CHAPTER 2: PRODUCT INFORMATION MANAGEMENT

Objectives

The objectives are:

- Describe the concept of products.
- Describe the concept of product masters and their variants.
- Describe the variant configuration technology types.
- Discuss inventory dimension groups.
- Create and release products to an enterprise.
- Discuss how to finalize a released product.
- Set up default order settings.
- Set up item pricing, automatic updates of item prices and costing versions.
- Set up units of measurement and unit conversion.
- Describe how to create a not stocked product.

Introduction

Product information management in Microsoft Dynamics® AX 2012 is for the creation and maintenance of an Enterprise Products Repository. It supports larger organizations in a centralized, structured approach in creating and maintaining core master data such as product definitions. Smaller organizations that require a more decentralized approach can, with some restrictions, create and maintain their respective products while their products are automatically added to the shared products repository.
Defining Products

To allow for a more centralized process across legal entities, Microsoft Dynamics AX 2012 introduces the concept of products, or more exactly, product definitions. Product definitions are created independently of a legal entity. Therefore, core values such as product number, type, and name are shared.

Some core values can be overridden by a legal entity, such as the search name, whereas other values are kept as key definition attributes and therefore cannot be changed other than on the actual product definition.

The product information management process involves several terms and concepts. The following table introduces these terms and concepts.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>A uniquely identifiable product. It serves as a core product that does not vary. Therefore, no product dimensions can be associated with the definition.</td>
</tr>
<tr>
<td>Product master</td>
<td>A standard or functional product representation that is the basis for configuring product variants. The variations are configured by selecting a configuration technology. This can be either a set of predefined product dimensions or by using product configurations in sales scenarios.</td>
</tr>
<tr>
<td>Product variant</td>
<td>The configuration of a product master. Based on the choice of the configuration technology, the variant can be either predefined by using the product dimensions of its master or configured by using a configurator tool.</td>
</tr>
</tbody>
</table>

Product Information Management

A product in Microsoft Dynamics AX 2012 consists of a core product definition. This is defined independent of the organization where it is used. When the product is authorized for use in a legal entity, the additional organizationally dependent details, such as costing, coverage plans, taxation information, and preferred vendors for supplying the product and much more, are set up in the respective legal entities.

The authorization process is supported by a release function. This enables users to select products that include variations and make them available in one or more legal entities.
From a decentralized process, products can be created and maintained directly from the **Released products** list page in the **Product information management** module, given the user has the security role to follow these steps. These duties are included in the Product designer and Product design manager roles. By enabling these tasks, the system makes sure that upon product creation in a legal entity, a core product definition is automatically released back to the enterprise products repository.

**FIGURE 2.1 RELEASED PRODUCTS LIST PAGE**

**Product Types**

The following are two types of products that can be defined manually in Microsoft Dynamics AX 2012:

- **Products**
  - These are clearly identifiable products that do not have variations associated with them. You can think of them as standard or base products.
  - Use the **Products** list page in the **Product information management** module to view and manage products.

- **Product masters**
  - These serve as templates or models for variants. The variants of a product master can be either predefined or created in sales scenarios by using a product configurator. A product master is associated with one or more product dimensions, or for some configurators, product attributes.
  - Use the **Product masters** list page in the **Product information management** module to view and manage product masters.
Use the following path to view products and product masters in the All products and product masters list page:

**Product information management > Common > Products > All products and product masters**

![FIGURE 2.2 ALL PRODUCTS AND PRODUCT MASTERS LIST PAGE](image)

### Product Creation Process

Creating a new product involves the following four-step process:

1. Create and define the product.
2. Release to legal entities.
3. Define legal entity specific data.
4. Use the product.

When you create a new product definition, the type and sub-type are the key attributes to enter. They determine the additional functions and required setup.

The product type classifies whether a product is tangible or intangible (item or service), whereas the sub-type is a sub-classification of the product.
The Shared Product Definition Attributes figure lists all shared product definition attributes.

![FIGURE 2.3 SHARED PRODUCT DEFINITION ATTRIBUTES](image)

**Product Translation**

The **Text translation** form enables you to have product translations. You can enter descriptions and product names for multiple languages. However, the product name and description are optional; only the product number is required. The product translations are mainly used for output on external documents, whereas the data values will always be shown in the system language, for example, when you open and view the product related list pages and forms.

On external documents, the product name will be displayed according to the company language or the preferred language by the customer or vendor.
To open the **Text Translation** form, click the **Translations** button in the Action Pane of all product forms and list pages.

![Text Translation Form](image)

**FIGURE 2.4 TEXT TRANSLATION FORM**

## Category Hierarchies and Categories

Category hierarchies are used to classify products, vendors, customers or transactions for reporting and analysis purposes. Each category hierarchy consists of a structure of subcategories. An organization can create more than one category hierarchy. For example, your organization might create one category hierarchy for classifying purchased products and another hierarchy for classifying vendors.

The number of category hierarchies used by your organization, and the structure and number of codes for each category hierarchy depend on the following:

- Processes of the organization
- The products and services purchased or sold
- The industry standards that apply
- The reporting requirements for the organization
Open **Product information management > Setup > Categories > Category hierarchies** to create category hierarchies.

![Category Hierarchy Form](image)

**FIGURE 2.5 CATEGORY HIERARCHY FORM**

Categories can be attached to a product from the **Product categories** button on all the **Products** list pages.

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**NOTE:** For more information about category hierarchies, refer to the *Procurement in Microsoft Dynamics AX 2012* course.
Procedure: Categorize Products

Product categories can be assigned to products that are used for building procurement catalogs. This step is required before a product can be added to a procurement catalog. To assign product categories to a product, follow these steps:

1. Open **Product information management > Common > Products > All products and product masters**.
2. Select the desired product from the list to add product categories to, and then click **Edit** in the **Maintain** group of the Action Pane.
3. Click **Product categories** in the **Setup** group of the Action Pane, and the **Product categories** form will open.
4. Click **New** to create a new product category.
5. Select the **Category hierarchy**.
6. Select the **Category**.
7. Close the **Product categories** form.
Define Product Attributes

Product attributes identify the details that you want to maintain for your products such as Stock-keeping unit (SKU) number, product version, and so on, and provide additional details that your organization might want to record for a particular product or category. You can associate product attributes together with a product through the category to which the product belongs. When you add a category and its associated products to your procurement catalog, the attributes assigned to the procurement category are imported into the catalog and can be displayed on the procurement site.

When you define product attributes, you must first define the attribute type and then assign the attribute type to the attribute. The attribute type identifies the type of data that can be entered for a specific attribute and a list or range of valid values that can be used for the attribute. The attribute is the value that is displayed with the product to provide the requester additional details about the product.

NOTE: For more information about product attributes, refer to the Procurement in Microsoft Dynamics AX 2012 course.

Procedure: Define Attribute Types

To create a new attribute type, follow these steps:

1. Open Product information management > Setup > Attributes > Attribute types.

2. On the Attribute types form, click New to add a new attribute type.

3. On the General tab, type a name for the attribute type and select the type of data that can be entered for attributes that are assigned to this data type inside the Type field.
4. Select a unit of measure for attribute types of Decimal or Integer.

5. To define a fixed list of values for the attribute type, select the Is enumeration check box. Then select the Enumeration tab and add the list of values.

