

Winshuttle EnterWorks 10.4.x Classic Administration Guide

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1 Document Conventions

This EnterWorks document uses the following typographic conventions:

Convention	Usage
pathnames	Pathnames are shown with backslashes, as for Windows systems.
Courier New font	Denotes sample code, for example, Java, IDL, and command line information. May be used to denote filenames and pathnames, calculations, code samples, registry keys, URLs, messages displayed on the screen.
	If italicized and in angle brackets (< >), it denotes a variable.
Calibri Font (bold)	When used in body text, it denotes an object, area, list item, button, or menu option within the graphical user interface; or a database name or database-related object. (Examples: the Save button; the Product tab; the Name field; the SKU repository)
	Can also be used to denote text that is typed in a text box. (Example: Type "trackingNo" in the Name field)
Blue underlined text	Words, phrases or numbers in blue are active links that can be clicked. Clicking these active links will bring the user to the required information, steps, pages, chapters, or URL.

2 Document Terminology

This document uses the following terminology:

Convention	Usage
"EnterWorks" and "Enable"	The EnterWorks Enable product is now referred to simply as "EnterWorks". Some system components and images in this document may still retain the name "Enable".
"master" and "slave"	In computing environments, the term "master" has historically been used to describe a process that controls other processes. The controlled processes have been referred to as "slaves". Winshuttle no longer finds these terms acceptable. We are in the process of replacing them with "controller" and "workers" in our documentation, displayed content, and underlying architecture. In the meantime, for further information or instructions on changing the terms in is played content, please contact your EnterWorks account representative.

3 Customer Support

EnterWorks provides a full spectrum of customer support. Check your maintenance contract for details about the level of support purchased. A customer identification number will be issued the first time customer support is contacted. Keep this number for future reference when using the EnterWorks customer support service.

How to reach us	Comments
On the Web: https://enterworkssupport.zendesk.com	Our knowledge base includes solutions to common issues and is available 24 hours a day, 7 days a week.
Create a Support Request Ticket: https://enterworkssupport.zendesk.com/hc/enus/requests/new	You can generate a Support Request ticket at any time. The Winshuttle Support team addresses Support Request tickets during our normal business hours: • 5 AM – 5 PM Pacific Time • Monday-Friday
Postal mail: Winshuttle Customer Support Team 19820 North Creek Pkwy #200 Bothell, WA 98011 USA	Please include your preferred contact information, as well as a description of your request.

4 Overview

This document covers procedures for administering an organization's EnterWorks system using the EnterWorks Classic User Interface (UI). It covers configuration activities such as, modifying the Taxonomy, code sets, data models, Hierarchies, users, groups, and security. Some of these activities can be assigned to one or more advanced users, but it is recommended that data maintenance activities be given to advanced users. Any structural changes should be handled by the System Administrator. This document also covers system maintenance activities, such as archiving log files, monitoring scheduled jobs, and stopping/starting services.

A System Administrator (a user assigned to the Administration security group) will have access to all EnterWorks system features and functions, but not all functionality is covered in this document. For information regarding the EnterWorks components, installing EnterWorks, using EnterWorks, system maintenance, system architecture, and installing or using EnterWorks plugins, see the EnterWorks online help at https://help.winshuttle.com.

5 Logging into EnterWorks Classic

To log into EnterWorks Classic, perform the following steps:

- 1. Open the web browser.
- 2. Enter the EnterWorks Classic URL:

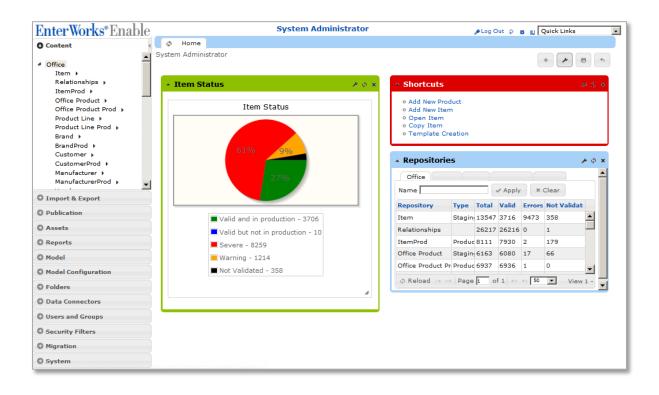
http://<servername>/webcm/

3. Select a Language, Enter your Login ID and Password and click the Logon button.



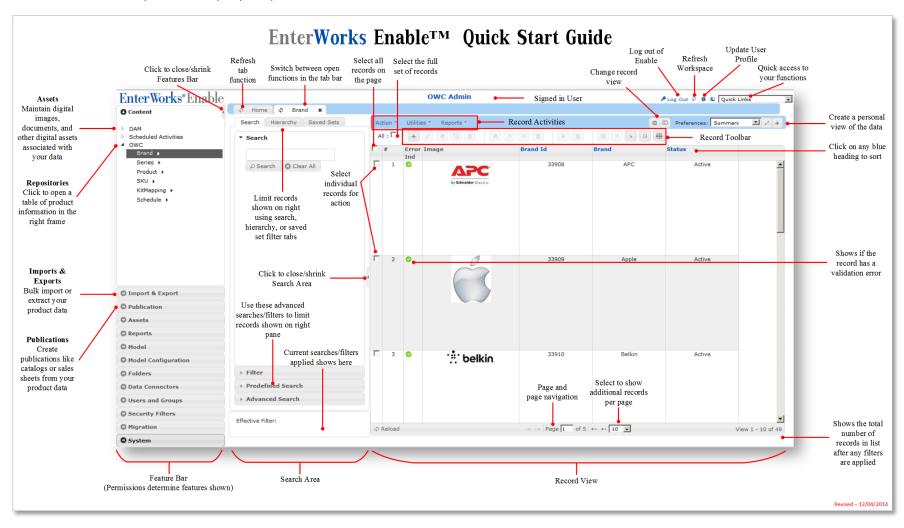
4. The EnterWorks startup screen appears.

Depending upon the user's permissions, the startup screen could have different features available. The screen shown above contains all features and functions. The Home Page tab is shown on system entry. Home Pages are user group specific; the screen above shows an example of three possible report widgets or internal web applications.



6 Quick Start Guide

The following Quick Start Guide for EnterWorks is not meant to describe all functionality, but to identify the most used. The following sections go into more detail and provide step-by-step instructions.



7 Home Page Report Widgets

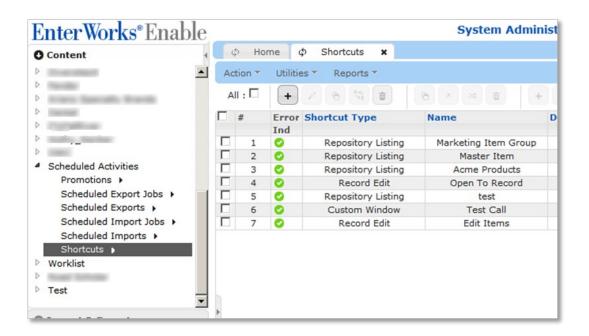
This section describes report widgets designed for administrative use, plus how to set up default home pages for each user group. When a user first signs on, the default home page associated with the user group assigned will be shown. The user can then modify their home page, as desired, without changing the default home page for the user group. For details on setting up user-oriented widgets see the EnterWorks online help at https://help.winshuttle.com.

7.1 Administrative Widgets

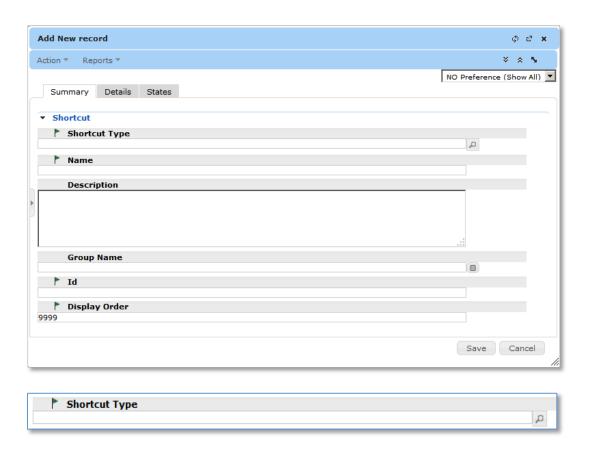
7.1.1 Creating a Shortcut Widget

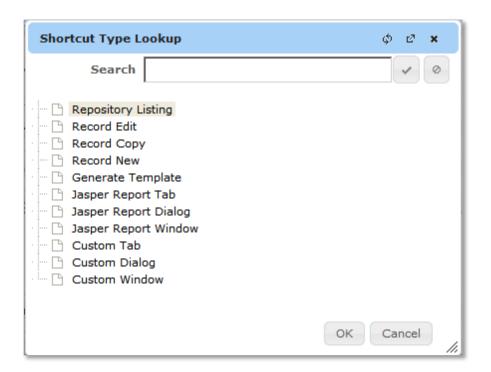
The Shortcuts widget can be used to set up quick links to certain functions so users can access them via the Home Page instead of navigating from the Feature Bar. These shortcuts are customized by editing the Shortcuts repository as shown below. The Shortcuts repository is found in the Scheduled Activities or the Workflow folder in the Feature bar.

- 1. Open the Shortcuts repository.
- 2. Click the Create a new record button +

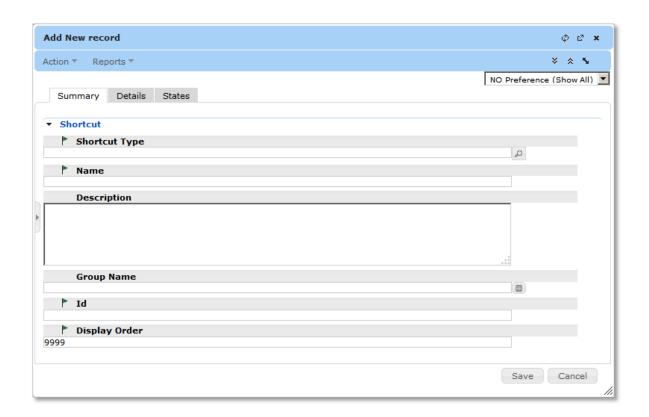


4. Click the lookup button \nearrow to select the **Shortcut Type**.

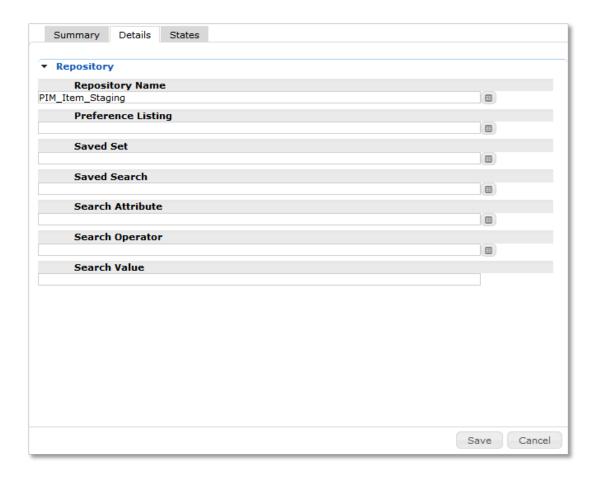




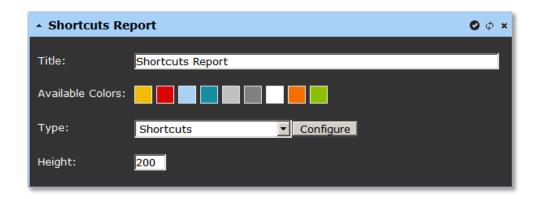
- 7. Enter a **Description** for the Shortcut (optional).
- 8. Select a **Group Name** (optional) which will limit the shortcut to a Shortcut Widget to any user within the group.
- 9. The **Id** will be generated by the system when the record is saved.
- 10. The default **Display Order** is last; this can be changed in this field by entering a number.



- 12. Select the **Repository Name** to identify the repository that will open up when the widget link is clicked.
- 13. Select the **Preference Listing** to indicate the Preference View that will be shown when the listing is opened (optional). If no Preference Listing is selected, the default preference will be shown.
- 14. Select a **Saved Set** and/or **Saved Search** to apply to the repository before displaying the records (optional).
- 15. Select a **Search Attribute**, **Search Operator**, and **Search Value** to execute on the repository before displaying the records (optional).
- 16. Click the **Save** button.



- a. Click the plus + button on the top-right of the Home Page to add a new widget.
- b. Enter a Title for your report widget.
- d. Select a different color for the report widget (optional).
- e. Change the **Height,** if required to show all the shortcut links (optional).
- f. There is no configuration window for this widget.



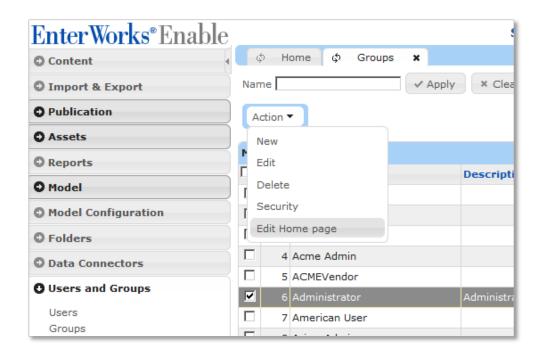


h. Click the **Save** button on the top-right of the home page to save the new widget.

7.1.2 Creating a System Health Widget

This widget is designed to help a Systems Administrator monitor the components of the EnterWorks system. Therefore, it is recommended this widget be added to the Administrator home page.

- 1. Open the Users & Groups Feature on the Feature bar.
- 2. Open the **Groups** Function.
- 3. Select the **Administrator** group record.
- 4. Click on the **Action** drop-down list and select the **Edit Home Page** option.

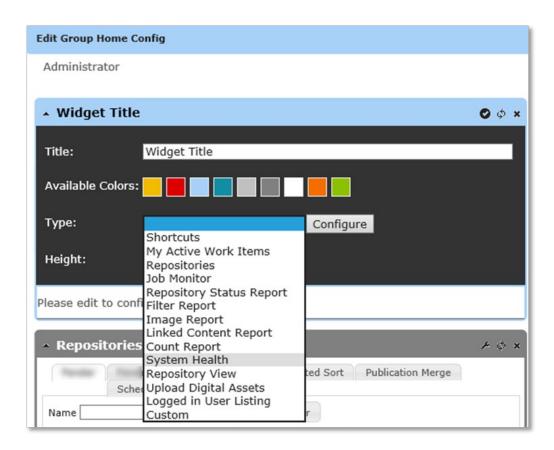




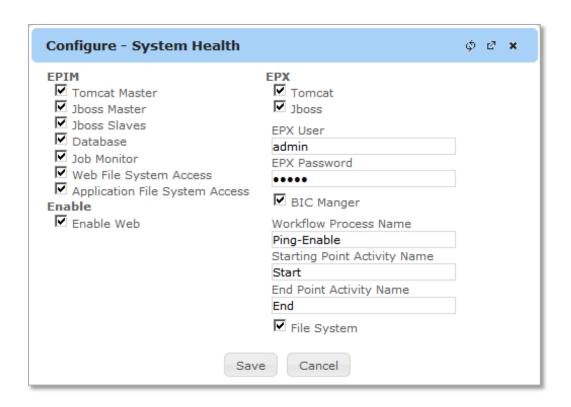




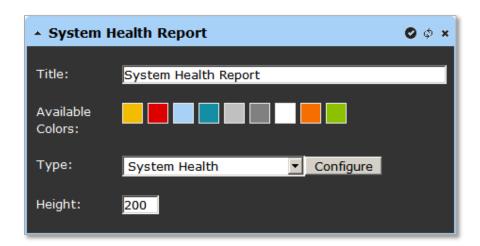
7. Click the wrench button to open the definition window.



- 9. Select a different color for the report widget (optional).
- 10. Select the **Type = "System Health"** from the drop-down list.
- 11. Change the **Height**, if required (optional).
- 12. Click the **Configure** button (the first time it will show automatically).



14. Click the **Save** button.







To configure a Channel Readiness widget:

- 1. In the **Feature** bar, open the **Users and Groups** folder and select **Groups**.
- 2. Select the group that is going to get the widget.
- 3. Click on the **Action** drop-down list and select the **Edit Home Page** option.
- 1. Click the + symbol in the top right of the **Edit Group Home Config** window to add a new widget.
- 2. Click the wrench icon at the top right of the new widget to open the configuration menu for the new widget.
- 3. Edit the configuration options:
 - **Title**: Enter a title for the widget.
 - Type: Select Channel Readiness.
 - If you are configuring the widget for use by users with administrative privileges, select 'yes' for Admin, otherwise select 'no'.

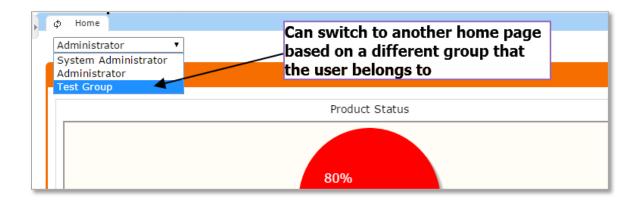
- If the widget is for inbound channels select 'yes' for inbound, otherwise select 'no'.
- **Height**: Enter 600 or more.



- 5. Click the disk icon at the top right of the Edit Group Home Config window to save the Home Page.
- 6. The widget should now be visible for the users in the Channel Manager group.

7.2 Switching To Other Group Views

Users may belong to several groups. To go to the home page of a different group you belong to, select the group from the down list on the top left of the home page tab.



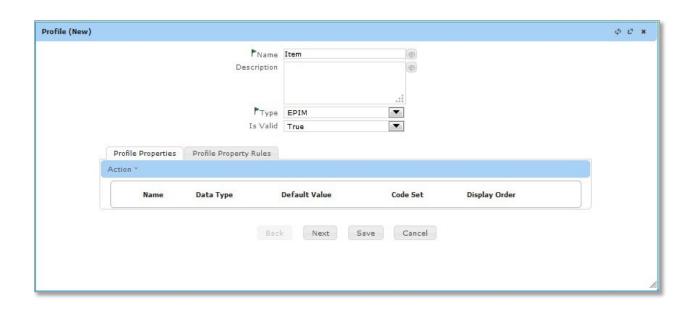
8 Managing Attributes

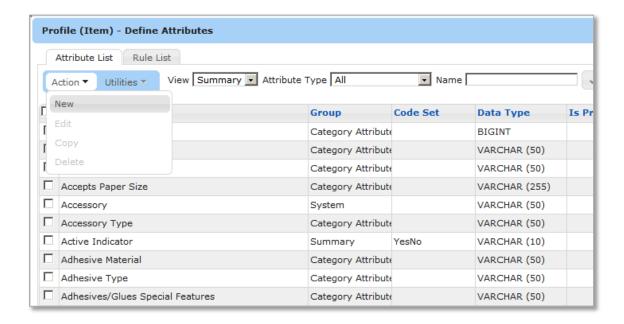
8.1 Adding an Attribute to a Repository

To add an attribute to a repository:

- 1. On the **Feature** bar, in the **Content** tab, open the repository's folder.
- 2. Click the arrow to the right of the repository you want to add a new attribute to.
- 3. Click the **Manage Model** submenu.
- 4. Select the **Profile** option.



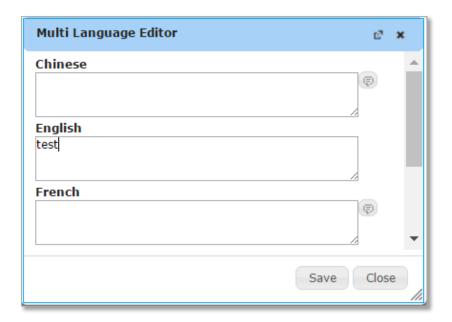




8.1.1 Attribute Details

The configuration options for attributes are:

Name (Required) and Description (Optional): The name and description fields for attributes are translatable. To add translations, click the multi-language icon corresponding to either the name or description to open the multi-language editor (shown below). After the user is done adding translations, click the Save button on the multi-language editor page and click OK on the Define Attribute Details page to save your translations.



- **Data Type**: (Required) Data type is one of the required fields for an attribute. By defining the Data Type you are defining what values the field can store and what functionality can be performed.
- **Data Type**-specific: The appearance of the following characteristics depends on the **Data Type** selected for the attribute.
 - Data Precision: Appears for Data Types: BIGINT, CURRENCY, DECIMAL, and INTEGER. Indicates the number of digits the value can have.

- Data Scale: Appears for and is required for Data Type: Currency and Decimal. Indicates how many digits are to the right of the decimal point.
- Data Size: Appears for Data Type: VARCHAR. Indicates the maximum number of characters in the data field.
- **Default Value**: (Optional) Specifies a default value for the profile's attribute property. This will not affect any existing repositories' attribute property.
- **Group:** (Required) A group organizes a repository's attributes in a meaningful manner via tabs within a repository's Detail Editor Tab.
- Association Group: An association group is a set of attributes that coordinate with each other, in that each attribute field consists of a list of values, where the first value in the list of one attribute relates to the first value in the list of the other attributes in the association group. Any attribute that is going to be in an Association Group must be a repeating, or multi-value attribute. If this attribute will be part of an association group, select the association group or click Manage to create an association group. Association Groups are not specific to a Profile so they must have a unique Name across all other Association Groups in the system.
- **Code Set:** If the value of this attribute will be selected from a code set, indicate here which code set to use.
- Control Type: Control types specify behavioral rules in which data can be entered.
 The graphical interface for an attribute is conditionally dependent upon the specified control type; which at times can be paired with the Is Repeatable option to help further determine the graphical interface. For instance, the use of a check box or radio button is dependent upon the Is Repeatable option.

Note: The only control type that supports multi-language is the HTML Editor control type.

The following table describes each control type within the EnterWorks system.

Control Types	Description
Check Box or Radio	Check Boxes are a series of small boxes which allow a user to select one or more specified values.
	Radio buttons also offer a set of values relative to an attribute however, only one can be selected at a time.

Control Types	Description
Code Set List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Code Sets within the EnterWorks system.
Code Set – Taxonomy and Hierarchy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of a combined list of all Taxonomies and Hierarchies within the EnterWorks system.
Custom Dropdown List	Allows a user to specify values via a specified SQL query. The values are displayed via a dropdown list or multi-select list.
Custom Format Pattern	Allows you to define your own format for user input. Enter a string representing the pattern of the desired input. Sections of the pattern that represent user input begin with {{ and end with }}. Use the following tokens to specify the characters the user is allowed to enter:
	9: The character must be a single digit.
	 a: The character must be an uppercase or lowercase letter in the English alphabet, A through Z.
	 *: The character can be a single digit or any uppercase or lowercase letter in the English alphabet, A through Z.
	For example, a phone number may be represented with the following string:
	({{999}}) {{999}}-{{999}}
	This control type does not support the multi-language capability.
Export, Publication and Syndication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export, Publication, and Syndication Templates within the EnterWorks system.

Control Types	Description
Export Style Map List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export Style Maps within the EnterWorks system.
Export Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export Templates within the EnterWorks system.
Group List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Groups within the EnterWorks system.
Hierarchy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Hierarchies within the EnterWorks system.
HTML Editor	Allows the user to format data via a WYSIWYG editor. This control type supports multi-language.
Import Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Import Templates within the EnterWorks system.
Numeric	Attribute field that only permits numeric characters.
	 In the Classic UI, non-numeric characters can be entered into attributes with a control type of numeric. The value will be accepted, validated when the value is saved, then marked as invalid.
	The New UI prevents values containing non- numeric characters to be saved.
Profile List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Profiles within the EnterWorks system.

Control Types	Description
Publication Style Map List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Publication Style Maps within the EnterWorks system.
Publication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Publication Templates within the EnterWorks system.
Repository List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all repositories within the EnterWorks system.
Syndication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Syndication Templates within the EnterWorks system.
Taxonomy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Taxonomies within the EnterWorks system.
User List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all users within the EnterWorks system.

- **Special Function Indicator:** (Optional) Allows the user to specify that the attribute serves a special function, such as a **Taxonomy Node Link** or that it is a status indicator. The available selections for this characteristic are based on the type of profile being defined.
- Category Attribute Association: (Optional) This is only used for Taxonomy Attributes. It identifies the Category Attribute Association Object to be used.
- **Is Variant:** A configuration dependent variable. For more information, contact your EnterWorks account representative.
- **Copywriter:** A configuration dependent variable. For more information, contact your EnterWorks account representative.

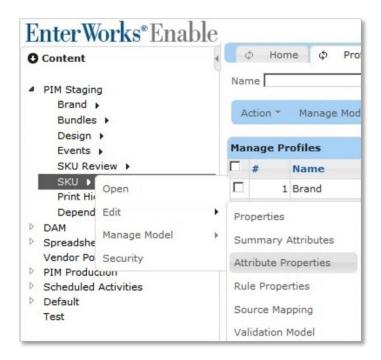
- Is Multi-Language: Indicates if this attribute is to use the Multi-Language capability.
 For more information on the Multi-Language capability, see Multiple Language
 Support.
- Is Global/Category/Dynamic: (Required) Indicates if this attribute is a Global Attribute, Category Attribute or Dynamic Attribute. Note that the attribute will only be displayed in the Category Attribute tree if it is a Category Attribute.
- **Is Required:** (Optional) Allows the attribute to be defined as a required element for each record within a repository.
- **Is Primary Key:** (Optional) Indicates this attribute contains the record's unique identifier.
- **Seq Gen Ind:** (Optional) This indicates that the attribute is the repository's sequence attribute and its value will be automatically generated by EnterWorks unless it is supplied by the user or an import when the record is created. There can be only one Auto-sequenced Attribute per repository.
- **Is Repeatable:** Indicates if a record can have multiple values for this attribute. When checked, a field appears to the right to specify the delimiter between values (default is a comma).
- **Is Business Key:** Indicates this is a business key. You can have more than one attribute designated as a business key. Used in conjunction with a bulk callout validation rule, business keys can be used to detect and prevent duplicate records being imported from a single file.

Note that other attribute definition fields may be present, depending on system configuration.

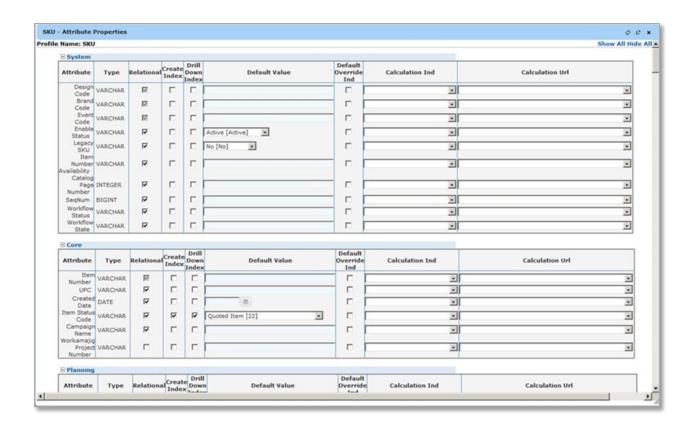
8.2 Making an Attribute a Search Filter

To make an attribute a search filter:

- 1. On the **Feature** bar, in the **Content** tab, open the repository's folder.
- 2. Click the arrow to the right of the repository you want to make an Attribute Search Filter for.
- 3. Click on the **Edit** menu option.
- 4. Select the **Attribute Properties** menu option.

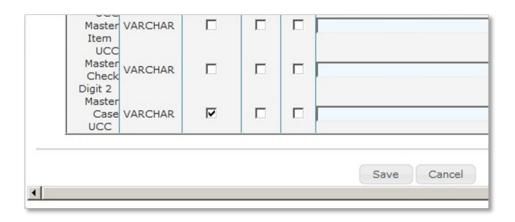


5. The **Attribute Properties** window will appear. It lists the properties for each attribute defined in the repository's profile.

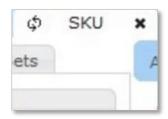


- 6. The attributes are organized by the tab they are assigned to, so find the attribute under the tab section and click the **Drill down Index** checkbox.
- 7. Click the **Save** button on the bottom of the list.

