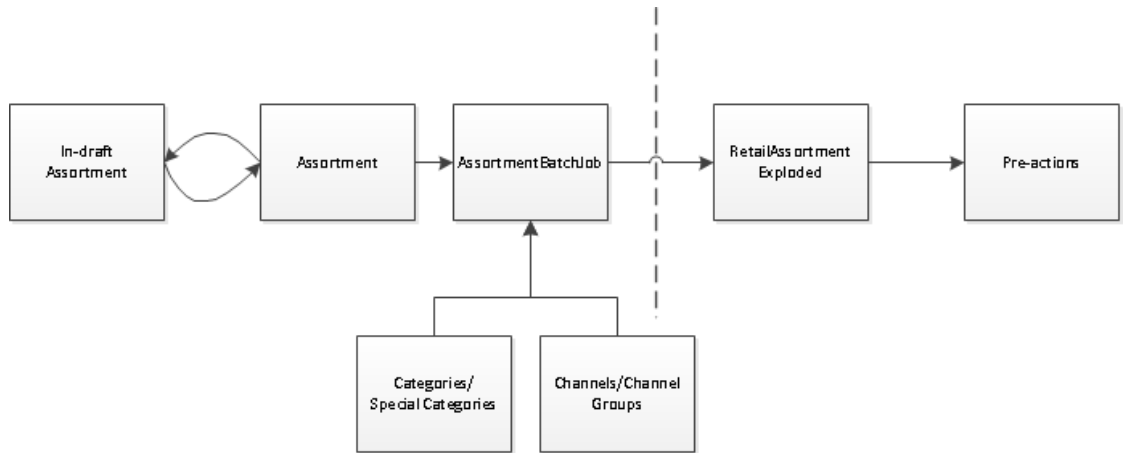
You can run jobs manually, and you can set up a batch to create a schedule so that jobs are run automatically.



**Run a job manually**

To manually run a job, follow these steps.

1. To run the Process assortment, click **Retail** > **Periodic** > **Process Assortment**.

2. In the **Retail assortments job** form, click **OK**.

**Set up and run a batch**

A batch job is a scheduled job. When you create a batch job, you set up a timer in the AOS instance to run the job automatically on the server.

☑ **Note**

To run batch jobs, you must configure the batch server. For more information, refer to Microsoft Dynamics AX Help.

To automatically run a job, follow these steps.

1. Click **Retail** > **Periodic** > **Process Assortment**.
2. On the **Retail assortments job** form, click **Batch processing**.
3. Optional: In the **Batch** dialog box, in the **Task description** field, enter a name for the job.
4. Click **Recurrence**. In the **Recurrence** form, enter the schedule details for the batch. For information about the settings in the **Recurrence** form, press **F1**.
5. Close the **Recurrence** form and click **OK**.

**Set Recurrence for Process Assortment**

To set the recurrence for the process assortment, follow these steps.

1. To open the **retail assortment job** form, click the **Retail** > **Periodic** > **Process Assortment**.



2. Click the **Recurrence** button to set the frequency of the batch job execution.
3. Select the **Time zone** from the drop down list box.

4. In the **Range of recurrence** area, select the **Starting time** for the batch job.

5. Enter the **Starting date** for the batch job.

6. Select the **No end date** option if the job needs to run without any end date.

7. To limit the job executions to certain tries, select the **End after** option and then enter the **Count** value.

8. Select the **End by** option to specify the end date for the batch job execution.

9. In the **Recurring pattern** areas, select the time period (Minutes, Hours, Days and more) and then enter the **Count** that specifies the time value.

## RETAIL CHANNELS

### OVERVIEW

This module focuses on how Microsoft Dynamics® AX for Retail Headquarters is used by retail stores for the point of sales (POS) terminals, and for the business accounting setup. It is used to control the basic requirements for the retail business, such as items, prices, staff and customers. Additionally, Microsoft Dynamics AX for Retail Headquarters is used to exchange data between the headquarters office and the point of sale terminals. Microsoft Dynamics AX for Retail Headquarters includes data distribution management. A retail store can use data distribution management to control the exact data that is available on the point of sale terminals, set a price for an item and determine whether the discounts that are offered in each store are valid.

Microsoft Dynamics AX for Retail Headquarters manages the replication of data between databases and supports the headquarters office point of sale structure. Replication is scheduled by the user and can be set up so that only the information that is changed is replicated. It makes extensive use of the distribution principles.

The Retail Channel is the subtype of the operating unit. Three channel types are available in Microsoft Dynamics AX 2012. They include the following:

- Retail stores
- Online stores
- Online marketplaces

## 20.2 RETAIL STORES

The store is one of the main units in Microsoft Dynamics AX for Retail Headquarters. The store includes the distribution location, its own tender types, point of sale functionality, income and expense accounts and staff. Additionally, the store can be divided into sections and shelves. Typically, setting up the stores and the headquarters office in the business are the first steps when Microsoft Dynamics AX for Retail Headquarters is being set up.

After you create the new store, you assign the products that you want the store to carry. You assign products to stores by using assortments. You can either add the new store to an existing assortment, or you can create a new assortment specifically for the new store. You also must assign employees, registers, and customers to the store.

◆ **Important**

In Microsoft Dynamics AX, a retail store is considered a type of warehouse. Before you create a new store, you first create a warehouse and define it as a store. You then create a new store and assign the warehouse to it.
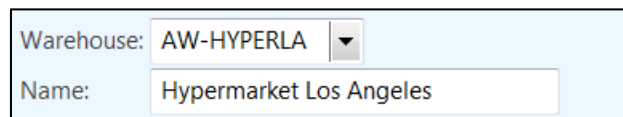
## 20.2.1 CREATE A WAREHOUSE

Retail stores are considered a type of warehouse. The retail understanding on warehouses is to create a warehouse of the type store that uses all the inventory management processes. This includes stock control and accounting from the Microsoft Dynamics AX.

To create a new warehouse, click **Inventory and warehouse management > Setup > Inventory breakdown > Warehouses.** The **Warehouses** form opens.
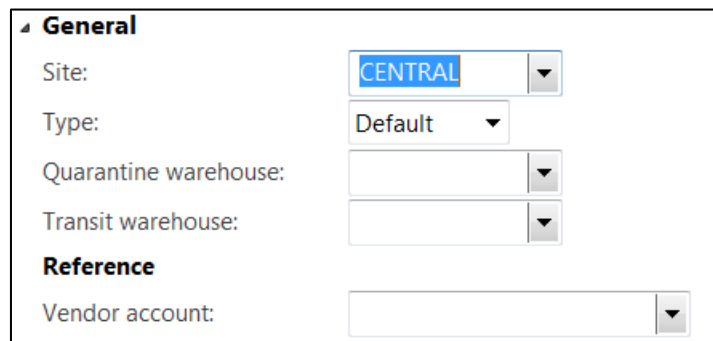
To create a warehouse, follow these steps.

1. Click the **New** button on the top toolbar to create a new warehouse.
2. Enter the **Warehouse** code that is unique to the warehouse.
3. Enter the **Name** of the store warehouse.

| | |
|---|---|
| Warehouse: | AW-HYPERLA ▼ |
| Name: | Hypermarket Los Angeles |

4. On the **General** FastTab, select the **Site** from the drop-down list box. A site is a building or a location where the inventory is managed.

**General**

| | |
|---|---|
| Site: | CENTRAL ▼ |
| Type: | Default ▼ |
| Quarantine warehouse: | ▼ |
| Transit warehouse: | ▼ |
| **Reference** | |
| Vendor account: | ▼ |

5. On the **Retail** FastTab, select the **Store** check box to indicate that the newly created warehouse is a retail store.
6. Enter the default **Weight** that is used by the store for replenishment.
7. The **Replenishment hierarchies** display the hierarchies of the replenishments that are available in Microsoft Dynamics AX for Retail. Expand each of the

hierarchies to view the business units and the stores that are associated to the hierarchy.

8. Check the **Financial negative inventory** check box if negative inventory is allowed from a financial perspective.

9. Check the **Physical negative inventory** check box if negative inventory is allowed at warehouses and stores. This check box defines if the cashiers at the store can sell items even if Microsoft Dynamics AX for Retail is showing negative physical inventory.

10. Select the **Default location** for storage of items for the store.

11. Select the **Default pallet ID** for storage of items for the store.



## 20.2.2 CREATE A RETAIL STORE

This section discusses the steps that are required to create a new retail store. Click **Retail > Retail channels > Retail stores**. The **Retail stores** form opens.
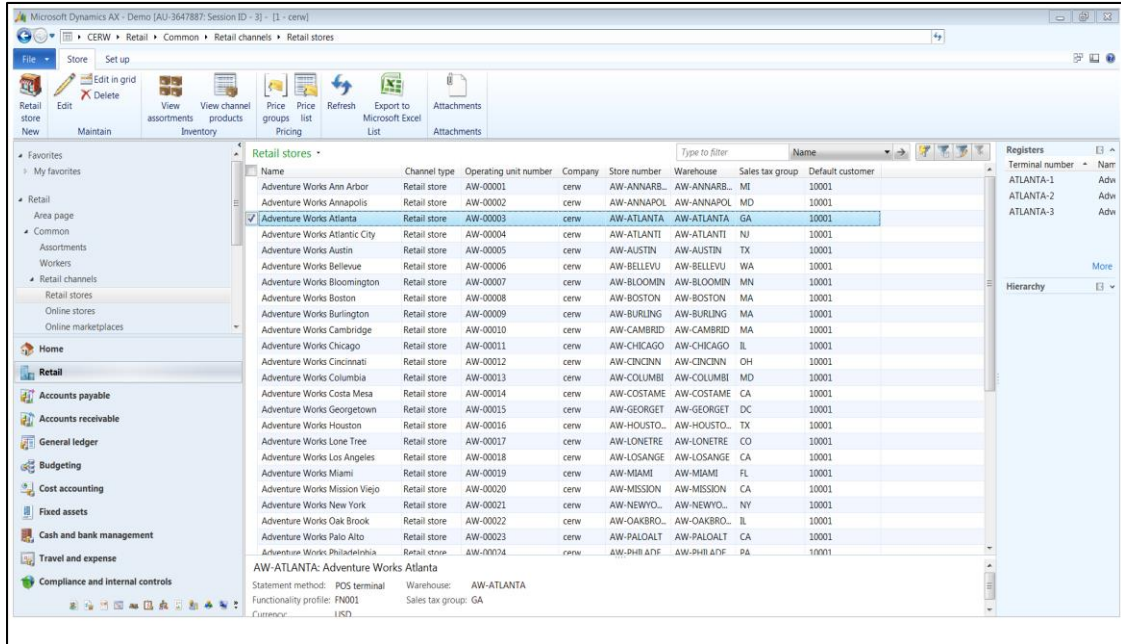
To create a new retail store, click **Retail store** in the **New** group. The **Stores** form opens.

**General**

On the **General** FastTab, follow these steps.

1. On the **General** FastTab, enter the **Name** of the retail store.
2. Enter the unique **Store number** of the retail store. The store number will be filled automatically based on the number sequence that is specified in the **Shared retail parameters** form.
3. Select the **Company** the retail store will belong to from the drop-down list box. The current company where the store is being created will be set as the default.
4. Select the default **Warehouse** from the drop-down list box. The drop-down list box is filtered to contain all the store warehouses that have the retail check box marked.
5. Select the default **Shipping warehouse** from the drop-down list box.
6. In the **POS terminal** area, select the default **Screen layout ID** from the drop-down list box. The selected screen layout will be the default layout of the POS terminals for cashiers and manager.
7. Select the **Functionality profile** for the retail store from the drop-down list box. The Functionality profile defines the operations that cashiers and managers can perform at the retail store. Default reason codes can be assigned to the profile for return orders, discounts and many other operations.

8. Select the **Offline profile** for the retail store from the drop-down list box. The Offline profile can be used to define the entities and their corresponding fields that will be maintained in the offline database. When the connection to the POS terminal comes online all the offline transactions are synced back to the store database.
   **Inventory lookup:** This feature is not implemented in this release and might be removed from future releases.
9. In the **Regional settings** area, select the default **Language** from the drop-down list box.
10. Select the primary **Currency** the retail store will use from the drop-down list box.
11. In **Sales tax** area, enter the **Tax identification number (TIN)** for the retail store. The tax identification number can differ based on the country where the retail store is being setup.
12. Select the default **Sales tax group** from the drop-down list box. The sales tax that is selected will define the how the tax is calculated at the point of sale terminal when cashiers perform sales transactions.
13. Check the **Price include sales tax** check box if the Recommended Retail Price (RRP) is inclusive of tax.
14. Check the **Use destination-based tax** to apply the tax calculation that is based on the shipping address of the order. The tax rate that applies to the geographical location of the address is taken into consideration for tax calculation. For example, if the retail store is based in Washington state, where the sales tax is 5 percent, and the shipping address is in California state, where the tax rate is 7.5 percent, then when the use destination based tax is marked, the tax calculation is performed by using the California state sales tax of 7.5 percent.
15. Check the **Use customer-based tax** to apply the tax calculation that is set at the customer level. During a sales transaction, if the casher selects a customer and if the customer based tax is marked, then the tax that is allocated to the customer will be applied to the transaction.

## Note

If both the **Use customer-based tax** and the **Use destination-based tax** check box are marked, taxes will be calculated based on the shipping address (if any) rather than the customer's sales tax group.

16. Select the default **Sale tax override group** from the drop-down list box.

17. In **Address book** area, select the **Customer address book** for the retail store. All the new customers that are created by using point of sale will be assigned to the address book that is assigned to the retail store.

18. Select the **Employee address book** for the retail store. All the workers that are created can be assigned to the same address book that maps the workers to the retail store.

19. In the Default customer area, select the **Default customer** from the drop-down list box. A default customer is used to associate all the statements that are created as part of End of day (EOD) procedure.

**Statement/Closing**

When all transactions from the point of sale terminals are received in Microsoft Dynamics AX, a statement can be created, calculated and posted.

A statement calculates the amounts in all transactions that are created in the special date range or in any other filter that is set, on the point of sale terminal or other criteria, and then registers the counted tender types. The statement includes the transaction for the period in that specific statement. When all the information is gathered and the counted amounts are registered, then the statement is ready to be posted.

☑ **Note**

Microsoft Dynamics AX 2012 AX for Retail POS supports a single method for the end of day procedure that includes by date and time.

When a cashier closes a shift by date and time, the typical process is to count the tender types with the declaration either while the cashier is on the point of sale terminal or when the cashier is in the back office, he or she can enter the counted amounts in the statements.

If the shift is closed by date and time, the statement can include many days and time, or have one for each day based on the operation policy that exists at the retail store. However, you must be aware that this decision has an influence on how detailed the ledger entries are maintained in Microsoft Dynamics AX 2012 Retail Headquarters.

To close a statement, follow these steps.

1. In the **Statement** area, select the **Statement method** type that is used to group the statement for posting. The options include the following:
   - **Staff**: Select this option to view payment results for each staff member. The results of the statement calculations show one line for each payment that is used in the transactions, for each staff member. This is the payments declaration for each cashier.
   - **POS terminal:** Select this option to view the payment results for each register. Microsoft Dynamics AX Retail Headquarters calculates one line for each payment type that is used in the transactions of that register.
   - **Total**: Microsoft Dynamics AX Retail Headquarters calculates one line for each payment type that is used, with the amount totaled for all the transactions that are completed in that payment.
2. Check the **One statement per day** check box to indicate that only one statement will be created each day for the retail store.
3. Select the **Tender declaration calculation** type from the drop-down list box. The options include the following:

- **Last:** Indicates one tender declaration for each day.
- **Sum:** Indicates multiple tender declarations for each day with the totals being added at the end of the day.

4. In the **Rounding** area, select the **Rounding account** from the drop-down list box. The rounding account includes the difference between the total sales amount and the total payment amount for statement transactions.

5. Enter the **Maximum rounding amount** allowed as a difference when posting a statement.

6. In the **Maximum difference** area, enter the maximum **Posting** difference that is allowed between the transaction amount and the counted amount for each tender in a statement to allow posting.
   **Shift**: This feature is not implemented in this release and might be removed from future releases.

7. Enter the maximum **Transaction** amount that is allowed in the **Sales/Payment difference** box that shows the difference between sales and payment for each transaction. This limit helps to recognize errors in the transactions.

8. In the Closing area, select the **Closing method** from the drop-down list box. The options include the following:
   - **Date and time:** Select this option to calculate and post statements for the date and time range that you specify in the statement. A single statement is created for the whole store. It can include many days (and times), or you can create multiple statements for each day.
   - **Shift:** Select this option to calculate and post statements whenever a Retail shift is closed. A statement is created for each shift on each register. Totals are for each shift, and for each terminal. Transactions in a shift do not post until the shift is closed.

9. The **Batch** area is used to control how statements are processed by the batch framework. Enter the **Transaction end time** for the 24-hour batch period for the statement calculation. For example, to set the batch period as 2:00 A.M. to 2:00 A.M. type **02:00:00**. To set the batch period as midnight to midnight, type **00:00:00**.

10. Select the **Staff/Terminal** check box if the business encounters performance issues during the statement posting. If the check box is marked, then one statement for each staff member or terminal is created.

**Miscellaneous**

1. In the **Payment** method area, select the **Remove/Add payment method** from the drop-down list box. The tender type that is selected will be used for Float Entry operations in the Microsoft Dynamics AX for Retail POS for balancing removing and adding transactions on the registers.

2. In the **Opening hours** area, enter the **From** start time when the store will open every day.

3. Enter the **To** end time when the store will close every day.
4. In the **Labels** area, select the **Prints shelf labels** check box to include this retail store in the shelf label printing operations.
5. Select the **Prints item labels** check box to include this store in the item label printing operations.
6. Select the **Create label for zero price** check box to print labels for store items even if the price of the items is zero.
7. In the **Purchase** area, select the **PO product filter** check box to filter the items that can be ordered for this store to those items that are available in the store warehouse.
8. In the **Training mode** area, select the **Hide training mode** check box to hide the **Training mode** option from the retail POS terminal.

**Financial dimensions**

To create financial dimensions, follow these steps.

1. In the **Default financial dimensions** area, select the **CustomerGroup** dimension for the retail store from the drop-down list box.
2. Select the **Department** dimension for the retail store from the drop-down list box.
3. Select the **ItemGroup** dimension for the retail store from the drop-down list box.
   **Store**: The **Store number** is added as a default dimension for reporting purposes.
4. Select the default **Terminal** dimension for the retail store from the drop-down list box.
5. Select the **Worker** dimension for the retail store from the drop-down list box.

**Store inventory**

To store inventory, in the **Planned** order area, select the **Master plan** from the drop-down list box that applies to the inventory for the retail store.

**Setup a Retail store**

After you create a new retail store, you must set up the following:

- Payment methods
- Cash declarations
- Income and Expense account
- Sections
- Distribution locations

The next section discusses each area so that related retail store information can be set up and configured.

**Setup payment methods**

Payment methods are the payment types that are used for goods and services that are received and sold at a retail store.

To create the payment methods, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the payment methods.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.



The **Stores** form is an easier option to use to copy payment methods from existing stores to new stores.

To copy payment methods from the existing store to the new store, follow these steps.

1. On the **Setup** FastTab, click **Payment method to store** from the **Copy** group.
2. Select the **From store** from the drop-down list box.
   The **To store** is defaulted to the current store.
3. Click **OK** to confirm and copy the payment methods from the new store that is created.
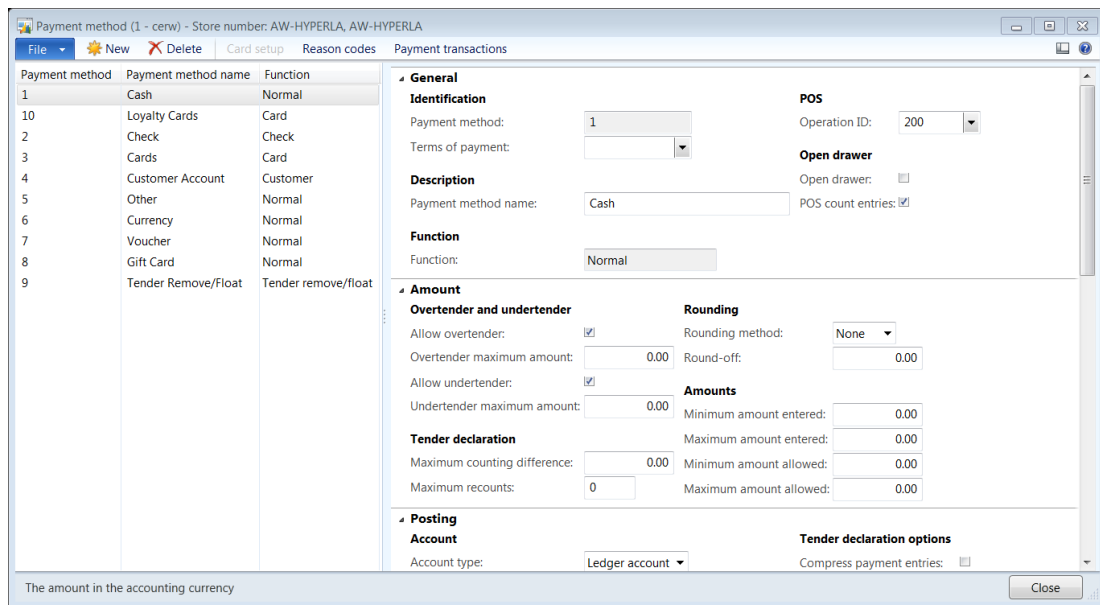
After copying the payment method, the user can modify the values that are specific to the retail store.

4. On the **Setup** FastTab, to modify the payment methods, click **Payment methods** in **Set up** group.



The **Payment methods** form opens.



The fields in payment methods for modifications include the following:

**General**

On the **General** FastTab, follow these steps.

1. In the **Identification** area, if a new payment method is being created, select the **Payment method** type from the drop-down list box.
2. Select the **Terms of payment** for the tender type from the drop-down list box.
3. In the **Description** area, enter the **Payment method name** for the store tender type.
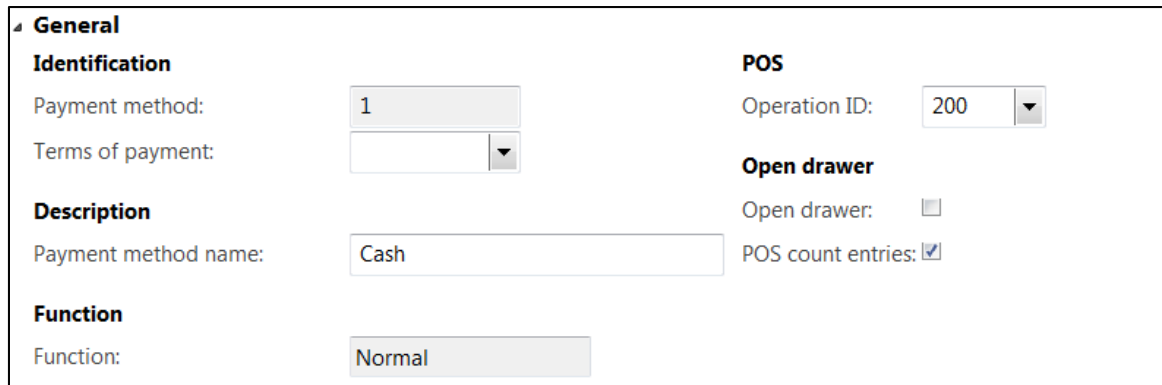
4. In the **Function** area, the **Function** field of the tender type is auto-populated when a payment method is selected. This setting comes from the organization wide tender type and cannot be changed.

5. In the **POS** area, select the **Operation ID** this is used by cashiers to accept payment of this type.

☑ **Note**

Do not set noncash tender types to the Pay Cash operation.

When cashiers perform a Float Operation at the point-of-sale, if more than one tender type is available that has the Pay Cash operation, Microsoft Dynamics AX for Retail POS uses the tender type that is set up first to create a payment transaction.

6. In the **Open drawer** area, select the **Open drawer** check box to open the cash drawer every time the selected tender is used at the point of sale.

7. Select the **POS count entries** check box to indicate that the program counts the number of payment entries made with this tender. These entries are used to create X and Z reports at the point of sale.



**Amount**

On the **Amount** form, follow these steps.

1. In the **Overtender and Undertender** area, select the **Allow overtender** check box to indicate that the tender type might be tendered over the transaction amount and that change will be returned to customer.

2. Enter the **Overtender maximum amount** that is allowed in over tendering.

3. Select the **Allow Undertender** check box to indicate that the tender type might be under tendered, meaning that payment is applied as a partial payment.

4. Enter the **Undertender maximum amount** that is allowed in under tendering.

5. In the **Tender declaration** area, select the **Maximum counting difference** amount between daily transactions and the actual cash count for each tender type.
6. Enter the **Maximum recounts** performed if a counting difference exists.
7. In the Rounding area, select the **Rounding method** from the drop-down list box. The options include the following:
   - **None**: The number is not rounded up or down.
   - **Nearest**:  The number is rounded up or down to the digit that is specified in the **Round-off** field.
   - **Up**: The number is rounded up to the digit that is specified in the **Round-off** field.
   - **Down**: The number is rounded up to the digit that is specified in the **Round-off** field.
8. Enter the **Round-off** value to which a tender type is rounded based on the **Rounding method**. For example, if you want Microsoft Dynamics AX Retail Headquarters to round-off an amount without decimals, enter 1.0 in this field. If you want Microsoft Dynamics AX Retail Headquarters to round-off to two decimal places, enter 0.01 in this field.
9. In the **Amounts** area, enter the **Minimum amount entered** in the selected tender type in a transaction at the point of sale (POS). Anything less than this amount is not allowed. If you enter zero or leave the field blank, no minimum amount is specified. If this is the case, the transaction can be finalized by pressing the correct tender key at the point of sale.
10. Enter the **Maximum amount entered** in the selected tender type in a transaction at the point of sale. The recommendation is to set an amount that will not be reached. If you enter zero or leave the field blank, no maximum amount is specified. If this is the case, the transaction can be finalized by pressing the correct tender key.
11. Enter the **Minimum amount allowed** when trying to finalize a transaction by using only the tender key at the point of sale without entering the amount. If you enter zero or leave the field blank, the transaction can be finalized by pressing the correct tender key.
12. Enter the **Maximum amount allowed** when trying to finalize a transaction by using only the tender key at the point of sale without entering the amount. If you enter zero or leave the field blank, the transaction can be finalized by pressing the correct tender key.

**Posting**

After successful posting, amounts in the Transaction Sales Amount account will match the total amount in the Tender Type Posting account and the Tender Type Post Difference account.

To post tender, follow these steps.

1.  In the **Account** area, select the **Account type** from the drop-down list box where the tender type will be posted. The selected account type determines the accounts that can be selected in the **Account number** field. The options include the following:
    *   **Ledger account:** The tender is posted to a General Ledger account.
    *   **Bank account:** The tender is posted to a bank account.
2.  Select the **Account number** from the drop-down list box. The selected account is updated when the statement is posted in Microsoft Dynamics AX Retail Headquarters.
3.  In the **Difference account** area, select the general ledger **Difference account** from the drop-down list box. The difference between the counted amount and the transaction amount in the statement line will be posted to the selected account.
    The **Account name** field displays the name of the **Difference account** that is selected.
4.  Enter the **Maximum normal difference** amount for a tender to be posted to the difference account.
5.  Select the General Ledger **Big difference account** to which the difference between the counted amount and the transaction amount in the statement line will be posted. This account is updated only if the difference is more than the difference amount that is entered in the **Maximum normal difference** field.

The **Account name** field displays the name of the **Big difference account** that is selected.

6. In the **Tender declaration options** area, select the **Compress payment entries** check box for Microsoft Dynamics AX Retail Headquarters to compress all payment entries with the same tender into one payment entry.

7. Select the **Counting required** check box to apply the counting of the tender. If the check box is left clear, Microsoft Dynamics AX Retail Headquarters automatically enters the contents of the **Transaction amount** field in the statement line in the **Counted amount** field when a statement is calculated.

8. Select the **Multiply in tender operations** check box for point of sale to automatically multiply the amounts that are entered for the tender in tender operations. The tender operations include the following:
   - Tender declaration
   - Float
   - Remove tender and so on

9. Select the **Allow float** check box for the tender to be used as floating cash. When running the registers during a shift or a specific date and time, tender can be put in the register drawers and set up as a floating transaction.

10. Select the **Taken to bank** check box to indicate that the tender type will be deposited in the bank.

11. Select the **Taken to safe** check box to indicate that the tender type is deposited in the safe. Only tender types that have this check box selected are available for safe drop operations in Microsoft Dynamics AX Retail POS.

12. In the **Bank transaction** area, select the **Use bank account** check box to make available the bank transaction settings. Set up the **Bank transaction** if **Taken to bank** is marked.

13. Select the **Account type** that the tender is posted from in the drop-down list box. The selected account type determines the accounts that can be selected in the **Account number** field. The options include the following:
   - **Ledger account:** The tender is posted to a General Ledger account.
   - **Bank account:** The tender is posted to a bank account.

14. Select the **Account number** for the tender to update when the statement is posted in the Microsoft Dynamics AX Retail Headquarters.

15. In the **Safe transaction** area, select the **Use safe account** check box to enable safe transaction settings. Set up the **Safe transaction** if the **Taken to safe** is marked.

16. Select the **Account type** the tender is posted from in the drop-down list box. The selected account type determines the accounts that can be selected in the **Safe account** field. The options include the following:
   - **Ledger account:** The tender is posted to a General Ledger account.
   - **Bank account:** The tender is posted to a bank account.

17. Select the **Safe account** for the tender to update when the statement is posted in Microsoft Dynamics AX Retail Headquarters.



**Change**

To use the change tender, follow these steps.

1. In the **Change setup** area, the **Change line on receipt** feature is not implemented in this release and might be removed from future releases.

2. Select the **Above minimum change tender** (other than the tender selected on the payment method form) from the drop-down list box. The tender selected will be used to provide change to the customer if the value of the change is higher than the amount specified in the **Minimum change** field. If the amount in **Minimum change** field is zero or blank, this field has no effect.

☑ **Note**

Tender types that are used for foreign currencies cannot be used as **Above minimum change tender**.

To enter minimum change, follow these steps.

1. Enter the **Minimum change** that is allowed as change in this tender type. If the amount to be given as change is less than the amount that is entered in the **Minimum change** field, the amount will be returned in the tender type that is selected in the **Change tender** field. If you enter zero or leave the field blank, change can always be given in the tender type that is defined in the **Above minimum change tender** field.

2. Select the **Change tender** (other than the tender that is selected on the **Payment method** form) from the drop-down list box. The tender that is selected will be used to provide change to the customer if the value of the change is less than the amount that is specified in the **Minimum change** field. This field should be left blank if the change can always be rendered in the actual tender type.

**Financial dimensions**

To use financial dimensions, follow these steps.

1. In the **Default financial dimensions** area, select the **CustomerGroup** dimension for the payment method from the drop-down list box.
2. Select the **Department** dimension for the payment method from the drop-down list box.
3. Select the **ItemGroup** dimension for the payment method from the drop-down list box.
4. Select the Store dimension for the payment method from the drop-down list box.
5. Select the default **Terminal** dimension for the payment method from the drop-down list box.
6. Select the **Worker** dimension for the payment method from the drop-down list box.



**Payment method reason codes**

You can setup reason codes for specific payment methods to be included at the Point of Sale (POS). Click **Reason codes** from the top toolbar on the **Payment method** form.

To associate a new reason code to the payment method, follow these steps.



1. Click **New** to associate a new reason code to the payment method.
2. Select the **Reason code number** from the drop-down list box.
   The **Prompt** field will display the message that is associated with the reason code that is selected. The prompt message will be displayed to the cashier on the point of sale register when the payment method is selected.
3. Check the **Input required** check box so that the cashier can provide information when the reason code is prompted on the point of sale terminal.
4. Select **When required** to indicate when the reason code should be selected for the payment method from the drop-down list box. The options include the following:
   - **Always**: Prompt for the reason code every time the payment method is used.
   - **Positive**: Prompt for the reason code when the amount is positive and the payment method is used.
   - **Negative**: Prompt for the reason code when the amount is negative and the payment method is used.
5. Select the **Sequence number** for the reason code to indicate the sequence in which it should appear on the point of sale  terminal if multiple reason codes are associated with the payment method.

## Payment transactions

To view payment transactions that are associated with the payment method, click **Payment transactions** from the top toolbar on the **Payment methods** form.



The **Payment transactions** form opens.

The **Overview** FastTab displays the transaction number, payment method, tendered amount, and the transaction date and time.

To view this information, follow these steps.

1. Click the **General** FastTab to view payment details, payment origin and statement information.
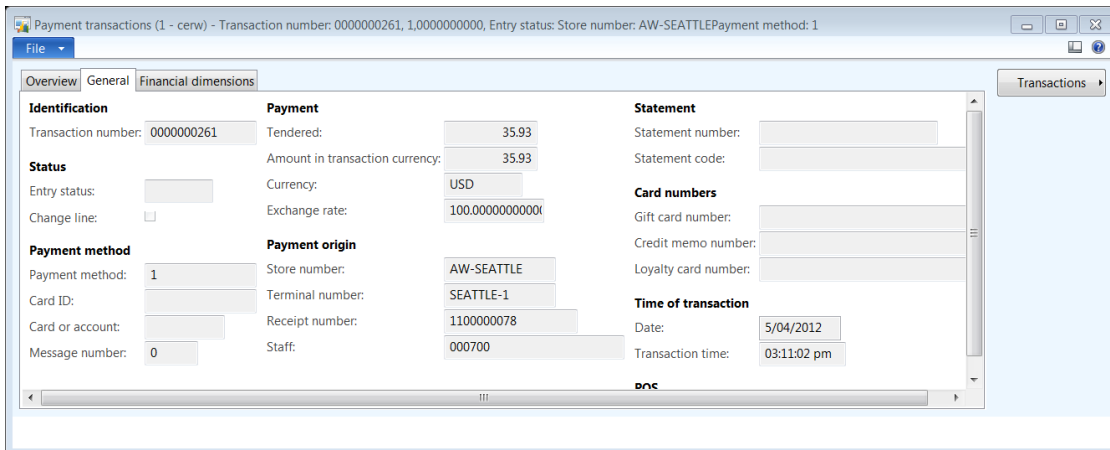


2. Click the **Financial dimensions** FastTab to view the dimension that is associated with the transaction header.

3. To view transaction details or reason code transactions, click **Transactions** on the right side of the **Payment transactions** form.

**Setup Cash Declarations**

This section describes how to setup cash declarations for a retail store that defines the currency denominations that are used at the point of sale terminal.

To create cash declarations, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the cash declarations.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.
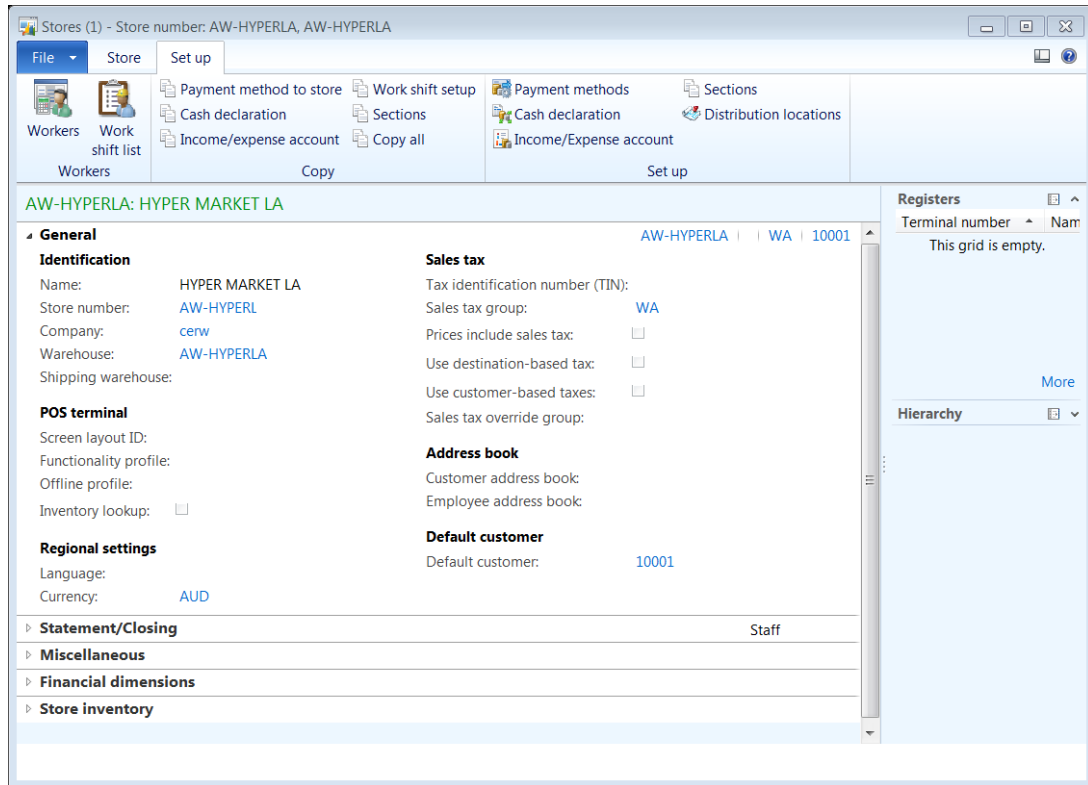
The **Stores** form provides an easier option to copy cash declarations from existing stores to new retail stores.

To copy cash declarations from an existing store to the new store, follow these steps.

1. On the **Setup** FastTab, in the **Copy** group, click **Cash declaration**.
2. Select the **From store** from the drop-down list box.
   The **To store** is defaulted to the current store.
3. Click **OK** to confirm and copy the cash declaration from the new retail store.
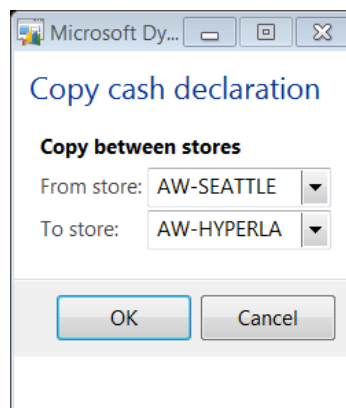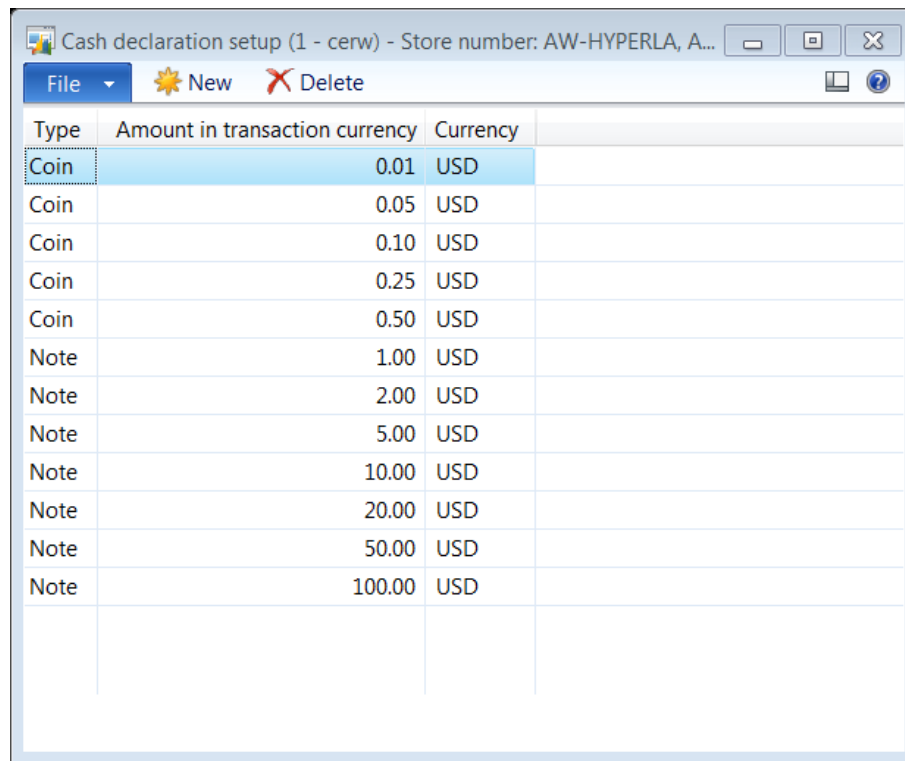
After copying the cash declaration, the user can modify the values that are specific to the retail store.

To modify the cash declaration, on the **Setup** FastTab, click **Cash declaration** in **the Set up** group.
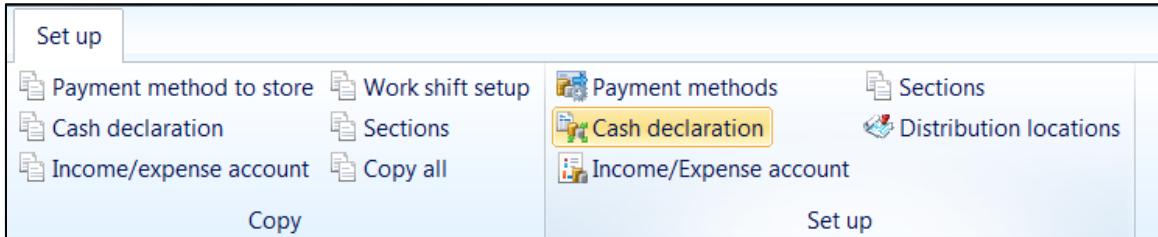


The **Cash declaration** form opens:



To enter information in the **Cash declaration setup** form, follow these steps.

1. Click **New** to create a new cash declaration.
2. Select the **Type** of declaration from the drop-down list box. The options include the following:
   - **Coin**: The type of cash declaration is in coins.
   - **Note**: The type of cash declaration is in notes.

3.  Enter the **Amount in transaction currency** to define the denomination of the cash.
4.  Select the **Currency** of the declaration amount from the drop-down list box.

**Income/expense account**

The Income/expense account setup defines how to track both income and expenses at the point of sale. All store income should be linked with income accounts and store expenses with expense accounts.

To create cash declarations, follow these steps.

1.  Click **Retail > Setup > Retail channels > Retail stores**.
2.  Double-click and open the retail store to setup the income/expense account.
3.  Click the **Setup** FastTab from the top toolbar to view the retail store setup options.



The **Stores** form provides easier option to copy the income/expense account from the existing stores to new stores.

To copy the income/expense account from the existing store to the new store, follow these steps.

1. On the **Setup** FastTab, in the **Copy** group, click **Income/expense account**.
2. Select the **From store** from the drop-down list box.
3. The **To store** is defaulted to the current store.
4. Click **OK** to confirm and copy the income/expense account from the existing store to the new retail store.
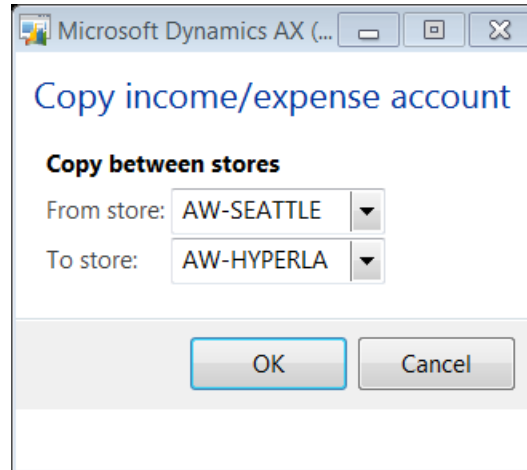
After copying the income/expense account, the user can modify the values that are specific to the retail store.

5. To modify the income/expense account, on the **Setup** FastTab, click **Income/expense account**.
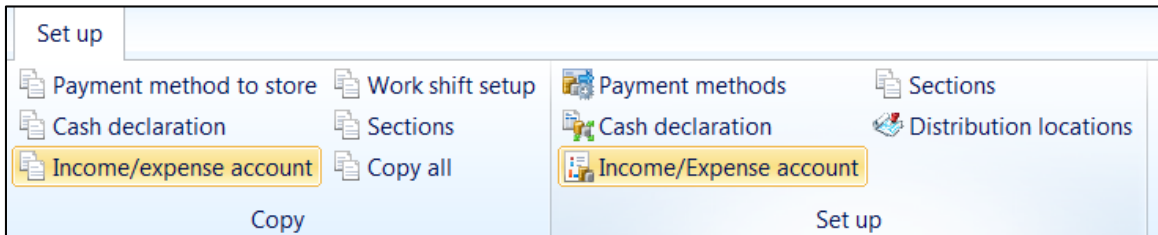
The **Income/expense account** form opens:

**General**

For the fields in the **General** area, in the Income/expense account for modifications, enter the following information.

1. In the **Identification** area, enter the **Account number** when a new income/expense account is created.
2. In the **Description** area, enter the **Name** of the account.
3. Enter the **Search name** for the account.
4. In the **Account** area, select the **Account type** from the drop-down list box. The options include the following:
   - **Income**: Specifies that the account type is an income account.
   - **Expense**: Specified that the account type is an expense account.
5. In the **Message lines** area, enter information in the **Message line 1**.
6. Enter information in the **Message line 2**.
7. In the **Slip text** area, enter information in the **Slip text 1**.
8. Enter information in the **Slip text 2**.

**Posting**

In the **Ledger account** area, select the **General Ledger account** for posting. The **Name** field displays the name of the ledger account that is selected.



**Income/expense reason codes**
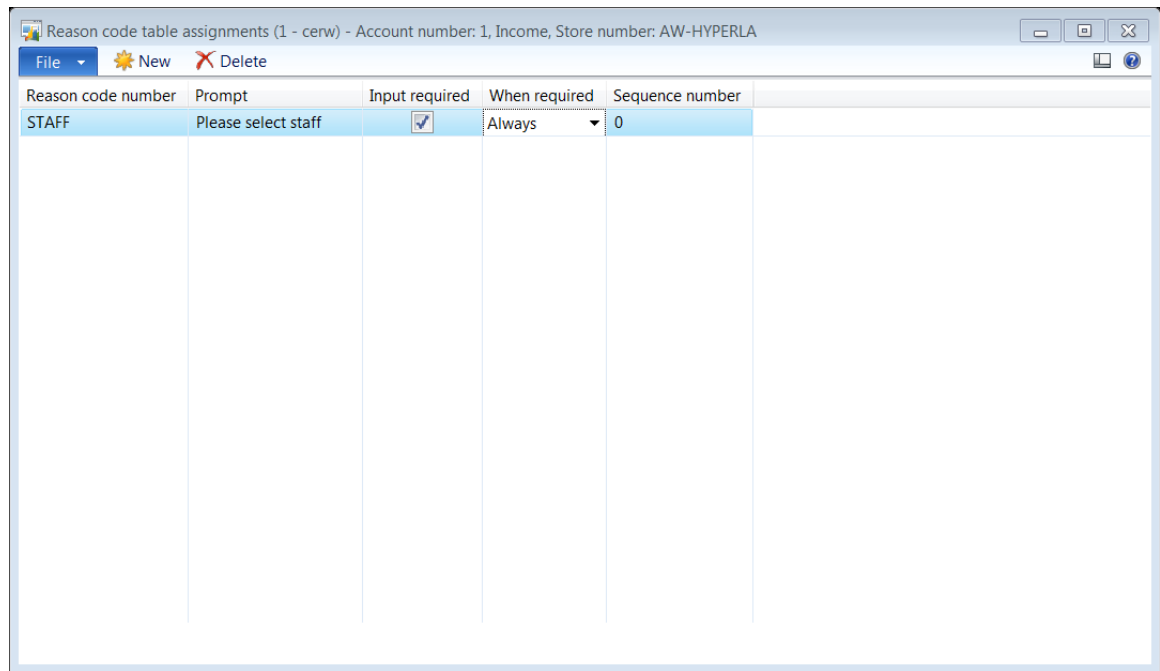
Reason codes can be assigned to the income/expense account so that cashiers can enter details or the staff member's name that performed the income or expense operation.

To associate a new reason code to the income/expense account, follow these steps.

1. Click **Reason codes** on the top toolbar of the **Income/expense** form. The **Reason codes** form opens.
2. Click **New** to associate a new reason code to the income/expense account.
3. Select the **Reason code number** from the drop-down list box.
4. The **Prompt** field will display the message that is associated with the reason code selected. The prompt message will be displayed to the cashier on the point of sale register when the income/expense account is selected.
5. Check the **Input required** check box so that the cashier can provide information when the reason code is prompted on the point of sale terminal.
6. Select **When required** to indicate when the reason code should be selected for the income/expense from the drop-down list box. The options include the following:
   - **Always**: Prompt for the reason code every time the income/expense account is used.

- **Positive**: Prompt for the reason code when the amount is positive and the income/expense is used.
- **Negative**: Prompt for the reason code when the amount is negative and the income/expense account is used.

7. Select the **Sequence number** for the reason code to indicate the sequence in which it should appear on the point of sale terminal if multiple reason codes are associated with the income/expense account.



**Income/expense transactions**

To view income/expense transactions that are associated with the income/expense account, follow these steps.

1. Click **Transactions** from the top toolbar on the **Income/expense** form.

The **Transactions** form opens.



The **Overview** tab displays the transaction number, receipt number, account type, amount and transaction date and time.

2. Click the **General** FastTab to view the transaction origin, shift details and statement information.

3. To view transaction details or reason code transactions, click **Transactions** on the right side of the **Transactions** form.

**Sections**

Sections and shelves represent the physical structure in each store. You can create the size of each section and assign retail items to different sections in each store. By doing this, the retail store can gather section-level sales statistics.

To create sections, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.
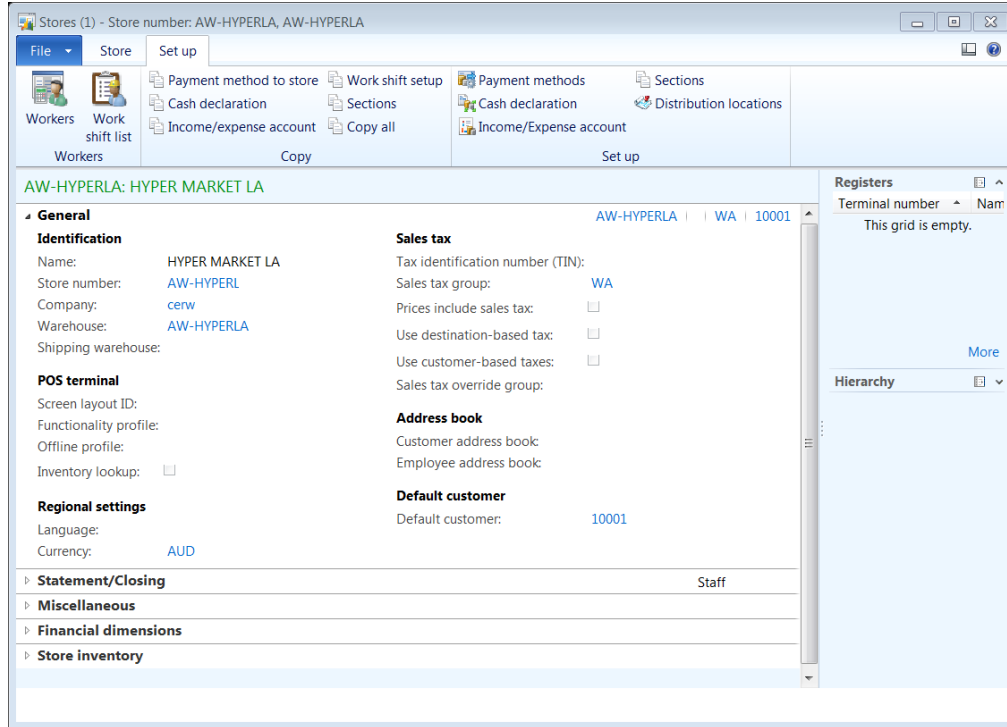
The **Stores** form provides an easier option to copy sections from existing stores to new stores.

To copy sections from the existing store to the new store, follow these steps.

1. On the **Setup** FastTab, in the **Copy** group click **Sections**.
2. Select the **From store** from the drop-down list box.
   The **To store** is defaulted to the current store.
3. Click **OK** to confirm and copy the sections from the existing store to the new retail store.
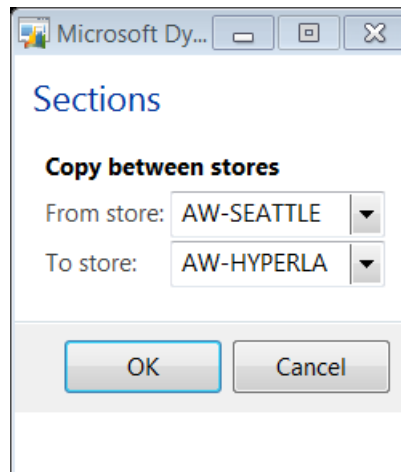
After copying the sections, the user can modify the values that are specific to the retail store.

4. To modify the sections, on the **Setup** FastTab, in the **Set up** group, click **Section**s.
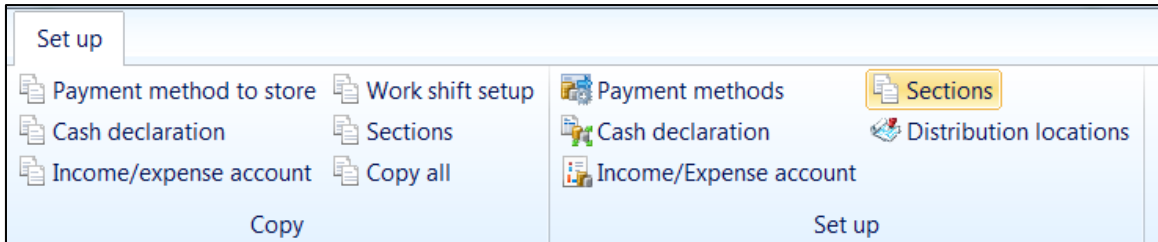


The **Sections** form opens.



For the **Sections** form, to enter information in the fields, follow these steps.

1. The **Name** field will display the retail store name. Click **New** on the top toolbar to create a new section for the retail store.
2. Enter the **Section number** of the section for the retail store.
3. Enter the **Description** of the section.
4. Enter the **Section size** of the retail store.
5. Select the **Size unit** of the section from the drop-down list box. For example, the size unit can be in **meters** or **centimeters**.
6. In the **General** area, enter the **Last checked stock** date to indicate when the last stock take is performed for the retail store.

In the **Sales statistics** area, the **Totals** fields will display the sales figures based on the products sold that belong the section.

The **Sold quantity** field will display the total sold quantity of all the products sold that belong to the section.

The **Net amount** field will display the total net amount of sales for the products that belong to the section.

The **Discount amount** field will display the total discount amount for the products that belong to the section.

**Create Shelves**

To create shelves, follow these steps.

1. Click **Shelves** on the top toolbar from the **Sections** form. The **Shelves** form opens.
2. Click **New** to create a new shelf.
3. In the **Identification** area, select the **Store number** from the drop-down list box.
4. Select the **Section number** the shelf will belong to from the drop-down list box.

5. Enter the **Shelf number** of the shelf.
6. In the **Description** area, enter the **Description** of the shelf.
7. In **Shelf size** area, enter the **Section percent** that is consumed by the shelf.
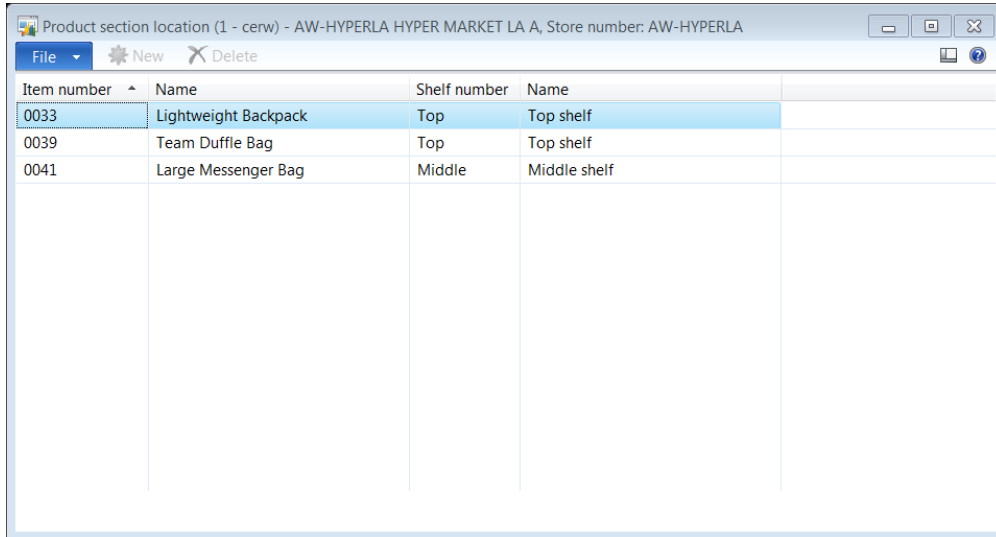


**Section product list**

To view products that are assigned to the sections, click **Product list** on the top toolbar from the **Sections** form.

The **Product section location** form opens. The form displays the item number, name and the shelf to which the product is allocated.



**Setup Distribution locations**

Distribution locations are used to define the application object server (AOS) connection profile that is created to communicate with the retail store.

To create distribution locations, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.
4. On the **Setup** FastTab, in the **Setup** group, click **Distribution locations**.



The **Distributions locations** form opens.

1. Click **New** to create a new distribution location.
2. Enter the **Location number** for the retail store.
3. Enter the **Description** of the location for the retail store.

4. Select the retail **Store** from the drop-down list box.
5. Select the **Connection profile** that is used to communicate with the retail store.



After you create the distribution location, click **Functions > Test connection** to confirm that the connection profile can successfully establish a connection with the retail store.

If the connection is successful, an Infolog message dialog box is displayed.
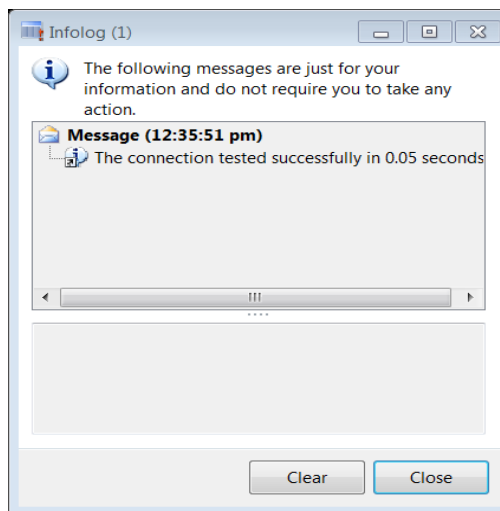


**Store Workers**

Workers are cashiers and managers are assigned to a store. To view the list of workers, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.
4. On the **Setup** FastTab, in the **Workers** group, click **Workers**.

   This will open the **Workers** form. The **Workers** form displays the list of cashiers and managers that are assigned to the retail store.
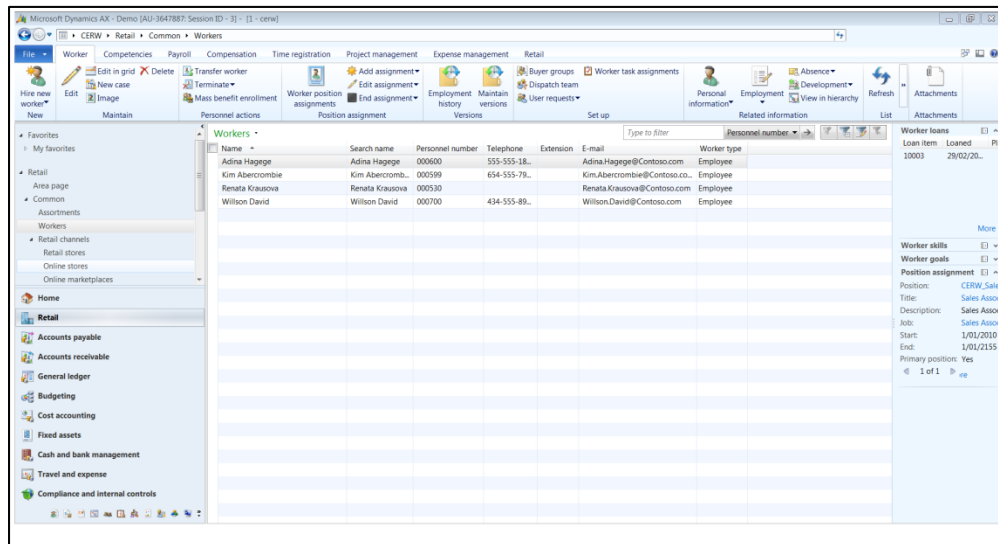


**Store Work shifts**
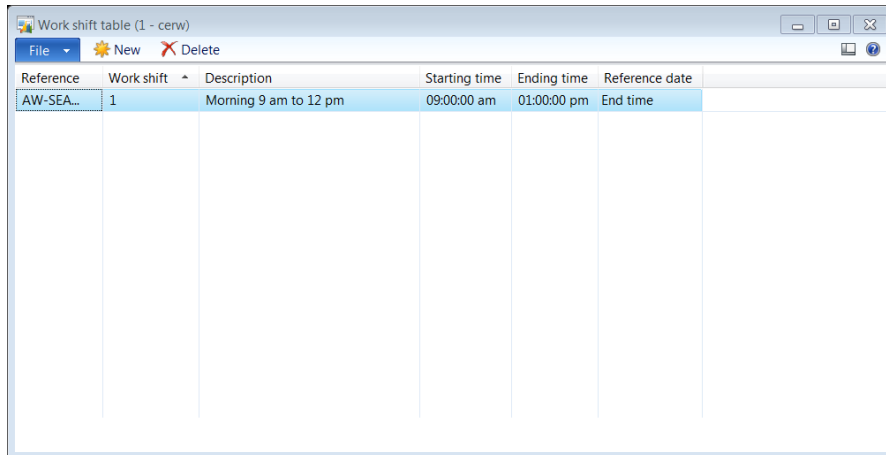
To set up work the shift list for a retail store, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.
4. On the **Setup** FastTab, in the **Workers** group, click **Work shift list**.

   The **Work shift list** form opens.

1. Click **New** to create a new work shift list.
2. Enter the **Shift date** for the retail store.

3. Select the **Work shift** from the drop-down list box. A work shift consists of the start time and the end time for a shift that is assigned to specific retail stores.
4. Enter the **Description** of the shift.
    The **Starting time** will be auto-populated from the work shift settings.
    The **Ending time** will be auto-populated from the work shift settings.



☑ **Note**

The Work shift table is not completely implemented in the current version of Microsoft Dynamics AX for Retail. The setting does not have any affect at the point of sale.

## 20.2.3 MANAGE A RETAIL STORE

After a retail store is setup, the store manager must perform certain actions. These actions include the following:

- Assign price groups to the retail store.
- Review the price list for the products that are assigned to the retail store.
- Review assortments that are assigned to the retail store.
- Review channel products that are assigned to the retail store.

**Assign price groups**

A price group is a list of items with specific pricing for specific customers. You can use price groups to offer an item at different prices to different groups of customers.

To assign price groups, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.

3. Click the **Store** FastTab from the top toolbar to view the retail store setup options.
4. On the **Store** FastTab, in the **Pricing** group, click **Price groups**.
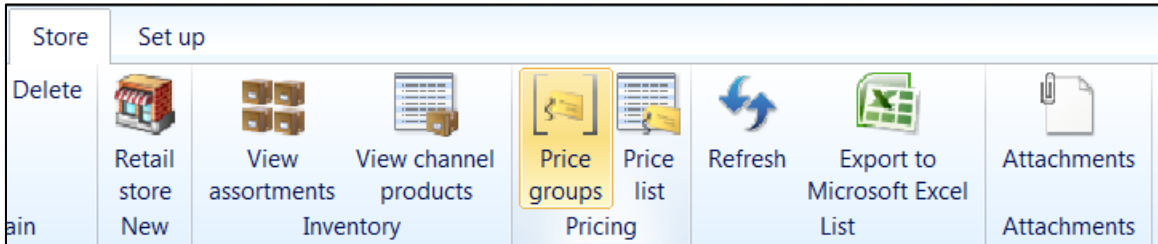


The **Price groups** form opens.

To create a new price group, follow these steps.

1. Click **New** to create a new price group.
2. Select the retail **Price groups** from the drop-down list box.
The **Name** field will display the name of the price group that is selected.
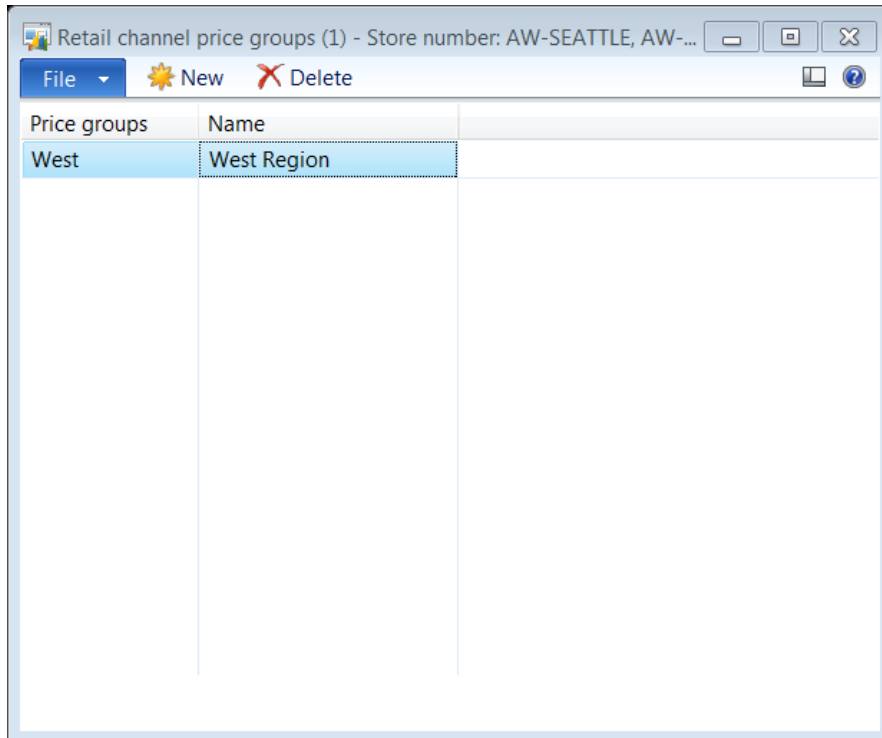


**View price list**

The price list is used by store managers to review the recommended retail price (RRP) and the discounts that are currently offered on the products that are assigned to the retail store.

To view the price list, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Store** FastTab from the top toolbar to view the retail store setup options.
4. On the **Store** FastTab, in the **Pricing** group, click **Price list**.
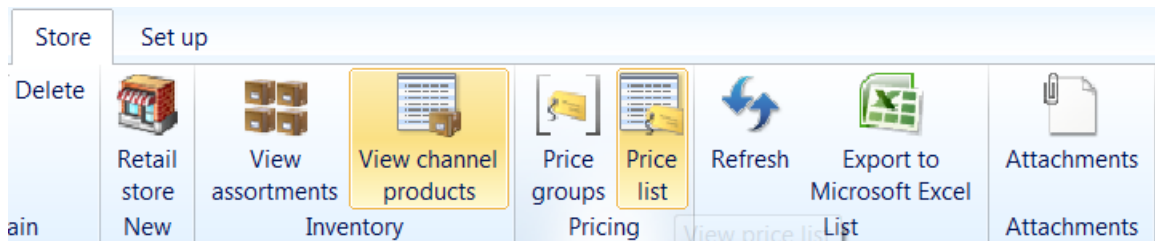


The **Price list** form opens. The **Price list** form displays the following information:

1. The **Item number** of the product that is currently carried by the retail store.
2. The **Price** of the product that is the recommended retail price (RRP).
3. The **Price adjustments** numbers that indicate the price discounts are currently active for the product at the retail store.
4. The **Discount offers** numbers that indicate the promotions are currently active for the product at the retail store.

**View store assortments**
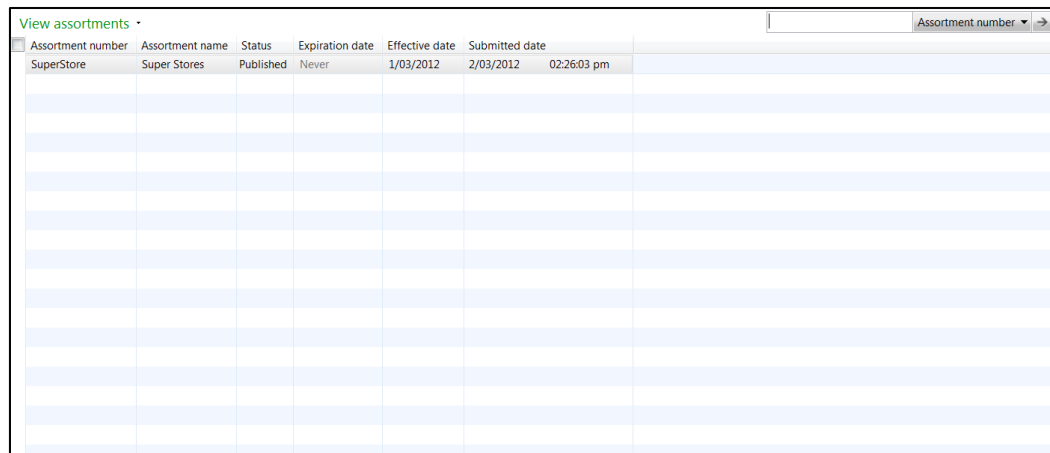
An assortment is a collection of related items that a merchandising manager assigns to a retail store or retail channel.

To view assortments, follow these steps.

1. Click **Retail > Setup > Retail channels > Retail stores**.
2. Double-click and open the retail store to setup the store sections.
3. Click the **Store** FastTab from the top toolbar to view the retail store setup options.
4. On the **Store** FastTab, in the **Inventory** group, click **View assortments**.



The **View assortments** form opens. The **View assortments** form displays the list of assortments that are assigned to the retail store.



**View channel products**

The channel products are the list of products that are assigned to a retail store that use assortments.

To view channel products, follow these steps.
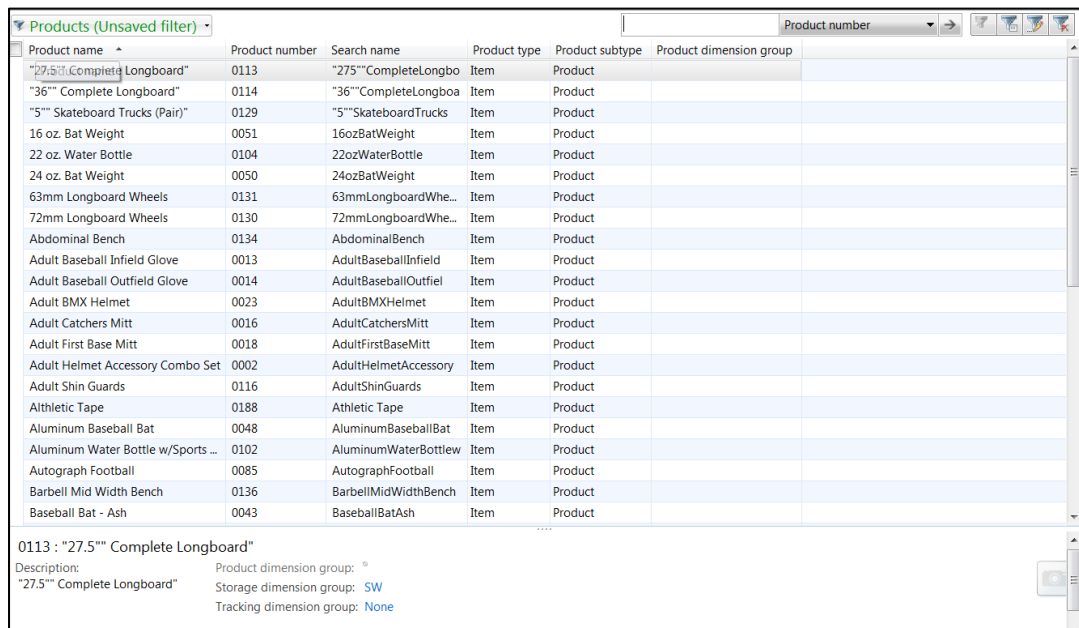
1. Click **Retail > Setup > Retail channels > Retail stores**.

2. Double-click and open the retail store to setup the store sections.
3. Click the **Store** FastTab from the top toolbar to view the retail store setup options.
4. On the **Store** FastTab, in the **Inventory** group, click **View channel products**.
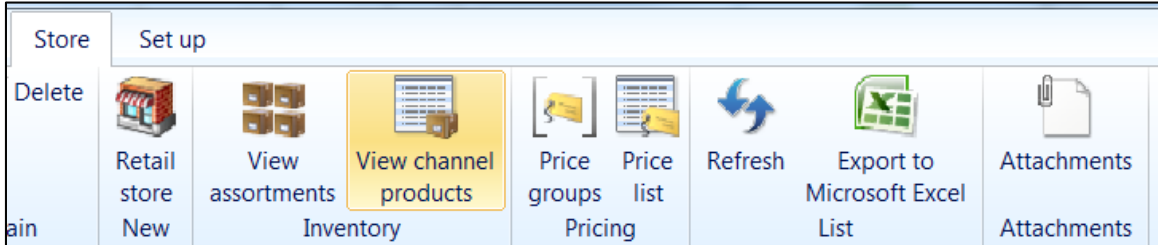


The **Channel products** form opens. The **Channel products** form lists the set of products that are assigned to the store that uses assortments.



## 20.2.4 CREATE AN ONLINE STORE

This section discusses the steps required to create a new online store.

To create a new online store, follow these steps.

1. Click **Retail > Retail channels > Online stores**. The **Online store** form opens.
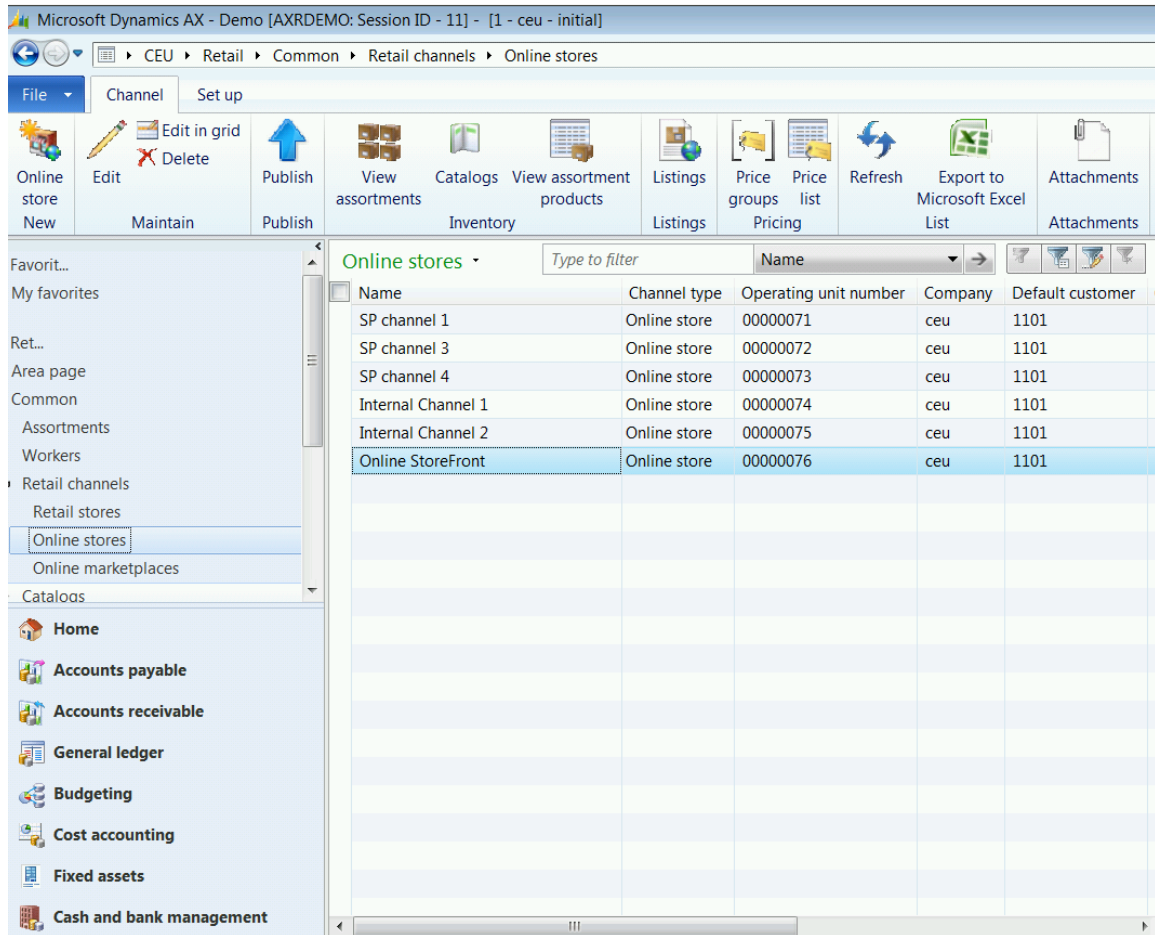
2. To create a new online store, click **Online store** in the **New** group. The **Online store** form opens.

**General**

On the **General** FastTab, follow these steps.

1. On the **General** FastTab, enter the **Name** of the online store.
   The **Operating unit number** gets populated automatically. Notice that the number sequence needs to be set for operating unit.
2. Select the **Company** the online store will belong to from the drop-down list box. The current company where the store is being created will be set as the default.
3. Select the default **Warehouse** from the drop-down list box. The drop-down list box is filtered to contain all the store warehouses that have the retail check box marked.
4. Enter the **Search name** for the online store.

The **Publishing status** is automatically set to "Draft" while a new online store is being created. The online store must be published to be hosted on an e-commerce website.

The **Publishing status message** displays the publishing status for the online store.

5. In the **Category hierarchy** area, select the **Category hierarchy** from the drop-down list box. The list displays the category hierarchy of type retail channel navigation hierarchy.

   In the **Updates** area**,** the **Last updated** field displays the date and time when the online store is updated.

6. In the **Orders** area, select the primary **Currency** field from the drop-down list box.

7. Select the **Default customer** for the online store from the drop-down list box.

8. Select the **Customer address book** for the online store.

9. In the **Profiles** area, select the **Real-time Service profile** from the drop-down list box.

10. In the **Sales tax** area, check the **Prices include sales tax** if the product RRP price is inclusive of tax.

11. In the **Email notification** area, select the **Email notification profile** that is used by the online store to send email notification to customers.
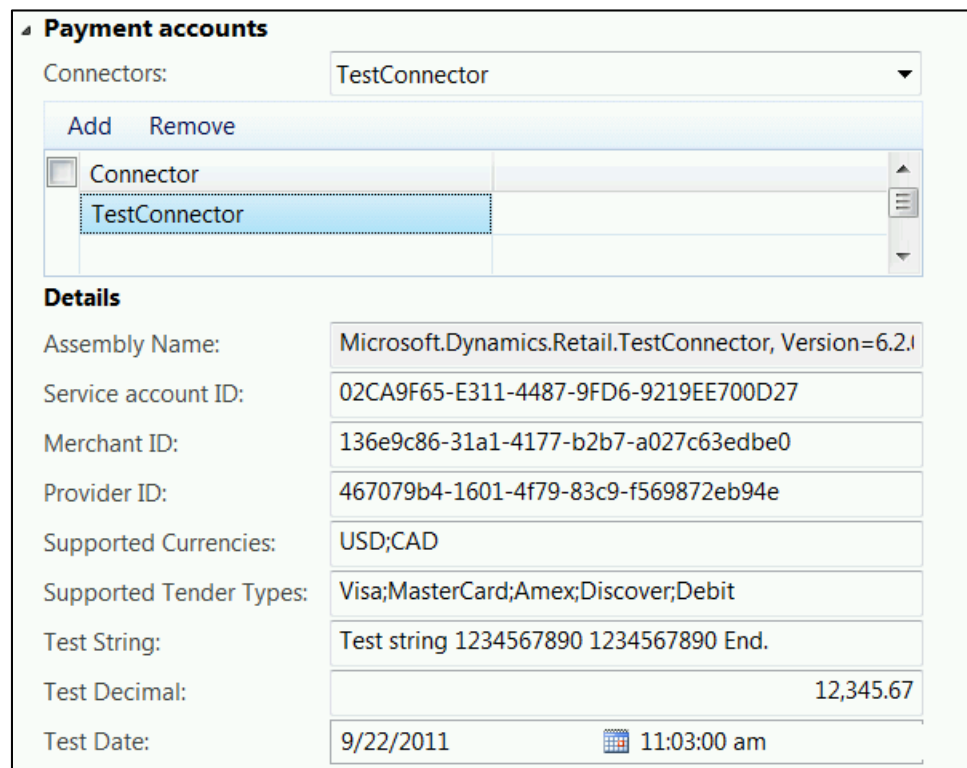
| ◢ **General** | | 00000076  &#124;  SP001 |
|---|---|---|
| **Identification** | | **Updates** |
| Name: | Online StoreFront | Last updated:   11/18/2012   02:36:53 pm |
| Operating unit number: | 00000076 | **Orders** |
| Company: | ceu ▾ | Currency:   USD ▾ |
| Warehouse: | SP001 ▾ | Default customer:   1101 ▾ |
| Search name: | OOB Store Front | Customer address book:   All ▾ |
| Publishing status: | Draft | **Profiles** |
| Publishing status message: | | Real-time Service profile:   RTS ▾ |
| | | **Sales tax** |
| | | Prices include sales tax:   ☐ |
| **Category hierarchy** | | **Email notification** |
| Category hierarchy: | Sharepoint navigation hierarchy ▾ | Email notification profile:   ▾ |

**Payment accounts**

To set up connectors, follow these steps.

1. On the **Channel** FastTab, click **Edit** in the **Maintain** section on the top toolbar of the **Online store** form.

2. Select the **Connectors** from the drop-down list box. The connectors are available only in the United States and Canada in the current release. If the fields in the **Details** section differ according to the selected Connector, and if a user selects TestConnector, then enter the following information:

   a. Click **Add** to add the selected connector as a payment account for the online store.
   In the **Details** section the **Assembly Name** will display the name of the connector and the current version number.

   b. Enter the **Service account ID** for the payment connector.

   c. Enter the **Merchant ID** that is used by the payment connector.

   d. Enter the **Provider ID** for the selected payment connector.

   e. Enter the **Supported Currencies** that are allowed for transaction through the payment connector. Enter the currencies in a comma (;) separated list.

   f. Enter the Supported Tender Types that are supported by the payment connector. Enter the tender types in a comma (;) separated list.

   g. Enter the **Test String** to test the payment connector.

   h. Enter the **Test Decimal** amount to test the payment connector.

   i. Select a **Test Date** when the payment connector will be verified.



3. If the user selects Dynamics Payment Connector, and then enter the following information:

a. Click **Add** to add the selected connector as a payment account for the online store.
   In the **Details** section, the **Assembly Name** will display the name of the connector and the current version number.
b. Enter the **Merchant account ID** that is used by the payment connector.
c. Enter the **Service account ID** for the payment connector.
d. Enter the **Microsoft account** name for the selected payment connector.
e. Enter the **Microsoft account password** for the selected payment connector.
f. Enter the **Environment** name where the payment connector will be used.
   The **Public key** field displays the public key that is used to encrypt the information that is communicated by using the payment connector.
   The **Portal URL** displays the web link used to connect to the payment connector.
g. Enter the **Supported Currencies** that are allowed for the transaction through the payment connector. Enter the currencies in a comma (;) separated list.
h. Enter the **Supported Tender Types** that are supported by the payment connector. Enter the tender types in a comma (;) separated list.

 **Note**

Payment accounts are available only in the United States and Canada in the current release of Microsoft Dynamics AX 2012 R2 Retail.

**Languages**

To add languages, follow these steps.

1.  Click **Add** to add languages that are supported by the online store.
2.  Select the **Language** from the drop-down list box.
    The **Description** field is auto-populated with the name of the language selected.
3.  Select the **Default** check box if you want the language to be the default language for the online store.



**Financial dimensions**

To use dimensions, follow these steps.

1.  In the **Default financial dimensions** area, select the **ConstCenter** dimension for the online store from the drop-down list box.
2.  Select the **Department** dimension for the online store from the drop-down list box.
3.  Select the **ExpensePurpose** dimension for the online store from the drop-down list box.

**Setup a Retail store**

After you create a new online store, you must set up the following:

*   Modes of delivery
*   Payment methods
*   Cash declarations
*   Income and Expense account
*   Sections

- Distribution locations

The follow section discusses the areas that are used to set up and configure the retail store related information.

**Set up Modes of delivery**

The modes of delivery defines the shipping carriers that are supported for the delivery of the online order. One of the modes available is customer pick-up. The customer can order online and pick-up from any store based on the stock availability.

To assign modes of delivery, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the modes of delivery.
3. Click the **Setup** FastTab from the top toolbar to view the modes of delivery that are assigned to the online store.
4. Click **Modes of delivery** to open the **Modes of delivery** form.
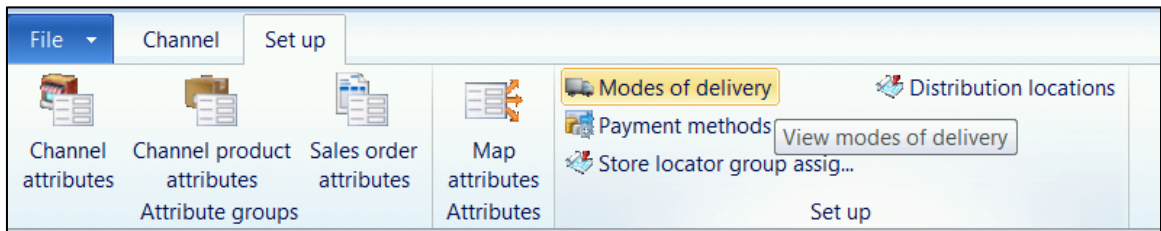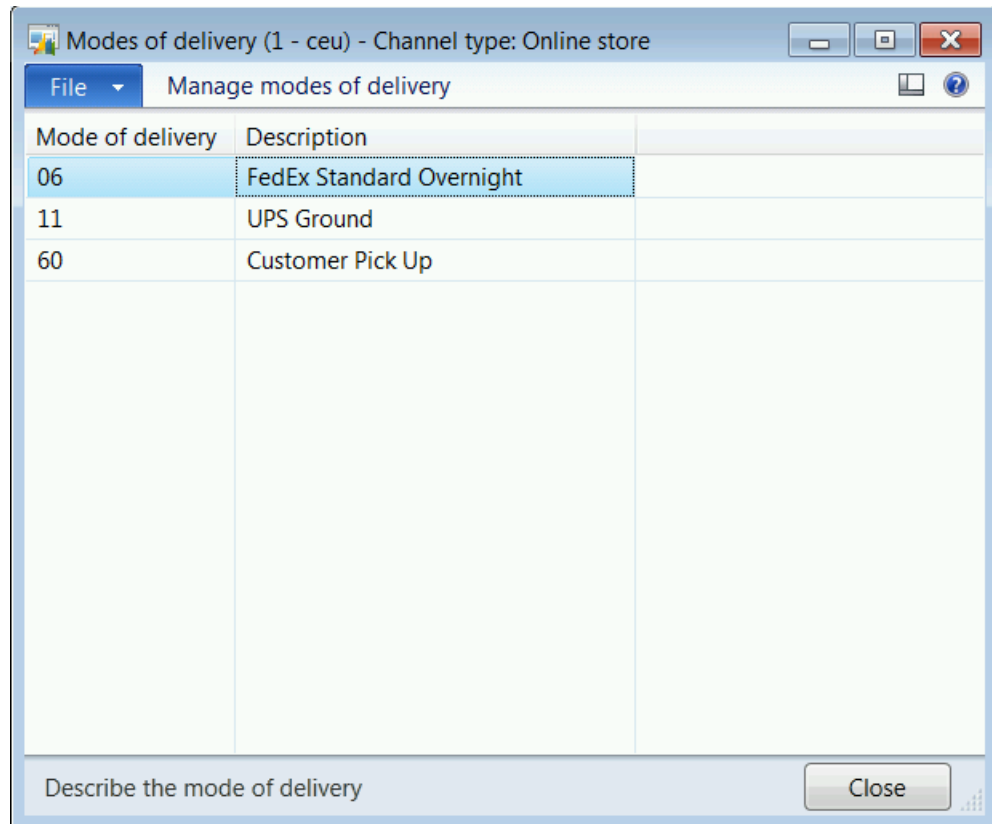
5.  Click **Manage modes of delivery** on the top toolbar to setup modes of delivery and assign channels to the delivery modes.

    The **Modes of delivery** form opens.
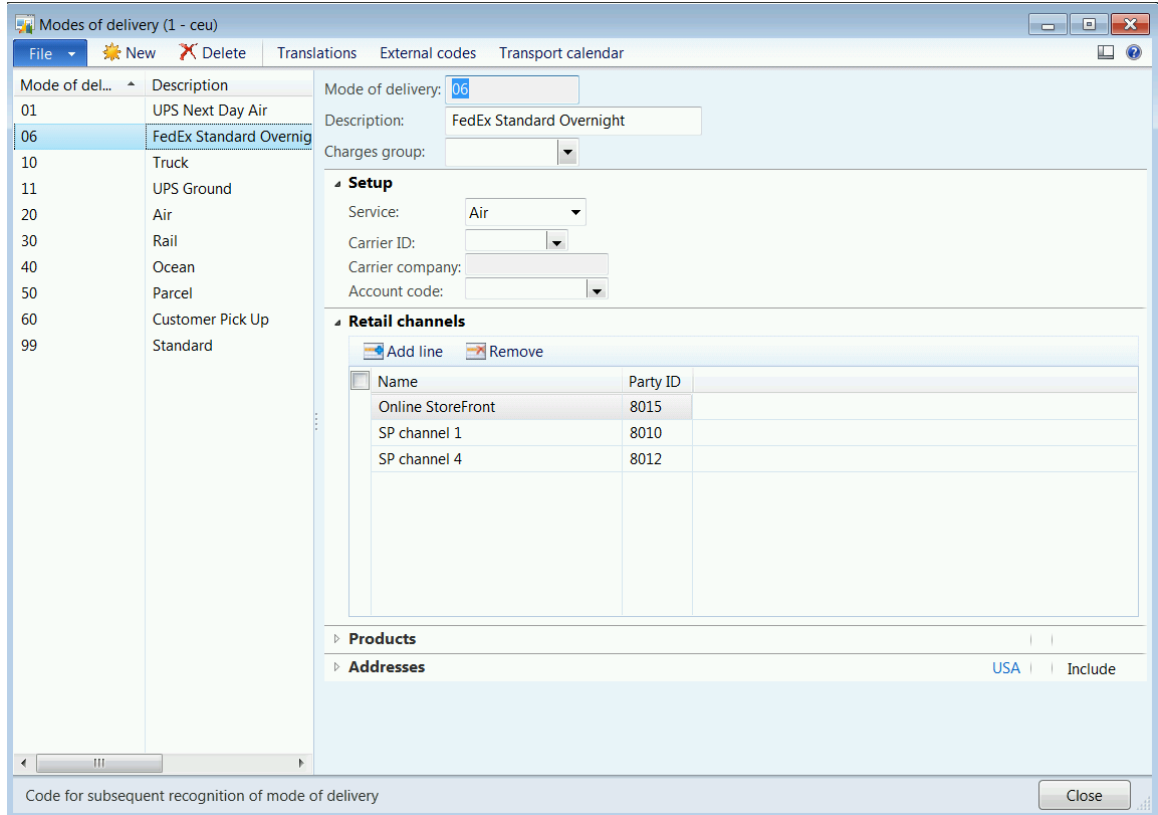
6. Click **New** to create a new mode of delivery or select and existing one to modify.
7. Enter the **Mode of delivery** code for new records.
8. Enter a **Description** for the new mode of delivery.
9. Select a **Charges group** that applies to the mode of delivery from the drop-down list box.
10. On the **Setup** FastTab, select the Service that is used for the mode of delivery. The options include the following:
    a. **Miscellaneous**: Select this service if the mode of transportation can be ground, air or pickup.
    b. **Ground**: Select this service if the mode of transportation is by ground.
    c. **Air**: Select this service if the mode of transportation is by air.
    d. **Pickup**: Select this service if the customer is going to pick up the ordered items.
11. Select the **Carrier ID** from the drop-down list box for the mode of delivery. The **Carrier Company** is auto-populated with the name of the carrier company based on the carrier ID selection.
12. Select the **Account code** of the carrier company from the drop-down list box.
13. On the **Retail channels** FastTab, click **Add line** to assign online channels to the mode of delivery. The **Choose organization nodes** form opens.
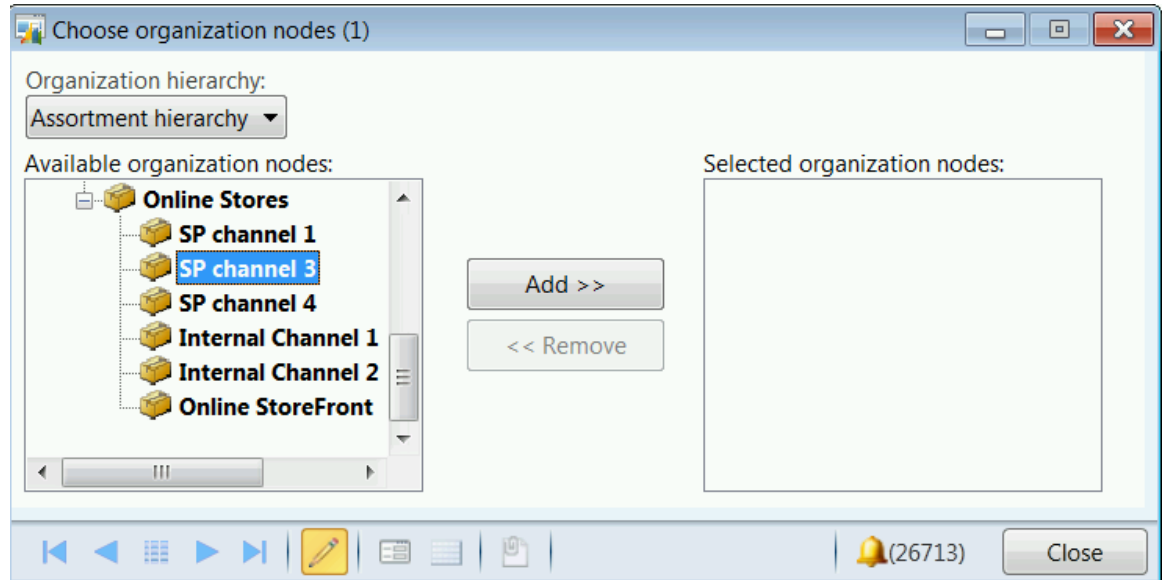
14. Select the **Organization hierarchy** from the drop-down list box.
15. Select the **Available organization nodes** to add to the mode of delivery.
16. Click **Add** to select the organization nodes / online channels.
17. Click **Close** to add the selected online channels to the mode of delivery.
18. On the **Products** FastTab, click **Add line** to add a category or product / variant to be assigned to the mode of delivery.
19. Select the **Category** from the drop-down list box.
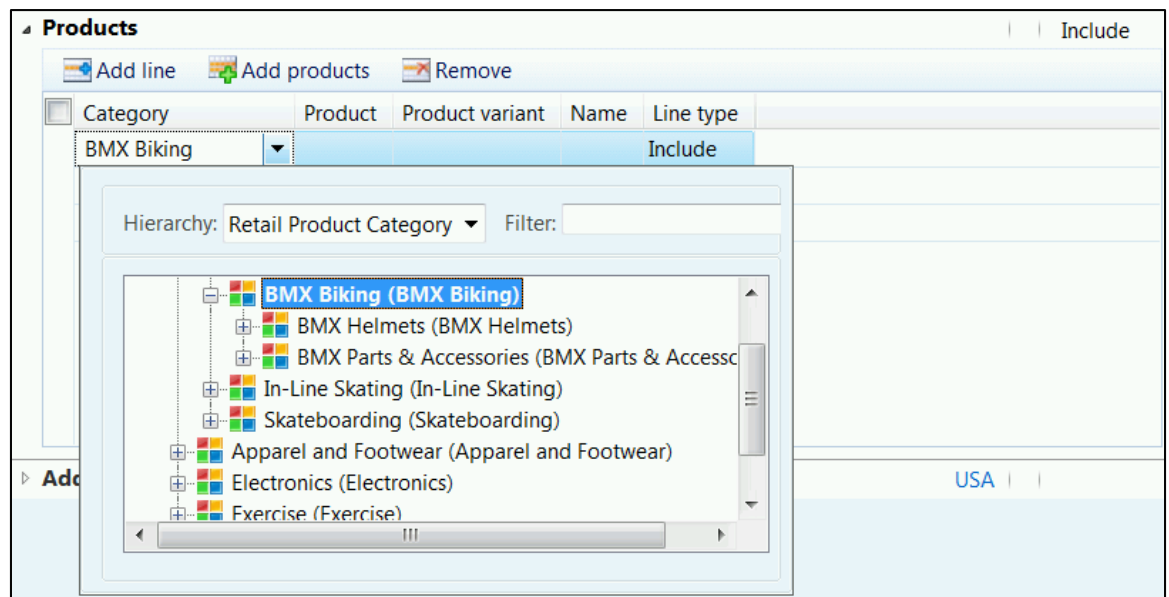


20. Select the **Product** that belongs to the category from the drop-down list box.

21. Select the **Product variant** if the selected product is a master product or leave the selection blank if all the variants need to be assigned to the mode of delivery.
The **Name** field will display the description of the product / variant if it is selected.

22. Select the **Line type** from the drop-down list box. The options include the following:

    a. **Include**: Include the category / product / variant and assign them to the mode of delivery.

    b. **Exclude**: Exclude the category / product / variant from using the selected mode of delivery.

23. On the **Addresses** FastTab, click **Add line** to add a country, state and province that will be covered by the selected mode of delivery.

24. Select the **Country/region** from the drop-down list box.

25. Select the **State/province** from the drop-down list box.

26. Select the **Line type** from the drop-down list box. The options include the following:

    a. **Include**: The mode of delivery that covers the country / state / province that is selected in the **Addresses** FastTab.

    b. **Exclude**: The mode of delivery that excludes the country / state / province that is selected in the **Addresses** FastTab.



27. Close the **Modes of delivery** form to return to the **Online store** form.

**Setup payment methods**

Payment methods are the payment types that are received for goods and services that are sold in the online store.

To assign payment methods to the online store, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the retail store to setup the payment methods.
3. Click the **Setup** FastTab from the top toolbar to view the retail store setup options.



4. To modify the payment methods, on the **Setup** FastTab, in the **Set up** group, click **Payment methods**.



The **Payment methods** form opens.

The fields in the payment methods that can be modified are described as follows:

**General**

To enter information in the **General** area, follow these steps.

4. In the **Identification** area, if a new payment method is being created, select the **Payment method** type from the drop-down list box.
5. Select the **Terms of payment** for the tender type from the drop-down list box.
6. In the **Description** area, enter the **Payment method name** for the store tender type.
   In the **Function** area, the **Function** field of the tender type is auto-populated when a payment method is selected. This setting comes from the organization-wide tender type and cannot be changed.

**Financial dimensions**

To enter information in the **Financial dimensions** area, follow these steps.

8. In the **Default financial dimensions** area, select the **CostCenter** dimension for the payment method from the drop-down list box.
9. Select the **Department** dimension for the payment method from the drop-down list box.
10. Select the **ExpensePurpose** dimension for the payment method from the drop-down list box.

**Store locator group assignment**

Store locator group assignment is used to assign the list of stores that can be viewed for customer pick up during check out of online items.

To assign the store locator group, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the store locator group.
3. Click the **Setup** FastTab from the top toolbar to view the online store setup options.
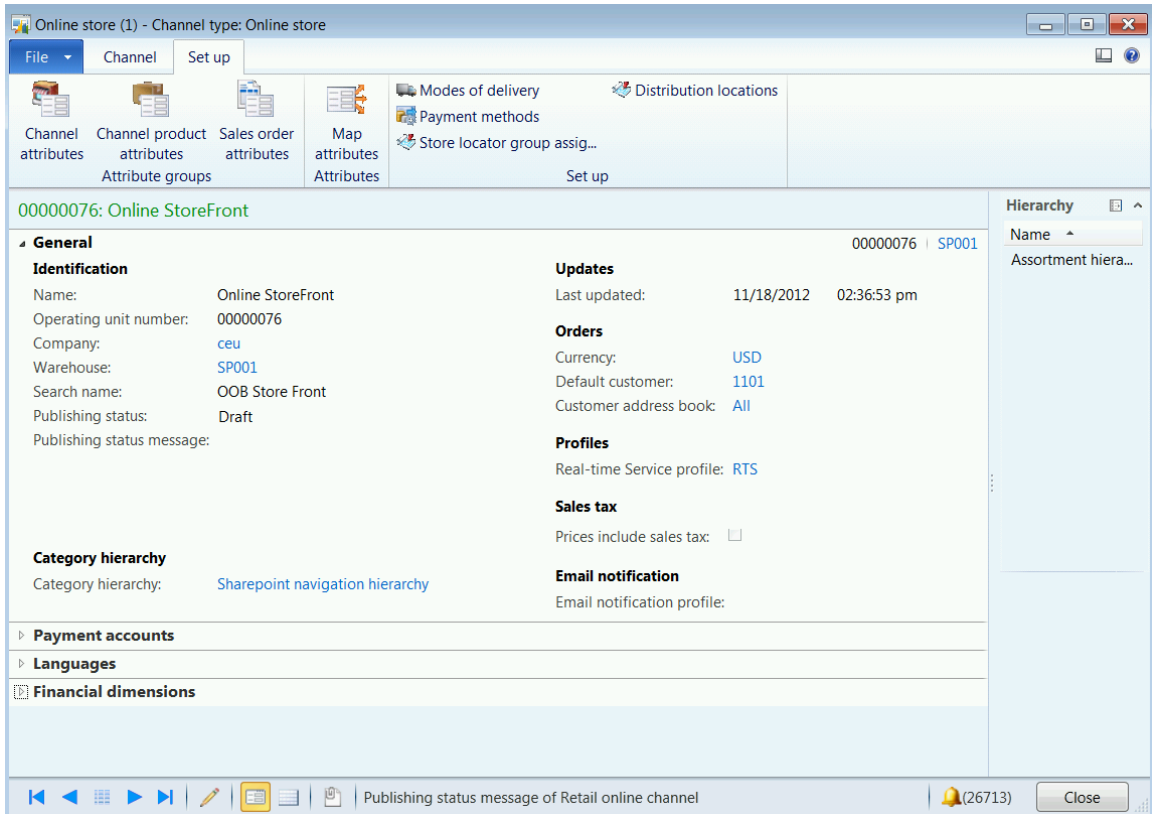


To assign, and or modify the store locator group assignment, follow these steps.

1. On the **Setup** FastTab, in **Set up** group, click **Store locator group assignment**.
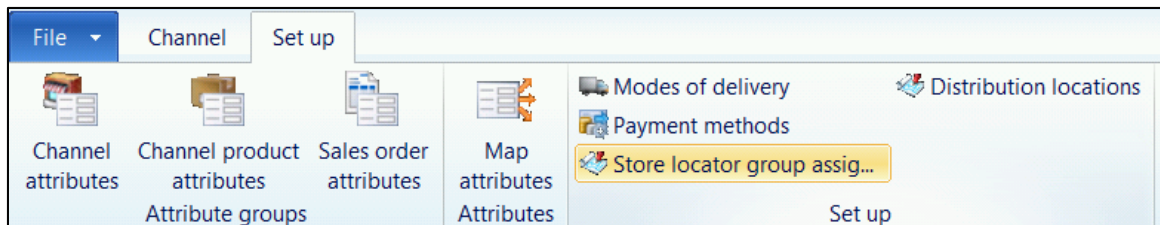
The **Store locator group assignment** form opens.
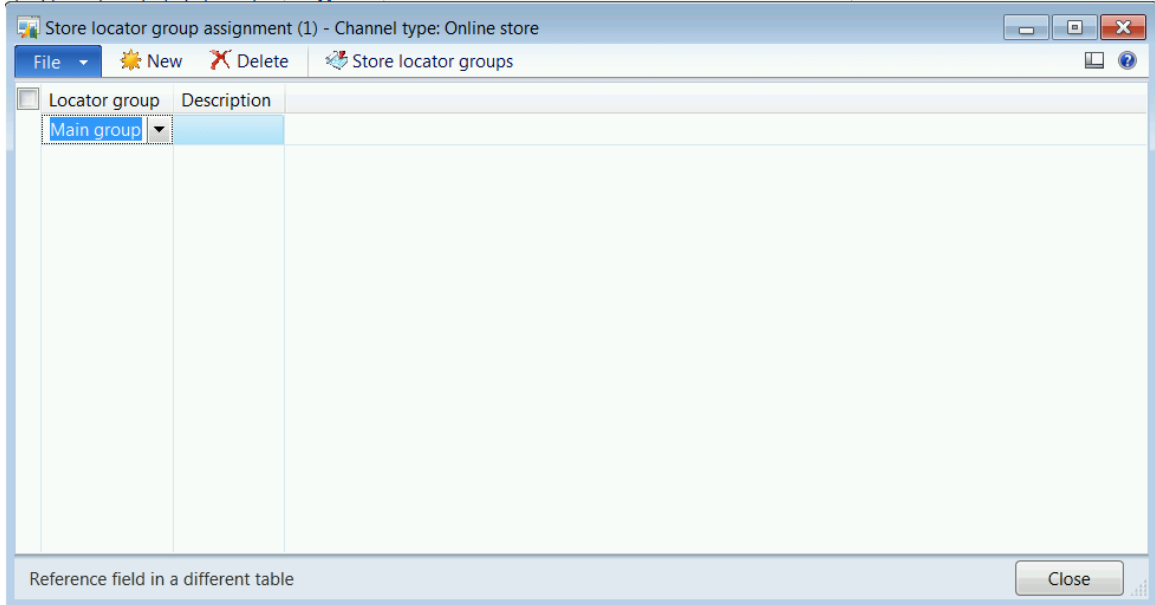


2. Click **New** on the top toolbar to create a new store group locator assignment for the online store.
3. Select the **Locator group** from the drop-down list box.
   The **Description** field will get auto-populated based on the locator group that is selected.

**Store locator groups**

Click **Store locator groups** on the top toolbar from the **Store locator group assignment** form. **The Store locator groups** form opens.

To create a new store locator group, follow these steps.

1. Click **New** to create a new store locator group.
2. Enter the unique **Name** of the store locator group.
3. Enter the **Description** of the store locator group.
4. In the **Setup** FastTab, click **Add** to add the retail stores that are available to be selected for in-store pick-ups.
5. Select the retail **Store** from the drop-down list box.
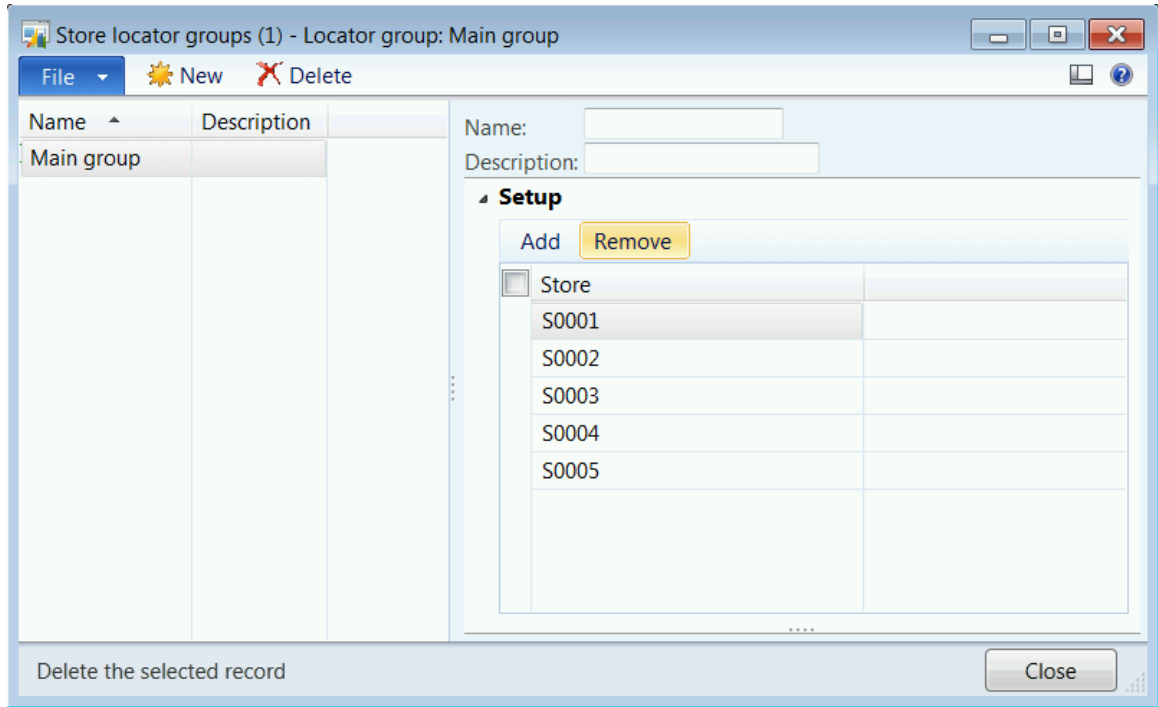
**Setup Distribution locations**

Distribution locations are used to define the application object server (AOS) connection profile that is created to communicate with the retail store.

To create distribution locations, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the store sections.
3. Click the **Setup** FastTab from the top toolbar to view the online store setup options.
4. On the **Setup** FastTab, in the **Setup** group, click **Distribution locations**.
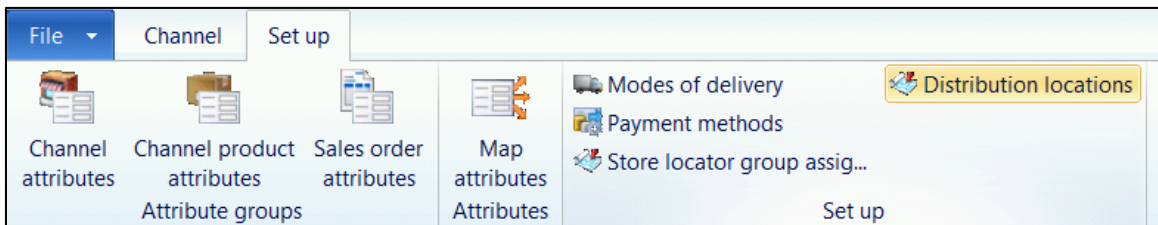


The **Distributions locations** form opens.

6. Click **New** to create a new distribution location.
7. Enter the **Location number** for the retail store.

8. Enter the **Description** of the location for the retail store.
9. Select the **Channel** from the drop-down list box.
10. On the **General** FastTab, in the **Database profiles** section, select the **Profile name** from the drop-down list box.
11. On the **Channel profile** FastTab, select the **Profile name** from the drop-down list box.
12. In the **Data exchange** FastTab, select the **Retail channel schema** from the drop-down list box.
13. Select the **Send data** check box to send the information from Microsoft Dynamics AX headquarters to the retail stores or to the online stores.
14. Select the **Receive data** check box to receive the sales and inventory information from retail stores or from the online stores into Microsoft Dynamics AX headquarters.
15. Select the **Continuous data transfer schedule** that will be used to communicate data changes from Microsoft Dynamics AX headquarters to retail stores or online stores.



16. After you create the distribution location, click **Functions > Test connection** to confirm that the connection profile can successfully establish a connection with the retail store.

If the connection is successful, an Infolog message box is displayed.
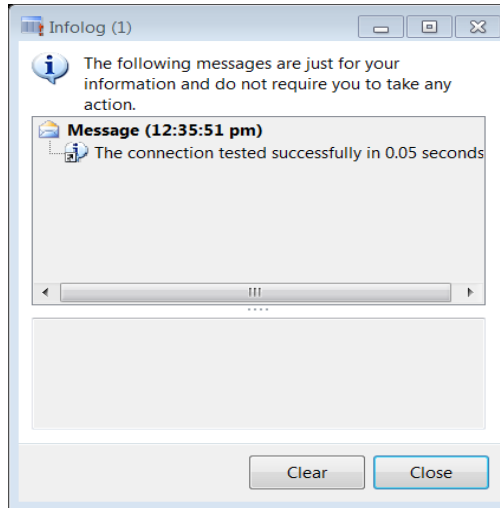
**Channel attributes**

Attribute groups can be assigned to an online store to capture store specific information on the e-commerce website.

To assign and view channel attributes, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the channel attributes.
3. Click the **Setup** FastTab from the top toolbar to view the online store setup options.
4. On the **Setup** FastTab, in the **Attribute groups** section, click **Channel attributes.**
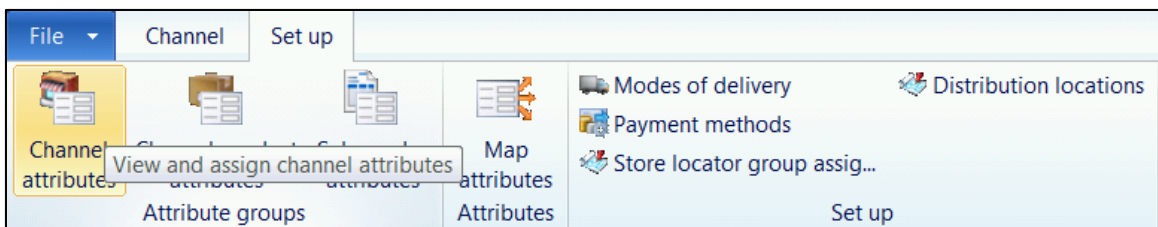
The **Channel attribute groups** form opens.
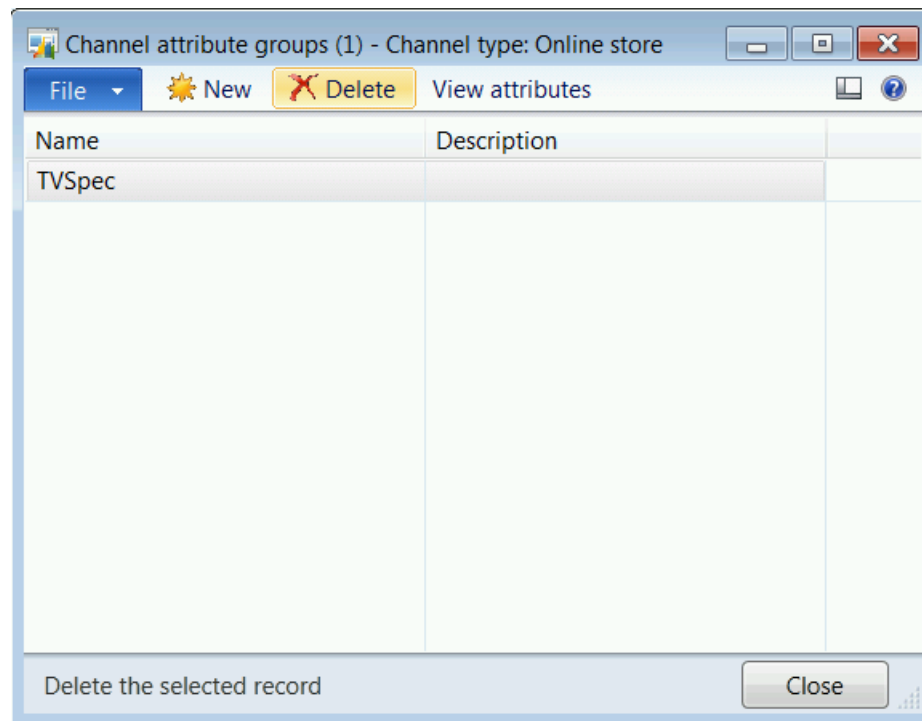
5. Click **New** to add an attribute group to the online channel.
6. Select the **Name** of the attribute group from the drop-down list box.
   The **Description** field is auto-populated with the description of the attribute group that is selected from the drop-down list box.
7. To view the attributes that are associated with the selected attribute group, select the attribute group and click **View attributes** on the top toolbar of the form.
   The **Channel attribute values** form opens.

**Note**: The channel attributes will be available in the online database. However, the channel attributes require some development to display the attribute values on the e-commerce website.
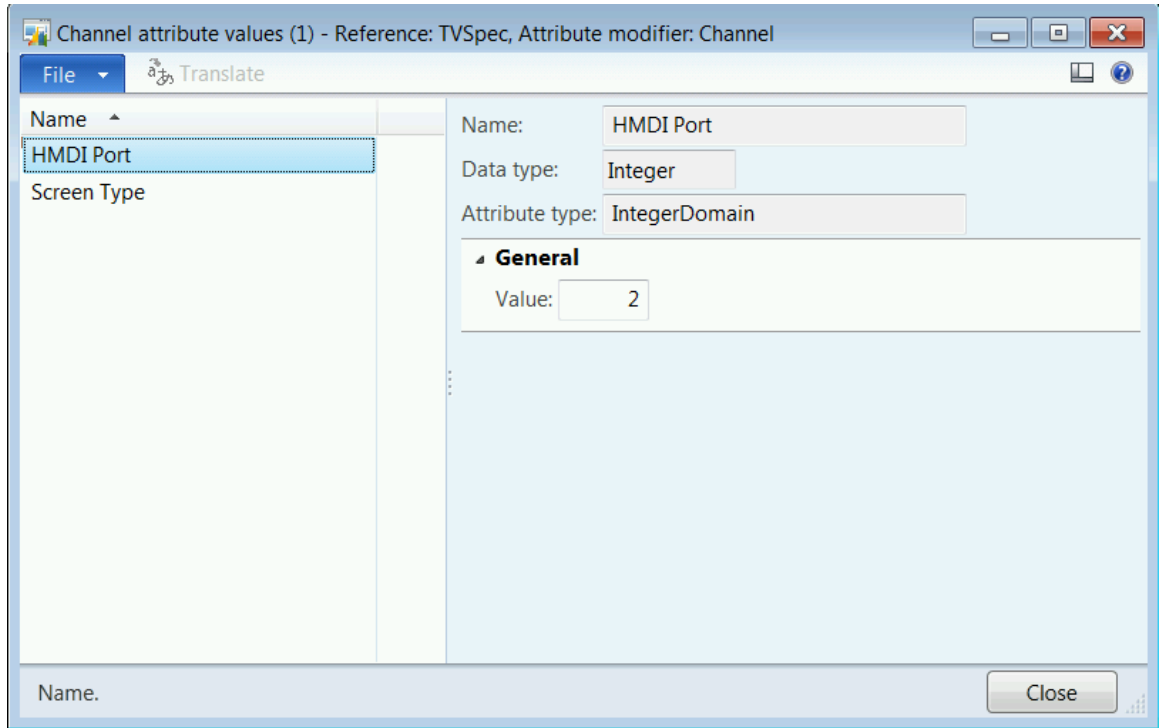
8. Close the forms to return to the **Online store** form.

**Channel product attributes**

Attribute groups can be assigned to products that are assigned to an online channel by creating catalogs.

To assign and view channel product attributes, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the channel product attributes.
3. Click the **Setup** FastTab from the top toolbar to view the online store setup options.
4. On the **Setup** FastTab, in the **Attribute groups** section, click **Channel product attributes**.
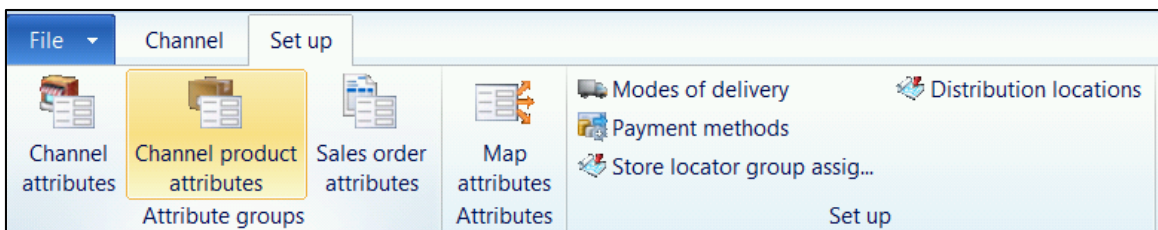


The **Channel product attribute groups** form opens.
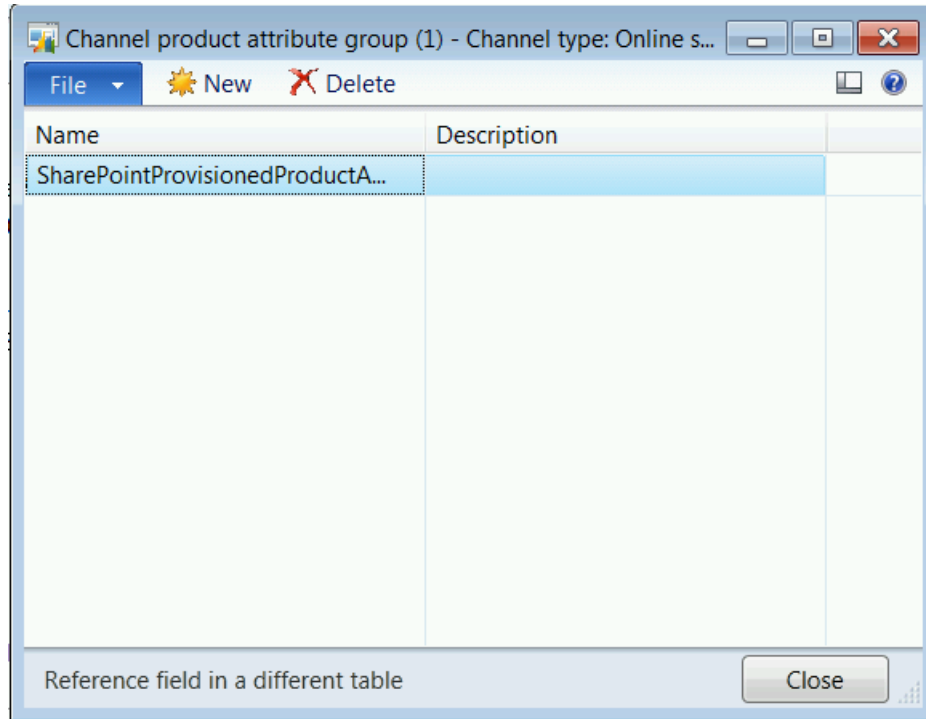
5. Click **New** to add an attribute group to the online channel.
6. Select the **Name** of the attribute group from the drop-down list box.
   The **Description** field is auto-populated with the description of the attribute group that is selected from the drop-down list box.
7. Close the form to return to the **Online store** form.

**Note**: The **SharePointProvisionedProductAttributeGroup** will be available as part of the source data for the customer to use as the default set of attributes for channel products.

**Sales order attributes**

Attribute groups can be used to provide additional information when sales orders are being created.

To assign and view sales order attributes, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the sales order attributes.
3. Click the **Setup** FastTab from the top toolbar to view the online store setup options.
4. On the **Setup** FastTab, in the A**ttribute groups** section, click **Sales order attributes**.
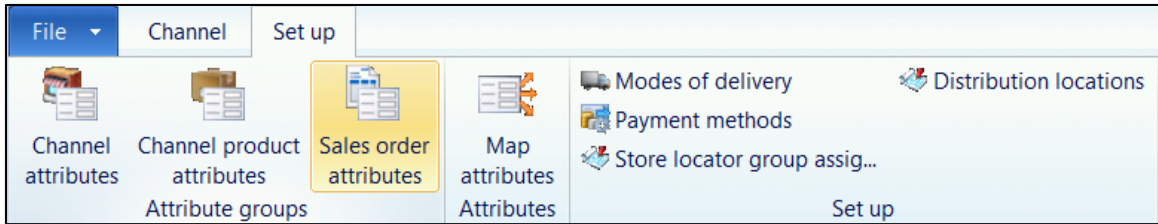
The **Channel attribute groups** form opens.
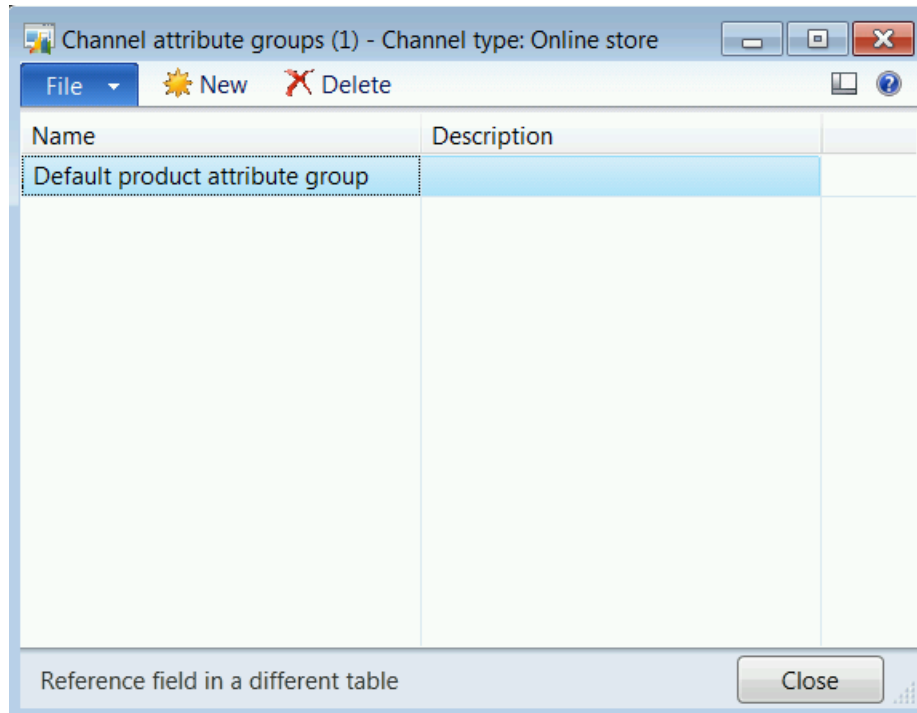


5. Click **New** to add an attribute group to the online channel.
6. Select the **Name** of the attribute group from the drop-down list box.
   The **Description** field is auto-populated with the description of the attribute
   group that is selected from the drop-down list box.
7. Close the form to return to the **Online store** form.

## 20.2.5 MANAGE THE ONLINE STORE

After the online store is setup, the web manager must perform the following actions:

- Publish an online store.
- Assign price groups to the retail store.
- Review price list for the products that are assigned to the retail store.
- Create and manage catalogs for the online channel.
- Review assortments that are assigned to the retail store.

- Review assortment products that are assigned to the retail store.
- Review the listing of products that are assigned to the catalog and the publish status.

**Publish online store**

After setting up and configuring the online store, the online channel must be published so that the online channels can be hosted and made available on the e-commerce website.

To publish the online channel, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to setup the store sections.
3. Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4. On the **Channel** FastTab, in the **Publish** group, click **Publish**.
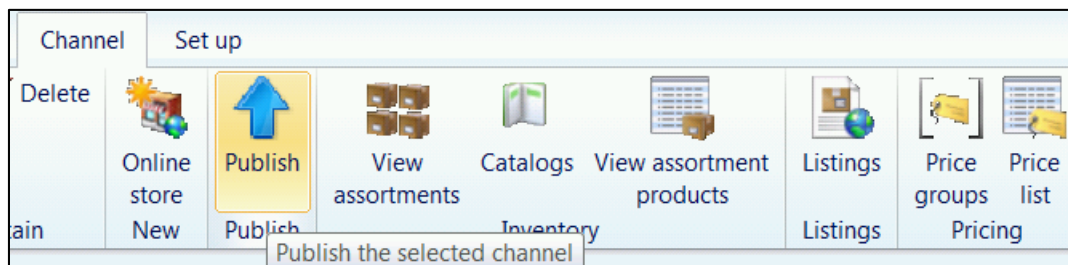


5. You will receive a message asking to confirm the publish action. Click **Yes** to publish the online channel.
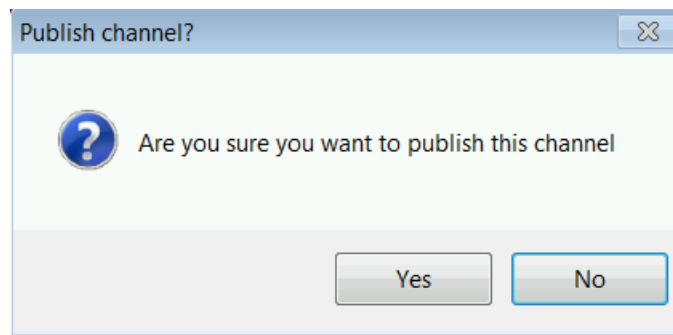


If the publish is successful, the **Publishing status** changes from "Draft" to "In progress" and the **Publish** button on the top toolbar is disabled.

**Note**: You must run **Create actions** and **Distribution schedule job A-1075_OC** to publish the online channel.

**Assign price groups**

A price group is a list of items with specific pricing for specific customers. You can use price groups to offer an item at different prices to different groups of customers.

To assign price groups, follow these steps.

1.  Click **Retail > Setup > Retail channels > Online stores**.
2.  Double-click and open the online store to setup the price groups.
3.  Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4.  On the **Channel** FastTab, in the **Pricing group**, click **Price groups.**
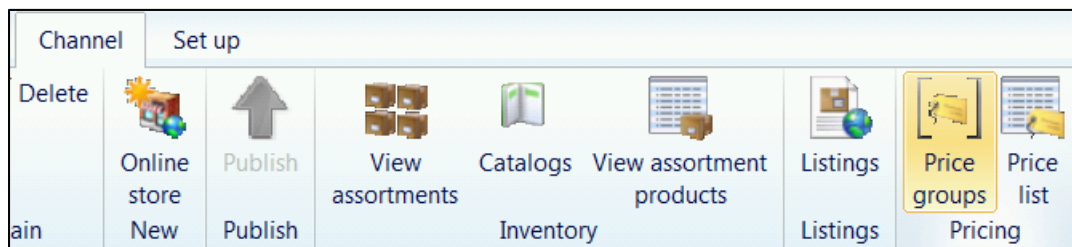


The **Retail channel price groups** form opens.

