# Oracle SCM Cloud
## Using Product Master Data Management

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>i</td>
</tr>
<tr>
<td><strong>1 Product Management Overview</strong></td>
<td>1</td>
</tr>
<tr>
<td>How You Use the Product Information Management Work Area</td>
<td>1</td>
</tr>
<tr>
<td>Overview of the Product Information Management Work Area</td>
<td>2</td>
</tr>
<tr>
<td>How You Use and Personalize Infolets in Oracle SCM and Procurement Cloud</td>
<td>2</td>
</tr>
<tr>
<td>What You Can Do in Product Master Data Management</td>
<td>4</td>
</tr>
<tr>
<td><strong>2 Define the Product</strong></td>
<td>9</td>
</tr>
<tr>
<td>Create Items</td>
<td>9</td>
</tr>
<tr>
<td>Public Items</td>
<td>9</td>
</tr>
<tr>
<td>Item Copying</td>
<td>10</td>
</tr>
<tr>
<td>Item Revisions</td>
<td>11</td>
</tr>
<tr>
<td>Create and Edit Trading Partner Items</td>
<td>11</td>
</tr>
<tr>
<td>FAQs for Define Product</td>
<td>13</td>
</tr>
<tr>
<td><strong>3 Manage Product Specifications</strong></td>
<td>15</td>
</tr>
<tr>
<td>Item Specifications and Attributes</td>
<td>15</td>
</tr>
<tr>
<td>Interdependent Item Attributes</td>
<td>18</td>
</tr>
<tr>
<td>Item Specification Reference</td>
<td>25</td>
</tr>
<tr>
<td><strong>4 Manage Product Relationships and Associations</strong></td>
<td>65</td>
</tr>
<tr>
<td>Manage Item Relationships</td>
<td>65</td>
</tr>
<tr>
<td>Types of Item Relationship</td>
<td>68</td>
</tr>
<tr>
<td>FAQs for Product Relationships and Associations</td>
<td>68</td>
</tr>
<tr>
<td><strong>5 Manage Product Bundles and Structures</strong></td>
<td>71</td>
</tr>
<tr>
<td>Structures and Structure Types</td>
<td>71</td>
</tr>
<tr>
<td>Create Structures</td>
<td>76</td>
</tr>
<tr>
<td>Manage Structures</td>
<td>78</td>
</tr>
<tr>
<td>FAQs for Product Bundles and Structures</td>
<td>82</td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>6</td>
<td>Manage Product Packs</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Manage Product Attachments</td>
</tr>
<tr>
<td>8</td>
<td>Manage Product Security</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Manage Catalogs and Categories</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Access and Search Product Master Data</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Manage Product Mass Updates</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Manage New Product Definition and Approval</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Manage Supplier Collaboration</strong></td>
<td>149</td>
</tr>
<tr>
<td>Manage Item Supplier Associations</td>
<td>149</td>
</tr>
<tr>
<td>How to Manage Supplier Access</td>
<td>149</td>
</tr>
<tr>
<td>FAQs for Manage Supplier Collaboration</td>
<td>150</td>
</tr>
<tr>
<td><strong>Manage Release of Product to Market</strong></td>
<td>151</td>
</tr>
<tr>
<td>Item Statuses</td>
<td>151</td>
</tr>
<tr>
<td>FAQs for Release Product to Market</td>
<td>151</td>
</tr>
<tr>
<td><strong>Manage Product Change Orders</strong></td>
<td>153</td>
</tr>
<tr>
<td>Overview of Change Orders</td>
<td>153</td>
</tr>
<tr>
<td>What Change Orders Modify</td>
<td>153</td>
</tr>
<tr>
<td>Create and Track Tasks</td>
<td>154</td>
</tr>
<tr>
<td>Change Order Attachments</td>
<td>155</td>
</tr>
<tr>
<td>Change Order Propagation</td>
<td>155</td>
</tr>
<tr>
<td>Change Order Propagation Rules</td>
<td>157</td>
</tr>
<tr>
<td>Simplified Change Management Interface</td>
<td>157</td>
</tr>
<tr>
<td>Edit Items from Change Orders</td>
<td>158</td>
</tr>
<tr>
<td>Edit a Change Order</td>
<td>159</td>
</tr>
<tr>
<td>Change Order Workflow</td>
<td>160</td>
</tr>
<tr>
<td>Change Order Actions</td>
<td>160</td>
</tr>
<tr>
<td>How to Use the Action Log on a Change Order</td>
<td>161</td>
</tr>
<tr>
<td>How You Create and Manage Change Orders</td>
<td>161</td>
</tr>
<tr>
<td>Cancel Change Objects</td>
<td>162</td>
</tr>
<tr>
<td>Move Duplicate Change Lines</td>
<td>163</td>
</tr>
<tr>
<td>Change Order Notifications</td>
<td>163</td>
</tr>
<tr>
<td>Change Order Approval Process</td>
<td>164</td>
</tr>
<tr>
<td>FAQs for Change Orders</td>
<td>166</td>
</tr>
<tr>
<td><strong>Manage Product Data Imports</strong></td>
<td>171</td>
</tr>
<tr>
<td>Overview of Manage Imports</td>
<td>171</td>
</tr>
<tr>
<td>Import Style and SKU Items with Import Maps</td>
<td>171</td>
</tr>
</tbody>
</table>
## 17 Manage Import Batches

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Item Import Batches</td>
<td>173</td>
</tr>
<tr>
<td>Manage Item Batch Details</td>
<td>180</td>
</tr>
<tr>
<td>FAQs for Import Batch</td>
<td>186</td>
</tr>
<tr>
<td>Import Items Using Import Maps</td>
<td>186</td>
</tr>
<tr>
<td>Import Item Attachments</td>
<td>196</td>
</tr>
<tr>
<td>Import Descriptive Flexfields</td>
<td>199</td>
</tr>
<tr>
<td>FAQs for Item Import</td>
<td>199</td>
</tr>
</tbody>
</table>

## 18 Manage Supplier Products

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of Managing Supplier Products</td>
<td>203</td>
</tr>
<tr>
<td>Overview of Creating Supplier Products</td>
<td>204</td>
</tr>
<tr>
<td>Create Supplier Products</td>
<td>204</td>
</tr>
<tr>
<td>Supplier Product Uploads</td>
<td>204</td>
</tr>
<tr>
<td>Upload Products with Smart Spreadsheets</td>
<td>206</td>
</tr>
<tr>
<td>Review Supplier Uploads</td>
<td>208</td>
</tr>
<tr>
<td>How Can You Schedule File Uploads in Product Hub Portal</td>
<td>208</td>
</tr>
<tr>
<td>Worklists and Notifications in Product Hub Portal</td>
<td>209</td>
</tr>
</tbody>
</table>

## 19 Cleanse Product and Service Data

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check Data Quality</td>
<td>211</td>
</tr>
<tr>
<td>FAQs for Data Quality Check</td>
<td>213</td>
</tr>
</tbody>
</table>

## 20 Standardize Product and Service Data

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers, Descriptions, and Rules</td>
<td>217</td>
</tr>
<tr>
<td>Number Generation Methods</td>
<td>218</td>
</tr>
<tr>
<td>Generate Numbers and Descriptions with Rules</td>
<td>219</td>
</tr>
<tr>
<td>What are the Various Methods for Submitting Items to the Update Process</td>
<td>224</td>
</tr>
<tr>
<td>How Items are Matched</td>
<td>224</td>
</tr>
<tr>
<td>FAQs for Standardize Product and Service Data</td>
<td>225</td>
</tr>
</tbody>
</table>
21 Publish Product Data to External Systems 227

Publish Item Objects 227
Define Publication Options for a Spoke System 227
Define the Schedule and Parameters for the Scheduled Process 227
Define Profile Options to Publish Items 228
Access the Payload Generated by the Publication Scheduled Process 229
What Gets Published in the Publication Payload 229
FAQs for Publish Items 231

22 Obsolete Products and Services 233

Overview of Obsoleting Products and Services 233
Group Deletions of Items, Structures, New Item Requests, and Change Orders 233
Item Supersession 235
Preface

This preface introduces information sources that can help you use the application.

Using Oracle Applications

Help

Use help icons to access help in the application. If you don't see any help icons on your page, click your user image or name in the global header and select Show Help Icons. Not all pages have help icons. You can also access the Oracle Help Center to find guides and videos.

Watch: This video tutorial shows you how to find and use help.

You can also read about it instead.

Additional Resources

- Community: Use Oracle Cloud Customer Connect to get information from experts at Oracle, the partner community, and other users.

- Training: Take courses on Oracle Cloud from Oracle University.

Conventions

The following table explains the text conventions used in this guide.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>boldface</td>
<td>Boldface type indicates user interface elements, navigation paths, or values you enter or select.</td>
</tr>
<tr>
<td>monospace</td>
<td>Monospace type indicates file, folder, and directory names, code examples, commands, and URLs.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than symbol separates elements in a navigation path.</td>
</tr>
</tbody>
</table>
Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website. Videos included in this guide are provided as a media alternative for text-based help topics also available in this guide.

Contacting Oracle

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit My Oracle Support or visit Accessible Oracle Support if you are hearing impaired.

Comments and Suggestions

Please give us feedback about Oracle Applications Help and guides! You can send an e-mail to: oracle_fusion_applications_help_ww_grp@oracle.com.
1 Product Management Overview

How You Use the Product Information Management Work Area

Watch video

From the Product Information Management work area, you can scan the status of your product workflow using infolets, and also view event notifications. You can use the Tasks pane to manage items, new item requests, item batches, and import items from external data systems using import maps.

Product Information Management Landing Page

The Product Information Management landing page contains infolets to manage product information. For example, the Items for Definition infolet lets you view any new item requests. The Details tab in a new item request has detailed information for your analysis. After you have analyzed the request, you can decide to act on the request immediately or you can decide to come back to it later.

Apart from the infolets, you also receive notifications about events and workflow that need your attention. You can also search for items, catalogs, and so on from the Quick Search pane in Product Information Management work area. The Tasks pane has all the tasks that will help you manage your product data.

Manage Items

Use the Manage Items task to search for items. Open the desired item from the Search Results table and edit or view the attributes for item.

Manage New Item Request

Use the Manage New Item Request task to see what new items are there for you to introduce in the product workflow. Open a new item request to view the item details and its priority, and take appropriate actions.

Manage Item Batches

Use the Manage Item Batches task to view the batches of items imported from other data systems. The Search Results table gives you an overview of the status of the item batch. You can analyze a batch and look for any errors. For example, if the number of items available in the batch and the number of items imported don't match, it indicates that you have an error. Click the batch number to see the details of the import and analyze any error. You can also export the result of an item batch to a spreadsheet for offline analysis.

Manage Import Maps

Use the Manage Import Maps task to search for an import map and look at the mapping detail for the import map. Before creating a mapping of items, it's a good practice to view the source file details. To map your item entries, you can
drag a column header from the source data to a corresponding attribute name in the master data. Refresh the preview table to see how the external data maps to the master data attributes.

Overview of the Product Information Management Work Area

You can use the Product Information Management work area to manage a broad range of common tasks related to product information.

This work area provides you with this specialized set of tools (in addition to the global tools such as favorites, watchlist, and notifications):

<table>
<thead>
<tr>
<th>Tool</th>
<th>What It Does</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infolets</td>
<td>Infolets are interactive panels on the work area page that present important data and help you take action based on it. In the Product Information Management work area, infolets summarize data from detail pages for working with your products. You can set a filter to change what’s displayed in an infolet, or drill down into the corresponding detail page. Example: You can click a segment of the chart in the Import Batches infolet to work with the import batches from the associated source system. You can also move or hide infolets, to personalize the page for your own style of working.</td>
</tr>
<tr>
<td>Tasks</td>
<td>Use the Tasks list in the panel drawer to perform tasks specifically for the current work area. Click a task name to navigate directly to the task detail page.</td>
</tr>
<tr>
<td>Search</td>
<td>Use the Search in the panel drawer to search for many types of product information (such as items, catalogs, categories, trading partner items, change order requests, new item requests and item batches) directly from the work area, without needing to navigate to a specific task page. You can search using key words, names, ID numbers, or other criteria, depending on what you’re searching for. Example: If you’re searching for a specific item, you can enter the specific item ID, if you know it, or you can type in a few words from the description. If you enter red in the search field, the search returns items containing the word red in the item data. You can only access the data for which you have the correct permissions.</td>
</tr>
<tr>
<td>Reports and Analytics</td>
<td>Use the Reports and Analytics control in the panel drawer to run existing reports and analytics. If you need to define a new report, then navigate to the Reports and Analytics work area itself from your home page or through the navigator.</td>
</tr>
</tbody>
</table>
How You Use and Personalize Infolets in Oracle SCM and Procurement Cloud

Oracle Supply Chain Management (SCM) and Procurement Cloud infolets are visual, actionable, and personalized information cards summarizing critical data about specific objects. These infolet cards are combined in a SCM or Procurement home experience or work area home page to make key performance indicators easy to view, understand, and act upon.

You can do the following with infolet cards:

- Flip or expand the card to view additional details about the object featured in the infolet card.
- Drill down to more details by navigating to relevant manage pages from the infolet view.
- Change the context of the card either at page level or at view level.
- Hide infolet cards.
- Reorder infolet cards.

Flip and Expand Card

Some infolet cards have a back view or an expanded view that provides additional information relevant to specific aspects of the object being featured in the infolet card. The back and expanded views of the infolet card display additional levels of detail and expose useful information relevant to the object. Based on how the infolets have been configured, you can then navigate to either the back view or the expanded view.

To see different views of the infolet card, do the following:

- Click the Back View icon present on the infolet card to see the back view with additional information about the object.
  - To return to the front view, click the Front View icon present on the infolet card.
- The expanded view is available from either the front view or the back view. Click the Expanded View icon to see useful information about the objects. Click the Front View or Back View icon to return to the view you started with.

Additional Pages

Click the number or an element like a segment on the pie chart of the infolet card to navigate to relevant manage pages with additional, in-context information. Drill down to view additional relevant information on related objects that will help you to act on the latest and critical data points. For example, suppose you have an infolet card that displays draft orders with errors. Each number or the segment of the graphical element represents the different error conditions such as pricing errors, processing constraint errors, and so on. Click the segment that represents draft orders in pricing errors to see the names and additional details of all the draft orders with pricing error.

Context Selector

To view different perspectives of the same data, use context selectors. Two types of context selectors are available: at the page level, and at the view level. Only some of the infolet cards have the view-level context selectors, while only some pages with infolet cards have page-level context selectors. Context selectors aren't present on all infolet cards and...
pages. If you change the context of the card on any view of the card, these changes may not necessarily reflect on the alternate views of the infolet card.

- Each view of the infolet card may have a view-level context selector located after the title of the card. Select from the list of available contexts and the view is updated based on that context. The view-level context can be different on each view of the card.

  For example, you may have an infolet card that displays information about fulfilled orders for different time periods. Use the context selector to see information about orders that were fulfilled in the last three months.

- The page-level context selector is available on a tool bar of the page. The page-level context selector is similar to the view-level context selector, except that all the cards on the page will display data as per the filters set in the page-level context list. Click the View By icon on the tool bar of the page. Select the contexts from the two available lists in the Page Context dialog box.

  Examples include updating all of the cards to show data only for the last week, or only for a particular business unit.

**Hide Card**

Click the Actions icon present on the infolet card, and select Hide. The selected card is hidden. You can also hide cards by clicking the My Infolets icon present on the page. A list of infolet cards is displayed. Deselect the check box of the infolet card that you want to hide.

**Rearrange Cards**

The infolet cards can be moved around and can be rearranged or re-ordered on the page in any way you want.

**What You Can Do in Product Master Data Management**

You perform tasks for Product Master Data Management in the Product Information Management work area.

**Product Information Management Work Area Tasks**

The Product Information Management work area provides these lists of tasks in the panel drawer:

- Item Management
- Data Governance
- Data Consolidation

The tasks related to these lists are described in the following tables.

**Item Management Tasks**

These tasks enable you to create and modify items, and the entities built with items. Items are the basic unit of product information data.
<table>
<thead>
<tr>
<th>Task</th>
<th>What you do in this task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define Product</td>
<td>Create items and apply predefined templates that provide all of the basic information to help you get started quickly.</td>
</tr>
<tr>
<td>Manage Product Specifications</td>
<td>Specify values for product operational attributes at a product level as well as product revision level, allowing you to control how an item is processed by downstream applications.</td>
</tr>
<tr>
<td>Manage Product Relationships and Associations</td>
<td>Define item relationships to relate two internal items using predefined as well as user defined relationship types. Capture attributes to further qualify the relationship as well as specify effectivity dates to phase the relationships in or out. Define and maintain GTIN (Global Trade Identification Number) cross references to relate items using the industry standard allowing for tracking and identification of trading partner items. Assign items to multiple organizations to manage them in context of locations they’re manufactured, stocked, and distributed from.</td>
</tr>
<tr>
<td>Manage Product Packs</td>
<td>Define and manage product pack information by creating homogeneous and heterogeneous packaging configurations of sellable items.</td>
</tr>
<tr>
<td>Manage Product Bundles and Structures</td>
<td>Define and manage product structures to represent various product hierarchies. Copy product structures from existing structures with the ability to preview the components you’re copying. Associate common product structures to a master product structure to maintain a single definition across multiple organizations.</td>
</tr>
<tr>
<td>Manage Product Attachments</td>
<td>Associate unstructured content as attachments to a product. Categorize attachments in various predefined and user defined categories to organize and provide quick access to important documents for the product.</td>
</tr>
<tr>
<td>Manage Product Revisions</td>
<td>Manage item revisions to track major changes to an item in terms of its form, fit, or function. Introduce new item revisions through a formal change order framework to generate an audit trail as well as streamline implementation of new revisions.</td>
</tr>
<tr>
<td>Define Catalogs</td>
<td>Define and manage catalogs to categorize items in a structured hierarchy. Associate images and attachments to catalogs and categories to help you quickly build rich catalog content. Share category and item associations from a source or master catalog with multiple catalogs enabling you to reuse existing data and ease administration of catalogs.</td>
</tr>
<tr>
<td>Define Advanced Catalogs</td>
<td>Manage catalog mapping between two catalog hierarchies as well as attributes for the catalog and categories.</td>
</tr>
<tr>
<td>Access and Search Product Master Data</td>
<td>Quickly search for items using single keywords. Perform advanced searches by specifying various parameters and criteria as well as building more complex searches using search operators to quickly find products. Define saved searches enabling you to promote reuse and provide quick access to searches that need to be performed frequently.</td>
</tr>
<tr>
<td>Manage Product Mass Updates</td>
<td>Perform mass updates on item information including changes to item attributes, item supplier associations, item reclassification, and organization assignments.</td>
</tr>
<tr>
<td>Manage Product Security</td>
<td>Assign role based security at a product level to control access to items. Assign data level security at each individual attribute group level to further control access to sensitive...</td>
</tr>
</tbody>
</table>
### Data Governance Tasks

These tasks enable you to govern the currency and integrity of your product information data.

<table>
<thead>
<tr>
<th>Task</th>
<th>What You Do in This Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Product Revisions</td>
<td>Manage item revisions to track major changes to an item in terms of its form, fit, or function. Introduce new item revisions through a formal change order framework to generate an audit trail as well as streamline implementation of new revisions.</td>
</tr>
<tr>
<td>Manage New Product Definition and Approval</td>
<td>Define and manage new item requests to enable a formal definition and approval workflow. Definition steps can include product attributes, product structures, item relationships, item attachments, and organization assignment. Manage multiple item definition belonging to different item classes in a single new item request.</td>
</tr>
<tr>
<td>Manage Product Change Orders</td>
<td>Create product change orders to process changes to product attributes, lifecycle phases, item statuses and product structures. Submit changes through a formal review and approval workflow to ensure successful and validated implementation of change orders. Implement changes through multiple organizations by propagating change orders to organizations while still having the flexibility to adapt implementation schedule based on individual organizations. Move or split change order lines to new or existing change orders to avoid bottlenecks in processing and implementation.</td>
</tr>
<tr>
<td>Define Product Rules</td>
<td>Create and edit rules for products. Rules can be used to assign values to attributes, validate dependencies between attributes and require approval through change orders for certain types of attribute updates.</td>
</tr>
</tbody>
</table>

### Data Consolidation Tasks

These tasks enable you to consolidate product information data from external sources with your internal master data.
<table>
<thead>
<tr>
<th>Task</th>
<th>What you do in this task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Imports</td>
<td>Manage the import of items and related entities using industry standard open interface tables allowing you to quickly import data into the production schema as well as enabling migration of data from existing applications.</td>
</tr>
<tr>
<td>Manage Import Batches</td>
<td>Define item batches to import sets of item data including product structures and packaging hierarchies from multiple product source systems. Specify import options for an item batch to schedule batch loads, governance and workflow policies for new item definition and approval and product changes. Specify data quality options for matching and standardization for an item batch to cleanse product data during batch import.</td>
</tr>
<tr>
<td>Manage Supplier Collaboration</td>
<td>Collaborate with trading partners on item data including item attributes, product structures, and packaging configurations. Secure trading partner access by assigning privileges. Communicate critical changes with suppliers through change order workflows to review, validate accuracy, and approve changes for supplier items. Associate external items such as supplier items and specify supplier item attributes to capture rich detail for the supplier items. Extend the supplier item relationships to associate supplier items to multiple organizations from which they're supplied and received.</td>
</tr>
<tr>
<td>Manage Trading Partners' Products</td>
<td>Define and manage trading partner items such as customer items, and associate them with an internal item. Define and manage manufacturer part numbers and associated attributes, which enables you to relate multiple manufacturer parts to an internal item. Define and manage competitor items to relate similar items that might be sold or manufactured by your competitors.</td>
</tr>
<tr>
<td>Standardize Product and Service Data</td>
<td>Eliminate potential duplicates by standardization of product numbers and descriptions based on user defined rules and formats.</td>
</tr>
</tbody>
</table>
2 Define the Product

Create Items

Create single or multiple items and apply predefined templates.

Creating Single Items

You can begin creating an item from multiple places in the UI. Start by providing basic information such as master organization, number of items (in this case, one item), and item class. Then you will select the templates which will be applied to the items. The templates will be applied sequentially, meaning options in the second template will overwrite any options in the first and so on. Next, required attributes must be provided. If mandatory attributes were defined in the item class, then they must be provided.

Use the data level attributes in the specifications tab to enter or view different aspects of the item, such as the base standard operational attributes. You can optionally specify descriptive flexfields at the Item or Item Revision levels. If you are licensed to use Oracle Fusion Product Hub, you can specify extensible flexfields to capture attributes of the item at the Item, Item Revision and Item Supplier Site levels.

While creating items in the user interface, you can optionally:

- Define an item structure
- Assign to organizations
- Create relationships
- Assign catalog categories
- Add attachments

Note: While creating items based on certain attribute values, automated processes for item category assignments may be performed. If functional area catalogs are not defined, item assignments for those functional areas are skipped. When creating items, item rules are evaluated and appropriate messages are displayed. If data quality checking is enabled, the results of the check are displayed.

Creating Multiple Items

When creating a new item, you have the option of creating more than one item simultaneously. In situations where you have to create numerous items that share some common characteristics, it is best to use this procedure.

Creating multiple items begins much the same as creating a single item. Where you enter one for the number of items in the single item scenario, for multiple items you enter a number greater than one. You will be taken to the Create Multiple Items page where you must specify the details for each of the items in the table.

Related Topics

- Manage Item Templates
Public Items

Public items are those items that you create in an item class, where the Public check box is preselected. Data security is not enabled for public items, except in the case of user-defined attributes. If you want to control the access to attribute groups, you must define the data security for user-defined attributes.

All internal users have access to items that are public. You can also control the access to specific items in public item classes at the item level. For example, if you want to introduce a new product for an existing line of products, you may want the new product to have restricted access until the product is released. You can create the new product as an item and then mark the products as private at the item level in the Item Security dialog box. The Item People tab on the Edit Item page is hidden. Use the Item Security dialog box to set up data security for the item.

Follow these steps to open the Item Security dialog box and provide data grants:

1. From the Product Information Management work area, click the Tasks panel drawer, and select Manage Items.
2. Search for the item and click on the item number link in the Search Results table.

You now can provide data grants for the item.

For each new item, you can deselect the Public check box to make the item a private item and the data security for this item is generated automatically for the logged in user. The owner of the item can add additional data security to provide limited access to other users to the new product.

Item Copying

The Create Item action allows the user to select the Create from Copy option and to enter the item you want to copy from. One or more items can be created by copying.

Create an Item by Copying

The following can be copied from an existing item:

- Attributes
- Relationships
- Structures
- Organization assignments
- Attachments
- Supplier organization assignments
- Catalog Category assignments

Attributes

Indicate whether you want to copy the attributes and then apply the templates or apply the templates and then copy the attributes. On the Specification tab, select the list of attribute groups available for copying attribute values.
Relationships

On the **Relationships** tab, select the relationships, organization assignments, and attachment categories to be copied to the new item.

Structures

On the **Structures** tab, select the structure to be copied to the new item. You can also decide to create a common structure instead of copying it.

Attachments

You can also select attachments.

Item Revisions

When you create an item, a default revision is automatically created. Also, you can create item revisions based on item definition changes. Generally, if there is a change in the form, fit, and function for an item, then a new revision is automatically created. Organizations may decide to create either new items or new revisions to capture major changes that affect the form, fit and function of an item.

You can capture revision level changes using revision level attributes. To use revision level attributes, you have to create a new revision.

Item revisions are specific to the organization the item is assigned to. So, the same item can have 10 revisions in Organization A and only 5 revisions in Organizations B. In Product Hub, when you create a revision, you must specify an effective date. The effective date of a new revision also signifies the end date of the prior revision. Therefore, at a given time only one revision can be effective.

Item-revision-level attributes can have different values for different revisions. However, item structures aren’t revision specific. If the start and end dates of the structure components match with the start and end dates of an item revision, then item structures act as revision-effective structures. Revision-effective structures are structures that are valid from a start revision to an end revision. You can also create an item revision in the context of a change order. In such cases, the new item revision becomes effective when you implement the change order.

In Product Development, you can create item revisions only in the context of a change order.

Create and Edit Trading Partner Items

Trading partner items are items that are external to the Product Hub application. The Manage Trading Partners and Trading Partner Items task allows these trading partner items to be added to the Product Hub as a trading partner item and then related to a Product Hub item as needed. Create trading partner items using the Manage Trading Partners and Trading Partner Items task available in the Product Information Management work area.
Search for Trading Partner Items

The list search model is used with autosuggest search to find trading partner items. The Show Filters action opens a panel that lets you provide additional filters. Autosuggestion results show the search results in the following regions:

- Trading Partner Items
- Trading Partner
- Related Items

The search results from the list search can be displayed with two different views, table view and card view. In table mode each row in the table provides information for a specific trading partner item. The following fields appear in the table view:

- Attachments: this column contains quick access to the attachments for a trading partner item. When a blue dot is shown, the trading partner item has attachments. Clicking on the blue dot will open the right panel with the trading partner item details shown and the attachment region will be expanded. If the column contains a plus sign, the trading partner item doesn't contain attachments.
- Relationships: this column contains quick access to the relationships between the trading partner item in the row and a product item. When a blue dot is shown, the trading partner item has relationships. Clicking on the blue dot will open the right panel with the trading partner item details shown and the Relationships region will be expanded. If the column contains a plus sign, the trading partner item doesn't contain relationships.
- Social: this column indicates if there is a social conversation for the item. The icon will be grayed out if no social conversation exists. Clicking on the icon in the row for the trading partner item will launch the social dialog window. If conversations exist for the trading partner item, they will be listed.
- Favorites: this column indicates if the trading partner item has been designated as a favorite when the icon is shown as yellow star. If a grayed out star appears, the user can click on the icon to mark the trading partner item a favorite.
- Image: A small rendering of the image is shown in the row when an image has been setup for the trading partner item. An image indicating that the image needs to be setup up will be shown if no image is setup.
- Trading Partner Item: the trading partner item number for the row.
- Trading Partner: the trading partner for the trading partner item.
- Type: the trading partner item type with values of Manufacturer, Customer, Competitor and Supplier.
- Start and End Dates: the dates the trading partner item is available.

Create Trading Partner Items

In both search results views, click the Add icon to create a new trading partner item, assuming the user has the functional privilege to Manage Trading Partner Items and has a data grant for the trading partner items with the View and Maintain privilege (if data security is enabled). When the user clicks on the add action, the right hand panel expands and contains the Create Trading Partner Item content. Select a Trading Partner and Type. The Trading Partner Type has four values: Manufacturer, Customer, Supplier and Competitor. The fields will be read-only when the user only has the View data privilege for the trading partner item or for all trading partner items for a trading partner.

- Relationships: Use this section to view, edit or add related items to this trading partner item.
- Attachments: Use this section to maintain attachments related to this trading partner item.
- Security: If security is enabled, use this section to maintain privileges for users or user groups.

**Note:** The security region will be hidden when the trading partner item is marked public.
FAQs for Define Product

What's an item?

Items are used to represent products and services you sell or transact and components that make up your products and services.

Each item that you create has several standard operational attributes that determine the behavior of the item with respect to various functions, such as Purchasing and Inventory Management. In addition to these operational attributes, the item has several user-defined attributes defined by its item class. These user-defined attributes capture item specifications and other information relevant to the product definition.

What's an engineering item?

Any item that you create in the Product Development work area is an engineering item. If you create an item using an import service, a SOAP web service, or a REST API, with the Engineering Item attribute set to Yes, that item is also considered an engineering item.

Are there any restrictions when viewing or editing engineering items?

Yes. For engineering items that are in the Design lifecycle phase, you can’t view or edit the Structure components and MPN relationships in the Product Information Management work area.

For engineering items that are in any lifecycle phase other than Design, you can’t add or modify the Structure components and MPN relationships in the Product Information Management work area.

However, you can view, edit, or add engineering items using a change order from the Product Development work area.

What happens if I select more than one item template?

If more than one item template is selected, they will be applied sequentially. This means that if the same attribute is defined in more than one template, the value of the attribute as set in a subsequent template in the sequence will override the previously set value for that attribute. For example, if template 1 sets the Order Enabled attribute to Yes and template 2 set the same attribute to No, then attribute value will be set to No.
How can I create a new revision?

You create new revisions from the Manage Revisions dialog box. Revisions can also be created by a change order.

Can I Delete Trading Partners?

A trading partner can be deleted only if no trading partner items are assigned to the trading partner. Only Manufacturer, Customer, and Competitor trading partners can be deleted.

How can I use social networking to solicit opinions and feedback for a new item or product from members of multiple departments??

To successfully launch a new product or item, you need to ensure that the blueprint for the product accurately reflects what customers need and want. To achieve that level of confidence, you can solicit the opinions and feedback of people all over your company, from sales, to marketing, to research and development. On a catalog category's detail page, click the Social button to open Oracle Social Network. Create one or more conversations around any of the items in the category, and invite others to contribute, including those who don't have access to edit the items themselves. These exchanges are permanently associated with that category for future reference.
3 Manage Product Specifications

Item Specifications and Attributes

Item specifications are groups of attributes that determine item characteristics such as item cost or lead time. You set these attributes when you define or update items.

From the Specifications tab on the Edit Item or Create Item pages, you can navigate through attribute groups to access and modify item attributes.

The types of attributes that are accessible from the specifications tab include the following:

- Operational attributes: These are organized into the following specification groups:
  - Costing
  - General Planning
  - Inventory
  - Invoicing
  - Lead Times
  - MRP and MPS Planning
  - Order Management
  - Physical Attributes
  - Main
  - Overview
  - Process Manufacturing
  - Purchasing
  - Receiving
  - Service
  - Structures
  - Web Store

- User-defined attributes: These can be accessed through links on the Specifications tab.
- Transactional attributes: These can be viewed for a specific date.

There are particular relationships enforced between some of the item attributes: These relationships fall into two groups:

- Required attributes: You must enter values for certain attributes if some related attributes have values
- Interdependent attributes: You can enter only certain values depending on other attribute values. For example, Planning Method must be Not Planned if Pick Components is set to Yes. These interdependencies may be between attributes within the same specification group or between attributes in different specification groups.

### Required Item Attributes

When you define items, you must enter values for certain attributes if the related attribute contains a value. The following table lists attributes that are required to be defined if the related attribute has also been defined.

<table>
<thead>
<tr>
<th>Required Attribute</th>
<th>Related Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Duration</td>
<td>Required if Contract Item Type is set to Service or Warranty.</td>
</tr>
<tr>
<td>Service Duration Period</td>
<td>Required if Contract Item Type is set to Warranty.</td>
</tr>
<tr>
<td>Demand Time Fence Days</td>
<td>Required if Demand Time Fence is set to User-defined.</td>
</tr>
<tr>
<td>Outside Processing Unit Type</td>
<td>Required if Outside Processing Item is set to Yes.</td>
</tr>
<tr>
<td>Planning Time Fence Days</td>
<td>Required if Demand Time Fence is set to User-defined.</td>
</tr>
<tr>
<td>Planning Time Fence Days</td>
<td>Required if Planning Time Fence is set to User-defined.</td>
</tr>
<tr>
<td>Release Time Fence Days</td>
<td>Required if Release Time Fence is set to User-defined.</td>
</tr>
<tr>
<td>Service Duration</td>
<td>Required if Service Duration Period is not Null.</td>
</tr>
<tr>
<td>Shelf Life Days</td>
<td>Required if Lot Expiration (Shelf Life) Control is set to Item shelf life days.</td>
</tr>
<tr>
<td>Source Organization</td>
<td>Required if Replenishment Source Type is set to Inventory or Subinventory.</td>
</tr>
<tr>
<td>Starting Lot Number</td>
<td>Required if Lot Control is set to Full lot control, and Lot Generation Organization Parameter is set to Item Level.</td>
</tr>
<tr>
<td>Starting Lot Prefix</td>
<td>Required if Lot Control is set to Full lot control, and Lot Generation Organization Parameter is set to Item Level.</td>
</tr>
<tr>
<td>Starting Serial Number</td>
<td>Required if Serial Number Control is set to Predefined serial numbers.</td>
</tr>
<tr>
<td>Starting Serial Prefix</td>
<td>Required if Serial Number Control is set to Predefined serial numbers.</td>
</tr>
<tr>
<td>Substitution Window Days</td>
<td>Required if Substitution Window is set to User Defined.</td>
</tr>
</tbody>
</table>
Additional Item Attributes

Additional item attributes are based on descriptive flexfields and are used to capture detailed information about an item, such as characteristics and specifications, as well as business process information. Descriptive flexfield definitions for additional attributes include the name of the attribute and attribute values.

Additional attributes are associated to items or item revisions and are listed in Additional Attributes on the Item Specification tab.

Related Topics

- Overview of Descriptive Flexfields

User-Defined Item Attributes and Attribute Groups

User-defined attributes are based on extensible flexfields. Create an attribute group to determine which attributes are used at runtime. Extensible flexfields or user-defined attributes are not available to customers who only license Product Model.

User-defined attributes can have a static or dynamic list of valid values, or a range of values. You can define the values for user-defined attributes when you create the item and the values remain the same for the life cycle of the item.

You can save user-defined attributes within attribute groups. You can associate user-defined attributes with items by adding attribute groups to item classes.

For example, items that are part of the Small Gasoline Engines item class include the following specifications:

- RPM
- Power
- Oil and fuel mixture
- Weight

You can define an attribute for each of these specifications and then group these attributes together as the Engine Performance attribute group.

You create attribute groups on the Manage Attribute Groups page.

Note: For each user-defined attribute, you can optionally define validation rules to be applied when the user inputs data.

An attribute group can be a single row, multirow, or variant.

Multirow attribute groups enable you to associate multiple sets of attribute values with the same object instance. It gives you the ability to store multiple additional attributes that are dependent on the item, organization, attribute group, and a unique value within the attribute group.

For example, if your item is a book, you can create an attribute group named Chapters that contain the following attributes:

- Chapter number
- Name
• Number of pages

You can associate multiple rows of Chapters with a book, while Name and Number of pages require a single row each. The Chapter number attribute is identified as a part of the unique key.

After you create the attribute group and attributes, perform these tasks to complete the extensible flexfield setup:

• Associate the attribute to the item class by using the Manage Item Class task
• Deploy the attribute by using the Deploy Item Extensible Flexfields task

Tip: Sets of user-defined attribute groups can be organized on a single page that can then be linked from the Specifications tab.

Related Topics
• Overview of Extensible Flexfields
• Create Extensible Flexfields or User-Defined Attributes
• Associate Attribute Groups and Pages to Item Classes

Interdependent Item Attributes

Certain attribute values depend on other attribute values. For example, Planning Method must be Not Planned if Pick Components is set to Yes. The item attribute interdependencies are:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Must be</th>
<th>If</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Source</td>
<td>Null</td>
<td>Asset Item Type is set to anything other than Asset Activity</td>
</tr>
<tr>
<td>Assemble to Order</td>
<td>No</td>
<td>Pick Components is set to Yes or Structure Item Type is set to Planning</td>
</tr>
<tr>
<td>Assemble to Order or Pick Components</td>
<td>Yes</td>
<td>Structure Item Type is set to Model or Option Class</td>
</tr>
<tr>
<td>Asset Activity Cause</td>
<td>Null</td>
<td>Asset Item Type is set to anything other than Asset Activity</td>
</tr>
<tr>
<td>Asset Activity Notification</td>
<td>Null</td>
<td>Asset Item Type is set to anything other than Asset Activity</td>
</tr>
<tr>
<td>Asset Activity Shutdown Type</td>
<td>Null</td>
<td>Asset Item Type is set to anything other than Asset Activity</td>
</tr>
<tr>
<td>Asset Activity Source</td>
<td>Null</td>
<td>Asset Item Type is set to anything other than Asset Activity</td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Asset Activity Type</td>
<td>Null</td>
<td><strong>Asset Item Type</strong> is anything other than Asset Activity</td>
</tr>
<tr>
<td>AutoCreated Configuration</td>
<td>Null</td>
<td><strong>Base Model</strong> is Null</td>
</tr>
<tr>
<td>Base Model</td>
<td>Null</td>
<td><strong>Structure Item Type</strong> doesn’t equal <strong>Standard</strong> or Pick Components is set to Yes</td>
</tr>
<tr>
<td>ATP Components</td>
<td>None</td>
<td><strong>Pick Components</strong> is set to No, and <strong>Assemble to Order</strong> is set to No, and <strong>WIP Supply Type</strong> is set to anything other than Phantom</td>
</tr>
<tr>
<td>Billing Type</td>
<td>Null</td>
<td><strong>Contract Item Type</strong> is set to anything other than <strong>Subscription</strong></td>
</tr>
<tr>
<td>Billing Type</td>
<td>Not Null</td>
<td><strong>Enable Service Billing</strong> set to Yes</td>
</tr>
<tr>
<td>Structure Item Type</td>
<td>Standard</td>
<td><strong>Effectivity Control</strong> is set to <strong>Model / Unit Number</strong></td>
</tr>
<tr>
<td>Structure Item Type</td>
<td>Model</td>
<td><strong>Configurator Model Type</strong> is set to <strong>Container</strong></td>
</tr>
<tr>
<td>Structure Model Type</td>
<td>No</td>
<td>If the organization is process manufacturing enabled, and tracking is set to primary and secondary.</td>
</tr>
<tr>
<td>Build in WIP</td>
<td>No</td>
<td><strong>Inventory Item</strong> is set to No or <strong>Structure Item Type</strong> doesn’t equal <strong>Standard</strong></td>
</tr>
<tr>
<td>Check ATP</td>
<td>Null</td>
<td><strong>Contract Item Type</strong> is set to anything other than <strong>Subscription</strong></td>
</tr>
<tr>
<td>Check Material Shortage</td>
<td>No</td>
<td><strong>Transactable</strong> is set to No</td>
</tr>
<tr>
<td>Container Type</td>
<td>Null</td>
<td>Container is set to No</td>
</tr>
<tr>
<td>Contract Coverage Template</td>
<td>Null</td>
<td><strong>Contract Item Type</strong> is set to No</td>
</tr>
</tbody>
</table>