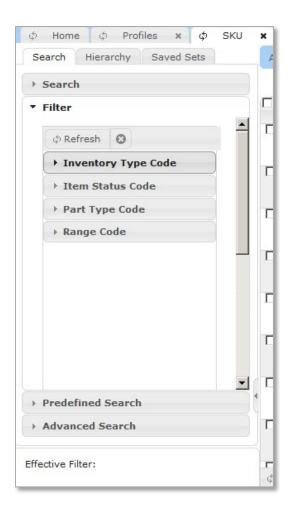
NOTE: To define the attribute as a Filter search field, the attribute Relational field must be checked also.



8. Open the repository or click the refresh cicon on the repository tab if it's already open.



9. The attribute will now appear as an option under the **Filter** area in the **Search** tab of the repository.



9 Managing Taxonomies and Hierarchies

This section describes:

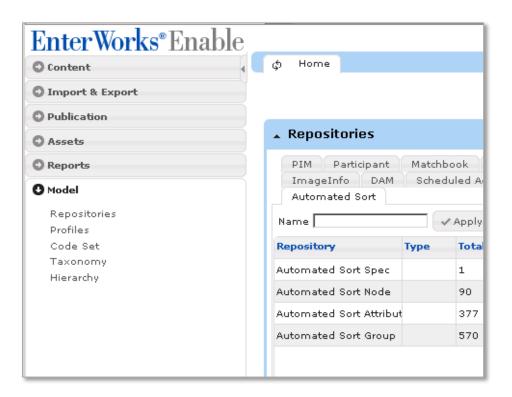
- Registering a Taxonomy or Hierarchy for use.
- Importing and exporting Hierarchies to, from and within environments (for example, from a Dev server to a QA server, copying a Hierarchy).
- Copying Hierarchies.
- Creating a restricted Hierarchy.
- Managing a node's metadata.

For instructions on defining and modifying Taxonomies or Hierarchies, see *Using EnterWorks* in our online help at https://help.winshuttle.com.

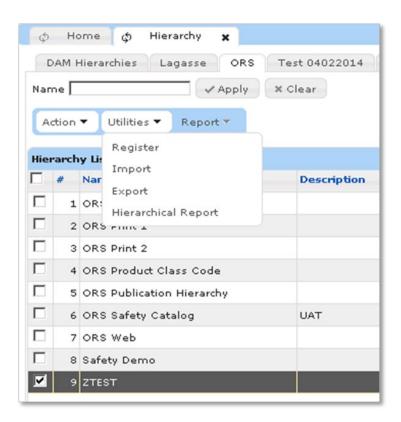
9.1 Registering a Hierarchy

To register a Hierarchy:

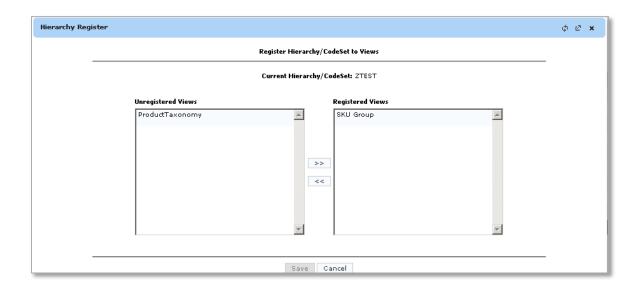
1. Navigate to the **Model** Feature in the **Feature** bar and click on the **Hierarchy** (or **Taxonomy**) function option.



- 2. Select the desired Hierarchy.
- 3. Under the **Utilities** drop-down menu, select the **Register** option.



4. Select the desired repository and use the arrow button to move it to the **Registered Views** list.

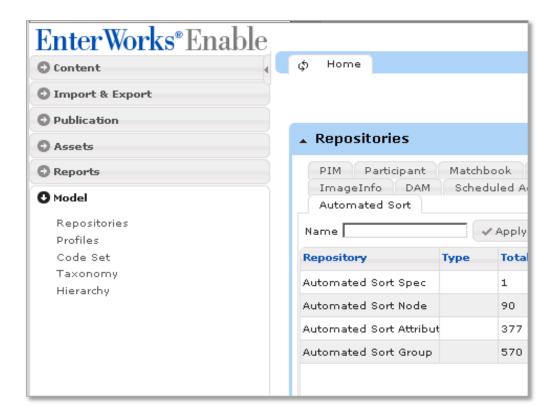


5. Click the **Save** button.

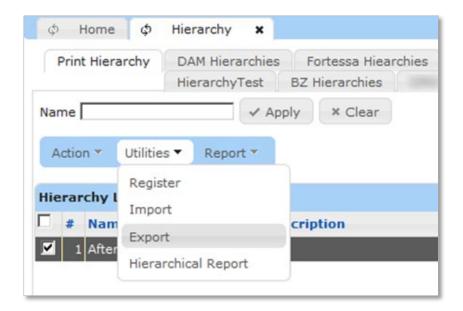
9.2 Exporting a Hierarchy

To export a Hierarchy:

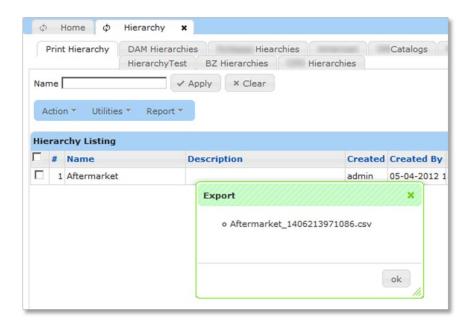
1. Navigate to the **Model** Feature in the **Feature** bar and click on the **Hierarchy** function option.



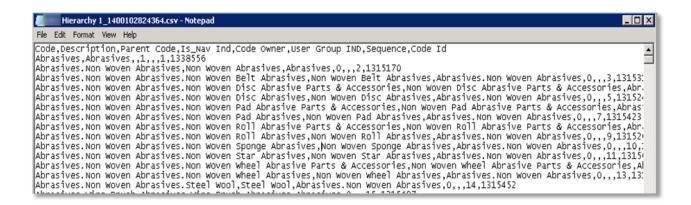
- 2. Select the Hierarchy that you want to export.
- 3. Select the **Export** option under the **Utilities** drop-down menu.



- 4. Select the desired format of the exported Hierarchy.
- 5. The name of generated file will be shown in a pop-up window. Click the file name link to download the generated export file.



6. Open and view the generated export file.

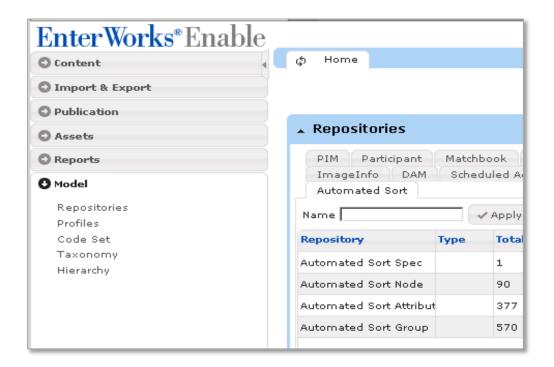


9.3 Importing a Hierarchy

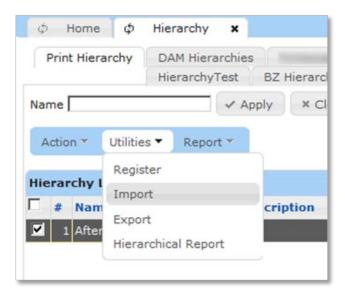
The easiest way to determine the columns of an imported Hierarchy file is to export the Hierarchy as shown above. The exported file can then be modified and reimported to update the Hierarchy. This is useful if there are a large number of changes that need to be made.

To import a Hierarchy:

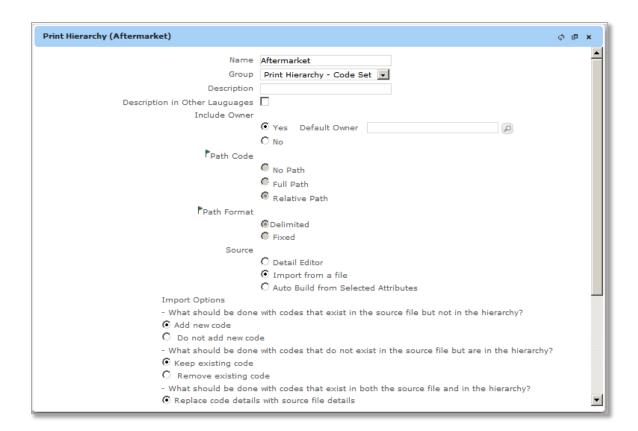
1. Open the **Feature** bar, open the **Model** folder, and select **Hierarchy**.



2. The **Hierarchy** tab will open. Select the Hierarchy that you want to import into and select the **Import** option under the **Utilities** drop-down menu.



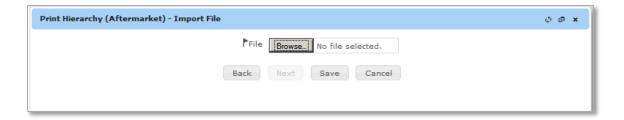
3. Check the Import options to make sure the import will function as you desire. Click the **Next** button.



- 4. Add or remove levels, if required.
- 5. Click the Next button.



6. Click the **Browse** button and navigate to the input file.



7. Click the **Open** button.

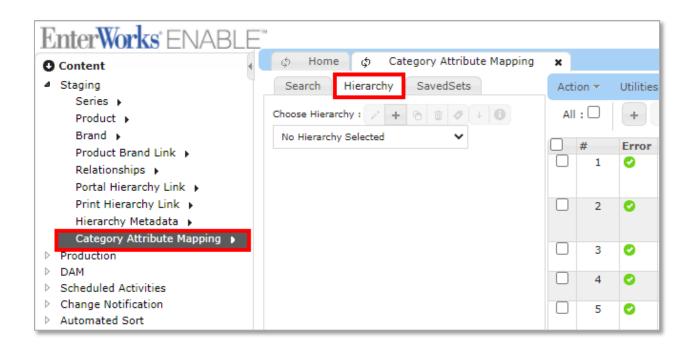


9.4 Copying a Hierarchy

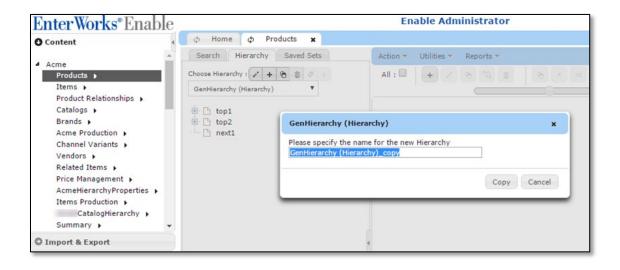
Existing Hierarchies and all repository items attached to their nodes can be copied to a new Hierarchy by users with administrative privileges. After the copy is complete, each Hierarchy is separate and changes to one Hierarchy do not affect the other Hierarchy.

To copy a Hierarchy:

- 1. Open the repository associated with the Hierarchy.
- 2. Click on the **Hierarchy** tab, (located between **Search** and **Saved Sets** tabs).



- 3. Select a Hierarchy from the Choose Hierarchy dropdown.
- 4. Click the copy icon.
- 5. Enter a name for the new Hierarchy.
- 6. Click Copy.



9.5 Creating a Restricted Hierarchy

A restricted Hierarchy is similar to a Taxonomy. An attribute in the repository is used to store a record's Hierarchy node assignment, so a record can only be assigned to one node in the Hierarchy. However, the record can be assigned to nodes in multiple restricted Hierarchies. Each restricted Hierarchy's node assignment is stored in its own repository attribute. Restricted Hierarchies cannot have category attributes.

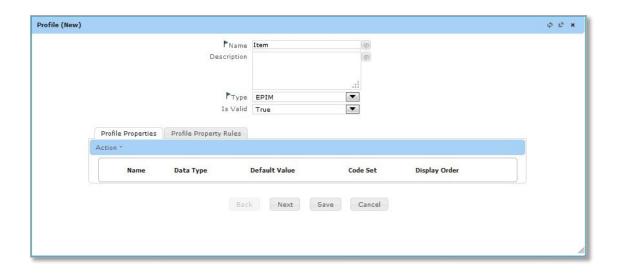
A Hierarchy can be set up by any user that has been given permission, but only an Administrator can make the Hierarchy restricted.

To make an existing Hierarchy into a restricted Hierarchy, create an attribute on the repository to capture the Hierarchy node:

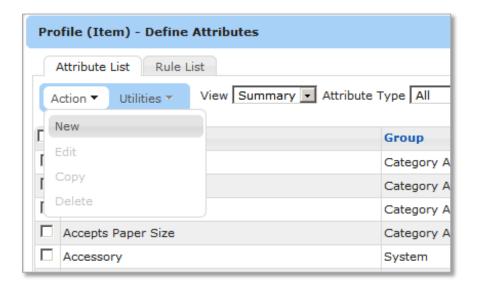
- 1. On the **Feature** bar, open the folder of the desired repository, then click the arrow to the right of the repository's name.
- 2. Select Manage Model.
- 3. Select the **Profile** option.



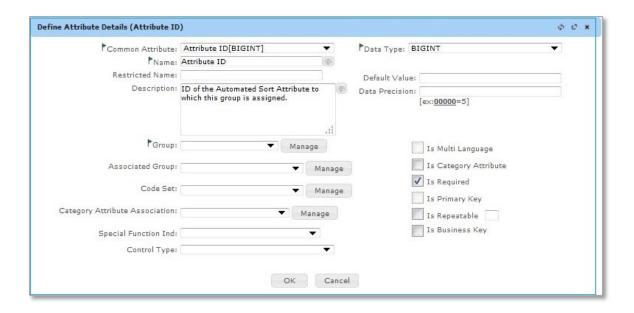
4. Click the **Next** button.



5. Click the **New** option under the **Action** menu.



6. The **Define Attribute Details** screen will appear.



- 7. Enter a **Name** for the field that will contain the Hierarchy node.
- 8. An attribute name is a translatable field. To add translations, simply select the multi-language icon loop to open the multi-language editor.
- 9. Enter a **Description** (optional) to better describe the attribute.
- 10. An attribute description is a translatable field. To add translations, simply select the multi-language icon to open the multi-language editor.
- 11. Change the **Data Type** to VARCHAR.
- 12. Enter a numeric value in the Data Size to fit the largest node name.
- 13. Select the **Group** that the attribute will be assigned to.
- 14. Select the **Associated Group** (optional) for the attribute.
- 15. Select the restricted Hierarchy name under the **Code Set** drop-down list.
- 16. In the **Special Function Ind** dropdown, select **Category Node Link**.
- 17. Click the **OK** button.
- 18. Click the Save button.

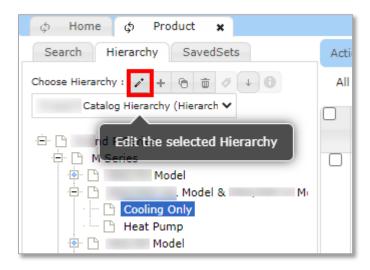
9.6 Adding a Hierarchy Node or Changing its Metadata

Metadata properties can be added or changed from a repository's Hierarchy tab. It is necessary that the "codeSet metadata" type repository is already set up and attached to the Hierarchy.

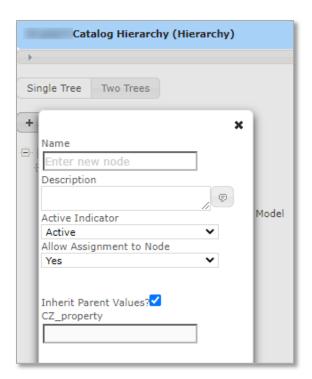
- Profile name (suggested): <name>HierarchyProperties
- Profile type: CODE SET METADATA
- Metadata repository name (suggested): <name>HierarchyProperties

To add a Hierarchy node or change an existing node's metadata:

- 1. On the **Feature** bar, open the folder of the desired repository, click the arrow to the right of the desired repository's name, and select **Open**.
- 2. Click on the Hierarchy tab, (located between Search and Saved Sets tabs).
- 3. Select the desired Hierarchy from the **Choose Hierarchy** dropdown.
- 4. Drill down to the desired node and select it.
- 5. Click the pencil icon at the top of the **Hierarchy** tab.



- 6. The **Hierarchy** page pops up.
- 7. To add a node, select the desired parent node and click the **Add** button. A new node will appear in the node editor.
- 8. To edit a node's metadata, double click the desired node. The node will appear in the node editor.
- 9. The node editor shows the contents of the node's <name>HierarchyProperties record.



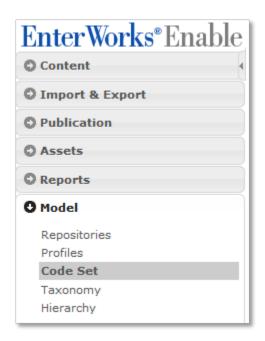
- 10. Edit the nodes metadata and click Save.
- 11. Open up the <name>HierarchyProperties repository to verify.

10 Managing Code Sets

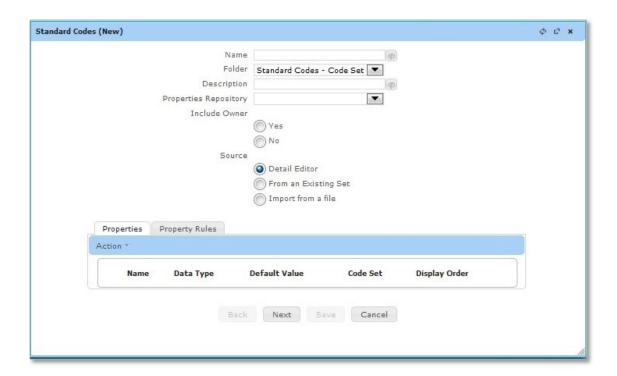
Code Sets are created by System Administrators. Data in Code Sets is usually maintained by one or more users. For details on maintaining Code Set data, see the EnterWorks online help at https://help.winshuttle.com.

To create or delete a Code Set.

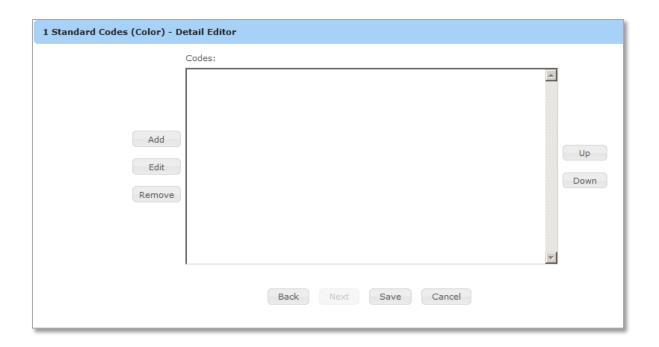
- 1. Click on the Model feature in the Feature bar.
- 2. Click on the **Code Set** function under the **Model** feature to show all the defined code sets.



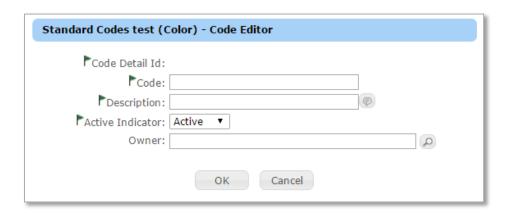
- 3. To delete a Code Set, select it, open the Action dropdown and select **Delete**. Skip the rest of the steps in this list of instructions.
- 4. To add a Code Set, open the **Action** dropdown and select **New**. A new Code Set will appear in the **Code Set Editor**. Proceed with the steps to edit a Code Set.
- 5. To edit a Code Set, select it, open the **Action** dropdown and select **Edit**. The Code Set will appear in the **Code Set Editor**.



- 6. Edit the following fields as desired:
 - Name: The name of the Code Set.
 - Folder: The folder to hold the Code Set.
 - **Description**: (Optional.) A description of the Code Set.
 - Select an optional default Owner for the Code Set maintenance.
 - Identify the Source of the initial data.
 - Detail Editor: Create a Code Set manually.
 - From an Existing Set: Copy Code Set values from an existing Code Set that is in the same folder as the new Code Set.
 - o **Import from a file:** Import the Code Set values from a file.
- 7. Click the Next button.

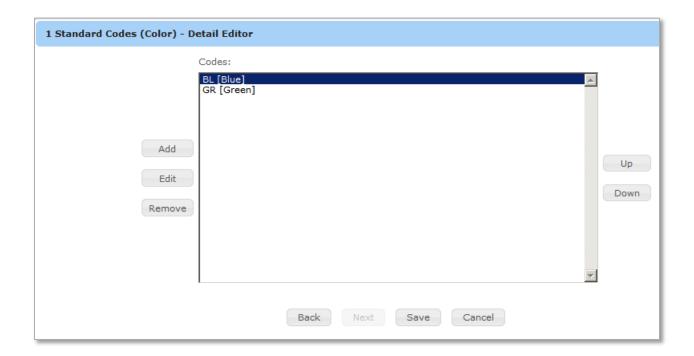


8. Click the **Add** button to enter a code for the new Code Set.



- 9. Enter the **Code** and the **Description**.
- 10. If **Include Owner** was selected, an owner can be defined for each specific code.
- 11. Click the **OK** button.
- 12. To modify a code, select the code and click the **Edit** button.
- 13. To remove a code, select the code and click the **Remove** button.

14. To re-sequence a code, select the code and click the **Up** or **Down** button to move it in the list.



15. Click the **Save** button to save changes or the **Cancel** button to cancel changes. If you have just added a new Code Set, it is ready to be assigned to a profile's attributes.

11 Export Templates

The Export Template function allows a user to define and save an export configuration for future use. It is recommended that the System Administrator assists users in creating advanced export templates, especially those that export data from multiple repositories.

While export templates can be configured and used in the EnterWorks Classic UI, it is recommended that you use the EnterWorks New UI. For details, see the EnterWorks online help at https://help.winshuttle.com.

12 Syndication Templates

The Syndication Template function is used to develop templates that can be used to export data from one or more EnterWorks repositories for syndication. Use a syndication template instead of an export template if you need to do any data transformations or data validation,

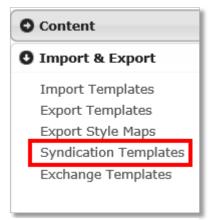
(using validation levels or required field filters), before exporting the data. It is recommended that the system administrator assists users in managing syndication templates.

Templates may be used in both scheduled and manually triggered activities. For additional information regarding the use of syndication templates during scheduled activities, see <u>Job Scheduling</u>.

12.1 View Syndication Templates

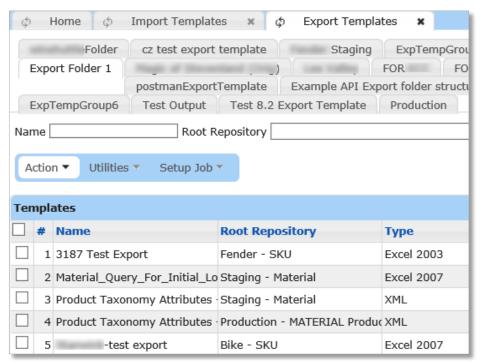
To view existing syndication templates:

1. From the Feature Bar, open the **Import & Export** tab, and select **Syndication** Templates.



Open Syndication Templates

2. A list of the existing Syndication Template folders is displayed across the center screen. Click a folder to open it and display its existing Syndication Templates.



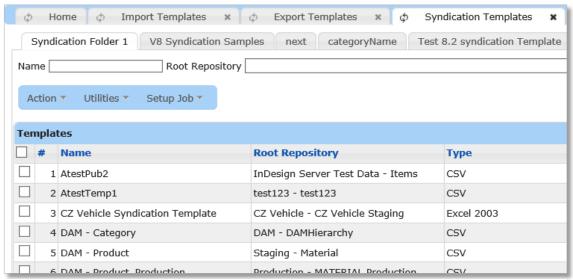
Open Folders to Show Export Templates

12.2 Create or Edit Syndication Templates

Syndication templates are viewed, defined, and edited in the **EnterWorks Classic UI**, in the same manner in which Export templates are created, with the exception that the only available output formats are CSV, XLS, and XLSX.

To create or edit a syndication template:

1. Open the Syndication Templates list.



List of Syndication Templates

NOTE: The **Syndication Template** list displayed above can be filtered by using the **Name**, **Root Repository**, and/or **Type** fields with the **Apply** button.

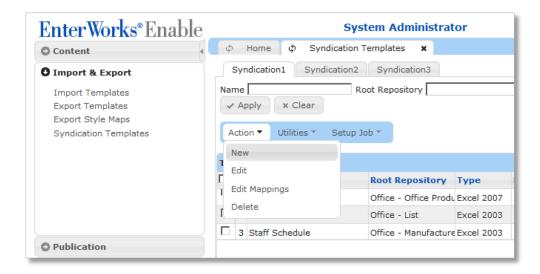
a. The **Action** drop-down menu:

- New New templates can be created by selecting the New option from the Action drop-down menu.
- ii. **Edit** Existing templates can be modified by selecting the **Edit** option from the **Action** drop-down menu.
- iii. **Edit Mappings** Existing or new field mappings can be defined by selecting the **Edit Mappings** option from the **Action** drop-down menu.
- iv. **Delete** Existing templates can be removed by selecting the **Delete** option from the **Action** drop-down menu.

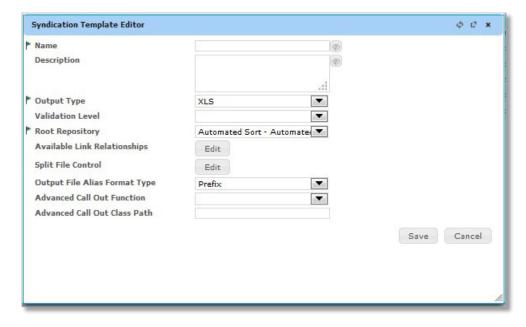
b. The **Utilities** drop-down menu:

This option provides the ability to **Import** an existing template or to **Export** an existing template, if required. These options are used to move import or export templates from one environment to another, such as, exporting a template from the Development environment and importing it into the QA environment.

2. Select the **New** option under the **Action** drop-down list.

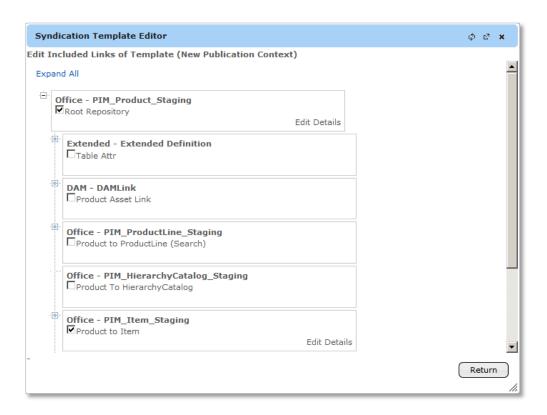


3. The **Syndication Template Editor** screen is then shown.

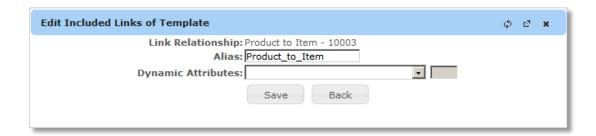


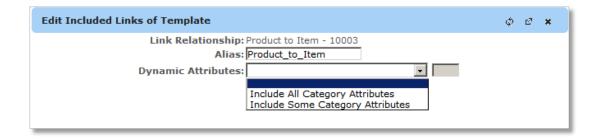
- 4. Name: (Required; Multi-language) A name for the Syndication Template.
- 5. Description: (Optional; Multi-language) A description for the template.
- 6. Select the Output Type from the drop-down list. The options are:
 - a. Excel 2003 (xls)
 - b. Excel 2007 (xls)
 - c. Excel 2010 (xlsx)
 - d. Comma Separated Values (csv)

- 7. Select the Validation Level for the export (if applicable).
- 8. Select the **Root Repository** from the drop-down list.
- Click the Available Link Relationships button to select any additional linked repositories
 that have attributes needed in the syndication export file. To select any child repository,
 the parent must be selected.