5.  Click **New** to create a new price group.
6.  Select the retail **Price groups** from the drop-down list box.
    The **Name** field will display the name of the price group that is selected.
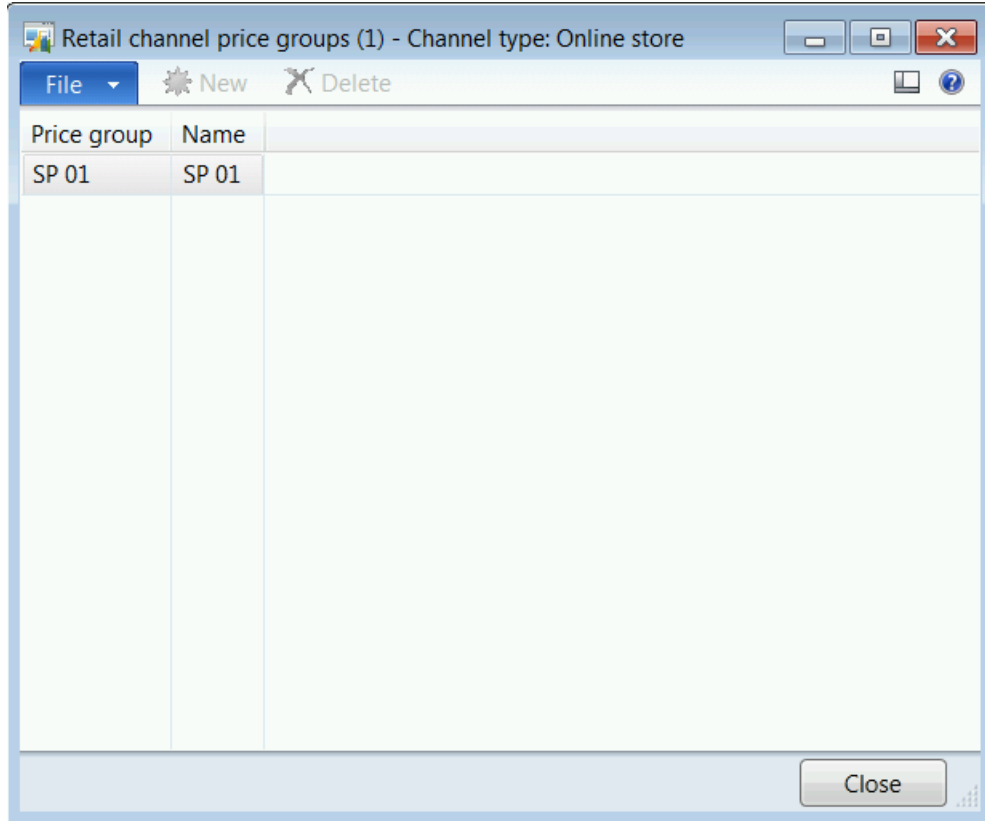
**View price list**

The price list is used by web managers to review the recommended retail price (RRP). The price list is also used to review the discounts that are currently offered on the products that are assigned to the online store.

To view the price list, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to view the price list.
3. Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4. On the **Channel** FastTab, in the **Pricing group**, click **Price list**.
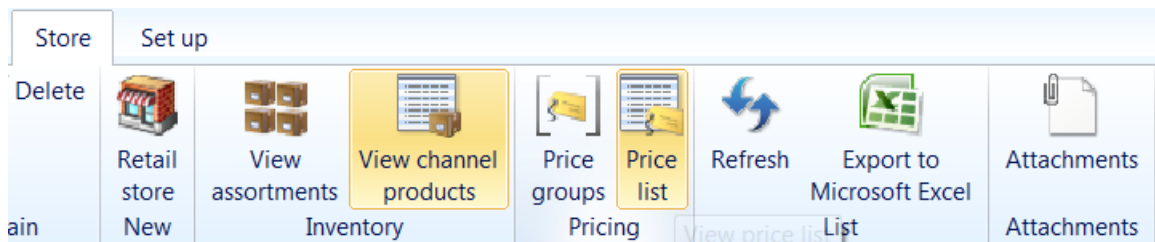
The **Price list** form opens.

5. Select the **Date** to view the price list. The following information is displayed:
    - The **Item number** of the product that is currently carried by the online store.
    - The **Product name** of the product.
    - The **Currency** in which the product is priced.
    - The **Price** of the product that is the recommended retail price (RRP).
    - The **Price adjustments** numbers that indicate that the price discounts are currently active for the product at the retail store.
    - The **Discount offers** numbers that indicate that the promotions are currently active for the product at the retail store.



## View and manage catalogs

An online channel can have multiple catalogs in which products can be added to a catalog so the product can be available online or it can be removed from a catalog so it is unavailable. Catalogs are a good way to manage the standard and seasonal product listing for the online channel.

To view and manage catalogs, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to view and manage the catalogs.

3.  Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4.  On the **Channel** FastTab, in the **Inventory** group, click **Catalogs**.
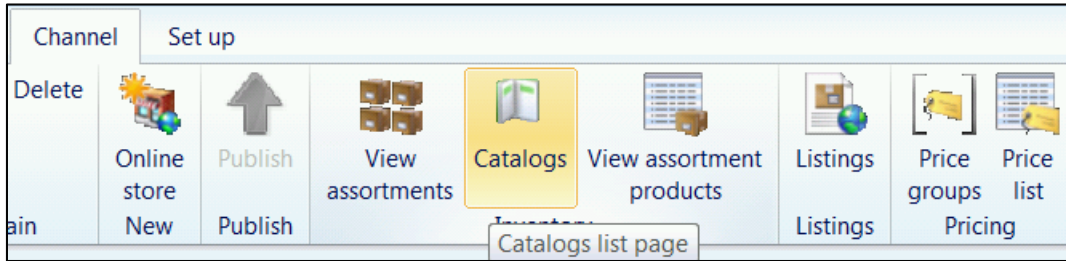


The **Catalogs** form opens. The **Catalogs** form displays the catalogs that are created for the online channel.
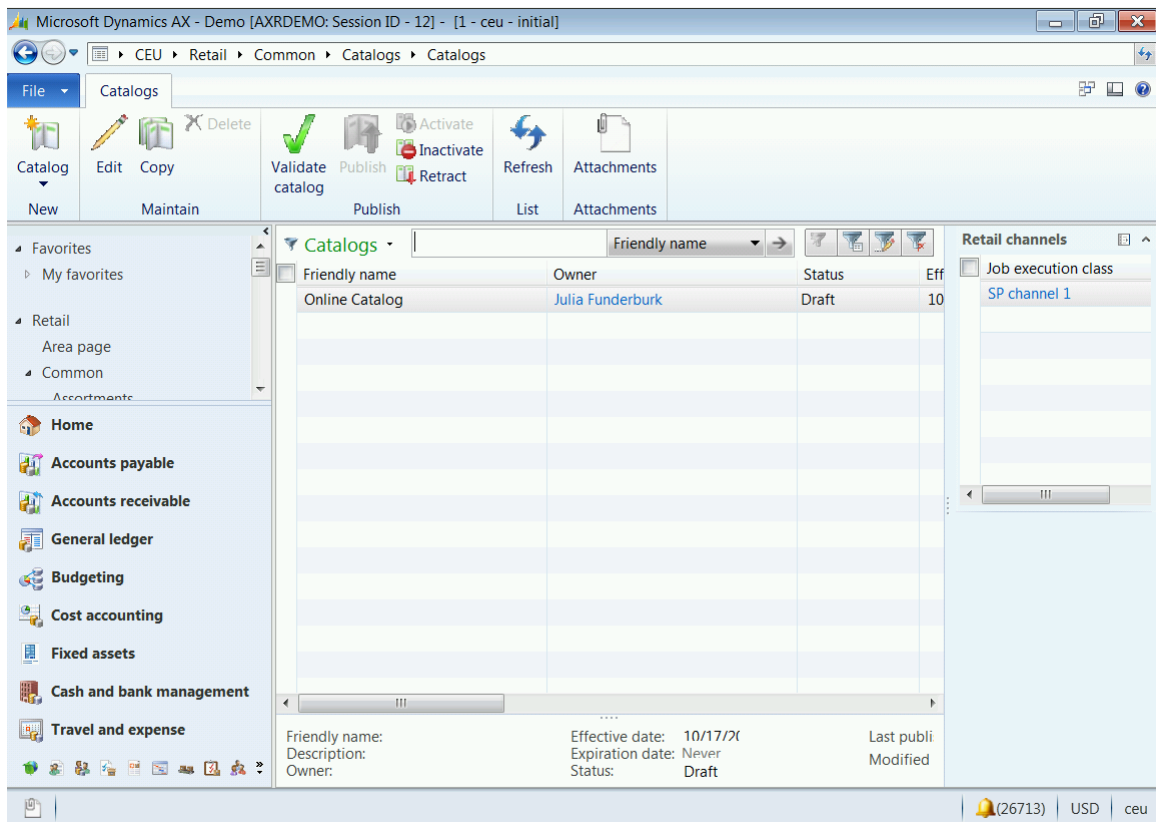


### View store assortments

An assortment is a collection of related items that a merchandising manager assigns to the online channel.

To view assortments, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to view assortments.
3. Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4. On the **Channel** FastTab, in the **Inventory group**, click **View assortments**.



The **View assortments** form opens. The **View assortments** form displays the list of assortments that are assigned to the online store.



**View channel products**

The channel products are the list of products that are assigned to an online store by using assortments.

To view channel products, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to view the channel products.
3. Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4. On the **Channel** FastTab, in the **Inventory** group, click **View assortment products**.
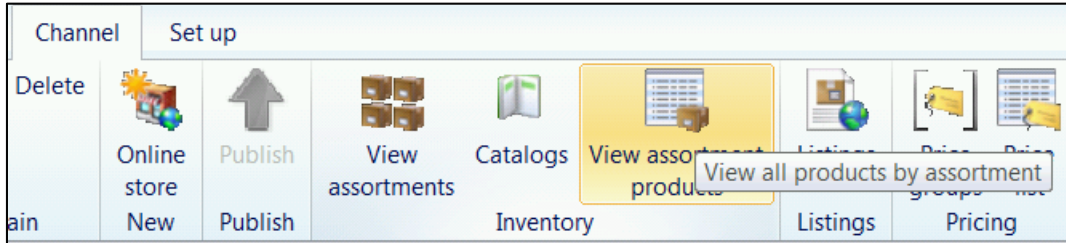


The **Assortment products** form opens. The **Assortment products** form lists the set of products that are assigned to the store by using assortments.



**View listing status**

The listing provides information on the publish status of the catalogs and the products that are associated with the online channel.

To view the listing status, follow these steps.

1. Click **Retail > Setup > Retail channels > Online stores**.
2. Double-click and open the online store to view the channel products.
3. Click the **Channel** FastTab from the top toolbar to view the online store maintenance options.
4. On the **Channel** FastTab, in the **Listings** group, click **Listings**.
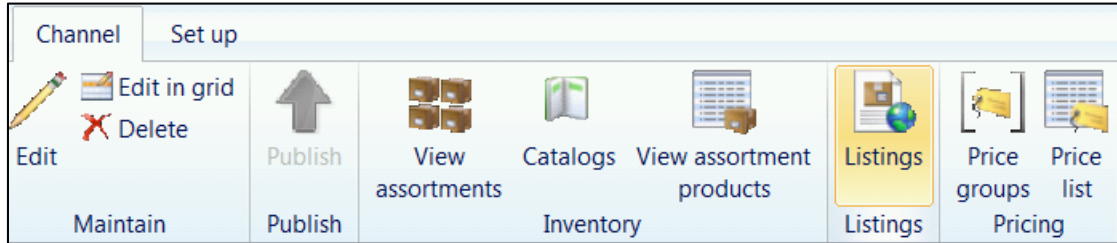


The **Listings** form opens.
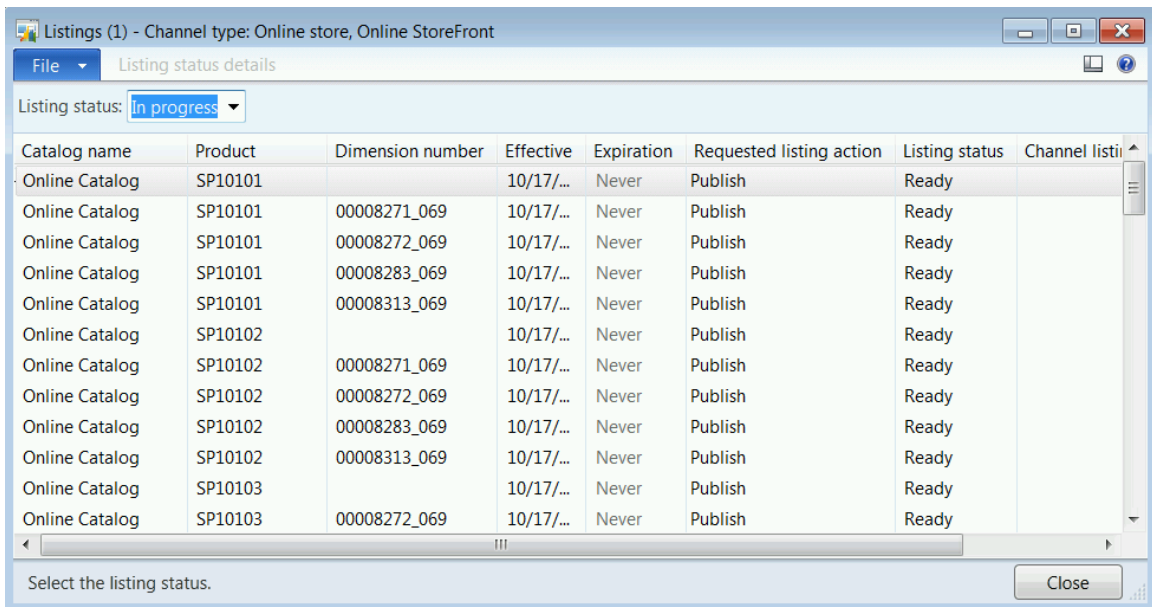


5. Select the **Listing status** from the drop-down list box. The options include the following:
    a. **Published**: Select this option to view the published catalog and the associated products.
    b. **Error**: Select this option to view the catalog and the products that created an error and are not published to the website. For error items, **Listing status details** on the top toolbar will be activated to view additional error information.
    c. **In progress**: Select this option to view the catalog and the products that are in progress to be published.

The grid displays the **Catalog name**, **Product ID**, **Dimension number**, **Effective date**, **Expiration**, **Requested listing action**, **Listing status** and the **Channel list ID**.

## CATALOGS

### OVERVIEW

This module describes how catalogs are created to associate products to an online channel. Multiple catalogs can be created and managed to define the standard and seasonal product ranges that are available on the e-commerce website.

## 20.3 CATALOGS

A catalog manager can create product catalogs and categorization schemes that can be targeted or shared between channels.

Attribution can be defined per channel to support product enrichment that is specific to the needs to individual channels.

Catalogs can be validated, by using Microsoft Dynamics AX workflow, published, and synchronized with target channels.

In this section we address the following areas:

- Creation of a catalog
- Modification of a catalog
- Catalog validation
- Catalog approval
- Publishing a catalog
- Maintaining a catalog

### 20.3.1 CREATE A CATALOG

A catalog can be created by using one of the following options:

- Manually create catalog
- Copy another catalog

To create a new catalog click **Retail > Common > Catalogs > Catalogs.** The **Catalogs** form opens.

1. Click **New** on the top tool bar to create a new catalog.
2. Enter the **Catalog name** for the new catalog.
3. Enter the **Description** for the catalog.
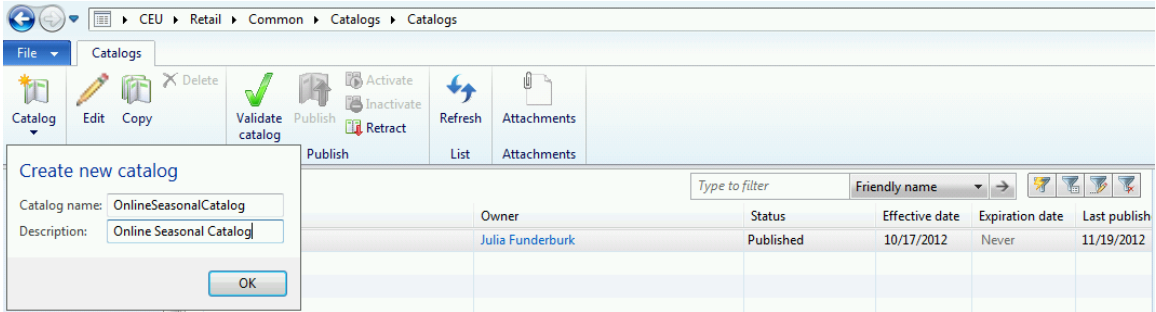
4. Click **Ok** to create a new catalog. The newly created catalog form opens.
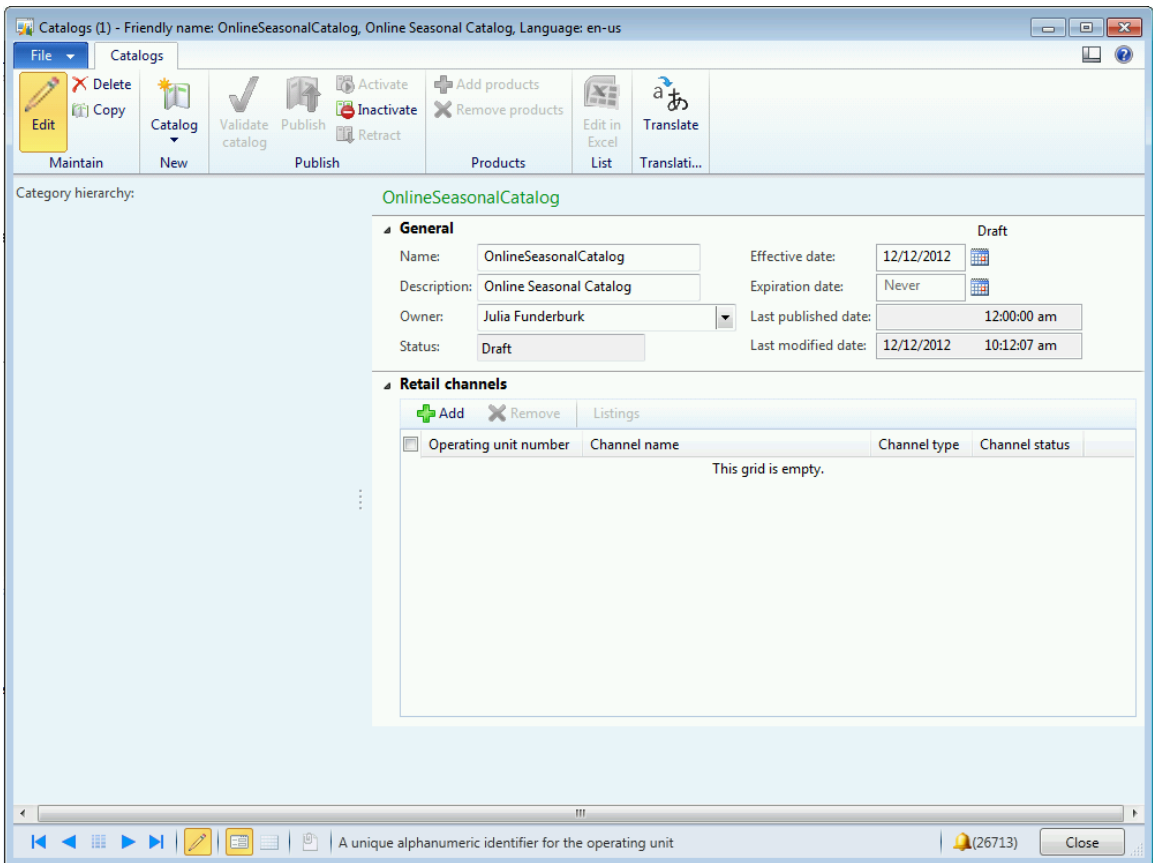


5. Select the **Owner** from the drop-down list who will be managing the catalog.
6. The **Status** field will be Draft as it's a new catalog.
7. Select the **Effective date** for the catalog to be active on the online store front.
8. Select the **Expiration date** for the catalog to be pulled back from the online store front.
9. The **Last published date** will display the date when it was last published.
10. The **Last modified date** will display the date when it was last modified.
11. Under the **Retail channels** section click **Add** to add online channels to the catalog.
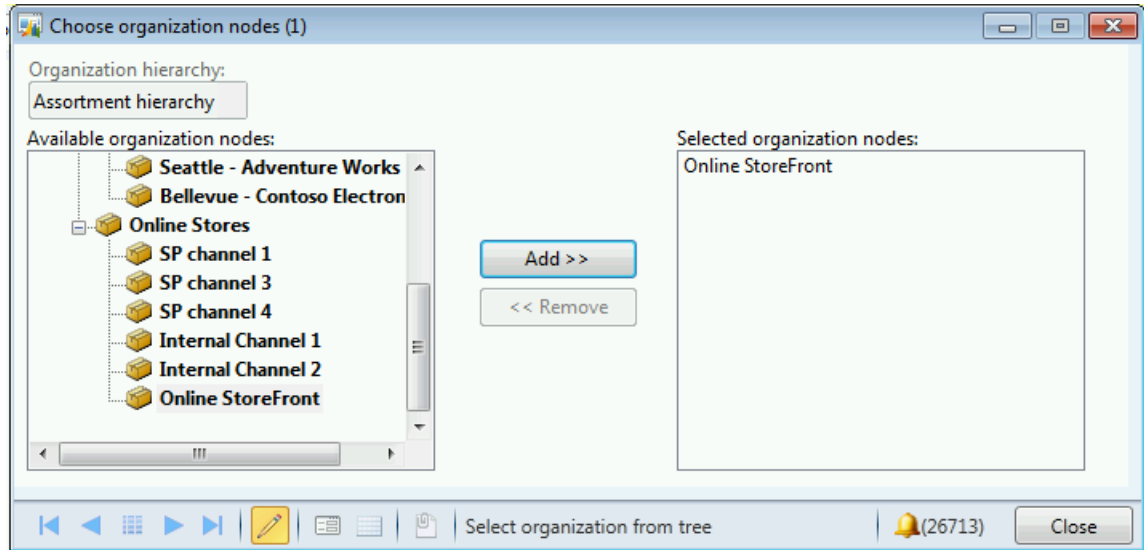
12. Select the **Organization hierarchy** from the drop-down list.
13. Select the online stores from the **Available organization nodes** and click **Add**  to
    add them to the **Selected organization nodes**.
14. Click **Close** to return to the catalog form.
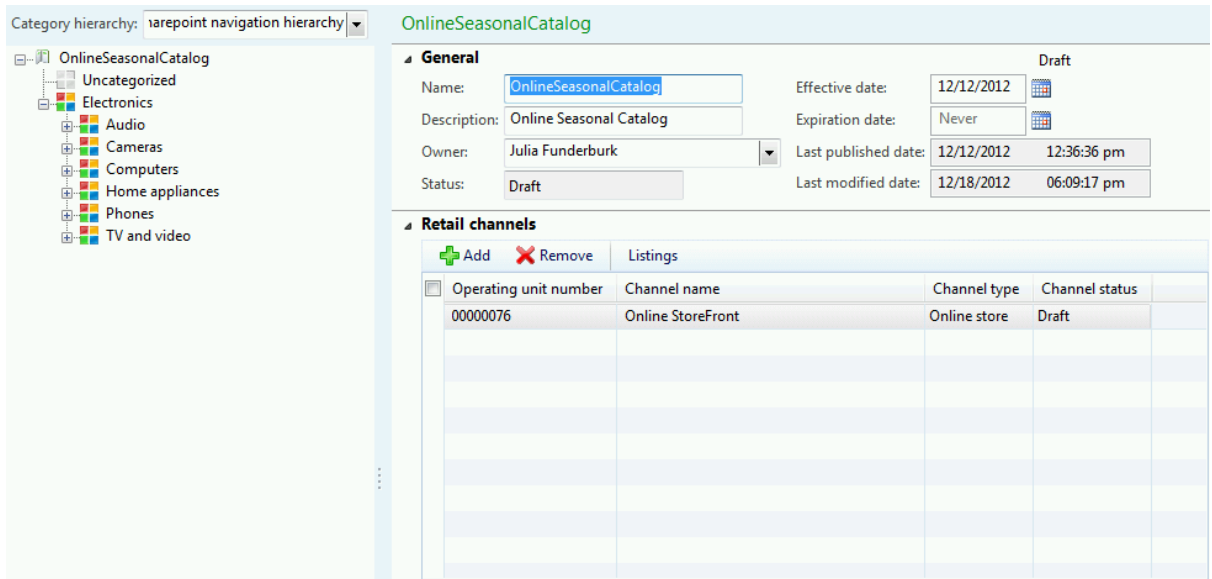


15. The left hand navigation is automatically populated with the navigation
    hierarchy being assigned to the online channel when selected.
16. An **alternative method** is to copy an existing catalog.
17. Select the catalog from the list, and click **Copy** from the **Maintain** section of the
    **Catalogs** tab.
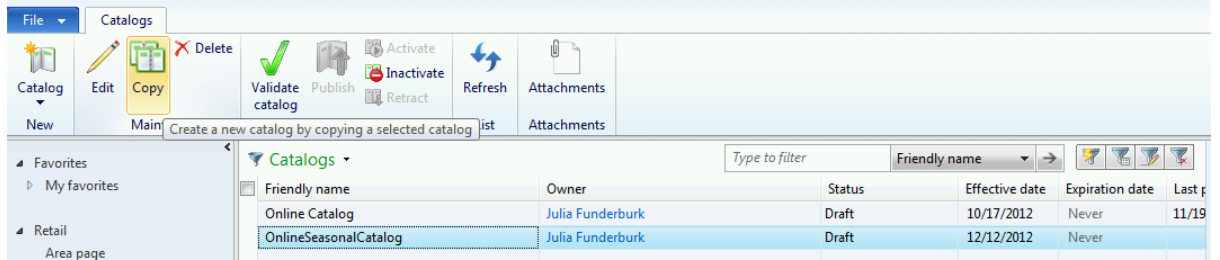
18. The catalog form opens with the copy of the information from the selected catalog.
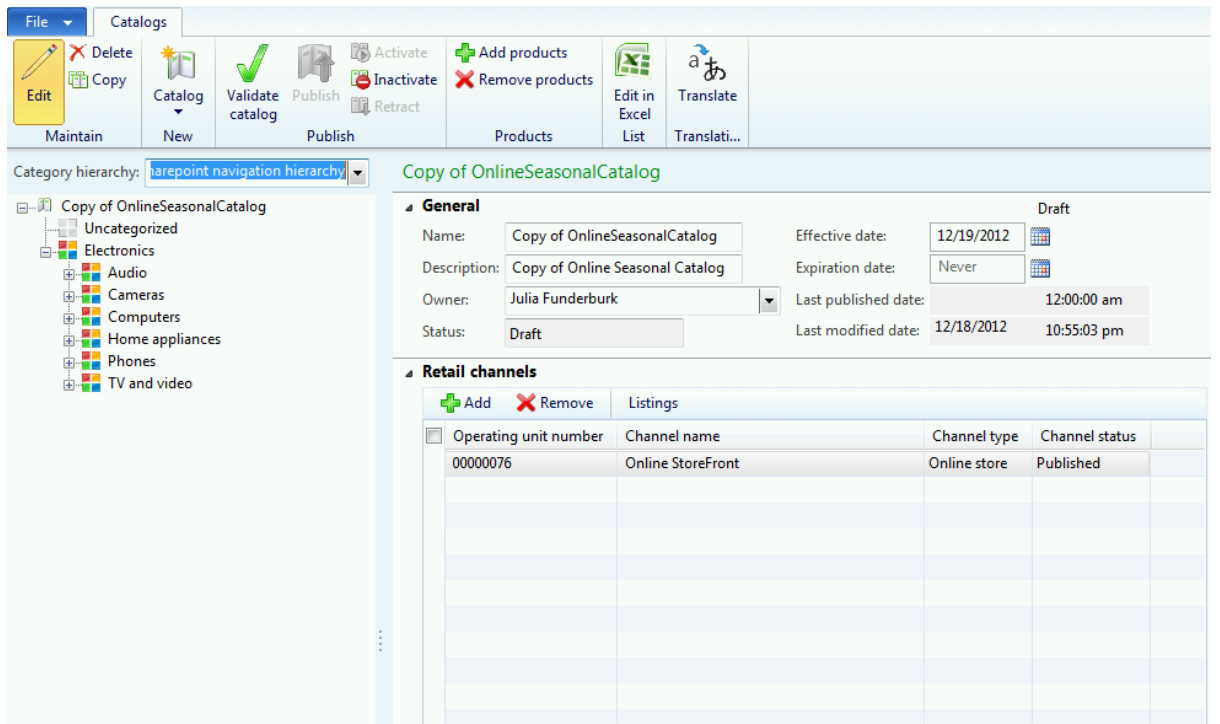


19. Refer to step 4 to populate the information and create a new catalog.

## 20.3.2 MODIFY A CATALOG

To modify a catalog click **Retail > Common > Catalogs > Catalogs.** The **Catalogs** form opens.

Select the catalog to open it from the list and double-click to open.

Click **Edit** to modify the catalog.
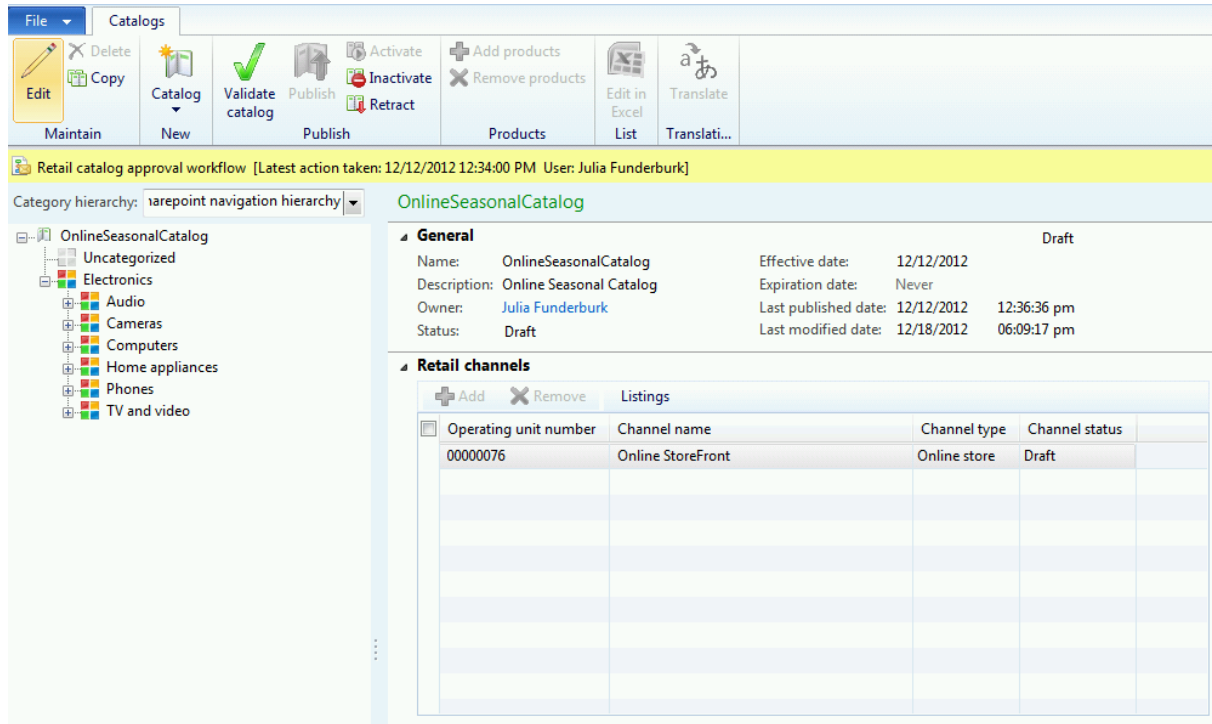
## 20.3.2.1  ADD PRODUCTS

To add products to the catalog, click **Add products** from the **Products** section in the **Catalogs** tab.
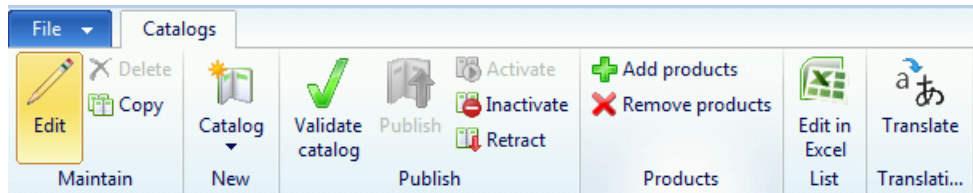


1.  The **Add products** form opens.
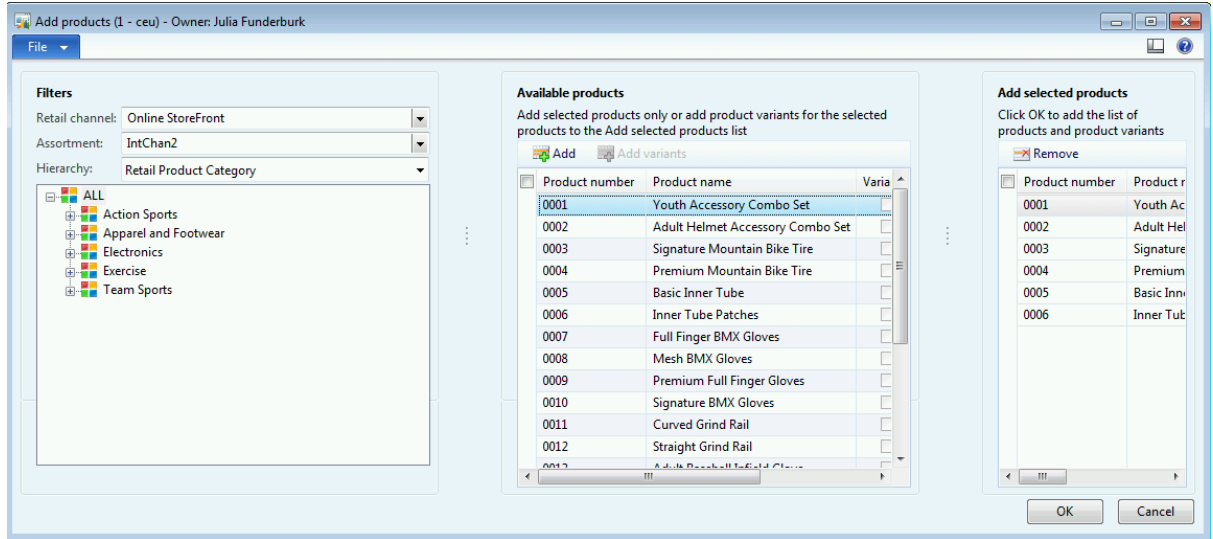
2.  Select the **Retail channel** filter for which the products are being added.
3.  Select the **Assortment** filter to display the products belonging to the selected assortment.
4.  Select the **Retail product category** to filter the products by category grouping.
5.  Under the **Available products** section, select the products that you want to add to the catalog for the selected channel.
6.  Click **Add** to add the selected products into the **Add selected products** section.
7.  Click **OK**  to confirm the product selection.

The next step is to categorize the products if any uncategorized ones exist in the catalog.

8.  Select the Uncategorized node from the category hierarchy for the selected channel.
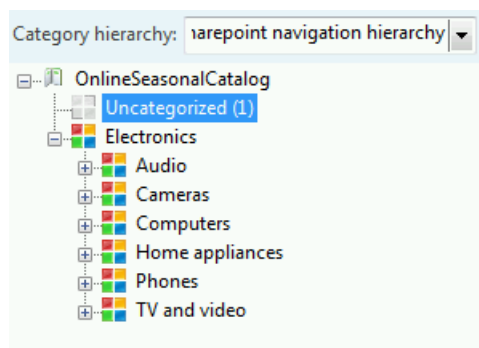


9.  The form on the right-hand side displays the uncategorized products.
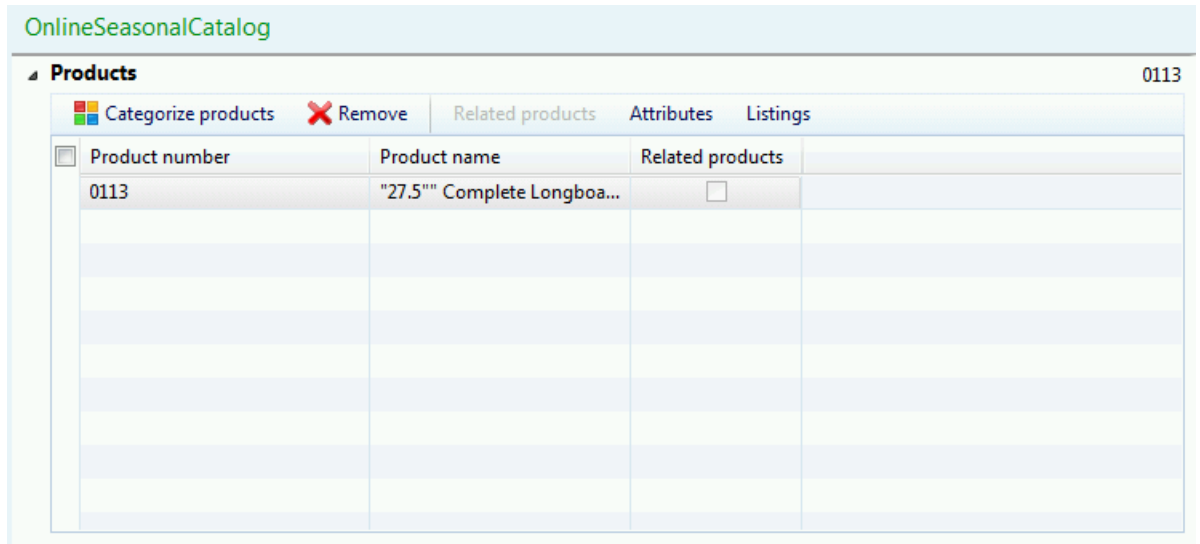
10. Click Categorize products to assign the selected products to a category. The **Deploy initial dataset** form opens.
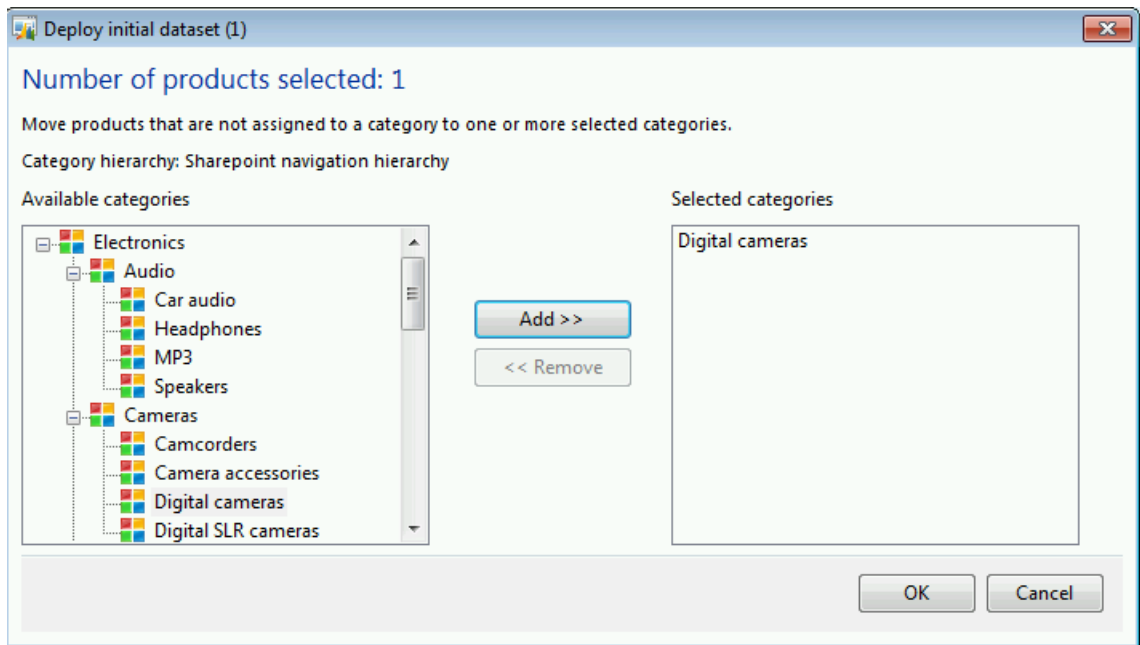


11. Select the category node from the **Available categories** section. Click **Add** to add the selected nodes to the **Selected categories** section.
12. Click **OK** to update the product categorization.

### 20.3.2.2   REMOVE PRODUCTS

1. Click **Remove products** from the **Products** section in the **Catalogs** tab for the selected channel.
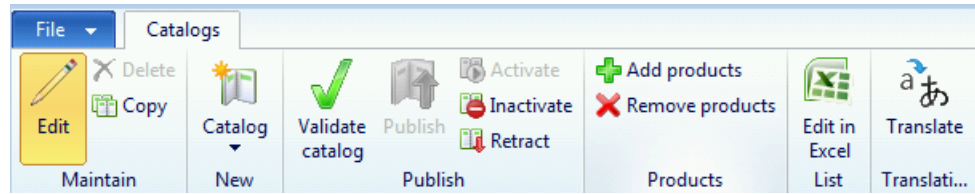
2. The **Remove products** form opens.
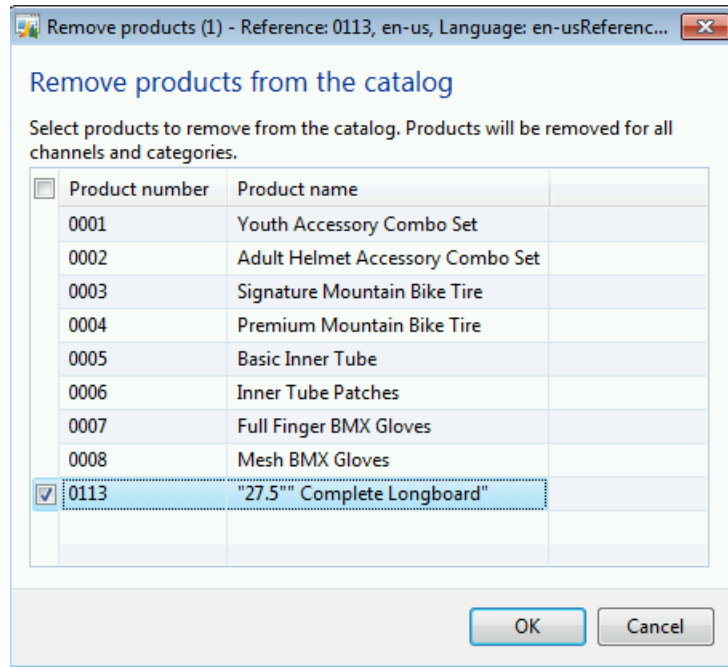


3. Select the product by selecting the check box next to the products.
4. Click **OK** to confirm and remove the products from the catalog assigned to the selected channel.
5. A message confirms the removal of the products from the catalog. Click **Yes** to confirm the action.
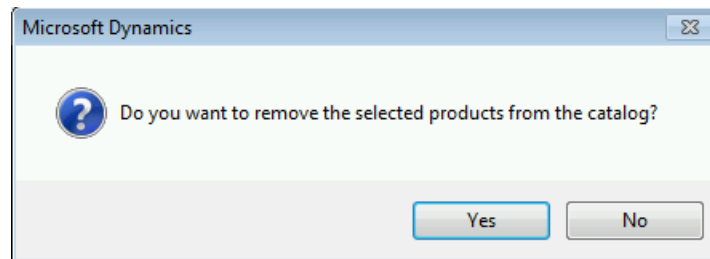


### 20.3.2.3 MANAGE ATTRIBUTE VALUES

1. Select the channel and the product category hierarchy node for which products have been assigned.
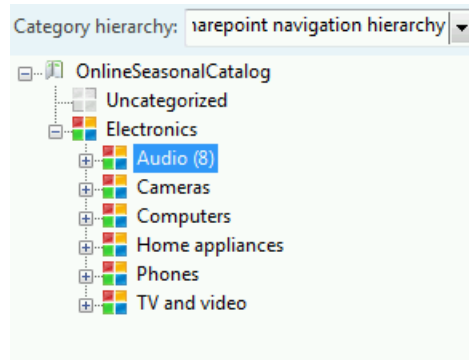
2. The right-hand form changes to display the list of products that belong to the selected category.



3. Select the product from the list, and click **Attributes** under the **Products** FastTab area.
4. The **Product attribute values** form opens. The form opens in **Show details** mode.

**Note**: The attribute listing is determined by the attribute groups assigned to the navigation category, product attributes and channel product attributes.

5. Click the Show list to view the attributes in the list mode.

| Name | Value | Attribute source |
|---|---|---|
| Html | | Default product attribute |
| Image | | Default product attribute |
| Video | | Default product attribute |
| Product name | Youth Accessory Combo Set | Online StoreFront |
| Description | Youth Accessory Combo Set | Online StoreFront |
| Item number | 0001 | Online StoreFront |
| Features | | Online StoreFront |
| Image | | Online StoreFront |
| Color | | Online StoreFront |
| Size | | Online StoreFront |
| Style | | Online StoreFront |
| Configuration | | Online StoreFront |
| Review rating | 0.00 | Online StoreFront |
| New | No | Online StoreFront |
| Customer favorites | No | Online StoreFront |
| Staff favorites | | Online StoreFront |
| Brand | | Online StoreFront |

6. Click the individual attribute and, if permitted based on the **Attribute source** type, enter the **Value** for the attribute.
7. Click **Close** to confirm the changes.

**Note**: Few of the attributes are picked from the product setting, which can be over-ridden at the channel level.

8. **An alternative method** to assign attributes to the products by channel is through Excel edits. Select the products from the list, and click **Edit in Excel** on the **List** section of the **Catalogs** tab.
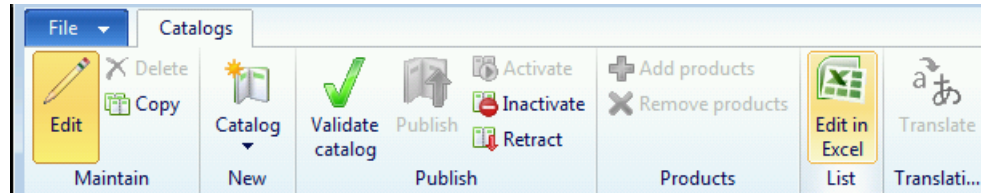
9. The product and associated attributes opens in an Excel sheet.



10. Through Excel, the user can filter on the **product number**, **attribute name** and modify the **Text** column to assign values to the attribute based on type. To publish back changes to the catalog, click the Microsoft Dynamics AX tab on the Excel sheet.
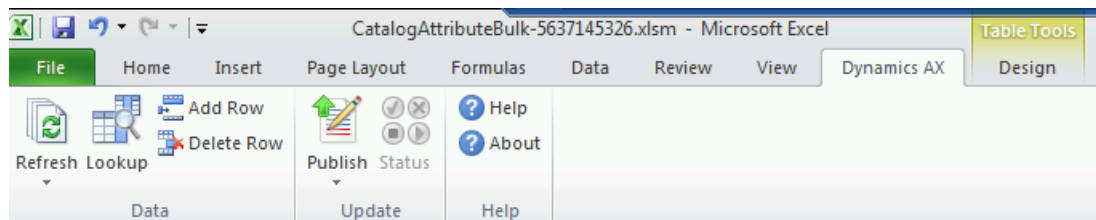


11. Click **Publish > Publish All** to publish the changes to the catalog for the selected products.
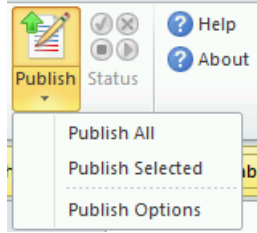
12. To view listing information for the products, select the product from the list and click Listings from the Products FastTab area. The **Listings** form opens.
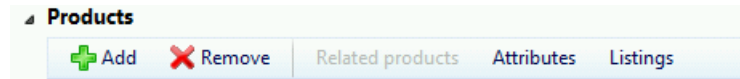


13. The **Listings** form displays the channel the product belongs to and the listing information derived from the catalog and publish status.
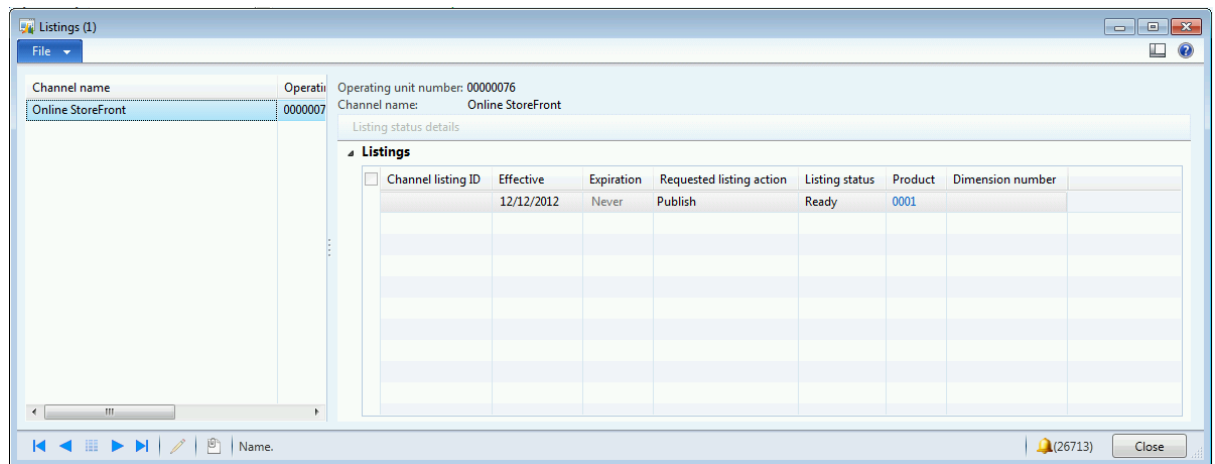


## 20.3.3 VALIDATE A CATALOG

To validate a catalog, click **Retail > Common > Catalogs > Catalogs.**  The **Catalogs** form opens.

Select the catalog to open from the list and double-click to open.

1. Click **Validate catalog** under the **Publish** section of the **Catalog** tab.
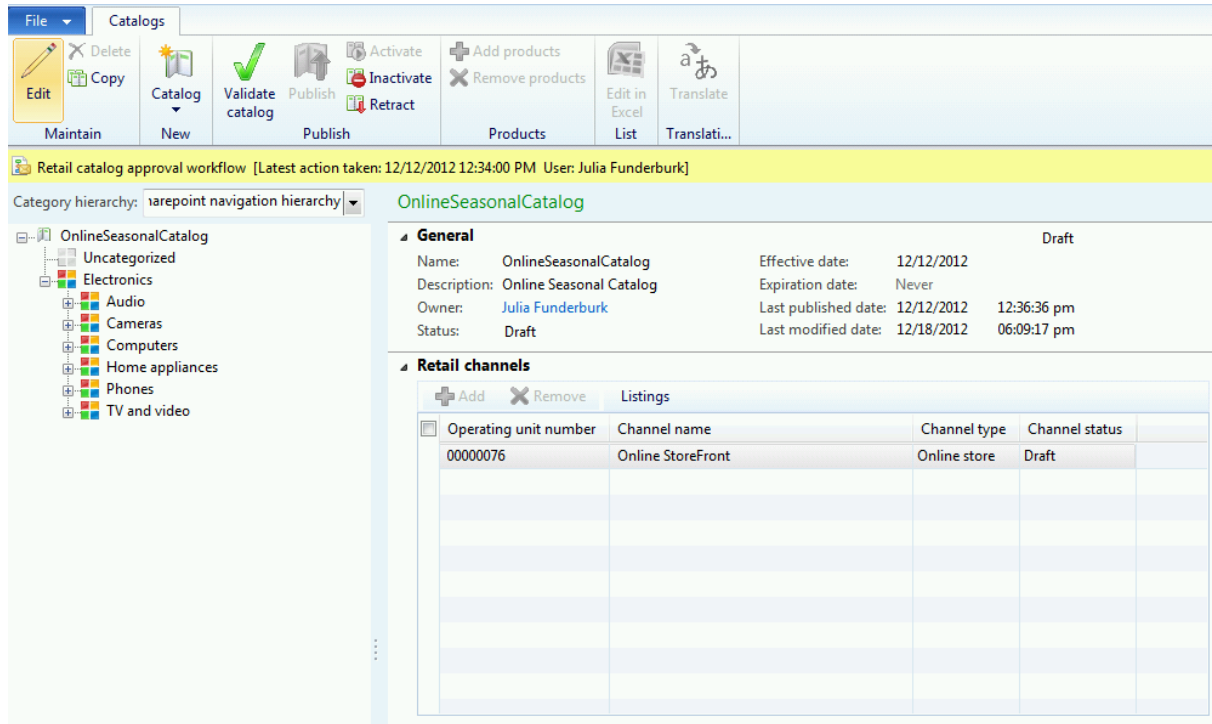
2. The **Validate catalog** form opens. Click **Validate** catalog on the top tool bar to start the validation process.
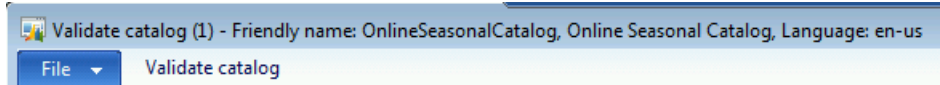


3. The validation process displays results in three different sections.
4. The channel summary section appears if the channel associated with the catalog is published.
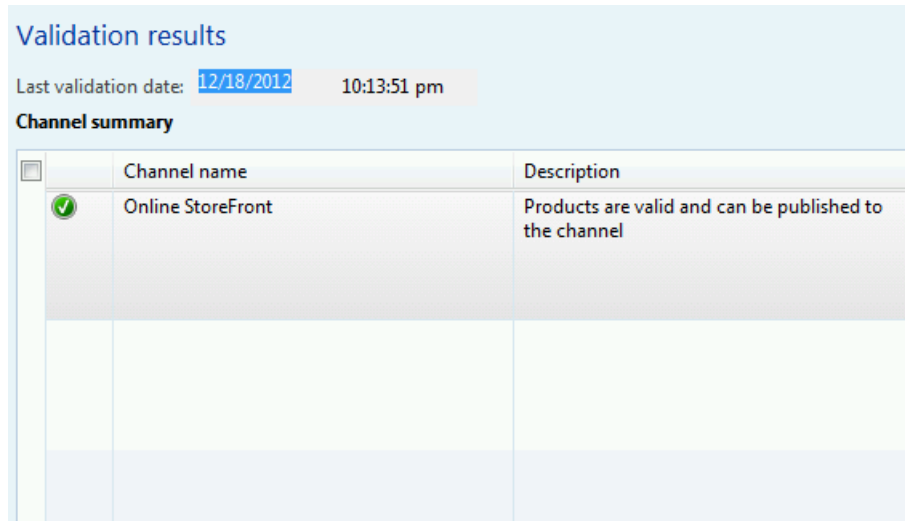
Otherwise, an error message is displayed as below.



5. Under the **Product summary** section, select the **Channel** from the drop-down list.
6. The Products with alerts displays the errors and warning messages associated with products. For example, an alert appears when a product is not associated with a navigation hierarchy.

7. Click **Close** to close the form.

## 20.3.4 CATALOG APPROVAL

To validate a catalog, click **Retail > Common > Catalogs > Catalogs.** The **Catalogs** form opens.

Select the catalog to open from the list, and double-click to open.
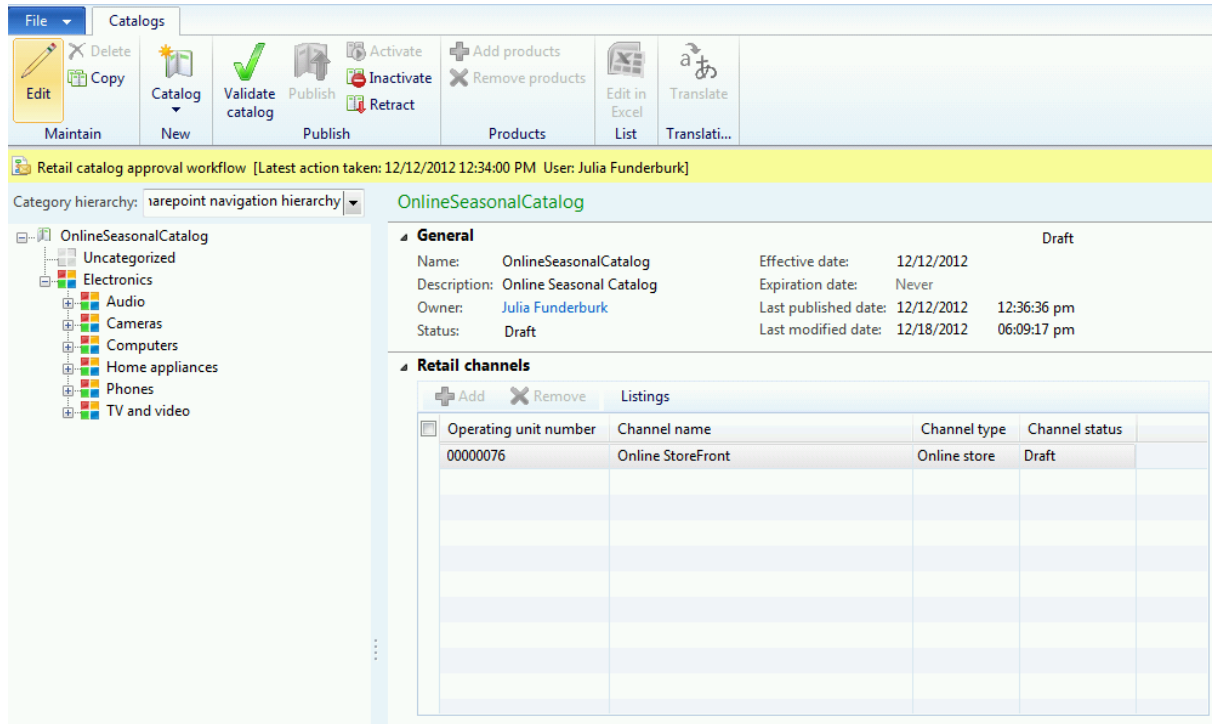
1. Click **Submit** with a heading Retail catalog approval workflow.
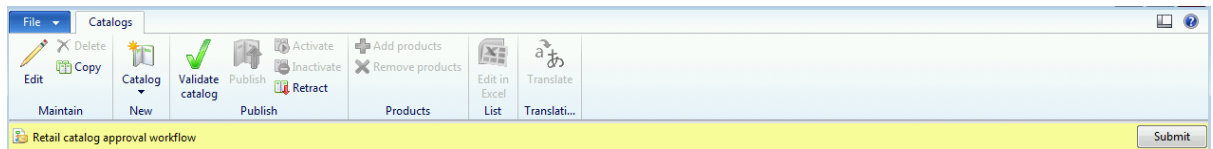


2. On submitting the workflow, the catalog workflow changes as below.
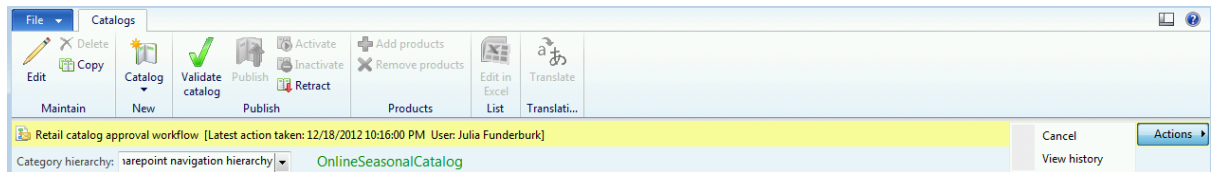


3. The nominated user or users assigned to a role receives notification on the pending approvals. Once approved, the catalog status changes to approved.
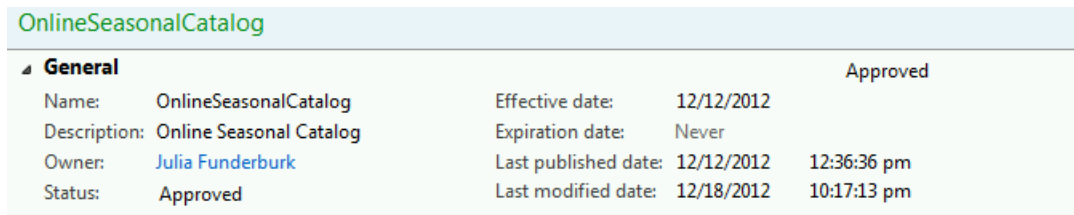
## 20.3.5PUBLISH A CATALOG

To publish a catalog, click **Retail > Common > Catalogs > Catalogs.**  The **Catalogs** form opens.

Select the catalog to open from the list, and double-click to open.
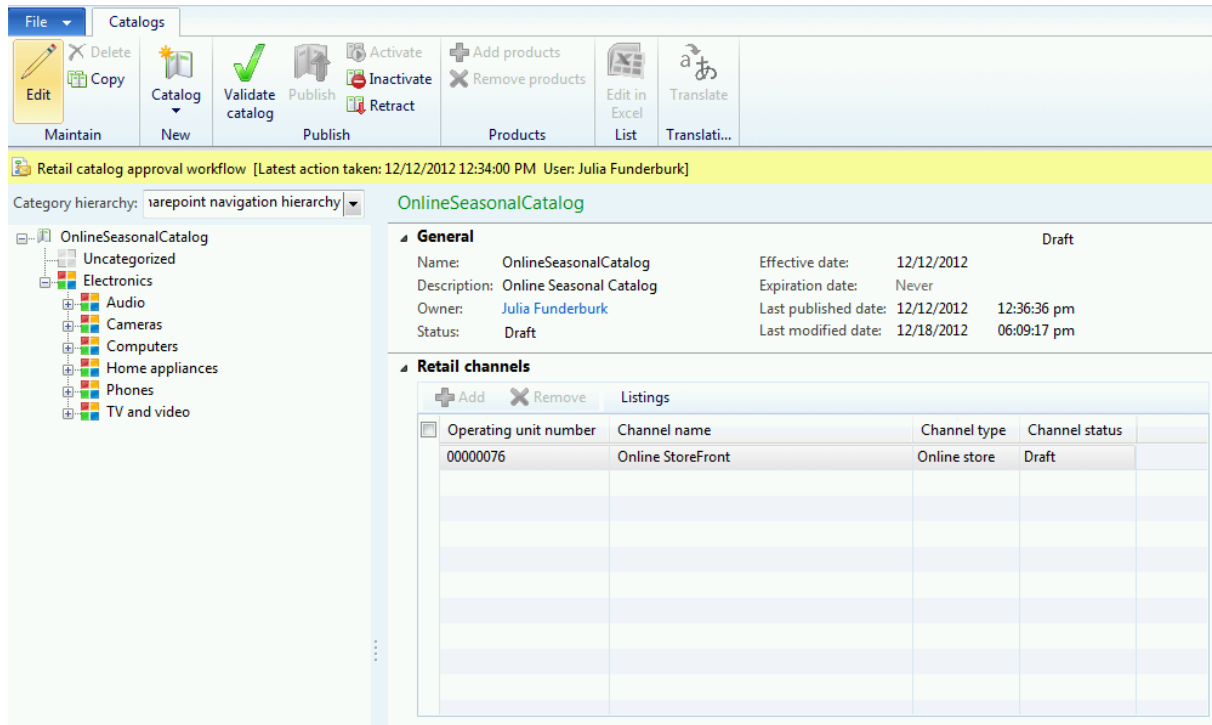


1. Click **Publish** from the **Publish** section of the **Catalogs** area.
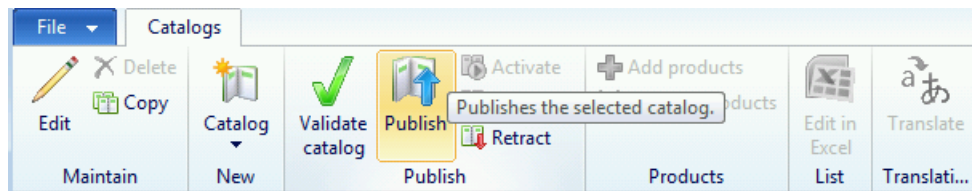


2. The **Publish catalog** form opens.

3. Select the **Publish** option from the drop-down list. The following options are available:

   a. **Only products that have changed**: Select this option if you have modified an existing catalog and want to publish just the changes. **Note**: We recommend that you use this option to save time if only changes must be published.

   b. **All products**: Select this option if you are publishing a new catalog.

4. Notice that the **Product totals by channel** section displays the number of products added, updated, or deleted from the catalog by channel.

5. Notice that the Validation summary appears if all the products were successfully validated.

6. Click **View full report** to view the **Validate catalog** form.
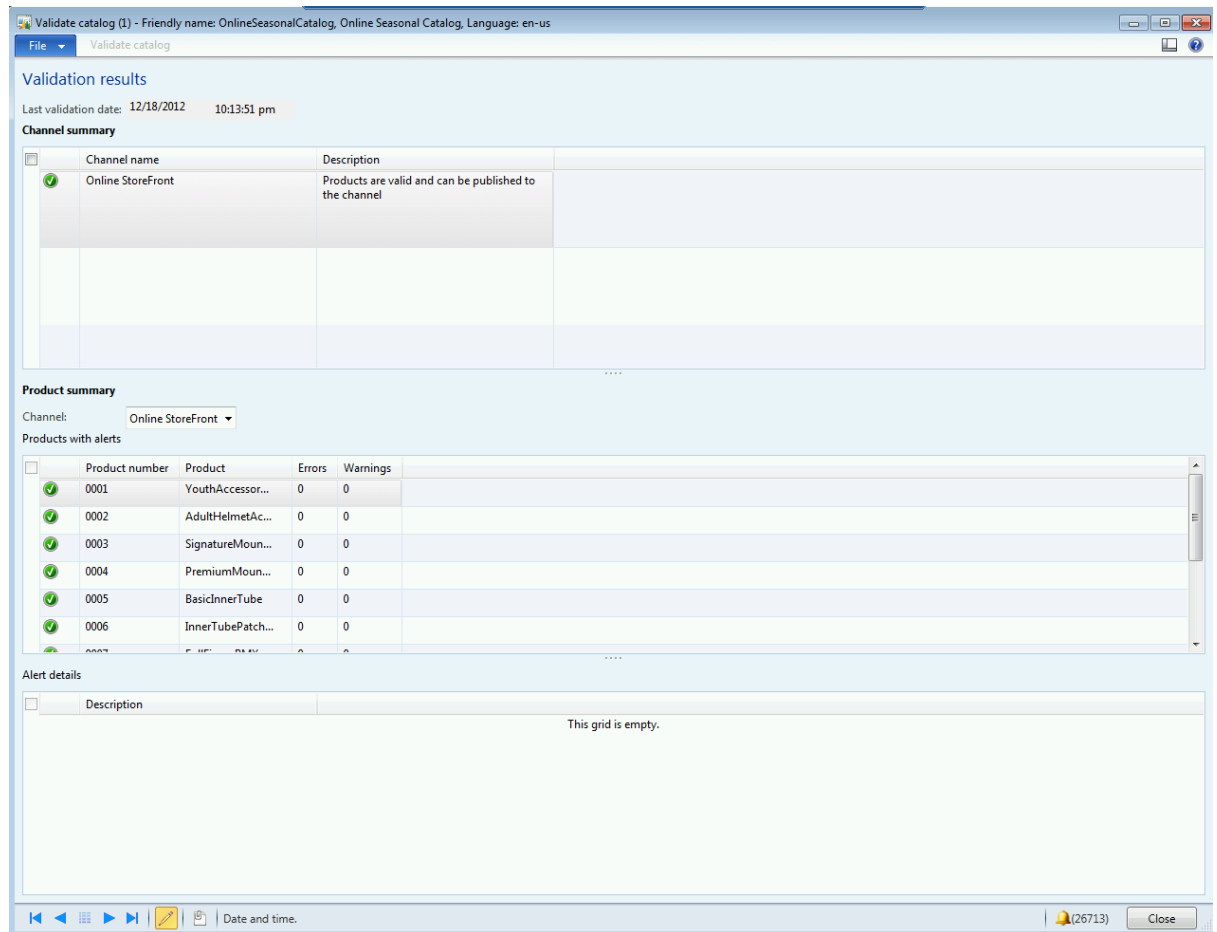
7. Click **Close** to close the form.
8. Click **OK** on the **Publish catalog** form to run the Retail catalog publishing job.
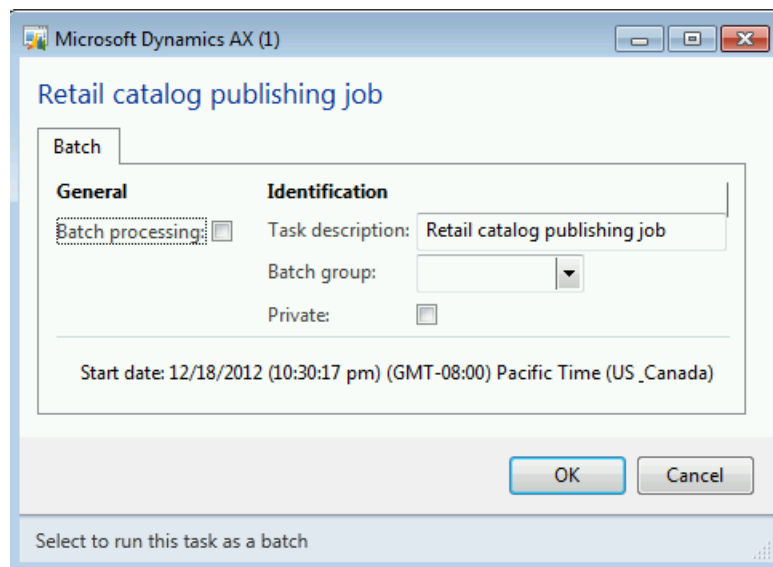
9. Click **OK** to confirm and publish the catalog.
10. The catalog status changes to published as shown below.



## 20.3.6 MAINTAIN A CATALOG

To manage a catalog, click **Retail > Common > Catalogs > Catalogs.** The **Catalogs** form opens.

Select the catalog to open from the list, and double-click to open.



### 20.3.6.1 RETRACT A CATALOG

1. To retract a catalog, click **Retract** from the **Publish** section of the **Catalogs** tab.
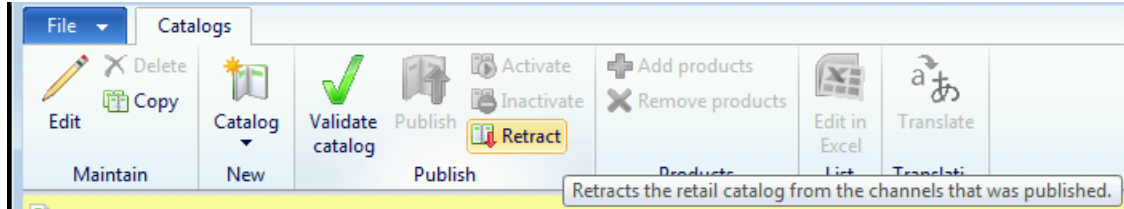
2. A confirmation message appears. Click **Yes** to confirm the retract process.
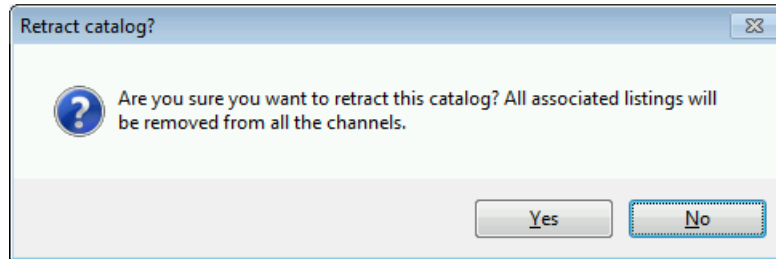


3. The status of the catalog changes to **Retracted** as shown below.



## 20.3.6.2 INACTIVATE A CATALOG

1. To inactivate a catalog, click **Inactivate** from the **Publish** section of the **Catalogs** tab.
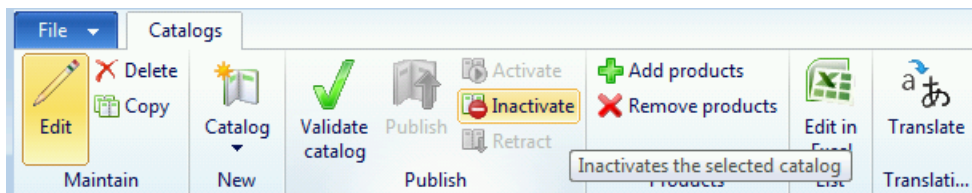


2. The status of the catalog is set to Inactive as shown below.

**Note**: A catalog can be set to inactive only when the catalog is in Draft mode.

### 20.3.6.3   ACTIVATE A CATALOG

3.  To activate a catalog, click **Activate** from the **Publish** section of the **Catalogs** tab.
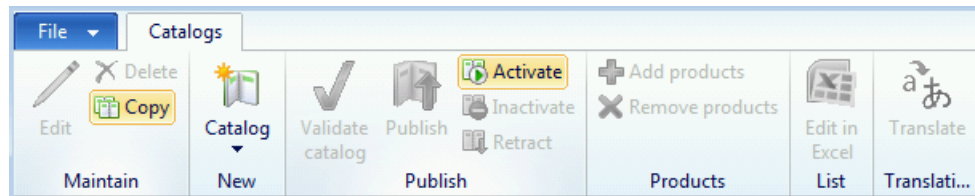


4.  The status of the catalog is set to Draft as shown below.

## PRODUCTS

**OVERVIEW**

This module explains why products must be created and configured in Microsoft Dynamics AX before they can be made available for resale at the retail channels.

Microsoft Dynamics AX for Retail uses the product features in Microsoft Dynamics AX core to do the following:

- Create organization-wide products in a product master.
- Define the product properties and attributes, and assign the product to retail category hierarchies.
- Release the products to the legal entities to make them available to retail channels and add them to active assortments.

## 20.4 PRODUCTS BY CATEGORY

The products by category are an extension to the products features with products filtered by retail categories.

As a prerequisite to managing products by category, complete the following tasks:

- Define a retail product hierarchy. By using the category hierarchy features in Microsoft Dynamics AX, the merchandising manager can assign retail category hierarchies to group and categorize the products that get distributed to the retail channels.
- Define user and system attributes at the category level. Then, all products that are assigned to the category inherit those attributes.
- Define multiple category hierarchies. Then, each product can be assigned to multiple hierarchies. However, in a single hierarchy, each product can be assigned to only one category.

To view products by category, click **Retail > Common > Products > Products by category**.

The **Product details** form opens.
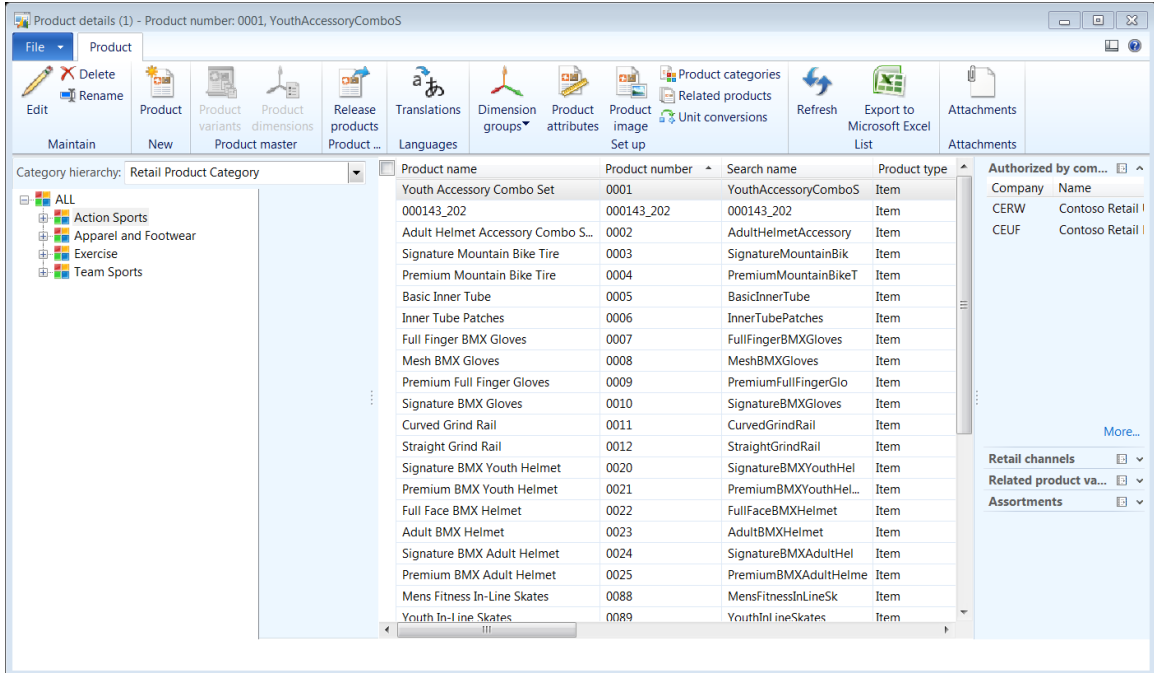
The **Category hierarchy** section in the diagram above provides a list of retail hierarchies available in the system. From the drop-down list, the user can select a retail hierarchy and the associated categories are displayed on the form.

## 20.4.1 CREATE A PRODUCT

To create a new product under a specific category, select the category from the left-hand category hierarchies list and click **Product** from the **New** group of the **Product** tab.
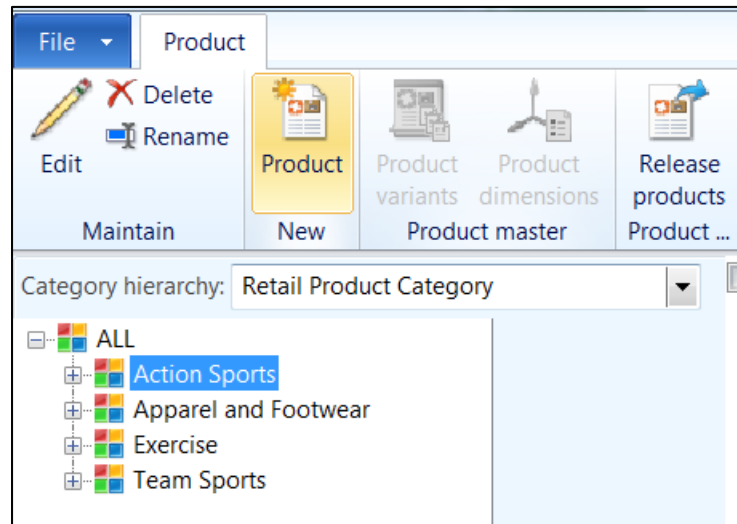


The **New product** form opens.

1. In the **Create product** area, select the **Product type** from the drop-down list. The options available are as follows:
   - **Item**: A product type of item represents a physical item that requires inventory control. So a product is a tangible item.
   - **Service**: A product type of service represents a service or offering provided by the retail business and does not require inventory control.
2. Select a **Product subtype** from the drop-down list. The options available are as follows:
   - **Product**: A product is a master product with no variants attached.
   - **Product master**: A product master has variants of size, color, and configuration.

   Select **Product** as the product type.

3. In the **Identification** area, enter the **Product number** or the product number will be auto populated if a number sequence is associated to be auto generated.
4. Enter the **Product name**.
5. Enter the **Search name** for the product.
6. Select the **Retail Category** for the product from the drop-down list.
7. In the **Catch weight** area, select the **CW product** check box to indicate the product is a weighted product.
8. Click **OK** to create a new product.

## 20.4.2 ASSIGN DIMENSION GROUPS

Select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the **Product details** form, click **Dimension groups** on the **Set up** group from the **Product** tab.
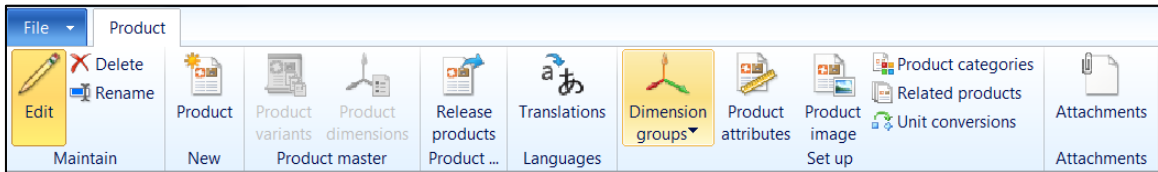


From the drop-down list, enter the following details.

1. Select the **Storage dimension group** from the drop-down list. The storage dimension defines the site and warehouse information for the product.

2. Select the **Tracking dimension group** from the drop-down list. The tracking dimension defines the batch number or the serial number for the product.



## 20.4.3 ASSIGN PRODUCT CATEGORIES

Select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.
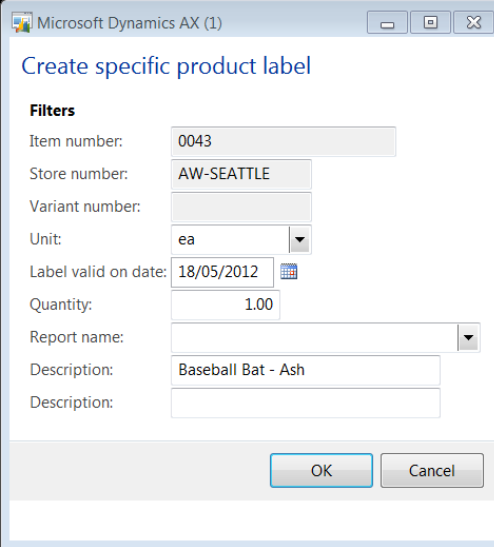
On the **Product details** form, click **Product categories** on the **Set up** group from the **Product** tab.

.

The **Product categories** form opens.

1.  Click **New** to assign a new category.
2.  Select the **Category hierarchy** from the drop-down list that contains both standard and supplementary retail hierarchies.
3.  Select the **Category** from the drop-down list that belongs to the category hierarchy selected.
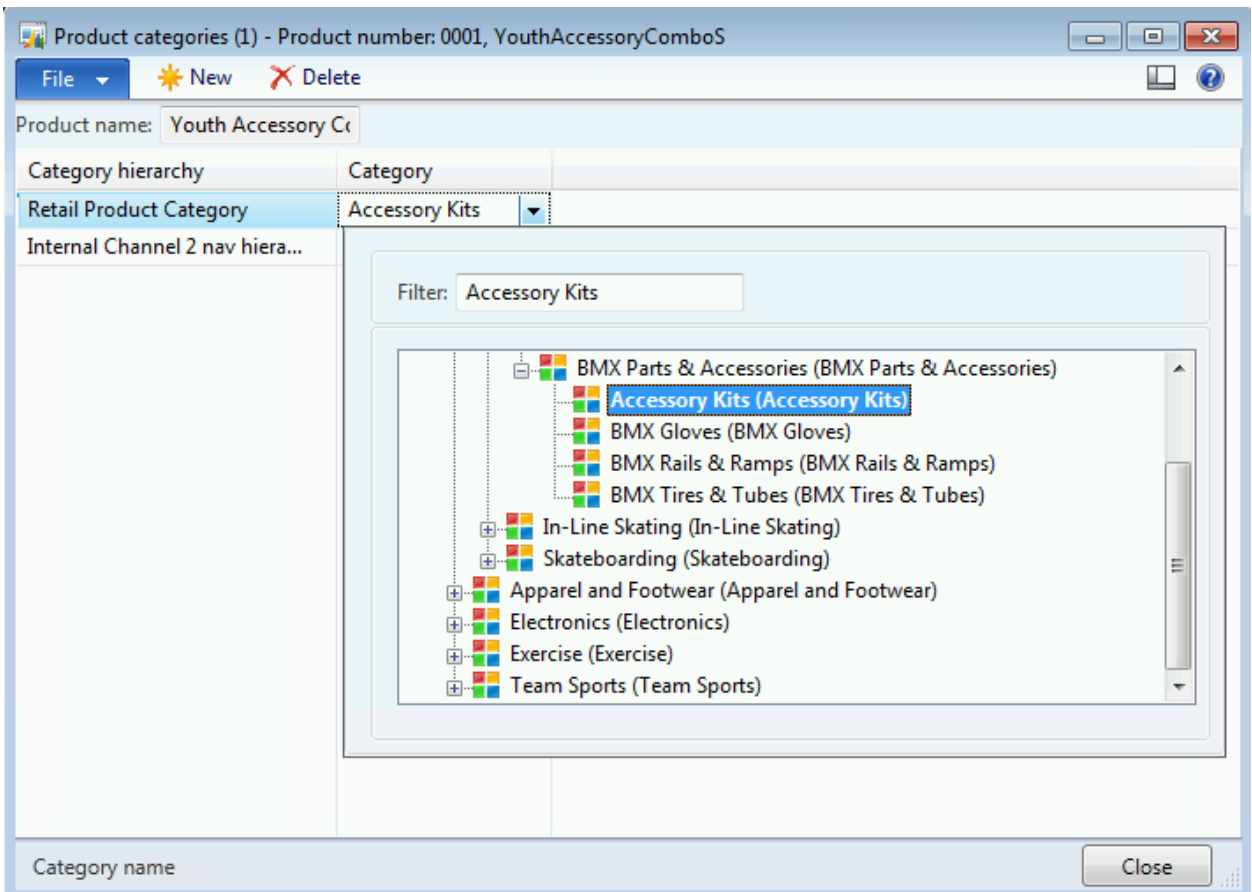


## 20.4.4 ASSIGN PRODUCT ATTRIBUTES

Product attributes are attributes assigned to a category. When a product is created and assigned a retail product category, the attributes associated with the category are inherited by the product.

To view product attributes associated with the product, click **Product attributes** on the **Set up** group of the **Product** tab.
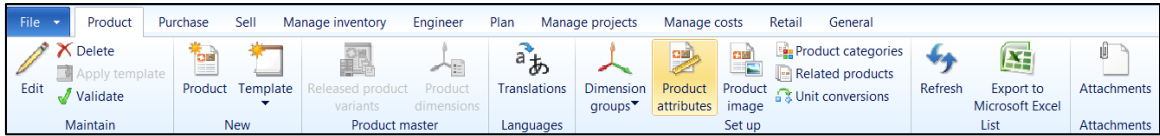


The **Product attribute values** form opens and displays a list of attributes and the default value associated with the product.

The values can be modified for each attribute to suit the product.
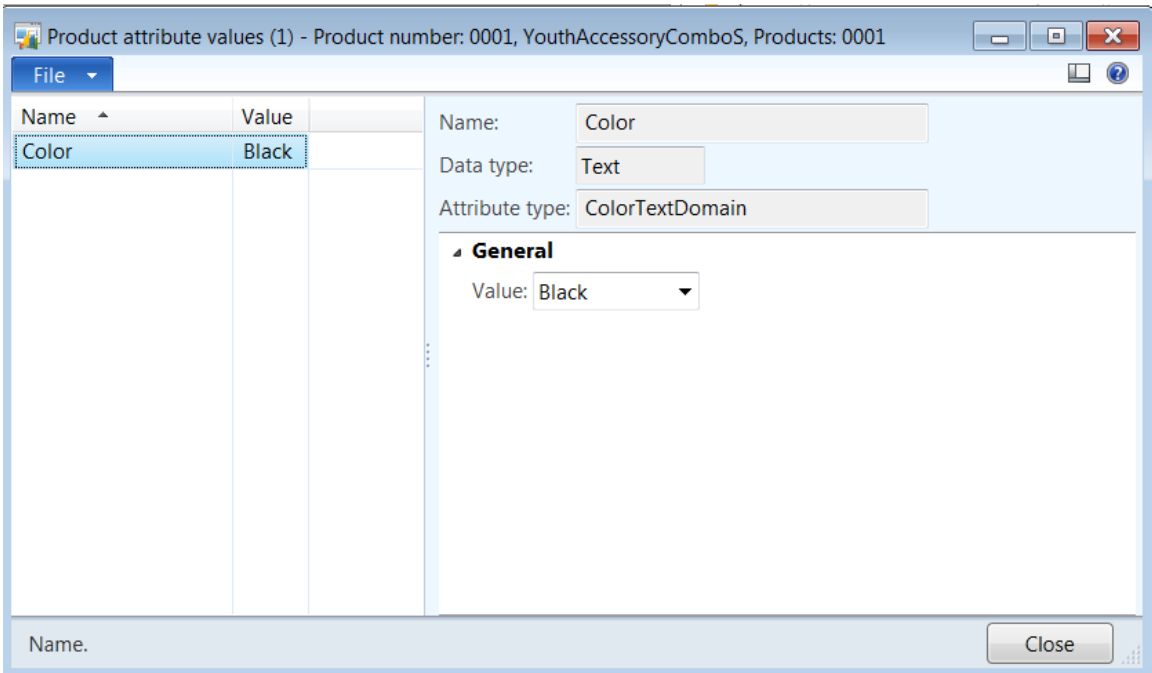


Under the **General** tab, select the **Value** of the attribute for the product from the drop-down list.

### 20.4.5 ASSIGN PRODUCT IMAGES

Select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Product image** on the **Set up** group from the **Product** tab.

The Product image form opens.

1. Click **New** to assign a new image to the product.

2. Select the **Type** of document from the drop-down list. The options to choose from are as follows:
   - **Document**: Generates a Microsoft Word document file to hold the medium-sized and thumbnail images.
   - **File**: Allows the user to associate an image or a file with the retail product.
   - **Note**: Allows an extended description for the product in the **Description** field.
   - **URL:** Links the product image or documentation that is specified in the **Description** field.

3. Depending on the Type selected, enter relevant information in the **Description** field.

4. Select the **Media usage** from the drop-down list. This indicates whether the image or document attached is used internally or available externally.

5. Select the **Default image** check box to indicate the image attached is the default image for the retail product.
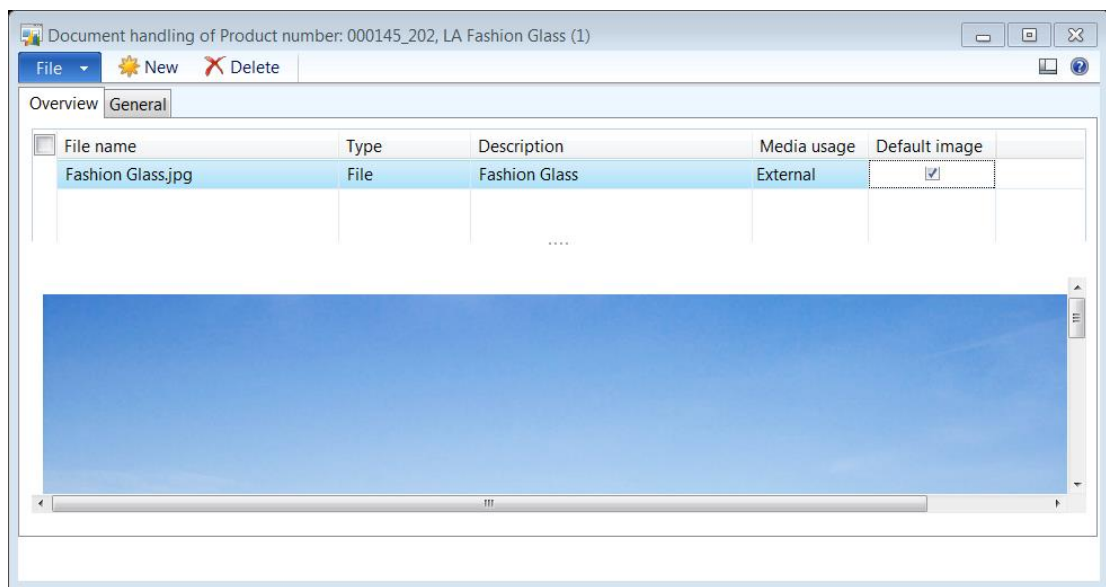


☑ **Note**

As a part of the setup process, you must set up the default document archive directory in the **Document management parameters** form. To set up the archive directory, follow these steps:

1. Click **Organization administration > Setup > Document management > Document management parameters**.
2. In the **General** area of the form, in the **Archive directory** field, enter the path to the archive directory.
3. Click **Number sequences**, and then select the **ID** reference.
4. In the **Number sequence code** field, select the number sequence code to use for naming the documents.

## 20.4.6 ASSIGN RELATED PRODUCTS

Select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Related products** on the **Set up** group from the **Product** tab.
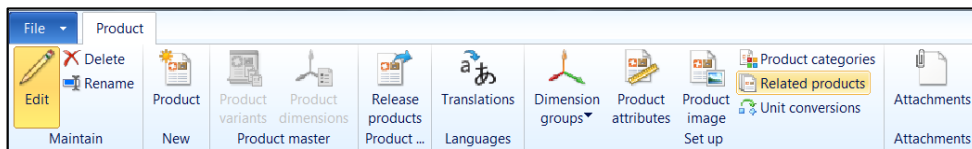


The **Related products** form opens.

1. Click **New** to create a new related product.
2. Select the **Product number** from the retail product list.
3. Notice the **Product name** displays the name of the product that has been selected.
4. Select the **Relation type** from the drop-down list. The **Product relationship types** can be created and maintained by the merchandising team to assign meaningful relationships between retail products.
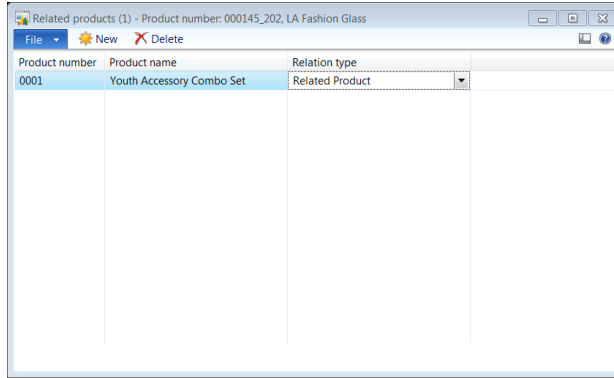
## 20.4.7 ASSIGN UNIT CONVERSIONS

Select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Unit conversions** on the **Set up** group from the **Product** tab.
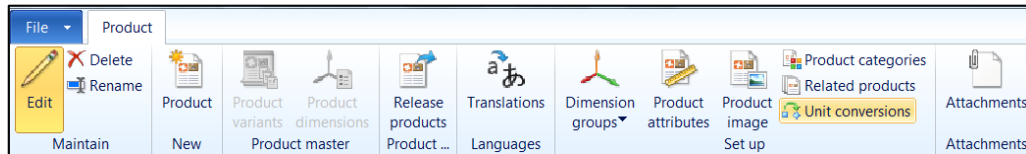


The **Unit conversions** form opens.

1. Click **New** to create a new unit conversion. By default, the **Product** field displays the product number selected to assign the unit conversion.
2. Enter the **Factor** by which the unit conversion is going to be calculated. For example, a box is 24 of each.
3. Select the **From unit** from the drop-down list.
4. Select the **To unit** from the drop-down list.
5. Click **Close** to close the form after all the unit conversions are defined.
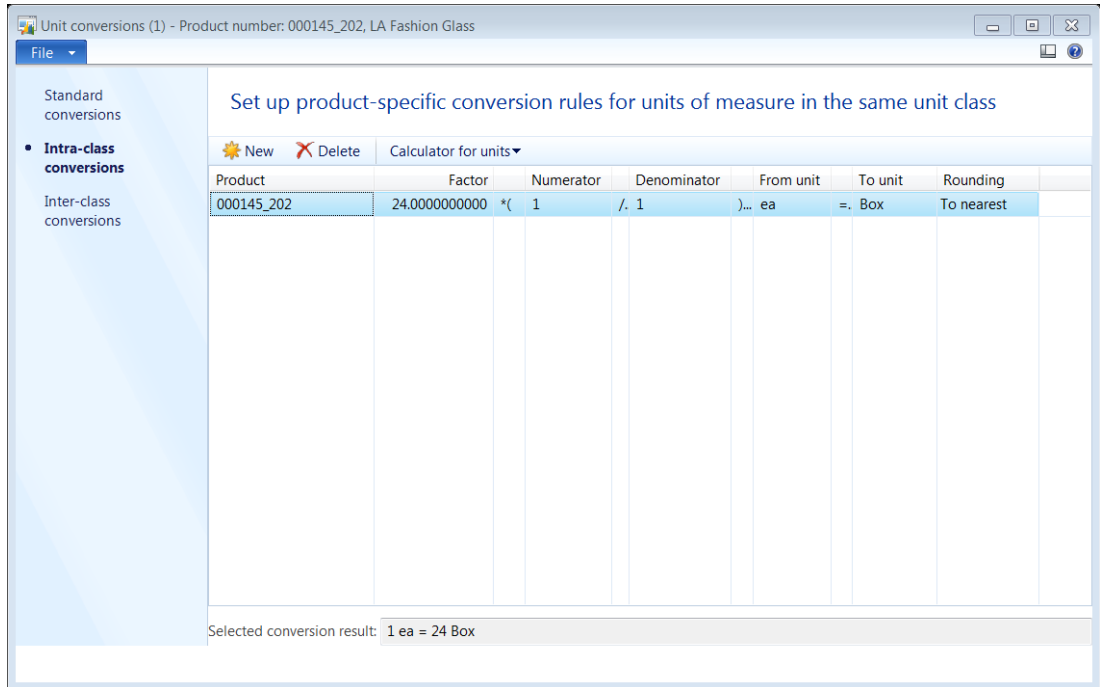
## 20.4.8 PRODUCT TRANSLATIONS
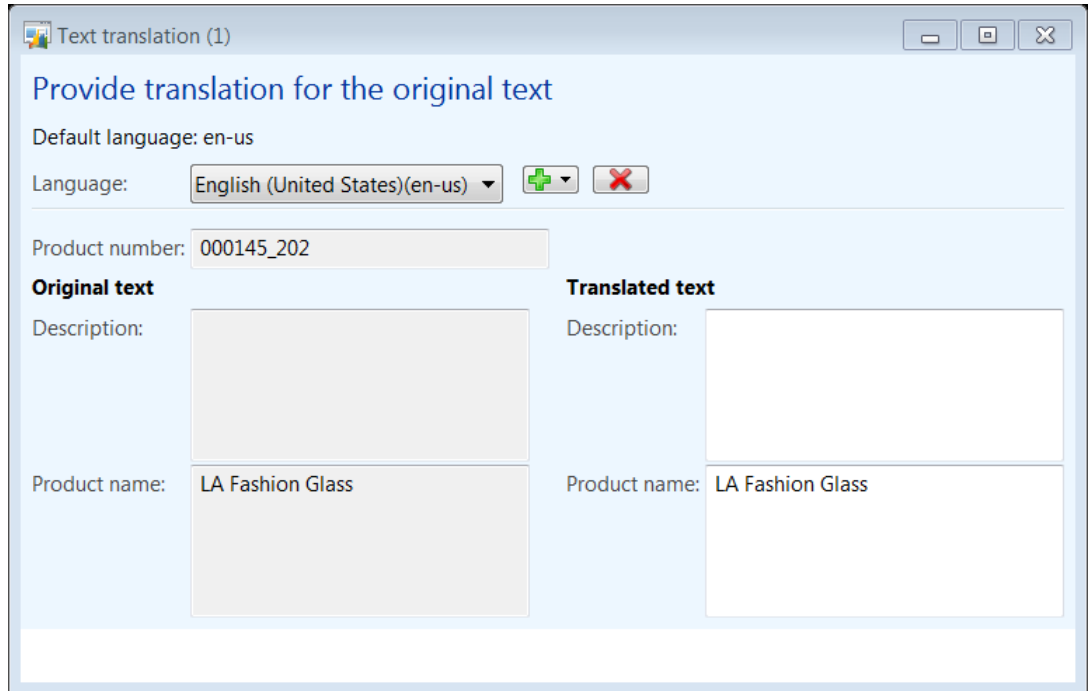
Select the product newly created from the **products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Transactions** on the **Languages** group from the **Product** tab.
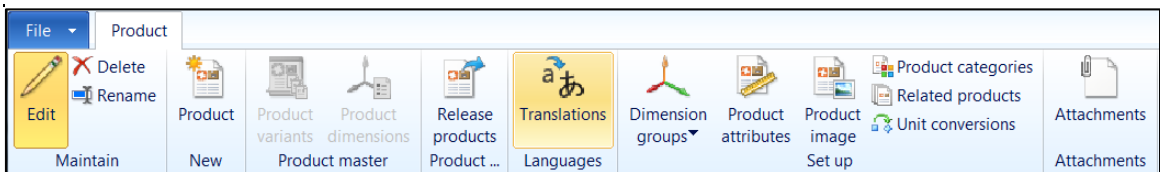


The **Text transaction** form opens.

1. Select the **Language** from the drop-down list. To add additional languages, click the plus sign (**+**) drop-down list to view a list of languages supported by the system.
2. Enter the translated text in the **Description** field.
3. Enter the **Product name** in the language selected.

## 20.4.9 RELEASE PRODUCTS

To release products to the legal entities, select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Release products** on the **Product authorization** group from the **Product** tab.
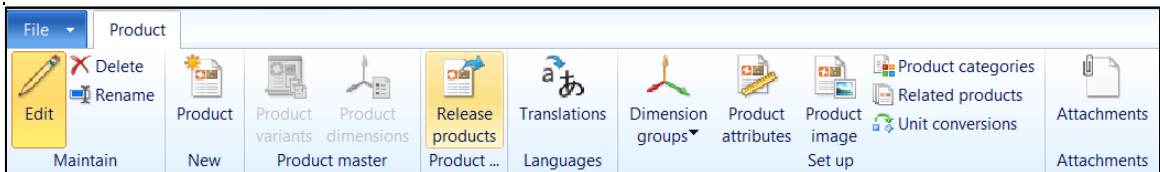


The Release products form opens.

1. In the **Select products** area in the form select the product in the grid to include releasing it to a legal entity. Click **Add** button on the top to add additional products to the list.

2.  In the **Select companies** area of the form select the legal entities that will be authorized to use the retail product.



3.  Click **OK** to confirm and release the retail products to the legal entities selected. A release session batch form opens displaying the selected products and companies.



4.  Click **OK** to confirm.

## 20.4.10    CREATE PRODUCT MASTER

To create a new product master under a specific category, select the category from the left-hand category hierarchies list and click **Product** from the **New** group of the **Product** tab.
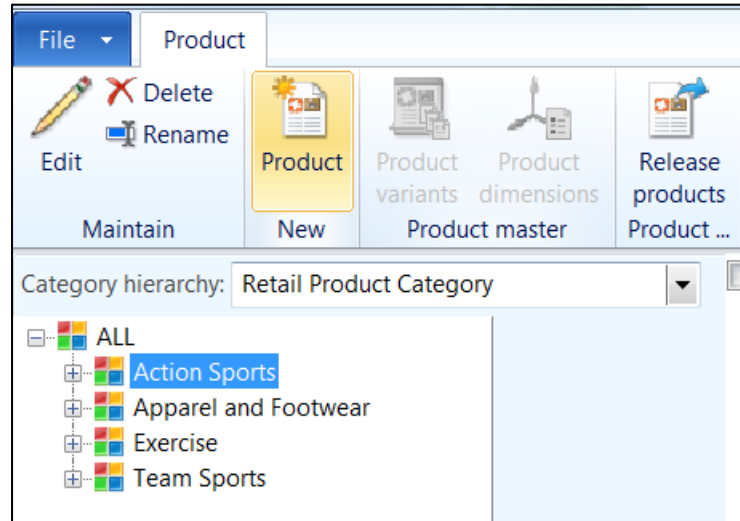


The **New product** form opens.

1. In the **Create product** area, select the **Product type** from the drop-down list. The options available are as follows:
   - **Item**: A product type of item represents a physical item that requires inventory control. So product is a tangible item.
   - **Service**: A product type of service represents a service or offering provided by the retail business and doesn't require inventory control.
2. Select a **Product subtype** from the drop-down list. The options available are as follows:
   - **Product**: A product is a master product with no variants attached.
   - **Product master**: A product master has variants of size, color and configuration.

   Select **Product master** as the product type.

3. In the **Identification** area, enter the **Product number** or the product number will be auto populated if a number sequence is associated to be auto generated.
4. Enter the **Product name**.
5. Enter the **Search name** for the product.
6. Select the **Retail Category** for the product from the drop-down list.

7.  In the **Product variants** area select the **Product dimension group** from the drop-down list. The product dimension group defines what variants will be used to define the product, for example, size, color, or just color.

8.  In the **Catch weight** area select the **CW product** check box to indicate the product is a weighted product.

9.  Click **OK** to create a new product.

## 20.4.11    ASSIGN PRODUCT DIMENSIONS

Select the product master newly created from the **products by category** form. Now double-click the product to open the **Product details** form.

On the **product details** form, click **Product dimensions** on the **Product master** group from the **Product** tab.
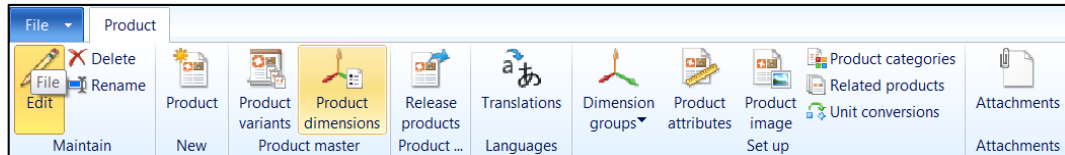


The **Product dimensions** form opens.  Depending on the product dimension group selected, the form will only display the dimension part of the selected dimension group. For example, if size and color was selected as the product dimension group, then only size and color are listed in the **Product dimensions** form.

1. In the **Colors** area of the form, click **New** to create color variants.
2. Select the **Color** variant from the drop-down list.
3. Enter the **Name** of the color variant.
4. Enter a **Replenishment weight** if the retail product is a weighted item.

5. In the **Styles** area of the form, click **New** to create styles.
6. Select a **Style** from the drop-down list.
7. Enter the **Name** of the style variant for the retail product.
8. Enter a **Weight** if the retail product is a weighted item.

9.  Click **Close** to close the form.

## 20.4.12 CREATE PRODUCT VARIANTS

Select the product master newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the product details form, click **Product variants** on the **Product master** group from the **Product** tab.
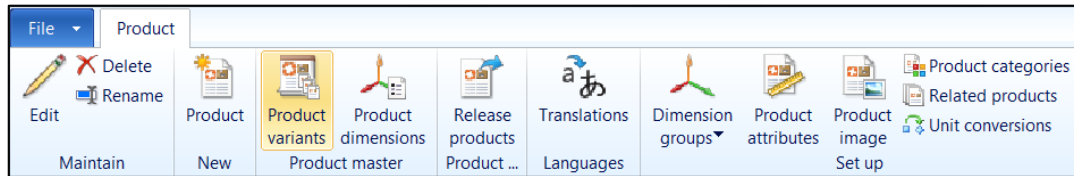


The **Product variants** form opens. The **Product variant** form displays the weight associated with each dimension value. The total weight field displays the sum of all the weights of the dimensions associated with the product.

Click **Variant suggestions** from the top tool bar.
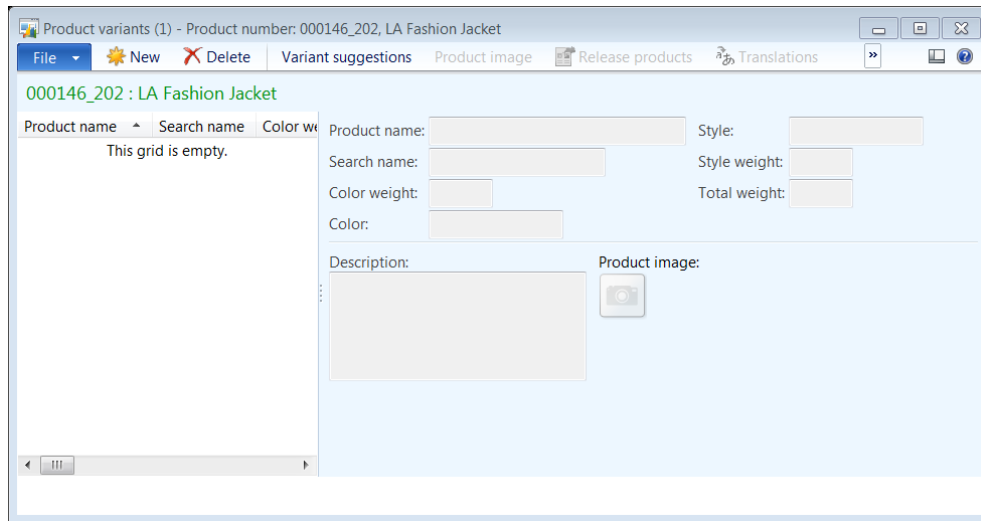


The **Variant suggestions** form opens and displays all the combinations available based on the product dimension created.
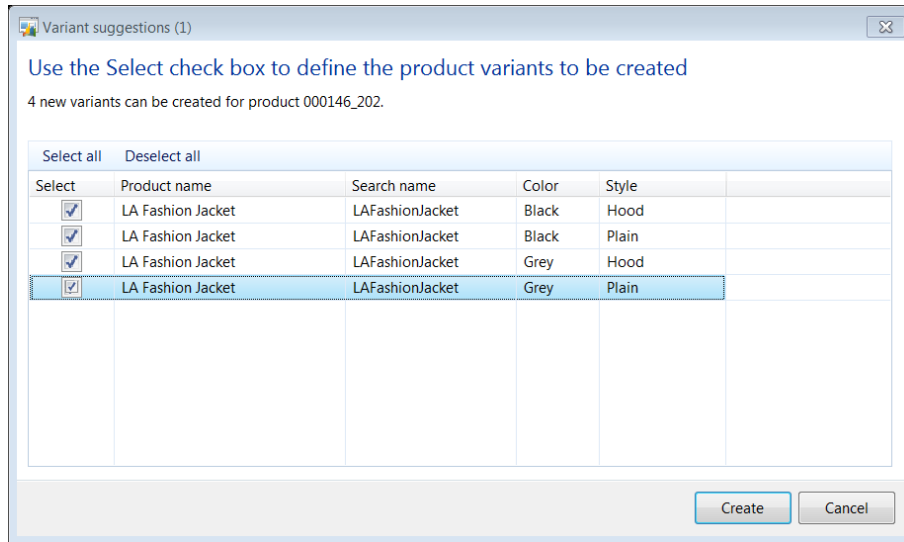
As shown in the screen above, the product master contains two colors and two styles. So a total of four product combinations is suggested.

Click **Create** to create the product variants. The products will be created and listed in the **Product variants** form.
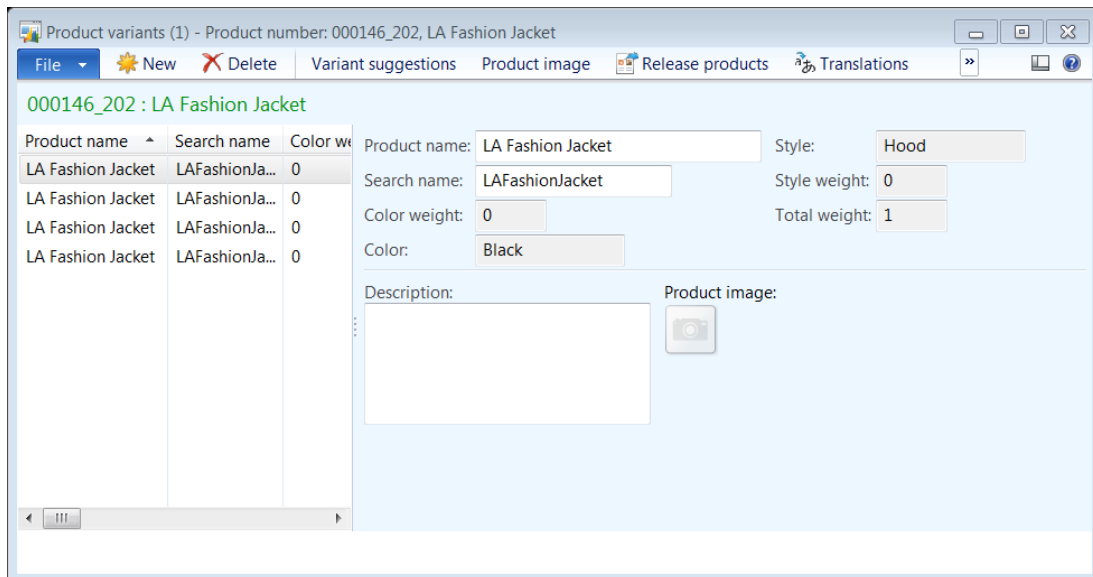


Close the form after you review the product variants.

## 20.4.13    RELEASE PRODUCT MASTER AND VARIANTS

To release product master and variants to the legal entities, select the product newly created from the **Products by category** form. Now double-click the product to open the **Product details** form.

On the **Product details** form, click **Release products** on the **Product authorization** group from the **Product** tab.
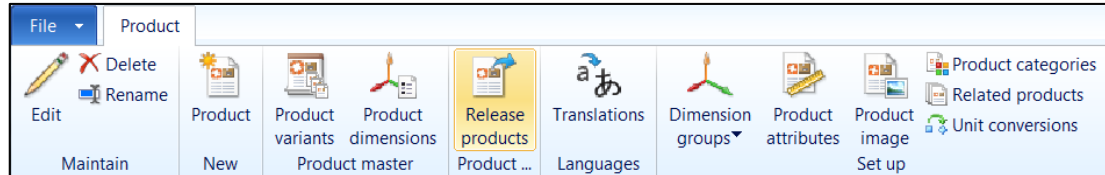


The **Release products** form opens.

1. In the **Select products** area in the form, select the product in the grid to include releasing it to a legal entity. Click **Add** on the top to add more products to the list. On the right-hand side of the form, the **product variants** related to the product master are automatically selected.

2.  In the **Select companies'** area of the form, select the legal entities that will be authorized to use the retail product.



3.  Click **OK** to confirm and release the retail products to the legal entities selected. A release session batch form opens, displaying the selected products and companies.

4. Click **OK** to confirm.

## 20.5 RELEASED PRODUCTS BY CATEGORY

The Released products by category are an extension to the Released products features with products filtered by retail categories.

As a prerequisite to managing products by category, complete the following tasks:

- Define a retail product hierarchy. By using the category hierarchy features in Microsoft Dynamics AX, the merchandising manager can define retail category hierarchies to group and categorize the products that get distributed to the retail channels.
- Define user and system attributes at the category level. Then, all products that are assigned to the category inherit those attributes.
- Define multiple category hierarchies, and then each product can be assigned to multiple hierarchies. However, in a single hierarchy, each product can be assigned to only one category.

To view Released products by category click **Retail > Common > Products > Released products by category**.

The **Released product details** form opens.

Click the **Retail** tab to view the retail set up and functions available for the retail products.
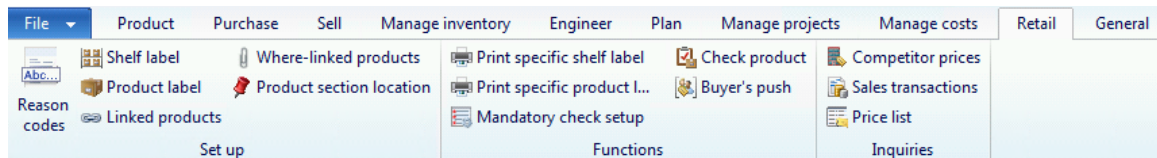


### 20.5.1 RETAIL-SPECIFIC PRODUCT DETAILS

Select the product newly created from the **Products by category** form that has been released. Now double-click the product to open the **Released products by category details** form.

✅ **Note**

The item must be an item of product subtype **Product Master** as these are the type of items that the specifics are set up on.

The **Released product details** form opens.

Open the **Retail** FastTab.

1. In the **Variant** area, select the **Color group** for the retail product. If the product is not a variant product then the **Color group** is disabled.
2. Select the **Size group** for the retail product. If the product is not a variant product, then the **Size group** is disabled.
3. Select the **Style group** for the retail product. If the product us not a variant, then the **Style group** is disabled.
4. Select the **Print variants shelf label** check box to print one shelf label per variant. For example, if you have an item that comes in two colors and two sizes, you print four labels, one for each combination. Clear this check box to print one label for the item, regardless of variants.
5. In the **Comparison price**, select the **Base comparison unit** from the drop-down list. Price comparison can be done for items of different brands or packaging based on a base comparison unit of measure, for example, price per ounce. This price can also appear on shelf and item labels.  It can be automatically calculated, based on the base comparison unit and its unit conversion.

✎ **Note**

Units of measure and unit conversions must have been set up previously in Microsoft Dynamics AX.

6. In the **Blocking** area, select the **Blocked at register** check box to block the product from being sold at the retail channels.
7. By default, the **Date blocked** will automatically display the current system date. Enter the **Date to be blocked** to block an item in the future date.
8. In the **Bar code** area, select the **Bar code setup** format from the drop-down list. Retail items can be represented by one or more bar codes. Multiple bar codes are essential if the same item comes from different manufacturers or suppliers, or if the item has different size, style, or color variants.
9. Notice the **Bar code** field displays the bar code that has been marked **Show for product** in the **Item – Bar codes** form.
10. In the **Activation** area, select the **Issue date** to indicate when a blocked item will be activated.
11. In the **Product life cycle** area, select the **Season** information from the drop-down list.
12. Enter the **Valid from** date for the start date of the season.
13. Enter the **Valid to** date for the end date of the season.
14. In the **POS register** area, select the **Scale product** check box to indicate the product item is a scale item. Scale items will be measured on a weighing scale at the register before sale. The weight unit of measure must be set as a weight-type of measure.

15. Select the Keying in price for the retail product from the drop-down list. The options available are as follows:

- **Not mandatory**:  The price key in is not mandatory at the register.
- **Must key in new price**: The new price for the retail product should be keyed in at the register.
- **Must key in higher/equal price**: A price higher or equal to the recommended retail price should be keyed in at the register.
- **Must key in lower/equal price**: A price lower or equal to the recommended retail price should be keyed in at the register.
- **Must not key in price**: The price must not be keyed in at the register.

16. Select the Keying in quantity for the retail product from the drop-down list. The options available are as follows:

- **Not mandatory**: The quantity key is not mandatory at the register.
- **Must key in quantity**: The quantity for the retail product should be keyed in at the register.
- **Must not key in quantity**: The quantity must not be keyed in at the register.

17. Select the **Must key in comment** check box to require the cashier to enter item comments at the terminal.

18. Select the **Zero price valid** check box, to allow products to be sold at zero pricing.

19. Select the **Quantity becomes negative** check box to indicate the product quantity can be negative.

20. Select the **No discount allowed** check box to limit cashiers from providing discounts on the product.
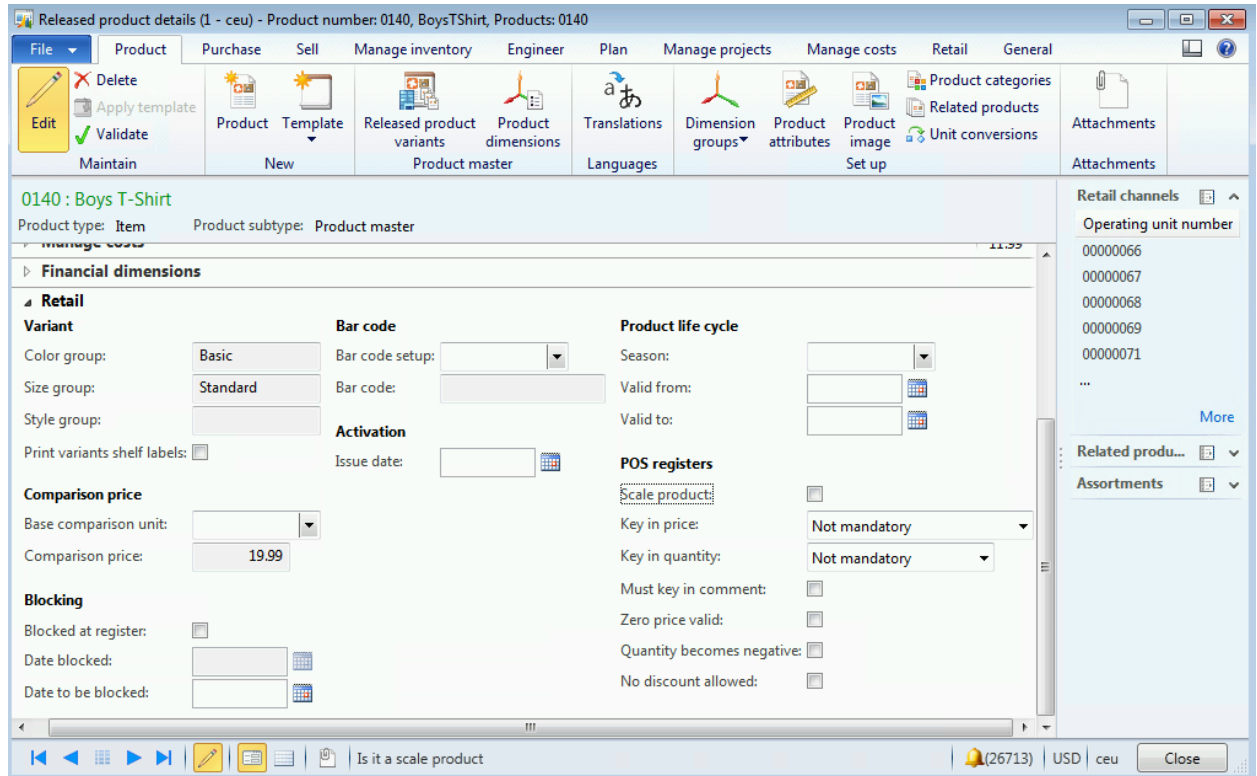
## 20.5.2 SET UP REASON CODES

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Reason codes** on the **Set up** group from the **Retail** tab.
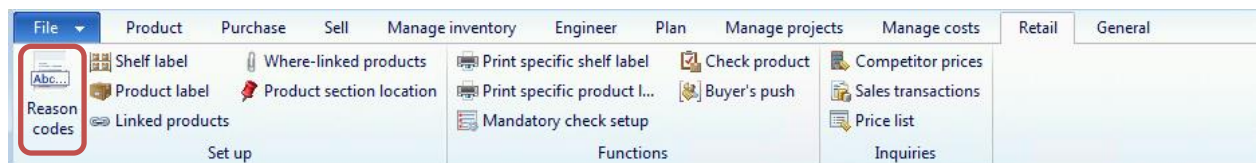


The **Reason codes** form opens.

6. Click **New** to associate a new reason code to the retail product.
7. Select the **Reason code number** from the drop-down list.
8. The **Prompt** field will display the message associated with the reason code selected. The prompt message will be displayed to the cashier on the Point of Sale (POS) when the retail product is selected in a sales transaction.
9. Select the **Input required** check box to require the cashier to provide input when the reason code is prompted on the Point of Sale (POS) terminal.

10. Select **When required** to indicate that the reason code should be selected for the retail product from the drop-down list. The options available are as follows:
    - **Always**: Prompt for the reason code every time the retail product is used.
    - **Positive**: Use for specific reason codes where a threshold triggers the reason code based on the value specified.
    - **Negative**: Use for specific reason codes where a threshold triggers the reason code based on the valued specified.
11. Select the **Sequence number** for the reason code to indicate the sequence in which it should appear on the Point of Sale (POS) terminal if multiple reason codes are associated with the retail product.



### 20.5.3 SET UP SHELF LABEL

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Shelf label** on the **Set up** group from the Retail tab.
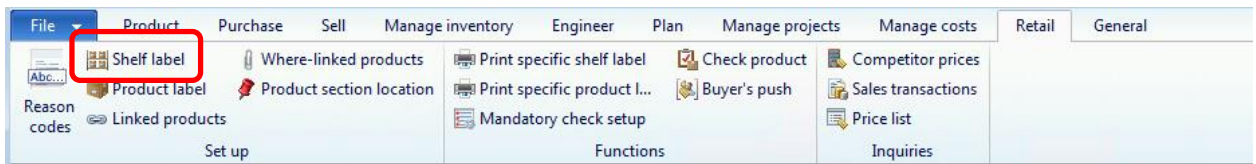


The **Shelf label report setup** form opens.

1. Click **New** to create a set up a new shelf label report.
2. Select the **Report name** from the drop-down list.
3. Select the **Text 1 is product description** check box to confirm the text on the shelf label will be printed with a product description.

4. If the **Text 1 is product description** check box is selected, then the **Text 1** field will be is populated with the product description. If not, enter a description to print on the shelf label.
5. Enter information on **Text 2** to be printed on the shelf label.
6. Select the **Distribution group** for the shelf label from the drop-down list.
7. Select the **Distribution subgroup** for the shelf label from the drop-down list.
8. Click **Close** to close the form.



## 20.5.4 SET UP A PRODUCT LABEL

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Product label** on the **Set up** group from the **Retail** tab.
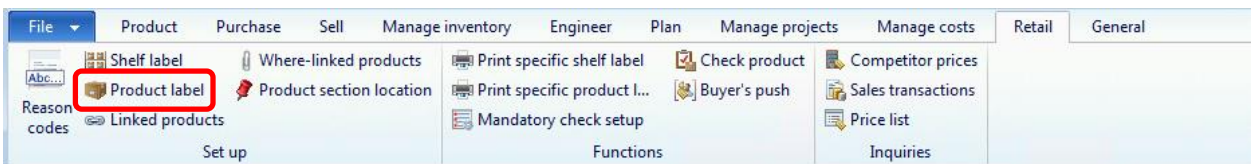


The **Product label report setup** form opens.

1. Click **New** to create a set up a new product label report.
2. Select the **Report name** from the drop-down list.
3. Select the **Text 1 is product description** check box to confirm the text on the product label will be printed with product description.

4.  If the **Text 1 is product description** check box is selected then the **Text 1** field will be populated with the product description. If not, enter a description to print on the product label.
5.  Enter information on **Text 2** to be printed on the product label.
6.  Select the **Distribution group** for the shelf label from the drop-down list.
7.  Select the **Distribution subgroup** for the shelf label from the drop-down list.
8.  Click **Close** to close the form.

## 20.5.5 SET UP LINKED PRODUCTS

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Linked Product** on the **Set up** group from the **Retail** tab.
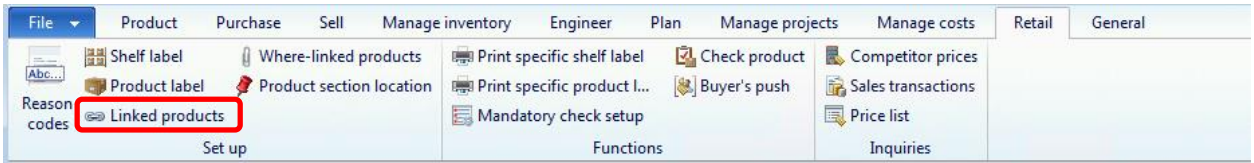


The **Linked products form** opens.

1. Click **New** to create a new linked product.
2. Select the **Unit** of measure of the linked product from the drop-down list.
3. Select the **Linked product number** from the drop-down list. The **Product name** field is populated by the selected product.
4. Enter the **Quantity** of the product that links to the retail item.

## 20.5.6 VIEW LINKED PRODUCTS

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Where-linked products** on the **Set up** group from the **Retail** tab.
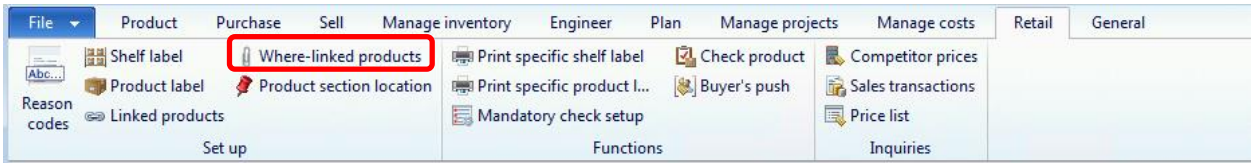


The where-linked products form opens.

The form displays the products that are linked to the retail item.

## 20.5.7 SET UP A PRODUCT SECTION LOCATION

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Product section location** on the **Set up** group from the **Retail** tab.
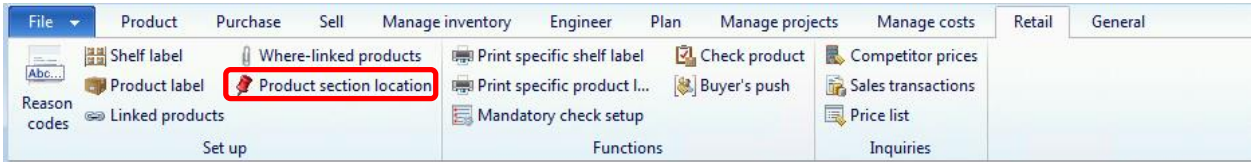


The **Product section location** form opens.

1. Click **New** to create a new product section for the retail item.
2. Select the **Store number** from the drop-down list.
3. Select the Section number from the drop-down list. The **Name** field is populated with the section name based on the selection.
4. Select the Shelf number from the drop-down list. The Name field is populated with the shelf name based on the selection.
   T



5. Check the **ShShow sales statistics** check box to display sales statistics on the retail product.

☑ **Note**

The **Show sales statistics** field is not implemented in the current version of Microsoft Dynamics AX for Retail.

## 20.5.8 PRINT A SHELF LABEL

Select the product from the **Released products by category** form. Now double-click the product to open the **Released Product details** form.

On the product details form, click **Print specific shelf label** on the **Functions** group from the **Retail** tab.
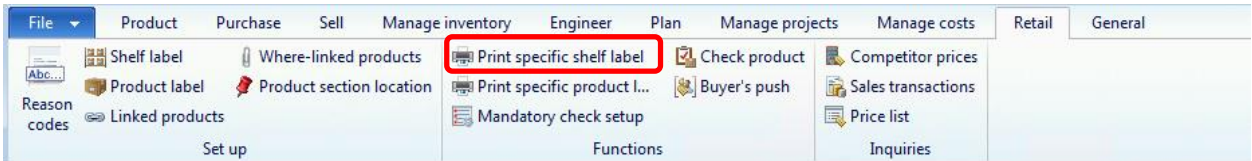


The **Print specific shelf label** form opens.

1. Notice the following:
    - The **Item number** is populated based on the selected retail item.
    - The **Store number** is populated based on distribution group selection in the shelf label set up section.
    - The **Variant number** is populated if the retail item selected is a variant item.
2. Select the **Unit** of measure from the drop-down list.
3. Enter the **Label valid on date** to specify the date when the label can be used at the stores.
4. Enter the **Quantity** to be printed on the shelf label.
5. Select the **Report name** from the drop-down list, specifying the format of the shelf label to be printed.
6. Notice the following:
    - The **Description** field is populated by the product description selected.
    - The **Description** field is a second text field available to enter information required to be printed on the shelf label.
7. Click **OK** to confirm and print the shelf label.

## 20.5.9 PRINT A PRODUCT LABEL

Select the product from the **Released products by category** form. Now double-click the product to open the **Released product details** form.

On the product details form, click **Print specific product label** on the **Functions** group from the Retail tab.
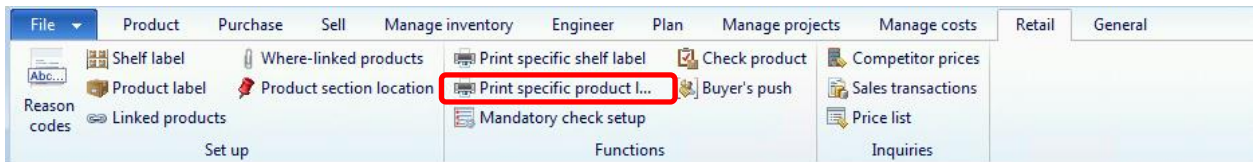


The **Print specific product label** form opens.

1. Notice the following:
   - The **Item number** is populated based on the selected retail item.
   - The **Store number** is populated based on the distribution group selection in the product label set up section.
   - The **Variant number** is populated if the retail item selected is a variant item.
2. Select the **Unit** of measure from the drop-down list.
3. Enter the **Label valid on date** to specify the date when the label can be used at the stores.
4. Enter the **Quantity** to be printed on the product label.
5. Select the Report name from the drop-down list specifying the format of the product label to be printed.
   - The **Description** field will be populated with the product description selected.

- The **Description** field is a second text field available for entering information that must be printed on the product label.
6. Click **OK** to confirm and print the product label.