**Note:** This attribute is reserved for future use.
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Must be</th>
<th>If</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract Duration</td>
<td>Null</td>
<td><strong>Contract Item Type</strong> is set to <strong>No</strong></td>
</tr>
<tr>
<td>Contract Duration Period</td>
<td>Null</td>
<td><strong>Contract Item Type</strong> is set to <strong>No</strong></td>
</tr>
<tr>
<td>Contract Item Type</td>
<td>Null or Subscription</td>
<td><strong>Inventory Item</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Contract Item Type</td>
<td>Subscription</td>
<td><strong>Subscription Dependency enabled</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Create Configured Item, Structure</td>
<td>Null</td>
<td>If the item isn’t an ATO model.</td>
</tr>
<tr>
<td>Create Fixed Asset</td>
<td>Yes</td>
<td><strong>Track in Install Base</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Costing Enabled</td>
<td>Yes</td>
<td><strong>Inventory Asset</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Customer Ordered</td>
<td>No</td>
<td><strong>Structure Item Type</strong> is set to <strong>Planning</strong> or <strong>Product Family</strong></td>
</tr>
<tr>
<td>Customer Ordered</td>
<td>No</td>
<td><strong>Contract Item Type</strong> is <strong>Warranty</strong></td>
</tr>
<tr>
<td>Customer Orders Enabled</td>
<td>Yes</td>
<td><strong>Configurator Model Type</strong> is set to <strong>Container</strong></td>
</tr>
<tr>
<td>Customer Orders Enabled</td>
<td>No</td>
<td><strong>Customer Ordered</strong> is set to <strong>No</strong></td>
</tr>
<tr>
<td>Customer Orders Enabled</td>
<td>Yes</td>
<td><strong>Customer Ordered</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Cycle Count Enabled</td>
<td>No</td>
<td><strong>Contract Item Type</strong> is set to anything other than <strong>Subscription</strong></td>
</tr>
<tr>
<td>Defaulting</td>
<td>Fixed, Default, or No Default</td>
<td><strong>Tracking</strong> is set to <strong>Primary and Secondary</strong></td>
</tr>
<tr>
<td>Defaulting</td>
<td>Default or No Default</td>
<td><strong>Tracking</strong> is set to <strong>Primary and Pricing</strong> is set to <strong>Secondary</strong></td>
</tr>
<tr>
<td>Default Lot Status</td>
<td>Null</td>
<td><strong>Lot Status Enabled</strong> is set to <strong>No</strong></td>
</tr>
<tr>
<td>Default Serial Status</td>
<td>Null</td>
<td><strong>Serial Status Enabled</strong> is set to <strong>No</strong></td>
</tr>
<tr>
<td>Default SO Source Type</td>
<td>Internal</td>
<td><strong>Ship Model Complete</strong> is set to <strong>Yes</strong></td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Demand Time Fence Days</td>
<td>null</td>
<td>Demand Time Fence isn’t User-defined</td>
</tr>
<tr>
<td>Deviation Factor +</td>
<td>Null</td>
<td>UOM Dual Control is set to No Control</td>
</tr>
<tr>
<td>Deviation Factor -</td>
<td>Null</td>
<td>UOM Dual Control is set to No Control</td>
</tr>
<tr>
<td>Effectivity Control</td>
<td>Model / Unit Number</td>
<td>Asset Item Type is Asset Group</td>
</tr>
<tr>
<td>Expense Account</td>
<td>Yes</td>
<td>Inventory Asset Value is No and Inventory Item is Yes</td>
</tr>
<tr>
<td>Grade</td>
<td>N</td>
<td>If Lot Control is Null</td>
</tr>
<tr>
<td>Height</td>
<td>Null</td>
<td>Dimensions UOM is Null</td>
</tr>
<tr>
<td>Inspection Required</td>
<td>No</td>
<td>Receipt Routing is set to anything other than Inspection</td>
</tr>
<tr>
<td>Installed Base Trackable</td>
<td>Yes</td>
<td>Serviceable is set to shelf Yes and Contract Item Type is set to Null or Subscription</td>
</tr>
<tr>
<td>Instance Class</td>
<td>Null</td>
<td>Contract Item Type is set to anything other than Subscription</td>
</tr>
<tr>
<td>Instance Class</td>
<td>Null</td>
<td>Install Base Trackable is set to No</td>
</tr>
<tr>
<td>Internal Ordered</td>
<td>No</td>
<td>Structure Item Type doesn’t equal Standard</td>
</tr>
<tr>
<td>Internal Orders Enabled</td>
<td>No</td>
<td>Internal Ordered is set to No</td>
</tr>
<tr>
<td>Internal Volume</td>
<td>Null</td>
<td>Container, Vehicle, or Weight UOM are set to Null</td>
</tr>
<tr>
<td>Internally Transferred</td>
<td>Yes</td>
<td>Shippable is set to Yes</td>
</tr>
<tr>
<td>Inventory Item</td>
<td>No</td>
<td>Contract Item Type is set to anything other than Null or Subscription</td>
</tr>
<tr>
<td>Inventory Item</td>
<td>Yes</td>
<td>Asset Item Type, Default Receiving Subinventory, Default Move Orders Subinventory, Default Shipping Subinventory are set to anything other</td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Invoice Enabled</td>
<td>No</td>
<td>Invoiceable Item is set to No</td>
</tr>
<tr>
<td>Lead Time Lot Size</td>
<td>1</td>
<td>Repetitive Planning is set to Yes</td>
</tr>
<tr>
<td>Length</td>
<td>Null</td>
<td>Dimensions UOM is Null</td>
</tr>
<tr>
<td>Lot Status Enabled</td>
<td>No</td>
<td>Lot Control is set to No Control</td>
</tr>
<tr>
<td>Lot Split Enabled</td>
<td>No</td>
<td>Lot Control is set to No Control</td>
</tr>
<tr>
<td>Lot Merge Enabled</td>
<td>No</td>
<td>Lot Control is set to No Control</td>
</tr>
<tr>
<td>Lot Substitution Enabled</td>
<td>No</td>
<td>Lot Control is set to No Control</td>
</tr>
<tr>
<td>Lot Translation Enabled</td>
<td>No</td>
<td>Lot Control is set to No Control</td>
</tr>
<tr>
<td>Match Configuration</td>
<td>Null</td>
<td>If the item isn’t an ATO model</td>
</tr>
<tr>
<td>Maximum Load Weight</td>
<td>Null</td>
<td>Container, Vehicle, or Weight UOM is set to Null</td>
</tr>
<tr>
<td>Minimum Fill Percentage</td>
<td>Null</td>
<td>Container and Vehicle are both set to No</td>
</tr>
<tr>
<td>Move Order Receipts Subinventory</td>
<td>Null</td>
<td>Transactable is set to No</td>
</tr>
<tr>
<td>Orderable On Web</td>
<td>No</td>
<td>Customer Orders enabled is set to No</td>
</tr>
<tr>
<td>Outside Processing Item</td>
<td>N</td>
<td>If Purchased is set to No or if ASL has VMI,</td>
</tr>
<tr>
<td>Outside Processing Unit</td>
<td>Y</td>
<td>Outside Processing Item is Yes</td>
</tr>
<tr>
<td>Pick Components</td>
<td>No</td>
<td>Assemble to Order is set to Yes or Structure Item Type is set to Planning or Planning Method doesn’t equal Not planned</td>
</tr>
<tr>
<td>Pick Components</td>
<td>Yes</td>
<td>Ship Model Complete is set to Yes</td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Planning Time Fence Days</td>
<td>null</td>
<td>Planning Time Fence isn’t User-defined</td>
</tr>
<tr>
<td>Planning Method</td>
<td>Not Planned</td>
<td>Pick Components is set to Yes</td>
</tr>
<tr>
<td>Postprocessing lead time</td>
<td>0 (Zero)</td>
<td>Make or Buy is set to Make</td>
</tr>
<tr>
<td>Purchasable</td>
<td>No</td>
<td>Purchasing Item is set to No or Contract Item Type is set to anything other than Subscription</td>
</tr>
<tr>
<td>Purchasable</td>
<td>Yes</td>
<td>Default Source Type is set to External</td>
</tr>
<tr>
<td>Purchasing Tax Code</td>
<td>Null</td>
<td>Taxable is set to Null</td>
</tr>
<tr>
<td>Recovered Part Disposition</td>
<td>Null</td>
<td>Billing Type is Labor</td>
</tr>
<tr>
<td>Release Time Fence Days</td>
<td>Null</td>
<td>Release Time Fence isn’t User-defined</td>
</tr>
<tr>
<td>Replenishment Point</td>
<td>Minimum Quantity</td>
<td>Either Maximum Quantity or Fixed Quantity Attributes is enabled.</td>
</tr>
<tr>
<td>Replenishment Point</td>
<td>Minimum Days of Supply</td>
<td>Either Maximum Days of Supply of Fixed Quantity is enabled.</td>
</tr>
<tr>
<td>Restrict Locators</td>
<td>Locators not restricted to predefined list</td>
<td>Restrict Subinventories is set to Subinventories not restricted to predefined list or Stock Locator Control is set to Dynamic Entry Locator Control</td>
</tr>
<tr>
<td>Restrict Subinventories</td>
<td>Subinventories restricted to predefined list</td>
<td>Restrict Locators is set to Locators restricted to predefined list</td>
</tr>
<tr>
<td>Returnable</td>
<td>No</td>
<td>Contract Item is set to anything other than Subscription</td>
</tr>
<tr>
<td>Safety Stock Method</td>
<td>Non-MRP Planned</td>
<td>MRP Planning Method is set to Not Planned</td>
</tr>
<tr>
<td>Secondary UOM</td>
<td>Null</td>
<td>UOM Dual Control is set to No Control, or Tracking and Pricing are both set to Primary</td>
</tr>
<tr>
<td>Serial Number Generation</td>
<td>At Receipt or Predefined</td>
<td>Equipment is set to Yes or Effectivity Control is set to Model / Unit Number</td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Serial Status Enabled</td>
<td>No</td>
<td>Serial Control is set to No Control</td>
</tr>
<tr>
<td>Service Request</td>
<td>Null. Disabled, or Inactive</td>
<td>Contract Item Type is Service, Warranty, or Usage</td>
</tr>
<tr>
<td>Service Importance Level</td>
<td>Null</td>
<td>Contract Item Type is set to Service</td>
</tr>
<tr>
<td>Serviceable Product</td>
<td>No</td>
<td>Support Service is set to Yes</td>
</tr>
<tr>
<td>Shippable</td>
<td>No</td>
<td>Structure Item Type is set to Planning or Contract Item Type is set to anything other than Subscription</td>
</tr>
<tr>
<td>Source Organization</td>
<td>Null</td>
<td>Inventory Planning Method is set to Vendor-Managed Inventory</td>
</tr>
<tr>
<td>Source Type</td>
<td>Null</td>
<td>Inventory Planning Method is set to Vendor-Managed Inventory</td>
</tr>
<tr>
<td>Stockable</td>
<td>No</td>
<td>Inventory Item is set to No</td>
</tr>
<tr>
<td>Stockable</td>
<td>No</td>
<td>Billing Type is Labor or Expense</td>
</tr>
<tr>
<td>Stockable</td>
<td>Yes</td>
<td>ASL is VMI</td>
</tr>
<tr>
<td>Stock Locator Control</td>
<td>No locator control or Pre-specified locator control</td>
<td>Restrict Locators is set to Locators restricted to predefined list</td>
</tr>
<tr>
<td>Support Service</td>
<td>No</td>
<td>Serviceable Product is set to Yes</td>
</tr>
<tr>
<td>Taxable</td>
<td>Yes</td>
<td>Tax Code is set to anything other than Null</td>
</tr>
<tr>
<td>Transactable</td>
<td>No</td>
<td>Stockable is set to No</td>
</tr>
<tr>
<td>Transactable</td>
<td>No</td>
<td>Billing Type is Labor or Expense</td>
</tr>
<tr>
<td>Transactable</td>
<td>Yes</td>
<td>ASL is VMI</td>
</tr>
<tr>
<td>Unit Volume</td>
<td>Null</td>
<td>Volume UOM is Null</td>
</tr>
<tr>
<td>Unit Weight</td>
<td>Null</td>
<td>Weight UOM is Null</td>
</tr>
<tr>
<td>Attribute</td>
<td>Must be</td>
<td>If</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------</td>
</tr>
<tr>
<td>Width</td>
<td>Null</td>
<td>Dimensions UOM is Null</td>
</tr>
<tr>
<td>WIP Overcompletion Tolerance Value</td>
<td>Null</td>
<td>Overcompletion Tolerance Type is set to Null</td>
</tr>
<tr>
<td>WIP Supply Locator</td>
<td>Null</td>
<td>On Organization Parameters window, Locator is set to None or Locator controls is Subinventory Level and Selected WIP Supply Subinventory has Locator Control as None or Locator controls is Subinventory Level, Selected WIP Supply Subinventory has Locator Control as Item Level, and Item Locator Control is None</td>
</tr>
</tbody>
</table>

**Item Specification Reference**

**Item Asset Management Specifications**

The following are the Item Asset Management specification attributes and their possible values. You set these attributes when you define or update items.

**Item Asset Management Specification Attributes**

**Activity Cause**

This is relevant when the **Asset Item Type** is set to **Asset Activity**. Specifies what situation caused the work to be generated. For example, **Breakdown**, **Vandalism**, **Normal Wear**, or **Settings**.

**Activity Notification Required**

This is relevant only when the **Asset Item Type** is set to **Asset Activity**. Indicates if the asset is moveable, and needs to be brought into the shop for repairs. This field is for information only.

**Activity Source**

Indicate the reason the activity needs to be executed. This is relevant when asset item type is set to asset activity.

**Activity Type**

Indicate the type of maintenance for the asset activity.

**Asset Item Type**

Indicate whether the item is one of the following:

Asset Group Asset Activity Rebuildable Item
Shutdown Type

This is relevant when the Asset Item Type is set to Asset Activity. Indicates if this maintenance activity requires a shutdown. For Example, Required and Not Required.

Item Costing Specifications

The following are the item costing specification attributes and their possible values. You set these attributes when defining or updating items.

### Item Costing Specifications

#### Costing Enabled

Indicates whether to report, value and account for any item costs

For example, you might disable costing for reference items, or for invoice only (non-stock) items that you never ship and never hold in inventory.

#### Include in Rollup

Indicate whether to include an item in the cost rollup.

#### Inventory Asset Value

Indicate whether to value an item as an asset in inventory

Turning this option off indicates an expense item.

#### Standard Lot Size

The amount of a particular item that is ordered from the plant or a supplier or issued as a standard quantity to the production process.

Item General Planning Specifications

The following are the attributes that make up item general planning specifications and their possible values. You set these attributes when defining or updating items.

### Item General Planning Specification Attributes

#### Autoexpire ASN

Indicate whether the advance shipment notice expires automatically.

#### Bucket Days

Enter the number of days to dynamically calculate safety stock quantities. The planning process multiplies the Safety Stock Percent by the average gross requirements and divides by the number of days that you enter here.
Carrying Percentage
Enter the percentage used to calculate the annual carrying cost. This is the percentage of the unit cost that represents your internal cost to stock one unit for one year.

Consigned
If selected, the item is consigned, meaning residing at your location, but owned by the supplier

Days of Cover
Number of days times average demand that defines the safety stock level.

Demand Period
Number of days to use for average daily demand calculation.

Fixed Days Supply
Enter the number of days used to modify the size and timing of planned order quantities. The planning process suggests planned order quantities that cover net requirements for the period defined by this value. The planning process suggests one planned order for each period.

For example, use this to reduce the number of planned orders for a discrete component of a repetitive item.

Fixed Lot Multiplier
Enter the fixed lot multiple quantity or repetitive rate (units per day). Planning algorithms (reorder point, min-max, MPS, and MRP) use this to modify the size of planned order quantities or repetitive daily rates.

When net requirements fall short of the fixed lot size multiplier quantity, planning algorithms suggest a single order for the fixed lot size multiplier quantity.

Fixed Order Quantity
Enter the quantity used to modify the size of planned order quantities or repetitive daily rates. When net requirements fall short of the fixed order quantity, the planning process suggests the fixed order quantity. When net requirements exceed the fixed order quantity, the planning process suggests multiple orders for the fixed order quantity. For discrete items, use this attribute to define a fixed production or purchasing quantity. For repetitive items, use this attribute to define a fixed production rate. For example, if your suppliers can provide the item in full truckload quantities only, enter the full truckload quantity as the fixed order quantity.

Fixed Quantity
Indicate the fixed quantity for reorder.

Forecast Type
Indicate the forecast type. This can be one of the following values:
Order Forecast
Sales Forecast
Historical Forecast
Inventory Planning Method

Select an option for organization level planning

Min-max
You define a minimum quantity that you want on hand. When you reach this quantity, you reorder. You also define a maximum on-hand quantity that you don’t want to exceed.

Not planned
No planning method used. Select this option for MRP or MPS planned items.

Reorder point
The reorder point is calculated based on the planning information you define for this item.

Make or Buy

Select the option that applies to items with the Inventory Item set to Yes. The Planner Workbench uses this to populate the appropriate value for the implementation type. You can’t change this value if open orders exist for the item.

Make
Usually manufactured. The Planner Workbench populates the implementation type Discrete job. The planning process passes demand down from manufactured items to lower level components.

Buy
Usually purchased. The Planner Workbench populates the implementation type Purchase Requisition. The planning process doesn’t pass demand down from purchased items to lower level components.

Maximum Days of Supply

Indicates the maximum allowed days of supply for replenishment reorder.

Maximum Min-Max Quantity

Indicate the maximum on-hand quantity that you don’t want to exceed for Min-Max Planning.

Maximum Order

Enter the maximum order quantity or repetitive rate (units per day) of the item. Planning algorithms (reorder point, min-max, MPS, and MRP) use this to modify the size of planned order quantities or repetitive daily rates. For discrete items, when net requirements exceed the maximum order quantity, planning algorithms suggest the maximum order quantity. For repetitive items, when average daily demand for a repetitive planning period exceeds the maximum order quantity, planning algorithms suggest the maximum order quantity as the repetitive daily rate. For example, use this to define an order quantity above which you do have insufficient capacity to build the item.

Maximum Order Quantity

Enter the maximum order quantity or repetitive rate (units per day) of the item. Planning algorithms (reorder point, min-max, MPS, and MRP) use this to modify the size of planned order quantities or repetitive daily rates. For discrete items, when net requirements exceed the maximum order quantity, planning algorithms suggest the maximum order quantity. For repetitive items, when average daily demand for a repetitive planning period exceeds the maximum order quantity, planning algorithms suggest the maximum order quantity as the repetitive daily rate. For example, use this to define an order quantity above which you do have insufficient capacity to build the item.
**Minimum Days of Supply**

Indicate the minimum allowed days of supply before replenishment must occur.

**Minimum Min-Max Quantity**

Indicate the minimum on-hand quantity before replenishment for Min-Max Planning.

**Minimum Order**

Enter the minimum order quantity or repetitive rate (units per day). Planning algorithms (reorder point, min-max, MPS, and MRP) use this to modify the size of planned order quantities or repetitive daily rates. For discrete items, when net requirements fall short of the minimum order quantity, planning algorithms suggest the minimum order quantity. For repetitive items, when average daily demand for a repetitive planning period falls short of the minimum order quantity, planning algorithms suggest the minimum order quantity as the repetitive daily rate. For example, use this to define an order quantity below which it’s unprofitable to build the item.

**Minimum Order Quantity**

Enter the minimum order quantity or repetitive rate (units per day). Planning algorithms (reorder point, min-max, MPS, and MRP) use this to modify the size of planned order quantities or repetitive daily rates. For discrete items, when net requirements fall short of the minimum order quantity, planning algorithms suggest the minimum order quantity. For repetitive items, when average daily demand for a repetitive planning period falls short of the minimum order quantity, planning algorithms suggest the minimum order quantity as the repetitive daily rate. For example, use this to define an order quantity below which it’s unprofitable to build the item.

**Organization**

Optionally enter the organization from which an internal requisition draws the item. This applies only when Inventory is the replenishment source type.

You can choose organizations that meet the following criteria:

- The item is assigned to the source organization
- The source organization has a valid inter-organization relationship with the current organization

The source organization can be your current organization if the item is MRP planned and you choose a non-nettable Source Subinventory.

**Percent**

Enter the percent to dynamically calculate safety stock quantities for the item. The planning process multiplies this percent by the average gross requirements.

The planning process uses this attribute when you set Safety Stock to MRP planned percent.

**Planner**

Enter the material planner assigned to plan this item. You must define planner codes for your organization before updating this attribute.

The planner defined here's responsible for approving all move order lines requesting the item if move order approvals are used.

If an item is supplier managed, you must enter a planner for the item.
Release Authorization Required
Authorization is required before a sales order is created. You can set the authorization as follows:

Customer:
You must obtain release authorization from the customer.

Supplier
You must obtain release authorization from the supplier.

None
Release authorization isn’t required

Safety Stock Planning Method
Planning method to be used in calculating safety stock levels.

Subcontracting Component
Indicate the subcontracting type associated to this item when it’s used as a subcontracting component in Chargeable Subcontracting. The available choices are:

Pre-positioned
The item is a subcontracting component sold to a manufacturing partner independently of subcontracting components

Synchronized:
The item is a subcontracting component sold to a manufacturing partner and is synchronized with a specific order.

Subinventory
Enter the subinventory within the source organization from which an internal requisition draws the item. This applies only when Inventory or Subinventory is the replenishment source, and only when you specify a source organization. For MRP planned items, you must enter a non-nettable source subinventory when the source organization is the current organization.

Type
Indicate the way in which requests are fulfilled.

Inventory
Fill requests by creating internal requisitions that become internal sales orders, pulling stock from existing inventory.

Supplier
Fill requests by creating purchase requisitions that become purchase orders, procuring the item from a supplier.

Subinventory
Fill requests by creating move order requisitions that become move orders, pulling stock from an existing subinventory.

Note: If you are using Supplier Scheduling, it’s generally recommended that this field be left blank. Otherwise, it could override your sourcing rules.

Window Days
Enter the period for which a forecast is considered by the planning engine.
Item Inventory Specifications

The following are the item inventory specification attributes and their possible values. You set these attributes when defining or updating items.

Item Inventory Specification Attributes

Bulk Picked

Enables you to pick items in bulk.

Check Material Shortage

Note: This attribute is reserved for future use.

Indicates to check for material shortages for the item.

Enable this option to trigger a material shortage alert and a shortage notification during transactions of the item.

Child Lot Enabled

Indicates whether an item is subject to lot control for transactional purposes when a parent lot is specified for transactional purposes.

If you enable child lot control, you can specify a parent lot and a child lot for transactional purposes. The application processes transactions for the lot regardless of whether you specify the parent lot for the transaction. You can’t modify this field if inventory transactions or reservations exist for the item. If you choose to control this attribute at the master organization level, then you can modify this attribute only if no transactions or reservations exist for the master organization or any child organizations that are associated with the master organization.

Control: Lot

Indicates the ability to use lot numbers during material transactions for tracking of batches of Item.

- No control: Don’t establish lot control for the item.
- Full control: Track inventory balances by lot number. You must specify a lot number for issues and receipts.

You can establish lot number control only for an item that has no quantity on hand. If lot control is controlled at the master item level, the application checks for on hand quantity in all child organizations.

Control: Shelf Life

Indicates how long items in a given lot remain available.

Shelf life days

Specify the shelf life of the item in days. The application starts counting the shelf life on the day you receive the lot into inventory. After the specified number of days, the application sends a warning message.

No control

Shelf life control not established for this item.

User-defined
Specify an expiration date as you receive each lot. You receive a warning but aren’t prevented from using the lot after expiration.

**Note:** You can’t change lot expiration control when on-hand quantity of the item exists. If lot expiration is controlled at the master level, the check for on-hand quantity is against the sum of on hand quantities in all child organizations.

**Copy Lot Attributes**

Indicates whether the child lot inherits all the specifications of the parent lot.

Select this check box to ensure that a new child lot inherits all the attributes of the parent lot. If you don’t select the check box, then the child lot doesn’t inherit the parent lot attributes.

**Cycle Count Enabled**

Indicates whether the item is on for automatic cycle count scheduling.

**Default Grade**

Enter a default grade for the item. All items in grade control must have a default grade. You can use the grade change transaction to change the default grade of an item.

**Note:** You can change the default grade even if you performed transactions for the item.

**Default Lot Status**

Indicate the default lot status for the item.

**Default Serial Status**

Indicate the default serial status of the item.

**Expiration Action**

Enter the default action code for this item. This is the action listed on the expiration notification when the lot expires, fails quality inspection, or falls within the experimental error results region.

**Expiration Action Interval**

Enter the number of days the application adds to the expiration date before it performs an action on the lot.

**Lot Expiration Date + Lot Expiration Action Interval = Default Expiration Action Date**

**Format Validation**

Select this check box to ensure the child lot number conforms to the child lot parameters that you define for the organization or the item. If you select this check box, then the application verifies the child lot number is the lot number concatenated with the child lot prefix and a numeric suffix for the lot number of the correct zero-padded length, if you enable zero padding at the item level.

**Generation**
Indicate when to create and assign serial numbers to each unit of an item in order to track the item.

- **Dynamic entry at inventory receipt**: Create and assign serial numbers when you receive the item. Thereafter, for any material transaction, you must provide a serial number for each unit.

- **Entry at sales order, transfer order or work order issue**: Create and assign serial numbers when you issue (ship) the item against a sales order or transfer order. If you select this option, serial numbers are required at ship confirm. If you receive an item on an RMA (return material authorization), you must specify the same serial numbers that you used at the sales order issue. Serial numbers are also required when you issue components to a work order using a Work in Process Material Issue transaction. If you receive the item back into inventory using a Work in Process Material Return transaction, then you need to reference the same serial numbers used when the component item was issued to the work order. When using this serial generation option, serial number entry isn’t required for material transactions other than sales order, transfer order, or work order issue for this item. For example, serial number entry isn’t required for a receipt or a subinventory transfer for an item.

- **No serial number control**: Serial number control not established for this item. All material transactions involving this item will bypass serial number information.

- **Predefined serial number**: Assign predefined serial numbers when you receive the item. Thereafter, for any material transaction, you must provide a serial number for each unit.

- **Entry at inventory pick**: Create and assign serial numbers at pick confirmation for an item. If you select this option, you must enter a serial number at pick confirmation for inventory transactions such as sales order pick, transfer order pick, transfer order return pick, or movement request issue.

The following table presents conditions where you can change back and forth between certain serial number generation options:

<table>
<thead>
<tr>
<th>Change To or From</th>
<th>Change to or From</th>
<th>When Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic entry at inventory receipt</td>
<td>Predefined serial number</td>
<td>Any time</td>
</tr>
<tr>
<td>Predefined serial number</td>
<td>No serial number control</td>
<td>Any time</td>
</tr>
<tr>
<td>Dynamic entry at inventory receipt</td>
<td>No serial number control</td>
<td>Item has no on-hand quantity</td>
</tr>
<tr>
<td>Entry at sales order, transfer order or work order issue</td>
<td>Predefined serial number</td>
<td>Item has no on-hand quantity</td>
</tr>
<tr>
<td>Predefined serial number</td>
<td>No serial number control</td>
<td>Item has no on-hand quantity</td>
</tr>
<tr>
<td>Dynamic entry at inventory receipt</td>
<td>Entry at sales order, transfer order or work order issue</td>
<td>Item has no on-hand quantity</td>
</tr>
</tbody>
</table>

If serial generation is controlled at the item level, the check for on-hand quantity is against the sum of on-hand quantities in all child organizations.

*Note:* The lot substitution feature isn’t supported for items with serial control or any combination such as lot serial, lot revision, or LSR combinations.
**Grade Controlled**

Indicate whether the item is grade controlled in addition to lot controlled. A grade code represents specific characteristics of a lot. If you select the **Grade Controlled** check box, then you must specify a default grade for the item.

**Note:** You can’t modify this check box if you have transacted the item.

**Hold Days**

This is the number of days added to the lot creation date before you can release the lot. If you don’t enter a number, the application assumes that you can use the lot immediately.

**Lot Creation Date + Hold Days = Default Hold Release Date.**

**Inventory Item**

This attribute enables you to stock and transact this item. You must turn this option on if you want to enable the following item attributes:

- Stockable
- Transactable
- Build in WIP

This is an item-defining attribute. If you enable this option, the item is automatically assigned to the default category set for the Inventory functional area.

**Stock Locator Control**

Indicates the physical area within a subinventory where you store material, such as a row, aisle, bin, or shelf.

- Dynamic entry
  - Define locators when you use them, either as you receive or ship items.
- No control
  - Locator control not established.
- Prespecified
  - Define locators before you use them.

**Lot Divisible**

Select this check box to enable you to allocate, reserve, or move partial lot quantities. If you don’t select this check box you must transact the full lot quantity for this item. You can’t modify this field if transactions exist for the item.

**Lot Merge Enabled**

Indicate whether many lots of a lot controlled item may merge into one lot.

**Lot Split Enabled**

Indicate whether a lot-controlled item may split into many lots.

**Lot Status Enabled**
Indicate whether an item is subject to status control at the Lot Level. For example, a lot may be in Test. A company may have a policy of allowing Lots In Test to be used in planning and reserved, but not shipped. A lot may also be in Quarantine. For example, a company may have a policy of not allowing lots in Quarantine to be used in planning.

If an item is lot-controlled, you can indicate the Default Lot Status. For example, a lot of microprocessors may be at the Quarantine status until a soak test is complete.

Lot Substitution Enabled
Indicates whether lots can be substituted in a transaction.

Note: The lot substitution feature isn’t supported for items with serial control or any combination such as lot serial, lot revision, or LSR combinations.

Lot Translate Enabled
Enables you to translate lots within a lot controlled item.

Maturity Days
This is the number of days added to the lot creation date to determine the lot maturity date. If you don’t enter a number, the application assumes the lot is mature at creation.

Lot Creation Date + Maturity Days = Default Lot Maturity Date.

Negative Measurement Error
Enter the percentage of negative variance acceptable before cycle count creates an adjustment transaction. Your physical cycle count can be less than the quantity on hand by an amount less than or equal to this percentage.

For example, suppose quantity on hand is 100 and negative tolerance is 10%. Inventory doesn’t require approval for if the counted quantity is within tolerance. For physical counts that are less than 90 units, Inventory creates an adjustment, changing the quantity on hand to the physical count.

Parent
This field determines how the application generates child lot numbers at the item level. You can choose to generate child lot numbers across the organization level or at the item level. The available choices are:

- Parent and Child: When set to parent and child, the parent lot number acts as a prefix, and the next available lot number is added to form the child lot. For example if the parent lot is P1, then the child lot would be P1-1.
- Parent: When set to parent, child lot numbers are based on the same sequence as the lot number. For example, if the parent lot is P1, then the child lot is P2.

Positive Measurement Error
Enter the percentage of positive variance acceptable before cycle count creates an adjustment transaction. Your physical count can be greater than the quantity on hand by an amount less than or equal to this percentage.

For example, suppose quantity on hand is 100 and positive tolerance is 10%. Inventory doesn’t require approval for if the counted quantity is within tolerance. For physical counts over 110 units, Inventory creates an adjustment, changing the quantity on hand to the physical count.

Prefix
If you choose to generate child lots at the item level, you can optionally choose to enter a child lot prefix.

**Reservable**

This attribute enables you to create material reservations for the item. You can reserve an item only when you have sufficient inventory.

> **Note:** You can’t turn off reservation control if reservations exist.

**Restrict Locators**

Indicate whether to restrict transaction of this item to or from a locator specified in the list you define with the Subinventory Information window. You can’t restrict locators unless you also restrict subinventories.

**Restrict Subinventory**

Indicate whether to restrict transactions of this item to or from a subinventory specified in a list you define with the Subinventory Information window. This option must be turned on if you choose to restrict locators.

**Retest Interval**

Enter the number of days after the creation date before you need to retest the lot. The application adds this number to the lot creation date to determine the default retest date.

**Lot Creation Date + Retest Interval = Default Lot Retest Date.**

**Revision Control**

This attribute enables you to create item revisions. If you enable this option, you must specify an existing revision number for issues and receipts on the Revisions tab.

**Serial Status Enabled**

Indicate whether an item is subject to status control at the serial level. For example, a company may have a policy of allowing all functions on serial numbers that are new, and a policy of allowing reservations to reworked serial numbers, not including reworked items.

If an item is serial-controlled, you can indicate the Default Serial Status. For example, a serial number of analytical equipment may be at the Quarantine status until a soak test is complete.

**Shelf Life Days**

Enter the number of days each lot is active. At receipt, the application adds the shelf life days to the application date to determine the expiration date. This is used only when you choose Shelf life days for Lot Expiration Control.

**Starting Number: Child Lot**

Enter the starting number for each child lot. This field is enabled only if the item is child lot enabled.

**Starting Number: Lot**
Enter a starting lot number for the item. When you set **Lot Number Generation** to **At item level** in the **Organization Parameters** window, the application uses this number as the starting lot number. When you create additional lots for the item, the application increments each succeeding lot.

**Starting Number: Serial**

Enter a starting numeric suffix for all serial numbers for this item only. You must enter a value when you choose **Predefined** and when **Serial Number Generation** is **At item level** in the organization parameters. This starting numeric suffix is used when you define your serialized units. Thereafter, this number is incremented for each succeeding serial number.

**Starting Prefix: Lot**

Enter a starting prefix for all lot numbers you define for this item. When you set **Lot Number Generation** to **At item level** in the **Organization Parameters** window, then the application uses this prefix when you define a lot number for the item.

**Starting Prefix: Serial**

Enter a starting alpha prefix for all serial numbers you define. You must enter a value when you choose **Predefined** and when **Serial Generation** is **At item level** in the organization parameters. This prefix is used when you define your serialized units.

**Stocked**

Indicate whether an item can be stocked.

This attribute enables you to stock the item. You can set this attribute only when you enable the **Inventory Item** attribute. You must enable this item attribute if you want to transact the item.

**Transaction Enabled**

Indicates whether transactions can be performed on an item.

**Item Invoicing Specifications**

The following are the item invoicing specification attributes and their possible values. You set these attributes when defining or updating items.

**Item Invoicing Specification Attributes**

**Accounting Rule**

Enter an accounting rule to identify special revenue recognition rules for an item, such as recognizing revenue over time.

This attribute is for reference information only.

**Invoice Enabled**

Indicate whether to activate an item. If **Invoiceable Item** is enabled, you can temporarily exclude the item from invoicing by leaving the **Invoice Enabled** cleared.
This attribute is optionally set by the Item Status code.

**Invoiced**
Indicate whether to include an item on an invoice. If you turn this option on, you can temporarily exclude from invoicing when Invoice Enabled is turned off. This option must be selected if Invoice Enabled is selected.

**Invoicing Rule**
Enter an invoicing rule to determine the period in which you send an invoice when you recognize revenue over time.

**Output Tax Classification Code**
Enter a tax code to use when calculating tax based on location and tax codes.

**Payment Terms**
Enter a valid payment terms code. This attribute is for reference information only.

**Sales Account**
Enter the general ledger account used to record revenue when you bill the customer. If AutoAccounting is based on items, accounting entries are created at that time.

---

**Item Lead Times Specifications**
The following are the item lead time specification attributes and their possible values. You set these attributes when defining or updating items.

**Item Lead Time Specification Attributes**

**Cumulative Manufacturing**
Enter the manufacturing lead time of an assembly (in days) plus the largest adjusted cumulative manufacturing lead time of its components, where each is adjusted by subtracting the operation lead time offset. Purchased items have no cumulative manufacturing lead time.

**Cumulative Total**
Enter the total lead time of the assembly plus the largest adjusted cumulative total lead time of its components, where each is adjusted by subtracting the operation lead time offset.

**Fixed**
Enter the days required to make an assembly independent of order quantity, such as setup or tear down time.

**Lead Time Lot Size**
Enter the quantity used to compute processing lead time (as well as fixed and variable lead times). The default value is the item's standard lot size or, if a standard lot size is not defined.

**Postprocessing Days**
Enter the days required to receive a purchased item into inventory from the initial supplier receipt.

You cannot enter a value if the **Make or Buy** attribute is set to **Make**.

**Preprocessing Days**

Enter the days you must add to purchasing or manufacturing lead time to place an order.

**Processing Days**

Enter the days required to procure or manufacture an item. For manufactured assemblies, processing days equals manufacturing lead time.

**Variable**

Enter the time to produce one additional unit of an assembly. Total lead time is variable lead time multiplied by order quantity, plus fixed lead time.

**Item Main Specifications**

The following are the item main specification attributes and their possible values. You set these attributes when defining or updating items

**Item Main Specification Attributes**

**Approval Status**

The approval status of the item.

**Engineered**

Indicate whether the item was created in Product Development or Product Information Management. If the value is Yes, then the item was created in Product Development. If the value is No, then the item was created in Product Information Management. You can’t change the value of this attribute. However, if you create an item in Product Information Management, you can’t set the Engineered option to Yes.

The following validations and rules apply to the Engineered option:

- If the Engineered option is Yes for an item, then you can’t change the lifecycle phase of the item from Design lifecycle phase to any other phase in Product Information Management. The Change Lifecycle Phase action is disabled and unavailable on the UI.
- You can’t create a new item revision when the Engineered option is Yes for the item and the lifecycle phase is Design. The Manage Revision action is disabled and unavailable on the UI.
- If the Engineered option is Yes for an item, then in the Design Lifecycle Phase, the following objects are disabled and unavailable on the UI:
  - Structures tab
  - MPN (Manufacturer Part Number)
  - Item Revision Attachment
These constraints are applicable only from the UI perspective.

- You can create, edit, or query the previous objects using web services and imports from Product Development.
- If the Engineered option is Yes for an item, such items aren’t visible in other modules.
- In the create item by copy flow, you can’t view items in the source list of values when the Engineered option of the item is Yes and the item is in the Design lifecycle phase.

**Item Description**

Enter a description for the item.

**Formatted Description**

Indicate the description of the item using a rich text component, that can be displayed by various downstream applications.

**Item Status**

Item status codes set or default the values for attributes in status control. User-defined status codes control certain item attributes designated as status attributes. The status attributes are:

- BOM Allowed
- Build in WIP
- Customer Orders Enabled
- Internal Orders Enabled
- Invoice Enabled
- Transactable
- Purchasable
- Stockable
- Recipe Enabled
- Process Execution Enabled

These attributes control the functionality of an item over time.

**Lifecycle Phase**

Each phase represents a set of tasks and deliverables that are required before promoting the object to the next phase of the item life cycle.

For example, the life cycle phases for a computer component life cycle might be:

- Concept
- Design
- Prototype
- Pre-Production
- Production
Retirement

Pack Type
Also known as Trade Item Unit Descriptor (TIUD)
Describes the Global Trade Item Number (GTIN) hierarchy level. Hierarchy is used as link between different levels of a product (item) logistical chain.

Style Item
A Style represents a silhouette or model item use to group multiple similar items (SKUs) within. Generally, the items group in a particular style item will be differentiated by 1 or more product variant attributes. Examples include color and size for fashion, flavor and size for grocery.

User Item Type
Oracle provides several types by default at installation. These types correspond to the item templates also provided. Select one of these values:
ATO model
Finished good
Freight
Inventory Type
Kit
Model
Option class
Outside processing model
PTO model
Phantom item
Planning
Product Family
Purchased item
Reference item
Subassembly
Supply item

Conversions
Indicate the conversion of the transactions.
Item specific
Use only unit of measure conversions unique to this item.
Standard
Use only standard unit of measure conversions. If you want to use only standard conversions don't create item specific conversions.

**Defaulting Control**

**Fixed**
The application stores inventory in both the primary and secondary units of measure. You can enter an item quantity in one unit of measure, and the application converts the quantity to the secondary unit of measure and displays both quantities.

**Default**
The application stores inventory in both the primary and secondary units of measure. You can enter an item quantity in one unit of measure, and the application converts the quantity to the second unit of measure and displays both quantities. You can change the quantity in the secondary unit of measure, without changing the quantity in the primary unit of measure.

**No Default**
The application stores inventory in both the primary and secondary units of measure. Use this option when the default conversion between the two units of measure is usually not the same. The application doesn't automatically display in the secondary unit of measure when you specify the quantity for the primary unit of measure. You manually enter the quantity of the secondary unit of measure before you process a transaction. The secondary quantity can fluctuate from the default conversion by the factors that you specify in the Deviation + and Deviation - attributes.

**Negative Deviation Factor**
You can enter acceptable deviations as decimal values. This attribute is assigned at the organization level. This produces a plus or minus tolerance of acceptability. For example, if the allowable transaction quantity deviation for the item is ten percent lower than the established conversion, you would enter 10 in this field.

**Positive Deviation Factor**
You can enter acceptable deviations as decimal values. This attribute is assigned at the organization level. This produces a plus or minus tolerance of acceptability. For example, if the allowable transaction quantity deviation for the item is ten percent higher than the established conversion, you would enter 10 in this field.

**Primary Unit of Measure**
This is the stocking and selling unit of measure. Any necessary conversions are based on this unit of measure. This attribute isn't updatable and assigned at the organization level.

**Secondary Unit of Measure**
This attribute may be controlled at the Master or Organization level based on the setup.

If the item is dual unit of measure controlled, or priced in a secondary unit of measure, you can specify a secondary unit of measure.

**Tracking Unit of Measure**
This attribute controls how on-hand balances are tracked. This attribute is assigned at the organization level. The available values are:

**Primary**
The application tracks the on-hand balances by the primary unit of measure.
Primary and Secondary
The application tracks the on-hand balances by both the primary and secondary units of measure.

**Long Description**
Indicate the long description for this item. This long description is supported in multiple languages.

**Pricing**
This attribute is assigned at the organization level.
Indicate if pricing is based on the primary or secondary unit of measure. If you set the value to secondary, the application reprices the orders line at ship confirmation.

**Item MRP and MPS Planning Specifications**
The following are the item *MRP* and *MPS* Planning specification attributes and their possible values. You set these attributes when you define or update items.

**Item MRP and MPS Planning Specification Attributes**

### Acceptable Early Days
Enter the number of days before which the planning process won’t reschedule orders. The planning process only suggests rescheduling out if:

- The new calculated order date is later than the original order due date plus the acceptable early days
- The new calculated order doesn’t violate the order of current schedule receipts.

For example, if the original order due date is **10-JUN**, and **Acceptable Early Days** is **3**, the planning process not suggest rescheduling if the new due date is less than or equal to **13-JUN**. When rescheduling doesn’t occur (because of **Acceptable Early Days**), a second order, due before the first, won’t be rescheduled past the first order.

This lets you reduce plan nervousness and eliminate minor reschedule recommendations, especially when it’s cheaper to build and carry excess inventory for a short time than it’s to reschedule an order.

This applies to discrete items only.

### Calculate ATP
Indicate whether to calculate and print available to promise (*ATP*) on the Planning Detail Report, using the following formula:

\[
ATP = \text{planned production} - \text{committed demand}
\]

Where:

- **Planned production** = planned orders, scheduled receipts (purchase orders, jobs, and repetitive schedules), suggested repetitive schedules, nettable quantity on hand.
- **Committed demand** = sales orders, component demand (from planned orders, discrete jobs, suggested repetitive schedules, and lot expiration). Committed demand doesn’t include forecasted demand.
**Note:** You can use this attribute only when you integrate Product Hub with Oracle E-Business Suite. This attribute is invalid in an Oracle Fusion only scenario, where Product Hub interacts with the Oracle Fusion source system.

**Create Supply**
Indicates if the application can suggest supply for this item. If you use an item as a substitute to meet demand for another item, then this attribute indicates whether you can create new supply for the item as part of meeting the demand for the original item.

**Critical Component**
If selected, marks the item as a critical component for MPS and DRP planning. This lets you plan master scheduled items with respect to only critical component and their material resource constraints. Hidden by default.

**Demand Time Days**
Calculates the demand time fence as the plan date (or the next workday if the plan is generated on a day that's not a workday) plus the value you enter here.

**Demand Time Fence**
Select an option to determine a point in time inside which the planning process ignores the forecast demand and considers only the sales order demand when calculating gross requirements. This reduces the risk of carrying excess inventory.

Calculate the demand time fence as the plan date (or the next workday if the plan is generated on a day that's not a workday) plus the value you select here.

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<tr>
<td>User-defined</td>
<td>The value you enter for Demand Time Fence Days.</td>
</tr>
</tbody>
</table>

**Distribution Planned**
Indicate the kind of planning to be used for the item. It's the application of replenishment inventory calculations to assist in planning of key resources contained in a distribution system, such as sourcing and transport. Hidden by default.

**Exclude from Budget**
Indicate whether the item is to be excluded from the budget. Hidden by default.

**Forecast Control**

Select an option to determine the types of demand you place for the item. This guides the key processes of two-level master scheduling: forecast explosion, forecast consumption, planning, production relief, and shipment relief. This is appropriate only for items that are models, option classes, options, or mandatory components of models and option classes.

- **Consume forecast**
  You forecast demand directly, rather than by exploding the forecast demand. You can use this value only with Oracle E-Business Suite Supply Chain Planning Applications.

- **Consume and derive forecast**
  You forecast demand directly, explode the forecast demand, or use a combination of both methods. You can use this value only with Oracle E-Business Suite Supply Chain Planning Applications.

- **Consume then explode**
  You first forecast demand directly, then by exploding the forecast demand.

- **Explode then consume**
  You first explode the forecast demand, then directly forecast demand.

- **None**
  You place sales order demand but don’t forecast demand.

**Maximum Inventory Days of Supply**

Enter the maximum amount necessary of any materials and supplies in the application that are needed to achieve the desired business metric like throughput rate, cost, due date performance, inventory, days of supply, and so on. Hidden by default.

**Maximum Inventory Window**

Enter the maximum amount necessary (in terms of quantity) of any materials and supplies in the application that are needed to achieve the desired business metric like throughput rate, cost, due date performance, inventory, days of supply, and so on. Hidden by default.

**Pegging**

Indicate the planning process uses to decide when to calculate and print end assemblies for the item. Hidden by default.

- **Soft Pegging**
  This option allocates supply to demand based on the Reservation Level option set in the MRP Plan options.

- **End Assembly Pegging**
  This option traces the end assembly the item is pegged to at the top of the bill of material. Even if you don’t select end assembly pegging, you can still calculate and view end assemblies on-line.

- **End Assembly / Soft Pegging**
  Choose this option for both soft pegging and end assembly pegging.

- **Hard Pegging**
  This option allocates supply to demand based on the Reservation Level option set in the MRP Plan options. This pegs supply to demand and demand to supply by project at all levels of a bill of material. This lets you allocate supply to demand and generate planned orders based on the plan-level options.
End Assembly / Hard Pegging
Choose this option for both hard pegging and end assembly pegging.

None
This option disables project material allocation, end assembly pegging, and full pegging.

Planned Inventory Point
Indicate if the item is an Inventory Point item. This means that material can be stored at the item level without losing materials or quality characteristics. Inventory Points generally point to major stocking phases in the manufacturing cycle. Hidden by default.

Planning Method
Select the option that decides when to plan the item:

Not planned
The item doesn’t require long-term planning of material requirements. Choose this option for high volume and or low cost items that don’t warrant the administrative overhead of MRP; typically dependent demand items. You can’t use this option unless the Pick Components attribute is checked.

MRP planning
Choose this option for non-critical items that don’t require manual planning control, typically dependent demand items.

MPS planning
You master schedule the item and require manual planning control. Choose this option for items with independent demand, items that are critical to your business, or items that control critical resources.

MRP/DRP Planned
Choose this option when you want both MRP and DRP planning for the item.

MPS/DRP Planned
Choose this option when you want both MPS and DRP planning for the item.

DRP Planned
Choose this option when you have multiple organizations for which you’re exercising Distribution Requirements Planning for the item.

Planning Time Days
Calculates the planning time fence as the plan date (or the next workday if the plan is generated on a day that’s not a workday) plus the value you enter here.

Planning Time Fence
Choose one of the following options to determine a point in time inside which certain restrictions on planning recommendations apply. For discrete items, the planning process can’t suggest new planned orders or rescheduling existing orders to an earlier date. For repetitive items, the planning process can only suggest new daily rates that fall inside the acceptable rate increase and decrease boundaries.

A time fence increases manual control of the plan, minimizing short term disruption to shop floor and purchasing schedules.

Calculate the planning time fence as the plan date (or the next workday if the plan is generated on a day that’s not a workday) plus the value you select here.
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**Preposition Point**

The preposition point represents the push type relationship with a trading partner. When planning arrives at a preposition point for an item, it pushes all the existing supply downstream until this point.

In the case of multi-sourcing repair, you should not set the preposition point for the item-repair supplier. If you set select this check box for a multi-sourced item, then the application pushes the entire inventory to the first trading partner it encounters in the planning process. Hidden by default.

**Release Time Days**

Calculate the demand time fence as the plan date (or the next workday if the plan is generated on a day that’s not a workday) plus the value you enter here.

**Release Time Fence**

Choose an option to determine a point in time inside which planned orders for discretely planned items are automatically released as WIP jobs or purchase requisitions. The planned orders must meet the following auto-release criteria:

- The new order date lies within the auto-release time fence for any order type (make or buy).
  - **Order Date** = **Start Date** - **Preprocessing Lead Time**. For example if the **Order Date** is **April 5** and the **Start Date** is **April 7**, if the preprocessing lead time is 2 days. When the order date falls inside the release time fence, the planned order is released.
  - The lead time isn't compressed
  - The orders are for standard items (won't release models, option classes, and planning items)
  - The orders aren't for Kanban items
  - The orders are for DRP planned items in a DRP plan, MPS planned items in an MPS plan, or MRP planned items in an MRP plan.
  - The release time fence option is defined as anything other than Do not auto-release, Do not release (Kanban), or Null
  - DRP, MPS, and MRP plans must be run with the Memory-based Planning Engine

Auto-release of repetitive schedules isn't applicable for repetitively planned items. No material availability check is performed before WIP jobs are released.
Calculate the release time fence as the plan date (or the next workday if the plan is generated on a day that's not a workday) plus the value you select here.

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</tr>
<tr>
<td>Do not auto-release</td>
<td>The item can't be auto-released.</td>
</tr>
<tr>
<td>Do not release (Kanban)</td>
<td>For Kanban items, prevent release of planned orders manually or automatically.</td>
</tr>
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</table>

**Repair Lead Time**

Time to repair the part at the supplier site. The definition is in context with the final usable part of product and not based on the defective part. For example, if you can repair an item A from a defective item B, planning assumes the repair lead-time from item A when it calculates the repair of defective item B. A repair organization requires the time equal to the repair lead-time to convert a defective part to a usable part. You define the repair lead time in the repair organization. Hidden by default.