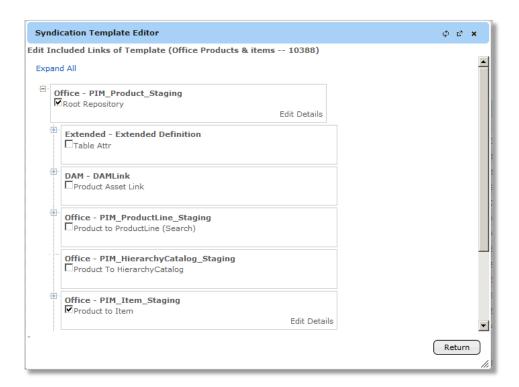


10. Click the **Edit Details** button to optionally identify that all or some of the dynamic attributes should be appended to end of export file as shown below.

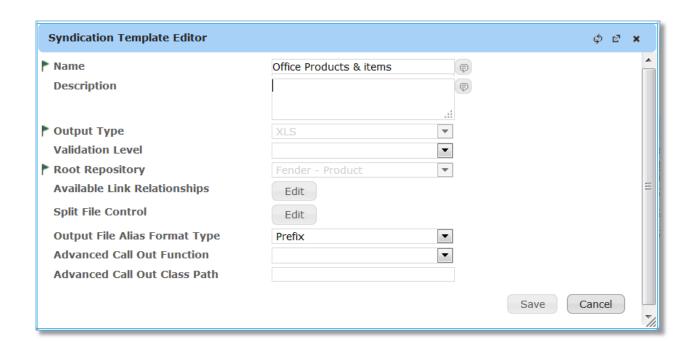




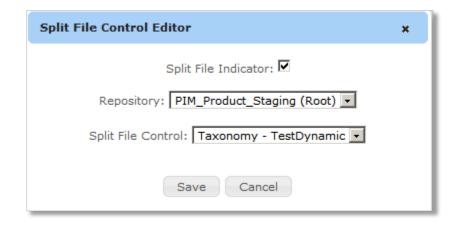
11. Click the Save button (above) to go back to the Syndication Template Editor links:



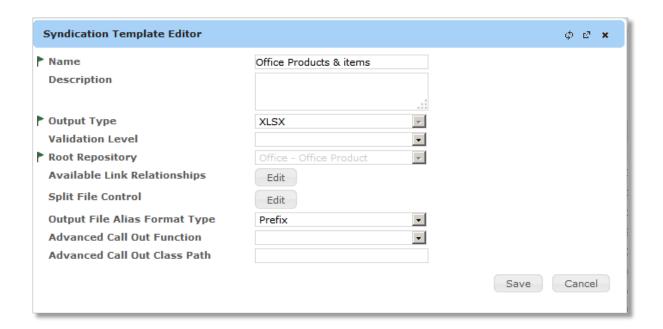
12. Click **Return** to go back to the **Syndication Template Editor**:



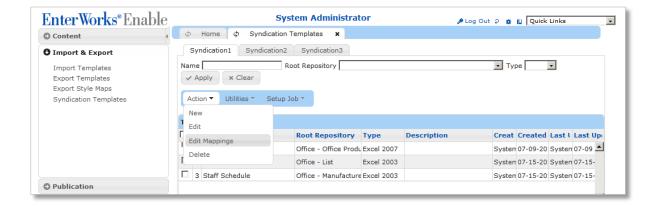
13. EnterWorks can create an output file for each Taxonomy node rather than putting all the content in one output file. Each file will contain the specified global attributes plus the node's category attributes. To do so, click the **Edit** button next to the **Split File Control** label. An editor window will appear. Select **Split File Indicator**, the repository, and the Taxonomy control attribute. These values may already be filled in for you.



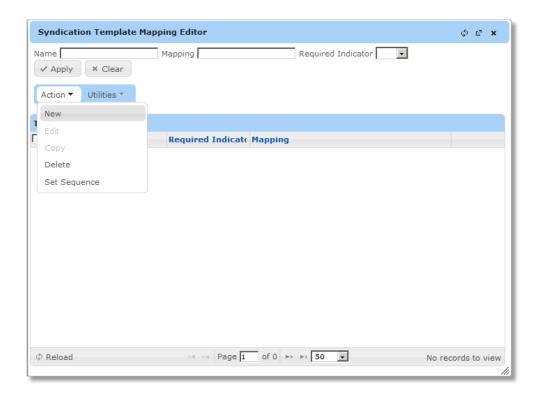
14. Click the **Save** button to go back to the **Syndication Template Editor**.



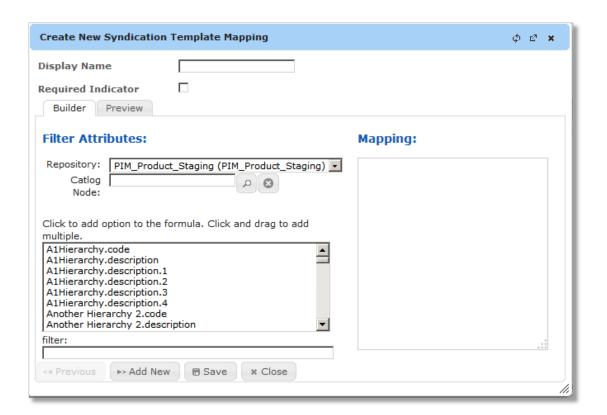
- 15. Use the **Advanced Call Out Function** and **Advanced Call Out Class Path** for export file transformations (opt.).
- 16. Click the Save button to go back to the Syndication Template list.
- 17. Select the Syndication Template that was just created.



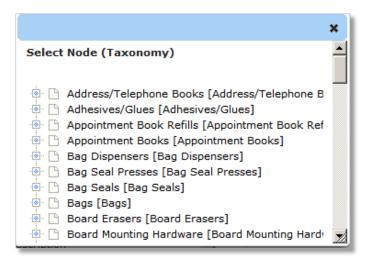
18. Select the **Edit Mappings** option from the **Action** drop-down list to define (or modify) the export file and identify where the data for the export is coming from in EnterWorks.



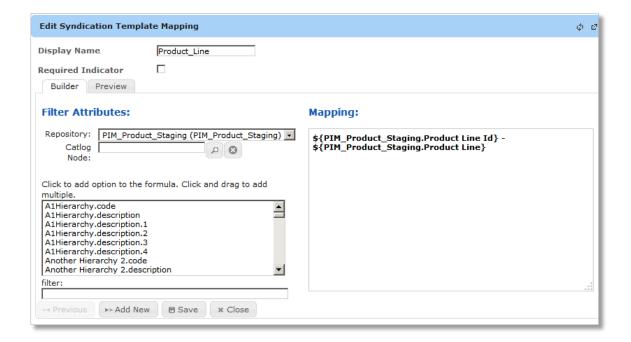
- 19. Select the **New** option from the **Action** drop-down list to define a new column mapping.
- 20. The Create New Syndication Template Mapping screen is shown.



- 21. Enter the export column name in the **Display name** field.
- 22. Click the **Required Indicator** checkbox, if applicable
- 23. This is useful because an attribute may be required by an outside syndication target but not internally.
- 24. Select the **Repository** that contains the field to export.
- 25. Select the **Catalog Node** that contains dynamic attributes, if applicable. Click the magnifying glass to show a list of nodes:



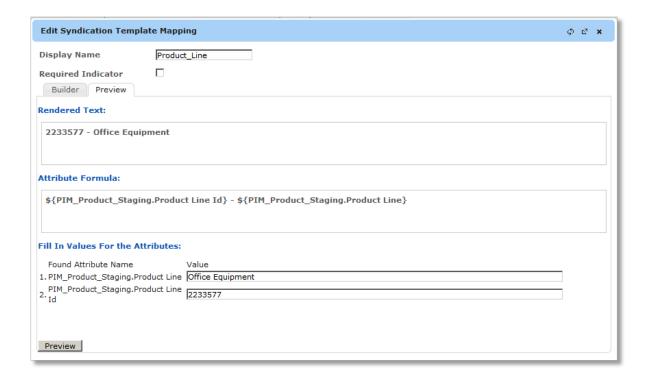
26. The list can be filtered by using the **Filter**: field below the attribute list.



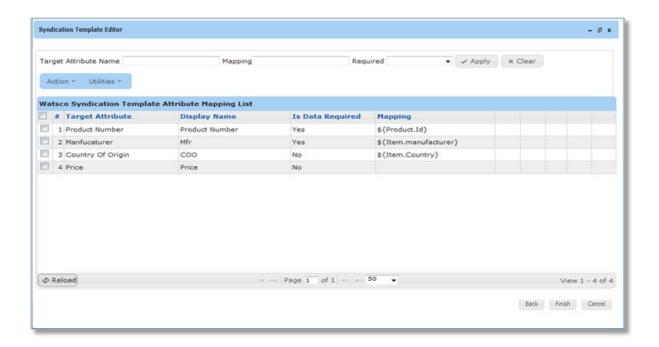
- 27. Select the source attribute (field) that will populate the target column. The field will be displayed in the right mapping box.
- 28. See the EnterWorks **Advanced Mapping Guide** for detailed instructions on using the Velocity Template Language (VTL) for transformation of data from EnterWorks, if required.

NOTE: To concatenate fields together for export, choose multiple fields to include in the Mapping window, then add any separation characters, if required. The fields can be reordered within the window.

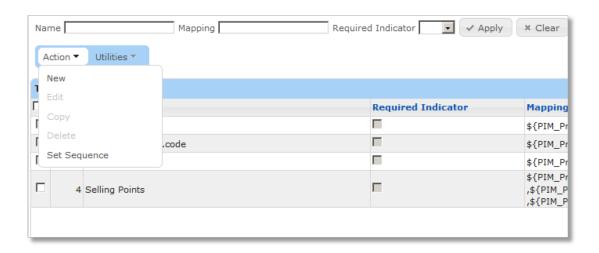
29. Click the **Preview** tab to see what the mapping will look like, use the fields on the bottom to enter test data into the fields.

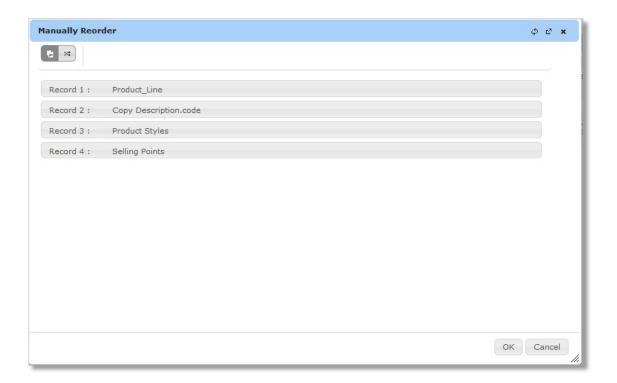


30. Click the **Builder** tab and click the **Save** button to go back to the **Syndication Template Editor** screen.



- 31. One or more existing mapping items can be edited, copied or deleted by selecting one or more mapping line items and selecting the desired action from the **Action** drop-down menu.
- 32. To reorder the fields in the export template, select the **Set Sequence** option from the **Action** drop-down list.





- 33. Drag and drop the fields to set the order of the fields in the export file.
- 34. Click the **Ok** button.

13 Import Templates

The Import Template function is used to develop templates that can be to import data into one or more EnterWorks repositories. The easiest way to set up an import template is to create an export file (see Export Templates) and then use it to create the import template. It is recommended that the System Administrator verifies and tests a user's import template to make sure it is defined and works correctly. It should be tested with one or two records in your development environment before it is used in your production environment.

While the EnterWorks Classic UI can be used to configure and use import templates, it is recommended that you use the EnterWorks New UI. For details, see the EnterWorks online help at https://help.winshuttle.com.

14 Publication Templates

For information regarding publication templates, please see the *EnterWorks/Enable Publication User Manual* at the Winshuttle online help site: https://help.winshuttle.com.

15 Multiple Language Support

15.1 Browser-specific Language Setting

During login, the user can select the language that will be used in their EnterWorks session by choosing the desired language from the **Language** dropdown list in the Login window. The list of languages supported are defined in the Language List.

Certain aspects of the EnterWorks interface are displayed in the language specified by the browser in use.

For complete integration when logging in with a different language, change the browser specified language through the browser settings.

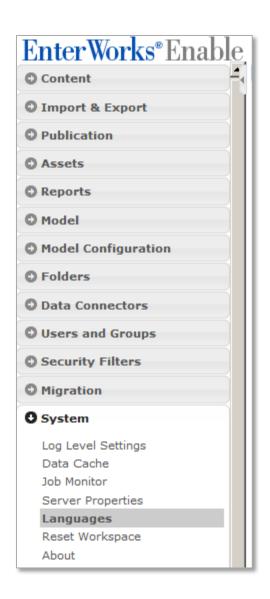
15.2 Language List

The Language List defines the set of languages EnterWorks will maintain and indicates which language is the default language.

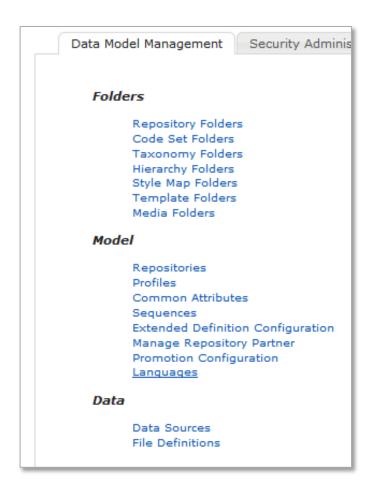
15.2.1 Access the Language List

To access the Language List:

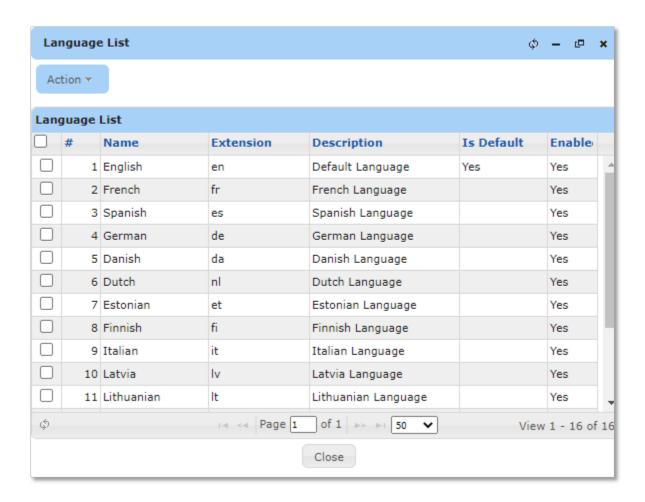
- 1. There are two ways to access the Language List:
 - In the **Feature** bar, open the **System** feature and select **Languages**.



• Or open the Quick Links drop-down list on the top-right of the screen and select **System Configuration**. The **Data Model Management** tab will open. Under the heading **Model**, select **Languages**.



2. The Language List screen will appear.



15.3 Manage Supported Languages

Depending on system configuration and user permissions, a user can enter language translations for attribute values and system-level objects.

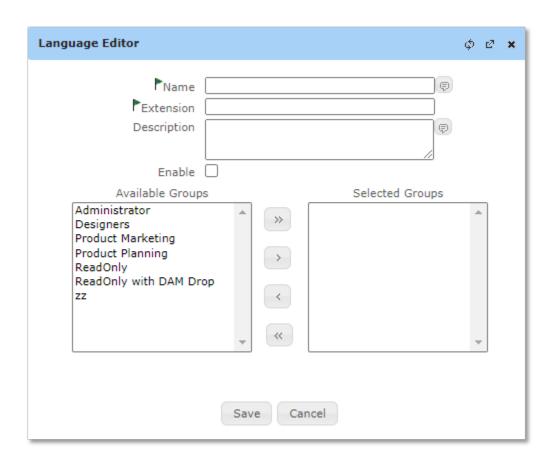
To manage a supported language:

- 1. Open the Language List.
- 2. From the **Language List** screen, click on the **New** option under the **Action** dropdown list to add a new language option.
 - Current Languages can be edited using the Edit option.
 - Current Languages can be deleted using the **Delete** option.
 - The Language list can be sequenced using the **Sequence** option.

• Multiple Languages can be enabled or disabled using the **Enable/Disable Languages** option.

NOTE: Only Active Languages can be sequenced; deactivated languages are displayed first.

3. The Language Editor will appear.



- 4. Edit the fields as desired:
 - Name: The name of the language.
 - Extension: Enter the Language Extension. Use a standard language code like ISO 639-1 or ISO 639-2/T in order to sufficiently differentiate the language for maintenance.
 - Enable checkbox:

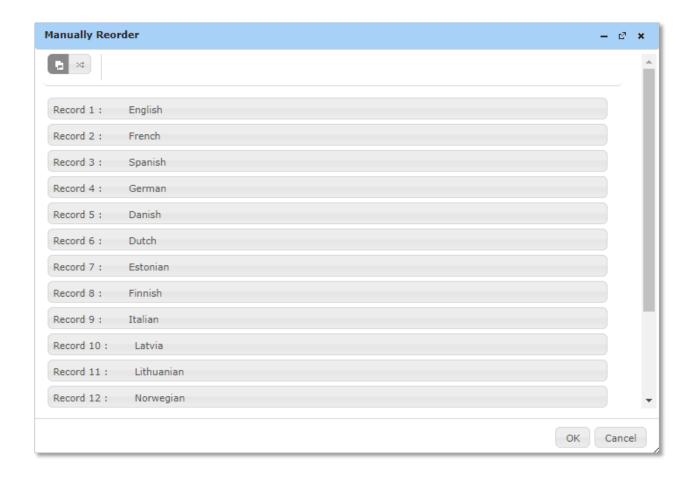
- Checked: The language is enabled. It will be available as a language choice on the user login screen and it will be shown included in the list of available languages in screens for editing multi-language fields.
- Unchecked: The language is disabled. It will not be available as a language choice on the user login screen and it will not be shown included in the list of available languages in screens for editing multi-language fields.
- **Groups Lists**: To move a group from one list to the other, select it and click the left or right arrows to move it to the other list.
 - Available Groups: User groups in this list do not have the ability to update fields in this language.
 - Selected Groups: User groups in this list do have the ability to update fields in this language.
- 5. When you are finished editing the language, click **Save** to save your changes or click **Cancel** to leave the editor without changing your settings.

15.3.1 Reorder the List of Supported Languages

NOTE: Only enabled Languages can be sequenced; disabled languages are shown first.

To reorder the list of supported languages:

- 1. Open the Language List.
- Open the Action dropdown and select Sequence. The Manually Reorder pop-up will appear.



- 3. Just under the words "Manually Reorder" is a small toggle. If the left icon is selected, you will be able to drag and drop the languages into the desired order. If the right icon is selected, you will select a language and follow the instructions given to move it to the desired position. Hovering over the toggle icons brings up a description of the two methods of reordering languages.
- 4. When you are finished reordering the languages, click **Save** to save your changes or click **Cancel** to leave the editor without changing your settings.

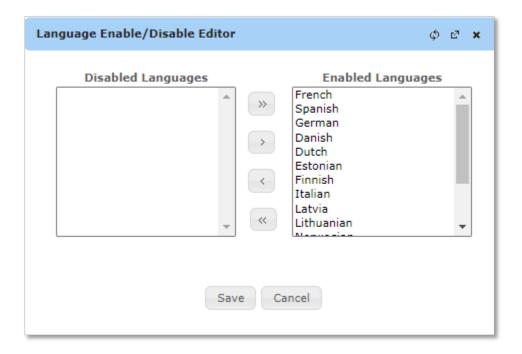
15.3.2 Enable or Disable a Supported Language

If a language is <u>enabled</u>, It will be available as a language choice on the user login screen and it will be shown included in the list of available languages in screens for editing multi-language fields.

If a language is <u>disabled</u>, It will <u>not</u> be available as a language choice on the user login screen and it will <u>not</u> be shown included in the list of available languages in screens for editing multilanguage fields.

There are two ways to enable or disable a language. For instructions on enabling or disabling a language through the **Language Editor**, see: Manage Supported Languages. To enable or disable a language through the **Language Enable/Disable Editor**:

- 1. Open the Language List.
- Open the Action dropdown and select Enable/Disable Languages. The Language Enable/Disable Editor will appear.



- 3. Groups Lists: To move a group from one list to the other, select it and click the left or right arrows to move it to the other list.
 - Disabled Languages: These languages are disabled. They will not be available as a language choice on the user login screen and they will not be shown included in the list of available languages in screens for editing multilanguage fields.
 - Enabled Languages: These languages are enabled. They will be available as
 a language choice on the user login screen and they will be shown included in
 the list of available languages in screens for editing multi-language fields.
- 4. When you are finished enabling and disabling languages, click **Save** to save your changes or click **Cancel** to leave the editor without changing your settings.

15.3.3 Delete a Supported Language

To delete a supported language:

- 1. Open the Language List.
- 2. Select the language to be deleted.
- 3. Open the **Action** dropdown and select **Delete**.

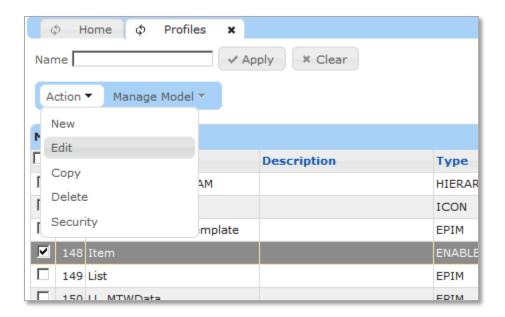
15.4 Defining an Attribute with Multiple Languages

To define an attribute to be multi-language:

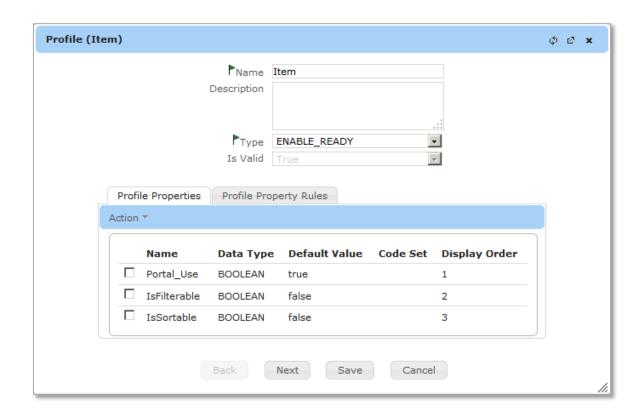
1. Select Profiles under Model from the Feature bar.



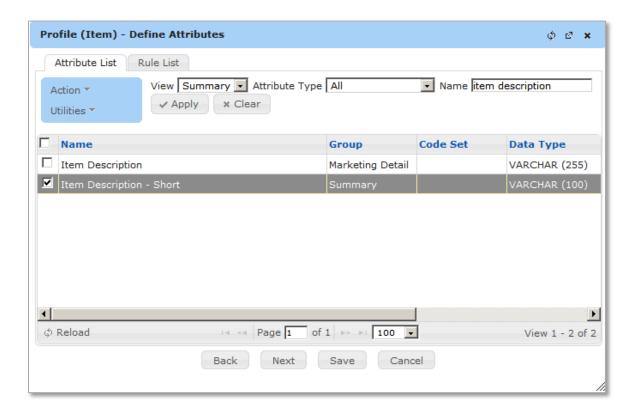
2. Select the Profile record that needs (or contains) an attribute that will have multiple languages entered.



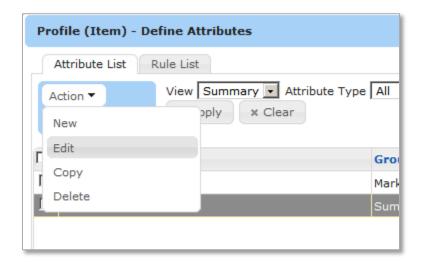
- 3. Select the **Edit** option under the **Action** drop-down list.
- 4. Click the **Next** button.



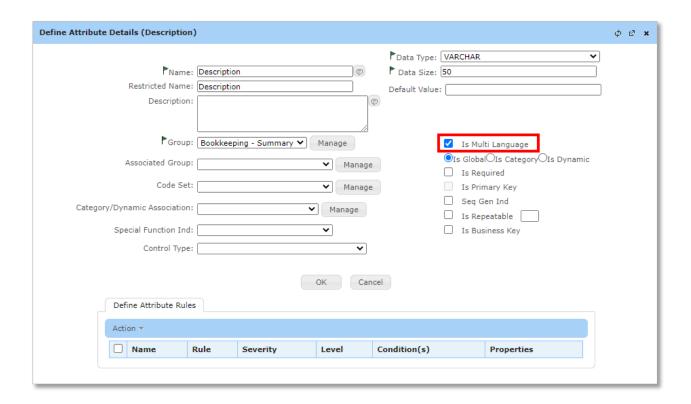
5. Find and select the Attribute that will have multiple languages.



6. Select the **Edit** option under the **Action** drop-down list.



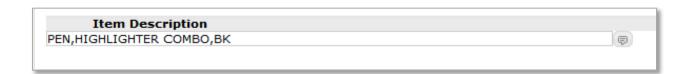
7. The **Define Attribute Details** editor will appear. Check the **Is Multi Language** checkbox.



- 8. Click the **OK** button to save your change or click **Cancel** to exit without saving.
- 9. You will be taken back to the **Defines Attributes** editor. To save your changes, you must click the **Save** button. If you do not click the Save button before exiting this editor, your change to the Is Multi Language setting will not be saved.

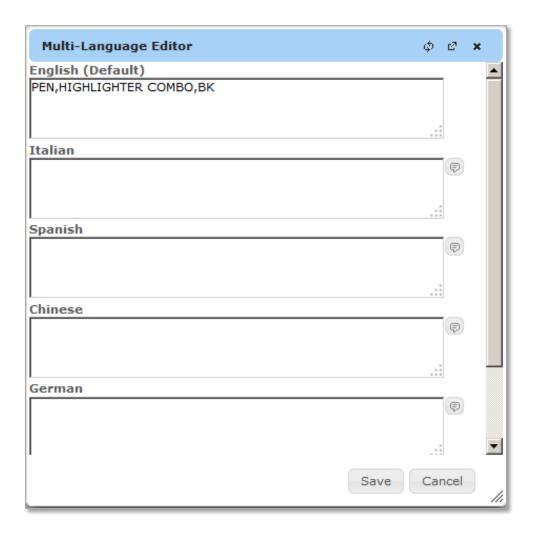
15.5 Entering Multiple Languages

If a field has been set up for multiple languages, it will have a multi-language licon to the right of the field as shown below.



To edit the field translations:

1. Click the multi-language icon to open the **Multi-Language Editor**. If the user is a Systems Administrator, all languages will be modifiable, but a non-administrator will only be able to edit/modify the languages they have permission to edit.



The languages shown in the Multi-Language Editor are those that have been enabled. See <u>Enable or Disable a Supported Language</u>.

If the user is a Systems Administrator, all languages will be modifiable, but a non-administrator will only be able to edit/modify the languages they have permission to edit.

2. Enter the text you would like to appear for each language.

- 3. If EnterWorks has been configured to use Google Translate, the auto-translate icon will appear next to each language's content box. If you click the auto-translate icon for a language, the language's content box will be set to the default language's text that has been translated into the selected language.
- 4. Click **Save** to save your changes and exit or click **Cancel** to exit without saving your changes.

15.6 Browser Specific Language Settings

Certain aspects of the EnterWorks Classic interface are displayed in the language specified by the browser in use. For example, the **Choose File** button shown below is displayed in English because the browser's language is set to English.



For complete integration when logging in with a different language, change the browser specified language through the browser settings.