### 20.5.10    MANDATORY CHECK SETUP

Mandatory check setup is used to define additional fields as for retail products to be mandatory or have default values depending on the retail business requirements.

On the product details form, click **Mandatory check setup** on the **Functions** group from the **Retail** tab.
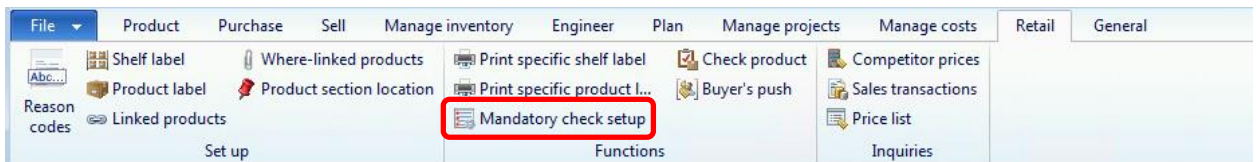


The **Mandatory check setup** form opens.

1. Click **New** to create a new mandatory check record.

2. Select the **Field number** from the drop-down list. A window appears with a field listing for the retail product. Select a field from the list.
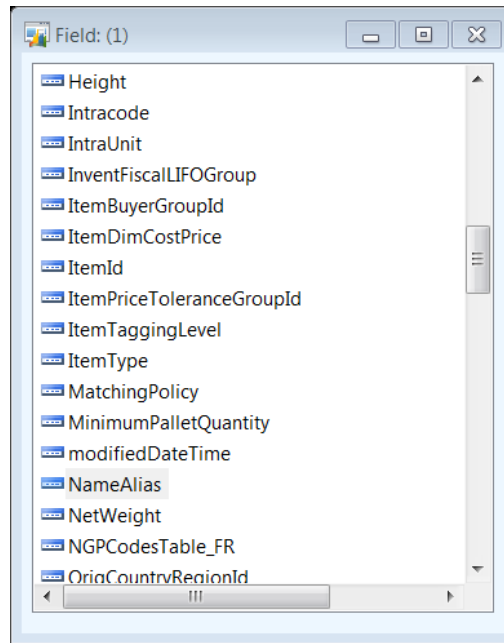
3. Note the **Field name** is automatically populated with the name of the field selected.

4. Select the **Check for** option from the drop-down list. The option available are as follows:

   - **Blank**: Check if the field selected is blank and has no value assigned.

   - **Not blank**: Check if the field selected has a value and is not blank.

   - **Zero**: Check if the field selected has a value of zero assigned.

   - **Not zero**: Check if the field selected has a value other than zero assigned.

   - **Constant**: Check if the field selected has a constant value as specified in the value field.

   - **One of**: Check if the field selected has a specific value specified in the value field.

5. Enter whether the **Value** of the check for selection is a constant or one of the values specified in the field.

6. Click **Close** to close the form.
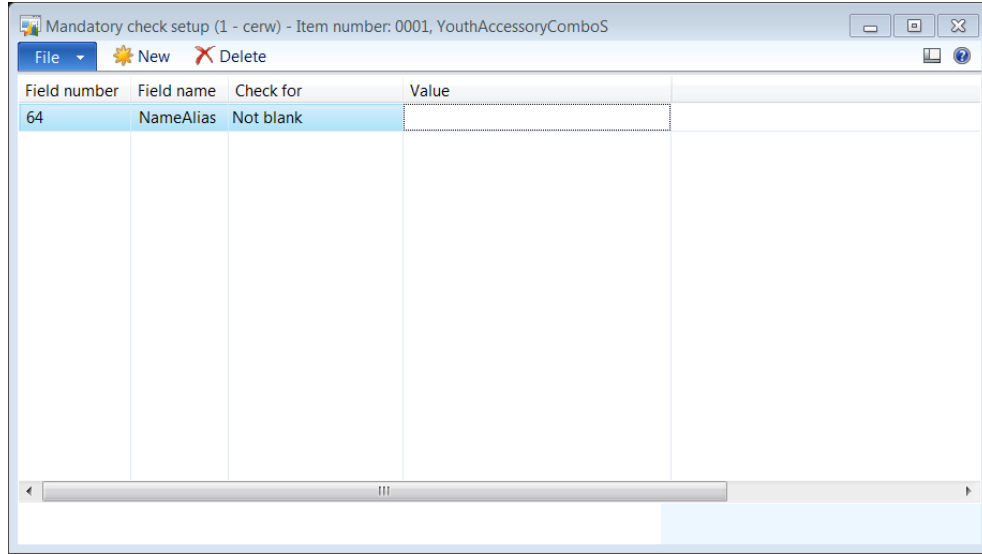
### 20.5.11    CHECK PRODUCT

The **Check product** function is used to check if the retail product meets all the mandatory check settings and validates that they have been set up properly.

Select the product from the **Released products by category** form.

On the **Released product details** form, click **Check product** on the **Functions** group from the **Retail** tab.
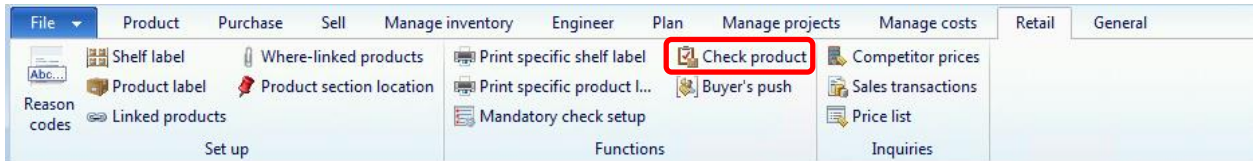


The function checks for all mandatory settings and displays confirmation or warning messages with specific details as shown in the following figure:
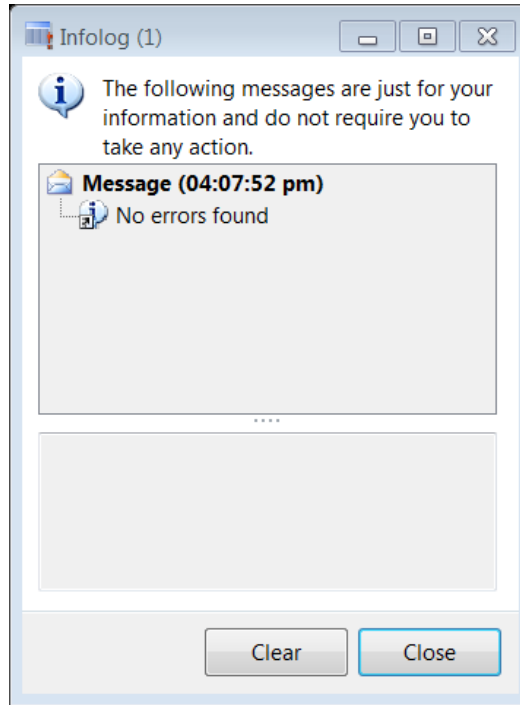
## 20.5.12    BUYERS PUSH

The **Buyers push** function is used to generate a store transfer or blast stock from warehouse to multiple stores for a selected retail item.

Select the product from the **Released products by category** form.

On the **Released product details** form, click **Buyer's push** on the **Functions** group from the **Retail** tab.
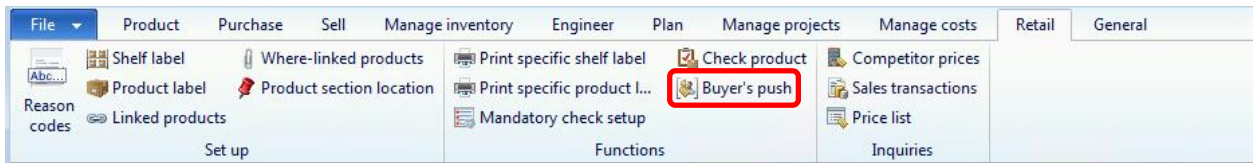


The buyers push form opens with the selected retail item added to the list and ready to be distributed to the retail stores.  Click **Calculate** to apply the replenishment rule or mange the distribution manually.
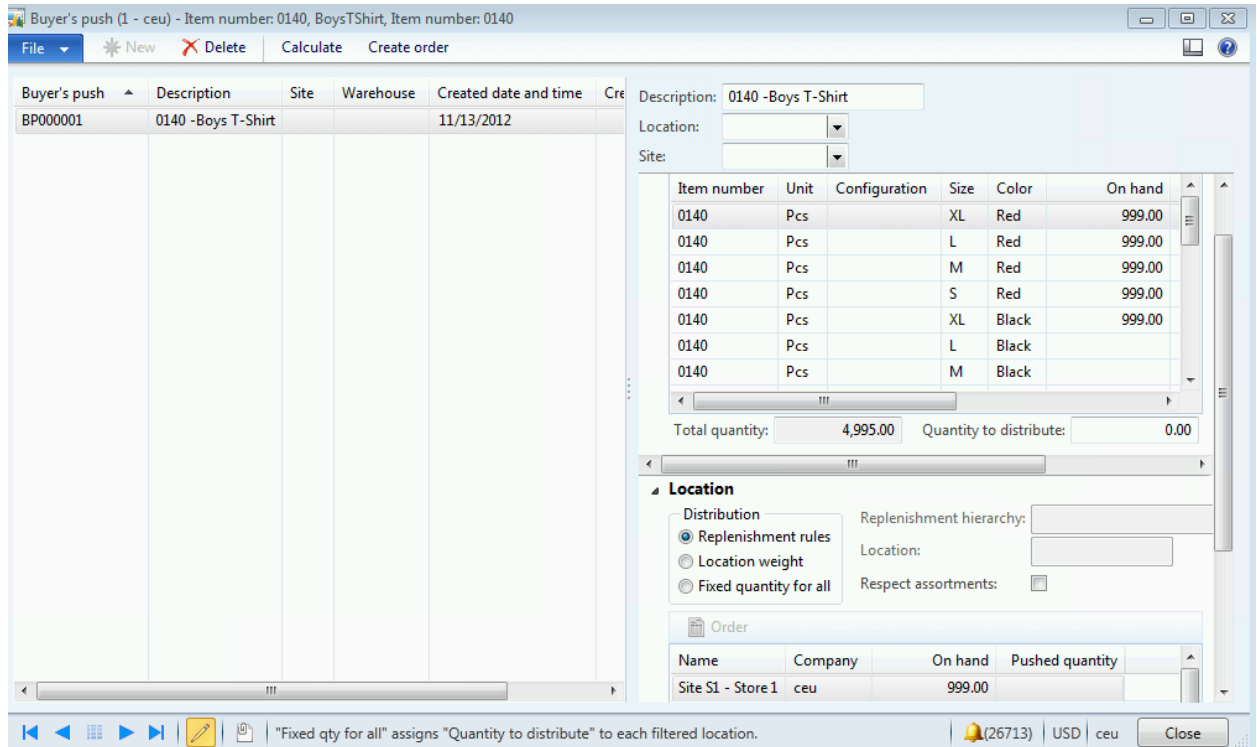
## 20.5.13 INQUIRE COMPETITOR PRICES

Select the product from the **Released products by category** form.

On the **Released product details** form, click **Competitor prices** on the **Inquires** group from the **Retail** tab.
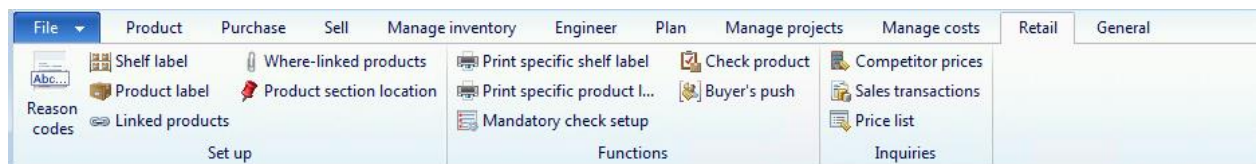


The **Competitor prices** form opens.

1. Select the retail **Item number** from the drop-down list. By default, the item number is that of the selected item.

2. Notice the **Product name** field is populated based on the retail item selected.

3. Select the **Competitor group** from the drop-down list.

4. Enter the **Price** offered by the competitor for the retail product.

5. Enter the **Last checked date** for the price of the retail product.

6. In the **General** area, enter the **Date of price** when the price of the retail product was first entered.



## 20.5.14     INQUIRE SALES TRANSACTIONS

Select the product from the **Released products by category** form.

On the **Released product details** form, click **Sales transactions** on the **Inquires** group from the **Retail** tab.
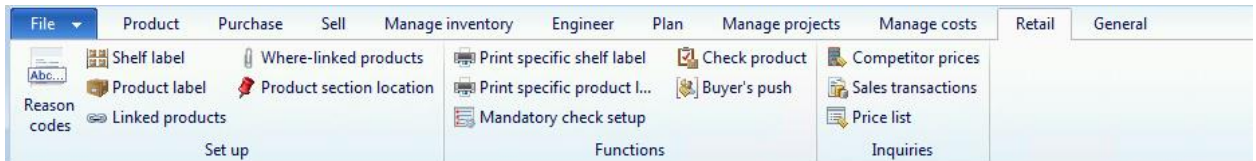


The **Sales transactions** form opens.

The **Overview** tab lists all the transactions associated with the retail product. Basic information like the entry status, receipt number, and transaction date and time are displayed.
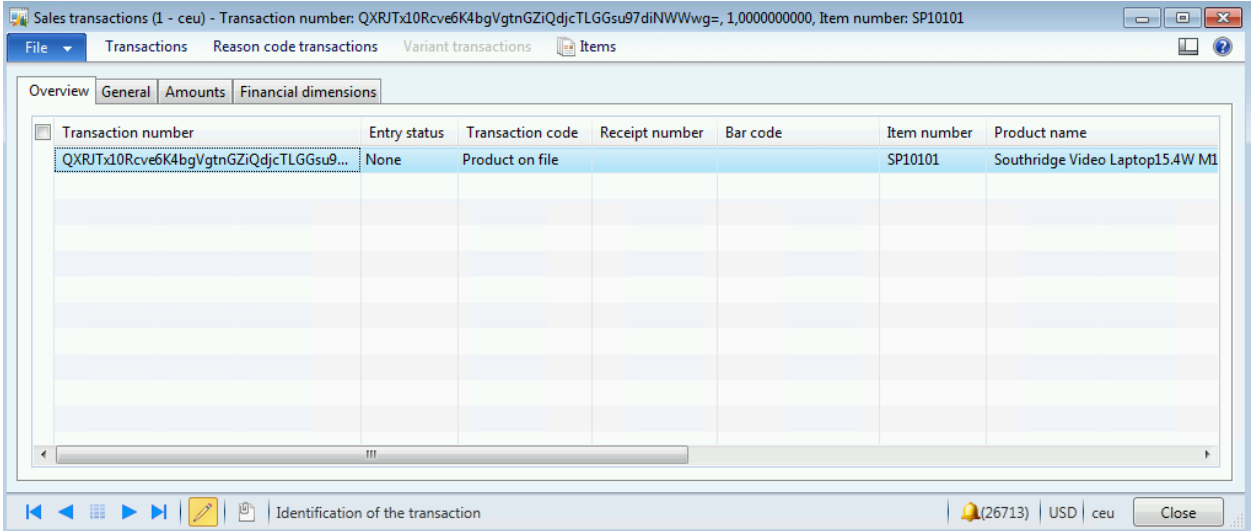
The **General** tab provides information regarding the product, the statement number, sales origin, shift the transaction belongs to, and the details of the sale.
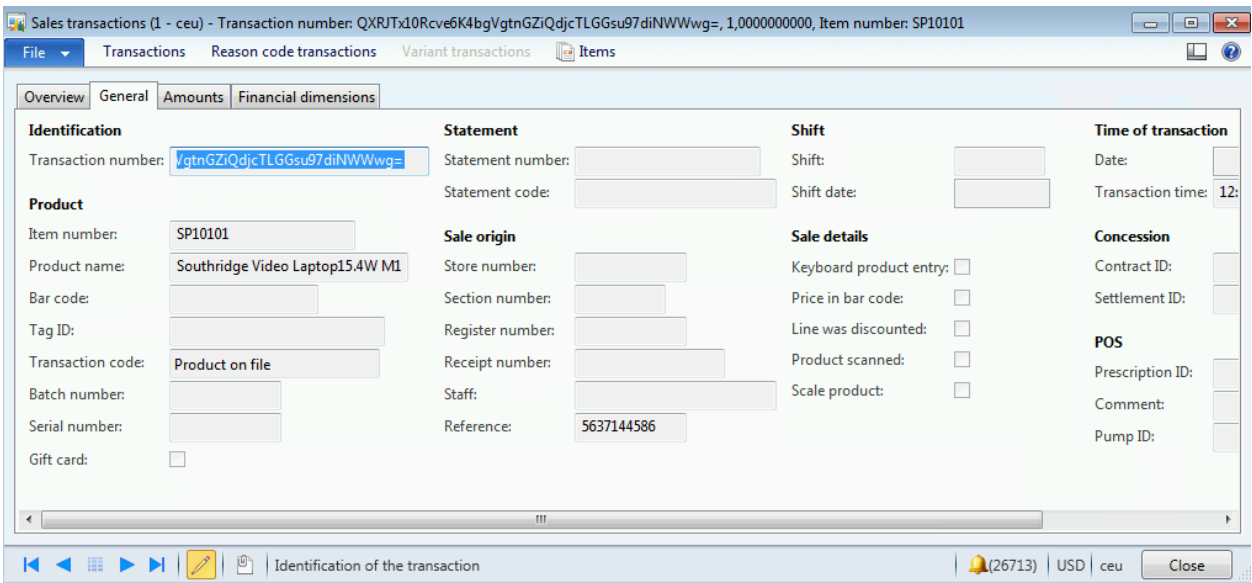


The **Amounts** tab provides monetary details with totals on quantity, net amount, price, and tax. Information regarding discounts applied on the items is also provided.

The **Financial dimensions** tab displays the financial dimensions associated with the transaction header.



Click **Transactions** on the top of the form the view transaction details.

To view the reason code transaction and variant transactions, click the **Reason code transaction** and **Variant transactions** buttons.

Click **Items** to open the item form.

## 20.5.15     INQUIRE PRICE LIST

Select the product from the **Released products by category** form.

On the **Released product details** form, click **Price list** on the **Inquires** group from the **Retail** tab.
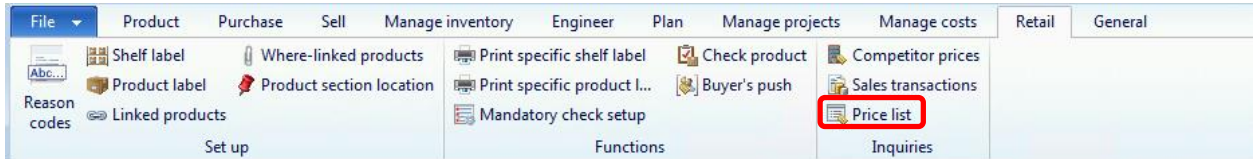


The price list form opens displaying the following information:

- The **name** of the stores that carry the retail product.

- The **Operating unit number** of the stores.

- The **Currency** of the store.

- The **Price** of the product, which is the recommended retail price (RRP).

- The **Price adjustments** numbers, indicating that price discounts are currently active for the product at the retail store.

- The **Discount offers** numbers, indicating that promotions are currently active for the product at the retail store.

## PRICING AND DISCOUNTS

## OVERVIEW

This module describes how price adjustments and discounts can be applied to products, variants, retail hierarchies, or all items in the store. If more than one discount applies to a product, a customer may receive either one discount or a combined discount. Microsoft Dynamics AX for Retail POS automatically applies the discount or combination of discounts that gives the best price to the customer.

Price and discounts can be for set up to a line item or a transaction at the point of sale. Both price adjustments and discounts can be based on specific price groups or currencies. You can also to specify start dates and end dates.

**Note**
- Before you set up a price adjustment or a discount, confirm that price groups are assigned to the correct stores.
- You can delete a price adjustment or a discount. However, the statistical information is lost.

## 20.6 DISCOUNT SETUP

This procedure can be used for both price adjustments and discounts, because the same options and the same possible settings apply to both.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

1. Click **Retail** > **Common** > **Pricing and discounts** > **Discount**.

   On this screen, promotion can be set for all items or for any of the hierarchy levels, division departments, and category or retail groups.

2. Click **New** to create a new price adjustment or discount. Then, in the **Discount** field, type an ID number for the price adjustment or discount.

3. Enter the **Name** of the discount or the price adjustment.

4. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the price adjustment or discount.

5. Under the **Currency** area, select the currency from the drop-down list.

6. Under the **Concurrency** area, select the **Discount concurrency mode** from the drop-down list. The options available are as follows:

   - **Exclusive**: The Exclusive option will apply just a single discount that is exclusive to the promotion.

   - **Best price**: The best price option picks the best price from multiple discounts available.

   - **Compounded**: The compounded discount will apply the multiple discounts one after another in progression.

7. Under the **Retail price group** area select the **Price group** from the drop-down list for stores that the price adjustment or discount applies to.

8. Depending on your version of the program, do one of the following:

- o In Microsoft Dynamics AX 2012 R2: In the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

  In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer

- o Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



9. On the **Details** FastTab, in the **Description** field, type a description. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.
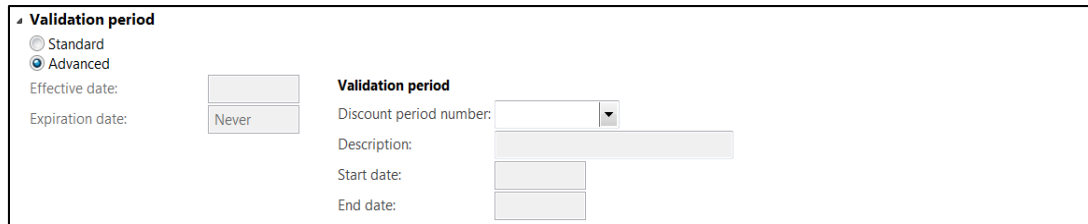


10. On the **Price/Discount** FastTab, in the **Discount type** field, type the percentage of the price reduction. This value is used as a template when new lines are added.

11. On the **Validation period** FastTab, select **Standard** to specify an Effective date and an expiry date, or select **Advanced** to select a predefined discount period.



12. On the **Lines** FastTab, click **Add** to add a single product to the price adjustment or discount. To add multiple products, click **Add products**.

13. Select the Category hierarchy from the **Category** drop-down list.

14. Select the **Product** from the drop-down list.

15. Select the **Product variant** from the drop-down list if the product selected is a product master.

16. The **Name** field will display the description of the product selected.

17. Select the **Unit** of measure for the product from the drop-down list.

18. On each line, in the **Discount method** field, select one of the following methods. Then specify a value in the corresponding column.

    o **Discount percentage** – A percentage is deducted from the price of the product.

    o **Cash discount amount** – An amount is deducted from the price of the product.

    o **Discount price** – A new price is used for the product.

    o **Discount price incl. tax** – A new price that includes sales tax is used for the product.

19. On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

20. Enter the **Discount percentage** if the discount method selected is discount percent.

21. Enter the **Cash discount amount** value if the discount method selected is discount amount.

22. Enter the **Discount price** value if the discount method selected is discount price value.

23. Enter the **Discount price incl. tax** value if the discount method selected is discount price including tax.

24. Click **Add all variants** to automatically add a row for each variant associated with the product.



## 20.7 DISCOUNT PERIODS

A discount period defines the period during which a price adjustment or discount is valid. For example, if multiple discounts are in effect during a particular period, you can assign one discount period to all the discounts.

1. Click **Retail** > **Setup** > **Pricing and discounts** > **Discount period**.
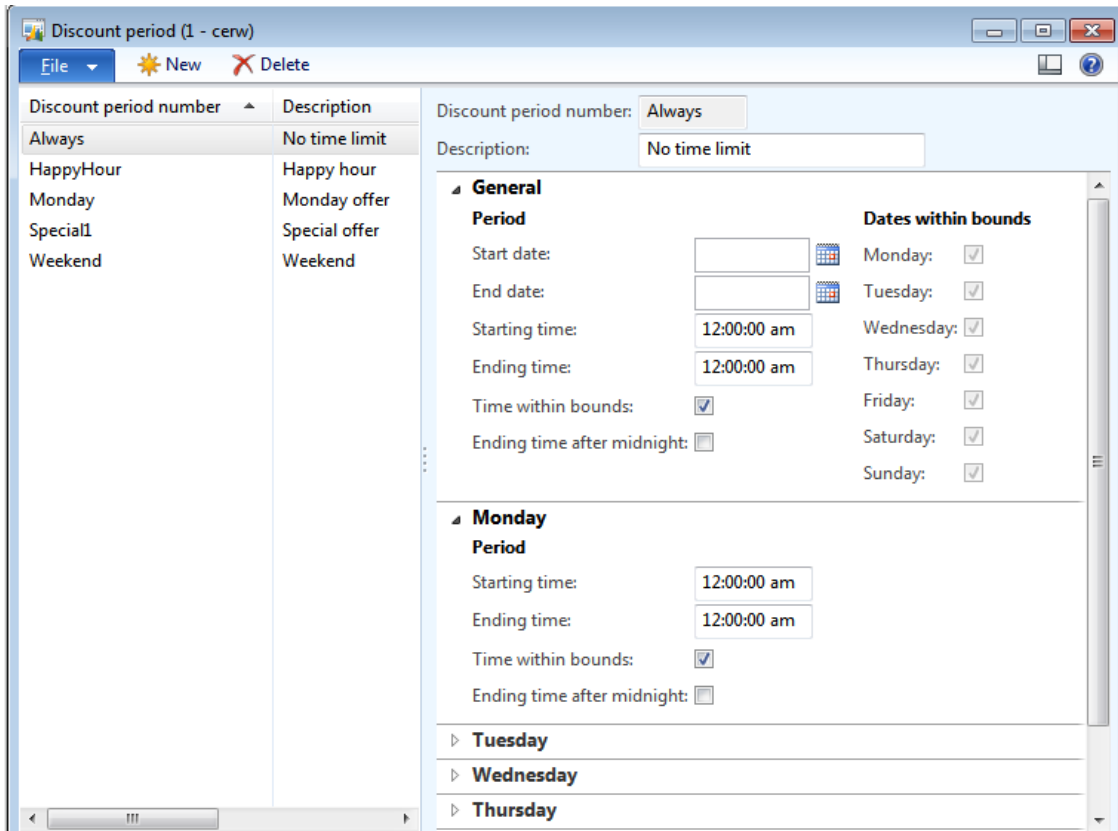
2. Click **New** to create a new discount period.

3. In the **Discount period number** field, type a unique ID number, and then, in the **Description** field, type a brief description.

4. On the **General** FastTab, enter the following information, as necessary:

   o **Start date** – Enter the date that the discount period starts.

   o **End date** – Enter the date that the discount period ends.

   o **Starting time** – Enter the time that the discount period starts.

   o **Ending time** – Enter the time that the discount period ends.

   o **Time within bounds** – Select this check box if the start date and end date are included in the discount period.

   o **Ending time after midnight** – Select this check box if the end time of the discount period is after midnight, or on in the next day.

- o **Dates within bounds** – Select the check box for each day that is included in the discount period.

5. On the FastTab for each day of the week, enter the following information, as necessary. For example, you might want the discount period to be in effect during different hours on different days.

- o **Starting time** – Enter the time that the discount period starts on this day.

- o **Ending time** – Enter the time that the discount period ends on this day.

- o **Time within bounds** – Select this check box if the start time and end time are included in the discount period.

- o **Ending time after midnight** – Select this check box if the end time of the discount period is after midnight, or on the next day.

## 20.8 QUANTITY DISCOUNT

A quantity discount is a discount that is given to customers when they purchase a particular quantity of a product.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

1. Click **Retail** > **Common** > **Pricing and discounts** > **Quantity discount**.

2. Click **New** to create a new quantity discount. Then, in the **Discount** field, type an ID number for the discount.

3. Enter the **Name** of the quantity discount.

4. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the discount.

5. Under the **Currency** area select the **Currency** from the drop-down list.

6. Under the Concurrency area select the Discount concurrency mode from the drop-down list. The options available are as follows:

   - **Exclusive**: The **Exclusive** option will apply just a single discount, which is exclusive to the promotion.

   - **Best price**: The **Best price** option picks the best price from multiple discounts available.

   - **Compounded**: The **Compounded discount** option will apply the multiple discounts one after another.

7. In the **Price group** field, select the price group for the stores that the discount applies to.

8. Depending on your version of the program, do one of the following:
    1. In Microsoft Dynamics AX 2012 R2: In the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

        In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer.

2. Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



9. On the **Details** FastTab, in the **Description** field, type a description of the quantity discount. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.
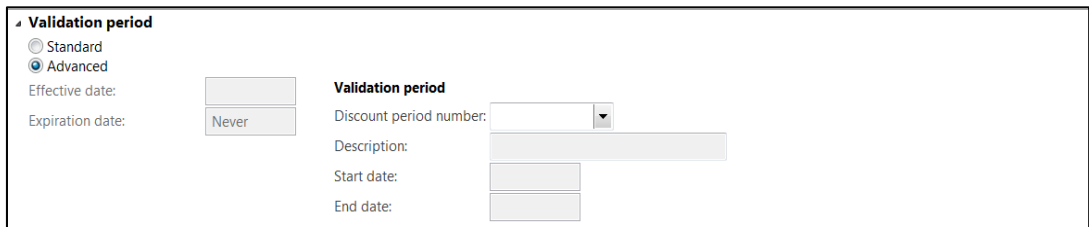
10. On the **Price/Discount** FastTab, in the **Discount type** field, select **Discount %** to calculate the discount prices as percentage discounts. To enter specific prices for quantities of the item, select **Unit price**.
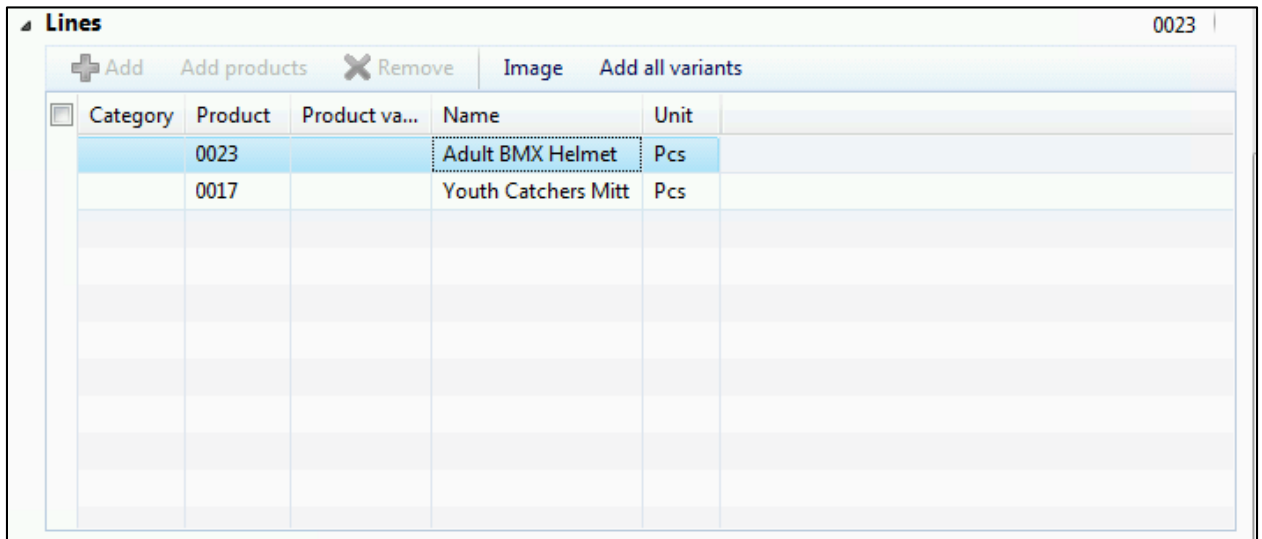


11. On the **Validation period** FastTab, select **Standard** to specify an effective date and expiration date for the discount. To select a predefined discount period, select **Advanced**.
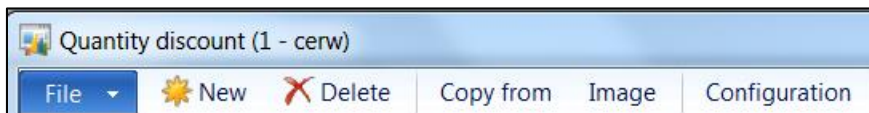


12. On the **Lines** FastTab, click **Add** to add a single product to the discount. To add multiple products, click **Add products**.



13. Click **Configuration from the top tool bar.**



14. Enter the **Minimum quantity** that the customer must buy to qualify for the discount.

15. In the **Disc. %** field, enter the percentage of the discount.

16. If you want the discount that is given to increase as the quantities that are purchased increase, press CTRL+N to create another minimum quantity. Then, enter the amount or percentage of the discount for that quantity.



On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

## 20.9 MIX AND MATCH DISCOUNT

A mix and match discount gives customers a discount when they purchase a specific combination of products. For example, a customer purchases two boxes of tea and receives 50 percent off the price of a third box. Products and variants can be included in mix and match discounts.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other discount.

1. Click **Retail** > **Common** > **Pricing and discounts** > **Mix and match**.
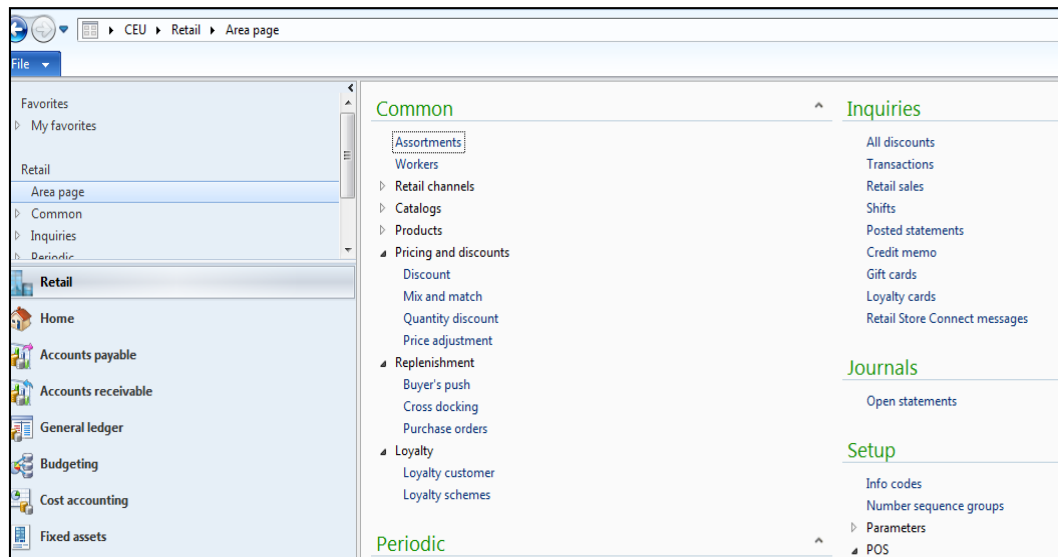


2. Click **New** to create a new mix and match discount. Then, in the **Discount** field, type an ID number for the discount.

3. Enter the **Name** of the mix and match discount.
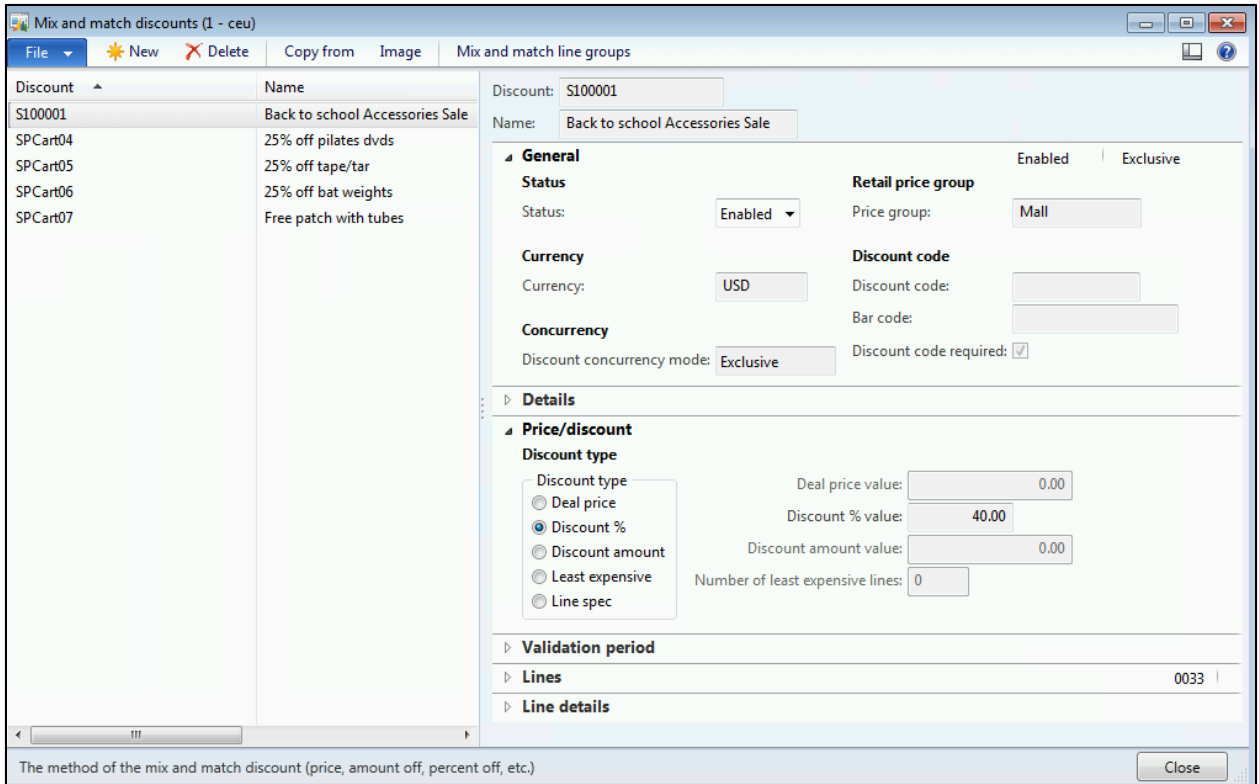
4. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the discount.

5. Under the **Currency** area, select the **Currency** from the drop-down list.

6. Under the **Concurrency** area, select the **Discount concurrency mode** and set it to **Exclusive**.

7. In the **Price group** field, select the price group for the stores that the discount applies to.

8. Depending on your version of the program, do one of the following:
   o In Microsoft Dynamics AX 2012 R2, in the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

      In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer

- o Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



9. On the **Details** FastTab, in the **Description** field, type a description for the discount. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.



10. On the **Price/Discount** FastTab, in the **Discount type** field, follow one of these steps:

- o Select **Deal price**. Then, in the **Deal price value incl. VAT** field, type the specific price of the discounted total. The **Deal price value incl. VAT** field is used for both tax-inclusive and tax-exclusive configurations. Depending on store settings, the price either includes or excludes tax.

- o Select **Discount %**. Then, in the **Discount % value** field, type the percentage of the discount. For example, the usual price of product A is 40.00, and the usual price of product B is 60.00. A mix and match discount of 30 percent applies to these products. Therefore, if a customer buys product A and product B together, the cost is 70.00 instead of 100.00.

      o   Select **Discount amount**. Then, in the **Discount amount value incl. VAT** field, type the specific amount of the discount.

      o   Select **Least expensive**. Then, in the **Number of least expensive lines** field, type the number of least-expensive products that are free.

      o   Select **Line spec**. Then specify the discount or price per product.

11. In the **Number of times applicable** field, type the number of times that the discount can be applied to the items.



12. On the **Validation period** FastTab, select **Standard** to specify an **Effective date** and **Expiration date** for the discount. Or, select **Advanced** to select a predefined discount period.
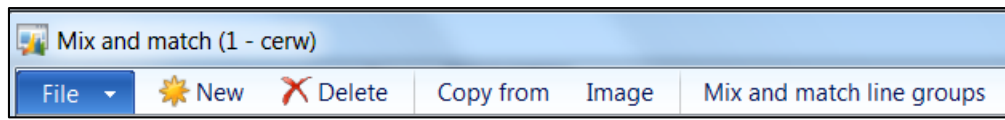


13. On the **Lines** FastTab, click **Add** to add a single category, product, or variant to the discount. Or, click **Add products** to add multiple categories and products.

14. Click **Add all variants** to automatically add a row for each variant associated with the product.

15. Click **Mix and match line groups**, and then select among the predefined line groups. Then, in the **Number of products needed** field, type the quantity of the product that the customer must purchase to qualify for the discount.



16. Select the **Line group** from the drop-down list.

17. Enter the **Number of products needed** in the line group to qualify for the discount.

18. In the **Line color** field, select a color.

📝 **Tip**

Select a different color for each line group, so that you can easily distinguish the various line groups at the point of sale.

19. For each line that is added to the mix and match discount, if the product must be included in a line group, select the line group.

On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

## 20.10 PRICE ADJUSTMENT

If you want to create a new price adjustment that resembles an existing one, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

25. Click **Retail** > **Common** > **Pricing and discounts** > **Price adjustment**.

On this screen, promotion can be set for all items or for any of the hierarchy levels, division departments, and category or retail groups.

26. Click **New** to create a new price adjustment or discount. Then, in the **Discount** field, type an ID number for the price adjustment or discount.

27. Enter the **Name** of the discount or the price adjustment.

28. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the price adjustment or discount.

29. In the **Currency** area, select the **Currency** from the drop-down list.

30. In the **Concurrency** area, select the Discount concurrency mode from the drop-down list. The options available are as follows:

   - **Exclusive**: The **Exclusive** option will apply just a single discount that is exclusive to the promotion.

   - **Best price**: The **Best price** option picks the best price from multiple discounts available.

   - **Compounded**: The **Compounded discount** applies the multiple discounts one after another.
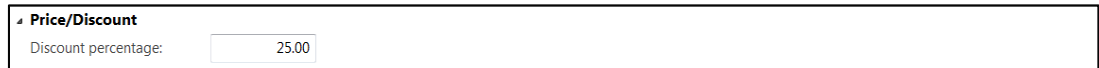
31. In the **Retail price group** area, select the **Price group** from the drop-down list for stores that the price adjustment or discount applies to.

32. On the **Details** FastTab, in the **Description** field, type a description. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.



33. On the **Price/Discount** FastTab, in the **Discount type** field, type the percentage of the price reduction. This value is used as a template when new lines are added.



34. On the **Validation period** FastTab, select **Standard** to specify an **Effective date** and an **Expiration date**, or select **Advanced** to select a predefined discount period.



35. On the **Lines** FastTab, click **Add** to add a single product to the price adjustment or discount. To add multiple products, click **Add products**.

36. Select the Category hierarchy from the **Category** drop-down list.

37. Select the **Product** from the drop-down list.

38. Select the **Product variant** from the drop-down list if the product selected is a product master.

39. Be aware that the **Name** field will display the description of the product selected.

40. Select the **Unit** of measure for the product from the drop-down list.

41. On each line, in the **Discount method** field, select one of the following methods. Then specify a value in the corresponding column.

- o **Discount percentage**. A percentage is deducted from the price of the product.

- o **Cash Discount amount**. An amount is deducted from the price of the product.

- o **Discount price**. A new price is used for the product.

- o **Discount price incl. tax**. A new price that includes sales tax is used for the product.

42. On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

43. Enter the **Discount percentage** if the discount method selected is discount percent.

44. Enter the **Cash Discount amount** value if the discount method selected is discount amount.

45. Enter the **Discount price** value if the discount method selected is discount price value.

46. Enter the **Discount price incl. tax** value if the discount method selected is discount price including tax.

47. Click **Add all variants** to automatically add a row for each variant associated with the product.

| | Category | Product | Product va... | Name | Unit | Discount method | Discount perc... | Cash discoun... | Discount price | Discount price including tax |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 0016 | | Adult Catchers Mitt | Pcs | Discount percentage | 40.00 | 0.00 | 0.00 | 0.00 |
| | | 0017 | | Youth Catchers Mitt | Pcs | Discount percentage | 30.00 | 0.00 | 0.00 | 0.00 |

## PRICING AND DISCOUNTS

## OVERVIEW

In this module, we will discuss how price adjustments and discounts can be applied to products, variants, retail hierarchies, or all items in the store. If more than one discount applies to a product, a customer may receive either one discount or a combined discount. Microsoft Dynamics AX for Retail POS automatically applies the discount or combination of discounts that gives the best price to the customer.

Price and discounts can be for set up to a line item or a transaction at the point of sale. Both price adjustments and discounts can be based on specific price groups or currencies. You can also to specify start dates and end dates.

📝 **Note**
* Before you set up a price adjustment or a discount, confirm that price groups are assigned to the correct stores.
* You can delete a price adjustment or a discount. However, the statistical information is lost.

## 20.11 DISCOUNT SETUP

This procedure can be used for both price adjustments and discounts, because the same options and the same possible settings apply to both.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

48. Click **Retail** > **Common** > **Pricing and discounts** > **Discount**.

   On this screen, promotion can be set for all items or for any of the hierarchy levels, division departments, and category or retail groups.

49. Click **New** to create a new price adjustment or discount. Then, in the **Discount** field, type an ID number for the price adjustment or discount.

50. Enter the **Name** of the discount or the price adjustment.

51. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the price adjustment or discount.

52. Under the **Currency** area, select the currency from the drop-down list.

53. Under the **Concurrency** area, select the **Discount concurrency mode** from the drop-down list. The options available are as follows:

   - **Exclusive**: The Exclusive option will apply just a single discount that is exclusive to the promotion.

   - **Best price**: The best price option picks the best price from multiple discounts available.

   - **Compounded**: The compounded discount will apply the multiple discounts one after another in progression.

54. Under the **Retail price group** area select the **Price group** from the drop-down list for stores that the price adjustment or discount applies to.

55. Depending on your version of the program, do one of the following:

     o   In Microsoft Dynamics AX 2012 R2: In the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer

     o   Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



56. On the **Details** FastTab, in the **Description** field, type a description. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.



57. On the **Price/Discount** FastTab, in the **Discount type** field, type the percentage of the price reduction. This value is used as a template when new lines are added.

58. On the **Validation period** FastTab, select **Standard** to specify an Effective date and an expiry date, or select **Advanced** to select a predefined discount period.



59. On the **Lines** FastTab, click **Add** to add a single product to the price adjustment or discount. To add multiple products, click **Add products**.

60. Select the Category hierarchy from the **Category** drop-down list.

61. Select the **Product** from the drop-down list.

62. Select the **Product variant** from the drop-down list if the product selected is a product master.

63. The **Name** field will display the description of the product selected.

64. Select the **Unit** of measure for the product from the drop-down list.

65. On each line, in the **Discount method** field, select one of the following methods. Then specify a value in the corresponding column.

    o **Discount percentage** – A percentage is deducted from the price of the product.

    o **Cash discount amount** – An amount is deducted from the price of the product.

    o **Discount price** – A new price is used for the product.

    o **Discount price incl. tax** – A new price that includes sales tax is used for the product.

66. On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

67. Enter the **Discount percentage** if the discount method selected is discount percent.

68. Enter the **Cash discount amount** value if the discount method selected is discount amount.

69. Enter the **Discount price** value if the discount method selected is discount price value.

70. Enter the **Discount price incl. tax** value if the discount method selected is discount price including tax.

71. Click **Add all variants** to automatically add a row for each variant associated with the product.



## 20.12     DISCOUNT PERIODS

A discount period defines the period during which a price adjustment or discount is valid. For example, if multiple discounts are in effect during a particular period, you can assign one discount period to all the discounts.

6. Click **Retail** > **Setup** > **Pricing and discounts** > **Discount period**.
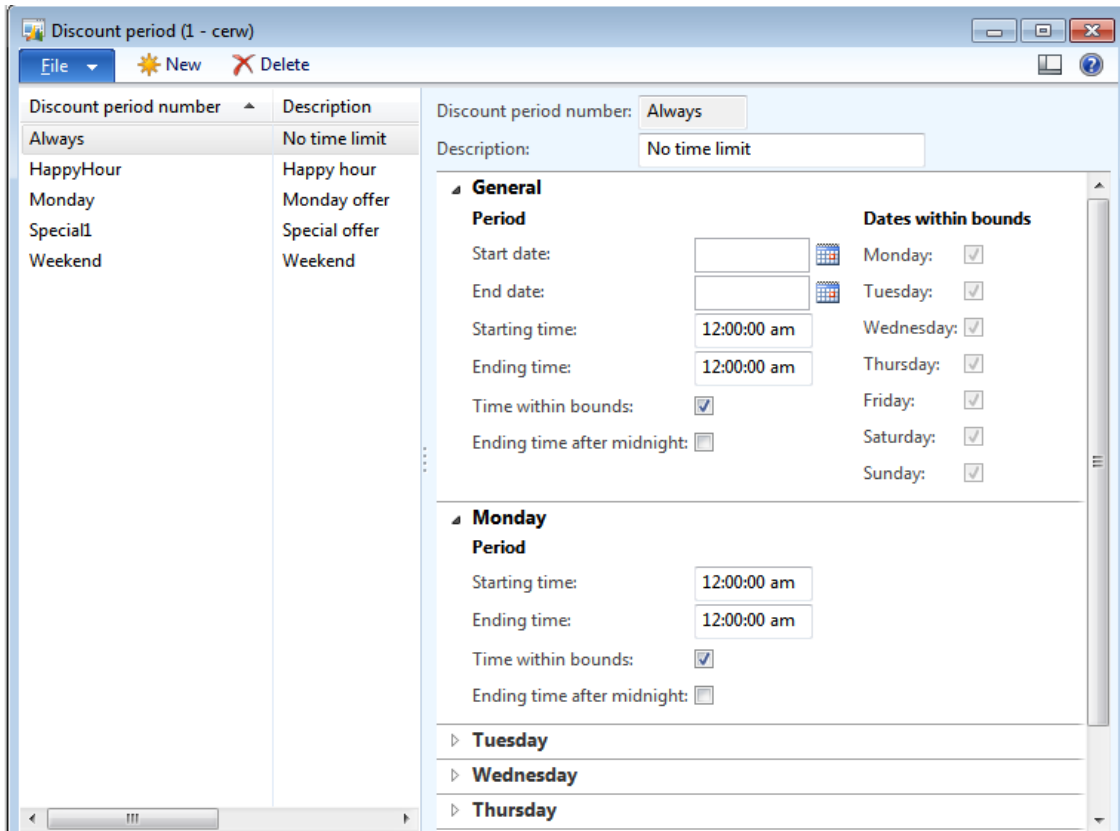
7. Click **New** to create a new discount period.

8. In the **Discount period number** field, type a unique ID number, and then, in the **Description** field, type a brief description.

9. On the **General** FastTab, enter the following information, as necessary:

   o **Start date** – Enter the date that the discount period starts.

   o **End date** – Enter the date that the discount period ends.

   o **Starting time** – Enter the time that the discount period starts.

   o **Ending time** – Enter the time that the discount period ends.

   o **Time within bounds** – Select this check box if the start date and end date are included in the discount period.

   o **Ending time after midnight** – Select this check box if the end time of the discount period is after midnight, or on in the next day.

o **Dates within bounds** – Select the check box for each day that is included in the discount period.

10. On the FastTab for each day of the week, enter the following information, as necessary. For example, you might want the discount period to be in effect during different hours on different days.

   o **Starting time** – Enter the time that the discount period starts on this day.

   o **Ending time** – Enter the time that the discount period ends on this day.

   o **Time within bounds** – Select this check box if the start time and end time are included in the discount period.

   o **Ending time after midnight** – Select this check box if the end time of the discount period is after midnight, or on the next day.

## 20.13    QUANTITY DISCOUNT

A quantity discount is a discount that is given to customers when they purchase a particular quantity of a product.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

17. Click **Retail** > **Common** > **Pricing and discounts** > **Quantity discount**.

18. Click **New** to create a new quantity discount. Then, in the **Discount** field, type an ID number for the discount.

19. Enter the **Name** of the quantity discount.

20. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the discount.

21. Under the **Currency** area select the **Currency** from the drop-down list.

22. Under the Concurrency area select the Discount concurrency mode from the drop-down list. The options available are as follows:

- **Exclusive**: The **Exclusive** option will apply just a single discount, which is exclusive to the promotion.

- **Best price**: The **Best price** option picks the best price from multiple discounts available.

- **Compounded**: The **Compounded discount** option will apply the multiple discounts one after another.

23. In the **Price group** field, select the price group for the stores that the discount applies to.

24. Depending on your version of the program, do one of the following:

    1. In Microsoft Dynamics AX 2012 R2: In the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

       In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer.

    2. Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



25. On the **Details** FastTab, in the **Description** field, type a description of the quantity discount. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.

26. On the **Price/Discount** FastTab, in the **Discount type** field, select **Discount %** to calculate the discount prices as percentage discounts. To enter specific prices for quantities of the item, select **Unit price**.



27. On the **Validation period** FastTab, select **Standard** to specify an effective date and expiration date for the discount. To select a predefined discount period, select **Advanced**.



28. On the **Lines** FastTab, click **Add** to add a single product to the discount. To add multiple products, click **Add products**.



29. Click **Configuration from the top tool bar.**



30. Enter the **Minimum quantity** that the customer must buy to qualify for the discount.

31. In the **Disc. %** field, enter the percentage of the discount.

32. If you want the discount that is given to increase as the quantities that are purchased increase, press CTRL+N to create another minimum quantity. Then, enter the amount or percentage of the discount for that quantity.



On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

## 20.14 MIX AND MATCH DISCOUNT

A mix and match discount gives customers a discount when they purchase a specific combination of products. For example, a customer purchases two boxes of tea and receives 50 percent off the price of a third box. Products and variants can be included in mix and match discounts.

If you want to create a new discount that resembles an existing discount, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other discount.

20. Click **Retail** > **Common** > **Pricing and discounts** > **Mix and match**.
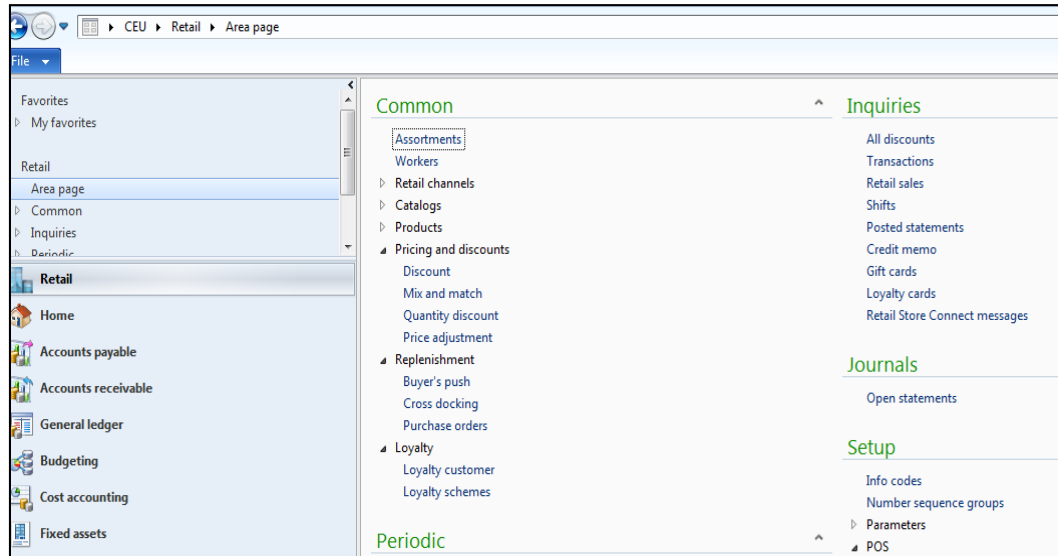


21. Click **New** to create a new mix and match discount. Then, in the **Discount** field, type an ID number for the discount.

22. Enter the **Name** of the mix and match discount.
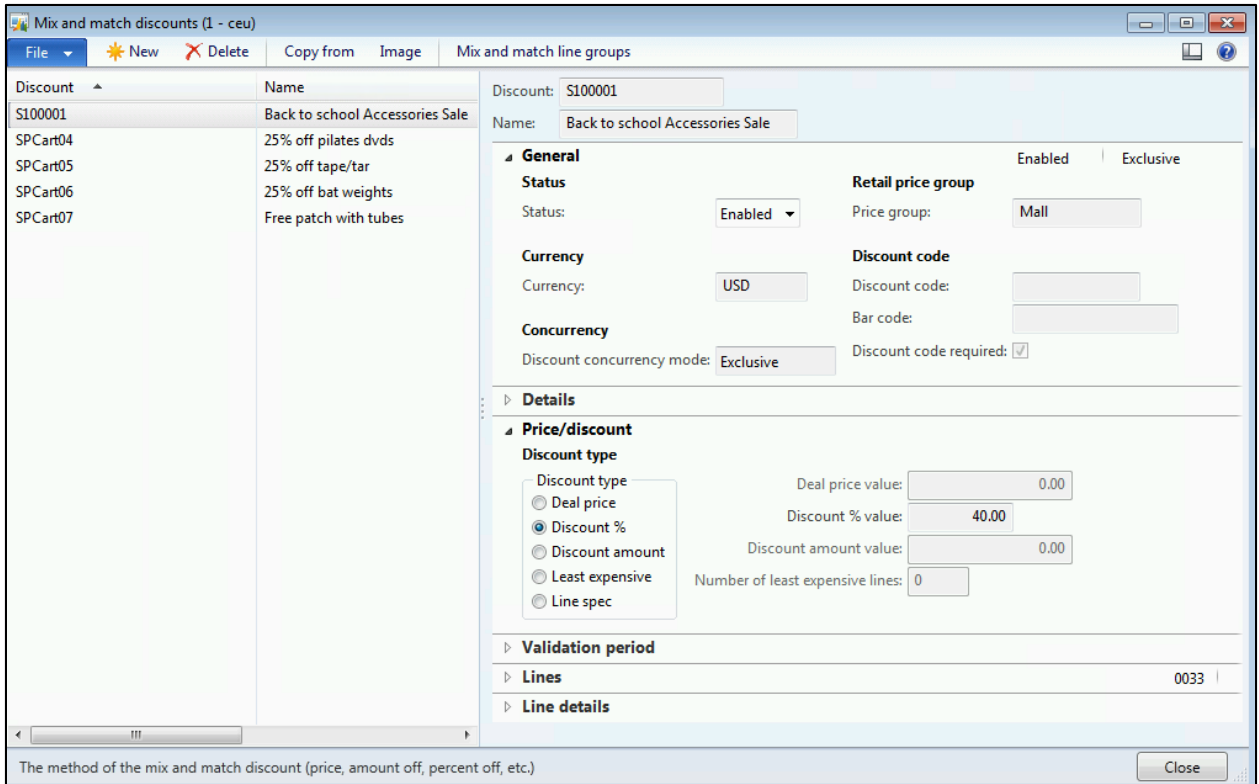
23. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the discount.

24. Under the **Currency** area, select the **Currency** from the drop-down list.

25. Under the **Concurrency** area, select the **Discount concurrency mode** and set it to **Exclusive**.

26. In the **Price group** field, select the price group for the stores that the discount applies to.

27. Depending on your version of the program, do one of the following:
    o In Microsoft Dynamics AX 2012 R2, in the **Discount code** field, enter a discount code. This code is used to apply the discount offer to purchases. The discount code can be used for promotions in Sites Services for Microsoft Dynamics ERP, retail stores, and online stores.

    In the **Bar code** field, a bar code is automatically generated for the discount code. This bar code must be entered or scanned in the point of sale (POS) system to apply the discount to the purchase.

**Note**

For promotions, if you enter a value in the **Discount code** field, the value that you enter is the discount code that is published to the customer. Leave this field blank to use number sequences and bar codes to automatically generate a discount code that is published to the customer

- o Otherwise, select the **Discount code required** check box to indicate that the discount code must be entered to apply the discount.



28. On the **Details** FastTab, in the **Description** field, type a description for the discount. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.



29. On the **Price/Discount** FastTab, in the **Discount type** field, follow one of these steps:

- o Select **Deal price**. Then, in the **Deal price value incl. VAT** field, type the specific price of the discounted total. The **Deal price value incl. VAT** field is used for both tax-inclusive and tax-exclusive configurations. Depending on store settings, the price either includes or excludes tax.

- o Select **Discount %**. Then, in the **Discount % value** field, type the percentage of the discount. For example, the usual price of product A is 40.00, and the usual price of product B is 60.00. A mix and match discount of 30 percent applies to these products. Therefore, if a customer buys product A and product B together, the cost is 70.00 instead of 100.00.

- o Select **Discount amount**. Then, in the **Discount amount value incl. VAT** field, type the specific amount of the discount.

- o Select **Least expensive**. Then, in the **Number of least expensive lines** field, type the number of least-expensive products that are free.

- o Select **Line spec**. Then specify the discount or price per product.

30. In the **Number of times applicable** field, type the number of times that the discount can be applied to the items.



31. On the **Validation period** FastTab, select **Standard** to specify an **Effective date** and **Expiration date** for the discount. Or, select **Advanced** to select a predefined discount period.



32. On the **Lines** FastTab, click **Add** to add a single category, product, or variant to the discount. Or, click **Add products** to add multiple categories and products.

33. Click **Add all variants** to automatically add a row for each variant associated with the product.

34. Click **Mix and match line groups**, and then select among the predefined line groups. Then, in the **Number of products needed** field, type the quantity of the product that the customer must purchase to qualify for the discount.



35. Select the **Line group** from the drop-down list.

36. Enter the **Number of products needed** in the line group to qualify for the discount.

37. In the **Line color** field, select a color.

📝 **Tip**

Select a different color for each line group, so that you can easily distinguish the various line groups at the point of sale.

38. For each line that is added to the mix and match discount, if the product must be included in a line group, select the line group.
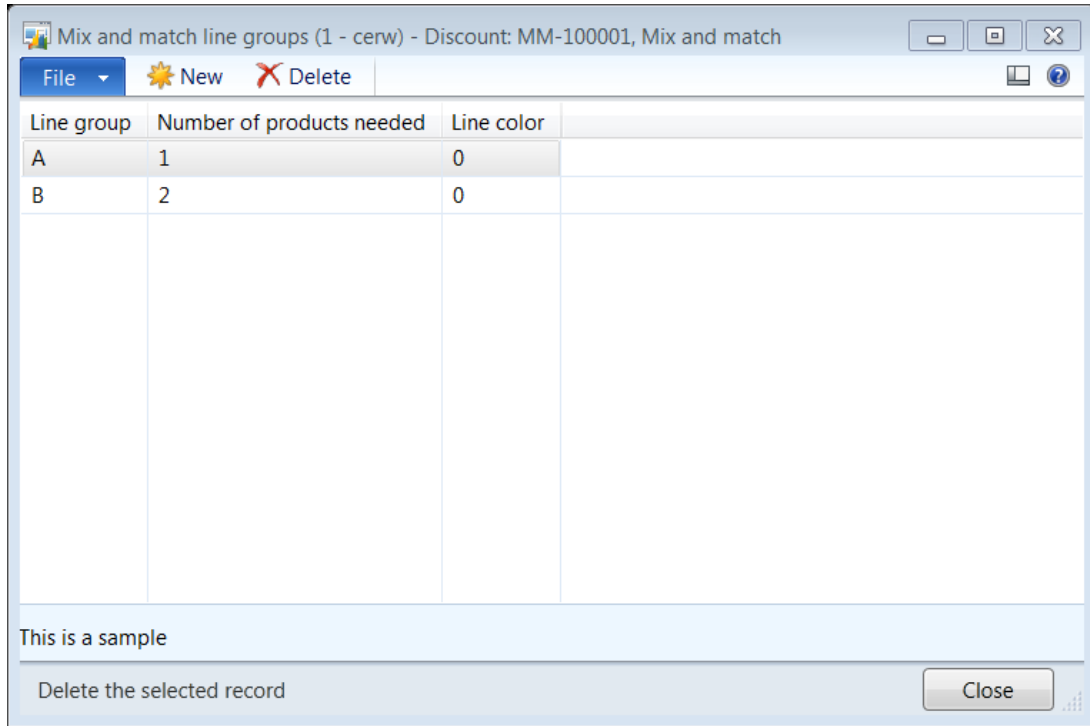
On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

## 20.15 PRICE ADJUSTMENT

If you want to create a new price adjustment that resembles an existing one, you can save time by clicking **Copy from**. All the settings and products are then copied from one discount to the other.

72. Click **Retail** > **Common** > **Pricing and discounts** > **Price adjustment**.

On this screen, promotion can be set for all items or for any of the hierarchy levels, division departments, and category or retail groups.
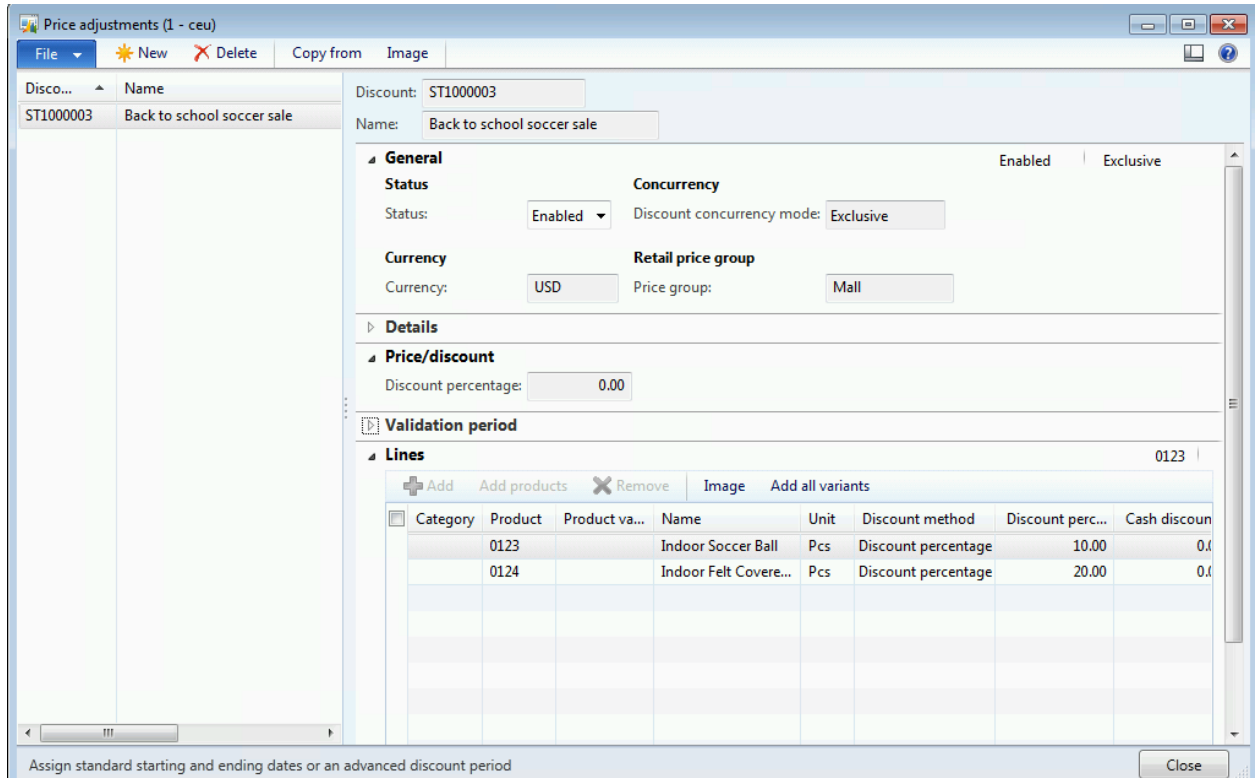
73. Click **New** to create a new price adjustment or discount. Then, in the **Discount** field, type an ID number for the price adjustment or discount.

74. Enter the **Name** of the discount or the price adjustment.

75. On the **General** FastTab, in the **Status** field, select **Enabled** or **Disabled** to enable or disable the price adjustment or discount.

76. In the **Currency** area, select the **Currency** from the drop-down list.

77. In the **Concurrency** area, select the Discount concurrency mode from the drop-down list. The options available are as follows:

- **Exclusive**: The **Exclusive** option will apply just a single discount that is exclusive to the promotion.

- **Best price**: The **Best price** option picks the best price from multiple discounts available.

- **Compounded**: The **Compounded discount** applies the multiple discounts one after another.

78. In the **Retail price group** area, select the **Price group** from the drop-down list for stores that the price adjustment or discount applies to.

79. On the **Details** FastTab, in the **Description** field, type a description. Then, in the **Disclaimer** field, type any disclaimer that is required. This disclaimer is used when the discount is published through Sites Services.

> ◢ **Details**
> Description:      Grand opening discount          Disclaimer:

80. On the **Price/Discount** FastTab, in the **Discount type** field, type the percentage of the price reduction. This value is used as a template when new lines are added.

> ◢ **Price/Discount**
> Discount percentage:          25.00

81. On the **Validation period** FastTab, select **Standard** to specify an **Effective date** and an **Expiration date**, or select **Advanced** to select a predefined discount period.

> ◢ **Validation period**
> ○ Standard
> ◉ Advanced
> Effective date:                    **Validation period**
> Expiration date:    Never       Discount period number:       ▼
>                                  Description:
>                                  Start date:
>                                  End date:

82. On the **Lines** FastTab, click **Add** to add a single product to the price adjustment or discount. To add multiple products, click **Add products**.

83. Select the Category hierarchy from the **Category** drop-down list.

84. Select the **Product** from the drop-down list.

85. Select the **Product variant** from the drop-down list if the product selected is a product master.

86. Be aware that the **Name** field will display the description of the product selected.

87. Select the **Unit** of measure for the product from the drop-down list.

88. On each line, in the **Discount method** field, select one of the following methods. Then specify a value in the corresponding column.

- o **Discount percentage**. A percentage is deducted from the price of the product.

- o **Cash Discount amount**. An amount is deducted from the price of the product.

- o **Discount price**. A new price is used for the product.

- o **Discount price incl. tax**. A new price that includes sales tax is used for the product.

89. On the **Line details** FastTab, in the **Description** field, type a description of the line that is selected on the **Lines** FastTab.

90. Enter the **Discount percentage** if the discount method selected is discount percent.

91. Enter the **Cash Discount amount** value if the discount method selected is discount amount.

92. Enter the **Discount price** value if the discount method selected is discount price value.

93. Enter the **Discount price incl. tax** value if the discount method selected is discount price including tax.

94. Click **Add all variants** to automatically add a row for each variant associated with the product.

| ⊿ Lines | | | | | | | | 0016 |
|---|---|---|---|---|---|---|---|---|
| ➕ Add | Add products | ✖ Remove | Image | Add all variants | | | | |
| ☐ Category | Product | Product va... | Name | Unit | Discount method | Discount perc... | Cash discoun... | Discount price | Discount price including tax |
| | 0016 | | Adult Catchers Mitt | Pcs | Discount percentage | 40.00 | 0.00 | 0.00 | 0.00 |
| | 0017 | | Youth Catchers Mitt | Pcs | Discount percentage | 30.00 | 0.00 | 0.00 | 0.00 |

## LOYALTY

### OVERVIEW

This module explains how loyalty programs are structured marketing efforts that reward, and therefore, encourage loyal buying behavior—behavior that can be profitable for the company.

In marketing generally, and in retailing more specifically, a loyalty card, rewards card, points card, advantage card, or club card is a plastic card or paper card that identifies the cardholder as a member of a loyalty program.

A retail establishment or a retail group may issue a loyalty card to a consumer who can then use it as a form of identification when dealing with that retailer. By presenting the card, a customer is typically entitled to either a discount on the current purchase or an allotment of points that can be used for future purchases. The card issuer requests or requires customers seeking the issuance of a loyalty card to provide a usually minimal amount of identifying or demographic data, such as name and address.

Retail Headquarters can be set up so that customers collect points for the items that they are buying, depending on some criteria. The point calculation can be done in numerous ways. Swiping a card collects loyalty points. From the card number, from the items bought, and from how the transaction was paid, the program can calculate how many points were earned.

The following processes are required to set up a loyalty program:

i. Set up loyalty customers

ii. Set up loyalty schemes

### 20.16    LOYALTY CUSTOMERS

The loyalty system is based mainly on two operations:

- Accruing points when the customer buys products.

- Spending points when the accrued points are used to pay for the purchased items.

Accruing points requires a loyalty customer to be created.  Each loyalty customer can have a reference (optional) to a real customer in the system.  More than one loyalty customer can have a reference to the same real customer.

After the loyalty customer has been created, one or more loyalty cards can be issued to this loyalty customer.

Each of those loyalty cards have a reference to a loyalty scheme, which specify the points accruement rule, which defines how many points can be accrued and the range of products that qualify for the accrual. Each loyalty card is also identified in what way it is intended to be used-- accruing only, accruing and spending, and so on.
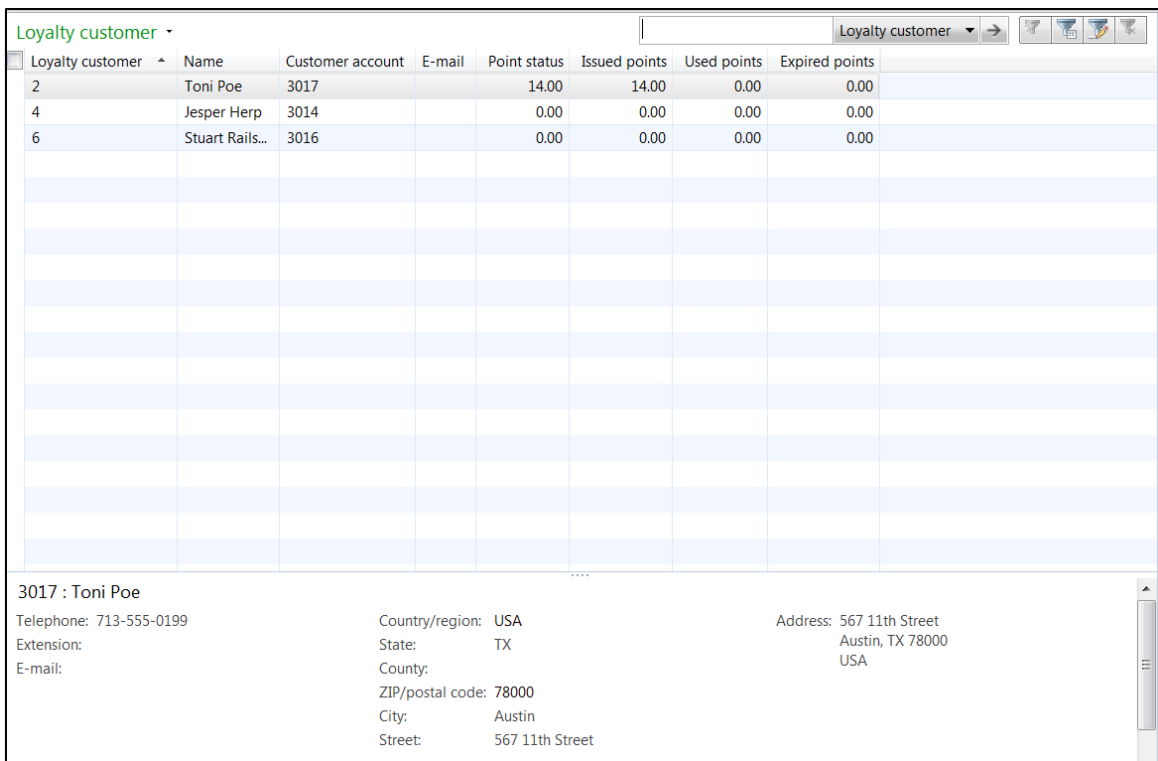
When a loyalty customer is created, the customer number sequence is retrieved from the store.

📝 Note

Make sure a customer name is linked to the customer record in Microsoft Dynamics AX to get the types of discounts that are already linked to a customer.

To view loyalty customers, click **Retail > Common > Loyalty > Loyalty customer**.

The loyalty customer form opens.

| Loyalty customer ▲ | Name | Customer account | E-mail | Point status | Issued points | Used points | Expired points |
|---|---|---|---|---|---|---|---|
| 2 | Toni Poe | 3017 | | 14.00 | 14.00 | 0.00 | 0.00 |
| 4 | Jesper Herp | 3014 | | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | Stuart Rails... | 3016 | | 0.00 | 0.00 | 0.00 | 0.00 |

3017 : Toni Poe

Telephone: 713-555-0199
Extension:
E-mail:

Country/region: USA
State: TX
County:
ZIP/postal code: 78000
City: Austin
Street: 567 11th Street

Address: 567 11th Street
Austin, TX 78000
USA

The loyalty customer form displays the customer number, name, the customer account with which the loyalty customer is associated, and information on the point status.

## 20.16.1    CREATE LOYALTY CUSTOMER

To create a loyalty customer, click **Retail > Common > Loyalty > Loyalty customer.**

The customer loyalty form opens.

1. Click **Loyalty customer** from the **New** group on the **Loyalty customer** tab.
2. In the **Loyalty schemes** area, select a **Customer account** to associate with the loyalty customer.
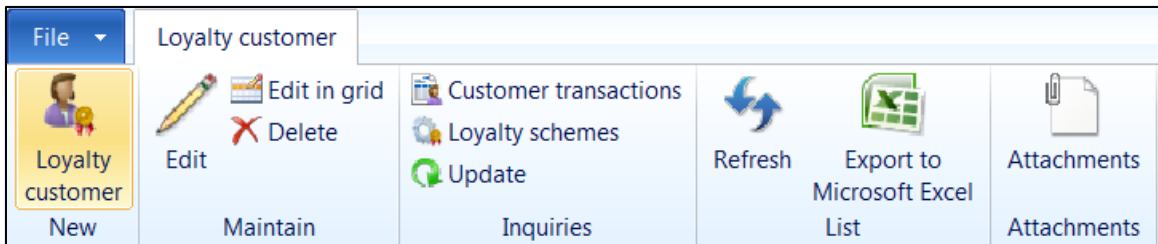


3. Notice the following:
- In the **Loyalty customer** FastTab, the **Loyalty customer** number is populated automatically if the number sequence is defined.
- In the **Customer** area, the **Name** field is populated based on the customer account selected.
- In the **Points** area, the **Used points** displays the statistics on the loyalty points used by the customer.
- The **Issued points** displays the statistics on the loyalty points issued to the customer.
- The **Points status** displays the point's status of the loyalty customer.



1. Under the **Lines** FastTab click **Add line** to add a new loyalty card to the customer.

2. Notice that the **Loyalty card number** is a unique number that is generated either automatically or manually.

3. Select the Loyalty card type from the drop-down list. The options available are as follows:

- **As card tender** – This type of card is considered the primary card that can earn or redeem the points for the primary card owner and added card members. The customer can only use points for payment that have been collected with the same card.

- **As contact tender** – This type of card is considered a secondary card that can earn or redeem the points only for the card member. The customer can use points for payment that have been collected by all cards for that loyalty contract.

- **No tender** – This type of card is considered a secondary card that can only earn points, but not redeem them.

- **Blocked** – A loyalty card that is blocked and cannot collect or use points.

4. Select the **Scheme ID** the loyalty customer belongs to accrue points. Notice the following:

- The **Used points** field shows the total points used by a loyalty card assigned to a loyalty customer.
- The **Issued point's** field shows the total points issued to a loyalty card assigned to a loyalty customer.
- The **Point status** field shows the total points available after use and expiry. This displays the total points available on each loyalty card issued to a loyalty customer.
- The **Expired point's** field shows the total expired points of a loyalty card assigned to a loyalty customer.

**Lines**

Add line  Remove  Inquiries ▾

| Loyalty card number | Loyalty card type | Scheme ID | Used points | Issued points | Point status | Expired points |
|---|---|---|---|---|---|---|
| 100005 | As card tender | Footware | 0.00 | 0.00 | 0.00 | 0.00 |

Click **Inquiries > Loyalty card transactions** to view the transactions associated with the loyalty card.

## 20.16.2    VIEW CUSTOMER TRANASCTIONS

To view loyalty customer transactions, click **Retail > Common > Loyalty > Loyalty customer.**

The **Customer loyalty** form opens. Select the loyalty customer from the list to view transaction information.

Click **Customer transactions** from the **Inquiries** group on the **Loyalty customer** tab.



The **Loyalty point transactions** form opens. The **Overview** tab displays the transaction number, loyalty points accrued, store details, loyalty card number, and scheme information.



The **General** tab provides information on the Payment origin, issued points, and the statement number details.

### 20.16.3 VIEW LOYALTY SCHEMES

To view loyalty schemes for a customer, click **Retail > Common > Loyalty > Loyalty customer.**

The **Customer loyalty form** opens. Select the loyalty customer from the list to view loyalty schemes.

Click **Customer transactions** from the **Inquiries** group on the **Loyalty customer** tab.



The **Loyalty schemes** form related to the loyalty customer selected opens.
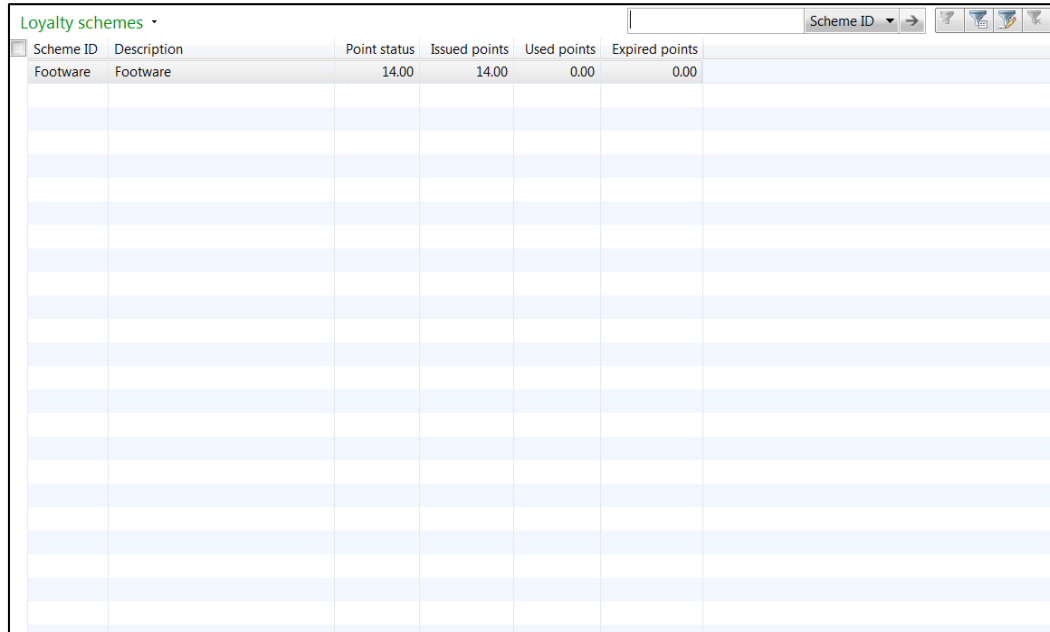
| Scheme ID | Description | Point status | Issued points | Used points | Expired points |
|---|---|---|---|---|---|
| Footware | Footware | 14.00 | 14.00 | 0.00 | 0.00 |

Loyalty schemes

Scheme ID

## 20.17     LOYALTY SCHEMES

To view loyalty schemes, click **Retail > Common > Loyalty > Loyalty schemes**.

The **Loyalty schemes** form opens.



The **Loyalty schemes** form displays the list of schemes with information on the point's status.

## 20.18     CREATE A LOYALTY SCHEME

To create a loyalty scheme, click **Retail > Common > Loyalty > Loyalty schemes.**

The **Customer schemes** form opens. Click **Loyalty scheme** from the **New** group on the **Loyalty scheme** tab.
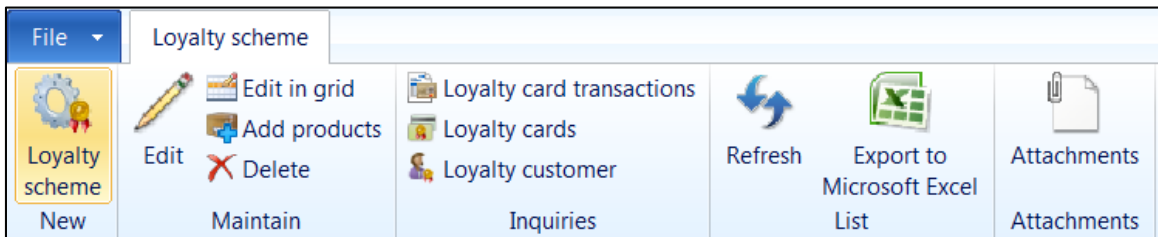
The **Loyalty schemes creation** form opens.

1. In the **Loyalty scheme** FastTab, enter the **Scheme ID**. This should be a unique number to identify the loyalty scheme.

2. In the **Description** area, enter the **Description** of the loyalty scheme.

3. In the **Expiration calculation**, enter the **Expiration time value** of the loyalty scheme. It is an integer that defines the number of days/months/years to be added to the issue date of the loyalty points before expiration.

4. Select the **Expiration time unit** (Day/Month/Years) that defines the expiration time value from the drop-down list.

5. Be aware of the following:

   • In the **Points** area, the **Point status** displays the sum of the available points for the whole scheme.

   • The **Issued points** display the total issued points for the selected scheme.

   • The **Used points** display the total used points for the selected scheme.

   • The **Expired points** display the total expired points for the selected scheme.

6. Under the Multiplier type, select the Default multiplier type from the drop-down list. The options available are as follows:

   • **Quantity: Loyalty points are calculated based on the number of units or quantity sold for an item.**

   • **Amount: Loyalty points are calculated based on the total value of sales for a transaction.**



7. **Under the Lines FastTab, click Add line to add a new point accrual rule.**

8. **Select the Type from the drop-down list. The options available are as follows:**

- **Product: The accrual rule is based on merchandising hierarchy or specific products. A type selection creates a points rule for an item or a merchandising category.**

- **Tender: The accrual rule is based on the payment method. The tender type can accrue points for the use of specific tender type (cash) or, in case of a payment, the can rule can take points for use of specific tender type (loyalty card).**

9. **Select the Payment method if the selected type is tendered from the drop-down list.**

10. **Select the Retail merchandising category from the drop-down list if the type selected is product.**

11. **Select the Product from the drop-down list if you wish to run loyalty schemes specific to a retail product.**

12. **Select the Product variant from the drop-down list if the product selected is a product master.**

13. **Notice that the Name field is auto populated with the product description.**

14. **Enter the Start date for the loyalty scheme.**

15. **Enter the End date for the loyalty scheme.**

16. **Enter the Quantity/Amount the customer has to purchase to accrue loyalty points based on the multiplier settings.**

17. **Select the Multiplier type from the drop-down list. The options available are Amounts or Quantity.**

18. **Enter the Loyalty points accrued.**

| ⊿ **Lines** | | | | | | | | | 0003 |
|---|---|---|---|---|---|---|---|---|---|
| 🔲 Add line  🔲 Remove | | | | | | | | | |
| Type | Payment m... | Category | Product | Product variant | Name | Start date | End date | Quantity/Am... | Multiplier ty... | Loyalty points |
| Product | | Action Sports | 0003 | | Signature Mountain ... | 1/05/2012 | 31/05/2012 | 100.00 | Amounts | 20.00 |

### 20.18.1    ADD PRODUCTS TO LOYALTY SCHEMES

To add products to an existing loyalty scheme, click **Retail > Common > Loyalty > Loyalty schemes.**

Select the loyalty scheme to modify, and double-click to open the **Loyalty scheme** form.

Click **Add products** from the **Maintain** group on the **Loyalty scheme** tab.
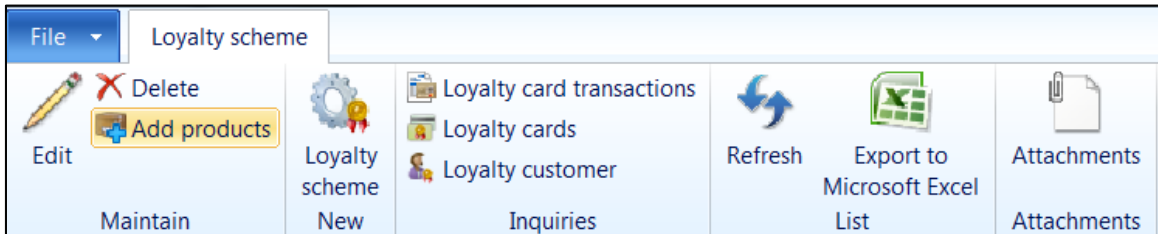


The **Add products** form opens.
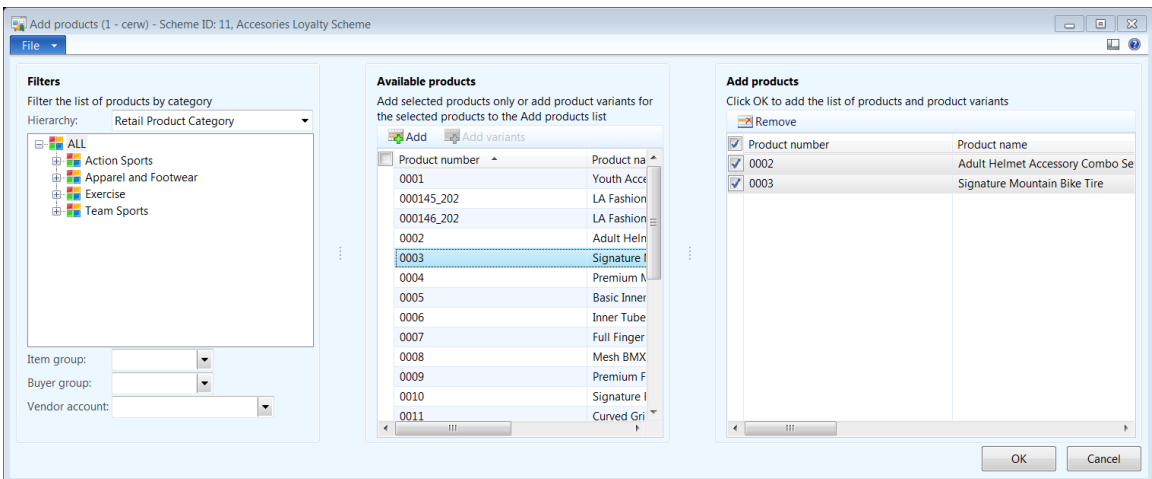


1.  In the **Filters** area, select the **Hierarchy**, **Item group**, **Buyer group** or Vendor account to filter products.
2.  Select the products from the **Available products** grid.
3.  Click **Add** to add the selected products to the **Add products** grid.
4.  Select the products from the **Add products** grid, and click **OK** to confirm the addition of products to the loyalty scheme.

### 20.18.2    VIEW LOYALTY CARD TRANSACTIONS

To view loyalty card transactions for an existing loyalty scheme, click **Retail > Common > Loyalty > Loyalty schemes.**

Select the loyalty scheme, and double-click to open the **Loyalty scheme** form.

Click **Loyalty card transactions** from the **Inquiries** group on the **Loyalty scheme** tab.



The **Loyalty point transactions** form opens.

The **Overview** tab displays the transaction number, loyalty points accrued, store details, loyalty card number, and scheme information.



The **General** tab provides information on the payment origin, issued points, and the statement number.

## 20.18.3    VIEW LOYALTY CARDS

To view loyalty card transactions for an existing loyalty scheme, click **Retail > Common > Loyalty > Loyalty schemes.**
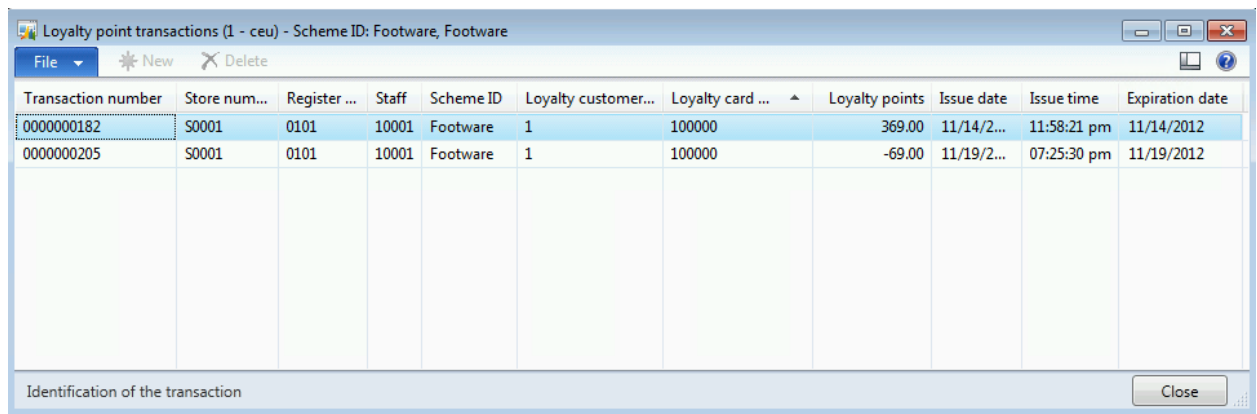
Select the loyalty scheme and double-click to open the **Loyalty scheme** form.

Click **Loyalty card transactions** from the **Inquiries** group on the **Loyalty scheme** tab.
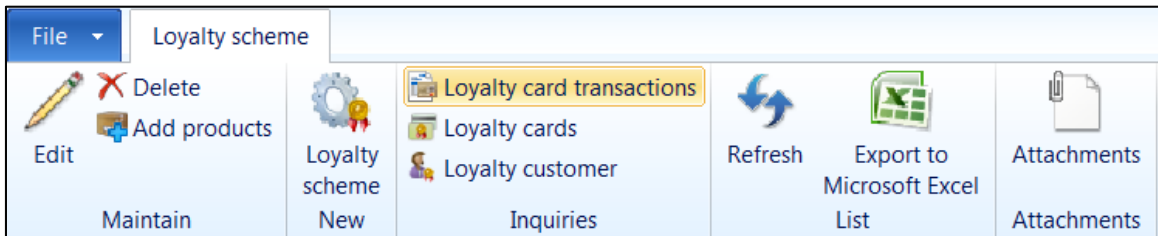


The **Loyalty point transactions** form opens.

This displays the transaction number, loyalty points accrued, store details, loyalty card number, and scheme information.  It reflects all transactions, including calculation of points accrued, points used, and even points taken off when the item is returned.



## 20.18.4    VIEW LOYALTY CUSTOMERS

To view loyalty customers associated with an existing loyalty scheme, click **Retail > Common > Loyalty > Loyalty schemes.**

Select the loyalty scheme, and double-click to open the **Loyalty scheme** form.

Click **Loyalty cards** from the **Inquiries** group on the **Loyalty scheme** tab.

The **Loyalty customer** form opens.



**The form displays the list of loyalty customers associated with a loyalty scheme. Double-click to open and view detailed loyalty customer information.**

## PERIODIC ACTIVITIES

### 20.19    SEND EMAIL RECEIPTS

Email receipts are an environmentally friendly option when processing retail sales. The customer can decide whether to receive a printed receipt, an email receipt, or both.

☑ **Note**

The E-mail parameters need to be set up for sending the receipts to the customers. To open the **E-mail parameters** form, click **System administration > Setup > System > E-mail parameters**. Enter the SMTP details and default values to be used for sending email.

**Registered customers**

Customers that have been set up in Microsoft Dynamics AX can choose which settings should apply to them. Specify the settings as follows:

1.      Click **Accounts receivable > Common Forms > All Customers**.

2.      Select a customer, and then click **Edit**. Go to **Retail** FastTab, under **Receipt**, and select an option in the **Receipt option** field:

    - **POS** – Select this option if the customer wants printed receipts only.

    - **Email** – Select this option if the customer wants email receipts only.

    - **Both** – Select this option if the customer wants both printed and email receipts.

3.      In the **Receipt email** field, enter the email address if the customer wants email receipts.

**Unregistered customers**

The default receipt options for customers that have not been set up in Microsoft Dynamics AX can be entered in Retail Headquarters parameters.

1. Click **Retail > Setup > Retail Parameters**.

2. On the **Posting**, under **Email receipt FastTab**, select a receipt option:

    • **POS** – Select this option to print receipts by default.

    • **Email** – Select this option to email receipts by default.

    • **Both** – Select this option to both print and email receipts by default.

3. In the **Subject** field, type the text that you want to appear by default in the Subject line of the emailed receipts.

**Email Body Text**

The text to be displayed in the email message body can be set up as form notes. This way, you can send email messages in different languages, depending on the language of the particular customer or, if no customer is chosen, your company's language. The form note must be a Retail Headquarters receipt type.

1. Click **Accounts receivable > Setup > Forms > Form notes**.

2. Click **New** to create a new form note, and select the form as a Retail Headquarters Receipt and specify a language.

3. On the **Form note** FastTab, enter the text that you want for the body of the email message.



**Send e-mail receipts**

To email receipts using a batch job, click **Retail > Periodic > Send e-mail receipts**.

1.  Select the **Batch processing** check box to run the job as a batch.

2.  Enter the **Task description** for the job.

3.  Select the **Batch group** from the drop-down list.

4.  Select the **Private** check box if you wish to run the job as a private job.

5.  Click **Recurrence** to set the frequency of the job execution.

6. Click **Alerts** to configure an alert mechanism to receive notification on job completion or failures.

## 20.20   SEND EMAIL NOTIFICATIONS

The send email notification is used to send email updates to the customers on the status of their order details.

Customer can be notified for the following activities:

a. **Order created**: An email notification can be sent when a new order is created for a customer.

b. **Order confirmed**: An email notification can be sent when an order is confirmed.

c. **Picking completed**: An email notification can be sent when the order items are picked for packing at a store or a distribution location.

d. **Packing completed**: An email notification can be sent when the packing is complete and order items are ready to be shipped.

e. **Order shipped**: An email notification can be sent when the order is shipped, advising the customer of the delivery date and tracking information based on the shipping method selected.

f. **Payment failed**: Email notification can be sent advising the customer regarding payment failure for the order.

g. **Customer created**: Email notification can be sent for new customers.

h. **Password reset**: Email notifications can be sent to advise customers when their account password is reset.

To open the **Process order email notifications** form, click **Retail > Periodic > Send email notifications**.



1. Select the **Batch processing** check box to run the job as a batch.

2. Enter the **Task description** for the job.

3. Select the **Batch group** from the drop-down list.

4. Select the **Private** check box if you wish to run the job as a private job.

5. Click **OK** to run the job to send notifications to the customer.

**Note**:

Default email templates have been included out-of-box since the Microsoft Dynamics AX 6.2 release. However, retailers can add their own templates or modify the default templates to meet their requirements.

One or more email notification profiles can be setup in Microsoft Dynamics AX. However, the default profile can be set up only in **Retail parameters** form.

The existing Microsoft Dynamics AX email notification infrastructure has been leveraged for this feature.

## 20.21      **MASS UPDATE WORKSHEET**

The mass update worksheet allows a user to apply bulk product updates across product categories on products selected in a worksheet.

A worksheet can be saved and recalled for later editing before validating and posting it to update the applicable products. Worksheet history is retained to allow users to review previous sets of changes.

**Worksheet Creation**

Create a mass update worksheet as follows:

1. Click **Retail > Periodic > Mass update worksheet.**

- 

2. Click **New**. On the form, the **Properties** that can be bulk updated are shown.

3. Select the applicable **Properties** from different **Areas** by selecting the **Selection** check box.

4. Click **OK** to generate the worksheet.

**Add Products to the Worksheet**

Add products to the worksheet as follows:

1. On the **Mass update worksheet** form, enter the **Description** for the worksheet.



2. Click **Add Products** on the worksheet.
3. Apply the **Filters**, and select the products to be updated. Various filters are present on the **Add products** form:
    - **Hierarchy** Products can be filtered on Category hierarchies, such as retail product hierarchy or procurement hierarchy.
    - **Item Group –** Select the Item group from the drop-down list.
    - **Buyer Group –** Select the vendor buyer group from the drop-down list.
    - **Vendor account –** Select the vendor account from the drop-down list.
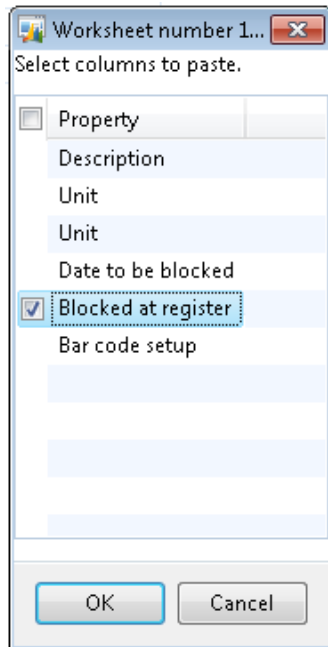
4. **Applicable Products** shows the product list on the basis of filter criteria. In this
   section, select all or individual products to the **Add Products** section.
5. Click **Ok** to add products to the worksheet for update.
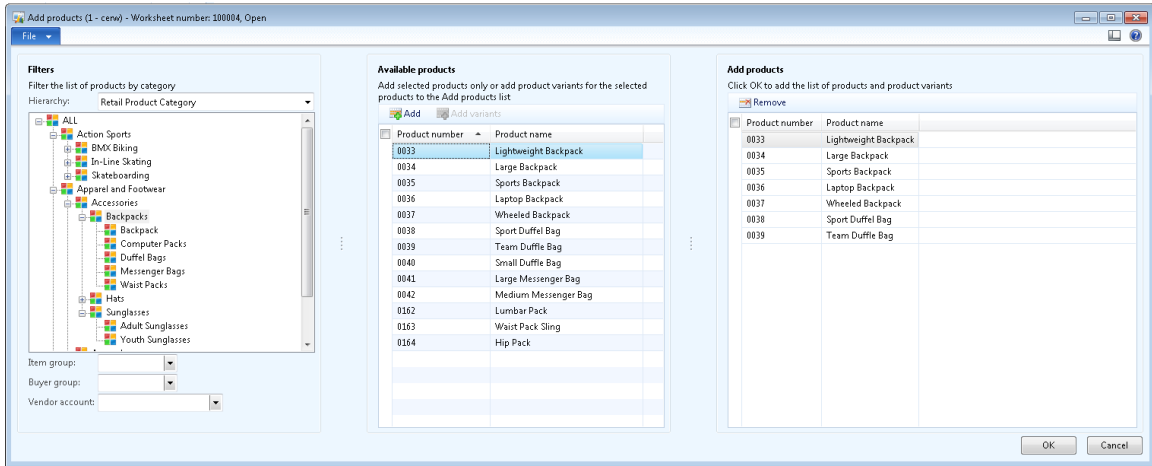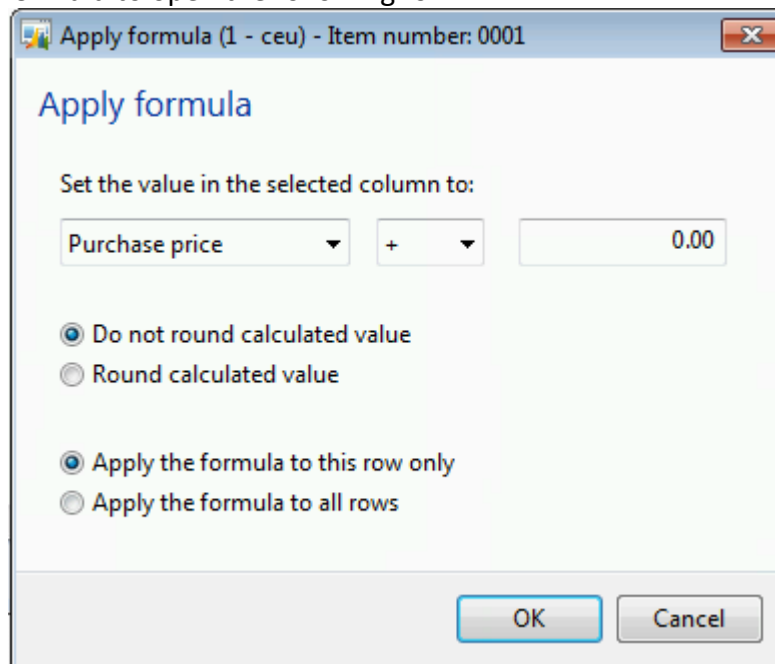


6. On the worksheet, the items are added to the **Product Name** column with values for
   reference. The remaining columns are blank and are updated only if a value is
   provided.
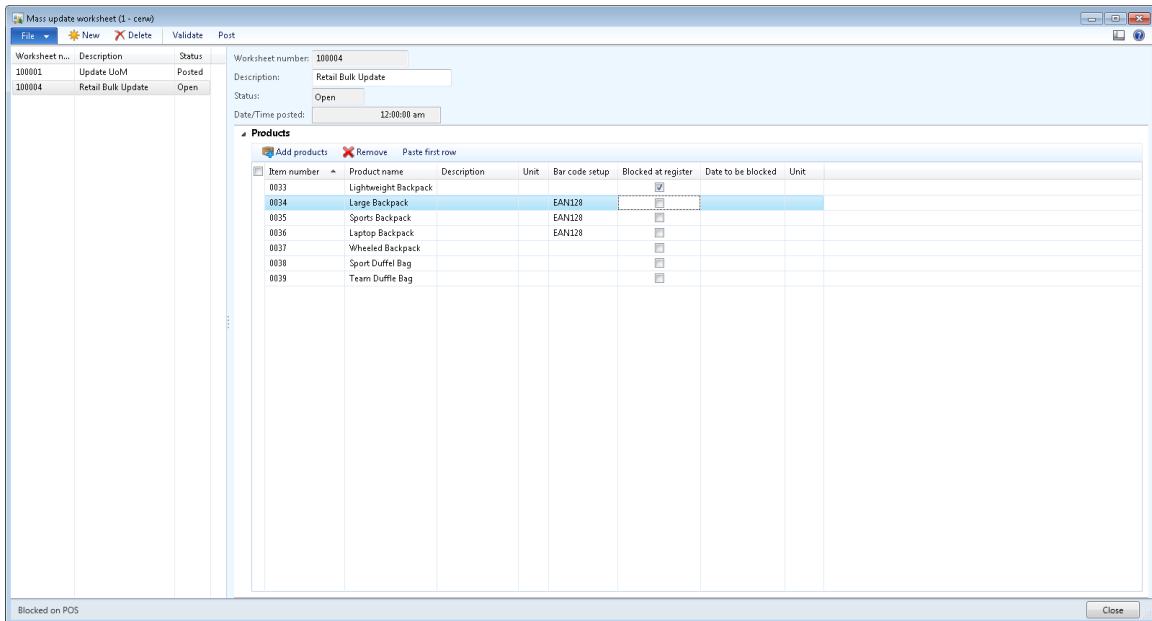
7. For the ease of data entry, update the first row with applicable values in the applicable columns, and then click **Paste first row**. Select the columns that have to be copied to all rows from the first row, and then click **OK**.
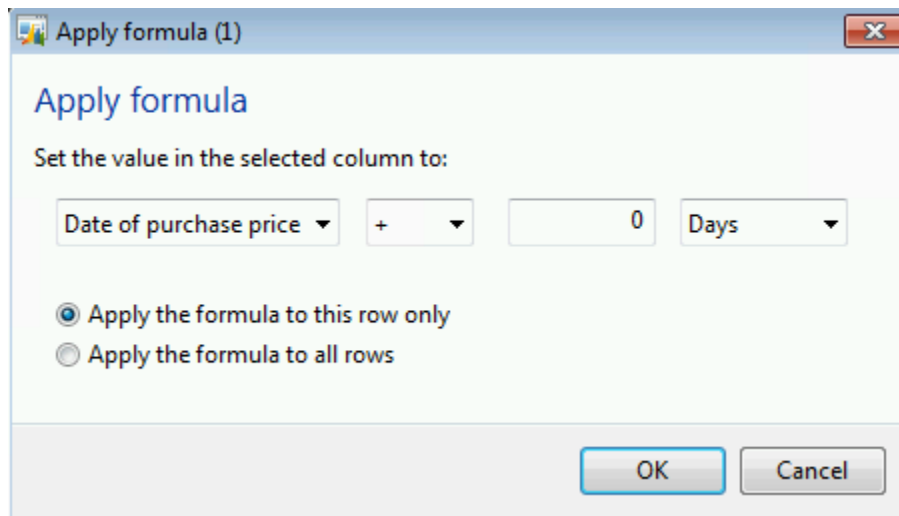


8. If the field type is Price, then it can be updated by using a price formula. Select the **Apply price formula** to open the following form:



On the **Set the value in the selected column to** area, follow these steps:

1. Select the price type. The options are **Purchase Price**, **Purchase price charges**, **Sales price**, **Sales price charges**, and **Cost price**.
   - 
2. Chose the calculation type. The options are addition (**+**), subtraction (**-**), multiplication (**\***), and division (**/**).
   - 
3. Enter the amount of the calculation value.
   - 
4. Choose whether to **Round calculate value** or **Do not round calculated value**.
   - 
5. Select whether to **Apply the formula to this row only** or **Apply the formula to all rows**.
   - 
6. Click **OK** to apply the formula.

9. If the field is of type Date, then it can be updated by a date formula. Select the **Apply date formula** to open the following form:



On the **Set the value in the selected column to** area, follow these steps:

1. Select the date type. The options are **Date of Purchase Price**, **Date of Sales price**, **Date of Cost price**, and **Issue Date**
   - 
2. Choose the calculation type. The options are addition (**+**) and subtraction (**-**).
   - 
3. Enter the calculation value.
   -

4. Select whether the calculation value is in **Days**, **Weeks**, **Months**, or **Years**.
   - 
5. Select whether to **Apply the formula to this row only** or **Apply the formula to all rows**.
   - 
6. Click **OK** to apply the formula.

Validate the worksheet and post it. Once posted, the worksheet will be available for future reference.

## 20.22 UPDATE LISTING STATUS

The update listing status is used to get an update from the online channel to verify if the catalog and the related products were successfully listed on the Commerce run-time (CRT) database.

The job even gets the status and any error details associated with the publishing process.

To open the **Update listing status** form, click **Retail > Periodic > Update listing status**.



6. Select the **Batch processing** check box to run the job as a batch.

7. Enter the **Task description** for the job.

8. Select the **Batch group** from the drop-down list.

9. Select the **Private** check box if you wish to run the job as a private job.

10. Click **OK** to run the job to send notifications to the customer.

**Note**:

The listing information can be viewed from the **Retail > Common > Retail channels > Online stores**. Select an online store, and click **Listings** to view the listing status by product.



## 20.23     PROCESS DELIVERY MODES

Process delivery modes are used to explode the changes to a delivery mode when new online channels or products are associated with a delivery mode.

To open the **Process delivery modes** form, click **Retail > Periodic > Process delivery modes**.

1. Select the **Batch processing** check box to run the job as a batch.

2. Enter the **Task description** for the job.

3. Select the **Batch group** from the drop-down list.

4. Select the **Private** check box if you wish to run the job as a private job.

5. Click **OK** to run the job to send notifications to the customer.

**Note**:

The delivery modes can be viewed by clicking **Retail > Common > Retail channels > Online stores**. Select an online store, and then click **Setup > Modes of delivery** to view the modes of delivery settings.



## 20.24    SYNCHRONIZE ONLINE ORDERS

Orders generated through Omni-channel are online stores with either delivery or store pick-up. These will be synchronized from various online channels to the Microsoft Dynamics AX headquarters.

To open the **Synchronize online orders** form, click **Retail > Periodic > Synchronize online orders**.

1. Select the **Batch processing** check box to run the job as a batch.

2. Enter the **Task description** for the job.

3. Select the **Batch group** from the drop-down list.

4. Select the **Private** check box if you wish to run the job as a private job.

5. Click **OK** to run the job to send notifications to the customer.

## SEND EMAIL RECEIPTS

### OVERVIEW

This module discusses email receipts, which are known as an environmentally friendly option when processing retail sales. The customer can decide whether to receive a printed receipt, an email receipt, or both.

### ☑ Note

The E-mail parameters need to be set up for sending the receipts to the customers. To open the **E-mail parameters** form, click **System administration > Setup > System > E-mail parameters**. Enter the SMTP details and default values to be used for sending email.

### Registered customers

Customers that have been set up in Microsoft Dynamics AX can choose which settings should apply to them. Specify the settings as follows:
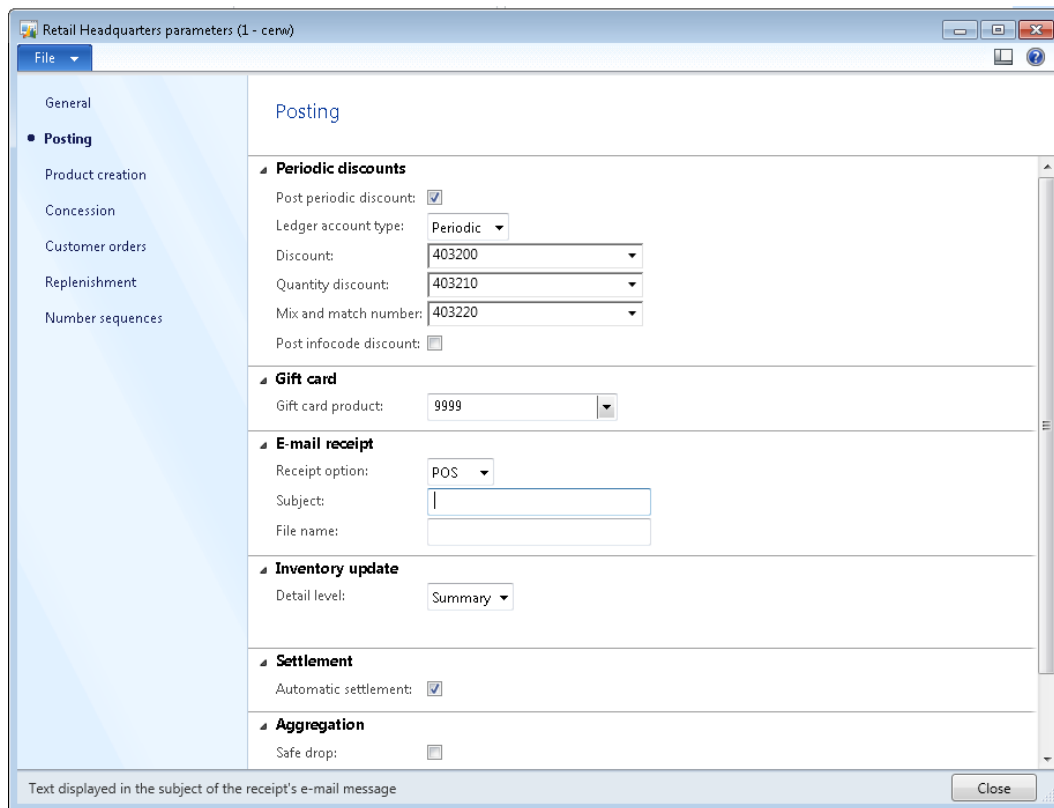
4. Click **Accounts receivable > Common Forms > All Customers**.

5. Select a customer, and then click **Edit**. Go to **Retail** FastTab, under **Receipt**, and select an option in the **Receipt option** field:

   • **POS** – Select this option if the customer wants printed receipts only.

   • **Email** – Select this option if the customer wants email receipts only.

   • **Both** – Select this option if the customer wants both printed and email receipts.

6. In the **Receipt email** field, enter the email address if the customer wants email receipts.

**Unregistered customers**

The default receipt options for customers that have not been set up in Microsoft Dynamics AX can be entered in Retail Headquarters parameters.

4.   Click **Retail > Setup > Retail Parameters**.

5.   On the **Posting**, under **Email receipt FastTab**, select a receipt option:

   - **POS** – Select this option to print receipts by default.

   - **Email** – Select this option to email receipts by default.

   - **Both** – Select this option to both print and email receipts by default.

6.   In the **Subject** field, type the text that you want to appear by default in the Subject line of the emailed receipts.

**Email Body Text**

The text to be displayed in the email message body can be set up as form notes. This way, you can send email messages in different languages, depending on the language of the particular customer or, if no customer is chosen, your company's language. The form note must be a Retail Headquarters receipt type.

4.      Click **Accounts receivable > Setup > Forms > Form notes**.

5.      Click **New** to create a new form note, and select the form as a Retail Headquarters Receipt and specify a language.

6.      On the **Form note** FastTab, enter the text that you want for the body of the email message.



**Send e-mail receipts**

To email receipts using a batch job, click **Retail > Periodic > Send e-mail receipts**.

7.  Select the **Batch processing** check box to run the job as a batch.

8.  Enter the **Task description** for the job.

9.  Select the **Batch group** from the drop-down list.

10. Select the **Private** check box if you wish to run the job as a private job.

11. Click **Recurrence** to set the frequency of the job execution.

12. Click **Alerts** to configure an alert mechanism to receive notification on job completion or failures.

## 20.2 SEND EMAIL NOTIFICATIONS

The send email notification is used to send email updates to the customers on the status of their order details.

Customer can be notified for the following activities:

i.  **Order created**: An email notification can be sent when a new order is created for a customer.
j.  **Order confirmed**: An email notification can be sent when an order is confirmed.
k.  **Picking completed**: An email notification can be sent when the order items are picked for packing at a store or a distribution location.

l.   **Packing completed**: An email notification can be sent when the packing is complete and order items are ready to be shipped.

m.  **Order shipped**: An email notification can be sent when the order is shipped, advising the customer of the delivery date and tracking information based on the shipping method selected.

n.  **Payment failed**: Email notification can be sent advising the customer regarding payment failure for the order.

o.  **Customer created**: Email notification can be sent for new customers.

p.  **Password reset**: Email notifications can be sent to advise customers when their account password is reset.

To open the **Process order email notifications** form, click **Retail > Periodic > Send email notifications**.



11. Select the **Batch processing** check box to run the job as a batch.

12. Enter the **Task description** for the job.

13. Select the **Batch group** from the drop-down list.

14. Select the **Private** check box if you wish to run the job as a private job.

15. Click **OK** to run the job to send notifications to the customer.

**Note**:

Default email templates have been included out-of-box since the Microsoft Dynamics AX 6.2 release. However, retailers can add their own templates or modify the default templates to meet their requirements.

One or more email notification profiles can be setup in Microsoft Dynamics AX. However, the default profile can be set up only in **Retail parameters** form.

The existing Microsoft Dynamics AX email notification infrastructure has been leveraged for this feature.

## 29.3 MASS UPDATE WORKSHEET

The mass update worksheet allows a user to apply bulk product updates across product categories on products selected in a worksheet.

A worksheet can be saved and recalled for later editing before validating and posting it to update the applicable products. Worksheet history is retained to allow users to review previous sets of changes.

**Worksheet Creation**

Create a mass update worksheet as follows:

5. Click **Retail > Periodic > Mass update worksheet.**

- 

6. Click **New**. On the form, the **Properties** that can be bulk updated are shown.

7. Select the applicable **Properties** from different **Areas** by selecting the **Selection** check box.

8. Click **OK** to generate the worksheet.

**Add Products to the Worksheet**

Add products to the worksheet as follows:

10. On the **Mass update worksheet** form, enter the **Description** for the worksheet.



11. Click **Add Products** on the worksheet.
12. Apply the **Filters**, and select the products to be updated. Various filters are present on the **Add products** form:
    - **Hierarchy** Products can be filtered on Category hierarchies, such as retail product hierarchy or procurement hierarchy.
    - **Item Group –** Select the Item group from the drop-down list.
    - **Buyer Group –** Select the vendor buyer group from the drop-down list.
    - **Vendor account –** Select the vendor account from the drop-down list.

13. **Applicable Products** shows the product list on the basis of filter criteria. In this section, select all or individual products to the **Add Products** section.
14. Click **Ok** to add products to the worksheet for update.
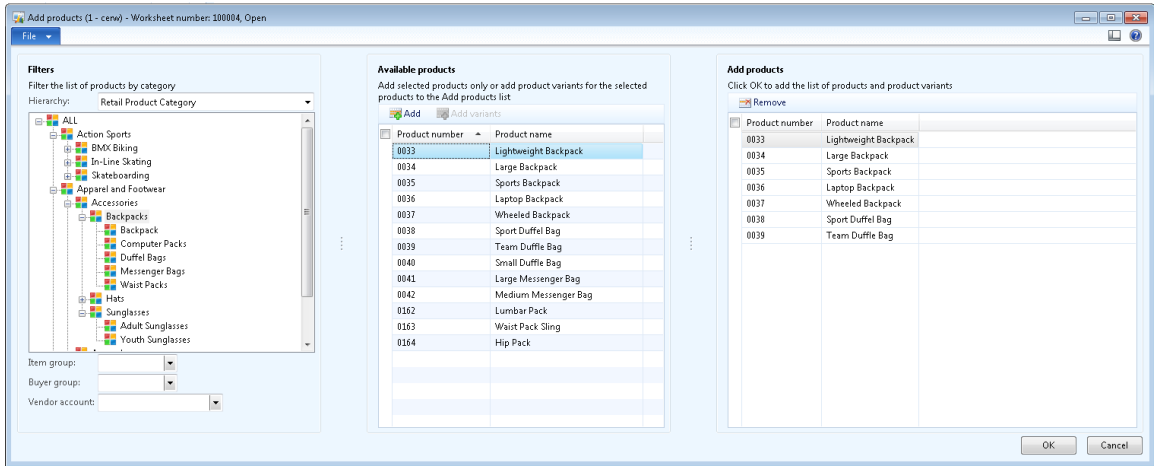


15. On the worksheet, the items are added to the **Product Name** column with values for reference. The remaining columns are blank and are updated only if a value is provided.
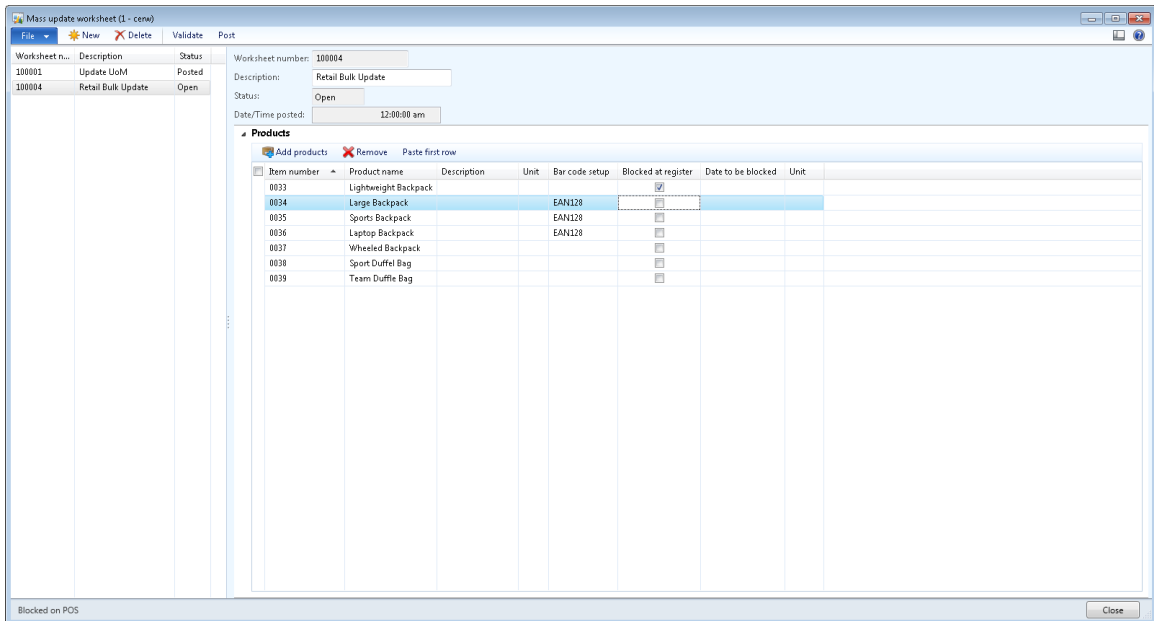
16. For the ease of data entry, update the first row with applicable values in the applicable columns, and then click **Paste first row**. Select the columns that have to be copied to all rows from the first row, and then click **OK**.
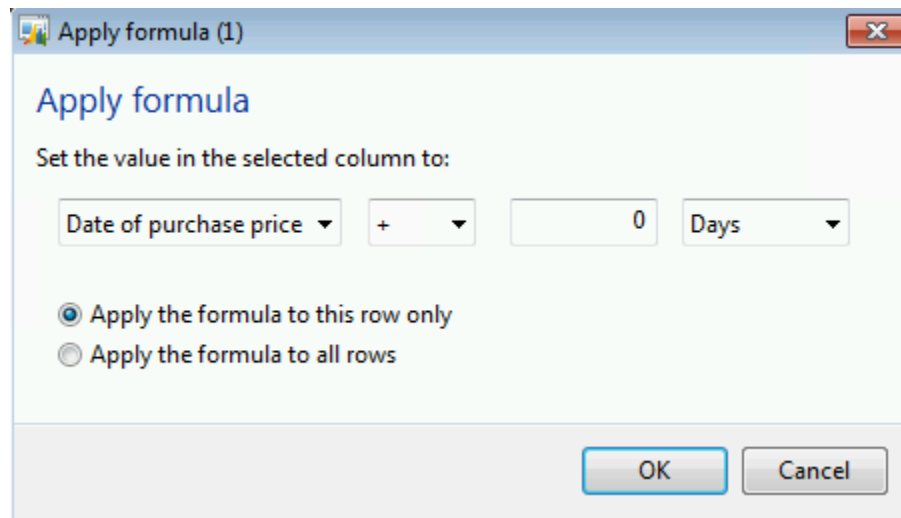
17. If the field type is Price, then it can be updated by using a price formula. Select the **Apply price formula** to open the following form:

On the **Set the value in the selected column to** area, follow these steps:

7. Select the price type. The options are **Purchase Price**, **Purchase price charges**, **Sales price**, **Sales price charges**, and **Cost price**.
   ●
8. Chose the calculation type. The options are addition (**+**), subtraction (**-**), multiplication (**\***), and division (**/**).
   ●
9. Enter the amount of the calculation value.
   ●
10. Choose whether to **Round calculate value** or **Do not round calculated value**.
    ●
11. Select whether to **Apply the formula to this row only** or **Apply the formula to all rows**.
    ●
12. Click **OK** to apply the formula.

18. If the field is of type Date, then it can be updated by a date formula. Select the **Apply date formula** to open the following form:



On the **Set the value in the selected column to** area, follow these steps:

7. Select the date type. The options are **Date of Purchase Price**, **Date of Sales price**, **Date of Cost price**, and **Issue Date**
   ●
8. Choose the calculation type. The options are addition (**+**) and subtraction (**-**).
   ●
9. Enter the calculation value.
   ●

**10.** Select whether the calculation value is in **Days**, **Weeks**, **Months**, or **Years**.

- 

**11.** Select whether to **Apply the formula to this row only** or **Apply the formula to all rows**.

- 

**12.** Click **OK** to apply the formula.

Validate the worksheet and post it. Once posted, the worksheet will be available for future reference.

## 29.4 UPDATE LISTING STATUS

The update listing status is used to get an update from the online channel to verify if the catalog and the related products were successfully listed on the Commerce run-time (CRT) database.

The job even gets the status and any error details associated with the publishing process.

To open the **Update listing status** form, click **Retail > Periodic > Update listing status**.



**16.** Select the **Batch processing** check box to run the job as a batch.

**17.** Enter the **Task description** for the job.

**18.** Select the **Batch group** from the drop-down list.

19. Select the **Private** check box if you wish to run the job as a private job.

20. Click **OK** to run the job to send notifications to the customer.

**Note**:

The listing information can be viewed from the **Retail > Common > Retail channels > Online stores**. Select an online store, and click **Listings** to view the listing status by product.
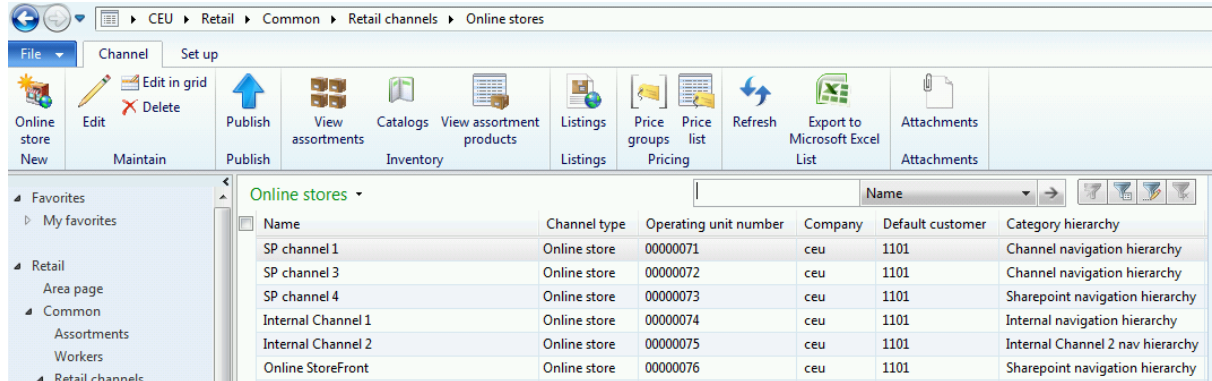


## 29.5 PROCESS DELIVERY MODES

Process delivery modes are used to explode the changes to a delivery mode when new online channels or products are associated with a delivery mode.

To open the **Process delivery modes** form, click **Retail > Periodic > Process delivery modes**.

6. Select the **Batch processing** check box to run the job as a batch.

7. Enter the **Task description** for the job.

8. Select the **Batch group** from the drop-down list.

9. Select the **Private** check box if you wish to run the job as a private job.

10. Click **OK** to run the job to send notifications to the customer.

**Note**:

The delivery modes can be viewed by clicking **Retail > Common > Retail channels > Online stores**. Select an online store, and then click **Setup > Modes of delivery** to view the modes of delivery settings.



## 29.6 SYNCHRONIZE ONLINE ORDERS

Orders generated through Omni-channel are online stores with either delivery or store pick-up. These will be synchronized from various online channels to the Microsoft Dynamics AX headquarters.

To open the **Synchronize online orders** form, click **Retail > Periodic > Synchronize online orders**.

6. Select the **Batch processing** check box to run the job as a batch.

7. Enter the **Task description** for the job.

8. Select the **Batch group** from the drop-down list.

9. Select the **Private** check box if you wish to run the job as a private job.

10. Click **OK** to run the job to send notifications to the customer.

## POST INVENTORY

In Microsoft Dynamics AX for Retail, statements are used to group the retail transactions from the store. Statements contain a collection of inventory and financial transactions from the POS for a given store over a specified period of time. Processing of these statements results in posting of financial inventory transactions in Microsoft Dynamics AX.

However, to account for the physical inventory in the system, there is a process to update the physical inventory without posting the statement. This basically means that the physical inventory is reserved. Then at a later time when the end-of-day statement is posted, the financial inventory is posted (revenue, issue, consumption, tax, and so on) and the inventory status changes to sold from reserved.