**Repair Program**

Indicates the relationship with the supplier for the repair of an item. Hidden by default. The available choices are:

Advanced Exchange on Defective Receipt Advanced Exchange on PO Issue Repair Return

**Repair Yield**

Indicates the yield when you upgrade or repair a defective part. The repair yield is always in context with the final usable part or product and not based on the defective part. The repair yield represents the yield of the repair process. You define the repair yield in the repair organization. Hidden by default.

**Round Order Quantities**

Indicate whether the planning process uses decimal or whole number values when calculating planned order quantities or repetitive rates. When this option is turned on, decimal values round up (never down) to the next whole number. The planning process carries any excess quantities and rates forward into subsequent periods as additional supply.

**Shrinkage Rate**
Enter a factor that represents the average amount of material you expect to lose during manufacturing or in storage. The planning process inflates demand to compensate for this expected loss. For example, if on average 20% of all units fail final inspection, enter 0.2; the planning process inflates net requirements by a factor of 1.25 (1 / 1 - shrinkage rate).

**Substitution Window Days**

If the substitution window type is **User-defined**, then you specify the number of days a substitute is considered for an item. Hidden by default.

**Substitution Window Code**

Hidden by default. Enter a value that calculates the time a substitute can be considered for an item.

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**Target Inventory Days of Supply**

Enter the target inventory (in terms of days of supply) to be achieved by the planning engine. Hidden by default.

**Target Inventory Window**

Enter the target inventory (in terms of quantity) to be achieved by the planning engine. Hidden by default.

**Item Order Management Specifications**

The following are the item order management specification attributes and their possible values. You set these attributes when you define or update items.

**Item Order Management Specification Attributes**

**ATP Components**

Indicate whether to include, in available to promise checking, additional components in the bill of material for ATO and PTO items. These components are included in ATP checking if **Check ATP** for the component is turned on.

**ATP Rule**
Enter a user-defined available to promise rule. **ATP** rules define supply and demand sources, time-fence parameters, and available-to-promise calculation methods. You can give ATP rules meaningful names, such as **ATO ATP Rule**. If there is no ATP rule for the item, the organization’s default ATP rule is used.

**Back-to-Back Enabled**

Indicate how items are handled downstream. Set value to **Yes** to enable constant back-ordering, so that downstream applications automatically order items before they go out of stock.

If this attribute is set to Yes, then you must also set the following attributes to Yes:

- Inventory Item
- Reservable
- Customer Ordered, Customer Orders Enabled (if Autocreated Configuration is set to No)

**Charge Periodicity**

This attribute is controlled at the master organization level.

The time the application uses to price a persistent or recurring service or product. Each unit of measure in this class is a periodicity value. An item has only one periodicity value.

- Null

**Check ATP**

Indicate whether to check available to promise or capable to promise information when placing demand.

Check Material Only Check Material and Resources Check Resources Only None

This attribute also determines whether you can view component ATP information for material requirements in Work in Process.

**Customer Ordered**

Indicate whether to allow an item to be ordered by external customers. This attribute must be turned off if the **Structure Item Type** attribute is set to **Planning**.

If you turn this attribute on, you can temporarily exclude an item from being ordered by turning **Customer Orders Enabled** off.

**Customer Orders Enabled**

Indicates whether an item is currently customer orderable

You can initially define an item with **Customer Ordered Item** turned on and **Customer Orders Enabled** turned off. This means prices can be defined for the item, but no orders can be placed for it.

This attribute is optionally set by the Item Status code.

**Eligibility Rule**

A specific set of constraints or requirements that must be met for the offer to be available to a customer. For example, the customer may need to be a member of the loyalty program, or live in a certain state, or be in good financial standing with the company, or not be locked into an existing contract to be eligible for an offer.

**Internally Transferable**
Indicate whether to allow an item to be ordered on an internal requisition.

If you turn this attribute on, you can temporarily exclude an item from being ordered on an internal requisition by turning **Internal Orders Enabled** off.

**Transfer Order Enabled**

Indicate whether you can currently order an item internally. If you turn this attribute on, you can specify the item on an internal requisition, if **Internal Ordered Item** is also on.

If you turn **Internal Ordered Item** on, you can temporarily exclude an item from being ordered on an internal requisition by turning this attribute off.

This attribute is optionally set by the Item Status code.

**Order Management Transaction Enabled**

Indicates whether demand can be placed for an item and whether shipment transactions are interfaced.

**Over Shipment Tolerance**

Indicates the amount of the shipment you can ship below at the time of ship confirmation.

**Picking Rule**

Indicate picking rule that defines the order in which subinventories, locators, lots, and revisions are picked.

**Returnable**

Indicate whether to allow customers to return an item.

**RMA Inspection Required**

Indicate whether inspection is required for items returned by the customer. The item then must be separately transferred to inventory.

**Ship Model Complete**

Indicate whether any configuration derived from this model can ship only when all required quantities of all configuration components (options or included items) are available.

**Under Shipment Tolerance**

Indicate the amount of the shipment that can be shipped below at the time of ship confirmation.

**Shippable**

Indicate whether to ship an item to a customer. A warning is issued if you change the value of this attribute when open sales order lines exist.

This attribute must be turned off if the **Structure Item Type** attribute is set to **Planning**.

**Sales Product Type**

Indicates the sales product type:
Item Physical Specifications
The following are the item physical specification attributes and their possible values. You set these attributes when you define or update items.

**Item Physical Specification Attributes**

**Collateral**
Indicate whether the item is collateral.

**Container**
Identify that items are containers used for shipping sales orders.

**Container Type**
For items identified as containers, indicate the type of the container.

**Downloadable**
Indicate whether the item can be downloadable.

**Electronic Format**
Indicate whether the item exists only in an electronic format and not physical.

**Event**
Indicate whether the item is event.

**Dimensions: Height**
Enter the height of the item.

**Dimensions: Length**
Enter the length of the item.

**Dimensions: Width**
Enter the width of one unit of item.

**Indivisible**
Indicates whether the item can be ordered in fractions.

**Internal Volume**
Enter the internal volume of the container or vehicle in the same UOM as the Unit Volume. This attribute is used by shipping to calculate container capacity restrictions.

**Maximum Load Weight**
Enter the maximum load weight of the container or vehicle.

**Minimum Fill Percent**
Enter the minimum fill percentage under which the container or vehicle should be used.

**Unit**
Indicate the unit of measure for the dimension of the item.

**Unit Volume**
Enter the volume of one unit of item.

**Unit Weight**
Enter the weight of one unit of item.

**Vehicle**
Indicate whether vehicles are used for shipping the items.

**Warehouse Equipment**
Indicate whether the item is equipment.

---

**Item Process Manufacturing Specifications**

The following are the item process manufacturing specification attributes and their possible values. You set these attributes when you define or update items.

**Note:** You can use these attributes only when you integrate Product Hub with Oracle E-Business Suite. These attributes are invalid in an Oracle Fusion only scenario, where Product Hub interacts with the Oracle Fusion source system.

**Item Process Manufacturing Specification Attributes**

**CAS Number**
Indicate the Chemical Abstracts Service (CAS) registry number. The CAS number uniquely identifies a chemical substance. The CAS scientists assign a CAS registry number to a substance when it enters the CAS registry database. The CAS scientists identify new substances and assign them in sequential order in the database.

**Hazardous Material**
Indicate if the item is hazardous.
Process Costing Enabled
Select this check box if you plan to use the process costing module with this item. You must enable the Inventory Asset attribute to enable process costing. If the organization is process manufacturing enabled, the master level and organization level control does not apply for costing. The application stores costs for each organization and if multiple organizations need to use the same cost, then you must perform the setups in process costing.

Process Execution Enabled
Select this check box if you plan to use this item in a production batch as an ingredient, product, or by-product. This attribute is not mutually exclusive of the Build in WIP attribute. You can set both attributes to yes to use the item in both WIP and process manufacturing.

Process Quality Enabled
Select this check box if you plan to use the process manufacturing quality module with this item. You must select this check box if you plan to create samples and specifications for this item.

Process Supply Locator
Enter a locator from which the item is normally consumed as an ingredient in process manufacturing.

Process Supply Subinventory
Enter a subinventory from which the item is normally consumed as an ingredient in process manufacturing. This subinventory represents the production shop floor or the staging area.

Process Yield Locator
Enter a locator in which you place the results of a production batch.

Process Yield Subinventory
Enter a subinventory in which you place results of a production batch.

Recipe Enabled
Select this check box to enable use of this item in recipes or formulas in process manufacturing. You can modify this attribute at any time, however, if you deselect the check box you cannot use this item in future recipes.

Item Purchasing Specifications
The following are the Item Purchasing specification attributes and their possible values. You set these attributes when you define or update items.

Item Purchasing Specification Attributes

Allow Purchasing Document Description Update
Enables the item description to be updated in a purchase order.

Default Buyer
Enter the buyer assigned to purchase an item.

**Hazard Class**

Use hazard classes to identify categories of hazardous materials for international trade purposes.

**Input Tax Classification Code**

Select the appropriate tax code for the item. The tax code shows the tax authorities and rates that are available to use for this item. You must select the taxable attribute to enable this field.

**Inspection Required**

Indicate whether to inspect an item upon receipt from the supplier, before paying the corresponding invoice.

**Invoice Close Tolerance Percentage**

Enter the percentage tolerance to automatically close purchase order shipments.

Closed for Invoicing is a status change only. You can invoice match additional items against the shipment later.

**Invoice Match Option**

Indicate the invoice matching used. Values can be:

- Order Receipt
- List Price

Enter the value that used as the default price on a purchase order, requisition, RFQ, or quotation.

When performing supplier inventory replenishment, a list price must be specified in order to automatically generate a requisition.

**Market Price**

Enter the market value for an item.

**Match Approval Level**

Status of the Match Approvals. It can be either:

- Null (blank)
- 2 Way
- 3 Way
- 4 Way

**Negotiation Required**

Indicate whether negotiation is required.

**Outside Processing**

Indicate whether you can add the item to an outside processing purchase order line. You can select this option only if **Purchased** is also selected.

**Outsourced Assembly**
Indicate whether this is an outsourced assembly item. Selecting this check box indicates that the assembly item has subcontracting components. You can select this attribute only if you enabled charge base chargeable subcontracting.

**Price Tolerance Percentage**

Enter the price tolerance percent, the maximum price percentage over the normal price range for an item. For example, if the tolerance percent is 5, the maximum acceptable price on a purchase order is 5% over the requisition price. Any purchase order price 5% above the requisition price is unacceptable, and you can’t approve the purchase order.

**Purchasable**

Indicate whether to order an item on a purchase order. You can set this only when Purchased is enabled.

Clearing the Purchasable check box enables you to temporarily restrict the ability to buy. If Purchasable is set to Master Level control, then Purchased must be set to Master Level control.

This attribute is optionally set by the Item Status code.

**Purchased**

Indicate whether to purchase and receive an item. Turning this option on lets you set the Purchasable attribute.

If an item is vendor managed, you must select this option.

**Receipt Close Tolerance Percentage**

Enter the percentage tolerance used to automatically close purchase order shipments.

You can receive additional items against the shipment later.

**Receipt Required**

Indicate whether you must receive an item before you can pay the invoice.

**Rounding Factor**

Enter a number between 0 and 1. This factor determines how to round the quantity on an internal requisition that results from conversions between the requisition line unit of measure and the item unit of issue. This factor insures that the unit of issue resolves to an integer, rather than a fractional amount.

**Taxable**

Indicate whether the supplier charges a tax.

**UN Number**

Enter the United Nations identification number. UN numbers are used to identify specific materials (hazardous materials, for example) for international trade purposes.

**Unit of Issue**

Enter the unit of measure you typically use to issue the item from inventory.
You use units of issue to round order quantities, minimizing shipping, warehousing, and handling costs. The unit of issue must be the same for all units of measure belonging to the same unit of measure class as the primary unit of measure.

**Unit Type**

Indicate the type of unit which is processed outside.

**Use Approved Supplier**

Indicate whether to use only approved suppliers.

**Item Receiving Specifications**

The following are the item receiving specification attributes and their possible values. You set these attributes when you define or update items.

**Item Receiving Specification Attributes**

**Action**

Indicates action to be performed when the receive date is outside the range defined by *Quantity Received Tolerance*.

- **None**
  - No over tolerance enforced.
- **Reject**
  - Reject receipts over the tolerance quantity. An error message displays and you are prevented from receiving quantities exceeding the order quantity by more than the *Quantity Received Tolerance* percent.
- **Warning**
  - A warning message displays if you accept receipts over the quantity determined by the *Over-Receipt Quantity Control Tolerance* percent, but does perform the receipt.

**Allow Express Transactions**

Indicate whether you can deliver all distributions for this item with one data entry transaction if the quantity to deliver equals the purchase order line balance. If this option is cleared, you must deliver individual distributions separately. Leave this field blank if you want Inventory to use the value defined in the *Receiving Options* window for transactions involving this item.

**Allow Substitute Receipts**

Indicate whether to allow receipt of defined substitutes in place of this item. You define valid substitutes with the Item Relationships window. Leave this field blank if you want Inventory to use the value defined in the *Receiving Options* window for transactions involving this item.

**Allow Unordered Receipts**

Indicate whether you can receive an item without a purchase order. If this option is on, you can later match the receipt to the appropriate purchase order. If this option is off, all receipts for an item must have a corresponding purchase order.
order. Leave this field blank if you want to use the value defined in the Receiving Options window for transactions involving this item.

**Days Early**

Enter the number of days before the promise date you can receive an item without warning or rejection. For example, if you enter 3 and the promise date is a Friday, you can receive the item on Tuesday.

**Days Late**

Enter the number of days after the promise date you can receive an item without warning or rejection.

For example, if you enter 2 and the promise date is a Monday, you can receive the item on Wednesday.

**Enforce Ship-to Location**

Select an option to control whether the supplier can deliver to a location that differs from the ship-to location defined on the purchase order:

- None
- No ship-to location enforced
- Reject
- Prevent receipt of items not received to their purchase order ship-to location
- Warning
  Display a warning message if you attempt to receive an item to a location that differs from the purchase order ship-to location, but perform the receipt, anyway.

**Receipt Date Action**

Indicate action to be performed when the receive date is outside the range defined by Days Early Receipt Allowed or Days Late Receipt Allowed. Choices:

- None
  No receipt date exception enforced.
- Reject
  Reject receipts when the receive date is outside the range defined by Days Early Receipt Allowed or Days Late Receipt Allowed
- Warning
  Display a warning message if you attempt to receive an item outside the range defined by Days Early Receipt Allowed or Days Late Receipt Allowed, but perform the receipt, anyway.

**Receipt Routing**

Indicates routing of the items at the time of receipt.

- Direct
  At receipt, deliver an item directly to its location.
- Inspection
  Receive an item first, inspect it, then deliver.
- Standard
Receive an item first, then deliver without inspection.

**Tolerance Percentage**

Enter the quantity received tolerance percent, the maximum acceptable over-receipt percentage, used by the **Over-Receipt Quantity Control Action** attribute. For example, if the tolerance percent is 5, then the acceptable quantity on a receipt transaction is within 5% of the quantity you order on a purchase order line. Any quantity more than 5% over the order quantity is unacceptable.

**Item Service Groups Specifications**

The following are the Item Service Groups specification attributes and their possible values. You set these attributes when you define or update items.

**Item Service Groups Specification Attributes**

**Billing Type**

Indicates user definable and must be tagged with one of three Billing Category Codes as follows:

- Material (M)
- Labor (L)
- Expense (E)
- Consumable (C)

**Billing Types** are used in contracts to define discount percents.

**Create Fixed Asset**

This indicates whether the item creates a depreciable inventory asset used in Enterprise Install Base. A value of **Yes** is only applicable when you turn on Installed Base Tracking.

**Duration**

Enter a positive number to indicate the service duration. **Duration** and **Duration Period** are required for warranty and service contract item types only. The number you enter here, along with the duration period, provide defaults when you order the service. You can select any period or unit of measure as long as it is associated with the Time unit of measure class.

**Duration Period**

Enter a number to indicate the service duration period.

**Enable Contract Coverage**

Indicate whether the item is eligible to be covered by a service contract. Items eligible for contract coverage must also be defined as **Track**. When you enable this option, you can order service for this item.

**Enable Defect Tracking**

Indicate if defects of this item can be tracked.

**Enable IoT**
Indicates whether the asset item is enabled for IoT.

**Enable Provisioning**
Select the check box to make the item eligible for electronic fulfillment by the service fulfillment manager. Additional setup is required in the service fulfillment manager.

**Enable Service Billing**
Select the check box to enable the **Billing Type** field.

**Instance Class**
This check box is used in Telecommunication Service Ordering for defining a configured link. The only available option is **Link**. This is only applicable when Installed Base Tracking is enabled.

**Recovered Part Disposition**
This field is reserved for future use. Currently all three disposition types cause the part to be transacted into the technician’s default or designated subinventory. In the future this field will control the process for returning defective or unused parts to a warehouse consolidation point.

**Service Request**
Select if you can create a service request for the item. The available choices are:

- **Enabled**:
  You can create a service request for the item.

- **Disabled**:
  Service requests are disabled for the item.

- **Inactive**:
  Service requests are inactive for the item.

- **Null**:
  You cannot create a service request for the item.

**Service Start Delay**
Enter a positive number indicating how many days after shipment the warranty should start.

**Standard Coverage**
Select the relevant coverage associated with this item only if the Sales Product type is **Included Warranty**. The coverage template is created in Oracle Contract Management Cloud with the appropriate Entitlement type.

**Track in Installed Base**
This enables lifecycle tracking. Once set, you should not change this setting. Set this option at the master item level.
Item Structure Specifications

The following are the item structure specification attributes and their possible values. You set these attributes when you define or update items.

**Item Structure Specification Attributes**

**Assemble to Order**
Indicates that the item is generally built for sales order demand; a final assembly work order is created based on sales order details.

**Autocreated Configuration**
Indicates whether the item is automatically created.
If the base model is null, you cannot select this attribute.

**Base Model**
This attribute may be controlled at the master or organization level, depending on your setup.
Displays the model from which an ATO configuration was created. The configuration item lists the ordered model item as its base model.

**Create Configured Item**
This item attribute is available only for ATO items. The attribute enables you to create configured item bills of materials based on the following options:
Based on Sourcing Items based on model, structures based on sourcing Based on Model

**Effectivity Control**
Indicates whether the structure of the item is a date effective structure or a model and unit effective structure. Model effective structures are typically associated with project manufacturing.

> **Note:** You can use the model and unit effectivity control attribute only when you integrate Product Hub with Oracle E-Business Suite. These attributes are invalid in an Oracle Fusion only scenario, where Product Hub interacts with the Oracle Fusion source system. Also, ATO and PTO items cannot be model or unit effective.

**Structure Item Type**
Indicates the type of bill of material the item can include, such as standard, model, planning, and so on.

**Configurator Model Type**
Indicates the capability to match to one of the following existing configurations of the models:

- Standard
- Container
Supply Type

When a structure component is created, the supply type is inherited from the parent item. When you create an item by copying another item, the supply type is also copied. You can modify the supply type as required.

Item Web Store Option Specifications

The following are the item web option specification attributes and their possible values. You set these attributes when you define or update items.

**Item Web Store Option Specification Attributes**

**Back Orderable**
Indicate whether this item can be back-ordered, if ATP fails.

**Minimum License Quantity**
Indicates the minimum number of licenses a customer must order for products ordered and distributed based on licensing.

**Orderable on the Web**
Indicates whether this item can be ordered from the web.

**Web Status**
Indicates the web status of this item.
- Disabled
  This item is not web enabled.
- Published
  This item is web enabled, and published
- Unpublished
  This item is web enabled, and unpublished

Item Work in Process Specifications

The following are the Item Work in Process specification attributes and their possible values. You set these attributes when you define or update items.

**Item Work in Process Specification Attributes**

**Build in WIP**
Indicate whether to create discrete jobs or repetitive assemblies.
This attribute must be disabled if the **Inventory Item** attribute is disabled or if the **Structure Item Type** attribute is not set to **Standard**.

This attribute is optionally set by the item status code.

**Inventory Carrying Penalty**

Specify, in units per day, an inventory carry penalty for jobs that are not completed before they are scheduled to be finished. For example, the inventory carry penalty for a job that is not completed for an item might be 10 per day.

**Locator**

Enter the supply locator from which to issue (push) or backflush (pull) an item to work in process. You can also define a **WIP** supply locator for any bill that uses this item; the bill supply locator overrides the supply locator you define here. You must enter a WIP supply subinventory before you can enter a locator.

**Operation Slack**

Indicate, in units per day, the operation slack penalty for items having lag time between operations.

**Supply Subinventory**

Enter the primary subinventory from which to issue (push) or backflush (pull) an item to work in process.

**Tolerance Type**

Select **Percent** or **Amount**, or leave the field blank. If you do not select an **Overcompletion Tolerance Type**, the tolerance defaults to the tolerance that you set at the organization level. If you did not set a tolerance at the organization level, the default is **Null**, which signifies that no over-completions are allowed.

**Tolerance Value**

The value for this attribute is the number value for the **Overcompletion Tolerance Type** that you selected. It determines the acceptable percent or quantity of assemblies that you will allow to be over-completed. For example, if you choose **Percent** as the **Overcompletion Tolerance Type**, and enter **100** as the **Overcompletion Tolerance Value**, you allow over-completions up to 100 percent of the original job or schedule quantity. If you did not select an **Overcompletion Tolerance Type**, you will not be able to enter a value in this field.

**Type**

Indicate a supply type for components. Choices are: Operation pull, Bulk, Assembly pull, Phantom, Push, and Supplier.
4 Manage Product Relationships and Associations

Manage Item Relationships

Managing item relationships includes defining, editing, and deleting item relationships. You can create, edit, and delete item relationships in one of two ways:

- On the **Manage Item Relationships** page, select the Manage Item Relationships task. This page is used for managing relationships across many items.
- On the **Item Details** page, select the relationships tab. This page is used for managing item relationships for a particular item.

In addition to these two ways of creating item relationships, you can create trading partner item relationships from the Create or Edit Trading Partner Item pages.

There are five relationship types:

- Related Items
- Trading Partner Item Relationships
- Global Trade Item Number (GTIN) Relationships
- Source System Item Relationships
- Item Cross-References

You can search for different relationships across items using the task Manage Item Relationships. You can also perform keyword and parametric searches using various criteria to quickly locate any relationship of any item.

### Related Items

Predefined relationship types are listed in the following table.

<table>
<thead>
<tr>
<th>Relationship Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories</td>
<td>This indicates the item is an accessory of another item.</td>
</tr>
<tr>
<td>Collateral</td>
<td>This relationship indicates collateral, such as marketing brochures, that you have for an item.</td>
</tr>
<tr>
<td>Complimentary</td>
<td>This relationship indicates if a customer purchases one item, the other item is received for free.</td>
</tr>
<tr>
<td>Conflict</td>
<td>This relationship indicates that these items may never be used together.</td>
</tr>
<tr>
<td>Cross-Sell</td>
<td>This relationship indicates that one item may be sold in lieu of another item.</td>
</tr>
<tr>
<td>Relationship Type</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fulfillment</td>
<td>Indicates if the item is a fulfillment item.</td>
</tr>
<tr>
<td>Impact</td>
<td>This relationship is used to relate items to each other, but only under special conditions.</td>
</tr>
<tr>
<td>Mandatory Charge</td>
<td>This relationship indicates a mandatory charge if a customer purchases both items.</td>
</tr>
<tr>
<td>Merge</td>
<td>This relationship enables rules based on the consolidation of contracts. You may use the earliest or latest target end date for consolidation. This enables you to choose how contracts are consolidated.</td>
</tr>
<tr>
<td>Migration</td>
<td>During contact renewal you're given the option of renewing contracts based on new licenses, or old licenses.</td>
</tr>
<tr>
<td>Optional Charge</td>
<td>This relationship indicates an optional charge if the customer purchases both items.</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>This relationship indicates that you must mark one of the items as a requirement to using the other item.</td>
</tr>
<tr>
<td>Promotional Upgrade</td>
<td>This relationship enables a customer to upgrade from one item to another item or equal or higher value, without an additional charge.</td>
</tr>
<tr>
<td>Regulatory</td>
<td>This type relates a regulatory item with the context item.</td>
</tr>
<tr>
<td>Related</td>
<td>The items are related in a nonspecific way.</td>
</tr>
<tr>
<td>Repair To</td>
<td>You use the Repair To item relationship with field service operations that use spares management functionality. If a part has been superseded by another part, the Repair to item relationship determines the replacement part.</td>
</tr>
<tr>
<td>Service</td>
<td>This relationship establishes service items for a repairable item.</td>
</tr>
<tr>
<td>Split</td>
<td>This relationship enables you to split support for an item so you don't have to manually split support at contract renewal.</td>
</tr>
<tr>
<td>Substitute</td>
<td>One item is a substitute for another.</td>
</tr>
<tr>
<td>Superseded</td>
<td>This relationship indicates that one item has replaced another item that's no longer available.</td>
</tr>
<tr>
<td>Upsell</td>
<td>This relationship indicates that a newer version of the item exists, and can be sold in place of the older item.</td>
</tr>
</tbody>
</table>
### Relationship Type

<table>
<thead>
<tr>
<th>Relationship Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>This relationship enables you to relate a warranty item with the item.</td>
</tr>
</tbody>
</table>

### Effective Dates for Related Item Relationship

Enter the Effective Dates. For example, start date and optionally an end date.

### Reciprocal

Indicates whether the item relationship is reciprocal.

### Planning Enabled

When the item relationship type is substitute, indicates if planning is enabled for the substitute item.

**Note:** Your System Administrator can set up additional relationship types based on your business needs.

### Trading Partner Item Relationships

There are four subordinate relationships:

- Customer Item Relationships are used to associate an internal item with one of your customer items.
- Competitor Item Relationships are used to associate an internal item with one of your competitor items.
- Manufacturer Part Number Relationships are used to associate an internal item to a manufacturer part number.
- Supplier Item Relationships are used to associate an internal item with your supplier item.

### Global Trade Item Number (GTIN) Relationships

Relationship between an internal item and a Global Trade Item Number (GTIN).

When creating a GTIN Relationship, you must specify the Unit of Measure (UOM), and also specify whether you're adding to a new GTIN or one that already exists.

### Spoke System Item Relationships

Establishes a relationship between an internal item and a spoke system item. This relationship is helpful in mapping and identifying items that have been consolidated from multiple source systems into a single master item.

### Item Cross-References

Cross-referencing an item with something like an old part number. While creating a Cross-Reference Relationship, you first select a Cross-Reference type and you specify whether the relationship is applicable to all organizations or whether it specific to only a selected organization. If it’s specific to one organization, you select the organization.

### Descriptive Flexfield Context

A system administrator can configure descriptive flexfields for item relationships that are used to maintain additional details about relationships.

When you configure new descriptive flexfields for item relationships, you must use the following prefix to descriptive flexfield context codes in order for the segments to show up for the respective relationships.
For example, you could setup a descriptive flexfield with the context code RELATED_RELATIONSHIP_ATTRIBUTES, and the segments of this context will display for the related item relationships on the transaction side.

Related Topics

- Create and Edit Trading Partner Items
- How do I create Trading Partner Items with FBDI
- Considerations for Manufacturer Parts and Manufacturers

Types of Item Relationship

Item relationship types let you relate an item to another item for various contexts.

The item relationship types are:

- Related Items: A relationship between two items.
- Trading Partner Item Relationships: A relationship between an item and a Trading Partner Item, such as a customer item, a competitor item, or a manufacturer part number.
- Global Trade Item Number (GTIN) Relationships: A relationship between an internal item and Global Trade Item Number.
- Source System Item Relationships: A relationship between an internal item and source system item that enables you to map and identify items that have been consolidated from multiple source systems into a single master item.
- Item Cross-References: Cross-reference types define relationships between items and entities, such as old item numbers.
FAQs for Product Relationships and Associations

What are item relationships?

Item relationships enable you relate your internal item with another item or reference the item with a Global Trade Item Number (GTIN), source system item, or cross-reference.

How are cross-reference types created?

The administrator creates cross-reference types using the Manage Cross-Reference Types task in the Setup and Maintenance work area.

How can I create my own related item relationship type?

There are several seeded related item relationship types available. If you want to create your own types, an administrator can create additional types using the Manage Related Item Subtypes task in the Setup and Maintenance work area.

How can I validate Global Trade Item Numbers (GTIN) ?

You can use item rules to validate GTIN numbers.

- You can access the attributes of a GTIN relationship row (such as GTIN, UOM, or Party Type) by using the attribute group [GTIN].[GTIN Main]. This attribute group is available to rule sets associated with an item class.
- You can define item rules using the functions exists() and isNull() to validate the presence of GTIN values.
- You can define item rules using the function substring() to validate the formation of GTIN values.

Related Topics

- Item Rule Logical Functions and Operators
- Item Rule String Functions
5 Manage Product Bundles and Structures

Structures and Structure Types

Structure Types

Structures, also known as Bills of Material (BOM), are used to store lists of items that are associated with a parent item and information about how each item is related to its parent. Supported structures are standard, model, option class, and planning. The type of structure that can be defined for an item depends on the value specified against the item's item structure type attribute.

Standard Structure

A standard structure is the most common type and lists the mandatory components, the required quantity of each component, and information to control work in process, material planning, and other manufacturing functions. Examples include structures for manufacturing assemblies, pick-to-order bills, kit bills, and phantoms.

Model Structure

A model structure defines the list of options and option classes that you can select when ordering a product that can be configured. A model structure also specifies mandatory components or included items that are required for each configuration of that model. You do not order or build the model itself; you order and build configurations of the model. A model structure can be either assemble-to-order or pick-to-order.

Option Class Structure

An option class is an item that groups optional components on a structure. An option class is an item that becomes a level in your model structure. Option classes can also have mandatory components that apply for all of its options. For example, when you order a computer, the monitor is an option class, and the specific type of monitor that you order is an option within that option class. An option class structure can be either assemble-to-order or pick-to-order.

Option class structures can contain standard components and options, as well as other option classes. You can structure any number of levels of option classes within option classes to create an indented hierarchy of choices. You can also specify a mandatory component in an option class in the indented structure that would automatically be included anytime that you choose an option from that option class (or a lower-level option class).

Planning Structure

A planning structure is a structure that includes a percentage distribution for its components. The percentages associated with the components on a planning structure do not need to add to 100 percent. You can define alternate and common planning structures, where the structure that you reference as common must be another planning structure.

Planning items can be nested within one another any number of times. When you nest planning items, scheduling applications can explode forecasts level by level and apply planning percentages at each level.

Phantom Structure

A phantom assembly is a non-stocked assembly that lets you group together material needed to produce a subassembly. When you create a structure for a parent item, you can specify whether a component is a phantom. One
structure can represent a phantom subassembly for one parent item, and a stocked subassembly for another parent item.

Work in Process applications explode through a phantom subassembly to the components as if the components were tied directly to the parent assembly. Work in Process applications ignore phantom assembly routings when you define a job or repetitive schedule.

You can compute manufacturing and cumulative lead times for phantom assemblies that have routings. If you do not want to offset the components of a phantom assembly in the planning process, exclude the phantom item from the lead time calculations.

In general, phantom assemblies act like normal assemblies when they represent a top-level assembly, such as when you master schedule them or manufacture them using a discrete job. As a subassembly, however, they lose their identity as distinct assemblies and instead represent a collection of their components. The components of the phantom subassembly are included on the job and on the pick list of the job, not the phantom itself.

Valid Component Attributes and Structure Types

Each structure can have many components. For each component, you specify attributes, such as operation sequence, item sequence, usage quantity, yield, supply type, supply subinventory and locator, and others.

The table lists component attributes and their validity for each type of structure.

<table>
<thead>
<tr>
<th>Component Attribute</th>
<th>Standard Parent Item</th>
<th>Model Parent Item</th>
<th>Option Class Parent Item</th>
<th>Planning Parent Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Item Sequence</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Operation Sequence</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Effective Date Range</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Planning Percentage</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Yield</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Enforce Integer Requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Include in Cost Roll up</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Supply Type</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Supply Subinventory</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Validation Rules for Structures and Components

Your ability to create, copy, or change structures is affected by a number of validation rules; seeded and user-configured.
How Structures and Components Are Validated

When you create, copy, or change a structure, the following validation rules are applied:

- You cannot add a component to a structure where the component item is the same as the parent.
- You cannot add a component to a structure where the same component, with the same operation sequence and effectivity, already exists on the structure.
- Lifecycle validation rules, when enabled, ensure that only components in the same lifecycle phase or higher lifecycle phase than the parent item can be added. The only exception is made for an obsolete lifecycle phase. Component items in this lifecycle phase cannot be added to an effective structure.
- You cannot add a component to a structure that is being referenced as a common structure from another organization, where the component does not exist in the other organization.
- You cannot add components to common structures. Changes should be performed on the referenced structure only.
- For Assemble to Order (ATO), Pick to Order (PTO), and phantom structures where the parent item has Available to Promise (ATP) Components set to No, you receive a warning when you add a component that has either the item attributes Check ATP set to Yes or ATP Components set to Yes. The warning says "Order details for the parent item specify NO for ATP Components", but you can add the component.
- You cannot add an optional component to a structure that is neither model nor option class.
- You cannot add a component whose planning percentage is not equal to 100 to a standard structure.
- You cannot add a mandatory component whose planning percentage is not equal to 100 and that has the Forecast Control attribute set to Consume or None to a model or option class structure.
- When adding a component to a structure, Check ATP component attribute is set to No if the component quantity is less than or equal to 0.

Note: Routings-based validation are not supported. The only check made is to ensure that an integer value is entered for the operation sequence.

Here is a guide to the various table values:

- Yes: You can add this component type to this structure type.
- No: You cannot add this component type to this structure type.
- *: These components must be optional.
- **: These components are treated as standard subassemblies.

This table presents the validation rules used for adding components to different structure types.

<table>
<thead>
<tr>
<th>Description</th>
<th>Planning Structure</th>
<th>PTO Model</th>
<th>PTO Option Class</th>
<th>PTO Option (kit)</th>
<th>ATO Model</th>
<th>ATO Option Class</th>
<th>ATO Item</th>
<th>Standard Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Structure</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PTO Model Structure</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes*</td>
<td>Yes</td>
</tr>
<tr>
<td>ATO Item</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes**</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Description

<table>
<thead>
<tr>
<th>Planning</th>
<th>PTO Model</th>
<th>PTO Option Class</th>
<th>PTO Option (kit)</th>
<th>ATO Model</th>
<th>ATO Option Class</th>
<th>ATO Item</th>
<th>Standard Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATO Model Structure</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ATO Option Class Structure</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ATO Item Structure</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes**</td>
</tr>
<tr>
<td>Standard Item Structure</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Item and Operation Sequence

#### Item Sequence

Item sequence indicates the sequence of an item on the structure. You can use it to sort components on reports and when choosing options from a model bill in Oracle Order Management. The default item sequence value includes value of the highest existing component item sequence plus value of the **BOM: Component Item Sequence Increment profile option**. If this profile option is not set, the default is 10. You can override or change this number.

#### Operation Sequence

You can use the Routings form to assign operations to routings. Each operation must have a sequence number called the **Operation Sequence Number**.

On a structure, the operation sequence indicates the order in which you perform operations on a routing. You can configure the **Operation Sequence Numbers** to be generated automatically by using a user-defined increment factor. A profile must be created where you can indicate how much the **Operation Sequence Number** will increment every time a new operation is generated. You can change the generated value, if necessary, in the Routings form. Valid values range from 1 to 9999999.

You can assign any component to any operation on the routing, including all components to the same operation (such as the first operation). The planning process assigns material requirement dates based on the operations to which you assign each component.

You can define structures for items with or without routings. If you use routings, you can either define the structure first or the routing first.
With component-to-operation assignments, you can schedule and issue component material to the operation that requires the component on the exact requirement date. You can also assign the same component on the structure to different operations on the routing, with different usage quantities for each assignment.

If no routing exists for the item, all components default to operation sequence 1. You cannot change this value until you define a routing for the item. After you define the routing, you can update your structure with routing operations, if you want specific component-to-operation assignments.

If you define the routing before you define a structure, assign components to valid routing operations or operation sequence 1 when you define the structure. If you define an alternate routing and then define the alternate structure, you can assign components to the alternate routing operations. If you define an alternate structure and no alternate routing exists, you can assign components to the primary routing operations.

Create Structures

Item Structures

A structure contains information on the parent item, components, attachments, and descriptive elements using descriptive flexfields. Each standard component of a structure can have multiple reference designator and substitute components. Also, each component can have a different unit of measure.

A product manager or product data steward is normally responsible for defining and managing product (item) structures. Note that the terms product and item are used interchangeably.

Create Product Structure

Product structures can be created in various ways. If the new structure is similar to an existing structure, you may copy and modify this new structure. If the new structure is an exact copy of another structure and its assembly details need not be maintained separately, you can link the new structure to an existing structure by using the Common option. Alternately, you can create a new structure by adding the required components and their information. Product structure can be created in one of three following ways:

- Create as New
- Create from Copy
- Create from Common

Create as New

Select an item and select create a new structure. Specify the structure name, description, and effectivity control. Select and add the required components on the Structure Details page.

An item structure exists only in the organization in which it was created. To use a structure in another organization, you must either copy it or reference it as common.

Create from Copy

Select an item and its common structure. You can set the first or all the structure levels as common levels and also preview the components of the common structure.

The table lists the structures you can copy and the effective dates with restrictions.
Create from Common

Select an item and its structure to common and preview components of the common structure. However, unlike copying structures, common structures will have the same components. You will not have the ability to pick individual components.

When creating a common or referenced structure, the target structure will be created with the same effectivity as the source structure.

<table>
<thead>
<tr>
<th>Source</th>
<th>Target</th>
<th>Copy Allowed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Date</td>
<td>Yes</td>
</tr>
<tr>
<td>Date</td>
<td>Serial</td>
<td>Yes</td>
</tr>
<tr>
<td>Date</td>
<td>Unit</td>
<td>Yes</td>
</tr>
<tr>
<td>Serial</td>
<td>Date</td>
<td>No</td>
</tr>
<tr>
<td>Serial</td>
<td>Serial</td>
<td>Yes</td>
</tr>
<tr>
<td>Serial</td>
<td>Unit</td>
<td>No</td>
</tr>
<tr>
<td>Unit/Lot</td>
<td>Date</td>
<td>No</td>
</tr>
<tr>
<td>Unit/Lot</td>
<td>Serial</td>
<td>No</td>
</tr>
<tr>
<td>Unit/Lot</td>
<td>Unit</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Primary and Other Structures

A primary structure is a list of the components you most frequently use to build a product. A structure, other than primary, is another list of components for the same basic assembly.

The primary structure is the default for rolling up costs, defining a job, and calculating cumulative item lead times.

Scheduling programs use the primary structure to plan materials. Order management programs use the primary structure for model and option class products to list available options.

When you build an item, roll up costs, and perform other functions that use structures, you can specify whether to use the primary structure (the default) or an alternate structure. You can also use change orders to control changes to primary and other structures.

Use alternate structures to account for manufacturing variations that produce the same assembly, by specifying the parent item number and an alternate name when you create a structure.
You can use an alternate to define an engineering structure or routing. The alternate is used as a prototype variation from the primary manufacturing structure that produces essentially the same assembly.

**Common Structures**

Common structures are referenced structures that share a component hierarchy, including the substitute components and reference designators defined for the components.

**Create Common Structures**

Here are some things you need to know about creating common structures.

- If two or more organizations use the same item structure, you can define the structure in one organization and reference it from the other organizations, creating what's known as a common or referenced structure. You can't update any information in a common structure. Any maintenance, such as removing or adding components or changing component attribute values, has to be made against the source (referenced) structure.
- You can't reference another structure as common if that structure also references a common structure. You can reference another structure as a common structure only if the referenced structure has the same structure name.
- You can create a common structure within the same organization, as well as across multiple organizations. Sharing structures across multiple organizations minimizes the maintenance of your item structures.
- You can reference structures only from organizations that have the same item master organization as the current organization.
- To create component items in the target organization, it's sufficient to have access to the root item in that organization. You don't need to have explicit privileges for component items.

**Note:** You can't modify common structures.

**Number of Common Levels**

You can set the first level as common, or specify the number of common levels starting from the first level.

**Manage Structures**

**How You Update Product Structures**

Managing product structures involves updating the structure by adding or removing components in the structures, making changes to first-level component attributes, and maintaining substitute and reference designator information for first-level components. Managing product structures also includes deleting product structures that are no longer in use.

**Structure Details**

Structure information is available as part of the item details. You can view structure details by navigating to item details and selecting the Structures tab. All structures created for items are listed in the structure table within the item structures sub tab. The change control column indicates if structure changes are allowed. Change control permission is based on the business rules written for the structure name. The change orders column presents the number of
change orders pending for the structure. Structure details, including header attachments and configured attributes, are presented in a details region. Clicking the structure name enables you to drill into the structure details page to view the component information.

The structure details page shows multilevel structure components in a hierarchical table and provides you with a complete view of all the component and assemblies of the structure. A date filter enables you to view the structure components as of a given date. For each component in a structure, the component item and component information is provided in a detailed region. This region includes these sections:

- Substitutes: Lists items that can be used in place of the component.
- Reference Designator: Lists the component placement during assembly.
- Where Used: Lists items based on the level in which this item is used in another structure.

  - Show Structure Levels:
    - First level: view first level of the structure in which the item is used.
    - Top level: view topmost level of the entire bill of material in which the item is used.
    - All levels: view all levels from the item to the topmost level in which the item is used.

  - Show Items: Filter items based on their approval status in a change order.
    - Implemented: view items that are already effective.
    - All: view items that are effective and the items that are yet to go through change order approval.

- Change Orders: Lists pending changes for the component (item).
- Additional Attributes: Lists additional attributes and their values that may have been configured for the structure type and name.

**Note:** Only the first-level components can be managed from the Structure Details page.

The structure details table provides a default view of some component and item attributes. You have the ability to view additional item or component attributes using the columns option in the View menu. To view component data across different levels, you can add item operational and component attributes as table columns.

The structure details table also provides for direct access to the structures list table without having to first go to an items page and navigating to structures tab. Right-click an item and select Structure List.

To view a flat representation of the structure, click **View Summary**. The Total Quantity in the summary table is calculated as a ratio of quantity to the yield factor.

To view the item for a particular revision, use **Actions > Open Another Revision**. The structure appears based on a reference date. The table shows how the default reference date differs based on the selected revision.

**Note:** Let’s say that the reference date is 7/18/19. Then it’s the structure as on 7/18/19.

<table>
<thead>
<tr>
<th>Selected Item Revision</th>
<th>Default Reference Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past effective</td>
<td>Revision end date</td>
</tr>
<tr>
<td>Current effective</td>
<td>Current date</td>
</tr>
</tbody>
</table>
### Structure Components

Structure component updates include adding, deleting, or disabling components and updating component attributes. You can search for items and add as first-level components to a structure.

You can select component rows and update their attributes. Multiple components with the same attribute changes can be updated in a single action. The disable action enables you to quickly end-date a component. The delete action enables you to remove the component from the structure permanently and to integrate the component into the Delete Groups. You are required to add the component deletion request to a delete group.

### Substitute Component Information

You can assign any number of substitute items to each structure component, and you can assign the same substitute item to more than one component. The substitute item quantity is the quantity needed to replace the full component quantity. The quantity can differ from the component usage quantity.

Planning bills and model, option class, and planning components can't have substitute components.

### Component Reference Designator

A reference designator is a sequence of comments and instructions that pertain to a component. For example, you may have drawings that clarify the assembly process for certain components, or further instructions for the use of a large quantity of the same component. You can specify whether to assign one reference designator for every usage of the component or assign more than one reference designator to the component.

You can indicate whether the reference designator is related to component quantity.

Planning bills and model, option class, and planning components can't include reference designator.

### Component Item Usage

The Where Used tab enables you to view component item usage in other structures.

### Delete Structures

Item structures or specific components within item structures can be deleted using delete groups. Deleting a structure or a component from a structure removes the record without any reference to its earlier usage or existence. When you delete an entire structure, you delete all the components for the assembly, along with their reference designator and substitute item.

When you delete a structure or component, that delete action passes through several deletion constraints and statements defined for structures. Additionally, you can define your own deletion constraints and statements.
Define Deletion Constraints and Statements

You can define your own deletion constraints and statements. If what you're attempting doesn't pass deletion constraints, it's not deleted. For example, you can define a constraint that prevents you from deleting a structure for an assembly that has an item status of active.

Valid Parent Component Relationships

Structures restrict the types of items you can assign as components based on the type of structure you are defining. The table presents the validation rules used for adding components to different structure types.

<table>
<thead>
<tr>
<th>Parent Structure Item Type</th>
<th>Component Structure Item Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Item</td>
<td>Standard Item</td>
</tr>
<tr>
<td>Model Item</td>
<td>Standard Item, Model Item, Option Class Item</td>
</tr>
<tr>
<td>Option Class Item</td>
<td>Standard Item, Model Item, Option Class Item</td>
</tr>
<tr>
<td>Planning Item</td>
<td>Standard Item, Model Item, Option Class, Planning Item</td>
</tr>
</tbody>
</table>

Considerations for Updating Structure Components

This table lists the criteria for editing structure types:

<table>
<thead>
<tr>
<th>Work Area in which the Item Originated</th>
<th>Structure Type</th>
<th>Organization</th>
<th>Editing Allowed</th>
</tr>
</thead>
</table>
| Product Development                    | Primary structure                    | Master organization | Only the following attribute groups can be edited:  
|                                        |                                     |                   | • Component material control.  
|                                        |                                     |                   | • Component order management.  
|                                        |                                     |                   | • Component shipping details.  
| Product Development                    | Alternate structure                  | Master organization| Yes             |
| Product Development                    | Primary and alternate structure      | Child organization | Yes             |
FAQs for Product Bundles and Structures

What's a structure attachment?
When creating a structure, you can attach various documents pertaining to that item structure, such as drawings and reference materials. These attachments are available to view as part of structure header details.