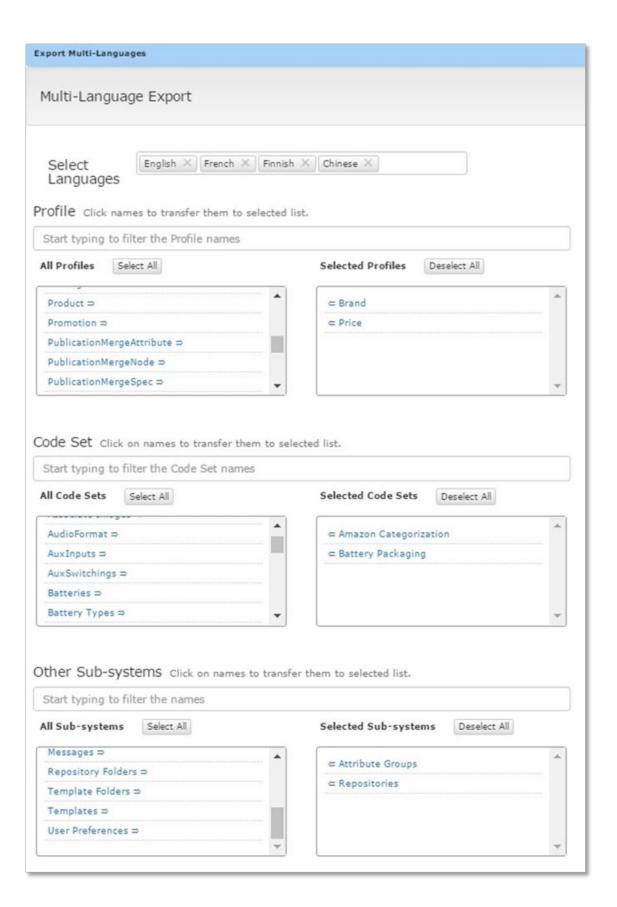
16 Translating Data Model Entities

EnterWorks data model objects have translatable multi-language fields, such as name and description. For adding translating entire data model objects and its attributes use the Export and Import multi-languages functions described in this section.

16.1 Export Data Model Objects for Translation

To access the Multi-Language function:

1. Select the feature **System** in the feature bar then select **Export Multi-Languages** from the list of functions. The **Multi-Language Export** dialog will appear.



- 2. The Export Multi-Languages function has four sections
 - **Select Languages**: This section allows you select which language(s) are available for translation. Only active languages are available for translation.
 - **Profile**: Exports the names and descriptions of the selected Profiles, as well as all their attributes' name and description fields.
 - **Code Set**: Exports the names and descriptions of the selected Code Sets, along with all the codes and code description fields.
 - **Selecting Other Sub-Systems**: The Other Sub-systems section lists the rest of the data model components that can be translated, which include:
 - Attribute Groups
 - Attribute Tabs
 - Code Set Folders
 - Data Sources
 - File Definitions
 - o Groups
 - Import Template Folders
 - o Languages
 - Repositories
 - Repository Folders
 - Templates
 - User Preferences

(Messages are all the User Interface labels and messages. For instructions on translating Messages, see <u>Translating EnterWorks Labels and Messages</u>.)

3. Once you are finished selecting language(s) and data model object(s), click the **Export** button at the bottom right of the page. This will generate a link that downloads a .csv file for the selected data model object(s).

A successful export will generate a link similar to the picture below. It will have a green background.

Exported to: Model_Translation_1468842665158.zip

An unsuccessful export will generate a link similar to the picture below and an error message. It will have a yellow background.

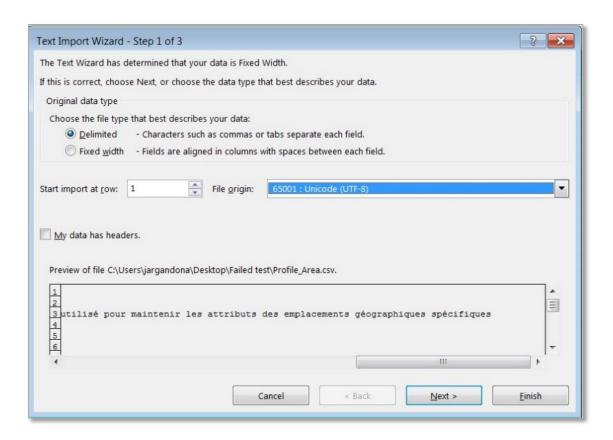
Exported to: Model_Translation_1468842907943.zip

These objects could not be exported:
Custom '68 Hand-Wound Single-Coil Strat(Code Set Details)
Custom '68 Hand-wound Single-Coil Strat(Code Set Details)

4. Click the link to download the .csv zip file.

To add translations to these files:

- 1. Extract file(s) to your computer.
- 2. Open a new Excel file.
- 3. Select the **Data** tab.
- 4. In the **Get External Data** section of the data tab, select **From Text.**
- 5. In the file explorer that appears navigate to the extracted data model file(s).
- 6. In the **Text Import Wizard** that appears select the **Delimited** radio button and in the file origin drop down list select **Unicode (UTF-8)**. An example is shown below.

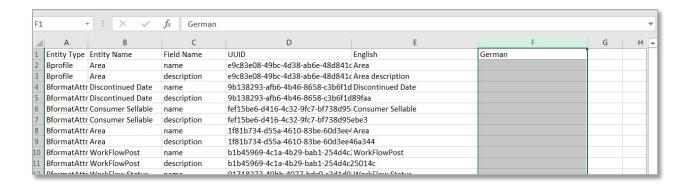


7. Click **Next** and in the fallowing window in the **Delimiter** section verify only the **Comma** checkbox is selected, and example is shown below.



8. Click **Finish**, place the data in the upper left corner cell (A:1), and click **Ok**.

The image below is the general format for each exported data model object.

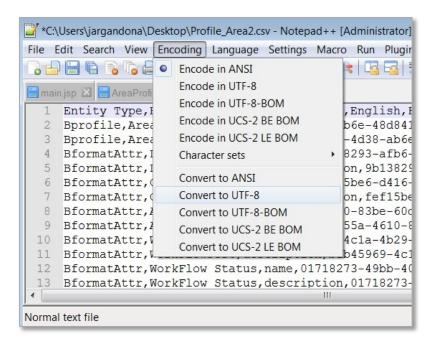


9. From this point translate the default language column values into the language column(s) selected for translation. Pictured above is an example of German translations for a profile named Area and its attributes.

Note: The default language will always appear in its own column and display its values.

- 10. For languages that consist primarily of special characters, (such as Chinese, Korean and Japanese):
 - Save file as Unicode text.
 - b. Close Excel.
 - c. Open the Unicode file with notepad++.
 - d. Select all text and click Crtl-F.
 - e. Select the Replace tab.
 - f. In the search mode section, select the **Extended** radio button.
 - g. In the section **Find what** enter "\t" and in "Replace with" section enter "," then click **Replace All**.
- 11. Save the file with the .csv extension.

NOTE: The file must be saved in UTF-8 format. To verify, open the file in Notepad++ and check the encoding. Convert file to UTF-8 if it is not already and save the file again. An example is shown below.



16.2 Import Translated Data Model Objects

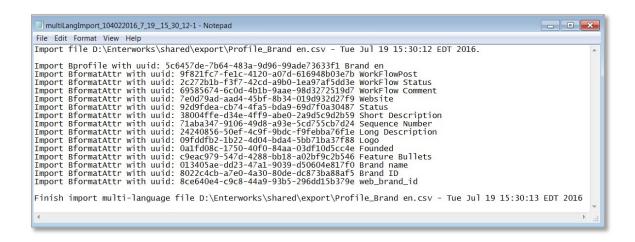
To import translated data model object .csv files:

1. Select the feature **System** in the feature bar then select **Import Multi-Languages** from the list of functions. The **Multi-Language Import** dialog will appear.



2. To import a data model object .csv file from your local machine, select the **From Local** tab. To import the file from the application server, select the **From Server** tab.

- 3. Choose the desired .csv file, then click **Import**.
- 4. A new job is created to perform the import. Open the **Job Monitor** to check the status of the job.
- 5. When the import job has completed, you can view the job's log file. An example of a successful import log file is shown below.



- 6. Log file import failures may occur if the .csv file is formatted incorrectly. If the job's log file indicates there was an error, try repeating the steps formatting the .csv file.
- 7. If the import job was successful, clear the data cache and log out.
- 8. Log back in, selecting the language of the translated data model object.
- Navigate to the new translated data model object to verify the results of your translation

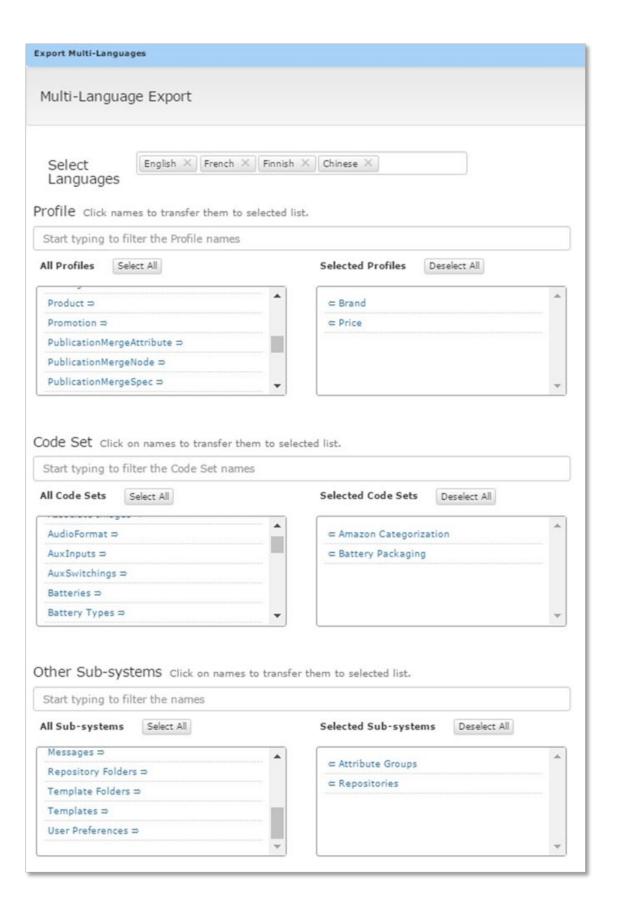
For complete integration, change the browser specified language, as specified in <u>Browser Specific Language Settings</u>.

17 Translating EnterWorks Labels and Messages

EnterWorks provides the ability to translate all labels and messages into the active languages. Labels are the field names, headers, page names, and button labels. Messages include confirmation and error messages displayed as a consequence of user actions.

To translate all the labels and messages that make up the EnterWorks interface:

1. Select the feature **System** in the feature bar then select **Export Multi-Languages** from the list of functions. The **Multi-Language Export** dialog will appear.



- 2. Select the desired languages for translation.
- 3. In the Other Sub-systems section, select Messages.
- 4. Click the **Export** button at the bottom right of the page. This will generate a link that downloads a .csv file for the selected data model object(s).

A successful export will generate a link similar to the picture below. It will have a green background.

```
Exported to: Model_Translation_1468842665158.zip
```

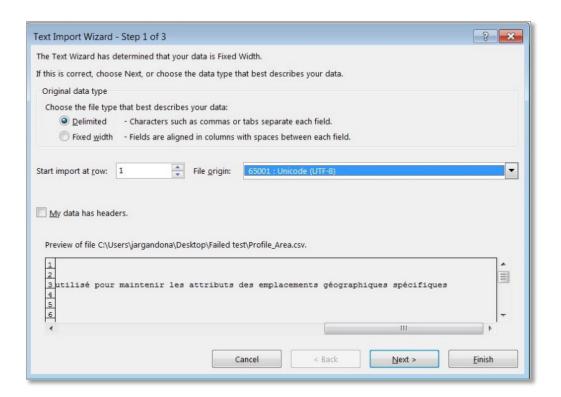
An unsuccessful export will generate a link similar to the picture below and an error message. It will have a yellow background.

Exported to: Model_Translation_1468842907943.zip

These objects could not be exported: Custom '68 Hand-Wound Single-Coil Strat(Code Set Details)

Custom '68 Hand-Wound Single-Coil Strat(Code Set Details)
Custom '68 Hand-wound Single-Coil Strat(Code Set Details)

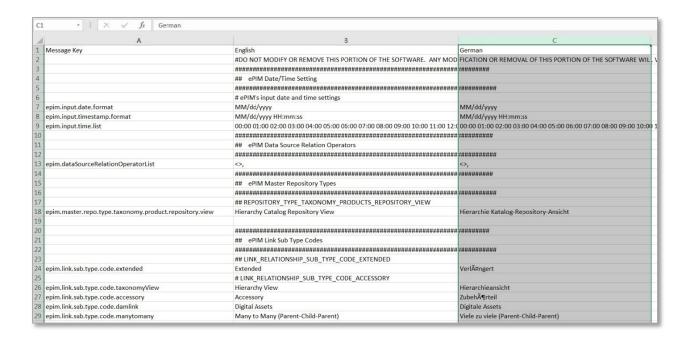
- 5. Click the link to download the .csv zip file.
- 6. Open a new Excel file.
- 7. Select the Data tab.
- 8. In the **Get External Data** section of the data tab, select **From Text**.
- 9. Select the extracted message file.
- 10. In the **Text Import Wizard** that appears select the **Delimited** radio button and in the file origin drop down list select **Unicode (UTF-8)**. An example is shown below.



11. Click **Next** and in the following window, in the **Delimiter** section, verify that only the **Comma** checkbox is selected. An example is shown below.



- 12. Click Finish, place the data in cell A:1, and click Ok.
- 13. Add your translations for the language you have chosen to export.



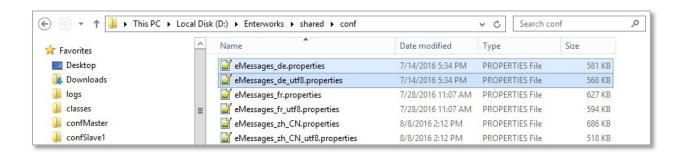
- 14. Save the file as Unicode (UTF-8) text. If the file name is changed, the new file name must include "Messages" in the file name.
- 15. For languages that consist primarily of special characters, (such as Chinese, Korean and Japanese):
 - a. Open the file in Notepad++.
 - b. All the characters appear normally. If not then stop and start from the beginning
 - c. Select all text and click Crtl-F.
 - d. Select the **Replace** tab.
 - e. In the search mode section select the **Extended** radio button.
 - f. In the section **Find what** enter "\t" and in **Replace with** section enter text "," then click **Replace All**.
 - g. In the **Find what** section enter ",," and in the **Replace with** section enter """,," then click **Replace All**.
 - h. Convert file to UTF-8 in the encoding menu section of Notepad++.
 - i. Save file with .csv file extension.
- 16. Use the "Import Multi-Languages" function to import the translated file.
- 17. Inspect the Log file for the import job. An example of a successful import log file is shown below.



- 18. Log file import failures may occur if the .csv file is formatted incorrectly. If the job's log file indicates there was an error, try repeating the steps formatting the .csv file.
- 19. Remotely log into the application server and navigate to where the log file indicates the property files are generated. In this example above the location is on the second line:

```
<install_drive>:/Enterworks/shared/conf/eMessages_de.p
roperties
```

20. Two files are generated from the import for each language copy both files that pertain to the language(s) imported, an example is shown below.



21. Paste the copied files into every Tomcat and Jboss instance. An example is shown below for a multiple Jboss instances.

```
<install_drive>:\Enterworks\EnableServer\tomcat\webapp
s\webcm\WEB-INF\classes
```

<install_drive>:\Enterworks\EnableServer\JbossControll
er\standalone\configuration\conf

<install_drive>:\Enterworks\EnableServer\JbossWorker<n
>\standalone\configuration\conf

- 22. On the EnterWorks application, clear the data cache for the added translations to take effect.
- 23. For complete integration change the Browser specified language, (see <u>Browser Specific</u> Language Settings).

18 Validation Levels and Rules

When attribute values are entered, EnterWorks automatically conducts implicit data validation, such as checking that the type of data being stored matches the attribute's defined data type, that the value's size falls within the attribute's defined data size, and ensuring that an attribute value is present if the attribute value is required. If more complex data validation is needed, EnterWorks provides the ability to define explicit validation rules and to define validation levels which specify which validation rules apply given a particular use of the data.

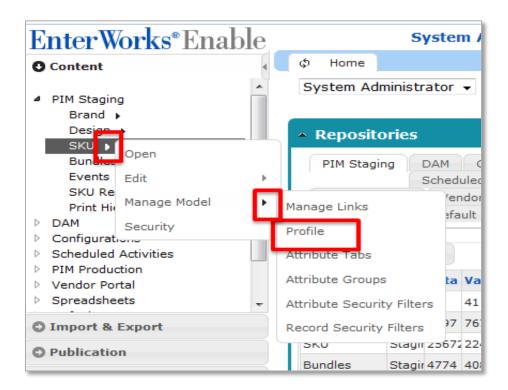
To learn more about validation levels and rules and how they are used, see the EnterWorks online help at https://help.winshuttle.com.

The following sections give instructions for configuring validation rules and performing data validation.

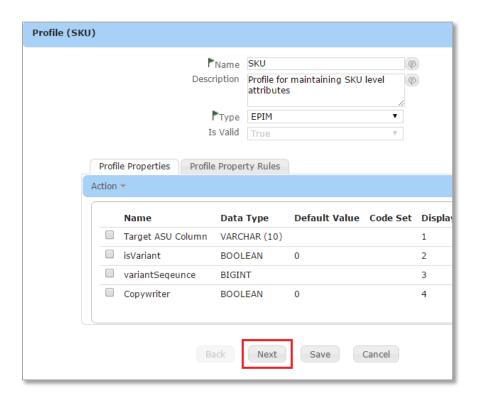
18.1 Create or Edit a New Validation Rule

To create or edit a validation rule:

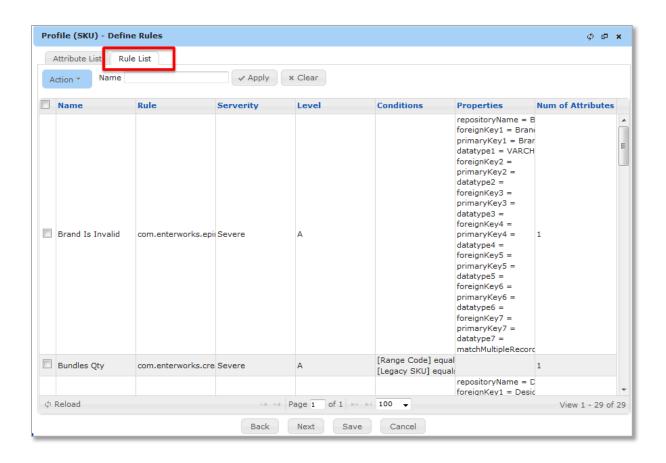
1. Log into EnterWorks Classic and navigate to the profile for the repository where you wish to establish the validation rule.



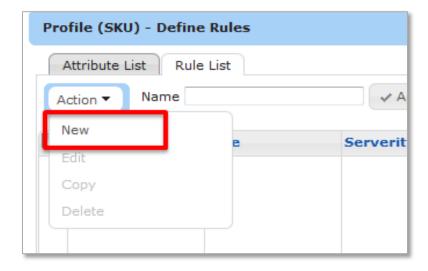
2. The **Profile Editor** will appear. Click **Next** to move to the next page of the profile editor.



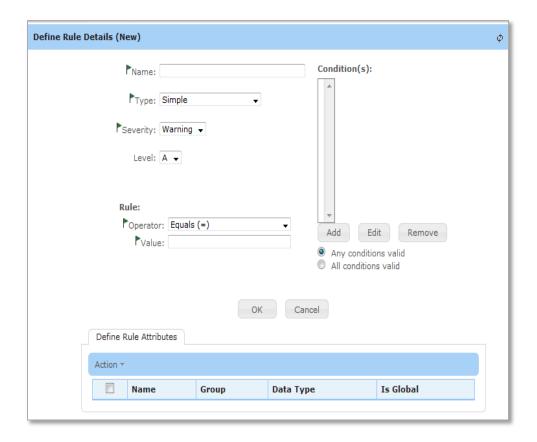
3. Click the Rule List tab. This will take you to a list of existing validation rules:



4. Create a new rule by selecting **Action > New** or edit an existing rule by selecting it and selecting **Action > Edit**.



5. The **Define Rule Details (New)** window opens. Edit the following fields as desired.

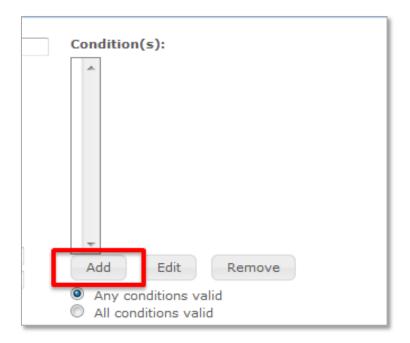


Configuration Option	Required or Optional	Definition	For Rule Type(s)
Name	Required	This is the text that will appear on the record if it fails the validation rule.	All
Туре	Required	Type of validation rule. (See <u>Validation</u> <u>Rule Types</u> .)	All

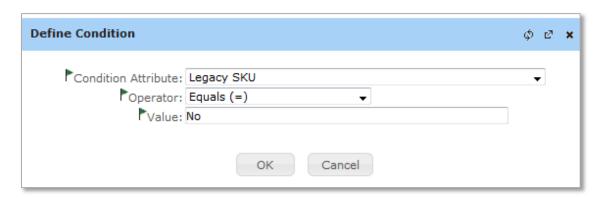
Configuration Option	Required or Optional	Definition	For Rule Type(s)
Severity	Required	Specifies the severity of the validation error assigned to the attribute If the value of the assigned attribute violates this rule. • Warning – Record will be flagged with an orange validation error icon but will be allowed to promote to production if the validation rule fails. • Severe – Record will be flagged with a red validation icon. This setting will prevent a record from promoting to production if the validation rule fails.	All
Level	If not specified will default to highest Validation Level.	The validation level this attribute is assigned to. Note that if the Level is not specified, it will default to the highest level.	All
Operator	Required	The operator compared with the assigned attribute.	Simple
Value	Required	The value the assigned attribute is compared to.	Simple
Formula	Required	How the assigned attributes will be altered.	Calculate VTL-like
Call Out	Required	The JAVA class process that will alter the assigned attribute. (See <u>Callout</u> and <u>Pre-Save Callout</u> .)	Call Out Pre-save Call Out

Configuration Option	Required or Optional	Definition	For Rule Type(s)
Class Path	Required	Specifies the class path for the JAVA class process that will alter the assigned attribute. (See <u>Callout</u> and <u>Pre-Save</u> <u>Callout</u> .)	Call Out Pre-save Call Out
Bulk Rule Text	Required	The text of the SQL query performed on the set of records being validated.	Bulk Callout

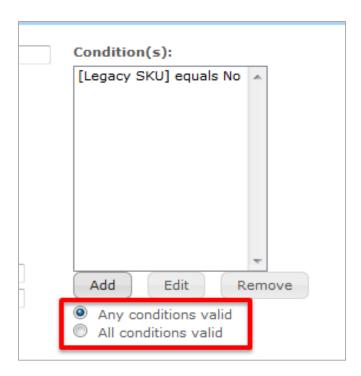
- 6. If you are creating or editing a Simple or Calculation rule, you can use the values of the record's other attributes in your **Value** or **Formula** setting. To do so, enter the character [. The names of the record's other attributes will be displayed in a dropdown. If you start to type the desired attribute's name, the list of attributes will be filtered accordingly.
- 7. **Condition(s)** Adding conditions provides you the ability to make the rule 'applicable' to the attribute based on values of another attribute. In the example below, we are setting up a rule that applies only to SKUs where Legacy SKU = No:
 - a. Click the **Add** button.



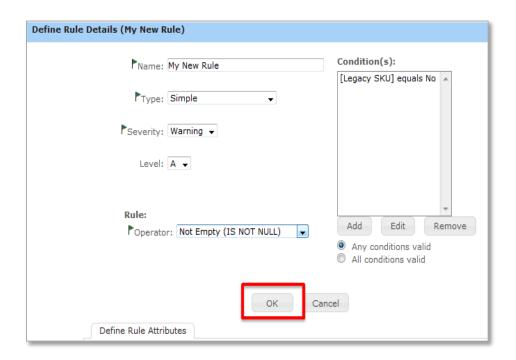
b. Select the attribute from the drop-down list, choose the appropriate operator and value, and then click the **OK** button.



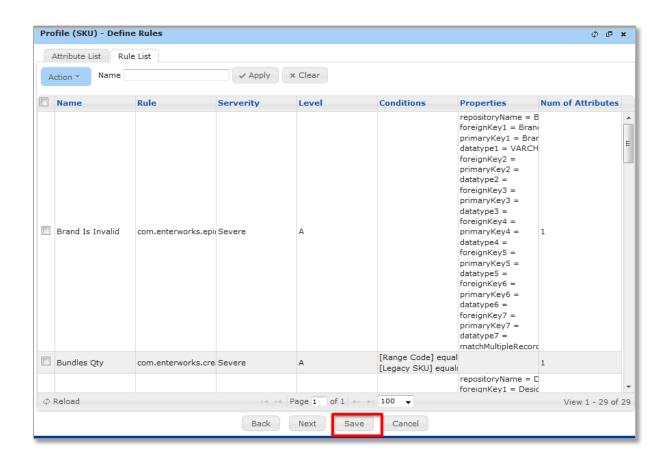
8. If you have multiple criteria, specify whether ALL conditions must be true in order for this rule to be applicable or whether only one condition is necessary to be true.



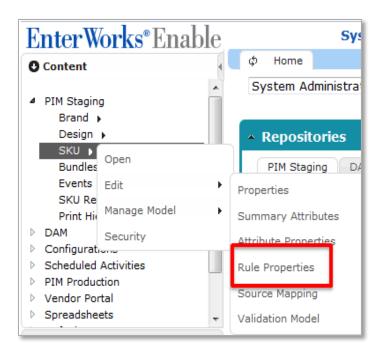
9. Click the **OK** button.



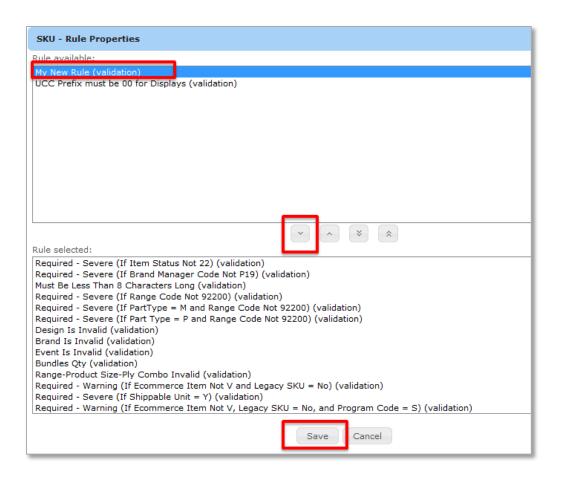
10. Click the **Save** button.



11. If this is a new rule, we now need to assign it to (or "enable it for") the desired repositories. Typically, validation rules are not enabled on production repositories. To do so, navigate to the **Rule Properties** page for the desired repository.



12. Select your new rule and use the down-arrow icon ✓ to assign the rule to the repository.



13. If this is a new validation rule it has now been successfully created, however, no attributes have yet been assigned to it. To assign attributes to the new rule, see Assign/Unassign Existing Validation Rule to an Existing Attribute.

18.1.1 Validation Rule Types

Rule Type	Definition	Notes
Bulk Callout	A bulk callout validation rule is a SQL query-based validation that is performed once on the set of records being validated.	See <u>Bulk Callout</u> .

Rule Type	Definition	Notes
Calculate	Concatenates values from multiple attributes.	This is not actually a validation rule. The calculation is applied when a record is saved.
Call Out	Java-based process that performs a specific validation on the record (and the assigned attribute). Some callout validation rules are pre-defined and available for immediate use. The majority of the callout validation rules are developed for a specific EnterWorks implementation.	See <u>Callout</u> .
Hierarchy Validation	Performs a comparison to any linked hierarchy to ensure any linked records are valid. For example, if this repository record is linked to a hierarchy node, but later that node is removed from the hierarchy definition, this rule may result in that record being flagged as invalid due to the now-orphaned link.	
Normalization	For more information regarding the Normalization Rule Type, contact your EnterWorks account representative.	
Pre-Save Callout	See <u>Pre-Save Callout</u> .	See <u>Pre-Save Callout</u> .