**Reserving Physical Inventory**

1. To update the POS transactions, ensure that **P-Job** in **Retail > Periodic > Retail Scheduler > Distribution Schedule** is running.
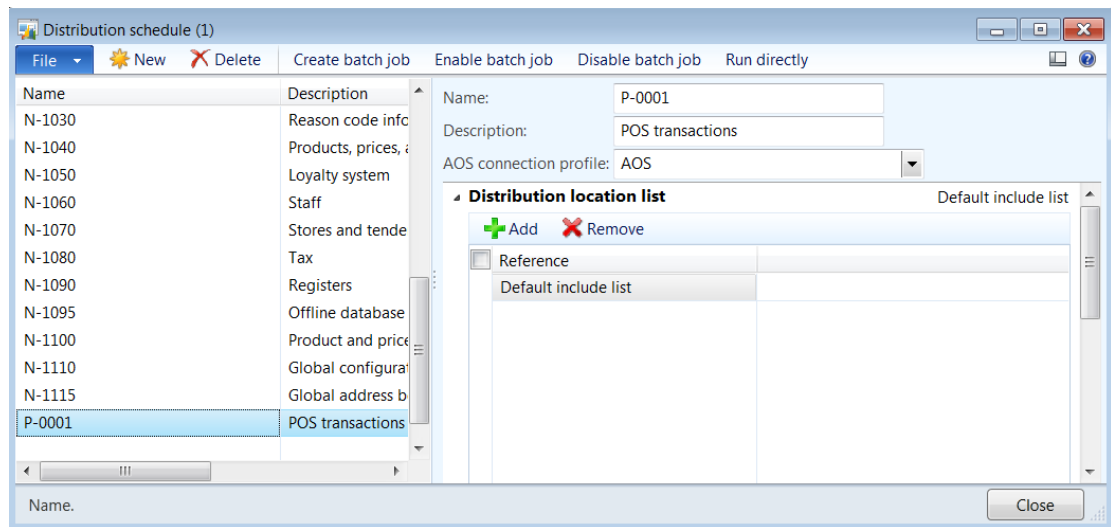


2. Run the **Retail > Periodic > POS posting > Post Inventory** job. Select the store(s), and then click **OK**. This reserves the physical inventory for the products sold against the statement.
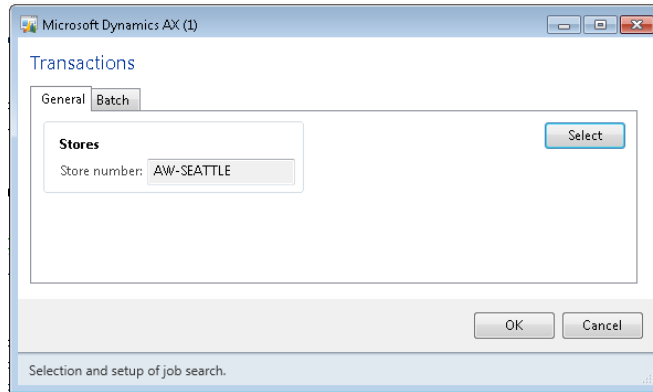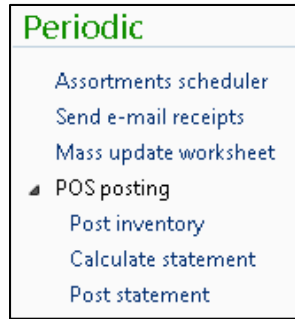
3. To verify, click **Retail > Inquiries > Retail Transactions** and view the open transactions.
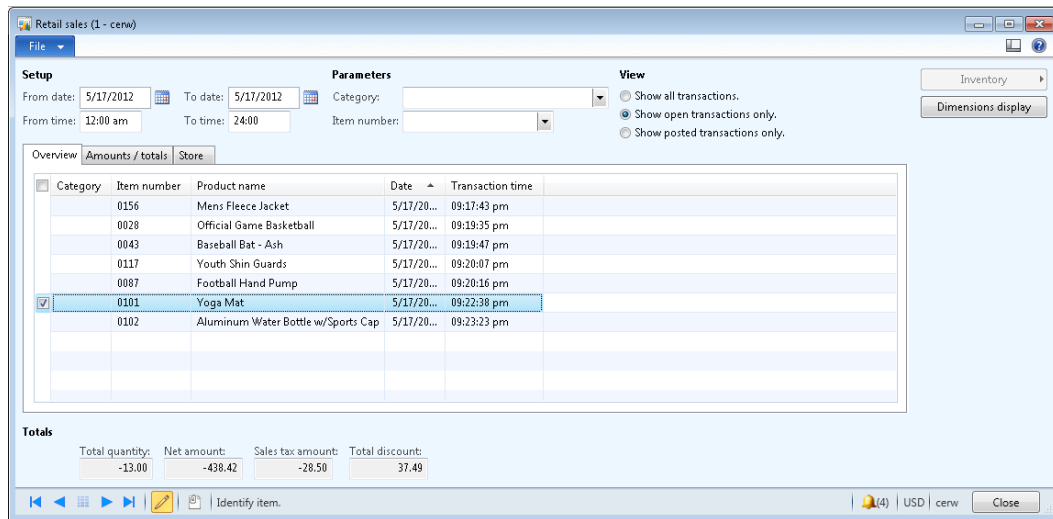


4. On **Inventory Transactions**, the status is *Reserved Physical*, if there is sufficient on-hand inventory in system. Otherwise the status is *On order (*if working with physical negative inventory).

## WORKERS

### OVERVIEW

This module discusses workers, cashiers, and store managers created and managed within Dynamics AX for Retail.

The workers in retail are an uptake from the Human resources module in AX 2012.

The workers associated to a position. A position is always assigned to a job which drives the default POS permission associated to a user. The POS permissions can be overridden at a worker level.
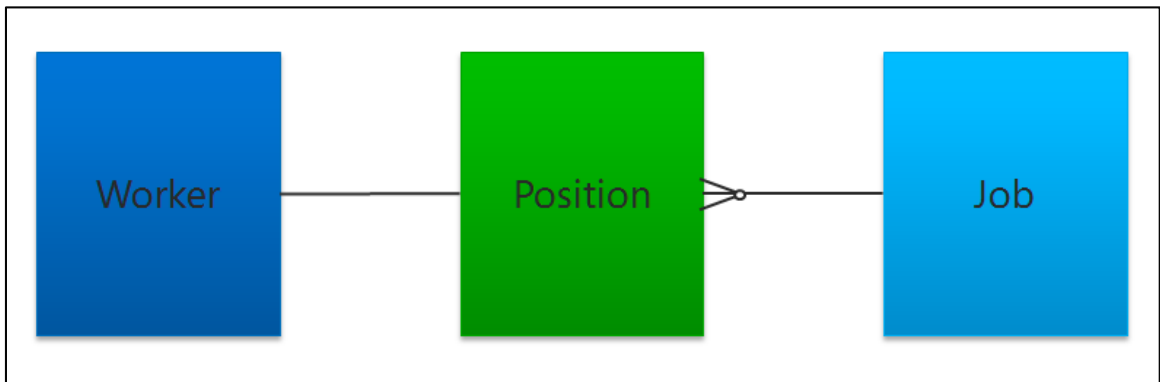


A job can be associated to multiple positions and a worker is associated to a position.

The diagram below display the conceptual model depicting the connection between POS permission groups, jobs and workers.

## 20.3 SET UP A JOB

Before workers can perform their job duties in the retail store, you must set up the workers in Microsoft Dynamics AX. You must also assign appropriate permissions to the workers, so that they can log on and perform tasks by using the Microsoft Dynamics AX for Retail POS system. You must also set up the jobs and positions that are used in your retail stores, and then link workers to those jobs and positions.

After you set up POS permissions to specify the tasks that workers can perform by using the POS system, you must define the jobs that the workers can perform. You must then link POS permissions to those jobs.

1. Click **Human resources** > **Common** > **Organization** > **Jobs**.



2. On the **Jobs** list page, on the Action Pane, in the **New** group, click **Job** to create a new job.

3. Enter a job title and description.



4. Click the **Job classification** FastTab.

5. Then, in the **POS permission group** field, select the POS permissions that apply to the job.

6. When a worker is associated with the job, the POS permissions that are assigned to the job control the actions that the worker can perform in the POS system.
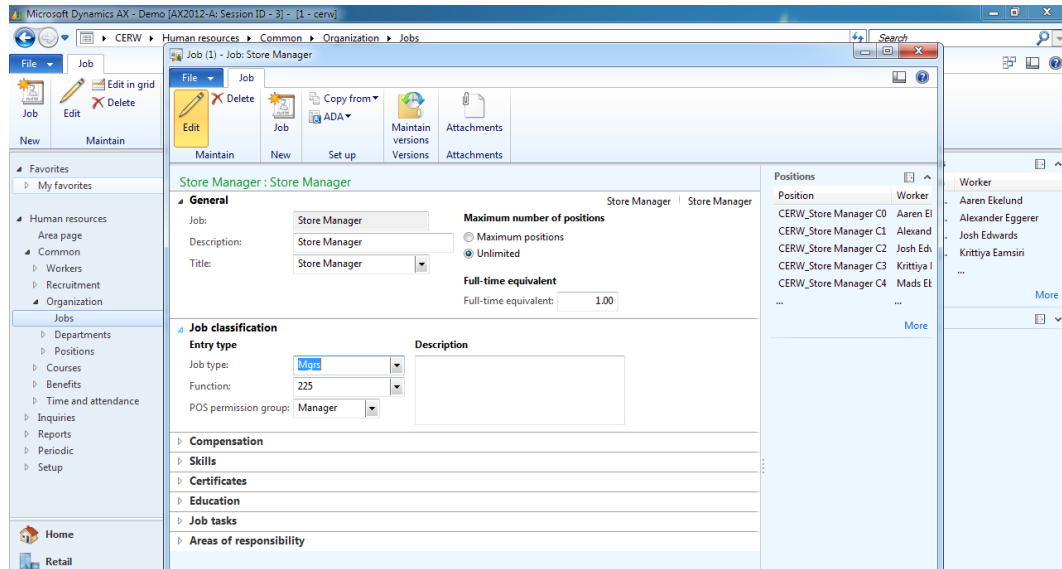
7.  Complete any other fields that you require in the form. Set up Enterprise Portal profiles and users

If you have set up Enterprise Portal for Microsoft Dynamics AX, you must set up user profiles for the employees who access Enterprise Portal. These profiles define each user's role and specify the store information that the user has access to.

Use the following procedures to set up Enterprise Portal profiles and users. You can also view the Role Center for each profile.

## 20.4 SET UP A POSITION

A position is an individual instance of a job. You assign each worker to a position. By linking a worker to a position, you associate that worker with a specific job. Therefore, you also assign the POS permissions that the worker requires to use the POS system in the retail store.

1.  Click **Human resources** > **Common** > **Organization** > **Positions** > **Positions**.

2. On the **Positions** list page, on the Action Pane, in the **New** group, click **Position** to create a new position.



3. In the **Create new position** dialog box, in the **Job** list, select a retail job.

4. Enter the date that the position becomes active, and then click **Create positions**.

5. In the **Position** form, complete any other fields that you require in the form.



You can hire a new worker directly from the **Position** form. Alternatively, you can create a worker, and then assign the worker to the retail position.

## 20.5 SET UP A RETAIL WORKER

Before a worker can perform job duties in a retail store, you must set up the worker in Microsoft Dynamics AX. You must also assign the worker appropriate privileges, so that the worker can log on and perform tasks by using the Microsoft Dynamics AX for Retail POS system.

Microsoft Dynamics AX for Retail uses the human resources features in Microsoft Dynamics AX to set up employee data, and to configure the job and position data that is used to create a staff member for retail processes. To set up a retail worker, you must complete the following tasks:

1. **Define the settings for point of sale (POS) permissions**. The POS permission settings specify the actions that workers can perform when they use the POS system. Each staff member is assigned Retail POS permissions. For example, the permissions define whether the staff member can void transactions, perform tender declarations, or override prices. The permissions also define the maximum discount that the staff member can give. Each staff member can be assigned to only one store.

2. **Set up a job.** A job is a collection of tasks and responsibilities that are required of any person who is assigned to the job. It is recommended to link POS permissions to each job for ease of management.

3. **Set up a position**. A position is an individual instance of a job. You must assign each worker to a position. By assigning a worker to a position, you associate the worker with a specific job. Therefore the worker inherits the permissions from the job.

4. **Set up a worker**. The information that you enter for a worker includes personnel details. You must assign each worker to an address book. The address book is used to assign the worker to a store.

If you have set up Enterprise Portal for Microsoft Dynamics AX, you must set up user profiles for the employees who access Enterprise Portal. These profiles define each user's role and specify the store information that the user has access to.

1. To create workers click on **Retail** > **Common** > **Workers**.

2.  On the **Workers** list page, on the **Worker** tab, on the Action Pane, in the **New** group, click **Hire new worker**.

3. In the **Create new worker** form, enter the worker's name. In the **Worker type** field, select whether the worker is an employee or a contractor. Enter the date that the worker's employment starts. Then click **Hire new worker**.

## Create new worker

First name:

Middle name:

Last name:

Legal entity: cerw

Personnel number: 000710

Worker type: Employee

Employment start date: 13/06/2012  12:00:00 am

Employment end date: 1/01/2154  10:59:59 am

☐ Assign a position

Position:

Assignment start:  12:00:00 am

Assignment end:  12:00:00 am

Hire new worker

i.      Enter the First name of the new worker.
ii.     Enter the Middle name of the new worker.
iii.    Enter the Last name of the new worker.
iv.    Select the Legal entity to which the worker will belong from the drop down list.
v.     The Personnel number will be automatically populated if number sequence assigned or enter the personnel number manually.
vi.    Select the Worker type from the drop down list. The options available are Employee or Contractor.
vii.   Enter the Employment start date for the new worker.
viii.  Enter the Employment end date if the new worker is a contractor.
ix.    **Assign a position** – Select the check box to assign a position to the worker.
x.     Select the **Position** for the worker from the drop down list.
xi.    Enter the Assignment start date for the worker in the new position.
xii.   Enter the Assignment end date for the worker in the new position.

☑  **Note:**
The **Personnel number** field can be automatically populated based on the number sequence that is set up for the worker. The worker uses this number to log on to the POS system.

4. In the **Worker** form, on the **Worker summary** FastTab, in the **Address books** field, select the address book of the stores to assign the worker to. Microsoft Dynamics AX R2 for Retail uses the store address books that you select to link the worker to one or more stores.

✎ **Note**

Employee address book is used to associate workers (cashiers) to a retail store. Workers can be assigned multiple store addresses allowing them to work at multiple locations. The interaction of worker address book and store address book defines workers assigned to retail stores.

5. Click the **Retail** link, and then, in the **Screen layout ID** field, select the POS screen layout if the worker uses a special screen layout on the POS system. If the worker uses the POS screen layout that is assigned to the store, leave this field blank.

6. In the **Employment type** field, select whether the staff member is a cashier, salesperson, or other type of employee.



7. Under **POS authentication**, in the **Password** field, specify the password that the worker uses to log on to the POS system.
8. To select a POS permission group for the worker, click the **POS permissions** link.



9. In the **POS position permissions** form, do one of the following:
   o In the **Position** field, select a position for the worker.
   o Select the **Override permissions** check box, and then either select a permission group in the **POS permission group** field, or select the check boxes for the appropriate permissions.

You must assign the worker to a position. Otherwise, the worker does not have appropriate access to the POS system.

10. Enter any other appropriate information in the **Profile**, **Employment, Absence**, **Compensation**, **Payroll**, and **Competencies and development** sections.

## 20.6 IMPORT THE RETAIL USER PROFILES

Microsoft Dynamics AX user accounts need to be set up for each employee who requires access to Enterprise Portal. The below steps are required only if Enterprise portal access is required by the store users.

1. Click **System administration** > **Common** > **Users** > **User profiles**.

2. Click **Import**, and then click **Import from AOT**.

3. Select the check boxes for the profiles to import, and then click OK.

There are four retail user profiles:

- Retail Merchandising Manager

- Retail Operations Manager

- Retail Store Inventory Clerk

- Retail Store Manager
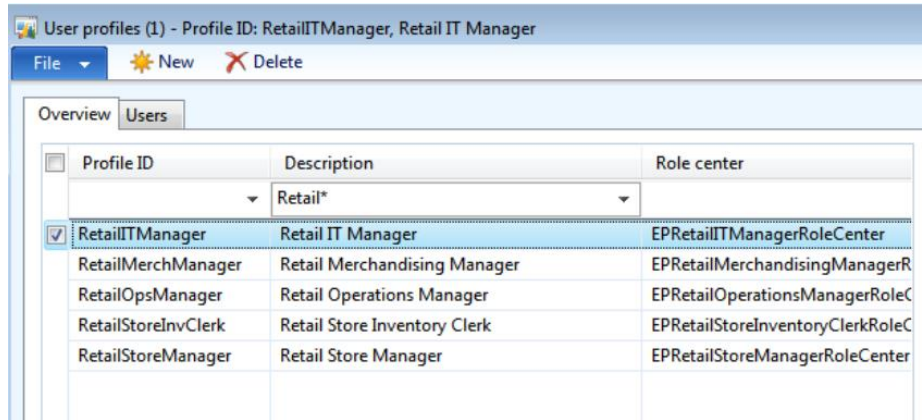


## Assign users to the retail user profiles

1. Click **System administration** > **Common** > **Users** > **User profiles**.
2. Select a retail user profile.
3. Click **Add user**, and then, under **Select user**, select a user.



4. Under **Select company**, click **All companies (Profile: %1)**. Alternatively, click **Select companies**, and then select the check boxes for the companies that you want.

5. Repeat steps 2 through 4 for the other retail user profiles.

## Assign stores to the users for each retail user profile

By assigning a store to a user, you allow the user to access information for that store in Enterprise Portal.

1. Click **System administration** > **Common** > **Users** > **User profiles**.
2. Select a retail user profile, and then click the **Users** tab.
3. Select a user, and then click **Assign stores**.



4. Click **New** to add a store to the list. Then, in the **Local store number** field, select a store.
5. Repeat steps 1 to 4 to add additional stores to the user profile.

**View the Role Center for a retail user profile**

1. Click **System administration** > **Common** > **Users** > **User profiles**.

2. Select a retail user profile.

3. Click **View role center**.



## 20.7 ROLE BASED SECURITY FOR RETAIL

Role-based security was introduced as part of Microsoft Dynamics AX 2012. As part of role based security, built in roles were added to Microsoft Dynamics AX that covered all functional aspects of the product. Microsoft Dynamics AX for Retail 2012 will introduce the uptake of role based security for functionality supported through the retail solution.

**Terms used in Security Setup for Dynamics AX 2012**

1. **Roles**: Where applicable, new retail roles will need to be created so that employees can be assigned to retail specific duties.

2. **Processes:** Functions that can be performed through headquarters and Retail POS will need to be organized in to processes in order to fit into the Microsoft Dynamics AX navigation structure for different process cycles.

3. **Duties:** Duties will need to be defined and created in Retail POS that will consist of a set of privileges required to perform certain tasks and services related to the performance of an individual's position.

4. **Privileges:** Privileges will need to be defined and created. Discreet collections of these privileges make up individual duties within Microsoft Dynamics AX. Privileges can be considered menu item, form and field level securable within the back office.

5. **Permissions:** Permissions are the access levels assigned to privileges. This could be considered the type of access to these privileges such as create, read, update or delete.

**High Level Relationship**



Following is the breakdown of Role Based Security framework in Microsoft Dynamics AX 2012 for Retail:
- o 4 roles
  - Retail Store Manager
  - Retail Merchandising Manager

- Retail Operations Manager
- Retail Warehouse Clerk
  - 59 duties
  - 190 privileges
  - 2300+ entry points covered

## Retail Roles

As part of the feature, entry point level security was applied to all menus within the solution these entry points were then grouped into duties that were assigned to roles delivered out of the box. The roles and the duties/permissions assigned to them can be modified by the partner or end user to better suit the retailer's needs and business processes.

The following roles added for the retail solution with a brief explanation are as follows:

- **Retail Merchandising Manager**: Responsible for catalog, assortment and pricing aspects of retail functionality.
- **Retail Operations Manager**: Responsible for setting up retail reference data and entity management in areas such as stores, terminals, and profiles used by the point of sale terminals
- **Store Manager**: The store manager has access to all Enterprise Portal related retail functionality including all supported reports as well as picking, receiving and stock count functionality. Access is based on stores assigned to the user through user profiles in system administration.
- **Store Inventory Clerk**: Responsible for retail store inventory functions within EP. This includes order picking and receiving duties as well as the entry of stock counts. Access is based on stores assigned to the user through user profiles in system administration.
- **Retail Warehouse Manager** : Responsible for retail warehouse inventory functions

**Note:**
Some additional configuration related duties were added to the Microsoft Dynamics AX Information technology manager role that shipped with Microsoft Dynamics AX 2012. These duties are mostly related to setup, configurations of store connect and services related configuration.

## List of Duties Assigned by Security Role for Retail

**Retail Merchandising Manager**:

**Retail Operations Manager**:



- **Store Manager**:

- **Store Inventory Clerk**:



- **Retail Warehouse Manager**:



## 20.8 TIME REGISTRATION

For retail worker to enter time they must be set up as time registration workers.

✎ **Note:**

Workers can only be activated as a time registration worker in the company that the worker is employed.

## 20.8.1 ENABLE WORKERS TO REGISTER TIME AND ATTENDANCE

1. Click **Retail** > **Common** > **Workers**.



2. On the **Workers** list page, select the worker.
3. On the **Time registration** tab, click **Activate on registration terminals** to open the **Create time registration worker** form.


📝 **Note:**

> The **Activate on registration terminals** button is available only if you are working in the company that the worker is employed in.

4. The **Active** check box is selected by default. This indicates that the worker has been activated as a time registration worker.
5. In the **Activation date** field, select a date. To activate it immediately leave it blank. To activate it in the future enter the future date.
6. In the **Calculation group** field, select the group of workers that the worker's registrations are calculated with.
   a. To add a new **Calculation Group** right click on the field and select **View Details**



   b. Click **New** to add a new Calculation group
   c. Enter the **Name** and **Description** of the new calculation Group

d.  To specify a password click on the General tab and put in the **Password** in the field.

A supervisor or manager is responsible for calculating registrations for this group of workers.

7.  If the worker is responsible for calculating registrations for other workers, select a calculation group in the **Default calculation group** field. When the worker opens the **Calculate** form, this calculation group is displayed. This is the same selection from the Calculation Group.
8.  In the **Approval group** field, select the group of workers that the worker's registrations are approved with. A shop supervisor or manager is responsible for approving registrations for this group of workers.
    a.  To add a new Approval group, right click on the field and select **View Details**
    b.  Click **New** to add a new Calculation group
    c.  Enter the **Name** and **Description** of the new calculation Group

d. To specify a password click on the General tab and put in the **Password** in the field.

9. In the **Standard profile** field, select the work time profile that is used to calculate time and pay if the worker makes no registrations during a work day.

**Note**

Profiles cannot be created by location

a. To create a new **Standard profile**, right click on the field and select **View Details**
b. Click **New** to create new profile

c. In the **Profile** field, type a name for the profile.
d. In the **Description** field, type a description for the profile.
e. Click the **General** FastTab.



f. In the **Profile** section, press CTRL+N to create a new line.
g. In the **Profile type** field, select the **Profile type** for this profile line.
h. Enter starting and ending work times in the **Start** and **End** fields for the selected profile type.

i. If necessary, you can create tolerances on a profile type line. A tolerance is a period, in minutes, before or after the job has started or ended. The profile type is still valid if registrations are made within the tolerance period. Enter tolerances in minutes in the **Tolerance before start**, **Tolerance after start**, **Tolerance before end**, and **Tolerance after end** fields.

j. Use the **Switch code** field to enable workers to make a registration on an alternative profile type than the one inserted in the profile. For example, if you have included a **Flex+** profile type in your profile, you can enable workers who have flextime to be able to convert registered flextime into overtime. In that case, in the **Switch code** field, select the option for converting flex time into overtime.

k. You can enable workers to cancel breaks in their profile. This might be useful in a situation where a supervisor asks workers to cancel all breaks for the workday so that rush orders can be completed. In that case, you must select an alternative profile type to the **Break** profile type. The alternative profile is as a basis for calculating time registrations if the worker cancels the break.

l. In the **Secondary** field, on the **Break** profile type line, select the profile type that should replace a **Break** profile type, for example, **Overtime**.

m. In the **Start day** and **End day** fields, select the appropriate workday, according to the selections you made in the **Start** and **End** fields in step 8.

   **Note**

   Typically, you select the same weekday as the day that you are creating the profile for. However, if you are creating a profile for a night shift, a profile type may start late in the evening on one weekday and end after midnight on the following week day. In that case, you must select one weekday in the **Start day** field, and the following weekday in the **End day** field.

n. When you have created one weekday in a profile, the easiest way to set up the other weekdays is to copy that first weekday, and then adjust the other days, as needed.
   i. In the **Profile** form, on the **General** tab, select the weekday to copy in the **Weekday** section.
   ii. Click **Copy**, and select **Copy day**.
   iii. Select the weekdays to copy the profile to, and select the **Overwrite** check box.
   iv. If necessary, adjust the other weekdays if they have different profiles from the weekday that you copied.

o. If you have already created a work time profile covering a whole week, you can copy the entire profile and then make adjustments to the new profile, as needed.

    i. In the **Profile** form, select the profile to copy.

    ii. Click **Copy**, and select **Copy profile**.

    iii. Enter the name of the new profile in the **Copy to** field.

**Note**

To overwrite an existing profile, select that profile in the **Copy to** field, and then select the **Overwrite** check box.

p. If your company works night shifts, the profile day might start before midnight. If so, you can make the following adjustments for the night shift profile on the **General** tab, in the **Profile staggering** section:

    i. In the **New 24-hour period** field, enter a starting time for the next profile day.

    ii. In the **24-hour period start** field, select **Previous day**.

**Tip**

If you want registrations made in the current day to apply to the next 24-hour period, select the **Push** check box.

q. Some workers may not have fixed work hours. Consequently, the **Overtime / flex limit** and **Max. flex limit** fields on the **General** tab can be used to determine **Standard time** in hours, and the maximum number of flexible hours allowed before converting registered time into overtime.

For example, if you insert the number 40 in the **Overtime / flex limit** field, and the number 10 in the **Max. flex limit** field, it means that the worker has a 40-hour work week. If the worker works more than 50 hours during a week, 40 hours are considered standard work time, 10 hours are added to the flex balance, and the number of hours exceeding 50 hours is considered to be overtime.

10. In the **Pay agreement** field, select the pay agreement that is used when the worker's pay is calculated.

- To create a new **Pay Agreement** click **New**
- Enter the **Pay Agreement** and **Description**
- On the **General** FastTab, enter the **From date** and **To date**
- Enter the **minutes** that will trigger pay deduction
- Enter the **Rounding from** and **Round-off** for the overtime **Round off**
- In the **Pay agreements** form, click **Pay agreement lines**.
- Create a new pay agreement line for the relevant week days for the pay type.

11. In the **Period code** field, select the pay period that is used when the worker's pay is calculated.

12. In the **Profile group** field, select the group that the worker belongs to. Profile groups contain one or more work time profiles that can be applied when a worker makes clock-in and clock-out registrations. The profile that you select depends on the date or the time of day that the worker makes a clock-in registration. For example, the worker may work during a day shift or a night shift.

13. Select the **New bundle** check box to stop the worker's active jobs when he or she starts a new job. If you clear the check box, new jobs are bundled with the jobs that the worker previously started, but that have not yet been stopped or completed. The **New bundle** check box relates to job bundling. If you use job bundling, a worker can start multiple jobs at the same time in the **Job registration** form in **Production control**. If multiple jobs are started at the same

time, but they are not completed at the same time, the job bundling functionality calculates the time that is spent on each job.

14. In the **Category** field, select the cost category that is used when the worker makes registrations for projects and project activities.

15. Select the **Use timecard** check box to allow the worker to make registrations on the electronic timecard in **Time and attendance**.

16. In the **Configuration** field, select the registration form that is displayed when the worker logs on to the **Job registration** form in **Production control**.

17. Select the **Flex allowed** check box to allow the worker to register flextime.

18. If the worker is allowed to register flextime, select a flex group in the **Flex group ID** field.

19. Click **OK** to save and close the form.

## 20.8.2 SETUP TIME REGISTRATION WORKER

To facilitate management of time registration worker other tasks and setup can be performed. These can be done through **Retail** > **Common** > **Workers**. Select a worker and from **Time registration** tab click on **Setup time registration worker.**



The following options are given:

- **Absence registration:** Use the Absence registrations list page to view absence registrations and create new absence registrations for a worker.



- To create a new registration click **New** to add a new record
- Enter the **start date/time** and **end date/time** of the absence
- Enable **Interrupt** check box to automatically stop the absence registration if the worker makes a clock-in registration before the specified end date and time
- If the registration was **Interrupted** this will be enabled
- Select the **Absence group** and the **Absence code.** New ones can be added by going to the **Human Resources > Setup > Absence > Absence groups**.
- The description field shows the description of the **Absence code**.
- **Profile calendar:** The profile calendar is used to apply a specific work time profile to one or more workers on specific dates. When you create a profile calendar entry for a worker, the worker's time registrations are calculated for a profile that is different from his or her standard work time profile for a specific period of time. You can create a profile calendar entry for one day or for a longer period of time.

- Click New to create a line.
- In the **Compose profile calendar** form, in the **Profile calendar code** field, select the worker or group of workers to add a work time profile to:
  - **All** – Apply the work time profile to all workers.
  - **Group** – Apply the work time profile to a group of workers.
  - **Table** – Apply the work time profile to a specific worker.
- Depending on the selection in the **Profile calendar code** field, enter a worker ID or a profile group ID in the **Profile calendar relation** field.
- In the **Date** field, enter the date to add the profile.
- In the **Profile** field, select the profile to use.
- In the **Special day** field, click a selection, if applicable. You can use this field to change pay or add absence registrations.

- **Flex balance:** This form shows the worker's flex balance based on the flex transactions. Also has the ability to the correction of the flex.
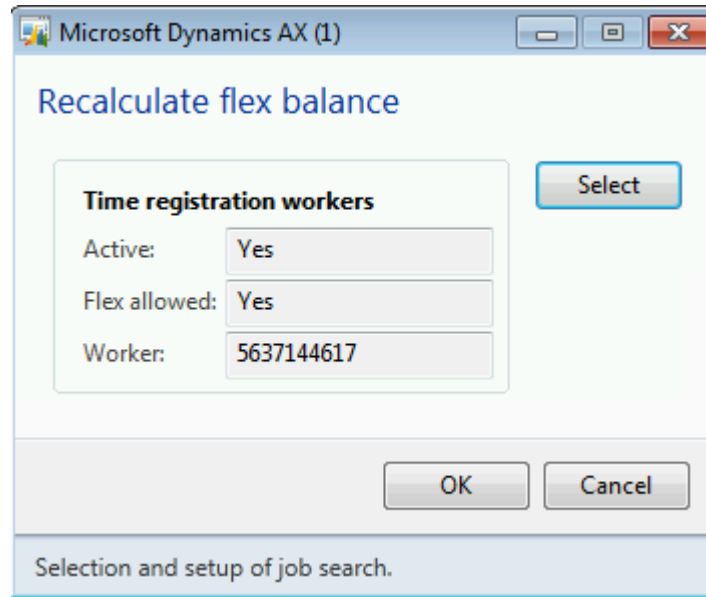
- **Opening flex balance:** Sets the worker's opening flex balance and recalculates the balance based on the balance.
- **Worker balances:** Shows the worker's balance based on the transactions.
- **Recalculate worker balances:** The functionality to recalculate the worker's overall balance.
- **Switch code:** This is used for switching a registration for another registration or for activating certain pay lines in a pay agreement. Switch codes can be used to override standard settings, for example, in case a supervisor allows a worker to take time off instead of receiving unpaid overtime. Switch codes can also be used to enable payment of a specific premium to a worker. Switch codes are valid for the entire profile day.
- **Temporary group assignment:** This form is used to second a worker to another calculation group or approval group for a specific period of time

### 20.8.3 CALCULATE TIME AND REGISTRATION FOR WORKERS

You can calculate time and attendance registrations for workers in the following ways:

- Calculate registrations for all workers who are assigned to a calculation group.
- Calculate registrations for a specific worker.
- Calculate registrations by using a batch job.
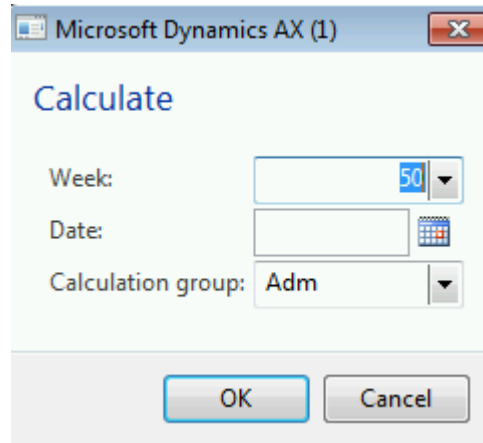
You can use the **Day view** and **Week view** filters as follows:

- **Day view** – View registrations for all workers for a selected weekday.
- **Week view** – View registrations for a selected worker for a selected week.

### 20.8.3.1    Calculate registrations for all workers in a calculation group

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.



2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click OK.
4.
5. In the **Calculate** form, click **Update** > **Calculate**.

6.  In the **Calculates jobs** form, verify that the calculation group is selected in the **Calculation group** field.
7.  If you use a workflow for approvals, select the **Submit to workflow** check box in the **Calculates jobs** form.
8.  Click Close.

**Note**

If registrations contain errors because of missing information or for other reasons, you must correct the registrations, and then calculate the registrations again. To view the worker registrations that contain errors, click **Display errors**. The **Error** tab displays information about the type of error.

### 20.8.3.2    Calculate registrations for one worker at a time

You can calculate registrations for a specific worker. Typically, you calculate registrations for a worker after you have corrected registration errors for that worker.

1.  Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2.  In the **Week** or **Date** field, select the week or date to calculate registrations for.
3.  In the **Calculation group** field, select the calculation group to calculate registrations for, and then click OK.
4.  In the **Calculate** form, select the worker in the upper pane and click **Select**.
5.  Select the **Calculated** check box for the registration.
6.  Click Close.

### 20.8.3.3    Reverse calculated registrations

You can reverse the registrations that have been calculated for a worker. However, you cannot reverse calculated registrations after payroll information for the period has been exported to the payroll system. Also, if registrations have been approved, you can reverse the calculated registration only in the **Approve** form.

1.  Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2.  In the **Week** or **Date** field, select the week or date to calculate registrations for.
3.  In the **Calculation group** field, select the calculation group to calculate registrations for, and then click OK.
4.  In the **Calculate** form, select the worker in the upper pane and click **Select**.
5.  Clear the **Calculated** check box for the registration.

6. Click Close.

**Tip**

If you have changed the registrations, and you want to restore the original values, delete all lines, and then click **Restore lines**.

### 20.8.3.4    Calculate registrations by using a batch job

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click OK.
4. In the **Calculate** form, click **Update**, and then click **Calculate**.



5. Start the batch job.

**Note**

If you use a workflow for approvals, select the **Submit to workflow** check box.

6. Click **OK**.

## 20.8.4 APPROVE TIME AND ATTENDANCE REGISTRATION

After each work day, workers' registrations must be calculated and approved. You can approve registrations after they have been calculated, and no errors occurred during calculation. You can approve registrations by using one of the following:

- A workflow
- A batch job
- Manually for an approval group
- Manually for one worker at a time

### 20.8.4.1 Approve registrations using a workflow

The approval workflow is an automatic approval process. All registrations are validated against the rules in the approval workflow. Only deviations that are not accepted in the workflow must be approved manually. The worker who is responsible for calculating registrations, for example, a team leader, initiates the approval process. The worker who is responsible for approving registrations, for example, a payroll administrator, receives a message regarding the need for manual approval only when some registrations could not be approved according to the approval workflow.

1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.



2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. In the **Approve** form, select the worker in the upper pane, on the **Overview** tab.

5. Click the **Action** button. If the worker's registrations are ready for approval, the **Approve** and **Reject** options are available.
   o To approve, click **Approve**.
   o To reject, click **Reject**, and insert a note explaining why the registrations are rejected.

### 20.8.4.2       Approve registrations using a batch job

1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.
2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. Click **Update** and **Approve**.

5. Start the batch job.

### 20.8.4.3    Approve registrations for all workers in an approval group

1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.
2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. Click **Update** and **Approve**.
5. Click **OK**.

**Note**

If the approval process returns errors on some registrations, for example because of missing information, you must edit those registrations and approve again.

**Tip**

To see a list of worker registrations that contain errors in the registration lines, click **Display errors**. The **Error** tab provides information about the type of error.

### 20.8.4.4    Approve registrations for one worker at a time

You typically must approve registrations for an individual worker after you have corrected errors for that worker.

1. In the **Approve** form, select the worker in the upper pane.
2. Select the **Approved** check box for the worker.

### 20.8.4.5       Reverse an approval

Approved registrations for a worker can be reversed until payroll information for the period has been exported to the payroll system. Do the following to reverse approved registrations for a worker:

1. In the **Approve** form, select the worker in the upper pane.
2. Clear the **Approved** check box.

**Tip**

If you have made several corrections to the registrations, and, therefore, must restore the lines to their original value, delete all lines, and then click **Restore lines**.

Once approved the data can be exported out of the system. These can be exported out as CSV files to be imported into a payroll system.

## 20.8.5 INQUIRE JOURNAL REGISTRATION

To inquire on time registration transactions on journal click on **Retail > Common > Workers**

The **Workers** form will open. Select the worker from the list to view time registration.

Click on **Journal registration** from the **Inquiries** group on the **Time Registration** tab.



The Overview tab displays all the information related to the time registration.

It also displays other information if the time registration is related to project or production.



The **General** tab displays detailed information for the time entries from the **Overview** tab

The **Error** tab shows information if there are any errors associated with the transaction.



The **Financial dimensions** show the dimension related information associated with the time entry.

## 20.8.6 INQUIRE TRANSFERRED REGISTRATION

A transferred registration is posted to an activity or job that it relates to, for example, a production order or a project. Also, payroll transactions are generated for each worker based on the registrations.

To view the transferred registration click on **Retail > Common > Workers**

The **Workers** form will open. Select the worker from the list to view time registration.

Click on **Transferred registration** from the **Inquiries** group on the **Time Registration** tab.
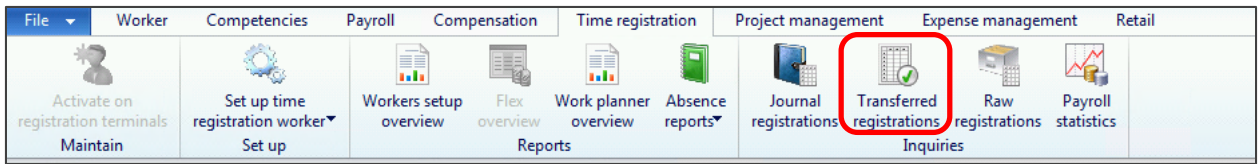


The information available is related to the activity and job.

## 20.8.7 INQUIRE RAW REGISTRATION

Use this form to view raw registration for all time registration workers.

To view the raw registration click on **Retail > Common > Workers**

The **Workers** form will open. Select the worker from the list to view time registration.

Click on **Raw registration** from the **Inquiries** group on the **Time Registration** tab.
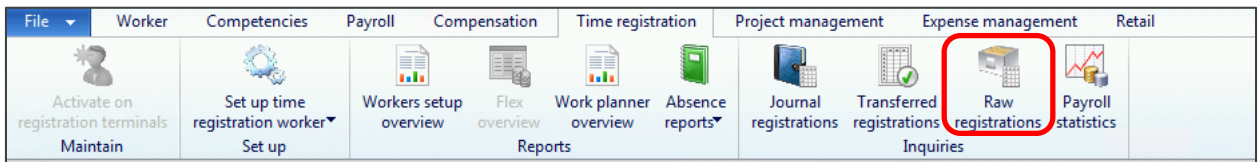


The form consists of the following:

The **Overview** Tab that shows the registrations made by the worker on the selected date.

The **General** tab shows the detailed information related to production feedback for the registration selected on the **Overview** tab.

There is functionality to clean up and load raw job. This can be done by selecting the **Clean up registration** and **Load registrations** buttons respectively.
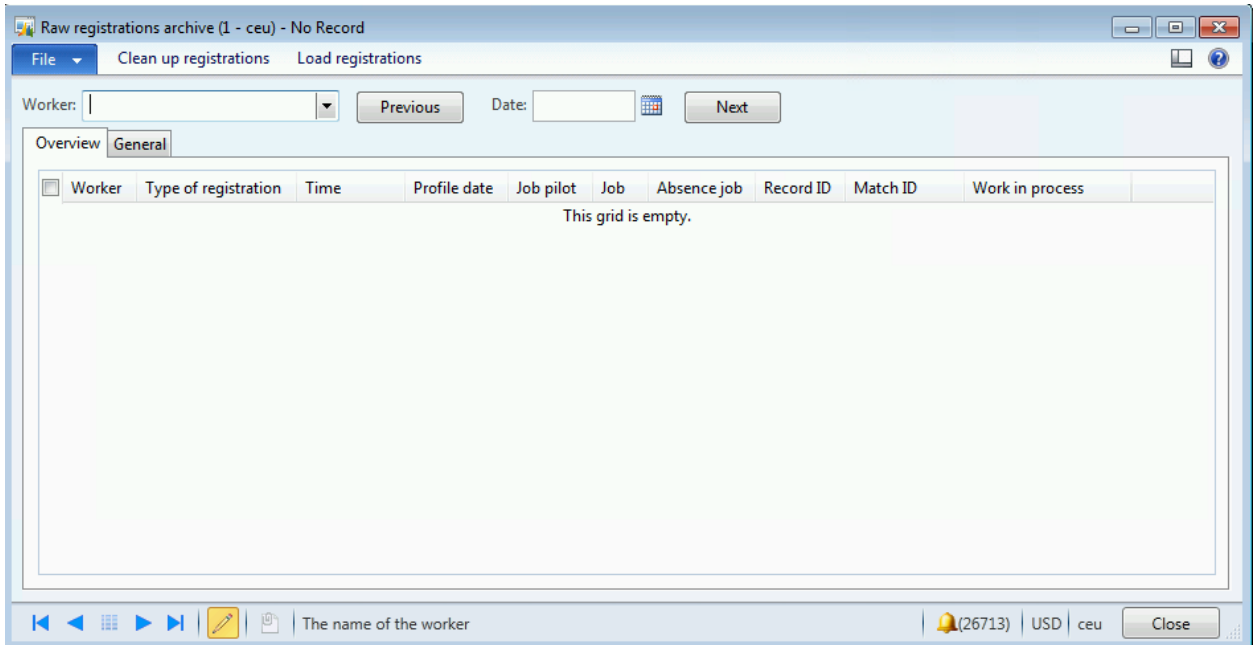
## 20.8.8 INQUIRE PAYROLL STATISTICS

You can view the calculation of workers' pay for different types of wages, such as standard time and overtime. The basis for a payroll statistic is one or more pay types that are summarized over a specific period of time.

To view the payroll statistics click on **Retail > Common > Workers**

The **Workers** form will open. Select the worker from the list to view payroll.

Click on **Payroll statistics** from the **Inquiries** group on the **Time Registration** tab.



The form consists of the following:

The **Overview** Tab that shows the payroll information including the balance, change and adjustments for the worker.

The **General** tab shows the detailed information related to payroll information for the registration selected on the **Overview** tab.

The **Set adjustment** button can be used to adjust the amount for the adjustment.

# Retail Application Functionality in Microsoft Dynamics AX 2012 R2

**Part 3**

**DISCLAIMER**

## 30 RETAIL INQUIRIES AND REPORTS

### OVERVIEW

This module provides information about inquiries and reports.

1. View retail store transactions

2. View online store transactions

3. View retail sales

4. View Retail POS shifts

5. View posted statements

6. View credit memos

7. View or unlock gift cards

8. View loyalty cards

9. View Commerce Data Exchange: Synch Service Messages

10. View retail reports

The standard reports that are included with Microsoft Dynamics AX can be used in Microsoft Dynamics AX for Retail. However, Microsoft Dynamics AX for Retail also provides additional inquiry capabilities and reporting options.

Both inquiries and reports provide filtering and sorting. Therefore, you can quickly view the information that you want. Additionally, you can perform custom filtering by date. You can also generate transaction-level and statistics-level reports based on the time, so that you can analyze the sales flow throughout the day. Additionally, you can display a graphical representation of sales by item and store.

Microsoft Dynamics AX for Retail provides reports that are built on statistic tables, item value entries, and transactions from the registers. These reports can help you determine which items or variants are selling best, and which stores, registers, and staff are performing best.

All the standard sales reports that are included with Microsoft Dynamics AX can be used to analyze sales information. However, the standard Microsoft Dynamics AX reports do not include products that are included in statements that have not been posted.

# Retail Application Functionality in Microsoft Dynamics® AX 2012 R2

The following table lists the forms that support the Inquiries and reports business process component. The table entries are organized first by task, and then alphabetically by the name of the form that is used.

**Note:** To open some of the forms in the following table, you must enter information or parameter settings.

| Business process component task | Form name | Usage |
|---|---|---|
| View retail store transactions. | **Retail store transactions** | View transactions specific to retail stores. |
| View online store transactions. | **Retail store transactions** | View transactions specific to online stores. |
| View retail sales. | **Retail** | View retail sales by date and category. |
| View retail shifts. | **Shifts** | View information about the shifts from individual stores, including Z reports. |
| View open statements | **Open statements** list page | View all open statements. |
| View posted statements. | **Statement journal** | View statements that have been posted. |
| View credit memos. | **Credit memo table** | View the retail credit memos that have been issued. |

| Business process component task | Form name | Usage |
|---|---|---|
| View gift cards. | **Gift cards** | View information about all the retail gift cards that have been issued. |
| View loyalty cards. | **Loyalty cards** | View information about all the retail loyalty cards that have been issued. |
| View Microsoft Dynamics AX for Commerce Data Exchange: Synch Service messages. | **Commerce Data Exchange: Synch Service messages** | View messages that have been sent from Commerce Data Exchange: Synch Service. |
| View retail reports. | **Retail store metrics** | View key information about retail stores, so that you can compare performance by store, employee, and product. |
| | **Sales performance by products** | View and compare sales performance by product during periods that you specify. |
| | **Sales performance by retail product category** | View and compare sales performance by retail product category during periods that you specify. |
| | **Sales performance by sales category** | View and compare sales performance by sales category during periods that you specify. |
| | **Gross margin return on inventory** | View the gross margin return on inventory investment (GMROII) of |

| Business process component task | Form name | Usage |
|---|---|---|
| | investment (GMROII) by products | product inventory by product. |
| | Gross margin return on inventory investment (GMROII) by category | Measure inventory productivity by reviewing the gross margin return on inventory investments (GMROII) of product inventory by product category. |
| | Performance by terminal | View the retail terminals that are performing the best within an operating unit. |
| | Top 10 OU performers in current year | View the top ten performing stores, based on sales and gross margin. |
| | Trend by operating unit | View and compare the sales trends for selected retail channels for a selected period of time. |
| | Sales comparison year over year by operating unit | View and compare the sales trends for one or more retail channels in an operating unit. |

## 30.1.1 VIEW TRANSACTIONS

You can view a list of transactions for all statements for retail stores or for a specific statement. The statement posting process is used to account for the transactions that occur in Microsoft Dynamics AX for Retail POS. The statement posting process uses Retail Scheduler to transmit a set of the point-of-sale (POS) transactions to the Microsoft Dynamics AX client so that you can view them in this form.

In Microsoft Dynamics AX 2012 R2, you can also view a list of transactions for all statements for online stores.

The following types of transaction are included in the list:

- Logon
- Logoff
- Sales
- Payment
- Remove tender
- Float entry
- Change tender
- Tender declarations
- Voided
- Open drawer
- Negative adjustment
- End of day
- End of shift
- Sales order
- Sales invoice

View transactions

1. To view the transactions for all statements for retail stores:

- 
- Click **Retail** > **Inquiries** > **Retail store transactions**. Transactions are listed in the left pane in the **Retail store transactions** form.
- 
- Or
- 
- To view the transactions for all statements for online stores:
- 

    Click **Retail** > **Inquiries** > **Online store transactions**. Transactions are listed in the left pane in the **Online store transactions** form.
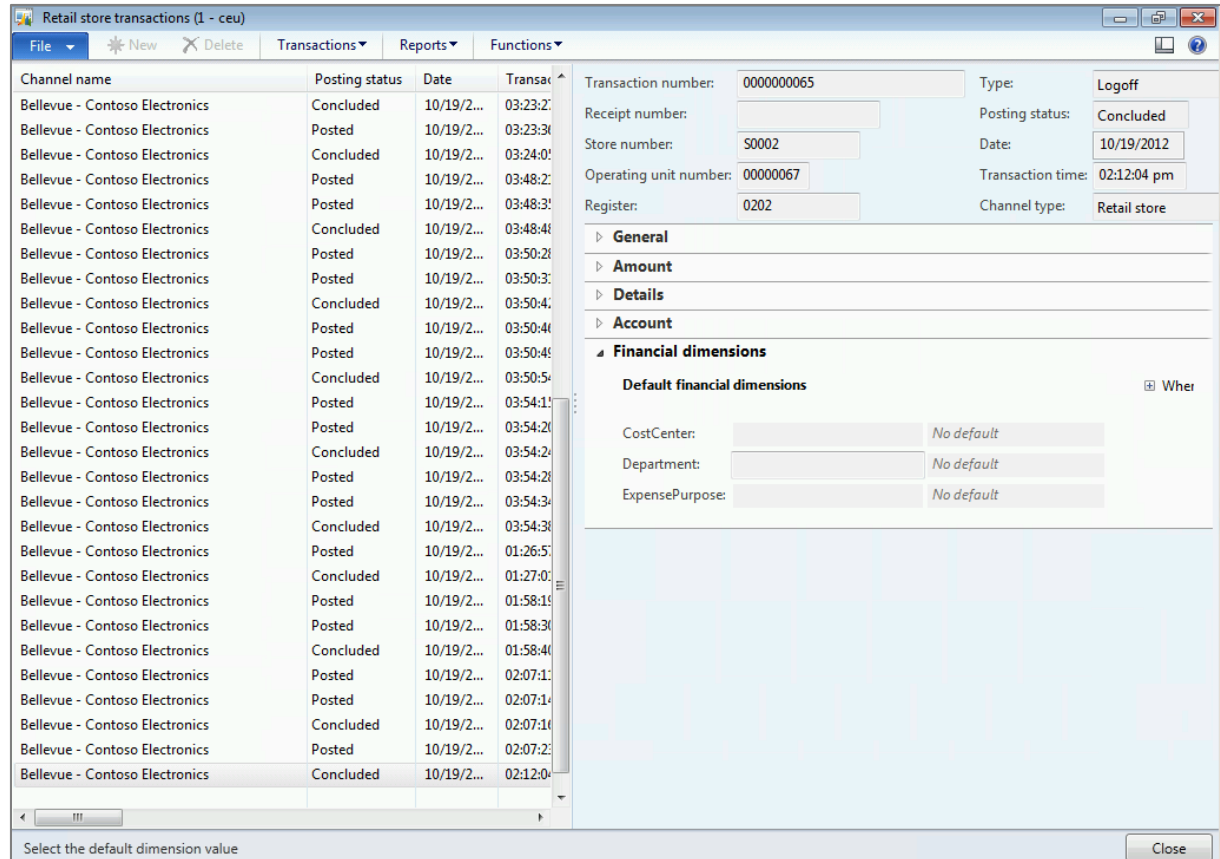
2. To view the transaction for a specific statement: Click **Retail** > **Inquiries** > **Posted statements**. In the **Statement journal** form, click **Inquiries**, and then click **Transactions**. Transactions are listed in the left pane in the **Transactions** form.

●

3. Depending on your version of the product, do one of the following to add or remove filters for query results:

●

   ● In Microsoft Dynamics AX 2012 R2: In the transactions form, click in the left pane, and then press CTRL+G to set the filter parameters and filter the transactions in the list.
   ● Otherwise, in the transactions form, click the filter buttons on the toolbar. To view only posted transactions or un-posted transactions, use the filter in the **Entry status** column.

4. To view a sale, payment, or reason code that is associated with a transaction

   ● In the transactions form, select the transaction, click **Transactions**, and then select an option.

## 30.1.2 VIEW RETAIL SALES

1.  Click **Retail** > **Inquiries** > **Retail sales**.

    The **Retail** form displays a list of the sales transactions that have been performed at the stores. Microsoft Dynamics AX for Retail retrieves records based on the date range, time range, retail hierarchy, and item number.

2.  To view only the transactions that you want, you can specify a value for all or some of the parameters. You can also view only posted transactions or open transactions.

3.  To view the on-hand availability of an item, the inventory transactions that pertain to the line, and lot inquiries, select a product, click **Inventory**, and then select an option.

## 30.1.3 VIEW RETAIL POS SHIFTS

You can use the **Shifts** form to look up closed shifts from stores. If some shifts did not post during statement posting, this form can help you determine the reason. Shifts have unique numbers and are associated with specific registers.

The information on the **Details** tab includes the information that is on X reports.

You can also use this form to look up previous Z reports.
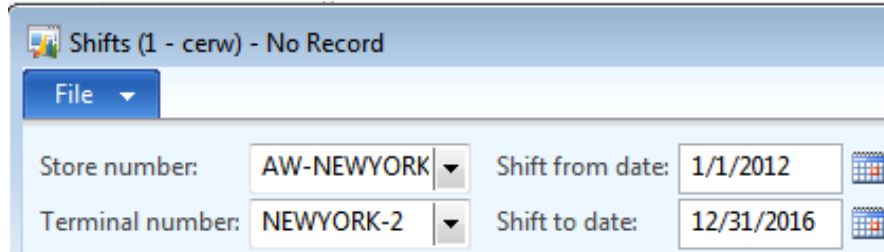
1.  Click **Retail** > **Inquiries** > **Shifts**.



2.  To filter the list, follow one or more of these steps:
    o   In the **Store number** field, select the store to view shifts for.
    o   In the **Terminal number** field, select the terminal to view shifts for.
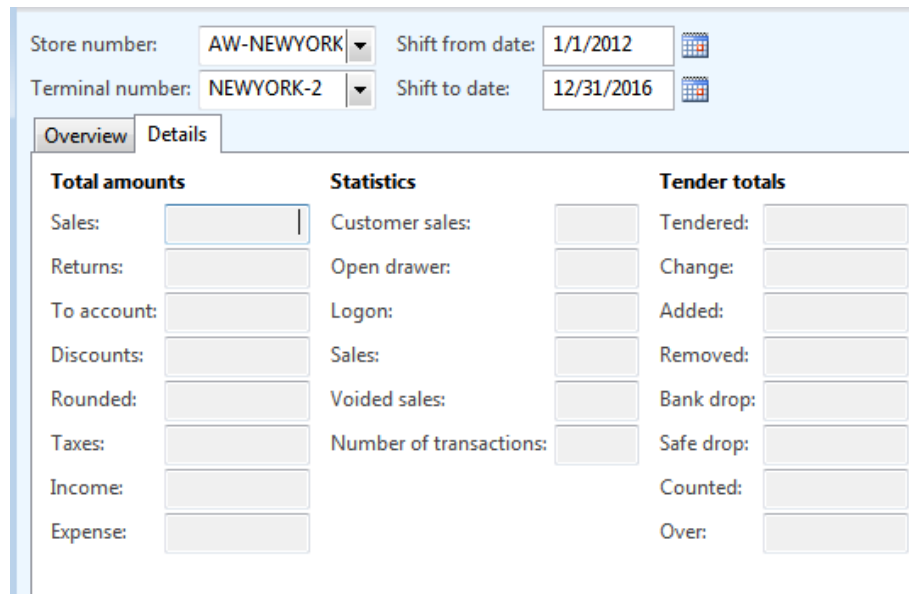
  o In the **Shift from date** field, select the starting date for the range of shifts to view.

  o In the **Shift to date** field, select the end date for the range of shifts to view.



3. To view the details of a shift, select the shift, and then click the **Details** tab.



4. To view the Z report for a shift, select the shift, click **Functions**, and then click **Z-Report**.
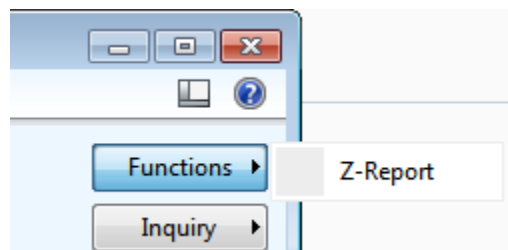


5. To view the transactions that are included in a shift, select the shift, and then click **Inquiry**. Then click the option for the type of transactions to view.
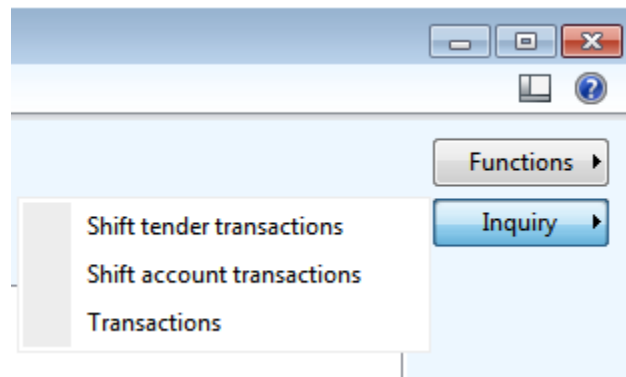
### 30.1.4 VIEW POSTED STATEMENTS

The **Statement journal** form displays a list of all statements and statement lines that have been posted. There is one statement line per payment method per register. You can view a list of the transactions that are associated with any statement or statement line. These transactions include tender declaration transactions, payment transactions, and banked tender transactions. You can also view the vouchers that are included in the sales orders for each statement. These vouchers include sales vouchers, payment vouchers, discount vouchers, and the special vouchers that are created by Microsoft Dynamics AX for Retail.

To sort the results of the inquiry, click the column headers. To filter the data based on any field in the header or any line in the form, click the filter buttons on the toolbar. For example, filter the upper pane by a specific store, and then filter the lower pane by a specific register.

To access the **Statement journal** form, do the following:

- Click **Retail** > **Inquiries** > **Posted statements**.

## 30.1.5 VIEW CREDIT MEMOS

Credit memos are vouchers that can be issued and redeemed at the stores. Use the following procedure to view the credit memos that have been issued.

1. Click **Retail** > **Inquiries** > **Credit memo**.

   The **Credit memo table** form displays a list of all the retail credit memos that have been issued. Each line includes the number of the credit memo, the date and time of the transaction, and the amount or value of the credit memo. If the credit memo has been redeemed, the **Applied** check box is selected, and the applied amount, applied date, and applied time are updated accordingly.



2. You can filter the transactions for credit memos based on the transaction and ranges for the applied date. Use the query groups that are provided in the form.

3. A report that contains the data is displayed on the screen. To print this report, click **Print** in the **Credit memo table** form.
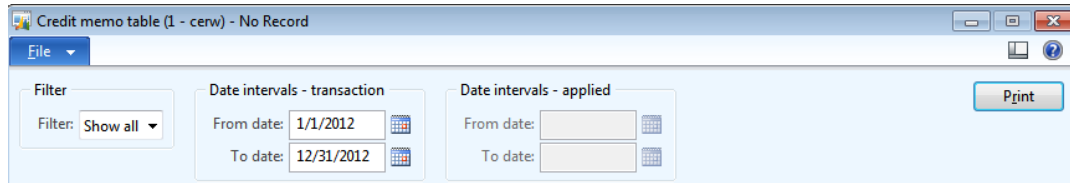
## 30.1.6 VIEW OR UNLOCK GIFT CARDS

The **Gift cards** form displays information about retail gift cards that have been issued and the transactions that are linked to them. The form displays card numbers in the upper pane and transactions that are related to each card in the lower pane.

To prevent gift cards balances from being overdrawn, gift cards are locked until each related transaction is posted. If a network failure or other problem prevents transactions from posting, you can manually unlock a gift card by using the following procedure. To view gift cards, open the **Gift cards** form by following step 1.

1. Click **Retail** > **Inquiries** > **Gift cards**.
2. Select the gift card in the list, click **Functions**, and then click **Unlock**.
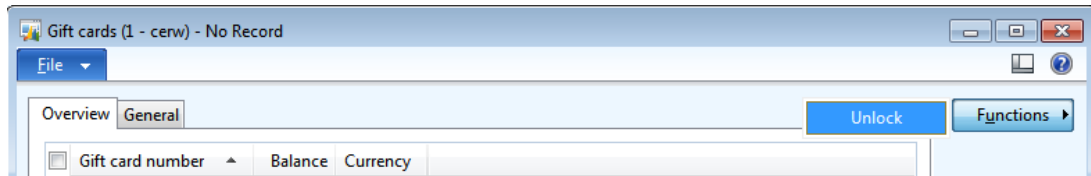
## 30.1.7 VIEW LOYALTY CARDS

The **Loyalty cards** form displays information about all the retail loyalty cards that have been issued and the transactions that are linked to those cards. The upper pane of the form displays card numbers, and the lower pane displays the transactions that are related to each card.

1. Click **Retail** > **Inquiries** > **Loyalty cards**.
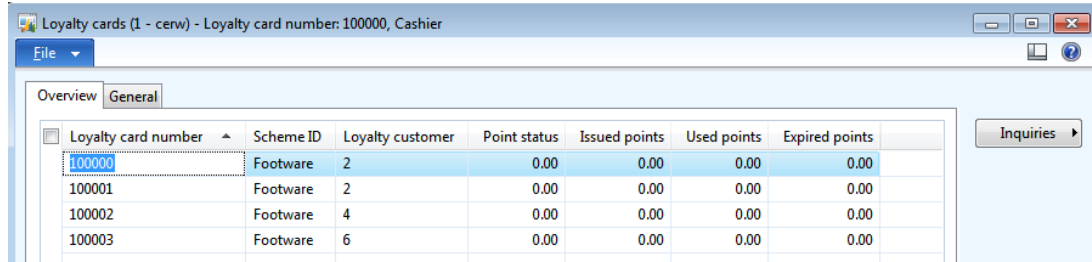
2. To view information about a specific loyalty customer, select a loyalty card in the list, click **Inquiries**, and then click **Loyalty customer**.
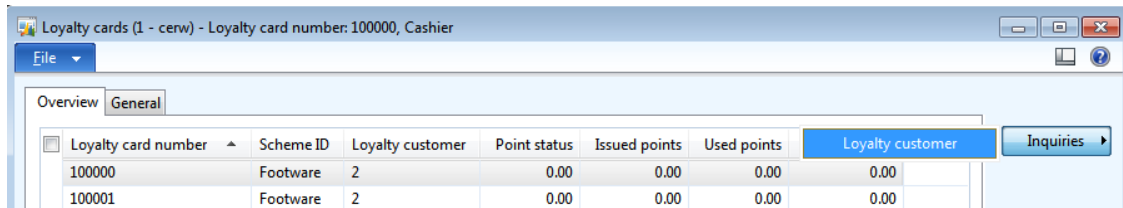


## 30.1.8 VIEW RETAIL REPORTS
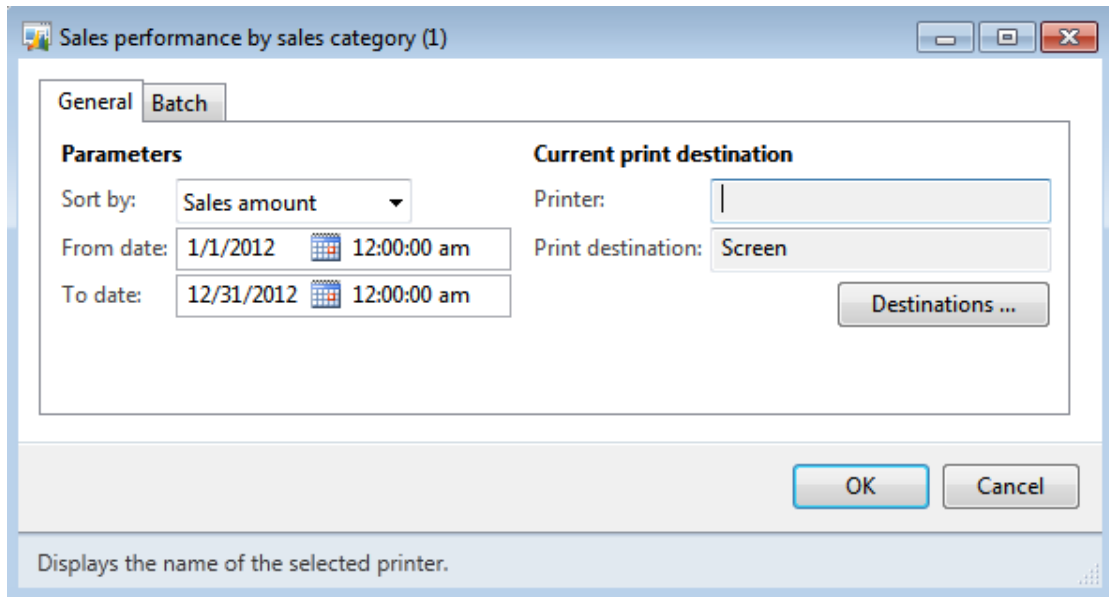
Microsoft Dynamics AX includes numerous reports that you can use to gain valuable insight into your business. Additionally, the **Retail** module includes the following reports:

- **Retail store metrics** – View key information about retail stores to compare performance by store, employee, and product.

- **Sales performance by sales category** – View and compare sales performance by sales category during periods that you specify.



- **Sales performance by products** – View and compare sales performance by product during periods that you specify.



- **Sales performance by retail product category** – View and compare sales performance by retail product category during periods that you specify.

## 30.1.9 VEW COMMERCE DATA EXCHANGE: SYNC SERVICE MESSAGE

Commerce Data Exchange: Synch Service is a service that shares data among retail components. These components include the head office, stores, and individual point of sale (POS) terminals. Retail Scheduler is used to manage the distribution of data between the head office and the stores.  The messages that is stored in the Commerce Data Exchange: Synch Service database in the tables IncomingMessages and OutGoingMessages can be moved to the AX HQ database by enabling the RSC upload options. These messages then can be viewed by the following

3. Click **Retail** > **Inquiries** > Commerce Data exchange: Synch service message
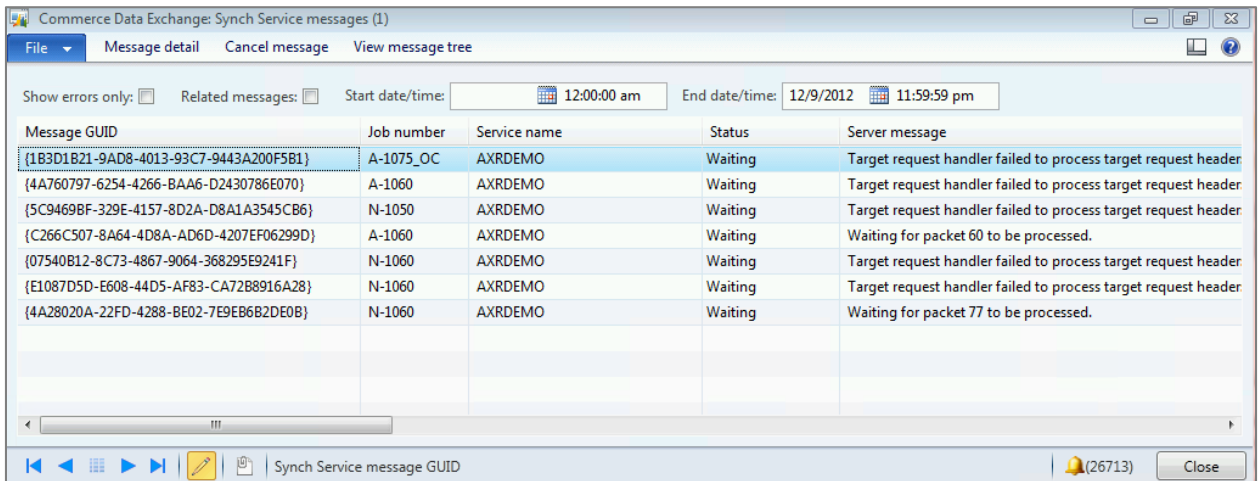


4. To view information about a specific messages click on **Message Details.** This will show the in depth information of the message. The **Cancel** function is also available here to cancel the message.

5. To view the hierarchy of the message click on the **View message tree**. The following form will open showing the tree hierarchy.
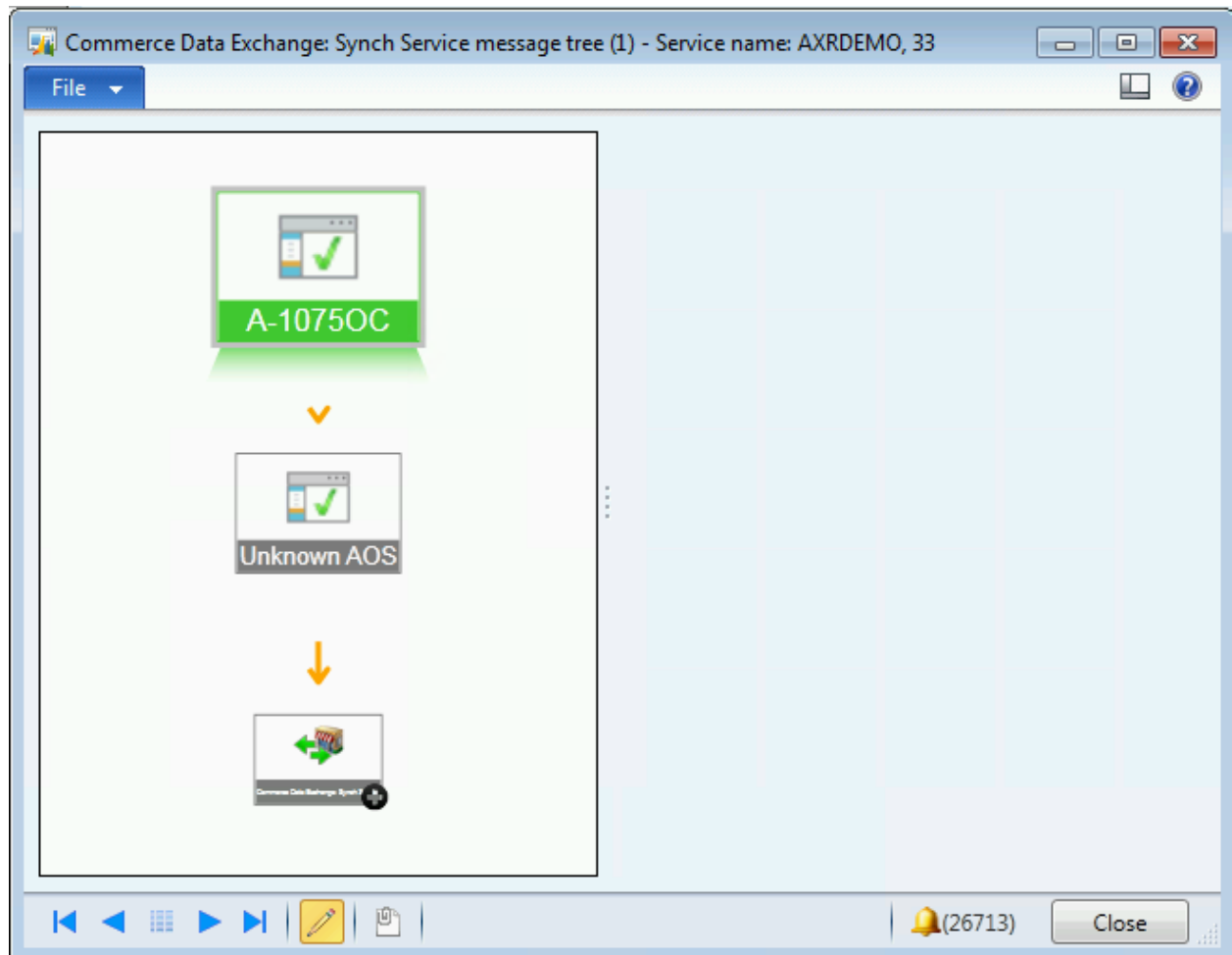
The above will show where the error occurred.

6. To cancel any message select the message and click **Cancel**.
7. The form has the following filters:
    1. **Show errors only**: This will only show messages that have errors.
    2. **Related Messages**:
    3. **Start Date/Time** and **End Date/Time**: This will show the messages that were created between the date range.

## 31 WORKERS

**OVERVIEW**

This module explains how workers are cashiers and store managers created and managed at Microsoft Dynamics AX for Retail. The workers in retail are an uptake from the Human resources module in Microsoft Dynamics AX 2012.

The workers are associated with a position. A position is always assigned to a job, which drives the default POS permission associated with a user. The POS permissions can be overridden at a worker level.
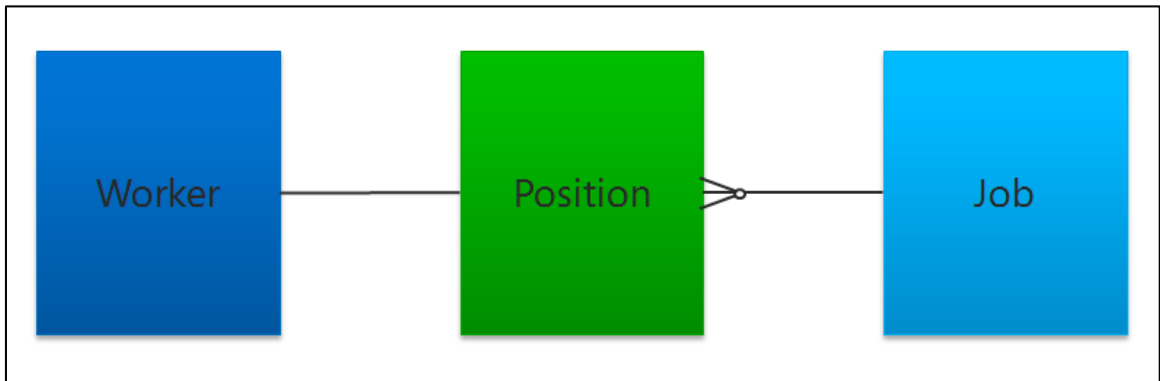


A job can be associated with multiple positions, and a worker is associated with a position.

The following diagram shows the conceptual model of the connections among POS permission groups, jobs, and workers.

## 31.1 SET UP A JOB

Before workers can perform their job duties in the retail store, you must set up the workers in Microsoft Dynamics AX. You must also assign appropriate permissions to the workers, so that they can log on and perform tasks by using the Microsoft Dynamics AX for Retail POS system. You must also set up the jobs and positions that are used in your retail stores, and then link workers to those jobs and positions.

After you set up POS permissions to specify the tasks that workers can perform by using the POS system, you must define the jobs that the workers can perform. You must then link POS permissions to those jobs.

1. Click **Human resources** > **Common** > **Organization** > **Jobs**.



2. On the **Jobs** list page, on the Action Pane, in the **New** group, click **Job** to create a new job.

3. Enter a job title and description.



4. Click the **Job classification** FastTab.

5. Then, in the **POS permission group** field, select the POS permissions that apply to the job.

   When a worker is associated with the job, the POS permissions that are assigned to the job control the actions that the worker can perform in the POS system.
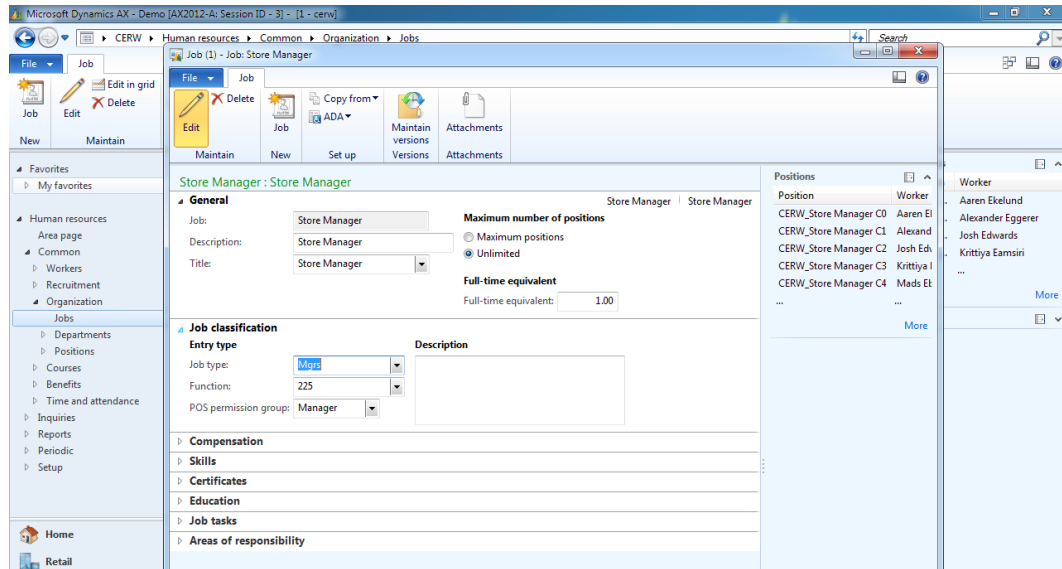
6. Complete any other fields that you require in the form. Set up Enterprise Portal profiles and users.

If you have set up Enterprise Portal for Microsoft Dynamics AX, you must set up user profiles for the employees who access Enterprise Portal. These profiles define each user's role and specify the store information that the user has access to.

Use the following procedures to set up Enterprise Portal profiles and users. You can also view the Role Center for each profile.

## 31.2 SET UP A POSITION

A position is an individual instance of a job. You assign each worker to a position. By linking a worker to a position, you associate that worker with a specific job. Therefore, you also assign the POS permissions that the worker requires to use the POS system in the retail store.

1. Click **Human resources** > **Common** > **Organization** > **Positions** > **Positions**.

2.  On the **Positions** list page, on the Action Pane, in the **New** group, click **Position** to create a new position.



3.  In the **Create new position** dialog box, in the **Job** list, select a retail job.

4.  Enter the date that the position becomes active, and then click **Create positions**.

5.  In the **Position** form, complete any other fields that you require in the form.



You can hire a new worker directly from the **Position** form. Alternatively, you can create a worker, and then assign the worker to the retail position.

## 31.3 SET UP A RETAIL WORKER

Before a worker can perform job duties in a retail store, you must set up the worker in Microsoft Dynamics AX. You must also assign the worker appropriate privileges, so that the worker can log on and perform tasks by using the Microsoft Dynamics AX for Retail POS system.

Microsoft Dynamics AX for Retail uses the human resources features in Microsoft Dynamics AX to set up employee data, and to configure the job and position data that is used to create a staff member for retail processes. To set up a retail worker, you must complete the following tasks:

1. **Define the settings for point of sale (POS) permissions**. The POS permission settings specify the actions that workers can perform when they use the POS system. Each staff member is assigned Retail POS permissions. For example, the permissions define whether the staff member can void transactions, perform tender declarations, or override prices. The permissions also define the maximum discount that the staff member can give. Each staff member can be assigned to only one store.

2. **Set up a job.** A job is a collection of tasks and responsibilities that are required of any person who is assigned to the job. We recommend that you link POS permissions to each job for ease of management.

3. **Set up a position**. A position is an individual instance of a job. You must assign each worker to a position. By assigning a worker to a position, you associate the worker with a specific job. Therefore the worker inherits the permissions from the job.

4. **Set up a worker**. The information that you enter for a worker includes personnel details. You must assign each worker to an address book. The address book is used to assign the worker to a store.

If you have set up Enterprise Portal for Microsoft Dynamics AX, you must set up user profiles for the employees who access Enterprise Portal. These profiles define each user's role and specify the store information that the user has access to.

1. To create workers, click **Retail** > **Common** > **Workers**.

2. On the **Workers** list page, on the **Worker** tab, on the Action Pane, in the **New** group, click **Hire new worker**.

3.  In the **Create new worker** form, enter the worker's name. In the **Worker type** field, select whether the worker is an employee or a contractor. Enter the date that the worker's employment starts. Then click **Hire new worker**.

## Create new worker

First name:

Middle name:

Last name:

Legal entity: cerw ▼

Personnel number: 000710

Worker type: Employee ▼

Employment start date: 13/06/2012 📅 12:00:00 am

Employment end date: 1/01/2154 📅 10:59:59 am

☐ Assign a position

Position:

Assignment start: | 12:00:00 am

Assignment end: | 12:00:00 am

Hire new worker

1. Enter the **First name** of the new worker.
2. Enter the **Middle name** of the new worker.
3. Enter the **Last name** of the new worker.
4. Select the **Legal entity** to which the worker will belong from the drop-down list.
5. The **Personnel number** is automatically populated if a number sequence is assigned. If not, enter the number manually.
6. Select the **Worker type** from the drop-down list. The options available are **Employee** or **Contractor**.
7. Enter the **Employment start date** for the new worker.
8. Enter the **Employment end date** if the new worker is a contractor.
9. **Assign a position** – Select the check box to assign a position to the worker.
10. Select the **Position** for the worker from the drop-down list.
11. Enter the **Assignment start date** for the worker in the new position.
12. Enter the **Assignment end date** for the worker in the new position.

📝 **Note:**

The **Personnel number** field can be automatically populated based on the number sequence that is set up for the worker. The worker uses this number to log on to the POS system.

4.  In the **Worker** form, on the **Worker summary** FastTab, in the **Address books** field, select the address book to assign the worker to. Microsoft Dynamics AX for Retail uses the address book that you select to link the worker to a store.

☑ **Note**

Employee address book is used to associate workers (cashiers) to a retail store. Workers can be assigned multiple store addresses allowing them to work at multiple locations. The interaction of worker address book and store address book defines workers assigned to retail stores.

5.  Click the **Retail** link, and then, in the **Screen layout ID** field, select the POS screen layout if the worker uses a special screen layout on the POS system. If the worker uses the POS screen layout that is assigned to the store, leave this field blank.

7. In the **Employment type** field, select whether the staff member is a cashier, salesperson, or other type of employee.

8. Under **POS authentication**, in the **Password** field, specify the password that the worker uses to log on to the POS system.

9. To select a POS permission group for the worker, click the **POS permissions** link.



10. In the **POS position permissions** form, do one of the following:
    a. In the **Position** field, select a position for the worker.
    b. Select the **Override permissions** check box, and then either select a permission group in the **POS permission group** field, or select the check boxes for the appropriate permissions.
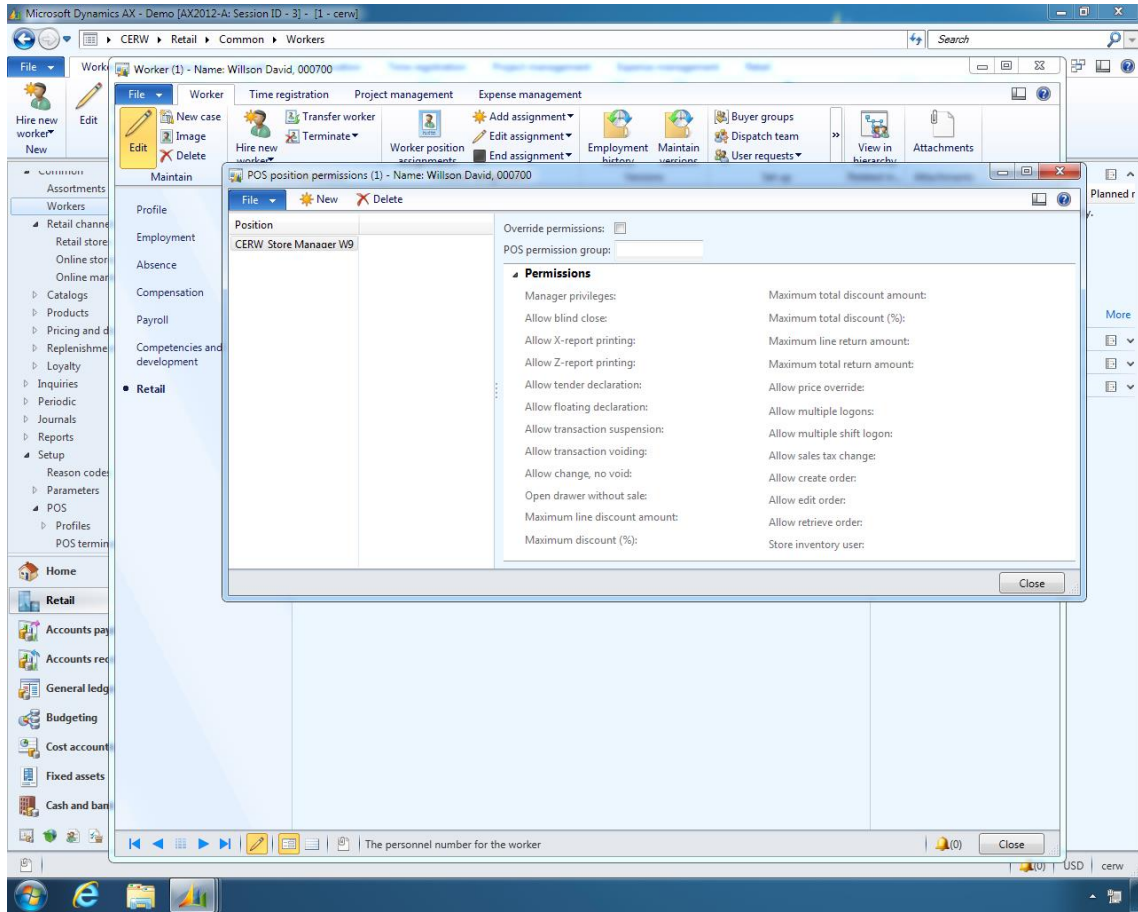
You must assign the worker to a position. Otherwise, the worker does not have appropriate access to the POS system.

11. Enter any other appropriate information in the **Profile**, **Employment**, **Absence**, **Compensation**, **Payroll**, and **Competencies and development** sections.

### 31.4 IMPORT THE RETAIL USER PROFILES

Microsoft Dynamics AX user accounts need to be set up for each employee who requires access to Enterprise Portal. The below steps are required only if Enterprise Portal access is required by the store users.

1. Click **System administration** > **Common** > **Users** > **User profiles**.

2. Click **Import,** and then click **Import from AOT**.

3. Select the check boxes for the profiles to import, and then click **OK**.

There are four retail user profiles:

- Retail Merchandising Manager
- Retail Operations Manager
- Retail Store Inventory Clerk
- Retail Store Manager
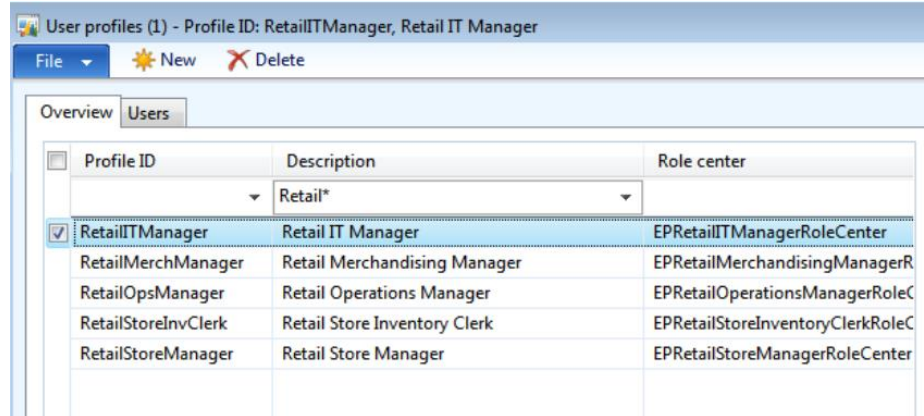


## Assign users to the retail user profiles

To assign users to retail user profiles, follow these steps:

1. Click **System administration** > **Common** > **Users** > **User profiles**.
2. Select a retail user profile.
3. Click **Add user**, and then, under **Select user**, select a user.



4. Under **Select company**, click **All companies (Profile: %1)**. Alternatively, click **Select companies**, and then select the check boxes for the companies that you want.

5.  Repeat steps 2 through 4 for the other retail user profiles.

## Assign stores to the users for each retail user profile

By assigning a store to a user, you allow the user to access information for that store in Enterprise Portal.

1.  Click **System administration** > **Common** > **Users** > **User profiles**.
2.  Select a retail user profile, and then click the **Users** tab.
3.  Select a user, and then click **Assign stores**.



4.  Click **New** to add a store to the list. Then, in the **Local store number** field, select a store.
5.  Repeat steps 1 to 4 to add additional stores to the user profile.

**View the Role Center for a retail user profile**

1. Click **System administration** > **Common** > **Users** > **User profiles**.

2. Select a retail user profile.

3. Click **View role center**.



## 31.5 ROLE-BASED SECURITY FOR RETAIL

Role-based security was introduced as part of Microsoft Dynamics AX 2012. As part of role-based security, built-in roles were added to Microsoft Dynamics AX that covered all functional aspects of the product. Microsoft Dynamics AX for Retail 2012 introduces the uptake of role-based security for functionality supported through the retail solution.

**Terms used in Security Setup for Dynamics AX 2012**

- **Roles**: Where applicable, new retail roles need to be created so that employees can be assigned to retail-specific duties.

- **Processes:** Functions that can be performed through headquarters and Retail POS need to be organized in to processes to fit into the Microsoft Dynamics AX navigation structure for different process cycles.

- **Duties:** Duties need to be defined and created in Retail POS that consist of a set of privileges required to perform certain tasks and services related to the performance of an individual's position.

- **Privileges:** Privileges need to be defined and created. Discreet collections of these privileges make up individual duties within Microsoft Dynamics AX. Privileges can be considered menu item, form, and field level securable within the back office.

- **Permissions:** Permissions are the access levels assigned to privileges. This could be considered the type of access to these privileges such as create, read, update, or delete.

**High-Level Relationship**



Following is the breakdown of Role-based Security framework in Microsoft Dynamics AX 2012 for Retail:
- o 4 roles
  - ▪ Retail Store Manager
  - ▪ Retail Merchandising Manager
  - ▪ Retail Operations Manager

- Retail Warehouse Clerk
  - 59 duties
  - 190 privileges
  - 2300+ entry points covered

## Retail Roles

As part of the feature, entry point-level security was applied to all menus within the solution. These entry points were then grouped into duties that were assigned to roles delivered out of the box. The partner or end user can modify the roles and the duties/permissions assigned to the entry points to better suit the retailer's needs and business processes.

The roles added for the retail solution with a brief explanation are as follows:

- **Retail Merchandising Manager**: Responsible for catalog, assortment, and pricing aspects of retail functionality.
- **Retail Operations Manager**: Responsible for setting up retail reference data and entity management in areas such as stores, terminals, and profiles used by the point of sale terminals
- **Store Manager**: The store manager has access to all Enterprise Portal-related retail functionality including all supported reports as well as picking, receiving, and stock count functionality. Access is based on stores assigned to the user through user profiles in system administration.
- **Store Inventory Clerk**: Responsible for retail store inventory functions within Enterprise Portal. This includes order picking and receiving duties as well as the entry of stock counts. Access is based on stores assigned to the user through user profiles in system administration.
- **Retail Warehouse Manager**: Responsible for retail warehouse inventory functions.
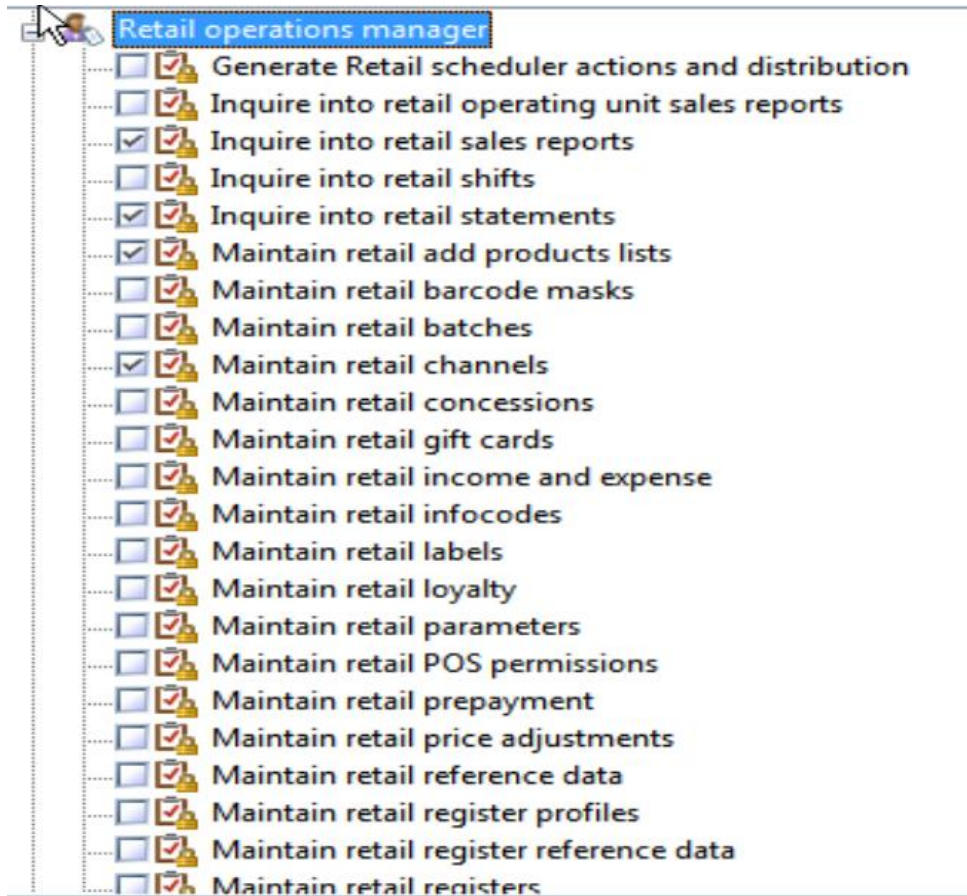
🖉  **Note:**

Some additional configuration-related duties were added to the Microsoft Dynamics AX Information technology manager role that shipped with Microsoft Dynamics AX 2012. These duties are mostly related to setup, configurations of store connections, and services-related configuration.

## List of Duties Assigned by Security Role for Retail

**Retail Merchandising Manager**:
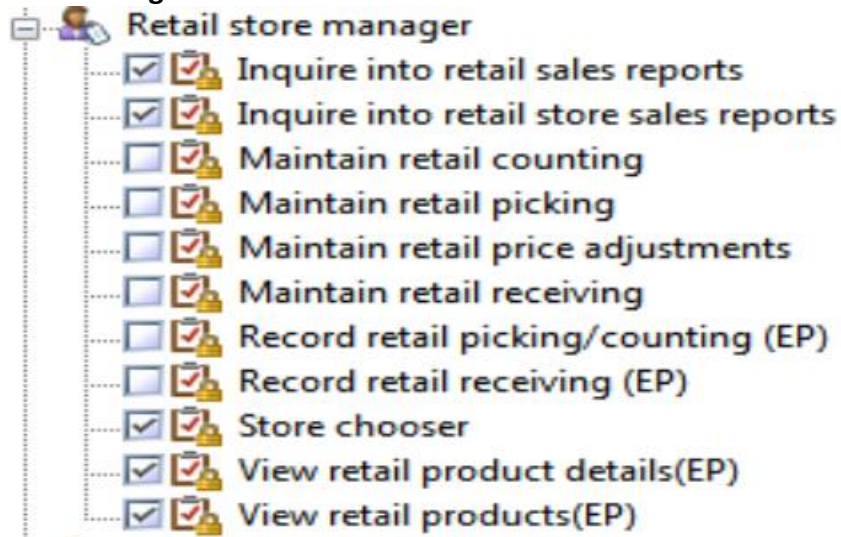
**Retail Operations Manager**:



**Store Manager**:

**Store Inventory Clerk**



**Retail Warehouse Manager**:



## 31.6 TIME REGISTRATION
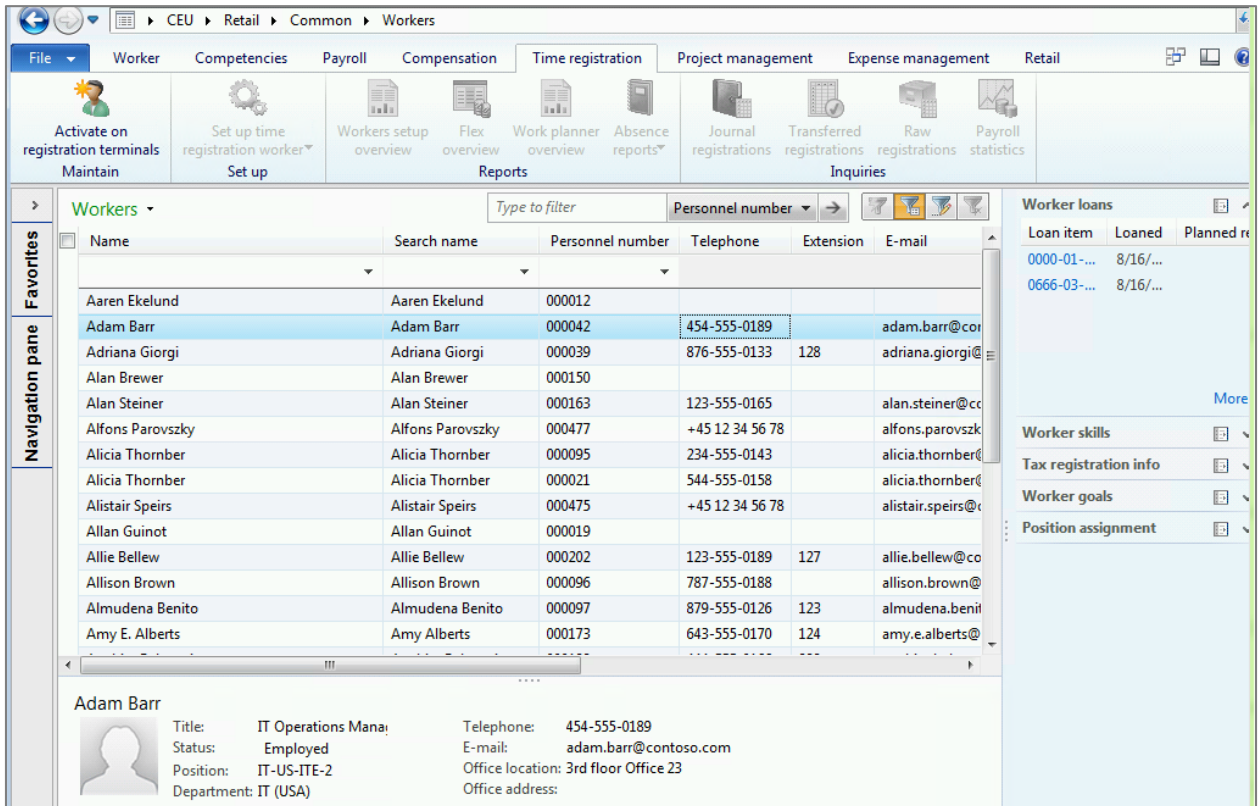
To enter time, retail workers must be set up as time registration workers.

☑ **Note:**

A worker can only be activated as a time registration worker in the company that the worker is employed.

## 31.6.1 ENABLE WORKERS TO REGISTER TIME AND ATTENDANCE

1. Click **Retail** > **Common** > **Workers**.



2. On the **Workers** list page, select the worker.
3. On the **Time registration** tab, click **Activate on registration terminals** to open the **Create time registration worker** form.

✎ **Note:**

> The **Activate on registration terminals** button is available only if you are working in the company in which the worker is employed.

4. The **Active** check box is selected by default. This indicates that the worker has been activated as a time registration worker.
5. In the **Activation date** field, select a date. To activate it immediately, leave it blank. To activate it in the future, enter the future date. Note: If left blank the activation is immediate.
6. In the **Calculation group** field, select the group of workers with whom the worker's registrations are calculated.
    a. To add a new **Calculation Group**, right-click the field and select **View Details**.



    b. Click **New** to add a new Calculation group.
    c. Enter the **Name** and **Description** of the new calculation Group.

    d.  To specify a password, click the **General** tab and enter in the **Password** in the field.

A supervisor or manager is responsible for calculating registrations for this group of workers.

7. If the worker is responsible for calculating registrations for other workers, select a calculation group in the **Default calculation group** field. When the worker opens the **Calculate** form, this calculation group is displayed. This is the same selection from the Calculation group.
8. In the **Approval group** field, select the group of workers with whom the worker's registrations are approved. A shop supervisor or manager is responsible for approving registrations for this group of workers.
   a. To add a new Approval group, right-click the field and select **View Details**
   b. Click **New** to add a new Calculation group
   c. Enter the **Name** and **Description** of the new calculation Group

d. To specify a password, click the **General** tab and enter in the **Password** in the field.

9. In the **Standard profile** field, select the work time profile that is used to calculate time and pay if the worker makes no registrations during a work day.

**Note**

Profiles cannot be created by location.

a. To create a new **Standard profile**, right-click the field and select **View Details**.
b. Click **New** to create new profile.

c.  In the **Profile** field, type a name for the profile.
d.  In the **Description** field, type a description for the profile.
e.  Click the **General** FastTab.



f.  In the **Profile** section, press CTRL+N to create a new line.
g.  In the **Profile type** field, select the **Profile type** for this profile line.
h.  Enter starting and ending work times in the **Start** and **End** fields for the selected profile type.

i.  If necessary, you can create tolerances on a profile type line. A tolerance is a period, in minutes, before or after the job has started or ended. The profile type is still valid if registrations are made within the tolerance period. Enter tolerances in minutes in the **Tolerance before start**, **Tolerance after start**, **Tolerance before end**, and **Tolerance after end** fields.

j.  Use the **Switch code** field to enable workers to make a registration on a profile type other than the one inserted in the profile. For example, if you have included a **Flex+** profile type in your profile, you can enable workers who have flextime to be able to convert registered flextime into overtime. In that case, in the **Switch code** field, select the option for converting flex time into overtime.

k.  You can enable workers to cancel breaks in their profile. This might be useful in a situation where a supervisor asks workers to cancel all breaks for the workday so that rush orders can be completed. In that case, you must select an alternative profile type to the **Break** profile type. The alternative profile is a basis for calculating time registrations if the worker cancels the break.

l.  In the **Secondary** field, on the **Break** profile type line, select the profile type that should replace a **Break** profile type, for example, **Overtime**.

m.  In the **Start day** and **End day** fields, select the appropriate workday, according to the selections you made in the **Start** and **End** fields in step h.

**Note**

Typically, you select the same weekday as the day that you are creating the profile for. However, if you are creating a profile for a night shift, a profile type may start late in the evening on one weekday and end after midnight on the following week day. In that case, you must select one weekday in the **Start day** field and the following weekday in the **End day** field.

n.  When you have created one weekday in a profile, the easiest way to set up the other weekdays is to copy that first weekday, and then adjust the other days, as needed.
    i.  In the **Profile** form, on the **General** tab, select the weekday to copy in the **Weekday** section.
    ii.  Click **Copy**, and select **Copy day**.
    iii.  Select the weekdays to copy the profile to, and select the **Overwrite** check box.
    iv.  If necessary, adjust the other weekdays if they have different profiles from the weekday that you copied.

      o. If you have already created a work time profile covering a whole week, you can copy the entire profile and then make adjustments to the new profile, as needed.

            i. In the **Profile** form, select the profile to copy.

            ii. Click **Copy**, and select **Copy profile**.

            iii. Enter the name of the new profile in the **Copy to** field.

**Note**

To overwrite an existing profile, select that profile in the **Copy to** field, and then select the **Overwrite** check box.

      p. If your company works night shifts, the profile day might start before midnight. If so, you can make the following adjustments for the night shift profile on the **General** tab, in the **Profile staggering** section:

            i. In the **New 24-hour period** field, enter a starting time for the next profile day.

            ii. In the **24-hour period start** field, select **Previous day**.

**Tip**

If you want registrations made in the current day to apply to the next 24-hour period, select the **Push** check box.

      q. Some workers may not have fixed work hours. Consequently, the **Overtime / flex limit** and **Max. flex limit** fields on the **General** tab can be used to determine **Standard time** in hours, and the maximum number of flexible hours allowed before converting registered time into overtime.

         For example, if you insert the number 40 in the **Overtime / flex limit** field, and the number 10 in the **Max. flex limit** field, it means that the worker has a 40-hour work week. If the worker works more than 50 hours during a week, 40 hours are considered standard work time, 10 hours are added to the flex balance, and the number of hours exceeding 50 hours is considered to be overtime.

10. In the **Pay agreement** field, select the pay agreement that is used when the worker's pay is calculated.

- To create a new **Pay Agreement,** click **New**.
- Enter the **Pay Agreement** and **Description**.
- On the **General** FastTab, enter the **From date** and **To date**.
- Enter the **minutes** that will trigger a pay deduction.
- Enter the **Rounding from** and **Round-off** for the overtime **Round off**.
- In the **Pay agreements** form, click **Pay agreement lines**.
- Create a new pay agreement line for the relevant week days for the pay type.

11. In the **Period code** field, select the pay period that is used when the worker's pay is calculated.
12. In the **Profile group** field, select the group that the worker belongs to. Profile groups contain one or more work time profiles that can be applied when a worker makes clock-in and clock-out registrations. The profile that you select depends on the date or the time of day that the worker makes a clock-in registration. For example, the worker may work during a day shift or a night shift.
13. Select the **New bundle** check box to stop the worker's active jobs when he or she starts a new job. If you clear the check box, new jobs are bundled with the jobs that the worker previously started, but that have not yet been stopped or completed. The **New bundle** check box relates to job bundling. If you use job bundling, a worker can start multiple jobs at the same time in the **Job registration** form in **Production control**. If multiple jobs are started at the same

time, but they are not completed at the same time, the job bundling functionality calculates the time that is spent on each job.

14. In the **Category** field, select the cost category that is used when the worker makes registrations for projects and project activities.
15. Select the **Use timecard** check box to allow the worker to make registrations on the electronic timecard in **Time and attendance**.
16. In the **Configuration** field, select the registration form that is displayed when the worker logs on to the **Job registration** form in **Production control**.
17. Select the **Flex allowed** check box to allow the worker to register flextime.
18. If the worker is allowed to register flextime, select a flex group in the **Flex group ID** field.
19. Click **OK** to save and close the form.

### 31.6.2 SETUP TIME REGISTRATION WORKER

To facilitate management of time registration worker, other tasks and setup can be performed. These can be done through **Retail** > **Common** > **Setup time registration worker** .



The following options are given:

- **Absence registration:** Use the Absence registrations list page to view absence registrations and create new absence registrations for a worker.



  - To create a new registration, click **New** to add a new record.
  - Enter the **start date/time** and **end date/time** of the absence.
  - Select the **Interrupt** check box to automatically stop the absence registration if the worker makes a clock-in registration before the specified end date and time.
  - If the registration was **Interrupted**, this is enabled.
  - Select the **Absence group** and the **Absence code.** New ones can be added by going to the selective form by right-clicking the field and selecting **View details**.
  - The description field describes the **Absence code**.

- **Profile calendar:** The profile calendar is used to apply a specific work time profile to one or more workers on specific dates. When you create a profile calendar entry for a worker, the worker's time registrations are calculated for a profile that is different from his or her standard work time profile for a specific period of time. You can create a profile calendar entry for one day or for a longer period of time.



- Click **New** to create a line.
- In the **Compose profile calendar** form, in the **Profile calendar code** field, select the worker or group of workers to add a work time profile to:
  - **All** – Apply the work time profile to all workers.
  - **Group** – Apply the work time profile to a group of workers.
  - **Table** – Apply the work time profile to a specific worker.

- Depending on the selection in the **Profile calendar code** field, enter a worker ID or a profile group ID in the **Profile calendar relation** field.
- In the **Date** field, enter the date to add the profile.
- In the **Profile** field, select the profile to use.
- In the **Special day** field, click a selection, if applicable. You can use this field to change pay or add absence registrations.

- **Flex balance:** Shows the worker's flex balance based on the flex transactions.  It can also be used to correct the flex balance.
- **Flex:** Recalculates the flex balance.

- **Opening flex balance:** Sets the worker's opening flex balance and recalculates the balance based on the balance.
- **Worker balances:** Shows the worker's balance based on the transactions.
- **Recalculate worker balances:** Recalculates the worker's overall balance.
- **Switch code:** Switches a registration for another registration or activates certain pay lines in a pay agreement. Switch codes can be used to override standard settings, for example, when a supervisor allows a worker to take time off instead of receiving unpaid overtime. Switch codes can also enable payment of a specific premium to a worker. Switch codes are valid for the entire profile day.
- **Temporary group assignment:** Adds a worker to another calculation group or approval group for a specific period of time.

## 31.6.3 CALCULATE TIME AND REGISTRATION FOR WORKERS

You can calculate time and attendance registrations for workers in the following ways:

- Calculate registrations for all workers who are assigned to a calculation group.
- Calculate registrations for a specific worker.
- Calculate registrations by using a batch job.

You can use the **Day view** and **Week view** filters as follows:

- **Day view** – View registrations for all workers for a selected weekday.
- **Week view** – View registrations for a selected worker for a selected week.

### 31.6.3.1 Calculate registrations for all workers in a calculation group

To calculate registrations for all workers in a calculation group, follow these steps:

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.

2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click **OK**.
4. In the **Calculate** form, click **Update** > **Calculate**.

5. In the **Calculates jobs** form, verify that the calculation group is selected in the **Calculation group** field.
6. If you use a workflow for approvals, select the **Submit to workflow** check box in the **Calculates jobs** form.
7. Click **Close**.

**Note**

If registrations contain errors because of missing information or for other reasons, you must correct the registrations and then calculate the registrations again. To view the worker registrations that contain errors, click **Display errors**. The **Error** tab displays information about the type of error.

### 31.6.3.2    Calculate registrations for one worker at a time

You can calculate registrations for a specific worker. Typically, you calculate registrations for a worker after you have corrected registration errors for that worker.

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click OK.
4. In the **Calculate** form, select the worker in the upper pane and click **Select**.
5. Select the **Calculated** check box for the registration.
6. Click **Close**.

### 31.6.3.3    Reverse calculated registrations

You can reverse the registrations that have been calculated for a worker. However, you cannot reverse calculated registrations after payroll information for the period has been exported to the payroll system. Also, if registrations have been approved, you can reverse the calculated registration only in the **Approve** form.

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click **OK**.
4. In the **Calculate** form, select the worker in the upper pane and click **Select**.
5. Clear the **Calculated** check box for the registration.
6. Click **Close**.

**Tip**

If you have changed the registrations, and you want to restore the original values, delete all lines, and then click **Restore lines**.

### 31.6.3.4    Calculate registrations by using a batch job

To calculate registrations by using a batch job, follow these steps:

1. Click **Human resources** > **Common** > **Time and attendance** > **Calculate**.
2. In the **Week** or **Date** field, select the week or date to calculate registrations for.
3. In the **Calculation group** field, select the calculation group to calculate registrations for, and then click **OK**.
4. In the **Calculate** form, click **Update**, and then click **Calculate**.
5. In the **Calculates jobs** form, click the **Batch** tab.
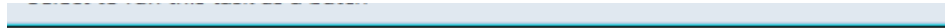
6. **Start** the batch job.

   **Note**

   If you use a workflow for approvals, select the **Submit to workflow** check box.

7. Click **OK**.

## 31.6.4 APPROVE TIME AND ATTENDANCE REGISTRATION

After each work day, workers' registrations must be calculated and approved. You can approve registrations after they have been calculated and no errors occurred during calculation. You can approve registrations by using one of the following:

- A workflow

- A batch job
- Manually for an approval group
- Manually for one worker at a time

### 31.6.4.1    Approve registrations using a workflow

The approval workflow is an automatic approval process. All registrations are validated against the rules in the approval workflow. Only deviations that are not accepted in the workflow must be approved manually. The worker who is responsible for calculating registrations, for example, a team leader, initiates the approval process. The worker who is responsible for approving registrations, for example, a payroll administrator, receives a message regarding the need for manual approval only when some registrations could not be approved according to the approval workflow.
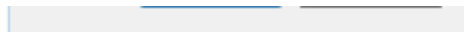
1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.



2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. In the **Approve** form, select the worker in the upper pane, on the **Overview** tab.



5. Click the **Action** button. If the worker's registrations are ready for approval, the **Approve** and **Reject** options are available.
   - To approve, click **Approve**.
   - To reject, click **Reject**, and insert a note explaining why the registrations are rejected.

### 31.6.4.2    Approve registrations using a batch job

To approve registrations using a batch job, follow these steps:

1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.
2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. Click **Update** and **Approve**.



5. **Start** the batch job.

### 31.6.4.3    Approve registrations for all workers in an approval group

To approve registrations for all workers in an approval group, follow these steps:

1. Click **Human resources** > **Common** > **Time and attendance** > **Approve**.
2. Select the approval date in the **Date** field.
3. Select your group in the **Approval group** field.
4. Click **Update** and **Approve**.
5. Click **OK**.

**Note**

If the approval process returns errors on some registrations, for example because of missing information, you must edit those registrations and approve again.

**Tip**

To see a list of worker registrations that contain errors in the registration lines, click **Display errors**. The **Error** tab provides information about the type of error.

### 31.6.4.4    Approve registrations for one worker at a time

You typically must approve registrations for an individual worker after you have corrected errors for that worker.

1. In the **Approve** form, select the worker in the upper pane.
2. Select the **Approved** check box for the worker.

### 31.6.4.5    Reverse an approval

Approved registrations for a worker can be reversed until payroll information for the period has been exported to the payroll system. To reverse approved registrations for a worker, follow these steps:

1. In the **Approve** form, select the worker in the upper pane.
2. Clear the **Approved** check box.

**Tip**

If you have made several corrections to the registrations, and, therefore, must restore the lines to their original value, delete all lines, and then click **Restore lines**.

Once approved, the data can be exported out of the system. Data can be exported out as CSV files to be imported into a payroll system.

### 31.6.5 VIEW JOURNAL REGISTRATION

To view on time registration transactions on a journal, click **Retail > Common > Workers**

The **Workers** form opens. Select the worker from the list to view time registration.

Click **Journal registration** from the **Inquiries** group on the **Time Registration** tab.



The **Overview** tab displays all the information related to the time registration.

It also displays other information if the time registration is related to a project or production.



The **General** tab displays detailed information for the time entries from the **Overview** tab



The **Error** tab shows information if there are any errors associated with the transaction.

The **Financial dimensions** tab shows the dimension-related information associated with the time entry.
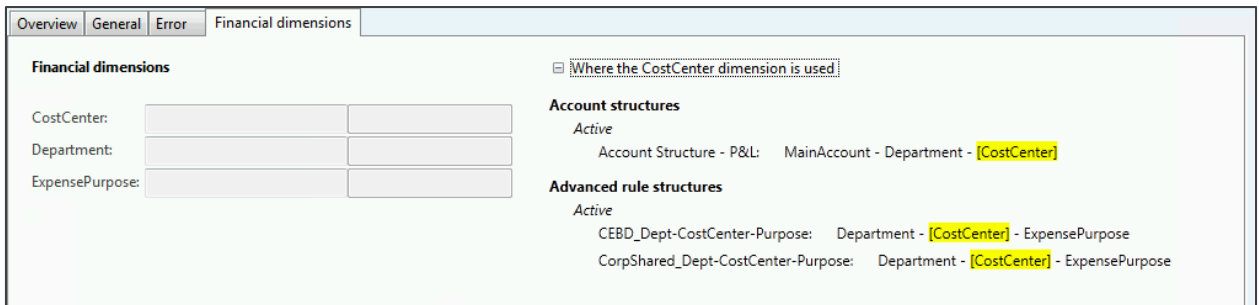


## 31.6.6 VIEW TRANSFERRED REGISTRATION

A transferred registration is posted to an activity or job that it relates to, for example, a production order or a project. Also, payroll transactions are generated for each worker based on the registrations.

To view the transferred registration, click **Retail > Common > Workers**

The **Workers** form opens. Select the worker from the list to view time registration.

Click **Transferred registration** from the **Inquiries** group on the **Time Registration** tab.
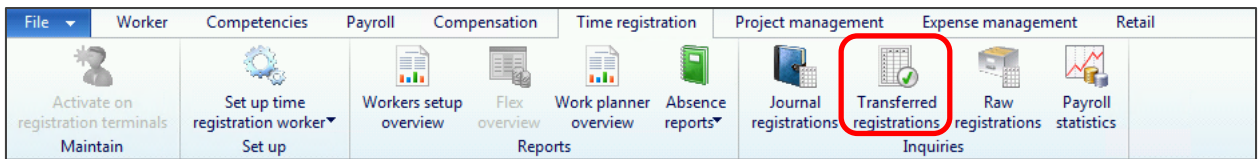


The information available is related to the activity and job.

## 31.6.7 INQUIRE RAW REGISTRATION

Use this form to view raw registration for all time registration workers.

To view the raw registration, click **Retail > Common > Workers**

The **Workers** form opens. Select the worker from the list to view time registration.

Click **Raw registration** from the **Inquiries** group on the **Time Registration** tab.
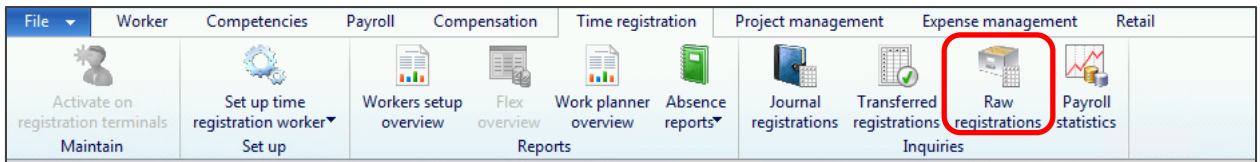


The form consists of the following:

The **Overview** tab shows the registrations made by the worker on the selected date.

The **General** tab shows the detailed information related to production feedback for the registration selected on the **Overview** tab.

There is functionality to clean up and load a raw job. Selecting the Clean up registration and Load registrations buttons, respectively, can do this.
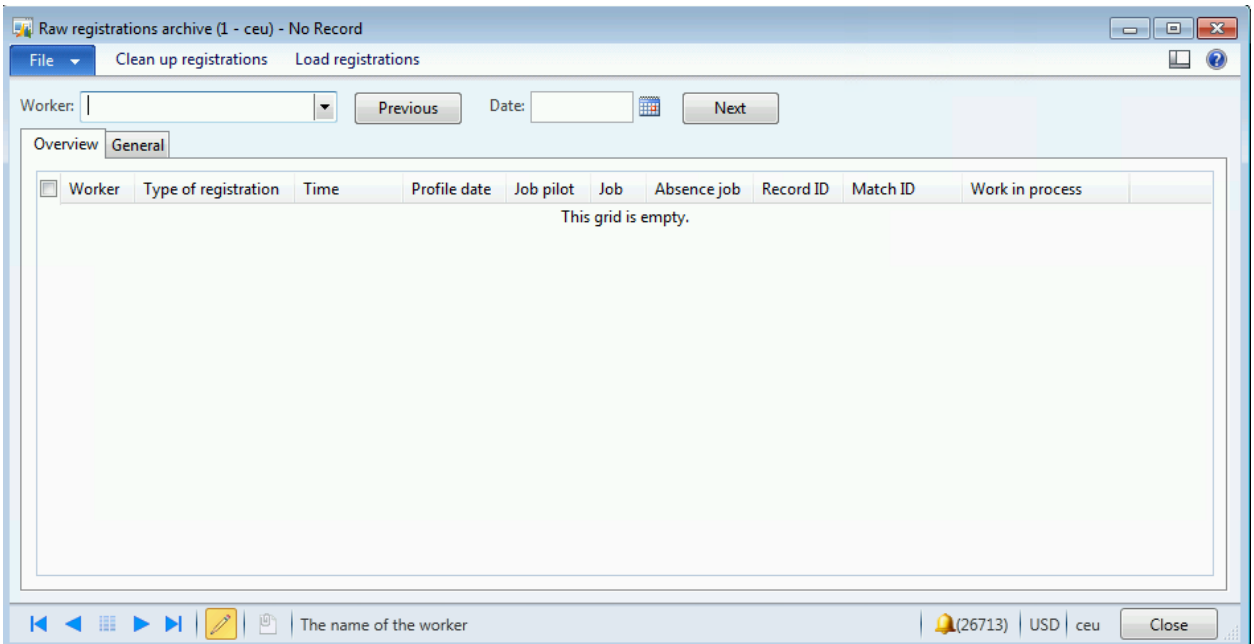


## 31.6.8 VIEW PAYROLL STATISTICS

You can view the calculation of workers' pay for different types of wages, such as standard time and overtime. The basis for a payroll statistic is one or more pay types that are summarized over a specific period of time.

To view the payroll statistics, click **Retail > Common > Workers**

The **Workers** form opens. Select the worker from the list to view payroll.

Click **Payroll statistics** from the **Inquiries** group on the **Time Registration** tab.
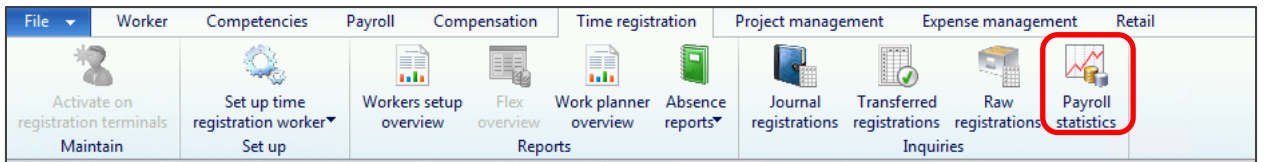


The form consists of the following:

The **Overview** tab shows the payroll information, including the balance, change, and adjustments for the worker.

The **General** tab shows the detailed information related to payroll information for the registration selected on the **Overview** tab.
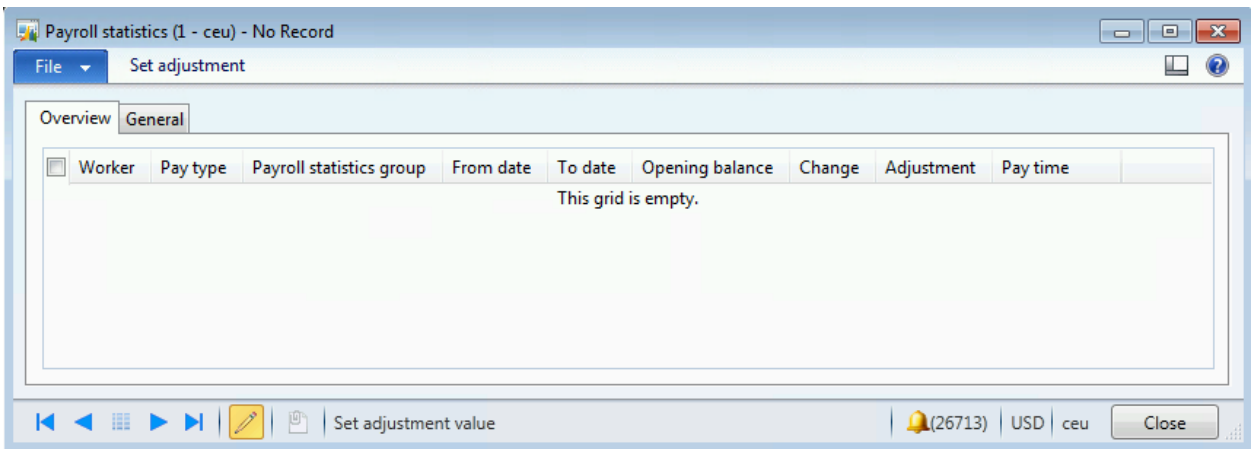


The **Set adjustment** button can be used to adjust the amount for the adjustment.

## 32 JOURNALS

## OVERVIEW

This module describes how to create, calculate, and post statements.

### 32.1 OPEN STATEMENTS

In Microsoft Dynamics AX for Retail, you can create a statement of the transmitted transaction data from the point-of-sale (POS) database to the database for the head office. You can use the statement to calculate the total amount of all transactions that have occurred since the last store statement, and to calculate a related count of payment methods.

The topics in this section provide information about how to create, calculate, and post statements.

In Microsoft Dynamics AX for Retail, you can use the statement-posting process to account for the transactions that occur in Microsoft Dynamics AX for Retail POS. The statement-posting process uses Retail Scheduler to transmit a set of the POS transactions to the Microsoft Dynamics AX client. You define the criteria that are used to select transactions in the **Retail Headquarters parameters** form and the **Store** form. The following diagram illustrates the statement-posting process.
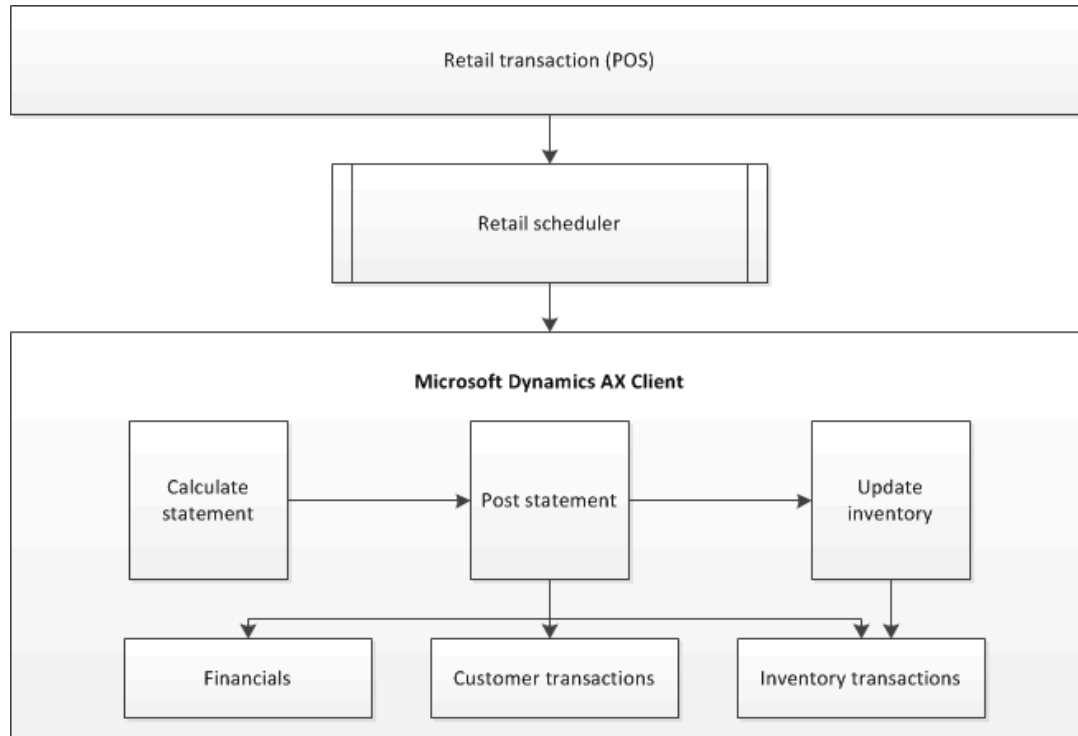
You can create a statement manually or by using batch processes that you set up to run periodically throughout the day. In both cases, create and post statements as follows:

- **Create the statement.** This step identifies the store that the statement is manually created for. If you configure a batch process, you can automatically create statements for all stores, based on a schedule that you define.
- **Calculate the statement.** This step gathers the transactions lines by using criteria that you define for each store and in the **Retail Headquarters parameters** and **Store** forms. You must define the criteria that the system uses. You must also specify how the transactions are calculated. The calculate statement process uses the global number sequence. You can use the **Transactions** form to view a list of the transactions that were included in the statement before the calculate statement process is run.

A statement calculation uses tender declarations from the registers as the counted amount. Alternatively, you can enter the counted amount manually. The statement displays the difference between the sales amount for the transactions and the actual counted amount in all tender types. The statement is posted only if this difference is less than the maximum selected posting difference that is defined for the store.

When you calculate a statement, the calculation performs the following tasks:

a. Any transactions that were not included in a previous statement calculation for the selected date range are marked.

b. The total amounts that were tendered in the selected transactions are calculated. The results are displayed on the statement lines:

- If the statement method is **Total**, a line is created for each payment method in the selected transactions.

- If the statement method is **Staff**, a line is created for each payment method in transactions that were performed by the selected staff member.

- If the statement method is **POS terminal**, a line is created for each payment method in transactions that were performed on the selected register.

 **Note**

Before you can create statements, you should close the shifts in the statement period.

- **Post the statement**. Sales orders and invoices are created for the retail sales in the statement. Cash and carry sales are aggregated onto one sales order and invoice for the default customer who is assigned to the store. Any retail sales that had a customer added to the transaction in Microsoft Dynamics AX for retail POS generate separate sales orders and invoices, one for each unique customer. Payment journals are automatically created for the payments in the statement, and the inventory is updated for the POS store. If you selected the **Automatic settlement** option on the **Posting** tab in the **Retail Headquarters parameters** form, payments are automatically settled against invoices.

## 32.2 CREATE AND POST A STATEMENT

After all transactions from the registers have been uploaded from a retail store, a statement can be created, calculated, and then posted.

The statement calculates the total amount of all transactions that have been created since the last store statement was created, within the statement period that you define. The statement also calculates the payment methods that are counted.

The statement is calculated by using the settings for statements and posting in the **Retail Headquarters parameters** form and the **Store** form. After the statement is created, you can review the transactions. Then, if the transactions are ready to be

posted, you can post the statement. When you post the statement, the system creates accounting entries, updates customer accounts and taxes, and generates sales orders and invoices. Inventory is also updated, so that your point-of-sale (POS) system always has current inventory information.