What are item and component attachments?
Item and component attachments are attachments that you can view at the item level as part of the structure details view. Only those attachments whose categories have been associated with the structure name will be available.

What's a substitute component?
Substitute components are items that can be used in place of a component. You can associate any number of substitute items to each structure component and the same substitute item can be associated to more than one component. The substitute item quantity is the quantity needed to replace the full component quantity. The quantity can differ from the component quantity. Planning bills and model, option class, and planning components cannot have substitute components.

What happens to structure creation if I enable lifecycle validation?
When lifecycle validation rules are enabled, they ensure that only components in the same lifecycle phase or higher lifecycle phase than the parent item can be added. The only exception is made for obsolete lifecycle phase. Component items in this lifecycle phase cannot be added to an effective structure. For example, the parent item has lifecycle phases of Concept, Design, Prototype, Production, and Obsolescence. It is currently in Prototype lifecycle phase. When adding a component to this item’s structure, the component should have a cycle phase of Prototype (same as the parent item) or Production (higher life cycle than the parent item).
What's a reference designator?

Reference designators are sequenced comments and instructions that pertain to a component. For example, you may have drawings that clarify the assembly process for certain components, or further instructions for the use of a large quantity of the same component. You can specify whether to assign one reference designator for every usage of the component or assign any number of reference designators to the component. Planning bills and model, option class, and planning components cannot have reference designators. You can also specify a comment for each reference designator.

What's a structure loop?

Structure loops occur when a structure is assigned as a component of itself somewhere in the multilevel structure of a defined item. By default, a check for structure loops is run when creating or editing a structure.

How can I compare item structures?

Initiate a structure comparison from the structure list table by selecting two structures to compare and then selecting component attributes.

Structure comparison results are presented in a hierarchical table with the selected structure component details. You can change the attributes or structures being compared quickly using the Actions menu.

How can I create development structures for an item?

You can create development structures in Oracle Fusion Product Development.

You can view the development structures created in the Product Development work area from the Structures tab of the Edit Item page of the Items work area. However, you cannot create, edit, or delete development structures there.

What happens if I associate an item attachment category with the item structure type?

If you associate an item attachment category with an item structure type, you can filter your view when viewing or managing item structures to reveal only relevant item attachments. Of the attachments available at the item or component item level, only those attachments that are of the specified attachment categories appear when viewing or managing an item structure.
What happens if I enable Use Primary for Expansion validation?

If you enable Use Primary for Expansion for alternate structures for a subassembly that does not have an alternate structure of the same name defined, its primary structure, if available, will be used when viewing a multilevel item structure.

How can I define additional attributes?

You can define additional attributes at the item structure header or component level using *descriptive flexfields*. Product Managers can capture the required information for these attributes when managing item structures.

**Related Topics**
- Item Attributes

What's the significance of start and end dates on a structure name?

Start and end dates signify the usage of a structure name. You can create a structure of that name for an item during that date range, but not outside that date range.

**Note:** Primary structures cannot have an end date.

What happens if I select Default WIP Supply Value for Components?

If you select *Default WIP Supply Value*, and no supply value at the component level is specified, the default item-level work in process (WIP) supply value is used for the component.
6 Manage Product Packs

Pack Types

Pack types, also known as trade item unit descriptors, are used to describe the Global Trade Item Number (GTIN) hierarchy level. Hierarchy is used to establish relationships between different levels of an item's supply chain. For information on trade item unit descriptors, see the GDSN Trade Item Implementation Guidance.

Related Topics
- GDSN Trade Item Implementation Guidance

Manage the Packaging Hierarchy

You create a packaging hierarchy to define the various pack configurations in which you can package a base item. For example, you sell flash memory sticks (the base item, VI11416) in packs of 3 at retail stores, but ship 20 of the 3-packs in a case to the store. The packaging hierarchy looks like this:

- Case: Item = Case1_VI11416
  - Pack or Inner Pack: Item = Pack1_VI11416, Quantity = 20 Each
    - Base Unit or Each: Item = VI11416, Quantity = 3 Each

A packaging hierarchy can have any number of levels. The pack type defines each level in a hierarchy. The pack types used in the above example are Case, Pack or Inner Pack, and Base Unit or Each. The pack type of any item above the base unit or each level is stored as the pack item's primary attribute Trade Item Unit Descriptor (TIUD). The base item defines the lowest level in a packaging hierarchy. A base item can belong to multiple pack hierarchies.

The following pack type validations apply.

<table>
<thead>
<tr>
<th>Pack Type (TIUD)</th>
<th>Description</th>
<th>Parents</th>
<th>Parent Instance</th>
<th>Children</th>
<th>Child Instance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Load (TL)</td>
<td>The trade item above the pallet level used for transporting trade items. This level can be used to define truckloads, shipping containers, rail cars, ships, and so on. For example, a product is manufactured overseas and the manufacturer communicates.</td>
<td>TL, None</td>
<td>Single</td>
<td>TL, PL, MX, CS, DS, PK, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Pack Type (TIUD)</td>
<td>Description</td>
<td>Parents</td>
<td>Parent Instance</td>
<td>Children</td>
<td>Child Instance</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-----------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>that 10,000 units will fit in a container which is assigned a GTIN as it is a standard configuration.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed Module (MX)</td>
<td>A unit load that is a display ready pallet that may contain a single GTIN or several unique GTINs that is intended to go directly to the selling floor. For example, a configuration that consists of several related products; brooms, mops, brushes and cleansers as a spring cleaning display.</td>
<td>TL, MX, None</td>
<td>NA</td>
<td>CS, PK, Setpack, Multipack, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Pallet (PL)</td>
<td>A unit load that contains a single or multiple GTINs that is not display ready. Includes box pallet. For example, soap powder in standardized pallet quantities of 100 cases per pallet.</td>
<td>TL, PL, None</td>
<td>NA</td>
<td>DS, CS, PK, Setpack, Multipack, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Display Shipper (DS)</td>
<td>A display which can contain a single instance of a GTIN or more than one unique instance of a GTIN. For example, a counter top display of lipsticks and nail polish.</td>
<td>TL, DS, PL, None</td>
<td>Single</td>
<td>CS, PK, Setpack, Multipack, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Case (CS)</td>
<td>A standard trade item shipping unit. Includes a 1/2 or 1/4 pallet and a 1/2 or 1/4 box pallet. For example, 1 liter</td>
<td>TL, PL, MX, Display Shipper, CS</td>
<td>Multiple</td>
<td>CS, PK, Setpack, Multipack, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Pack Type (TIUD)</td>
<td>Description</td>
<td>Parents</td>
<td>Parent Instance</td>
<td>Children</td>
<td>Child Instance</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Orange Juice Bottles (TIUD)</td>
<td>orange juice bottles are packed in a standard 24 pack configuration within a cardboard case.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Setpack</strong></td>
<td>a consumer unit that contains multiple instances of lower level GTINs that are typically bar-coded.</td>
<td>PL, MX, DS, CS</td>
<td>Multiple</td>
<td>PK, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Multipack</td>
<td>A group of trade items (the same or different) that are intended to be sold as a single consumer unit at the point-of-sale. For example, a three-pack of men’s white T-shirts or a 12-piece set of glassware.</td>
<td>PL, MX, DS, CS</td>
<td>Multiple</td>
<td>PK, EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Pack or Inner Pack (PK)</td>
<td>A logistical unit or a consumer unit between a case and each. This level can contain a single GTIN or multiple GTINs. For example, a pack consisting of three of the same canisters of potato chips with a unique bar code that represents the three pack. The canisters that are the components of the bundle pack are physically bar coded with the GTIN that represents a single canister.</td>
<td>TL, PL, MX, DS, CS</td>
<td>Multiple</td>
<td>EA</td>
<td>Single or Multiple</td>
</tr>
<tr>
<td>Base Unit or Each (EA)</td>
<td>The lowest level of the item hierarchy intended or labeled for individual resale.</td>
<td>TL, PL, MX, DS, CS</td>
<td>Multiple</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Creating a Packaging Hierarchy

You can only create and update a packaging hierarchy in the item's master organization. Once you create the packaging hierarchy in the master organization, assign it to the child organizations.

To create a packaging hierarchy:

- Select Create Pack.
- On the Create Pack pop up, select an organization and select or search for your item.
- Select OK.
- On the Create Pack: Select Pack Type pop up, select a pack type and click OK.
- On the Edit Item page, Structures tab, Packs sub tab, review your pack and save.

FAQs for Product Packs

What's managing packaging information?

Managing item packs information is key to facilitating order and inventory tracking. You manage packaging information using a hierarchical representation of items representing the logical structure of the product packaging needs. Each packaging level is modeled as an item so you can easily track inventory and orders against them.

What attributes participate in a rollup?

Item attributes can be rolled up from base items to higher pack items. This enables you to calculate the dimensions of higher pack items from lower pack items.

The attributes for which roll-ups are performed are:

- Quantity
- Weight
- Weight UOM

How can I create item packs?

Initiate pack creation for an item from regional task pane using create pack task. Select an item within a master organization and specify a pack type for the item, if not defined. Select the Packs tab on the item details page to specify pack items. Based on the pack type of the selected item, you can associate child or parent pack items.
Select the **Create packs** action from the search results table. The Actions menu provides the ability to create multiple packs for all the selected items of type Base Unit or Each in a single flow. It enables you to create a representative pack structure which is then replicated for all the selected items, creating individual pack structures for each of the items.

The **Create Packs** page has three main regions:

- **Items**: The items selected in the search results table are presented in a table. You can add additional items or remove items from this table.
- **Item Class**: Enables you to specify the item class for the new pack items created based on the pack template.
- **Pack Template**: Enables you to define a representative structure to be duplicated for all the selected items. Each level defined represents a pack item. New pack items will be created based on the levels defined and the number of selected items.

After you save your pack, click next and assign your pack to an organization. Note, all child pack items of a selected row will be assigned to the specified organizations.
7 Manage Product Attachments

Overview of Item Attachments

An item attachment is unstructured information related to an item. Examples of item attachments include CAD drawings, test results, specification sheets, or URLs.

Attachments can be any type of file including:
- Files and folders from your desktop or a configured repository.
- Text files generated during the attachment process.

Attachments can be managed for specific items or revisions of items, all the items for a Master Organization, or all the items for a specific organization.

Managing Item Attachments

Manage attachments for individual items using the following procedure:

1. Search for and access the item whose attachments you want to manage.
2. On the Edit Item page, access the Attachments tab and select Item or Item Revision.
3. From the Actions menu, you can associate new attachments with the item or revision, delete attachments, or modify existing attachments. When you add an attachment, select the file type and attachment category for the attachment and specify a title and descriptions.

Note: Only those attachment categories will be listed that are associated with the item class of the item.

Item attachments will be available for all the revisions of the item in a particular organization.

Checking Out Item Attachments

To modify an existing attachment, you must first check the attachment out of the file repository.

Only one user can check out a file at any given time. You can only check out the latest version of the file. During checkout, you have the option to download the latest version of the file. When you check in the file, you must upload the modified content from your desktop. If no changes have been made and there is no need to upload a file from your desktop, you can cancel the checkout. The application maintains a version history, displaying a list of all previous versions of the file as well as indicating the attached version. You can open an earlier version to access discarded information or use the earlier version as a basis for creating a new version. Highlight the appropriate attachment and Click the Check Out icon. A message appears, informing you of the version and file that you are checking out.

Related Topics
- Create Items
- Attachments
- How Attachment Entities and Attachment Categories Work Together
• Attachment Entities
• What’s an attachment category
8 Manage Product Security

Data Security Privileges for Accessing Items

Using the data security privileges available for items, you can authorize users to create, view, and edit item details.

A product data steward or product manager is typically responsible for managing the item data security by entering data grants for the item. Access to an item and its details is controlled at either the item class or item level.

Data Security and Function Security

Item information is controlled through function security and data security.

- Function security is a statement of what tasks and actions users can perform in pages.
- Data security is a statement of what action users can take against which data. In Oracle Fusion Product Hub, data security involves providing users with item data grants to perform operations on certain items.


Job Roles, Duty Roles, and Security

Functional privileges are associated to different duty roles and jobs, and these privileges control the access to the tasks. If you have functional privileges, you can grant data security to other users.

- The Manage Item Classes privilege allows the user to add data grants at the item class level.
- The Manage Item People privilege allows the user to add data grants at the item level.

These privileges are assigned to the Product Data Steward Job Role and the Product Manager Job Role.


Managing Item Extensible Attributes Data Security

The IT Security Manager job role provides access to the Oracle Authorization Policy Manager application where security is managed. Using this job role, you can create data security privileges on the required item EFF tables.

- The Application Data Security Administration Duty role provides you the access to edit database resources in Authorization Policy Manager. You can create data security privileges on the required item EFF tables.
- The Application Descriptive Flexfield Administration Duty role provides you the access to manage item EFF attribute groups. You can create required attribute groups and define security conditions. The data privileges created in APM can be associated with the EFF attribute groups.
- The Manage Item Class functional privilege provides you the access to the Manage Item Classes task. This task manages the item-class level data security. The Manage Item People functional privilege provides access to the
Manage Item security task. This task manages the item-level data security and you can access the task from the Actions menu in the Edit Items page.

Notes on Item Data Security Privileges
The following list contains important information on significant item data security privileges and granting privileges for items:

- **The Create Item Class Item Data** privilege is granted at the item class level and gives you the access to create items within the item class.
- **The View Item Basic Data** is a basic privilege that you should have in order to search for the item and access it.
- For managing item details such as relationships, attachments, or associations, you must have the View Item Basic Data and the Maintain Item Basic Data privilege in addition to the required functional privileges.
- **EFF Privilege** is user-defined and controls access to item EFF attribute groups.
- All operational attributes require specific attribute group-level privileges to edit the attributes within the group. View Item Basic Data privilege provides access to view all the operational attributes.

  Note: To control the access to extensible attributes groups, you can create a separate and specific view and edit privileges through the Oracle Security Console.

- **The View Item Structure Data** and the Maintain Item Structure Data privileges are required to view and manage item structures. In addition, users must have the View Item Basic Data privilege in order to access the item.
- **The View Item Pack Data** and the Maintain Item Pack Data privileges are required to view and manage item packs. In addition users must have the View Item Basic Data privilege in order to access the item.
- **The Maintain Item People Data** privileges allow users to view and manage item data security at the individual item level. In addition users must have the View Item Basic Data privilege in order to access the item.

  Note: For operational attribute groups, the Maintain privileges don’t include view access. Corresponding view privileges needs to be granted to user explicitly so users can view and make required updates.

Managing Data Security Privileges at the Item Class Level
You can manage the item access at the item class level. You can provide access to a user or a user group for all items created within an item class at the item class level. The Public check box at the item class level indicates the state of the data security for the items created within the item class. When the item class Public check box is selected, then all users and groups can access the items created within the item class. If you want to access the extensible attribute group, then you must setup data grants for the extensible attribute groups.

When the Public check box for the item class is deselected, then you must set up data security for all users and groups that want to control access to the items created within the item class.

1. Navigate to the Security tab on the Edit Item Class page to add users and specify security privileges.
2. For each user or user group, grant specific item security privileges allowing them to gain access to only relevant information.

You must specify an organization for the item data grants. The data grant will provide users and user groups with access to the items in that organization. This allows multiple users and user groups to access the same item in different organizations.

The privileges that you grant at the parent item class are inherited by the child item classes. You can’t alter the inherited privilege grants at child item-class levels. However, you can manage additional grants at the child item-class levels.
Managing Data Security Privileges at the Item Level

You can also manage the Item access at the individual item level.

1. Click Item Security from the Actions drop-down list. The Item Security dialog box opens.

   **Note:** If the Public check box is selected, it indicates that the item is publicly accessible. You can deselect the Public check box to enable data security for the specific item. The item becomes private and the owner data grants are created for the logged in user. Only the owner can access the item at this time.

2. If the item is private, then for each user or user group, grant specific item-security privileges allowing the user or the user group to gain access to only the relevant information.

3. If the item is public, then for each user or user group, grant specific item-security privileges allowing the user or the user group to gain access to extensible attributes.

Privileges granted at the item-class level are inherited by all items and can't be edited at the item level. However, you can manage additional privilege grants at the item level.

   **Note:** Organization stripping isn't available at the item level. This is because you're managing grants at the individual item level, which is always in the context of an organization.

Managing Security Privileges for Product Hub Portal

The Supplier job role for the Product Hub Portal is called Supplier Product Administration. Product Data Stewards assign this job role to the supplier users that need to access the Product Hub Portal.

The assignment of the job role to the supplier can be done in following ways:

- From Oracle Fusion Procurement Supplier Portal, while setting up the supplier and its users. This flow is specific to Supplier Portal and not controlled by Product Hub.
- From Security Console, by searching for the supplier user and assigning the Supplier Product Administration job role to the user. This job role is common to all Oracle Fusion Applications.

You also need to provide data security privileges at the item class level to the supplier users in the Supplier Product Administrator job role. Refer to the above section, Managing Data Security Privileges at the Item Class Level, for information on how to assign data security privileges to users.

**Related Topics**

- Data Security
- Oracle SCM Cloud Security Reference for Product Management
- Oracle Applications Cloud Security Reference for Common Features

Data Security Privileges for Creating Items

When you create an item, you can enter the basic data required or add additional data to enrich item information. The following data security privileges are required to add various item details while creating an item. If you need to enter
a combination of the item details identified in the following paragraphs when creating an item, then you need the corresponding combination of data security privileges.

- The following set of data security privileges are required to create an item by entering the minimum required data:
  - Create Item Class Item Data
    Required for the item class in which the item is created.
  - View Item Basic Data:
    Required to view the item details page.
  - Maintain Item Primary Data:
    Required to author the required attributes in Main attribute group such as Item Name, Description, or Primary Unit of Measure.

- The following set of data security privileges are required to create items by entering additional operational attributes:
  - Create Item Class Item Data
  - View Item Basic Data
  - Maintain Item Primary Data
  - Maintain Operational Attribute Group Data
    Where Operational Attribute Group is the operational attribute group name.
    - **Note:** Each operational attribute group has a separate maintain privilege

- The following set of data security privileges are required to create items by entering user-defined attributes:
  - Create Item Class Item Data
  - View Item Basic Data
  - Maintain Item Primary Data
  - View Additional Attribute Group Data
    Where Additional Attribute Group is the name of the user-defined attribute group.
  - Maintain Additional Attribute Group Data:
    Where Additional Attribute Group is the name of user-defined attribute group.
    - **Note:** Privileges for user-defined attribute groups are created by the end user as part of the configured attributes setup and are based on end user security requirements
    - **Note:** Each user-defined attribute group can have separate maintain and view data privileges

- The following set of data security privileges are required to create an item by entering item structures:
  - Create Item Class Item Data
  - View Item Basic Data
  - Maintain Item Primary Data
• View Item Structure Data
• Maintain Item Structure Data

• The following set of data security privileges are required to create items by entering packs:
  • Create Item Class Item Data
  • View Item Basic Data
  • Maintain Item Primary Data
  • View Item Pack Data
  • Maintain Item Pack Data

• The following set of data security privileges are required to create items by entering Item People (data security grants):
  • Create Item Class Item Data
  • View Item Basic Data
  • Maintain Item Primary Data
  • Maintain Item People Data

• The following set of data security privileges are required to create items by entering any or all of the following: Attachments, relationships, associations and category assignments
  • Create Item Class Item Data
  • View Item Basic Data
  • Maintain Item Primary Data
  • Maintain Item People Data

  Note: Supplier associations support user-defined attributes. To enter these attributes during item creation, users need the corresponding privileges for the user-defined attribute group.

Related Topics
• Data Security
• What’s the difference between function security and data security

Data Security Privileges for Updating Items

The following sets of data security privileges are required to update various item details. If you need to update a combination of the item details identified below when updating an item, then you need the corresponding combination of data security privileges.

• The following set of data security privileges are required to update item operational attributes:
  • View Item Basic Data
    Required to view the item details page
  • Maintain Operational Attribute Group Data
Where **Operational Attribute Group** is the operational attribute group name.

**Note:** Each predefined attribute group has a separate maintain privilege.

- The following set of data security privileges are required to update user-defined attributes for an item:
  - **View Item Basic Data**
  - **View Additional Attribute Group Data**
    Where **Additional Attribute Group** is the user-defined attribute group name.
  - **Maintain Additional Attribute Group Data**
    Where **Additional Attribute Group** is the user-defined attribute group name.

**Note:** Each user-defined attribute group can have separate view and maintain privileges.

- The following set of data security privileges are required to update item structures for an item:
  - **View Item Basic Data**
  - **View Item Structure Data**
  - **Maintain Item Structure Data**

- The following set of data security privileges are required to update packs for an item:
  - **View Item Basic Data**
  - **View Item Pack Data**
  - **Maintain Item Pack Data**

- The following set of data security privileges are required to update Item People (data security grants) for an item:
  - **View Item Basic Data**
  - **Maintain Item People Data**

- The following set of data security privileges are required to update any or all of the following for an item:
  - Attachments, relationships, associations and category assignments
  - **View Item Basic Data**
  - **Maintain Item Basic Data**

**Note:** Supplier associations support user-defined attributes. To update these attributes, you need the corresponding privileges for the user-defined attribute group.

**Related Topics**

- Data Security
- What's the difference between function security and data security
Data Security Privileges for Viewing Items

The following data security privileges are required to view various item details. If you need to view a combination of the item details identified below, then you need the corresponding combination of data security privileges.

- The following set of data security privileges are required to search and view item basic data:
  - **View Item Basic Data**
    - Item basic data details include operational attributes, item people, attachments, relationships, associations, and category assignments.

- The following set of data security privileges are required to view user-defined attributes:
  - **View Item Basic Data**
  - **View Additional Attribute Group Data**
    - Where Additional Attribute Group is the name of the user-defined attribute group.

  👨‍💻 **Note:** Each user-defined attribute group has a separate maintain and view data privilege.

- The following set of data security privileges are required to view item structures:
  - **View Item Basic Data**
  - **View Item Structure Data**

- The following set of data security privileges are required to view packs:
  - **View Item Basic Data**
  - **View Item Pack Data**

  👨‍💻 **Note:** Supplier associations support user-defined attributes. To view these attributes, you need the corresponding view data privilege of the user-defined attribute group.

**Related Topics**
- What's the difference between function security and data security

Data Security for Trading Partners

The trading partner item data security lets you control access to trading partner items data sets. The privileges for trading partner items are managed through the Manage Trading Partner and Trading Partner Item task available in the Product Information Management work area.

By default, trading partners are set to public. To enable data security, select the Private check box and enter privileges using the security section. Data security that’s applied at the trading partner level applies to all trading partner items for that trading partner. The owner or administrator of the trading partner item type or person with view and manage data grants can access the content. If data security is enabled for trading partner items for a given trading partner items, all trading partner items created will inherit the data grants from the trading partner level.
A private trading partner item can only be viewed by a specific set of users or groups that have been granted the data grants to view the object. Once a trading partner item is marked private, it can't be made public again. If you mark or enable data security at the trading partner level, all existing trading partner items for the trading partner will inherit the data grant created for the person logged in as the owner.

Note: The security subsection in the Edit Trading Partners page is only displayed for trading partner items when data security is enabled for the trading partner items.

Privileges

Privileges available at the trading partner level:

- View: Users with this privilege can view trading partner items for the this trading partner.
- Maintain: Users with this privilege can edit the trading partner items. Users must also have the View privilege.
- Administer: Users with this privilege can create additional data grants at the trading partner level and add additional owners.

Note: A person or group with the Administrator privilege can add another user with the Administer privilege and add a second owner. A data grant for the original owner can then be removed. There must always be one owner for the trading partner items.

Privileges available at the trading partner item level:

- View: Users with this privilege can view the trading partner item.
- Maintain: Users with this privilege can edit the trading partner item. Users must also have the View privilege.
9 Manage Catalogs and Categories

Create Catalogs

How Catalogs Work Together

A catalog is a collection of categories that you use to classify items. You can organize the categories into a hierarchy that represents a taxonomy. You create new categories only in the context of a catalog. You can add existing categories to one or more catalogs, either from another catalog or as shared categories from a source catalog. You can control the assignment of items and categories in the catalog by controlling the catalog content. For example, you can set the value of the Catalog Content field on the Edit Catalog page to Items at all levels, which allows items to be assigned to any level within the category hierarchy, not only to the leaf levels.
This figure shows the relationships of the catalog components to each other.

**Catalog**
A catalog is a collection of categories that are organized to define a classification of items. The top most level of a catalog is the catalog root. All categories for the first level in the category hierarchy are associated with the catalog root through the catalog category association component.

**Category**
A category is a component of a catalog that represents a set of items. You can associate a category to a catalog through the catalog category association. Both the shared category and the native category are associated thorough the catalog category association.
Catalog Category Association

Catalog category association represents the relationship between a catalog and a category, or a parent category and a child category. Each catalog category association represents one relationship between the catalog and a category or one relationship between a parent category and a child category.

Item Category Assignment

Item category assignment represents the assignment of the item to a category in a catalog. Each item category assignment represents the relationship between a category and an item.

Item

An item represents objects such as a product, service or template. An item is assigned through the item category assignment component.

Attachment or Image

Information is associated to the catalog or category through the attachment framework. Multiple attachments are supported but you can only associate a single attachment or attachment type image with a catalog or category for viewing in the UI.

Catalog Details

You can view and edit a catalog on the Edit Catalog page when you have the appropriate permissions.

The following parts of the Edit Catalog page provide important capabilities for managing and editing catalogs:

- Catalog header region
- Catalog details tab
- Category hierarchy tab

Catalog Header Region

The header region for the Edit Catalog page contains the catalog name and description, the selection of the default category and the start and end date for the catalog.

You can change the default category for a catalog so that the category is used for the item creation process, based on the values of attributes for the item. The choice of default category also enables other Oracle Fusion applications to assign items to a category.

You can modify the start and end dates for a category as you update a catalog in order to control when the category is used.

You can revise or reclassify the category to reflect shifting relationships within the category hierarchy.

Catalog Details Tab

The Details tab contains:

- The configuration attributes for the catalog, which control the runtime behavior for the catalog.
- The sharing attributes for the catalog, which control the source catalog that will be used for sharing from and what content can be shared.
The additional information for the catalog, which contains the descriptive flexfields that support the catalog metadata.

### Category Hierarchy Tab

The Category Hierarchy tab contains the category hierarchy region, in which the category hierarchy can be created and maintained. In addition, items can be assigned, the usage of the category in other catalogs can be viewed, and the attributes for the category and catalog category association can be edited.

**Related Topics**

- Category Descriptive Flexfields

### Catalog Formatting

The format of a catalog is defined at the time the catalog is created and controls the behavior of the catalog at runtime. When you format a catalog, the layout controls three main areas and includes the following tasks:

- Catalog configuration
- Date enablement
- Category sharing

Some fields are required, and others are optional.

### Catalog Configuration

You can configure the catalog, and this affects how the content behaves. The catalog configuration contains a set of attributes that define the catalog configuration. These attributes interact to define the runtime behavior of the catalog.

The configuration functions are:

- Catalog code: A unique identifier that is used.
- Controlled at: Controls how items are assigned to categories and has two values. The first value is master level, which enables the automatic assignment of items to all child organizations associated with the master organization, if the current context is a master organization. The second value is organization level, which assigns the item only to the organization in the current context.
- Default category: A newly created item is automatically assigned to the default category if specific operational attribute values are entered for the new item. The automatic assignment is controlled by the functional area. Each functional area has specific rules about which operational attribute values are used to trigger the automatic assignment process. For example, an item will be assigned to the catalog assigned to the functional area called Purchasing if the Purchased specification is turned on or if the Internal Ordered Item specification is enabled.
- Assign items to leaf level categories only: Allows items to be added only to the bottom level categories in the hierarchy.
- Catalog content: Controls what content can be added to the catalog and where the content can be added.
- Allow multiple item category assignment: When this option is selected, you can assign an item to one or more categories in the catalog. The default is deselected, which means that each item can be assigned to only one category in the catalog.
- Public Catalog: Select to mark this catalog as public. All users with access to view catalogs will have access to this catalog.
Note: The catalog behavior for functional area catalogs is defined through the combination of fields within the pages and the seeded functional area rules.

Catalog Date Enablement
The date enablement function controls when the catalog is in an active state or inactive state by using the start date and end date attributes.

Category Sharing
The category sharing function enables sharing categories from a designated source catalog.

The sharing function has these attributes:

- Share by Reference: Catalog elements that are shared by reference are read-only in the target catalog. Multiple source catalogs can be used in this type of sharing.
- Copy: Content from other catalogs can be added to the current catalog by creating a copy of the content. The copied content can be edited within the current catalog.
  - Include child categories: Indicate whether to copy child categories when copying categories.
  - Copy item category assignments: Indicate whether to copy items assigned to the category into the catalog.

Related Topics
- Automatic Assignment Catalogs

Manage Catalogs

How Various Catalog Hierarchies Fit Together
You use catalogs to organize and classify collections of items by associating categories with the catalog. You organize the categories to form a taxonomy and assign items to the categories. When you associate a category with the catalog, a catalog category association is created which specifies the relationship of the association. The catalog category association may also represent the relationship between two categories, for example, a relationship between a parent category and a child category.
The following figure shows the relationships of the category hierarchy components.

Components
The components of a category hierarchy are:

- Catalog root: The topmost node in category hierarchy that represents the object called catalog.
- Category: The catalog component that is used to represent the classification structure.
- Catalog category association: The line in the diagram represents the relationship between a catalog and category or between a parent category and child category.
- Item category assignment: The dotted line in the dialog represents the relationship between a category and an item.
• Reference category: The category, C5 in this diagram, is shared as a reference category from a source catalog.

• Leaf level category: The lowest or bottom-level category in a category hierarchy. You can assign items to all levels in a category hierarchy if you configure the catalog to support this.

• Browsing category: The category, C2 in this diagram, is a browsing category. Browsing categories are categories that you add to the category hierarchy for the purpose of classification and do not have items assigned to them.

The category hierarchy does not have a limit on how many levels can be represented. The category hierarchy can have multiple hierarchies within a single category hierarchy.

### Relationship Between Categories and Catalogs

Catalogs are used to organize and classify collections of items by associating categories to the catalog. The categories are organized to form a taxonomy and items are assigned to the categories. When a category is associated with the catalog a catalog category association is created which specifies the relationship of the association. The catalog category association may also represent the relationship between two categories, for example a relationship between a parent category and a child category.

### Catalog Category Association

The date enabled attribute value is important regarding catalog category association. The catalog category association is date enabled providing the control of when the catalog category association is active in the catalog and when the catalog category association is inactive. The catalog category association has two attributes to support enabling dates; the start date and the end date. The start date is value is the first day that the catalog category association is available or active for use and the end date is the last day the catalog category association can be used, after this date the catalog category association is inactive. The date enabled attribute values are also used to control the visibility of content and the behavior of the category in the catalog. If a category association is inactive or end dated, having the value of the end date attribute past the current date, then the items cannot be assigned to the category.

A catalog category association will be set to inactive state when the category referenced by the catalog category association is set to an inactive state automatically, but the display will not be refreshed automatically.

### Hierarchies in Import Category

A category hierarchy can be created and maintained through a spreadsheet interface, reducing the amount of time required to create and maintain catalogs. Existing catalog content can be exported and the content used in other catalogs for catalog category hierarchies.

The following aspects are important regarding category hierarchy import used in catalogs:

• Spreadsheet interface

• Export category hierarchy

### Spreadsheet Interface

You can manage the catalog category hierarchy by downloading and modifying the content in the spreadsheet, and then uploading the content back into the catalog.

Within the spreadsheet, you can define new categories, edit the catalog hierarchy, and add categories to the catalog, either as direct or reference categories. You can define the category hierarchy for a catalog in the spreadsheet, by
creating or adding categories, then upload it when you create a catalog. If you have an existing hierarchy, you can cut and paste the flattened hierarchy into the spreadsheet.

**Export Category Hierarchy**

You export a category hierarchy when you need to share its structure, for example, with a product partner. Your partner can import the catalog file using a spreadsheet.

You can export the category hierarchy from your catalogs so that it can be used by your partners. In the Product Information Management work area, partners can directly import the category hierarchy into their catalogs.

**Related Topics**

- Set Up Desktop Integration for Excel
- Guidelines for Using Desktop Integrated Excel Workbooks
- Troubleshoot Desktop Integration for Excel

## Catalog Category Association

The catalog category association assigns the category to the catalog or parent category. This association lets you manage when a category is assigned to a catalog, by setting the start and end dates for the association. The catalog category association can be edited only within the Edit Catalog page, in the category hierarchy tab. The catalog category association start date and end date attributes can be edited in the details region. The association can't be deleted, only end dated.

### Category Catalog Associations

You select the category in the category hierarchy table for the catalog category association that you're editing, the category details are displayed in the right-hand panel. The association start date and association end date are the only editable fields.

After you make changes, clicking the **Save** button saves the changes to the database but doesn't close the Edit Catalog page. Clicking the **Save and Close** button saves the changes to the database and closes the Edit Catalog page.

## Date Enablement for Catalogs and Categories

The catalog, categories, and catalog category association use date enablement to determine if the object specified is active or inactive based on the start date and end date. The following are date enablement definitions:

- **Active**: An object is active when the current date is later than or equal to the value of the start date, but earlier than or equal to value of the end date.
- **Inactive**: An object is inactive when the current date is later than the value of the end date.
- **Future dated**: An object is future dated when the current date is earlier than the value of the start date.

You set the date enablement attributes are used to determine when a catalog, category, or catalog category association is used or visible.

- On the Manage Catalog page, a table filter determines which catalogs appear. The default value for the choice list is **Active**, indicating that only active catalogs will be displayed. You can select the value **All** to view both active and inactive catalogs.
- On the Edit Catalog page, on the category hierarchy tab, two table filters determine what categories and catalog category associations appear. The default values for the two choice lists are **Active**, indicating that only active
categories and active catalog category associations will be displayed. You can select the value All to view both active and inactive categories and catalog categories associations.

- Other applications also use the date enablement attributes to filter information retrieved through application programming interfaces or services for catalogs.

The following figure provides the date enablement attributes for these objects. The catalog, category, or the catalog category association has an internal state that is active or inactive.

The following aspects are important regarding date enablement for catalogs and categories:

- Start date
• End date
• Catalog and category objects
• Catalog category association
• Catalog and category rules

Start Date
The start date is defined as the first date that the object can be active. The start date can be future dated by setting the value to a date later than the current date. The start date value defaults to the system date if no date is entered during catalog or category creation.

End Date
The end date is defined as the last date that the object can be active. The object is end dated one second after the date specified by the value of End Date, that is the next day at 12:00:01 a.m. You cannot set the end date in the past. Also, you can change the end date from a condition when the object is ended to a new end date greater than or equal to the system date, causing the object to go from inactive to active. The end date value is optional during catalog or category creation.

Catalog and Category Objects
The start and end dates have been added for the catalog and catalog category association. The inactive date for categories has been renamed as the end date and the start date has been added.

Catalog Category Association
The catalog category association is used to specify the parent and child relationships between catalogs and categories and for category to category relationships. The catalog category association date enablement is independent of the category data enablement, except for the case where the category is end dated; the association is ended automatically as well. The catalog category association dates represents the state of the category for the catalog in which the category is associated.

Catalog and Category Rules
When a catalog is inactive the following rules apply:
• All operations for the catalog are disabled; the catalog can be edited.
• The catalog cannot be used in other processes.
• The catalog can be viewed only if you set filters on the Manage Catalog page to a value of All, enabling you to view active and inactive catalogs.

When a category is inactive the following rules apply:
• All operations for the category are disabled; the category is not able to be edited.
• The category cannot be added to other catalogs.
• The category can be viewed only if you set the filters on the Edit Catalog page to a value of All, enabling you to view active and inactive catalogs.
• The application sets the catalog category association for the inactive category to inactive.

When a catalog category association is inactive the following rules apply:
• The category may be inactive or active; if the category is active it can be edited.
• The catalog category associations and related category can be viewed only if you set the association filter on the Edit Catalog page to a value of All, enabling you to view active and inactive catalogs.
When a catalog is future dated the following rules apply:

- All the operations of the catalog are enabled and the catalog is can be edited.
- The catalog can be used in other processes, if allowed.
- The catalog can be viewed only if the you set the filters on the Manage Catalog page to a value of All.

Create Categories

You can create categories in the context of a catalog, on the Category hierarchy tab on the Edit Catalog page. When you select the Create icon in the category hierarchy table, the Create Category dialog appears.

Create Category Dialog

After you enter a name and tab out of the field, the category code will be automatically populated. You can update this value if required. Enter a meaningful description of the category. Optionally, you can add an image and an attachment to this category.

Date enablement determines if an object is active or inactive based on the start date and end date. When categories are created, the default start date value is the current date. You can move the category start date beyond the current date to a future date within the category. The end date value is optional.

Select the Restrict category to item assignment only check box to add only items to the category.

After you complete the required fields for the catalog, clicking OK creates the category in the database, adds the category to the point of selection in the category hierarchy, and closes the dialog.

Items to Categories Assignment

You can assign items to categories on the Edit Catalog page, category hierarchy tab, on the category detail item tab. You can assign items only to active categories. In addition, you can configure catalogs to control item assignment to categories within the catalog by selecting the Allow multiple item category assignment check box on the Create Catalog page, which allows items to be added to all levels of the category hierarchy.

To begin, select the item class and enter search information in either the Item ID, Item description or Keyword fields and click the Search button. You select items from a choice list and add them to the category.

Controlling Item Assignment

You also control item assignment by selecting the value of the Controlled at check box on the Edit Catalog page. If you select the Master Level value and the organization context is a master organization, then the assigned items are automatically assigned to all child organizations that are associated with the master organization. The added items will also be assigned to any child organizations that might be created under the master organization, even after the items were assigned to the master-controlled catalog.

What Can You Edit on the Edit Catalog Page

The Edit Catalog page is a shared page that has two modes - view and update. The view mode displays the selected catalog in a read-only file. The update mode displays the selected catalog in an editable file. You must have edit catalog privileges to access the catalog in the update mode. You can edit only an active or future-dated catalog.
You can edit the following fields in the catalog:

- Catalog Name
- Description
- Start Date
- End Date
- Default Category
- Allow multiple item category assignment
- Addition Information
- Category Hierarchy
- Category Details
- Items assigned to category

**Default Category**
You can edit this field to select another category as the default category for item creation. You cannot remove the default category if the catalog is assigned to a functional area that requires a default category to be specified.

**Allow Multiple Item Category Assignment**
This check box is editable only until you assign an item to a category in the catalog.

**Addition Information**
You can edit the values of the descriptive flexfields attributes.

After you make changes, clicking the **Save** button saves the changes to the database but does not close the Edit Catalog page. Clicking the **Save and Close** button saves the changes to the database and closes the Edit Catalog page.

**Category Details**
You can see category details when you select the row with the category in the category hierarchy table of the Edit Catalog page. The category details are displayed in the right hand pane. You can edit the details of native categories. The category detail region contains information about the category that is associated to the catalog. It also contains the association start and end dates.

You can view and edit a catalog on the category details tab when you have rights to manage catalogs.

The following parts of the Category Hierarchy tab provide are important capabilities for managing and editing category details:

- Details subtab
- Items subtab
- Attachments subtab

**Details Subtab**
The details tab contains information about the category that has been associated to the catalog. This information appears in all catalogs, since a category can be associated to one or more catalogs. The details tab contains the category configuration, category date enablement, association date enablement, and the additional attributes for the category.
The details tab contains attributes that define a category. Unstructured information is added through attachments. Images are added to a category and are displayed in the category details tab.

**Items Subtab**
The Items subtab contains item assignments are local to the catalog that the category is associated with. You can add and delete item assignments.

**Attachments Subtab**
The Attachments tab contains the list of attachments that the category is associated with.

**Category Edits**
Categories can be edited only from within the Edit Catalog page, on the Category Hierarchy tab. To edit a category, expand, or search in, the tree of categories associated with the catalog, then select the row for the category in the category hierarchy table and edit the category's attributes in the category's Details panel. A category can only be edited if the category is active and its associated catalog is active or future dated. If a category is directly shared, the same category can be edited in multiple catalogs, except for the item assignments that are local to the catalog you are editing. Category information can be edited in both the Details and Items subtabs.

**Details and Items Tabs**
The following fields are editable in the category:

- Category name
- Description
- Attachments
- Category start date
- Category end date
- Items assigned to category

After changes are made, the **Save** button saves your changes without closing the Edit Catalog page. The **Save and Close** button saves your changes and closes the Edit Catalog page.

**Catalog and Category Attachments**
Catalogs and categories support attachments and use a common component for managing attachment content. You can add attachments on both the Create Catalog and Edit Catalog pages.

The attachment component displays a plus sign icon indicating that no attachments are available for the object. The Attachment dialog appears when you click the plus sign icon. You define the attachment by selecting the attachment type, file name or Uniform Resource Locator (URL), title, description, and by indicating whether the attachment can be shared with other objects. Once you define the attachments and click the **OK** button, that attachment title appears in the attachment component region of the page along with an X icon that you can click to delete the attachment.

The attachment file types are:

- File
• Repository File or Folder
• Text
• URL

File
You must provide a title for the file and create a description for the attachment. You select a file to upload from your desktop.

Repository File or Folder
You click the **Browse** button to attach a repository file or folder from the document repository to a catalog. The attachment repository contains existing attachments and is organized as a set of folders. The **Browse** button launches the Attachment Repository dialog to enable you to select an attachment. You must provide a title for the repository file or folder and create a description for the attachment.

Text
Enter the text string in the field that you want to appear as an attachment. You must provide a title for the text and create a description for the text attachment.

URL
Enter the URL address to a web page that you want to attach to the catalog. You must provide a title for the URL attachment and create a description for it.

The **Share** check box alerts users that you added an attachment and the date that you performed the task.

Category Moves
You use the move category function in the category tree table region of the Edit Catalog page. This is a table row action. The dialog is launched when you select an active or future dated category within the catalog and select this action.

Identifying the New Parent
The dialog provides the current category parent and lets you pick a new category parent. Only the legal category parents are displayed in the choice list.

The category list within the **New Parent** choice list is filtered by based on a set of rules:

- The new parent category must be an active or future dated category; the end date value of the category must be later than the current system date.
- The value of the category content for the new parent category must allow the selected category to be added; the legal values are items and categories and categories only.
- A selected category associated with the catalog at a level below the categories at the root categories can be moved to the root of the catalog.
- The new parent category catalog category association must be active; the end date value of the catalog category association must be later than the current system date.
Category Sharing

Category sharing allows the reuse of categories or a category hierarchy across catalogs. For example, if you were to create spring and fall product catalogs, many of your products would probably appear in both catalogs. The products that are in both catalogs could be assigned to one or more categories that could be shared between the catalogs. Categories can be shared across multiple catalogs, allowing catalog content to be reused and saving the work needed to maintain multiple copies of the categories. In the case of category sharing by reference, the category structure in the source catalog can be different than the structure in the native catalog.

Categories can be shared using two methods

- **Direct Sharing**
- **Sharing by Reference**

**Direct Sharing**

Direct sharing means directly associating the category to the catalog. Direct sharing allows a category to have multiple instances in multiple catalogs. Many of the category attributes are editable in all catalogs that the category is shared in, and the item assignments to the category are unique to the catalog to which the category is added. The directly shared category is added to the catalog and can be edited in the catalog, or any catalog that the category is associated to. The items assigned to the category are not shared, but are associated to the category in context with the catalog that the category is associated with. For example, if the category name or description is changed in one catalog, the change will be reflected in all catalogs where the category is associated, but if items are assigned to a category, the assignment will be for that single catalog. Direct sharing is always enabled for catalogs.

**Sharing by Reference**

Sharing by reference means adding a category by reference into the catalog. Sharing by reference allows a category and the items assigned to that category to be added to one or more catalogs. If the category is a parent category, the complete hierarchy for that category is shared. The shared categories and assigned items are read-only in the catalogs where they are added. During the creation of the catalog, sharing can be enabled by specifying a source catalog that will be used for sharing by reference and setting the value of the sharing content to control what content will be shared from the source catalog. The advantage of using sharing by reference is that source catalog content can be shared to multiple catalogs and maintained in a single place, the source catalog. In addition, the referenced content can consist of more than one category. For example, a complete category hierarchy and any items assigned to categories in shared content can also be referenced within the catalog.

In the Category Hierarchy tab in a catalog, each category in the hierarchy is represented by a row in a collapsible table. The style of icon next to a category’s name indicates how it is shared. Directly shared categories are marked with a folder icon; categories shared by reference are marked with the icon used for the Share Categories control. Categories that are shared by reference are only editable in the source catalog, and the categories and items are read-only in the target catalog where they are shared. A category or a complete category hierarchy, including items assignment, can be shared by reference.

**Default Catalog Assignment: Explained**

You can assign a catalog to a functional area such as Purchasing. When a catalog is assigned to a functional area, the catalog will act based on the rules you defined for that functional area. Only one default catalog can be assigned to a
functional area. During item creation, if certain operational attributes have specific values, then the item being created is assigned to the catalog assigned to the functional area, and then to the default category for the catalog.