Rule Type	Definition	Notes
Simple	Simple validation rule where the designated operation (and possible value(s)) are applied to the assigned attribute.	This is the most common validation rule and is used to perform validations such as an attribute having to have a value or having to be empty, having a specific value (for example, Gross Weight must be greater than or equal to Net Weight, etc.)
UCC GTIN Algorithm	Verifies the value conforms to the UCC GTIN format.	
UCC GLN Algorithm	Verifies the value conforms to the UCC GLN format.	
UCC UPC-12 Algorithm	Verifies the value conforms to the UCC UPC-12 format.	
UCC UPC-11 Algorithm	Verifies the value conforms to the UCC UPC-11 format.	
VTL-like	Pre-Save Callout that executes a VTL script to update the record.	This is not a validation rule but a pre-save callout that will alter the repository record as it's being created or updated.

18.1.1.1 Bulk Callout

A Bulk Callout validation rule is a SQL query-based validation that is performed once for the group of records being validated, such as:

- Individual record: the SQL is limited to just that record.
- Saved set: the SQL is limited to the records in the saved set.

• Full repository: the SQL query is run against the entire repository.

In each case, the results of the query are the records that violate the rule, which are listed in a temporary table. They are placed in the table so that when each record in the group is being validated, the temporary table is consulted instead of running the SQL again. When each record is validated for its other rules, the error table is consulted for any bulk callout violations. If there are any, their messages are added to the list of errors for that particular attribute.

The basic interface is that the callout needs to return one row for each record that has an error. The first column of the row is the internal ID of the record and the second column is the error message. The query itself needs to be formulated to find and return the offending rows.

Each query should be wrapped by the following outer query:

```
SELECT InternalRecordId, ErrorMessage
From (
<<... Actual query here >>
) as T1 WHERE 1=1
```

Note that EnterWorks references repositories by using their name in the default language, which is English. Also, the column names of the error table cannot be changed.

In the examples given below:

- The repository named "Item_Staging" contains columns whose restricted names are "Manufacturer", "Manufacturer Name", and "SKU Group".
- The repository named "PIM_MarketingAd_Staging" has columns whose restricted names are "Marketing Ad ID", "Marketing Ad ID", and "Image Context".

Example queries:

1. Item Staging records must have Manufacturer:

```
select InternalRecordId,
cast(Manufacturer as nvarchar(30)) + ' has no reference in
Manufacturer repository' as ErrorMessage
from Item_Staging where Manufacturer is not null
and InternalRecordId not in
(select i.InternalRecordId from Item_Staging i inner join
Manufacturer b on i.Manufacturer=b.Manufacturer_Name)
```

2. All Item Staging records require the same SKU Group:

```
select m.InternalRecordId, 'SKU Group:'+m.SKU_Group+' must
have the same Taxonomy:'+m.Taxonomy as ErrorMessage
from Item_Staging m, (select distinct a.InternalRecordId
internalId from Item_Staging a inner join Item_Staging b on
a.SKU_Group=b.SKU_Group
where a.SKU_Group != 'DISCONTINUED' and a.Taxonomy !=
b.Taxonomy) t1 where m.InternalRecordId=t1.InternalId
```

3. Records in PIM_MarketingAd_Staging must have a Main image:

```
select InternalRecordId,
'Marketing Ad: ' + Marketing_Ad_ID + ' has no Main image'
as ErrorMessage
from PIM_MarketingAd_Staging
where InternalRecordId not in
(select ma.InternalRecordId from PIM_MarketingAd_Staging ma
inner join DAMLink dl on ma.Marketing_Ad_ID=dl.PK1
where dl.Image_Context = 'Main')
```

If a bulk callout validation rule is to be conditionally applied, the conditions for that application must be encoded in the SQL – the rule conditions will be ignored. This is because those conditions are based on the current record, but the bulk callout must validate all records in the repository or saved set.

18.1.1.2 Callout

A Callout is a Java-based process that performs a specific validation on a record (and the assigned attribute). Some callout validation rules are pre-defined and available for immediate use. The majority of the callout validation rules are developed for a specific EnterWorks implementation.

The following callout rules are pre-defined in EnterWorks:

- AttributesCalc
- AttributesPriceUpdate
- AttributesSearchAndUpdate
- AttributesSearchAndCalculate
- CheckAttributeCodeSetName

- IsLengthLessThan
- MatchesPattern compares the value to a REGEX pattern. If the value does not match one of the defined patterns, the attribute is flagged as invalid. A common application is to define the different formats for a phone number (for example, 1 (909) 555-1212, (714) 555-1212 x 1234, 818-555-1212, etc.)
- NoBlanks flags a value if it contains any spaces
- **NoInvalidCharacters** flags a value as invalid if it contains any of the designated characters.
- ValidReference flags a record as invalid if a corresponding record is not found in a linked repository (NOTE: This has been supplanted by a Bulk Callout which is a moreefficient to perform such a validation)
- **ValidCharacters** flags a value as invalid if it contains anything but the designated characters
- ValidDimensions
- PIMWebServiceGetRepoAttrData
- UpdateDistinctChildValues
- UpdateParentWithDistinctChildValues
- <ustom> Custom callout validation rules can be implemented to perform any needed specialized validation, providing those callouts follow the prescribed interface in the form of a Java class. Examples of callout rules:
 - o inheritance the outcome of the validation is dependent upon the content of a linked parent record according to configured inheritance rules
 - comparison to data outside of EnterWorks, such as using an API to access a web service (NOTE: while such operations are possible, they are very expensive in terms of performance impact)
 - complex logic that cannot be expressed in SQL (bulk callout) or simple validation rule. NOTE: many of the callouts listed above originated as complex rules needed for an implementation but were recognized as having general applicability so where assimilated into the product.

18.1.1.3 Pre-Save Callout

Pre-Saved Callouts are not a validation rule; they are used to perform a pre-save calculation on the record before the record is created or updated. For example, a Pre-Save Callout could conditionally define a default value for an attribute or calculate a primary key based on other attribute values. If it is a compiled class, it may define a primary key using data in an external

table or repository, for instance, selecting a number from a pool of available numbers, then removing the number from the pool.

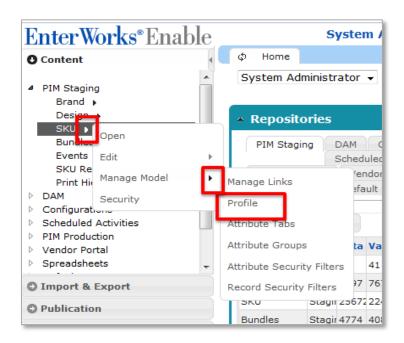
Pre-Save Callouts include:

- VTLUpdatePreSaveCallout updates the record using the VTL script defined in the callout properties
- AttributeVTLCaclulatePreSaveCallout
- PriceCopyPreSaveCallout
- AttributesSearchAndUpdatePrice
- GroovyPreSave executes a Java-based Groovy script defined in the callout properties
- NodeJSPreSave
- <custom> any Java class that follows the Pre-Save Callout interface can be implemented to perform a pre-save operation.

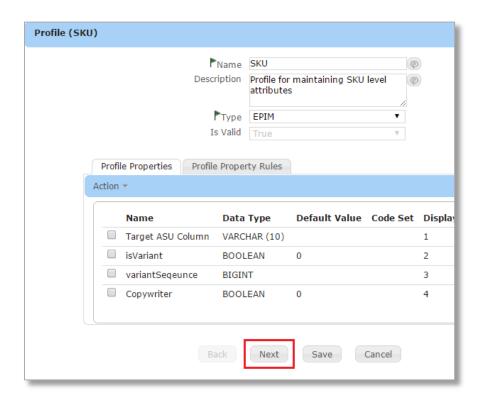
18.2 Assign/Unassign Existing Validation Rule to an Existing Attribute

To assign or unassign an existing validation rule to an attribute:

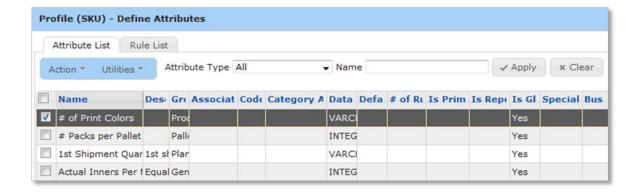
1. In the **Feature** bar, under the **Content** tab, select a repository based on the desired profile, click the arrow to the right of **Manage Model** and select **Profile**.



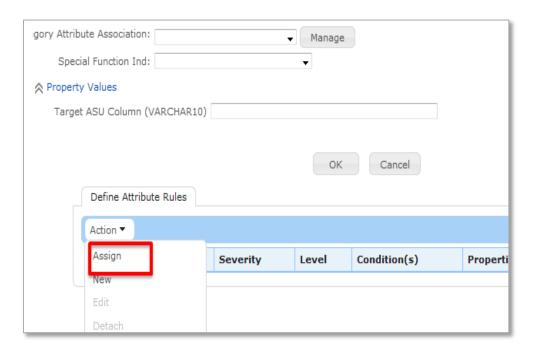
2. The Profile editor will open. Click Next.



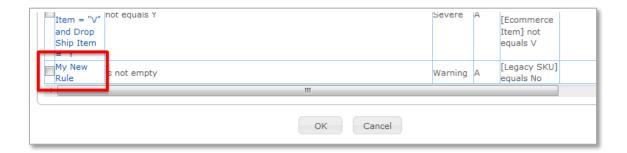
3. Find the attribute you wish to assign to a validation rule and double-click to open it in edit mode.



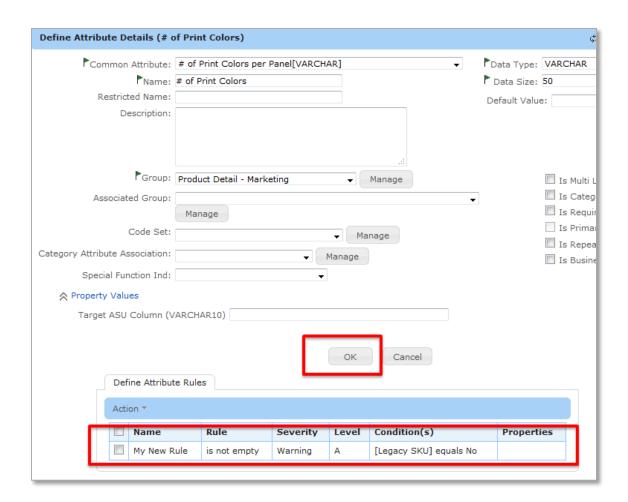
4. The top of the editor lists configuration options. Near the bottom of the editor is the **Define Attribute Rules** section. From the **Action** dropdown, choose **Assign**.



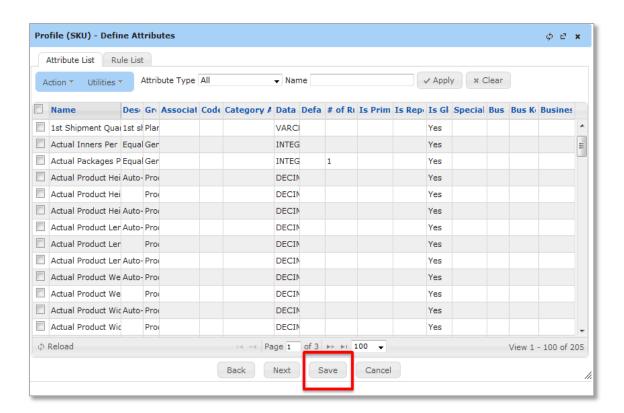
5. A list of rules will appear. Select one or more rules you wish to assign to the attribute, then click **OK**.



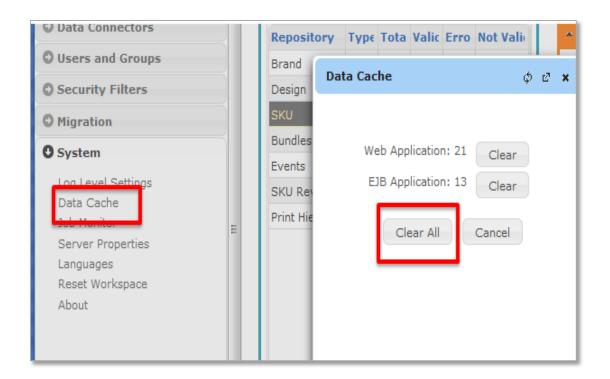
- 6. You are taken back to the attribute editor window where you will see the newly assigned validation rule.
- 7. To detach a validation rule, in the Define Attribute Rules section, select the rule, open the Action dropdown and select **Detach**.



- 8. Click **OK** to return to the Profile editor.
- 9. To save your changes, make sure to click **Save** in the Profile Editor.



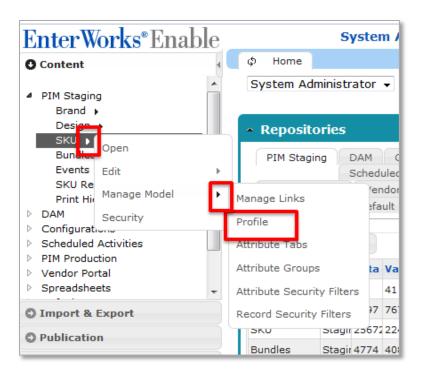
10. Clear server data cache.



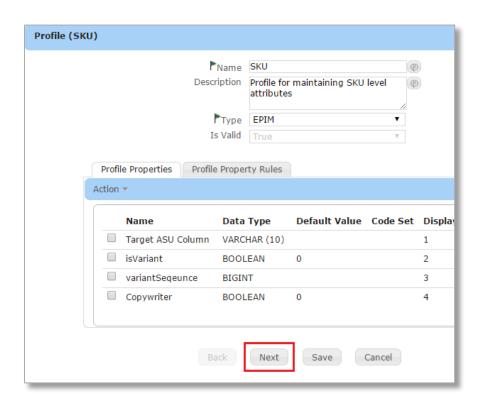
18.3 Defining Attribute Validation Rules for Validation Levels

To define attribute validation rules for validation levels:

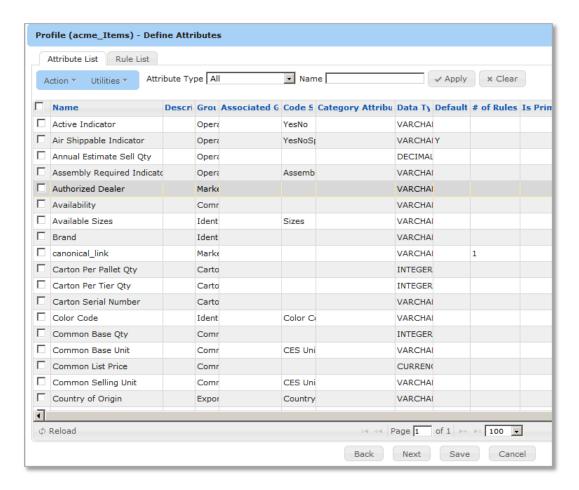
1. In the **Feature** bar, under the **Content** tab, select a repository based on the desired profile, click the arrow to the right of **Manage Model** and select **Profile**.



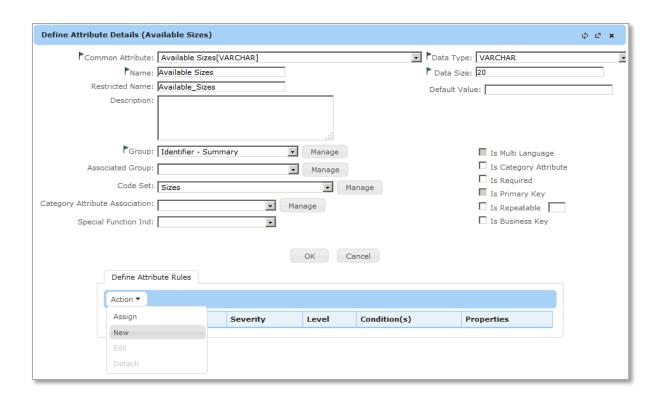
2. The Profile editor will open. Click Next.



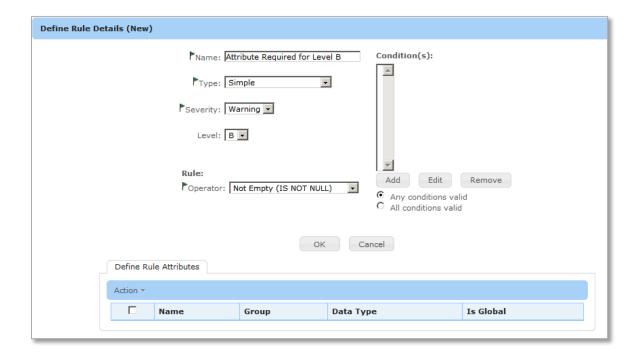
3. The **Attribute List** will appear. Double-click the desired attribute to open it in the Define Attribute Details editor.



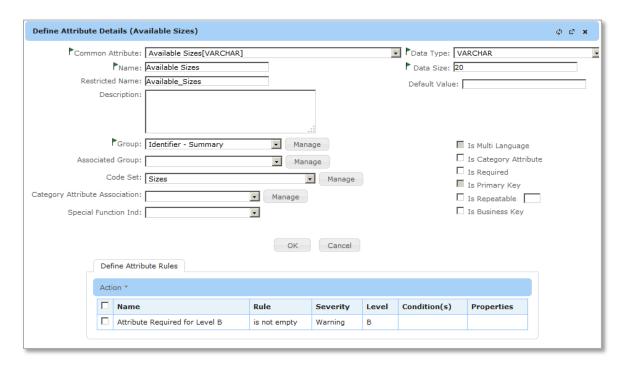
4. Double-click the desired attribute to open it in the **Define Attribute Details** editor.



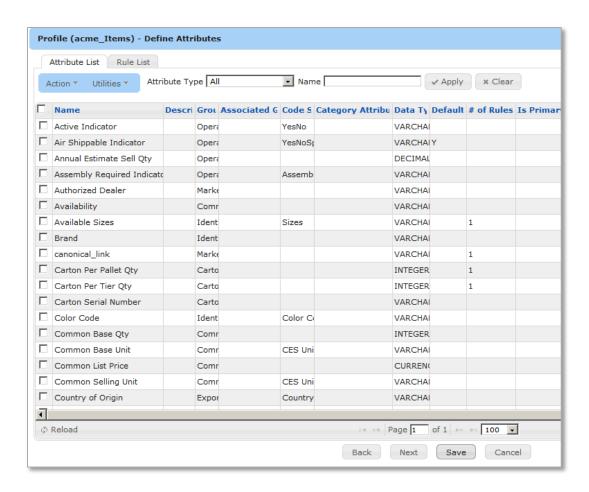
5. On the **Define Attribute Rules** tab, select **Action > New**. The **Define Rule Details** editor will appear.



- 6. Define the rule for the attribute and select the Validation Level that the rule applies to.
- 7. Click the **OK** button to return to the **Define Attribute Details** editor.



8. Click **OK** to return to the **Profile Editor**.



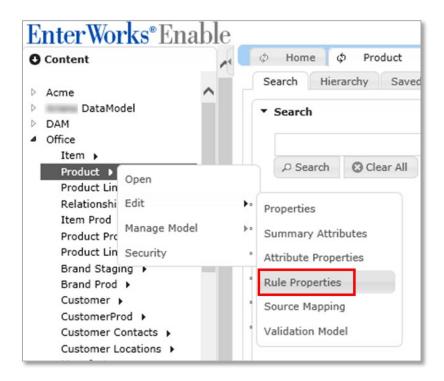
9. Click **Save** and a confirmation message will be shown.



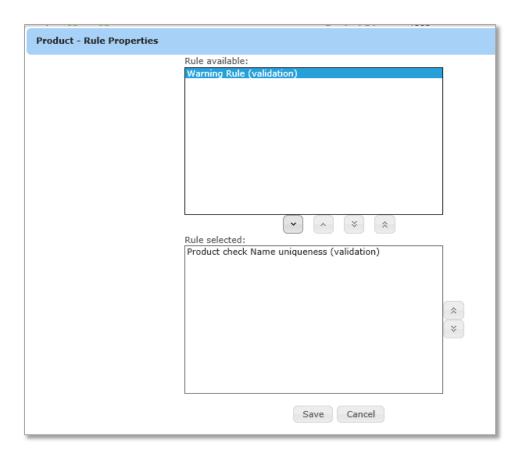
<u>IMPORTANT</u>: For a <u>new rule</u> the following steps must be taken to activate it.

To activate the new rule.

1. Right-click the repository and select **Edit** and then **Rule Properties**.



2. The Rule Properties editor will open.



- 3. Select the new rule in the top **Rule Available** list box.
- 4. Click the Down arrow to move the rule to the bottom list box.
- 5. Click the **Save** button.

18.4 Assigning Multiple Attributes to a Validation Rule.

To assign multiple attributes to a validation rule:

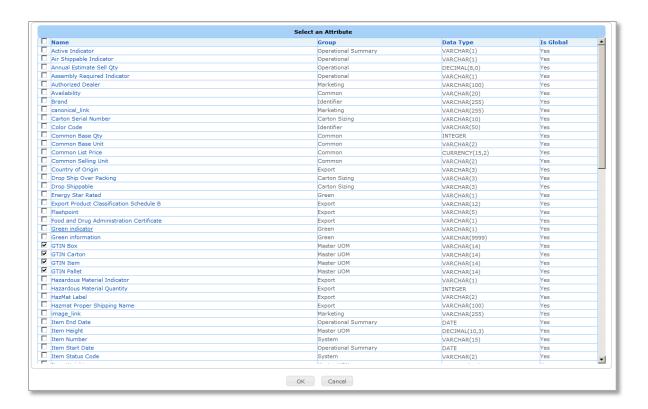
- 1. Open the desired profile in the **Profile** editor, click **Next,** and open the **Rule List** tab.
- 2. Select the Validation Rule (or create a new one with **Action > New**).



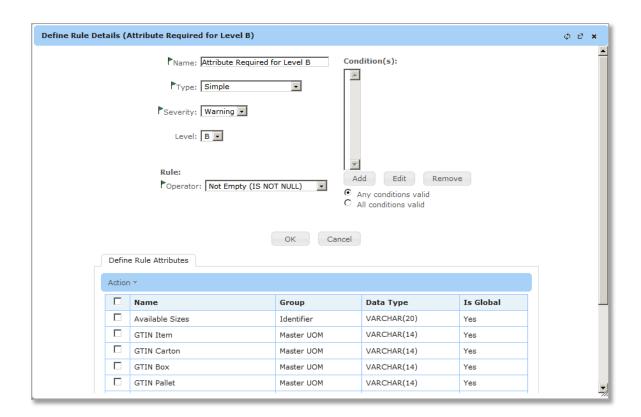
3. Double-click the record or select **Action > Edit**.



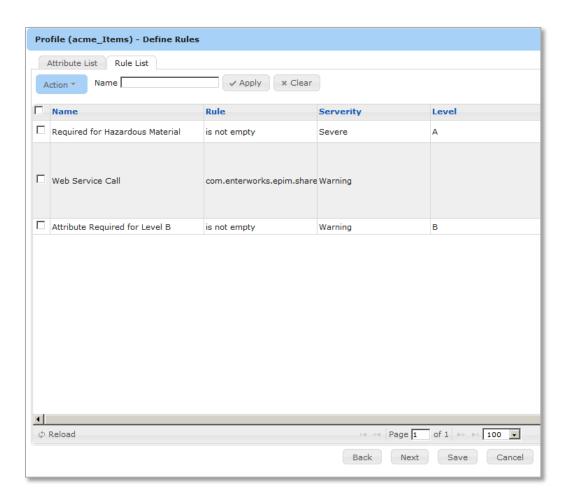
- 4. The **Define Rule Details** editor will open.
- 5. In the **Define Rule Attributes** section, in the **Action** dropdown, click **Assign**.
- 6. A list of attributes will appear.



- 7. Click the checkbox next to the attributes to apply the same Validation Rule (with the same validation level).
- 8. The **OK** button is at the bottom of the list of attributes. You may need to scroll down to find it. Click the **OK** button and you will return to the **Define Rule Details** editor.
- 9. The new attributes for the Validation Rule will appear in the list.



10. Click **OK** to return to the **Rule List** tab on the **Profile** editor.



- 11. Click **Save** to save the changes to the Rule List.
- 12. A confirmation window will be shown.



18.5 Setting a Syndication/Export's Validation Level

When defining a Syndication Template to use for an export or syndication, the default validation level is set to "A". This validation level can be changed for the template during setup or modification. For details on setting validation levels, see the EnterWorks online help at https://help.winshuttle.com.

18.6 Setting a Record's Validation Level

The default validation level can be overridden for a specific record, if required. For details on setting validation levels, see the EnterWorks online help at https://help.winshuttle.com.

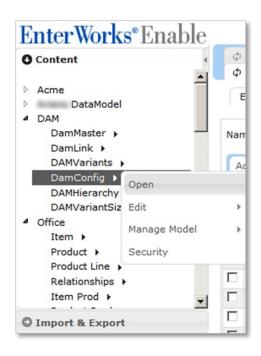
19 Managing Digital Assets

Digital assets typically consist of digital images and PDF documents, but may also include audio files, video files, Microsoft Office documents, and other types of files. An organization's digital assets, as well as the metadata associated with these digital assets, are stored in the DAM repositories. After the digital asset objects are stored, they can be associated with any repository that has been set up as Digital Asset enabled by the Systems Administrator. For steps for managing digital assets through the New User Interface, see the EnterWorks online help at https://help.winshuttle.com. This section only covers activities normally handled by a System Administrator.

19.1 Bulk Importing Digital Assets

When dealing with a large number of Digital Assets to import, the basic import process could be lengthy. Another option called Bulk Uploading is available within EnterWorks and utilizes an automatic upload folder located on the EnterWorks Web Server.

The upload directory is defined in the SourceFolder property in the DamConfig repository. To access this value, open the DamConfig repository as shown below.



The first record shows the Source Folder's path on the server.



To import multiple digital assets:

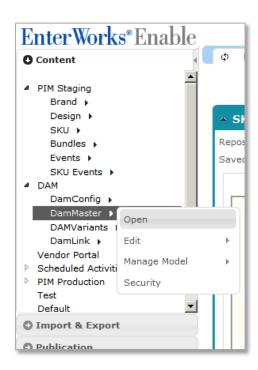
- 1. Stage the files to be uploaded in a local directory.
- 2. To automatically assign the files to nodes in a DamHierarchy, define a directory structure that mirrors the DamHierarchy structure and place the files in the appropriate folder. Files placed in the upload directory will be uploaded without setting or changing the DamHierarchy assignments. New nodes will be created in the DamHierarchy structure if the directory structure does not match it exactly. For example, if a file is uploaded into a directory <drop_folder>\Furniture\Office\Desks, the DamHierarchy setting for the assets being loaded will be set to the Furniture.Office.Desks node.

- 3. Log into the server and follow the source path to the Mass Upload folder (or access the upload folder if it has been configured as a shared directory on the network).
- 4. Copy the local files (including the directories) into the upload folder. The folder is checked every 15 seconds (which is configurable by the System Administrator) for new items, and when they are found they are automatically uploaded. Results of the upload processing can be viewed in the log file for the Asset Monitor process.

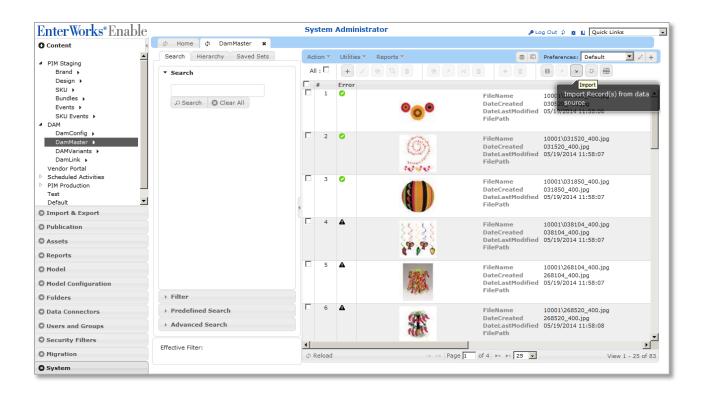
19.2 Batch Importing Digital Asset Metadata

The Import function in the DamMaster also allows importing CSV or Excel files containing metadata for existing digital assets including links to other repositories. This is useful when you want to update information for many assets. This functionality is recommended only for System Administrators and should be tested on a development or QA box before running on the production server.