## 32.2.1 CREATE AND CALCULATE THE STATEMENT

To create and calculate a statement, follow these steps:

1. Click **Retail** > **Journals** > **Open statements**.
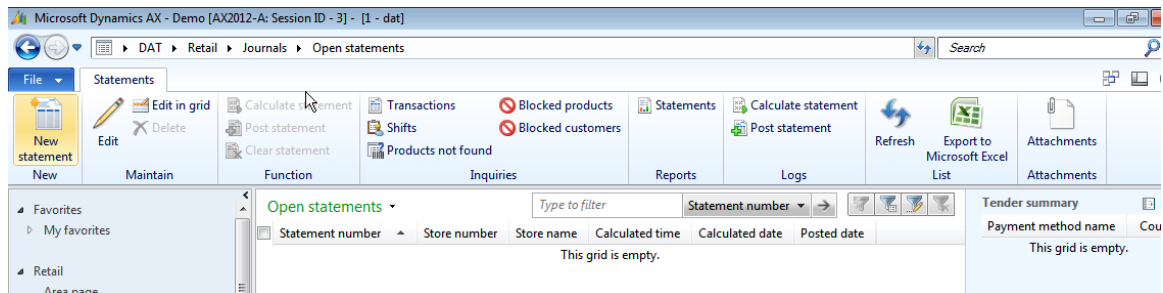


2. On the **Open statements** list page, on the Action Pane, in the **New** group, click **New statement**.
3. In the dialog box, in the **Store number** field, select the store to create a statement for.
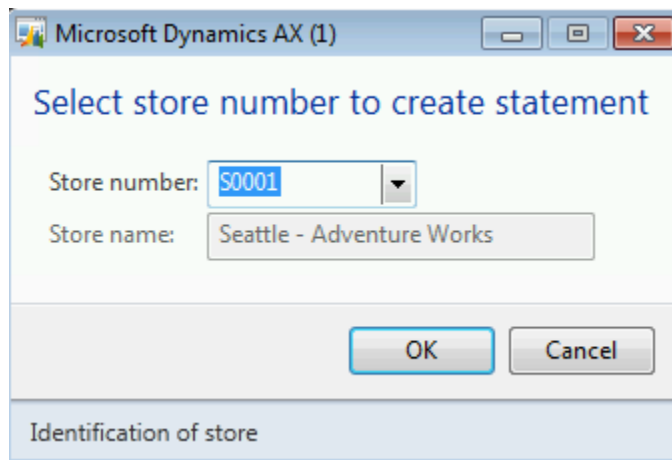


4. In the **Statements** forms, on the Action Pane, in the Function group, click **Calculate statement**.
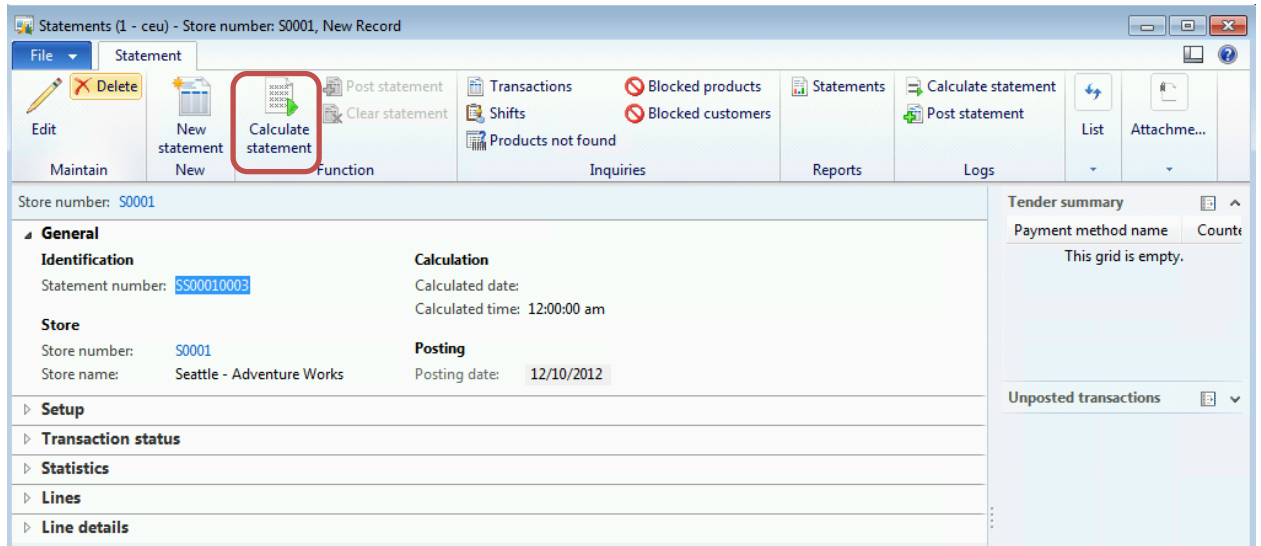
5. Click **Yes** to confirm that you want to calculate the statement.
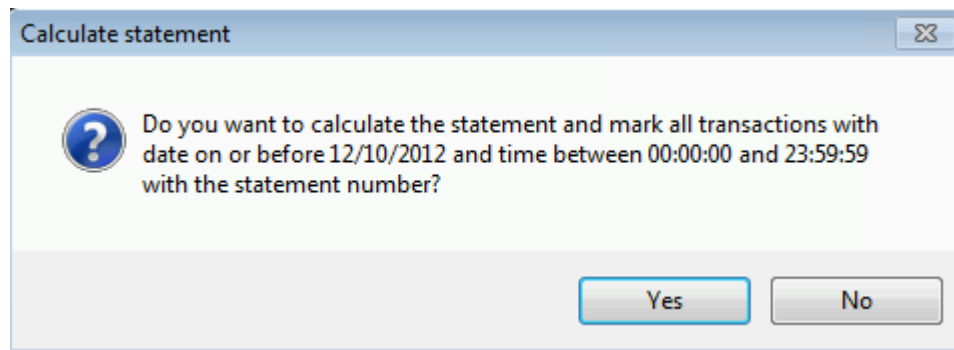


When a statement is calculated for a specific period, information is updated for the transactions that are included in the statement calculation. These transactions include items that are not on file, blocked items, and blocked customers.

### 32.2.2 POST A STATEMENT

After you calculate a statement, the statement lines that the system has included in the statement are displayed on the **Lines** FastTab in the **Statements** form. Depending on the calculation criteria that were defined for the statement, the lines may be displayed by terminal number, by staff ID, or as a total. The lines are always separated by payment method.

The statement lines include the transaction currency, transaction amount, and any difference between the transaction sales amount and the actual counted amount for all payment methods.

**Note:** You must assign financial accounts to items, stores, and tender types before you can post the calculated values in statements to the general ledger, item ledger, customer ledger, and other related tables.

To post a statement, follow these steps:

1. Click **Retail** > **Journals** > **Open statements**.
2. On the **Open statements** list page, select a statement to post.
3. On the Action Pane, in the **Function** group, click **Post statement**.
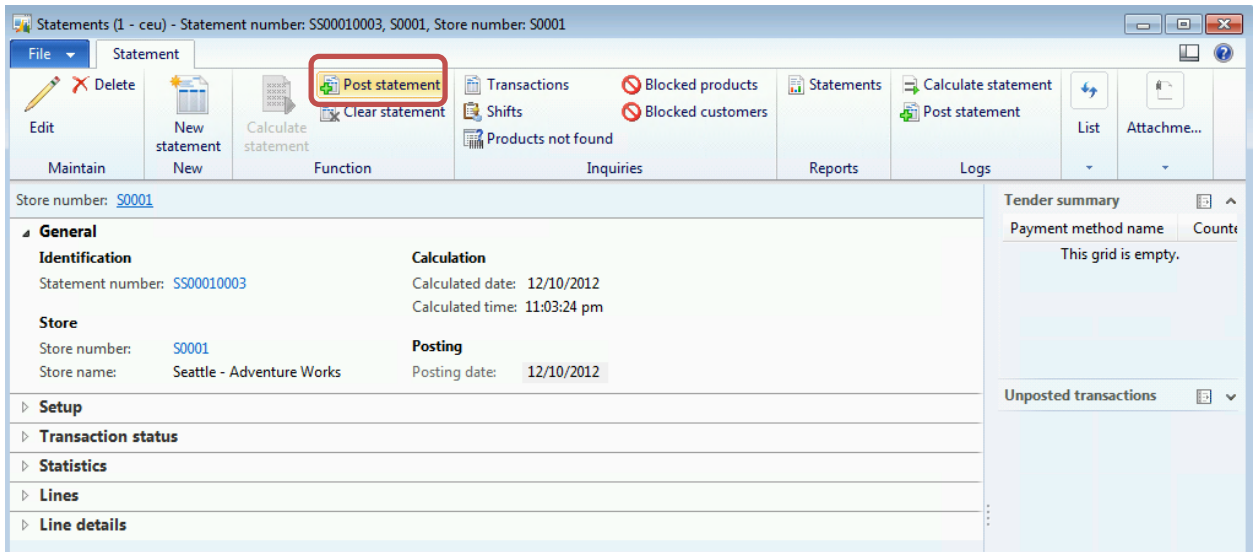


4. Click **Yes** to confirm that you want to post the statement.

   The statement is posted only if the difference between the transaction sales amount and the actual counted amount is below the maximum posting difference that is defined for the store.

## 32.2.3 VIEW A POSTED STATEMENT

After a statement is posted, you can view details about the posted transactions. You can also print the posted statement.

1. Click **Retail** > **Inquiries** > **Posted statements**.
2. In the **Statement journal** form, select a statement to view.
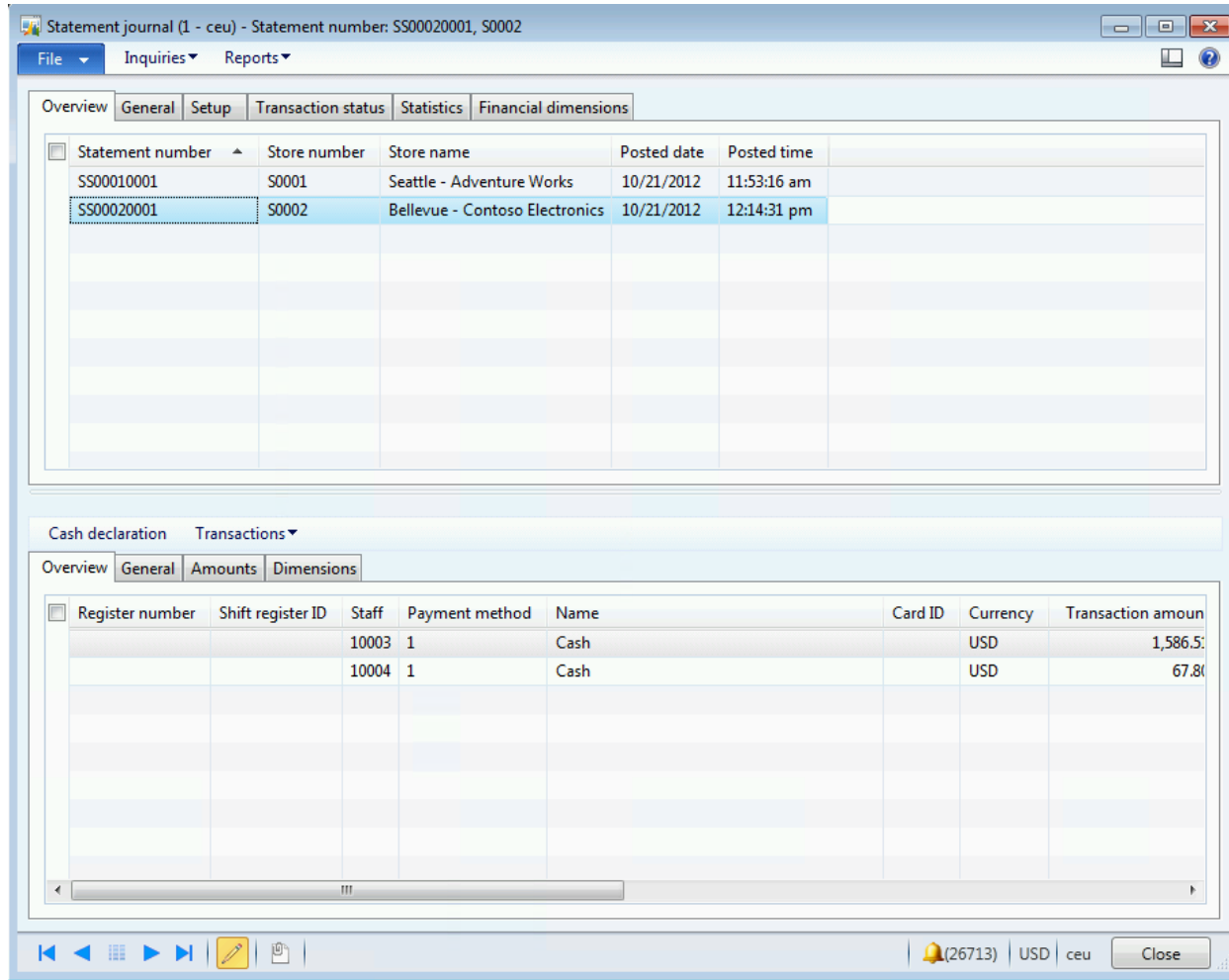
3. Click **Reports** > **Statement** to print the statement.
4. To view the details about transactions in the posted statement, click individual transactions in the lower pane. Alternatively, you can click **Transactions**, and then select the transaction types to view.

### 32.2.4 CONFIGURE BATCH PROCESSES TO CREATE STATEMENTS

To run the statement processes for your stores automatically, based on a schedule, configure the batch process for each stage of the statement process as follows:

- Configure the calculate statement process to calculate the transaction sets for one store or all stores.
- Configure the post statement process to post the calculated statements.
- Configure the post inventory process to update the inventory for the stores when the statements are posted.

Follow these steps:

1. Click **Retail** > **Periodic** > **POS posting** > **Calculate statement**.
2. In the **Calculate statement** form, select the store or a range of stores to configure the calculate statement batch process for and click **Add**.
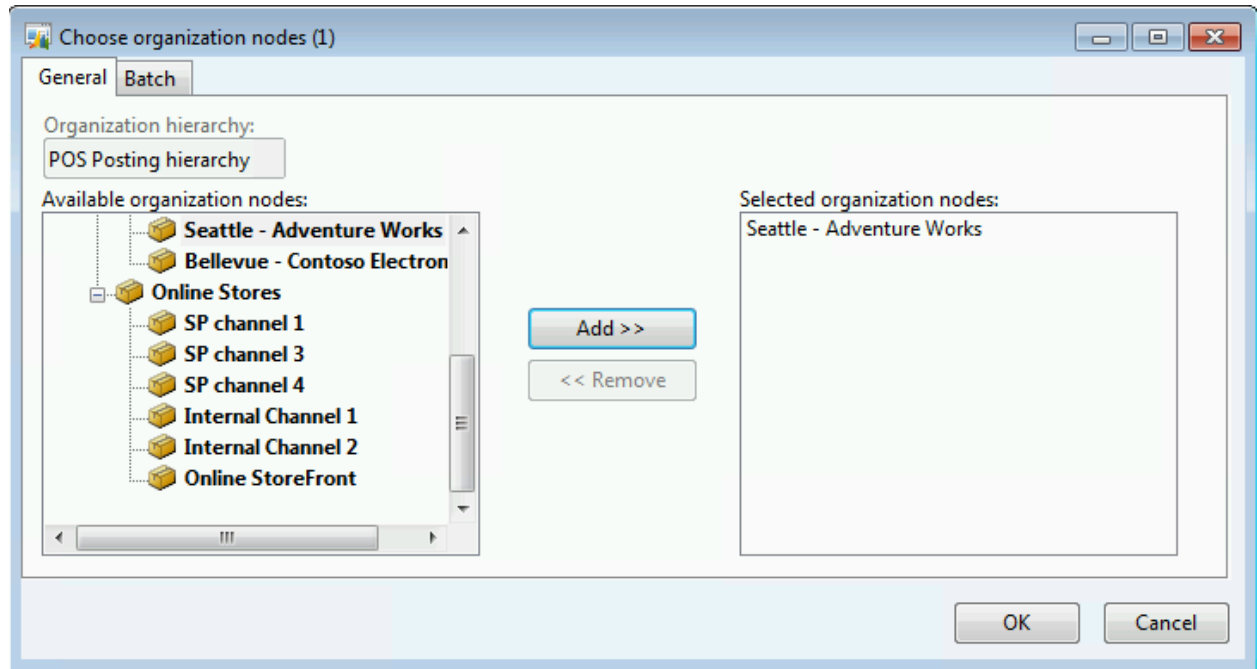


3. Click the **Batch** tab to configure the batch process. Click **Recurrence** to set up the frequency of the batch.
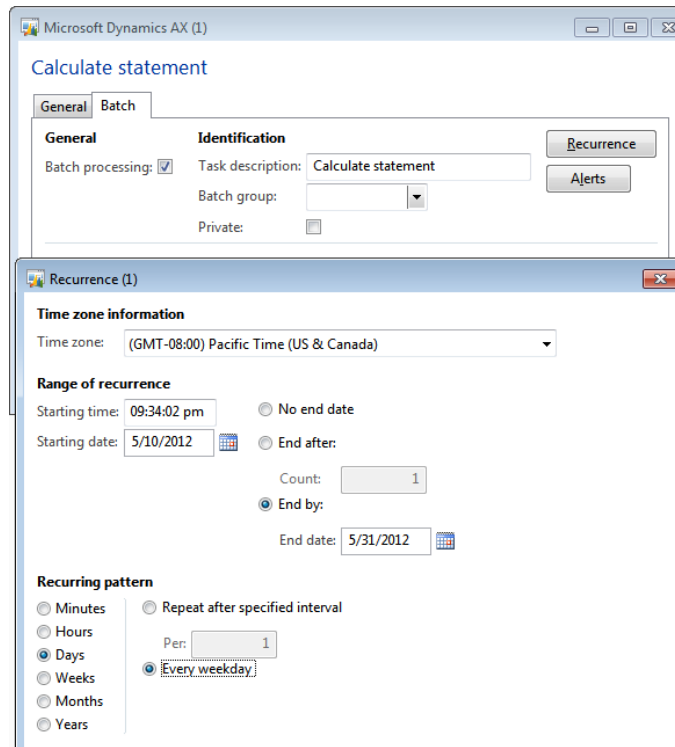
To set the alerts, click **Alerts**.

4. Click **Retail** > **Periodic** > **POS posting** > **Post statement**.

5. In the form, select the store number to configure the post statement batch process for a single store or select multiple stores and click **Add.**
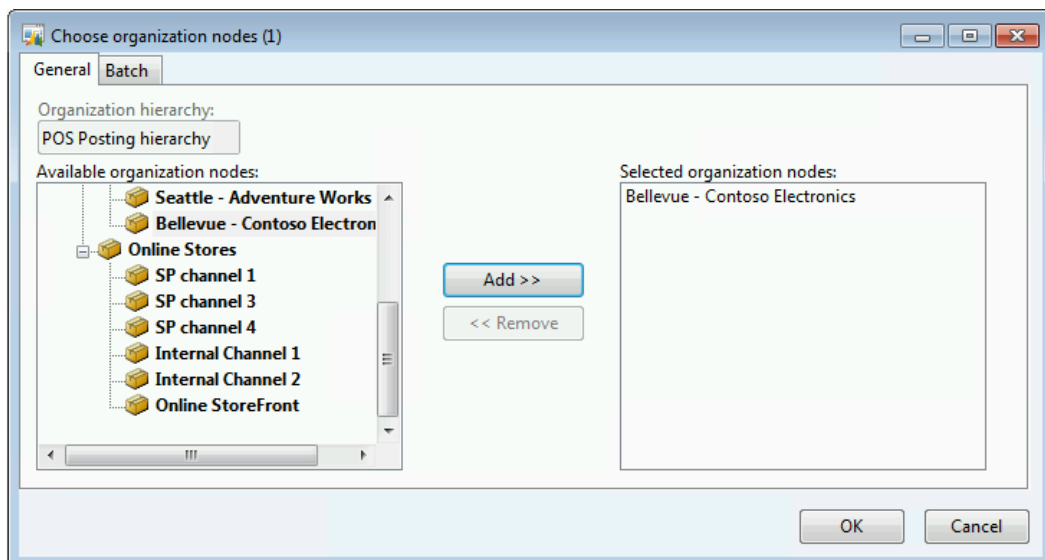
6. Click the **Batch** tab to configure batch process. Click on **Recurrence** to set up the frequency of the batch.
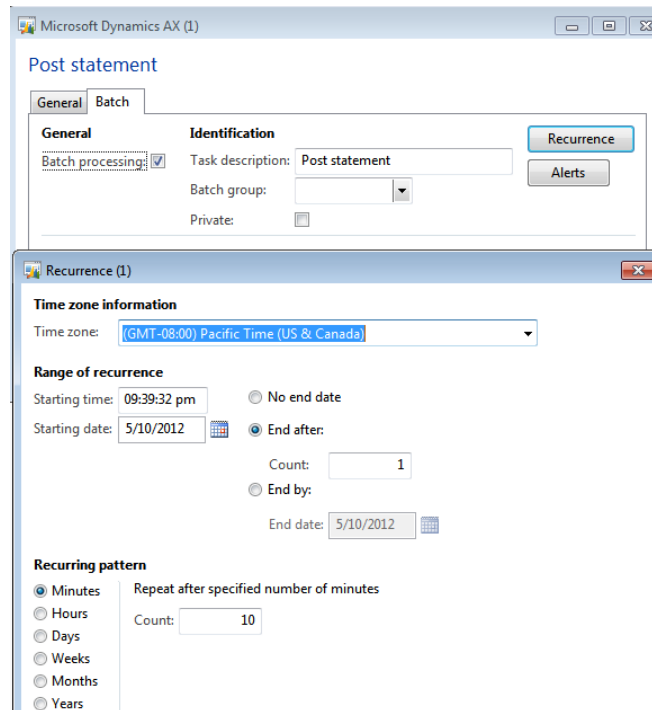


7. Click **Retail** > **Periodic** > **POS posting** > **Post inventory**.

8. Select the store number to configure the post statement batch process for a single store or select multiple stores and click **Add.**

 **Note**

To keep your on-hand inventory accurate, you should run this batch job frequently. For example, you can set the frequency to match the frequency with which you run the distribution schedule for job P-0001 for each store.

9. Click the **Batch** tab to configure the batch process. Click **Recurrence** to set up the frequency of the batch.

## 33 POINT OF SALE SET UP
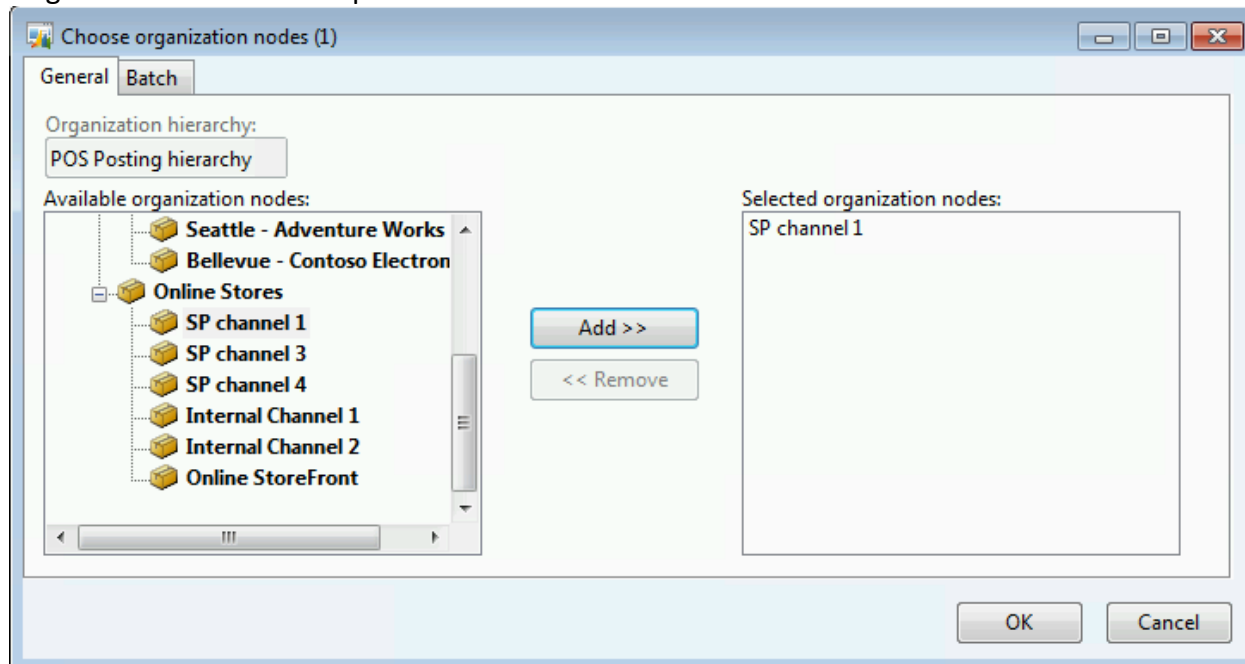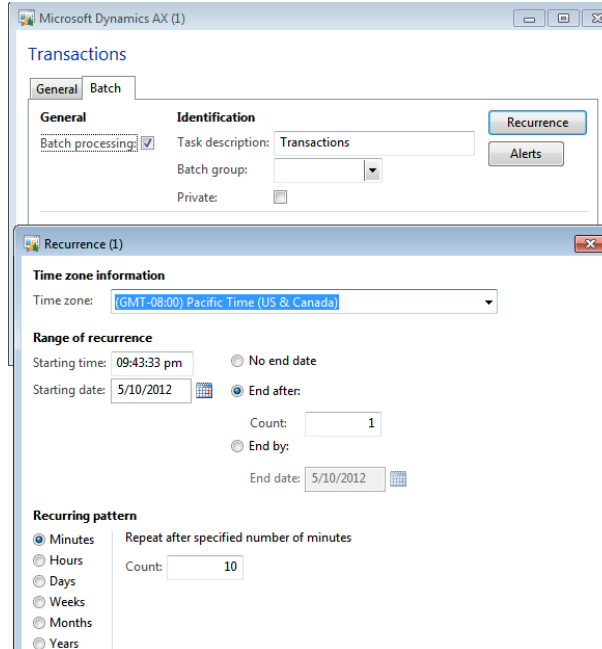
### OVERVIEW

This module explains that while it is typical in retail environment store employees perform the functions that enable store operations, there three categories on in-store system that can be defined:

- **Point of service systems** – This category consists of checkout systems including self-service POS, lottery systems, ATMs, other kiosks, and even mobile systems.

- **Front-office systems** – This category consists of sales floor systems, which are often consumer-facing or serve to increase direct customer service. These systems include digital signage, loyalty and service interface and gift registry.

- **Back-office systems** – This category consists of all operational systems for the store, including inventory management, human resources and financial management.

A retail store is usually set up with a back office terminal to perform end of day operations and to receive stock. The customer facing terminals are used for sales operations.

A POS terminal usually would be a touch screen device with all the devices like scanner, EFTPOS machine and receipt printer attached to enable the terminal to perform sales operations to serve the customers.

As part of the set up a POS terminal needs to be installed with the following:

1. **Operating System** – The POS terminal needs to be installed with a supported version on windows operating system. The supported versions are Windows Embedded POSReady 2009 and Windows Embedded POSReady 7.

2. **SQL Server Express edition** – Most of the retailers use the SQL Express edition because of the 10 GB database size allowance which meets most of the store needs. If size is a concern then higher versions of SQL can be used or the data can be archived depending on the business requirements.

3. **AX 2012 POS and Store Connect** – AX 2012 POS application with store connect needs to be installed on the POS terminal to run the POS application. The store connect is configured to communicate with the Dynamics AX for Retail to receive master information and send back sales and inventory details.

4. **Hardware drivers** – The drivers for the connected devices like scanner, EFTPOS machine and receipt printer needs to be installed and configured on ever POS terminal.

🗹 **Note**

Additional software's may be required based on the business requirements and devices attached to the POS terminal.

## 33.1 INSTALL AX 2012 R2 POS

The first step towards POS extensibility is installing the AX 2012 R2 POS from the Dynamics AX 2012 R2 Installation pack. The installation with provide components necessary to set up store and offline database along with the POS application.

🗹 **Note**

Download a copy of Dynamics AX 2012 R2 Installation pack from partner source website.

Follow the steps below to install the AX 2012 R2 POS on the POS terminal.

1. Open the folder where you have downloaded Dynamics AX 2012 R2 Installation pack.
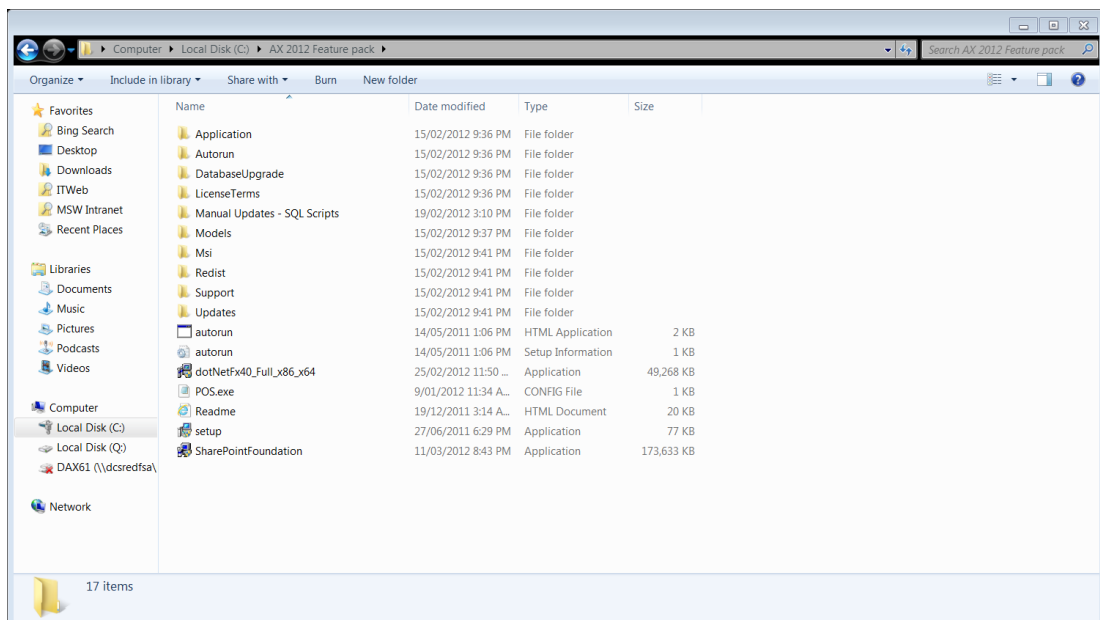


2. Right click on the setup file and select Run as administrator.

3. The Microsoft Dynamics AX 2012 R2 installation form pops up.
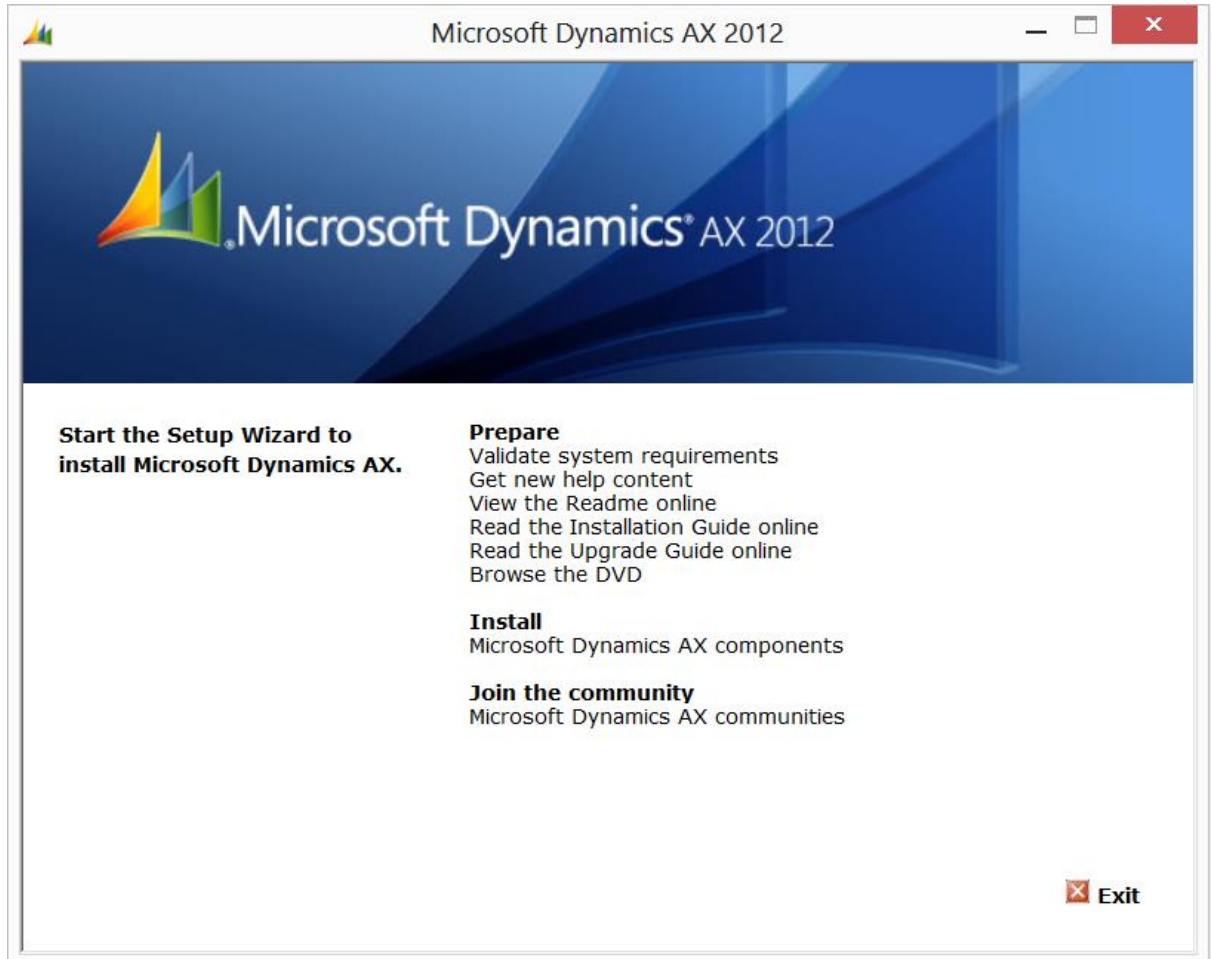


4. Under **Install** click **Microsoft Dynamics AX components** to select the components to install.

5. The AX 2012 R2 Set up wizard form will open.
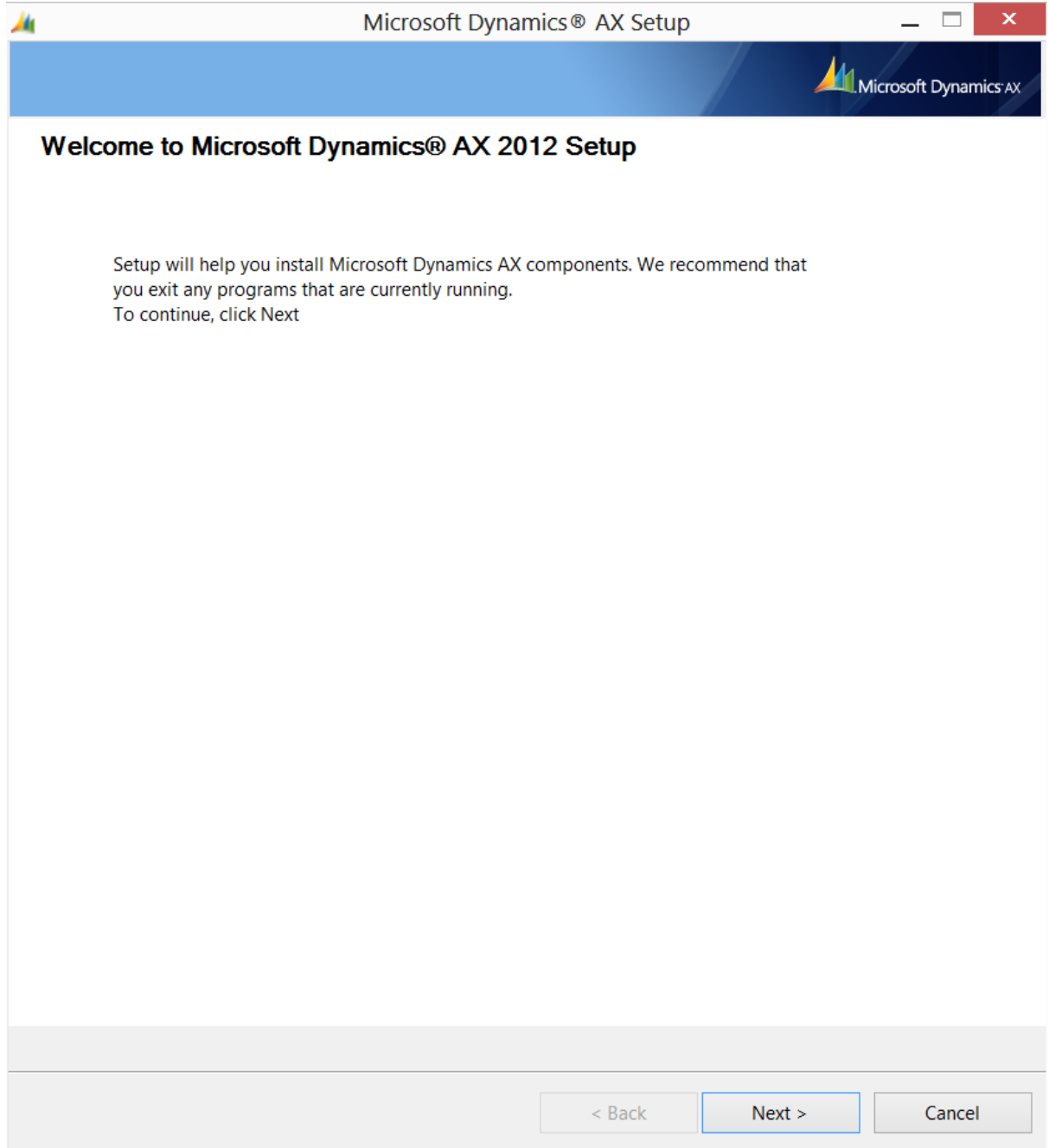
6. Click Next to continue with the installation.

7. Click **I accept license terms** to continue with the installation.
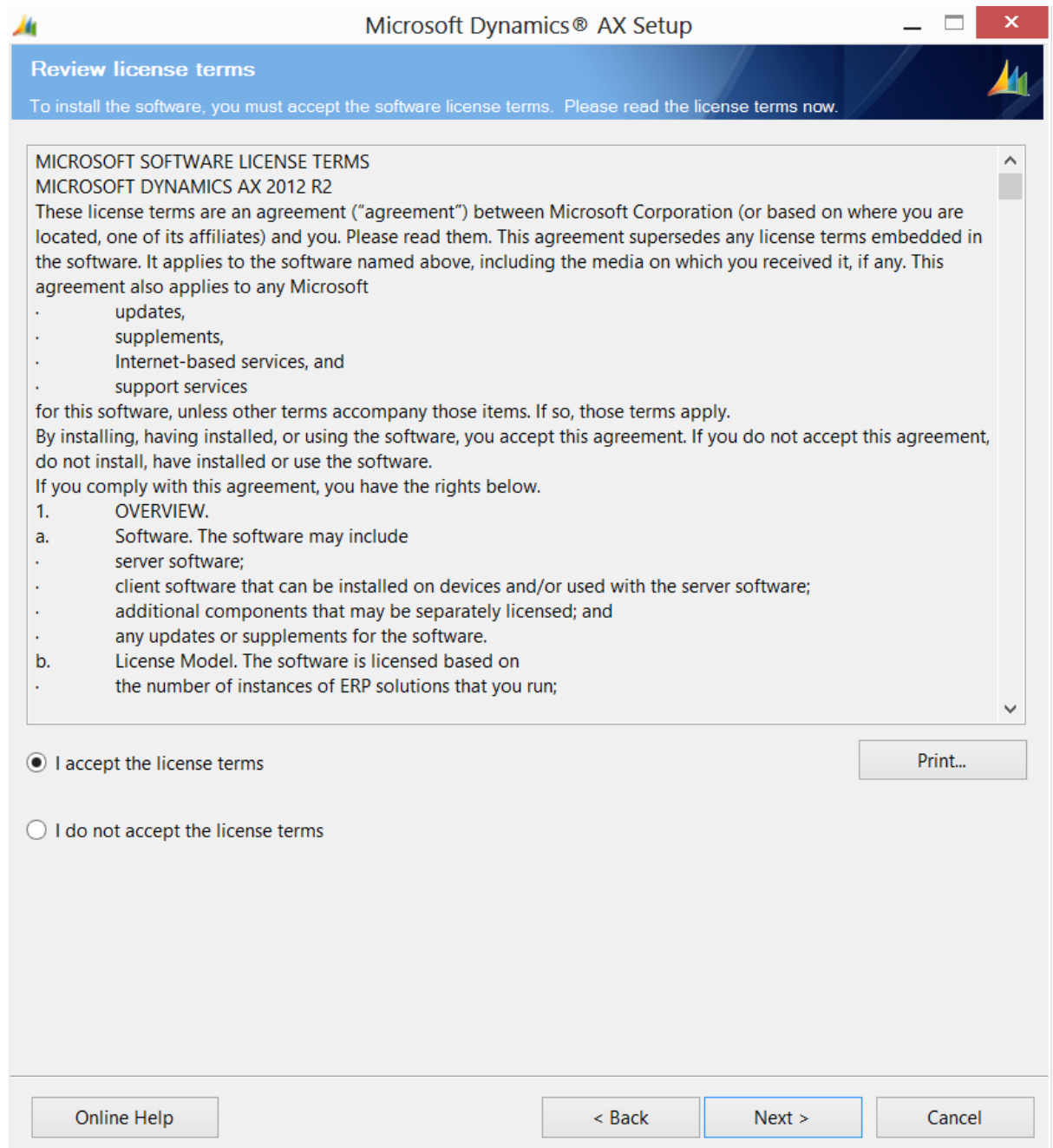
8. After installing the support files, select installation type from the options:
   i. Custom installation
   ii. Single-computer installation.
9. Select **Custom installation** to select the components to install.
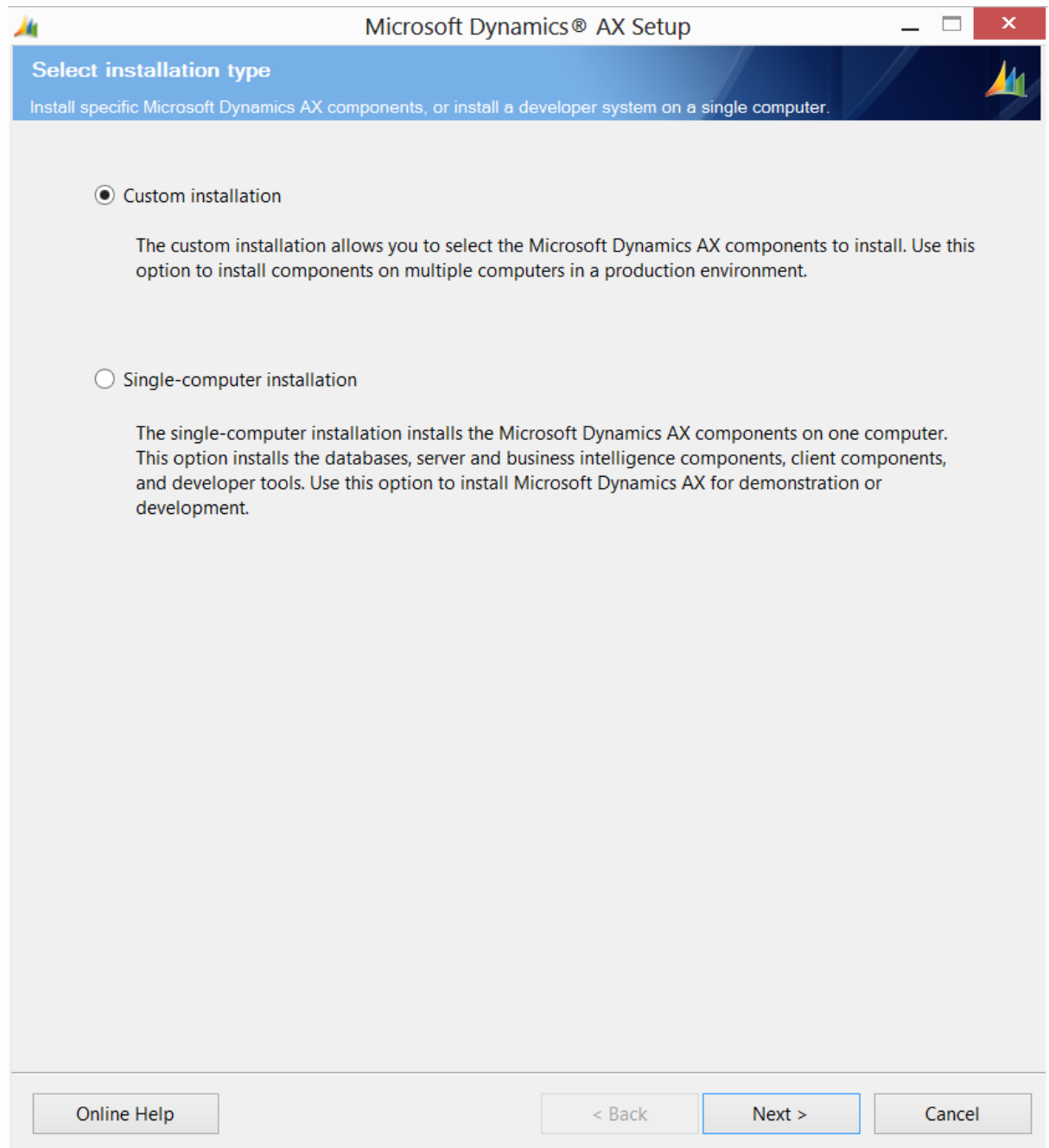
10. Under **Retail Components** select the following components to install on the POS terminal:

    i.    **Retail POS** – The Retail POS is the POS application that runs on the POS terminal used by cashiers and managers to do business at the stores.

ii.   **Commerce Data Exchange** – The Commerce data exchange Settings is used to install the Sync service and the Real-time service to communicate from POS to AX HQ.

iii.   **Retail Store Database Utility** – The Retail store database utility is used to create store and offline databases at the POS terminal.
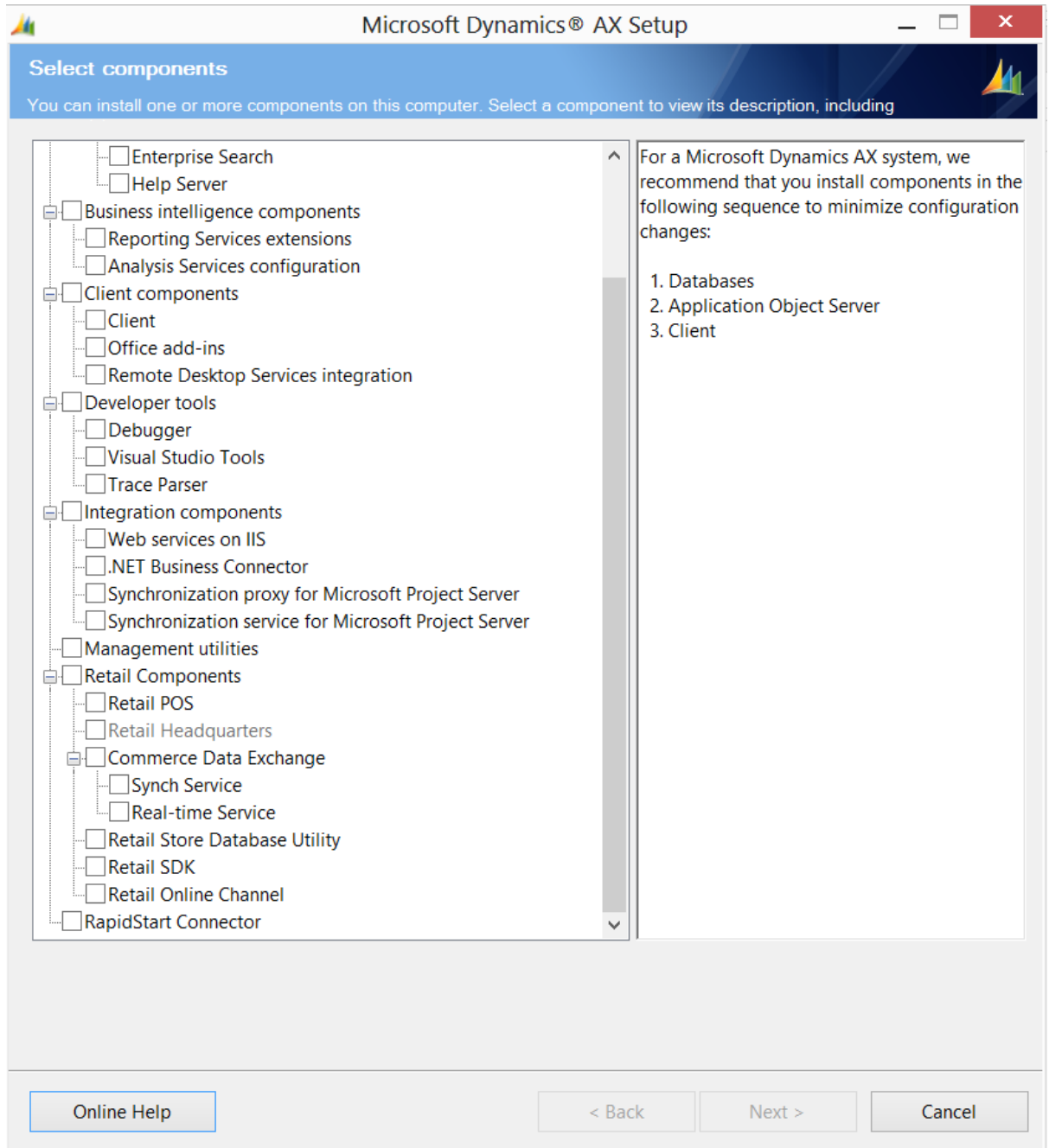
11. The Prerequisite validation runs and checks if all the dependencies are met to install the selected components. If any errors are displayed follow the link to download and install the prerequisites.
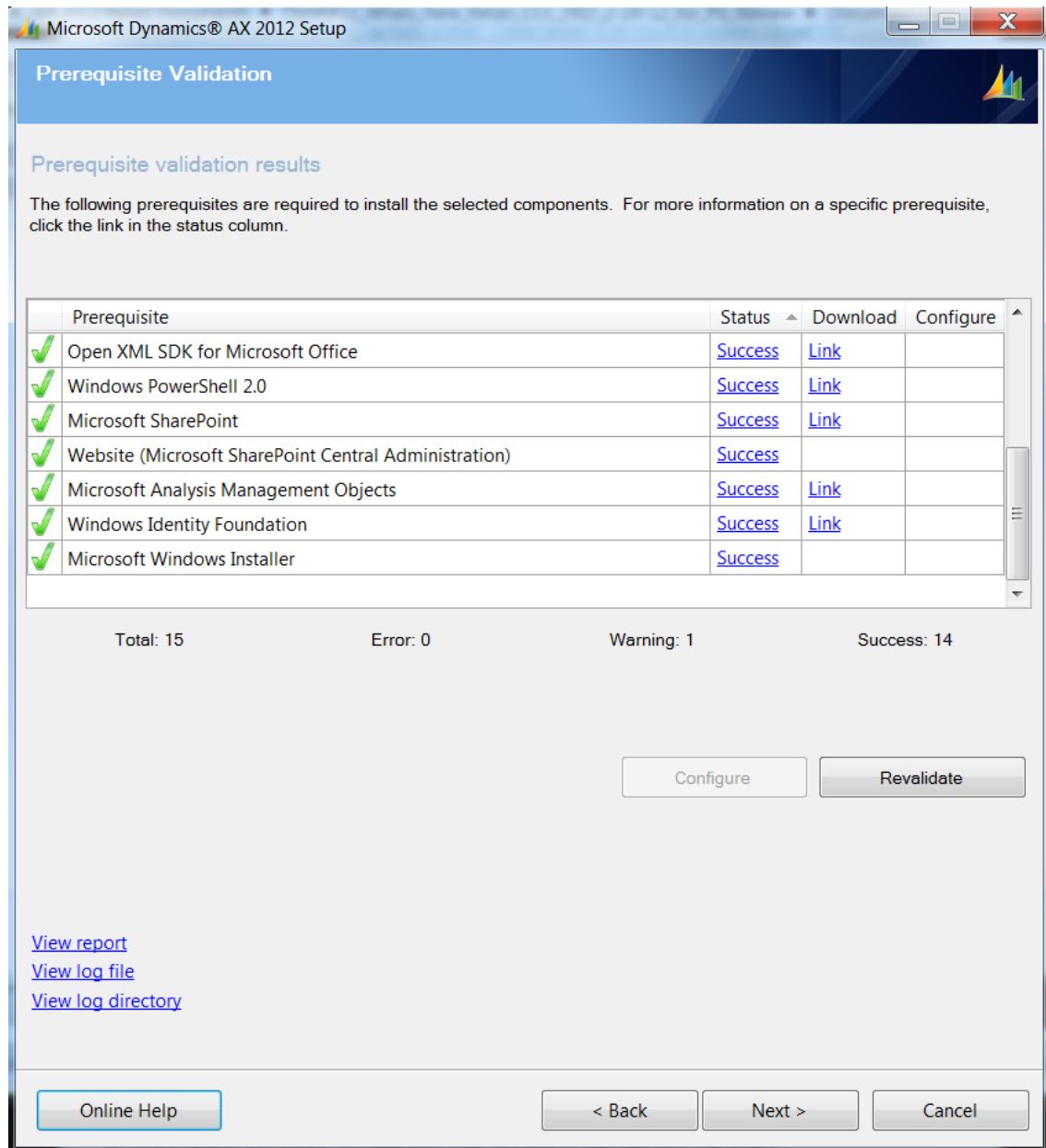


12. Click Next to install the selected component.

Follow the section below to create store database at a POS terminal.

## 33.2 INSTALL AND CONFIGURE STORE DATABASE

As a prerequisite AX 2012 R2 POS needs to be installed on the POS terminal. If the installation is complete, then the Retail database utility component is used to create and configure store and offline database for a POS terminal.

Below figure shows the typical architecture followed for POS deployments.
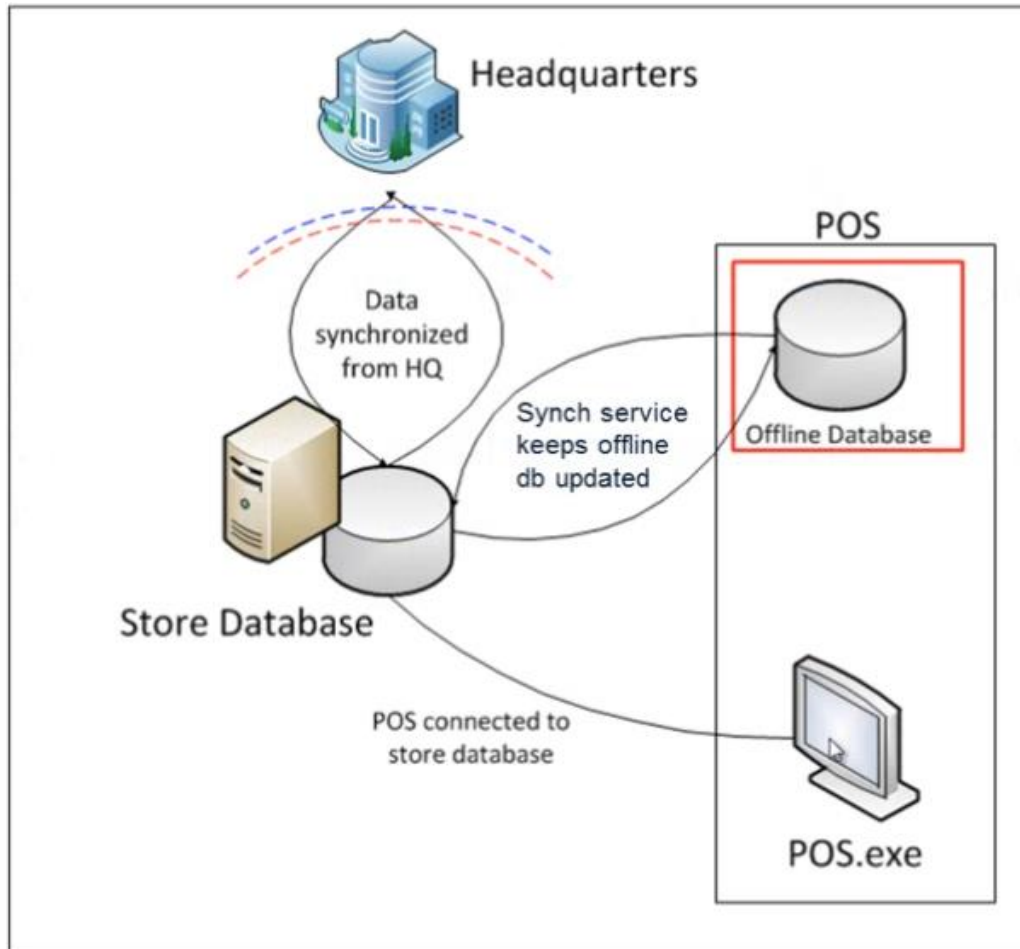


Figure: High level POS architecture

Retail store databases are installed by using the Retail database utility. To open the Retail POS configuration form click on **Start** → **All Programs** → **Microsoft Dynamics AX 2012** → **Retail Database Utility** →**Retail Database Utility**. A store database may be installed either on a stand-alone database server or on a POS computer.
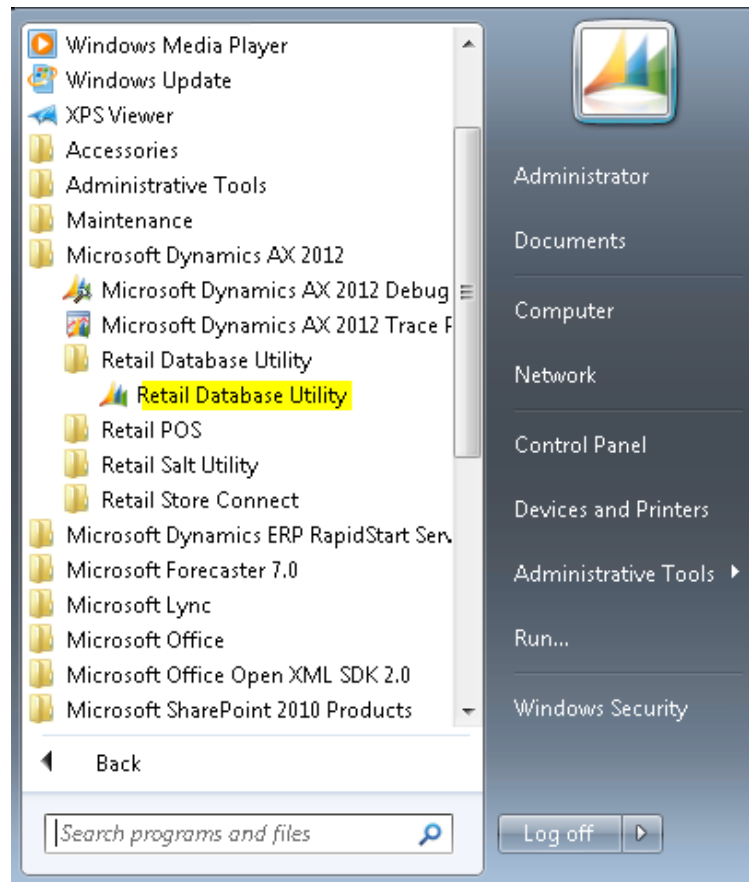


Figure: Path for Database Utility

Database utility can perform the following tasks:

1. Creates Store and offline databases.

2. Create POS configuration file.

3. It can be installed separately from POS.

4. It installs Synch Service.

Figure: Store Database configuration form

**Create a store database on a stand-alone computer or a POS computer**

1. Open the Retail POS configuration form to install store database on a stand-alone computer or a POS terminal.

2. Select **Configure store database** from the Database area.



3. Populate the **Store database** fields under the **Settings** area:

    • **Store database name** – Enter the store database name.
    • **Store server name** – Type the name of the server hosting the store database (typically local host).
4. If you select Configure offline database then the following additional fields are displayed.

5. Under the **Offline database** enter the **Offline server name** where the offline database will be created.
6. Enter the **Offline database name**.
7. Click on **Test Connection** to test if the server name entered exists and the Retail POS configuration can establish a connection to the server.
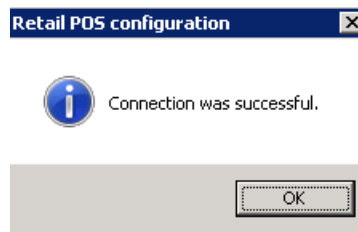


☑ **Note**

This step is required because of a known issue. The values that you enter can be arbitrary.

8. Optional: Test the connection.
9. Click Continue to create and configure the store database.

**Collation of Retail POS databases**

The collation for each Retail POS database is based on the Windows locale. To avoid collation issues, verify that the Windows locale of each database computer in the store is set to one of the, supported locales for Microsoft Dynamics AX 2012 Feature Pack.

**Create SQL logons and assign database privileges**

On the head-office communications server, create a SQL logon with the same name as the Commerce Data Exchange: Synch Service domain user. The head-office instance of Commerce Data Exchange: Synch Service will use this logon to access the Commerce Data Exchange: Synch Service message database. Therefore, the logon must have read and write (db_datareader and db_datawriter) access privileges on the message database.

On each store computer where SQL Server 2008 is installed, including the store communications server, create a SQL Server logon with the same name as the POS user group. This logon automatically provides all members of the POS user group (that is, all cashiers) access to the store or register database. This logon must have read and write (db_datareader and db_datawriter) access privileges on the store databases and the Commerce Data Exchange: Synch Service message database.

In SQL Server Management Studio, expand the **Security** folder, right-click **Logins**, and then click **New Login**.

1.  On the **General** page, click **Search** to locate and select the user account that you want to use for this SQL Server logon.
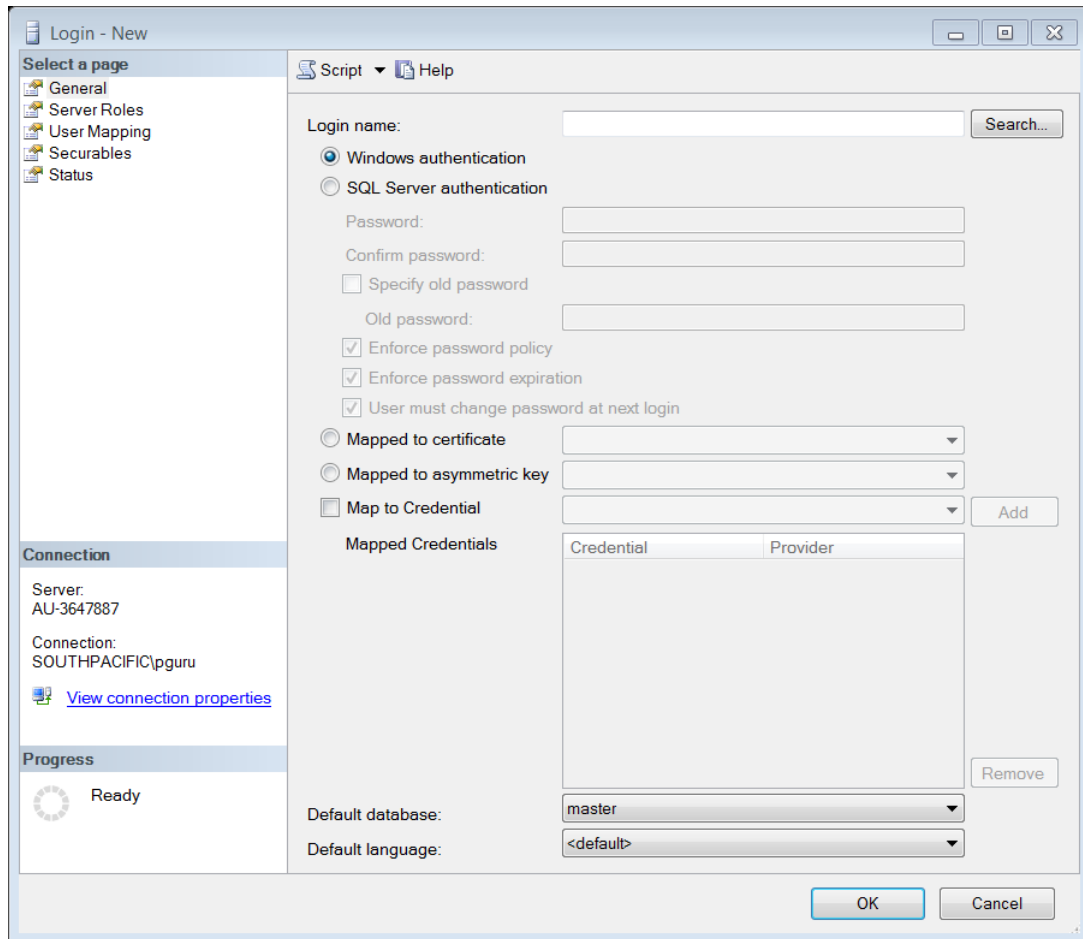
2. On the **User Mapping** page, select the check box for the database to which you want to grant access, and then, under **Default Schema**, click the **Browse** button.
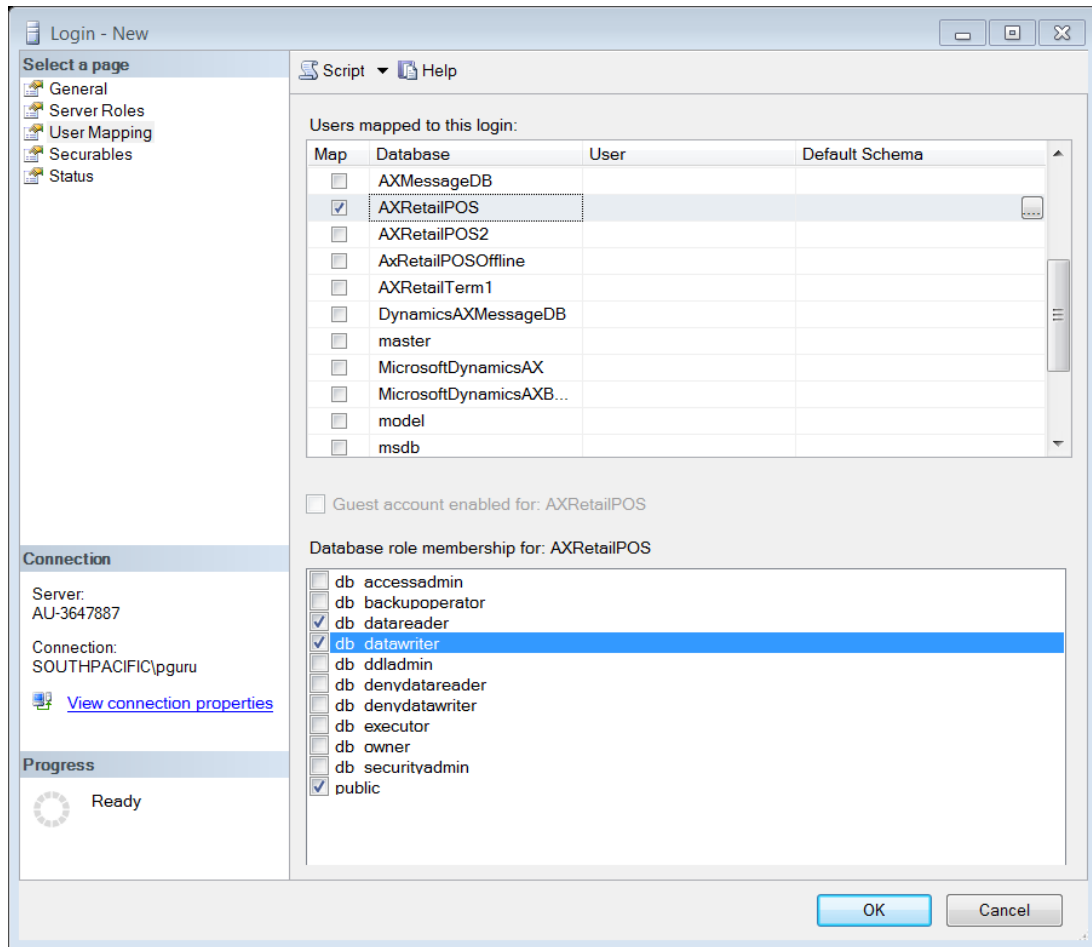
3.  In the **Select Schema** dialog box, click the **Browse** button.

4.  In the **Browse for Objects** dialog box, select the check box for the **[dbo]** object, and then click **OK**.

5.  In the **Select Schema** dialog box, click **OK**.
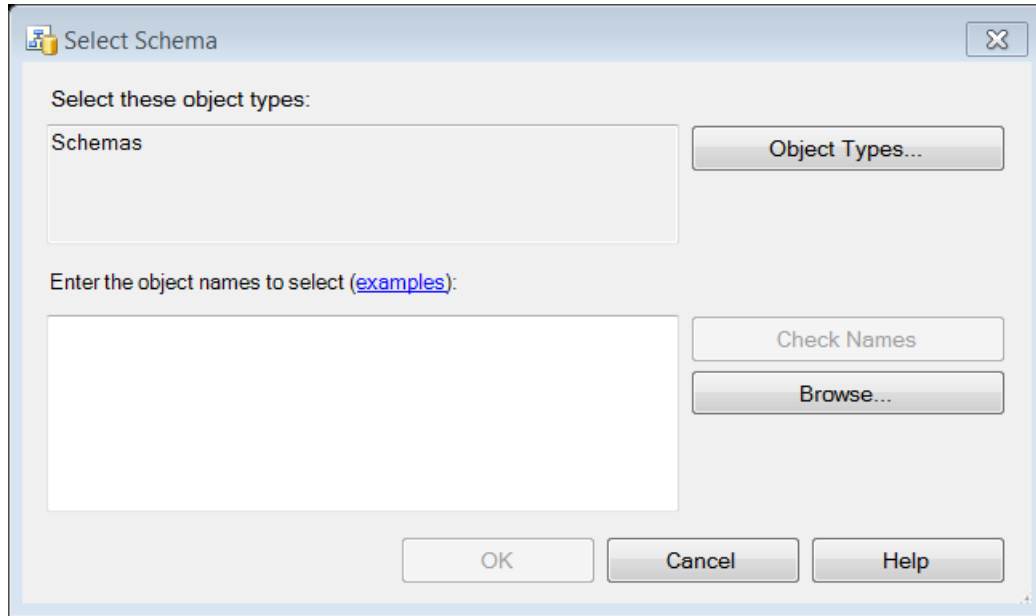
6. In the **Database role membership for** box, select the appropriate database, select the check boxes for the **db_datareader** and **db_datawriter** privileges, and then click **OK**.

# 33.3 CONFIGURE POS TERMINALS

**Set up user accounts and the POS user group**

To manage access to store computers and databases, you must create the following Windows users and user group:

**An account for Commerce Data Exchange: Synch Service** – This account must be created only on the communications server where Commerce Data Exchange: Synch Service is installed and on computers where Retail POS databases are located. The Commerce Data Exchange: Synch Service will run as this user.

**An account for each store employee** – Each employee user account must be created on every register that the employee will use. The employee can use this user account to log on to Windows and start Retail POS, and then log on to Retail POS by using the employee credentials set up for the employee in Retail Headquarters.

**A POS user group, to which all cashier user accounts on the computer are assigned** – Create this group on all computers in the store, including the communications server, by using the same name as the SQL logon that you created for the POS user group. This gives all members of the group (cashiers and the Commerce Data Exchange: Synch Service service) automatic access to the store or register database. Without this access, cashiers cannot process transactions.

📝   **Note:** All user accounts should have strong passwords that meet the password policy for the organization.

When you create the POS user group, it inherits the rights and privileges of the Standard user group on the computer. Typically, these rights and privileges are sufficient and do not need to be modified.
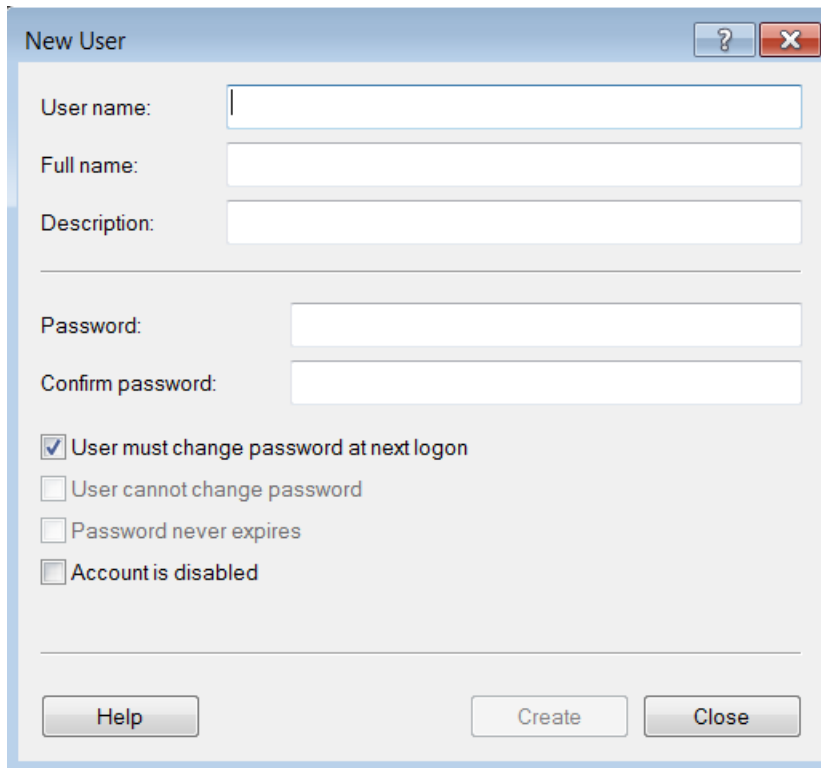
Guest or temporary user accounts are not supported.

**Create user accounts**

1. Click **Start**, type **lusrmgr.msc** in the search or **Run** box, and then press ENTER to open Local Users and Groups.
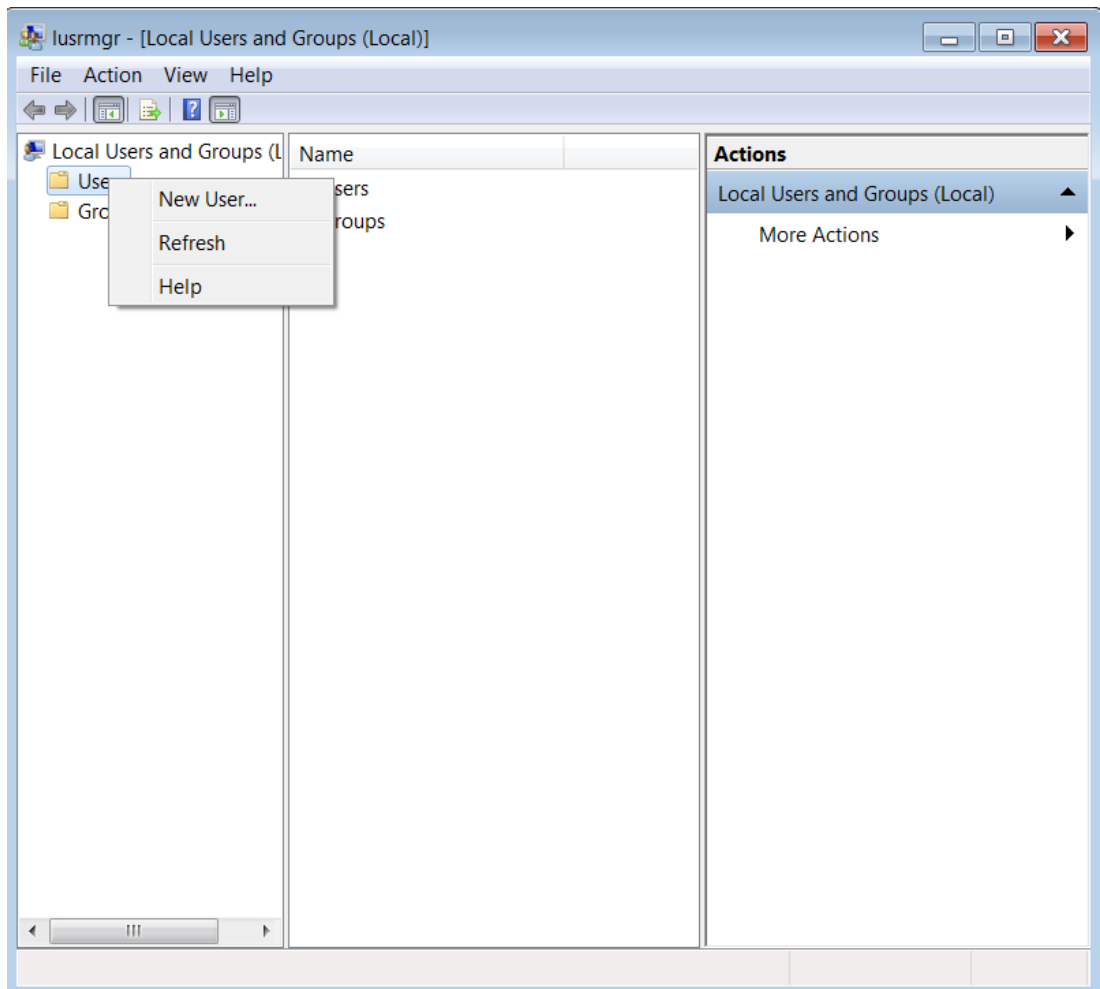


2. Right-click the **Users** folder and then click **New User**.

3. Enter the following information and then click **Create**.

4.  For the Commerce Data Exchange: Synch Service user only, complete these additional steps:

    a.  Right-click the user and then click **Properties**.

    b.  Clear the **User must change password at next logon** check box, select the **User cannot change password** and **Password never expires** check boxes, and then click **OK**.

5.  Repeat steps 1 to 4 to add additional users. Click **Close** after adding users.

**Create the POS user group**

1.  Click **Start**, type **lusrmgr.msc** in the search or **Run** box, and then press ENTER to open Local Users and Groups.

2.  Right-click the **Groups** folder, and then click **New Group**.
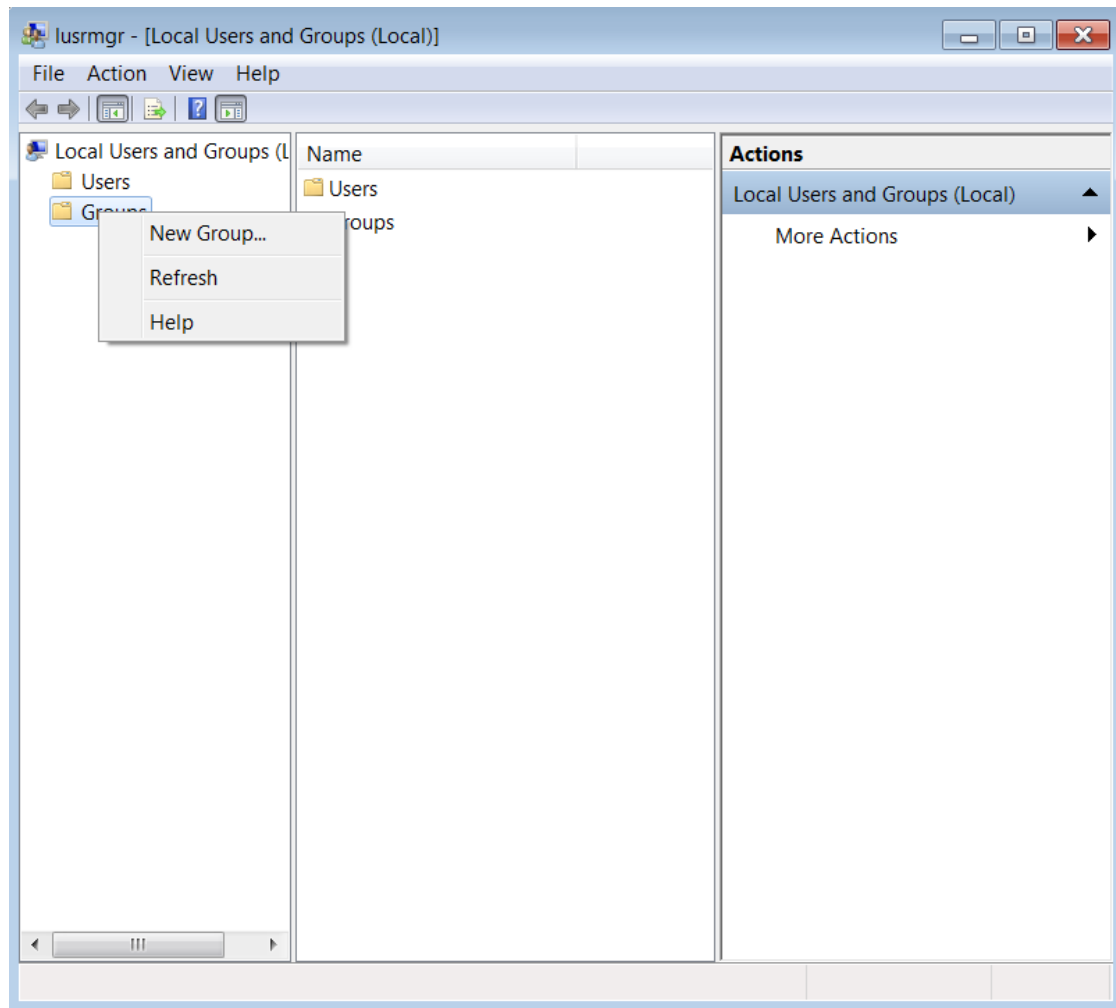
3.  In the **Group name** box, type the name of the new group. Be sure to use the same name on all computers.

4.  Click **Add**.
5.  In the **Enter the object names to select** box, type the employee user names that you set up in the previous procedure. Separate the names by semicolons. Click **Check Names** to verify that you typed the names correctly, and then click **OK**.
6.  Click **Create**, and then click **Close**.

## 33.4 CREATE AN OFFLINE POS DATABASE

Offline POS Database is used by the POS terminal when the internet connectivity is down. The POS terminal automatically switches to offline database to continue with the sales transactions.

### Note

In offline mode cashiers can perform only limited functionality on the POS terminal.

Figure below shows scenario when the store database is disconnected.
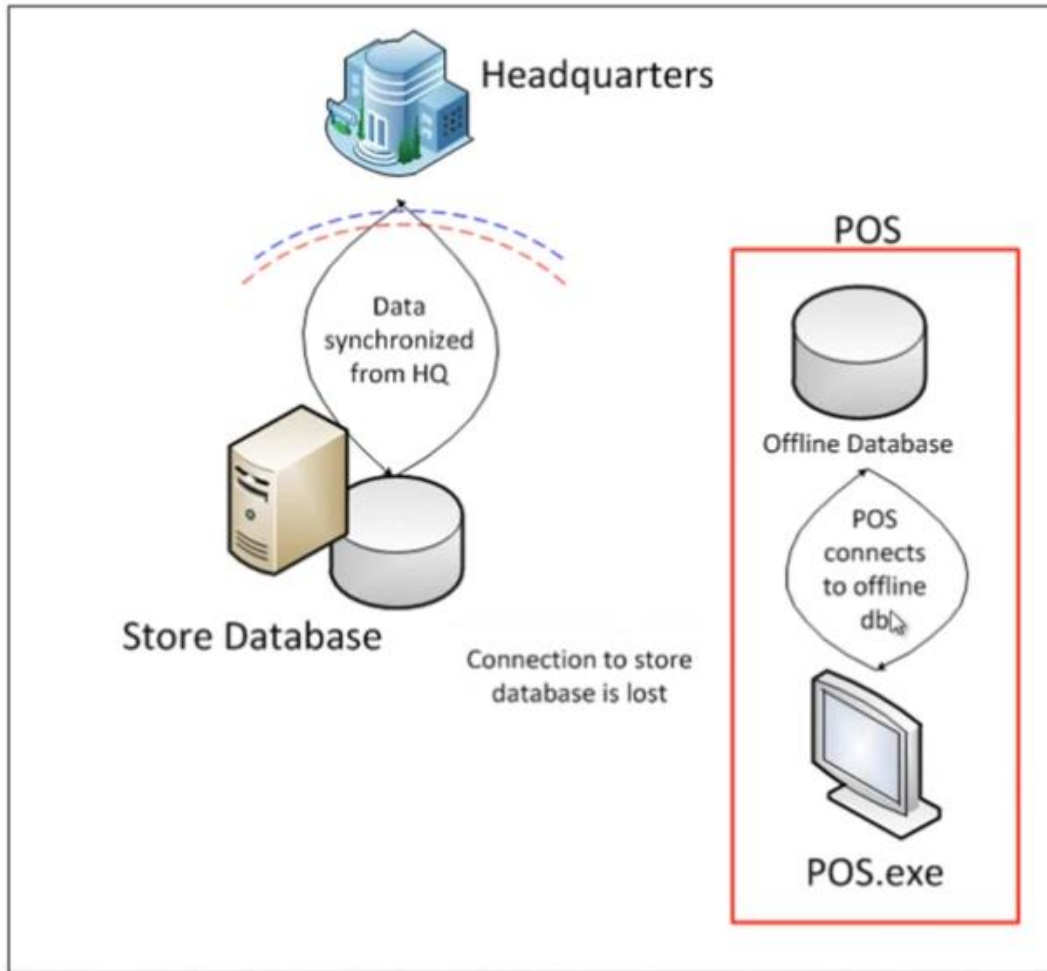


Figure:  Offline POS

In Dynamics AX 2012 R2, do the following steps:

1. Open the Retail POS configuration form.

2. Select Configure offline database.



Figure: Offline Database configuration screen

3. Supply information for the Offline database fields:
    a. **Offline database name** – Enter the name of the offline database.
    b. **Offline server name** – Enter the name of the server hosting the database (typically localhost).
4. Supply values for the **Identification** fields:
    a. **Store ID** – Type the store ID. This must match the value provided for the store in the **Name** field of the **Retail stores** form (**Retail** > **Common** > **Retail channels** > **Retail stores**).

   ☑ **Note**

      The store record does not need to be created before you complete this step. However, the ID must match later when the record is created and the profile is linked.

b. **Register ID** – Type an arbitrary designation for the POS terminal, such as **Terminal 1**

✎ **Note**

The POS terminal record does not need to be created before you complete this step. However, the ID must match later when the record is created and the profile is linked.

c. **Data area ID** – Type the company name.

5. Click **Continue** to create and configure the offline database.
6. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **Database profiles** to open the **Database profiles** form. One profile is required for each store. Create new profiles as needed and validate each profile by clicking **Test connection**.



7. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Distribution locations** to open the **Distribution locations** form. The form displays a list of distribution locations. Assign the correct database profile for each location.

**☑ Note**

> Do not assign AOS profiles if they are displayed on the **Connection profile** menu. This is a known issue.

8. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **AOS profiles** to open the **AOS profiles** form. There must be a profile with values pointing to a current AOS computer. For more information, click the **Help** button in the form.

9. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **Commerce Data Exchange: Synch Service profiles** to open the **Commerce Data Exchange: Synch Service profiles** form. These profiles enable data to be synchronized between Retail Headquarters and stores. Create new profiles as needed to point to the correct computers and databases. For more information, click the **Help** button in the form.



10. In Headquarters, click **Retail** > **Setup** > **POS** > **Profiles** > **Transaction Service profiles** to open the **Transaction Service profile** form. These profiles enable queries and data to be passed directly between Retail Headquarters and POS terminals. Create new profiles as needed to point to the correct computers and databases.

## 34  RETAIL REPORTS

### OVERVIEW

This module explains that for retail stores, reporting begins with identifying the key performance indexes of their business and ensuring that timely data is collected accurately so that it reflects each of these indexes in a meaningful way.  Financially, senior managers look at all operating costs in all stores against a very granular set of cost centers and expense accounts. They compare stores to help spot anomalies.  Sales reports are vital management tools and extensive sales reports are produced on many pivots, such as department, category, store, and vendor.  The biggest cost to retail businesses is the cost of stock on hand, and considerable attention is paid to optimizing the level of stock held, the turn rate of stock, and the overall contribution margin areas of inventory provide.  The data informs constant improvement processes and refinement of the company's inventory.
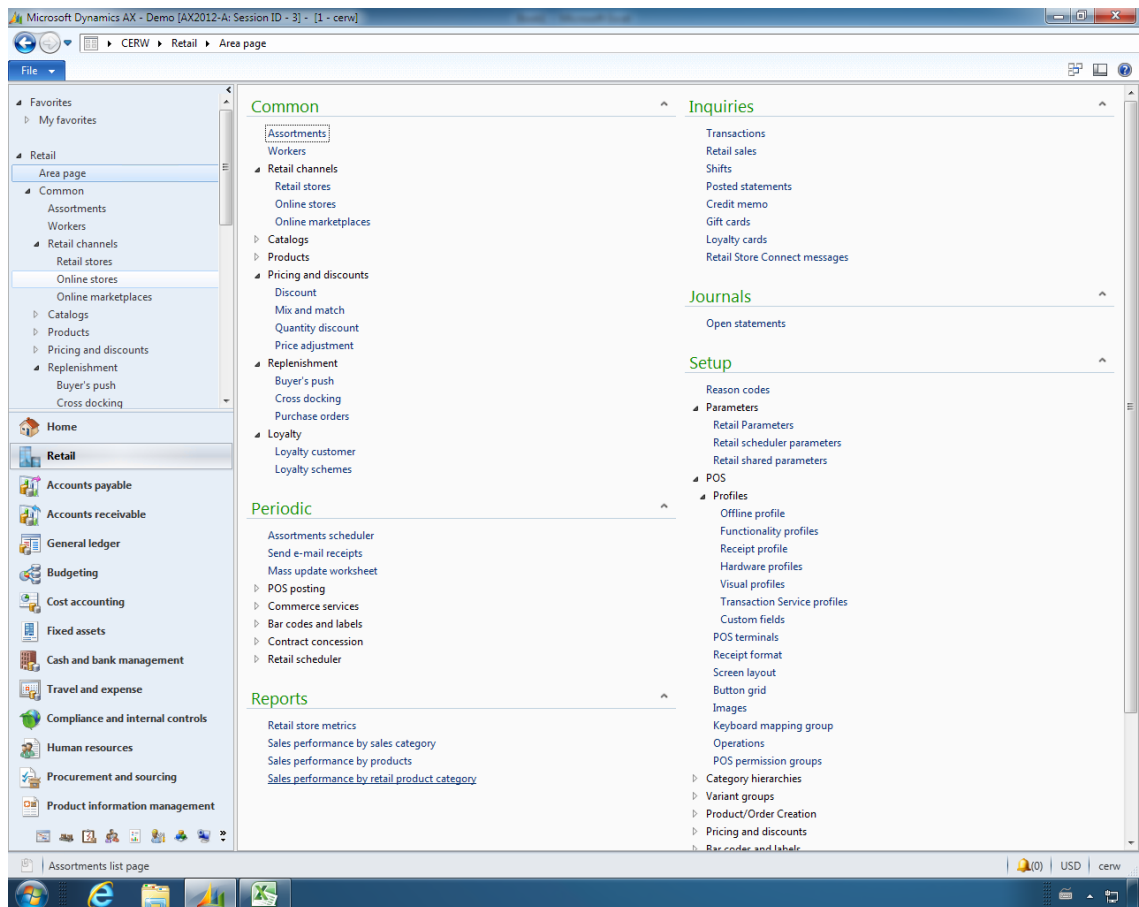


Microsoft Dynamics AX 2012 contains a number of out-of-the-box reports built on SQL Server Reporting Services and SQL Server Analysis Services cubes.  The key retail-

focused reports are found on the **Retail area** page as well as in Role Centers in the Microsoft Dynamics AX client and Enterprise Portal.

Key features of Retail HQ Reports include the following:

- Retail reporting
- Category hierarchies
- Excel Pivot Table

It is helpful to remember the following key points:

- Reports are built on SSRS with SQL Server Analysis Services Cubes.
- Custom pivot tables can quickly and easily created in Excel.

The following retail HQ reports are available on the rich client:

- Retail Store Metrics
- Sales Performance by Sales Categories
- Sales Performance by Products
- Sales Performance by Retail Product Category

## 34.1 RETAIL STORE METRICS

Use this report to view the performance of the retail stores by organization unit. The organization unit is based on the default reporting hierarchy. This report includes the sales quantity and amount by store, and the profit margin for each store.

Click **Retail** > **Reports** > **Retail store metrics**.
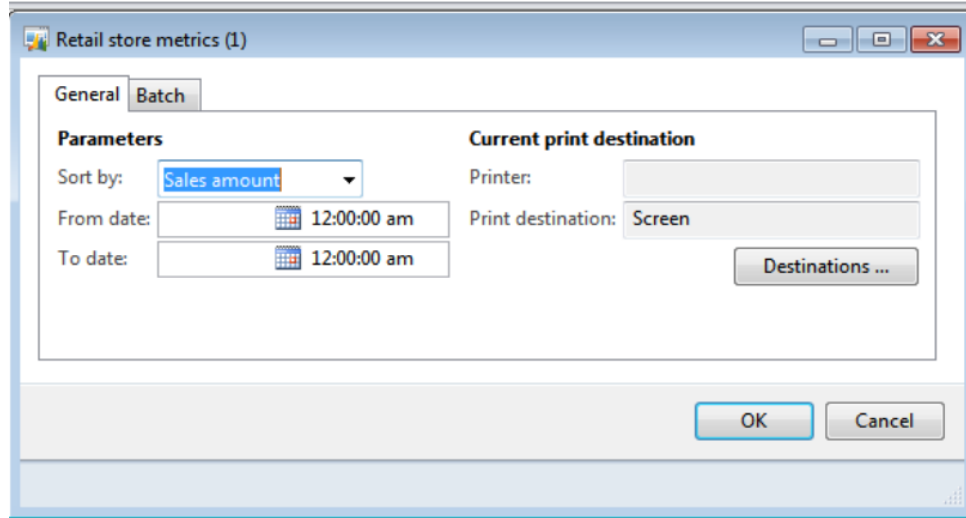
When you generate this report, the following default parameters appear. You can use these parameters to filter the data that appears on the report.

| Field | Description |
|---|---|
| **Sort by** | Select how to sort the store metric data on the report. Select one of the following options:<br><br>   • **Sales amount**<br>   • **Gross profit margin**<br>   • **Sales quantity** |
| **From date** | Enter the earliest date for the store metrics you want to include on this report. |
| **To date** | Enter the latest date for the store metrics you want to include on this report. |
| **Printer** | Make sure the selected printer is the one you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field. |
| **Print destination** | Make sure the destination where the report is produced is correct. Click **Destinations** to change the destination for the report. |

## 34.2 SALES PERFORMANCE BY SALES CATEGORIES

Use this report to view and compare sales performance by sales category during periods that you specify. The sales category is based on the default sales category hierarchy. This report includes the sales quantity, sales amount, profit margin, and profit percentage. *This report is available only to users who are assigned to the Merchandising manager role.*

This report can also be accessed in Enterprise Portal for Microsoft Dynamics AX.

Click **Retail > Reports > Sales performance by sales category.**

To access the report from Enterprise Portal, click the **Retail** tab. Under **Reports**, click the Performance by sales category report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

**Note:** Steps for viewing the data in the report remain the same as those explained in previous section



To access the report from Enterprise Portal, click the **Retail** tab. Under **Reports**, click the Performance by sales category report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

When you generate this report, the following default parameters appear. You can use these parameters to filter the data that is displayed on the report.

| Field | Description |
|-------|-------------|

| Sort by | Select the sort order for the sales performance data on the report. Select one of the following options:<br><br>&bull; **Sales amount**<br>&bull; **Gross profit margin**<br>&bull; **Sales quantity** |
|---|---|
| From date | Enter the earliest date for the sales performance data to include on this report. |
| To date | Enter the latest date for the sales performance data to include on this report. |
| Printer | Make sure the selected printer is the one you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field. |
| Print destination | Make sure the destination where the report is produced is correct. Click **Destinations** to change the destination for the report. |

## 34.3 SALES PERFORMANCE BY PRODUCTS

Use this report to view and compare sales performance by product during periods that you specify. This report includes the sales quantity, sales amount, profit margin, and profit percentage.

This report can also be accessed in Enterprise Portal for Microsoft Dynamics AX, and the report data is filtered by store.

Click **Retail > Reports > Sales performance by products.**

**Note:** Steps for viewing the data in the report remain the same as explained in previous section
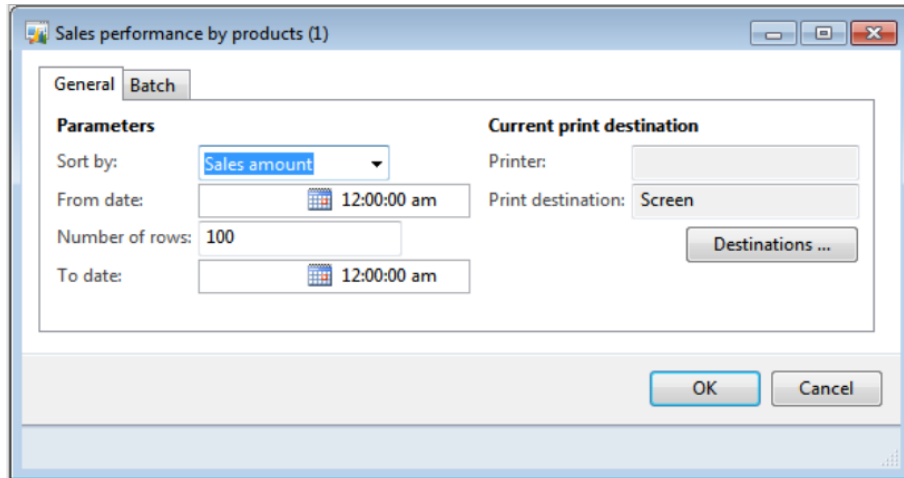
To access the report from Enterprise Portal, click the **Retail** tab. Under **Reports**, click the Performance by product report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

When you generate this report, the following default parameters appear. You can use these parameters to filter the data that is displayed on the report.

| Field | Description |
|---|---|
| **Sort by** | Select the sort order for the sales performance data on the report. Select one of the following options:<br><br>• **Sales amount**<br><br>• **Gross profit margin**<br><br>• **Sales quantity** |
| **From date** | Enter the earliest date for the sales performance data to include on this report. |
| **Number of rows** | By default, the report prints 100 rows of information. Enter another number to change the number of rows on the report. |
| **To date** | Enter the latest date for the sales performance data to include on this report. |
| **Printer** | Make sure the selected printer is the one you want to use. To select a different printer, click **Destinations**. This field is blank if **Screen** is selected in the **Print destination** field. |

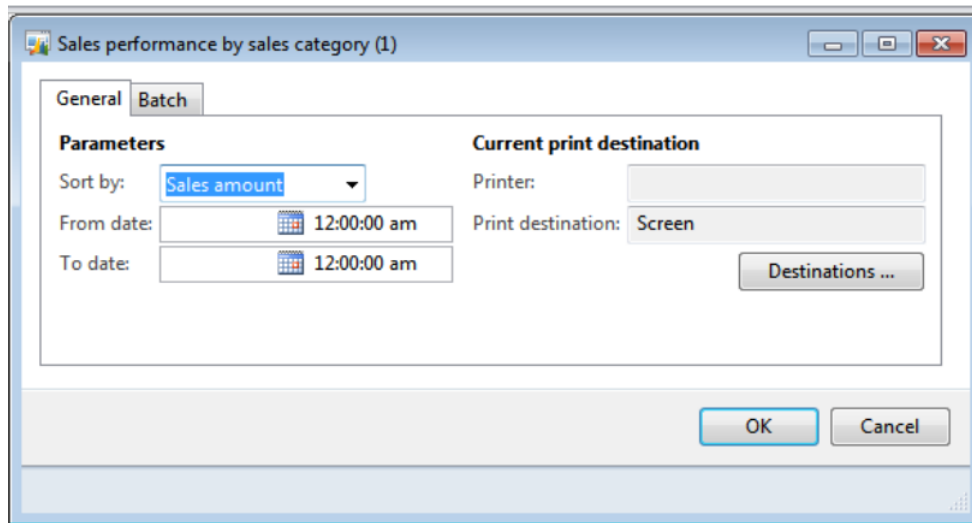| Print destination | Make sure the destination where the report is produced is correct. Click **Destinations** to change the destination for the report. |
|---|---|

# 34.4 SALES PERFORMANCE BY RETAIL PRODUCT CATEGORY

Use this report to view and compare sales performance by retail product category during periods that you specify. The retail product categories are based on the retail product hierarchy that is defined for your organization. This report includes the sales quantity, sales amount, profit margin, and profit percentage. This report is only available to users who are assigned to the Merchandising manager role.

Click **Retail > Reports > Sales performance by retail product category.**

To access the report from Enterprise Portal, click the **Retail** tab. Under Reports, click the Performance by retail category report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

| Field | Description |
|---|---|
| **Sort by** | Select the sort order for the sales performance data on the report. You can sort the data by **Sales amount**, **Gross profit margin**, or **Sales quantity**. |
| **From date** | Enter the earliest date for the sales performance data to include on this report. |
| **To date** | Enter the latest date for the sales performance data to include on this report. |
| **Printer** | Make sure the selected printer is the one you want to use. To select a different printer, click **Destinations**. This field is blank if **Screen** is selected in the **Print destination** field. |
| **Print destination** | Make sure the destination where the report is produced is correct. Click **Destinations** to change the destination for the report. |

This report provides summary and detailed product sales information by retail category.

Expand each node to view sales information by subcategories.



Drill down on any node to view the detailed product sales data.

## 34.5 GMROII BY PRODUCTS

To view the GMROII by products, click **Retail > Reports > Gross margin return on inventory investment (GMROII) by products**.

The **Parameters** form opens.

1.  Select the **Fiscal period** from drop-down list.
2.  Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
3.  Click **Destination** to select where the report is displayed.
4.  Click **OK** to run the report based on the selected parameters.

## 34.6 GMROII BY CATEGORY

To view the GMROII by category, click **Retail > Reports > Gross margin return on inventory investment (GMROII) by category**.

The **Parameters** form opens.

1. Select the **Fiscal period** from drop-down list.
2. Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
3. Click **Destination** to select where the report is displayed.
4. Click **OK** to run the report based on the selected parameters.

## 34.7 SALE PERFORMANCE BY CATEGORY BY STORE

To view the report, click **Retail > Reports > Sale performance by category by store.**

The **Parameters** form opens.

1. Select the **From date** from which the sales performance needs to be calculated and displayed.
2. Make sure the **Show fields** displays the fields the user can select to be displayed on the report. The fields that can be displayed are:
   a. **Amount**
   b. **Quantity**
   c. **Margin**
   d. **Percentage**
3. Select the **Store** from the drop-down list.
4. Select the **To date** to which the sales performance needs to be calculated and displayed.
5. Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
6. Click **Destination** to select where the report is displayed.
7. Click **OK** to run the report based on the selected parameters.

## 34.8 PERFORMANCE BY TERMINAL

To view the report, click **Retail > Reports > Performance by terminal.**

The **Parameters** form opens.

1. Select the **From date** from which the terminal performance needs to be calculated and displayed.
2. Select the **To date** to which the sales performance needs to be calculated and displayed.
3. Select the **POS registers** from the drop-down list.
4. Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
5. Click **Destination** to select where the report is displayed.
6. Click **OK** to run the report based on the selected parameters.
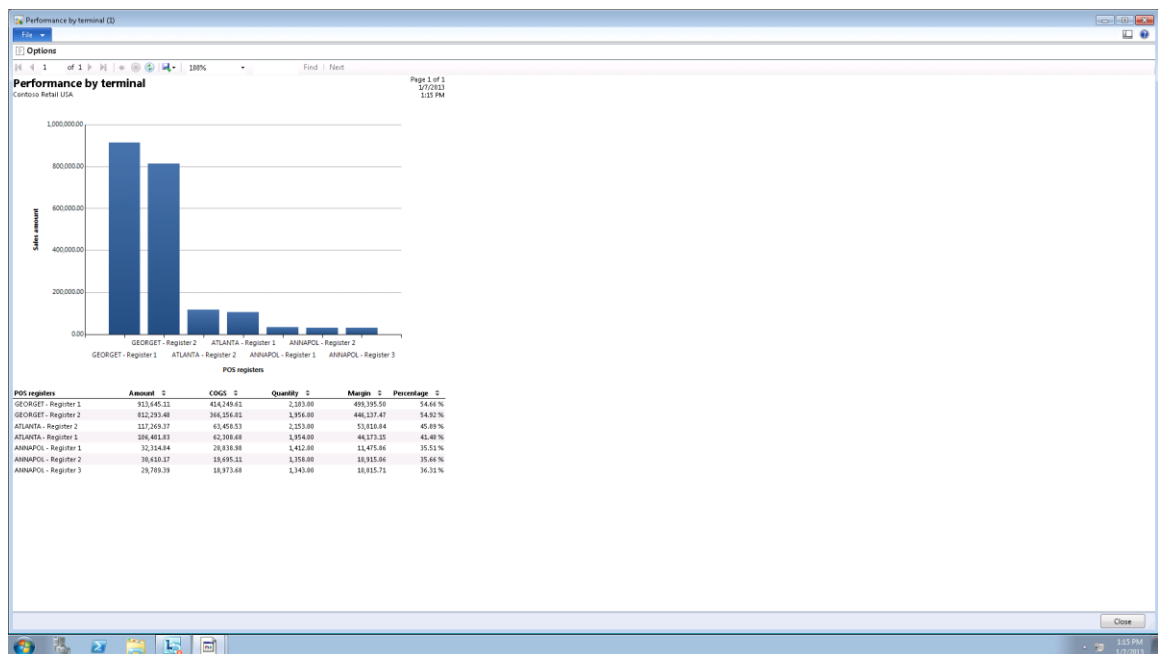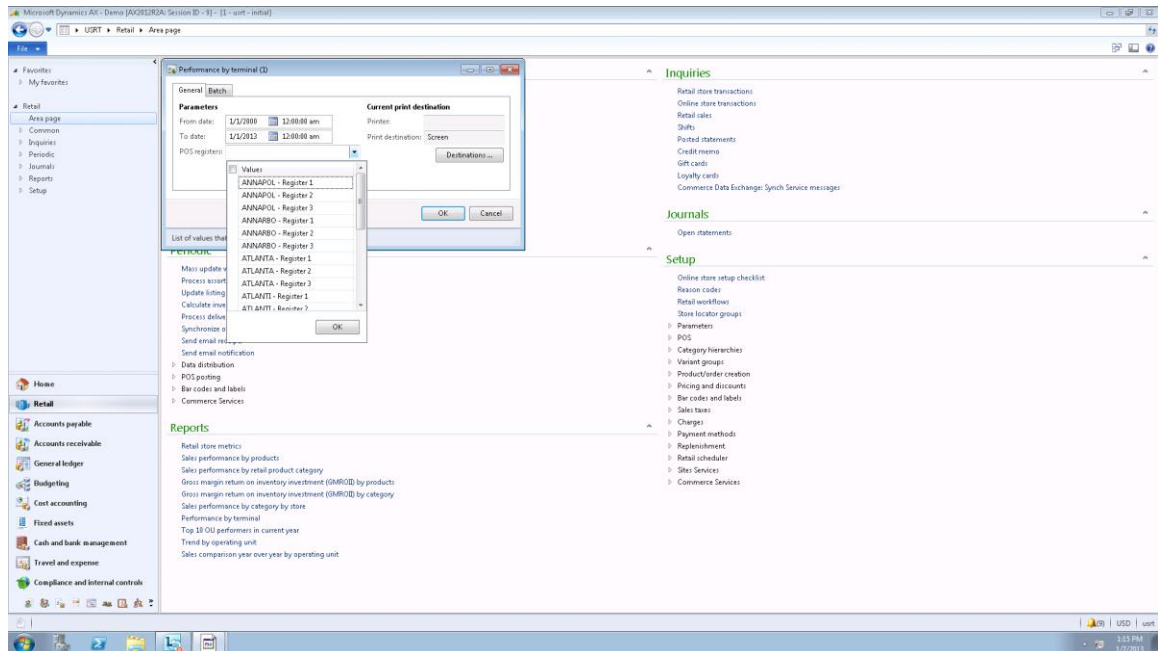
## 34.9 TOP 10 UI PERFORMERS IN CURRENT YEAR

To view the report, click **Retail > Reports > Top 10 UI performers in current year.**

The **Parameters** form opens.

1. Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
2. Click **Destination** to select where the report is displayed.
3. Click **OK** to run the report based on the selected parameters.

## 34.10    SALES  COMPARISON  YEAR  OVER  YEAR  BY OPERATING UNIT

To view the report, click **Retail > Reports > Sales comparison year over year by operating unit.**

The **Parameters** form opens.

1. Select the **From year** from which the year-on-year performance needs to be calculated and displayed for the selected retail stores.
2. Select the **Retail store** from the drop-down list.
3. Select the **To year** to which the year on year performance needs to be calculated and displayed for the selected retail stores.
4. Make sure the **Printer** field displays the printer that you want to use. To select a different printer, click **Destinations.** This field is blank if **Screen** is selected in the **Print destination** field.
5. Click **Destination** to select where the report is displayed.
6. Click **OK** to run the report based on the selected parameters.
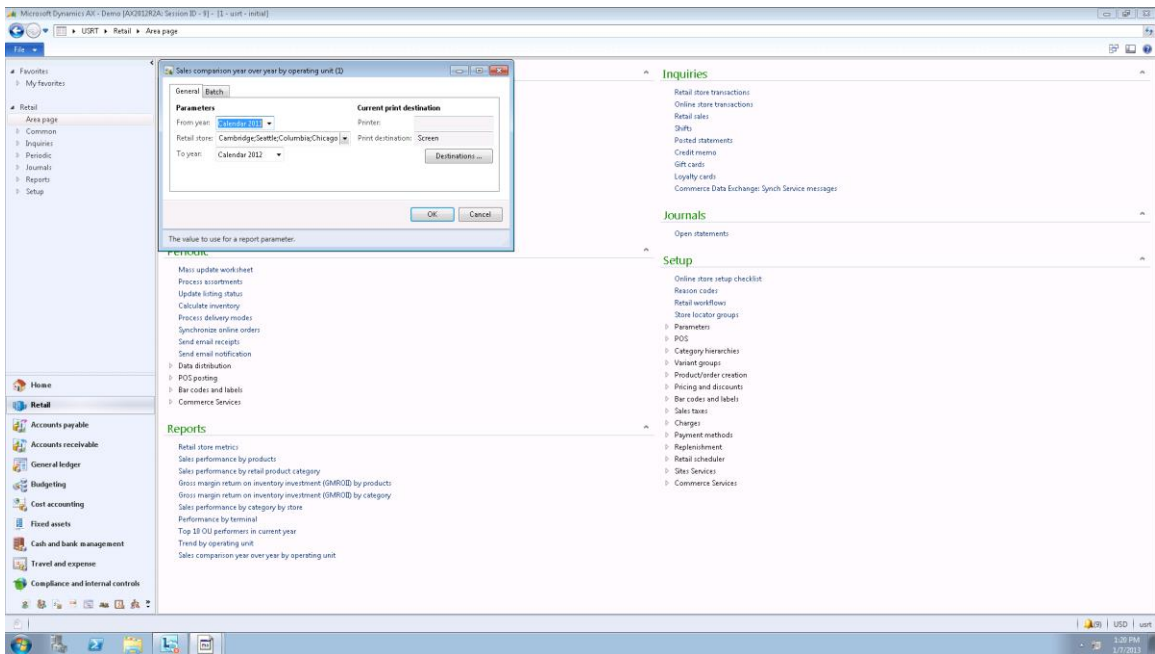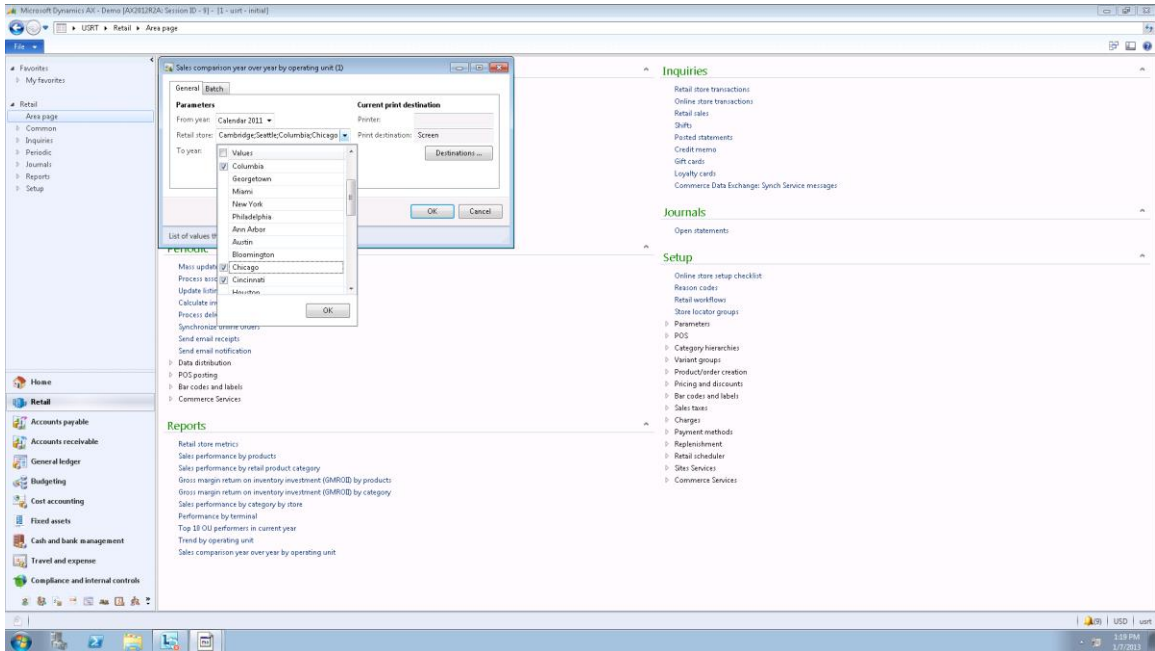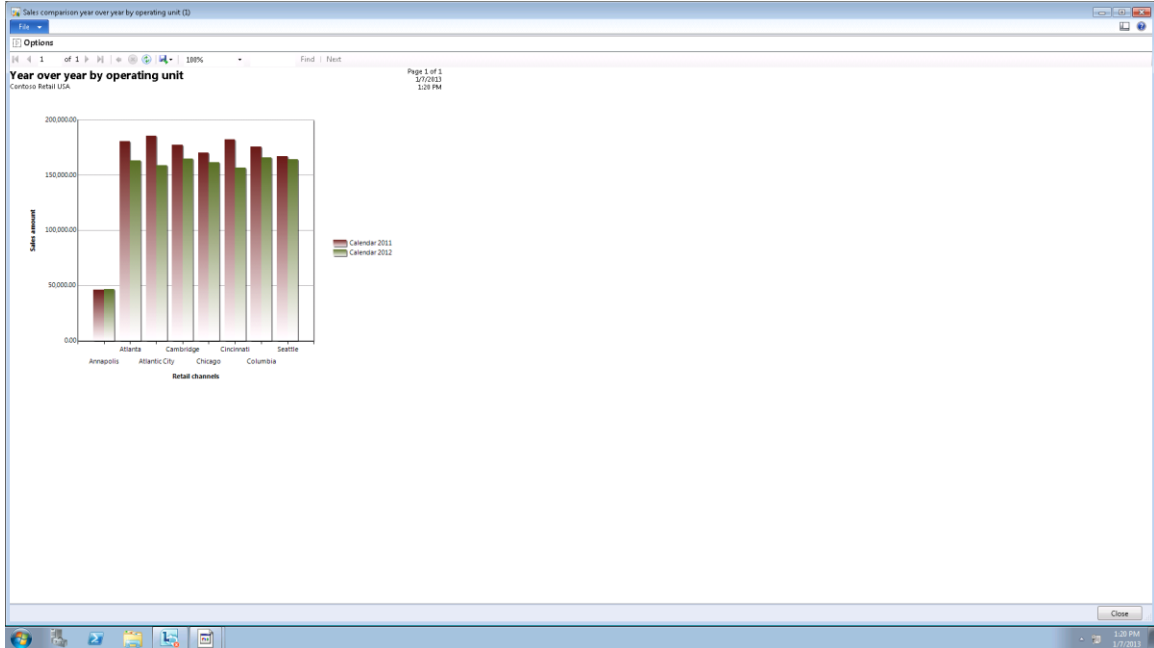
## 34.11 RETAIL ANALYTICS WITH BUILT IN CUBES AND EXCEL

Microsoft Dynamics AX for Retail includes a sales cube that can be used to gain powerful insights into sales performance:

**Merchandizing analytics**

- Sales performance by retail category – Identify key performing categories and eliminate nonperforming categories by leveraging the Sales performance by retail category and Sales performance by retail category period-over-period comparison reports.
- Sales performance by product -- Eliminate nonperforming products and optimize assortments with the right product mix by leveraging the Sales performance by product report. This report provides insight into overall sales, quantity, gross margin, and gross margin percentage by product.

**Retail channel analytics**

- Sales performance by retail channel – Compare sales performance across channel, and identify ROI across individual channels. This report provides insights into overall sales, quantity, gross margin and gross margin percentage by channel.

**Store analytics**

- Store sales by worker – View sales performance by staff and identify staffing improvements based on the Store sales by worker report.
- Store sales by hour– Identify peak traffic hours and staffing requirement by leveraging the Store sales by hour report.
- Store sales performance report – View store sales performance and track store performance across periods.

**Operating unit analytics**

- Operating unit sales performance – View a summary on how the overall business is performing by opening the operating unit sales performance report.

**Prerequisites:**

- Configure Excel to point to the cube.
- Open Excel.
- Click the **Data** tab.
- Click **From External Data Sources**, and select **From Analysis Services**.
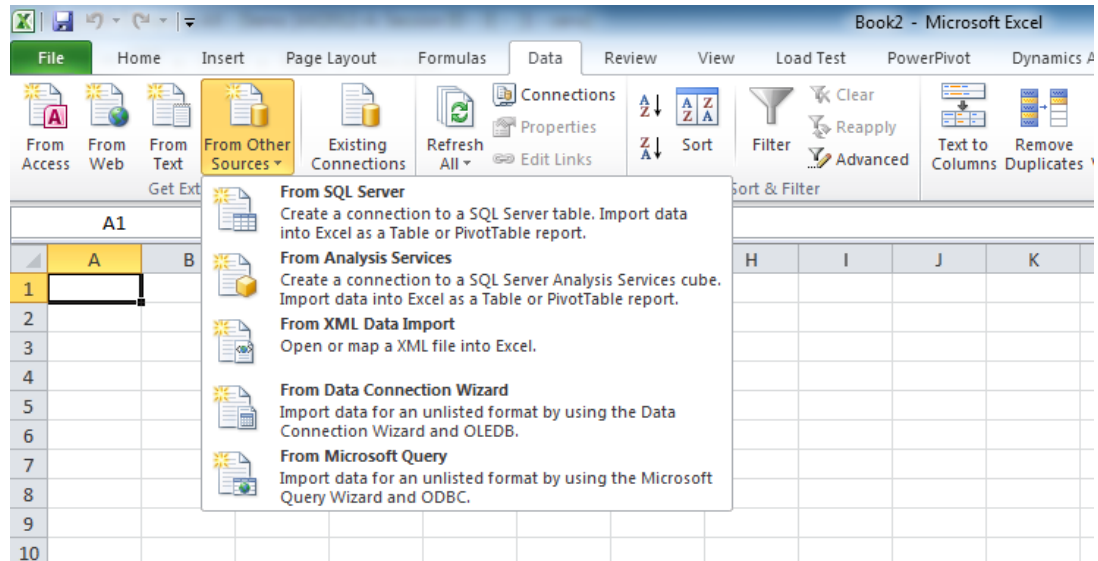


- Connect to the Microsoft Dynamics AX machine.
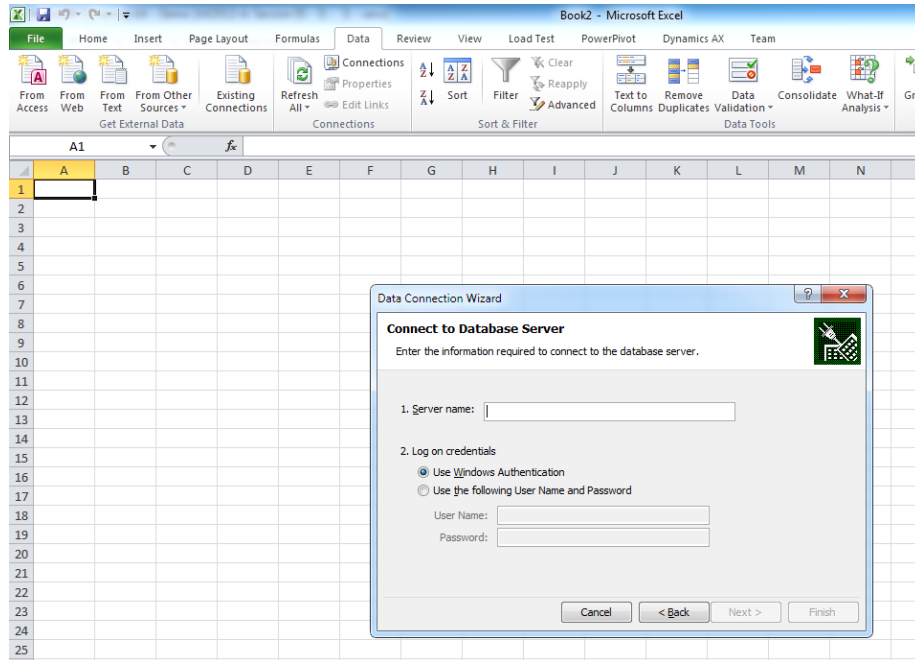
- Select **Sales cube**.
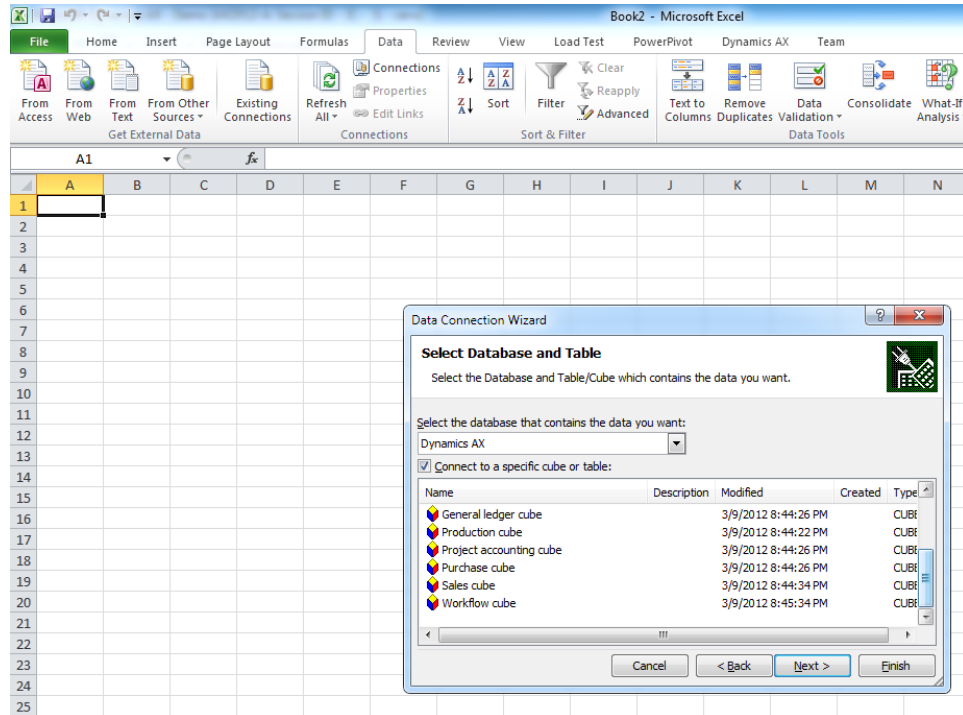


- Click **Finish**.
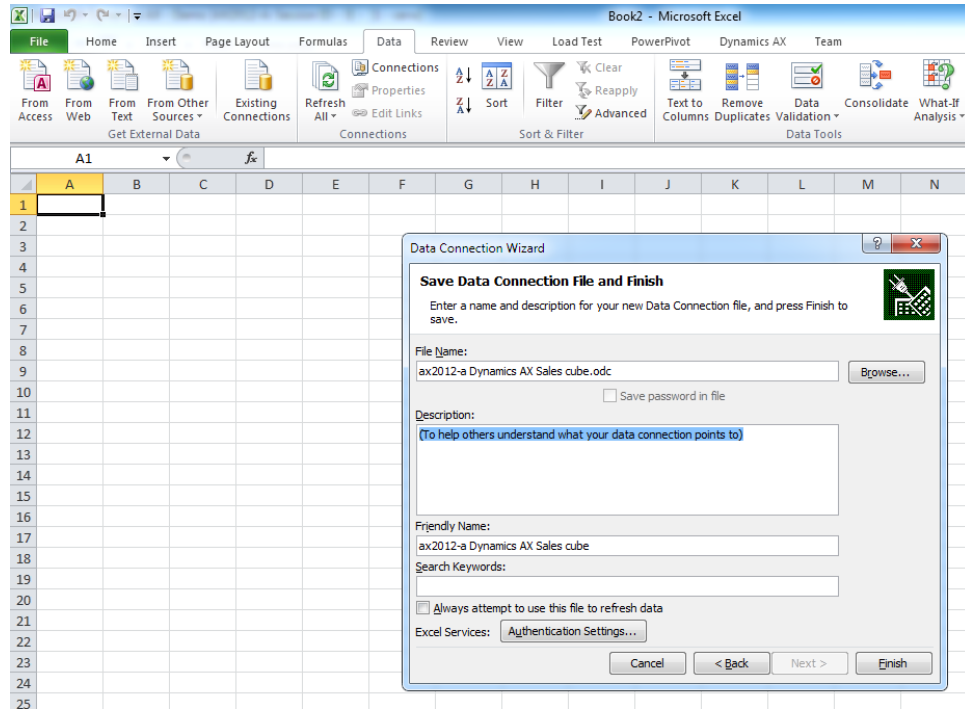
- Import data into the Excel Spreadsheet.
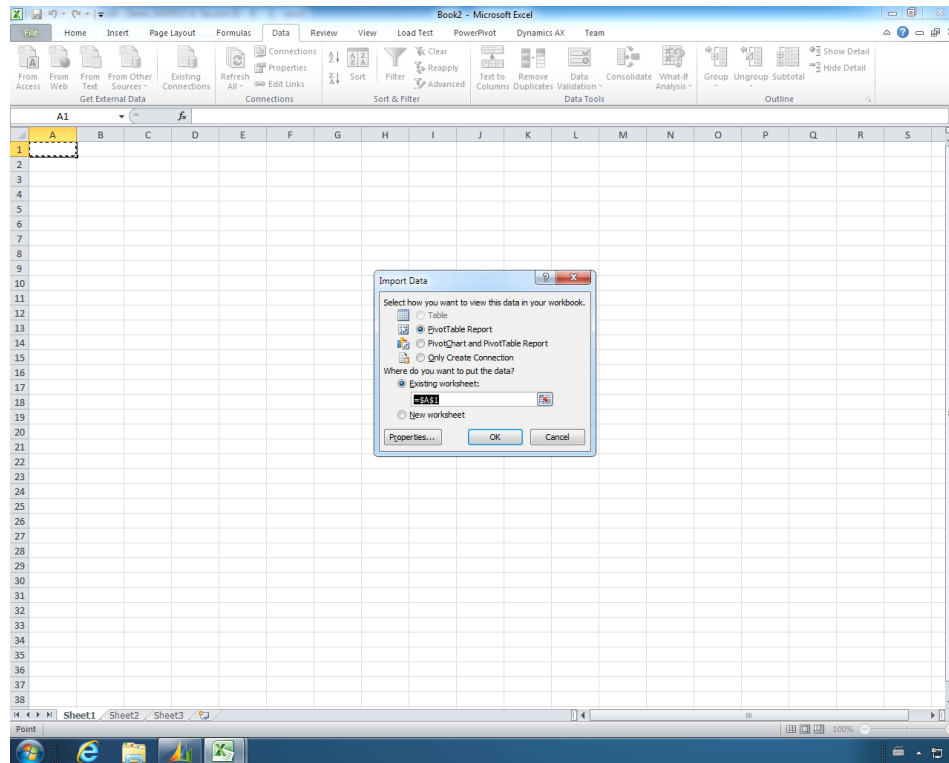
Users can easily choose the source for rows, columns, and metrics.

Select **Customer invoice line amount**.
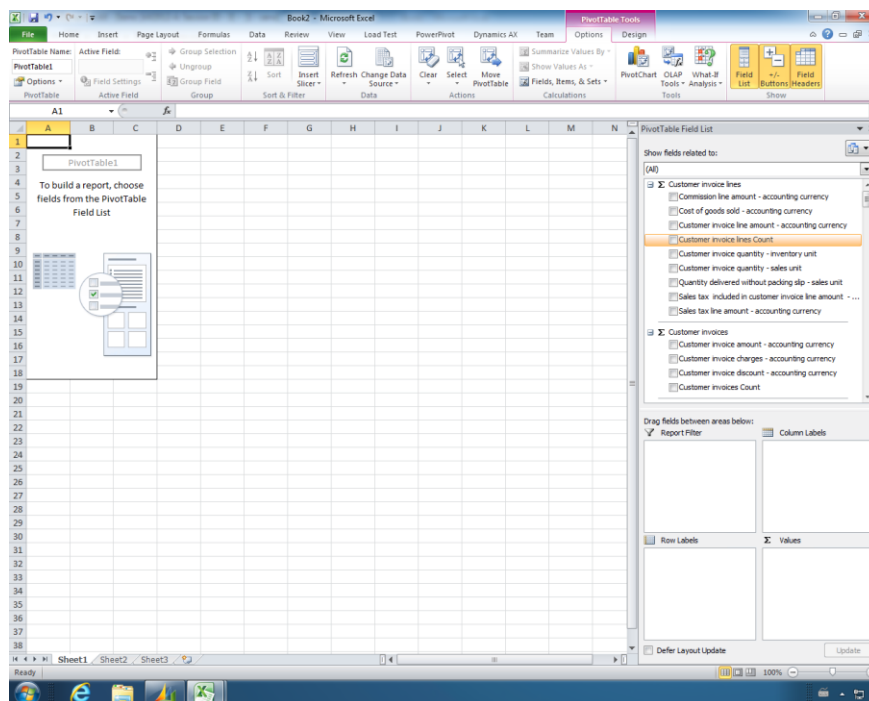
Select **Customer invoice quantity**.
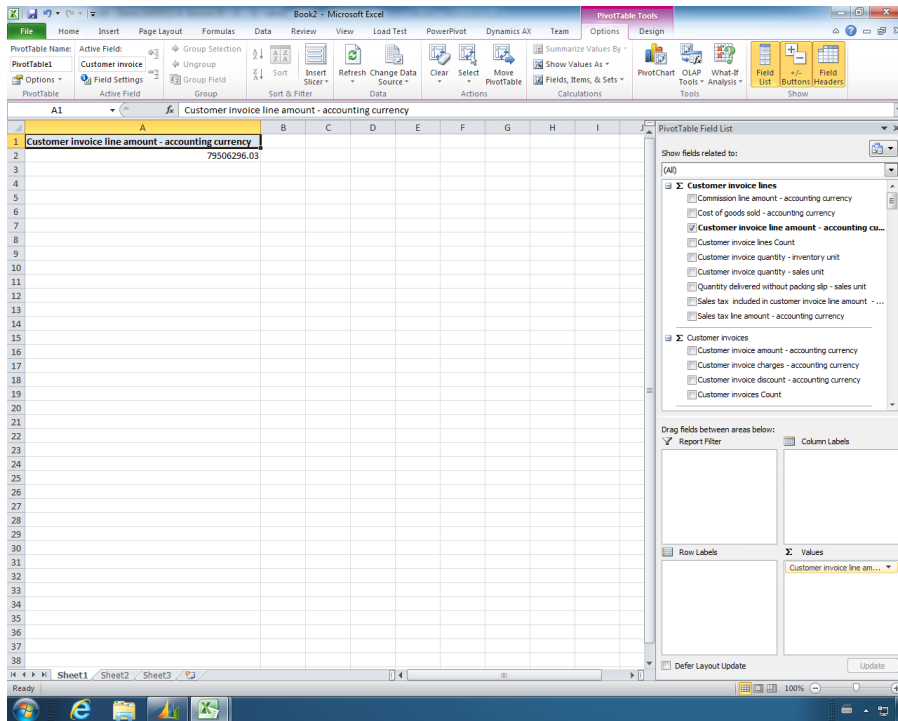


Click the Values grid in PivotTable Field List panel on the right.

Select the  **Customer Invoice Line Amount** field.

Select **Value Field Settings**.