**NOTE:** The Is enumeration check box only applies to text attribute types.

6. To define a range of valid values for the attribute type, select the Is bounded check box. Then, select the Range tab and enter the valid range of values.

**NOTE:** The Is bounded check box only applies to Currency, DateTime, Decimal, and Integer attribute types.

**Procedure: Define Product Attributes**

To define attributes for a product, follow these steps:

1. Open Product information management > Setup > Attributes > Attributes.

   ![Figure 2.8 Attributes Form](image)

   **FIGURE 2.8 ATTRIBUTES FORM**

2. On the Attributes form, click New to add a new attribute.

3. Enter the attribute name, description, and any help text that you want to display to the user for the attribute.

4. In the Attribute type field, select the attribute type that you want to assign to the attribute.

5. Enter a value or range of values that are displayed by default when this attribute is associated with a product or a category in the Default value field.

**NOTE:** Depending on the attribute type that you select, the Default value field might be displayed as a check box, a drop-down field, or it might have additional required data such as a unit of measure or currency.
6. Click **Translate** to enter the attribute name and help text in different languages.
7. Repeat steps 2 through 6 to add more attributes.

**Procedure: Assign Product Attribute Values to a Product**

After you create attribute types and product attributes, you must assign the product attributes to categories. For more information about how to assign product attributes to product categories, refer to the Catalogs chapter in the Procurement in Microsoft Dynamics AX 2012 course. Next you must assign the category to the product, and then you can define values for the product attributes. To assign a category and enter product attribute values, follow these steps:

1. Open **Product information management > Common > Products > All products and product masters**.
2. Select the desired product from the list to add product categories to, and then click **Edit** in the **Maintain** group of the Action Pane.
3. Click **Product categories** in the **Setup** group of the Action Pane, and the **Product categories** form will open.
4. Click **New** to create a new product category.
5. Select the **Category hierarchy**.
6. Select the **Category**.
7. Close the **Product categories** form.
8. Click **Product attribute** on the Action Pane.

![FIGURE 2.9 ATTRIBUTE VALUES FORM](image)

9. Select the attribute from the list.
10. Enter or select a value for the attribute.
11. Repeat steps 9 and 10 for each attribute.
12. Close the **Attribute values** form.
Product Dimensions

As a clear difference to product attributes, product dimensions let you track their values in all major processes, such as for cost-, inventory-, and analysis purposes.

Whereas product attributes can be associated with products and product masters, product dimensions can only be used together with product masters (except for masters that are configured by using the option constraint-based configuration). This is because they make up the uniqueness of a product master’s variations.

You can determine which product dimensions are mandatory for a given product master by selecting the appropriate product dimension group when you create the product master.

The product dimension group is set up from
Product information management > Setup > Dimension groups > Product dimension groups.

Microsoft Dynamics AX 2012 offers three product dimensions. These are shown in the following table.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Size characteristics of a product.</td>
</tr>
<tr>
<td>Color</td>
<td>Color characteristics of a product.</td>
</tr>
<tr>
<td>Configuration</td>
<td>A third identifying characteristic of an inventory item.</td>
</tr>
</tbody>
</table>

**NOTE:** Color and size product dimensions are provided out of the box. However, if the dimension labels do not make sense in your organization, those two can be renamed. The only exception is the Configuration product dimension, that cannot be renamed.

Because the product dimensions provide the uniqueness of a variation, the following rules apply:

- The dimension must be specified when product transactions are created, for example when a purchase or sales order line is created.
- The specified dimension applies only to the product transaction. You can neither fully nor partly change the dimension value for the related inventory transactions upon physical issue or receipt.
- Products are always reserved for each dimension. You cannot reserve products for dimension values other than those specified on the action product transaction.

For the procedure to create product dimensions for a product, refer to the "Assign Product Dimensions" procedure.
Modeling Configurable Products

Product setup lets the user easily model configurable products.

When you work with product masters, it is important to define how variations of a master are created. Frequently, many mandatory attributes must be specified to create a new variation.

How such a variant is modeled is controlled by the configuration technology that is set up on its product master.

Configuration Technology Types

The following table shows the three configuration types that are supported in Microsoft Dynamics AX 2012.

<table>
<thead>
<tr>
<th>Configuration technology</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predefined variant</td>
<td>This type enables the product to be modeled based on the product dimensions, color, configuration, and size. This is the only option that can be set up directly with product variants. Any combination of the product dimensions is allowed.</td>
</tr>
<tr>
<td>Dimension-based configuration</td>
<td>A configuration technology that is used to create product variants by selecting values for product dimensions. Any combination of the product dimensions is permitted. The advantage of the Dimension configuration is that only one product is required for a Bill of Material.</td>
</tr>
<tr>
<td>Constraint-based configuration</td>
<td>This type enables products to be used in the Product Configurator. To select this type, the product dimension group must have configuration enabled, and no other product dimensions can be enabled.</td>
</tr>
</tbody>
</table>

NOTE: Product Builder is still available in Microsoft Dynamics AX 2012. However, it will be discontinued in a future release. If you previously set up configurations by using Product Builder, it can continue to be used. The configuration technology for Product builder is Rule-based configuration. If you set up new configurations, we recommend that you use Product Configurator. For more information about the Product Configurator refer to the Product Configuration in Microsoft Dynamics AX 2012 course.
Defining Product Master and Predefined Product Variants

When you use the Predefined variant configuration technology, the variant uniqueness is based on the combinations of one or more applied product dimensions.

For example, Contoso has different colors of televisions. Each color is a product variant that contains the details about that product. The product master contains default values for all models of the television.

The dimension group that you attach to the product master determines which product dimensions are mandatory when you define its product variant(s). When you select a product dimension group and create the first product variant or assigned dimension values, it cannot be changed.

Scenario: Creating Product Masters and Predefined Variants

Kevin, the Sales Manager, evaluated the latest sales forecast numbers for the new 60 inch LCD televisions and received various feedback. Kevin concluded that the LCD televisions should be available in multiple colors. Together with Emil, the Product Designer, and Tony, the Production Manager, they agree that the new colors will be black and silver. They also agree that the cost for the black and silver television will be the same.

Emil wants to make sure that color is a mandatory product characteristic when the sales representative sells the product. Additionally, the color offering must be restricted to the agreed-upon list.
Procedure: Create a Product Master

To create a new product, follow these steps:

1. Open the **Product information management > Common > Products > Product master** list page.
2. Click **New product** in the Action Pane.

![New product form](image)

**FIGURE 2.10 NEW PRODUCT FORM**

3. Select Item in the **Product type** field.
4. Type a unique **Product number**, if the number sequence is not set up as auto-generating.
5. Optionally, type a description into the **Product name** field.
6. Optionally, type a search description into the **Search name** field.
7. Select a group that has color enabled from the **Product dimension group** field.
8. Make sure that the **Configuration technology** field is set to Predefined variant.
9. Click **OK**.
Procedure: Assign Product Dimensions

To assign product dimensions, follow these steps:

1. Open the **Product information management > Product master** list page.

   ![Figure 2.11 Product Masters List Page]

   **FIGURE 2.11 PRODUCT MASTERS LIST PAGE**

2. Highlight the product master you just created in the "Create Product Master" procedure.

3. Click **Assign product dimensions**.

4. Click **New** A new record will be created in the **Colors** FastTab.

5. In the **Color** field, type the desired color abbreviation.

6. In the **Name** field, type a brief description of the color.

7. Repeat steps 3 through 5 for each color desired.

8. If it is necessary, repeat for size and configuration dimensions.

9. Click **Close**.

**TIP**: To assign a different inventory cost to each product dimension combination, select the **Use cost price by variant** check box on the **Manage cost** FastTab of the **Released product details** form.
Procedure: Create Product Variants

To create product variants for the colors, follow these steps:

1. Open the Product information management > Product master list page.
2. Highlight the product master that you just created in the "Create Product Master" procedure.
3. Click Product variants to open the Product variants form.