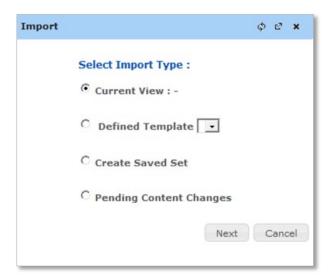
1. Under the **Content** feature in the Feature bar, open the **DAM** Repository Group and the DamMaster repository under this group.

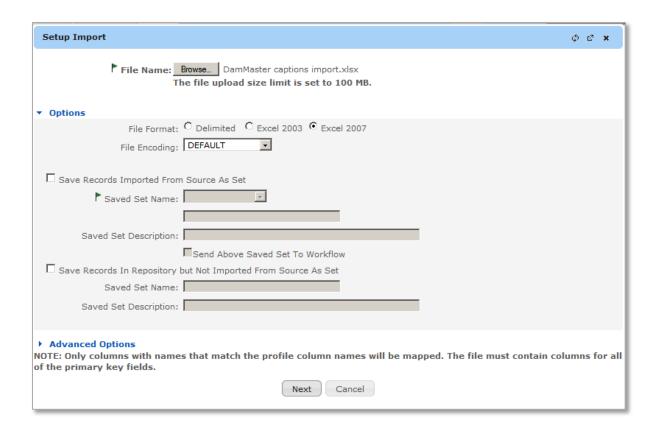


Click the Import Record(s) from data source button on the toolbar third button from the right.

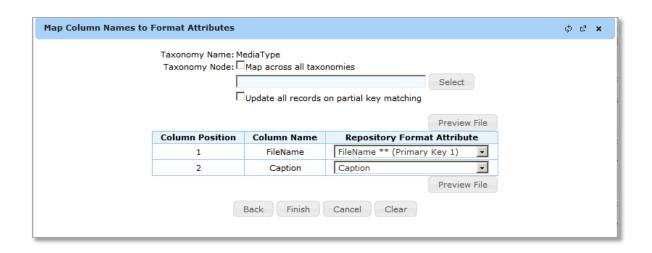


3. Select the **Import Type** and click the **Next** button.





- 4. Map the fields from your file to appropriate target fields. **Note**: The fields will be automatically mapped if the column names in the file match the attribute names in the repository.
- 5. Click Finish.
- 6. Monitor the import job on the **Job Monitor** page.



20 Category Attributes

EnterWorks allows you to manage attributes based on their Taxonomy categorization. All attributes must first be defined in the profile for the repository. The user must be granted security to the underlying Taxonomy and profile to be able to edit the attributes.

Each Category Attribute must then be assigned to the nodes of the Taxonomy. This can be done from the list view for the repository containing the Category Attributes, from the Taxonomy editor under the Model feature, or from the Hierarchy Tab in the repository associated with the Taxonomy.

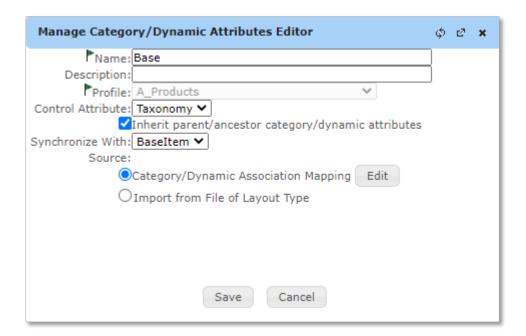
20.1 Manage Category/Dynamic Attributes from the Taxonomy List

To manage category or dynamic attributes from the Taxonomy list:

- 1. Log into EnterWorks.
- 2. Expand the left-side feature bar, and expand the **Model** Feature and click on the **Taxonomy** function. A list of the existing Taxonomies will appear.
- 3. Across the top of the screen (just under the Taxonomy tab's name) is the list of folders that contain the taxonomies. Open the folder containing the Taxonomy that is tied to the Category Attributes, if applicable.
- 4. Select the desired **Taxonomy** record, open the **Manage** dropdown, and select **Category/Dynamic Attribute Association.** The **Manage Category/Dynamic Attributes** editor will appear.



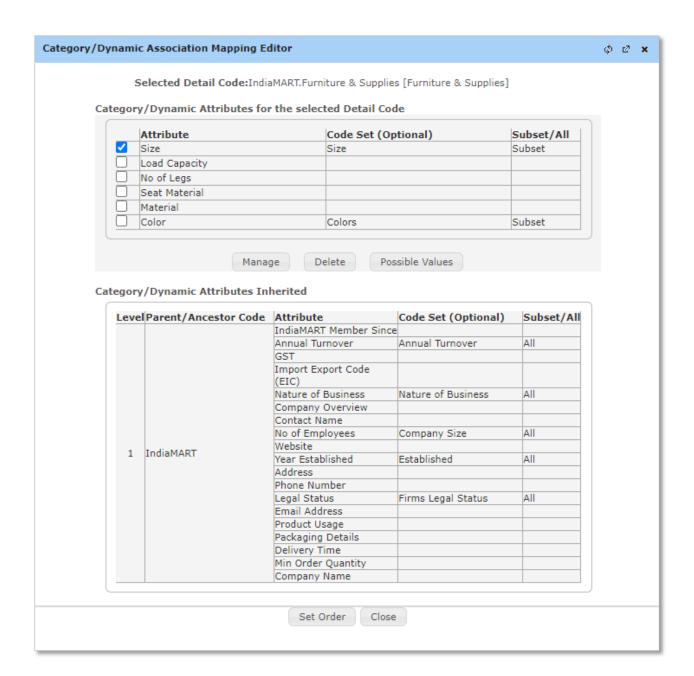
 Double-click the desired Category/Dynamic Attribute Association object to open it for editing, or select it, open the **Action** dropdown, and select the **Edit**. The **Manage** Category/Dynamic Attributes editor will appear.



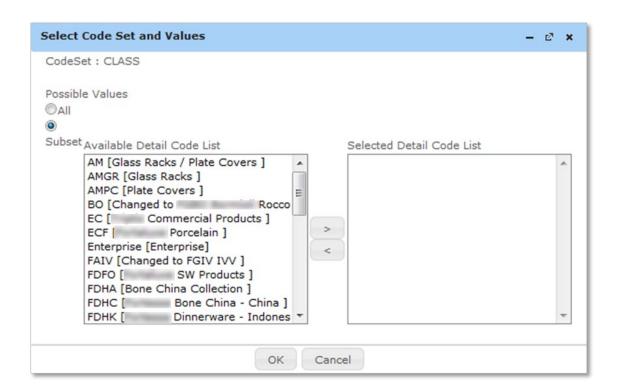
6. Click the **Edit** button next to **Category/Dynamic Attribute Association Mapping**. The **Manage Category/Dynamic Attributes Editor** will appear.



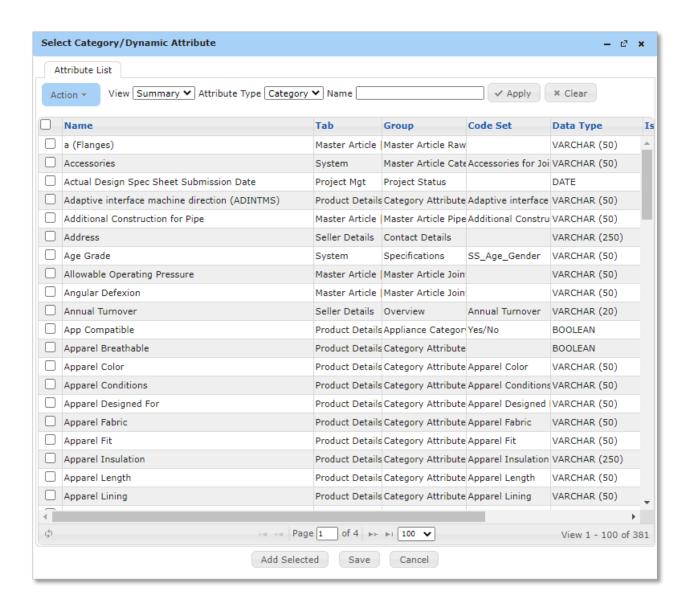
- 7. Repeat the following steps for each Taxonomy node to be updated:
 - a. Drill down into the Taxonomy and select the node to be updated.
 - b. The **Category Attribute Association Mapping Editor** appears, showing the selected node attribute assignments along with any inherited assignments from parent nodes.



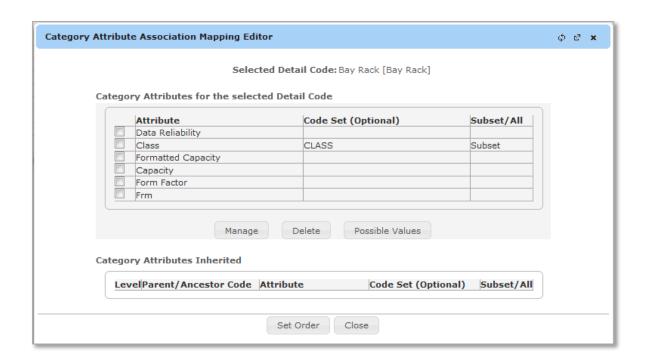
- c. To remove an attribute assignment, check the checkbox next to the attribute and click **Delete**.
- d. To change the codes of an attribute's code set (if a code set is assigned to the attribute) that are allowed for this node, check the checkbox next to the attribute and click the **Possible Values** button at the bottom of the list.



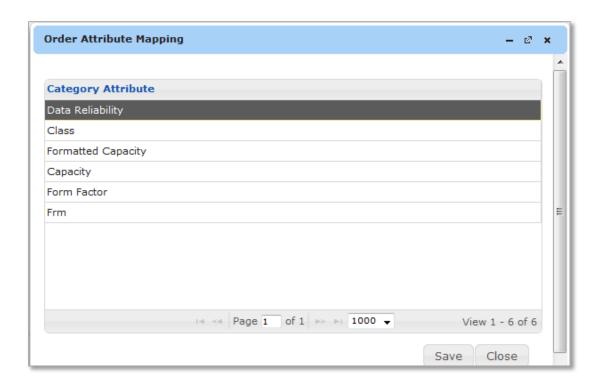
- i. Select the **Subset** radio button.
- ii. To assign codes, select the desired codes from the Available Detail Code List and click the right-arrow button to move them to the Selected Detail Code List. To unassign codes, use the left-arrow button to move codes from the Selected Detail Code List back to the Available Detail Code List.
- iii. Click the **OK** button or Cancel button to return to the **Category/Dynamic Association Mapping** editor.
- e. To add an attribute assignment, click the **Manage** button. **The Select Category/Dynamic Attribute** window appears.



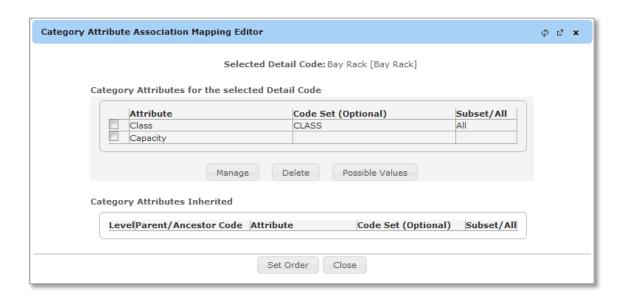
8. Select the desired attributes to be assigned and click the **Add Selected** button at the bottom of the editor. The selected attributes will be added to the list. Then click **Save** or **Cancel** to return to the **Category/Dynamic Association Mapping** editor.



9. To set the order of the assigned and inherited attributes, click the **Set Order** button at the bottom of the editor. The **Order Attribute Mapping** editor will appear.



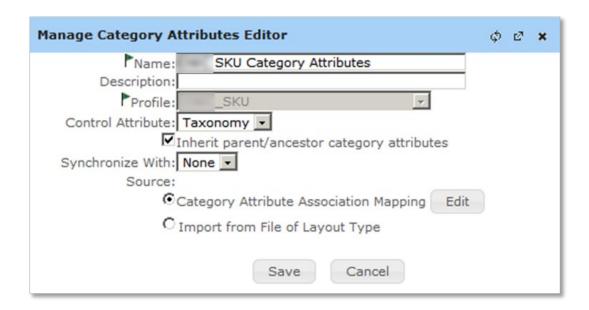
- 10. Drag and drop the attributes into the desired order.
- 11. Click the **Save** button, then click the **Close** button. You will be returned to the **Category/Dynamic Association Mapping** editor.



12. Click the Close button to return to the Manage Category Attributes Editor.



13. Click the **Return** button to return to the **Manage Category/Dynamic Attributes Editor**.



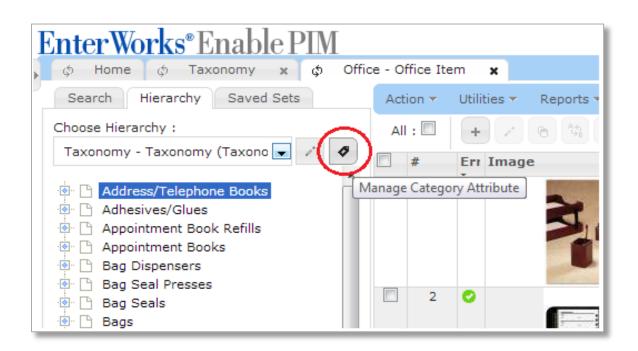
14. Click the Save button.

NOTE: If the Save button is not clicked on the **Manage Category Attributes Editor** window, then any changes made to the assignments will be lost.

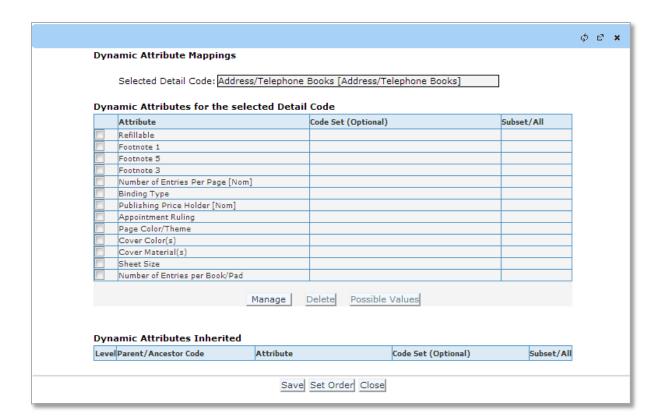
20.2 Manage Category/Dynamic Attributes from Repository View

To manage category or dynamic attributes from the Repository View:

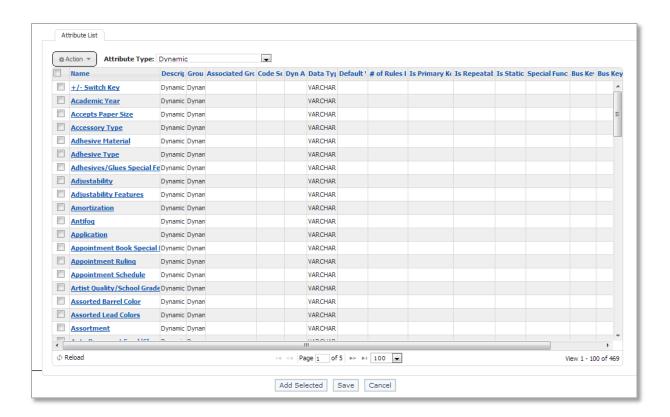
- 1. Log into EnterWorks.
- 2. Expand the **Feature** bar, and expand to show the desired repository, open it, and select the **Hierarchy** sub-tab at the top of the tab..
- 3. Use the **Choose Hierarchy** dropdown to select the Taxonomy. The Taxonomy tree will load below the drop-down list.
- Select a Taxonomy node and click the Manage Category Attributes icon from the toolbar. If you hover over the icon, it will say Manage the taxonomy's available category attributes.



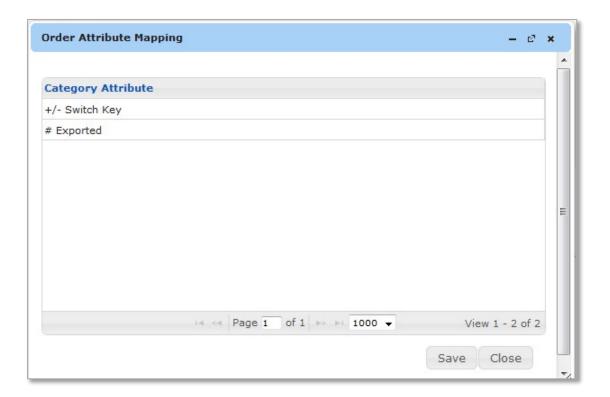
5. The window below is shown with the current list of attributes for the selected node.



- 6. To unassign an attribute from a node, select the attribute and click the **Delete** button. This will not delete the attribute; it will only remove from the node.
- 7. To add a new Category Attributes to this Taxonomy node, click the **Manage** button and the **Select Category/Dynamic Attribute** List will appear.



- 8. Select the checkbox next to the attribute(s) you want to assign to the node.
- 9. Use the **Action** drop-down menu to add new attributes that are not already defined, then click **Add Selected** and you will be returned to the Taxonomy editor.
- 10. In the Taxonomy editor, to change the order of the attributes, click **Set Order**. The **Order Attribute Mapping** editor will appear.



- 11. Drag and drop the attributes into the desired order.
- 12. Click **Save** on the **Order Attribute Mapping** editor and you will be returned to the **Taxonomy** editor.
- 13. Click **Save** to save your changes to the Taxonomy.

NOTE: If Save is not clicked, the changes to the Category/Dynamic Attribute assignments for the selected node will be lost.

21 Using Staging and Production Repositories

21.1 Staging vs. Production Repositories

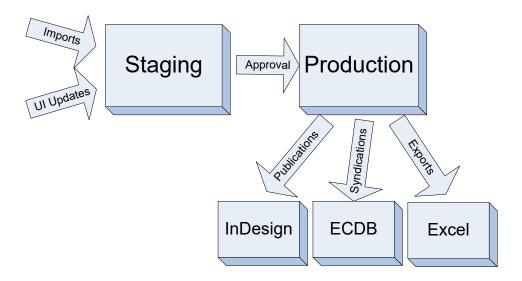
In order to insulate "production-ready" data from updates that may be incomplete or invalid, EnterWorks supports the creation of separate Staging and Production versions of the data. When this functionality is used, each repository has a staging and a production version.

Staging – A staging repository is the work area where records are updated by users. A
record's updates will stay in the staging area until there are no severe validation errors

on the record. The record(s) can then be promoted to production which takes the changes that were done to staging and applies them to the production record(s). If the record is new, it will be added to production. Promotion of data to production can be done either automatically or manually.

• Production – approved data for generating publications or creating/scheduling exports for syndications.

The following diagram shows the data flow between the EnterWorks Staging and Production repositories as well as to external entities:



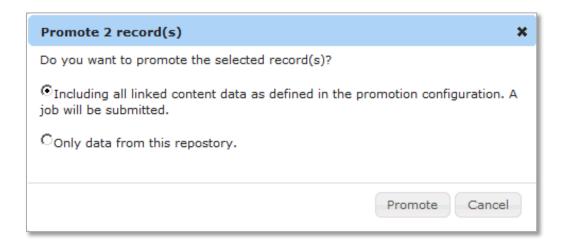
Promotion can be controlled by requiring records to be approved in staging before being promoted to Production. Some repositories may be configured to not require an approval and some users may have the authority to bypass an approval. In most cases, records will be automatically promoted to Production if they do not contain severe validation errors.

Data that is added or updated in repositories **not** configured for Staging-Production will be "production-ready" when the records are saved.

21.2 Manually Promoting Records

Users can manually promote selected records from a Staging repository to Production using either the EnterWorks New UI or the EnterWorks Classic UI. To manually promote records using the EnterWorks Classic UI:

- 1. Log into the EnterWorks Classic UI.
- 2. Open the desired repository and select the record(s) to be promoted, using searches, Saved Sets, or Filters if desired.
- 3. Open the **Utilities** dropdown list and select **Promote Records**.



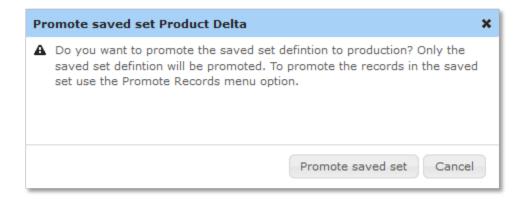
- 4. To promote the record and all its configured children, select the first option. This will submit as a background job.
- 5. To promote the selected records only and not any linked children, select the second option. This will immediately copy valid records to production.
- 6. Click the **Promote** button to submit the promotion request.

NOTE: Only the valid selected records will be promoted to Production.

21.3 Manually Promoting a Saved Set Definition

A Saved Sets' definition can be manually promoted from a Staging repository to Production. This action does not promote the records in a Saved Set; it only promotes the definition. To do so:

- 1. Log into the EnterWorks Classic UI.
- 2. Open the desired repository, open the SavedSets tab, and select the Saved Set to be promoted.
- 3. Open the **Utilities** dropdown list and select **Promote Saved Set**. The following dialog will open.

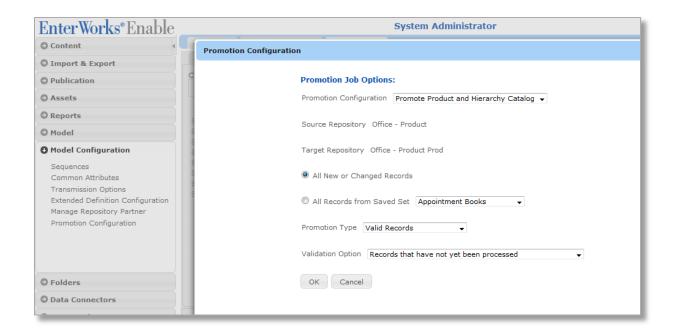


4. Click **Promote saved set**.

21.4 Manually Promoting a Repository

An entire staging repository can be promoted in a single operation by performing the following steps:

1. Expand the **Feature** bar, open **Model Configuration**, and select **Promotion Configuration**.

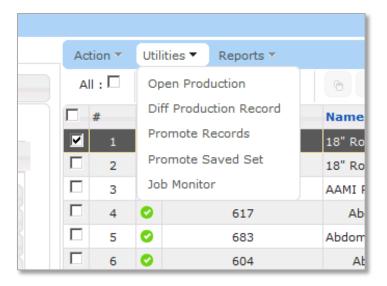


- 2. Select the **Promotion Configuration** to be used to promote.
- 3. To promote all new or changed records, select the **All New or Changed Records** radio button.
- 4. To promote only those records in a Saved Set, select the **All Records from Saved Set** radio button and select the desired Saved Set from the list.
- Select the desired promotion type.
- 6. Select the desired validation option.
- 7. Click **OK**. A background job will be launched that will validate and promote the designated records from the designated repository.

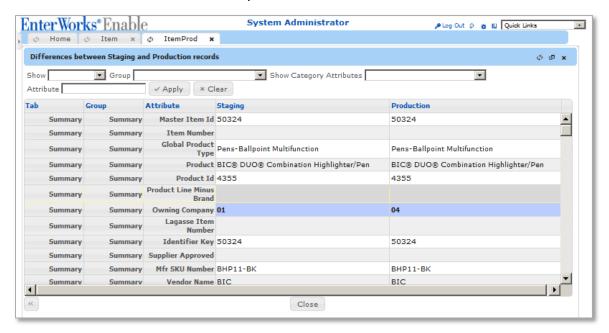
21.5 Review difference from Production

To view differences between the staging record and the production record.

1. Select a single record from listing. From Utilities menu select **Utilities**→ **Diff Production Record.**



2. The **Differences** viewer will open.



3. The **Differences** viewer will initially show only the attributes that are different between Staging and Production. To show all attributes or duplicate attributes, use the **Show** dropdown list.

22 Package Promotions

Records are modified in the staging environment and then moved to production using the promotion process. Promotion can be handled automatically or manually (depending upon the configuration), but records cannot be promoted if there are any validation errors. For a complete description of package promotion, see the EnterWorks Online Help at https://help.winshuttle.com/.

The package promotion process has several steps:

- 1. Creation of temporary saved sets for each repository in the package.
- 2. Validation of the records in the temporary saved sets for each repository.
- 3. Revision of the temporary saved sets based on package promotion rules (for example, remove any records belonging to packages that have validation errors).
- 4. Promotion of the records in the temporary saved sets for each repository.
- 5. Removal of the temporary saved sets (to reduce clutter).

The validation and promotion operations are visible in the **Job Monitor** as individual jobs. The **Scheduled Import Jobs** shows the overall package promotion progress.

22.1 Package Promotion Repository

The Package Promotion repository defines the promotion packages for EnterWorks. It has the following attributes:

Attribute	Description
Display Attributes	List of attributes to display when referencing a record in this repository (instead of primary key)
ID	Unique identifier for each Package element.
Package Dependent	If yes, this indicates that a record in this repository can only be promoted if the entire package containing this record is valid.
Package Level	Level for package. The top level is 1.
Package Name	Name of the promotion package.

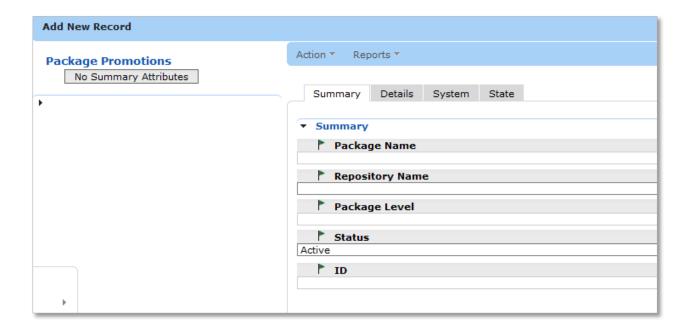
Attribute	Description	
Parent Link Relationship Name	Name of the link relationship associating this repository with its parent. This is blank if this is the top level.	
Promote Warnings	Records having only Warning validation errors will be promoted for this repository if Yes.	
Promotion Attribute	Comma-delimited list of attributes to be updated in each package record from the values of the corresponding work item properties (defined in Promotion Property).	
Promotion Configuration Name	Name of promotion configuration if the repository is to be promoted as part of the package promotion processing. This name must match a promotion configuration in the sharedConfig.properties configuration file.	
Promotion Property	Comma-delimited list of work item properties to be used to update the corresponding attributes (defined in Promotion Attribute) for each record in the package.	
Repository Name	Name of the repository.	
Status	Only process if Active. Inactive records will prevent children repositories from being processed.	
Update Package Errors	Update the Package Errors attribute in the root repository if Yes. The Package Errors attribute must be defined and have a Validation Rule specifying the attribute must be empty.	

22.2 Defining a Data Package

The following steps are used to set up a data package to control the promotion of related records. This functionality is only available to System Administrators.

1. Open the **Feature** bar, open **Content**, open **Scheduled Activities**, and open the **Package Promotions** repository.

2. Click the **Create a New Record** (+) icon. The detail editor for the **Package Promotions** repository will appear:



- 3. On the **Summary** tab, edit the configuration attributes.
 - a. **Package Name**: Enter the name of the package to which this record.

NOTE: All package level records for the same package must have the exact same Package Name value.

- b. **Repository Name**: Enter the name of the repository to which this level applies. Each repository can only be listed once for a package.
- c. **Package Level**: The top level repository is level 0. The repositories that link to the top level must be defined as level 1. Repositories that link to the Level 1 repositories must be defined as level 2 and so on. Levels must be consecutive (for example, if there is a level 3, there must be a levels 2, 1, and 0).
- d. Status:
- e. **ID**:
- 4. On the **Details** tab, edit the configuration attributes:

- a. If this is not the top level, in the **Parent Link Relationship Name** field, enter the name of the link relationship that connects this repository to its parent. For example, if Level 0 is Product and Level 1 is Item, and the link relationship "Product to Item Staging" defines the relationship between Product and Item, set the field to "Product to Item Staging" (without the quotes).
- b. If records in this repository should only be promoted if the entire package containing them gets promoted, set **Package Dependent** to "Yes", otherwise set it to "No".
- c. In the **Promotion Configuration Name** field, enter the name of the promotion configuration for this repository. This name should be copied from the sharedConfig.properties file.
- d. If warning validation errors are to be ignored, set the **Promote Warnings** attribute to Yes.
- e. If attributes other than (or in addition to) the primary key attribute(s) should be used to identify a repository record in the Package Promotion reports, enter the names of the attributes in the **Display Attributes** field (one per line).
- f. If values from the Package Promotion work item should be used to update attributes in this repository, add the names of the work item properties and the repository attributes to the **Promotion Attributes** table. Whenever a package promotion is initiated, the values from the work item will be set in each package record from this repository before the promotion processing (validation and promotion) begins.
- g. If a package record from this repository should be flagged with an error when the package promotion fails, set the **Update Package Errors** attribute to Yes.
- h. Package Promotion Parent:
- 5. On either the Summary or the Details tab, click **Save**.