To map a default catalog:

1. Create a catalog based on functional area rules.
2. Create a category and assign it as the default category for this catalog.
3. Assign the catalog to the chosen functional area. Select the Manage Default Catalogs task in the Setup and Maintenance work area, edit a functional area, then select a catalog name.

- Each functional area has specific rules that the catalog must adhere to, so the assignment process may fail if the catalog does not meet the functional area rules.
- Some functional areas do not allow the catalog assigned to their area to be changed.
- Some functional areas allow the catalog to be changed only if no items are assigned to the categories in the catalog.

For example, if values of the operational attributes Purchased and Internally Transferable have been set to Yes, the item being created will be assigned to the default category of the catalog assigned to the Purchasing functional area.

FAQs for Catalogs

How can I define category hierarchies?

Categories can be organized to represent classification taxonomies. The hierarchy organizations for categories have parent and child relationships that form a tree structure. The category hierarchy is created and maintained within the Edit Catalog page, category hierarchy tab. The category hierarchy is shown in true relationship to the way it is defined.

The category hierarchy can be created using two methods: the first is manually creating the hierarchy by adding referenced categories, duplicating categories or creating category for the catalog.

The second method for creating the hierarchy is by importing the category hierarchy through the spreadsheet interface. The category hierarchy can be exported from another catalog or other sources, edited and imported into a new catalog. The hierarchy can also be added manually to the spreadsheet.

On the toolbar of the Category Hierarchy tab, you can create new categories, using the Create Category button. You can add categories, including shared categories, using the Add Category button. If a catalog is has a category hierarchy, you can edit it using the Move Category button, which opens a dialog box. You can also modify the hierarchy using drag and drop. The catalog category association cannot be deleted, but can be end dated to make the catalog category association inactive. The category hierarchy table provides a choice list filter that controls what catalog category associations and categories area displayed based on the date enablement.

How can I add categories?

Categories are catalog components that are associated to a catalog for purpose of classification of items. You can add existing categories to the point of selection, which can be a category in the hierarchy or the root of the catalog. If no category is selected, the default is the root of the catalog.

You can add categories by selecting Add Category and selecting Add Category. You can then search for existing categories based on the value of the catalog structure for the catalog. You can narrow the search for existing categories...
by using the **Advance Search** region in the dialog. You can add each selected category by selecting the **Apply** button and the add category region remains open. The **OK** button adds a category, if a category is selected, and then closes the dialog.

**How can I add shared categories?**

Adding a **shared category** is similar to adding an existing category except the category is selected from the catalog that has been designated as a source catalog. The sharing content attribute value determines what content is shared from the source catalog. A category within a source catalog that has been added to a **native catalog** is also known as a **referenced category**. You use the list of values from the Add Categories menu. The Shared Category option will be disabled if the catalog has not been configured for category sharing.

**How can I add images to a catalog or category?**

You can attach an image from your desktop or from a configured repository to a catalog or a category, or both. The image is displayed in the catalog detail and the category detail sections of the catalog page. Only one image can be associated with a catalog or category. To attach an image, select the **Attachments** control and launch the Manage Attachment dialog. The title you provide for the image attachment will appear after the image that is displayed in the catalog. The description you provide is not displayed. Clicking the **Browse** button will allow you to select the file to be used as the image for the catalog or category. After the information is entered in to the dialog, click the **OK** button to load the image. The image will not initially be displayed until the catalog is saved. The image can be replaced with another image by selecting the X to delete the existing image and adding a new image.

**How can I duplicate categories?**

You can select and duplicate a category as a quick way to create a similar category configuration. Selecting the **Duplicate** icon action launches a Create Category dialog that has attribute fields populated based on the selected category attribute values. The category name is prefixed with **Copy**, followed by the name of the selected category. Fill in the required field information in the key flexfield segment values. Once the category attributes are updated and the key flexfield segments values are entered, click the **OK** button to add the newly created category into the category hierarchy of the selected category you have configured.

**What is catalog mapping?**

You can map categories of different catalogs to the reporting categories in other catalogs by using the Manage Catalog Mapping task in the Setup and Maintenance work area. You can map one or more categories within a catalog to a category in a second catalog. For example, suppose that you want to roll up the costs associated with all items assigned to a set of categories in catalog. Catalog mapping lets you select a category in a catalog and map all the categories in the set to that category.
10 Access and Search Product Master Data

Item Attributes

Attributes are named entities whose values describe various qualities of a product item.

The following types of attributes are available:

- Main attributes
- Operational attributes
- User-defined attribute groups and attributes
- Additional information attributes
- Transactional attributes

Main Attributes

Main attributes are common to all items, and are part of the item's data model. They describe essential aspects of the item. Main attributes appear on the Overview tab of the Create Item and Edit Item pages.

Examples of main attributes are:

- Item Number
- Description
- Long Description
- Status
- Lifecycle Phase
- User Item Type
- Approval Status
- Revision
- Pack Type
- Item Class
- Unit of Measure (a group containing eight attributes)

Operational Attributes

Operational attributes are part of the item's data model. They determine the behavior of the item with respect to various applications outside Oracle Fusion Product Hub, such as Oracle Fusion Purchasing or Oracle Fusion Inventory Management. You choose the control level for operational attributes on the Manage Operational Attributes Control page. For each listed operational attribute group, you select the control level for each of the group's attributes. You can control the operational attributes at the master organization level or at the organization level. You can define operational attributes as part of a new item request.

Examples of operational attributes, with the attribute groups they belong to, are listed in the following table.
User-Defined Attribute Groups and Attributes

You can define *attribute groups* and attributes to capture item specifications and other information relevant to a product’s definition that you want to add to the item’s data model. Values for such user-defined attributes are defined when you create the item, but can be changed over the life cycle of the item.

Oracle Fusion uses the structure of *extensible flexfields* to support attribute groups (by using flexfield *contexts*) and attributes (by using *flexfield segments*).

You create attribute groups and attributes on the Manage Attribute Groups page, where you create an attribute group for a set of one or more attributes and then create the attributes in the context of the attribute group.

You select the behavior for the attribute group as multiple-row or single-row, which affects the later display and use of the attributes, as described elsewhere in this topic. If the behavior you chose for the attribute group is multiple-row, then the attribute has multiple values each represented by a row in a table whose columns are context-based segments (attributes).

For each attribute, you select the data type and related validation and display options. The attribute groups are then accessed as sections listed on the Specifications tab of the Edit Item page. You also map the attribute to a column in a dedicated database table.

After you have created attribute groups and attributes, you associate user-defined attributes with items by adding attribute groups to item classes, on the Pages and Attribute Groups tab of the Edit Item Class page. When an item is created, it inherits the attributes from the attribute groups associated with the item class on which the item was based.

### Multiple-Row Attribute Groups

Attribute groups can be either single-row or multiple-row. The selected behavior determines how the attributes will be displayed in the user interface as well as how they are used. When you create an attribute group on the Manage Attribute Groups page, you select its **Behavior** as being **Multiple Rows** or **Single Row**.

A single-row attribute group contains a collection of attributes that will be displayed as separate fields in region named for the attribute group. For example, a single-row attribute group named Home Address contains the attributes appropriate for a home address. Another single-row attribute group named Work Address contains similar attributes appropriate for an office address. When these attribute groups are displayed in the user interface, the attribute fields for each group are arranged compactly within a region titled with the name of the attribute group.

<table>
<thead>
<tr>
<th>Operational Attribute Group</th>
<th>Example Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>Shelf Life Days</td>
</tr>
<tr>
<td>Order Management</td>
<td>Shippable</td>
</tr>
<tr>
<td>Purchasing</td>
<td>Negotiation Required</td>
</tr>
<tr>
<td>Receiving</td>
<td>Allow Substitute Receipts</td>
</tr>
</tbody>
</table>
The following figure shows the compact user interface layout for the single-row attribute groups named Home Address and Work Address.

![Home Address](image)

![Work Address](image)

In a multiple-row attribute group, the attributes are displayed as columns in a table that represents the attribute group. Each row of the table is considered to be an attribute in the attribute group. The collective set of values contained in a row is considered the meaning of the attribute. The table is displayed in the user interface within a region titled with the attribute group name. No other fields are displayed in the table. For example, a multiple-row attribute group named Payments contains the attributes Date, Invoice No., and Amount. Each row of the table describes a payment, and is a value of the Payments attribute group.

The following figure shows the tabular user interface layout for the multiple-row attribute group named Payments.

![Payments](image)

**Additional Information Attributes**

You can create additional information attributes, which are based on *descriptive flexfields* rather than extensible flexfields. Descriptive flexfields can only have one context available at a single time, while extensible flexfields can have multiple contexts available. If you only need a single category and usage, then descriptive flexfields are sufficient. You create descriptive flexfields using tasks in the Setup and Maintenance work area. For example, use the task Manage Catalog Descriptive Flexfields to define descriptive flexfields for catalogs. The Additional Information region on the
Specifications tab of the Edit Items page then displays the flexfield context segments based on the current value of the context.

Transactional Attributes

Transactional attributes capture values that are generated during transaction flows involving an item, rather than when the item is created. Create transactional attributes on the Transactional Attributes tab of the Edit Item Class page. For each attribute, specify its effective dates. Based on these effective dates, choose the downstream applications where the attribute is effective, associate the attribute with a predefined set of allowed values, and specify an optional default value and unit of measure. You can also set the attribute to be inactive, required, read-only, or hidden during the effective dates. The transactional attributes of an item class are inherited by its item class descendants. You can overwrite the metadata for a transactional attribute in a child item class, but doing so breaks the inheritance. Transactional attributes can be defined on all types of items.

Related Topics

- Item Main Specifications
- What's an item
- Create Items
- Item Specifications and Attributes

Transactional Attributes

Attributes that exist for each instance of an item and the values for the attributes can be different.

For example:

- The number of megabytes (MB) or gigabytes (GB) of e-mail storage on a digital subscriber line account.
- The monogram text on a shirt pocket.
- The size of a shirt.

These attributes are defined at the item class and their attribute value is captured at the time of a transaction by downstream applications. The metadata values of these attributes are maintained at the item class. Order orchestration and order capture systems are two examples of downstream use. All transactional attributes must be associated with a value set.

The following metadata values can be defined for an attribute.

- Required: Indicates whether the attribute value is required at the transaction.
- Default Value: Indicates the default value of the attribute.
- Value Set: Indicates the value set associated with the attribute.
- Read Only: Indicates whether the attribute value is read only.
- Hidden: Indicates whether the attribute is not shown.
- Active: Indicates whether the attribute is active or inactive.

Transactional attributes are inherited across the item class hierarchy. The metadata is data-effective. Changes in the metadata will be reflected immediately at the item level. For example:

- Any of the metadata of a transactional item attribute belonging to a specific domain, if modified in the child item class would break the inheritance. Any changes done at the parent item class for this transactional item attribute would not get inherited. Multiple records with same date range can exist if they belong to different
domains. For example, the transactional item attribute **Memory** is associated with a **Domain** and order capture. Each of the domains may use a different set of metadata for its own purpose. Hence, for the same date range, two different records can exist. Only Start Dates for a transactional item attribute would be entered by a user. End date would be calculated automatically based on the next Date Effective record.

- Users can modify (either Start Date and metadata) of a future effective record. Records with Starting date as Past cannot be modify or edited.
- Only start dates can be set to permit updating by a user, and the end date of a record will automatically be pulled from the next record.
- Any changes performed in the parent item class would be inherited by the child item class. If the corresponding record is modified in the child, then these changes will not be inherited.

Item pages provide a mechanism with which to configure the user interface.

### Pages and Attribute Groups

Pages and attribute groups enable you to structure your data.

**Benefits include:**

- You can combine and sequence attribute groups into pages.
- There is no limit on the number of attribute groups associated with a page.
- Pages can be created at item class and are inherited down the item class hierarchy.
- Attribute groups can be added to pages sequentially and based on this sequence, these attribute groups are shown in items.
- Attributes groups can be added for an inherited page at the child item class.

Functional Item pages are another type of special pages which are used to associate pages already created for use in the application. Application scope indicates the application which uses these pages and the usage indicates the specific use of the configured pages.

### Data Quality

You can associate attributes for the purpose of standardization and matching, to be performed when items are created. You restrict the attributes to be processed for standardization or matching or both. Selecting Standardization allows the data quality engine to return the standardized values for these attributes. Matching allows the data quality engine to return any existing items which matches the value of these attributes and are potential duplicates.

### Lifecycle Phases

Sequential lifecycle phases enable you to track and control the lifecycle phases of items. Each phase represents a set of tasks and deliverables that are required before promoting the item to the next phase. You can associate lifecycle phases to an item class which are created elsewhere. Lifecycle phases are inherited down the item class hierarchy and new lifecycle phases can be added to child item classes. For example, the lifecycle phases for a computer component item class might be: Concept, Prototype, Production, and Retirement.

### Templates

Template is a defined set of attribute values used during item creation. When you apply a template to an item, you overlay or default-in the set of attribute values to the item definition. For example, every time users in a particular organization create new items, the attributes, as defined and approved by the organization appear in the appropriate
fields. No user guesswork is required, and time is saved during the creation of items with a similar form, fit and function. Templates are created for each item class. Templates are specific to organization. Templates are inherited down the item class hierarchy. You can define both operational attributes and user defined attributes for each template.

**Search and Display Format**

Search formats provide a convenient way to save frequently used search criteria. Search formats created at item class will be available to all users. Search formats are always created in the context of item class. Display formats enable you to predefine search display views. You can use these views to look at different sets of item attributes that are returned by the search. Display formats created at item class will be available to all users. Display formats are always created in the context of item class.

**Import Format**

An import format identifies the base and user-defined attributes in an item class that are imported into the application using a spreadsheet. Consequently, when you import item business entities from a spreadsheet, the items are all imported into the particular item class defined in the import format. These imported item business entities inherit all the attribute groups defined for the specific item class. You cannot edit the layout of an import format once it is created.

**Search**

**Search the Work Area**

In the Product Information Management work area, you can search for important entities in managing product information.

The product information entities that you can search for are:

- Items
- Trading partner items
- Item relationships
- Catalogs
- Categories
- New item requests
- Change orders
- Item batches

You can search for these entities in two ways:

- Task-based search
- Quick search
Task-Based Search
On the page for managing each of the product information entities, you can search for those entities with a comprehensive set of criteria

1. Click the Tasks icon in the panel drawer of the Product Information Management work area, then select the management task for the desired entities, such as Manage Items or Manage Change Orders.
2. Enter your search terms in the provided fields, which are tailored to the entity you’re managing.
   - Some management pages provide an Advanced Search region. If you need to search on a field that isn’t there by default, click Add Fields and select the additional search fields that you need. If there are a large number of search fields to add (such as the list of attributes for product items), then a dialog box opens to search, select, and add those fields.

After you click Search, a list of search results is displayed for you to manage. If you need to see your added search fields in the results, select Add Columns from the View menu for the list.

   To remove an added field, click the deletion control next to it. To remove all added fields, click Reset.
   - Some management pages provide a single search field. When you type at least 3 characters, a list of matching entities is presented. Select one to see its details.

You can also click Show Filters to open a list of search filters tailored to the entity you’re managing. If you need to search on a field that isn’t there by default, click Add and select the additional search fields that you need. You can also click Reorder to change the order of the filters.

Quick Search
From anywhere in the Product Information Management work area, you can quickly search for product information entities without first navigating to their management page.

1. Click the Search icon in the panel drawer of the Product Information Management work area, then select the product information entity that you want to search for in the Search list, such as Item or Catalog.
2. If you selected Item, then you can enter your search term directly the search field. If it matches an indexed keyword, a list of matching items is generated, and selecting one opens the details page for the item.

   If you selected one of the other product information entities, then a simple set of search fields appears in the search panel.
3. If you want to go directly to the task-based search for the entity you selected, click the Advanced link or button.
4. Select the desired search item from the results list.

Search Refinements
See the related topics provided for tips on refinements in search terms, especially for item searches.

Choose Parameters for Task-Based Item Search
A task-based search on the Manage Items page of the Product Information Management work area provides modes for general-item searches, including keyword search and parametric search.

Item Search Scope
Item Class
You select the item class in which to search for items. The default is Root Item Class.

**Revision**

You select the item revision to use for the items returned by your search.

- **Latest released:** The returned items belong to the most recently released revision of the item. This revision might not be currently effective at the time of the search.
- **Current effective:** The returned items belong to the revision that’s currently effective at the time of the search. This effective revision might not be the most recently released revision of the item.

**Item Search Parameters**

In the search region of the Manage Items page, you can search for items using one or more required or optional search fields. Click **Add Fields** to search on additional attributes.

The Manage Items search region provides a predefined saved search, which defines the search fields that are displayed when the Manage Items page is initially opened. Click **Save** to save the currently displayed search fields as a personal saved search. Select predefined or personal saved searches from the **Saved Search** list.

**Wildcards**

Multicharacter Wildcards: % and * must be interpreted as a wildcard that matches any character string, including spaces and special characters.

Single-Character Wildcards: _ must be interpreted as a wildcard that matches any single character.

Literals: Literal _, %, and * characters must be preceded by the escape character \\.

**Note:** Wildcards as such % aren’t allowed at the start of a value and aren’t allowed for Item Number in the item search (due to performance reasons).

**Conditions for the Search Criteria**

As you select conditions for a search, drop-down lists will display only values that are appropriate to the scope of your search.

**Required Fields**

Some search fields are required. An asterisk (*) indicates a required field. Two asterisks (**) indicates a set of search fields from which at least one is required.

**Keyword Search Field**

The **Keyword** search field enables you to search both with SQL and with keyword search. The keyword search field uses the same features as the regional area search, except that the autosuggest feature isn’t available. When a user enters values for both the keyword search fields and other search fields, the keyword search and SQL search are performed separately. The results from both are displayed in the search result table.
Use Quick Search to Find Items in the Work Area

When you use the quick search in the panel drawer of the Product Information Management work area to search for items, you can refine your search with these techniques.

Searching for Items

The following are some of the ways the application searches for items:

Type Ahead Search

Type ahead searching is enabled for the search panel in the Product Information Management work area. As you enter characters into the text box, suggested values are displayed in a list. Select a value from the list.

Keyword Search

Oracle Text technology provides keyword searching capabilities that uses data extracted from values in the items table and set up in an indexed file. The indexed data is set up by the administrator. Additional indexes can be added by the administrator as needed. By default, the search uses the following item attributes in the index:

- Item Number
- Description
- Item Class
- Long Description
- Organization Code
- Manufacturer

The Oracle Text search engine can be configured by the administrator to support features including:

- Word Stemming
- Wildcards
- Synonym Matches
- Fuzzy Searching
- Dictionary Matching
- Soundex Searching

Oracle Text is case insensitive.

Note: Before users can use the search in the Product Information Management work area, the index must be built by administrators. Use the Manage Item Keyword Search Attributes task in the Setup and Maintenance work area to select the attributes that will be used in the indexing process. Next, run the Item Keyword Search scheduled process, available in the Tools work area, with the Create action. When a new attribute or language is added to the index by the administrator, the Item Keyword Search scheduled process must be run with the synch action.

Operators

The operators in the following table can be used with search expressions:
Wildcards
You can use the following wildcards, which are features of Oracle Text search, to enhance your search:

- Percent sign (%) matches 0 or more characters
- Underscore (_) matches 0 or 1 character
- Backslash (\) escapes wildcard characters (%_, or \)

Word Stemming
Word stemming lets word stems such as run to match other parts of speech such as ran, running, and runs. Word stemming requires that a dictionary be installed by the administrator and word stemming enabled for search. The operator stem (s), where $s$ is the word you want to search using stemming, is used for stemming in search criterion.

Fuzzy Operator
The fuzzy operator is used to expand a query to include words that are spelled similarly to the term entered in the search criterion. The fuzzy operator is helpful for finding accurate results when there is frequent misspelling.

Synonym Operator
The synonym operator SYN enables the query to be expanded to include terms that are defined in a thesaurus as synonyms for specified terms.
Soundex Operator

The soundex operator ! enables the query to be expanded to include words that have similar sounds. This function enables comparison of words that are spelled differently, but sound alike in English or a 7-bit character set. For examples search '!Smythe' might return 'Smith'.

Oracle Text let users to join keywords such as AND or OR within a single search criterion. Additionally, quotes can be used to indicate that characters within the quotes are to be searched in exact order.

Within Operator

The within operator allows the narrowing of a query down into document sections. Document sections can be one of the following:

- Zone Sections
- Field Sections
- Attribute Sections
- Special Sections (sentence or paragraph)

ABOUT Operator

The ABOUT operator allows the return of documents that are related to a query term or phrase. In English and French, ABOUT enables you to query on concepts, even if a concept isn't actually part of a query. For example, an ABOUT query on heat might return documents related to temperature, even though the term temperature isn't part of the query.

AND and OR Operators

The AND operator allows searching where at least one occurrence of each of the query terms exists. The OR operator allows searching where at least one occurrence of any of the query terms exist.

Dictionary Matching

Dictionary matching of the search terms can be enabled and requires a dictionary to be set up for the search. The spelling of terms in the input fields is checked against the dictionary to provide corrections to term misspellings.

Manage Worklist from the Product Information Management Work Area

Use the Manage Worklist task in the Product Information Management work area to access the BPM Worklist page. The BPM Worklist page opens in a new tab within the Product Information Management work area. Alternatively, you can also open the BPM Worklist page by clicking the Notifications button.

Here are the statuses that you can apply to your tasks from the Worklist tab:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approve</td>
<td>Once a task is sent for approval, the approver can use the approve action to continue the task.</td>
</tr>
<tr>
<td>Status</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Reject</td>
<td>Task assignee can reject the task to prevent further approval.</td>
</tr>
<tr>
<td>Request More Info</td>
<td>If the task assignee wants more clarification from the requester, the task can again be sent to the requester. Users can also specify who requested the information. At this stage, the task is not rejected. Once the required information is provided, the approval flow begins again.</td>
</tr>
<tr>
<td>Reassign</td>
<td>The task assignee can send the task to another user for approval. The new user's hierarchy is used for approval. For example, if a user thinks that the task is relevant to another department, he can reassign it.</td>
</tr>
<tr>
<td>Delegate</td>
<td>A user can delegate the task to another user. After approval by the delegate, the initial user's hierarchy is used for approval. The delegate can still act on the task after task expiry.</td>
</tr>
<tr>
<td>Withdraw</td>
<td>The task initiator can withdraw the task after the approval has been initiated.</td>
</tr>
<tr>
<td>Escalate</td>
<td>A user can escalate the task from the current assignee to the supervisor.</td>
</tr>
<tr>
<td>Claim</td>
<td>A task that is assigned to a group or multiple users must first be claimed. Claim is the only action available in the task action list for group or multi-user assignments. After the task is claimed, all applicable actions are listed. Claim is available only if auto claim is disabled and the response required from is set to One.</td>
</tr>
<tr>
<td>Dismiss</td>
<td>Used for a task that requires the person (acting on the task) to acknowledge the receipt. This is similar to an FYI notification, which does not involve any action.</td>
</tr>
<tr>
<td>Resume</td>
<td>A task that was halted by a Suspend action can be worked on again.</td>
</tr>
<tr>
<td>Release</td>
<td>Releasing a claimed task makes it available to other assignees. A task assigned to a group or multiple users can then be claimed by the other assignees.</td>
</tr>
<tr>
<td>Suspend</td>
<td>The expiration date remains suspended until the task is resumed. After suspension, options to update a task are disabled.</td>
</tr>
</tbody>
</table>

**Note:** The Suspend and Resume tasks are only available for users with the BPMWorkflowSuspend role.

**FAQs for Access and Search**
What's the difference between searching and browsing?

In query based searching, you enter strings that are used for the search. The query search relies on the metadata stored for the objects that are searched. In the query based search, if you were searching a tree object, such as catalog, item class or structure, the query based search will only search the top object metadata unless you navigate to the object page where a query based search of the structure is provided.

In browse based searching, you are visually searching for the object. You have the ability to drill down through the structure of the object. For objects that are structured, the browse based search is much easier to use than the query base search since you just click to open each layer in the structure.

What's the maximum number of rows that can be exported from the Manage Items search results page?

You can export a maximum of 500 rows from the Manage Items page by using the Export to Excel action. Therefore, perform your search in a way that the results are limited to 500 rows. If you want to export more than 500 rows, we recommend using the OTBI reports.
11 Manage Product Mass Updates

Item Mass Changes

You can update information for more than one item simultaneously by searching for and selecting items and then accessing the **Manage Item Mass Changes** submenu within the Action menu on the Manage Items search results table. Through the Manage Item Mass Changes submenu you can:

- Assign items to organizations.
- Assign items to supplier site organizations.
- Assign, reassign, or unassign items to catalog categories.
- Update item attributes.
- Change the item class of selected items.
- Edit items in a spreadsheet.

You must include the fields that will be changed in the search prior to selecting the items that will be changed. For example, to change item category assignments you must include catalogs and categories as columns in the search results table and as fields in the search.

Assign Items to Organizations

Items are engineered, manufactured and distributed by physical facilities called organizations. Organizations can also be sales centers such as stores. To enable an organization to perform any of these functions on an item, you must first assign the item to that organization.

If the items selected have associated **packs** or **structures**, you can also specify these options:

- **Assign packs**: Packs available for the master organization items will be available in the selected child organizations.
- **Assign item structures**: Select one or more structures then specify to either copy or common the structures.

Commit options let you apply these assignments directly to the database or export the data to a spreadsheet for further review or modification.

Assign or Reassign Items to Catalog Categories

You can select one or more **catalogs** and one or more **categories** within each catalog to assign to the selected items, Rules established at the catalog level determine whether you can assign single or multiple catalog categories to the item. If a catalog has multiple assignments enabled, then the same item can be assigned to more than one category associated to the catalog.

For reassigning catalog categories, the catalog category assignments for the selected items will be removed and assignments will be made to the newly selected catalog categories.
Unassign Catalog Categories

The catalog category assignments for the selected items will be removed.

After you save your changes, they're applied immediately to the database. No commit options are available. The application will launch a dialog asking if you want to make the change, since no commit options are available for this mass change action.

Assign Items to Supplier Site Organizations

Item supplier site organizations associate an item to a supplier site and an organization. It indicates that for a given organization, the item is being supplied from the specific supplier site. This mass flow creates all combinations of the organizations and supplier sites selected. For example, if you select three organizations (org1, org2, and org3) and three supplier sites (Sup1, Sup2, and Sup3), all combinations of these selections will be used: org1Sup1, org2Sup1, org3Sup1, org1Sup2, org2Sup2, org3Sup2, org1Sup3, org2Sup3, and org3Sup3.

If the items selected have associated packs (pack items defined in the pack hierarchy of an item), then you can associate those packs to the supplier site organizations.

First the user selects the suppliers, then the organizations. Next, they select if the items selected are pack items and create the item supplier organization associations for pack hierarchy.

Commit options let you apply these assignments directly to the database or export the data to a spreadsheet for further review or modification.

Change Item Class

To change the item class for several items, search for and select items. In the Change Item Class dialog, select the new item class to be applied to the selected items, and the import format to be used when you import the modified items back to the product hub. Click Download to generate a spreadsheet, which contains the existing item class attributes and values, but mapped to the new item class. Edit the attribute values in the spreadsheet, as needed. Then import the spreadsheet using an item batch.

Update Item Attributes

Search for and select items that need attribute changes and edit them in a dialog box or export them to a spreadsheet for editing. If you export for editing, you can then apply the modifications by selecting Upload from within the spreadsheet.

To edit in a dialog box, go to the Manage Items page and search for an item. When your item appears, select the appropriate rows. From the Actions menu, select Edit Item Attributes in a Spreadsheet.

You can edit one or more attributes of the selected items in a secondary window. This method is useful when you need to set an item attribute to the same value across many items. For example, updating the Orderable attribute to Yes for 100 items.

Using this flow, you can modify both item and item supplier site organization attributes.

Tip: Only the attributes included in the search results table gets exported to the spreadsheet. Use the options available on the View menu to add or remove item attributes in the search results table.
When you click **Upload**, you must specify batch options including scheduling information. Also specify change order details in those cases where business rules require approval for any of the changes made.

### Edit Items in a Spreadsheet

Editing items in a spreadsheet lets you work offline on the item updates and upload them back to the application. You can review and make further changes to the items through the downloaded spreadsheet and then apply the changes to the database by selecting Upload from within the spreadsheet.

When you click Upload, you must specify batch options, including scheduling information. Also, specify change order details in those cases where business rules require approval for any of the changes made.

> **Note:** In order to use this feature you must have Microsoft Excel 2007 or later Standard Edition license.

### Commit Options for Item Mass Changes

Commit options let you specify whether to apply changes directly to the database or export the data to a spreadsheet for further review or modification. Data that is applied to the database is always validated prior to saving it to the database. After you select the items and specify the changes, then you select the commit operations. If you make changes to a spreadsheet, then the data is uploaded to an item batch, validated and saved to the database through a scheduled process.

Commit options are available for the following item mass change activities:

- Assign items to *organizations*
- Assign items to supplier site organizations
- Assign items to *catalog categories*
- Reassign items to catalog categories

### Apply Changes to Database

Changes will be applied to the database after running the validations to ensure the integrity of the changes.

Specify item batch options including, scheduling and change order details in those cases where business rules require approval for any of the changes made.

> **Note:** If you schedule the item batch to be processed at a later time, then it will be available as an internal item batch through **Manage Item Batches** user interface.

### Manage in Spreadsheet

You can review and make further changes to the items through the downloaded spreadsheet and then apply the changes to the database by selecting **Upload** from within the spreadsheet.

When you click **Upload**, you must specify batch options including scheduling information. Also specify change order details in those cases where business rules require approval for any of the changes made.

> **Note:** In order to use this feature you must have Microsoft Excel 2007 or later Standard Edition license.
FAQs for Mass Updates

How can I update item attributes using a spreadsheet?

Select **Edit Item Attributes in Spreadsheet** from the Manage Item Mass Changes submenu within the Action menu in the Manage Items search results table. Edit the **attributes** in the spreadsheet and then apply the changes to the database using the **Upload** button in the spreadsheet. Note that the appropriate item attributes must be included in the search results table in order to export them to a spreadsheet for modification.

**Related Topics**
- Item Specifications and Attributes

Can I update the unique key attributes in multirow-extensible-flexfield groups?

No, you can’t update the unique key attributes in multirow-extensible-flexfield groups. Therefore, when you provide a new value for an existing unique key attribute, the extensible flexfield group considers the updated value as a new row.

What’s the difference between using common item structures and copy item structures?

If you need to create an item **structure** that’s very similar to an existing structure, then it’s easier to copy the item structure and make the necessary modifications rather than create a new one.

If you need to create an item structure that’s identical to an existing structure so that it doesn’t require any component changes, then common the item structure to reduce maintenance and the risk of errors.

**Related Topics**
- Item Structures

How can I update item supplier site organization attributes using a spreadsheet?

Select **Edit Item Attributes in Spreadsheet** from the Manage Item Mass Changes submenu within the Action menu in the Manage Items search results table. Edit the **attributes** for supplier site **organization** in the spreadsheet and then apply the changes to the database. Note that the appropriate supplier site organization attributes must be included in the search results table in order to export them to spreadsheet for modification.
12 Manage New Product Definition and Approval

Create New Item Requests

New item requests (NIRs) are created to define item information and its entities, including specifications, structures and packs, and relationships. In addition to being defined, the new item requests are also routed for approval.

Before you create a new item request, be sure to enable the item class for the new item request. Use the Manage Item Classes task to modify the item class.

Use any of the following to create the new item request.

- **Quick Submit:** To quickly create the new item request by making use of prefilled item data. Here, you can't add the new item to an existing new item request.
- **Submit:** To submit the item to an existing new item request or create a new one.
- The item import process.
- Additionally, a new item request is automatically created when the item lifecycle phase changes to preproduction or production through a change order. This is only applicable for items created in the Product Development work area and when the number generation method is Sequence-Generated.

Here's how you use Quick Submit:

1. In Item Management, click **Create Item**.
2. In the Create Item dialog:
   - Select **Create New**.
   - Be sure to select an item class that's enabled for new item request.
   - Enter the item details and **OK**.
3. In the Create Item page, enter additional item details.
4. Click **Quick Submit**.
5. The new item request is created in the Open status.
6. Enter any additional information. Click **Save**.

Here's how you use Submit:

1. In Item Management, click **Create Item**.
2. In the Create Item dialog:
   - Select **Create New**.
   - Be sure to select an item class that's enabled for new item request.
   - Enter the item details and **OK**.
3. In the Create Item page, enter additional item details.
4. Select Create New Item Request and click **Next**.
5. Enter the details of the new item request. Click **Save and Edit**.
The new item request is created in the Draft status.

6. Enter any additional information. Click Submit.

Here is a description of fields appearing on the Create New Item Request page:

Additional Information
You can add Descriptive flexfields as additional attributes for the new item request.

Need-by-Date
The date by which the NIR must be approved. This helps to track NIRs which fail to meet the deadline.

Add Attachments
You can add attachments when you create a new item request. You can also edit attachment details and remove attachments from an open new item request.

Attachments include the following file types:
- Files and folders from your desktop or a configured repository.
- Text files generated during the attachment process.
- URL links.

Note: New item requests support multiple items across different item classes. Each item can be routed to different assignees for definition, because the definition steps are defined at the item class level.

After you submit new item request, a request comment notification is normally sent to seeded assignees, but if Skip Request Comment is checked, request comment notifications aren't sent.

Manage New Item Requests

New Item Request Definition Phase
During the definition phase, definition notifications are routed to participants for them to complete the item's definition tasks. You can add a role (that includes list of users) as an assignee for the NIR. When the role expanded into a comma separated list, the number of characters in the list should not exceed 2000.

Define an Item
From the Manage New Item Requests page, search for the new item request.

Launch the new item request from the Search Results table by clicking on a new item request link. That will take you to the New Item Request page.

Click on the Details sub tab and select the definition row. In the definition Workflow Details table, select Expand All from the Actions menu.
Click the Go to Task icon for the entity that needs definition. The item page appears where you enter the item information. The item definition page is rendered dynamically for each participant, where you can enter only the attributes or item entities for which you are responsible.

**Note:** You can also navigate and drill into an item detail page directly from a new item request definition notification. A read-only item page will open a separate browser window.

You can identify various item details as mandatory at each step. This will ensure that item information required for a downstream step is defined and available for use.

Any item definition that is available to be set up for definition through new item request, can be identified as mandatory while completing the definition steps at the item class, including:

- Operational
- Extensible flexfield attributes
- Structures
- Packs
- Supplier associations
- Organization assignments
- Attachments
- Catalog category assignments
- Relationships

### New Item Request Notifications

Several types of notifications are sent during a request for new items. When a new item request is submitted, notifications are sent out to Assignees, Approvers, and Requester. Consolidated notifications are also sent out to assignees of each task.

The following table lists notifications.

<table>
<thead>
<tr>
<th>Notification Type</th>
<th>Draft</th>
<th>Open</th>
<th>Definition</th>
<th>Approval</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Comment</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Approval</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Definition</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Request to Comment from Action Log</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>FYI New Item Request Creation and Assignment</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Notification Type

<table>
<thead>
<tr>
<th>Draft</th>
<th>Open</th>
<th>Definition</th>
<th>Approval</th>
<th>Completed</th>
</tr>
</thead>
</table>

**Note:** The table of notifications provided here is a summary. For a more detailed table of notifications, see the Change Order and New Item Request White Paper for Workflow Management, Document ID 1960108.1 on My Oracle Support.

FYI notifications are sent to the Creator, Assignee, Requester, and Approver of new item request lines and headers when it moves to Scheduled or Completed status.

When the new item request is approved or rejected, a notification is sent to the Creator, Requester, and Assignee.

An approval routing workflow can be stopped at any point, without completing, using the Terminate Workflow command. Any related notifications are removed from assignees' work lists. Terminating a workflow might be necessary if, for example, something unanticipated will prevent the workflow from being completed as desired.

A predefined request comment notification is associated with the Open status. The new item request cannot move to the next status until this notification has a response. The notification is then sent automatically to the assignee and the requester. This automatic notification can be bypassed by selecting **Skip Request Comment** for the Open status when defining the workflow setup for the new item request type. If the notification is bypassed and the request has been configured to automatically promote, then the new item request automatically moves to the next status. Otherwise, you need to manually move the new item request to the next status.

**Note:** When **Skip Request Comment** is enabled for open status, request comment notifications will not be sent when a new item request is submitted to open status.

You can also navigate and drill into a item detail page directly from a new item request definition and approval notification. The item page will open a separate read only browser window. The detail will depend on the user's privileges.

** Rejecting a Change Line**

When a line is rejected by an approver, the reject line in the approval notifications to the other approvers are displayed as read-only.

**Claiming Tasks on Notifications**

For the **Claim** action to be enabled, the **Response Required From** field must be set to One. Then, when an approver selects the **Claim** action on a notification, the notification is locked against changes by other approvers, unless the first approver unlocks it by selecting the **Unclaim** action. The **Claim** action is only available if **Auto Claim** has not been enabled, in the Manage Task Configuration setup task. **Auto Claim** is enabled by default.

**New Item Request Approval Phase**

During the approval phase of a new item request, approval notifications are routed to the participants.

You can set up the new item request type so that a request only needs to be approved by a single member of a user group. In the Setup and Maintenance work area, use the following:

- **Offering:** Product Management
- **Functional Area:** New Item Requests
Task: Manage New Item Request Type Details

Select the Approval step on the Workflow tab. Then for an approval activity in the step’s status details, set **Response Required From** to One. When one member of a group approves the request, the notifications to other approvers in the group are withdrawn.

You can also add a role (that includes a list of users) as an approver. When the role expanded into a comma separated list, the number of characters in the list should not exceed 2000.

Approval notifications can be addressed to individual users or to multiple users in a predefined user group. From the notification, users can approve or reject the new item request.

For each new item request header, you can select an assignment method in the Approval status details for the Header approval, as either rules-based or user-defined. If you choose user-defined assignment, you then select an approver by using the **Assigned To** control.

You can also assign approvers as optional approvers. A single optional approver can reject a change order, but approvals from optional approvers are ignored. To assign an optional approver, select an approver by using the **Assigned To** control on the **Optional approval** row of the Approval status details.

When an approval is granted, the new item request cannot be modified. After the new item request is approved, the status is changed to Scheduled, through a scheduled process, and when its effective date is reached, its status is changed to Completed, also through a scheduled process.

New item approval rules are defined and managed through the Approval Management Engine. For information on how approval rules are defined and managed, see the Oracle Cloud Developing SOA Applications with Oracle SOA Suite guide.

**Note:** The assignment method needs to be rule-based in order for approval rules to be utilized.

**Related Topics**
- **Change Order Approval Process**

**New Item Request Workflow Statuses**

The predefined **New Item Request (NIR)** workflow statuses enable you to perform various tasks when a new item request is created. You cannot create new statuses or delete statuses.

The statuses are:
- Open
- Definition
- Approval
- Scheduled
- Completed

**Open**

New item request attributes and items are defined and updated when the workflow status is open. A seeded request comment notification is associated with this status and the new item request cannot move to the next status until this notification has been responded to. The notification will be sent to the assignee and the requester of the new item request. However, to bypass the notification, an administrator can select to skip this notification on the new item request.
request type. Assignees would then need to promote the new item request to the next status manually or on the new item request type.

**Definition**

In the definition workflow status, you define the item information, such as specifications, structures, packs and so on. Additional items cannot be added in this workflow status. The definition workflow steps are defined at the item class level. Based on the definition steps, a notification is sent to those responsible for defining the item. Once the item is defined, you then promote the new item request to approval status manually or to be automatically approved in the BPEL process.

**Approval**

When approval is granted, the new item request cannot be modified. Approval notifications are sent to the approvers based on the rules set up in Approval Management Extensions (AMX), if the assignment method is rule-based, or to a pre-defined set of approvers, if the assignment method is user-defined. After all the required approval is received and the status is Scheduled, a job is triggered and the status is automatically changed to Completed.

**Scheduled Status**

After approval, the NIR is automatically promoted to a Scheduled status. Automatic promotion and demotion is set up on new item request type, otherwise the promotion is manual.

**Completed**

After all the required approvals are received and the status is Scheduled, a job is triggered and the status is automatically changed to Completed. It cannot be modified.

**Unassigned New Item Requests**

If no approvers are assigned to a user-defined workflow of a new item request, at runtime, the status of the new item request changes to Approval, but notifications are not sent out to anyone. As a result, the workflow is 'stuck' in the Approval status.

Cancel the new item lines or the entire new item request, to resolve the 'stuck' new item request. You can cancel the new item request in any status except in the Completed state. Once you cancel an item line, it no longer appears in the new item request notifications.

You can delete the new item request after:
- moving new item lines to another new item request.
- canceling all the new item lines.

**Note:** You can demote a new item request in the Definition, Scheduled, Scheduled (Failed) and Approval (Rejected) statuses and not when they are in the Completed or Canceled status. A new item request in the Definition or Approval status is automatically terminated and updated in the Action log.

**Related Topics**
- Create NIR Items and Structures
Automatic Promotion and Automatic Demotion

You can explicitly promote or demote a new item request to different statuses. New Item Requests may also be promoted or demoted automatically after the completion of the workflow in a specific status.

The following table lists Automatic promotion and automatic demotion statuses.

<table>
<thead>
<tr>
<th>Automatic Promotion and Automatic Demotion</th>
<th>Open</th>
<th>Definition</th>
<th>Approval</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>User configuration required during set up for automatic promotion</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Default automatic promotion</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Status in which new item request can be enabled for automatic demotion</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

FAQs for New Item Requests

How can I promote a new item request?

To promote a new item request, first review your notifications. On the notification, go to the Manage New Item Requests tab and select the row containing your new item request. From the Actions menu, select Promote. In the Promote dialog box, you can select from the available phases to promote the new item request. You must enter a comment when promoting a new item request to the next phase.

Can new item requests be automatically promoted and demoted?

Yes. The seeded New Item Request Type provides promotion and demotion configuration. This enables you to set up automatic promotion and demotion rules at the new item request type level.
What are the workflow phases of a new item request?

The New Item Request will go through the following workflow phases:

- **Open**: The new item request is created and items are added.
- **Definition**: Participants define item attributes and item entities, such as structures, packs, and organizations.
- **Approval**: Participants approve or reject the items.
- **Scheduled**: After approval, the request is promoted to a Scheduled status.
- **Completed**: When the effective date of its associated item is reached, the NIR is promoted to a Completed status.

How can I associate items with a new item request?

Items are associated with new item request in one of the following ways:

- From a new item request: Search for and select items in the Items table.
- From an item: Add the item to an existing new item request or create a new request.
- From an item import: Add the imported items to an existing new item request or create a new request.

What's an action log?

The action log provides an audit trail of all actions performed on the new item request. The first entry indicates when the new item request was created and by whom. Subsequent actions will be listed to show the progress of the new item request. For example, submitted and promoted to definition.

From the **Action Log**, you can initiate a discussion by posting and assigning a new comment, respond to requested comments or reply to specific comments, thereby creating a threaded discussion within the context of the new item request.

How can I post a comment in new item request?

You post comments in the **Comments** section available on the contextual pane within the new item request. This section is available on all **New Item Request** pages.

You can also post comments from the **Action Log** by selecting the **Post Comment** link.

How can I request a comment in a new item request?

You request a comment in the **Action Log** by clicking the **Request Comment** button. A Request Comment dialog box will appear for you to assign and enter your request.
How can I move lines (items) from a new item request?

On the Manage New Item Request page, expand the search results and select lines from one or more new item requests within the same organization and then select Move New Item Lines. You can move the selected lines to a new New Item Request or add them to an existing New Item Request.

How can I cancel a new item request?

On the Manage New Item Request page, select a new item request and then select Cancel. The new item request status is set to canceled and any changes defined for items in the new item request are discarded. You cannot cancel a new item request in an Approval, Scheduled, or Completed status.

How can I define new item request definition steps?

In the Definition workflow status, you define the item information for the requested new item, such as specifications, structures, packs, and so on. Additional items cannot be added to the new item request when it is in Definition workflow status. The steps in the definition workflow are defined on the Item Management tab of the item class for a requested new item. You must select the Enable New Item Request check box to use new item requests.

Related Topics
- How can I create an item class

How can I delete a new item request?

On the Manage New Item Request page, select the new item request to be deleted and then select the Delete action. The new item request will be added to the delete group. Once a new item request has been added to the delete group, the request will be unavailable and you cannot reverse the delete.

How can I demote a new item request?

While reviewing your notifications, go to the Manage New Item Requests tab and select the row containing your new item request. From the Actions menu, select Demote. In the Demote dialog box, you can select from the available phases to demote the new item request. You also must enter a comment when demoting to another phase.

When can items be added to a new item request?

Items can only be added when the New Item Request is in a draft status and an open phase.
How do I know which definitions are mandatory when defining an item or viewing notifications?

To view the mandatory definitions:
When defining an item, use the View Required Definitions link.
From notification and New Item Request Details page, click Details.

Can I mark certain attributes or business entities as mandatory for the user in a new item request?

Yes. When setting up the definition steps for New Item Requests at the Item Class, you can mark various item details as mandatory, at each step. This ensures that item information required for a downstream step is defined and available for use.

How can I set the sequence of attribute groups appearing in the NIR definition notification?