4. Click Variant suggestions to open the Get variant suggestions form.
5. Click Select all. This selects all possible variants combinations.
6. Click OK and then click Close.

Product Master and Dimension-based Configured Product Variants

As with the Predefined variants configuration technology, the Dimension-based configuration option requires you to use one or more product dimensions. The difference is the timing of product dimension entry.

For Dimension-based configured products, the selection and creation of the variant of a product master, is determined by the choice that the sales order taker records.
Scenario: Dimension-based Configuration

The Contoso Entertainment Systems Company has many home theater systems that are produced in the same manner. These systems offer various features that are interchangeable, for example, different color and size DVD players and subwoofer models. When the order processors use dimension configurations, they only have to set up one product for the DVD player, and they can still provide the available combinations of DVD players and subwoofers that the customers want.

Product Master and Constraint-based Configured Product Variants

The Constraint-based configuration technology uses mainly product attributes to provide a deep range of input values to create a variant. However, this configuration option still requires applying a product dimension group to a product master by using Constraint-based configurations.

The only active production dimension allowed is the configuration, because all variants are created with a configuration ID.

Scenario: Constraint-based Configuration

The Contoso Entertainment Systems Company builds customized home theater systems. These home theater systems allow for many configurations, such as color of system, size of television, type of sound system, and number of speakers.

Emil, the Product Designer, is setting up the home theater system in Microsoft Dynamics AX. He will have several different configurations based on the room size and wants to reuse the configuration setup from one room size to the next. Because of the number of options for building the home theater system and the reusability of components, domains, and table constraints, Emil must investigate by using the Microsoft Dynamics AX 2012 Product Configurator.

Inventory Dimension Groups

Regardless of whether the product is of sub type product or product master, common for all is the need to apply information about how the product is stored and drawn from inventory and enable inventory to be managed on a detailed level. Inventory dimensions are split into storage and tracking dimensions.

Both groups are set up from Product information management > Setup > Dimension groups.
The inventory dimension groups can be set up at an organizationally independent level or at the legal entity level. Dimension groups that are set up at the organizationally independent level can be overwritten at a legal entity level. The inventory dimensions are set up from forms at the following locations:

- Product information management > Common > Products > All products and product masters > Dimension groups
- Product information management > Common > Products > Products > Dimension groups
- Inventory and warehouse management > Common > Released products > Dimension groups

**Figure 2.13 Assign Dimension Groups Form**

**NOTE:** For products of the Service type or non-stocked products, the storage and tracking groups must also be specified. Typically, the assigned groups will have the base setup applied that has no location, pallet ID, and so on.

**Storage Dimension Groups**

Site, warehouse, location, and pallet ID are inventory stocking dimensions, and can be allocated to products only when the product's stocking dimension group allows for it. A storage dimension determines where and how a product is stored.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>An area of ground on which a building or group of buildings is constructed.</td>
</tr>
<tr>
<td>Warehouse</td>
<td>Storage location, such as a building.</td>
</tr>
<tr>
<td>Location</td>
<td>Detailed item storage location, such as aisle-rack-shelf-bin. Typically, use this dimension when you operate with Warehouse management.</td>
</tr>
<tr>
<td>Pallet ID</td>
<td>ID for a group of products on the same pallet. Use only when operating with Warehouse management.</td>
</tr>
</tbody>
</table>
Although it is difficult to define a standard inventory dimension setup, there are some basic principles to be aware of when you set up inventory dimensions:

- Determine whether the dimensions are relevant for the business.
- Consider the relevance of each dimension for the various groups of products before setting up dimension groups.
- Only set up the number of dimensions that will actually be used for each item. If some products are stored, and other products are not, create several dimension groups.

The **Tracking dimension group** form resembles the **Storage dimension group** form. Many of the areas explained here apply to both forms.

The **Dimension group ID** panel provides an overview of all dimension groups that are set up in the system. You can add as many new storage dimension groups as you want. The right side of the form displays the details for the selected storage dimension group.

**FIGURE 2.14 STORAGE DIMENSION GROUPS FORM**

**Mandatory**

If the **Mandatory** check box is selected, you want to have the **Warehouse** dimension as a mandatory dimension for products that are associated with the dimension group.

**Primary Stocking**

If the **Primary stocking** check box is selected, it is mandatory that the dimension be entered before any physical updates. If cleared, this dimension is considered secondary stocking. Primary stocking is also important for how inventory is reserved.
Active

If the *Active* check box is selected, the dimension is enabled for any products that are associated with the dimension group.

**Blank Receipt Allowed**

If the *Blank receipt allowed* check box is selected, Microsoft Dynamics AX 2012 accepts a blank value for the dimension at the physical update of a receipt.

**Example: Blank Receipt Allow**

The Contoso Entertainment Systems purchases high value projector lamps from a vendor. Although these lamps are delivered with the legal entity, the company does not register these when they receive products. However, make sure that the products have a serial number attached to them on issue. The dimension group that is attached to this must allow blank receipts for serial numbers, but not allow blank issues for products that are attached to the dimension group when the products are sold or when products are consumed in a production order.

**Blank Issue Allowed**

If the *Blank issue allowed* check box is selected, Microsoft Dynamics AX 2012 accepts a blank value for the dimension at the physical update of an issue.

**Physical Inventory**

If the *Physical inventory* check box is selected the dimension must be included in the physical inventory. Microsoft Dynamics AX 2012 checks the physical on-hand level based on the dimension value when the packing slip is created for issued products.

If the *Physical inventory* check box is clear, the dimension is not considered when you make an issue for a product with the dimension group attached.

**Example: Physical Inventory Selected**

Physical negative inventory is not allowed and there are 30 pieces in warehouse 21 of on-hand inventory for a product. You sell 50 pieces of the product from warehouse 21 and there is no available inventory in other warehouses. Because the dimension setup requires that physical inventory be considered, an error is generated.

**Example: Physical Inventory Cleared**

Your warehouses are close to one another, or the cost of transferring the goods to the dispatch location is low. Therefore, you do not have to be precise about where the products are issued from. If insufficient on-hand inventory exists at one warehouse location, the remaining necessary on-hand inventory can be obtained from another location.
Financial Inventory

Select the Financial inventory check box if the dimension is to be included in calculating the financial cost of a product sold. This flag makes sure that you can control and track different cost prices for a product for the storage dimension, such as different prices in different warehouses, or for other types of dimensions.

If the Financial inventory check box is cleared, the average cost of the product is distributed across all dimensions concerned.