Repeat the above steps to define all levels for a package.

23 Job Scheduling

The EnterWorks Job Scheduling feature allows you to schedule the following types of activities to be run immediately, in the future, or on a recurring basis:

- Imports
- Exports:
 - Repository Exports
 - Database View/DataMart Exports

- Template Exports
- Promotions

Each type of activity has a pair of repositories that are used to define, trigger, and monitor scheduled instances of the activity, (also called "activity jobs").

- <u>Scheduled <activity> repository</u>: Each record in this repository defines one scheduled activity, including how often it is to be run, locations of files and templates, pre- or post-processing that is to be performed, and how to respond to any incurred errors.
- <u>Scheduled <activity > Jobs Repository</u>: A job monitor for a scheduled activities. When a scheduled activity is triggered to run, a record in this repository is created that tracks the status of the job.

For instance, Scheduled Imports uses the repositories:

- Scheduled Imports Repository
- Scheduled Imports Jobs Repository

Workflows are used to execute an activity job once it has been triggered.

System configuration settings control management of the activity repositories, for instance, how long job status is to be retained and where activity log files are located.

The following sections describe the repositories and configuration settings for each type of scheduled activity.

23.1 Scheduling Imports

23.1.1 Scheduled Imports Repository

All scheduled imports are defined in the Scheduled Imports repository. Each record in this repository represents one scheduled import job. Each attribute from this repository is described in the following table.

Attribute	Description
Active Days Only	If this is set to Yes, run the scheduled job on the designated Schedule Days. This only applies if the Schedule Type is Minutes.

Attribute	Description
Active End Time	If this is a scheduled job of type Minutes, and Active Times Only is set to Yes, jobs will not be run after this time of day. Its format is if HH:MM:SS. Any exports scheduled to be run with a calculated time later than this time will not be run
Active Start Time	If this is a scheduled job of type Minutes, and Active Times Only is set to Yes, jobs will not be begun before this start time. Its format is HH:MM:SS. Jobs with a calculated time earlier than this time will not be run.
Active Times Only	Only run the scheduled job if the calculated Minutes is between the Active Start Time and Active End Time. Applies only when the Schedule Type is Minutes.
Category Attribute Associatio n Name	The name of the Category Attribute Association object to be updated when the Import Type is Cat Attr Assoc.
Code Set Full Replacemen t	If set to Yes, the Code Set import file fully replaces the existing Code Set. This means that existing nodes not included in the import file will be deleted from the Code Set.
Code Set Name	Name of the Code Set to be updated when the Import Type is Code Set.
Delete Saved Set	If set to Yes, the specified Saved Set should be deleted before adding records for the current import to the saved set.

Attribute	Description
Dependent Keys	List of keys to be passed to each dependent operation. The keys must match attribute names in the dependent repository. The corresponding value in the Dependent Values attribute is then used to set the value of the key attribute when the Job is created. The value can reference attributes from the source job by surrounding the attribute name with double-pipe characters.
	For example, if an export is dependent on an import and that export should specify the same user, the Dependent Key would be set to "Manager Login" and the value would be " Manager Login ". Conversely, if the same dependent Export needs to be set to the admin user regardless of its initial definition, the Dependent Key would be set to "Manager Login" and the Dependent Values would be set to "admin".
Dependent Operation	Name of dependent Import, Export, or Promotion to be initiated upon successful completion of this job.
Dependent Operation Immediate	If set to Yes, initiate the dependent operation immediately. Otherwise the operation will be queued and processed by the scheduler, which may take several minutes to start.
Dependent Operation Type	Type of dependent operation: Promotion, Import, or Export.
Dependent Values	Values corresponding to the Dependent Keys that are passed to the dependent operations. Values may reference attributes by surrounding the attribute name with double-pipe characters.
	For example, to reference the Import Job number, the Dependent Values might contain: "Job Export Job ". If Export Job in the current record is set to 1234, the resulting value will be "Job1234".
Descriptio n	Description of scheduled import. It is strongly recommended that Description is populated with all the details for the import, including any job that launches this job, any pre-processing performed, and what jobs this job launches. If Parameter <x> attributes are used, each should be detailed as to their content and purpose.</x>

Attribute	Description
Email Body	Override e-mail body for successful jobs. Attributes in the job record can be referenced by surrounding them with double-pipe characters (for example, Manager Login is replaced with the value of the Manager Login attribute).
Email Notify Failure	If set to Yes and the import fails to process successfully, send an Import Failed e-mail to the owner.
Email Notify Success	If set to Yes and the import processes successfully, send an Import Successful e-mail to the owner.
Email Subject	Subject for success e-mail. May contain references to any other job attribute by surrounding it with double-pipe characters (for example, Manager Login is replaced with the value of the attribute Manager Login).
Email To	Email address(es) to which success/failure notifications will be sent. If not defined, the e-mail address(es) associated with the Manager Login user/group will be used.
Error Dependent Keys	Optional keys for arguments to be passed to any Dependent jobs (as properties) when this job fails with an error.
Error Dependent Operation	List of Promotions, Imports, and/or Exports (based on Dependent Operation Type) that should be triggered on successful completion of this one.
Error Dependent Operation Immediate	If set to Yes and this job fails with an error, execute the dependent operation immediately.
Error Dependent Operation Type	List of operation types for each Dependent Operation when this job fails with an error. • Export – launch an export job. • Import – launch an import job. • Promotion – launch a promotion job.

Attribute	Description
Error Dependent Values	If this job fails with an error, these are the values for Dependent Keys.
Group Lock Action	Group locks allow for multiple concurrent jobs to all attach to the same lock. The lock is not freed until all processes have detached from it.
	Action to be taken with the lock identified in Group Lock Name:
	 Attach – the import will attach to the specified lock. Processing for the import will begin immediately.
	 Free – the import will detach from the named lock (presumably set by a previous job that invoked this import) once the import processing has completed. The lock is not completely freed until all attached processes have detached.
	 Attach And Free – the import will attach to the named lock and begin processing and detach from the named lock once processing has completed.
	No Lock – the import will not attach to a group lock.
	Group locks will always acquire the designated lock, even if another process has acquired or attached to the same lock. If multiple jobs attach to the same lock via group lock, the lock is not free until all of the processes have freed the lock.
Group Lock Name	Name of the group lock.
Ignore Missing File	If an Import is executed and the specified file cannot be found, the Failure e-mail will be suppressed if this flag is set to Yes.
Import Directory Name	The fully qualified path to the directory where the import file is.
Import File Name	Name of the file to be imported.

Attribute	Description
Import File Sort	Specifies whether the matching files (if Import File Name includes a wildcard character) should be sorted before selecting a file.
	• File Ascending – sort file names in ascending order.
	• File Descending — sort file names in descending order.
Import Language	Specifies the language to be used for the import. If it is empty, the default language is used. If it is set to a non-default language, the multi-language fields for this language are updated.
Import Name	Logical name for the Import.
Import Now	If set to Yes, the import file is to be processed immediately.
	This flag is immediately set to No once a record for this import has been created in the Scheduled Import Jobs repository. This flag will be set to Yes any time the import is to be processed outside of the scheduled time. The immediate processing of the import file will not alter the next scheduled date and time. For example, if the import is scheduled to be processed nightly at 1:30 a.m. and a user requests an immediate import at 11:00 p.m. by setting this flag to Yes, the file will be processed at 11 p.m. and then again at 1:30 a.m.
Import Option Name	The name of the import option to be applied to this import. The code set Import Options contains a complete list of available options. The description for each code identifies what the option does and what values can be specified.
Import Option Value	The value for the corresponding import option to be applied to this import.
Import Priority	This setting controls the order in which jobs are run. The lower the number, the higher the priority, for example: jobs with priority 1 are run before jobs with priority 5.

Attribute	Description
Import Type	 Identifies the type of import: Template – the import uses an Import Template. Repository – the import uses a View Mapping for a specific
	repository. • Custom – the import only performs the assigned pre-processing module.
Inactive Records	Identifies action to be taken with Inactive records when the Import Type is Template and it is configured as a full replacement import (which will flag records not present in the file as being inactive):
	No Action — do not do anything.
	 Delete – delete inactive records from Staging and Production after the import has completed.
	 Reactivate – reactivate inactive records if they are present in the import file.
Inactive View	Name of the snapshot table view for the target repository. This view is used when processing inactive records in a full replacement template import.
Include Timestamp	If set to Yes, include the date and time in the Import_ <job>.log. This can be helpful in troubleshooting pre-processing for an import as it shows how long processing steps took (providing the appropriate messages are being reported).</job>
Last Import Datetime	Date and time of when this import was last initiated (scheduled or manual).
Last Scheduled Import Datetime	Date and time of when scheduled import was last processed.

Attribute	Description	
Lock	The action to be taken with the lock identified in Lock Name:	
Action	 Acquire – the import will wait until the named lock is acquired. Processing for the import will not begin until then. 	
	 Free – the import will free the named lock (presumably set by a previous job that invoked this import) once the import processing has completed. 	
	Acquire And Free – the import will wait until the named lock is acquired and will free the named lock once processing has completed.	
	• No Lock – the import will not wait for any lock before processing.	
	Locks will only be acquired if they are currently free. If the designated lock has been attached to by multiple jobs using the Group Lock, the lock does not become free until all of those jobs have freed the lock.	
Lock Name	Name of the lock to acquire or free (depending upon Lock Action). If more than one import shares the same lock, then they will be processed serially. The name may contain references to other properties by surrounding each property name with double-pipe characters. For example, to ensure only one instance of an import is processed at a time for each user, the Lock Name can be set to: "Import Manager Login ". This will produce a lock name of "Importjdoe" for John Doe and "Importjsmith" for John Smith.	
	If the referenced lock is associated with the <code>Group Lock</code> in other jobs, the lock will not be considered free until all the <code>Group Lock</code> jobs have detached from the lock.	
Manager Login	Login of the EnterWorks user or EnterWorks role assigned to this import. This user (or group of users if a role is specified) will receive e-mails generated for processing imports.	
Move Import File	If set to Yes, the import file is moved to the designated import directory and renamed to include a date/time stamp. If this is set to No , the import file is left in its original location and processed from there.	

Attribute	Description
Next Import Datetime	Date and time of next scheduled import in the format "mm/dd/yyyy hh:mm:ss". EnterWorks will initiate the processing of the import file when this value is in the past. The value is updated to the next scheduled time (using the Import Period) as soon as the processing commences.
Parameter1 -5	Five attributes that can serve as parameters when jobs are connected through the Dependent Operation attributes. They are not used directly by the Import processing but can be referenced in other attributes (for example, Parameter2).
Preprocess Class	Fully-qualified path, identifying the Preprocess class to be invoked for this import. It must be a subclass of com.enterworks.services.BaseCustomProcessFile
Preprocess File	If set to Yes, the import file must be preprocessed using the designated class and arguments.
Preprocess Keys	Argument keys identifying the Preprocess Argument Values to be passed to the designated preprocess module.
Preprocess Values	Values for corresponding Preprocess Argument Keys to be passed to the designated preprocess module. Values can contain references to properties from this job by surrounding the property name with double-pipe characters. For example, to pass the Import Job, the value would be set to " Import Job ".
Repository Name	Name of target repository.
Repository Timeout	The maximum number of minutes allowed for processing a Repository Import. This timeout specifies how long the Scheduled Import processing will wait for the import to complete processing. If a timeout is reached, the job is flagged with an error and the designated user or group is notified. The actual job may still complete successfully, but any dependent jobs will not be triggered.
Repository View Mapping	The name of the mapping view for Repository Import. Mappings are either manually defined in the EnterWorks Classic UI or by manually performing an import using the EnterWorks New UI and selecting the option to Save Mapping.

Attribute	Description
Run As Manager Login	If set to Yes, run the import using the login designated in Manager Login. When enabled, the Manager Login must be set to a user and not a group. This option ensures the import is subject to the security of the designated login and also identifies the records being created/updated by that login (vs. system).
Saved Set	If this is specified, it is the name of the Saved Set to be created.
Schedule Days	Identifies the days of the week if Schedule Type is Days of Week.
Schedule Exclude Dates Code Set	If set to a code set listing dates as code values, the scheduling logic will skip to the next scheduled date if the calculated date is one of the dates in the code set.
Schedule Period	Number of time units (based on Schedule Type) after Last Scheduled Date before the next scheduled import is initiated. For example, an import that is to be processed daily could be set to type DAYS and have a period of 1 or be set to type MINUTES and have a period of 1440. The scheduled imports are not affected by any manually initiated imports.
Schedule	Type of schedule:
Туре	MINUTES — the Schedule Period identifies the number of minutes before re-invoking the import.
	DAYS — the Schedule Period identifies the number of days before re-invoking the import.
	 DAYS OF WEEK – specific days of the week on which the import is to be executed (which is specified by the attribute Schedule Days).
	WEEKS — the Schedule Period identifies the number of weeks before re-invoking the import.
	MONTHS — the Schedule Period identifies the number of months before re-invoking the import.

Attribute	Description
Scheduled Folder	Logical folder in which the scheduled job is assigned for organization purposes. If set and the Scheduled Folder Hierarchy is selected in the repository list view, this import job can be found by clicking a node in the Scheduled Folder Hierarchy.
Scheduled Folder Sequence	Used to control the order of scheduled jobs in the Scheduled Folders.
Scheduled Import	Set to Yes if the import is to be scheduled. Each time the scheduled import is processed, the Next Import Datetime is updated based on the Schedule Type and Scheduled Period along with the previous value for Next Import Datetime.
	For example, if the Schedule Type is set to DAYS OF WEEK and Scheduled Days is set to Monday, Wednesday, and Friday and the Next Import Datetime is set to 10/3/2014 02:00:00 (2:00 am on Friday, October 3 rd), the Next Import Datetime attribute will be updated to 10/6/2014 02:00:00 (2:00 am on Monday, October 6 th).
Skip File Check	If set to Yes, skip checking for and moving a file. Requires Preprocess File = Yes and Preprocess Class is defined. The assigned class is responsible for ensuring a file is created.
Skip If Busy	Skip this Import if it is scheduled and there is already an active job for the same import. This ensures only one scheduled import job is running at any given time.
Source FTP	FTP Server name if Source Type is FTP
Source FTP Delete File From Server	If set to Yes, delete the file from the FTP server. Its default value is Yes.
Source FTP File Name	Name of source file if Source Type is FTP. The file name may contain wildcards ('*') which may result in multiple files being retrieved. If multiple files are expected, the Import File Name should also have wild cards and the Scheduled Import should be configured to call itself as a dependent operation to ensure each file is processed.

Attribute	Description
Source FTP List Gaps	Number of gaps in the data returned by the LIST command for the FTP server between the start of each line and the name of the file. This is used by EnterWorks to know how to extract the name of the file.
Source FTP Path	Fully qualified directory path on the FTP server if Source Type is FTP.
Source FTP Port	FTP Server port (21 default, 22 SFTP)
Source FTP User	FTP Server user name if Source Type is FTP
Source FTP User Password	FTP Server user password if Source Type is FTP
Source S3 Access Key	Amazon S3 Access Key if Source Type is S3. If not defined, the property named amazon.s3.AWSAccessKey in the <drive>:\Enterworks\EPX\bin\conf\Enterworks.propert ies file is used.</drive>
Source S3 Bucket Name	Name of the Amazon S3 Bucket containing the file to be downloaded if Source Type is S3.
Source S3 Delete File From Server	If set to Yes and Source Type is S3, delete the file from the Amazon S3 Server after it is downloaded.
Source S3 Endpoint	(Optional) The endpoint if Source Type is S3. If set to Use Config, then the Configuration repository property AWS.S3.Endpoint is used (if it is defined).
Source S3 File Name	Name of the file on the Amazon S3 server to be downloaded if Source Type is S3.
Source S3 Is Role Based Auth	If Role Based Auth is false, the Access Key and Secret Key are used.

Attribute	Description
Source S3 Path	The Amazon S3 directory (under the designated bucket name) containing the file to be imported if Source Type is S3.
Source S3 Region	(Optional) The region if Source Type is S3. If Use Config selected, then the Configuration repository property AWS.S3.Region is used (if defined).
Source S3 Secret Key	Amazon S3 Secret Key if Source Type is S3. If not defined, the property named amazon.s3.AWSSecretKey in the <drive>:\Enterworks\EPX\bin\conf\Enterworks.propert ies file is used.</drive>
Source Type	Type of Source for Import; either File or FTP. The default is File.
Status	Status of the import record:
	• Active — the record is active.
	• Retired/Inactive - the record is not active.
Template Name	Name of the Import Template if Import Type is Template.
Template Timeout (Minutes)	Number of minutes before the processing for a Template import is flagged as timing out. When the import times out, an e-mail will be sent to the designated user or group. The import template processing may still finish successfully, but any dependent jobs will not be initiated.

23.1.2 Scheduled Import Jobs Repository

The Scheduled Import Jobs repository contains records representing the currently active or recently completed scheduled import jobs. When an import is initiated, the details for that import are copied from the Scheduled Imports Repository to a new record in the Scheduled Import Jobs Repository. This record is subsequently updated to reflect the current status of the import.

In addition to the attributes define in the <u>Scheduled Imports Repository</u>, the Scheduled Import Jobs repository also has the attributes listed in the table below.

Attribute	Description
# Created	The total number of records created
# Deleted	The total number of records deleted
# Errors	The total number of errors encountered during the import processing.
# Processed	The total number of records processed
# Updated	The total number of existing records that were updated
Import Errors	Lists the details for the cause of the import to fail (when the Import Status is Error).
Import Job	Unique number for the import job.
Import Status	 Status of current or last import. Possible values include: Aborted – the import has been aborted by a user. New – the import is new. Processing – the import file is being processed. While in this state, no additional import can be initiated for this import record. Completed – import processing has completed successfully. Error – the import failed. The Import Status must be changed to New or Completed for it to be processed again (if scheduled).
Job Log File	Name of the Scheduled Import job log file, for example: Import_ <job>.log.</job>
Last Submitted By	Login ID of last user who submitted a file for this target.
System Log Directory	Contains the directory for where the EnterWorks import logs are created.
System Log File	Name of the EnterWorks import log file.

23.1.3 Scheduled Import Configuration Properties

Management of the Scheduled Import feature is defined by configuration settings in the EPX configuration file Enterworks.properties, as listed below.

Property	Description
<pre>import.baseDirectory</pre>	Full path to the directory where the Scheduled Import files will be placed (for example, <drive>:\Enterworks\shared\Imports). If the EnterWorks is configured in a distributed environment, a network directory path should be specified.</drive>
<pre>import.expireActiveDay s</pre>	Number of days before import jobs that still show "Processing" are deleted from the Scheduled Import Jobs repository.
import.expireCompleted Days	Number of days before import jobs that have completed or failed are deleted from the Scheduled Import Jobs repository.
import.logDirectory	Full path to the directory where the EnterWorks import logs are placed (for example, <drive>:\Enterworks\logs\EnableServer\import).</drive>

23.2 Scheduling Exports

Scheduled Exports must be pre-defined and configured using the following high-level steps:

- 1. Depending upon the type of export being created, create an Export Template or User Preference, or define the SQL Query.
- 2. Create a new record in the Scheduled Exports repository, specifying the mapping or template created in the first step.

The details for these steps are provided in the following sections.

23.2.1 Scheduled Export Repository

All scheduled exports are defined in the Scheduled Exports repository. Each record in this repository represents one scheduled export job.

The attributes of the Scheduled Export Repository are listed in the following table, in alphabetically order.

Attribute	Description
Active Days Only	If set to Yes, run the scheduled job on the designated Schedule Days. This only applies if the Schedule Type is Minutes.
Active End Time	The format for this value is HH:MM:SS. If Active Times Only is set to Yes and the job is of type Minutes, no jobs will be run after this time of day. Any jobs with a calculated time later than this time will not be executed.
Active Start Time	The format for this value is HH:MM:SS. If Active Times Only is set to Yes and the job is of type Minutes, this is the daily start time for executing jobs. Jobs with a calculated time earlier than this will not be executed.
Active Times Only	Only run the scheduled job if the calculated Minutes is between the Active Start Time and Active End Time. Applies only when the Schedule Type is Minutes.
Additional Conditions	Additional SQL conditions to filter Delta records. Alias 'v' can be used to reference the view. For example: v.Portal_Status in ('Submitted - Request Pending', 'Reviewed').
Additional Conditions (AND/OR)	This allows the user to select if all or any one of the conditions (if multiple) should be used to filter records.
Compress File	If this is set to Yes, compress the export file into a zip file if.

Attribute	Description
Correction File Type	Type of correction file to generate when Export Type is Validate.
	 0 – None – place validation errors in the Validation job log file.
	• 1 – One file for each attribute with errors.
	• 2 – Single file for all attributes with errors.
Created Attribute Name	Name of attribute representing the creation date for the record.
Custom Source File Name	Sets the file name for a custom export for the registered post-processing class (since no file was generated by EnterWorks). It is the responsibility of the post-process class to actually generate the file.
Delta Export	
	Add – Include only new records since last export.
	Change - Include only changed records since last export.
	Add or Change - Include only new or changed records since last export.
	Full - Include all records subject to Additional Conditions.
Delta Export Offset	Number of minutes to offset the Delta export end time to give concurrent updates time to complete. The value should be set based on the EnterWorks batch size and database performance.
	For example, if the batch size is 200 and it may take the SQL Server database 30 seconds to save all 200 records, an offset of 1 or 2 minutes should be ample.

Attribute	Description
Dependent Keys	List of keys to be passed to each dependent operation. The keys must match attribute names in the dependent repository. The corresponding value in the Dependent Values attribute is then used to set the value of the key attribute when the Job is created. The value can reference attributes from the source job by surrounding the attribute name with double-pipe characters.
	For example, if an export is dependent on an import and that export should specify the same user, the Dependent Key would be set to Manager Login and the value would be " Manager Login ". Conversely, if the same dependent Export needs to be set to the admin user regardless of its initial definition, the Dependent Key would be set to Manager Login and the Dependent Values set to admin.
Dependent Operation	Name of dependent Import, Export, or Promotion to be initiated upon successful completion of this job.
Dependent Operation Immediate	If this is set to Yes, initiate the dependent operation immediately. Otherwise the operation will be queued and processed by the scheduler.
Dependent Operation Type	Type of dependent operation: Promotion, Import, or Export.
Dependent Values	Values corresponding to the Dependent Keys that are passed to the dependent operations. Values may reference attributes by surround the attribute name with double-pipe characters.
	For example, to reference the Import Job number, the Dependent Values might contain: "Job Export Job ". If Export Job in the current record is set to 1234, the resulting value will be "Job1234"
Description	Optional description for export. It is strongly recommended that the Description be populated with all the details for the export, including any job that launches this job, any preprocessing performed, and what jobs this job launches. If Parameter <x> attributes are used, each should be detailed as to their content and purpose.</x>

Attribute	Description
Email Attach Logs	If this is set to Yes, attach the log files to the status e-mail.
Email Body	Override e-mail body for successful jobs. Attributes in the job record can be referenced by surrounding them with double-pipe characters (for example, Manager Login is replaced with the value of the Manager Login attribute).
Email Notify Failure	If this is set to Yes and the export fails to process successfully, send an Export Failed e-mail to the owner.
Email Notify Success	If this is set to Yes and the export processes successfully, send an Export Successful e-mail to the owner.
Email Subject	Subject for success e-mail. May contain references to any other job attribute by surrounding it with double-pipe characters (for example, Manager Login is replaced with the value of the attribute Manager Login).
Email To	Email address(es) to which success/failure notifications will be sent. If not defined, the e-mail address(es) associated with the Manager Login user/group will be used.
Empty File Action	 Identifies the action to be taken if the export file is empty. Continue - continue processing. Error - treat empty file as failed export. Stop - stop processing (no dependent operations).
Error Dependent Keys	Optional keys for arguments to be passed to any Dependent jobs (as properties) when this job fails with an error.
Error Dependent Operation	List of Promotions, Imports, and/or Exports (based on Dependent Operation Type) that should be triggered on successful completion of this one.
Error Dependent Operation Immediate	If this is set to Yes and this job fails with an error, execute the dependent operation immediately.

Attribute	Description
Error Dependent Operation Type	List of operation types for each Dependent Operation when this job fails with an error.
	• Export — launch an export job.
	• Import — launch an import job.
	Promotion — launch a promotion job.
Error Dependent Values	Optional values for dependent keys when this job fails with an error.
Export Encoding	File Encoding for Export (UTF-8, Windows-1251, etc.).
Export Execution Datetime	Date and time at which this export was last executed.
Export File Name	Name of file to be generated by the export. This attribute can include references to other attributes by surrounding the attribute name with double-pipe characters.
	For example, to include the job number in the export file name, the file name could be "MyFile_ Export Job .csv".
Export Include Null Values	If this is set to Yes, include null values in XML Export.
Export Language	Language to generate for export.
Export Name	Name of the export.
Export Now	If this is set to Yes, process the export immediately.
Export Priority	Relative priority for the export determines the order of exports ready to be processed. The lower the number, the higher the priority.
Export Template	If Export Type is Template, this is the name of the Export Template.

Attribute	Description
Export Type	Type of export:
	 Repository – export of a single repository using the designated User Preference.
	View – SQL export against the EPIM database.
	DataMart – SQL export against the Data Mart database
	Export Template — export using the designated Export Template
	 Custom – relies on the PostProcessing module to generate a file.
	Validate – performs a validation on the designated repository and saved set.
Group Lock Action	Group locks allow for multiple concurrent jobs to all attach to the same lock. The lock is not freed until all processes have detached from it.
	Action to be taken with the lock identified in Group Lock Name:
	Attach – the import will attach to the specified lock. Processing for the export will begin immediately.
	 Free – the import will detach from the named lock (presumably set by a previous job that invoked this import) once the export processing has completed. The lock is not completely freed until all attached processes have detached.
	Attach And Free – the export will attach to the named lock and begin processing and detach from the named lock once processing has completed.
	• No Lock – the export will not attach to a group lock.
	Group locks will always acquire the designated lock, even if another process has acquired or attached to the same lock. If multiple jobs attach to the same lock via Group Lock, the lock is not free until all of the processes have freed the lock.
Group Lock Name	Name of the group lock.

Attribute	Description
Include Timestamp	If this is set to Yes, include date and time in Export_ <job>.log file if Yes. This can be helpful in troubleshooting post-processing for an export as it shows how long processing steps took (providing the appropriate messages are being reported).</job>
Last Export Datetime	Date and time of when the export was last executed.
Last Export Update Datetime	Date and time of when last Delta export was executed.
Last Scheduled Export Datetime	Date and time the export was last scheduled.
Linked Repository Name	Optional list of repositories included in the Export Template.
Linked Repository Saved Set	Saved set to be used for each corresponding linked repository to identify which linked records are to be included.
Linked Repository Search Config	List of predefined searches on the linked repositories to be applied to limit the records in the export.
Linked Search Repository Name	For more information on Linked Search Repository Name, contact your EnterWorks account representative.