Using the Manage Item Classes task, navigate to the Definition Workflow Details in Item Management. You can set the sequence only for user defined attribute groups.

In a new item request, what's the difference between submit and quick submit?

In Quick Submit the following fields are filled automatically: new item request name, number and description. While in Submit, you enter the new item request name, number, and additional details across multiple windows.
You can only append a single item when using Quick Submit. But you can append more than one item when using Submit.
The table shows which fields are automatically filled based on the number generation method.

<table>
<thead>
<tr>
<th>Rule or Sequence Generated Numbers</th>
<th>Used-Defined Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NIR Number is automatically generated</td>
<td></td>
</tr>
<tr>
<td>• NIR Name is same as Item Number</td>
<td></td>
</tr>
<tr>
<td>• NIR Description is similar to Item Description</td>
<td>• NIR Number and Name are same as Item Number</td>
</tr>
<tr>
<td></td>
<td>• NIR Description is similar to Item Description</td>
</tr>
</tbody>
</table>
13 Manage Supplier Collaboration

Manage Item Supplier Associations

Managing item supplier associations involves creating associations between items and supplier addresses for an item organization, updating these associations, and deleting the associations.

You create item supplier associations while creating or editing an item for an organization.

Assign Supplier Associations to Organizations

On the Manage Items page, search for and edit an item belonging to a specific organization. From the Edit Item page, select the Associations tab and then the Supplier Organizations subtab. On the Supplier Organization Associations table, select Select and Add from the Actions menu, or click the Select and Add icon. Use the resulting Select and Add Supplier Organization Associations dialog to search for, select, and add suppliers.

Once the selected suppliers are added, save the associations, by saving the item.

Temporarily Suspend Supplier Associations

Supplier associations are active, by default, but you can temporarily suspend associations using the Supplier Organization Associations table. You can set a single association to being inactive by selecting the value Inactive in its Status column. You can revert it to active status at any point by selecting the value Active. You can change the status of multiple associations simultaneously by selecting multiple rows of the Supplier Organization Associations table, selecting their status from the Edit Status list of values and clicking the Change button.

Specify a Primary Supplier for an Item Organization

You can designate a primary supplier for the item. There can be only one primary supplier for one item organization association.

To designate a primary supplier, select the Primary check box for the supplier in the Supplier Organization Associations table. Then save your update.

Delete Item Supplier Associations

To remove a supplier association from an item, select the supplier from the Supplier Organization Associations table, then select Delete from the Actions menu, or click the Delete icon. In the Delete Item Supplier Association dialog box, add the association to an existing delete group, or create a new delete group. Select the Manage Delete Groups task to process the delete group. The associations will be deleted completely when the delete group has been processed.

Related Topics
- Group Deletions of Items, Structures, New Item Requests, and Change Orders
How to Manage Supplier Access

To provide supplier access to an item, navigate to the Manage Items page, select an item and open the Edit Item page. Then select the Item People tab, where you can add, delete, and modify the groups and persons that can act upon the item, and the actions available to each group or person.

Item grants to supplier users can be managed at the item level. This gives you granular control in providing supplier users with access to one or more items, on an ad-hoc basis.

Grants to supplier users can also be maintained at the item class level (as instance set level grants), if supplier users need access to all items within an item class.

**Note:** Since the security actions defined for an item class are inherited by the items in the item class, those actions cannot be modified at the item level. Security actions defined for an item class are defined in the Setup and Maintenance work area, using the Manage Item Classes task, where you select item class people and actions on the Security tab for an item class.

**Related Topics**
- Data Security
- Data Security Privileges for Accessing Items
- Data Security Privileges for Viewing Items
- Data Security Privileges for Creating Items
- Data Security Privileges for Updating Items

FAQs for Manage Supplier Collaboration

What's the difference between item supplier associations and the approved supplier list?

Item supplier associations indicate the supplier and address from which the Item is supplied and the item organization to which it is supplied.

The approved supplier list is where you set up your approved suppliers, sites, and items. The approved supplier list is managed in the Purchasing work area.
14 Manage Release of Product to Market

Item Statuses

In the Item Status table, select a status code to display the associated attribute groups and attributes as well as control information.

Item statuses are used to define the state an item is in and based on the state, the default values for item operational attributes.

Item statuses are seeded; the values are Active and Inactive. You can create, edit or delete item statuses on the Manage Item Statuses page.

Operational attribute groups and attributes corresponding to the selected item status are displayed in the Details section.

Whenever the status is applied to the item, the value of the attribute may change. Select the usage that corresponds to how the attribute value will change based on the item status value:

- Defaulted - Lets you override the value during the import and update of an item.
- Inherited - Sets the values of the item status attributes when the status value changes. You can't override the value.
- None - The item status attribute values won't be changed.

Any change made to an item status isn't applied automatically to existing items. The change will be applied when the item status value is changed while editing an item.

Status attributes for each item status control the actions that you can perform on the item. Some of the status attributes are: Build In WIP, Customer Orders Enabled and Internal Orders Enabled.

The Controlled at field isn't editable and is populated from the value set on the Manage Attribute Groups page.

FAQs for Release Product to Market

How can I change an item's status?

You can change an item's status by selecting the appropriate item status on the Edit Item page. Based on the status setup, either the status attributes are inherited or defaulted.

You can also change the status through a rule. For example, you could create a rule that if the attribute's lifecycle phase is production, the item status can be changed to active.
How can I make changes to item organizational assignments?

Organization assignments allow items created in a master organization to be used in other organizations, enabling you to control the visibility of an item in organizations. For example, certain items may not be assembled, sold or purchased in a specific organization. You control the visibility of an item by assigning it to a specific organization.

Similarly you can control specific attributes at organization levels. For example, an item can be sold in a specific organization (region) but not permitted to be sold in other regions. You do this by controlling this attribute at the organization level.

Can I make changes to item organization assignment and route it for approval through a change order?

Yes. You can enable an item in a child organization through a change order. By providing an effective date for the assignment, you can ensure that the item is available for transaction in the child organization from the specified date only. Note that this is only supported in commercialization change orders.

If approval routings are enabled for the change order, you can seek approvals on the item organization assignment before enabling the item in a child organization.
15 Manage Product Change Orders

Overview of Change Orders

Change orders let you process changes to user-defined item attributes, structures, packs, associations, and item revisions.

Product data stewards and product managers can manage product change orders. They can create change orders within predefined change order types, author product changes, view product changes, submit changes for review and approval, track change statuses, and implement changes on a scheduled date.

Changes are submitted through a formal review and approval workflow to ensure successful and validated completion of change orders.

Note: The Product Development work area doesn't support approval of change orders at the line level.

Changes to item structures can be implemented in other organizations by propagating change orders to multiple organizations using predefined propagation rules while still having the flexibility to adapt implementation schedules based on individual organizations.

Individual lines in change orders can be moved to existing or new change orders to avoid bottlenecks in processing and implementation.

Note: If you're a Product Hub user, change orders can be accessed through horizontal tabs or side tabs. If the navigation provided in a help topic doesn't match with navigation in the user interface, the administrator might have enabled the Simplified Change Management Interface. If you want to use a different interface, contact the administrator.

What Change Orders Modify

Create change orders within predefined change order types to modify item information and route that information for review and approval.

Change orders modify the following:

- Item specifications: Modify operational and user-defined item attributes.
- Item structures: Add, update, and delete structures.
  
  Note: Components can be disabled only through change orders
- Packs: Add, update, and delete packs and pack attributes.
- Associations: Add item supplier site organization associations, remove existing associations, and modify existing item supplier attributes.
- Revisions: Create new revisions for an item while modifying item information
Changes to item structures can be propagated to other organizations through rules associated with the change order type.

Where Change Orders Are Created

Access the Create Change Order process in one of three ways:

- Select the **Manage Change Orders** link on the Tasks panel tab.
- Click the **Create** icon on the Manage Change Orders page.
- Select **Create** from the **Actions** menu on the Manage Change Orders page.

The change order changes items specific to the organization that you select. However, if propagation rules are associated with the selected change order type, then you can push changes made to the item structures into other organizations in which the changed item is enabled.

Change order type determines how change order numbers are generated, how changes will be propagated to other organizations, and what steps in the workflow are required to complete the change order.

Change order header details include priority, reason, propagation rule, and user-configured attributes.

On the Overview tab, specify the following information:

- Tasks required to complete the change order
- Attachments providing additional information
- Propagation information

On the Lines tab, add and access individual items to modify attributes, structures, packs, and associations.

**Note:** Only item details that can be modified through the change order will appear. For example, because catalog assignments are not supported through change orders, those tabs will not appear on the item details page. Also links on the Specification tabs for attributes that cannot be changed through the change order will not appear.

When you submit the change order for approval, you can track approval or rejections for each line in the change order.

**Related Topics**

- **Change Order Types**

Create and Track Tasks

Create a checklist of tasks related to the change order (or change request) and assign work to individuals. You can make it mandatory for a user to complete certain tasks before the change order (or change request) can progress to a specified status.

**Task Examples:**

- Review and update cost attributes of affected objects.
- Define regulatory attributes.
• Publish information to Marketing and Sales.

The Tasks table includes the following fields that let you specify task details:

• **Sequence**: Determines the order in which the tasks are performed. By default, this increments by 10.

• **Required**: Indicates that the task is mandatory for the change order to progress. If a task is mandatory, then a Complete-Before Status must be specified.

• **Assigned To**: Specifies the person to whom the task is assigned.

• **Start-by and Complete-Before Status**: The status at which the tasks should be initiated and the status before which the task should be completed.

• **Need-by-Date**: Indicates the date on which the tasks should be completed.

### Create Change Order Tasks

To create a change order task, add lines to the Tasks table when you define or edit a change order. To mark a task complete, or to cancel a task, change the status in the Task Status column. You can modify an existing change order task if its task status is **Open**.

**Related Topics**

• Change Order Statuses

### Change Order Attachments

A change order attachment is unstructured information related to a change order. Examples of change order attachments include CAD drawings, test results, specification sheets, or URLs.

Attachments can be any type of file including:

- Files and folders from your desktop or a configured repository.
- Text files generated during the attachment process.

You can also specify URL links as attachments.

### Managing Change Order Attachments

You can add attachments when you create a change order. You can also edit attachment details and remove attachments from an open change order.

### Change Order Propagation

Propagation rules allow you to implement item structure changes in multiple organizations by propagating change orders to organizations (eliminating the need to create change orders in each selected organization) while still having the flexibility to adapt implementation schedules based on individual organizations. Organization hierarchies can also be used to propagate changes to multiple organizations.

How changes are propagated to other organizations is determined by propagation rules. Available propagation rules are determined by the organization and change order type selected for the change order.
If propagation rules have been configured in the change order type, the propagation organization appears in the change order header, the default list of organizations, or organization hierarchy identified by the change order type. You can select other organizations or organization hierarchies that have been identified in the change order type. The list of organizations associated with the selected propagation organization or hierarchy appear in the **Propagation Organizations** region.

You can enable specific organizations identified in the change order type for propagation or you can enable all of them.

**Note:** Propagation is only applicable for commercialization change orders and you can only propagate structure changes.

### Enable Items for Propagation

You must ensure that the items specified in the change order are assigned to the propagation organization in order for the changes to take effect.

The **Items** columns show the total number of items included in this change order and how many of those items are enabled for propagation for a particular organization.

**Note:** You can enable items and organizations for propagation through the Edit Change Orders page only. Edit a saved change order through the Manage Change Orders page by selecting a change order in the search results table and selecting **Edit**. You can propagate the change order in view mode. Access a saved change order through the Manage Change Orders page by clicking the change order name in the search results table.

To enable items for propagation, click the **Propagation Detail** icon in that organization's row in the Items table on the Propagation Details page, select the appropriate items, and click **Assign to Organization** to enable those items for propagation.

### Exclude Item Structure Components from Propagation

As part of the localization of item structures, individual organizations might use a component in an item structure from a master or source organization from which the change order originates. If a component doesn't exist, then the changes authored for that component can't be propagated, and the item propagation will result in error. To avoid such propagation errors, the component can be excluded from the change order before it gets propagated.

To exclude item structure components from propagation, click the **Propagation Detail** icon in an organization's row. Select an item in the Items table on the Propagation Details page to display the structures associated with that item and the components of these structures. Select **Exclude** next to those components that you don't want to propagate.

### How to Propagate Changes to Other Organizations

The propagation rules associated with the change order type may allow a change order to automatically propagate changes to other organizations or organization hierarchies after the completion of the workflow in a specific status.

However, to explicitly propagate a change order:

- Highlight a change order on the search results table on the Manage Change Orders page, and select **Propagate** to propagate the change order to all the selected organizations in that change order.

**Note:** To view the scheduled process output log file, click the **Propagation Details** icon in the Propagation Organization table to open the Propagation Details dialog box. Then click the scheduled processes icon.

**Related Topics**

- **Change Order Types**
Change Order Propagation Rules

Change order propagation rules determine how changes are propagated from one organization to one or more different organizations.

This lets you implement changes in multiple organizations by propagating change orders to organizations (eliminating the need create change orders in each selected organization) while still having the flexibility to adapt implementation schedules based on individual organizations. Organization hierarchies can also be used to propagate changes to multiple organizations.

Associate Propagation Rules to Change Order Types

Propagation rules are associated with the change order type that you select for the new change order. You define propagation rules when you create a change order type or edit an existing one on the Propagation Rules tab.

Specify the organizations from which a change order might be propagated. For each specified source organization, select one or more target organizations or organization hierarchies where the change order can be propagated.

Each change order type can be configured to support propagation from different organizations and propagation to different organizations or organization hierarchies.

Use Change Order Status to Control Propagation

Change order statuses are used to determine when a change order gets propagated to different organizations.

For each organization or organization hierarchy that you add to the propagation rule:

- Select a change order status for propagation.
- Choose auto-propagate and the propagation rule will execute automatically when the change order enters the specified status.
- Select the status of the propagated change in the organizations selected for propagation. This is the status the propagated change is set to in the selected organizations.
- Set one of the specified organizations or organization hierarchies as default for the propagating organization.

Related Topics

- Change Order Types
- Change Order Statuses

Simplified Change Management Interface

The Simplified Change Management Interface enables Product Hub users to access change orders through side tabs instead of horizontal tabs. The simplified interface is similar to the change order interface in Product Development.
From the Simplified Change Management Interface, users can:

- Create a Commercialization Change Order from master and child organizations. Note that users can only view the other change order types.
- Redline an affected object and view the redline summary.
- Promote or demote the change order through the workflow and initiate notifications for approval.
- Add affected objects belonging to the organization from which change order is created.
- Add affected objects created in Product Development or Product Hub. If the item is created in Product Development, you can only add items in the following lifecycle phases: prototype or preproduction, and production.
- Edit component attribute groups in the item structure of a commercialization change order.
- Modify the effective date in a scheduled change order. The modified date must be within the start and end date of the updated component in the item structure.
- Terminate and restart the workflow for commercialization change orders.
- Cancel change lines except when the change order is complete.

Considerations for Using Simplified Change Management Interface

In the Simplified Change Management Interface:

- Users can't initiate a discussion about changes by posting and assigning comments.
- Users can't view revision specific changes in EFFs, and EFFs from supplier users.

Difference Between Affected Object and Change Line

Simplified Change Management Interface and the Product Development work area use "affected object" to indicate an object affected by the change order, whereas Product Hub uses "change line".

Edit Items from Change Orders

You can add items and author item changes when you create or edit a change order. You can create new or change existing item organization assignments. Click on the item links on the Lines tab to access the Edit Item page where you can manage item details.

Note: The effective date for the item needs to be specified and saved before the Edit Item page can be accessed.

On the Edit Item page, you can edit the following item details:

- Specifications: On the Specifications tab, you can modify predefined and user-configured attributes.
- Structures and Packs: On the Structures tab, you can add new structures, copy structures, and modify structures by adding new components, removing existing components and modifying component attributes. You can also modify packs by adding new packs and modifying pack attributes.

Note: You cannot modify referenced (common) structures through a change order.
• Associations: Access the Edit Change Order page to modify change order settings and content:
  o You can assign an item to a child organization through a change order. Such assignments always happen only in the master organization change order context.
  o From a master organization, assign an item to a child organization, add the change to a change order, and route it for approval. This item can then be enabled in the child organization on a specified date.
  o From a master organization you can also create a change order, add a revised item, and make the item organization assignment in a change order context.
  o By selecting the appropriate batch-level change order options, you can also make item organization assignments through batches and add them to a change order. But, if change order required rules are triggered for such assignments, they are carried through a change order even if batch options are not specifically set.
  o You can also use change services to add item organization assignments to a change order.

When managing change orders:
• You can enable an item in a child organization through a change order and have the item available for transaction on a specified date.
• If approval routings are enabled for a change order, you can seek approvals on the item organization assignment before enabling the item in a child organization.
• If **Skip Request Comment** is checked, request comment notifications are not sent to the seeded assignees on submission of change order to Open status.

  **Note:** Skip request comment is per change order type, not across all change order types.

  • You can access item detail through the change order details page by clicking on the item links on the Lines tab to access the item detail page.

## Edit a Change Order

From the Edit Change Order page, you can monitor and modify all aspects of a change order definition.

You can access the Edit Change Order page in the following ways:

• When you create a new change order.
• When you select a change order from the search results on the Manage Change Order page and select **Edit** from the Action menu.
• When you access a change order in view mode by clicking the change order link in the search results on the Manage Change Order page, then select **Edit** from the change order detail page.

From the Edit Change Order page, you can perform the following tasks, depending on the status of the change order:

This table lists the tasks you can perform depending on the status of the change order.

<table>
<thead>
<tr>
<th>If Status is</th>
<th>Tasks you can perform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft, Open</td>
<td>Modify header details such as priority and reason and add or remove attachments.</td>
</tr>
</tbody>
</table>
You can perform tasks (modify, monitor or review) on the change order depending on its status.

**Related Topics**
- Change Order Statuses

### Change Order Workflow

Each change order follows a process based on predefined and user-defined statuses associated with the change order type. The sequence of statuses define the change order's *workflow*.

At each status in the change order's life cycle, specified change order tasks must be completed before a change order is promoted to the next status.

Each change order workflow definition is associated with a change order type. The definition determines the sequence of statuses in the workflow.

- Open, *Scheduled*, and *Completed* predefined statuses are required for every change order type. You can configure the change order type to have additional statuses including user-defined statuses.
- The sequence of final statuses must be an approval status followed by *Scheduled* status and *Scheduled* status followed by *Completed* status.
- Change orders can be set to be automatically promoted for statuses prior to approval. After approval the change order will always be automatically promoted.
- You can cancel change lines before the change order is in the Completed status.

**Related Topics**
- Change Order Statuses

### Change Order Actions

You can propagate changes, move lines between change orders, and manage the life cycle of a change order using the change order actions available on the Actions menu on the Manage Change Orders page.
Actions in the Product Information Management Work Area

Select a change order and perform one of the following actions:

- **Promote** and **Demote**: Manually promote or demote a change order to the next status in the workflow for that change order type.
  
  The workflow associated with the change order type may allow a change order to be automatically promoted or demoted to the next status after the completion of the workflow in a specific status.

- **Hold**: Place a change order on hold. No further action can be taken on the change order.

- **Release Hold**: Release the change order from being on hold, so that further actions can now be taken.

- **Cancel**: Set the change order status to canceled. Any changes defined for items in the change order are discarded.

- **Propagate**: Propagate the selected change order to the selected child organizations.

- **Move Change Lines**: Move the selected change lines to a new change order within the same organization. You can move lines in the following status: Draft, Open, Canceled, or Rejected.

- **Reschedule Change Line**: Modify the effective date in a Scheduled change order. The modified date must be within the start and end date of updated or disabled component in the item structure.
  
  If you reschedule a change line which includes a new item component in item structure with start and end date specified manually, rescheduling affects the start date only; the end date is unaltered.

- **Generate Report**: Produce a detailed report on the selected change order.

Related Topics

- Change Order Types
- Change Order Statuses

How to Use the Action Log on a Change Order

The action log is available on a tab of the Edit Change Order page. The action log displays all actions (and associated comments) executed against or posted to the change order. The action log also contains messages generated by the application.

From the action log, you can initiate a discussion by posting and assigning a new comment, you can respond to requested comments, or you can reply to specific comments, thereby creating a threaded discussion within the context of the change order.

How You Create and Manage Change Orders

From the **Manage Change Orders** page, you can copy or create new change orders, modify, review, or delete existing change orders.

The set of change order management tasks include the following:

- Add new change orders or duplicate existing ones.
• Access the Edit Change Order page to modify change order settings and content.
  ◦ You can assign an item to a child organization through a change order. Such assignments always happen only in the master organization change order context.
  ◦ From a master organization, assign an item to a child organization, add the change to a change order, and route it for approval. This item can then be enabled in the child organization on a specified date.
  ◦ From a master organization you can also create a change order, add a revised item, and make the item organization assignment in a change order context.
  ◦ By selecting the appropriate batch-level change order options, you can also make item organization assignments through batches and add them to a change order. But, if change order required rules are triggered for such assignments, they are carried through a change order even if batch options are not specifically set.
  ◦ You can also use change services to add item organization assignments to a change order.

• Access change order detail for review.
• Delete change orders by adding them to a delete group.
• Manage the life cycle of a change order by using change order actions: Promote, Demote, Hold, Release Hold, and Cancel.
• Manually propagate the change order to other organizations or organization hierarchies based on the propagation rules defined in the change order type.
• Move lines from one change order to a new or existing change order.
• Generate change order detail reports.

View Change Order Details
You can access the change order details page by clicking on the name of a change order in the search results table on the Manage Change Orders page.

On the Change Order Details page, you can perform the following tasks:
• Modify propagation information.
• Monitor the current workflow status of the change order.
• Monitor the current status of change order tasks.
• Review the actions that have been performed on the change order.

Related Topics
• Change Order Statuses

Cancel Change Objects
If a change order is stuck due to an unforeseen reason, review the details in the History and Workflow tabs. Depending on the workflow, you can cancel the change order or change lines (or affected objects).

Here are some things you need to know before you cancel change orders and change lines:
• Manually cancel the change order:
  Use the Cancel Change Order action. Then the application cancels all change lines except the ones that are complete; the change order status is set to Canceled.
Chapter 15
Manage Product Change Orders

Note: To cancel a change order in the interim approval or approval status, you need the reschedule change order privilege.

- Manually cancel the change line:
  Use the Cancel action.

- Auto cancellation of the change line:
  If the application encounters an error when implementing or activating the change line, the change line gets canceled automatically. If this happens you notice:
    - An entry in the History tab indicating which change line is automatically canceled.
    - The change line status is shown as Canceled.

To proceed with the change line, you can move it to another change order.

Move Duplicate Change Lines

Here’s what you need to know before you move change lines (or affected objects):

- You can move duplicate change lines if they have different effective dates.
- If you need to move two or more duplicate change lines from one change order to another, you must select all lines and move them in a single action.
- If a change line is canceled in the target change order, then you can’t move the same item again as a change line to the target change order. You must remove the canceled change line or move it to a different change order before you move the same item to the target change order.

Change Order Notifications

Notifications are sent to assignees throughout the life cycle of the change order.

This table shows the different types of notifications that are available for each status type.

<table>
<thead>
<tr>
<th>Status Type</th>
<th>FYI Change Order Creation and Assignment</th>
<th>Request Comment</th>
<th>FYI Task Notification</th>
<th>Request to Comment From Action Log table</th>
<th>Approval Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Open</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Interim Approval</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
When a change order is submitted, notifications are sent out to assignees, approvers, and the requester. Notifications are sent to each of the assignees of a step when the step is started.

Consolidated notifications are also sent out to the assignees of each tasks.

FYI notifications are sent to the creator, assignee, requester, and approver of change order lines and headers when it moves to Scheduled or Completed Status.

When the change order is approved or rejected, a notification is sent to the creator, requester, and assignee. If the approval routing workflow is aborted, then a notification is sent to all people in the approval routing that were previously notified regarding an assigned workflow process in a step.

An approval routing workflow can be stopped at any point, without completing, using the Terminate Workflow command. Any related notifications are removed from assignees’ work lists. Terminating a workflow might be necessary if, for example, something unanticipated will prevent the workflow from being completed as desired.

**Note:** A predefined request comment notification is associated with the Open status. The change order cannot move to the next status until this notification has a response. The notification is then sent automatically to the assignee and the requester. This automatic notification can be bypassed by removing the assignees. If the notification is bypassed and the BPEL process is set to automatically promote, then the change order automatically moves to the next status. Otherwise, you need to manually move the change order to the next status.

<table>
<thead>
<tr>
<th>Status Type</th>
<th>FYI Change Order Creation and Assignment</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Approval</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Scheduled</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Completed</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Related Topics

- Change Order Statuses

## Change Order Approval Process

A change order can be approved only through the successful completion of an approval routing. When you create a change order, an approval routing is created automatically based on approval rules or manually by any user granted the **Item Change Order Management Duty** privilege.

An approval routing consists of one or more approval stages. Each approval stage specifies a workflow process and assignee. For example, you can create stages to request approval or request comments. You can also create stages having the Interim Approval status.

Skip Request Comment is available in open status. When checked, request comment notifications aren’t sent to the seeded assignees.
If Skip Request Comment is enabled and autopromotion is defined for open status, on submission of the change order from draft, the change order will be pushed to the status set for autopromotion.

After changes are authored for each item, the change order is submitted for approval workflow.

When a change order is submitted, notifications are sent out to assignees. Consolidated notifications are sent to each of the appropriate assignees at each stage of the approval process. Each approver is requested to respond before the expiration date specified in the approval task in AMX. Reminder notifications can be set up so that an approver who doesn't respond by the required date can receive notifications at a specified interval.

The approval status of a change order reports the progress of the approval. A list of approvers and the action taken by each approver is captured as a part of the history displayed in the notification for approval.

The approver can approve each line in the change order or reject the change.

Note: The Product Development work area doesn't support approval of change orders at the line level.

You can set up a task so that when the change order is approved or rejected, an email notification is sent to the creator, requester, and assignee. If the approval routing workflow is stopped, then a task can be set up so an email notification is sent to all people in the approval routing who were previously notified regarding an assigned workflow process in an approval stage.

You can set up a change order type so that a request is approved by a single member of a user group. From the Manage Change Order Types task of the Setup and Maintenance area, edit a change order type and select an approval step on the Workflow tab. Then, for an approval activity in the step's status details, set Response Required From to One. When one member of a group approves the change, the notifications to other approvers in the group are withdrawn for that approval step, and notifications are sent to the approvers for the next step.

The assignment of approvers for change order lines is governed by rules. For change order headers, you can select an assignment method in the Interim Approval or Approval step's status details for the Header approval stage, either rules-based or user-defined. If you choose user-defined assignment, you then select an approver by using the Assigned To control.

You can assign approvers as optional. A single optional approver can reject a change order, but approvals from optional approvers are ignored. To assign an optional approver, select an approver by using the Assigned To control on the Optional approval row of the Interim Approval or Approval step's status details.

Note: For change orders in Draft or Open, their lines can be moved to a new change order or to another existing change order, if those lines are hindering the approval workflow.

If Response Required From has been set to One, then, when an approver selects the Claim action on a notification, the notification is locked against changes by other approvers, unless the first approver unlocks it by selecting the Unclaim action.

On interim approval and approval notifications for change orders, the Pack Type column of the Items table is hidden by default. To view the pack type associated with the items in a change order, select Pack Type from the View menu.

You can navigate to the items in the change order approval notification using the item link. The resulting read-only item page is rendered in a separate window. The first view on an item drill-down from a notification is the item view, to view the changes in the context of the entire item (as supported by the change order). Then you can toggle to an item view that displays changes.

Approvers can only see those aspects of the item for which they have access. They can also perform the following tasks on the change order:

- Request more information
• Reassign
• Escalate
• Suspend

Related Topics
• Change Order Types

FAQs for Change Orders

How can I create a new change order based on an existing change order?

You can use the **Save As** action to create a new change order. In the dialog box,

• Select the change type for the new change order.
• Choose to copy over the affected objects, attachments, and relationships to the new change order. The objects you can copy depend on your work area.

What's the difference between affected object and change line?

Both the terms indicate an object affected by the change order.
Affected object is used in the Product Development work area and Simplified Change Management Interface.
Change line is used in the Product Information Management work area.

What are valid objects for change order attachments?

Change order attachments can be any type of local file, repository file or folder, URL link, or text. These objects can be attached to both the header, and to individual lines, of a change order. The attached content is not searchable.

How can I find details about changes to an item in a change order?

You can navigate to the items in the change order approval notification using the link provided on the number of the item. The resulting read-only item details page is rendered in a separate window. From the item details, a link on View Change Order Line enables you to view the scheduled changes to the item in redlined mode.

Click the change order link in on the Manage Change Orders page. On the Lines tab, click the **Item Changes** for an item to access the Item Changes page.

The first view on an item drill-down from a notification is the item view in the context of the change order. Then you can toggle to an item changes-only view in redlined mode.

**Note:** The Item Changes page displays only changes made to the item through this change order. Approvers will only see those aspects of the item for which they have access.
How can I find details about changes to an item component in a change order?

Click the change order link in on the Manage Change Orders page. On the Lines tab, click the **Item Changes** icon for an item to access the Item Changes page then click the **Component Changes** icon in the **Structure** Changes table to access change information for specific item components.

How can I move change order lines?

On the Manage Change Orders page, expand the search results and select lines from one or more change orders within the same organization then select **Move Change Lines**. In the Move Change Lines dialog box, you can select an existing change order to which to move the selected change lines, or you can move the change lines to a new change order by selecting **Create Change Order**. If you create a new change order for the change lines being moved, then you must enter header information for that change order.

Note that you can only move change lines in a commercialization change order.

What's the difference between Withdraw and Remove?

Use **Withdraw**, to delete a component that was added before the item was assigned to the change order.

Use **Remove**, to delete a component that was added after the item was assigned to the change order.

How can I secure the change order created in the Product Information Management work area?

Access the change order from the Product Development work area. Use the Security side tab to restrict access. You can choose users who are responsible in their review and approval of the change order. You can also choose roles by which you restrict the availability of the change order. Additionally, you must provide data security privileges for the change order.

Why am I unable to assign the item to the change order?

You cannot assign an item to a change order in Product Development, if the item is created in Product Hub.

Also, you cannot assign an item to a commercialization change order in Product Hub if the item:

- Is created in Product Development, and
- Is in the design lifecycle phase.
Why does the change order display information in side tabs instead of horizontal tabs?

Your administrator has enabled the Simplified Change Management Interface for the Product Hub work area.

Why am I unable to edit the change order?

If the change order is created in Product Hub, you cannot edit the change order in Product Development. Conversely, change order created in Product Development cannot be edited in Product Hub.

Can I cancel a change line in an approved change order?

Yes. When you cancel the change line, any changes defined for items in the change order are discarded. For example, you noticed a defective item in the approved change order and the item is in scheduled state. To resolve the defect, you cancel the change line and again process the item through another change order.

What's the difference between cancel and terminate actions in a change order?

Use cancel to stop further processing of the change order. You can still move the change lines to a new change order and retain redlines.

Use terminate to temporarily pause the workflow and resume it in the same change order.

Related Topics

- Terminate and Restart a Workflow

Why did the change order approval prompt for a comment and password?

Your administrator configured the comment and password fields as mandatory for the purpose of audit. Enter your login password.

Why did the change order fail on approval?

Open the History tab of the change order to review the sequence of actions on that change order. Depending on the action performed, the application displays a comment. For example, if you try to promote two change orders simultaneously and the effective dates are less than 30 minutes apart, then a comment appears advising you to maintain a time difference of more than 30 minutes.
You can also see the Workflow tab to review the change order status.

Can I edit multirow extensible flexfield attributes from the item page or without using a change order?

Yes. But your administrator must remove any restrictions set for editing the attribute only through the change order page.

Related Topics
- Configure Attributes in Item and Change Order Context

Why did the Scheduled change order get automatically promoted on canceling the last change line?

Your administrator has enabled the Autocomplete on Cancel option for the change order type.

Let's say that the first three change lines are complete and the last change line is stuck in the Scheduled state. So you cancel the scheduled change line. Then the change order is automatically promoted to the Completed state.

Related Topics
- Change Order Types
16 Manage Product Data Imports

Overview of Manage Imports

You can import items and item-related information using interface tables through FBDI. Use the file-based data import feature to import large volumes of data from third-party or other Oracle applications, or create new data in Oracle Supply Chain Management Cloud. For example, product data stewards can import new items into Oracle Fusion Product Hub using the ItemImportTemplate.xlsm template. You can also import trading partner items, item associations, customer items, and customer item cross references.

The following objects are available to import:

- Items
  - Operational attributes
  - Extensible flexfield attributes
  - Attachments
- Item Associations
  - Organization assignments
  - Supplier Site Organization Associations
- Trading Partner Items
  - Customer Item
  - Manufacturer Part Numbers
  - Competitor Items
- Item Relationships
  - Trading Partner Item Relationships
  - Related Items
  - Cross References
  - GTIN

Related Topics

- Item Batches
- Item Batch Structure and Pack Options
- Item Batch Import and Scheduling Options
Import Style and SKU Items with Import Maps

For importing Style and SKU items, users are expected to provide the correct values in the import map data file for the style item and the variant attributes.

To import style items containing a single value set for the variant attributes, users map to the style Item field in the main node and set the value to Yes in the data file column mapping to this field.

To import SKU items, map to the variant attributes displayed for SKU items and provide the style item number by mapping to the Style Item Number attribute in the main node.
17 Manage Import Batches

Create Item Import Batches

Overview of Item Batches

A product data steward can import items and related entities such as structures, packs, category assignments and trading partner item references from multiple product source systems using an item batch. The following options are available for item batches:

- Import options let you schedule the batch loads and specify policies for governance, new item requests, and product changes.
- Data quality options for item batches let you categorize items, standardize attribute data, and match item data to ensure clean, consistent data during batch import.

You can add and modify item data to batches using a spreadsheet, XML, CSV or any other delimited files or using industry standard open interface tables.

Related Topics

- Overview of Manage Imports

Item Batches

Create item batches to import sets of item data including product structure and pack hierarchies from multiple product source systems.

Item Batch Definition

When you create a new item batch definition, you specify a target organization then specify the product source system and data quality options. Based on the specified spoke system, the options that were defined during source system management are populated. You can override these options for the specific item batch. You can also modify the import batch option settings.

Data quality options determine matching and standardization rules for an item batch to cleanse product data during batch import.

Item batch options let you schedule batch loads, specify product structures and packaging hierarchies, and policies for new item requests and change orders.

Adding Items to an Item Batch

You can add items using SQL, CSV or another delimited file, or by FBDI to the item batch after the definition has been saved.

You can import item data as follows:

- Microsoft Excel spreadsheet: Enter item information in the downloaded template and upload.
• Interface tables: Enter item information in the interface tables and import. Requires use of an import template.

• Import Maps: Create an item batch on the Manage Item Batch page, and select **Actions > Add Items to Batch > Upload from File.** In the **Upload from File** dialog box, specify the import map, the source data file, and, if uploading attachments, the attachments .zip file, and select **Upload File.**

Items can be added with a Microsoft Excel spreadsheet. To do so, navigate to the Manage Item Batch or the Edit Item page and select **Add Items to Batch** from the Actions menu.

The following objects are available for import:

• Items
• Structures and Packs
• Trading Partner Item Relationships
• Category Assignments
• GTIN Relationships
• Item cross-references
• Related Items
• Trading Partner Items

**Note:** If you specify **Items** as the object to be imported, then the item class you specify determines which import formats are available. An import format identifies the base and user-defined attributes in an item class that are imported into the application using a spreadsheet. The import format you specify determines which spreadsheet is downloaded and which columns are included.

**Related Topics**

• Product Spoke Systems

## Item Batch Options

Use item batch options to set the schedule of the import, define the default **structure** and **pack** options and manage the creation of new item requests and change orders for items being imported.

Item batch options are defined and associated with product **source system** definitions. When you specify a source system in an item batch definition, the import options associated with the source system are included as default settings in the new item batch definition.

You can modify these settings when you create a new item batch or edit an existing definition.

Depending on the type of item being imported, you can specify item batch options in one or more of the following areas.

• Import and scheduling
• Structures and packs
• Change orders
• New item request
• Data Quality

For external batches, data quality options are determined by whether the product source system is an internal or not an internal source system. For internal batches, data quality options are determined by the product source system.
Available Options to Check Data Quality for Item Batches

You can specify data quality options when defining a source system or through an import batch definition by selecting **Check data quality on upload**. Items being created in the Oracle Fusion Product Hub go through the data quality check automatically, while items that are updated using batches must have the data quality check initiated manually. The cleansing process classifies the item, standardizes the attributes and identifies any matches or duplicates that may exist in the product hub.

**Check Data Quality Options**
The options that are available when you select the **Check data quality on upload** option are determined by the data source.

- If the items are being created or updated from a third-party source system, then the following options are available:
  - **Confirm single matches**
  - **Confirm unmatched as new item**
- If the items are being created or updated in Oracle Fusion Product Hub, then the following options are available:
  - **Confirm unmatched as new item**

**Confirm Single Matches Option**
The behavior of the **Confirm single matches** data quality option is determined by the data source.

- If items are being created from a third-party source system and are imported manually, the following behavior results:
  - Single matches appear in the In Progress tab and the edit match actions value is Confirm.
  - Multiple or no matches appear in the In Progress tab and the edit match actions value is Unconfirm.
  - If **Confirm Single Matches** is not selected, then all items will appear in the In Progress tab and the edit match actions value is Unconfirm.
- If items are being created from a third-party source system and are imported during data load, the following behavior results:
  - Single matches appear on the Imported tab.
  - Multiple or no matches appear in the In Progress tab and the edit match actions value is Unconfirm.
  - If **Confirm Single Matches** is not selected, then all items will appear in the In Progress tab and the edit match actions value is Unconfirm.
- If items are being updated from a third-party source system and are imported manually, the following behavior results:
  - If a cross-reference exists, then no data quality check is performed, and the items appear in the In Progress tab and the edit match actions value is Confirm.
If **Confirm Single Matches** is not selected, a cross-reference exists, and no data quality check is performed, then the items appear in the In Progress tab and the edit match actions value is Confirm.

- If items are being updated from a third-party source system and imported during data load, the following behavior results:
  - If a cross-reference exists, then no data quality check is performed, and the items appear on the Completed tab.
  - If **Confirm Single Matches** is not selected, a cross-reference exists, and no data quality check is performed, then the items appear on the Completed tab.

### Confirm Unmatched As New Item

The behavior of the **Confirm unmatched as new item** data quality option is determined by the data source.

- If items are being created from a third-party source system and imported manually, the following behavior results:
  - Items with no matches appear in the In Progress tab and the edit match actions value is Confirm.
  - Items with single or multiple matches appear in the In Progress tab and the edit match actions value is Unconfirm.
  - If **Confirm unmatched as new item** is not selected then all items will appear in the In Progress tab and the edit match actions value is Unconfirm.

- If items are being created from a third-party source system and imported during data load, the following behavior results:
  - Items with no matches appear on the Completed tab
  - Items with single or multiple matches appear in the In Progress tab and the edit match actions value is Unconfirm.
  - If **Confirm unmatched as new item** is not selected then all items will appear in the In Progress tab and the edit match actions value is Unconfirm.

- If items are being updated from a third-party source system and imported during data load, the following behavior results:
  - If a cross-reference exists, then no data quality check is performed and the items appear in the In Progress tab and the edit match actions value is Confirm.
  - If **Confirm unmatched as new item** is not selected then and a cross-reference exists, no data quality check is performed and the items appear in the In Progress tab and the edit match actions value is Confirm.

- If items are being updated from a third-party source system and imported during data load, the following behavior results:
  - If a cross-reference exists, then no data quality check is performed and the items appear on the Import tab.
  - If **Confirm unmatched as new item** is not selected then, if a cross-reference exists, no data quality check is performed and the items appear on the Import tab.

- If items are being created or updated from the Product Data Hub and imported during data load, the following behavior results:
  - Items with no matches appear on the Import tab.
  - Items with single or multiple matches appear in the In Progress tab and the edit match actions value is Unconfirm.
If Confirm unmatched as new item is not selected then all items will appear in the In Progress tab and the edit match actions value is Unconfirm.

- If items are being created or updated from the Product Data Hub and imported manually, the following behavior results:
  - Items with no matches, single matches, or multiple matches appear in the In Progress tab and the edit match actions value is Unconfirm.

Related Topics
- Data Quality

Item Batch Import and Scheduling Options

Item batch import and scheduling options let you set the schedule of the import and specify item cross-references imports.

Cross-References Only

If you select Cross-References Only in the Create Item Batch dialog, then no source system data is imported. A cross-reference of the source system item is created with a matched, new, or cross-referenced item in the Oracle Fusion Product Hub.

Note: You can only select the Cross-References Only option when creating an item batch. If the source system specified in the item batch definition is Product Information Management Data Hub, then the Cross-References Only option is not available for selection.

If you select Cross-References Only, then item batch options for new item requests and change orders are not available. However, options can be set for structures and packs.

Schedule

Determine when the data specified in the item batch will be imported.

- On Data Load: Import process is run immediately at the time of data upload.
- Manual (default): Lets you import the data at a later time.
- Specify Date and Time: Lets you specify the date and time to import the confirmed items or structures in the item batch

Process Items

The Process Items option determines if the Items are to be imported individually or as a bundle. If the bundle option is chosen, then all items in the bundle will be not be imported even if one of the items fails import validations. This option is typically used when importing data from a GDSN data pool.

Related Topics
- Item Revisions
### Item Batch New Item Request Options

Item batch new item request options let you create new item requests or add to existing new item requests when importing items or structures.

The following are the basic new item request options:

- One per Item
- One per Item Class
- One per Item Batch
- One per Item Bundle

If you select One per Item Bundle, then the resulting new item request will include only those items that are identified with the same bundle, which normally indicates a pack. Consequently, all items belonging to a pack will be included in a single new item request.

You can select the Add all items check box to import all of the items in the import batch and route them to new item requests, overriding item class requirements that may be defined for the items.

For all new item request options, those items associated with rules that require approval for changes will be added to the new item request. If desired, you can specify to add all imported items to the new item request.

If you choose One per Item Class then indicate whether to create a new item request or add to an existing one.

If an item being imported as part of a new item request is later rejected, you can resubmit the item as part of an item batch, instead of having to create another new item request and move rejected item lines there one by one. After you resubmit the item in an import batch, its Approval Status field includes a link to the new item request that is created by that import.

**Note:** If you select the Cross-References Only option when creating an item batch, then new item request options are unavailable.

### Related Topics

- New Item Request Workflow Statuses

### Item Batch Change Order Options

Item batch change order options let you create change orders or add to existing change orders when importing items or structures.

The Change Order option lets you control the number of new change orders that the batch import will generate:

- One per Item
- One per Item Class
- One per Item Batch
- One per Item Bundle

If you select One per Item Bundle, then the resulting change order will include only those items that are identified with the same bundle, which normally indicates a pack. Consequently, all items belonging to a pack will be included in a single change order.
If you select the **Cross-References Only** option when creating an item batch, then change order options are unavailable.

You can select the **Add all items** check box to import all of the items in the import batch and route them to change orders, overriding approval rules defined for the items.

For all change order options, those items associated with rules that require approval for changes will be added to the change order. If desired, you can specify to add all imported items to the change order.

If you choose **One per Item Batch** then indicate whether to create a new change order or add to an existing one.

**Related Topics**
- What Change Orders Modify
- Change Order Workflow

### Considerations for Item Batch Change Order Options

This table shows conditions that are applicable when importing items or structures to new or existing change orders.

<table>
<thead>
<tr>
<th>Change Order Type (new or existing change orders)</th>
<th>You can add</th>
<th>You cannot add</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercialization change order</td>
<td>• Items created in Product Hub.</td>
<td>• Items existing in an NIR.</td>
</tr>
<tr>
<td></td>
<td>• Items created in Product Development and in the following lifecycle phases: pre-production or prototype, and production.</td>
<td>• Unapproved items.</td>
</tr>
<tr>
<td></td>
<td>• Items existing in an NIR.</td>
<td>• Items in the design lifecycle phase.</td>
</tr>
<tr>
<td>Engineering change order and change order without revision control</td>
<td>• Items created in Product Development.</td>
<td>• Items existing in an NIR.</td>
</tr>
<tr>
<td></td>
<td>• Items in the design lifecycle phase.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Unapproved items.</td>
<td></td>
</tr>
</tbody>
</table>

### Item Batch Structure and Pack Options

Item batch **structure** options let you specify a defined item structure, how structure **effectivity** is controlled, and which structure components are updated. The item batch **pack** option lets you specify which pack components are updated.

**Structure Effectivity Control**

The following controls determine when changes to product structure components become effective:

- **Date**: Effectivity on a specified date
- **Model Unit Number**: Effectivity based on unit number
- **Serial**: Effectivity based on the serial number assigned to each unit of an item

**Update Options**

You can select to update only those pack or structure components that have changed, or you can update all.
Related Topics

- How You Update Product Structures
- Item Structures

Manage Item Batch Details

Intrabatch Items in Item Batches

As part of the data quality check process, duplicate items that are being uploaded from the source items are identified. These duplicate items are displayed on the Intrabatch page organized into groups of similar source system items. Compare the items in each group and take one of the following actions on them:

- **Include**: The item will be included in the Oracle Fusion Product Hub.
- **Exclude**: Excludes this item from this import and all subsequent imports.
  