Coverage Plan by Dimension

Select the Coverage plan by dimension check box if this dimension is to be included in coverage plans that are created through master planning. Selection lets you define criteria such as minimum/maximum, lead times, and coverage groups for each dimension.

Example: Coverage Plan by Dimension

Many companies want to run master planning by warehouse. However, in some cases, it helps run master planning (MRP) based on a finer level of detail. This frequently occurs in companies that have slow moving or costly inventory. By selecting this check box, MRP will be calculated at the finest level of detail.

For Purchase Price

Select the For purchase price check box if you want to include the dimension as a criterion to determine a product’s purchase price. In the Journal lines, price/discount agreement form, you can create a trade agreement where you associate a purchase price with a specific dimension that is set up for a product.

For Sales Price

Select the For sales price check box if you want to include the dimension as a criterion to determine a product’s sales price. In the Journal lines, price/discount agreement form, you can create a trade agreement where you can associate a sales price with a dimension that is set up for a product.
Tracking Dimension Groups

Serial and batch numbers are inventory tracking dimensions, and can be allocated to products only when the products tracking dimension group allows for it.

The Tracking Dimension Groups Form figure shows the Tracking dimension groups form that is located in Product information management > Setup > Dimension groups > Tracking dimension groups. Notice that the Batch Number and Serial Number dimensions are set to Active in the grid. If these Inventory dimension groups are assigned to products, these products can then be assigned batch and serial numbers.

If you do not want to use batch or serial numbers, select a Tracking dimension group where Batch Number and Serial Number dimensions are not set to Active.

**NOTE:** Batch and Serial numbers are not financially active dimensions.

**NOTE:** For more information about Tracking Dimension Groups, refer to Serial and Batch Numbers in the Supply Chain Foundation in Microsoft Dynamics AX 2012 course.
Authorizing Product Setup in a Legal Entity

The release product process lets users in an enterprise push product definitions to various organizational units. By releasing a product or a product master, you associate it with a legal entity and authorize the product definition for use in the legal entity.

Before a product master can be used on a transaction, such as a sales order or purchase order, the product master and one or more of its variants must be released to each legal entity, that is, if the configuration technology is set to be predefined variants. When you are releasing products, many combinations of products, product masters, product variants, and legal entities can be released:

- Single products or multiple products
- Single product variants or multiple product variants
- Single legal entity or multiple legal entities

Products can be released from the following locations:

- **Product information management > Product** list page, and then click **Release products**.
- **Product information management > Product master** list page, and then click **Release products**.
- **Product information management > Product** list page, and then click **Release products**.
- From the **Product details** form, click **Release products**. The **Product details** form is opened by double-clicking a product in any of the **Product information management** list pages.

**Scenario: Releasing a Product to Multiple Legal Entities**

Emil, the Product Designer, has completed the setup for the new widgets. After talking with Kevin, the Sales Manager, they have decided to release the new products in Contoso Entertainment USA West (CEU) and Contoso Entertainment USA East (CEUE).

Emil wants to make sure that each product variant is available in the two legal entities that they agreed upon.
Procedure: Release a Product to Multiple Legal Entities

To release the products to CEU and CEUE legal entities, follow these steps:

1. Open the Product information management > Product > Product masters list page.
2. On the Product master list page, select the desired product master.
3. Click Release product.

4. In the Product variants grid, on the right side, click Select all.
5. Click the Select companies tab.
6. Select CEU and CEUE.
7. Click OK.
8. On the Product release session's batch form, click OK.

Open Product Releases

If there is an error during the released product process, the product will be displayed in the Product information management > Open product releases form. For example, you will receive an error if you release a product variant that already exists in the legal entity.
From the **Open product releases** form, you can view all open product release sessions, view the error, change the session, and initiate the release. A session is deleted if there are no more existing errors.

**FIGURE 2.17 OPEN PRODUCT RELEASES FORM**
Lab 2.1 - Creating and Releasing Product Masters

This lab provides practice for you in creating and releasing product masters.

Scenario

Emil, the Product Designer, has designed a new 3D LED television. The television is available in two colors and three sizes. Your task is to help Emil set up the product master, create all product variances, and then release only size 55 to CEU and CEE companies.

Use the following information to set up the product.

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blk</td>
<td>Black</td>
</tr>
<tr>
<td>Slv</td>
<td>Silver</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>46 inches</td>
</tr>
<tr>
<td>55</td>
<td>55 inches</td>
</tr>
<tr>
<td>60</td>
<td>60 inches</td>
</tr>
</tbody>
</table>

Challenge Yourself!

Use the information that is provided to create the product master, product variances, and then release the product.

Need a Little Help?

- Create a new product master for the 3D LED television.
- Assign product dimensions for sizes and colors.
- Create product variants for the combinations of sizes and colors.
- Release the products to CEU and CEE companies.

Step by Step

To create a new product master, follow these steps:

1. Open Product information management > Products > All products and product masters.
2. On the All products and product masters list page, click Product.
3. In the Product type field, select Item, and then in the Product sub type field, select Product master.
4. If a number is not drawn automatically in the **Product number** field, type a unique product number (for example, "123").
5. In the **Product name** field, type "3D LED television".
6. In the **Product dimension group** field, select product dimension group PG_10.
7. In the **Configuration technology** field, select Predefined variant.
8. Click **OK** to complete the process of creating a product master.

To assign product dimensions, follow these steps:

1. On the **All products and product masters** list page, highlight the product master that you just created.
2. Click **Product dimensions**.
3. Click **New**. In the **Sizes** FastTab, a new record will be created.
4. In the **Size** field, type "46", and in the **Name** field, type "46 inches."
5. Repeat steps 3 and 4 for each size 55 and 60.
6. Click the **Colors** FastTab and then click **New**. A new record will be created. In the **Color** field, type "Blk" and in the **Name** field type "Black."
7. Repeat step 6 for the color Silver, and type "Slv".
8. Click **Close**.

To create product variants for the combinations of sizes and colors, follow these steps:

1. On the **All products and product masters** list page highlight the product master for the 3D LED television.
2. Click **Product variants** to open the **Product variants** form.
3. Click **Variant suggestions** to open the **Variant suggestions** form.
4. Click **Select all**. This selects all possible variants.
5. Click **Create**, and then click **Close**.

To release the products to CEU and CEE companies, follow these steps:

1. On the **All products and product masters** list page, highlight the product master for the 3D LED television.
2. Click **Release products**.
3. In the **Product variants** grid, on the right side, click **Deselect all**.
4. Select all variants with **Size** 55.
5. Click the **Select companies** tab.
6. Select Company **IDs** CEU and CEE.
7. Click **OK**.
8. On the **Product release session batch** form, click **OK**.
Finalizing Released Products

After a product is released to a legal entity, it must be finalized before the product can be on a transaction, such as a sales order or purchase order.

Finalizing Released Products Overview

A product must be finalized in each legal entity where it was released. In Microsoft Dynamics AX 2012 there are four fields that must be set up on the **Released products** form (open **Product information management > Released product**) before the product can be used on a transaction.

The following fields can be entered manually or by using a template:

- Item model group
- Item group
- Storage dimension group (only if it is not specified on the product definition)
- Tracking dimension group (only if it is not specified on the product definition)

Manual Entry of Reference Data

On the **Released product details** form, you can manually enter reference data for the product. This form is organized by FastTabs that categorized the data for the product. The following table describes what data can be found on each FastTab.