Set custom properties such as display name and formatting for each field if needed.
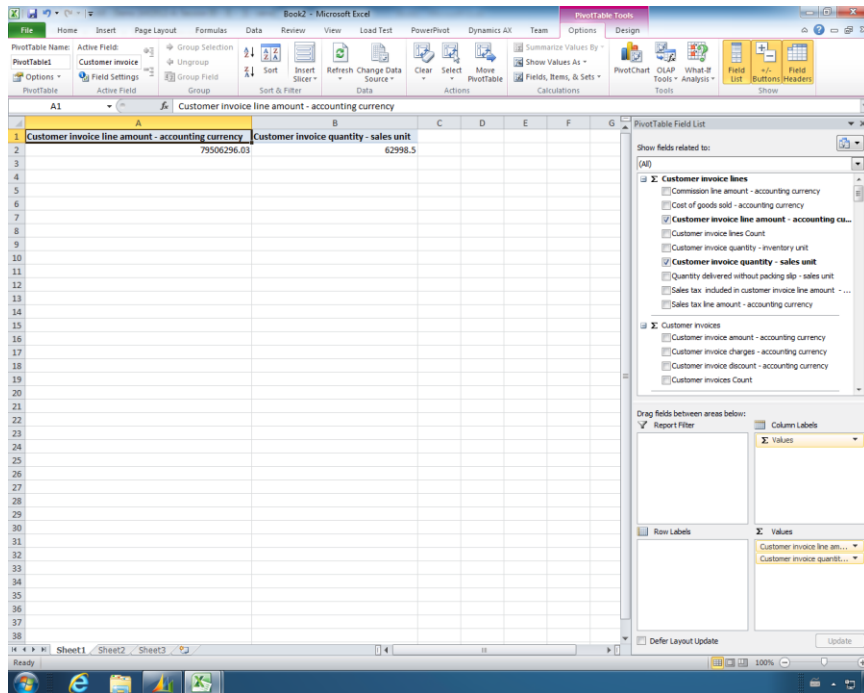
Click here, and then type "Sales Amount".

Click **Number Format**.
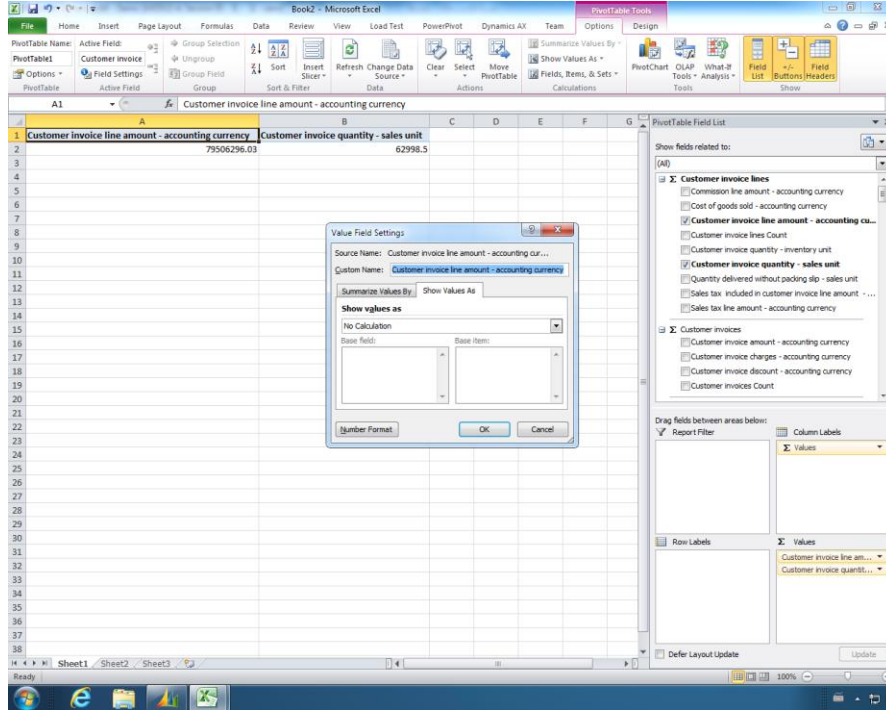
Select **Currency**.
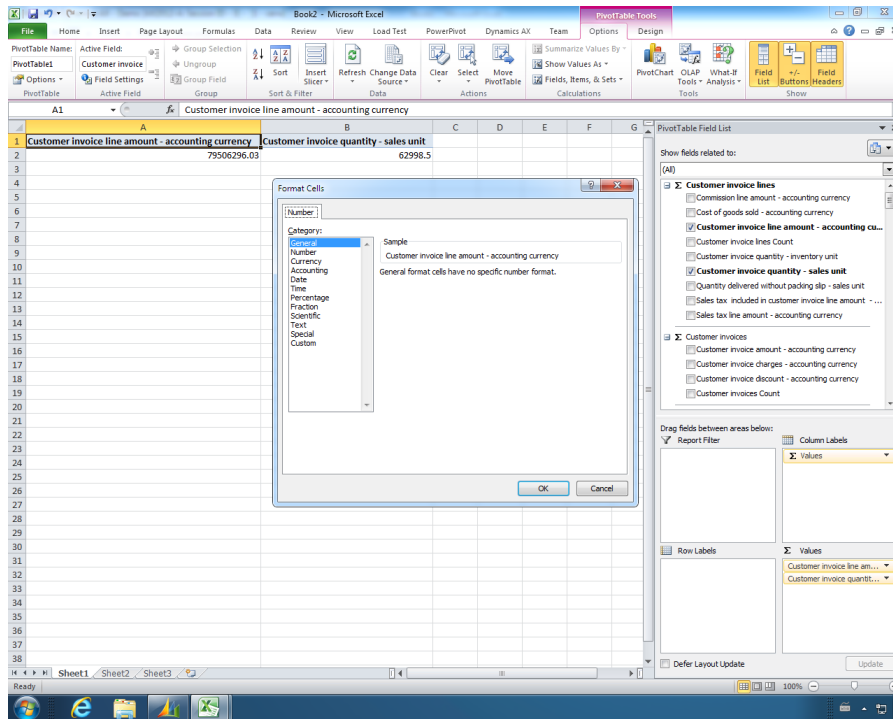


Click **OK**.
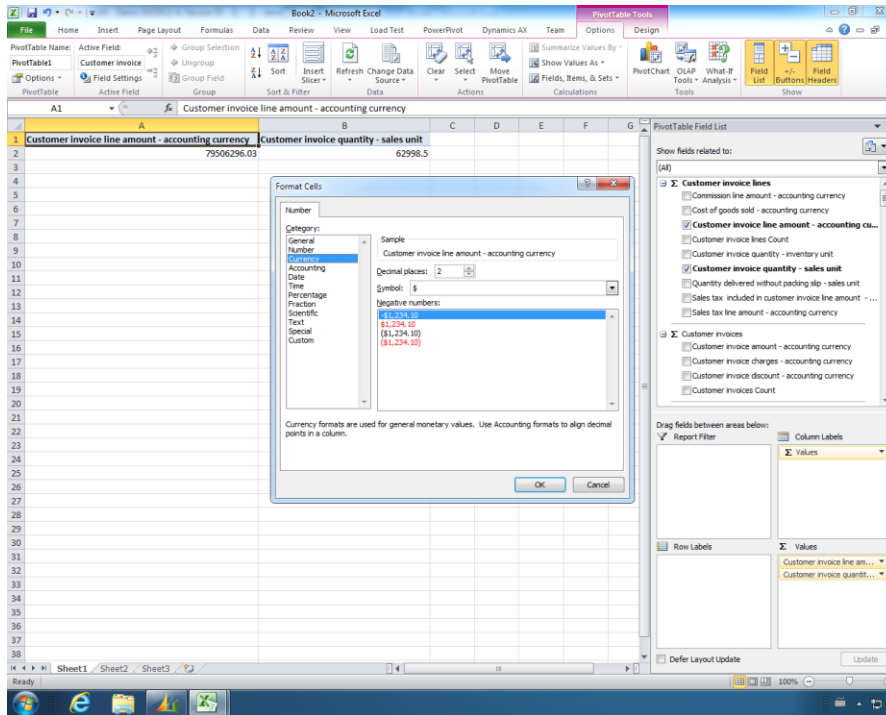
Click **OK** again.
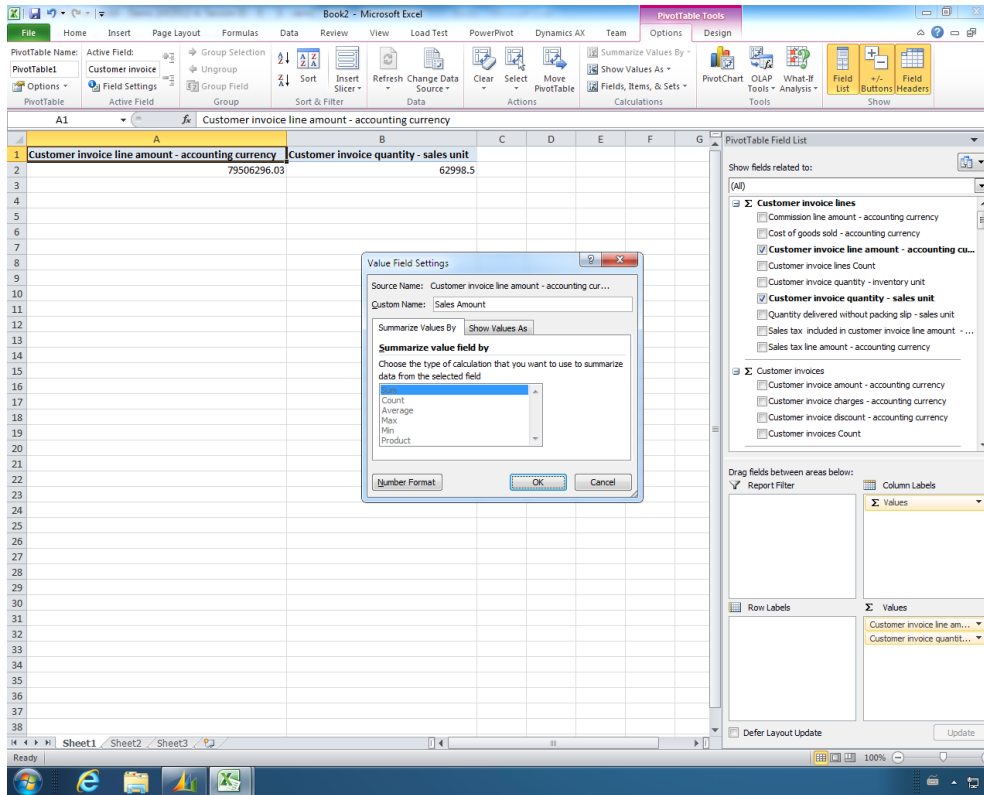
Click the **Customer Invoice Quantity** field in the Values grid.
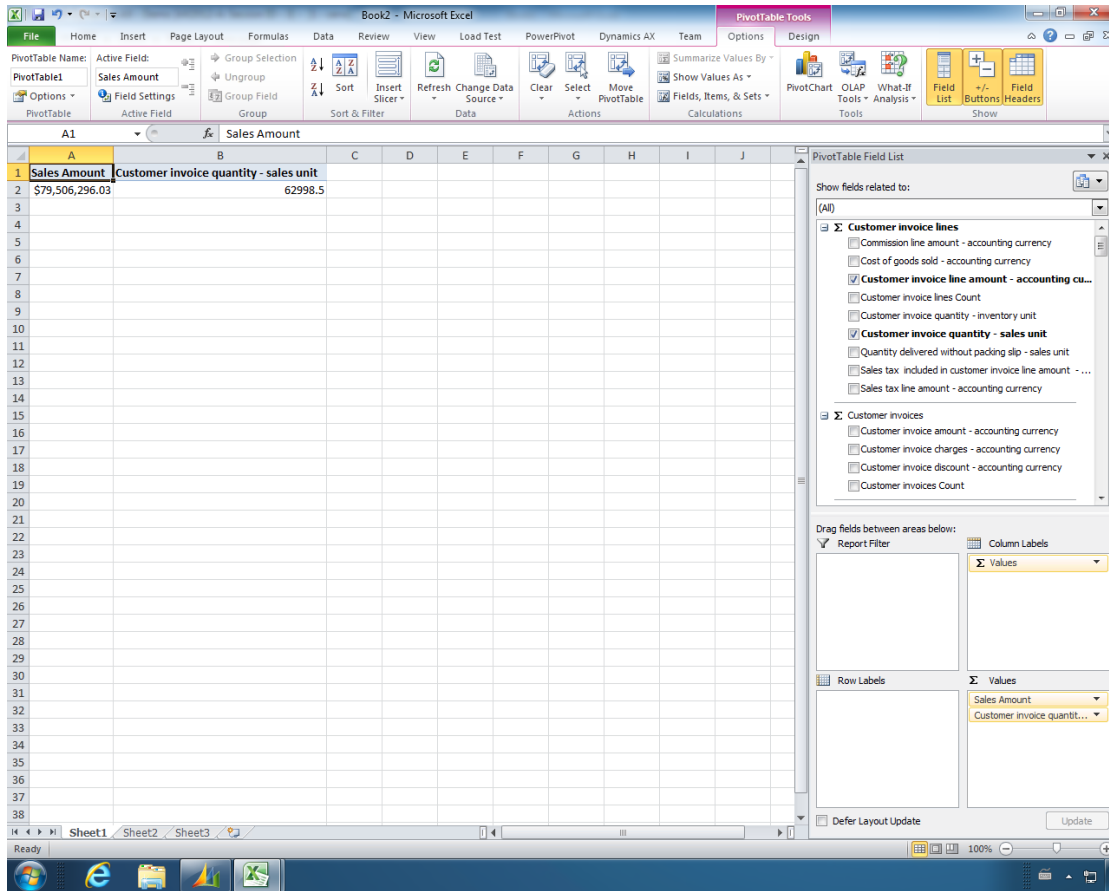
Select **Value Field Settings**.

Set custom properties such as display name and formatting for each field if needed.

Click here and type "Sales Quantity".
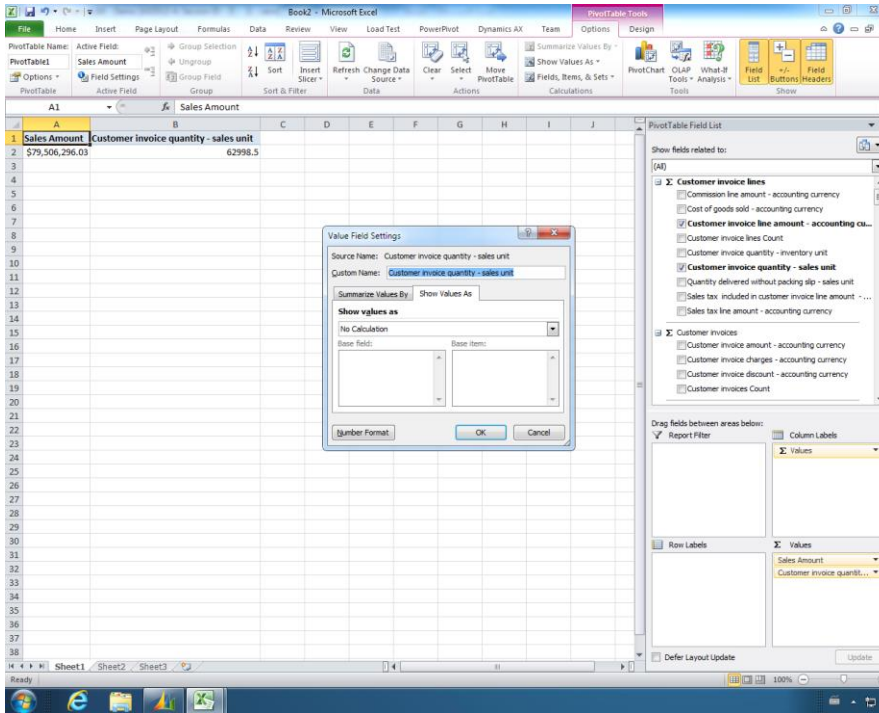
Select **Number**.
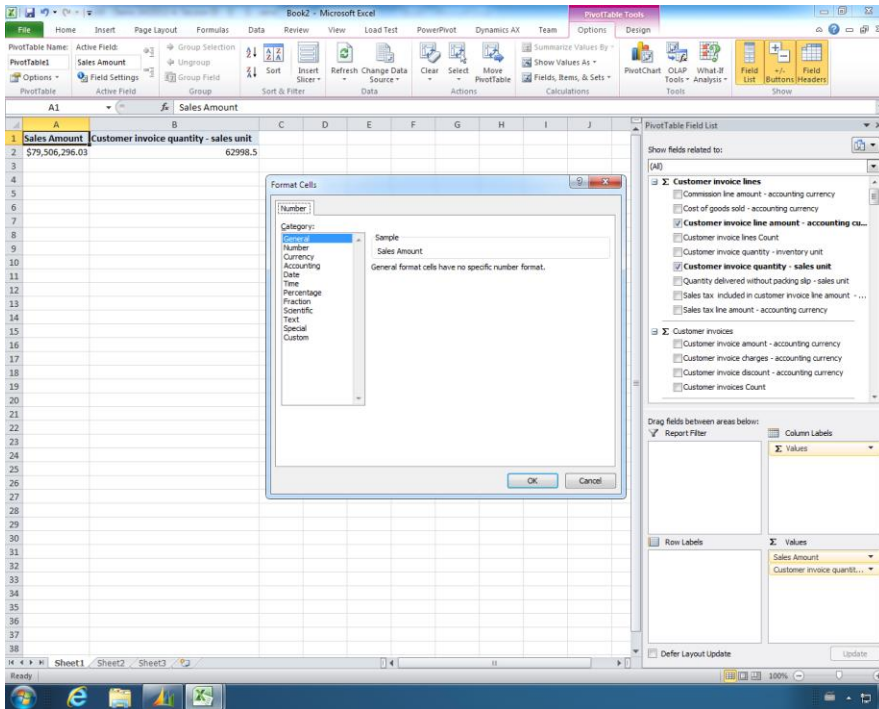


Click **Format Cells,** and then type "0" decimal places.

Click **OK**.



Click **OK** again.

From the PivotTable Field List, scroll down to **Retail channel – Name**.
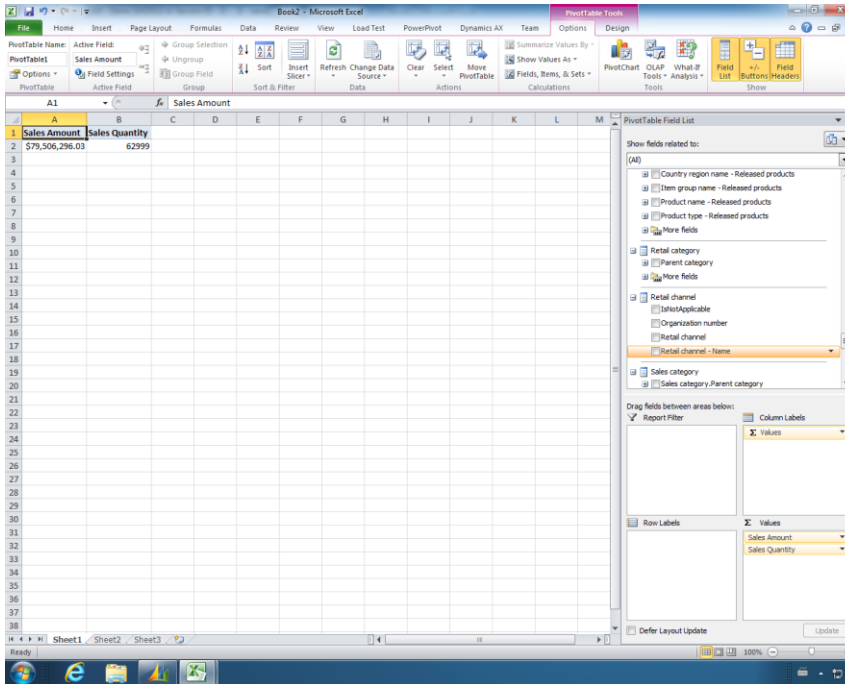


Click here, and drag to **Column Labels**.
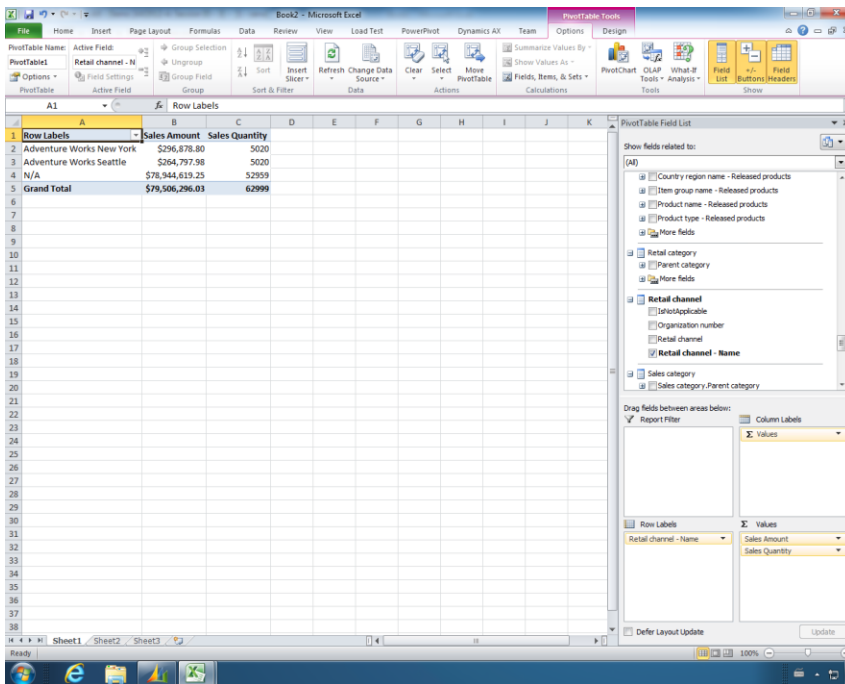
Similarly, select **Parent Category**.
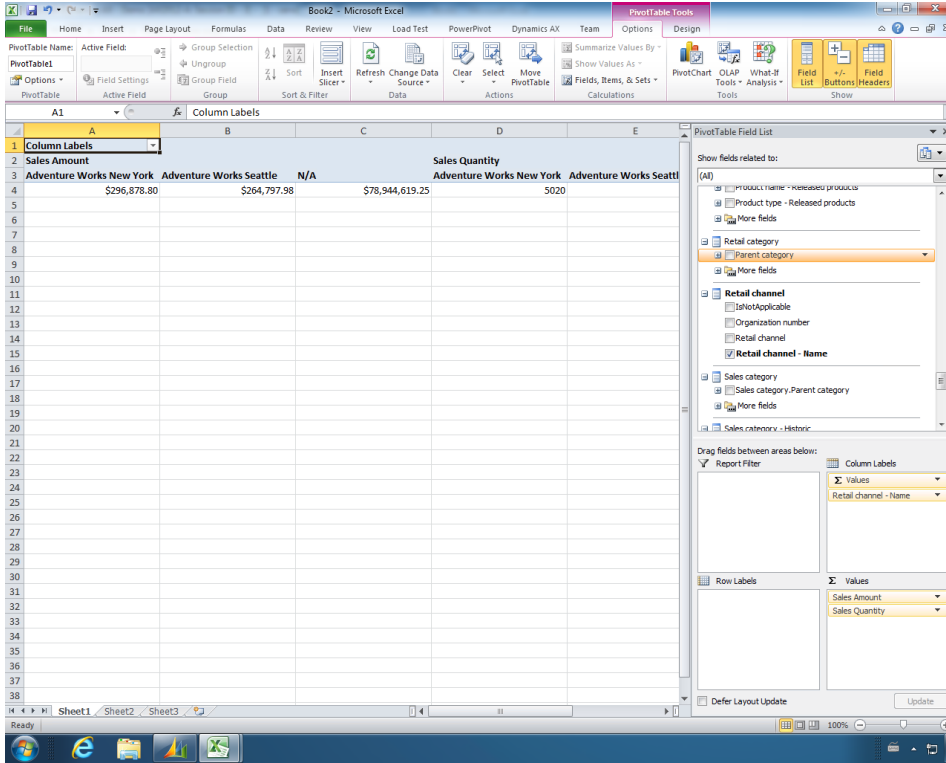


Users can filter by row or column to view only relevant data.
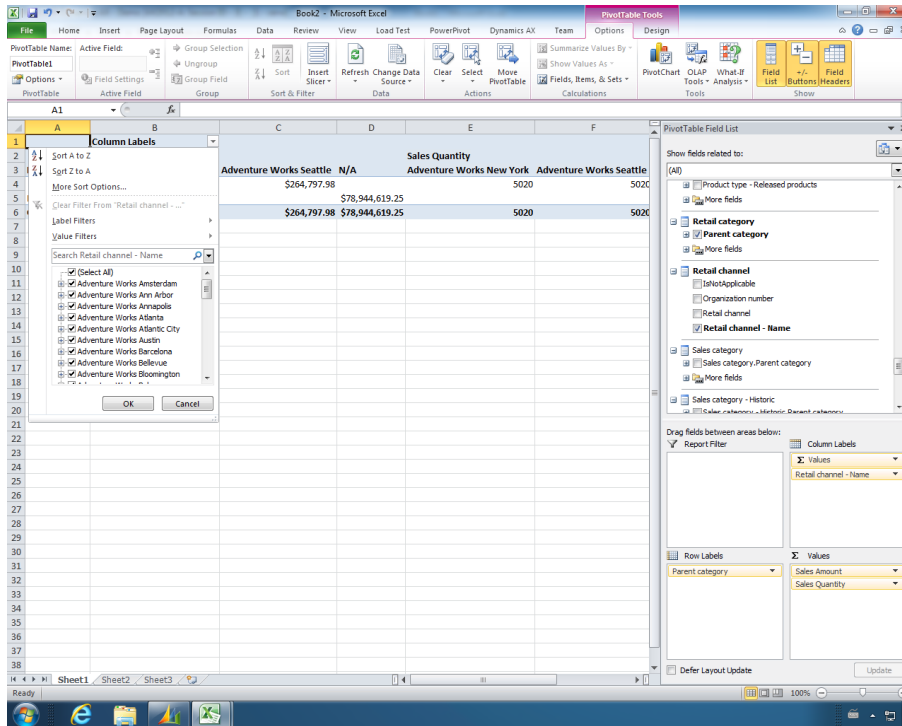
Expand the **All Node on Left** column to view all categories.
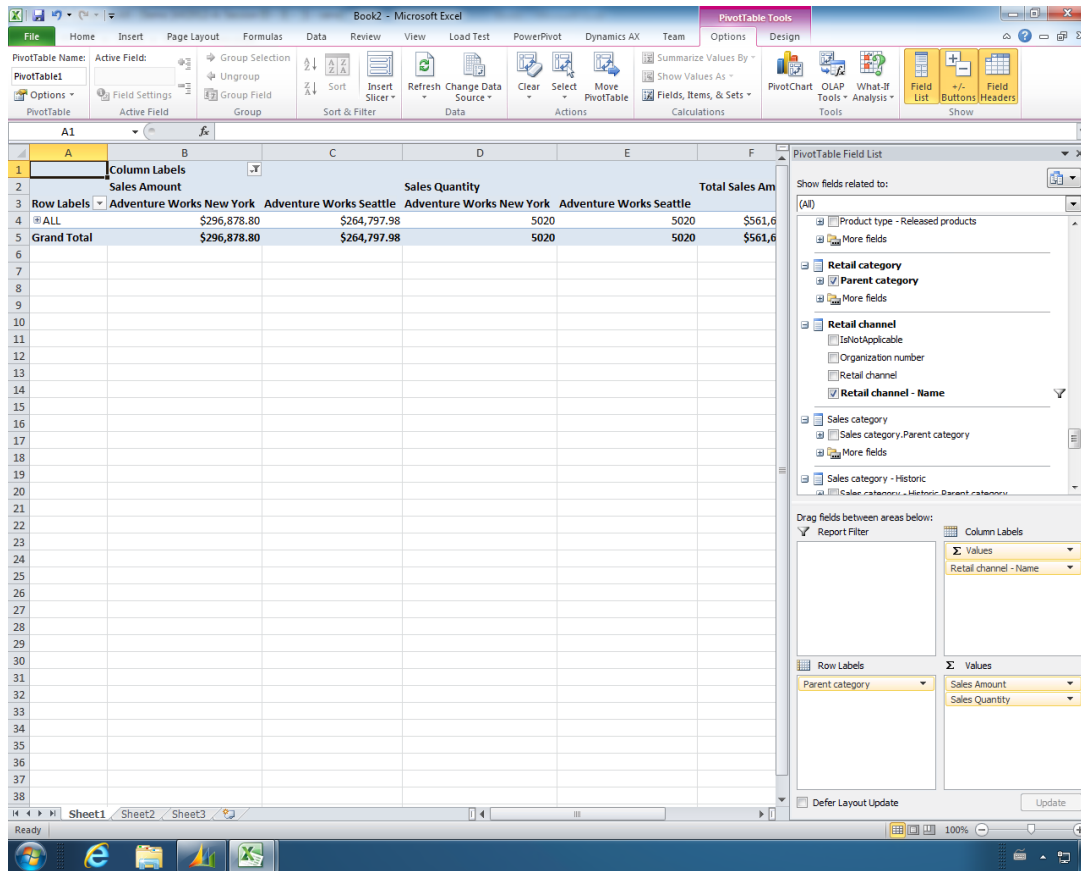
**Viewing other reports from cube in Excel**

For all the reports, you must to follow the same steps as outlined above to modify the value field settings in Excel

**Retail category sales performance report**
- o      From the PivotTable Field List, select the **Retail Category > Parent Category** field (by default, it is added to the row labels).
- o      From the PivotTable Field List  add the following values:
    - ▪ customer invoice Line amount
    - ▪ Customer invoice line amount
    - ▪ Gross margin
    - ▪ Gross margin percentage
- o      Drill down, and view the performance by category.

**Product sales Performance report**
- o      From the ,PivotTable Field List, select **Retail Category > Parent Category** (by default, it is added to the row labels).
- o      From the PivotTable Field List, add the following values:
    - ▪     customer invoice Line amount

- Customer invoice line amount,
- Gross margin
- Gross margin percentage
o View the product sales performance report

**Channel sales performance report**
o From the PivotTable Field List, select **Retail Channel > Retail Channel Name** (by default, it is added to the row labels).
o From the PivotTable Field List, add the following values:
- customer invoice Line amount
- Customer invoice line amount,
- Gross margin
- Gross margin percentage
o View the channel sales performance report

**Sales by store by worker**
o From the PivotTable Field List, select **Retail Channel > Retail Channel Name** (by default, it is added to the row labels).
o Select **Add Worker > Worker name**  (it is added to the row labels).
o From the PivotTable Field List, add the following values:
- customer invoice Line amount
- Customer invoice line amount,
- Gross margin
- Gross margin percentage
o Drill down, and view the sales by store by worker.

**Sales by Store by Terminal**
o From the PivotTable Field List, select **Retail Channel > Retail Channel Name** (by default, it is added to the row labels).
- Select **POS Terminal > Terminal name**  (it is added to the row labels).
o From the PivotTable Field List, add the following values:
- customer invoice Line amount
- Customer invoice line amount
- Gross margin
- Gross margin percentage
o Drill down and view the sales by store by terminal.

**Operating Unit Sales Performance Report**
o From the PivotTable Field List, select **Organization Unit > Parent Organization Unit** (by default, it is added to the row labels).

- o   From the PivotTable Field List, add the following values:
  - customer invoice Line amount
  - Customer invoice line amount
  - Gross margin
  - Gross margin percentage
- o   Drill down, and view the operating unit sales performance report.

**Sales by Store by Hour (applicable only when detailed posting is done)**
- From the PivotTable Field List, select **Retail Channel > Retail Channel Name** (by default, it is added to the row labels)
- Select **Hour of Day > Hour Day- name**  (it is added to the row labels).
- From the PivotTable Field List, add the following values:
  - customer invoice Line
  - Customer invoice line amount
  - Gross margin
  - Gross margin percentage
- View the sales by store by hour report

## 34.13    POWERVIEW REPORTS

Leveraging the Powerview tool available from SQL Server 2012 SP1 and Excel, users can generate dynamic and interactive analytical data that is derived from the retail cube.

Few Powerview reports are provided out-of-the-box for users to leverage the power of Powerview and SQL Server 2012.

### 34.13.1    SALES BY REGION

This report displays the sales by region across the merchandising categories.
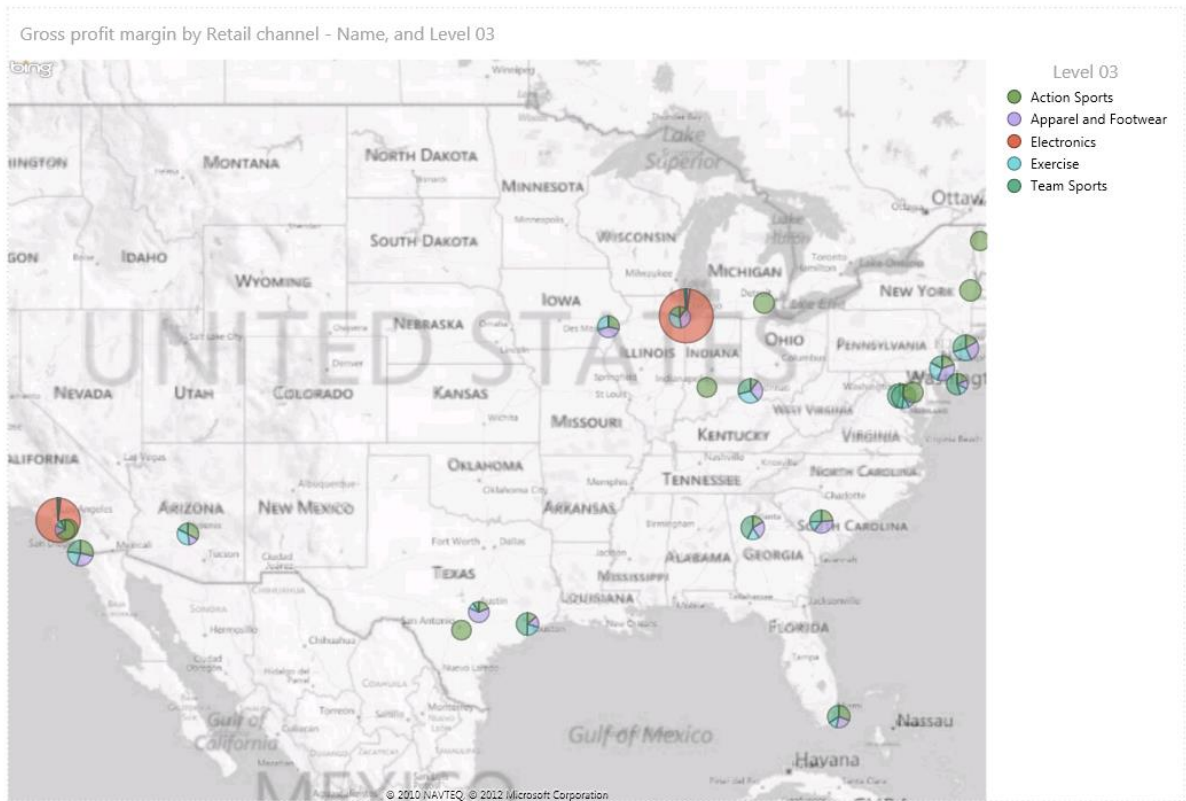


You can zoom-in or zoom-out to drill into a region to see the details of its sales. Click the (**+**) or the (**-**) sign on the top right-hand corner of the report.

Click the funnel ▼ icon to filter the report. The filter section appears on the right side of the report.
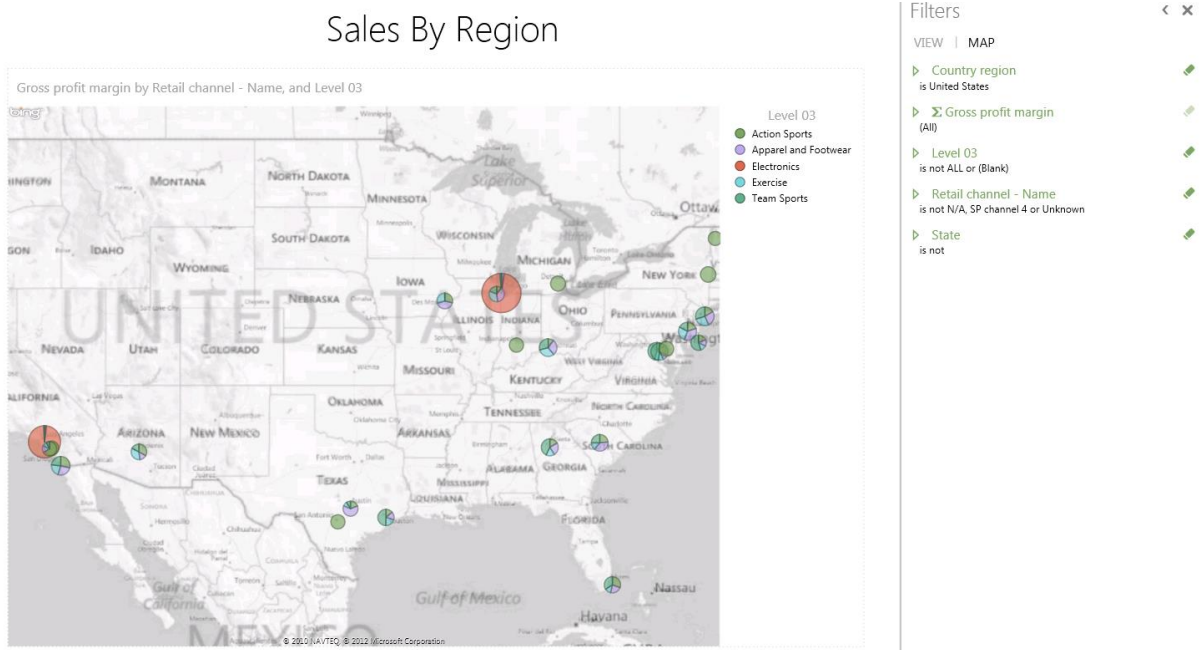


Rest the pointer over each region to view details of the sales.
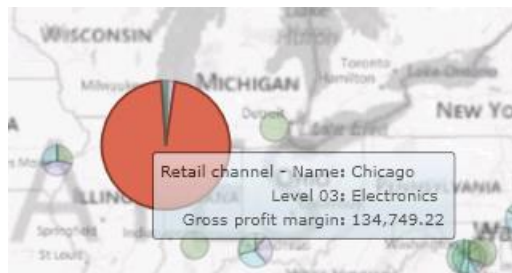


### 34.13.2    RETAIL CHANNEL PERFORMANCE BY HOR OF DAY

This report provides the sales performance of every retail channel associated with a business.

## Retail Channel Performance by hour of day
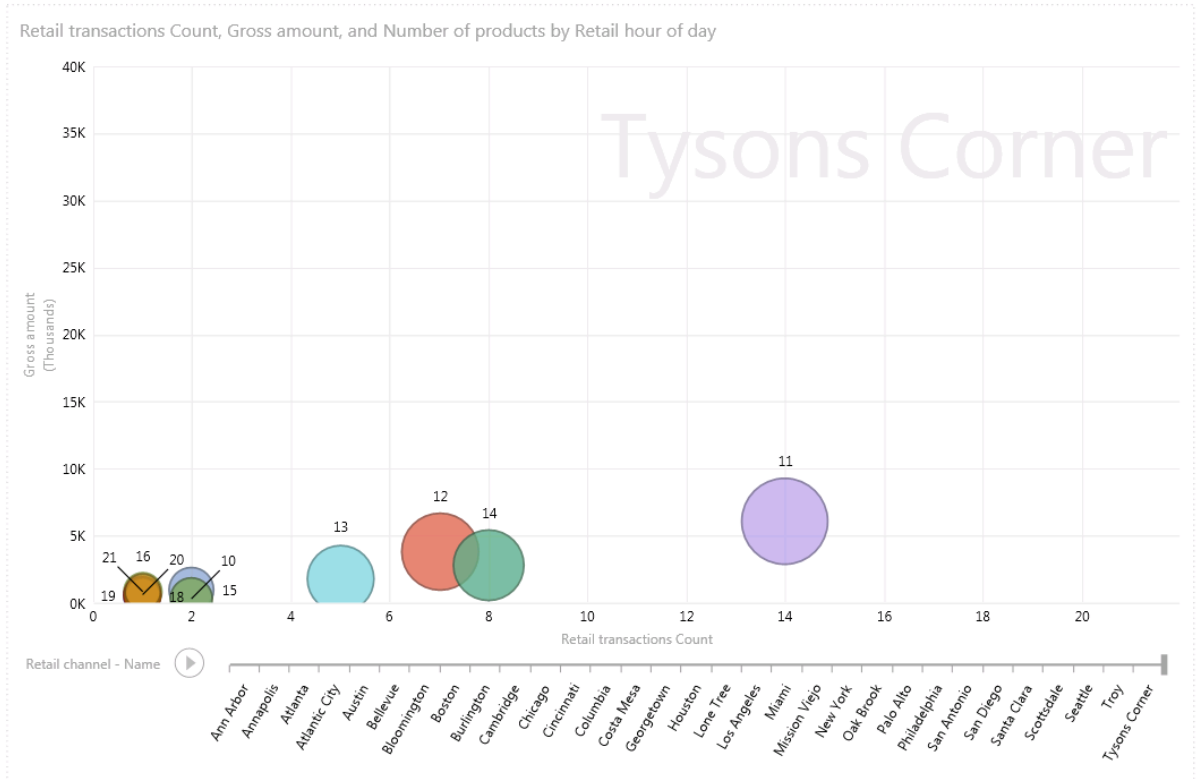


Rest your pointer over the bubble to view the high-level summary of the performance.



Retail hour of day: 11
Retail transactions Count: 14
Gross amount: 6,041.03
Number of products: 118.00
Retail channel - Name: Tysons Corner
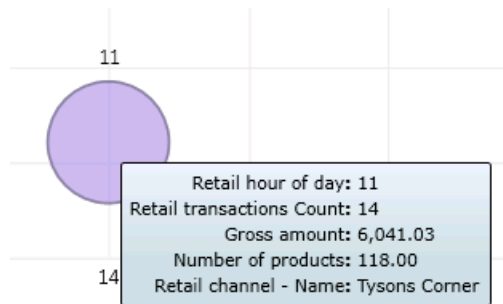
If you wish to view all the transactions in that hour for the channel, click the bubble.

> Retail hour of day: 11
> Retail transactions Count: 13
> Gross amount: 21,959.11
> Number of products: 139.00
> Retail channel - Name: Chicago
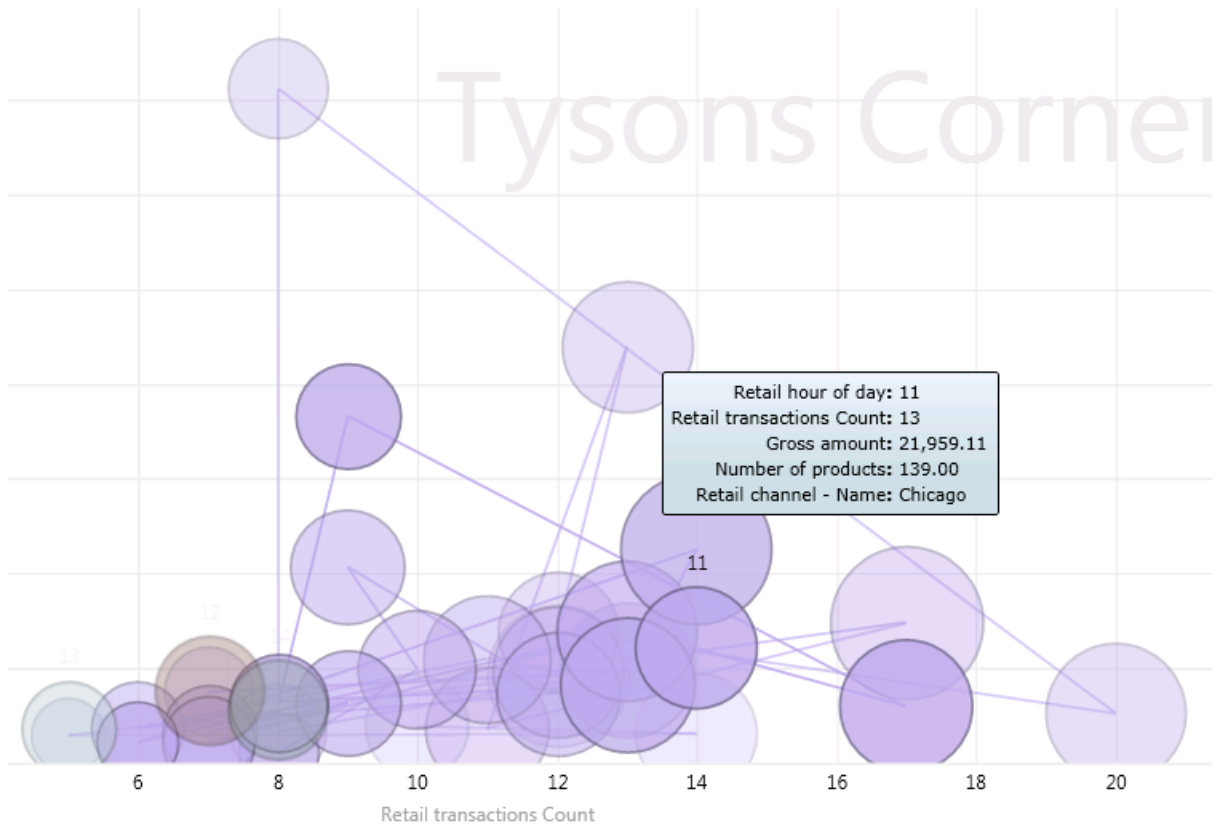
### 34.13.3 RETAIL CHANNEL REPORT

This report provides a high-level summary of the customer invoice line amount, COGS, gross profit margin, and inventory turn around by channel.

## 34.13.4    SALES BY RETAIL CATEGORIES

This report provides the gross profit margin % by year across category levels and the COGS total by year across category levels.

## Sales By Retail Categories

Gross profit margin percentage by Year, and Level 03
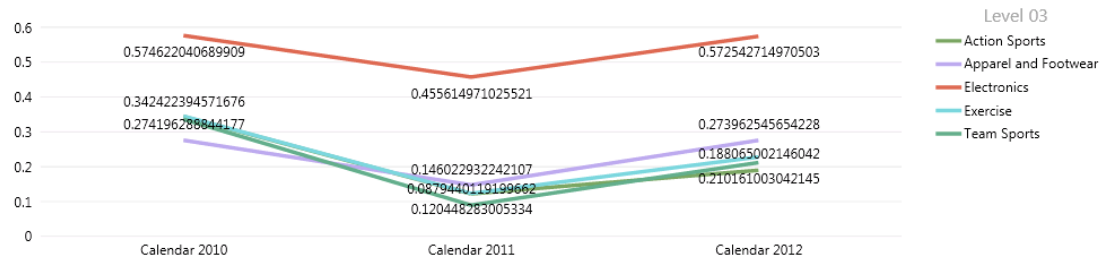


Cost of goods sold - accounting currency, Customer invoice line amount - accounting currency, and Gross profit margin by Level 03
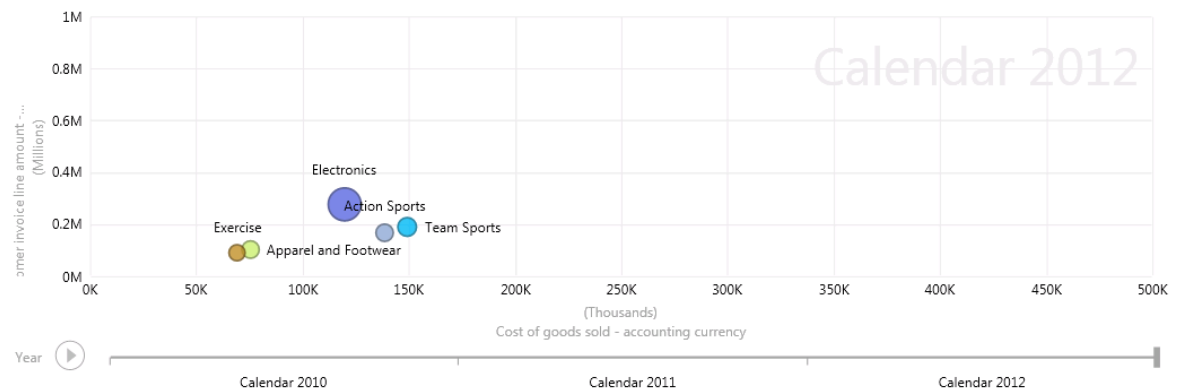


## 34.14 OTHER AVAILABLE RETAIL REPORTS

The following reports are also available on Retail in Microsoft Dynamics AX 2012. These reports cannot be accessed directly under the rich client retail Area page but are available through either Enterprise Portal or the Role Center

### 34.14.1 BOTTOM 10 PRODUCT PERFORMERS ROLE CENTER REPORT

Use this report to view a list of the products that are the lowest performers. You can use this information to optimize your assortments. This report lists the product name, the quantities sold, and the profit margin for the product.

This report is designed for use on Role Centers. This report is available on the Merchandising Manager Role Center.

### 34.14.2        TOP 10 PRODUCT PERFORMERS ROLE CENTER REPORT

Use this report to view a list of the 10 products that are selling the best. This report lists the product name, the quantities sold, and the profit margin for the product.

This report is designed for use on Role Centers. This report is available on the Merchandising Manager Role Center.

### 34.14.3        RETAIL SALES BY STORE REPORT

Use this report to view the sales performance for stores within a given date range. The report displays the sales performance of all stores that the user is assigned to, and it also includes the store name, amount, and cost of goods sold, quantity, profit margin, and profit margin percentage.

This report is not available in the Microsoft Dynamics AX client. However, this report is available in Enterprise Portal.

Access the report on Enterprise Portal as follows:

Click the **Retail** tab, and select the Sales by store report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

### 34.14.4        SALES BY WORKER REPORT

Use this report to view sales performance by worker for a given store.

This report is designed to use in Enterprise Portal for Microsoft Dynamics AX.

Access the report on Enterprise Portal as follows:

Click the **Retail** tab, and select the Sales by worker report. Specify a date range by using the **From date** and **To date** fields, and then click **View report**.

This report is also available on the Store Manager Role Center.

### 34.14.5        STORE SALES BY HOUR REPORT

Use this report to and monitor hourly sales volume for a given date. The store manager can use data on this report to staff the store based on peak sales times.

This report is designed to use in Enterprise Portal for Microsoft Dynamics AX.

This report is not available in the Microsoft Dynamics AX client.

Access the report on Enterprise Portal as follows:

Click the **Retail** tab, and select the Sales by hour report. In the **Date** field, select a date, and then click **View report**.

This report can also be accessed from the Store Manager Role Center.

### 34.14.6 STORE SALES COMPARISON BY YEAR REPORT

Use this report to view the year-over-year sales comparison for a given store. You select the year against which to compare the sales, and the report compares sales for the specified year with the previous year for a given store.

This report is designed to use in Enterprise Portal for Microsoft Dynamics AX.

This report is not available in the Microsoft Dynamics AX client.

Access the report on Enterprise Portal as follows:

Click the **Retail** tab, and select the Sales comparison by year report. In the **Fiscal year** field, select the fiscal year that you want to compare with the current year's sales, and then click **View report**.

This report can also be accessed from the Store Manager Role Center.

## 35 POINT OF SALE SET UP

### OVERVIEW

This module explains that typically in a retail environment, store employees perform the functions that enable store operations. Three categories of in-store systems can be defined:

- **Point of service systems** – This category consists of checkout systems including self-service POS, lottery systems, ATMs, other kiosks, and even mobile systems.

- **Front-office systems** – This category consists of sales floor systems, which are often consumer facing or serve to increase direct customer service. These systems include digital signage, loyalty and service interface, and gift registry.

- **Back-office systems** – This category consists of all operational systems for the store, including inventory management, human resources, and financial management.

A retail store is usually set up with a back office terminal to perform end-of-day operations and to receive stock. The customer-facing terminals are used for sales operations.

A POS terminal usually would be a touch screen device with all the devices like scanner, EFTPOS machine, and receipt printer attached to enable the terminal to perform sales operations to serve the customers.

As part of the setup, a POS terminal needs to be installed with the following:

5. **Operating System** – The POS terminal needs to be installed with a supported version of Windows operating system. The supported versions are Windows Embedded POSReady 2009 and Windows Embedded POSReady 7.

6. **SQL Server Express edition** – Most of the retailers use the SQL Express edition because of the 10 GB database size allowance, which meets most of the store needs. If size is a concern, then higher versions of SQL can be used or the data can be archived depending on the business requirements.

7. **Microsoft Dynamics AX 2012 POS and Store Connect** – Microsoft Dynamics AX 2012 POS application with store connect needs to be installed on the POS terminal to run the POS application. The store connect is configured to communicate with Microsoft Dynamics AX for Retail to receive master information and send back sales and inventory details.

8. **Hardware drivers** – The drivers for the connected devices like scanner, EFTPOS machine and receipt printer need to be installed and configured on every POS terminal.

☑ **Note**

Additional software may be required based on the business requirements and devices attached to the POS terminal.

## 35.1 INSTALL MICROSOFT DYNAMICS AX 2012 POS

The first step toward POS extensibility is installing the Microsoft Dynamics AX 2012 POS from the Microsoft Dynamics AX 2012 Retail feature pack. The installation includes components necessary to set up the store and offline database along with the POS application.

☑ **Note**

Download a copy of Microsoft Dynamics AX 2012 Retail feature pack from the partner source website.

To install the Microsoft Dynamics AX 2012 POS on the POS terminal, follow these steps:

13. Open the folder where you have downloaded the Microsoft Dynamics AX 2012 Retail feature pack.
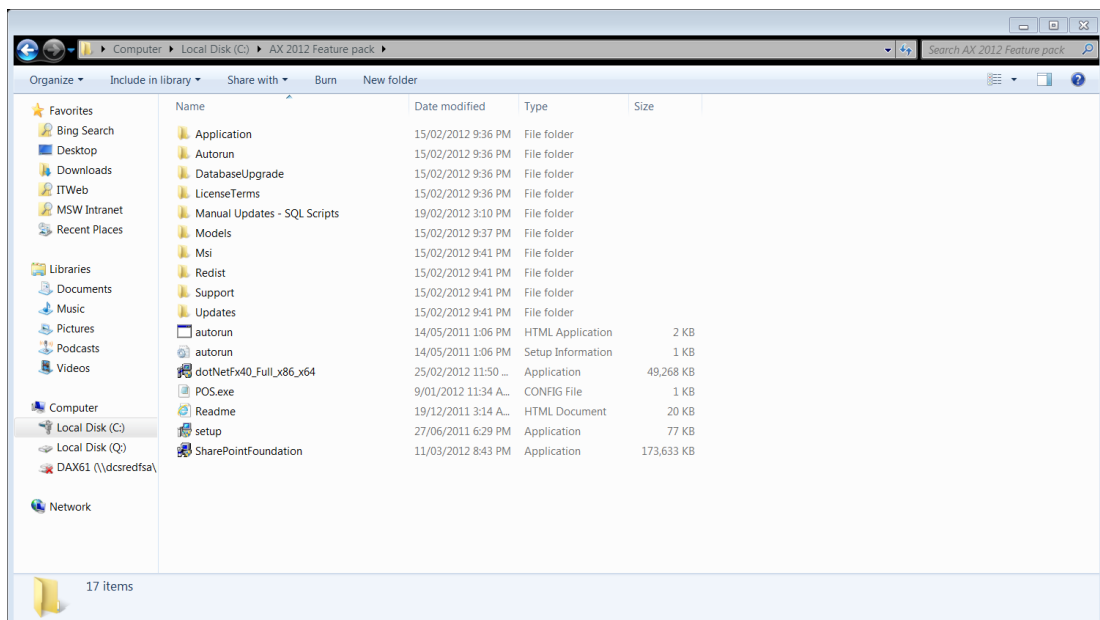
14. Right-click the setup file, and select **Run as administrator**.

15. The **Microsoft Dynamics AX 2012 installation** form appears.
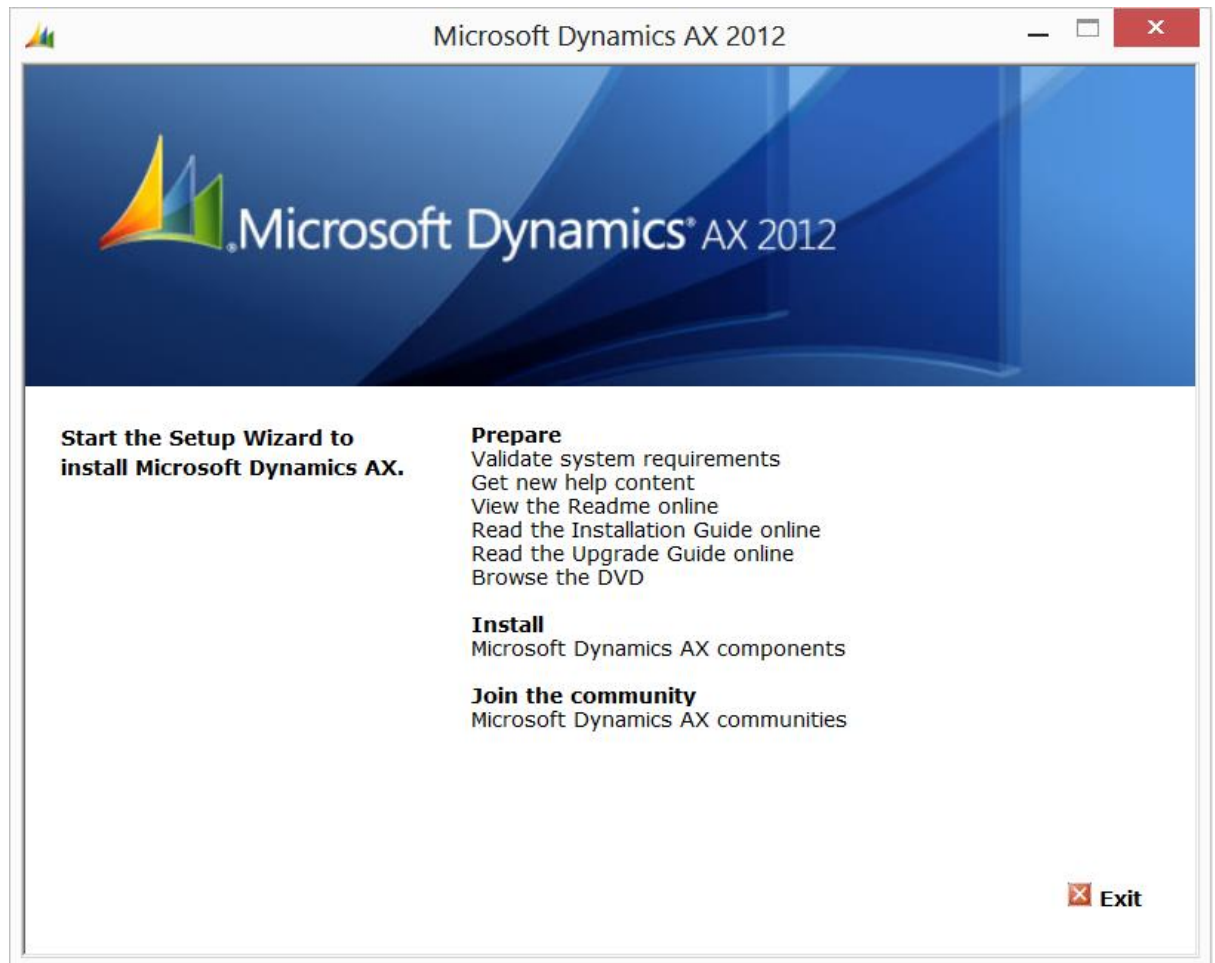


16. Under **Install**, click **Microsoft Dynamics AX components** to select the components to install.

17. The **Microsoft Dynamics AX 2012 Setup** Wizard opens.
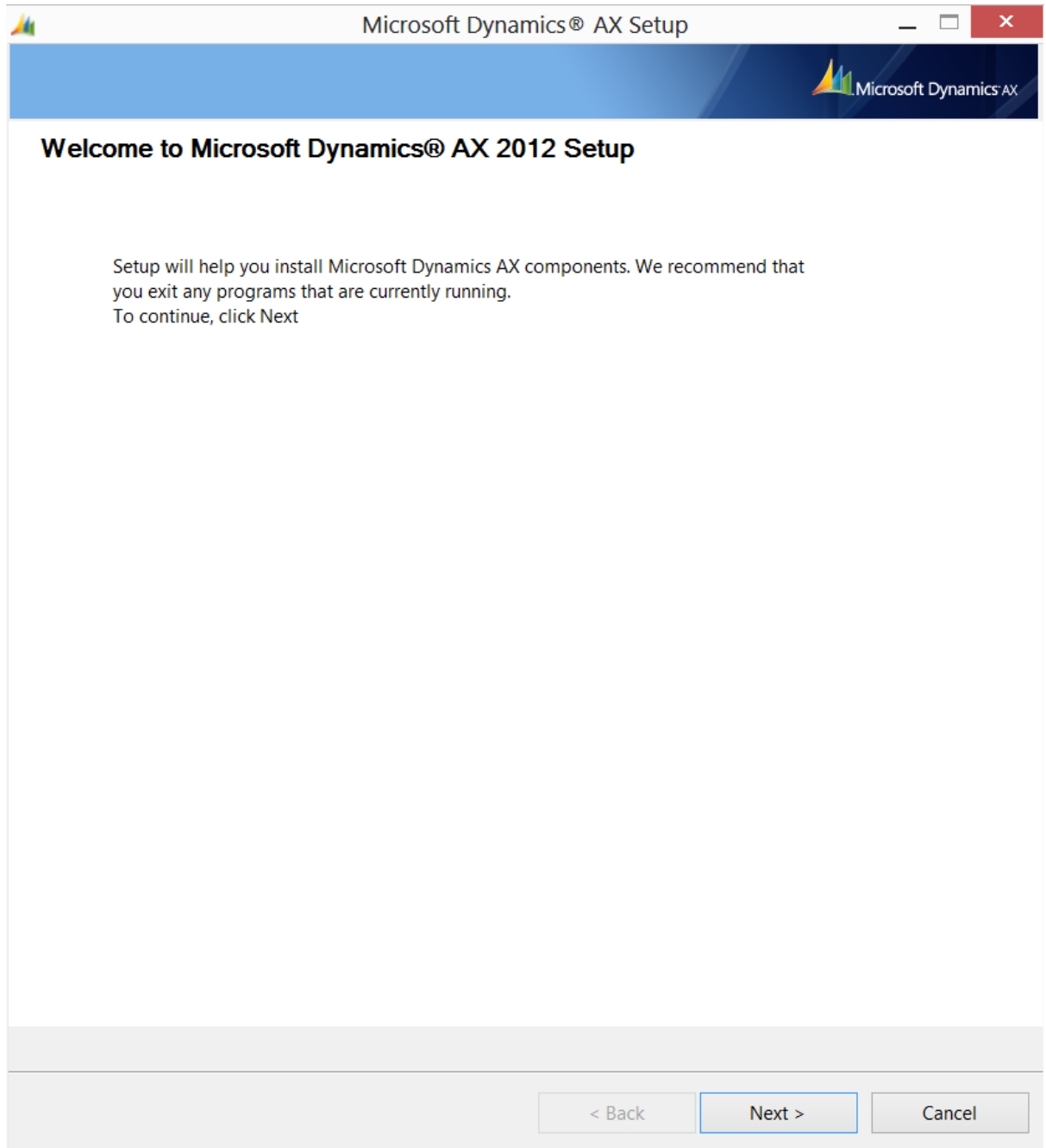
18. Click **Next** to continue with the installation.

19. Select **I accept license terms** to continue with the installation.
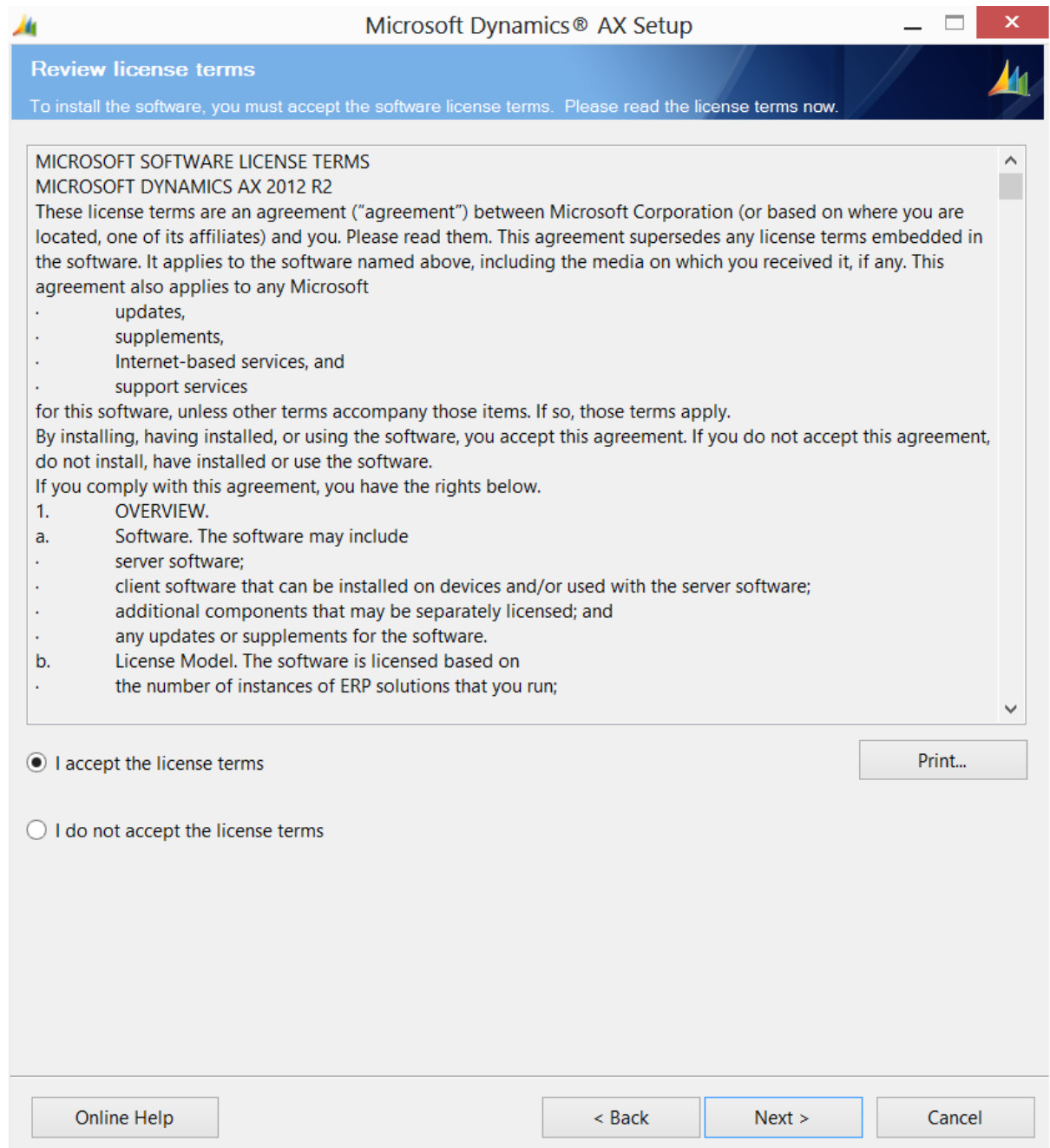
20. After installing the support files, select the installation type from the options:

    i.    Custom installation.

    ii.    Single-computer installation.

Select **Custom installation** if you want to select the components to install.
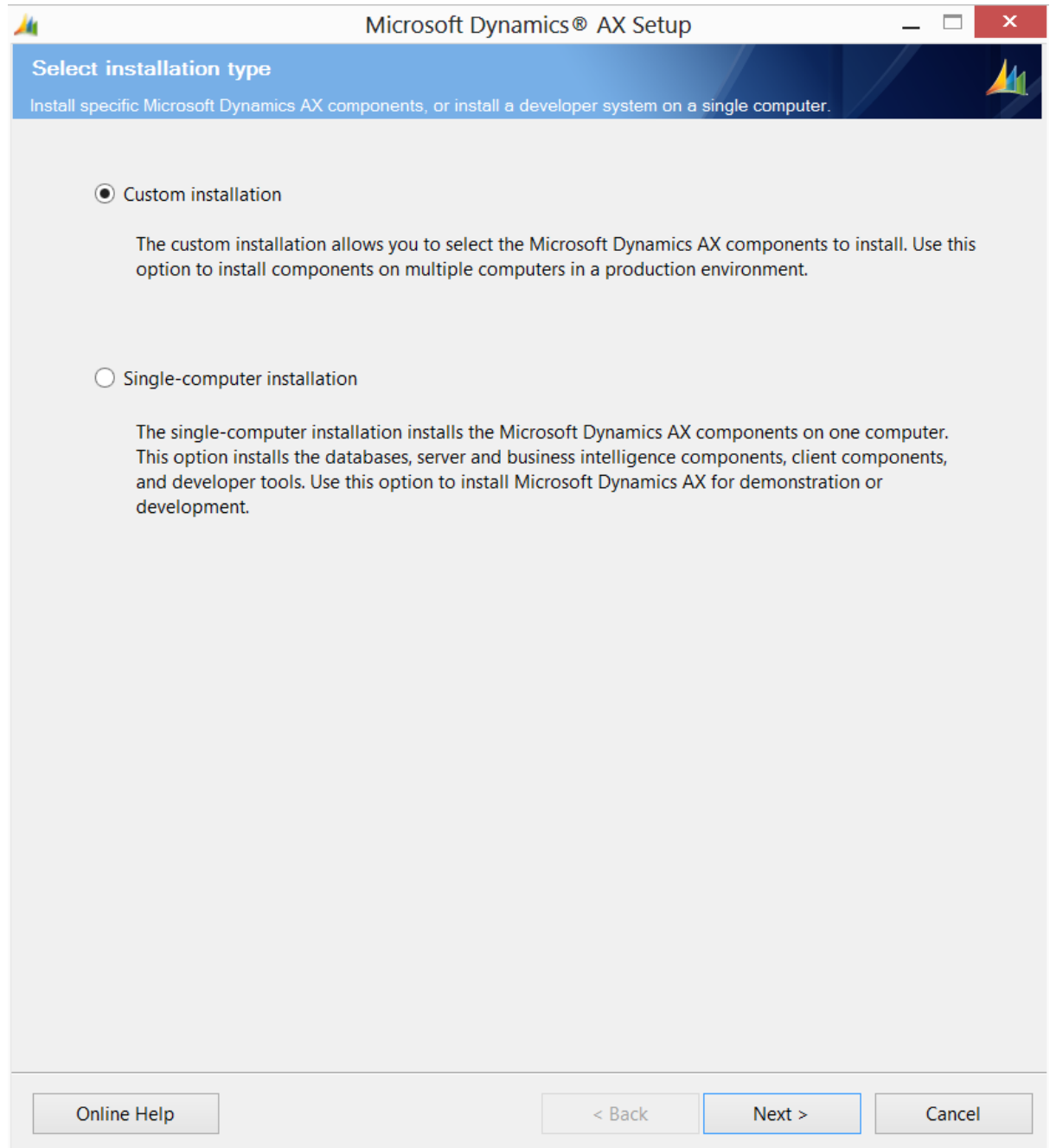
21. Under **Retail Components**, select the following components to install on the POS terminal:
    i.   **Retail POS** – The Retail POS is the POS application that runs on the POS terminal used by cashiers and managers to do business at the stores.

ii. **Commerce Data Exchange** – The Commerce data exchange settings are used to install the Sync service and the Real-time service to communicate from POS to Microsoft Dynamics AX HQ.

iii. **Retail Store Database Utility** – The Retail store database utility is used to create store and offline databases at the POS terminal.
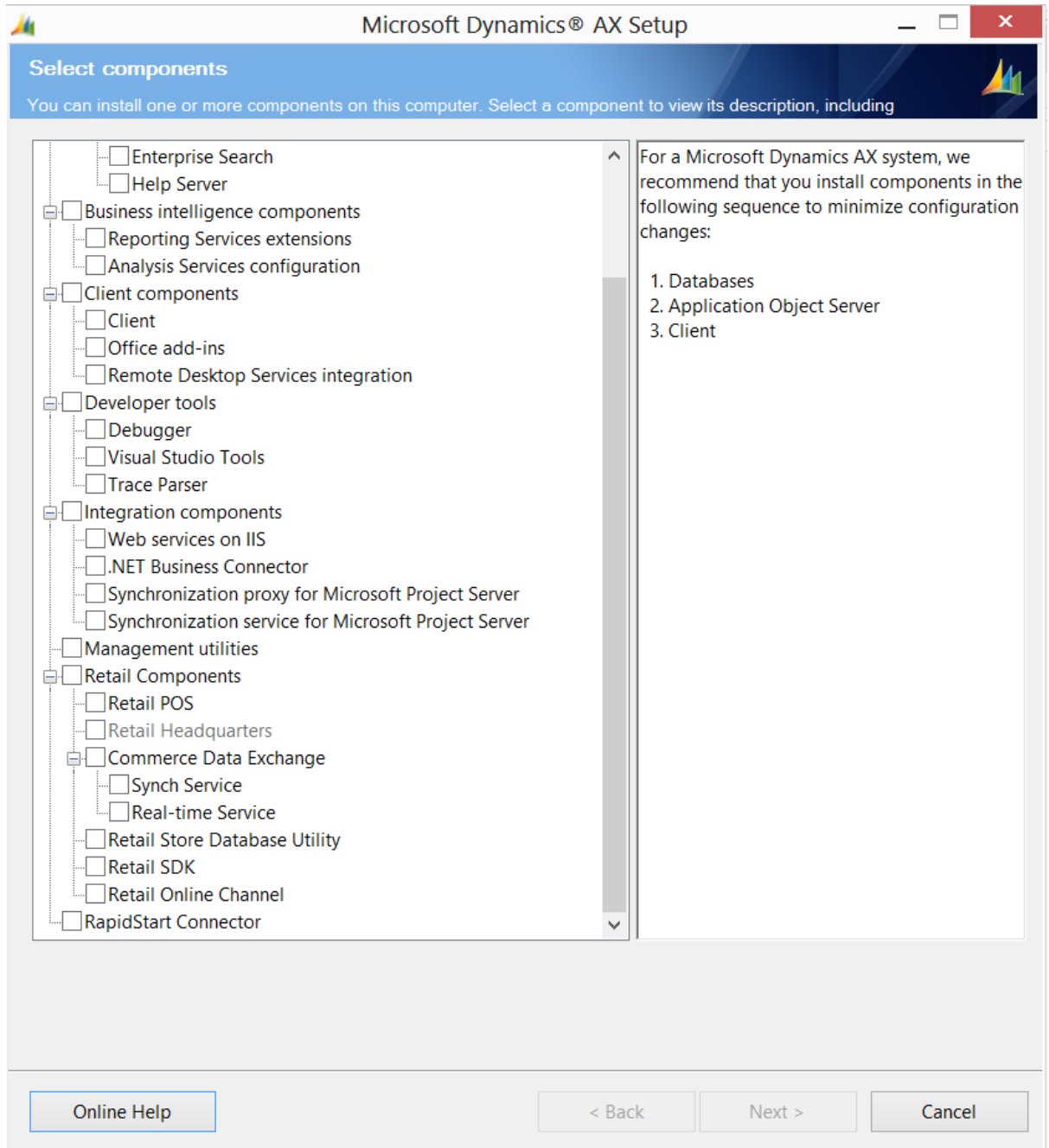
22. The Prerequisite validation runs and checks if all the dependencies are met to install the selected components. If any errors are displayed, follow the link to download and install the prerequisites.
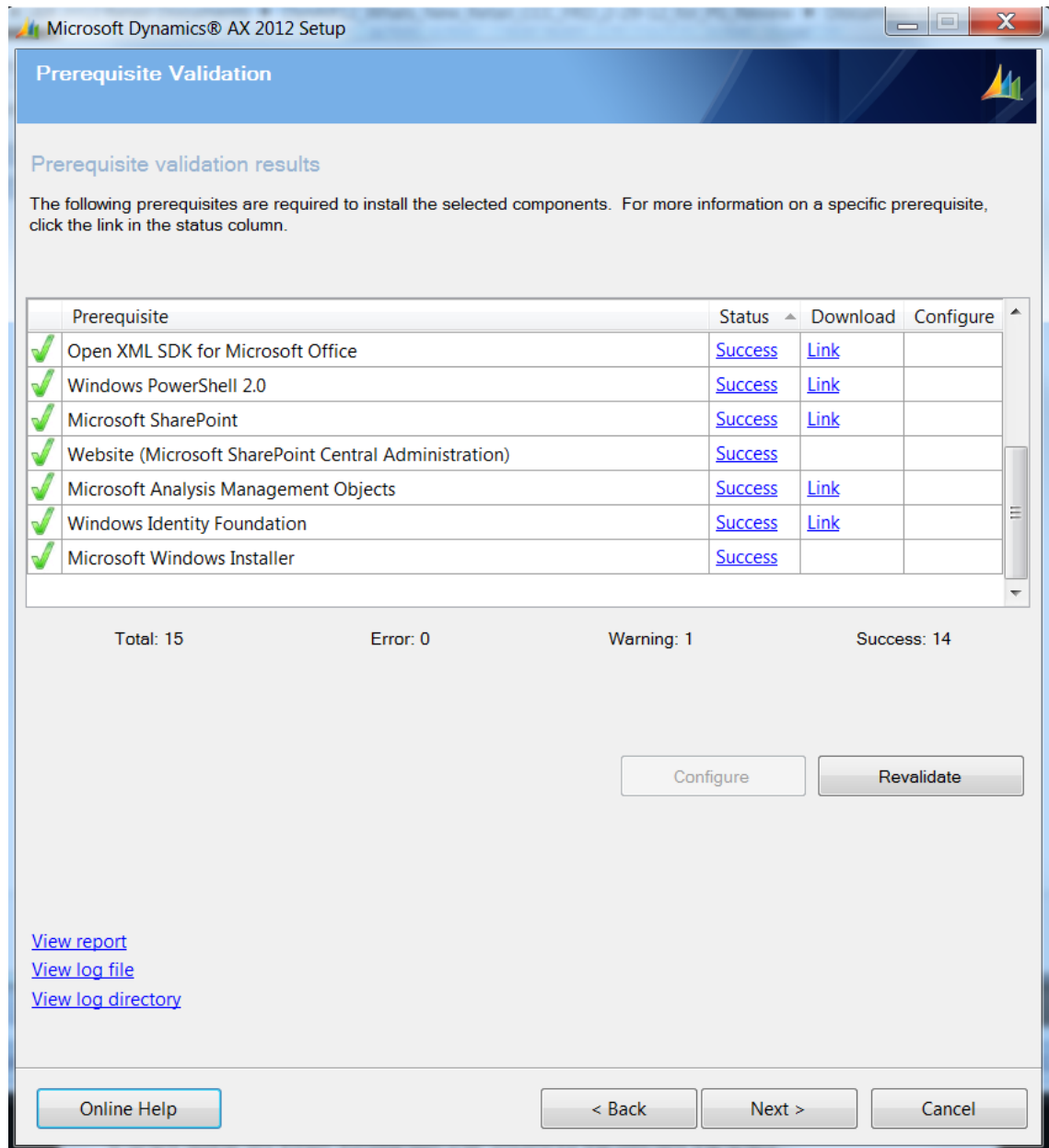


23. Click **Next** to install the selected component.

The following section describes how to create a store database at a POS terminal.

## 35.2 INSTALL AND CONFIGURE STORE DATABASE

As a prerequisite, Microsoft Dynamics AX 2012 POS must be installed on the POS terminal. If the installation is complete, then the Retail database utility component is used to create and configure store and offline database for a POS terminal.

The following figure shows the typical architecture for POS deployments.
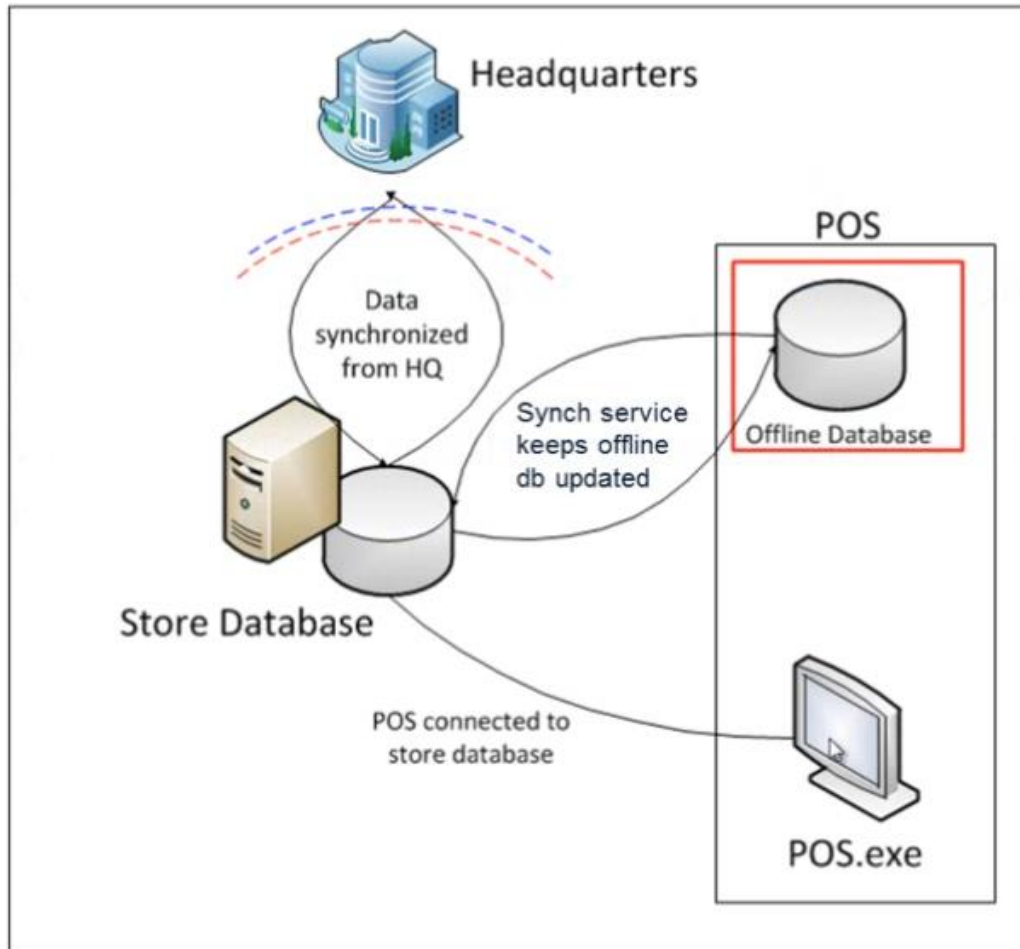


Figure: High-level POS architecture

Retail store databases are installed by using the Retail database utility. To open the **Retail POS configuration** form, click **Start > All Programs > AX 2012 > Retail Database Utility > Retail Database Utility**. A store database may be installed either on a stand-alone database server or on a POS computer.
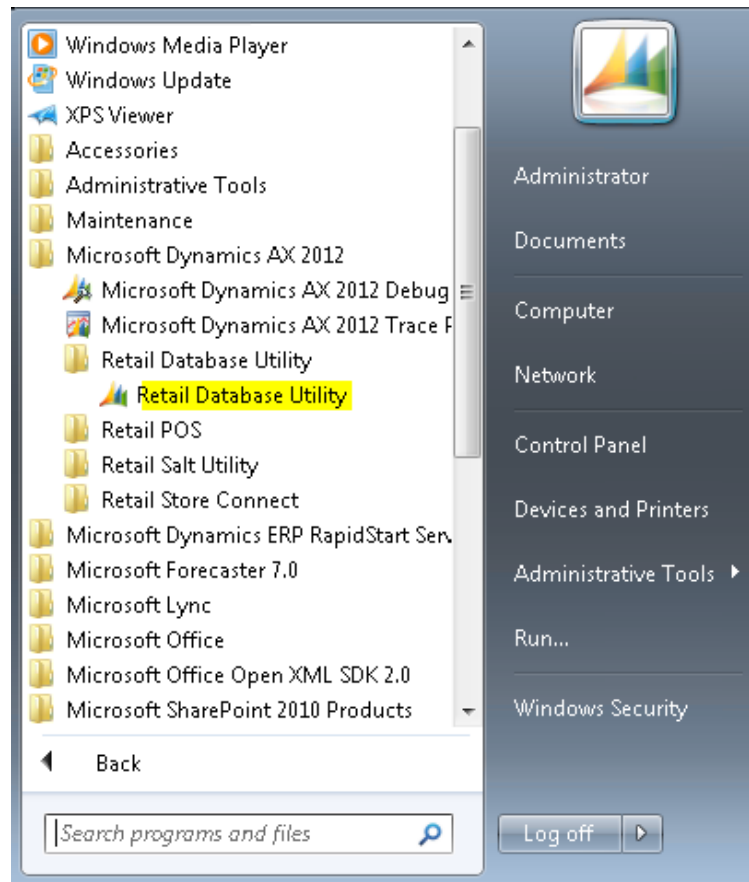


Figure: Path for Database Utility

Database utility can perform the following tasks:

5. Creates store and offline databases.

6. Create POS configuration file.

7. Installs Synch Service

It can be installed separately from POS.

Figure: **Store Database configuration** form

To create a store database on a stand-alone computer or a POS computer, follow these steps:

10. Open the **Retail POS configuration** form to install store database on a stand-alone computer or a POS terminal.

11. Select **Configure store database** from the **Database** area.



12. Populate the **Store database** fields under the **Settings** area as follows:

- **Store database name** – Enter the store database name.
- **Store server name** – Type the name of the server hosting the store database (typically localhost).

If you selected **Configure offline database**, you can complete additional fields as follows:

13. Under the **Offline database**, enter the **Offline server name** where the offline database will be created.
14. Enter the **Offline database name**.
15. Click **Test Connection** to test if the server name entered exists and the Retail POS configuration can establish a connection to the server.
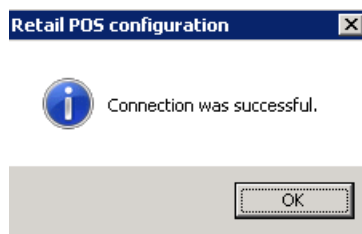


☑ **Note**

This step is required because of a known issue. The values that you enter can be arbitrary.

16. Optional: Test the connection.
17. Click **Continue** to create and configure the store database.

**Collation of Retail POS databases**

The collation for each Retail POS database is based on the Windows locale. To avoid collation issues, verify that the Windows locale of each database computer in the store is set to one of the supported locales for the Microsoft Dynamics AX 2012 feature pack.

**Create SQL logons and assign database privileges**

On the head-office communications server, create a SQL logon with the same name as the Commerce Data Exchange: Synch Service domain user. The head-office instance of Commerce Data Exchange: Synch Service will use this logon to access the Commerce Data Exchange: Synch Service message database. Therefore, the logon must have read and write (db_datareader and db_datawriter) access privileges on the message database.

On each store computer where SQL Server 2008 is installed, including the store communications server, create a SQL Server logon with the same name as the POS user group. This logon automatically provides all members of the POS user group (that is, all cashiers) access to the store or register database. This logon must have read and write (db_datareader and db_datawriter) access privileges on the store databases and the Commerce Data Exchange: Synch Service message database.

In SQL Server Management Studio, expand the **Security** folder, right-click **Logins**, and then click **New Login**.

7. On the **General** page, click **Search** to locate and select the user account that you want to use for this SQL Server logon.
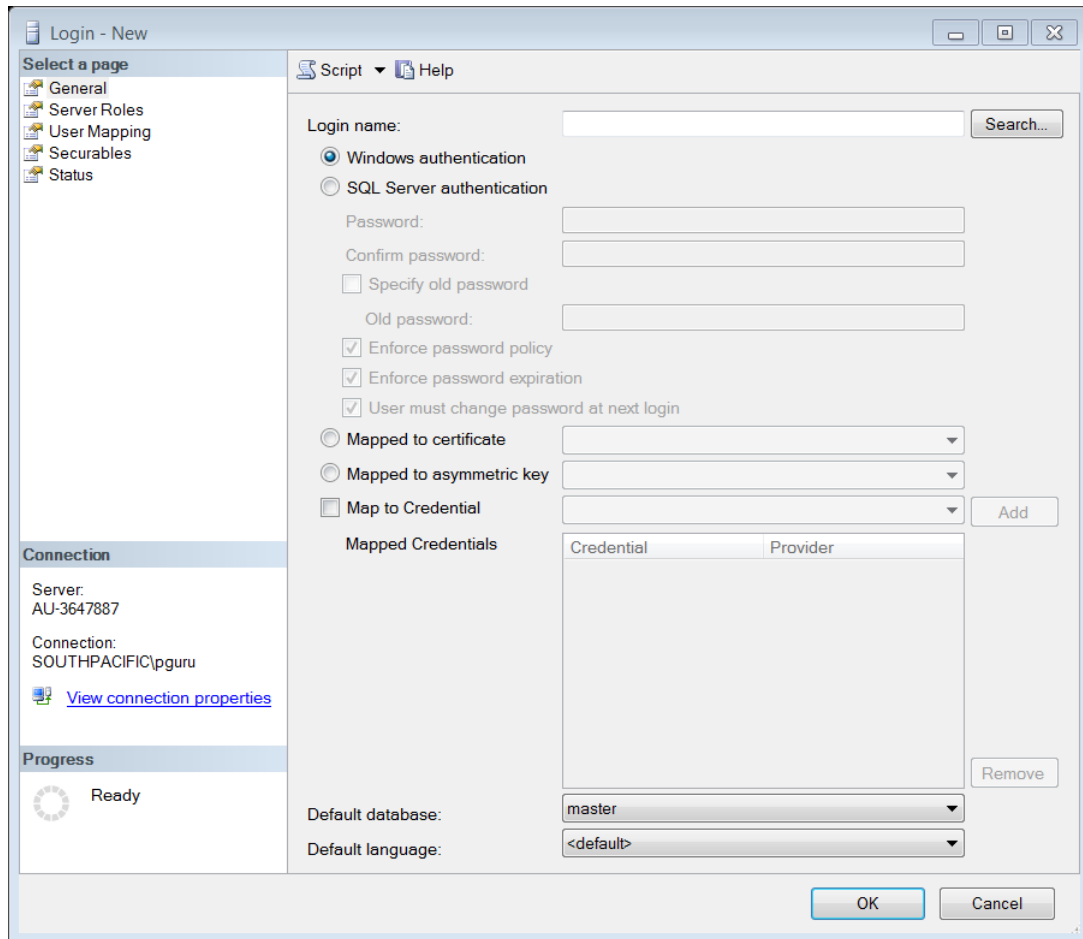
8. On the **User Mapping** page, select the check box for the database to which you want to grant access, and then, under **Default Schema**, click **Browse**.
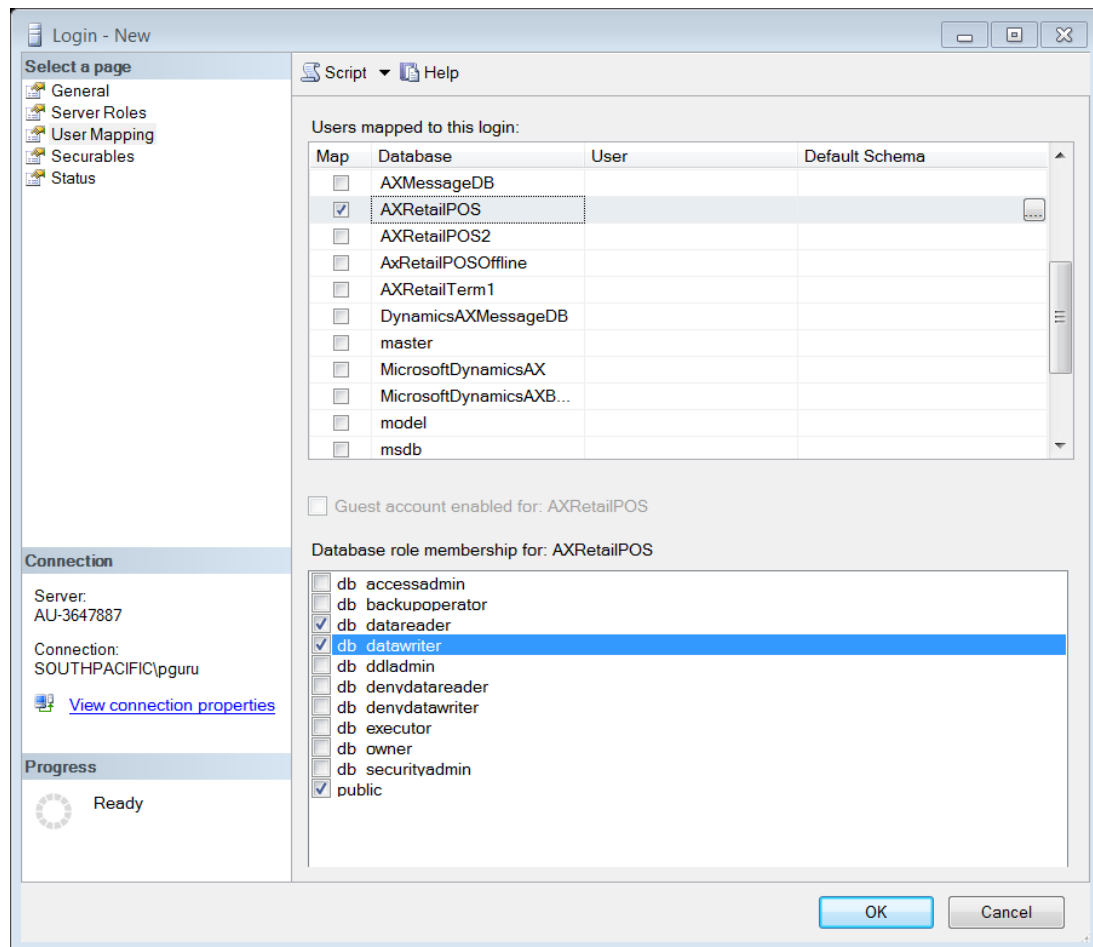
9. In the **Select Schema** dialog box, click **Browse**.

10. In the **Browse for Objects** dialog box, select the check box for the **[dbo]** object, and then click **OK**.

11. In the **Select Schema** dialog box, click **OK**.
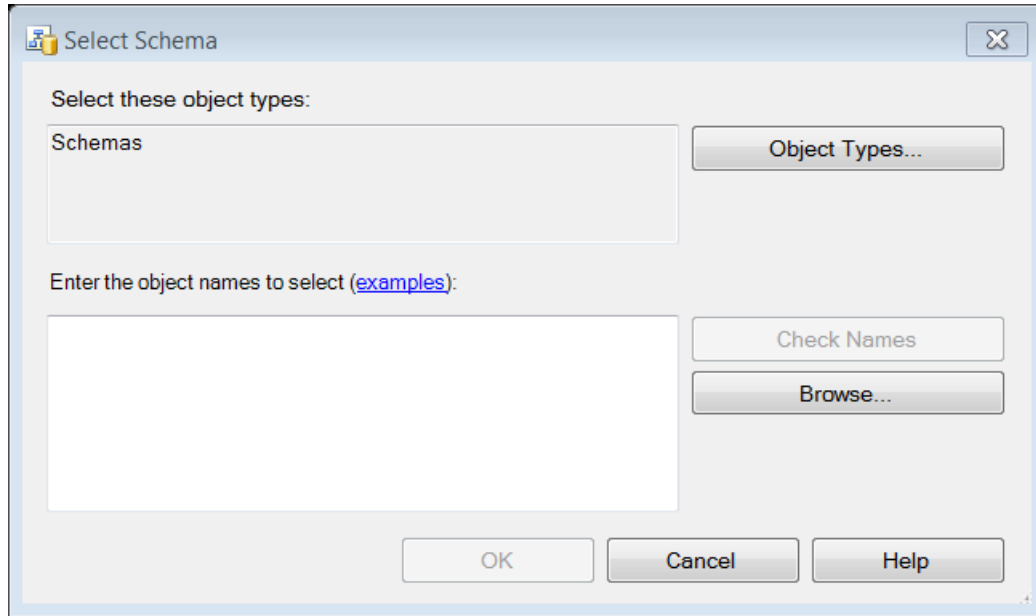
12. In the **Database role membership for** box, select the appropriate database, select the check boxes for the **db_datareader** and **db_datawriter** privileges, and then click **OK**.

## 35.3 CONFIGURE POS TERMINALS

**Set up user accounts and the POS user group**

To manage access to store computers and databases, you must create the following Windows users and user group:

**An account for Commerce Data Exchange: Synch Service** – This account must be created only on the communications server where Commerce Data Exchange: Synch Service is installed and on computers where Retail POS databases are located. The Commerce Data Exchange: Synch Service runs as this user.

**An account for each store employee** – Each employee user account must be created on every register that the employee will use. The employee can use this user account to log on to Windows and start Retail POS, and then log on to Retail POS by using the employee credentials set up for the employee in Retail Headquarters.

**A POS user group, to which all cashier user accounts on the computer are assigned** – Create this group on all computers in the store, including the communications server, by using the same name as the SQL logon that you created for the POS user group. This gives all members of the group (cashiers and the Commerce Data Exchange: Synch Service) automatic access to the store or register database. Without this access, cashiers cannot process transactions.

## Note

All user accounts should have strong passwords that meet the password policy for the organization.

When you create the POS user group, it inherits the rights and privileges of the Standard user group on the computer. Typically, these rights and privileges are sufficient and do not need to be modified.

Guest or temporary user accounts are not supported.
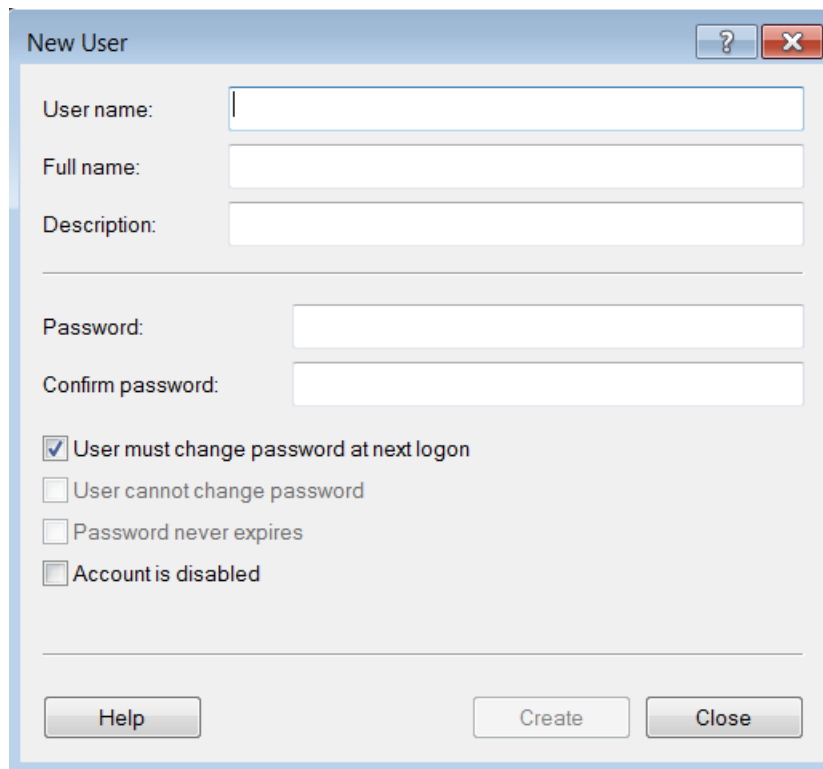
To create user accounts, follow these steps:

6. Click **Start**, type "lusrmgr.msc" in the search or **Run** box, and then press ENTER to open Local Users and Groups.
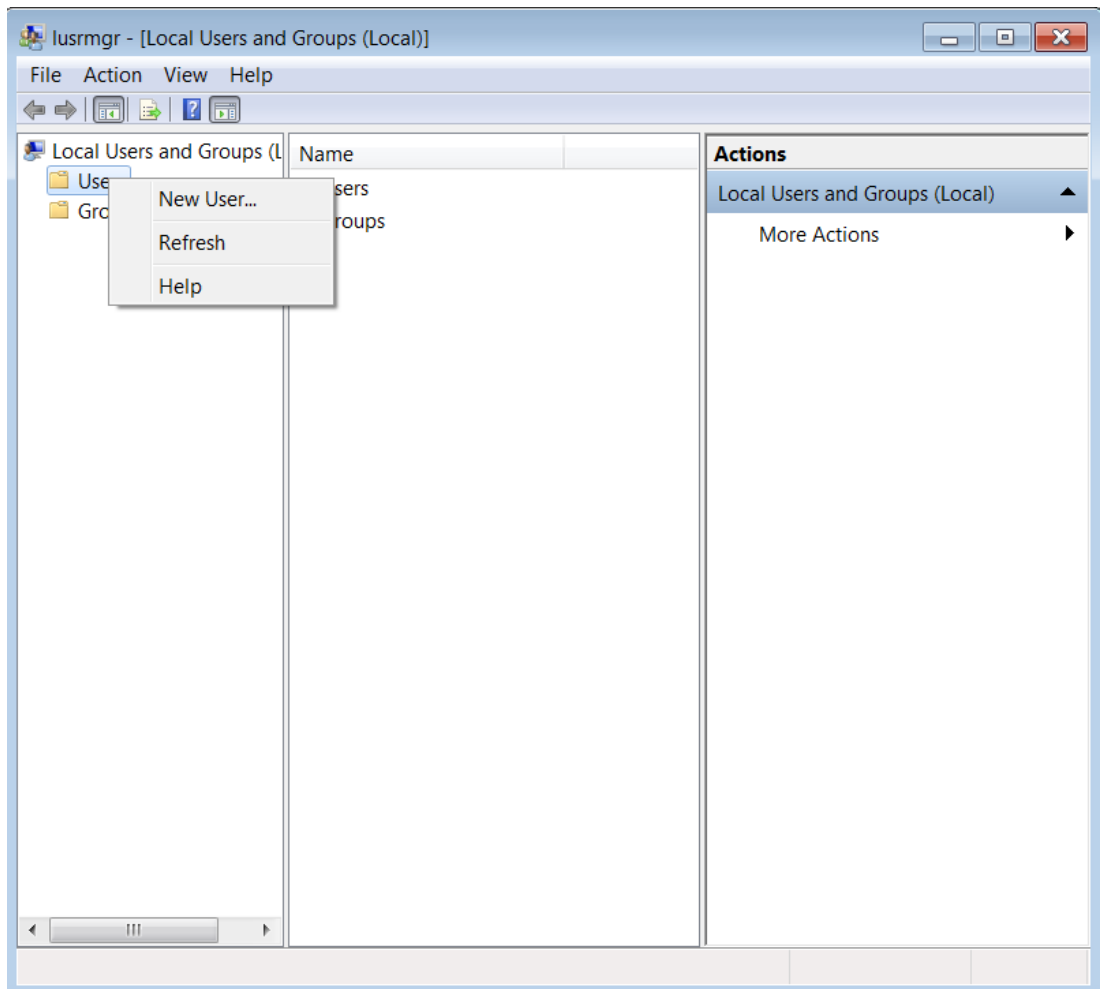


7. Right-click the **Users** folder and then click **New User**.

8. Enter the following information, and then click **Create**.



9. For the Commerce Data Exchange: Synch Service user only, complete these additional steps:

   a. Right-click the user and then click **Properties**.

   b. Clear the **User must change password at next logon** check box, select the **User cannot change password** and **Password never expires** check boxes, and then click **OK**.

10. Repeat steps 1 to 4 to add additional users. Click **Close** after adding users.

To create the POS user group, follow these steps:

7. Click **Start**, type "lusrmgr.msc" in the search or **Run** box, and then press ENTER to open Local Users and Groups.

8. Right-click the **Groups** folder and then click **New Group**.
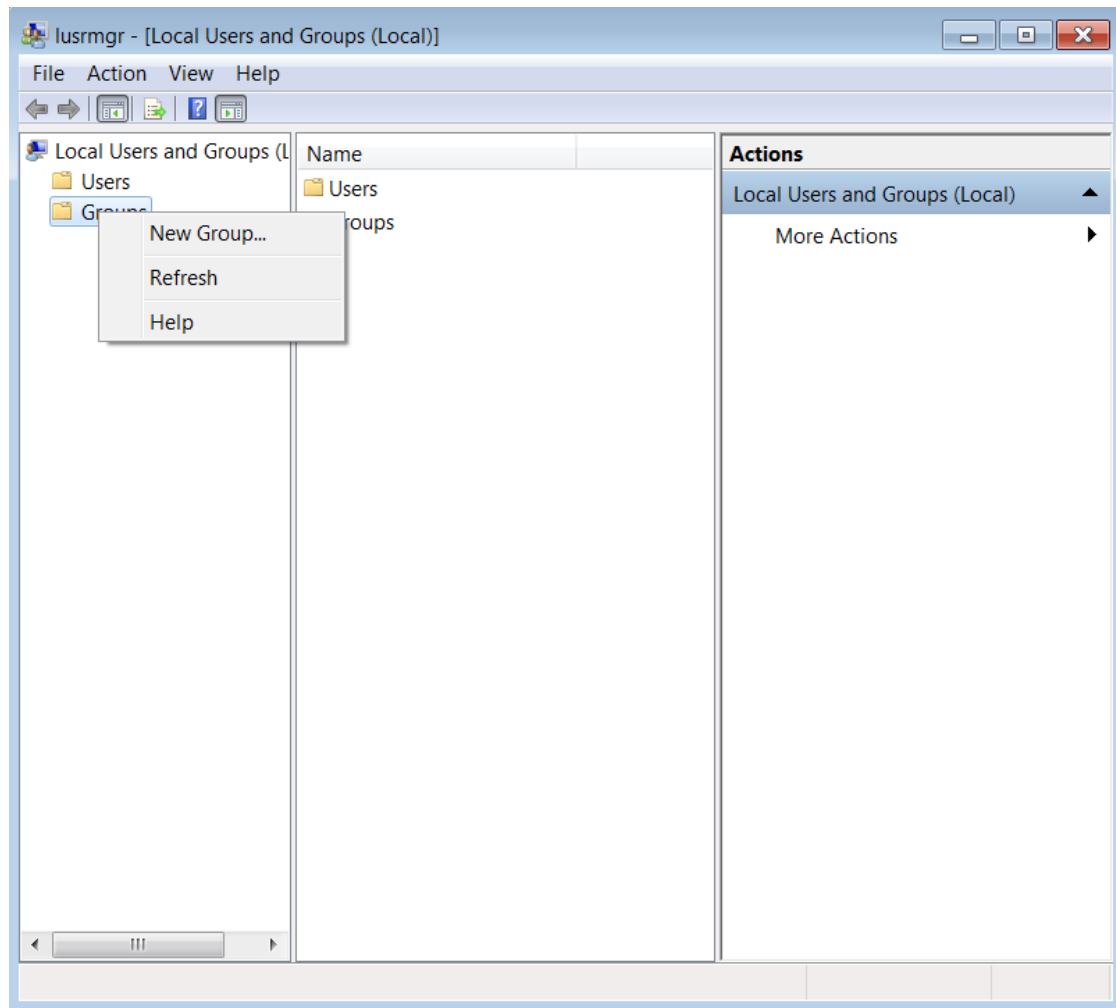
9.  In the **Group name** box, type the name of the new group. Be sure to use the same name on all computers.

10. Click **Add**.
11. In the **Enter the object names to select** box, type the employee user names that you set up in the previous procedure. Separate the names by semicolons. Click **Check Names** to verify that you typed the names correctly, and then click **OK**.
12. Click **Create**, and then click **Close**.

## 35.4 CREATE AN OFFLINE POS DATABASE

Offline POS Database is used by the POS terminal when the Internet connectivity is down. The POS terminal automatically switches to the offline database to continue the sales transactions.

### 📝 Note

In offline mode, cashiers can perform only limited functionality on the POS terminal.

The following figure shows a scenario where the store database is disconnected.
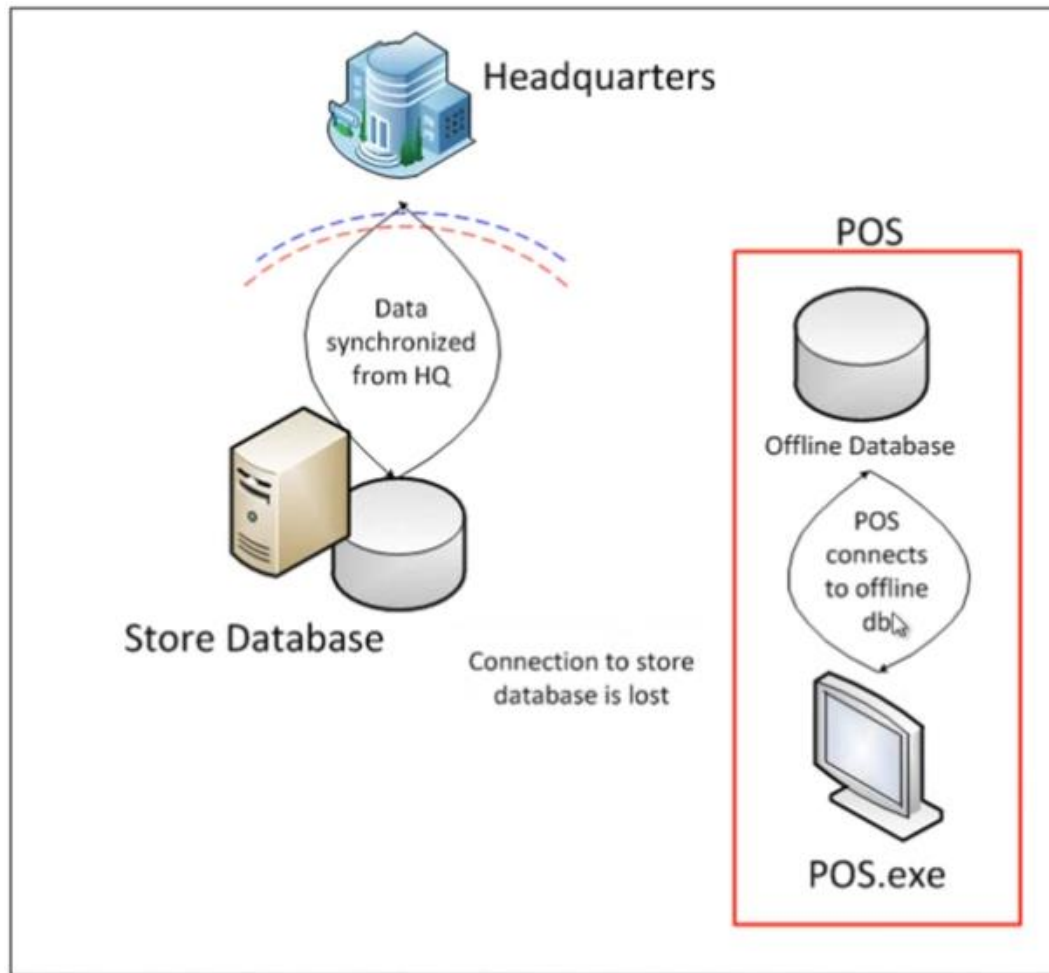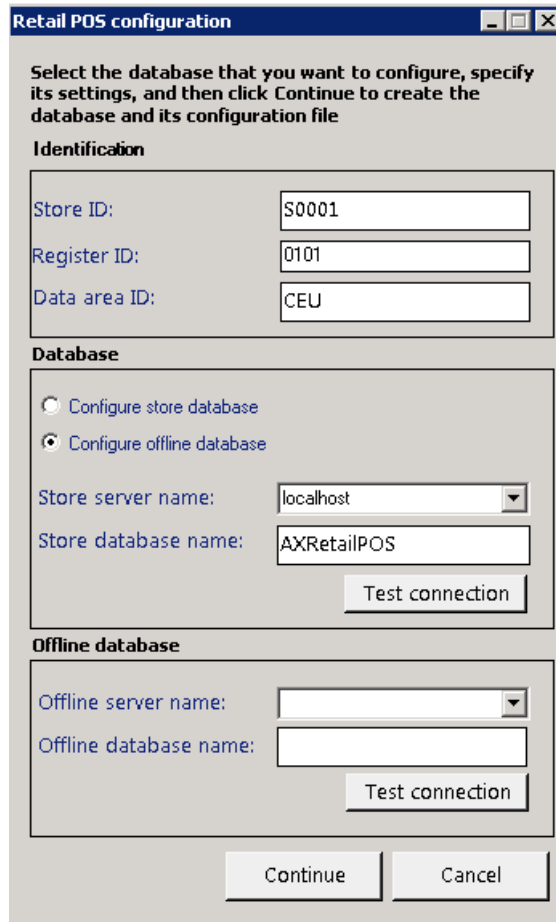


Figure: Offline POS

In Microsoft Dynamics AX 2012, follow these steps:

11. Open the **Retail POS configuration** form.

12. Select **Configure offline database**.



Figure: Offline database configuration screen

13. Enter information for the Offline database fields:
    a. **Offline database name** – Enter the name of the offline database.
    b. **Offline server name** – Enter the name of the server hosting the database (typically localhost).
14. Enter values for the **Identification** fields:
    a. **Store ID** – Type the store ID. This must match the value provided for the store in the **Name** field of the **Retail stores** form (**Retail** > **Common** > **Retail channels** > **Retail stores**).

    ☑ **Note**

    The store record does not need to be created before you complete this step. However, the ID must match later when the record is created and the profile is linked.

b.  **Register ID** – Type an arbitrary designation for the POS terminal, such as "Terminal 1".

📝 **Note**

The POS terminal record does not need to be created before you complete this step. However, the ID must match later when the record is created and the profile is linked.

c.  **Data area ID** – Type the company name.

15. Click **Continue** to create and configure the offline database.
16. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **Database profiles** to open the **Database profiles** form. One profile is required for each store. Create new profiles as needed and validate each profile by clicking **Test connection**.



17. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Distribution locations** to open the **Distribution locations** form. The form displays a list of distribution locations. Assign the correct database profile for each location.

**Note**

Do not assign AOS profiles if they are displayed on the **Connection profile** menu. This is a known issue.

18. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **AOS profiles** to open the **AOS profiles** form. There must be a profile with values pointing to a current AOS computer. For more information, click the **Help** button in the form.

19. In Headquarters, click **Retail** > **Setup** > **Retail scheduler** > **Store integration** > **Commerce Data Exchange: Synch Service profiles** to open the **Commerce Data Exchange: Synch Service profiles** form. These profiles enable data to be synchronized between Retail Headquarters and stores. Create new profiles as needed to point to the correct computers and databases. For more information, click the **Help** button in the form.



20. In Headquarters, click **Retail** > **Setup** > **POS** > **Profiles** > **Transaction Service profiles** to open the **Transaction Service profile** form. These profiles enable queries and data to be passed directly between Retail Headquarters and POS terminals. Create new profiles as needed to point to the correct computers and databases.

## 36 POINT OF SALE

### OVERVIEW

The day-to-day operations of Microsoft Dynamics AX for Retail Point of Sales (POS), for the point of sales terminals, and the installation and configuration of the store database are described in this module.

For installation or technical information, refer to *the Deployment and Installation Guide* or the *Retail POS Technical Reference*.

In Microsoft Dynamics AX for Retail POS, the point of sales terminal layout can be configured by store, user, or by the user profile. The layouts can be modified at the register level. However, the layouts are overridden by the layout that is configured at the Microsoft Dynamics AX Retail headquarters office level.

If you have the appropriate permissions to modify the point of sale layout so that you can assign different properties at the POS level, you must right-click the button that you want to change, click **Button Properties**, and then in the **Action** box, select the new action.
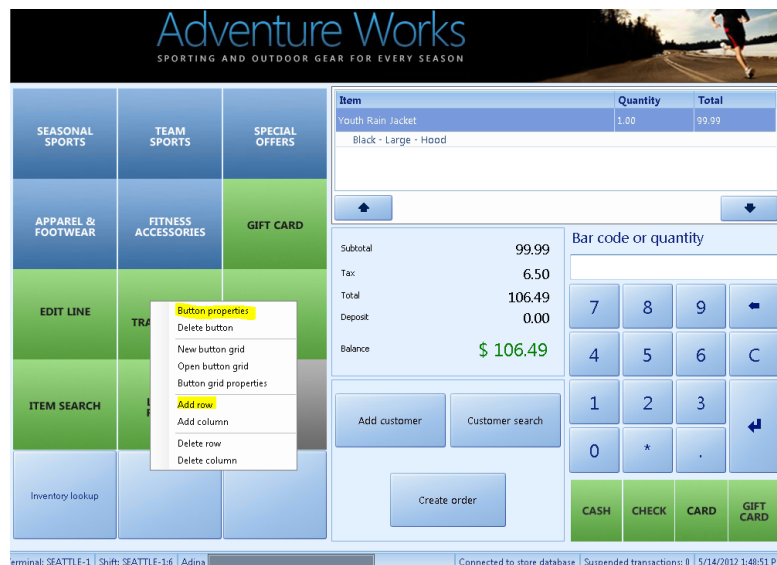


⚠ **Important**

Because Microsoft Dynamics AX for Retail POS can be customized, the buttons on some windows might differ from the buttons that are described in this training guide.

⚠️ **Note**

Depending on the employee role settings, you might not be able to perform some operations.

## 36.1 POS START AND EXIT

To use Microsoft Dynamics AX for Retail POS, the employee's name, employee ID and password must be set up in Microsoft Dynamics AX Retail.

**Start**

To start, click **Start**, and then point to **All Programs**. Point to **Microsoft Dynamics AX 2012**, point to **Retail POS**, and then click **Retail POS**.
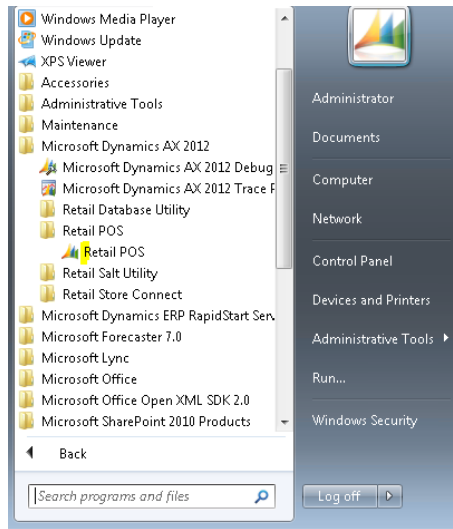


- **Note**
  The user ID and password are set from the Retail headquarters for the workers that are assigned to a store.

The first time users start Microsoft Dynamics AX for Retail POS, the program displays the **Initial confirmation** form. Here, the required settings for the first configuration must be completed. For information about these settings, refer to the *Deployment and Installation Guide*.

The logon and logoff procedures in Microsoft Dynamics AX for Retail POS can be manually performed by logging on or logging off, by scanning a bar code, by swiping a card, or by a combination of these methods. Microsoft Dynamics AX for Retail POS always starts with the **logon** dialog box.

**Manual Logon**

In the **Logon** form, type the operator ID and password, and then press **ENTER**.



![Warning icon] **Note**

- If you use the demonstration data that is included with Microsoft Dynamics AX for Retail, refer to the employee information in Microsoft Dynamics AX for Retail for the logon credentials that you should use for the sample employees.

- In the bottom-right corner of the POS log on screen there are four actions to use. These actions include the following:

    o **Restart:** - Restarts the computer.

    o **Shutdown:** Shuts down the computer system.

    o **Training Mode:** If the store configuration is set up so that the user can set the POS terminal in the training mode, this action appears on this submenu list.

    o **Exit:** To exit the POS terminal screen requires having to completely exit the POS system.

**Bar code Logon**

Microsoft Dynamics AX for Retail POS can be set up so that users can scan a bar code logon that is configured and issued to users by the headquarters office or the retail operations. An ID and password are not used with this method. A logon transaction is saved when this is performed.

During a transaction that is in progress, you can scan the bar code to switch users. A new user ID is then registered with the transaction.

☑ **Note**

This operation is not yet tested and implemented, so it will require using the customization.

**Card Swipe - Logon**

A card with a magnetic stripe can be used to log on. Logging on with a card resembles logging on with a bar code, as is described in the preceding section.

☑ **Note**

This operation is not yet implemented. This operation is not yet tested, so this operation will require that the customization can be used.

**Automatic logoff -After each transaction**

Microsoft Dynamics AX for Retail POS can be set up to automatically log off after each transaction. In the table RETAILTERMINALTABLE, change the field EXITAFTEREACHTRANSACTION from zero to one.

**After a certain period of time**

Microsoft Dynamics AX for Retail POS can be setup to automatically log off after a certain period of time. In the table RETAILTERMINALTABLE, change the field AUTOLOGOFFTIMEOUT from zero to the number of minutes Microsoft Dynamics AX for Retail POS is idle before automatically logging you off.

If Microsoft Dynamics AX for Retail POS is in a long process or in design mode, or if a dialog box is displayed, the logoff countdown is delayed until the process ends or the dialog closes and then it restarts the countdown.



The POS logon and permission verification logic is as follows:

    i.     Verify the user ID and password.

    ii.    Verify the store assignment through the address book.

    iii.   Verify a current position (date effective).

    iv.   Check for the POS permissions override on the position.

    v.    Check for POS permissions on the job.

**Exit Retail POS**

    i.     Click **Log off**, and then click the red **Close** (**X**) button.

    ii.    Type your employee ID, and then press **ENTER**.

    iii.   Type your password, and then press **ENTER**.

**Note**

Depending on the employee role settings, users might not be able to exit Microsoft Dynamics AX for Retail POS.

**Lock and unlock the register**

The user can lock the register if, for example, he or she must step away from the register. When the user locks the register, the screen can longer be used and the POS transactions cannot be processed. Only a user that has the appropriate authority level can unlock the screens and continue operating the POS terminals.

To lock the register, follow these steps.
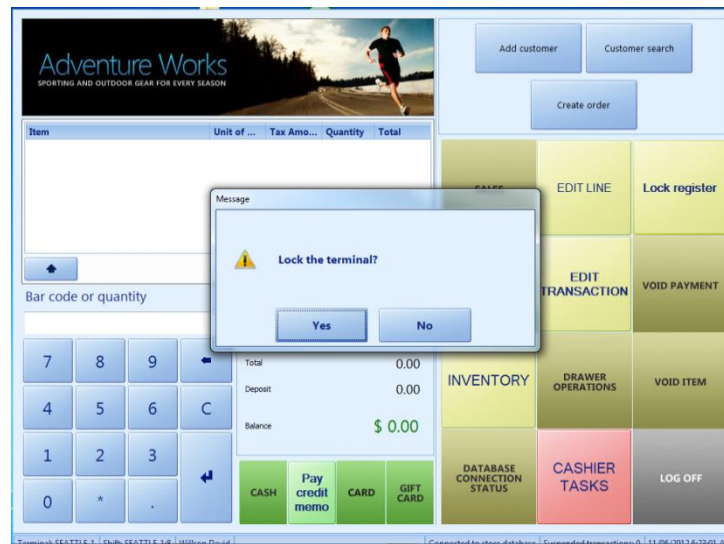
1. Click **Lock Register**. A message is displayed to accept or reject the action. After you accept the lock action, the following screen is displayed on the POS terminal.

2. When you return to the register, you can either unlock the register or log off the register.

To unlock the register, follow these steps.
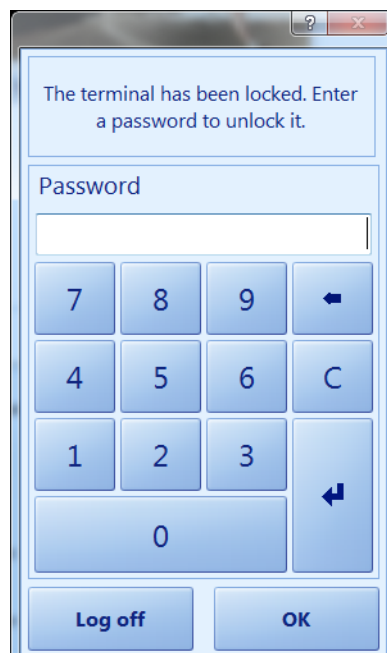


1. Enter your operator ID and password.

2. To log off, click the **log off** button. This action will return you to the **POS log on** screen.

## 36.2 POS NAVIGATION
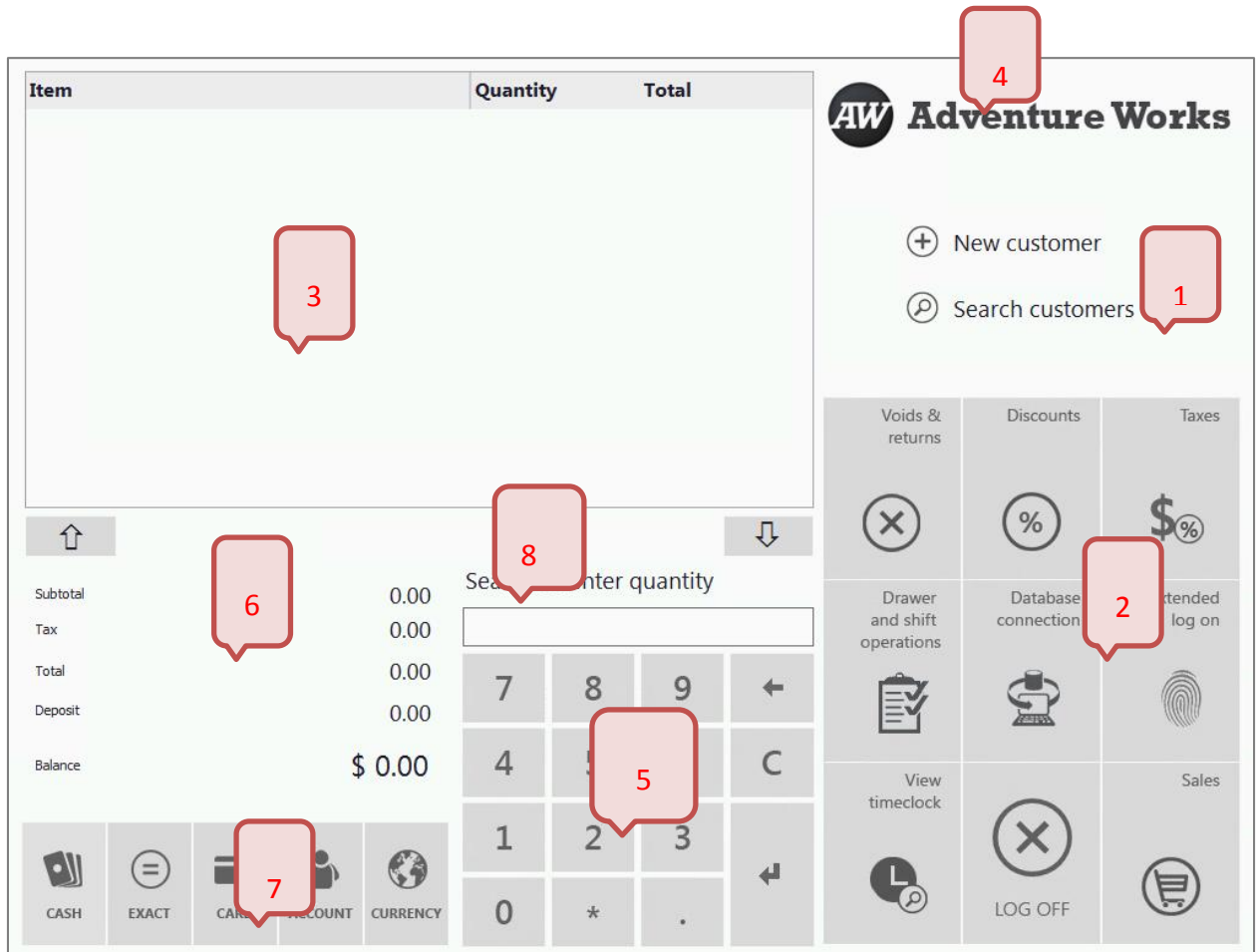


1. **Customer pane** – Use the buttons in the customer pane to add a new customer, search for an existing customer to add to the transaction, or create a customer order. When a customer is added to the transaction, the customer pane displays information about the customer.
2. **Function buttons** – Use these buttons to add products to the transaction, or to perform tasks such as applying a discount, suspending a transaction, or opening the cash drawer.
3. **Receipt pane** – View the products that are added to the transaction. The information that is displayed includes prices and quantities.
4. **Title/Image/Logo** – Company information that displayed
5. **Bar code and quantity number pad** – Use the number pad to enter numbers, such as product numbers and quantities.

6. **Totals pane** – View information about the transaction's subtotal, sales tax, shipping charge, and total.
7. **Payment buttons** – Use these buttons to accept different forms of payment, such as cash, check, or credit card.
8. **Fast Search /Quantity** – Use this to quickly perform a search on the customer/item or to manually enter the quantity before adding the item. When you perform a fast search, enter the number and press **Enter.** This opens the **Search** form that can be filtered on the customer or item.



## 36.3 POS TRAINING MODE

In Microsoft Dynamics AX for Retail POS, the training mode can be used without affecting transactions or other information in the database. The sales that are processed in the training mode are not recorded, the cash drawer does not open and credit card, debit card and check transactions are not processed.

⚠️ **Note**

A user can or cannot have access to the training mode. This will depend on the user's employee role settings.

To access the training mode, follow these steps.

1. Start Microsoft Dynamics AX for Retail POS.
2. On the **Logon** screen, click the arrow next to the red **Close** (**X**) button, and then click **Activate training**.
3. Log on by using your employee ID and password.
4. Practice using Microsoft Dynamics AX for Retail POS.
5. When you finish practicing, click **Log Off**, and then click **Deactivate training**.

## 36.4 CUSTOMIZE POS BUTTONS
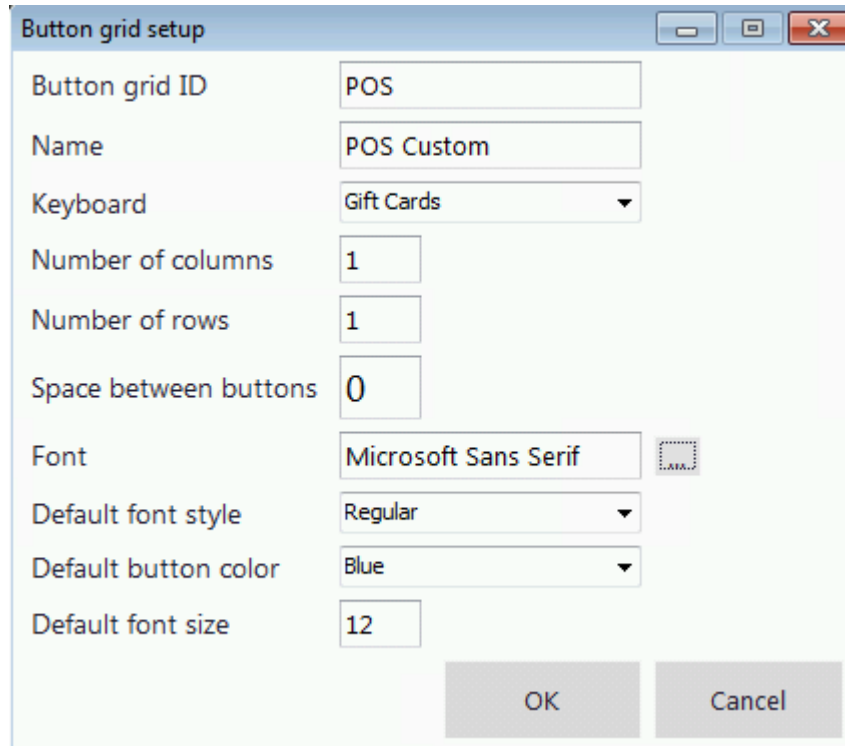
A button grid is a group of similar buttons. When a new button grid is created, buttons are created based on the number of columns and rows that are specified. For example, if a grid is created that has four columns and five rows, 20 buttons are created. These buttons can be configured for specific POS operations.