  The next time the same item data is uploaded within a batch, it appears in the Excluded tab for that batch.
- **Cross Reference**: Establishes a cross reference between the source system items. This source item appears on the Cross-Referenced tab.
- **Switch**: Interchange the source system item top node with a selected child node.

Intrabatch Items and Cross-References in Item Batches

This example shows the relationship between the items being imported that are identified as intrabatch items and how they are cross referenced among themselves and with a new item being created.

Scenario

Three new items from the spoke system named Item A, Item B, and Item C are uploaded into an item batch. This is the first time items are being uploaded from this spoke system.

As part of the data quality check process, duplicate items that are being uploaded from the source items are identified. These duplicate items are displayed in groups of similar source system items, so Item A, Item B, and Item C are grouped together.

You can take action to include Item A, cross reference Item B and exclude Item C before submitting the batch.

When the batch is processed, no matches are found. Before the items are imported, the In Progress tab will include the following information:

Item A appears Confirmed because the batch option is set to confirm no matches as New.

Item B shows the cross-reference of Item B to Item A as a result of the data quality check

Item C is excluded.

On import, a new item in the Oracle Fusion Product Hub named Item D is created for the Item A source system item and the cross references are established.
The Cross References tab will now show the following: cross references of Item D to Item A and Item D to Item B. The intrabatch cross reference of Item B to Item A is recalculated against the new Item D in the Product Hub.

Unconfirmed Items in Item Batches

You manage the results of the data quality and item matching checks performed on the items in the batch and take appropriate actions.

Data Quality Results

Data quality results for each item are:

- **Classification**: Classifies the item and also assigns it to catalog categories.
- **Standardization**: Standardizes the attribute values of the item.
- **Matching**: Checks for duplicates in Oracle Fusion Product Hub.

Matching Results

There are the three matching result types:

- **Multiple Match**: There is more than one match found for the source item in Oracle Fusion Product Hub.
- **Single Match**: There is only one match found for the source item in Oracle Fusion Product Hub.
- **No Match**: There are no matches found for the source item in Oracle Fusion Product Hub.

Matching Actions

You can review and specify a match action for each unconfirmed item:

- **Confirm**: Matches the source item with an existing item in Oracle Fusion Product Hub.
- **Exclude**: Excludes this item from this import and all subsequent imports.
  
  The next time the same item data is uploaded within a batch, the item data appears in the In Progress tab and the match actions value changes to Excluded.
- **Ignore**: Temporarily excludes this item from import.
  
  The next time the same item data is uploaded within a batch, the item data appears in the In Progress tab and the match actions value changes to Included.
- **New Item**: Confirms that a new item must be created during import for this source item in Oracle Fusion Product Hub.

Managing Unconfirmed Items

You can also perform the following tasks in the In Progress tab.

- You can modify the item information that appears in the In Progress tab and add more items by selecting **Manage in Spreadsheet** from the Action menu or by clicking the **Manage in Spreadsheet** icon to download an item information spreadsheet.

- If an unconfirmed item is associated with a structure or pack, you can click the icon in the **Structure or Packs** column to display structure and batch details.
You can modify structures or packs by clicking **Manage in Spreadsheet** and selecting the appropriate template to download.

Update and then upload the spreadsheet to incorporate your changes.

Click **Check Data quality** to perform additional data quality checks after making changes to unconfirmed items.

**Related Topics**
- **Data Quality**

---

**Confirmed Items in Item Batches**

On the In Progress tab, you manage items that have been matched and confirmed using matching rules, along with new items in the batch.

**Match Types**

Match types:

- **Single Match**: There is only one match found for the source item.
- **Multiple Match**: There is more than one match found for the source item.
- **No Match**: There are no matches found for the source item.

**Matching Actions**

You can review and specify a new match action for each confirmed item:

- **Unconfirm**: Mark the item as Unconfirm for further update.

  **Note:** You can also unconfirm a cross-reference. When you find a new match for the unconfirmed item, the status for that matched item becomes a single match. Upon import, the existing cross-reference is end-dated and the new cross-reference is created with a start effective date equal to the import date.

- **Confirm**: Match with an existing source item in Product Hub.
- **Exclude**: Excludes this item from this import and all subsequent imports.
  The next time the same item data is uploaded within a batch, it appears in the Excluded tab for that batch.
- **Ignore**: Temporarily excludes this item from import.
  The next time the same item data is uploaded within a batch, it appears in the In Progress tab, and the match actions value is Excluded for that batch.

**Confirmed Item Detail**

The following detailed information is displayed for a highlighted confirmed item:

- **Structures**
- **Packs**
- **Category Assignments**
- **Relationships**
Importing Confirmed Items
Select Import to import all items into Product Hub.

Relationships in Item Batches
On the Relationships tab, review the relationships being imported for each of the items on the In Progress tab (if applicable).
Depending on the data, confirmed item relationships can be organized in up to four areas:
- Related items
- Trading partner items
- Global Trade Identification Number cross-references
- Cross-references

Related Items
You can review confirmed relationships based on predefined and user-defined relationship types, such as superseded items, substitutes, and complimentary items. Additional item attributes further qualify the relationship and effectivity dates indicate when these relationships are phased in and out.

Trading Partner Items
You can review the relationship of the confirmed item with the trading partner items.

GTIN Cross-References
GTIN cross-references relate confirmed items using the industry standard, enabling tracking and identification of trading partner items.

Cross-References
Cross references identifies items that have been consolidated from multiple source systems into a single master item.

Related Topics
- Manage Item Relationships

Category Assignments in Item Batches
On the Category Assignments tab, you can review the catalog category assignments for each of the items on the In Progress tab.
The category assignments for items displayed on this tab are derived in one of two ways:
- Data quality classifies an item and it can also assign it to alternate catalog categories.
- Category assignments are imported for an item by selecting Item Category Assignment when you add items to the batch.
Imported Items in Item Batches

The Completed tab displays all items that are imported into the Oracle Fusion Product Hub.

Imported Item Details

Besides the detail displayed on each line of the imported item table, you can access more details on item components as follows:

- **New Item Request**: Click on the new item request name to go to the New Item Request summary page.
- **Change Order**: Click on the change order name to go to the Change Order summary page.

Item Import Status

Each imported item can have one of the following import statuses:

- **Success**: The item and all its related entities were imported successfully.
- **Partial**: The Item was imported successfully, but some of its entities had errors during import.
- **Error**: The item itself had errors during import. These items will display on the Error tab.

Highlight an item with an import status of **Partial** or **Error** to display details.

Updating Imported Items with Errors

You can modify the items that appear on the Error tab by selecting **Export** from the Action menu or clicking the **Manage in Spreadsheet** icon. Correct the data and click **Upload** in the spreadsheet to apply your changes.

Excluded Items in Item Batches

You can manage the items that are not imported into the Oracle Fusion Product Hub as the result of the data quality and item matching checks performed on the items in the batch.

- The excluded status is retained for an item in future batch imports and the item will be automatically placed in the In Progress tab. The match actions value changes to Excluded.
- Items that are marked as **Ignored** are not imported into Product Hub for that batch only.
- You can change the statuses of **Excluded** and **Ignored** to **Unconfirm** or **Confirm**. You can edit the statuses or match actions in the In Progress tab.

Cross-References in Item Batches

On the Relationships tab, you can review **source system** and intrabatch item cross references.

The cross-references for items displayed on this tab are identified in one of following ways:

- Item batch import and scheduling options let you specify item cross-references imports
  
  If you select **Cross-References Only**, then no source system data is imported. A cross-reference of the source system item is created with a matched, new, or cross-referenced item in the Oracle Fusion Product Hub.
• Data quality checks for duplicates within the source items being uploaded. These duplicate items are displayed on the Intrabatch page, organized into groups of similar source system items. You can establish cross references between selected items on this page and source system items.

When the batch is processed, the intrabatch cross-reference is converted to a regular cross reference against the new item in Oracle Fusion Product Hub and appears on the Cross-Reference tab.

This means that if such an item is included in another item batch, it will be considered an update and placed on the Edit Item Batch page, In Progress tab, and the match action will be Confirm.

**Note:** You can also unconfirm a cross-reference. Once you do this, the item moves to the In Progress tab and match action is Unconfirm. When you find a new match for the unconfirmed item, the status for that matched item becomes a single match. Upon import, the existing cross-reference is end-dated and the new cross-reference is created with a start effective date equal to the import date.

### Reject Item Batches

You can reject an item batch in one of the following ways:

• Highlight an item batch on the search results table on the Manage Item Batches page and select **Reject** from the Action menu in the search results table.

• Access the Edit Item Batch page and then select **Reject** from the Action menu.

**Note:** You cannot reject an item batches with a status of **Completed**.

### Reassign Item Batches

You can reassign an item batch to a different user in one of the following ways:

• Highlight an item batch on the search results table on the Manage Item Batches page and select **Reassign** from the Action menu in the search results table.

• Access the Edit Item Batch page and then select **Reassign** from the Action menu.

**Note:** You cannot reassign an item batch with a status of **Completed**.

**Note:** You can only add items to item batches that are assigned to you.

### Item Batch Completion

Item batches can be completed by navigating to either of the following pages and selecting **Complete** from the Actions menu:

• **Manage Item Batch page:** Search for and highlight the item batch you want to complete.

• **Edit Item Batch page:** Search for and access the item batch for editing.

**Note:** You cannot reassign or reject an item batch with a status of **Completed**.
FAQs for Import Batch

Can I add items to a batch if it is not assigned to me?
No, you can only add items to item batches that are assigned to you.

How do I perform an impact analysis?
To perform an analysis, simulate the conditions by applying all the rules, including those in Draft status. In the Product Information Management work area, select the Manage Item Rule Sets task.

Related Topics
• Analyze Rule Impact

Import Items Using Import Maps

Overview of Importing Item Data Using Import Maps
Retailers may be required to upload data using spreadsheets and suppliers may send product and catalog data as comma-separated values (CSV) or Extensible Markup Language (XML) files. Suppliers may use standard industry formats, such as BMECat or eClass, or others. Users must onboard or upload the data provided by suppliers into Oracle Fusion Product Hub.
The following is an overview of the functions that you can perform when importing items using import maps.
Bring in data in XML format directly through an import batch without having to reformat it.
• Upload item data in XML format directly to an import batch. The data is processed and placed in interface tables for import into Oracle Fusion Product Hub.
• When uploading the XML file, map the elements of the XML file to the Product Hub data columns to facilitate moving the data into interface tables.
• Preview the data from the XML file after mapping the XML elements to the Product Hub data columns.
• Save the mapped data columns to be reused later for another data upload.
• Optionally, link saved maps to suppliers so only relevant maps are used by suppliers.
• The data map can be inherited from parent’s item class.
• Import maps can be used to upload data to an item batch of any source system.
• If data errors are encountered during the XML file upload, then no data gets uploaded. The data errors are identified along with the type of errors and presented to user in a report.
• XML file upload also preprocess all the data records so that users can navigate to the batch details and look at the data in the interface tables.
Bring in data in the Nested XML file format directly through an import batch without having to reformat it.

- Upload item data in Nested XML format directly to an import batch. The data is processed and placed in interface tables for import into Oracle Fusion Product Hub.
- Nested XML files support mapping of recursive and repeating XML node and attributes. When uploading the Nested XML file to import packaging and structure data:
  - Map the parent node containing item information to Item node in the Master Data region of the Import Map.
  - Map the recursive parent node with packaging and structure child item information to the **Pack > Structure** node in the Master Data region.
  - For example, for GDSN, Data Stewards map the `catalogueItem` XML node to Item node in the Master Data region and the `catalogueItemChildItemLink` XML node to Pack node in the Master Data region.

- The repeating nodes of a Nested XML file display in the Source Data region of an import map. When a repeating node is mapped, the other corresponding repeating nodes cannot be mapped.

- A recursive nested XML refers to a nested XML in which the Structure or Packaging hierarchy is built top-down. For example,

```
Parent Item
  Child Item 1
  Child Item 1A
```

- An XML Attribute refers to an attribute on an XML element. For example, `languageCode` is an XML Attribute in `<descriptionShort languageCode="en">Short Description</descriptionShort>.

- You can map XML Attributes as follows:
  - An XML attribute displays under its XML element in the Source Data region of the import map. Map the XML Attribute in the Source Data region to the item attribute in the Master Data region of an import map.
  - Map an XML Node in the Source Data region to an item attribute in the Master Data region, based on the value of the XML Attribute. To do so, Product Data Stewards can use the decode function to create an expression. For example, consider an XML Node that contains descriptions in various languages, such as `<descriptionShort languageCode="en">Short Description</descriptionShort>`. Based on the language specified in the XML Attribute, you can map the XML Node using the following decode function: `Item.Main.DESCRIPTION.US=decode([languageCode],'en',[descriptionShort],'')`, where `languageCode` is the XML Attribute and `descriptionShort` is the XML Node.

Bring in product data in the CSV file format directly through an import batch without having to reformat it.

- Upload item data in CSV format directly to an import batch. The data is processed and placed in interface tables before being imported into Oracle Fusion Product Hub.
- When uploading the CSV file, map the metadata (columns) of the CSV file to the Product Hub data columns to facilitate pushing the data into interface tables.
- Preview the data from the CSV file after mapping the CSV columns to the Product Hub data columns.
- Save the mapped data columns to be reused later for another data upload.
- Optionally, link saved maps to suppliers so only relevant maps are used by suppliers.
- Import maps can be used to upload data to an item batch of any source system.
- If data errors are encountered during the CSV file upload, then no data gets uploaded. The data errors are identified along with the type of errors and presented to user along with sample data rows. Using this, rectify the data errors and upload the CSV again.
• CSV file upload also preprocess all the data records so that users can navigate to the batch details and look at the data in the interface tables.

Manage item batches.

• Create an import map while uploading source file data to item batch from Manage Item Batches page.
• Additionally, create an import map from the Manage Import Maps page.
• Edit and delete import maps from the Manage Import Maps page.

Map source data for items, packs, and structures.

• Upload a CSV, XML, or Nested XML file using the controls in the Source File region.
• Map the CSV columns or XML elements to entities in the Master Data table.
  o Map data sources by dragging them from the Source Data table and dropping them on the corresponding entities in the Master Data table.
  o Map data sources by selecting Map Source Columns from the Actions menu of the Source Data table and then selecting the corresponding entities in the Master Data table in the Select Master Column dialog.
• Expand the Pack and Structure nodes in the Master Data table to expose the attributes of packs and structures. By mapping to these attributes you can import pack and structure hierarchies.
• Map source data to item attributes in the Master Data table so that items are imported along with packs or structures.
• Import maps support the mapping and import of all attributes available for items, item relationships, attachments, descriptive flexfields, and trading partner items.
• Source data columns that contain values in multiple languages can be mapped to attributes that support multiple languages. The language of a source column is identified by the value of the language code column in that row.

Transform source data using complex expressions before importing it through an import batch.

• Write basic transformation expressions using functions like Split and Concat (concatenate) for the source data before importing the source data.
• Write functions independent of the file type used for uploading the data.
• Write expressions using the Split function, which takes one source data value as input and the delimiter from which the value is to be split. The Split function takes in the value to be split, delimiter and part number which is to be returned. The Split function splits the input value according to the delimiter provided into parts and returns the part of the input value pertaining to the provided part number.
• Write a Concat function which takes multiple source data values as input and concatenates them to a single value.
• Select a row in Source Data table.
• Select the Master Data Column in which the evaluated value of the expression is uploaded.
• Select the wanted function.
• Build the expression by selecting Source Data columns.
• Optionally, validate the expression.

Associate multiple suppliers with the import map.

• Select the External check box to enable all suppliers to access the import map as a template in Oracle Fusion Product Hub Portal.
• If you enable external suppliers, you can then specify which ones can access the import map. Click the Manage Suppliers button and use the Manage Suppliers dialog to add only the wanted suppliers.

Import items to multiple organizations.
• Map a source data column that identifies the organization for an item to the master data attribute Item.Main.Organization.
• During import, source items are assigned to the organization identified in the source data.

Import Item Data Using Import Maps

You can use import maps to upload item data into Oracle Fusion Product Hub. You can map source data, from comma-separated values (CSV) and Extensible Markup Language (XML) files, to the master data.

When you specify a CSV, XML, or Nested XML source data file while creating or editing import maps in the Managing Import Maps page, the file data isn’t uploaded to Product Information Management. You can upload source data using import maps from the Manage Item Batches page.

You can create an import map or edit an existing import map using the following procedure.

Create an Import Map

Create an import map as follows.

1. In the Product Information Management work area, select the Manage Import Maps task from the panel drawer.
2. Click the Create icon on the toolbar or select Actions > Create from the menu. The Create Import Map page displays.

   Note: Alternatively, to edit an existing map, search for and select the map, and click the Edit icon on the toolbar or select Actions > Edit from the menu. The Edit Import Map page displays.

3. Specify the import map information listed in the following table.

<table>
<thead>
<tr>
<th>UI Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import Map</td>
<td>Enter a name for the import map. This field is required.</td>
</tr>
<tr>
<td>Description</td>
<td>Enter a description of the import map.</td>
</tr>
<tr>
<td>Item Class</td>
<td>Select an Item class for the import map. The item class is set for items if they don’t have an item class specified in the data file uploaded to an item batch for import. The item class is also used to display this import map in Oracle Fusion Product Hub Portal if you select the External check box.</td>
</tr>
<tr>
<td>Source Map</td>
<td>Select a source map to inherit its import map details. The Data Map section is populated with inherited item mapping information. You can map additional source data, but you can’t edit or delete the inherited item mapping details.</td>
</tr>
</tbody>
</table>
## Manage Import Batches

### UI Element | Description
---|---
External | Select to specify that the mapping can be used for third-party, external suppliers.
Suppliers | This option appears if you select External.
  
  Click the **Manage Suppliers** icon to view the Manage Suppliers dialog box, and select the supplier for which the import map is defined, and who can view the import map.
  
  You can specify multiple suppliers. If no supplier is specified, the import map displays for all suppliers.
Active | Select to enable the import map for use.

### Specify Source File Information

Specify information in the Source File section as specified in the following table.

<table>
<thead>
<tr>
<th>UI Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Type</td>
<td>Specify the source file type to be used to upload data. Options are: Text, XML, Nested XML.</td>
</tr>
<tr>
<td>Delimiter</td>
<td>Specify the type of delimiter used in the source data file. Options are: Comma, Tab, Colon, Semicolon, Pipe, Space, Other.</td>
</tr>
<tr>
<td>Date Format</td>
<td>Select a format for the date.</td>
</tr>
<tr>
<td>Time Stamp Format</td>
<td>Select a format for the time stamp.</td>
</tr>
<tr>
<td>Encoding Type</td>
<td>Select an option to specify the file encoding format. Options are: US-ASCII, ISO-8859-1, UTF-8, UTF-16BE, UTF-16LE, UTF-16.</td>
</tr>
</tbody>
</table>
| Upload From | Select Desktop, URL, or Network from which to upload source data. 
  
  Specify the source data file location:
  
  - Desktop: Click Browse and select the source data file.
  - URL: Enter the URL for the source data.
  - Network: Specify whether the file is a recent file or a specific file. Enter the path of the source data file. |
| Templates | Displays the Microsoft Excel templates generated for the import map. |
Map Source Data and Master Data Attributes
The data columns from the source file display in the Source Data table. The Master Data table displays the item attributes available in Oracle Fusion Product Hub. You can map attributes from different item classes in a single import map. You can map one source map attribute to multiple master data attributes, but not the other way round. You can create expressions on source data attributes to combine multiple source data attributes and map the expression to a master data attribute.

1. In the Master Data table, select an option in the Item Class field to specify the item class from which to view and map the master data attributes. If not defined, the default item class is set as Root Item Class.
2. Drag and drop a data column from the Source Data table to an attribute in the Master Data table to map them. Alternatively, select a data column in the Source Data table, select Actions > Map Source Columns, select a master data attribute in the Select Master Column dialog box, and click OK.
3. Select a source data column and click Create Expressions on the toolbar. The Create Expression page displays.
4. Click Select to specify the master data column with which to map the expression. The Select Master Column dialog box displays.
5. Search for and select the master data column and click OK.
6. Select a function in the Functions tab and click Insert. The expression format displays in the pane at the bottom of the Create Expression page.
7. In the expression format, position the cursor where you want to add an attribute, select the source attribute in the Source Columns tab, and click Insert. The column is added to the expression.
8. Insert the required columns to the expression format to create the required expression. You can delete the placeholder text from the expression format.
9. Click OK to create the expression and map it to the master data attribute. The Create Expression page closes, and the expression you created displays in the Expression column in the Source Data table of the Create Import Map page.

Note: Alternatively, to save an expression and create another expression on the same source data column, click Apply and Create Another on the Create Expression page.

10. In the Preview Data section, click the Refresh icon or select Actions > Refresh from the menu. The table is populated with mapped data. You can preview the result of the mapping and make changes if required.
11. Click Generate Templates if you want to create a Microsoft Excel template, also referred to as Smart Spreadsheet, for the import map.
12. Click Save.

Generate Smart Spreadsheets
Product data stewards can generate Smart Spreadsheets for import maps. These spreadsheets help users in reducing data entry errors while creating the data files that are to be used for importing data into Product Hub. These spreadsheets contain the attributes that are mapped in the import map, with their respective list of valid values and metadata information, such as data type, maximum length, and precision. The data entered in the spreadsheet is validated against the attribute metadata. Data files can then be generated from the populated spreadsheets, which can then be used to import data into Product Hub. The Smart Spreadsheets that are generated take only the attribute metadata that’s available at that point in time when they’re generated. So if any attribute metadata is edited after the Smart Excel is generated, then you need to generate the Smart Spreadsheet again.

Create Smart Spreadsheet Templates
To create Smart Spreadsheets, you must have the Product Data Steward job role in Product Hub. Here’s how you create Smart Spreadsheets in Product Hub:

1. Click the Generate Templates button in the Source Data region of the Import Map.
2. In the Generate Templates dialog box, select the languages for which the spreadsheets are to be generated.
3. Click **Generate**. Language-specific Smart Spreadsheets are generated and attached to the import map. Use the link at the **Templates** field of the Source File region of the map to download the templates.

Keep these points in mind:

- We strongly recommend that you don't create Smart Spreadsheet templates with more than 256 columns. If more than 256 columns exist in a template, then you will be asked to save the spreadsheet as an .xlsm file when you open it.
- A Smart Spreadsheet takes longer to open if there are several columns containing a large list of values.

**Regenerate Smart Spreadsheet Templates**

You can regenerate Smart Spreadsheets in one of these ways:

- Clicking the **Generate** button on the Edit Import Map page and saving the Import Map
- Running the **Regenerate Import Map Templates** scheduled process.

When scheduling this process, select these options:

- **Item Class**: If blank, the templates are generated according to the selections in the **Import Maps** and **Languages** fields. If you select an item class, then templates are generated for the import maps for that item class and also for its child item classes. The default is no selection of item class.
- **Import Maps**: The default is **With templates**.
  - Select **With templates** to regenerate templates only for import maps that have templates.
  - Select **All** to regenerate templates for all import maps.
- **Languages**: Select the languages for which the spreadsheets are to be regenerated, or for all installed languages. If you don't make any selection, then templates are only generated for languages that exist for the import maps affected by the **Import Maps** field. The default is no selection of languages.

The selections you make for these process options are considered as a set of criteria for whether to generate templates (meaning Item Class AND Import Maps AND Languages).

**Related Topics**

- Upload Products with Smart Spreadsheets

**Functions for Product Data Management Import Map Expressions**

You can create expressions using one or more source data columns and map them to master data attributes. For example, the Long Description attribute in Master Data may include information from the Item and Description columns of the Source Data.

The functions used to create expressions can be of type String, Math, Generic, and Calendar.

**String Functions**

The string functions available for creating expressions are listed in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>toDate</td>
<td>Converts a string value to a date value with the date</td>
<td>toDate(expression)</td>
<td>If Attribute1 = 10-31-1997, format = MM-dd-yyyy</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Expression</td>
<td>Example</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>format</strong></td>
<td>format matching the date format in the context.</td>
<td></td>
<td>Depending on locale: toDate([Attribute1]) = 10-31-1997 or 1997-10-31</td>
</tr>
<tr>
<td>toDateTime</td>
<td>Converts a string value to a time stamp value with the time stamp format matching the import map time stamp format.</td>
<td>toDateTime(expression)</td>
<td>If Attribute1 = 2000.01.31 12:01:01, format = yyyy. MM. dd hh:mm:ss</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Depending on locale: toDateTime([Attribute1]) = 2000.01.31 PST or 12:01:01 PM</td>
</tr>
<tr>
<td>concat</td>
<td>Concatenates the specified character strings.</td>
<td>concat(expression1, expression2, . . . expression30)</td>
<td>If Attribute1 = Item, Attribute2 = Description</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>concat([Attribute1], [Attribute2]) = ItemDescription</td>
</tr>
<tr>
<td>length</td>
<td>Returns the length, in number of characters, of a specified string. The length excludes blank characters.</td>
<td>length(expression)</td>
<td>If Attribute1 = Item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>length([Attribute1]) = 4</td>
</tr>
<tr>
<td>split</td>
<td>Splits character string at the specified delimiter and returns the specified part of the string. Delimiter can be any regular expression or special character.</td>
<td>split(expression, delimiter, partNumber)</td>
<td>If Attribute1 = Item#Description</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>split([Attribute1], #,2) = Description</td>
</tr>
<tr>
<td>substring</td>
<td>Creates a new string of specified length, starting from the specified character number in the original string.</td>
<td>substring(expression, startPosition, length)</td>
<td>If Attribute1 = ItemDescription</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>substring([Attribute1], 0,4) = Item</td>
</tr>
<tr>
<td>insert</td>
<td>Inserts a specified character string into the specified location in another character string.</td>
<td>insert(expression1, integer1, expression2)</td>
<td>If Attribute1 = ItemDescription, Attribute2 = Long</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>insert([Attribute1], 5, [Attribute2]) = ItemLongDescription</td>
</tr>
<tr>
<td>newLine</td>
<td>Inserts a newline character at the end of the specified string.</td>
<td>newLine()</td>
<td>If Attribute1 = Item, Attribute2 = Description</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>concat([Attribute1], newLine(), [Attribute2]) = Item</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Description</td>
</tr>
</tbody>
</table>
### Math Functions

The math functions available for creating expressions are listed in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>random</td>
<td>Returns a pseudo-random number between 0 and 1.</td>
<td>random()</td>
<td>If Attribute1 = 25, round(random() * [Attribute1]) = random number</td>
</tr>
<tr>
<td>round</td>
<td>Rounds a numeric expression to n digits of precision.</td>
<td>round(expression, integer)</td>
<td>If Attribute1 = 10.45, round([Attribute1], 0) = 10</td>
</tr>
</tbody>
</table>

### Generic Functions

The generic functions available for creating expressions are listed in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>nvl</td>
<td>Returns the value of expression2 if the value of expression1 is blank, else returns the value of expression1.</td>
<td>nvl(expression1, expression2)</td>
<td>If Attribute1 = blank, Attribute2 = Item, Attribute3 = Description, nvl([Attribute1], concat([Attribute2], [Attribute3])) = ItemDescription</td>
</tr>
<tr>
<td>decode</td>
<td>Returns the value of expression3 if the value of expression1 equals value of expression2, else returns the value of expression4.</td>
<td>decode(expression1, expression2, expression3, expression4)</td>
<td>If Attribute1 = Item, Attribute2 = Item, Attribute3 = Match, Attribute4 = No Match, decode([Attribute1], [Attribute2], [Attribute3], [Attribute4]) = Match</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Expression</td>
<td>Example</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>toString</td>
<td>Converts an object to its string representation.</td>
<td>toString(expression)</td>
<td>If Attribute1 = 4&lt;br&gt;toString([Attribute1]) = 4</td>
</tr>
<tr>
<td>getCustomObjectValue</td>
<td>Returns the value of custom object attribute corresponding to the specified custom object attribute and expression.</td>
<td>getCustomObjectValue(customObjectApiName, customObjectReturnAttributeApiName, customObjectQueryAttributeApiName1, ... customObjectQueryAttributeApiNameN, expression1, ... expressionN)</td>
<td>If CustomObject = Manufacturer Details, CustomObjectAttribute1 = Media Inc., CustomObjectAttribute2 = MI, CSV Column1 = MI&lt;br&gt;getCustomObjectValue(“CustomObject”, “CustomObjectAttribute1”, “CustomObjectAttribute2”, [CSV Column1]) = Media Inc.</td>
</tr>
<tr>
<td>getCategory</td>
<td>Returns the category corresponding to the specified From category in the given catalog mapping.</td>
<td>getCategory(catalogMappingName, fromCategoryCode)</td>
<td>If Attribute1 = Spoke Mapping, Attribute2 = Ceramic_Faucets&lt;br&gt;getCategory([Attribute1], [Attribute2]) = Faucets&lt;br&gt;where, Faucets is the To category set corresponding to the From category Ceramic_Faucets in the catalog mapping Spoke Mapping.</td>
</tr>
<tr>
<td>getItemClass</td>
<td>Returns the item class corresponding to the specified From Category in the given catalog mapping.</td>
<td>getItemClass(catalogMappingName, fromCategoryCode)</td>
<td>If Attribute1 = Supplier Mapping, Attribute2 = Peripheral_Devices&lt;br&gt;getItemClass([Attribute1], [Attribute2]) = Electronics&lt;br&gt;where, Electronics is the item class set corresponding to the From category Peripheral_Devices in the catalog mapping Supplier Mapping.</td>
</tr>
</tbody>
</table>

**Calendar Functions**

The calendar functions available for creating expressions are listed in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>currentDate</td>
<td>Returns the current date.</td>
<td>currentDate()</td>
<td>01/17/2017</td>
</tr>
<tr>
<td>currentTime</td>
<td>Returns the current date and time.</td>
<td>currentTime()</td>
<td>01/17/2017 10:30:45 AM</td>
</tr>
</tbody>
</table>
### Day Name

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>dayName</td>
<td>Returns the name of the day for a specified date.</td>
<td>dayName(expression)</td>
<td>If Attribute1 = 01/17/2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dayName([Attribute1]) = Monday</td>
</tr>
</tbody>
</table>

### Day of Month

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>dayOfMonth</td>
<td>Returns the number of the day of the month for a specified date.</td>
<td>dayOfMonth(expression)</td>
<td>If Attribute1 = 01/17/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dayOfMonth([Attribute1]) = 17</td>
</tr>
</tbody>
</table>

### Day of Week

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>dayOfWeek</td>
<td>Returns the number of the day of the week for a specified date.</td>
<td>dayOfWeek(expression)</td>
<td>If Attribute1 = 01/17/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dayOfWeek([Attribute1]) = 2</td>
</tr>
</tbody>
</table>

### Day of Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>dayOfYear</td>
<td>Returns the number of the day in the year for a specified date.</td>
<td>dayOfYear(expression)</td>
<td>If Attribute1 = 01/17/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dayOfYear([Attribute1]) = 17</td>
</tr>
</tbody>
</table>

### Month

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>month</td>
<td>Returns the number of the month for a specified date.</td>
<td>month(expression)</td>
<td>If Attribute1 = 01/17/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>month([Attribute1]) = 1</td>
</tr>
</tbody>
</table>

### Year

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Expression</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>Returns the year for a specified date.</td>
<td>year(expression)</td>
<td>If Attribute1 = 01/17/2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Year([Attribute1]) = 2017</td>
</tr>
</tbody>
</table>

---

### Import Item Attachments

**Import Item Attachments**

In addition to items, you can also import and upload the attachments related to items to Product Information Management. The item attachments are uploaded as part of the source data file upload process. Attachments may include digital assets, such as images, PDF files, and videos.

You can import item attachments in a compressed file in the following ways:

- Import attachments with CSV file
- Import attachments with import maps
- Import attachments with Microsoft Excel file
- Import attachments using web services

To upload item attachments, you must first associate the source data file attachment attributes to the master data attachment attributes.
The following table lists the attachment types that can be imported:

<table>
<thead>
<tr>
<th>Attachment Entity</th>
<th>CSV File</th>
<th>Import Map</th>
<th>Microsoft Excel File</th>
<th>Web Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item images</td>
<td>Enter Image in the Category column.</td>
<td>Enter Image in the Category column.</td>
<td>Enter Image in the Category column.</td>
<td>Supported</td>
</tr>
<tr>
<td>Revision</td>
<td>Enter Item Revision in the Revision column, and specify ITEM_REVISION in the Entity Type column.</td>
<td>Map the source Revision column to the master data Item Revision &gt; Revision column. Map the source Attachment Entity column to the master Attachment &gt; Attachment Entity column. Map source ITEM_REVISION column to master Attachment &gt; Attachment Entity attribute.</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Repository File/Folder</td>
<td>Specify the repository file or folder in the File Type Name column and specify the source full path location of the file or folder in the File URL Text column.</td>
<td>Map the source repository file or folder to the master Attachment &gt; File Type attribute. Map the source full path location of the file or folder to the master Attachment &gt; File Name.</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Trading partner item</td>
<td>Enter the trading partner item data in the Trading Partner Item Number and Trading Partner Number columns and specify CUSTOMER_ITEM, COMPETITOR_ITEM, SUPPLIER_ITEM or MANUFACTURER_PART_NUMBER in the Entity Type column.</td>
<td>Map the source TPI columns to the master Trading Partner Item &gt; TPI attributes. Map the source Attachment Entity column to the master Attachment &gt; Attachment Entity column. Specify CUSTOMER_ITEM, COMPETITOR_ITEM, SUPPLIER_ITEM, or MANUFACTURER_PART_NUMBER in the source column that maps to the master Attachment &gt; Attachment Entity attribute.</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Descriptive flexfields</td>
<td>Enter the Descriptive Flexfields values in the attachment Descriptive Flexfields columns.</td>
<td>Map the source Descriptive Flexfields columns to the master Descriptive</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
</tbody>
</table>
### Importing Attachments with CSV File

You can import attachments using a CSV file as follows.

- In the Microsoft Excel template, specify item attachment data in the EGP_ITEM_ATTACHMENT_INTF sheet.
- Generate a .csv file from the template.
- Click File Import and Export in the panel drawer to open the File Import and Export page.
- Upload the .csv file and the compressed file containing attachments to scm/item/import.
- In the Scheduled Processes page, click Load Interface File for Import and then click Item Import to import the attachments.

### Importing Attachments with Import Maps

You can import attachments using an import map as follows.

- Create an import map and map the columns of the source data file with the attachment attributes in Attachment node in the Master Data region of the import map.
- Create an item batch and select the Upload from File action.
- Upload item data file and the compressed file containing item attachments to be imported.
- Submit the batch to the import item attachments.

### Importing Attachments with Microsoft Excel File

You can import attachments using spreadsheets as follows.

- Create an item batch and click Add Items to Batch Upload from Spreadsheet.
- Select Attachments as the import entity.
- Click Download to download and open the Attachments spreadsheet.
- Click Select Attachments File in the spreadsheet to select and upload the compressed item attachments file.
- Enter item and attachment information and submit the data to be imported.

### Importing Attachments using Web Services

You can use the processAttachmentInterface operation, available in the Item Batch Maintenance web service, to upload attachments. You can also use this operation to perform bulk create and delete operations on the attachment interface records.

You can import item, revision, and trading partner item attachments in the following ways:

- Upload the compressed attachment file to the reconfigured Oracle WebCenter Content location scm/item/import. This location was also defined for CSV data file upload. Populate the item and attachment data in interface tables using Item Batch Maintenance web service. The name of the compressed attachment file is populated in the Batch Document Name column of the attachment interface table.
- Upload the attachments directly to Oracle WebCenter Content and specify the full path location in the File URL Text column of the attachment interface. The new operation is used to populate the Oracle WebCenter path in File URL Text column of attachment interface.

### Import Descriptive Flexfields

#### How You Import Descriptive Flexfields

You can import descriptive flexfields from your source file using import maps. You add your source file that has the descriptive field details to the import map and then create a mapping with the master data.

You define mappings for flexfields in the Source Data table on the Create Import Map or the Edit Import Map page. You can access this page from the Manage Import Maps task in the Product Information Management work area.

You can import descriptive flexfield data related to these entities:

- Item
- Item Revision
- Item Relationship
- Trading Partner Item
- Attachment
- Structure

Each of these entities have an attribute group named Additional Attributes that holds the descriptive flexfield data. You can map these descriptive flexfields with the source file to create an import map, and then import the data.

Here are some additional information for Item Relationship, Trading Partner Item, and Structure master attributes:

- For the Item Relationship entity, you can define descriptive fields in the Additional Attributes attribute group. Within Additional Attributes, you have the Entity attribute where you specify that the descriptive flexfields belong to which relationship type, such as Related Item, GTIN and Cross-Reference.

- For the Trading Partner Item entity, you can define the descriptive flexfields for TPI and TPI Relationship in the Additional Attributes attribute group. Within Additional Attributes, you have the Entity attribute where you specify that the descriptive flexfields belong to which TPI or TPI Relationship type, such as MPN, Supplier Item, Customer Item, and Competitor Item.

You import TPI Relationships by mapping item attributes in the Item entity, and by mapping TPI attributes in the Trading Partner Item entity. In addition to these, if you also map the descriptive flexfields in Additional Attributes, then the descriptive flexfield is imported as TPI Relationship descriptive flexfield (not as TPI descriptive flexfield).

Also, you import TPIs by mapping only the TPI attributes in the Trading Partner Item entity. In addition to these, if you map the descriptive flexfields in Additional Attributes, then the descriptive flexfield is imported as TPI descriptive flexfield (not as TPI Relationship descriptive flexfield).

- For the Structure entity, you can define the descriptive flexfields for Structure Header, Component, Substitute, and Reference Designator in the Additional Attributes attribute group. Within Additional Attributes, you have the Entity attribute where you specify that the descriptive flexfields belong to which Structure entity: Item Structure, Component, Substitute or Reference Designator.
FAQs for Item Import

What are the required attributes for adding items to a batch?

If the source system that you’re importing from isn’t Product Information Management Data Hub, then your spreadsheet for the import must include values for these attributes:

- Source System Reference
- Source System Reference Description
- Source System Code
- Transaction Type
- Organization Code
- Batch ID

You must copy the value for the batch ID from the batch’s row on the Manage Item Batches page.

Can I map attributes of multiple item classes in a single import map?

Yes. While mapping the attributes on the Create Import Map or Edit Import Map page, you can select an item class from the Item Class field in the Master Data region and then map the item class-specific attributes. You can then select another item class in the Item Class field and map its attributes.

Can I change the item class of an item during import using an import map?

Yes. You can specify the new name of the item class in the source data file column, and map the source column to the New Item Class Name attribute in the Main attribute group under the Item node in the Master Data region while creating or editing an import map.

Can I delete a batch if it is not assigned to me?

No, you can only delete item batches that are assigned to you.

In addition, you cannot delete an item batch with a status of Active.
Can I import multibyte characters using import maps?
Yes. You can import multibyte characters using import maps by setting the **Encoding Type** attribute to **UTF-16** on the **Create Import Map** page and by uploading a data file that is encoded to UTF-16.

Can I import double quotation marks using CSV files and import maps?
Yes. You can import double quotation marks using CSV files and import maps by escaping the double quotation marks. To escape the double quotation marks, enclose them within another double quotation mark.

Here are a few examples to import double quotes. If you enter the following values in a CSV file:

1. """"Laptop with 15 inch display.""
2. "Laptop with ""15 inch"" display."
3. "Laptop with 15 inch"" display."
4. """"Laptop with ""15 inch"" display.""
5. """"Laptop with 15 inch"" display.""

Import map imports the following values:

1. "Laptop with 15 inch display."
2. Laptop with "15 inch" display.
3. Laptop with 15 inch" display.
4. "Laptop with "15 inch" display."
5. "Laptop with 15 inch" display."
18 Manage Supplier Products

Overview of Managing Supplier Products

Users with the Supplier Product Administration role create products in Product Hub Portal that are sent to the Product Hub for review.
Users can create supplier products in the Product Hub Portal UI, using the smart spreadsheet or through a scheduled upload. The product data steward reviews the products and either requests more information, rejects, or approves the products. Products that need more information or are rejected are sent back to the supplier. The supplier can view the product status on Manage Products page. Products that are accepted are added to an item batch. When the item batch completes, the products are available in Product Hub with a status of Imported.

Overview of Creating Supplier Products

Supplier products can be created three ways in Oracle Fusion Product Hub Portal:

1. Through the Create Product task in the Product Hub Portal.
2. Upload a file.
3. Through a scheduled product upload.

Create Supplier Products

As a supplier, you can manage your own products from Product Hub Portal. You can create, edit, and bulk upload the products, as well as monitor the status of the products. When you upload the products, your products are stored in a staging area.

While creating and editing the products, you can provide data for the various product attributes, as well as upload product specific attachments. To create a product:

1. Select the category for the product that you want to create.
2. Provide the required attributes such as Product name, Description, and so on.
3. Optionally, attach attachments to the product.
4. Save or submit the product.

Consider these points when you create a product:

- A saved product remains in a Draft status until you submit it. After you submit the product, the Product Data Steward can review the submitted product before importing it into Product Hub.
- Once the Product Data Steward import the products into Product Hub, an item is automatically created in Product Hub and a Spoke Item Relationship is created for the item. The spoke system is set to Supplier's Spoke System and the spoke item number is set as the product, as uploaded by the supplier in Product Hub Portal.
- A Product Data Steward can also import the product as a Supplier Item Relationship or MPN Relationship by asking the suppliers to upload their products in Product Hub Portal using an import map. The import map must have the mappings for these Trading Partner Item Relationships.
- As a supplier, you can also specify the MPN Relationship on the Create Product page while creating a product in Product Hub Portal.
Supplier Product Uploads

Suppliers can upload product data, using a file, through Oracle Fusion Product Hub Portal.

Upload Flow

The following table describes the basic product upload flow when your supplier uses Product Hub Portal. This flow assumes that you are responsible for managing import of data to production tables, and that you have set up a spoke system for your product data supplier.

<table>
<thead>
<tr>
<th>Who (User)</th>
<th>Where (Location)</th>
<th>What (Objects)</th>
<th>How (Action)</th>
</tr>
</thead>
<tbody>
<tr>
<td>You</td>
<td>Edit Import Map page</td>
<td>Import map</td>
<td>Select the External option and choose the suppliers who will upload data. Select a source data file and map columns of source data to master data attributes.</td>
</tr>
<tr>
<td>You</td>
<td>Edit Import Map page</td>
<td>Import map source data file</td>
<td>Use the Generate Templates action to generate templates that suppliers can download in product hub portal.</td>
</tr>
<tr>
<td>Your supplier</td>
<td>Product Uploads page in Product Hub Portal</td>
<td>Import map source data file</td>
<td>Click Download Templates and download the source data template file, which is named for the corresponding import map.</td>
</tr>
<tr>
<td>Your supplier</td>
<td>Downloaded Template</td>
<td>Smart spreadsheet</td>
<td>Enter the product data and generate the data file to be uploaded to product hub portal.</td>
</tr>
<tr>
<td>Your supplier</td>
<td>Product Uploads page</td>
<td>Generated data file</td>
<td>Click Upload File, then specify the category and data file. A default name for the upload is provided. Click Upload to start the upload of the source data file to the interface tables.</td>
</tr>
<tr>
<td>You</td>
<td>Review Supplier Uploads page</td>
<td>Product information</td>
<td>Review and accept or reject products uploaded by suppliers and create item batches.</td>
</tr>
<tr>
<td>Who (User)</td>
<td>Where (Location)</td>
<td>What (Objects)</td>
<td>How (Action)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>You</td>
<td>Manage Item Batches page</td>
<td>Item batch containing the data upload</td>
<td>Review the new item batch and import options for the spoke system definition for your supplier.</td>
</tr>
<tr>
<td>You</td>
<td>Manage Item Batches page</td>
<td>Item batch containing the data upload</td>
<td>The item batch page includes details about the outcome of the import process.</td>
</tr>
<tr>
<td>You</td>
<td>Product Information Management work area Supplier Portal work area</td>
<td>Worklist notifications email messages</td>
<td>Events in the flow generate informational messages or emails, prompting you and your supplier to take action as needed.</td>
</tr>
<tr>
<td>Your supplier</td>
<td>Schedules page</td>
<td>Schedules</td>
<td>Examine the status of the schedule. Stop the schedule if desired. Edit future runs of the schedule if it hasn't completed them.</td>
</tr>
</tbody>
</table>

**Related Topics**
- Item Batches
- Overview of Importing Item Data Using Import Maps

## Upload Products with Smart Spreadsheets

Suppliers can download the Smart Spreadsheets that are exposed to them by the Product Data Stewards. They can use these spreadsheets to fill out their product data and generate the data files which can then be uploaded to Product Hub Portal. The Smart Spreadsheets contain the metadata information of the item attributes that are mapped in the Import Map to which the spreadsheet belongs to. The suppliers can use this information to accurately fill in their product data. The metadata information could be valid values that can be entered for the item attributes, the maximum number of characters that can be entered for an item attribute, the data type of the item attribute, and so on.

## Uploading Data Using Smart Spreadsheets

In the Product Hub Portal, suppliers with the Supplier Product Administrator job role can download the smart spreadsheets exposed by the Product Data Stewards, enter data, and create and upload data files.