<table>
<thead>
<tr>
<th>FastTab</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Enter or view additional information about the selected product. This includes information about product configuration and product builder.</td>
</tr>
<tr>
<td>Purchase</td>
<td>Enter or view information on default purchase orders, purchase order pricing, and discounts.</td>
</tr>
<tr>
<td>Sell</td>
<td>Enter or view information on default sales orders, sales order pricing, and discounts.</td>
</tr>
<tr>
<td>Foreign trade</td>
<td>Enter or view information on foreign trade. This includes Intrastat and product origin.</td>
</tr>
<tr>
<td>Manage inventory</td>
<td>Enter or view information on product measurements, physical dimensions, handling, and packaging.</td>
</tr>
<tr>
<td>Engineer</td>
<td>Enter or view information on bill of materials, production and product builder.</td>
</tr>
<tr>
<td>Plan</td>
<td>Enter or view information on the plan coverage group.</td>
</tr>
<tr>
<td>Manage projects</td>
<td>Enter or view information on the project category.</td>
</tr>
</tbody>
</table>
### FastTab Description

<table>
<thead>
<tr>
<th>FastTab</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage cost</td>
<td>Enter or view information on the costing of the product such as cost price and cost group.</td>
</tr>
<tr>
<td>Financial</td>
<td>The default financial dimensions for the main account. When you select a financial dimension value, the <strong>Dimension is used</strong> field group displays where the dimension is used in account structures and advanced rule structures.</td>
</tr>
</tbody>
</table>

### Scenario: Finalizing a Released Product for a Legal Entity

Emil, the Product Designer, must finalize the setup for the new widgets that he released in Contoso Entertainment USA (West). He wants to make sure that the widgets have all the mandatory setup for the product to be used in a transaction. When he is finished with the setup, Emil clicks **Validate** on the **Released products** form to make sure that the setup is correct.

### Procedure: Finalizing a Released Product for a Legal Entity

To manually finalize a product for a legal entity, follow these steps:

1. Open the legal entity account for which you will be finalizing products.
2. Open the **Product information management > Released products** list page, and then select the desired product master.
3. Click **Edit** to open the **Released products details** form.
4. Select the **Item model group** for the product.
5. In the **Manage cost** FastTab, select the **Item group** for the product.
6. Click the **Dimension group** to open the **Assign dimension groups** drop-down dialog box.
7. Select the **Storage dimension group** for the product.
8. Select the **Tracking dimension group** for the product.
9. Click **OK** and then click **Close**.

### Product Templates

Most companies require the additional setup of a product before it is finalized. If there are many similarities between the setups of multiple legal entity products, we recommend that you use a template.

Product templates are used to copy information from a released product to other selected released products. Product templates help streamline the process for setting up legal entity specific data for products when there are many values that are the same from one product to another.
There are two types of templates that can be created: personal templates and shared templates. A personal template is available only by the user who created the template, whereas a shared template can be accessed by any user in the system.

**Procedure: Create a Product Template**

To create a personal or shared product template, follow these steps:

1. Open the *Product information management > Released products* list page.
2. On the *Release products* list page, select the product to be used as a template, and then click *Edit* in the *Maintain* group of the Action Pane.
3. In the *New* group of the Action Pane, click *Template*. Next, select the *Create personal template* option or *Create shared template*.
4. On the *Create template* dialog box, type a unique *Name* and a *Description* for the template.
5. Click *OK* to create the template.
6. Click *Close* to exit the *Released product details* form.

**Procedure: Apply a Product Template**

To apply a product template to one or more products, follow these steps:

1. Open the *Product information management > Released products* list page.
2. On the *Release products* list page, select each product for which to apply a template by selecting the check box on the grid next to each product.
3. In the *Maintain* group of the Action Pane, click *Apply template*.
4. In the *Select a template for Items* dialog box, select the check box to the right side of the desired template and then click *OK.*
Validating Product Setup

You can run a validation check on the product in the respective legal entity to make sure that the following four mandatory fields are set up.

- Item model group
- Item group
- Storage dimension group (only if it is not specified on the product definition)
- Tracking dimension group (only if it is not specified on the product definition)

Run the validation check by selecting Validate in the Maintain group of the Action Pane. The system will check for the attributes and produce an error if no value exists. However, the system will not block the product to be used. It is merely a check of the setup.
Lab 2.2 - Create and Apply a Product Template to Multiple Products

This lab provides practice for you to create and apply product templates.

Scenario

Emil, the Product Designer, has just finished creating four new television products. Each television has many similar properties. Therefore, he has decided to use a template to copy the values from one television to the other three televisions.

Challenge Yourself!

Use the information that is provided to create a new personal template for product 10001: LCD Monitor Model 2. Next, apply the new personal template to the following items:

- 10003: LCD Monitor Model 3
- 10004: LCD Monitor Model 4
- 10005: LCD Monitor Model 5

Need a Little Help?

- Use the Released product details form to create a new personal template for Item number 10001.
- In the Released products list page, select items 10003, 10004, and 10005.
- Click the Apply template button to apply the new template.

Step by Step

To create a new product template and apply it to several products, follow these steps:

1. Open the Product information management > Released products list page.
2. On the Release products list page, select item number 10001, and then click Edit in the Maintain group of the Action Pane.
3. In the New group of the Action Pane, click Template. Then click Create personal template.
4. On the Create template dialog box, enter a unique Name such as "Television" and a Description for the template such as "Television template".
5. Click OK to create the template.
6. Click Close to exit the Released product details form.
7. On the **Release products** list page, select the check box on the grid next to **Item numbers** 10003, 10004, and 10005.
8. In the **Maintain** group of the Action Pane, click **Apply template**.
9. In the **Select a template for Items** dialog box, select the check box to the right side of the template that was created in step 5 and then click **OK**.

### Default Order and Site Settings

Microsoft Dynamics AX 2012 uses default order settings when Master Planning generates sales orders, purchase orders, and inventory orders. The main settings involve defining the following:

- A warehouse to use for each module when orders are created
- The settings that modify order quantities for each module when orders are created

### Default Order and Site Setting Forms

There are two versions of the **Default order settings** form.

- **Default order settings** form. Use this form to define the default order settings for a product.

Open **Product information management > Common > Released products**. Select a product, and then click **Plan > Default order settings** or **Manage Inventory > Default order settings**. Use this form to define the default order settings for a product.

![FIGURE 2.18 DEFAULT ORDER SETTINGS FORM](image)

- **Site specific order settings** form. Use this form to define settings that differ from the default order settings for a product on a different site.
Open Product information management > Common > Released products. Select a product and then click Plan > Site specific order settings or Manage Inventory > Site specific order settings. Use this form to define settings that differ from the default order settings for a product on a different site.

**Default Order Settings - General Tab**

Use the General tab to set up default sites for purchase, inventory and sales and the Default order type field.

The Default order type field determines which planned order type that you will be use during order planning: purchase order, production, or kanban.

Product information management > Common > Released products. Select a product, and then click Plan > Default order settings or Manage Inventory > Default order settings > General Tab.

![FIGURE 2.19 DEFAULT ORDER SETTINGS - GENERAL TAB](image)

**Purchase, Inventory, and Sales: Unit and Site Fields**

The Purchase unit, Inventory unit, and Sales unit fields display the SKU for purchase, inventory (inventory journals and production), and sales. Products can, for example, be purchased in tons, produced in pounds, and sold in pieces.