## 36.4.1CREATE A BUTTON GRID

To create a new button grid, follow these steps.

1. Right-click an existing button and then click **New Button Grid**.



2. In the **Button grid ID** box, type a unique ID.

3. In the **Name** box, type a name.

4. In the **Keyboard** field – select one of the activity items from the drop down list box.

Cashier Drawer and Shift
Cashier Home (advwrks)
Cashier Home (contoso)
Cashier Tasks
Computers
Customer Orders
Discounts
Edit Line
Edit Transaction
Gift Cards
Inventory
Manager Drawer and Shift
Manager Home (advwrks)
Manager Home (contoso)
Manager Sales (advwrks)
Manager Sales (contoso)
Non-drawer Home
Payments
Taxes
Team Sports
Voids and Returns
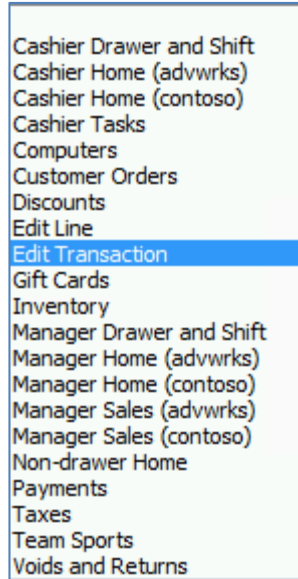
5. In the **Number of columns** and **Number of rows** boxes, type the number of columns and rows that the button grid will contain. These values can be changed later.

6. In the **Space between buttons** box, type the number of pixels that re required between the buttons.

7. In the **Font** box, click the button and then select the font that is required for the text on the buttons.

8. In the **Default font style** box, select the default font style of the text that is required on the buttons.

9. In the **Default button color** box, select the default color of the buttons.

10. In the **Default font size** box, type the default font size of the text on the buttons.

11.  After you complete the settings for the button grid, click **OK**.

How to display the new button grid is described in the following section.

## 36.4.2 OPEN A BUTTON GRID

To open a button grid, follow these steps.

1. Right-click the Function pane area, and click **Open Button Grid**.
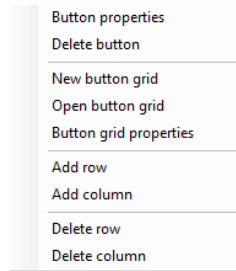
2. From the **Open Grid** form, select the custom button grid that is created.
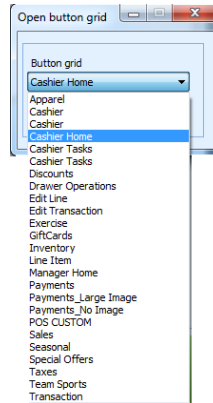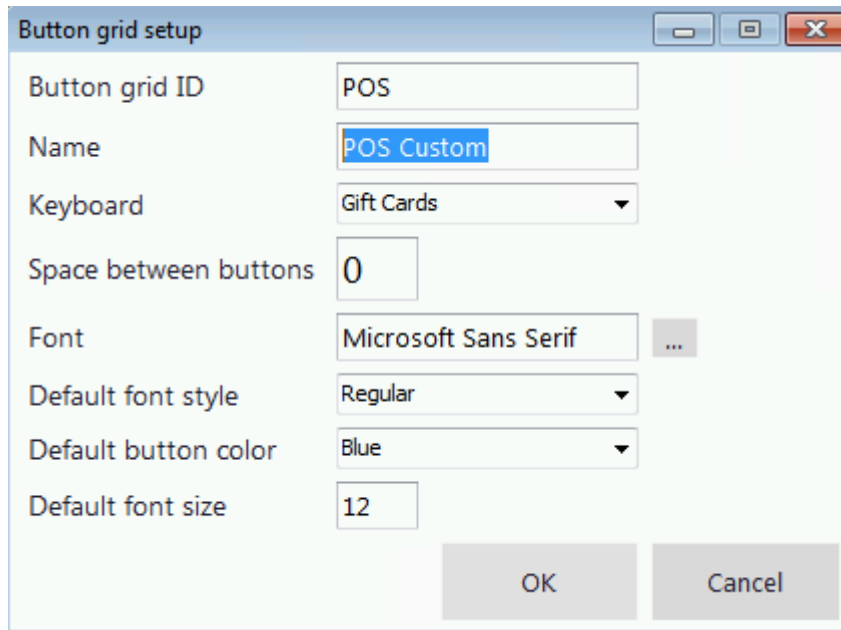


3. Select the required button grid, and then click **Open**.


### 36.4.3 CHANGE THE PROPERTIES OF A BUTTON GRID

The properties on the button grid resemble the properties that are used to create a new button grid, except the number of rows and columns cannot be changed.

To create a new button grid, follow these steps.

1. Right-click a button grid, and then click **Button grid properties**.

2. Change the properties that require changes and then click **OK.**

### 36.4.4 ADD A ROW

To add a row, right-click a button grid, and then click **Add a row**. Microsoft Dynamics AX for Retail POS adds a row of buttons underneath the last row of the button grid.

### 36.4.5 ADD A COLUMN

To add column, right-click a button grid and then click **Add a column**. Retail Microsoft Dynamics AX for Retail POS adds a column of buttons at the right edge of the button grid.

### 36.4.6 DELETE A ROW

To delete a row, right-click a row in a button grid, and then click **Delete row**. Microsoft Dynamics AX for Retail POS displays a message confirming whether you want to delete the row.

### 36.4.7 DELETE A COLUMN

To delete a column, right-click a column in a button grid and then click **Delete column**. Microsoft Dynamics AX for Retail POS displays a message confirming whether you want to delete the column.

### 36.4.8 CUSTOMIZE BUTTONS

✎    **Note**

Frequently, the layout of the Microsoft Dynamics AX for Retail POS screen is specified at the headquarters office by using Microsoft Dynamics AX for Retail. Then, the layout is sent to the stores. Any local customizations that are performed in the stores are overridden.

- Microsoft Dynamics AX for Retail POS does not support currency triangulation. In currency triangulation, two currencies are not converted directly. Instead, the two currencies are converted through a third currency, such as the euro.

In Microsoft Dynamics AX for Retail POS, users can customize many of the properties on buttons, such as the text, color, and operation.

## 36.4.9 CHANGE THE TEXT, FONT, OR COLOR OF A BUTTON

To change the text, font, or color of a button, follow these steps.

1. Right-click the button that you want to change and then click **Button properties**.
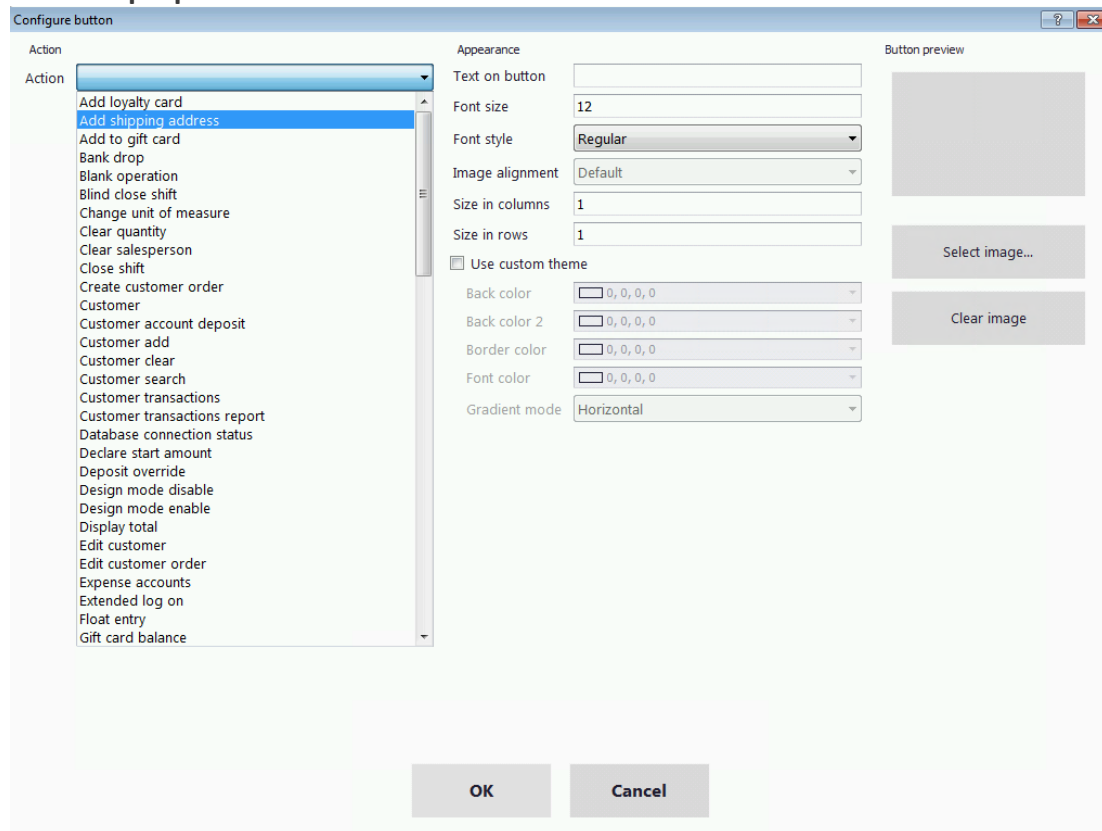


2. In the **Appearance** area, in the **Text on button** box, type the text that is to appear on the button.
3. In the **Font size** and **Font style** boxes, type the font size and then select the required font style.
4. In the **Color** box, select the required color.

5. Click **OK**.

## 36.4.10    ASSIGN A PICTURE TO A BUTTON

Images can be assigned to buttons. To assign images to buttons, follow these steps.

1. Right-click the button which requires an image to be attached and then click **Button properties**.
2. In the **Button preview** area, click **Select image**.
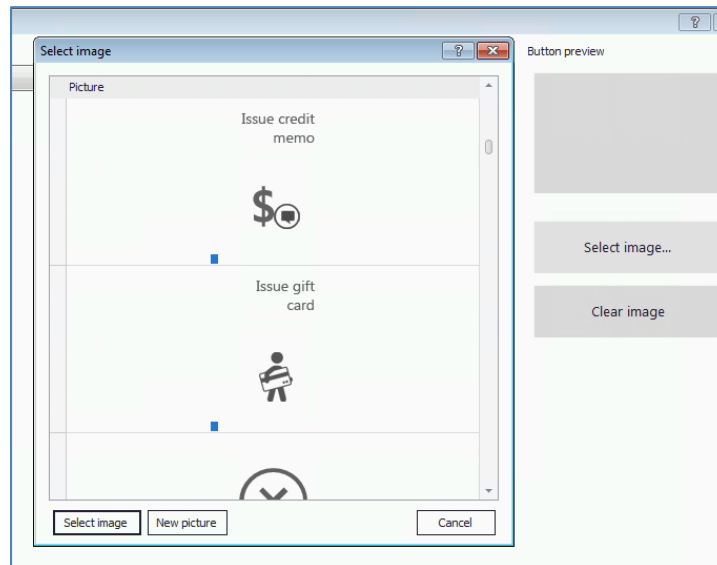


3. To use one of the available pictures, select the picture in the list. Or, to add a new picture to the list, click **New** picture, and then select the required picture from a different location on the computer or the network. To remove a picture from the list, right-click the picture, and then click **Delete picture**.
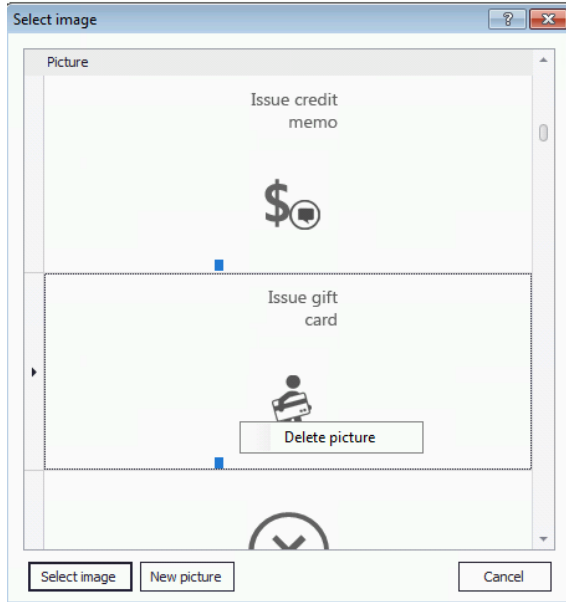
4. Click **Select image**, and then click **OK**.

## 36.4.11    REMOVE A PICTURE FROM A BUTTON

To remove a picture from a button, right-click the button that you want to change, and then click **Button properties**. Then, in the **Button preview** area, click **Clear** image.

## 36.4.12    CHANGE THE SIZE OF A BUTTON

To change the size of a button, in the **Size in columns** field and in the **Size in rows** field, type the number of columns and rows that are required for the button to extend across.

## 36.4.13    DELETE A BUTTON

To delete a button, right-click the button that you want to delete, and then click the **Delete** button.

## 36.4.14    CHANGE THE OPERATION THAT A BUTTON PERFORMS

To change the operation a button performs, follow these steps.

1. Right-click the buttons that must be changed and then click the **Button properties**.
2. In the **Action** area, in the **Item** box, select the operation that you want the button to perform.

3. Click **OK**.

## 36.5 POS OPERATIONS

📝 **Note**

- Typically the layout of the Microsoft Dynamics AX for Retail POS screen is specified at the headquarters office by using Microsoft Dynamics AX for Retail and then is sent to the stores. In these cases, any local customizations that are done at the stores are overridden.

- Microsoft Dynamics AX for Retail POS does not support currency triangulation. In currency triangulation, two currencies are not converted directly. Instead, the two currencies are converted through a third currency, such as the euro.

Many actions can be assigned to a button on Microsoft Dynamics AX for Retail POS. To assign an action, browse to the **Properties** window and then set the Item Property.
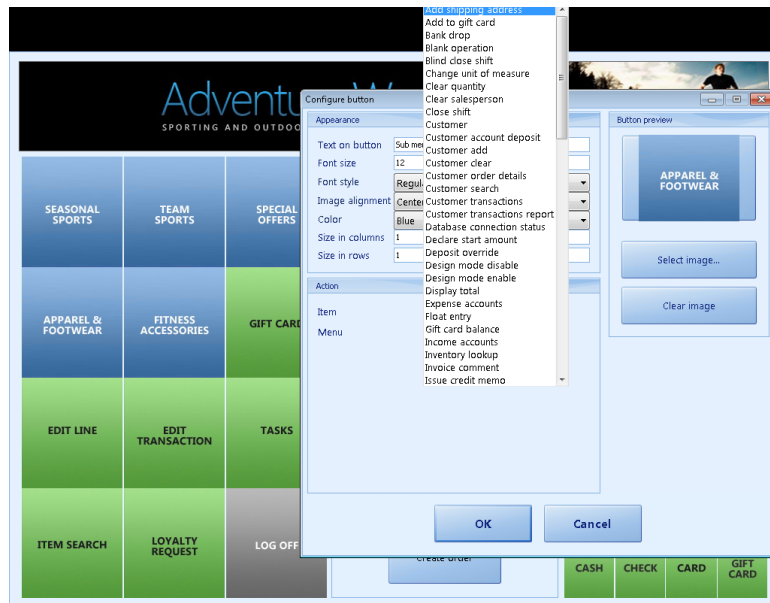


The operations that you can assign to buttons are described in the following table. The table is sorted alphabetically, based on the name that is used for each operation in the **Button Properties** form.

| Name | Description |
|------|-------------|
| **Add shipping address** | Add a shipping address for the customer of the transaction. |

| Name | Description |
|------|-------------|
| **Add to gift card** | Add money to the specified gift card. |
| **Bank drop** | Record the amount of money that is sent to the bank and other information, such as the number of the bank bag. |
| **Blank operation** | Represents a button that can be customized and, or programmatically changed by a software developer for any specialized operation that the business requires. |
| **Blind close shift** | Set the current shift to blind close, and log off the cashier. |
| **Change unit of measure** | Change the scanned item's unit of measure. |
| **Clear qty (quantity)** | Reset the quantity of an item to 1. |
| **Clear salesperson** | Clear any salesperson from the transaction. |
| **Close shift** | Close the current shift. |
| **Customer** | Open a form where the cashier can type a customer ID to search for the customer. If a customer is found, the customer is added to the transaction. |
| **Customer account deposit** | Make a payment to a customer's account. |
| **Customer add** | Open the **Add customer** form. Here, the cashier can enter information about a new customer. When the information is saved, the new customer is added to the customer list. |
| **Customer clear** | Clear a customer from the transaction. If any price agreements apply to the customer, prices and discounts in the transaction might change. |
| **Customer search** | Open a form where the cashier can search for a customer. The cashier can then add the customer to the transaction. |
| **Customer transactions** | Display the transactions for the selected customer. |
| **Customer transactions report** | Print a report that shows the transactions for the selected customer. **Currently this is not implemented**. |
| **Declare start amount** | Declare the amount that is in the cash drawer when the day or shift starts. |
| **Design mode disable** | Prevent changes to the screen layout of the terminal. The functionality profile of the terminal specifies whether the cashier has access to this |

| Name | Description |
|------|-------------|
| | operation. |
| **Design mode enable** | Allow changes to the screen layout of the terminal. The functionality profile of the terminal specifies whether the cashier has access to this operation. |
| **Display total** | Display the balance of the transaction on the customer display. |
| **End of day** | This operation is not used and might be removed from future releases. |
| **End of shift** | This operation is not used and might be removed from future releases. |
| **Expense accounts** | Record money that is removed from the cash drawer for occasional expenses. |
| **Float entry** | Register a float entry to the cash drawer, such as an addition or a change. |
| **Gift card balance** | Display the balance of a gift card. (Uses transaction services.) |
| **Income accounts** | Record money that is put into the cash drawer for a reason other than a sale. |
| **Inventory lookup** | Look up on-hand inventory for the current store and other available locations. |
| **Invoice comment** | Enter a comment about the transaction. The comment is saved together with the transaction, and appears on the receipt or invoice. |
| **Issue credit memo** | Issue a central credit memo through Commerce Data Exchange: Real-time Service, and print a copy. |
| **Issue gift card** | Issue a gift card through Commerce Data Exchange: Real-time Service, and print a copy. |
| **Item comment** | Add a comment to the selected line item in the transaction. The comment is saved together with the transaction and appears on the receipt. |
| **Item sale** | Add an item to the transaction. The button must be configured specifically for the item. |
| **Item search** | Search for an item. You can search for an item by item ID, item description, or item category. Search results can be sorted. |
| **Line discount amount** | Enter a discount amount for a line item in the transaction. This operation is used only for discountable items and only in specified discount limits. |

| Name | Description |
|---|---|
| **Line discount percent** | Enter a discount percentage for a line item in the transaction. This operation is used only for discountable items and only in specified discount limits. |
| **Lock terminal** | Lock the register when the cashier must leave the register. The cashier unlocks the register by logging on. |
| **Log off** | Log off the register, and suspend any sales until the next logon. |
| **Loyalty request** | Enter the customer's loyalty card number. The cashier can also initiate this operation by swiping a loyalty card. <br><br> The loyalty request can be performed at any time during the transaction. Microsoft Dynamics AX for Retail POS calculates loyalty points at the end of the transaction. <br><br> The number of loyalty points that is awarded for the items in the transaction depends on how the loyalty program is set up in Microsoft Dynamics AX for Retail. |
| **Minimize POS window** | Minimize the Microsoft Dynamics AX for Retail POS window. |
| **Open drawer** | Open the cash drawer when a sale is not made. This operation is recorded in the database. |
| **Override line item tax** | Override the tax on the selected line item, and use a different tax. The new tax must previously be specified in Microsoft Dynamics AX for Retail POS. |
| **Override line item tax from list** | Override the tax on the selected line item, and use a tax that the cashier selects in a list. The list of taxes must previously be specified in Microsoft Dynamics AX for Retail POS. |
| **Override transaction tax** | Override the tax on a transaction, and use a different tax. The new tax must previously be specified in Microsoft Dynamics AX for Retail POS. |
| **Override transaction tax from list** | Override the tax on a transaction, and use a tax that the cashier selects in a list. The list of taxes must previously be specified in Microsoft Dynamics AX for Retail POS. |
| **Pay card** | Accept a credit card or debit card as payment. The cashier types the card's number and expiration date. The cashier can also specify overpayment or underpayment, if the store allows overpayment or underpayment. <br><br> The cashier can also initiate this operation by swiping a credit card or debit card. In this case, Microsoft Dynamics AX for Retail POS automatically completes the transaction. |

| Name | Description |
|------|-------------|
| **Pay cash** | Accept cash as payment. The cashier can select to pay the transaction's total, overpayment, or underpayment, if the store allows overpayment or underpayment.<br><br>If overpayment is allowed, Microsoft Dynamics AX for Retail POS displays the amount that exceeds the transaction's total. |
| **Pay cash quick** | Complete the transaction in "one touch," provided that the customer paid the exact amount of the transaction's total in cash. |
| **Pay check** | Accept a check as payment for the transaction. |
| **Pay corporate card** | Accept a corporate card as payment. The cashier types the card's number and expiration date. The cashier can also initiate this operation by swiping a credit card or debit card. In this case, Microsoft Dynamics AX for Retail POS automatically completes the transaction.<br><br>The authorization for corporate cards can differ from the authorization for credit cards and debit cards. Restrictions can be specified for corporate cards, so that the purchase of certain items is allowed or prohibited. **Currently this is not implemented.** |
| **Pay credit memo** | Accept a credit memo that is issued by the store. |
| **Pay currency** | Accept payment in several currencies. The cashier selects the payment currency, and Microsoft Dynamics AX for Retail POS calculates the transaction's total in that currency.<br><br>The cashier can also specify overpayment or underpayment, if the store allows overpayment or underpayment. |
| **Pay customer account** | Charge a transaction to a customer's account. The cashier can also specify overpayment or underpayment, if the store allows overpayment or underpayment. Microsoft Dynamics AX for Retail POS also checks whether the customer is blocked.<br><br>If necessary, you can add the customer to the transaction at this time.<br><br>You can also check a customer's credit before you allow the payment, if credit checking has been set up in Microsoft Dynamics AX for Retail POS. |
| **Pay gift card** | Accept a gift certificate or gift card issued by the store. |
| **Picking and receiving** | Open the **Picking and receiving** form, where you can select a purchase order or transfer order that you want to receive or pick merchandise for. |
| **Popup menu** | Select a button grid that is associated with the button. |

| Name | Description |
|---|---|
| | When the button is clicked, Microsoft Dynamics AX for Retail POS displays the selected button grid in a separate window. |
| Price check | Check the price of the product. Microsoft Dynamics AX for Retail POS asks for the item number. You can scan the item or search for the item. |
| | When the product is found, Microsoft Dynamics AX for Retail POS displays the price of the item, and you can add the product to the transaction. |
| Price override | Override the price of the product, if the product is set up to allow price overrides. Microsoft Dynamics AX for Retail POS displays a number pad that you can use to enter the new price. |
| Print X (X report) | Print an X report. |
| Print ZZ (ZZ report) | Print a ZZ report. |
| Recall order | Open the **Sales order** form. Here, you can search for a customer and the customer's sales orders and quotations. |
| Recall transaction | Recall a suspended transaction. |
| Reprint Z (Z report) | Reprint a Z report. |
| Return item | Perform a return of individual products. The next scanned product is noted as a returned item that has a negative quantity and price. |
| Return transaction | Perform a return of an entire transaction. |
| Safe drop | Perform a safe drop to move money from the register to a safe. |
| Sales invoice | Display information about a sales invoice for a specific customer. |
| Sales order | Display information about sales orders for a specific customer. |
| Search shipping address | Open a form where you can search for a shipping address. |
| Set qty (quantity) | Change the quantity of a line item in the transaction. |
| Show blind closed shifts | Display a list of blind closed shifts. |
| Show journal | View the register's journal. You can then view transactions, reprint receipts, or print invoices. |

| Name | Description |
|---|---|
| Stock count | Open the **Stock counting** form, where you can scan or enter bar codes. |
| Sub menu | Select a button grid that is associated with the button.<br><br>When the button is clicked, Microsoft Dynamics AX for Retail POS displays the selected button grid instead of the existing button grid. |
| Suspend shift | Suspend the current shift, and log off the current cashier. |
| Suspend transaction | Suspend a transaction, which you can recall later. |
| Tender declaration | Open the **Tender declaration** form. |
| Tender removal | Record the removal of money from the cash drawer. |
| Total discount amount | Enter a total discount amount. This amount is divided among all items in the transaction. |
| Total discount percent | Enter a total discount percentage. This percentage is divided among all items in the transaction. |
| Transaction comment | Add a comment to the transaction. The comment is saved together with the transaction and appears on the receipt. |
| Void item | Void a line item in the transaction. The line item is removed from the transaction's total and appears marked as voided. |
| Void payment | Void all payment methods that are applied to the transaction. |
| Void transaction | Void the transaction. Voided transactions are saved in the database and have a void status. |

## 36.6 DATABASE CONNECTION STATUS

When the system is temporarily down or the store database is unavailable and the register is offline, users can perform only basic transactions, such as sales and returns.

Microsoft Dynamics AX for Retail POS displays the connection status in the status bar. Refer to the follow illustration. (**Connect to Store Database** is highlighted in yellow in the bottom right side of the POS screen.)
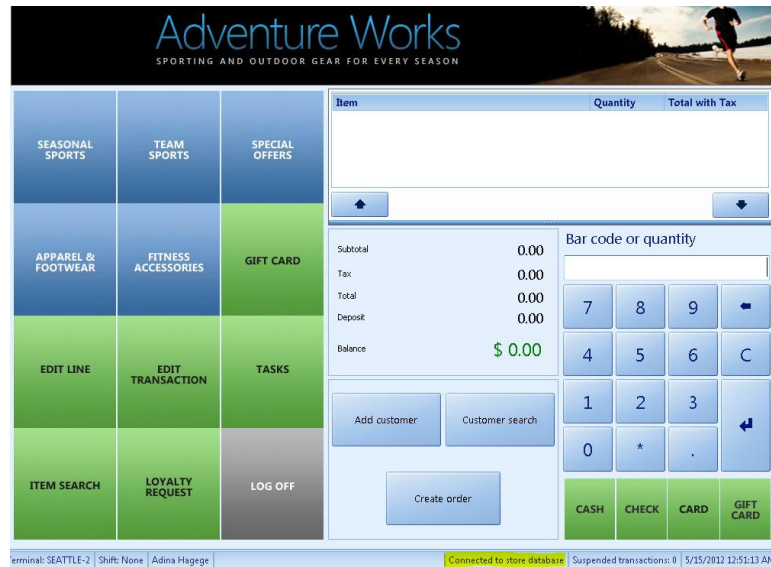
☑ **Note**

To work offline, an offline database must be set up on the register. As a best practice, every register should be configured with an offline database.

When the connection with the store database is lost, Microsoft Dynamics AX for Retail POS automatically switches to the offline database so that users can process basic sales transactions with limited functionality.

☑ **Note**

If a transaction is in progress when the connection is lost, users must void the transaction and then start a new transaction by using the offline database.

While connected to the offline database, users can perform only basic transactions, such as sales and returns. Users cannot close shifts, open new shifts, create new customers, add products to the system, or process returns for transactions that are performed on other registers.

When the connection with the store database is reestablished, Microsoft Dynamics AX for Retail POS automatically connects with the store database.

## 36.7 TENDER PROCESS

Customers can provide payment for their purchases by tendering different types of transactions to the cashier. To finalize the sale, a cashier will select the payment

methods from the payments pane area on the screen that is offered by the customer to settle the transaction.

Microsoft Dynamics AX for Retail POS supports the following payments scenarios:

- Single Tender
  - o  Full receipt amount paid by cash in the local currency
  - o  Full receipt amount in a foreign currency
  - o  Full receipt amount paid by card
- Multi Tender – In this scenario the cashier can accept multiple forms of payment from the customer for a single sales transaction. These forms of payment can include the following:
  - o  Cash and card
  - o  Multiple Currency

Click the button for the appropriate payment method. In the **Enter the amount** field, enter the amount the customer offers to pay or settle the sale. If the amount is equal to or greater than the **Total Amount Due** then, Microsoft Dynamics AX for Retail POS completes the transaction and displays the change that is due the customer, if the customer has tendered an amount greater than the amount due.

If the payment is not a full payment, Microsoft Dynamics AX Retail for POS adds a payment line to the transaction and the customer pays the balance with another payment method. For example, in the following illustration there are two item lines. The total amount due that must be paid is 115.00 United States dollars (USD). The customer decides to pay 15.00 by cash and the rest by card.

☑   **Note:** If the customer pays with exact change, click the "**Exact**" button, instead of the **Cash** button.

## 36.8 POS FUNCTIONALITY

### 36.8.1 DRAWER OPERATIONS

Typically, the drawer operations at the Microsoft Dynamics AX for Retail POS register include the following functions:

- Declare Start amount
- Bank Drop
- Float Entry
- Safe Drop
- Print X
- Print Z
- Tender Removal
- Open Drawer
- Show Blind Close Shifts
- Tender Declaration
- Close Shift
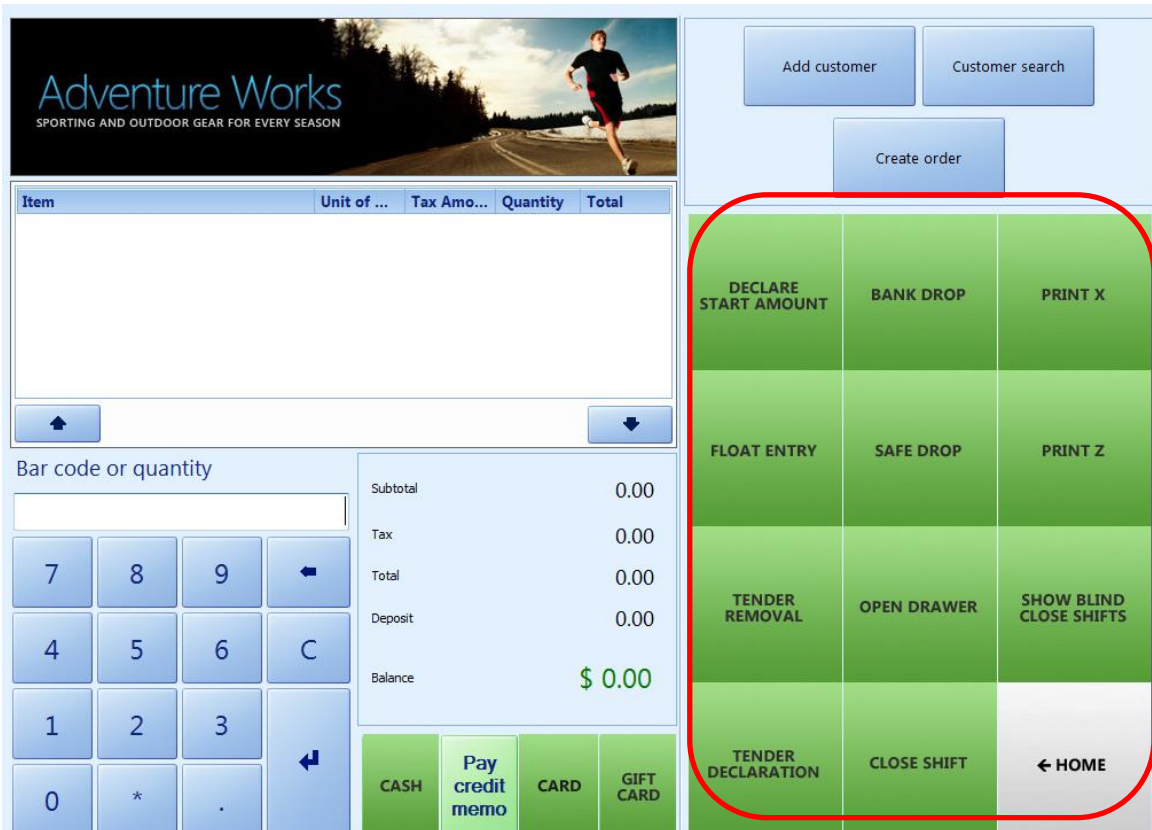
**Open the cash drawer**

The cash drawer opens automatically at the end of a sales transaction. However, a user can open the cash drawer when it is required based on authorized levels.  Additionally, a user might need to provide a reason code if the cash drawer is opened to perform a non-sales or no procedural function. This operation is recorded in the database.


☑    **Note:**

Depending on the employee's role settings, the employee might not be able to open the cash drawer without processing a sale.


To open a cash drawer, click **Open drawer** from the POS screen. Typically this function is underneath the **Drawer operations** button.

## 36.8.1.1   DECLARE OPENING OR CLOSING AMOUNTS

**Specify opening or closing amounts**

Typically, at the beginning of the day, the cashier enters a starting amount, performs sales transactions during the day, and at the end of the day, enters an ending amount. The cashier performs a tender declaration, closes the shift and runs a Z report to verify whether there is an overage or shortage.

Microsoft Dynamics AX for Retail POS keeps track of these daily totals with shifts. A *shift* is the record of one register's activity from the close of the previous shift through the close of the current shift. Typically, a shift includes the opening amount, sales transactions, and the closing amount.

Often, one cashier works at one register, opening a shift at the start of work and closing the shift at the end of the day or work shift. However, cashiers can also log on and off multiple registers during the day. In this case, remember these points about shifts.

Floating shift

- If a cashier logs on to two different registers, the cashier logs on to two different shifts.

- Multiple cashiers sharing the same register share the same shift.

- When a cashier logs off and another one logs on, a new shift is *not* created. **Performing a close shift operation is the only way to close a shift and open a new one.**

## 36.8.1.2   ENTER AN OPENING AMOUNT

To enter an opening amount, follow these steps.

1.  Log on to Microsoft Dynamics AX for Retail POS.
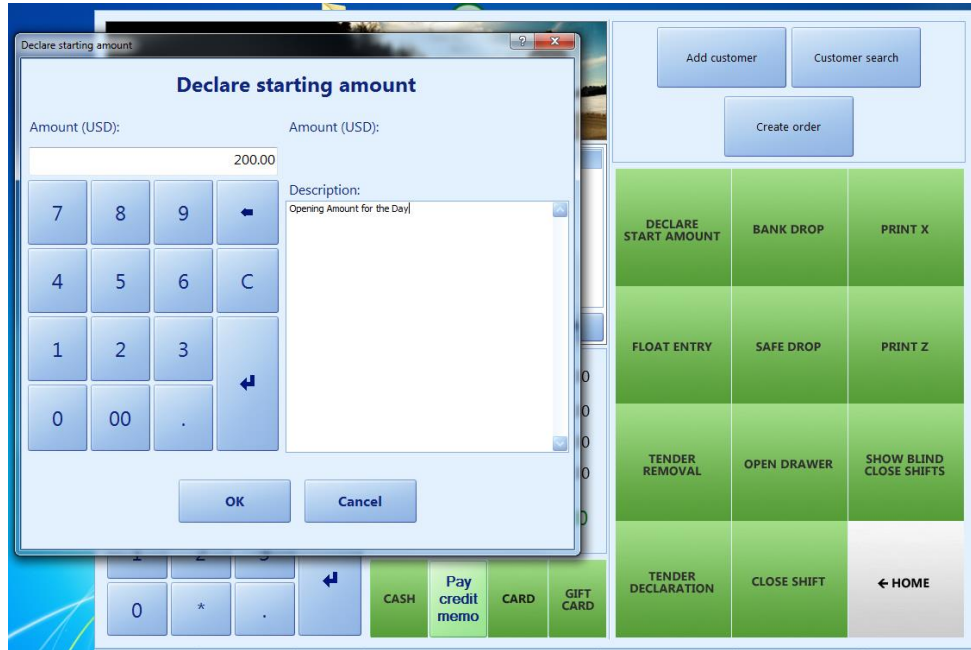


2.  Click **Tasks**, and then click **Declare Start Amount**.

3.  In the **Amount** box, type the opening amount.

4.  If necessary, enter a description in the **Description** box.

## 36.8.1.3   CLOSE THE REGISTER

Typically, a cashier closes the register at the end of the day or work shift. This closes the current shift and opens a new one.

☑   *Note:*

If the store manager counts the drawer in addition to the cashier, he or she performs separate counts in the step 2 that follows. Then the store manager enters any notes in the **Tender Declaration** form.

If the store manager counts the cash drawer instead of the cashier, the store manager logs on to the register first, and performs the following steps.

1) Click **Tasks**, and then click **Tender Declaration**.

2) Count the contents of the cash drawer and enter the amounts in the **Tender declaration** form. The following **Tender declaration** form shows the set-up for the retail organizations accepting multiple currencies.

| Tender type | Quantity | Total |
|---|---|---|
| USD | Count... | $ 443.88 |
| ZWD | Count... | Z$ 0.00 |
| ZAR | Count... | R 0.00 |
| YER | Count... | 0.00 |
| XPT | Count... | 0.00 |
| XPF | Count... | 0.00 |
| XPD | Count... | 0.00 |
| XOF | Count... | 0.00 |
| XDR | Count... | 0.00 |
| XCD | Count... | 0.00 |
| | | $ 443.88 |

3) If necessary, enter any notes in the **Notes** box. The count button from the previous screen lets the user count the currency by denominations to record and add the total count for that specific currency.

4) As soon as the tender declaration is complete and the **OK** button is clicked, the store manager receives the following message: Are you sure that you want to write these amounts to the database?
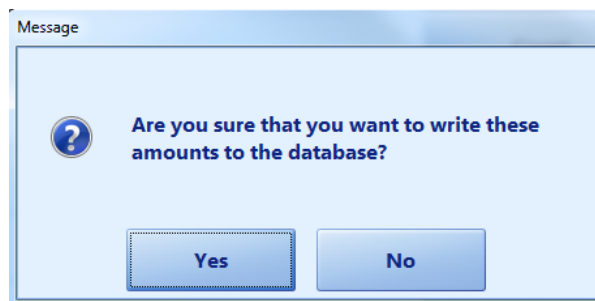


5) Click **Yes** to close the shift.

6) Click **Tasks**, and then click **Close shift**.

7) Click **Tasks**, and then click **Print Z** to print a Z report.

8) Verify that the counted amount agrees with the expected amount from the Z report.

### 36.8.1.4  TENDER REMOVAL
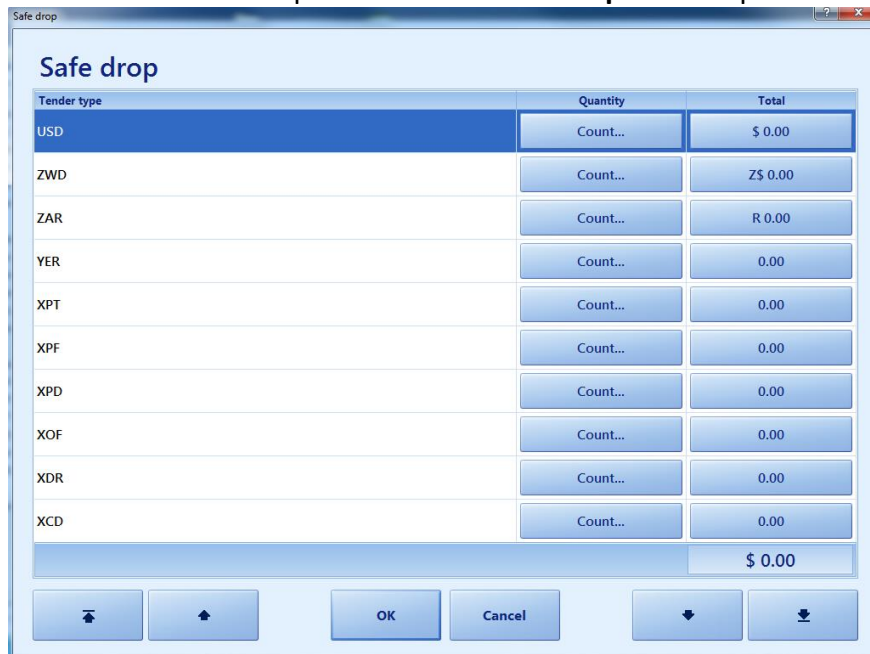
When cash has to be withdrawn from the cash drawer, this operation can be used, with an optional description that could be allocated to an expense or income account and also with a reason code.  Tender could be removed by a safe drop function that is discussed later.

### 36.8.1.5   FLOAT ENTRY

Sometimes the cashier might require additional change in the register during the shift. Any addition or change in the register cash tenders(s) other than the tenders that are received from a sales process must be registered as a float entry to the cash drawer.

### 36.8.1.6   SAFE DROP

For security reasons, some retailers might set business policies to make sure that cashiers remove excess cash from the register and store it in the safe.  To perform a safe drop to move money from the register to a safe, the cashier can click the **Safe drop** button underneath the drawer operations.  The **Safe drop** screen opens.



Users can perform multiple safe drops during the shift. By doing this, the amounts from the safe drop transaction are totaled when you post to the General Ledger.

### 36.8.1.7   BANK DROP

**Make a cash drop or payout**

Make a cash drop, which is also called a bank drop, to reduce the amount of money that is in the cash drawer. Users can also make a cash payout to remove a small amount of money from the cash drawer for a specific purpose, such as to pay for a minor expense.

☑      **Note**

Depending on the employee's role settings, the employee might not be able to make cash drops or cash payouts.

## 36.8.1.8   MAKE A BANK DROP

To perform a bank drop, the user is required to have a specific security access. If the user has the specific security access, he or she can click **Bank drop** in the Cashiers Task. Then, the user receives the following message: Are you sure you want to perform a bank drop? If the user clicks **Yes**, then the **Bank Count** form opens. Now, the user can count the cash for the bank drop by tender type (by Currency). Then, the **Count** window is displayed. In the **Count** window, the user can calculate several currency denominations that will be removed from the cash register for the bank drop. As soon as the user is finished, he or she can click the **OK** button. Now, the user receives the following question: Are you sure you want to write these amounts to the database? If the user clicks **YES**, form is displayed. Here, the **Bank Bag Number** is entered as a reference or a comment. As soon as this action is completed, Microsoft Dynamics AX for Retail POS records the operation in the database.

## 36.8.1.9   MAKE A CASH PAYOUT

Retail Stores can use the cash to pay for in-store expenses and the stores are required to enter the account name that is created in the system to identify the expense for which the cash is withdrawn. To process an expense account, the user must follow these steps.

1. Click **Expense account**.
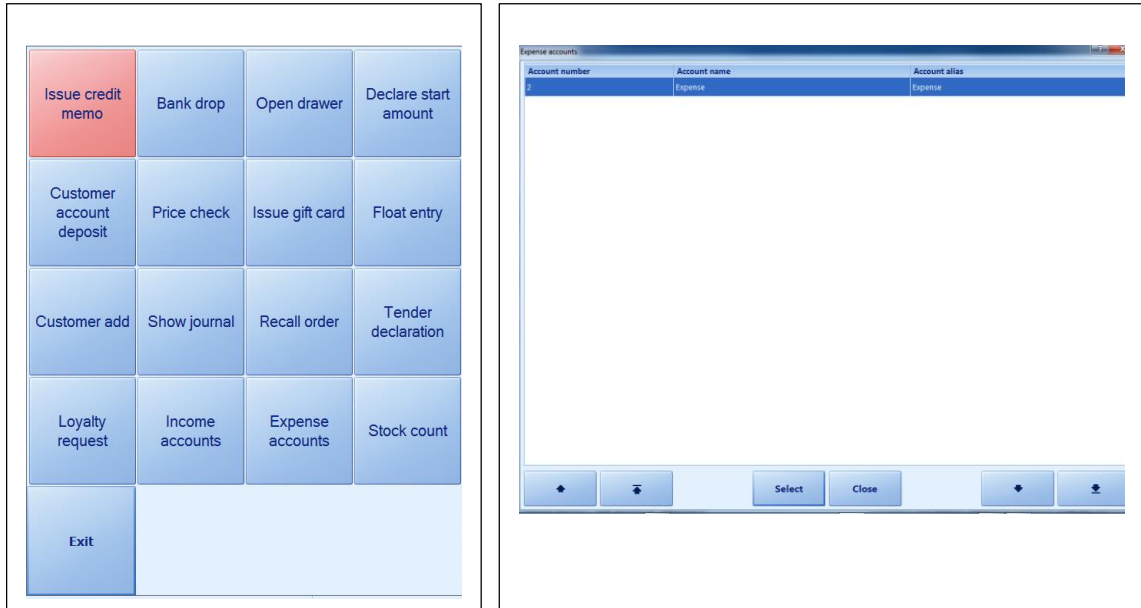


2. An **Expense** form opens. Here the user selects the appropriate category of expense.
3. After the user selects the expense account the **Expense amount** form opens. Here the user enters the expense amount.
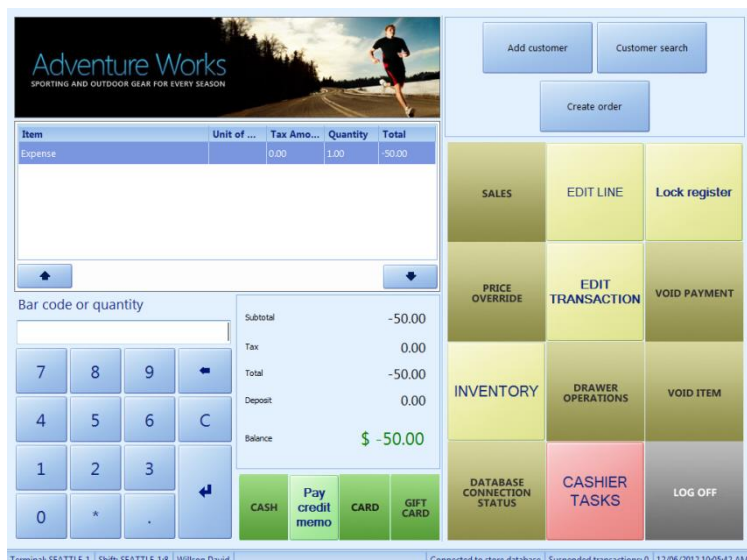
- The entry is recorded in the **POS transaction** window and then the user can tender the transaction as "Cash" by clicking the payment pane.
- Microsoft Dynamics AX for Retail POS opens the cash drawer so that the user can remove the cash amount and then Microsoft Dynamics AX for Retail POS records the operation in the database.

## 36.8.1.10 RECEIVE CASH FOR NON INVENTORY ITEMS

Retail Stores can receive cash for non-inventory transactions and classify the cash into required income accounts. To receive cash and classify the cash as income, follow these steps.

1. Click **Income account** underneath the cashier tasks.
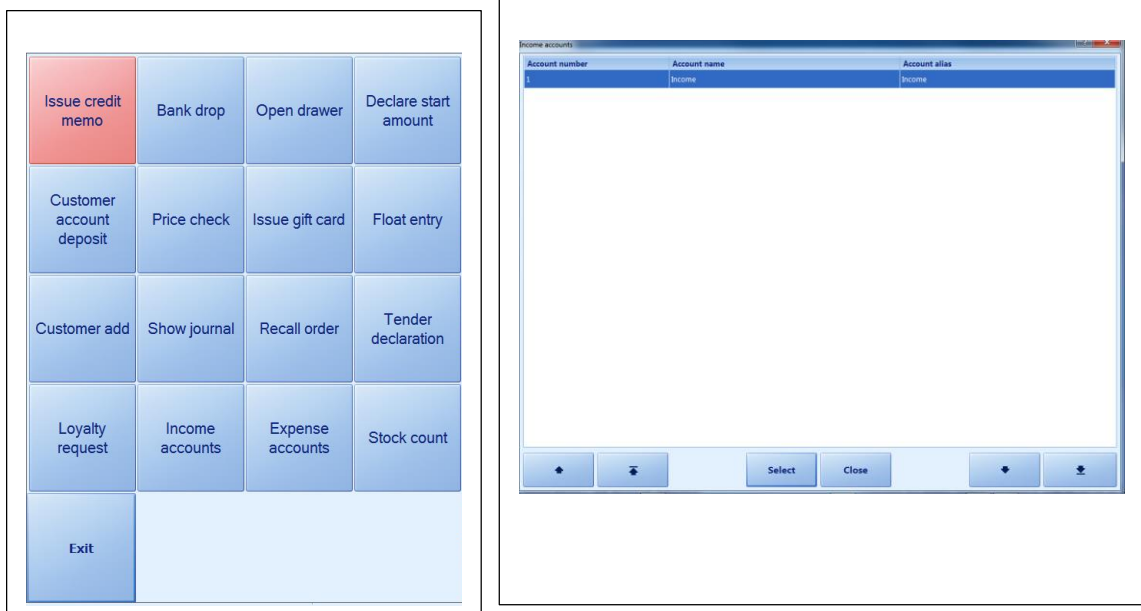


2. The **Income** opens. Here user selects the appropriate category of Income.
3. After the user selects the income account, the **Income amount** form opens. Here, the user enters the income amount.
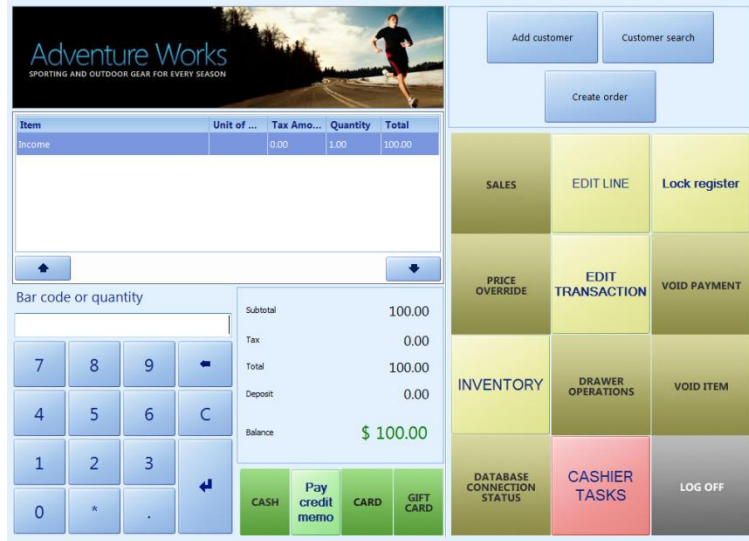
- The entry is recorded in the POS transaction window, and then the user can tender the transaction as "Cash" by clicking the payment pane.
- Microsoft Dynamics AX for Retail POS opens the cash drawer so that the user can add the cash received amount and then Microsoft Dynamics AX for Retail POS records the operation in the database.

### 36.8.1.11 BLIND CLOSE / BLIND CLOSE SHIFTS / CLOSE SHIFTS

The user can perform a *blind close* to end the POS shift or to end the floating shift and then exit the register. However, the user should enter a closing amount and post the current shift later. For example, if the user does not want to count the cash drawer in the store front, the user can remove the cash drawer and finalize the closing amount in the back office.

☑   **Note**

Depending on the employee role settings, employees/users might not be able to perform a blind close.

To perform the blind close, follow these steps.

1. Click **Blind close** underneath the drawer operations functions.

Microsoft Dynamics AX for Retail POS marks the shift as blind closed and prints the blind close report, which is a receipt.

2.  Typically, the cashier places the blind close receipt in the till, places the cover on the till, then locks the till, removes the cash drawer and returns to the back office to complete the closing and counting routine.

## 36.8.2 CLOSING THE BLIND CLOSED SHIFT

To close the blind closed shift, follow these steps.

1.  The cashier logs on to a POS terminal in the back office to start the closing routine, and then clicks **Close blind closed shift or Show Blind Close Shifts**.
    By selecting the **Show Blind Close Shifts** the user can identify the register number and the shift number to be processed for the closing routine.

2. Select the shift, enter the **declare start amount** if an opening balance exists.
3. Click **Tender declaration**, count the contents of the till by currency where this is required and then enter the amounts.





4. After the count is completed, click the **OK** button and then the user receives the following message: Are you sure that you want to write these amounts to the database? If the user clicks **Yes** the counted amounts are recorded.

☑ **Note**

If the user re-clicks the **Declare Start Amount** button or the **Tender Declaration** button and repeats steps 3 through 5, in the former procedure, then the previous counts are overridden.

5. If the user has the correct permissions, he or she can print an X report to verify the entered amounts. Or, the user can click **Close shift** to close the shift, and

finalize the declaration amounts and then Microsoft Dynamics AX for POS automatically prints a Z report.

### 36.8.2.1 PRINT THE X REPORT

The X report shows the register's activity since the register opened. The X report shows information such as the sales, the sum of all discounts given, and the customer count for the customers who have visited the store during the current shift.

To print the X report, the user can log on to the Microsoft Dynamics AX for Retail POS register and then click the **Print X** button underneath the drawer operations functions.

When the X report is printed, it does not close the current shift. The report is printed on the register's receipt printer.

   ☑       **Note:**

The store manager can perform a spot audit by counting the register's contents and then comparing it to the X report.

- Click Cashier **Tasks or Drawer Operations**, and then click **Print X**.

### 36.8.2.2 PRINT Z REPORT

Refer to the following section.

### 36.8.2.3 PRINT A ZZ REPORT

A ZZ report shows the statistics from all the register's Z reports that are created since the last ZZ report. The report is printed on the register's receipt printer.

   ☑       **Note**

- You must enter opening and closing amounts before you can print a Z report.

- Printing a ZZ report closes the current shift and opens a new shift.

Click **Tasks**, and then click **Print ZZ**.

### 36.8.2.4 PRINT Z REPORT

The Z report shows information about the last closed shift, such as shift number, sales, amount of cash dropped, sales tax and the expected closing total. Microsoft Dynamics AX for Retail POS automatically prints a Z report when a user closes a shift. The Z report can be used to verify that the expected closing total agrees with the actual counted contents of the cash drawer.

Reprinting the Z report does not close the current shift or display information about the current shift. The Z report can be for multiple days, and it printed on the register's receipt printer.

Typically, in the standard POS Layout, users can print Z Reports by logging on to Microsoft Dynamics AX for Retail POS and accessing the Drawer operations function.

To print the Z report, click **Reprint Z**.
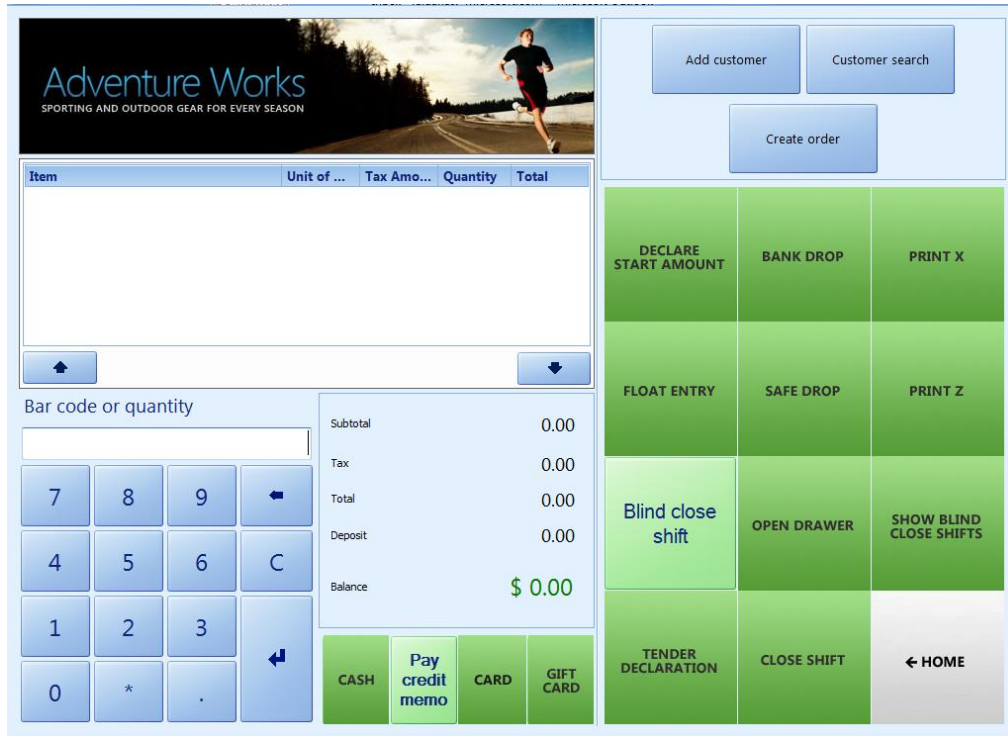
## 36.8.3 INVENTORY OPERATIONS

Inventory operations can be accessed from **Tasks > Inventory**. Several inventory operations are available in Microsoft Dynamics AX for Retail POS. These operations include the following tasks:

- Picking (outgoing transfers) and Receiving – (purchase orders or inbound transfers)

- Stock Count

- Price Check

- Inventory Look Up
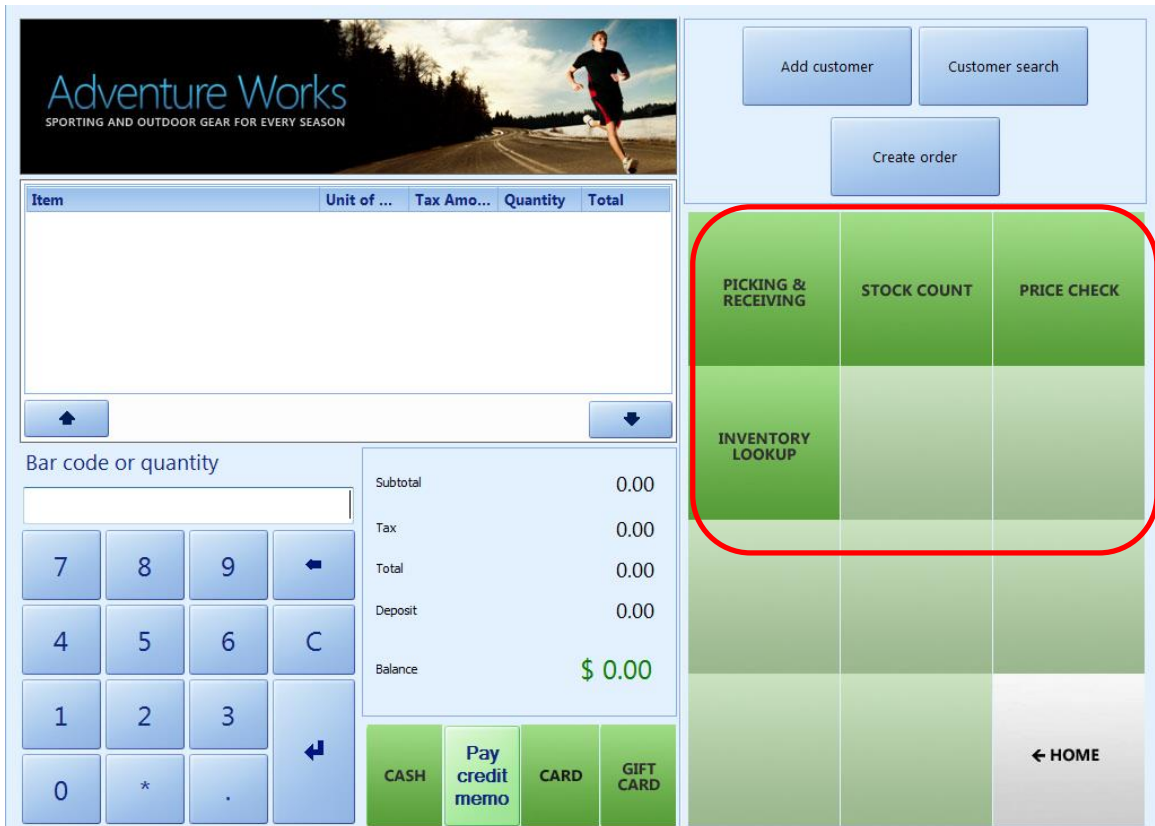


### 36.8.3.1  PICKING AND RECEIVING

- **Receive inventory**

Inventory can be received in the store from purchase orders and incoming transfer orders. Employees who have been granted access can receive the merchandise. When

the orders are completed, the orders are uploaded to Microsoft Dynamics AX for Retail POS to track the movement and posting of the inventory.
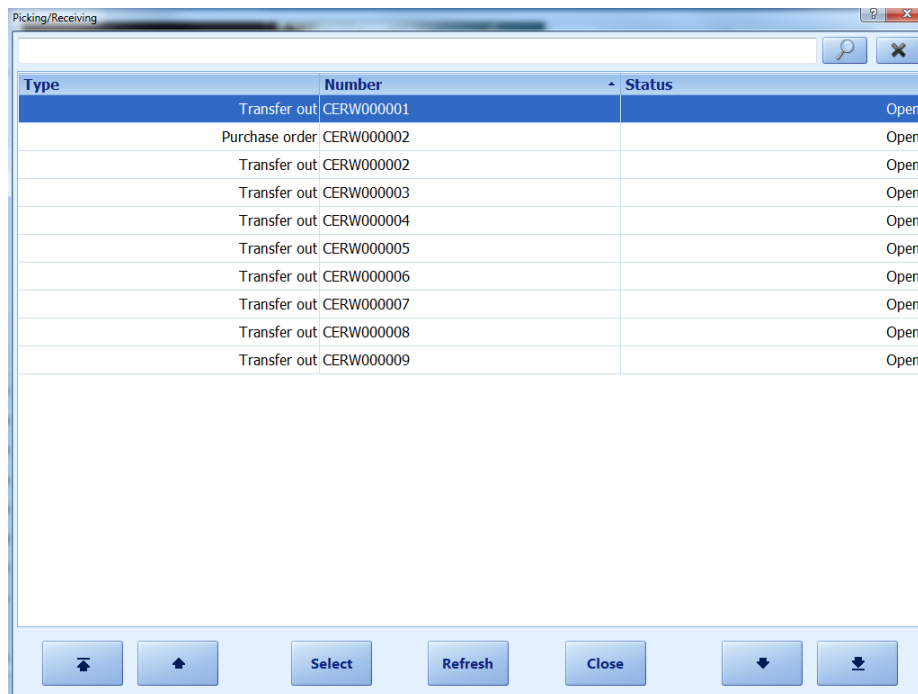
Product variants and units of measure can be included when you receive inventory.

    **Note:**

*You can also receive inventory by using Enterprise Portal for Microsoft Dynamics AX.* Enterprise Portal requires only a browser and an Internet connection. For more information, refer to Enterprise Portal Help.

To receive inventory, follow these steps.

1. Start Microsoft Dynamics AX for Retail POS and log on by using an account that has store inventory access.

2. Typically, these operations are classified underneath the **Inventory Operations** functional menu. Click the **Inventory operations** menu to review the functional activities.

3. Click **Picking and receiving**. The **Picking and receiving** menu opens. This menu displays the list of orders to be received or picked.



    **Note**

- The location of the **Picking and receiving** button might differ, depending on the screen layout. In the default layout, this button is located underneath **Tasks**.

- Microsoft Dynamics AX for Retail POS displays a list of purchase orders, incoming transfer orders, and outgoing transfer orders for the store.

4. Click **Refresh** to refresh the list of purchase orders or transfer orders.

5. Select the purchase order or incoming transfer order that you want to receive and then click **Select**.
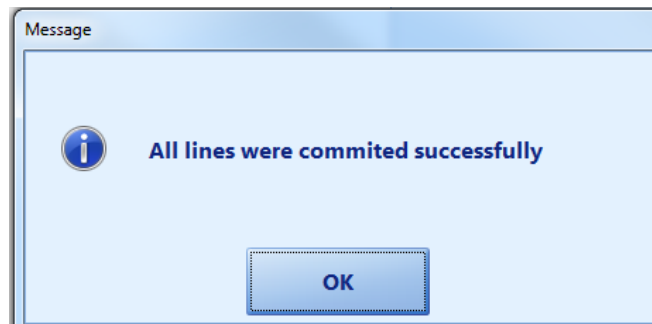
6. After you click the **Select** button, Microsoft Dynamics AX for Retail POS displays the **Receiving** form.

7. Scan the product that you want to receive or type the item number in the **Scan or enter barcode** box, and then press **ENTER**. You can also click **Search** to search for the product.

   - Microsoft Dynamics AX for Retail POS displays the **Quantity** form.

8. In the **Enter quantity** box, type the quantity, and then press **ENTER**.

9. Repeat steps 5 and 6 for each product that must be received.

10. When you finish receiving the inventory, click **Commit** to send the changes to Microsoft Dynamics AX for Retail POS.

- **Picking inventory**

**Pick a transfer or sales order**

In Microsoft Dynamics AX for Retail POS, the user can pick outgoing transfer orders and pick sales order items for delivery to the other locations or customers. Employees who have been granted access can pick the merchandise. When the orders are completed, the orders are uploaded to Microsoft Dynamics AX for Retail so that they can be posted.

☑   **Note:** Users can also receive inventory by using Enterprise Portal for Microsoft Dynamics AX. Enterprise Portal requires only a browser and an Internet connection. For more information, refer to Enterprise Portal Help.

To pick inventory, follow these steps.

1. Start Microsoft Dynamics AX for Retail POS and log on by using an account that has store inventory access.
2. Typically, these operations are classified underneath the **Inventory Operations** functional menu. Click the **Inventory operations** menu to review the functional activities.
3. Click **Picking and receiving**. The **Picking and receiving** menu opens. This menu displays the list of transfer out orders to be picked.

☑   **Note**

- The location of the **Picking and receiving** button might differ, depending on the screen layout. In the default layout, this button is located underneath **Tasks**.

- Microsoft Dynamics AX for Retail POS displays a list of outgoing transfer orders and pick lists for the store.

4. Click **Refresh**.

5. Highlight the order that you want, and then click **Select**. Microsoft Dynamics AX for Retail POS displays the **Picking** dialog box.

6. Scan a product that you want to pick, or type the item number in the **Scan or enter barcode** box, and then press **ENTER**.

   - Microsoft Dynamics AX for Retail POS displays the **Quantity** form.

7. In the **Enter quantity** box, type the quantity, and then press **ENTER**.

8. Repeat steps 5 and 6 for each product that you want to pick.

9. When you finish picking the order, click **Commit** to send the changes to Microsoft Dynamics AX for Retail POS.

### 36.8.3.2  STOCK COUNT

- **Perform a stock count**

You can perform a basic stock count either by using a scanner or by manually entering the item information. The register can be either online or offline when you perform stock counts in Microsoft Dynamics AX for Retail POS. You can suspend the stock count and resume the count later, if necessary.

Variants can be counted in stock counts. However, serial numbers and units of measure cannot be counted.

☑    **Note:**

You can perform scheduled stock counts, and also basic stock counts, by using Enterprise Portal for Microsoft Dynamics AX. Enterprise Portal requires only a browser and an Internet connection. For more information, refer to Enterprise Portal Help.

To perform the stock count, follow these steps.

1. Start Microsoft Dynamics AX for Retail POS and log on by using an account that has store inventory access.

2. Click **Stock count**.

- Microsoft Dynamics AX for Retail POS displays the **Stock counting** form.

3. Scan an item, or type the item number in the **Scan or enter barcode** box, and then press **ENTER**.

4. In the **Enter quantity** box, type the quantity, and then press **ENTER**.

- If the item has variants, Microsoft Dynamics AX for Retail POS displays the **Select** form.

5. If necessary, select the appropriate variant dimensions.

6. Repeat steps 3 through 5 for each item that you want to count.

7. When you finish the stock count, click **Commit** to send the stock count to Microsoft Dynamics AX for Retail POS.

### 36.8.3.3  PRICE CHECK

To perform a price check, follow these steps.
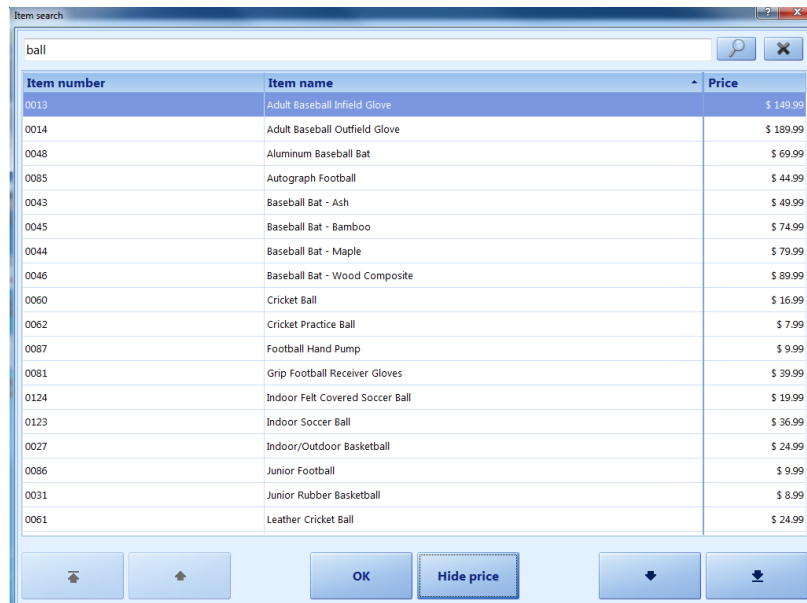
1. Start Microsoft Dynamics AX for Retail POS and log on by using an account that has store inventory access.

2. Typically, these operations are classified underneath the **Inventory Operations** functional menu. Click the **Inventory operations** menu to review the functional activities.

3. Click **Price Check**.

   Microsoft Dynamics AX for Retail POS displays the **Price check** form.

4. To check the price, scan the product's bar code or enter the Item Number.

   Microsoft Dynamics AX for Retail POS displays the product's price and description.

   Or, you can check the price of a product by using the **Search** function.

5.  To check the price of a product by using the **Search** function, follow these steps.
    i.      On the **Price Check** form, click S**earch**.

        * Microsoft Dynamics AX for Retail POS displays the product list.
        * In the product list, the **Item Search** window can be used to search for the product.

    ii.     Select the product that is required, and then  click **Show price**.

        * Microsoft Dynamics AX for Retail POS displays the **Price** column.

    iii.    In the list, select the required product and click **OK** to return to the **Price check** window.

6.  Click **Sell Item** to record the  product in the **POS** window for transaction processing or close the screen.

## 36.8.3.4  INVENTORY LOOK UP

From the Microsoft Dynamics AX for Retail POS terminal, to search for products and the stock levels at several locations, follow these steps.

1.  Start Microsoft Dynamics AX for Retail POS and log on by using an account that has store inventory access.
2.  Typically, these operations are classified underneath the **Inventory Operations** functional menu. Click the **Inventory operations** menu to review the functional activities.
3.  Click **Inventory look up** to search for an item and then click **Search.**

| Item number | Item name | ▲ | Price |
|---|---|---|---|
| 0051 | 16 oz. Bat Weight | | $ 7.99 |
| 0050 | 24 oz. Bat Weight | | $ 19.99 |
| 0048 | Aluminum Baseball Bat | | $ 69.99 |
| 0043 | Baseball Bat - Ash | | $ 49.99 |
| 0045 | Baseball Bat - Bamboo | | $ 74.99 |
| 0044 | Baseball Bat - Maple | | $ 79.99 |
| 0046 | Baseball Bat - Wood Composite | | $ 89.99 |
| 0052 | Bat Grip Tape | | $ 14.99 |
| 0063 | Mens Cricket Batting Gloves | | $ 99.99 |
| 0059 | Premium Cricket Bat | | $ 349.99 |
| 0058 | Signature Cricket Bat | | $ 219.99 |
| 0049 | Tee Ball Bat | | $ 24.99 |
| 0047 | Youth Baseball Bat | | $ 49.99 |

4. The item search list is displayed on the screen. To expand the search, type the full and, or part of the name of the product.

5. To check the quantity of a product, highlight the product and then click the **Search** button.

Use the **Inventory lookup** display grid to view the locations and the stock levels at each of these locations.

6. Add the selected product to the transaction. Or, scan or type the product's bar code and then click **Search**.

- Microsoft Dynamics AX for Retail POS displays the product together with the quantity that is in inventory.

- If the item is found, the product's status will be displayed at the top of the dialog.  The inventory status of the stores in the retail operations will be displayed in the list together with the stock levels.

7. After the search and the quantities check is completed, click **Close**.

**36.8.4 LOYALTY PROCESS**

The loyalty schemes are set-up at the Microsoft Dynamics AX Retail level. Typically, the loyalty customer and transactional details are obtained at the store level at the point of sale register.

**36.8.4.1 USING THE OPERATION IN MICROSOFT DYNAMICS AX FOR RETAIL POS**

The two loyalty activities on Microsoft Dynamics AX for Retail POS are accruing points based on sales transactions according to the loyalty scheme and the redemption of the points that are accrued.

To process loyalty at the point of sale, the customer's loyalty card number must be entered by selecting the loyal request task. Or, the cashier can also start this operation by swiping the customer's loyalty card. The loyalty request can be performed at any time during the transaction. Microsoft Dynamics AX for Retail POS calculates loyalty points at the end of the transaction.

The number of loyalty points that is awarded for the items in the transaction is based on the loyalty schemes that are set up in Microsoft Dynamics AX for Retail POS.
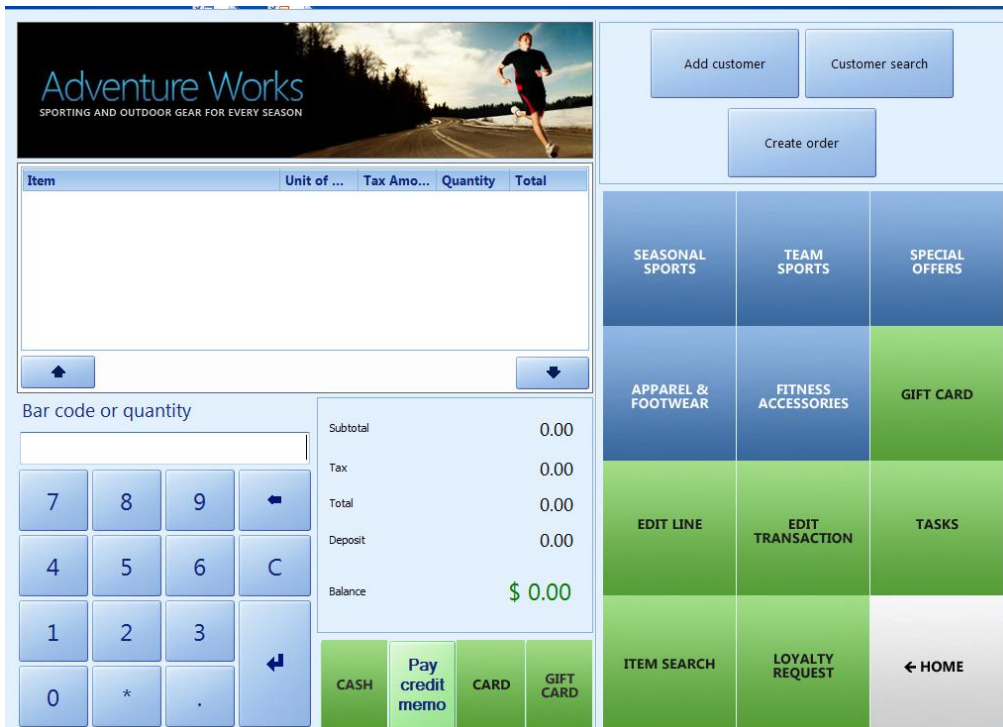
To redeem loyalty points, the card payment dialog must be opened and a card that is identified as a loyalty card must be used.

**How to Accrue Points**

To accrue loyalty points, a loyalty card must be added to the transaction manually by using the **loyalty request** button or by swiping the loyalty card at any time during the transaction.  If the card is identified as the loyalty card, a message is displayed on the message panel.  Then, the user must follow these steps.

1.  Start the Microsoft Dynamics AX for Retail POS application.

    - If the application is already running then log off and then log back on.

    - If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database, then the new **loyalty request** button should be visible.

2.  Click the **Loyalty Request** button.

3.  Type the Loyalty card number in the **number** dialog box.

    Only one Loyalty card can be registered for each transaction. If the user tries to add a second Loyalty card a message appears asking whether to override the existing loyalty record.
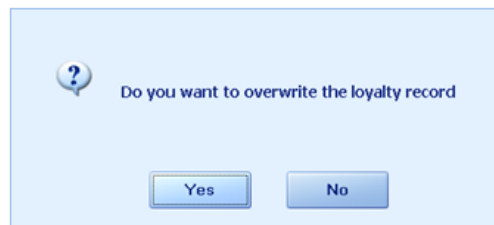
**How to Redeem Points**

When you use the Loyalty card to redeem points, the card payment dialog must be opened. To use the Loyalty card to redeem points, follow these steps.

1. Enter the items to be purchased.

2. Press the **Card payment** button. The **Card payment** dialog box appears.

3. Swipe or enter the **Loyalty card number** and then enter the **amount** to be paid.

☑ **Note:**

Typically, the redemption is a type of tender that is used to pay for a sales transaction based on the number of points accrued. The Loyalty card must be set up as a Card Type to make sure that the redemption process is available at the Point of Sale level.

### 36.8.5  GIFT CARD – ISSUE AND REDEMPTION

**Functional Overview**

A gift card is a non-inventory item that is purchased by the customer and is issued by the retailer. The gift card has a value attached to it that the customer can use as tender to pay for products that are purchased in the retail store(s).  In Microsoft Dynamics AX for Retail POS, the following four gift card operations exist:

- Issue a gift card to the customer
- Add a balance to the gift card
- Check the gift card balance
- Pay for a transaction partially or fully with a gift card.

## 36.8.5.1  ABOUT GIFT CARDS

By default, the gift cards feature is turned off both in Microsoft Dynamics AX for Retail POS and Microsoft Dynamics AX for Retail. For information about how to make this feature available, refer to the *Deployment and Installation Guide*.

Before gift cards can be used by retail stores, the gift cards must be set up in Microsoft Dynamics Retail. After the gift cards are set-up, four key functions can be used at the Point of Sale (POS) terminal(s) across the retail stores that are in the business operations.

A gift card that is issued in one store can be redeemed in another store, if the store is in the same retail operation and the store uses Microsoft Dynamics AX for Retail POS. However, gift cards cannot be returned for a refund at the point of sale.

In stores that use different currencies, balances are displayed in the local currency, based on the currencies and exchange rates that are set up in Microsoft Dynamics AX Retail.

An amount that is due to a customer as part of a return transaction can be added to a gift card.

## 36.8.5.2  ISSUE A GIFT CARD

To Issue a gift card, follow these steps.

1.  Click **Gift Card.** Typically, this is located underneath the sales operations tasks. Three options exist— **Issue Gift Card**, **Add To Gift Card** or **Gift Card Balance**.
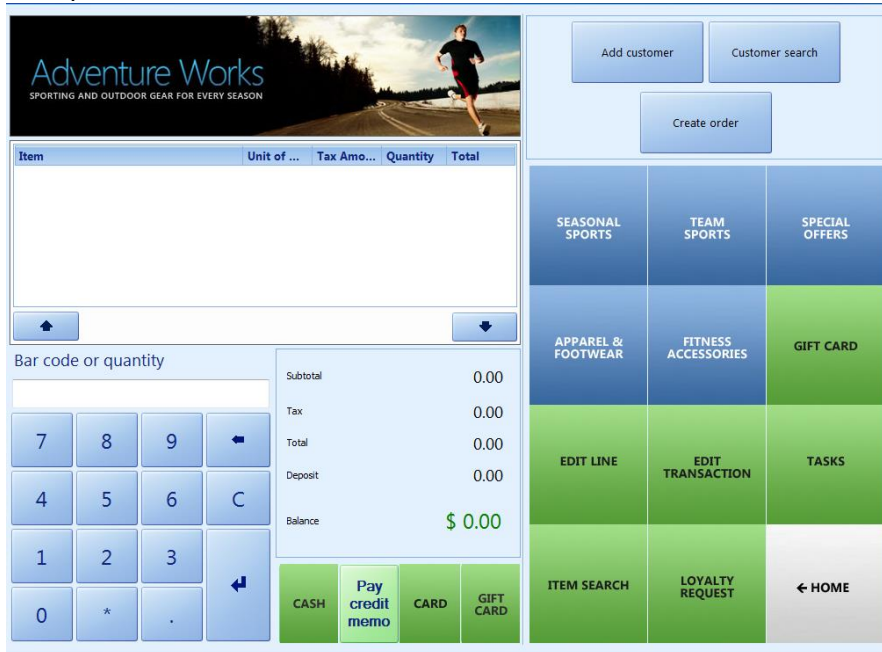
2. Select **Issue Gift Card**.

3. Scan the gift card, or enter the gift card number in the **Gift card number** box.

4. In the **Gift card amount** box, enter the amount of the gift card, and then click **OK**.

   Microsoft Dynamics AX for Retail POS adds the gift card to the transaction.



5. Complete the transaction.

   Together with the sales receipt, Microsoft Dynamics AX for Retail POS prints a separate gift card receipt that includes the gift card number and the balance.

## 36.8.5.3  ADD MONEY TO A GIFT CARD

To add money to an existing gift card, following these steps.

1. Click **gift card.** Typically**,** this is located underneath the sales operations tasks. Three options exist—**Issue Gift Card**, **Add to Gift Card** or to **Check Gift Card Balance**.

**2.** Select **Add to gift card**.

3. Scan the existing gift card provided by the customer or enter the gift card number in the **Gift card number** box.

4. In the **Gift card amount** box, enter the amount that the customer wants to add to the gift card, and then click **OK**. Microsoft Dynamics AX for Retail POS adds the gift card to the transaction.

5. Complete the transaction. The receipt for the transaction includes the gift card number and the balance.
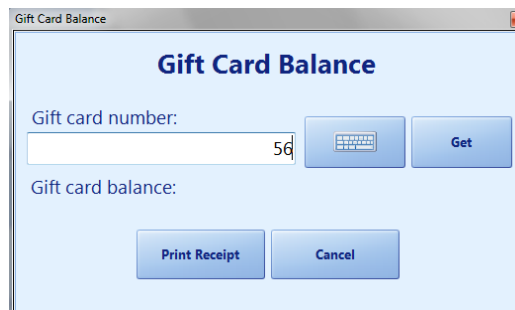
☑ **Note:**
For the tax effects for issuing a gift card or adding more money to an existing gift card, refer to the retailer's financial controller or a key stakeholder.

### 36.8.5.4 CHECK THE GIFT CARDS BALANCE

To check the balance on an existing gift card, follow these steps.

1. Click **gift card.** Typically, this is located underneath the sales operations tasks. Three options exist—**Issue Gift Card**, **Add To Gift Card** or **Gift Card Balance**.
2. Select **Check Gift Card Balance**.
3. Scan the gift card or, enter the gift card number in the **Gift card number** box. Microsoft Dynamics AX for Retail POS displays the gift card's balance.



4. To print a receipt that includes the balance, click **Print receipt**.

### 36.8.5.5 REDEEM A GIFT CARD

Gift cards can be used as the payment method to pay for the sales transactions at the Point of Sale register. Typically, gift cards are set up as a tender type so that cashiers can accept the card as payment.

To accept a gift card as a payment, follow these steps.

1. Select or create a customer and then process the sales transaction. After the sales transaction is completed, the customer can use the gift card or a combination of the gift card and the other tender types to pay for the sales transaction.
2. Click the **Gift Card** button or the **Card** button on the Payment Pane of the Point of Sale terminal to redeem the gift card.
3. Scan the gift card, or enter the gift card number in the **Gift card number** box.
4. In the **Gift card amount** box, enter the amount that the customer wants to pay by using the gift card, and then click **OK**.
5. Complete the transaction. Microsoft Dynamics AX for Retail POS includes the gift card's balance on the sales receipt.



    ✎   **Note:**

*Offline database*

Microsoft Dynamics AX for Retail 2012 introduces support for local offline databases on the Retail POS register. This means that if for any reason the connection to the store database fails or if the store database must go through maintenance that will take it off line, the Retail POS registers can continue to process transactions. Although the offline database is not required, it creates a contingency for unexpected network issues. For example, if the store database cannot be accessed, the Retail POS register that is connected to the offline database can process gift cards based on the condition that the transaction service is functional and will check the balance for the gift card that is tendered at the point of sale. If the transaction service is not functional or the Microsoft Dynamics AX Retail database cannot be accessed, gift cards cannot be redeemed.

## 36.8.6 TIME CLOCK

Retail workers can enter their time through Microsoft Dynamics AX for Retail POS, and managers can review the times that are entered by each store.

### 36.8.6.1 TIME MANAGEMENT AT POS

As soon as the worker can access Microsoft Dynamics AX for Retail POS and the worker is setup for time registration, he or she can enter time from the POS.

To enter time, follow these steps.

1. Log on to Microsoft Dynamics AX for Retail POS by entering the Operator ID and password.
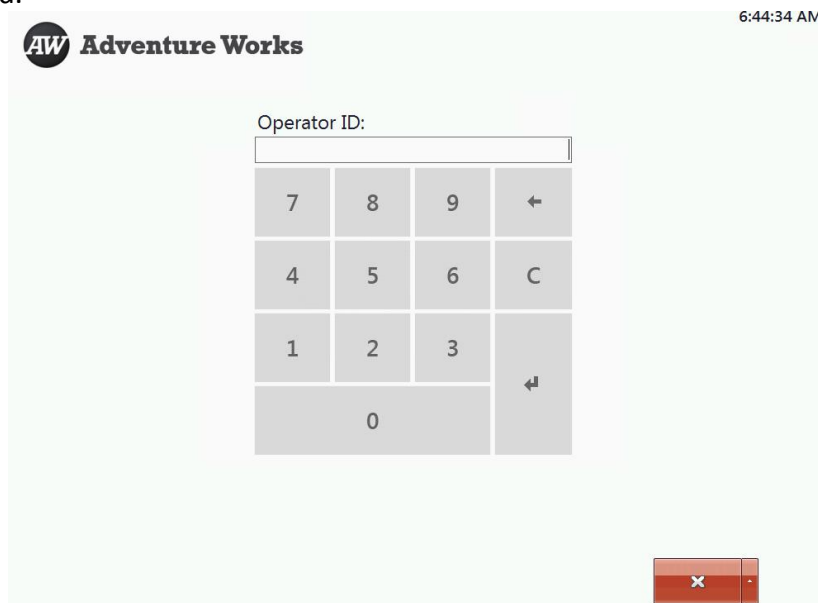


2. Depending on the layout and design of the POS setup, select the **Timeclock** button.
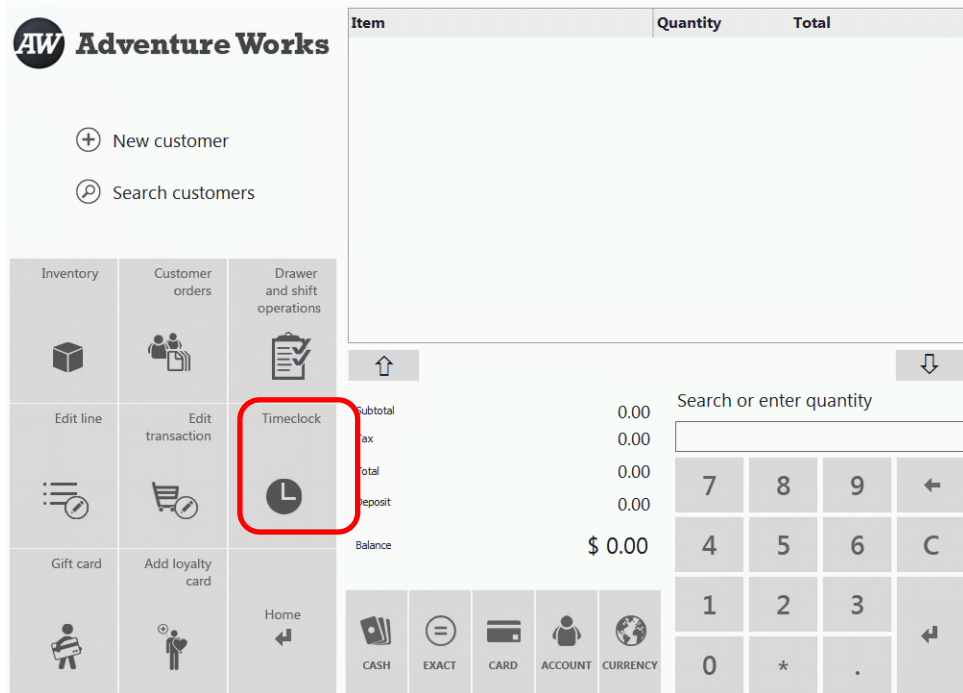
POS > Tasks > Time clock

The **Register time** form opens and shows the current status of the worker, for example, if the worker is clocked in, and so on.
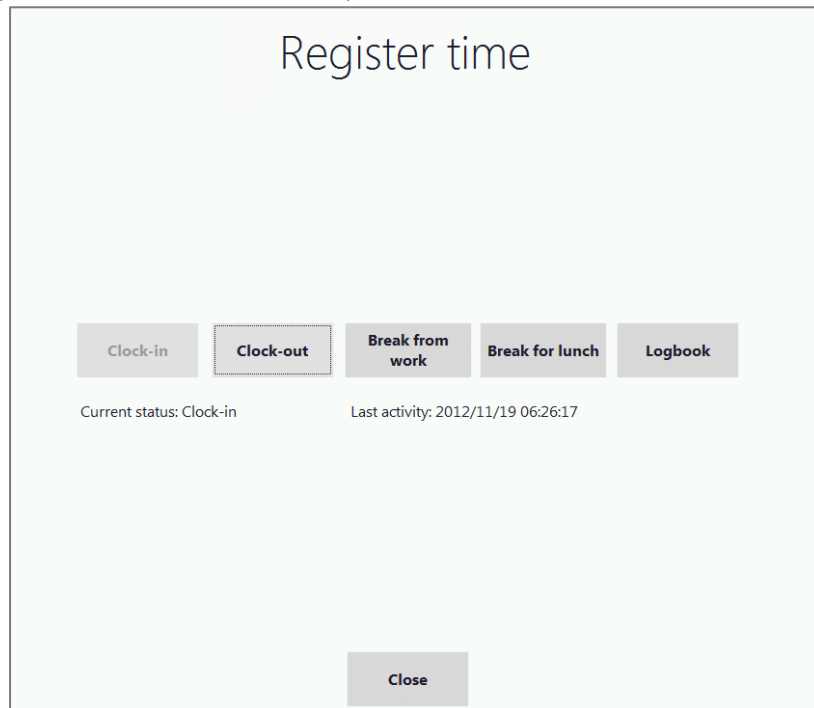


**Time Registration for cashier**

3.  Now, the cashier can perform the following functionality:

- **Clock-in** and **clock-out**: A worker clocks in when the worker arrives at work and when the worker leaves work.
- **Register breaks**: During the work day, a worker takes breaks. Break types available include **Break from work** and **Break for lunch**. When the worker returns and logs on again, Microsoft Dynamics AX for Retail POS registers that the worker is back, and the break registration stops.
- **Logbook:** This shows all the time registration transactions of the worker.

### ☑ Note

Logging off does not clock out a worker. Workers need to clock out to end their shift.

## 36.8.6.2   MANAGER CAN REVIEW TIME REGISTRATION

For a manager to view the time registration for workers in stores, follow these steps.

1. Select the **View Time clock** button.
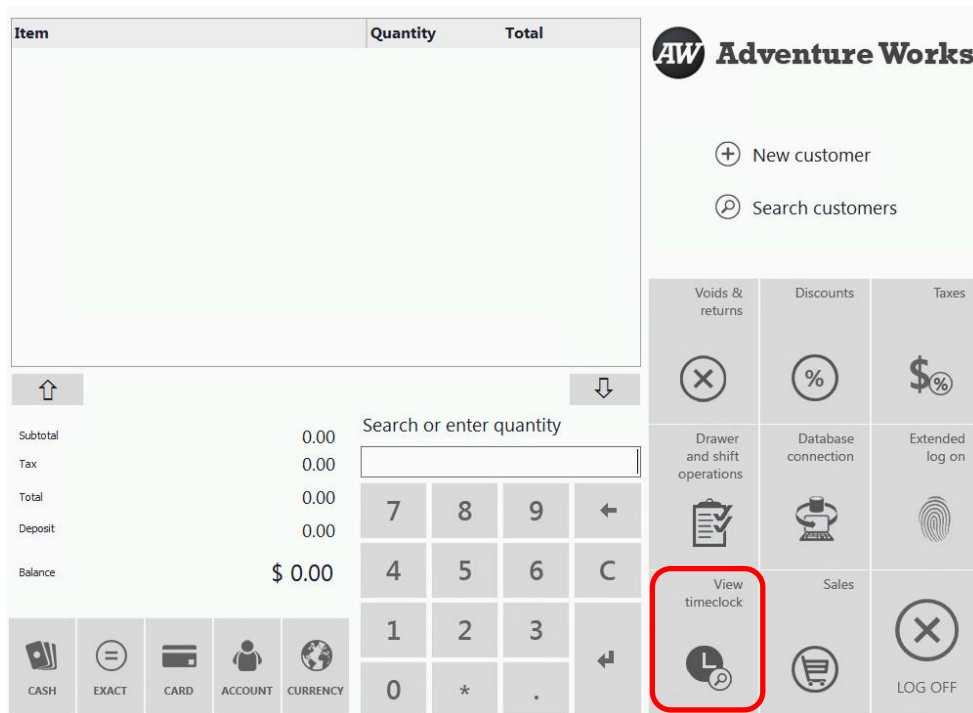


Manager POS

The **View time clock entries** form opens. This **View time clock entries** form shows the time registration transactions.

2. The transactions can be filtered by the following options:
- **Clock in**: The clock in entry for all workers.
- **Clock out**: The clock out entries for all workers.
- **Break for lunch**: The worker's transaction that is created for a lunch break.
- **Break for work**: The worker's transaction that is created for a work break.
- **Select Store**: Shows the transactions by specific store.
- **Select all Store**: Shows the transactions for all stores.

### 36.9  SALES OPERATIONS

General sales and customer sales orders are the most common scenarios in Microsoft Dynamics AX for Retail POS. Sometimes a customer order might require ordering products that are not available in stock at the store. In Microsoft Dynamics AX for Retail POS, four types of transactions at the point of sale include the following:

- **Sales Quotation:**  Used to give the customer the price estimate for a specific product/service.

- **Sales Orders:** Used for products not normally stocked or temporarily not available in the store.  (This includes customized orders, and pre-order scenarios.)

- **Sales Transactions:** Used for a normal sales transaction activity.

- **Return Transactions:** Used to recall an existing transaction for return or for customers returning goods accepted by the store based on the store's policy.

Customer orders can be used by retailers to create an order in the store. This order can be picked up in the store or shipped to the customer.  Additionally, the orders can be picked up in another store in the group, and the picking and packing activities can be started and completed from Microsoft Dynamics AX for Retail POS or when the customer picks up the order at the store.  Microsoft Dynamics AX for Retail POS also supports order return and order cancellation from the retail point of sale.  The configuration for the customer orders, deposit requirements, and so on, are set up in the "Retail Parameters" section in the "Retail Parameters – Customers' Orders and Quotes" chapter.

## 36.9.1PERFORM A BASIC SALES TRANSACTION

**Order Creation and Order Modification**

To create and maintain a sales transaction, follow these steps.

1. In the transaction pane, search and select the products that the customer wants to order that are temporarily out of stock.  You can do this before or after you perform step 2.
2. In Microsoft Dynamics AX for Retail POS, click **Create order** to launch the **Order details** form. By doing this, you can enter the order type, customer information, shipping and delivery information, and you can also view the order summary before you commit the order. Products can be added to an order by using the regular Microsoft Dynamics AX for Retail POS transaction pane.
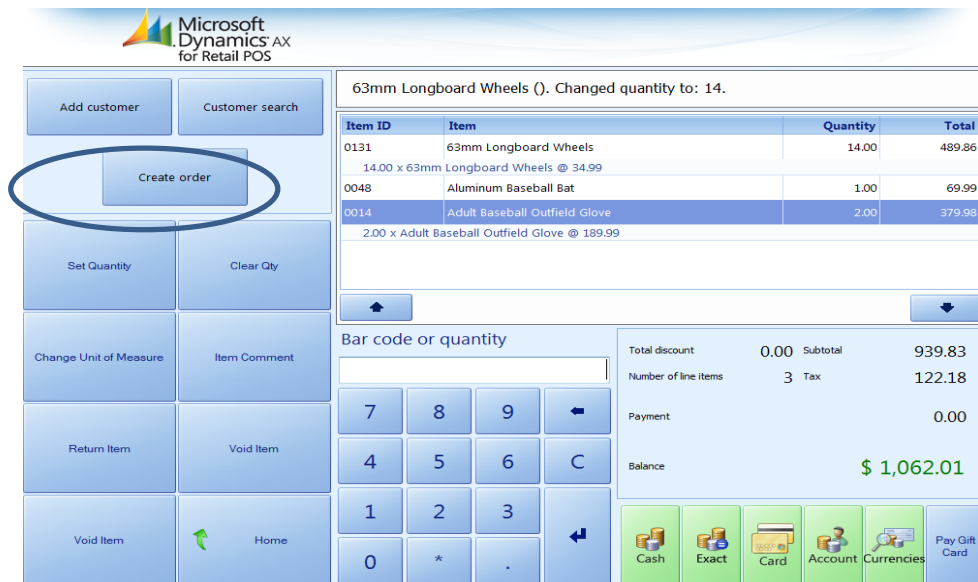


3. Click the **Change** button, select **Quote**, and enter the **Expiration date** for the quote.

4. Click **Customer information** to enter customer data.



5. Click **Shipping and delivery** to select the shipping and delivery options.

The **Mixed Delivery** option can be used to pick the products from the ordering store or from a different store. Additionally, this option can be used to view a combination of actions, for example, pick up goods from a store and have the balance shipped to a selected address.

6. Click **Order summary** to review order information before committing the order. After verifying that all information is accurate, submit the quote or order.



**Basic Sales transactions**

To add a customer to a basic sales transaction, follow these steps.

1. Click **Add customer** or **Customer search** to add a customer to the transaction.

2. Scan the products, or click the buttons on the screen for the products, or search for the products.

   Microsoft Dynamics AX for Retail POS adds the products to the transaction.

   ✎  **Note**

   If your store has a loyalty program and the customer participates in the program, swipe the customer's loyalty card or click **Tasks**, and then click **Loyalty request**. This credits the transaction to the customer's loyalty account.
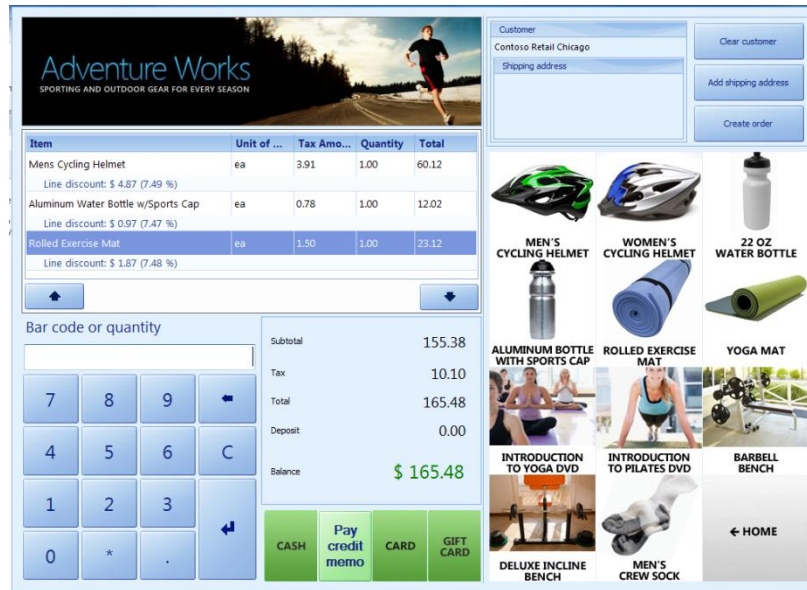


3. Click the button for the appropriate payment method, in this case, the **Cash** button.

   Microsoft Dynamics AX for Retail POS displays the **Cash** form.

   ✎  **Note:**

   If the customer pays with exact change, click the **Exact** button, instead of the **Cash** button.

4. In the **Enter the amount** box, type the amount that the customer pays.
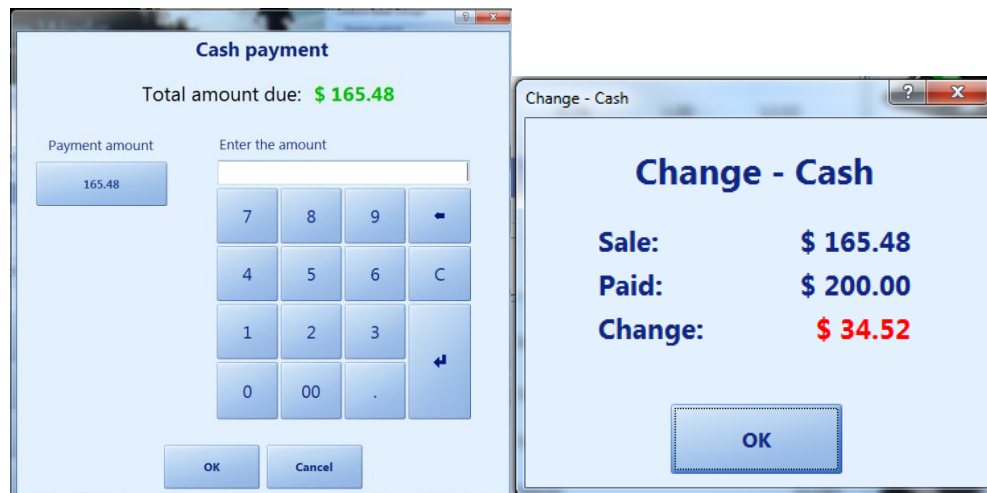
5.  Press **ENTER**.

    Microsoft Dynamics AX for Retail POS completes the transaction and displays the change that is due the customer. Or, if the payment is a partial payment, Microsoft Dynamics AX for Retail POS adds a payment line to the transaction and the customer pays the balance with another payment method.

## 36.9.2 ADD PRODUCT / PRODUCT VARIANTS

To add a product to a transaction, follow these steps.

1.  Scan the product's bar code. Or, click the button for the product on the screen that is set up for the product. Or, click the **Product Search**, select a product in the list, and then click **Select**.
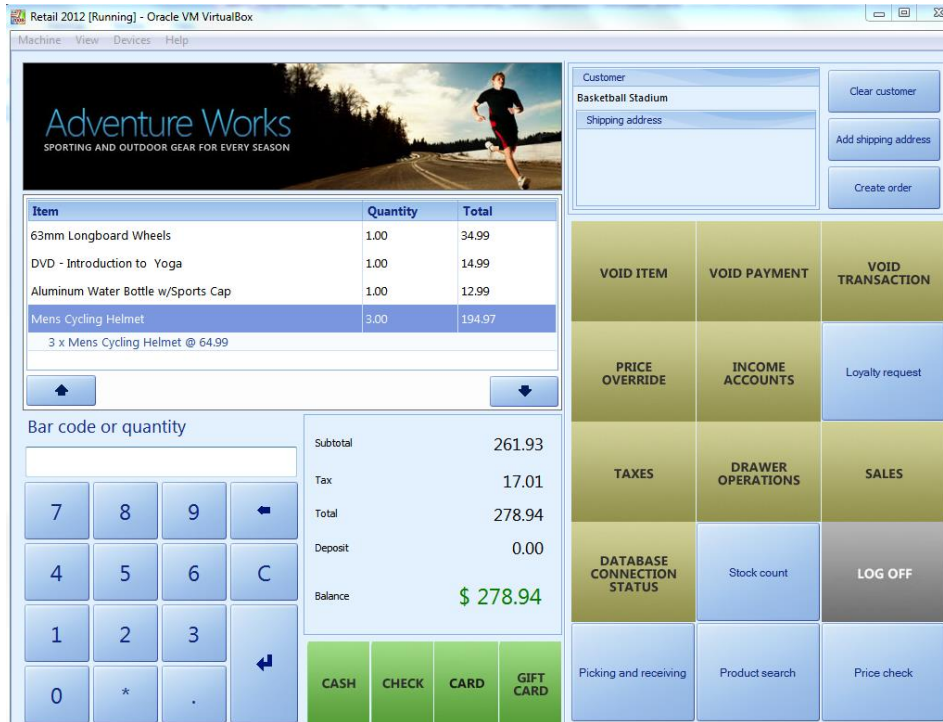
**Note:** If users know the full or partial product name they can type it to quickly find the product. Microsoft Dynamics AX for Retail POS adds the product to the transaction and displays a number one in the **Quantity** column.

2. If there are two or more units of a product, click **Set Qty**, type the quantity, and then click **OK**.

3. If you want to change the product's unit of measure, click **Tasks**, and then click **Change unit of measure**.

### 36.9.3 EDIT LINE ITEM

To edit the line item, follow these steps.

1. In the receipt pane, select the line item whose quantity you want to change.
2. Click **Set Qty**.

   Microsoft Dynamics AX for Retail POS displays the **Price Check** dialog box.

3. Type the quantity you want, and then press **ENTER** or **OK**.

   Microsoft Dynamics AX for Retail POS changes the quantity and notes the unit price on the line item.

4. Other functions to edit a line item are **Clear Quantity** (sets the quality to one), Item comment (the user can add a comment to the line), Void Item (if the user has the permissions necessary, the user can void the item with a reason code), or Return Item (the user can process the product as a return item – any transaction can have a return and a sale in the same receipt, typically an exchange).

## 36.9.4 ADD A WEIGHED PRODUCT

To add a product that must be weighed and priced based on weight, follow these steps.

1. Place the merchandise on the scale.
2. Add the product to the transaction, either by clicking **Product Search** and selecting the product from the list, or clicking the button on the screen that is set up for the product. Microsoft Dynamics AX for Retail POS adds the product to the transaction and displays the weight on the line item.

## 36.9.5 ADD A PRODUCT WITH VARIANTS

To add a product with variants, follow these steps.

1. Scan the product's bar code. Or, click the button for the product on the screen that is set up for the product. Or, click **Product Search**, select a product in the list, and then click **Select**.
2. In the **Select color, size, style, configuration** form, select a dimension for each of the product's variants. Typically the products are bar coded to use the scan process.
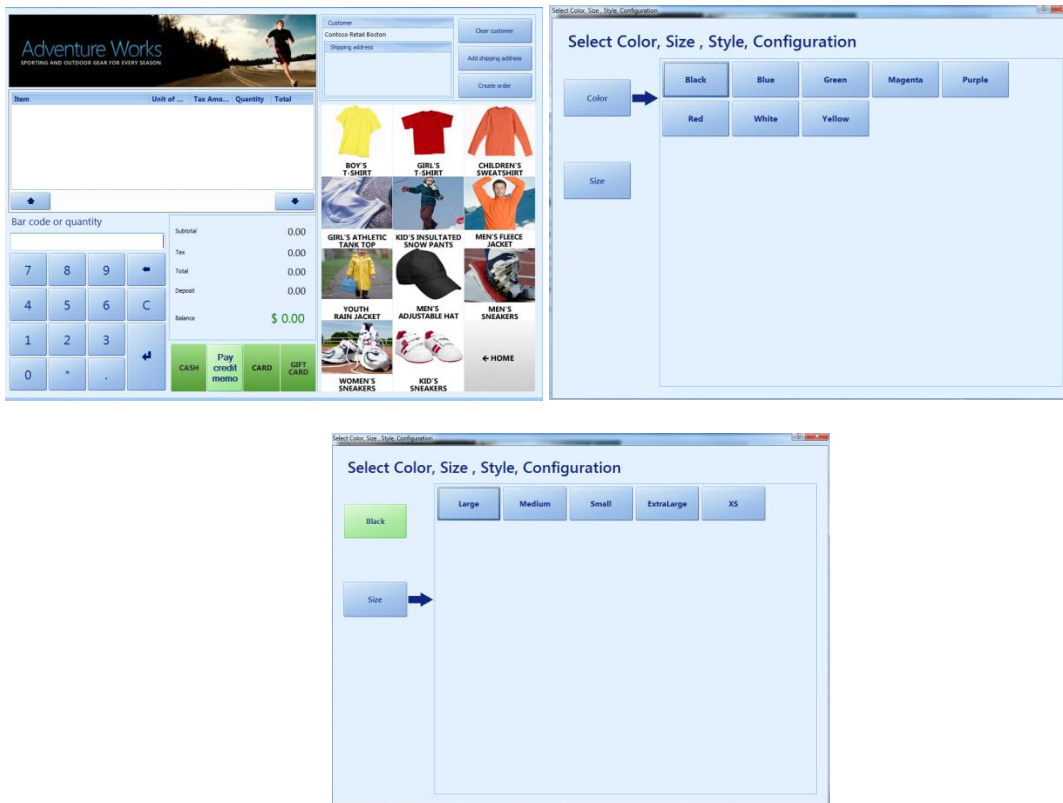
## 36.9.6 ADD A PRODUCT WITH A SERIAL NUMBER

To add a product with a serial number, follow these steps.

1. Add a product as described in the previous step procedure.
2. Click **Product comment**, and then type the serial number.

### 36.9.7 PRICE OVERRIDE

To override a price, follow these steps.

1. In the receipt pane, select the line item for which you want to change the price.
2. Click **Price override**.
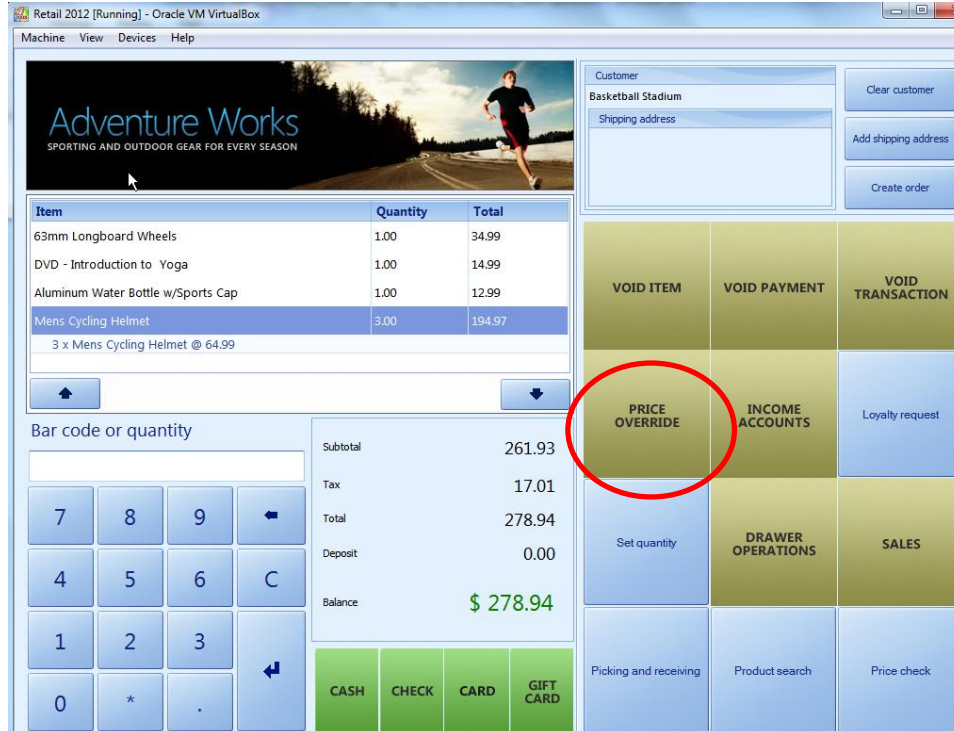
3.  In the **Enter a price** form, type the price that you want to use, and then press **ENTER**.

    Microsoft Dynamics AX for Retail POS changes the price of the line item and notes the original price. If the a reason code is set up to capture the reason for the price override the cashier is required to select the reason code for the price override action.

### 36.9.8  APPLY A DISCOUNT TO A LINE ITEM

📝        **Note**

    Based on the employee role settings, you can or cannot apply discounts to line items.

Discounts and price adjustments are set up and applied automatically in Microsoft Dynamics AX for Retail if a product is added to a transaction.

Discounts can be a specific amount or a discount percentage. Discounts include two specialized discounts—quantity discounts and mix-and-match discounts.

To apply an additional discount to a line item at the register, follow these steps.

1.  Select the line item that you want to apply a discount to.

2. To apply a specific discount amount, click **Line discount amount**, and then specify the amount. Or, to apply a specific discount percentage, click **Line discount percent**, and then specify the percentage.

   Microsoft Dynamics AX for Retail POS applies the discount to the line item.

       ☑    **Note:**

Based on the configuration of the security in Microsoft Dynamics AX Retail, you can or cannot apply a line item discount. Additionally, you might be required to capture a reason code for the discount if the reason code is configured in Microsoft Dynamics AX Retail.

### 36.9.9 TRANSACTIONS

### 36.9.10     ADD A COMMENT TO A LINE ITEM

To add a comment to a line item, follow these steps.

1. In the receipt pane, select the line item to which you want to add a comment.
2. In the edit line item tasks, click **Item comment**.
3. On the **Enter a comment** form, type the comment, and then press **ENTER**.
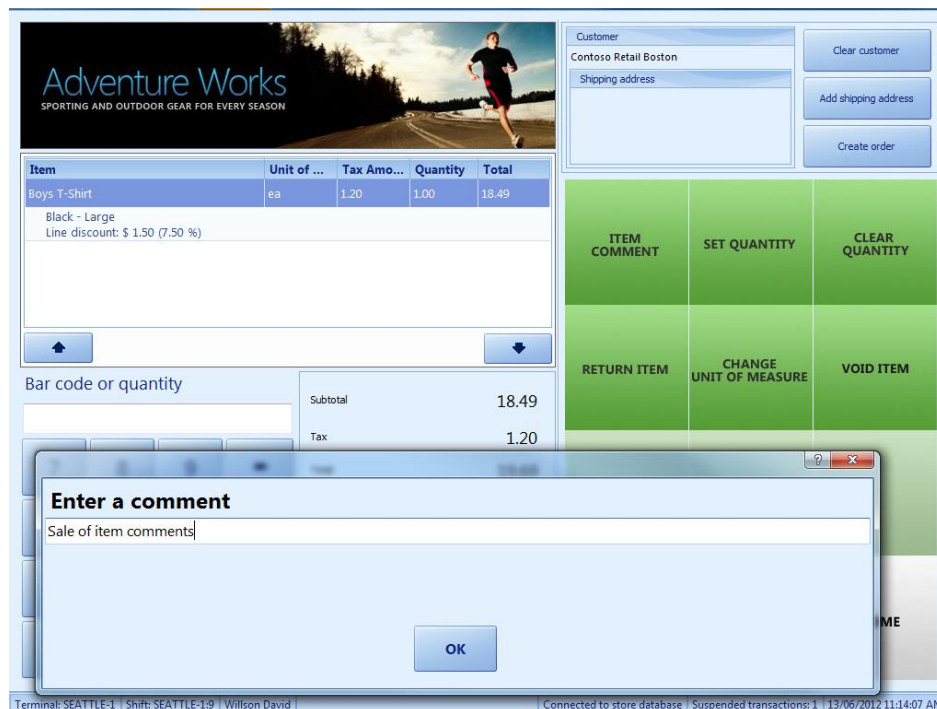


Microsoft Dynamics AX for Retail POS adds the comment to the line item.

☑  **Note**

> Depending on the receipt formats that are used at the store, comments that you add to line items might appear on receipts.

### 36.9.11   APPLY OR REMOVE TAX FROM A LINE ITEM

Typically, Microsoft Dynamics AX for Retail POS automatically applies local taxes that are configured in Microsoft Dynamics AX Retail. However, if different sales taxes options are set-up in Microsoft Dynamics AX Retail, you can override the sales tax that Microsoft Dynamics AX for Retail POS applies to the line items and the transactions.

☑  **Note**

- Depending on the employee role settings, you can or cannot apply or clear taxes at the register.

- Many states require retailers to record a proof of tax-exempt status with each tax-exempt transaction. For example, a tax-exempt ID number or an out-of-state ID. A customer's tax ID number can be added to the transaction as a detail or comment, or it can be entered in the customer's record.
- Tax configuration settings and options to override taxes must be set up for a retail organization together with the financial controller of the retail operations.

To override a line item tax, follow these steps.

1. In the receipt pane, select a line item.
2. Click **Override line Product tax** to override the line item tax with a preselected alternative. Or, click **Override line item tax from list** to select a new tax from a list.
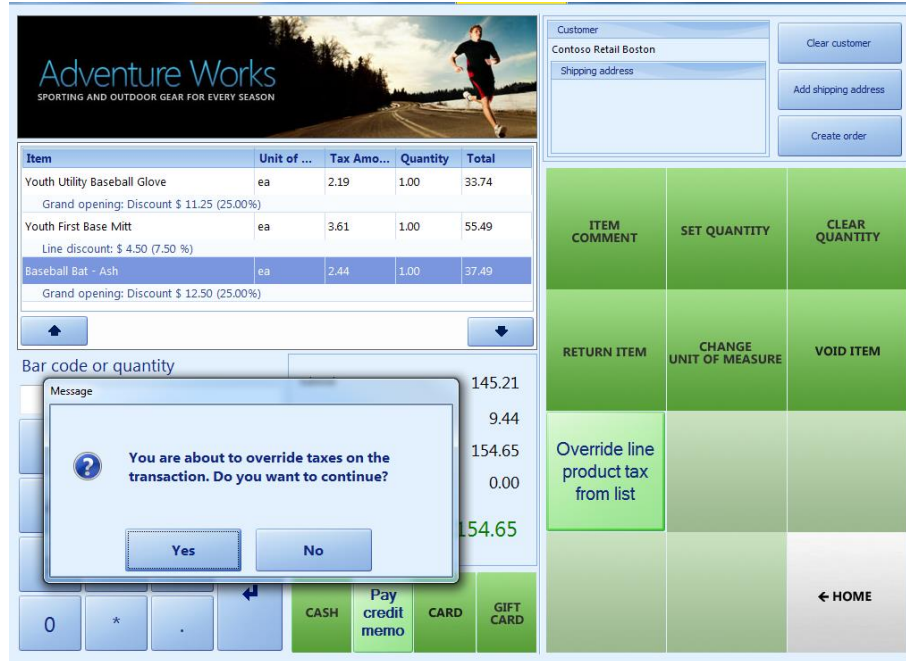
3. Click **Yes** and then a list of taxes will be displayed.
4. Select the appropriate tax level.

   Microsoft Dynamics AX for Retail POS replaces the existing line item tax with the new line item tax.

### 36.9.12    CHANGE THE CURRENCY OF A TRANSACTION

To change the transaction currency at the POS level, the currencies and the exchange rates must be configured in Microsoft Dynamics AX. If you have the authorized permissions, you can change the currency of a transaction.

To change a currency of a transaction, follow these steps.

   1. Log on to the POS terminal.
   2. Scan or add at least one product to the transaction.
   3. Click **Pay currency**.
   ☑ **Note:**

The **Pay currency** change currency function is underneath the Edit transactions tasks.
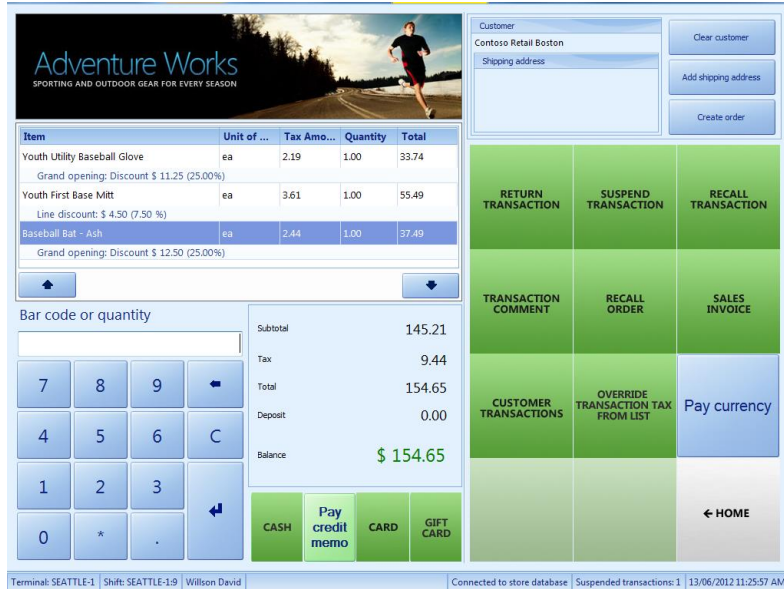
4. Select a currency from the list.



Microsoft Dynamics Retail for POS displays the transaction amounts in the selected currency.

### 36.9.13     VOID A TRANSACTION

You can void a transaction that is in progress. However, you can only do this after the product is scanned or entered and before the transaction is tendered.

✎     *Note*

Depending on your employee role settings, you can or cannot void a transaction.

To void a transaction, follow these steps.

1. Add at least one product to the transaction.
2. Click **Void transaction**. You will receive a message asking whether you want to void the transaction. Click **Yes** to void the transaction.
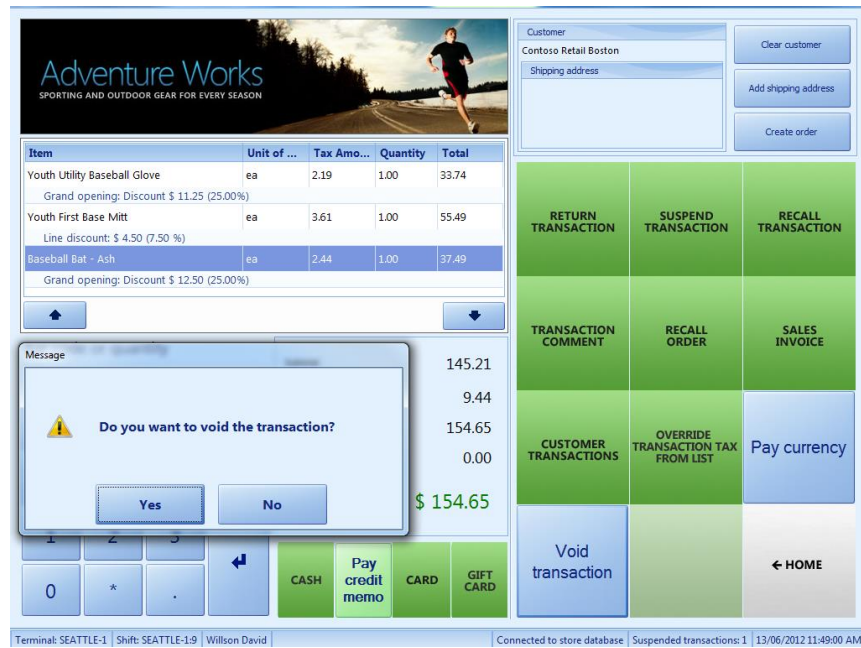


Microsoft Dynamics AX for Retail POS voids the transaction. Voided transactions are saved in the database with a Void status.

### 36.9.14    HOLD AND RECALL A TRANSACTION

If a sales transaction is interrupted at the register, you can put the customer's transaction on hold, and if necessary, serve the next customer. Then, when the customer is ready to complete the transaction, you can recall and complete the transaction that is on hold.

### ✓    Note

You can hold a transaction only after you have added at least one product to it.

To place a customer transaction on hold, follow these steps.

1. Add at least one product to the transaction.
2. Click **Suspend transaction**.
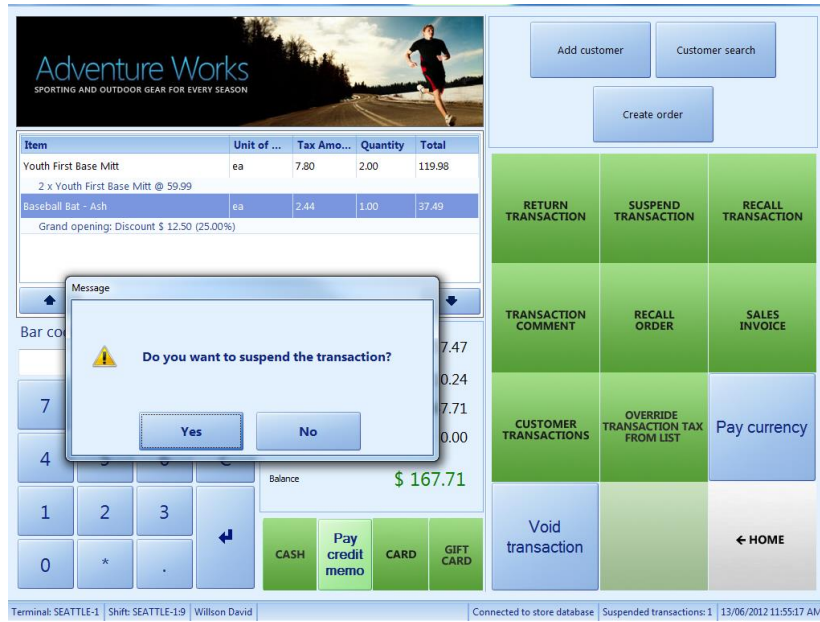
☑ **Note**

> You cannot recall a transaction while another transaction is in progress.

To recall a transaction that is placed on hold, follow these steps.

1. Complete any transaction that is in progress.
2. Click **Recall transaction**.
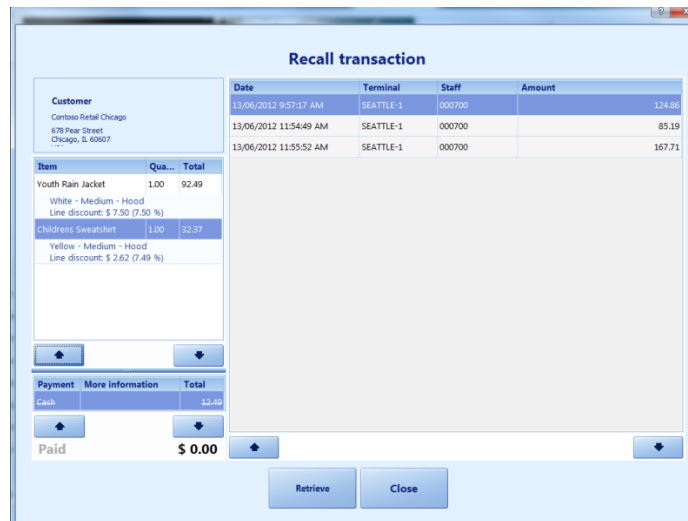


A list of transactions on hold in the store will be displayed.
3. Select the transaction that is on hold and then click **Retrieve** to continue to process the transaction that is on hold.

4. Add or void products (based on permissions) to, and from the transaction that is on hold, if this is necessary.

5. Complete the transaction by tendering the transaction and collecting the payment.

### 36.9.15 VOID PAYMENT

Payments can be voided only after the transaction is completed. Typically, a payment is voided when a customer does not want to continue with the sales, or the customer provided the incorrect amount or the incorrect card.

To continue to void a payment, follow these steps.

1. Click **Void Payment** in the functions pane of the POS terminal. Only the last payment of the transaction can be voided. If you attempt to void another payment you will receive the message: You cannot undo voiding a tender line.
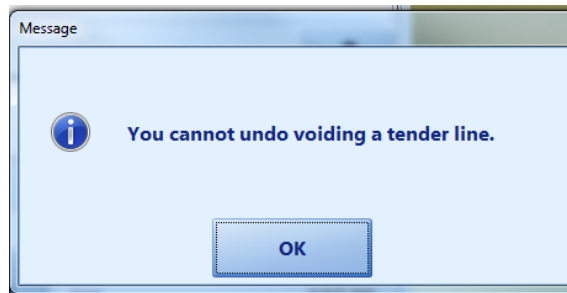


2. If you have processed many payments, then the only option is to continue with the transaction because it cannot be voided.  Click **OK**, and then you can process a refund to reverse the transaction.

### 36.10 CUSTOMER QUOTE TO ORDER

In Microsoft Dynamics AX for Retail POS, you can create a sales quote from a customer's request and then change it directly to a sales order.

### 36.10.1 CREATE A SALES QUOTE

To create a sales quote, follow these steps.

1. Log on to the POS terminal by entering the Operator ID and password.

2. Search and add the customer in the customer pane or create a new customer if the customer does not exist.

3. Add the product(s) to the transaction by entering the items in the **Search Quantity** field and then selecting the item. Items can also be added from **Sales > Tasks > Inventory > Inventory Lookup.**

4. Click **Sales > Tasks > Custom Order > Create Custom Order**.

5.  On the **Order information** page, enter the following information:

    -   **Order Type** - Click the **Change** button and select Quote.

    -   **Salesperson** – This should automatically be set to the salesperson that is logged on, if the salesperson must be changed. Click the **Change** button that is next to the field and then select the salesperson for the quote.

    -   **Expiration date** – Enter the date that the quote expires.

    -   **Comments** – Enter the appropriate comments, if this is required.

    -   **Loyalty card** – Enter the loyalty card of the customer, if this is required.

6.  Click **Save**, and then in the left navigation pane, click **Customer information**.

7.   On the **Customer information** page, enter the following information:

- **Contact information** – Make sure that the customer's information is correct. If not, click **Search**, select the customer, and then correct the information.

8.  Click **Save**, and then in the navigation pane, click **Shipping and delivery**.

9. In **Shipping and Delivery information**, for each item, **Ship** or **Pickup** can be selected.

   - Click **Ship**. The **Shipping information** window opens.

- **Shipping address** – Make sure that the customer's shipping address is correct. If not, click **Search**, and then select a shipping address.
- **Shipping method** - Click **Change**, and select a shipping method.
- **Shipping charge** - Click **Add charge** or **Remove charge** to add or remove a shipping charge.
- **Requested delivery date** - Click the **calendar icon**, and select a date. This is the date the item will be shipped.
- Click **Pick**. The **Pickup information** form opens.

## Pickup information

Requested delivery date:
☑ Wednesday, November 28, 2012

| Number | Name | Address |
|---|---|---|
| S0001 | Seattle - Adventure Works | 205 108th Ave NE Bellevue, WA 98004 |
| S0002 | Bellevue - Contoso Electronics | 1 Microsoft Way Redmond, WA 98052 |
| S0003 | Kirkland | 2624 NE University Village St Seattle, WA 98105 |
| S0004 | Redmond | One Briar Lake Plaza, 2000 W. Sam Houston Pkwy. S. #350 Houston, TX 77042 |
| S0005 | Dupont Circle | 789 20th Street New York, NY 10000 |
| S0006 | Southwest | Paseo del Club Deportivo, 1, Centro Empresarial La Finca - Edificio 1 Pozuelo de Alarcón, |
| S0007 | Brentwood | |
| S0008 | Mount Pleasant | |
| S0009 | Crestwood | |
| S0010 | Downtown | |

Save    Cancel

- **Requested delivery date** - Click the **calendar icon**, and then select a date. This is the date the sales quote will be picked up by the customer.