You can use smart spreadsheets to upload data to the Product Hub Portal as follows:

1. Download the smart spreadsheet template as follows:
   a. In the Supplier Portal work area, click the **Manage Products** task.
   b. On the Manage Products page, select the **Product Uploads** infolet.
   c. Click **Download Templates** to download and save a smart spreadsheet template.
2. Enter data into the smart spreadsheet.
3. Validate data in the smart spreadsheet: Click the Validate button to check the data entered in the smart spreadsheet against the attribute metadata. The rows that fail the validation are highlighted in the Status column. The Status column isn't included in the generated data file.
   - Errors indicate an invalid value or a missing value for the Item Number and Spoke Item Number required attributes.
   - Errors also display if a value exceeds the character limit or doesn't follow the allowed format.
   - Warnings indicate a missing value for the required attributes that are optional if you're updating data.
   - If a row contains both an error and warning, it's highlighted with the higher severity status, that's an error.
   - Resolve all errors and warnings, and click Validate to confirm.

4. Generate data files from the smart spreadsheet: Click the Generate Data File button. Data files are generated from the validated spreadsheets. The data files are used to import the data into the Product Hub.

5. Upload the data files to Product Hub Portal as follows:
   a. On the Manage Products page, select the Product Uploads infolet.
   b. Click Upload File. The Upload File dialog box displays.
   c. From the Category drop-down list, select the product category for which to create the products.
   d. Select a template in the Template field to upload the product data. Select the same template as was downloaded to fill in the product data.
   e. Upload the data file in the File field. Optionally, you can also upload a ZIP file containing product attachments, using the Attachments field.
   f. Enter a name in the Upload Name field.
   g. Click Upload to upload the data file.

The newly created or updated products are submitted to the Product Data Stewards for review. On successful import, products are created or updated in the Product Hub.

Source Data Files

The source data file contains the product data to be uploaded to the Product Hub staging tables. Before a supplier can enter data in the file, you must associate the file with an import map and map its columns to attributes in the item master data table the import map. Source data files can be in the text or XML formats. A supplier downloads the source data file template, which has the same name as the import map, from the Product Uploads page.

The following example shows product data in text format.

```
Item_number,Org,Item Class,Primary UOM,LifeCycle Phase,Status
IMB_SP_121610000_Item_1,V1,Root Item Class,Each,Design,Active,
IMB_SP_121610000_Item_2,V1,Root Item Class,Each,Design,Active
IMB_SP_121610000_Item_3,V1,Root Item Class,Each,Design,Active
```

The following example shows product data in XML format.

```
<?xml version="1.0"?>
<ItemData>
  <Item>
    <ItemNumber>IMB_SP_121610000_Item_1</ItemNumber>
    <Org>V1</Org>
    <UOM>Each</UOM>
    <Phase>Design</Phase>
    <Status>Active</Status>
  </Item>
</ItemData>
```
Review Supplier Uploads

Product Data Stewards can review the products submitted by all suppliers that they have access to in Product Hub.

Managing Products by Product Data Stewards

They can then choose to selectively import the products into Product Hub by adding them to item batches. Once the items are added to item batches, they get copied from supplier staging area to the item batch from where they get imported into Product Hub. If blending rules are setup by the Product Data Stewards then the product data of multiple suppliers gets blended before it gets imported into Product Hub. The Data Stewards can also choose to request more information from the submitted products or reject the products.

Reviewing Supplier Uploads

Product Data Stewards can view the Product Uploads and products submitted by all suppliers in Product Hub from the Review Supplier Uploads page. They can then take necessary actions like importing the products in Product Hub, requesting more information for the submitted products and rejecting the products.

From the Review Supplier Uploads page, Product Data Stewards can review the product uploads and products submitted by all suppliers in Product Hub.

Importing Supplier Products into Product Hub

Product Data Stewards can selectively import the submitted products into Product Hub by adding them to item batches.

On adding the products to item batches, they get copied from supplier staging area to the item batch. This keeps a copy of the product data in the supplier staging area. The products added to the item batches can then be imported into Product Hub. Changes made to the products in Product Hub aren't visible to suppliers in Product Hub Portal.

Rejecting Supplier Products

Product Data Stewards can reject the products that they don't want to import into Product Hub. The suppliers can then view the rejected products in Product Hub Portal.
How Can You Schedule File Uploads in Product Hub Portal

Your supplier can place product data in the Oracle WebCenter Content and schedule automated uploads of that data at defined intervals. The automated upload requires a manifest file, which identifies one or more source data files and corresponding optional attachment files to be uploaded.

To schedule an automatic upload, your supplier must:

1. In Oracle WebCenter Content, place one or more source data files in Contribution Folders.
2. Provide a manifest file, in CSV format. The manifest guides the upload process to the source data files for a specified schedule. A separate product upload will run for each source data file. The manifest must contain the following columns:
   - Template: The name of the item map template associated with each data source file included in the manifest.
   - File Path: The relative path in Oracle WebCenter Content to each data source file to be uploaded.
   - Attachments File Path: The relative path in Oracle WebCenter Content to each optional references file to be uploaded.
3. In Oracle WebCenter Content, place the manifest file in Contribution Folders.
4. On the Schedules page of the Product Hub Portal, create a schedule.
5. Enter a name for the schedule, and the path to the manifest file in Oracle WebCenter Content, such as /Contribution Folders/SPManifest.csv.
6. Specify the frequency and start date for the scheduled uploads. The frequency should accord with your supplier’s upload plans.

   Note: To ensure that data is not uploaded redundantly, the manifest file is marked as processed after each run, and the schedule will not run again unless an unprocessed file is detected.

7. Since a schedule can include multiple uploads, they are each assigned a number. Specify the starting number and numbering increment. You can optionally specify a text prefix for each upload name.

Worklists and Notifications in Product Hub Portal

As you and your supplier proceed with the product upload and import process, you are both informed of its progress and status, by workflow notifications. These messages indicate what action you should take next.

- Worklist notifications are sent to both your supplier and to you.
- Notifications appear in the worklist.
- Workflow notifications contain the following information:
  - Details about the upload job, such as the assignee, originator, task number, and supplier name.
  - Recommended actions related to the status of the workflow event. The actions differ for different events.
Details about the product data in the upload, such as the item class, import map name, and data template file name.

- Links to the files used by the upload, such as the data template file. The links point to Universal Content Management.
- The name and number of any item batches created by a successful upload.

1. If a file upload fails, then you and your supplier receive a notification. The recommended action is to correct the errors and upload the file again. In Product Hub Portal, your supplier can click the **Download Errors** button in the Product Upload dialog to download the errors file.

2. If a file upload succeeds, and the schedule of the item batch is set to On Data Load, then you and your supplier receive a notification. The recommended action informs you that the scheduled import is in progress. The item batch resulting from the upload is identified.

3. If a file upload succeeds, and the schedule of the item batch is set to Manual, then you and your supplier receive a notification. The recommended action is to initiate an import of an item batch. The item batch resulting from the upload is identified. A link is provided to the Manage Item Batches page.

4. You will receive a notification when a supplier submits a product by creating or updating it from the Create or Edit pages in Product Hub Portal.

   Your supplier receives a notification when you request more information for a submitted product, while reviewing it from Review Supplier Upload page.

   Your supplier receives a notification when you raise a subscription request for supplier products from the Manage Data Pool Subscriptions page.
19 Cleanse Product and Service Data

Check Data Quality

Data Quality
The quality of product data is enhanced with data quality, which provides classification, standardization, and matching to refine item data and to prevent duplicate items. Item data can be inconsistent, especially when imported from external sources.

Data quality involves the following:
- Data quality checking
- Data quality attributes
- Classification
- Standardization
- Matching

Data Quality Checking
When you check data quality, data quality applies classification, standardization, and matching to the items that you are creating, editing, or importing, and then presents you with the results for acceptance.

You can check the quality of your product data:
- When you are creating a single item interactively
- When you are creating multiple items interactively
- When you are editing an item interactively
- By running a periodically scheduled process that checks the items in an item class
- When you are importing a batch of items

Data Quality Attributes
Data quality depends primarily on the values of designated attributes. You define the detailed rules for the relationships between these data quality attributes, which are used for either standardization or matching. Then, you designate these attributes at the item class level.

Categorization
Categorization includes suggested assignments of items to one or more catalogs and to categories within those catalogs. For example, if the Power attribute equals 10 watts and the Capacity attribute equals 300 ohms and the Capacitance attribute equals 10 microfarads, then the item belongs to the Capacitor category. Categorization rules are defined using the Manage Item Rule Sets task.

Standardization
You can define rules that make the values of specified item attributes consistent with desired norms. For example, you might convert all Fahrenheit temperature values to Celsius, or all English measurements to metric. You can also use
standardization to merge divergent forms of attribute values into a single consistent form, such as by changing the unit of measure values \text{in.} \text{ and IN} to \text{Inches}. Standardization rules are defined using the Manage Item Rule Sets task.

Matching
You can define rules for detecting when an item that is being created or imported matches an item that already exists in the Oracle Fusion Product Hub repository. For example, suppose that if power supply items differ only in the finish style of the casing, then they are considered to match existing items. To get this result, you would not use the hypothetical Casing Style attribute as a match-rule attribute.

Related Topics
• Available Options to Check Data Quality for Item Batches
• Overview of Product Rules

Check Data Quality for Items
The following scenarios illustrate the ways in which you can check data quality when working with items.

• Creating a single item
• Creating multiple items
• Editing an item
• Importing an item batch

Creating a Single Item
To check data quality when creating a single item interactively:

1. On the Create Item page, select \textbf{Actions > Check Data Quality}.
2. Examine the Check and Apply Data Quality Results window, which displays the \textit{classification}, \textit{standardization}, and \textit{matching} values.
3. If the data quality results are satisfactory, click \textbf{Apply} to apply the new values to the Create Item page.
4. The data quality checks are also performed when you click \textbf{Save}, \textbf{Save and Close}, or \textbf{Submit}. Note that you can submit an item only when its item class is enabled for new item requests.

Creating Multiple Items
To check data quality when you are creating multiple items interactively:

1. On the Create Multiple Items page, select \textbf{Actions > Check Data Quality}.
2. Examine the Check and Apply Data Quality Results window, which displays, for each item in the set, the \textit{classification}, \textit{standardization}, and \textit{matching} values.
3. Use the iterator control to examine different items in the set. Click \textbf{Remove item} for an item to be removed from the set.
4. If the data quality results are satisfactory, click \textbf{OK} to apply the new values to the Create Multiple Items page.
5. The data quality checks are also performed when you click \textbf{Save and Close} or \textbf{Submit}.

\textbf{Note:} You can submit items only when their item class is enabled for new item requests. If the data quality results contain a mixture of enabled and nonenabled items, then the \textbf{Submit} action is replaced by the following actions:

\begin{itemize}
  \item Add all of the items to a new item request, regardless of whether the item class is enabled.
  \item Add only the enabled items to a new item request.
\end{itemize}
Editing an Item

To check data quality when you are editing an item interactively:

1. On the Edit Item page, select **Actions > Check Data Quality**.
2. Examine the Check and Apply Data Quality Results window, which displays the *classification, standardization,* and *matching* values.
3. If the data quality results are satisfactory, click **Apply** to apply the new values to the Edit Item page.
4. The data quality checks are not performed when you click **Save, Save and Close**, or **Submit**.

**Note:** Data quality is not automatically checked when you update an item. To ensure data quality for existing items, you can run the periodically scheduled **Semantic Key Update** process.

Importing an Item Batch

You can specify data quality options when defining a source system or through an import batch definition by selecting **Check Data Quality** in the Data Quality section of the source system or batch definition. Items being created in Oracle Fusion Product Hub go through the data quality check automatically, while items that are updated using batches must have the data quality check initiated manually.

**Related Topics**
- Item Batches
- Available Options to Check Data Quality for Item Batches
- Unconfirmed Items in Item Batches
- Intrabatch Items in Item Batches

FAQs for Data Quality Check

**When does data quality checking occur?**

Data quality is checked automatically when you save newly created items, but you must explicitly check data quality when you save existing items that you have just updated. You can run a scheduled process to periodically check data quality.

When you are creating a new item, or multiple items, you can select **Actions > Check Data Quality**. The data quality checks are also performed automatically when you select **Save, Save and Close**, or **Submit**.

When you are editing an existing item, you must select **Actions > Check Data Quality**. Data quality is not checked automatically.

When you are importing a batch of items, you can check data quality either automatically or manually. To enable automatic checking during data upload, select **Check data quality** in the Data Quality Options section of the Create Item Batch page. If automatic checking is not enabled, you can select a batch on the Manage Item Batches page then select **Actions > Check Data Quality**.

**Related Topics**
- Available Options to Check Data Quality for Item Batches
- Unconfirmed Items in Item Batches
How can I use attribute groups to control data quality?

While defining an item class, select the attributes that participate in data quality in the order that you want them to be applied. All selected attributes are used for classification and standardization. You can also select attributes to be used for matching duplicate items. If an attribute is not marked for matching, it is used for classification only and is not used to identify duplicates.

To use attribute groups to control data quality:

1. On the Edit Item Class page, navigate to the Attribute Groups and Pages tab.
2. Select the Data Quality subtab.
3. Select Actions > Select and Add.
4. In the Select and Add: Data Quality Attributes window, search for one or more desired attribute groups.
5. Select an attribute from the attribute group to be used when checking data quality. Repeat for other attributes that you want to use for checking data quality.

Note: The sequence in which you select the attributes determines the sequence in which they are used in checking data quality.

6. Select the Matching check box to use the attribute for matching.

Related Topics

- Item Attributes

Can I bypass the data quality check while creating an item?

No. If data quality checking has been implemented, then the checks are performed automatically when you select Save, Save and Close, or Submit from the Actions menu. The Submit action applies only to new item requests.

What happens if I remove some items from the data quality results for multiple items?

Any items that you remove from the data quality results for multiple items are not created.

What happens if the data quality results for a new item aren't satisfactory?

If you consider the data quality results for the item you are creating to be incorrect, then your immediate choice is to cancel the creation. However, you should also contact the administrator responsible for the setup and discuss the issue so that the model can be altered as required.
What happens if I don't accept the results after running a data quality check?

You must either accept all of the results of *classification* and *standardization*, or choose not to create the affected items. However, if new items are affected by the checks for *matching*, then you can ignore the duplicates and continue with creating the items.

Why can't I see the Data Quality dialog box during item matching?

During a data quality check, if there are no matching items found, Product Hub saves the item automatically. You don't have to take any action for saving the item.
20 Standardize Product and Service Data

Numbers, Descriptions, and Rules

You can create rules that generate the identification numbers for several types of objects when they are created: items, change orders, and new item requests. You can also create rules that generate descriptions for items.

Generating numbers and descriptions with rules requires the following actions:

- Creating rule sets
- Creating rules
- Completing associations

Creating Rule Sets

You must associate the rule sets containing number generation rules with the item classes, change order types, or new item request types for those objects.

- You must select the Assignment type for the rule set, because you are assigning a new value to an object's number (or description).
- In the rule set, the association type must correspond to the object, according to the following table.

<table>
<thead>
<tr>
<th>Object to Be Numbered</th>
<th>Association Type for the Rule Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Item class</td>
</tr>
<tr>
<td>Change order</td>
<td>Change type</td>
</tr>
<tr>
<td>New item request</td>
<td>New item request</td>
</tr>
</tbody>
</table>

Note: Although you can also associate a rule set with an attribute group, you cannot generate numbers for an attribute group.

You activate a rule set by adding it to an item master rule set.

Creating Rules

The rules that generate numbers or descriptions must produce appropriate values.

- The return type of the rule must correspond to the object being numbered, according to the following table.

<table>
<thead>
<tr>
<th>Object to Be Numbered</th>
<th>Return Type for the Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item (number)</td>
<td>Item number</td>
</tr>
</tbody>
</table>
Object to Be Numbered | Return Type for the Rule
--- | ---
Item (description) | Item description
Change order | Change order number
New item request | New item request number

- The definition of the rule must generate a number (or description) as the return value.

### Completing Associations
You must associate the object with the rule set of the rule that generates the number or description.

- The rule set must already exist and contain a valid rule.
- The number generation method (or description generation method) of the object must be set to **Rule Generated**. The location for setting the generation method varies by object.
- After the number generation method is set to **Rule Generated**, the associated rule set name must be set to the rule set that contains the generation rule that you created.

> **Note:** In an item class, you can use one rule set for item number generation, and a different rule set for item description generation.

### Related Topics
- Rules and Rule Sets

### Number Generation Methods
You can define methods to automatically generate numbers for items, new item requests, and change orders. Number generation methods can be specified when defining the following:

- **Item classes** - The generated item number is applied to items when they are created from the specified item class. You specify the method in the **Item Number Generation Method** field on the **Item Management** tab of the Edit Item Class page.
- **New item requests** - The generated new item request number is applied to all new item requests when they are created. You specify the method in the **Number Generation Method** field on the **Number Generation** tab of the Manage New Item Request Type Details page.
- **Change orders** - The generated change order number is applied to change orders when they are created from the specified change order type. You specify the method in the **Number Generation Method** field on the **Number Generation** tab of the Edit Change Order Type page.

Existing numbers are not changed if you change a number generation method.
The number generation methods are:

- Inherited from Parent
- Rule-Generated
- Sequence-Generated
- User-Defined

**Inherited from Parent**
Select this method to generate numbers for items, using the same number generation method that is defined in the parent item class of an item class. Like other aspects of item classes, the number generation method can be inherited. This method is only available for item classes.

**Rule-Generated**
Select this method to use a rule set to generate numbers for items, new item requests, or change orders. The rule set that you select must be already associated with the item class, new item request type, or change order type.

**Sequence-Generated**
Select this method to use an alphanumeric sequence to generate numbers for items, new item requests, or change orders. Enter a starting number and an increment value to determine the sequencing. You can optionally define a textual prefix or suffix for the generated number.

For item classes that define configured items, you can also define a distinct sequence number that is used by Oracle Fusion Configurator. Select **Sequence** from the **Configured Item Number Generation Method** field. Specify a starting number and an increment value. For the optional prefix or suffix, you can select **Model Item Number**, which uses the value specified for the **Base Model** attribute, or **User Defined**, which requires manually entered text. You can select an optional **Delimiter** character to separate the elements of the generated number.

**User-Defined**
Select this method to allow the manual entry of a number for items, new item requests, or change orders when you create them.

**Related Topics**
- Rules and Rule Sets

**Generate Numbers and Descriptions with Rules**
The following scenarios illustrate how to use rules to generate numbers for newly created items, change orders, or new item requests, and descriptions for newly created items.

- Creating rules to generate numbers for new items
- Creating rules to generate descriptions for new items
- Creating rules to generate numbers for change orders
- Creating rules to generate numbers for new item requests
Creating Rules to Generate Numbers for New Items

This scenario illustrates how to use rules to generate numbers for newly created items.

1. Select the **Setup Rules** task.
2. On the Manage Rule Sets page, create and save a rule set with the field values shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule Set)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Name</td>
<td>Example: MyItemNumGenRuleSet1</td>
</tr>
<tr>
<td>Type</td>
<td>Assignments</td>
</tr>
<tr>
<td>Association Type</td>
<td>Item Class</td>
</tr>
<tr>
<td>Association Name</td>
<td>Example: MyItemClass1</td>
</tr>
<tr>
<td>Business Entities</td>
<td>One or more of Item data level, Item revision data level, or Item supplier data level</td>
</tr>
</tbody>
</table>

3. On the Edit Rule Set page, create and save a rule with the field values shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Example: MyItemNumGenRule1</td>
</tr>
<tr>
<td>Return Type</td>
<td>Item Number</td>
</tr>
<tr>
<td>Primary If Expression</td>
<td>true</td>
</tr>
<tr>
<td>Secondary If Expression</td>
<td>true</td>
</tr>
<tr>
<td>Return Value</td>
<td>Example:</td>
</tr>
</tbody>
</table>

4. Select the **Manage Item Classes** task.
5. On the Manage Item Classes page, edit the item class that you selected as the association name for your rule set.
6. On the Item Management tab of the Edit Item Class page, select the field values shown in the following table, and save the item class.
Field (in Item Class) | Value
---|---
Name | Example: MyItemClass1
Item Number Generation Method (in the Number Generation section) | Rule Generated
Associated Rule Set | Example: MyItemNumGenRuleSet1

Note: Only rule sets with the corresponding association type (in this scenario, Item Class) are available. Also, your rule set will not appear in the Associated Rule Set list of values unless a valid rule has been created in the rule set.

7. When you create a new item from this item class, the item number field initially contains a message that the number will be rule generated. When you save (or submit) the item, your rule generates a number for it.

Note: Once an item has been saved, its item number, whether generated or manually entered, cannot be changed unless the Update Item Number (EGP_UPDATEABLE_ITEM) profile option has been set to Yes at the site level. If that profile option has been set to Yes, then when any attributes used in your number generation rules are updated, the item numbers are regenerated accordingly.

Creating Rules to Generate Descriptions for New Items

This scenario illustrates how to use rules to generate descriptions for newly created items. The scenario is the same as the one for generating numbers for new items, with the differences shown as follows.

- In the Details section of the Edit Rule Set page, the differences for your rule are shown in the following table.

| Field (in Rule) | Value |
---|---|
Name | Example: MyItemDescGenRule1 |
Return Type | Item Description |
Return Value | Example: [Item]. [Main]. [ItemType] + [Item]. [Main]. [LongDescription] |

- On the Item Management tab, the differences for your item class are shown in the following table.
Field (in Item Class) | Value
--- | ---
Item Description Generation Method (in the Description Generation section) | Rule Generated
Associated Rule Set | Example: MyItemDescGenRule1

- When you create a new item from this item class, the item **Description** field initially contains a message that the description will be rule generated. When you save (or submit) the item, your rule generates a read-only description for it.
- Whenever any attributes used in your description generation rules are updated, the item descriptions are regenerated accordingly when the item is displayed.

Note: The same rule set can contain rules for both item number generation and item description generation.

### Creating Rules to Generate Numbers for Change Orders

This scenario illustrates how to use rules to generate change order numbers for newly created change orders. The scenario is the same as the one for generating numbers for new items, with the differences shown as follows.

- On the Edit Rule Set page, the differences for your rule set are shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule Set)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Name</td>
<td>Example: MyCONumGenRuleSet1</td>
</tr>
<tr>
<td>Association Type</td>
<td>Change type</td>
</tr>
<tr>
<td>Association Name</td>
<td>Example: MyCOType1</td>
</tr>
</tbody>
</table>

- In the Details section of the Edit Rule Set page, the differences for your rule are shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Example: MyCONumGenRule1</td>
</tr>
<tr>
<td>Return Type</td>
<td>Change order number</td>
</tr>
<tr>
<td>Return Value</td>
<td>Example:</td>
</tr>
</tbody>
</table>
On the Number Generation tab of the Edit Change Order Type page, the differences for your change order type are shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Change Order Type)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Generation Method</td>
<td>Rule Generated</td>
</tr>
<tr>
<td>Associated Rule Set</td>
<td>Example: MyCONumGenRuleSet1</td>
</tr>
</tbody>
</table>

When you create a new change order, your rule generates a change order number for it after you submit it.

Creating Rules to Generate Numbers for New Item Requests

This scenario illustrates how to use rules to generate new item request numbers for newly created new item requests. The scenario is the same as the one for generating numbers for new items, with the differences shown as follows:

On the Edit Rule Set page, the differences for your rule set are shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule Set)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Name</td>
<td>Example: MyNIRNumGenRuleSet1</td>
</tr>
<tr>
<td>Association Type</td>
<td>New Item Request</td>
</tr>
<tr>
<td>Association Name</td>
<td>Example: MyNIRType1</td>
</tr>
</tbody>
</table>

In the Details section of the Edit Rule Set page, the differences for your rule are shown in the following table.

<table>
<thead>
<tr>
<th>Field (in Rule)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Example: MyNIRNumGenRule1</td>
</tr>
<tr>
<td>Return Type</td>
<td>New item request number</td>
</tr>
<tr>
<td>Return Value</td>
<td>Example:</td>
</tr>
</tbody>
</table>

On the Number Generation tab of the Manage New Item Request Type Details page, the differences for your new item request type are shown in the following table.

Note: There are multiple item classes and change order types, but only a single type for new item requests. Consequently, all new item requests use the same rule set.
### Field (in New Item Request Type) | Value
---|---
**Number Generation Method** (in the Number Generation section) | Rule Generated
**Associated Rule Set** | Example: MyNIRNumGenRuleSet1

- When you create a new item request, your rule generates a new item request number for it.

**Related Topics**
- Rules and Rule Sets

### What are the Various Methods for Submitting Items to the Update Process

Determine the method to use for submitting items to the product update. Select one of the following options:

**Items Without Error**
When you select this action, all the items that do not have errors will be added to the batch. When the Batch is run, rules are forcefully applied and items are updated.

**Items with Error**
When the impact analysis is performed, certain items may result in errors. In this case, you can add the items to an item batch and then later search and process the item batch so that the items that are updated are consistent with the rules.

**Manually Update Items**
If you want to correct the errors before you add the items to batch, run the batch then navigate to the respective item pages, separately, and update the necessary data so that these items do not result in an error during the update process.

**Upload Items to Spreadsheet**
You can update the items in a spreadsheet before adding them to the batch. You can specify any necessary preprocessing updates so that these items do not result in an error during the update process. In this case, you can add the items to an item batch, then later search and process the item batch so that the items are updated consistently with the rules.
How Items are Matched

Items that are created during import or through the application go through global trade item number (GTIN) and trading partner item (TPI) matching in addition to attribute matching as part of data quality checks.

How GTIN/TPI Matching Is Processed

Data Quality Check first attempts to match items based on the spoke system item number. If no existing cross-references are found, data quality check then performs matching in the following sequence:

- GTIN
- Supplier
- Manufacturer
- Customer
- Competitor

Once a match is found, the matching program stops and will not continue to the next match type. Data Quality then checks for matches defined at item class. The spoke system cross reference is created and is used in update cases.

For GTIN matching, an internal item is identified as a match if the GTIN of the incoming item exists as a GTIN cross reference on an internal item and the pack type of the incoming item is the same as that of the internal item. When creating items with a GTIN cross reference, the reference is used to match against existing items with GTIN cross references. Then you can accept the match and choose to update the existing item with the new data or ignore the match and create it as a new item.

For TPI matching, supplier, manufacturer, customer, or competitor items are considered a match only when the trading partner and trading partner item associated to the internal item are the same as the incoming item. When creating items with TPI associations, they are used to match against existing items with the TPI associations. Then you can accept the match and update the existing item with the new data or ignore the match and create it as a new item.

FAQs for Standardize Product and Service Data

What happens if item numbers are allowed to change?

Ordinarily, item numbers cannot be changed after they are entered (or are generated by product rules) and the item is saved. This behavior is produced by the Update Item Number profile option (EGP_UPDATEABLE_ITEM), which has a default setting of No. If you set this profile option to Yes, then number generation rules will regenerate item numbers when any attributes participating in those rules change.
21 Publish Product Data to External Systems

Publish Item Objects

Publication helps you schedule and publish item objects automatically to each spoke system.

To publish item objects from Oracle Fusion Product Hub to a spoke system, do these steps:

1. Define publication options for a spoke system.
2. Define the schedule and parameters for the scheduled process.
3. Define profile options to publish items.
4. Access the payload generated by the publication scheduled process.

Now, let's discuss these steps in detail.

Define Publication Options for a Spoke System

You can publish item objects using the Manage Spoke Systems task.

1. From the Setup and Maintenance work area, use this navigation to open the Manage Spoke Systems task:
   - Offering: Product Management
   - Functional Area: Product Spoke Systems
   - Task: Manage Spoke Systems
2. Select a spoke system from the Search Results table to open the Edit Spoke Systems page.
3. Click the Publication Options tab.
4. Select the Item Relationships: Spoke System References entity in the Item Publication Criteria area.
5. Save the page.

When you publish the spoke system, the publication content includes the complete category-classification path for the item-category assignment. The category-classification path is also published in the publication payload as a part of the item-category assignment.

Define the Schedule and Parameters for the Scheduled Process

Publish the item objects using the Product Hub Publication Job scheduled process.

1. From the Scheduled Processes work area, click Schedule New Process.
2. Open the Product Hub Publication Job schedule process.
3. Define the Publish Items parameter as Yes to publish your items. You need to configure all the parameters in the Process Details dialog box. Here are some of the parameters and their description:
Schedule Process Parameters | Description
--- | ---
Spoke System | Name of the external spoke system where you want to publish items, item classes, or catalog information.
Publish from Date | Publishes records of objects from a start date. Specify the start date.
Publish to Date | Publishes records of objects to an end date. Specify an end date. Use this parameter with the Publish from Date parameter.
Folder Location | Specifies the Oracle WebCenter Content folder location to save the output XML file.
Process Sequentially | Specifies the publication jobs to run sequentially when there is more than one job. Otherwise, the jobs run in parallel with each other.

4. (Optional) Click the **Advanced** button and schedule the process to run at a later date and time.
5. Submit the scheduled process.

The scheduled process publishes the objects of each spoke system.

Publication processes can be a recurring or a one-time event. Let’s say you’re setting up an integration to a legacy application, where you’re publishing new items that are created in Oracle Fusion Product Hub. You would want to set up the scheduled publication job to run each night.

The scheduling frequency is based on the integration requirements and the availability of the applications that integrate with Product Hub to receive and process the data. For example, you may have a situation where Oracle Fusion Product Hub is feeding new item information to an ERP application. The application is available only for a brief period to accept the feed. So, you must plan the schedule process accordingly.

**Define Profile Options to Publish Items**

If you’re publishing over 1000 items or records, you can consider changing the values of the publication profile options.

1. From the Setup and Maintenance work area, open the Manage Advanced Profile Options task:
   - Offer: Product Management
   - Functional Area: Items
   - Task: Manage Advanced Item Profile Options
2. Update the profile options as mentioned in this table:

<table>
<thead>
<tr>
<th>Profile Option Code</th>
<th>Profile Option Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGI_PUBLICATION_ITEMS_PER_PAYLOAD</td>
<td>Number of Items per Payload for Publication</td>
<td>Number of items in each XML file. This profile option determines the number of items to be used per payload in the publication process.</td>
</tr>
</tbody>
</table>
Oracle SCM Cloud
Using Product Master Data Management

Chapter 21
Publish Product Data to External Systems

<table>
<thead>
<tr>
<th>Profile Option Code</th>
<th>Profile Option Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG1_PUBLICATION_NUMBER_OF_PAYLOADS</td>
<td>Number of Parallel Payloads for Publication</td>
<td>Number of scheduled subprocess that gets launched in the extraction process. This profile option determines the number of parallel payloads to be used in the publication process. The predefined value is 100.</td>
</tr>
<tr>
<td>EGP_PUBLICATION_SIZE_OF_ZIP_FILE</td>
<td>Size of the Publication Payload File in Megabytes</td>
<td>This profile option controls the overall size of the payload Zip file. The payload Zip file can contain more than one XML file for the item object. This profile option lets you chunk large publication jobs into multiple XML files. This profile option controls the overall size of the payload Zip file.</td>
</tr>
</tbody>
</table>

Here are the benefits of these profile options:

- **Configure the Publication Payload Size:** You can control the size of the publication payload to match the systems and processes requirements. The default size of the publication payload is 500 MB for all publication payloads. You can use the EGI_PUBLICATION_ITEMS_PER_PAYLOAD profile option to set a new value less than 500 MB to reduce the size of all publication payloads.

- **Review the Error Log for Additional Details:** You can view the errors identified during publication from the log files of the scheduled process. If an item record in the publication fails, the publication process doesn't publish the failed record but it publishes the remaining items records. The publication process updates the log file with additional information about the publication failure including the item number, rule name, and any error message that you have configured for the rule definition. Using this information, you can easily trace any publication errors and fix them.

The publication log file also contains additional information to clarify publication exceptions. The publication log file displays rule exception messages that you have created during the rule definition. The publication log file displays these messages based on the exception type during publications. Publication subjob exceptions are also included in the publication log file.

### Access the Payload Generated by the Publication Scheduled Process

You can access the XML payload from **Contribution Folders** in Oracle WebCenter Content.

The default publication folder in the Product Hub Publication Job schedule process is `/Contribution Folders/`. You can't edit the default folder path or folder name. This limitation is due to the changes required by Oracle WebCenter Content.
What Gets Published in the Publication Payload

This table lists the payload that gets published for a spoke system. The Publication Criteria column specifies what you define in the spoke system and the Options column specifies the published content.

<table>
<thead>
<tr>
<th>Publication Criteria</th>
<th>Options</th>
</tr>
</thead>
</table>
| **Objects**              | • Items  
                           • Item classes  
                           • Item catalogs  
                           • Trading partner items                                               |
| **Item entities**        | • Attributes  
                           The attributes are selected by default, and they include:  
                           ◦ Item main attributes  
                           ◦ Operational attributes  
                           • Attachments of type URL  
                           • Supplier site organizations association  
                           • Item category assignments  
                           • Pack hierarchies  
                           • Item relationships:  
                           ◦ Global trade item number (GTIN)  
                           ◦ Related items  
                           ◦ Cross-references  
                           • Structures:  
                           ◦ All  
                           ◦ Primary  
                           • All pack items  
                           All items with a pack type, regardless of membership in a hierarchy, are published whenever a change to the pack occurs.  
                           • Item selection rules  
                           Add rules that select certain items.  
                           • Item validation rules  
                           Select an existing validation rule set. |
| **Item class entities**  | • Item class attachment categories  
                           • Item class attribute groups  
                           • Item class descriptive flexfields  
                           • Data quality attributes  
                           • Product hub portal attributes groups  
                           • Item class pages  
                           • Item class lifecycle phases  
                           • Item class page attribute group  
                           • Item class translation content  
                           • Item overview attribute groups  
                           • Supplier attribute groups |
Publication Criteria | Options
--- | ---
| | • Transactional attributes
| | • Transactional attributes translation content

Item catalog entities | | • Catalog translation content
| | • Catalog attachments
| | • Catalog descriptive flexfields
| | • Categories
| | • Category translation content
| | • Category attachments
| | • Category descriptive flexfields
| | • Category item assignments

Trading partner item entities | | • Trading partner items for customers
| | • Trading partner items for suppliers
| | • Trading partner items for manufacturers
| | • Trading partner items for competitors
| | • Item relationships for related items
| | • Trading partner item attachment
| | • Trading partner items descriptive flexfields

FAQs for Publish Items

What happens if I don't select any objects on the spoke system to publish?

If you don't select any objects on the spoke system, you will not be able to define the publication options and no data will be published to the spoke system.

Will all items in a product hub be published?

Only items that have been updated since the last publication or criteria date and that meet the publication criteria for the spoke system will be published. This includes newly created items meeting the publication criteria.

Which items will be published?

The items published are based on what has changed since the last publication date and filtered by the selection rules in the configuration information on the publication options tab of the Manage Spoke Systems task. Selection rules can be based on organizations, organization hierarchy, catalog or item class.
Can I select items from specific child organizations to publish?
No, you cannot publish by specific child organizations. You can only publish at the master organization level. All child organizations within the master organization will publish.

Which item entities are supported for publication?
The supported item entities are:
- Attributes
- Attachments
- Supplier Site Associations
- Item Category Assignments
- Packs
- Item Relationships
- Structures

How can I chunk the data of the publication process?
Use the profile options provided for publication process:
- EGI_PUBLICATION_ITEMS_PER_PAYLOAD - Used to define the number of items per payload in the publication scheduled process. The seeded value is 100.
- EGI_PUBLICATION_NUMBER_OF_PAYLOADS - Used to define the number of parallel payloads to be used in the publication scheduled process. The seeded value is 10.

When deciding the values for these profile options, keep the following in mind:
- The capacity of the application you are publishing to.
- The equipment specifications for where the publication is running and in the applications you are publishing to.
- How often the publication job is run.

How can I add values to the profile options?
Profile option values are defined using the Manage Advanced Profile Values task in the Setup and Maintenance work area.
22 Obsolete Products and Services

Overview of Obsoleting Products and Services

Product managers can obsolete products and services by defining and maintaining delete groups that identify products and services that are at the end of their life cycle and should be purged.

Constraints maintain data integrity so that pending transactions are not affected while purging. Along with predefined constraints, custom constraints can be defined and checked before purging is done.

Caution: You can supersede existing items using item relationships. In those cases, the superseded items must continue to exist in the application. If the superseded item is deleted from the application, then all the cross references, item relationships and so on will be lost.

The following objects can be added to a Delete Group:

- Items
- Item organizations
- Item supplier site organizations
- Change orders
- New item requests
- Item structures and components

Delete groups can be created and maintained through the Manage Delete Groups link in Items on the Task menu.

You can add objects directly to a delete group through this task.

You can also add different objects to delete groups from their respective Manage pages. Search for an object such as item, item organization, new item request, or change order. Highlight the object and select Delete from the Action menu. You are prompted to add the object to an existing delete group or create a new one.

Group Deletions of Items, Structures, New Item Requests, and Change Orders

Deleting items, structures, new item requests, and change orders is controlled through the Delete Groups task. Delete Groups can be created and maintained through the Manage Delete Groups link under Items on the Task menu of the Product Information Management work area.

Caution: Once an item is deleted, it’s removed from the application, all the cross-references and item relationships such as item organizations, item supplier site organizations, structures, and components are lost.

On the Manage Delete Groups page, you can search for and access existing delete groups. From this page you can also delete those delete groups that were successfully submitted and completed.

On the Edit Delete Group page, you can add and remove objects for deletion, check constraints, and submit the delete group for processing.
**Note:** When you delete an object such as items, new item requests, and change orders from the appropriate manage page, you're prompted to add the object to an existing delete group or create a new one.

### Checking Constraints

Constraints maintain data integrity so that pending transactions aren't affected during purges.

After saving a delete group, choose **Check Constraints** on the Edit Delete Group page to ensure that it's safe to submit the objects for submission.

Along with predefined constraints, custom constraints can be defined to be checked before purging is done. Constraints are defined using the Service Oriented Architecture (SOA) Business Process Execution Language (BPEL).

The products that are checked for constraints are:

- Product Information Management
- Procurement
- Inventory
- Shipping
- Receiving
- Manufacturing
- Sales Forecast
- Sales Catalog
- Opportunity Management
- Order Capture
- Lead Management
- Market Response

When an item is in a delete group, the constraint check determines whether there are any open transactions involving the item. The constraint check is performed by querying a web service provided by each product. You can't delete an item that has open transactions.

### Items in Delete Groups

On the Items tab of the Edit Delete Group page, you can specify the following objects for deletion by choosing **Select and Add** from the Action menu, then selecting from the Entity drop-down list on the Select and Add page.

- Items
- Item organizations
- Item supplier site organizations

**Tip:** When you add an item to the delete group, you can change the organization, supplier and supplier site assignments for the object by highlighting the item row and selecting the appropriate assignments. This feature can be used in conjunction with the **Duplicate** action from the Action menu when you're adding a number of similar objects with different organization, supplier and supplier site assignments. The Duplicate feature enables you to copy the previous record and then you can change the different values, thus saving multiple clicks.
Item Structures in Delete Groups

On the Item Structures tab of the Edit Delete Group page, you can specify the following objects for deletion by choosing **Select and Add** from the Action menu, then selecting from the Entity drop-down list on the Select and Add page:

- Structures
- Components

**Tip:** When you add structures and components to the delete group, you can change organization, structure and component assignments by highlighting the structure or component row and changing the appropriate assignments. This feature can be used in conjunction with the **Duplicate** action from the Action menu when you’re adding a number of similar objects with different organization, structure and component assignments.

Change Orders and Delete Groups

On the Change Orders tab of the Edit Delete Group page, you can specify change orders for deletion by choosing **Select and Add** from the Action menu.

**Tip:** When you add change orders to the delete group, you can change the organization assignment by highlighting the change order row and changing the organization assignments. This feature can be used in conjunction with the **Duplicate** action from the Action menu when you’re adding a number of similar change orders with different organizations.

New Item Requests and Delete Groups

On the New Item Request tab of the Edit Delete Group page, you can specify new item requests for deletion by choosing **Select and Add** from the Action menu.

Submitting a Delete Group

Click **Submit** on the Edit Delete Group page to submit the objects for purging from the application.

Related Topics
- Oracle Cloud Developing SOA Applications with Oracle SOA Suite guide

Item Supersession

Items can be superseded by defining item relationships between two internal items using predefined relationship types, such as **superseded items**, **substitutes**, or **complimentary items**.

You can also define item relationships between two internal items using user-defined relationships.

When you define the relationship, you can specify attributes to further qualify the relationship as well as a date range when the relationship is effective.

Related Topics
- Types of Item Relationship
- Manage Item Relationships
Glossary

**action**
The kind of access, such as view or edit, named in a security policy.

**AMX**
Abbreviation for Approval Management extensions.

**ATO**
Abbreviation for Assemble to Order. Represents the ability for a user to define the component make up of a product at the very moment of ordering that product.

**ATP**
Abbreviation for available to promise.

**attribute**
A named entity whose value describes a product item. Attributes can be organized into attribute groups. You can search for items based on attribute values, by adding attribute fields when using Advanced Search (but you cannot search on transactional attributes). You can compare the attribute values of selected items returned by an item search.

**attribute group**
A named set of related product item attributes, associated with item classes, which can be inherited through the child hierarchy of an item class. You can select an attribute group, then select member attributes to participate in certain operations.

**BPEL**
Business Process Execution Language; a standard language for defining how to send XML messages to remote services, manipulate XML data structures, receive XML messages asynchronously from remote services, manage events and exceptions, define parallel sequences of execution, and undo parts of processes when exceptions occur.

**browsing category**
Parent or intermediate category that is associated with other categories in the catalog hierarchy, but has no assigned items.

**CAS**
Abbreviation for Chemical Abstracts Service. The American Chemical Society Chemical Abstracts Service registry number identifies a chemical substance or molecular structure.

**catalog**
A collection of categories used to classify items which can be organized into a hierarchy that represents a taxonomy.
catalog category
The association between a catalog and category or a category and category is called the catalog category. This association includes the start date and end dates.

category
Catalog component that is associated to a catalog to classify items.

classification
The Oracle Product Data Quality process that assigns an item to an item class, and to one or more categories within catalogs. The assignment is based on the value of data quality attributes in an attribute group that you specify for an item class.

context
A grouping of flexfield segments to store related information.

data security
The control of access and action a user can take against which data.

descriptive flexfield
Expandable fields used for capturing additional descriptive information or attributes about an entity, such as a customer case. You may configure information collection and storage based on the context.

DRP
Abbreviation for Distribution Resource Planning. Application of replenishment inventory calculations to assist in planning of key resources contained in a distribution system, such as sourcing and transport. DRP is an extension of distribution requirements planning, which applies MRP logic to inventory replenishment at branch warehouses.

effectivity
Enables item attributes to change over time while retaining historical values.

extensible flexfield
Expandable fields that you can use to capture multiple sets of information in a context or in multiple contexts. Some extensible flexfields let you group contexts into categories.

flexfield segment
An extensible data field that represents an attribute and captures a value corresponding to a predefined, single extension column in the database. A segment appears globally or based on a context of other captured information.
**GTIN**
Abbreviation for Global Trade Identification Number

**item organization**
Item definition where inventory balances are not stored and movement of inventory is not tracked in the applications. Item attributes that carry financial and accounting information are hidden.

**matching**
The data quality process by which items are matched as possible duplicates, according to the values of specified attributes. The rules for matching are defined in Oracle Enterprise Data Quality Product.

**MPS**
Abbreviation for Master Production Schedule. The anticipated build schedule in terms of rates or discrete quantities, and dates.

**MRP**
Abbreviation for Manufacturing Resource Planning. Process for determining material, labor and machine requirements in a manufacturing environment. MRPII (manufacturing resources planning) is the consolidation of material requirements planning (MRP), capacity requirements planning (CRP), and master production scheduling (MPS). MRP was originally designed for materials planning only. When labor and machine (resources) planning were incorporated it became known as MRPII. Today the definition of MRPII is generally associated with MRP systems.

**native catalog**
A catalog that a user is managing.

**organization**
A unit of an enterprise that provides a framework for performing legal, managerial, and financial control and reporting. Organizations can be classified to define their purpose, for example, as departments, divisions, legal entities, and can own projects and tasks, or incur project expenses.

**packs**
Packaging information managed using a hierarchy of items representing the logical structure of the product packaging needs. Each packaging level is modeled as an item making it easy to track inventory and orders against them.

**referenced category**
A category within the native catalog that is shared from a designated source catalog. A reference category is not editable.
RMA
Abbreviation for return material authorization.

shared category
A category within a source catalog that has been added to a native catalog as a referenced category. The category can be shared with one or more catalogs.

SKU
Abbreviation for Stock Keeping Unit. A unique identifier that defines an item at the lowest inventory level.

SOA
Abbreviation for service-oriented architecture.

source system
System where the sales order was created. Order Management Cloud and an order capture system are each an example of a source system. A source system provides business application information to an Oracle application. Oracle can use this information to extract fulfillment data and planning data into data files.

standardization
The data quality process by which the values of specified attributes of an item are made consistent with desired norms, according to rules defined in Oracle Product Data Quality.

structure
A bill of materials. A structure contains information on the parent item, components, attachments, and descriptive elements.

TIUD
Abbreviation for Trade Item Unit Descriptor.

UOM
Abbreviation for unit of measure. A division of quantity that is adopted as a standard of measurement.

WIP
Abbreviation for Work in Process. A product or products in various stages of completion, including all material from raw material that was released for initial processing up to completely processed material awaiting final inspection and acceptance as finished goods.

workflow
An automated process that passes a task from one user (or group of users) to another to view or act on. The task is routed in a logical sequence to achieve an end result.