In the Purchase site, Inventory site, and Sales site fields, you can enter the default site for orders that are created for the product. You can change the site unless the Mandatory site check box is selected.
Order Quantity Modifiers for Purchasing

The Planning calculations feature will suggest a planned purchased order quantity that is subject to the minimum, maximum, and multiple order quantity modifiers. These quantities reflect the products' default unit of measure for purchasing. The system also provides a soft warning during purchase order entry when you enter a quantity that does not meet these criteria. With a reordering policy of period or requirement, planning calculations suggest planned orders that account for order quantity modifiers.

- **Minimum** - represents the smallest suggested order quantity.
- **Multiple** - suggested order quantity will always reflect the multiple, even if it exceeds the maximum.
- **Maximum** - represents the largest order quantity so that, planning calculations suggest multiple planned orders to cover requirements that exceed the maximum.

Some situations require a fixed order quantity, perhaps reflecting considerations about batch tracking, transportation, production, or some other factor. Using the same values for maximum and multiple means that planning calculations can generate multiple planned orders for the fixed quantity.

The standard order quantity for a product (expressed in the item’s default purchasing unit of measure) will act as the default when you manually create a purchase order.

Order Quantity Modifiers for Inventory

Planning calculations will suggest a quantity for a planned production order or planned transfer order. This is subject to the minimum, maximum, and multiple order quantity modifiers on the **Inventory** tab. These quantities reflect the product's inventory unit of measure. The system also provides a soft warning during manual creation of a production order or transfer order when you enter a quantity that does not meet these criteria.

With a reordering policy of period or requirement, planning calculations will suggest planned orders that account for these order quantity modifiers.

The standard order quantity for a product, expressed in the product's inventory unit of measure, will act as the default when you manually create a production order or transfer order. It serves an additional purpose in calculating the cost of a manufactured product, because fixed costs will be amortized based on the standard order quantity of the product.

**NOTE:** When you use the process manufacturing functionality and batch orders, the logic for order quantity modifiers changes significantly.
Order Quantity Modifiers for Sales

The product's standard sales order quantity and the default sales unit of measure act as default values when you enter a sales order line item. The system provides a soft warning if the entered quantity does not comply with the product's order quantity modifiers of minimum, maximum, and multiple.

Other Fields on Default Order Settings

Other fields on the default order setting form are as follows.

Purchase, Inventory, and Sales Lead Time

The Purchase lead time, Inventory lead time, and Sales lead time fields show the standard delivery-, lead-, or acquisition times for products.

**NOTE:** If you are using the Delivery date control feature for sales or transfer orders, the value in the Lead time field on the Sales order tab overrides the value that you specify in Accounts receivable > Setup > Accounts receivable Parameters > Shipments tab > Sales lead time.

Working Days

Select the Working days check box if days must be specified in open days. Open days exclude, for example, weekends, company shutdowns, public holidays, and other non-open days. Open days are defined in calendars that are attached to the company, warehouses, work centers, and so on.

Stopped

Select the Stopped check box if the product is blocked. When a product is blocked and you enter a purchase line, a warning appears. When the product is blocked, inventory transactions that are related to the purchase order line cannot be modified, for example, when you post a packing slip or an invoice. You can, at the same time, block a purchased product and sell it. In this case, the Stopped field is selected in Purchase. However, it is blank in Inventory and Sales.

An item number can be blocked for sale, for example, if the following occurs:

- The product is still under development or manufacture, and you do not want the product to be sold or reserved.
- You have received many defective products. The defects must be corrected before the product can be sold. Therefore, you can block the product in the meantime.

You cannot block a series or a lot of the product. If parts of the product are to be blocked, you can block them by moving inventory or by blocking the product’s full stock for that period.
Site Specific Order Settings

The Site specific order settings form has an additional tab where you can set up default warehouse settings for each site.

Specify the item's default warehouse or placement for the Purchase order, Inventory, and Sales order field groups. The warehouse is then proposed for product transactions.

When you select the Mandatory field, the specified mandatory warehouse will be used for the purchase order, inventory, and sales group’s product. Only inventory transactions at the warehouse that are specified in the Warehouse are accepted.

Item Pricing

You can set up a product's price by using Costing versions or by manually specifying base prices on the Purchase, Sell, and Manage cost tabs of the Released products form.

Product's Purchase Price

A product’s purchase price can be predefined several different ways. The basic approaches include a standard purchase price that can be manually specified or automatically updated, based on invoices. Additional approaches to a product's purchase price will be covered in the context of purchasing, such as the use of purchase price trade agreements and purchase agreements.

As the simplest approach, a product’s standard purchase price can be defined in terms of its default purchase unit of measure. It represents a company-wide purchase price that acts as the default on a purchase line when other sources of pricing information do not exist. This standard purchase price can be manually specified or automatically updated by the last purchase invoice.
Product’s Sales Price

A product’s sales price can be predefined in several different ways. The basic approaches include a standard sales price that can be manually specified or automatically calculated. Additional approaches to a product’s sales price will be covered in the context of sales order, such as the use of sales price trade agreements and sales agreements.

As the simplest approach, a product’s standard sales price can be defined in terms of its default sales unit of measure. It represents a company-wide sales price that acts as the default on a sales line when other sources of pricing information do not exist. This standard sales price can be manually specified or calculated, and the calculations differ for a purchased product versus a manufactured product.

With a purchased product, the product’s standard purchase price and a specified markup percentage (or contribution ratio) can be used to calculate its standard sales price. This is continuously recalculated based on changes to the product’s standard purchase price as the result of the last vendor invoice.

With a manufactured product, the standard sales price can be updated by activating a product’s sales price record, where the sales price is calculated based on a cost-plus-markup approach for its purchased components, routing operations, and overhead formulas.

Costing Versions

If you are not using the manual specification of base prices, you can set up costing versions. This lets you create distinct user-defined environments for maintaining and calculating products’ planned costs. The Costing versions setup form is found in Inventory and warehouse management > Setup > Costing versions.

Users can enter and maintain planned products’ costs, cost categories’ rate, indirect costs’ rate, and ratio in Costing versions. The BOM calculation that is implemented on the Costing version calculates and appends the manufactured product planned costs to it. This also applies to purchased products if the purchase overhead is set up to be calculated in the costing sheet.

The costs that are created that have a status of Pending can be activated, discreetly or in mass, to become effective and be applied to inventory cost and production costing.

Attributes on Costing versions enable constraints of content and cost calculations in that version. Products’ costs in a Costing version can be analyzed and maintained individually or for each Costing version. Active cost history is kept with full details.
You can create and set up Costing versions in **Inventory and warehouse management > Setup > Costing > Costing versions.**

![Costing version setup form](image)

**FIGURE 2.21 COSTING VERSION SETUP FORM**

You can maintain Costing versions in **Inventory and warehouse management > Periodic > Bill of materials > Costing versions.**

You can maintain and set up Costing versions for individual products in **Product information management > Common > Released products > Manage cost tab > Item price.**

**NOTE:** The Costing version feature is available on all types of costing methods. However, when standard cost is enabled, there are principles in the Costing version setup form that are restricted and cannot be changed.