- In the list of stores, select the store where the customer will pick up the sales quote. To select a different store other than the stores listed, click **Search**, and select a store.

10. If the customer wants all the products on the sales quote shipped, click **Ship all**.

11. If the customer wants to pick up all the products on the sales quote, click **Pick up all**.

12. Click **Save**, and then in the navigation pane, click **Order summary**.

13. Make sure that the information is correct, and then click **Save**. If the information is not correct, click a page name in the navigation pane to return to a page, correct the information, return to the **Order summary** page, and then click **Save**.

14. Complete the transaction. Microsoft Dynamics AX for Retail POS prints the sales quote receipt on a full-page printer, not the receipt printer.

### 36.10.2     MODIFY A SALES QUOTE

You can modify a sales quote. For example, if you want to update delivery information, and, or add or remove products. Product prices and the deposit can also be recalculated for changes that are made to the sales quote.

1. Search and **Add** a customer to the transaction from the point of sale, or you can enter the customer information in the step 2.

2. Click **Tasks** and then click **Recall Order**.

3. Enter the information that is related to the sales quote and then click the **search** function.



4. Select the sales quote in the list, and then click **View details**.

5. Make the required changes to the sales quote, and then click **Save**.

6.  Microsoft Dynamics AX for Retail POS prints the sales quote receipt on a full-page printer and not from the receipt printer.

### 36.10.3    CANCEL THE SALES QUOTE

### 36.10.4    CHANGE THE SALES QUOTE TO THE SALES ORDER

In Microsoft Dynamics AX for Retail POS, as soon as the sales quote is accepted, you can change the sales quote to the sales order.

To change the sales quote to the sales order, follow these steps

1.  Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in step 2.

2.  Click **Tasks** and then click **Recall Order**.



3.  Enter the information that is related to the sales quote and then click the **Search** function.

4. Select the sales quote in the list, and then click **View details**.

5. On the **Order information** page, click **Change** for the order type and select Sales Order.

6. Make any other required changes to the sales order, and then click **Save**.

7. Click **Order summary**.

Order summary

```
Cust. Name:   Anthony  Valor              Date:    11/21/2012
Customer No.: 902307                      Time:    08:34
Del. Method.: Customer Pick Up            Transactio0000000222
Del. Date..:  11/28/2012                  Employee: 10001
Comments....: customer needs price        Terminal: 0101


ITEM NAME                  QTY      PRICE  Del. Type    Del. Date    TOTAL
-------------------------------------------------------------------------
Basic Inner Tube           1.00      7.99 Customer Pic 11/28/2012     7.99

-------------------------------------------------------------------------
Subtotal                                                         $ 7.99
Miscellaneous charges                                           $ 0.00
Sales tax                                                        $ 1.04
Total                                                            $ 9.03
Deposit                                                          $ 0.00
=========================================================================
```

**Clear**      **Save**      **Cancel**

8.  Make sure that the information is correct, and then click **Save**. If the information is not correct, click a page name in the navigation pane to return to a page, correct the information, return to the **Order summary** page, and then click **Save**.

9.  If necessary, collect a deposit for the order, and then complete the transaction. Microsoft Dynamics AX for Retail POS prints the sales order receipt on a full-page printer, not the receipt printer.

### 36.11 CUSTOMER SALES

### 36.11.1    CREATE THE SALES ORDER

You can create a sales order if a customer wants to buy products that are currently out of stock or are a non-stock item, and might have to be ordered from a supplier.

To create the sales order, follow these steps.

1.  Log on to the POS terminal by entering the Operator ID and password.

2.  Search and add the customer in the customer pane or create a new customer if the customer does not exist.

3. Add the product that is out of stock to the transaction or the quantity of stock that is not available. The item can be added from **Sales > Tasks > Inventory > Inventory Lookup**.

## Inventory lookup

| Store | Inventory (Pcs) |
|-------|-----------------|
| Bellevue - Contoso Electronics | 0.00 |

Item: 22 oz. Water Bottle
Item ID: 0104
Inventory: 8.00 Pcs

Scan or enter a bar code.

| 7 | 8 | 9 | ← |
| 4 | 5 | 6 | C |
| 1 | 2 | 3 | ↵ |
| 0 | | | |

Search    Add to transaction    Close

4. Click **Sales > Tasks > Custom Orders > Create Custom Order**.

## Order information

- **Order information**

**Customer information**

**Shipping and delivery**

**Order summary**

Order number:

Order type:

Sales order

Change...    Sales order

Order status:

None

Quote

Sales person:

Idan Plonsky

Change...

Comments:

Loyalty card:

Online order number:

Clear    Save    Cancel

5. On the **Order information** page, enter the following information:
   - **Order Type** – This should be set to Sales Order, if it is not, click **Change** and select Sales Order.
   - **Salesperson** – This should automatically be set to the salesperson that is logged on, if the salesperson must be changed. Click **Change** next to the field and then select the salesperson for the order.
   - **Comments** – Enter the appropriate comments, if this is required.
   - **Loyalty card** – Enter the loyalty card of the customer, if this is required.

6. Click **Save**, and then in the left navigation pane, click **Customer information**.



7. On the **Customer information** page, enter the following information:

   **Contact information** - Ensure that the customer's information is correct. If not, click **Search**, select the customer, and then correct the information.

8. Click **Save**, and then in the navigation pane, click **Shipping and delivery**.

In **Shipping and Delivery information** for each item, **Ship** or **Pickup** can be selected.

9. Click **Ship.** The **Shipping information** window opens.

- **Shipping address** – Make sure that the customer's shipping address is correct. If it is not, click **Search**, and then select a shipping address. You can also add a new shipping address from the main point of sale section.



**10.** Click **Add Shipping Address.** Enter the shipping address information and then click **Save.**



- **Shipping method** - Click **Change**, and select a shipping method.

- **Shipping charge** - Click **Add charge** or **Remove charge** to add or remove a shipping charge.
- **Requested delivery date** - Click the **calendar icon**, and select a date. This is the date the order will be shipped.

11. Click **Pick**. The **Pickup information** form opens.



- **Requested delivery date** - Click the **calendar icon**, and then select a date. This is the date the sales order will be picked up by the customer.

- In the list of stores, select the store where the customer will pick up the sales order. To select a different store other than the stores listed, click **Search**, and select a store.

- If the customer wants all the products on the sales order shipped, click **Ship all**.

- If the customer wants to pick up all the products on the sales order, click **Pick up all**.

11. Click **Save**, and then in the navigation pane, click **Order summary**.



12. Make sure that the information is correct, and then click **Save**. If the information is not correct, click a page name in the navigation pane to return to a page, correct the information, return to the **Order summary** page, and then click **Save**.

13. If necessary, collect a deposit for the order, and then complete the transaction. Microsoft Dynamics AX for Retail POS prints the sales order receipt on a full-page printer, not the receipt printer.

### 36.11.2     MODIFY THE SALES ORDER

You can modify a sales order. For example, to update delivery information, and add or remove products. Product prices and the deposit can also be recalculated for changes that are made to the sales order.

To modify the sales order, follow these steps.

1. Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in step 2.
2. Click **Tasks**, click **Recall order**, and enter the information that is related to the sales order and then click the **order search** function.



3. Select the sales order in the list, and then click **View details**.

4. Make the required changes to the sales order, and then click **Save**.

5. If the deposit amount changed, collect an additional amount or refund an amount to the customer and then complete the transaction.

Microsoft Dynamics AX for Retail POS prints the sales order receipt on a full-page printer and not from the receipt printer.

### 36.11.3      CANCEL A SALES ORDER

In Microsoft Dynamics Retail POS, a sales order can be can canceled until the time the order is picked (a pick list is created in Microsoft Dynamics AX). If a pick list is created, then the orders must be canceled in Microsoft Dynamics AX.

If the cancellation charge is set up, the charge is deducted from the refund amount. Depending on the employee role settings, you can change this charge when you cancel the order.

To cancel a sales order, follow these steps.

1. Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in the step 2.

2. Click **Tasks**, click **Recall order**, and enter the information that is related to the order and then click the **order search** function.



3. Select the sales order and then click **Cancel order**. Microsoft Dynamics AX for Retail POS displays the order's **Cancellation charge** page.

4. To change or remove the cancellation charge, enter the following action.

   - To add or change the charge, click **Add charge**.

   - To remove the charge, click **Remove charge**.

5. Click **Save**.

6. If a cancellation charge applies, collect the charge, and then complete the transaction.

Microsoft Dynamics AX for Retail POS prints the canceled sales order receipt on a full-page printer, not the receipt printer.

### 36.11.4      PICK UP ALL OR PART OF A SALES ORDER

In Microsoft Dynamics AX Retail for POS, to pick up all or part of a sales order, follow these steps.

1. Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in the next step.

2. Click **Tasks**, click **Recall order**, and enter the information that is related to the order and then click the **order search** function.



3. Select the sales order and then click **Pick up order**.
4. Click **Item details**.
5. In **Pick up qty**, enter the quantity of each item that is being picked up and click **Save**.
6. If the deposit amount changed, collect an additional amount or refund an amount to the customer, and then complete the transaction.

### 36.11.5    CREATE THE PICKING LIST

To create a picking list for existing sales orders, follow these steps.

1. Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in the step 2.

2. Click **Tasks**, click **Recall order**, and enter the information that is related to the order and then click the **order search** function.

3.  Select the sales order and then click **Create picking List.**

    You will receive a confirmation that the picking list is created.

### 36.11.6    CREATE AND PRINT THE PACKING SLIP

When a sales order is shipped from a store, you can create and print packing slips. However, you must first create the sales order before you create and print a packing slip.

To create and print the packing slip, follow these steps.

1.  Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in step 2.

2.  Click **Tasks**, click **Recall order**, and enter the information that is related to the order and then click the **order search** function.

3. Select the sales order and then click **Create packing slip.**

✏ **Note**

> If the packing slip is already created, the **Create packing slip** button is unavailable.

4. To print the packing slip, click **Print packing slip**.

Microsoft Dynamics AX for Retail POS prints the packing slip.
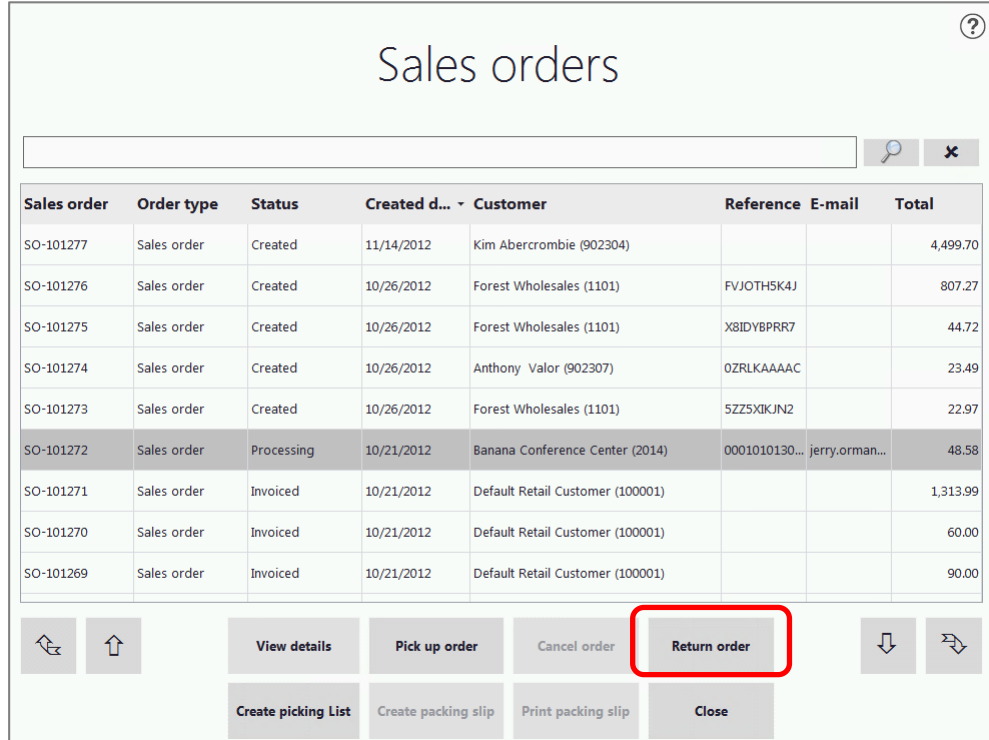
### 36.11.7 RETURN THE SALES ORDER

If a customer returns a purchase, you can use the point of sale to return all or part of the order. You can process the return with or without a receipt, depending on the store's return policy. After the sales order is located, the way the sales order is returned resembles the way a regular sales transaction is returned.

To return the sales order, follow these steps.

1. Search and **Add** a customer to the transaction from the point of sale or you can enter the customer information in step 2.

2. Click **Tasks**, click **Recall order**, and enter the information that is related to the sales order and then click the **order search** function.



3. Select the sales order and then click **Return order.**

4. Select **line** or **Select all** for the items that you want to return.

5. Click **Return items**.

6. Enter the **Return reason** and click **Select**.

7. Complete the transaction and refund any balance due to the customer.

### 36.12 CREDIT MEMOS

**FUNCTIONAL OVERVIEW**

A credit memo acknowledges a liability and provides authorization to pay the debt. A credit memo is issued when a customer returns bought goods and it can be used as payment for other goods. A credit memo is never sold.

Microsoft Dynamics AX for Retail POS uses the term credit memo. However, Microsoft Dynamics AX for Retail uses the term credit voucher.

When you create credit memos in Microsoft Dynamics AX for Retail POS a request is sent to Microsoft Dynamics AX for Retail through the Retail POS Transaction Service. The credit memo is created in Microsoft Dynamics AX for Retail and the information is

returned to Microsoft Dynamics AX for Retail POS and then it continues with the sale whether it is a payment, printing a certificate and so on.

### 36.12.1      ISSUE A CREDIT MEMO

To issue a credit memo, follow these steps.

1. Add a customer to the transaction.

2. Add products to the transaction.

3. Click **Issue credit memo**.

4. In the **Credit memo amount** box, enter the amount of the credit memo, and then click **OK**.

Microsoft Dynamics AX for Retail POS adds the credit memo to the transaction.



5. Complete the transaction.

Together with the sales receipt, Microsoft Dynamics AX for Retail POS prints a separate credit memo receipt that includes the credit memo number and the balance.

### 36.12.2      TOTAL A SALE PAID BY GIFT CARD OR CREDIT MEMO

To total a sale paid by gift card or credit memo, follow these steps.

1. Scan the products, click the buttons on the screen for the products, or search for the products.

   Microsoft Dynamics AX for Retail POS adds the products to the transaction.

   If necessary, add the customer to the transaction.

2. Click **Pay gift card** or **Pay credit memo**.

3. Scan or swipe the gift card. Or, in the **Gift card number** box, enter the gift card number. Or, in the **Credit memo number** box, enter the credit memo number.

4. Press **ENTER**.

Microsoft Dynamics AX for Retail POS completes the transaction. Or, if the payment is a partial payment, Microsoft Dynamics AX for Retail POS adds a payment line to the transaction and the customer pays the balance by using another payment method.

### 36.12.3    ISSUE A CREDIT MEMO INSTEAD OF A REFUND

If you want to issue a store credit instead of a refund, you can issue a credit memo.

To issue a credit memo instead of a refund, follow these steps.

1. Click **Show journal**.

2. Select the transaction that you want to return, and then click **Return transaction**.

3. Select the line items that the customer wants to return:

   - To return one line item, select the line item, and then click **Select line**.
   - To return all line items, click **Select all**.
4. Click **Return products**.

5. Click **Issue credit memo**.

6. Complete the transaction.

Microsoft Dynamics AX for Retail POS prints a credit memo receipt that includes the credit memo number and the balance.

*Note :*

*Offline database*

*Microsoft Dynamics AX for Retail 2012 introduces support for local offline databases on the Microsoft Dynamics AX for Retail POS register. This means that if for any reason the connection to the store database fails or if the store database requires maintenance that will take it off line, the Microsoft Dynamics AX for Retail POS registers can continue to process transactions. The offline database is not required. However it creates a contingency for expected network issues. In the event that the store database cannot be accessed, the Microsoft Dynamics AX for Retail POS register that is connected to its offline database can perform credit memo, and other transaction service related functions.*

## 37 ENTERPRISE PORTAL – RETAIL COMPONENTS

### OVERVIEW

This module discusses how the Microsoft Dynamics® AX Enterprise Portal is used to perform  back-office retail operations.

With Enterprise Portal, store managers and other employees can use a web browser to access store-inventory information at the headquarters office and perform inventory tasks that would otherwise require Microsoft Dynamics® AX for Retail.

### 📝 Note

- Before an employee can use the Enterprise Portal, the employee must be assigned to one of three retail user profiles and to one or more stores in Microsoft Dynamics AX. For more information, refer to the *Microsoft Dynamics AX Retail User's Guide*.

- Enterprise Portal and Role Centers are features of Microsoft Dynamics AX. For more information about how to use Enterprise Portal and Role Centers, refer to the documentation for Microsoft Dynamics AX.

- For installation or technical information about the Enterprise Portal, refer to the documentation for Microsoft Dynamics AX.

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# Retail Application Functionality in Microsoft Dynamics AX 2012 R2

**Part 4**

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## 40 ENTERPRISE PORTAL HOME PAGE

### OVERVIEW

In this module we will discuss the Enterprise Portal display of the **Home** page.

- Note: Enterprise Portal displays the **Home** page with the Role Center that is assigned to you. For more information, refer to Role Centers, later in this module.

### 40.1 LOG ON

To log on, follow these steps.

1. Start a browser and go to the retailer's Enterprise Portal webpage.

2. Log on with Windows credentials.

### 40.1.1 SELECT A STORE

An employee can access information about only those stores that have been assigned to the employee. If an employee has been assigned to more than one store, the primary store is displayed by default and other stores can be selected.

3. On the Enterprise Portal toolbar, on the **Store** drop-down menu, select a store.

### 40.1.2 VIEW INFORMATION ABOUT THE STORE

4. Click the **Retail** FastTab.

   a. Enterprise Portal displays the store's contact information and hours, lists of stock counts, purchase orders and incoming transfer orders, and outgoing transfer orders. For more information, refer to "Stock counts," "Receiving," and "Picking," later in this module.

### 40.1.3 VIEW A LIST OF ALL ITEMS

To view a list of all items, follow these steps.

5. Click the **Retail** FastTab.

6. Under **Main lists**, click **Retail item list**.

- Enterprise Portal displays the list of all the items that are carried by all stores, with information such as prices and quantities. You can search and browse the list. The list is read-only.

7. To view the details about the item, double-click the item.

8. To view related information about the item, on the **Item details** form, click **Related information**, and then do one of the following:

   - To view on-hand quantities of the item at all stores, click **On-hand**.

   - To view information about variants of the item, click **Item variants**.

   - To view documents related to the item, click **Documents**.

## 40.1.4 VIEW THE STORE'S PROMOTIONS AND DISCOUNTS

To view the store's promotions and discounts, follow these steps.

9. Click the **Retail** FastTab.

10. In **Main lists**, click **Promotions and discounts**.

    - Enterprise Portal displays the list of the promotions and discounts that are assigned to the store with information such as type and status. You can search and browse the list. The list is read-only.

11. To view details about the item, double-click the item.

## 40.1.5 VIEW REPORTS

You can use reports to monitor sales trends, inventory, pricing, and employee performance to gain valuable insights about the retail business.

To view reports, follow these steps.

12. Click the **Retail** FastTab.
13. In **Retail Reports**, click the report that you want. Enterprise Portal includes these reports:
    - **Sales Performance**
        - Select Week to date, Month to date, or Year to date.
    - **Sales Comparison by Year**
        - Select 7 days, 12 weeks, 6 months, or 1 year.
    - **Sales by Hour**
        - Click the calendar icon, and then select a date.
    - **Sales by Staff**
        - Select Today, Current week, Current month, or previous month.
    - **Sales by Item Hierarchy**
        - Select Today, Week to date, Month to date, or Year to date.

## 40.2 ROLE CENTERS

### 40.2.1.1 Overview

In this module we will discuss **Role Centers** and that they are pages in the Enterprise Portal that display business information, links, and key tasks that are geared for specific retail roles. The retail roles (and their Role Centers) include:

- **Retail**
- **Store Manager**
- **Store Associate**

### 40.2.1.2 Retail

This Role Center is designed for employees whose primary work is item maintenance, promotions and discounts, inventory replenishment, and statement posting. The Role Center includes these parts:

**My Links**

- **Retail item list** – Displays the list of all the items that are carried by all the stores.

- **Promotions and discounts** – Displays the list of the promotions and discounts that are assigned to the store.

- **On-hand item stock inquiry** – Displays on-hand inventory information for all stores.

**Sales performance – Displays** the sales information for the top 10 and bottom 10 stores for a specified period. By default, the report displays data for **Month to date**. You can also choose **Week to date** or **Year to date** periods.

**Sales by item hierarchy** – Displays a pie chart that shows the store's sales amounts by a selected item hierarchy group (business group, division group, retail department, and retail group) for a specified period, either **Week to date**, **Month to date**, or **Year to date**.

For example, if you select **Retail department**, the pie chart displays sales percentages for the top five departments, and **Other** (all other departments).

**Sales comparison** – Displays **the** line chart that compares the store's sales for a specified period in the current year to the store's sales in the same period in the previous year. You can choose periods of **7 Days**, **12 Weeks**, or **6 Months**. By default, the period is 12 Weeks.

**Work List** – Displays messages and alerts from Microsoft Dynamics AX Retail.

### 40.2.1.3    Store Manager

This Role Center is designed for employees with management responsibilities and privileges. Typically, these are store managers. The Role Center includes the following parts:

**My Links**

- **Retail item list** – Displays the list of all the items carried by all the stores.

- **Promotions and discounts** – Displays the list of the promotions and discounts that are assigned to the store.

**Sales by staff member** – Displays **the** bar chart that shows sales figures for the store's staff for a specified period. By default, the report displays data for **This week**. You can also select **This month** or **Previous month** periods.

**Sales by hour** – Displays **the** bar chart that shows the store's sales amounts for the current day, by hour.

**Sales comparison** – Displays the line chart that compares the store's sales for the specified period in the current year to the store's sales for the same period in the previous year. You can select periods of **7 Days**, **12 Weeks**, or **6 Months**. By default, the period is 12 Weeks.

**Work List** – Displays the messages and alerts from Microsoft Dynamics AX Retail.

### 40.2.1.4    Store Associate

This Role Center is designed for employees whose primary work is non-management-related. Typically, cashiers, stock clerks, floor sales staff, and so on. The Role Center includes the following parts:

**My Links**

- **Retail item list** – Displays the list of all the items carried by all the stores.

- **Promotions and discounts** – Displays the list of the promotions and discounts that are assigned to the store.

**Sales by hour** – Displays the bar chart that shows store's sales amounts for the current day, by hour.

**Work List** – Displays messages and alerts from Microsoft Dynamics AX Retail.

## 40.2.2 STOCK COUNTS

You can use the Enterprise Portal to perform stock counts from any computer with Internet access. You do not need to use a point of sale register. And, you can use the Enterprise Portal to perform two kinds of stock counts:

- **Unscheduled stock count** – This is a stock count initiated by a store when the items to be counted are not predetermined by the headquarters office. This type of count is frequently used for informal counts or spot checks as part of loss-prevention measures.
- **Scheduled stock count** – This stock count is initiated at the headquarters office, and it specifies what items to count. The headquarters office creates a counting document and sends it to the store, where actual stock-on-hand quantities are entered into the Enterprise Portal.

When either kind of stock count is finished, the store sends the completed counting document back to the headquarters office, where it is posted to inventory.

You can perform a stock count by using a scanner or by manually entering the item information. You can suspend the stock count and resume the count at a later time, if necessary.

🔷 **Tip**

You can also perform unscheduled stock counts in Microsoft Dynamics AX Retail POS. For more information, refer to the *Microsoft Dynamics AX Retail POS User's Guide*.

📝 **Note:** Before you can perform a stock count, make sure that a store inventory terminal, a worksheet mask, and a staff member with store inventory access are set up. For more information, refer to the *Microsoft Dynamics AX Retail User's Guide*.

### 40.2.2.1 Perform a stock count

To perform a stock count, follow these steps.

1. Log on to the company's Enterprise Portal with an account that has store inventory access.

2. Enterprise Portal displays the **Home** page with the Role Center that is assigned to you.

3. Click the **Retail** FastTab, and then in **Main lists**, click **Stock counts**.

4. Enterprise Portal displays the list of open and scheduled stock counts.

5. Click **New** to create a new stock count, or double-click and open or schedule a stock count.

6. Enterprise Portal displays the **Stock count** form.

7. In the **Reference number** box, type a reference number for the stock count.

8. In the **Store inventory ID** box, type the store's ID number.

9.  In the **Type** box, select **Stock count**.

10. In the **Worksheet mask** box, select the worksheet mask for the stock count.

11. In the **Staff** box, select your name.

12. Do one of the following:

    i.  Scan an item.

    ii. Click **Look up**, and then select the item.

    iii. In the **Item number or bar code** box, type the item number.

13. In the **Quantity** box, type the item's quantity.

14. If the item is a variant, select dimensions in the **Size**, **Color**, **Style**, and **Configuration** boxes, as necessary.

15. Click **Add**.

16. Repeat steps 9 through 12 for the items that you want to count.

17. When you finish adding the items to the stock count, click **Submit** to send the stock count to Microsoft Dynamics AX Retail.

## 40.2.3 RECEIVING

You can receive inventory from purchase orders and incoming transfer orders. The receiving documents can be downloaded from Microsoft Dynamics AX Retail, on demand, and employees who have access can receive the merchandise. Completed receiving documents are then uploaded to Microsoft Dynamics AX Retail so that the documents can be posted to the original purchase orders or transfer orders.

Item variants and units of measure can be included when receiving inventory.

🔷 **Tip**

You can also receive inventory in Microsoft Dynamics AX for Retail POS. For more information, refer to the *Microsoft Dynamics AX Retail POS User's Guide*.

📝 **Note**: Before you can receive inventory, make sure that a store inventory terminal, a worksheet mask, and a staff member with store inventory access are set up. For more information, refer to the *Microsoft Dynamics AX Retail User's Guide*.

### 40.2.3.1     Receive a purchase order or transfer order

To receive a purchase order or transfer order, follow these steps.

1. Log on to the company's Enterprise Portal with an account that has store inventory access.

2. Enterprise Portal displays the **Home** page with the Role Center that is assigned to you.

3. Click the **Retail** FastTab, and then in **Main lists**, click **Receiving**.

4. Enterprise Portal displays the list of receiving documents.

5. Double-click the receiving document that you want.

    a. The **Order number** box displays the number of the order.

    b. The **Store inventory ID** box displays the store number.

6. In the **Staff** box, select a staff member.

7. Select an item that is listed on the order.

8. In the **Quantity** column, type the item's quantity.

9. Click **Add**.

10. Repeat steps 5 through 7 for the items that you want to receive.

11. When you finish receiving the items, click **Submit** to send the completed receiving document to Microsoft Dynamics AX Retail.


## 40.2.4 PICKING

You can use the Enterprise Portal to complete outgoing transfer orders and pick merchandise for the outgoing orders. Picking documents can be downloaded from Microsoft Dynamics AX Retail on demand, and employees can pick the merchandise. Completed picking documents are then uploaded to Microsoft Dynamics AX Retail so that the picked documents can be posted to the original transfer orders.

 **Tip**

You can also pick merchandise and complete outgoing transfer orders in Microsoft Dynamics AX for Retail POS. For more information, refer to the *Microsoft Dynamics AX Retail POS User's Guide*.

- **Note:** Before you can complete outgoing transfer orders, make that a store inventory terminal, a worksheet mask, and a staff member with store inventory access are set up. For more information, refer to the *Microsoft Dynamics AX Retail User's Guide*.


### 40.2.4.1 Complete an outgoing transfer order

To complete an outgoing transfer order, follow these steps.

1. Log on to the company's Enterprise Portal with an account that has store inventory access.
2. Enterprise Portal displays the **Home** page with the Role Center that is assigned to you.
3. Click the **Retail** FastTab, and then in **Main lists**, click **Picking**.
4. Enterprise Portal displays the list of picking documents.
5. Double-click a picking document.
6. Enterprise Portal displays the **Picking** form.
    a. The **Order number** box displays the number of the transfer order.
7. In the **Store inventory ID** box, type the store's ID number.
    a. The **Type** box displays the type of order.
8. In the **Staff** box, select a staff member.
9. Select an item that is listed on the order.
10. In the **Quantity** box, type the item's quantity.
11. Click **Add**.
12. Repeat steps 6 through 8 for the items that you want to pick.
13. When you finish picking the items for the transfer order, click **Submit** to send the picking document to Microsoft Dynamics AX Retail.

## 41 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE

**OVERVIEW**

In this module we will discuss the Functional overview and the Commerce Data Exchange: Real-time Service is an integrated service that provides real-time communication between Microsoft Dynamics AX and individual point of sale (POS) terminals.

When you install this component, the Retail Salt Utility and the .NET Business Connector are also installed. The Retail Salt Utility provides extra encryption for the passwords and credentials that are associated with the Microsoft Dynamics AX Retail system. The .NET Business Connector enables applications to interact with instances of Application Object Server (AOS).

**Note**

Retail components are available only with Microsoft Dynamics AX 2012 Feature Pack and Microsoft Dynamics AX 2012 R2. In Microsoft Dynamics AX 2012 Feature Pack, Real-time Service is called Commerce Data Exchange: Real-time Service.

At the headquarters office, install Real-time Service on the communications server.

On the computer where you plan to install this component, run the prerequisite validation utility to verify that the system requirements are being met.

## 41 COMMERCE DATA EXCHANGE: REAL-TIME SERVICES: CONNECTION CONFIGURATION

Use the following procedure to install Real-time Service. If you install other Microsoft Dynamics AX components at the same time, the installation pages differ, depending on the components that you are installing.

1. Start Microsoft Dynamics AX Setup. On **Install**, select Microsoft Dynamics AX components.
2. Advance through the first wizard pages.
3. If the Setup Support files are not yet installed on this computer, the **Select a file location** page is displayed. The Setup Support files are required for installation. Provide a file location or accept the default location, and then click **Next**.
4. On the **Ready to install** page, click **Install**.
5. On the **Select installation type** page, click **Custom installation**, and then click **Next**.
6. On the **Select components** page, select Real-time Service, and then click **Next**.

7. On the **Prerequisite validation results** page, resolve any errors. When no errors remain, click **Next**.
8. If you are installing on a 64-bit operating system, the **Select a file location** page is displayed. Select the location where you want to install the 32-bit versions of Microsoft Dynamics AX files, and then click **Next**.
9. On the **Select a display language** page, select the language in which you want to run Microsoft Dynamics AX for the first time.

> **Note**
>
> .NET Business Connector is a kind of Microsoft Dynamics AX client. Therefore, if .NET Business Connector is the first client that you install on a computer, Setup requires that you set the display language.

10. On the **Specify a location for configuration settings** page, specify whether you want .NET Business Connector to access configuration information from the registry on the local computer or from a shared configuration file. If you want to use a shared configuration file, you must enter the network location of the file. Click **Next**.
11. On the **Connect to an AOS instance** page, enter the name of the computer that runs the instance of Application Object Server (AOS) that you want to connect to. You can optionally specify the name of the AOS instance, the TCP/IP port number, and the WSDL port for services. Click **Next**.

> **Note**
>
> If you entered information about the AOS connection for other Microsoft Dynamics AX components that are installed on this computer, this page is not displayed. Later installations on the same computer reuse the existing AOS connection.

12. On the **Specify Business Connector proxy account information** page, enter the password for the proxy account that is used by the .NET Business Connector. Click **Next**.
13. On the **Prerequisite validation results** page, resolve any errors. When no errors remain, click **Next**.
14. On the **Ready to install** page, click **Install**.
15. After the installation is completed, click **Finish** to close the wizard.

## 41.1.1 COMMERCE DATA EXCHANGE: REAL-TIME SERVICES: REAL TIME SERVICE PROFILE

When you set up a profile for Commerce Data Exchange: Real-time Service, you enable the point of sale (POS) register or the online store to access the Application Object Server (AOS). The register or the online store can then retrieve or update information in real time.

Real-time Service acts as an agent for the register or the online store. The POS system and the online store do not access the remote AOS instance.

Real-time Service is also used by Commerce Data Exchange: Synch Service to upload status messages.

To create a Real-time Service profile, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Channel integration** > **Real-time Service profiles**.
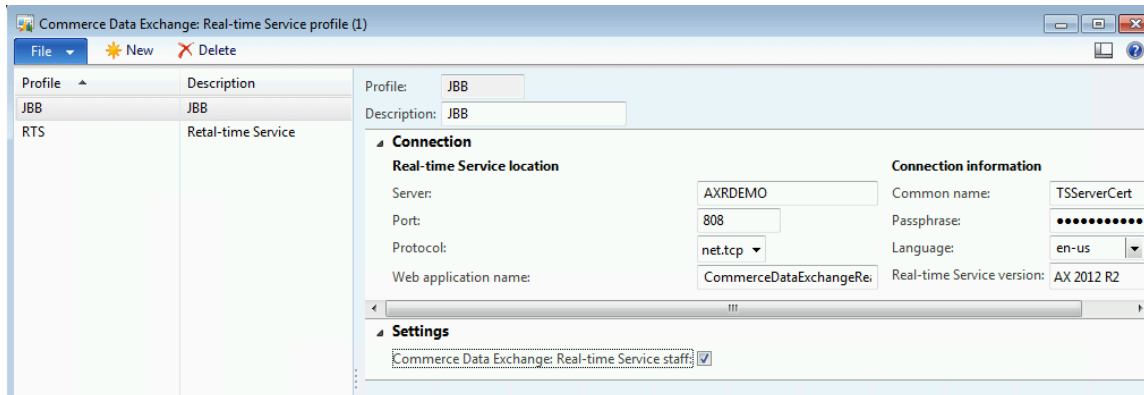


2. Select an existing profile, or press **CTRL+N** to create a new profile.
3. Enter a name and a description for the profile.
4. On the **Connection** FastTab, enter the following information:
   o **Server** – Enter the server name or IP address where Real-time Service is running.
   o **Port** – Enter the port number that the web service for Real-time Service uses.
   o **Protocol** – Select the communication protocol that Real-time Service uses.
   o **Web application name** – Enter the name of the web application that hosts Real-time Service.
   o **Common name** – Enter the common name for the certificate that is used to establish an encrypted channel with Real-time Service.
   o **Passphrase** – Enter the passphrase that is used to authenticate the POS connection.
   o **Language** – Select the language that is used by the AOS instance.
   o **Real-time Service version** – If the service has a different release version than Microsoft Dynamics AX, select the version of this instance of the service.
5. On the **Settings** FastTab, select the **Commerce Data Exchange: Real-time Service staff** check box to enable Microsoft Dynamics AX for Retail POS to validate the operator logon through the service.

### 41.1.1.1 Assign a Real-time Service profile to a register

Before POS registers can access AOS to retrieve or update information in real time, you must assign each POS register a Real-time Service profile.

To assign a register a Real-time Service profile, follow these steps.

1. Click **Retail** > **Setup** > **POS** > **POS registers**.
2. Double-click the register to modify, and then click the **Maintain** button.
3. In the **POS registers** form, click the **General** FastTab.
4. In **Profiles**, in the **Real-time Service profile** field, select the appropriate Real-time Service profile.
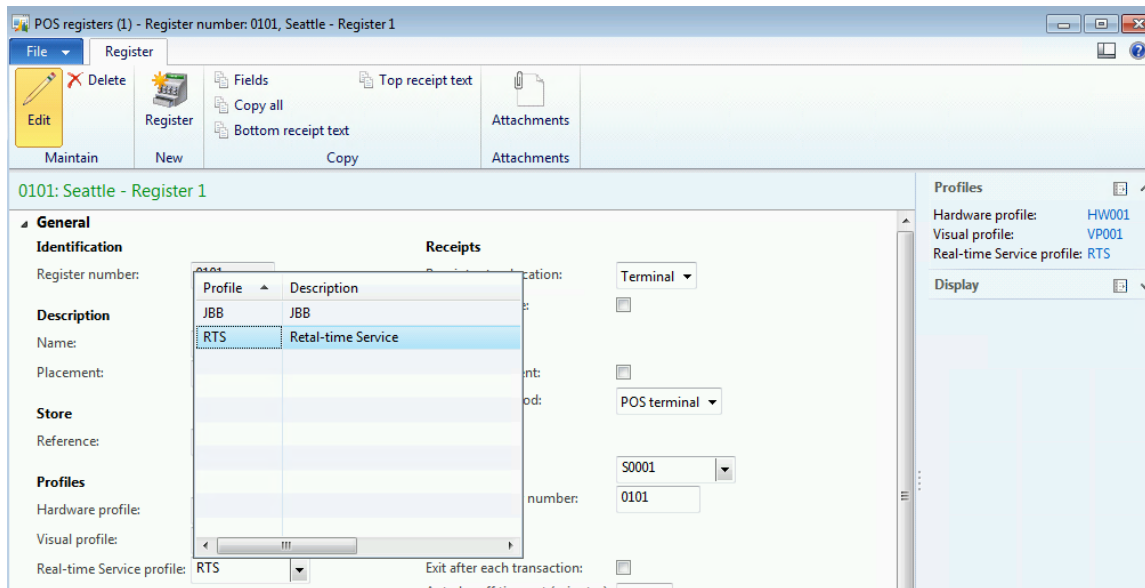


### 41.1.1.2 Assign a Real-time Service profile to an online store

Before online stores can access AOS to retrieve or update information in real time, you must assign each online store a Real-time Service profile.

To assign the online store a Real-time Service profile, follow these steps.

1. Click **Retail** > **Common** > **Retail channels** > **Online stores**.
2. Double-click the online store to modify, and then click the **Maintain** button.
3. In the **Online store** form, click the **General** FastTab.
4. On **Profiles**, in the **Real-time Service profile** field, select the appropriate Real-time Service profile.
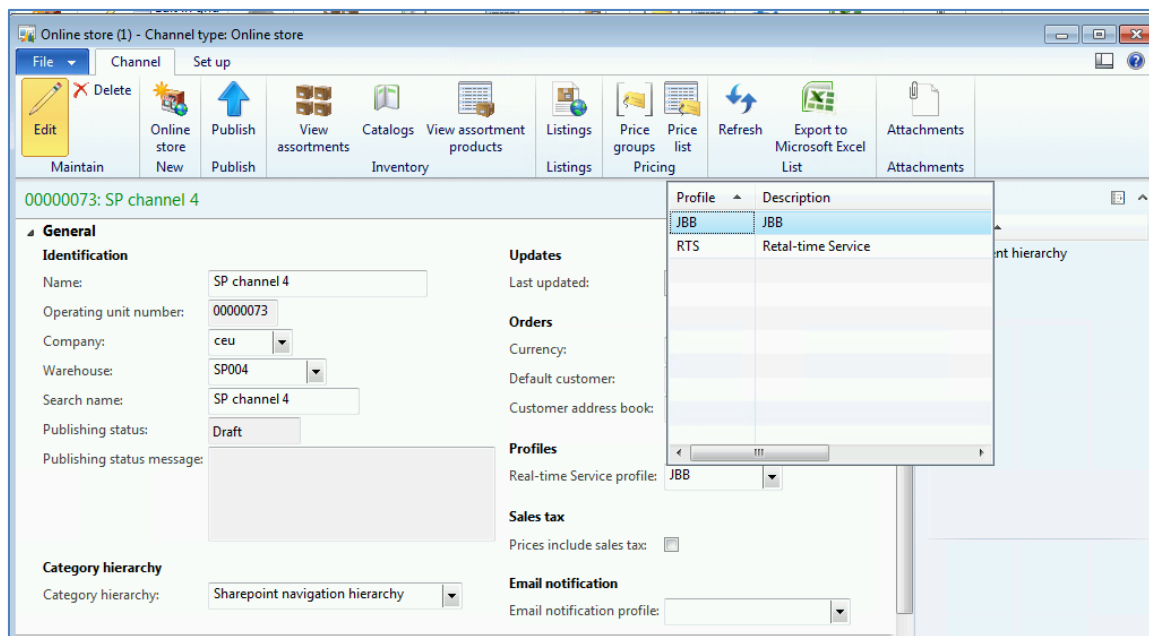
## 41.2 COMMERCE DATA EXCHANGE: SYNCH SERVICE UPLOAD OPTIONS

Microsoft Dynamics AX Retail provides resources to monitor Commerce Data Exchange: Synch Service. To set up communications between Microsoft Dynamics AX and stores, you must set up Synch Service profiles for Microsoft Dynamics AX at the headquarters office and for store locations. The details that you select for a profile determine how Microsoft Dynamics AX communicates with stores and store registers. In the profile, you select whether and how often status messages are uploaded from stores to Microsoft Dynamics AX. Use this form to set up upload details for messages.

Commerce Data Exchange: Real-time Service is used by Commerce Data Exchange: Synch Service to upload status messages to Microsoft Dynamics AX. You control whether this upload occurs, and how often it occurs, by selecting a set of upload options for each Synch Service profile.

### 41.2.1 SET UP UPLOAD OPTIONS FOR SYNCH SERVICE MESSAGES

To create a set of upload options for Synch Service, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Channel integration** > **Commerce Data Exchange: Synch Service upload options**.
2. In the **Commerce Data Exchange: Synch Service upload options** form; click **New** to create a new set of upload options.
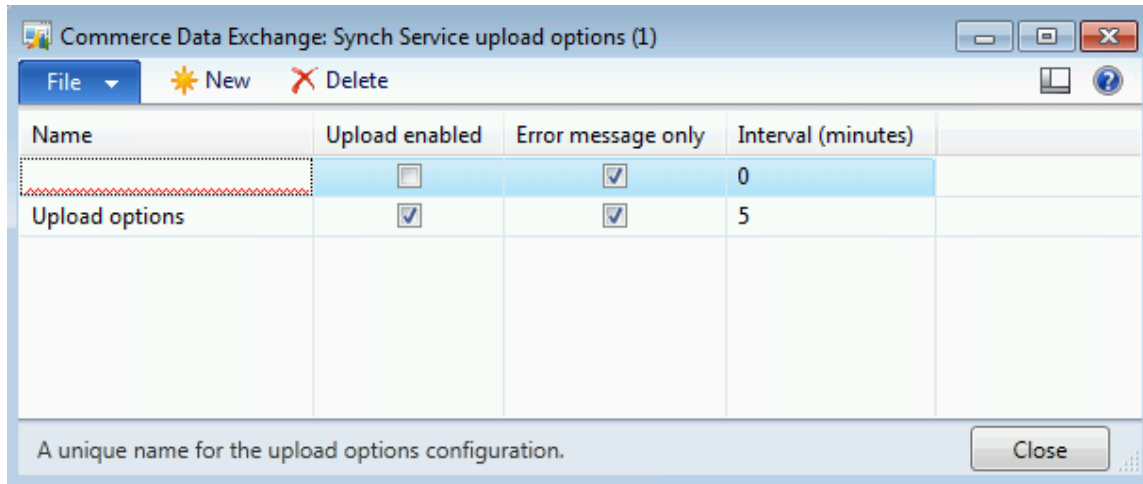
3. In the **Name** field, enter a name for the set of upload options.
4. Select the **Upload enabled** check box if messages are uploaded to Microsoft Dynamics AX for instances of Synch Service that use these upload options. Clear the check box if messages are stored only in the message database for Synch Service at the store.
5. Select the **Error message only** check box to upload only error messages. Clear the check box to upload status messages of all types. These status messages include error messages.
6. In the **Interval (minutes)** field, enter the number of minutes between uploads.
7. Repeat steps 2 through 6 for any other set of upload options that you require.

### 41.2.2SYNCH SERVICE PROFILES

To use the **Synch Service Profiles** form to set up the profile for Synch Service, follow these steps.

1. Click **Retail** > **Setup** > **Retail scheduler** > **Channel integration** > **Commerce Data Exchange: Synch Service profiles**.
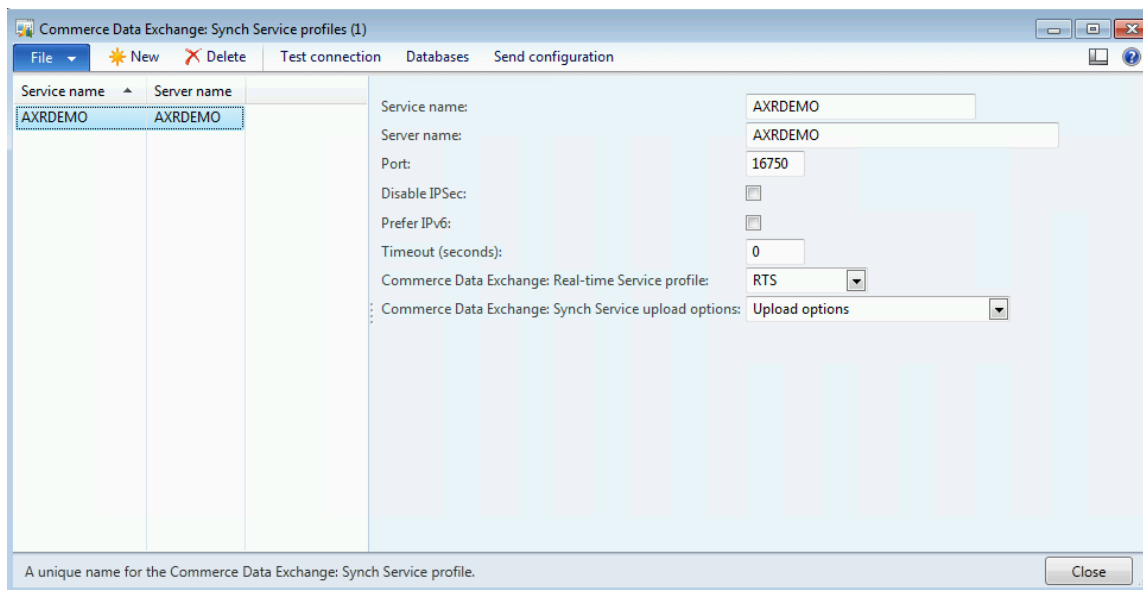
2. Click **New** to enter a new service profile.
3. Enter the **Service name** of the Synch Service.
4. Enter the **Server name** on which you installed the Synch Service instance.
5. Enter the **Port** that is used by the selected instance of Synch Service. By default, Synch Service uses port 16750.
6. Select the **Disable IPsec** to disable Internet Protocol security (IPsec) for the port that you are using for the selected profile.

**Important**

You should disable IPsec only if you have another way to provide secure communication channels for Synch Service. For more information, refer to Configure or bypass IPsec for Commerce Data Exchange: Synch Service.

7. Select the **Prefer IPv6** to use IPv6 for communication if both IPv6 and IPv4 protocols are available on the network
8. In the **Timeout** field, enter the maximum number of seconds before a communication job ends. If you enter 0 (zero), jobs do not time out.
9. Select a **Real-time Service profile**. Synch Service uses this profile to connect to Real-time Service to monitor the status of jobs. If you do not want this instance of Synch Service to monitor status, leave this field blank.
10. Select the **upload configuration** for the selected Synch Service profile.
11. Click **Database** to select the database profiles that use the selected Synch Service profile.

12. Click **Test connection** to confirm that the connection string for the selected Commerce Data Exchange: Synch Service profile is correct.
13. Select each profile that upload options are assigned to, and then click **Send configuration**.

# 41.3 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: SALES ORDERS

## 41.3.1 FUNCTIONAL OVERVIEW

The sales order is the order that is received by the business from the customer. The sales order can be for products and, or services, for example, a furniture store where the customer orders the items at a consulting counter and not at the POS.

The **Sales Order** function is used to prepay or pay the total balance of a sales order that is created in Microsoft Dynamics AX for Retail. Microsoft Dynamics AX for POS receives information about the sales orders through the Transaction Service because POS does not keep any information about the sales.

The **Sales Invoice** function is used to pay for the sales order that is created and invoiced in Microsoft Dynamics AX for Retail.

## 41.3.2 CONFIGURING MICROSOFT DYNAMICS AX FOR RETAIL

**Microsoft Dynamics AX User Settings**

The Microsoft Dynamics AX for Retail user that runs the Transaction Service must be part of the Microsoft Dynamics AX user group that has permission to do the following:

- Use and post the payment journal that is selected in the Microsoft Dynamics AX for Retail  parameters for POS payments

- Post sales orders

    **Transaction Services Settings**

The Microsoft Dynamics AX Retail POS Transaction Service must be configured. No other Transaction Service configuration is required.

    **Payment Journal Settings**

Payment journal settings must be set up for Sales order payments to be processed accurately through the Microsoft Dynamics AX Retail POS Transaction Service.

To configure the Sales orders to be posted directly after the Sales order is completely paid at the Microsoft Dynamics Retail POS, you must set up the following settings.

- Click **RETAIL > SETUP > PARAMETERS**.

- Select the **Prepayment** FastTab.

- Enter a check mark in **Post sales order**.

If you set up these setting, you must fill in all the required attributes when you create a Sale order that has the Warehouse ID, and so on.

### Create Buttons on the Till Layout

To have access to the **Sales order** function, a button must be added to the Till layout.

**Sales Order**

To create a button on the Till layout, follow these steps.

- CLICK **RETAIL > SETUP> POS > RETAIL POS > BUTTON GRID**.

- Select an existing button grid or create a new one.

- Add a new button with **Action** Sales Order.
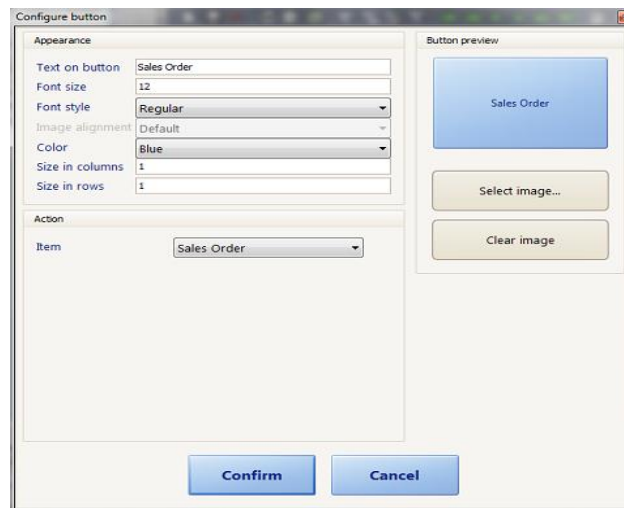


**Send the Updated Values to Retail POS**

To send the updated values, follow these steps.

1. Click **RETAIL SCHEDULER > SCHEDULER JOBS**.

2. Send the relevant scheduler jobs to update the data on the Microsoft Dynamics AX Retail POS terminal – (N-Terminal).

## 41.3.3USING THE FUNCTION IN RETAIL POS

To use the new setup, follow these steps.

1.  Start the Microsoft Dynamics AX for Retail POS application.

2.  If the application is already running, log off and then log back on.

3.  If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database the new button should be visible.

4.  Click **Sales Order.**

    The **Sales Order** dialog box will be displayed.



5.      If the sales order ID is available, follow these steps.

        a. Type the **Sales Order Id.**

        b. Click **Get**.

        Information about the sales order will be displayed in the **Sales Orders** dialog box.

6. If the sales order ID is not available:

*   Enter the **Customer ID.**
*   Click **Get.**
*   Search for a sales order by clicking **Search.** A list of all available sales orders for the customer is displayed.

- Select a sales order.

    Information about the sales order will be displayed in the **Sales Orders** dialog box.



**Pre-Payment**

When sales orders are created, a prepayment amount can be decided. This is the minimum amount that must be paid before the sales order is processed.

Information about the prepayment amount is available in the **Sales Order** dialog box after the sales order is selected.



To pay the prepayment amount, click **Prepay sales order** and the prepayment amount is added to the transaction. When the transaction is being paid, Microsoft Dynamics AX for Retail is

notified through the Commerce Data Exchange: Real-time Service and the sales order balance amount is reduced or increased by the amount that is prepaid.

**Pay Sales Order Total Balance**

After the sales order is selected, information about the remaining balance on the sales order is available in the **Sales order** dialog box.

To pay the total balance, click **Get sales order** and the whole balance of the sales order is added to the transaction.

When the transaction is being paid, Microsoft Dynamics AX for Retail is notified through the Transaction Service and the sales order balance amount is updated.



**Create Picking List and Create Packing Slip**

**Create Picking List** and **Create Packing Slip** on the **Sales order** dialog box start a printout in Microsoft Dynamics AX for Retail by using the Transaction Service.

The picking list contains the details of the ordered items.

A packing slip is a shipping document that accompanies delivery packages. It includes the itemized details of the package contents. Sometimes it can also include the customer pricing.

## 41.3.4 TROUBLESHOOTING

If the error that is displayed occurs when a sales order is paid, the **Payment journal** settings might not be set or the Microsoft Dynamics AX for Retail user that is running the Transaction Service does not have the necessary user permissions.

To temporarily resolve this issue on Retail POS, use **Void Transaction** to void the whole transaction.

## 41.4 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: SALES INVOICES

### 41.4.1 FUNCTIONAL OVERVIEW

The sales invoice is a commercial document that is issued by the seller and is sent to the buyer. The sales invoice shows the products, quantities and agreed prices for products or services that the seller already provided to the buyer.

You can use **Sales Invoice** to pay the sales invoice that is created in Microsoft Dynamics AX for Retail. Retail POS receives the information about sales invoices through the Transaction Service from the POS. However, Retail POS does not store any information about the sales invoices.

### 41.4.2 CONFIGURING MICROSOFT DYNAMICS AX FOR RETAIL

**Microsoft Dynamics AX User Settings**

The Microsoft Dynamics AX for Retail user that is running the Transaction Service must be part of the Microsoft Dynamics AX user group that has permission to do the following:

- Use and post the payment journal that is selected in the Retail parameters for POS payments

- Settle transactions

    **Transaction Service Settings**

The POS Transaction Service must be configured. No other Transaction Service configuration is required.

**Payment Journal Settings**

To process payments correctly, the payment journal setting for sales invoices must be set through the Retail POS Transaction Service. To do this, follow these steps.

1. Click RETAIL > SETUP > PARAMETERS.
2. Select the **Prepayment** FastTab.
3. Select **Name**.
4. Select **Ledger Account**.

### Create Buttons on the Till Layout

To access the **Sales Invoice** button, you must add a button to the Till layout.

### Sales Invoice

To create the **Sales Invoice** button on the Till layout, follow these steps.

1. CLICK **RETAIL > SETUP > POS > RETAIL POS > BUTTON GRID**.

2. Select the existing button grid or create the new button grid.

3. In the **Action** area, select **Sales Invoice** to add the new button.
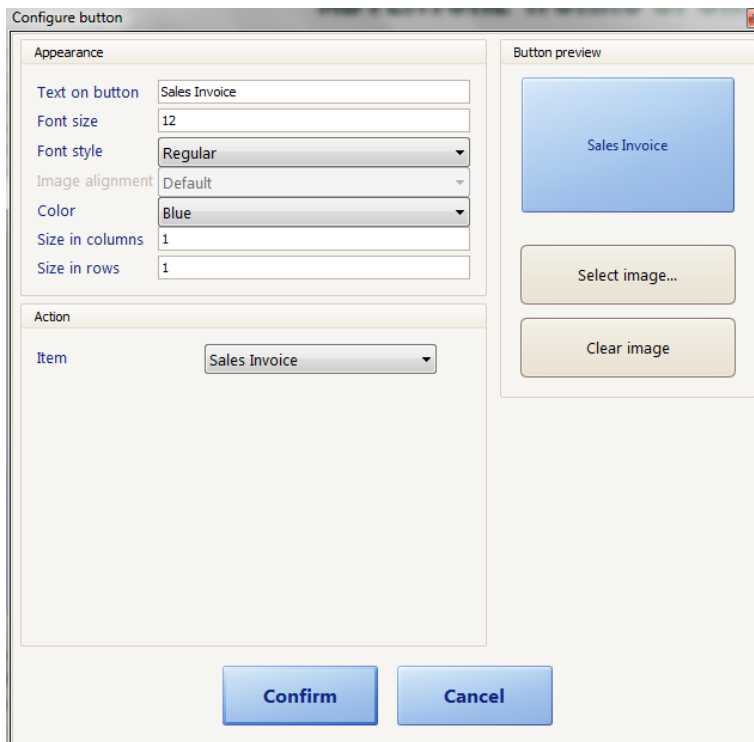


### Send the Updated Values to Retail POS

To send updated values, follow these steps.

1. Click **RETAIL SCHEDULER > SCHEDULER JOBS**.

2. Send the relevant scheduler jobs to update the data on the Retail POS terminal.

### 41.4.3USING THE FUNCTION IN RETAIL POS

To add a balance to an invoice, follow these steps.

1.  Start the Retail POS application.

2.  If the application is already running, log off and then log back on.

3.  If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database the new button should be visible.

4.  Select **Customer.**

5.  Click **Sales Invoice.**

    The **Sales Invoice** selection dialog box is displayed.



6.  Select a Sales invoice from the list.

7.  Click **Select.**

    The Sales Invoice balance amount is added to the transaction.

When the transaction is being paid, Microsoft Dynamics AX for Retail is notified through the Transaction Service and the sales invoice balance amount is updated.

## 41.5 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: CUSTOMER VALIDATION

### 41.5.1FUNCTIONAL OVERVIEW

When an amount is being charged to a customer, the Retail POS Transaction Service can be used to retrieve information from Microsoft Dynamics AX for Retail about the customer's credit limit and if the payment is within the limit. Microsoft Dynamics AX for Retail maintains a

customer balance based on the total of the transaction that is being charged and the amount the customer has paid.  The limit on this balance is decided on each customer by setting the **Credit limit**.

## 41.5.2 CONFIGURING MICROSOFT DYNAMICS AX FOR RETAIL

The Retail POS Transaction Service must be configured. No other Transaction Service configuration is required.

**Send the Updated Values to Retail POS**

To send the updated values, follow these steps.

1. Click RETAIL SCHEDULER>SCHEDULER JOBS.

2. Send the relevant scheduler jobs to update the data on the Retail POS terminal.

**Changing the Customer's Credit Limit**

To change the customer's credit limit, follow these steps.

1. Click ACCOUNTS RECEIVABLE>CUSTOMER DETAILS.

2. Select any of the existing customers.

3. Select the **General** FastTab.

4. Set the C**redit limit** to any value.

5. Check the **Mandatory credit limit**:

6. Click ACCOUNT RECEIVABLE > CUSTOMERS to view the current balance on each customer.



The information that is shown here indicates that customer 3000 only can charge 1500.00 United Stated dollars (USD). If more is charged an error will be created in Retail POS.

### 41.5.3 USING THE FUNCTION IN RETAIL POS

On the Microsoft Dynamics AX for Retail POS window create a transaction of more than 1500.00 USD and charge it to customer 3000.

Because the 1750.00 USD amount exceeds the 1500.00 USD credit limit by 250.00 USD, a message is displayed stating that the credit limit is exceeded.

By increasing the credit limit to 1750.00 USD, the transaction can be completed.

## 41.5.4 TROUBLE SHOOTING

If an error occurs when you pay a customer account, the Retail POS Transaction Service is not configured correctly.

Check the **Transaction Service Profile** settings again, make sure that they are correct, and then test the Transaction Service connection.

# 41.6 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: INVENTORY LOOKUP

## 41.6.1 FUNCTIONAL OVERVIEW

Inventory Lookup is used to request the stock level of the selected item. The Transaction Service will return the stock level for the item in each location.  This is convenient when an item does not exist and the customer wants to know in which store the item can be found.

## 41.6.2  CONFIGURING MICROSOFT DYNAMICS AX FOR RETAIL

On the Microsoft Dynamics AX for Retail window, the Transaction Service settings must be set. Additionally, a button must be added to the Microsoft Dynamics AX for Retail POS Till layout to access **Inventory Lookup**.

**Create Buttons on the Till Layout**

For more information about how to create button grids and Till layouts refer to Part I.

**Inventory Lookup**

To create a button on the Till layout, follow these steps.

1.     CLICK **RETAIL > SETUP > POS > RETAIL POS > BUTTON GRID**.

2.   Select the existing button grid or create the new button grid.

3.   In the **Action** area, to add a new button select **Inventory Lookup**.
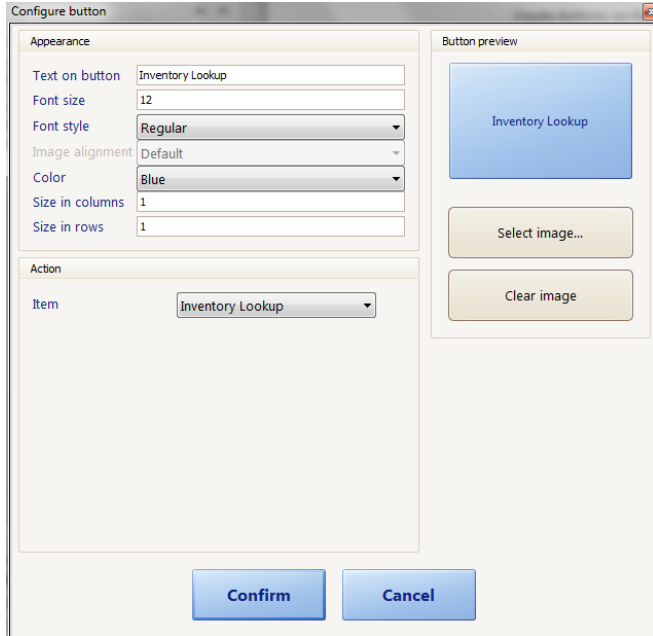
**Send the Updated Values to Retail POS**

To send updated values, follow these steps.

1. Click RETAIL SCHEDULER > SCHEDULER JOBS.

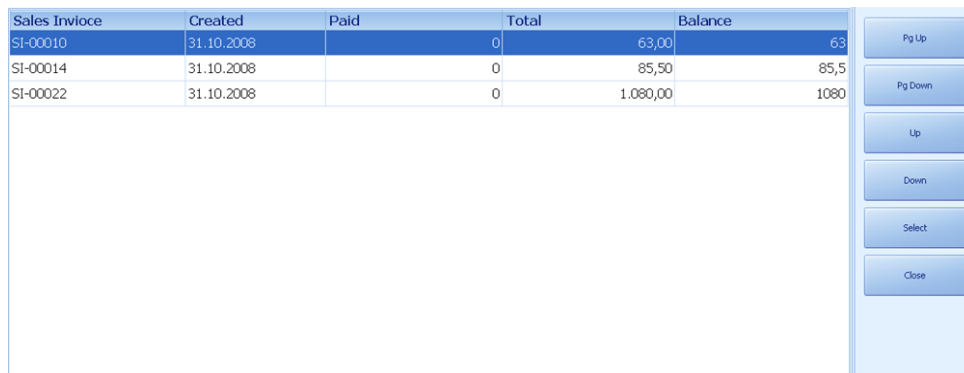2. Send the relevant scheduler jobs to update the data on the Retail POS terminal.

### 41.6.3  USE THE FUNCTION IN RETAIL POS

To use **Inventory Lookup**, follow these steps.

1. Start the Retail POS application.

   If the application is already running, log off and then log back on.

   If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database, the new button should be visible.

2. Click **Inventory Lookup.**

   The **Inventory Lookup** dialog box will be displayed.
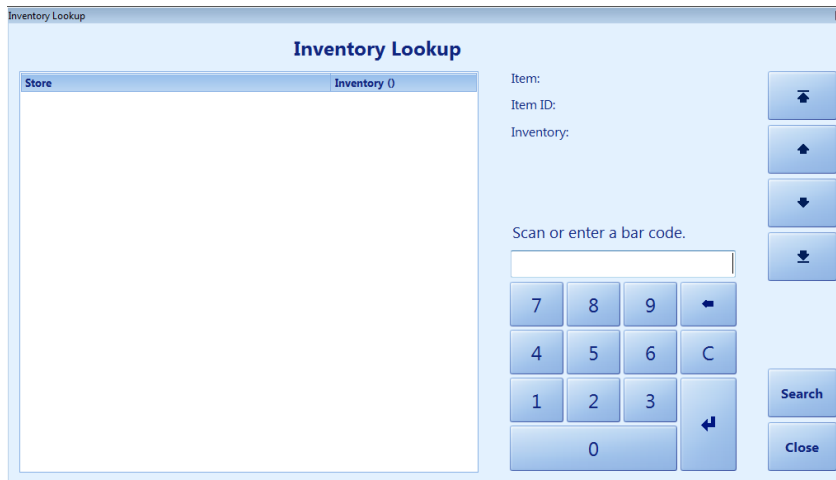
4.  Use one of the following two methods:

    a.  Type an item number, and press **Enter**

    b.  Click **Search** button, and select an item from the list

If the item is found, the items status will be displayed at the top of the dialog box.  The inventory status of other stores in the chain will be displayed in the list.
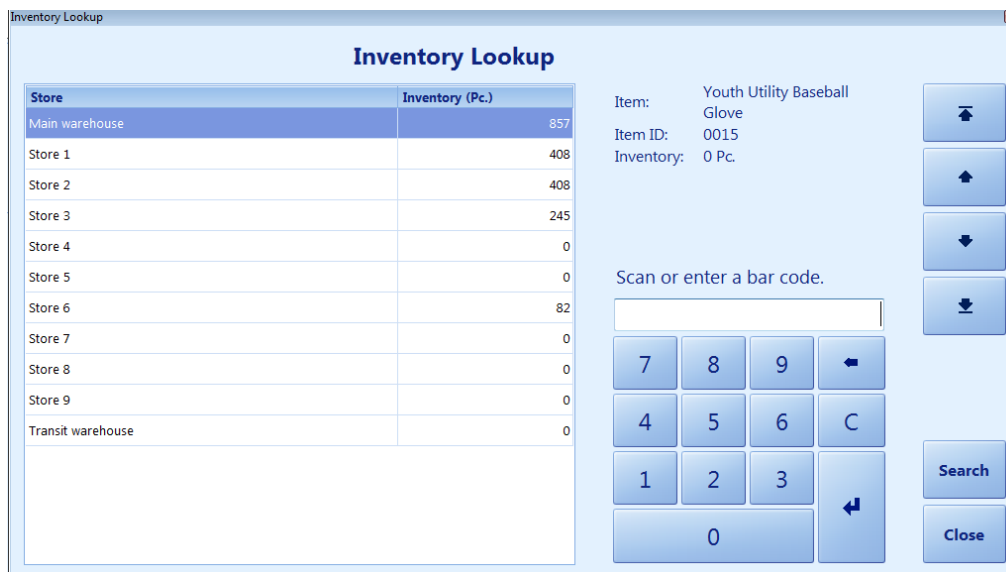
41.7 **RETAIL TRANSACTION SERVICE: STOCK COUNTING**

**41.7.1 FUNCTIONAL OVERVIEW**

The basic stock count can be performed in Microsoft Dynamics AX for Retail POS by using a scanner or by manually entering the item information. This can be performed at the POS register online or offline. You can suspend the stock count and resume the stock count at a later time, if necessary. Variants can be counted in stock counts. However, serial numbers or units of measure cannot be counted in stock counts.

   **Note**: The scheduled or basic stock count can be performed by using the Enterprise
   Portal with a browser and an Internet connection.

**41.7.2 CONFIGURING MICROSOFT DYNAMICS AX FOR RETAIL**

   **Transaction Service Settings**

The Retail POS Transaction Service must be configured.

No other Transaction Service configuration is required.

   **Create Buttons on the Till Layout**

You do not have to create a new button for **Stock Count** because it is already configured on the current till layout under **Tasks**.

**41.7.3 USE THE FUNCTION IN RETAIL POS**

To use **Stock Count**, follow these steps.

1.  Start Retail POS and log on with an account that has store inventory access.

2.  Click **Tasks**, and then click **Stock Count**.

3.  Retail POS displays the **Stock Counting** form.
4.  Scan an item, or in the **Scan** or enter **barcode** box, type the item number, and then press **ENTER**.
5.  In the **Enter quantity** box, type the quantity, and then press **ENTER**.
6.  If the item has variants, Retail POS displays the **Select** form.
7.  Select the appropriate variant dimensions.
8.  Repeat the stock count steps for each item that you want to count.
9.  When finish the stock count, click **Commit** to send the stock count to Microsoft Dynamics AX Retail.

**41.7.4 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: PURCHASE ORDER AND TRANSFER ORDERS**

### 41.7.4.1    Functional Overview

You can receive inventory from purchase orders and incoming transfer orders. The receiving documents can be downloaded from Microsoft Dynamics AX Retail on demand, and employees who are granted access can receive the merchandise. Completed receiving documents are then uploaded to Microsoft Dynamics AX Retail for posting to the original purchase orders or transfer orders.

Item variants and units of measure can be included when receiving inventory.

You can use Microsoft Dynamics AX Retail for POS to complete outgoing transfer orders and pick merchandise for them. The picking documents for transfer orders can be downloaded from Microsoft Dynamics AX Retail on demand, and employees who are granted access can pick the merchandise. Completed picking documents are then uploaded to Microsoft Dynamics AX Retail so these documents can be posted to the original transfer orders.

**Note**: You can also pick merchandise by using the Enterprise Portal with a browser and an Internet connection. For more information, refer to the *Enterprise Portal Retail User's Guide*.

## 41.7.5 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: CENTRALIZED RETURNS

### 41.7.5.1    Functional Overview

Microsoft Dynamics AX for Retail POS can retrieve previously posted transactions. Therefore, a customer can return one or more items from the original transaction by using the original price. You could not do this in earlier versions.

The system must be configured so that each receipt number is unique. By passing the unique receipt number, Microsoft Dynamics AX for Retail can locate the transaction and send it to the Retail POS.

However, the transaction might not yet be posted in Microsoft Dynamics AX for Retail. Therefore, if the transaction is not found in Microsoft Dynamics AX for Retail, a check is performed to determine whether the transaction can be found in the local database. If it still cannot be found, then an error message is displayed indicating that the transaction is not found.

**Note**: The transaction must be returned to the same register if P-Term is not run.

### 41.7.5.2    Configuring Microsoft Dynamics AX for Retail

**Transaction Service Settings**

The Retail POS Transaction Service must be configured.

No other Transaction Service configuration is required.

**Create Buttons on the Till Layout**

To have access to the **Centralized returns**, you must add a button to the Till layout.

**Centralized returns**

To create the **Return Transaction** button on the Till layout, follow these steps.

1. CLICK **RETAIL > SETUP > POS > RETAIL POS > BUTTON GRID**.

2. Select the existing button grid or create the new button grid.

3. In the **Action** area, to add a new button select **Return Transaction**.

**Send the Updated Values to Retail POS**

To send updated values, follow these steps.

- Click **RETAIL SCHEDULER > SCHEDULER JOBS**.

- Send the relevant scheduler jobs to update the data on the Retail POS terminal.

### 41.7.5.3    Use the function in Retail POS
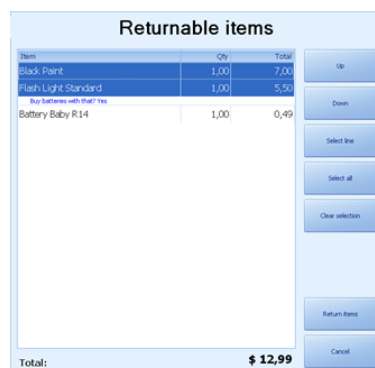
To process returns, follow these steps.

1. Start the Retail POS application.
2. If the application is already running, log off and then log back on.
3. If the new setup is replicated from Microsoft Dynamics AX for Retail to the Retail POS local database, the new button should be visible.
4. Click **Return Transaction.**
   A message asking for the receipt number is displayed.

5. Type the receipt number.

   If the receipt number is found in Microsoft Dynamics AX for Retail, a message is displayed with every item from that transaction.



6. Select the items that must returned by using any of the following buttons:

   - **Select line** (Selects one line.  Selecting a line has the same affect.)

   - **Select all** (Selects all the lines.)

   - **Clear selection** (Deselects all the lines.)

7. Press **Return items** to return the selected items or press **Cancel** to stop the function.

   The items selected will be added to the current transaction.

When the transaction is paid, Microsoft Dynamics AX for Retail is notified through the Transaction Service.  Each returned item is checked again to make sure that the item can be returned. This prevents the same items to be returned in two stores at the same time.

### 41.7.6  COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: STAFF VALIDATION

## 41.7.6.1       Functional Overview

This functionality is used so that query features in the centralized Microsoft Dynamics AX for Retail database can validate operator log on at the Retail POS. The query features also monitor when an operator is not logged on to many terminals at the same time.  Therefore, the centralized log off communication is used to make sure that Microsoft Dynamics AX for Retail is aware when an operator is not logged on.

## 41.7.6.2       Configuring Microsoft Dynamics AX for Retail

### Transaction Service Settings

The Retail POS Transaction Service must be configured.

To set Transaction Service settings, follow these steps.

1. Click RETAIL > SETUP > POS > TRANSACTION SERVICE PROFILE.
2. Select the **Transaction Profile** the current terminal is using.
3. Select the **Settings** FastTab.
4. Select **Staff.**
5. Save the settings.

### Create Buttons on the Till Layout

If the **Log off** button does not already exists, you must add a **Log off** button to the Till layout.

**Logoff button**

To create the **Log off** button on the Till layout, follow these steps.

1. CLICK RETAIL > SETUP > POS > RETAIL POS>BUTTON GRID.
2. Select the existing payment button grid or create the new button grid.
3. In the **Action** area, to add a new button select **Logoff**.

**Creating an Operator in Microsoft Dynamics AX for Retail POS**

1. To create a staff member in Microsoft Dynamics AX for Retail POS, you must first create an **Employee**.
2. Click BASIC > EMPLOYEE DETAILS and the **Employee** form is displayed.
3. Press CTRL+N to create a new Employee.
4. Select the **General** FastTab.
5. Place a check mark next to the **Retail** field to change the new employee that is created to a Staff member.



6. Click RETAIL > SETUP > STORE > STAFF and the **Staff** form is displayed.

   The new Staff member will be visible in the list.

7. Type the information that relates to Retail POS as it is described in the following table.



| Tab | Field | Description |
| --- | --- | --- |
| General | Name | The name of the cashier. |

| General | Name on receipt | The name as it appears on the receipt. |
|---|---|---|
| General | Blocked | Checked if the cashier should temporarily not be able to log on (online check). |
| Personal | Password | The password to be entered. |
| Privileges | Allow multiple logins | Whether the cashier should be allowed to log on to multiple terminals at any given time (online check). |

8.  Set the necessary Privileges, as they are defined on the **Privileges** FastTab.
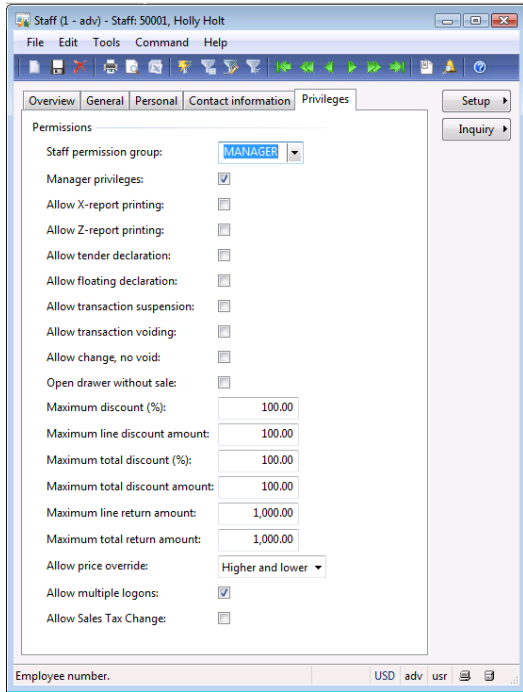


9.  Click **RETAIL SCHEDULER > SCHEDULER JOBS**.

10. Send the relevant scheduler jobs to update the data on the Retail POS terminal.

### 41.7.6.3 Use the function in Retail POS

To log off, follow these steps.

11. When the POS starts, the user is prompted with the following window: Log on with the user ID and the password that is provided in the previous steps.

12. To log off, make sure that the **Log off** button is available.

    You can press the **Log off** function only if the transaction is blank. However, if the transaction is not blank, the POS returns to the log on state.

## 41.7.7 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: CREDIT MEMO (CREDIT VOUCHER)

### 41.7.7.1 Functional overview

Credit memo is the term that will be referred to in this document. However, Credit voucher is the term that is referred to in Microsoft Dynamics AX for Retail.

Characteristics of the credit memo include the following:

- The credit memo acknowledges a liability and provides authorization to pay a debt.

- The credit memo is issued when the customer returns purchased goods, and only if the customer can claim that he or she has a valid reason for receiving the credit memo.

- The credit memo cannot be sold.

When you create the credit memo in Retail POS, a request is sent to Microsoft Dynamics AX for Retail through the Retail POS Transaction Service. The credit memo is created in Microsoft Dynamics AX for Retail and the information is returned to the Retail POS. Then, the Retail POS can continue with the payment of the sale, print a certificate and so on.

### 41.7.7.2 Configuring Microsoft Dynamics AX for Retail

To create the credit memo correctly, you must create the number sequence and set some tender type configurations.

**Commerce Data Exchange: Real-time Service Settings**

The Retail POS Transaction Service must be configured.

No other Transaction Service configuration is required.

**Credit Memo Number Sequence**

To set the number sequence, follow these steps.
- Click RETAIL > SETUP > PARAMETERS.
- Select the **Number sequences** FastTab.
- Set the number sequence for **Credit voucher Number**.

**Tender type properties**

Decide the minimum value that will be allowed on the Credit Memo tenders and the tender to use if the balance is less than the minimum.

To set the tender type properties, follow these steps.

- CLICK RETAIL > SETUP > STORE > STORES.
- Select the Store that you want to use.
- Click Setup and select **Tender Types**.
- Select the Tender type **Credit Memo**.
- Select the **Change** FastTab.

    **Above Minimum change tender** is the tender that should be used if the remainder of the balance is more than the **Minimum Change**.

    **Minimum change** is the minimum balance that can be on the credit memo before you give the customer change and invalidate the credit memo.

- Set **Change tender** to **Cash** (or any other tender type that you want).

- Select the **General** FastTab and set the **Operation ID** to 213 (Pay Credit memo).

- Repeat steps 2 through 7 for every store that is being used.



        **Create Buttons on the Till Layout**

To issue and use credit memos, buttons must be added to the Till layout.

**Pay Credit Memo**

To create the pay credit memo, follow these steps.

- Create a button on the Till layout to pay with a gift card, by clicking **Retail > Setup > POS > Retail POS > Button Grid**.

- Select the existing button grid or create the new button grid.

- In the **Action** area, add the new **Pay with Credit Memo** button and select the **Payment type** as Credit Memo.

  The **Pay with Credit Memo** works as follows:

  - If the transaction is a negative or return action, a credit memo will be issued.

  - If the transaction is a positive number, then the cashier will be asked for a credit memo ID to use as payment.

**Issue credit memo**

1. Create a button on the Till layout to issue a gift card, by clicking RETAIL > SETUP > POS > RETAIL POS > BUTTON GRID.
2. Select the existing button grid or create the new button grid.
3. In the **Action** area, add the new **Issue Credit Memo** button.

The **Issue Credit Memo** button issues a credit memo for the amount that the store owes the customer for the transaction.

**Send the updated values to Retail POS**

To send the updated values, follow these steps.

1. Click RETAIL SCHEDULER > SCHEDULER JOBS.
2. Send the relevant scheduler jobs to update the data on the Retail POS terminal.

### 41.7.7.3    Use the function in Retail POS

To issue the credit memo, follow these steps.

1. Start the Retail POS application.
2. If the application is already running, log off and then log back on.
   a. If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database, new buttons should be visible.
3. Return an item.
4. Click **Issue Credit Memo** and if the balance of the transaction is a negative number, the credit memo will be created through the Transaction Service.

5. Click RETAIL AX > RETAIL > INQUIRES > CREDIT VOUCHERS.
   a. The credit memo that is just created will be visible in the list with **Applied** as false.
6. Sell a few items.
7. Click **Pay with Credit Memo** that is previously created.
   a. A message asking for the credit memo number is displayed.
8. Enter the credit memo number that is previously created.
9. Click **Get**.
   a. The Credit memo amount is displayed in the dialog box.



- Click **OK.**

- Click RETAIL AX > RETAIL > INQUIRES > CREDIT VOUCHERS.

  The credit memo that is previously created will now have **Applied** as true, and if the credit memo balance is not completely used, a new credit voucher is issued.

## 41.7.8 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: GIFT CARD

### 41.7.8.1 Functional Overview

A gift card is a non-monetary item that is purchased by the customer and is issued by the retailer. At the POS terminal there are four options:

- **Issue a Gift Card to the customer**
- **Add balance to Gift Card**
- **Check Gift Card balance**
- **Allow the customer to pay with a Gift Card**

### 41.7.8.2 Configuring Microsoft Dynamics AX for Retail

#### Transaction Service Settings

The Retail POS Transaction Service must be configured.

No other Transaction Service configuration is required.

**Create Buttons on the Till Layout**

To have access to the **Centralized returns** function, a button must be added to the Till layout.

**Gift Card**

To create the **Issue Gift Card**, **Add To Gift Card**, and **Gift Card Balance** buttons on the Till layout, follow these steps.

- CLICK **RETAIL > SETUP > POS > RETAIL POS > BUTTON GRID**.
- Select the existing button grid or create the new button grid.
- In the **Action** area, add the new **Issue Gift Card** button.
- In the **Action** area, add the new **Add to Gift Card** button.
- In the **Action** area, add the new **Gift Card Balance** button.

**Send the Updated Values to Retail POS**

To send the updated values, follow these steps.

1. Click **RETAIL SCHEDULER > SCHEDULER JOBS**.

2. Send the relevant scheduler jobs to update the data on the Retail POS terminal.
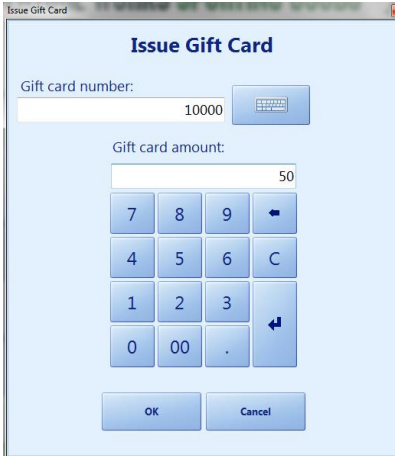
## 41.7.8.3 Use the function in Retail POS

Four main functions are included on the Retail POS:

1. Issue Gift Card
2. Add Balance to Gift Card
3. Check Balance on Gift Card
4. Redeem a Gift Card

**Issue a Gift Card**

To issue a gift card, follow these steps.
- At the POS, click **Task/Issue Gift Card**.
- Scan the gift card or type the number in the **Gift card number** box.
- Enter the gift card amount and click **OK** to complete the transaction.
  POS prints a sales receipt and a gift receipt.

**Add Balance to Gift Card**

To add a balance to a gift card, follow these steps.

- o At the POS, configure the button with the action **Add to Gift Card**.
- o Click **Add to Gift Card**.
- o Scan the gift card or type the number in the **Gift card number** box.
- o Enter the gift card amount and click **OK** to complete the transaction.

**Check Gift Card Balance**

To view the gift card balance, follow these steps.

- At the POS, configure the button with the action **Gift Card Balance**.
- Click **Gift Card Balance**.
- Scan the gift card or type the number in the **Gift card number** box.
- Click **Get** to view the gift card balance.
- Click **Print Receipt** to print a receipt with the balance of the gift card.

**Redeem a Gift Card**

To redeem a gift card, follow these steps.

1. Add items to the transaction.
2. Click **Pay Gift Card**.
3. Scan the gift card or type the number in the **Gift card number** box.
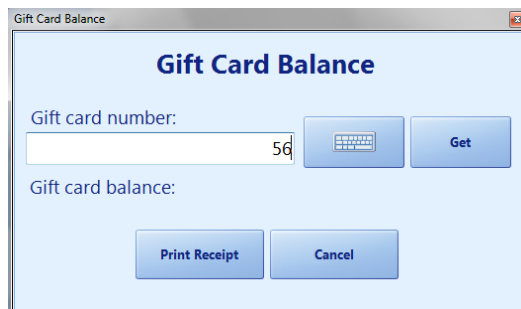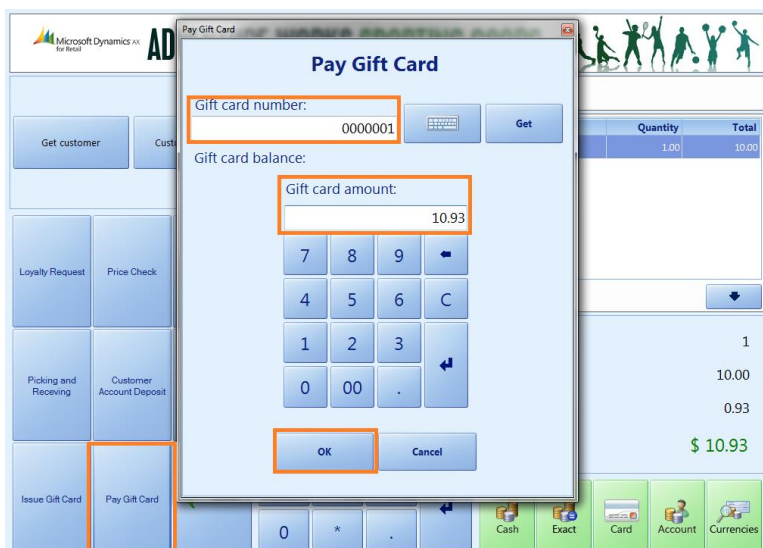4. Click **OK** to complete the transaction.



## 41.7.9 COMMERCE DATA EXCHANGE: REAL-TIME SERVICE: LOYALTY

### 41.7.9.1 Functional Overview

The loyalty system is based mainly on two functions—accruing points and spending points. To accrue points, a loyalty customer must be set up. Each loyalty customer can have a reference (optional) to a real customer in the system. More than one loyalty customer can have a reference to the same real customer. After the loyalty customer is created, one or more Loyalty cards can be issued that belong to this loyalty customer. Each Loyalty card has a reference to a loyalty scheme. The loyalty scheme specifies the accruement points rule. The accruement points rule shows how many points can be accrued and how the points are earned.

Additionally, each Loyalty card is identified how it can be used is shown, such as only accruing, accruing and spending and so on.

### 41.7.9.2      Configuring Microsoft Dynamics AX for Retail

The details of the loyalty configuration are discussed in the *Microsoft Dynamics AX for Retail HQ User Guide*.

### 41.7.9.3      Use the function in Retail POS

There are two main functions on the Retail POS—accruing points and spending points.  Points can be accrued any time during the transaction, either by swiping the Loyalty card or pressing a special button to manually enter the Loyalty card number. Actions that can start to accrue points include the following:

- Direct purchase of an item
- Purchase of an item that belongs to one of the following: Retail group, Retail department, Special group, Business group, Division group
- Purchase of any item
- Purchase of a particular variant of an item
- Use of a special vendor type to make  payment

To spend loyalty points, the **Card payment** dialog box must be opened and a card that is identified as the Loyalty card must be used.

**How to Accrue Points**

To accrue loyalty points, the Loyalty card must be added to the transaction.  One way is to swipe the Loyalty card at any time during the transaction.  If the card is identified as a Loyalty card a message is displayed on the message panel.

Another way is to manually enter the Loyalty card number. To enter the card number, following these steps.

- Start the Retail POS application.
- If the application is already running, log off and then log back on.
- If the new setup is replicated from Microsoft Dynamics AX for Retail to the POS local database, new button should be visible.
- Click **Loyalty Request**.
- Type the Loyalty card number in the **Card number** dialog box.

   Only one Loyalty card can be registered for each transaction. If the user tries to add a second Loyalty card, a message is displayed asking the user if he or she wants to override the existing loyalty record.
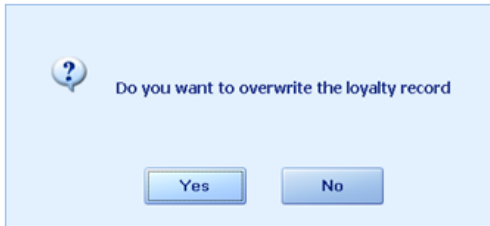
**How to Spend Points**

When the Loyalty card is used to spend points, the **Card payment** dialog box must be opened.

To open the **Card payment** dialog box, follow these steps.

- Enter the items to be purchased.
- Press the **Card payment** button.
   The **Card payment** dialog box appears.
- Swipe or enter the **loyalty card number** and enter the **amount** to be paid.

## 42 POS EXTENSIBILITY & PLUGINS

**Introduction**

Microsoft Dynamics AX for Retail provides a range of services and triggers to extend the POS functionality. The POS extensibility is focused towards:

- Improving existing ISV scenarios and support new scenarios based on partner and customer feedback.
- Supporting multiple ISV customizations in a single instance of POS.

POS Extensibility and plug in should not be perceived to be used:
- To completely rewrite POS UI or architecture.
- To be used as an Add-in manager.

The below diagram provides an architectural overview on how triggers and services reside within POS.
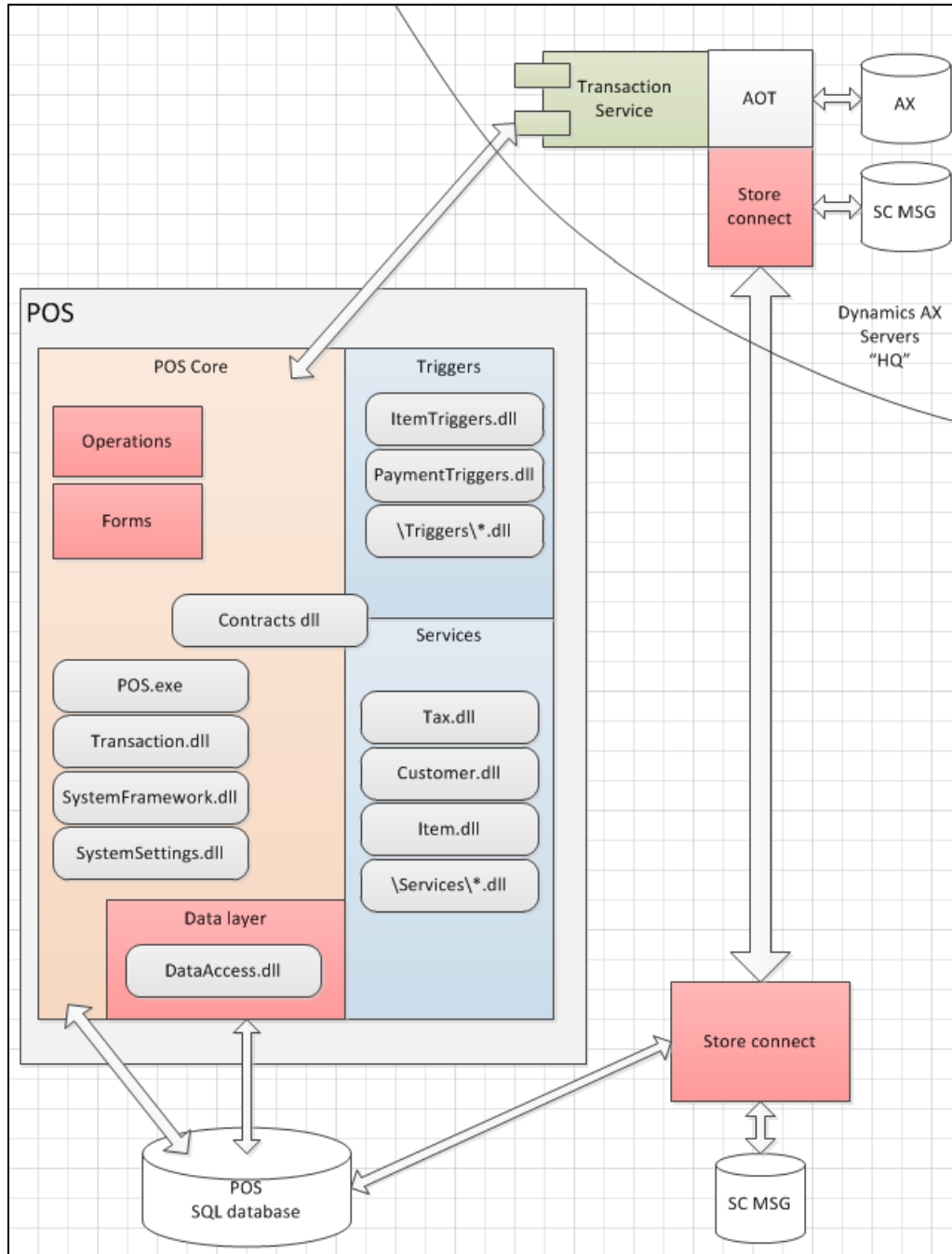
The triggers and services area under POS are completely replaceable by the ISV and partner customizations.

Contract DLL defines all the interface definitions for services and triggers. These definitions are inherited by triggers and services to implement specific business functionalities.

The POS extensibility is broadly divided into 2 areas:

- Services define the business logic for retail operations. Services are divided into various modules (Ex. Customer, currency, Infocodes, Item) which provide user forms and business logic to be extended by ISVs. Partners can modify the user forms and add additional functionalities in the services area based on customer requirements.

- Triggers define the call points for an event to occur. Once an event is triggered services methods can be called to perform specific business operations.
- Skins: Custom themes can be developed using the **DevExpress Skin editor** to create various look and feel for Point of Sale (POS) users. A **DevExpress developer** can create a new skin from existing skin and modify the look as feel as required. After the skin has been created and tested, the skin DLL needs to be copied to the Skins folder in the POS installation directory on every register to make it available for Point of Sale (POS) users.

## 42.1 INSTALL POS PLUG IN

The first step towards POS extensibility is installing the POS plug from the Dynamics AX 2012 Retail feature pack. The installation will provide source codes of the services and triggers for ISV development team to implement vertical solutions or extend existing functionalities.

Note

Please down a copy of Dynamics AX 2012 Retail feature pack from partner source to install the POS plug in.
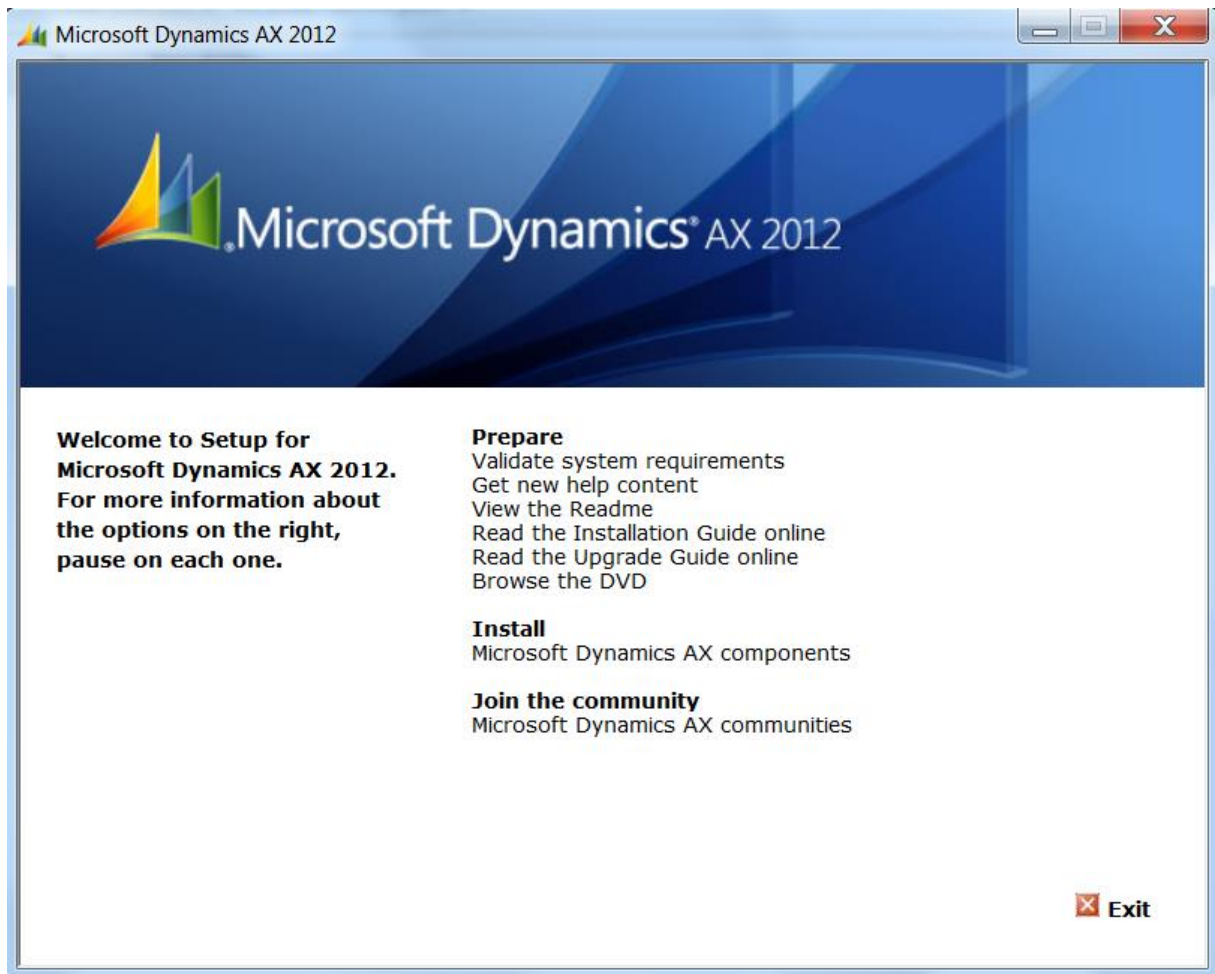
Follow the steps below to install the POS plug in on your local computer.

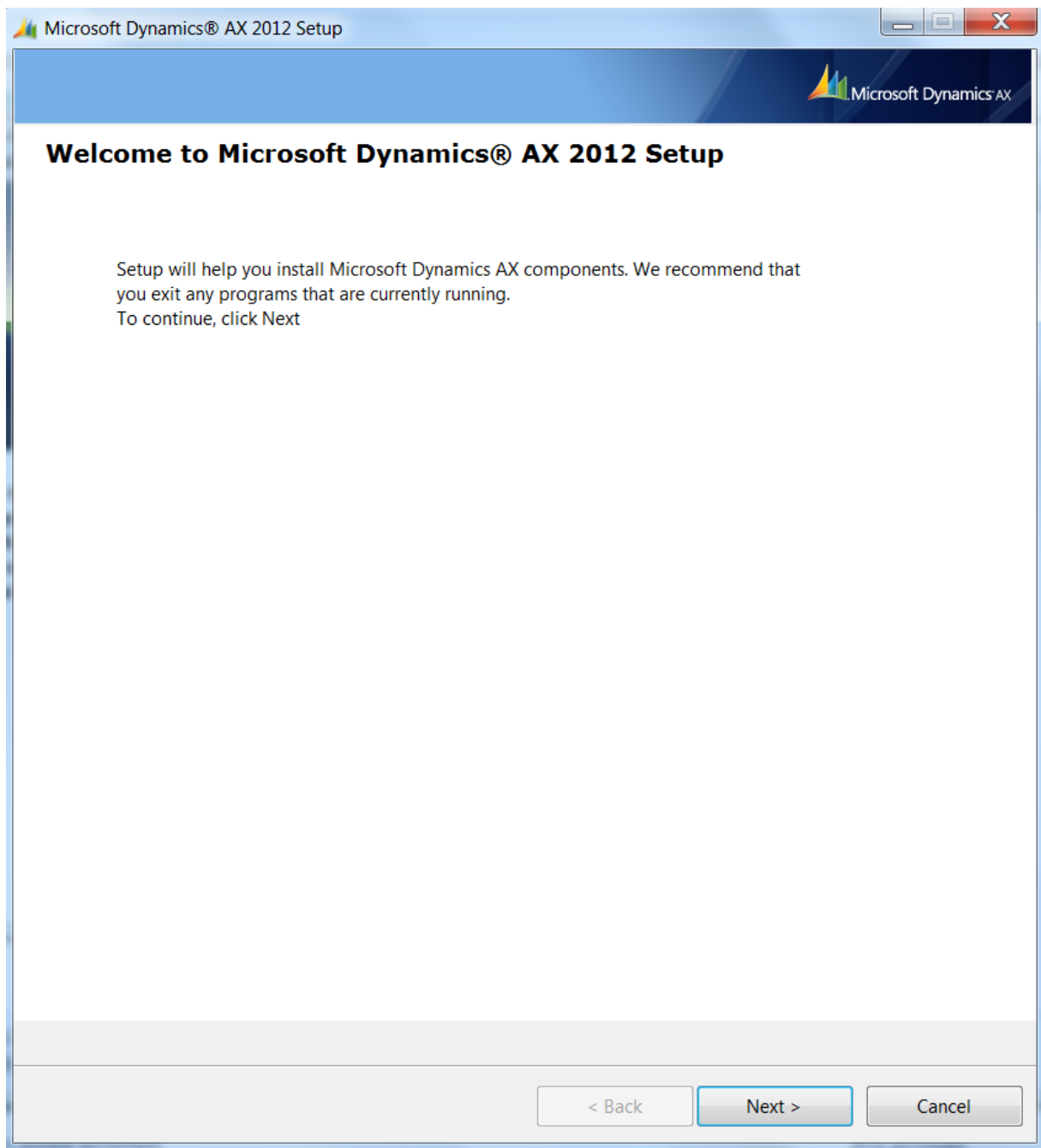1. Open the folder where you have downloaded AX 2012 Retail feature pack.
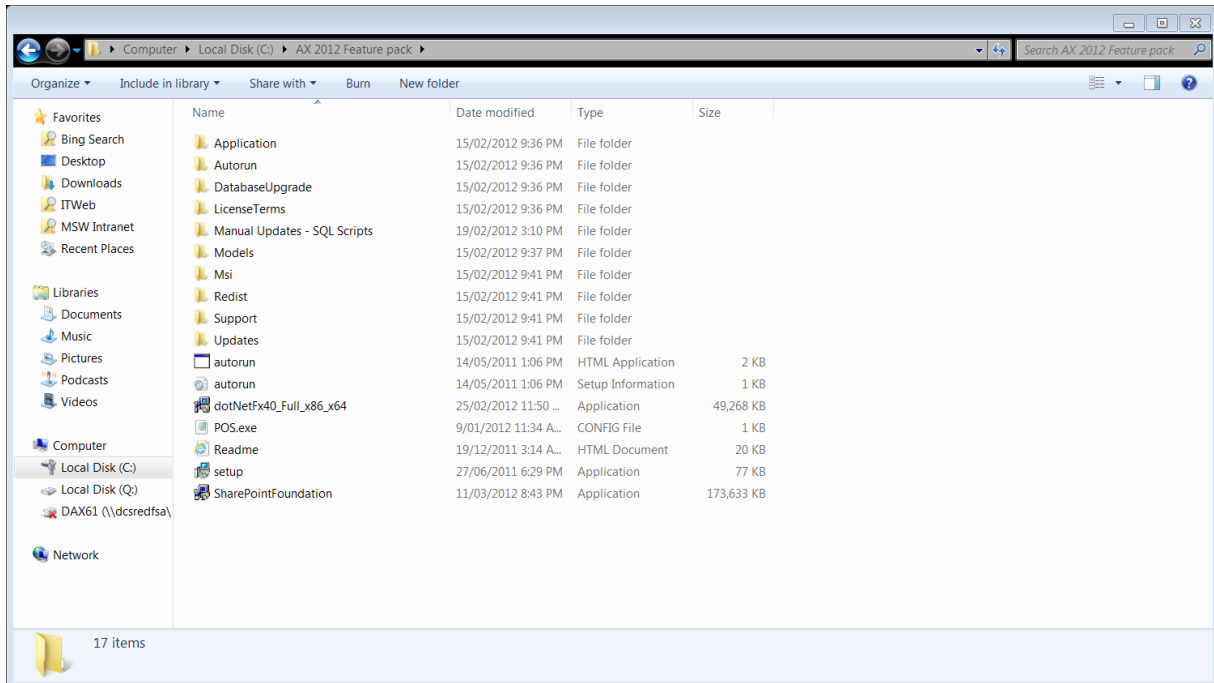


2. Right click on the setup file and select Run as administrator.

3. The Microsoft Dynamics AX 2012 installation form pops up.

4.  Under **Install** click **Microsoft Dynamics AX components** to select the components to install.

5.  The AX 2012 Set up wizard form will open.

6. Click Next to continue with the installation.

7. Click **I accept license terms** to continue with the installation.
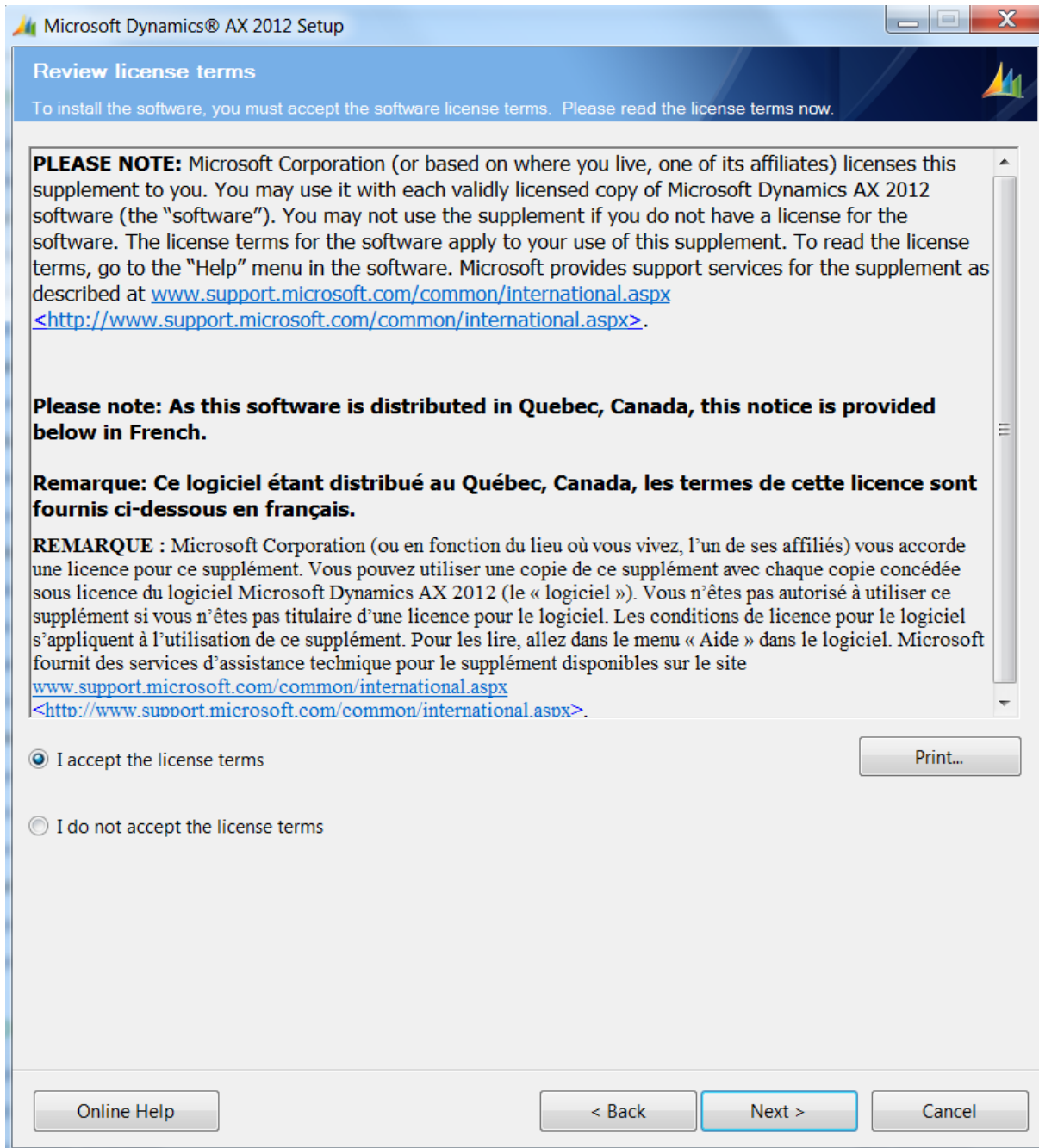
8. The following screen provides options to add/modify components and remove components. Select **add or modify components** and click next.
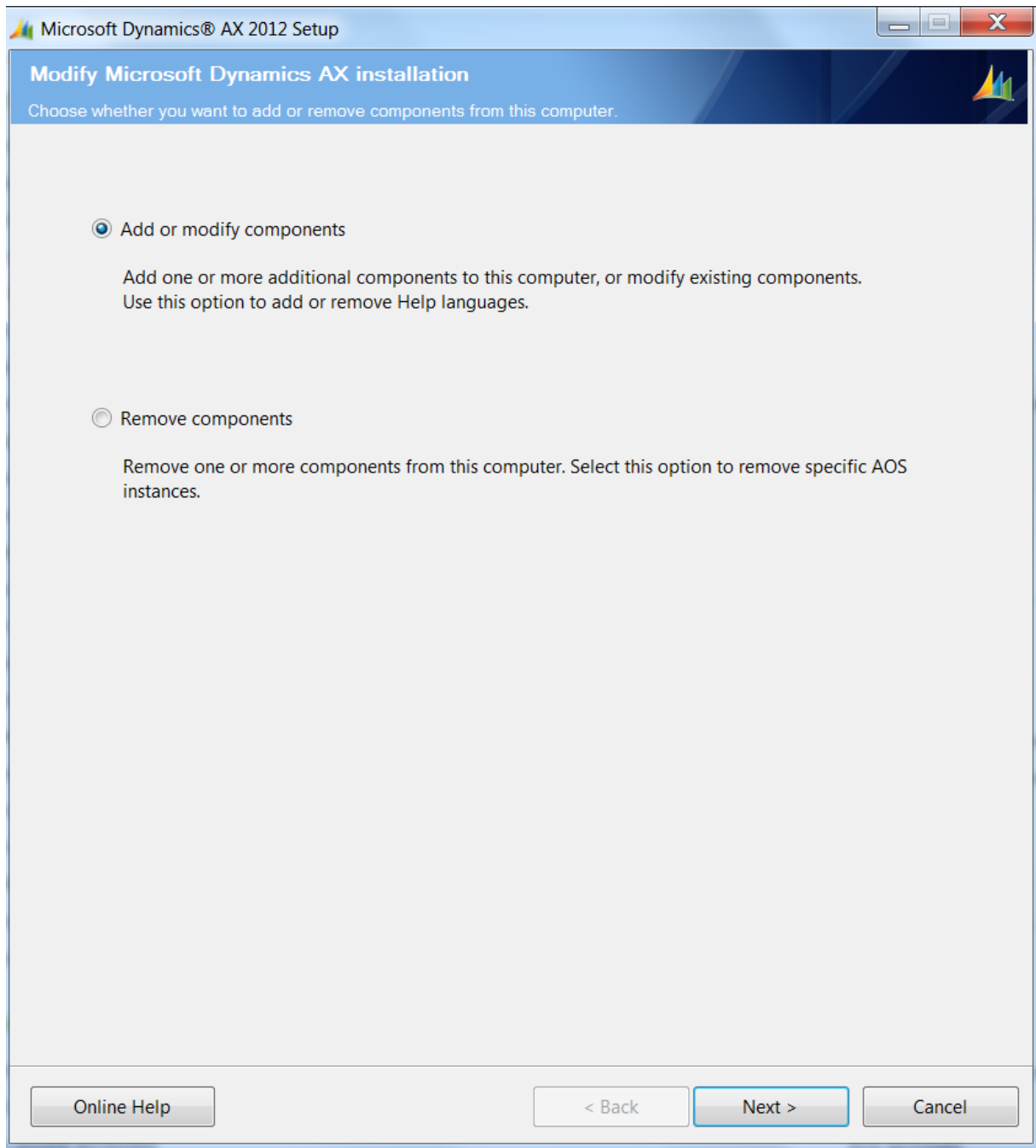
9. Under **Retail Components** select the **Retail POS Plug-Ins** to install the plug in on the local computer.
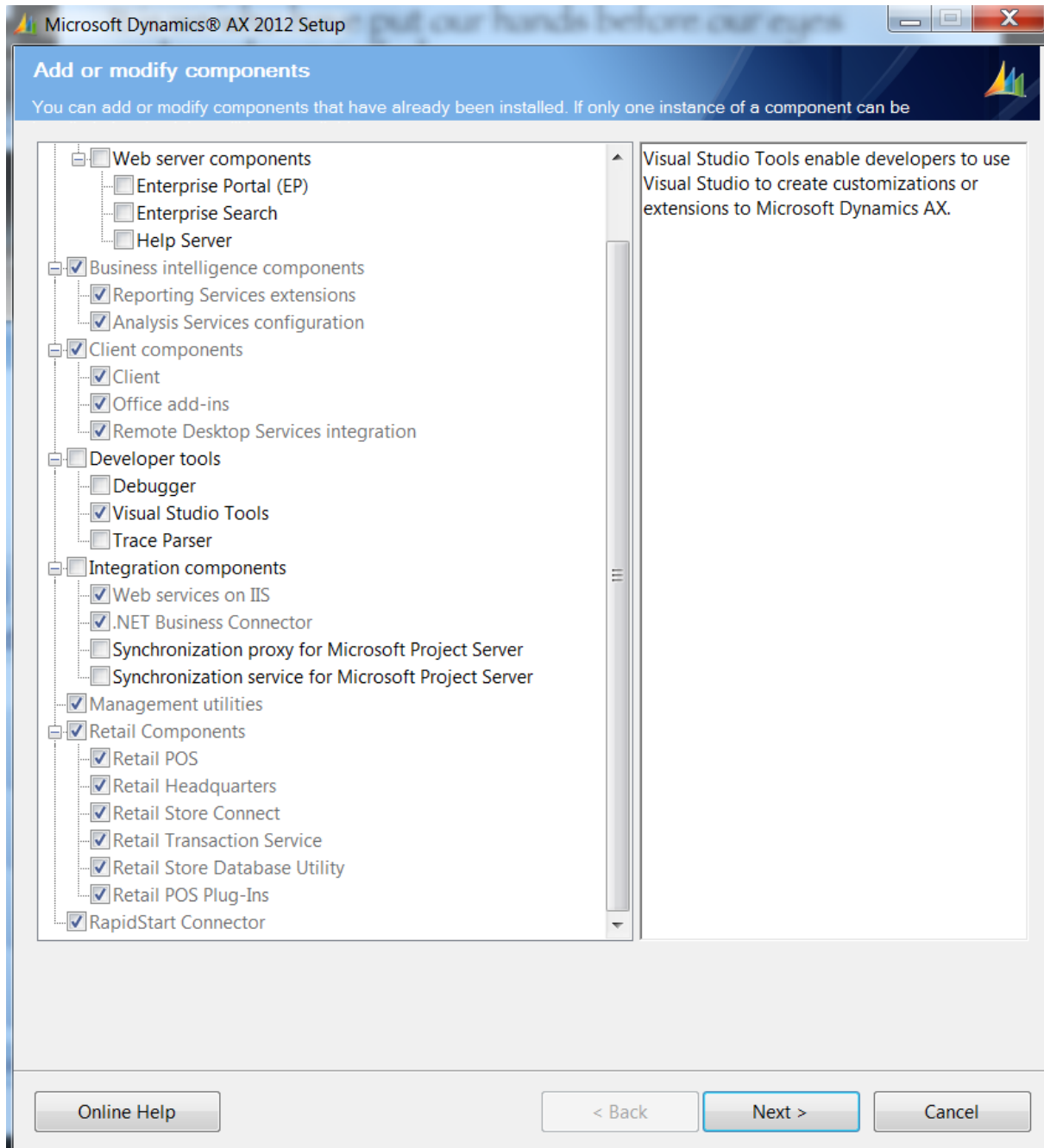
10. The Prerequisite validation runs and checks if all the dependencies are met to install the selected components.
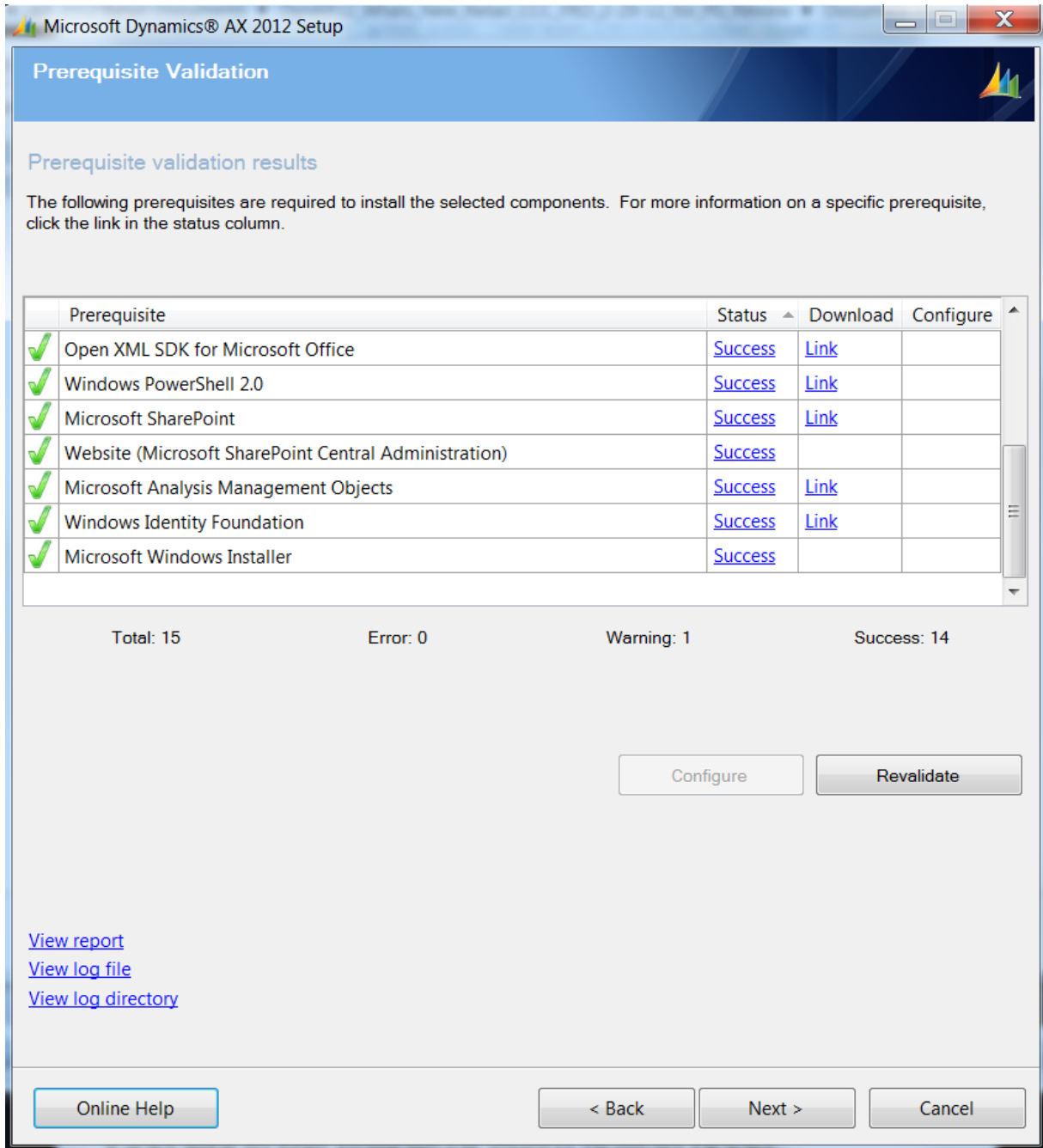
11. Click Next to install the selected component.

**Note**

The POS Plug-Ins will be installed at the default user directory (C:\Users\username\Documents) under the folder **Retail POS Plug-ins**. Open the folder to view the following directories.

| | | | |
|---|---|---|---|
| 📁 POS | 17/05/2012 12:24 … | File folder | |
| 📁 Services | 17/05/2012 12:37 … | File folder | |
| 📁 Triggers | 26/03/2012 3:27 A… | File folder | |
| 📁 Tutorials | 19/02/2012 1:33 A… | File folder | |
| 📄 Microsoft.Dynamics.Retail.Pos.Contracts.dll | 15/01/2012 6:55 A… | Application extens… | 105 KB |

## 42.2 SERVICES AND TRIGGERS

Customer operations are handled by the customer service interface, which enables partners to extend features for the needs of specific retailers.

**Services POS plug-ins**

1. Open the folder where the Retail POS Plug-ins is installed. Open the **Services** folder. Double click on the **Services.sln** to open the services solution in Visual Studio 2010.

| Name | Date modified | Type | Size |
|---|---|---|---|
| CustomField | 17/05/2012 12:24 ... | File folder | |
| Dialog | 17/05/2012 12:24 ... | File folder | |
| Dimension | 17/05/2012 12:24 ... | File folder | |
| Discount | 17/05/2012 12:24 ... | File folder | |
| EFT | 17/05/2012 12:24 ... | File folder | |
| EOD | 17/05/2012 12:24 ... | File folder | |
| GiftCard | 17/05/2012 12:24 ... | File folder | |
| Infocodes | 17/05/2012 12:24 ... | File folder | |
| Item | 17/05/2012 12:24 ... | File folder | |
| Loyalty | 17/05/2012 12:24 ... | File folder | |
| Peripherals | 17/05/2012 12:24 ... | File folder | |
| Price | 17/05/2012 12:24 ... | File folder | |
| Printing | 17/05/2012 12:24 ... | File folder | |
| PurchaseOrderReceiving | 17/05/2012 12:24 ... | File folder | |
| RetailStoreInventoryService | 17/05/2012 12:24 ... | File folder | |
| RFID | 17/05/2012 12:24 ... | File folder | |
| Rounding | 17/05/2012 12:24 ... | File folder | |
| SalesInvoice | 17/05/2012 12:24 ... | File folder | |
| SalesOrder | 17/05/2012 12:24 ... | File folder | |
| StockCount | 17/05/2012 12:24 ... | File folder | |
| Tax | 17/05/2012 12:24 ... | File folder | |
| TenderRestriction | 17/05/2012 12:24 ... | File folder | |
| Services | 4/06/2012 9:00 AM | Microsoft Visual St... | 16 KB |
| Services | 4/06/2012 5:05 PM | Visual Studio Solut... | 325 KB |

2. The Sevices solution will open with a list of projects (Ex. Sales Order, Stock Count, Tax, Customer etc.) which provides forms and interface definitions for ISVs and partners to extend the POS functionalities.
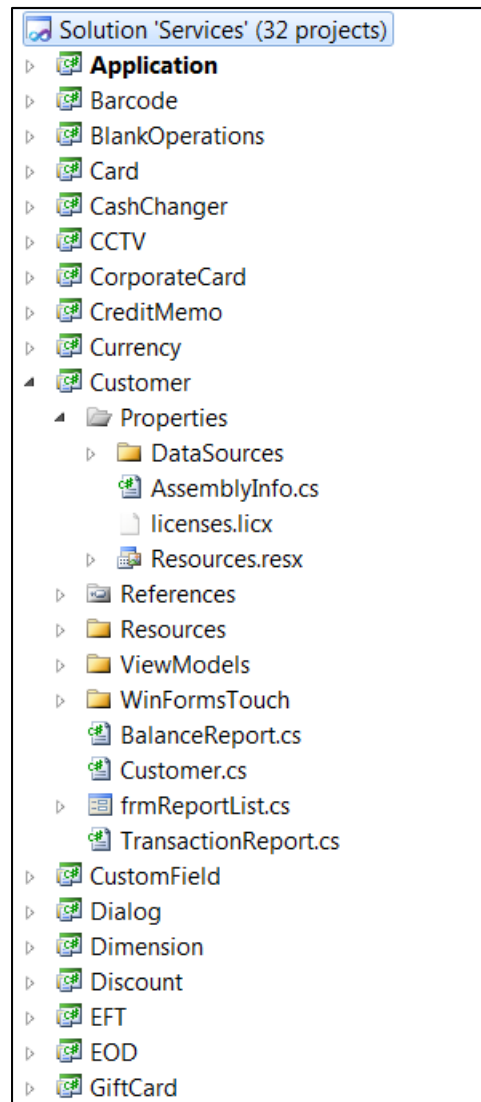
Let us pick Customer service as an example to explore the forms and interfaces.

Open the **WinFormTouch** folder under the **Customer** project to view the forms exposed for ISVs and partners to customize the forms.

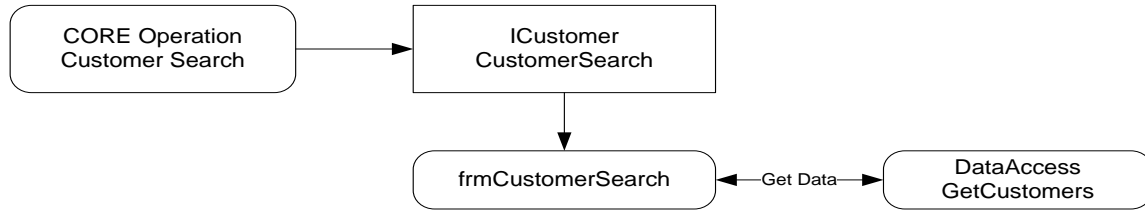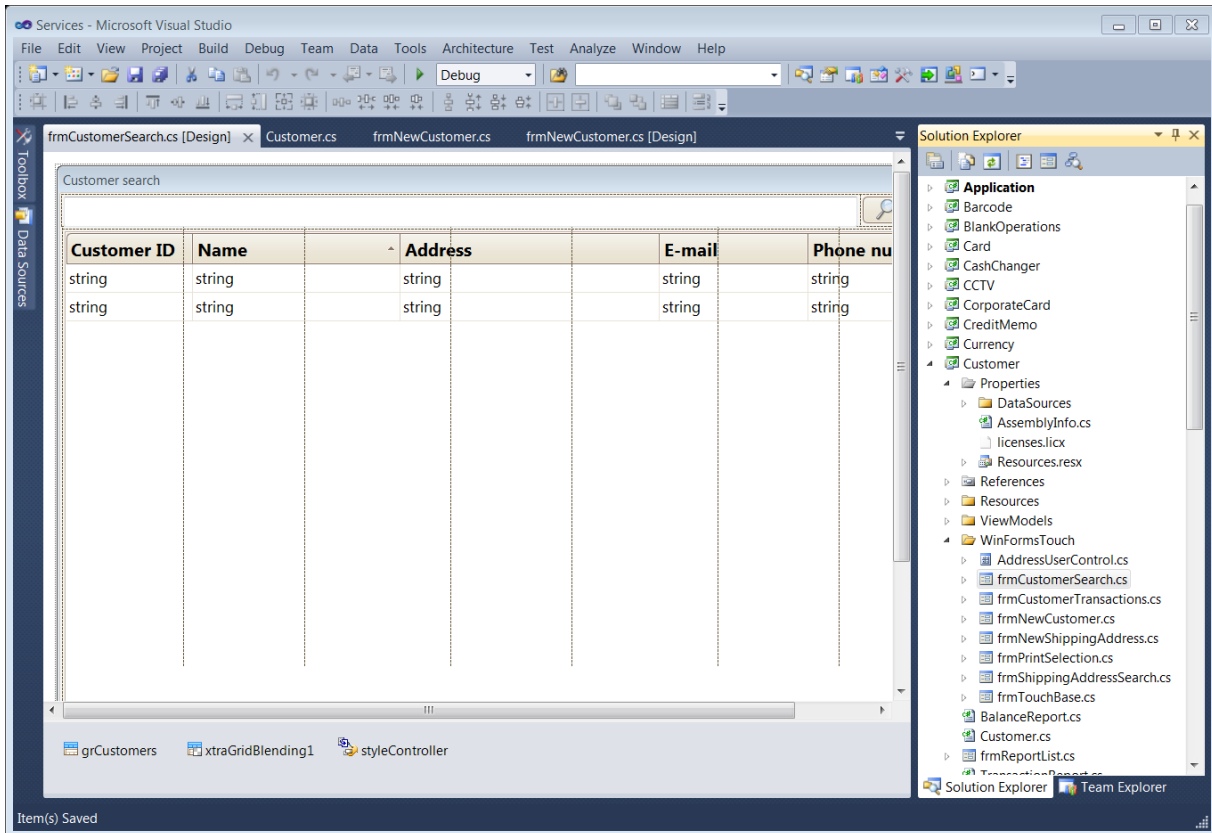The customer service interface extends all the customer operations. A typical workflow is as follows.

**Figure Customer service interface workflow.**



- Caution

Follow the development guidelines to keep the look and feel of POS similar across all the areas.

The Devexpress version for POS customization is specific for Microsoft without APTCA. (Allow Partially Trusted Callers).

**Triggers POS Plug-in**

1. Open the folder where the Retail POS Plug-ins is installed. Open the **Services** folder. Double click on the **Services.sln** to open the services solution in Visual Studio 2010.

2. The Sevices solution will open with a list of projects (Ex. Item triggers, Discount triggers, Transaction triggers, Customer triggers etc.) which provides interface definitions for ISVs and partners to extend the POS functionalities.
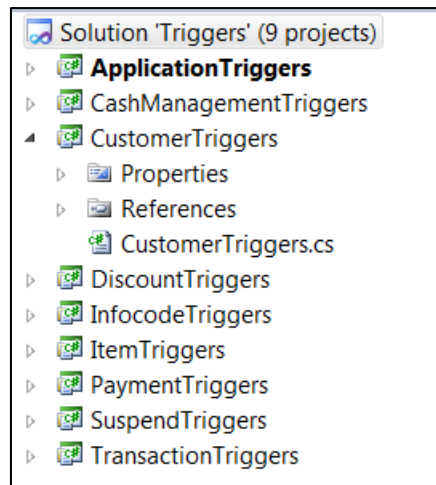


3. Lets dwell into the customer tiggers project and open the CustomerTriggers.cs file to review the interfaces definitions.

```
[Export(typeof(ICustomerTrigger))]
public class CustomerTriggers : ICustomerTrigger
{

    #region Constructor - Destructor

    public CustomerTriggers()
    {

        // Get all text through the Translation function in the ApplicationLocalizer
        // TextID's for CustomerTriggers are reserved at 65000 - 65999
    }

    #endregion

    #region ICustomerTriggers Members

    public void PreCustomerClear(IPreTriggerResult preTriggerResult, IPosTransaction posTransaction)
    {
        LSRetailPosis.ApplicationLog.Log("ICustomerTriggers.PreCustomerClear", "Prior to clearing a customer from the transaction.", LSRetailPosis.LogTraceLevel.Trace);
    }

    public void PostCustomerClear(IPosTransaction posTransaction)
    {
        LSRetailPosis.ApplicationLog.Log("ICustomerTriggers.PostCustomerClear", "After clearing a customer from the transaction.", LSRetailPosis.LogTraceLevel.Trace);
    }

    #endregion

}
}
```

The interface has the following methods:

- PreCustomerClear – This interface method can be used as a trigger call point to perform specific operations before the customer is cleared from a transaction.

- PostCustomerClear – This interface method can be used as a trigger call point to perform specific operations after the customer is cleared from a transaction.

⚠ **Caution**

Review the customization code implemented in the interface to limit the performance of POS operations.