**Scenario: Costing Version**

Vince, the Operating Manager wants to build up next year's standard costs.

Vince creates a new dedicated Costing version for the standard costs. Various contributors populate the Costing version with next year’s purchased purchase costs, cost category rate, and indirect cost ratios.

A BOM calculation, implemented on the Costing version, calculates and inserts the standard costs for a manufactured product in the version. The calculation is based on the Costing version cost set. Vince reviews the content of the Costing version, correcting as necessary and locking the Costing version when he is satisfied with its content.
At the beginning of the next year, Vince mass-activates the Costing version’s costs. This makes them effective and applied for inventory valuation and production costing in the next year.

**Costing Version Types**

The three Costing version types are as follows:

- **Planned Cost**: Use this Costing version for products that use a cost flow assumption under actual cost (FIFO, Weighted average, or LIFO).
- **Standard Cost**: Use this Costing version for those products that use the Standard cost Costing method and all other products that roll up directly to a Standard cost based BOM.
- **Conversion**: Use this Costing version when you convert a product from a nonstandard cost Costing method to the Standard cost Costing method.

You can select the Planned cost and Standard cost Costing version types in the **Costing versions** form.

You can create the Conversion Costing version in the **Standard cost conversion** form.

**Costing Version Types - BOM Calculation**

A Costing version can also contain data about product sales prices or purchase prices for BOM calculation purposes only.

- A BOM calculation can calculate a sales price for manufactured products, and can also generate an associated sales price record within the Costing version.
- A BOM calculation with planned costs can be based on product purchase price records within the Costing version, instead of product cost records. The product purchase price records must be manually entered.
- The product sales price records and purchase price records are only used for BOM calculation purposes.

**Item Price Form**

**Product information management** > **Released products** > **Manage Cost** > **Item Price**

The Item price form is used to view cost history and maintain product cost records for a single product. You would typically use the Item price form to create cost prices for a new product and use the Costing versions form to create cost prices for existing products.
Data maintenance includes entering pending costs for a purchased product, calculating pending costs for a manufactured product, and activating pending cost records. Activating a pending cost record will change its status from Pending to Active and will change its effective date to the activation date. The Item price form displays pending and active cost records on different tabs. Different cost records for a product could reflect a different Costing version, site, effective date, or status.

FIGURE 2.22 ITEM PRICE FORM

The form can also be used to view and maintain information about product sales price records and product purchase price records in a Costing version. Generate a product's sales price record by using the BOM calculation form to calculate a product's sales price.

**Item Price Form Details**

The following table describes the fields in the **Pending prices** tab of the **Item price** form.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price type</td>
<td>Shows whether the information applies to a product cost record, a product sales price record, or a product purchase price record.</td>
</tr>
<tr>
<td>Version</td>
<td>Costing version for the record.</td>
</tr>
<tr>
<td>Name</td>
<td>Name of the Costing version for the record.</td>
</tr>
<tr>
<td>Site</td>
<td>Show the applicable site for the record. Product cost records must be maintained by site.</td>
</tr>
<tr>
<td>Price</td>
<td>Enter the pending cost, display the calculated pending cost for a manufactured product, or display the active cost for a cost record.</td>
</tr>
<tr>
<td>Price unit</td>
<td>Show the quantity that is related to the product cost record. A product's cost is typically expressed for a quantity of 1. However, it might be expressed for every 100 or 1000 to handle decimal precision issues.</td>
</tr>
</tbody>
</table>
### Field | Description
---|---
Price charges | Enter pending costs for charges for a purchased product, calculate the charges for a manufactured product (based on the amortization of constant costs), or display the charges for an active cost record.
Price quantity | Show the quantity that is related to the product's miscellaneous charges. The miscellaneous charges will be amortized over the specified quantity.
Incl. in unit price | Show if miscellaneous charges will be included in the product's unit cost. Miscellaneous charges must be included when the Costing version reflects a standard cost type.
Unit | Displays the unit of measure for the cost record. A product cost record must be expressed in the product's inventory unit of measure.
From date | Show the intended effective date for a pending cost record. The date might be defaulted from the Costing version.
Blocked | A system-assigned flag that indicates that an active cost record cannot be maintained, or that the blocking flag for the Costing version has blocked changes to pending cost records.
Calculated | A system-assigned flag that indicates that the cost record contains a calculated cost for a manufactured product.
Log | A system-assigned flag that indicates that an Infolog exists for the cost record. You can view this by clicking the Log button. The Infolog contains warnings that are generated by the BOM calculation for the cost record.

## Activate Pending Prices

To activate a pending price for a product, click **Activate**.

The **Active prices** tab has an additional field **Activation date**, that shows when the price was activated.

To activate pending prices for many products, use the **Costing version** form.

### Procedure: Create a Costing Version

To create a Costing version, follow these steps:

1. Open **Inventory and warehouse management > Setup > Costing > Costing versions**.
2. Click **New** to create a new line.
3. Select a Costing type.
4. Insert text in the Version field.
5. Insert text in the Name field.
6. Select Yes or No in the Block field (depending on if the version must be blocked for use or not).
7. Set Block activation to Yes.
8. Close the Costing versions setup form.

**Procedure: Add Product in a Costing Version**

To add a product's costs in a Costing version, follow these steps:

1. Open Inventory and warehouse management > Periodic > Bills of materials > Costing versions.
2. Select a record in the Costing version maintenance form.
3. Click Price > Item price button.
4. Click New.
5. In the Item number drop-down select the Item number that you want to add to the costing version.
6. Select the Price type from the drop-down.
7. Type the Site and Price in to the correct fields.
8. Complete the other field as required by your business process on the Pending prices > Overview tab.
9. Close the Item price form.

**Procedure: Activate Cost Price from a Costing Version**

To activate cost prices from a Costing version setup form, follow these steps:

1. Open Inventory and warehouse management > Setup > Costing versions.
2. Select a record in the Costing version setup form.
3. Make sure that the Block field is set to No. Otherwise, it will be blocked for input.
4. Select No in the Block activation field to make sure activation can be performed.
5. Click the Activate button.
6. Select only the Cost price check box to activate the cost price only.
7. Click OK.
Procedure: Specify Prices Manually in the Released Products Form

To specify prices manually for a product, follow these steps:

1. Open **Product information management > Common > Released products**.
2. Select the product for which to enter prices and then click **Edit** in the **Action Pane**.
3. Click the **Purchase** FastTab and enter the value in the price field for the base purchase price.
4. Click the **Sell** FastTab and enter the value in the price field for the base sales price.
5. Click the **Manage cost** FastTab and enter the value in the price field for the base cost price.

**NOTE**: If you select the **Fixed receipt price** field on the **Setup** tab in the **Item model groups** form, product receipts are always made at the price that is specified in the **Price** field under the **Base cost price** heading and item issues are made at the current inventory value. **Fixed receipt price** cannot be selected when you use the **Standard cost Costing method**.

The price for a specific product is based on the number of units that are specified in the **Price unit** field. If the value is 1 or blank, the cost applies for one unit of the item. However, if you specify a value more than one or zero, then the price applies for this multiple quantity of the product.

Example: Specify Prices Manually in the Released Products Form

You buy a box of 50 products where the price unit equals 50. The cost applies for 50 units of the product. When you enter purchase order lines, sales order lines, or inventory journal lines, the unit price is automatically converted for the quantity given on the line.

Procedure: Update Price Automatically in the Released Products Form

As mentioned earlier, you can also set Microsoft Dynamics AX 2012 to automatically update prices. To update prices automatically, follow these steps:

1. Open **Product information management > Common > Released products**.
2. Select the product for which to enter prices and then click **Edit** in the **Action Pane**.
3. Click the **Purchase** FastTab.
4. Select or clear the **Latest purchase price** check box. By selecting this check box, you can update the purchase order price in the
Released products form with the latest purchase order price excluding discount and miscellaneous charges.

5. In the Manage cost FastTab, select or clear the Cost price field to always update for the last receipt from the inventory journal or from a production report-as-finished where a BOM line is returned to inventory. If you leave this check box blank, production costs will only be updated manually.

6. In the Sell FastTab, select how sales price must be updated.

Unit of Measure

In Microsoft Dynamics AX 2012, a product cannot be sold or purchased unless a unit of measure is associated with it. You must specify all units that a company uses in the Units form.

In the Released products form, you can specify units of measure for purchase orders, inventory, and sales orders. For example, a product might be purchased in pounds, stocked in liters, and sold in pints.

The following procedures show how to create units of measure and unit conversions.

FIGURE 2.23 UNITS FORM

Procedure: Set Up Units of Measure

To set up units of measure for the company, follow these steps:

1. Open Organization administration > Setup > Units > Units.
2. Click New to create a new unit of measure.
3. Type a unit name and description.
4. Select an existing unit or create a new unit.
5. Specify the number of decimals for the stock-keeping unit to display.

You can now continue to specify a unit conversion formula for the unit.

**Procedure: Specify a Unit of Conversion for the Unit**

To set up a unit of conversion for the unit, follow these steps:

1. Open **Organization administration > Setup > Units > Units**.
2. Select the unit from which you want to make the unit conversion.
3. Click **Unit conversion**.
4. Click **New** to create a new unit conversion. Create the unit conversion line by using the unit form from which you opened the form.
5. Specify the factor by which the unit must be multiplied to equal the **To unit**. For example, if there are five pieces in a pack and the **Unit conversions** form is opened from pieces, type "5" in the **Factor** field.
6. In the **To unit** field, specify the unit to which you want to convert.
7. Specify any additional quantity if you have to specify an additional quantity of the unit on conversion. For example, you create a conversion for one cable roll of Power Cable/ 3 to 200 meters. You specify one meter in the **Additional** field because, when you receive one cable roll, you actually receive 201 meters of sheet metal but one meter in total is scrapped. This is because, when you cut the metal into one meter pieces, 0.5 centimeters is scrapped.
8. Click the **Example** tab to check that the conversion is set up correctly.

**NOTE**: You can specify the conversion with a specific product if it is necessary. This means that the unit conversion is only valid for the selected product. Product specificity is important because, for example, a pack of one type of product might contain five pieces whereas a pack of another type of product might contain ten pieces. Therefore, the unit Pack can be used for different quantities of pieces, dependent on the product.
Unit Creation Wizard

**Organization administration > Setup > Units > Unit conversion**

Perform an automatic conversion between the units by using the conversion rules that are specified in the **Unit conversions** form.

If you click the **Unit creation wizard** on the **Units** form, you can use a wizard where Microsoft Dynamics AX 2012 will create general unit conversions for you, such as equating 100 centimeters (cm) with 1 meter (m).

**NOTE:** When you perform a conversion, the system first checks whether a specific conversion is created for the product. If not, the general conversion without item number is used. When a conversion is set up from one unit to the other, you must also create the conversion the opposite way. For example, 1m = 100cm and 1 cm = 0.01m.

Defining Products as Not Stocked

In Microsoft Dynamics AX 2012, products can be defined as stocked or not stocked. If a product is stocked, it is carried in physical inventory and on-hand is maintained for it. If a product is not stocked, no inventory related functions are supported, such as transfer journals, counting, and it will not track on-hand inventory.

Not stocked products are defined in the **Item model group** form. If the **stocked product** check box is cleared, the products that are associated with this item model group will be not stocked.

A not stocked product is a product of the item or service type that cannot be tracked in inventory, but can still be handled through the receiving and shipping process. Also, master planning will include not stocked products.
A not stocked product is accounted for as a revenue or expense only.

FIGURE 2.24 ITEM MODEL GROUPS FORM

Example: Not Stocked Item

Contoso Entertainment sells consulting services to help install a home theater system. Consulting is set up as a service product and is not stocked in the warehouse. This enables Contoso to sell consulting without having to track inventory.

NOTE: For more information about the setup of not stocked products on the Item model group, refer to the Inventory Management Setup module.
Summary

The product structure in Microsoft Dynamics AX 2012 supports the option of a more centralized master data control process and the possibility to have a holistic overview of all products in an enterprise. Additionally, it clearly structures the data with the product definitions and its characteristics.

Product information management lets you do the following:

- Create products at the enterprise level
- Use Products, Product masters, and Product variants
- Release products to a legal entity
- Finalize products at a legal entity
- Create not stocked products
- Create unit of measure for products
- Set up default order and site settings
Test Your Knowledge

Test your knowledge with the following questions.

1. Which of the following are valid types of product templates? (Select all that apply)
   - ( ) Personal Template
   - ( ) Customer Template
   - ( ) Vendor Template
   - ( ) Shared Template

2. List three types of product dimension groups and dimensions within each product dimension group.

3. Categorize the following items:

| __1. Predefined variant | a. This is the only option that can be set up directly with product variants. |
| __2. Dimension-based configuration | b. This type enables product to be used in the Product Configurator module. |
| __3. Constraint-based configuration | c. A configuration technology that is used to create product variants by selecting values for product dimensions. |
4. True or False: A product can only be released to one company at a time.
   ( ) True
   ( ) False

5. Which fields must be set up to finalize a released product? (Select all that apply)
   ( ) Item model group
   ( ) Counting group
   ( ) Storage dimension group
   ( ) Cost group
Quick Interaction: Lessons Learned

Take a moment and write down three key points you have learned from this chapter

1. 

2. 

3. 
Solutions

Test Your Knowledge

1. Which of the following are valid types of product templates? (Select all that apply)
   - (✓) Personal Template
   - ( ) Customer Template
   - ( ) Vendor Template
   - (✓) Shared Template

2. List three types of product dimension groups and dimensions within each product dimension group.

   MODEL ANSWER:
   1. Storage dimension groups: Site, Warehouse, Location, Pallet
   2. Tracking dimension groups: Serial number, Batch number
   3. Product dimension groups: Size, Color, Configuration

3. Categorize the following items:
   - a 1. Predefined variant
   - b 2. Dimension-based configuration
   - c 3. Constraint-based configuration

   a. This is the only option that can be set up directly with product variants.
   b. This type enables product to be used in the Product Configurator module.
   c. A configuration technology that is used to create product variants by selecting values for product dimensions.

4. True or False: A product can only be released to one company at a time.
   - ( ) True
   - (●) False

5. Which fields must be set up to finalize a released product? (Select all that apply)
   - (✓) Item model group
   - ( ) Counting group
   - (✓) Storage dimension group
   - ( ) Cost group