Attribute	Description
Lock Action	Action to be taken with the lock identified in Lock Name:
	 Acquire – the import will wait until the named lock is acquired. Processing for the import will not begin until then.
	 Free – the import will free the named lock (presumably set by a previous job that invoked this import) once the import processing has completed.
	 Acquire And Free – the import will wait until the named lock is acquired and will free the named lock once processing has completed.
	No Lock – the import will not wait for any lock before processing.
	Locks will only be acquired if they are currently free. If the designated lock has been attached to by multiple jobs using the Group Lock, the lock does not become free until all of those jobs have freed the lock.
Lock Name	Name of the lock to acquire or free (depending upon Lock Action). If more than one import shares the same lock, then they will be processed serially. The name may contain references to other properties by surrounding each property name with double-pipe characters.
	For example, to ensure only one instance of an import is processed at a time for each user, the Lock Name can be set to: "Import Manager Login ". This will produce a lock name of "Importjdoe" for John Doe and "Importjsmith" for John Smith.
Manager Login	Login ID of the user or the name of the EnterWorks role who will receive notification e-mails for the export.
Next Export Datetime	If Scheduled Export is set to Yes, this is the date and time the export will be processed.
Output to File	If this is Yes and Export Type is Export Template, generate an export.

Attribute	Description
Output to Table	If this is Yes and Export Type is Export Template, save the publication table.
Parameter1-5	These are five attributes that can serve as parameters when jobs are connected through the Dependent Operation attributes. They are not used directly by the export processing but can be referenced in other attributes.
Postprocess Class	Fully-qualified path, identifying the Postprocess class to be invoked for this import. It must be a subclass of com.enterworks.services.BaseCustomProcessFile
Postprocess File	If this is Yes, after the export file is generated, it must be postprocessed using the designated class and arguments.
Postprocess Keys	Argument keys identifying the Postprocess Argument Values to be passed to the designated postprocess module.
Postprocess Values	Values for the corresponding Postprocess Argument Keys to be passed to the designated postprocess module. Values can contain references to properties from this job by surrounding the property name with double-pipe characters. For example, to pass the Export Job, the value would be set to " Export Job ".
Publication As Of Date	If Export Type is Export Template and the current date and time are not to be used, this is the effective date.
Publication Hierarchy	If Export Type is Export Template this is the Hierarchy used by the Export Template.
Report Validation Level	Specifies what validation level to report.
Repository Format	If Export Type is Repository type, this is the format of the file, for example: CSV, XLS, XML, or DB.
Repository Name	If Export Type is Repository or Export Template, this is the name of the repository.

Attribute	Description
Repository Preference	If Export Type is Repository type, this is the Preference to use.
Repository Timeout	If Export Type is Repository type, this is the number of minutes before an export has timed out.
Return Correction File	If set to Yes, return the correction file instead of the validation log for the export file.
Root Repository Saved Sets	If Export Type is Export Template this is the Saved Sets for the root repository.
Root Repository Search Configs	List of predefined searches on the root repository to be applied to limit the records in the export.
Run As Manager Login	If this is Yes, run the export using the login designated in Manager Login. When this is enabled, the Manager Login must be set to a user and not a group.
Saved Set	If Export Type is Repository type, this is the Saved Set.
Schedule Days	If Schedule Type is Days of Week, this identifies the days of the week.
Schedule Exclude Dates Code Set	If set to a Code Set that lists dates as code values, the scheduling logic will skip to the next scheduled date if the calculated date is one of the dates in the Code Set.
Schedule Period	If Scheduled Export is Yes, this is the number of minutes between exports.

Attribute	Description	
Schedule Type	Type of schedule:	
	MINUTES — the Schedule Period identifies the number of minutes before re-invoking the export.	
	DAYS — the Schedule Period identifies the number of days before re-invoking the export.	
	DAYS OF WEEK – specific days of the week on which the export is to be executed.	
	WEEKS — the Schedule Period identifies the number of weeks before re-invoking the export.	
	MONTHS — the Schedule Period identifies the number of months before re-invoking the export.	
Scheduled Export	If this is set to Yes, the export is scheduled.	
Scheduled Folder	Logical folder in which the scheduled job is assigned for organization purposes. If this is set and the Scheduled Folder Hierarchy is selected in the repository list view, this import job can be found by clicking a node in the Scheduled Folder Hierarchy.	
Scheduled Folder Sequence	Used to control the order of scheduled jobs in the Scheduled Folders.	
Separate Files for Category Attributes	If this is set to Yes, separate files for will be generated for category attributes.	
Skip if Busy	If this is set to Yes, skip the scheduled export if the same named export is already busy processing. This can be used to prevent a backlog of exports if an export has been delayed or takes longer than the schedule period to complete.	
Status	Status of export (Active, Inactive, Retired).	
Target Email	If Target Type is Email, this is the target email address.	
Target Email Attach Logs	If this is set to Yes, attach log files to the target email.	

Attribute	Description
Target FTP	If Target Type is FTP, this is the FTP server name or IP address.
Target FTP User	FTP user name.
Target FTP User Password	FTP user password.
Target Overwrite File	If this is set to Yes, overwrite the output file instead of appending the new output to the existing file.
Target Path	If Export Type is File Directory, this is the location for export file.
Target S3 Access Key	If Target Type is S3, this is the Amazon S3 access key.
Target S3 Bucket Name	If Target Type is S3, this is the name of the Amazon S3 bucket containing the directory into which the export file is to be uploaded.
Target S3 Endpoint	(Optional) If Target Type is S3, this is the target endpoint. If Use Config is specified, then the configuration repository property AWS.S3.Endpoint is used (if it is defined).
Target S3 Is Role Based Auth	If Target Type is S3, this indicates if the export is using role based authentication.
Target S3 Region	(Optional) If Target Type is S3, if Use Config is selected, the configuration repository property AWS.S3.Region is used (if it is defined).
Target S3 Secret Key	If Target Type is S3, this is the Amazon S3 secret key.
Target Type	Type of target (Email, FTP, File, S3).
Transmission Option	Identifies the transmission option to be invoked upon completion of the export file generation.

Attribute	Description
Validate Category/Dynamic Attributes	If set to Yes, validate the Category/Dynamic Attributes.
View Format	If Export Type is View or Data Mart, this is the format:
	TAB – values separated by tab characters
	 COMMA – values separated by commas. If a value contains a comma or double-quote, the entire value is surrounded by double quotes and any double-quotes in the value are escaped by another double quote. For example, the value: Monsters, Inc. Size=3" x 4" is converted to: "Monsters, Inc. Size=3"" x 4"""
	• ~ - values separated by the tilde character
	* - values separated by the asterisk character
	I - values separated by the pipe character
View Name	If Export Type is View or Data Mart, and View SQL is not defined, this is the name of the View.

Attribute	Description
View SQL	If Export Type is View or Data Mart, this is the SQL Query. The value can contain references to other attributes by surrounding them with double-pipe characters.
	For example, in a repository named "RepositoryView", to filter data by the user who initiated the import, the SQL would be:
	<pre>SELECT * FROM RepositoryView WHERE Updated_By = ' Manager Login '</pre>
	If the View export is a Delta export, then the snapshot table view columns Created and/or Snapshot_Last_Updated can be compared to the '[DELTA_DATETIME]' keyword which is converted to the date and time the export was last executed.
	For example, to create a Delta (Add) export for the repository named "RepositoryView", the SQL would be:
	<pre>SELECT * from RepositoryView WHERE Created > '[DELTA_DATETIME]'</pre>
	To create a Delta (Add or Update) export, the SQL would be:
	<pre>SELECT * from RepositoryView WHERE Created > '[DELTA_DATETIME]' OR Snapshot_Last_Updated > '[DELTA_DATETIME]'</pre>

23.2.2 Scheduled Export Jobs Repository

The Scheduled Export Jobs repository contains records representing the currently active or recently completed export jobs. When an export is initiated, the details of that export are copied from the Scheduled Exports Repository to a new record in the Scheduled Export Jobs Repository. This record is subsequently updated to reflect the current status of the export.

Note that when the repository is opened in a Repository View, the default Preference does not show all attributes.

In addition to the attributes define in the Scheduled Exports repository, the Scheduled Export Jobs repository has the attributes listed in the table below.

Attribute	Description	
# Errors	Total number of records with errors.	
# Exported	Total number of records exported.	
# Processed	Total number of records for the export file that were processed.	
Download Link	URL to download the export file. Requires setting up a virtual directory in IIS.	
Export Errors	Error messages encountered during export if there is a failure.	
Export Job	Unique number for the Export job.	
Export Status	Status of the Export job	
	 New – the job has been created but a work item has not been assigned (this is either due to this job being launched as a Dependent job with the Dependent Operation Immediate set to No, or a configuration error preventing a work item from being created for this job). 	
	 Queued – the job has been queued and is waiting for a lock to be freed. 	
	• Processing – the job is processing.	
	Completed – the job completed successfully.	
	 Error – the job failed with an error. This could be a timeout, abort by user, or some unexpected processing error. 	
Submitted By	Login ID of the user who submitted the Export Job.	
System Log Directory	The directory containing the EnterWorks system log file for the export. Do not set this value if Export Type is View, Data Mart, or Custom.	
System Log File	The name of the EnterWorks system log file for the export. Do not set this value if Export Type is View, Data Mart, or Custom.	
Target FTP Port	FTP Server port (21 default, 22 SFTP).	

23.2.3 Scheduled Export Configuration Properties

Management of the Scheduled Export feature is defined by configuration settings in the EPX configuration file Enterworks.properties, as listed below.

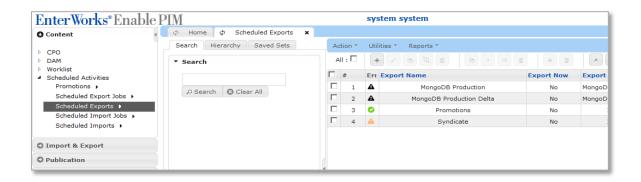
Property	Description
export.directoryName	Full path to the directory where the Scheduled Export files will be, such as: D:/Enterworks/shared/Exports
export.epimDirectoryName	EnterWorks directory for export, such as: D:/Enterworks/shared/export
export.expireActiveDays	Number of days before export jobs that still show "Processing" are deleted from the Scheduled Export Jobs repository.
export.expireCompletedDays	Number of days before export jobs that have completed or failed are deleted from the Scheduled Export Jobs repository.
export.logDirectoryName	Full path to the directory containing the EnterWorks export log, such as: D:/Enterworks/logs/EnableServer/e xport
export.publicationDirectoryN ame	Full path to the directory containing the EnterWorks publication, such as: D:/Enterworks/shared/publication
export.publicationLogDirecto ryName	Full path to the directory containing the EnterWorks publication log, such as: D:/Enterworks/logs/EnableServer/publish

23.2.4 Creating a Scheduled Repository export

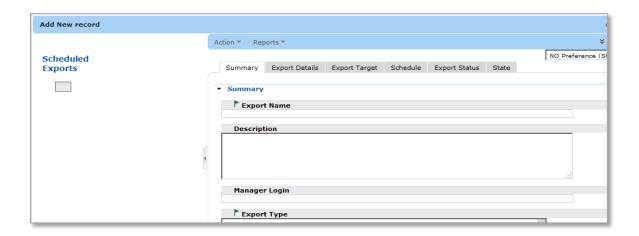
A user with authority creates a scheduled Repository export by performing the following steps:

1. Log into EnterWorks Classic.

- 2. Open the repository for which a Repository Export is to be generated.
- 3. Select or create the User Preference view that defines the attributes to be included in the export as columns.
- 4. Open the Scheduled Exports repository in the Scheduled Activities group under the Content function in the Feature bar.

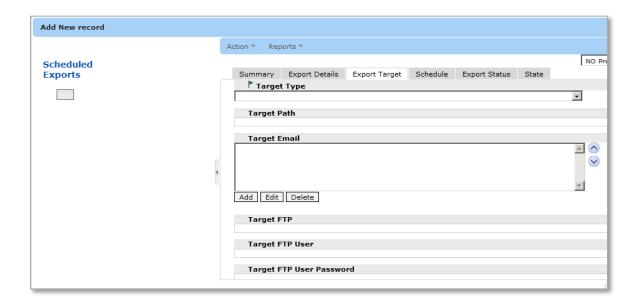


5. Click the icon to create a new record. The detail editor for a new Scheduled Export record appears.

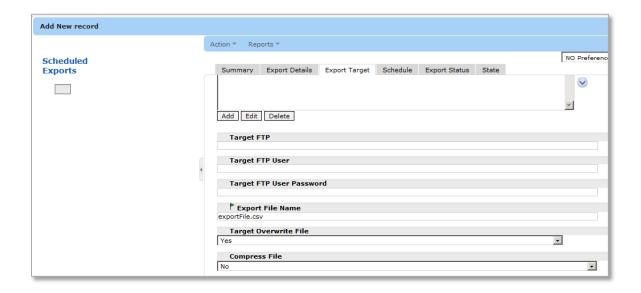


- 6. Enter a name for the export.
- 7. Enter the login ID of the user who will receive e-mails for this export in the **Manager Login** field.
- 8. Select **Repository** in the **Export Type** drop-down selection list.
- 9. Click the Export Details sub-tab

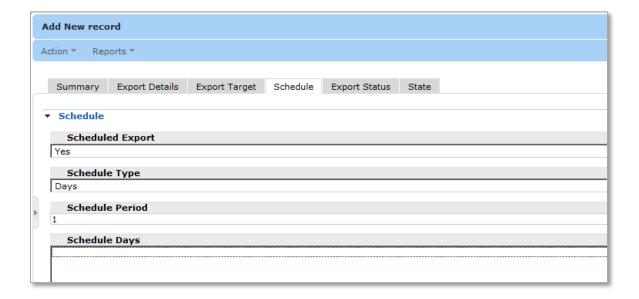
- 10. Select the repository in the **Repository Name** drop-down selection list.
- 11. Optionally enter the name of the **Saved Set** to export a subset of the records.
- 12. Select the output format in the **Repository Format** drop-down selection list.
- 13. Enter the target details (file/e-mail/FTP) in the appropriate fields:



- 14. Enter the name of the export file to be created.
- 15. To overwrite an existing file, set Target Overwrite File to "Yes".



- 16. Click the **Schedule** sub-tab.
- 17. Set the Schedule Export field to "Yes".
- 18. Set the **Schedule Type** to the desired type and the **Schedule Period** to the desired interval (based on the selected type). For example, to produce an export nightly, set the Schedule Type to Days and the Period to 1. To produce an export every 2 weeks, set the Schedule Type to Weeks and the Scheduled Period to 2. If the Schedule Type is set to Days Of Week, the Schedule Period is not used and instead the days listed in Schedule Days determine which days of the week the export will be triggered:

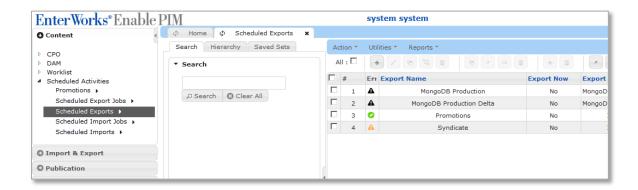


- 19. Set the **Next Export Datetime** field to the date and time when the export is to run. For Schedule Types other than Minutes, the time portion of this field will determine the time of day the export will be triggered. If the date and time are in the past, the export will be initiated immediately and the Next Export Datetime will be used in conjunction with the Schedule Type and Schedule Period to calculate the next time the export should be initiated.
- 20. Click **Save**. When the current date and time passes the Next Export Datetime, the Repository export will be initiated. Once triggered, the Next Export Datetime will be updated using the Schedule Type and Schedule Period.

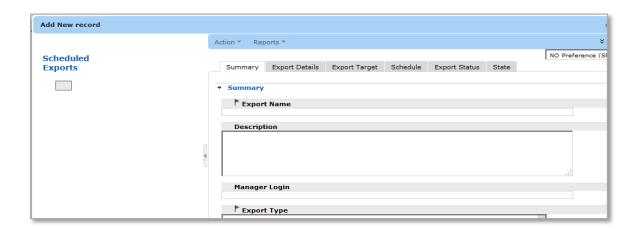
23.2.5 Creating a Scheduled View/DataMart Export

A user with authority creates a scheduled View or DataMart export by performing the following steps:

- 1. Log into EnterWorks Classic.
- 2. Open the Scheduled Exports repository in the Scheduled Activities group under the Content function in the Feature bar.

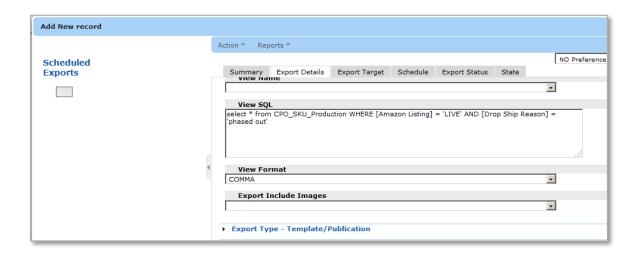


3. Click the icon to create a new record. The detail editor for a new Scheduled Export record appears.

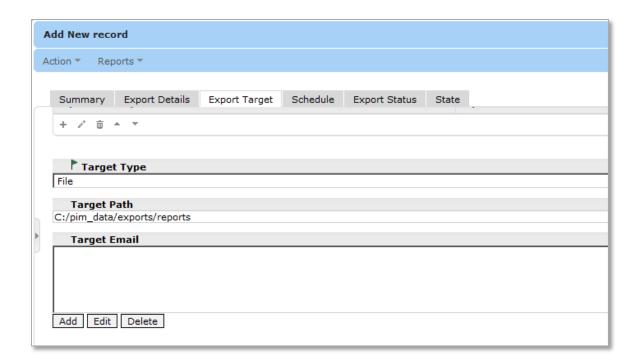


- 4. Enter a **Name** for the scheduled export.
- 5. Enter the login ID of the user who will receive e-mails for this export in the **Manager Login** field.

- 6. In the Export Type drop-down selection list, select View for a SQL View or DataMart for Data Mart. A View export will be against the EPIM snapshot table views. A DataMart export will be against the Data Mart database.
- 7. Click the Export sub-tab.
- 8. Enter the SELECT SQL query into the View SQL field.
- 9. Select TAB, COMMA or ~ in the **View Format** field to specify the character to be used as a delimiter.



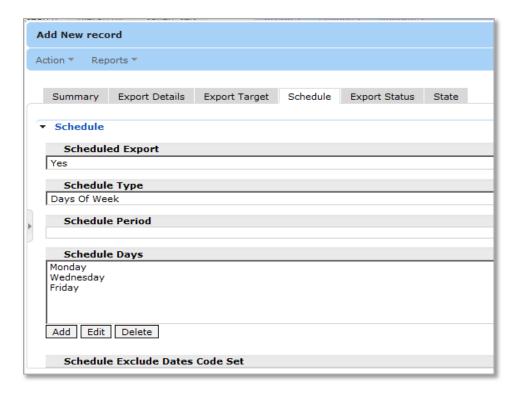
10. Enter the target details (file/e-mail/FTP/S3) in the appropriate fields:



- 11. Enter the name of the export file to be created.
- 12. To overwrite an existing file, set Target Overwrite File to "Yes".



- 13. Click the Schedule sub-tab.
- 14. Set the **Schedule Export** field to "Yes".
- 15. Set the **Schedule Type** to the desired type and the **Schedule Period** to the desired interval (based on the selected type). For example, to produce an export nightly, set the Schedule Type to Days and the Period to 1. To produce an export for every 2 weeks, set the Export Type to Weeks and the Scheduled Period to 2. If the Schedule Type is set to Days Of Week, the Schedule Period is not used and instead the days listed in Schedule Days determine which days of the week the export will be triggered:

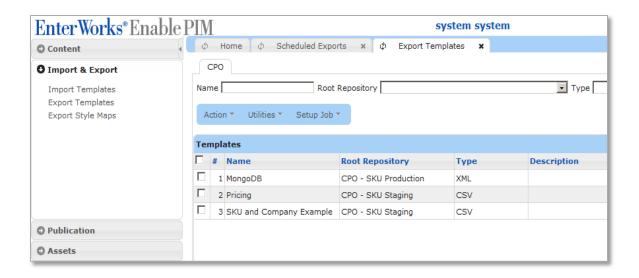


- 16. Set the Next Export Datetime field to the date and time when the export is to run. For Schedule Types other than Minutes, the time portion of this field will determine the time of day the export will be triggered. If the date and time are in the past, the export will be initiated immediately and the Next Export Datetime will be used in conjunction with the Schedule Type and Schedule Period to calculate the next time the export should be initiated.
- 17. Click **Save**. When the current date and time passes the Next Export Datetime, the Repository export will be initiated. Once triggered, the Next Export Datetime will be updated using the Schedule Type and Schedule Period.

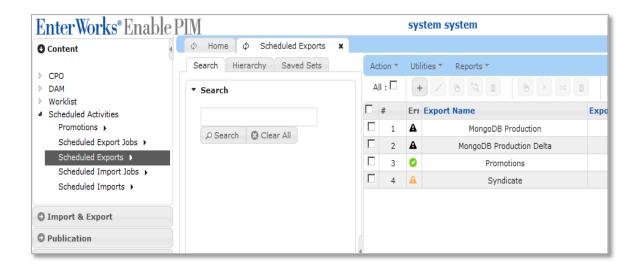
23.2.6 Creating a Scheduled Template Export

A user with authority creates a Scheduled Export Template by performing the following steps:

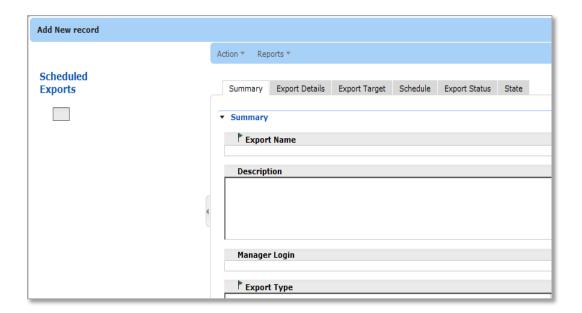
- 1. Log into EnterWorks Classic.
- 2. If the Export Template does not already exist, click on the **Export Templates** under the **Import & Export** feature bar and create a new Export Template, noting its name:



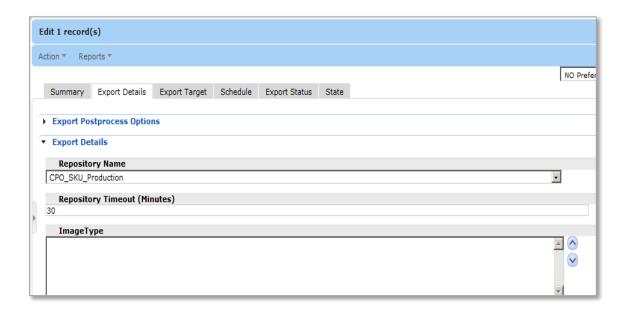
3. Open the Scheduled Exports repository in the Scheduled Activities group under the Content feature bar:



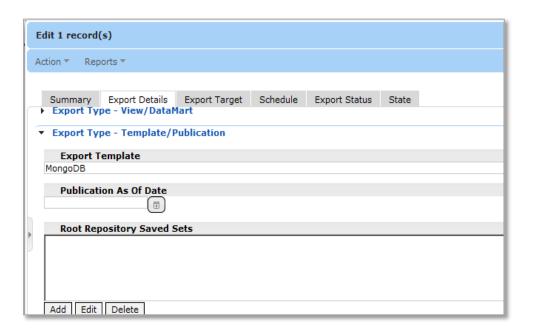
4. Click the icon to create a new record. The detail editor for a new Scheduled Export record appears.



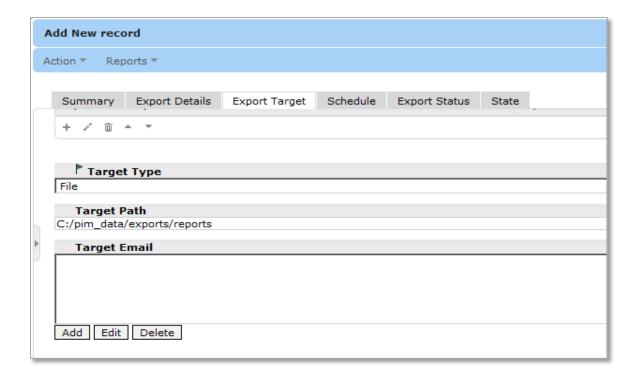
- 5. Enter a name for the export.
- 6. Enter the login ID of the user who will receive e-mails for this export in the **Manager Login** field.
- 7. Select Template in the **Export Type** drop-down selection list.
- 8. Click the Export Details sub-tab.
- 9. Select the root repository in the **Repository** drop-down selection list:



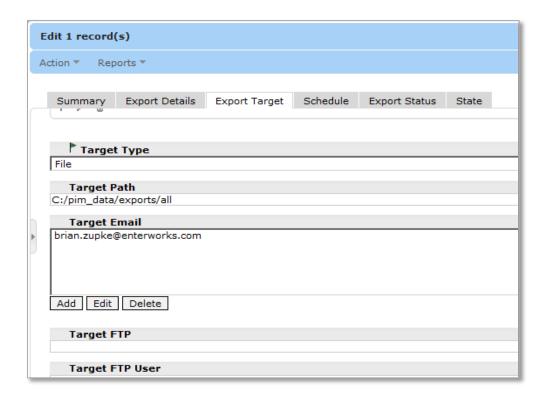
10. Enter the name of the defined Export Template:



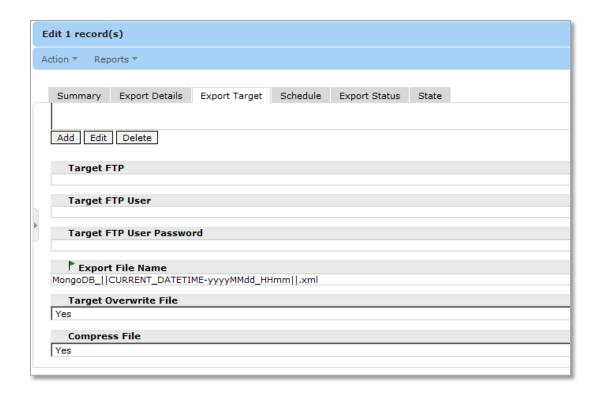
- 11. Set **Output to File** to Yes.
- 12. Click on the **Export Target** sub-tab.
- 13. Enter the target details (file/e-mail/FTP/S3) in the appropriate fields:



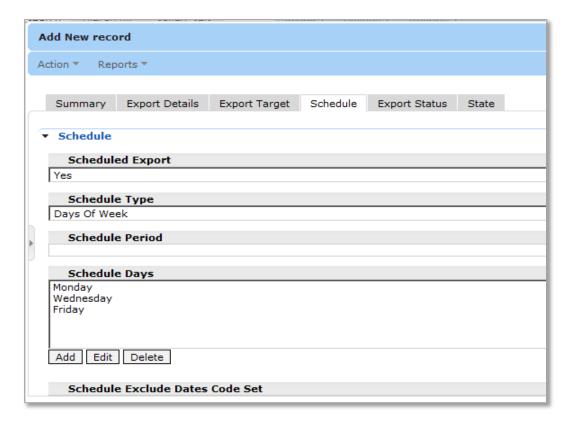
- 14. Enter the name of the export file to be created.
- 15. To overwrite an existing file, set **Target Overwrite File** to Yes.
- 16. Click on the **Schedule** sub-tab.
- 17. Enter the target details (file/e-mail/FTP/S3) in the appropriate fields.



- 18. Enter the name of the export file to be created.
- 19. To overwrite an existing file, set Target Overwrite File to "Yes".



- 20. Click the **Export Schedule** sub-tab.
- 21. Set the Schedule Export field to "Yes".
- 22. Set the **Schedule Type** to the desired type and the **Schedule Period** to the desired interval (based on the selected type). For example, to produce an export nightly, set the Schedule Type to Days and the Period to 1. To produce an export for every 2 weeks, set the Export Type to Weeks and the Scheduled Period to 2. If the Schedule Type is set to Days Of Week, the Schedule Period is not used and instead the days listed in Schedule Days determine which days of the week the export will be triggered:



- 23. Set the **Next Export Datetime** field to the date and time when the export is to run. For Schedule Types other than Minutes, the time portion of this field will determine the time of day the export will be triggered. If the date and time are in the past, the export will be initiated immediately and the Next Export Datetime will be used in conjunction with the Schedule Type and Schedule Period to calculate the next time the export should be initiated.
- 24. Click **Save**. When the current date and time passes the Next Export Datetime, the Repository export will be initiated. Once triggered, the Next Export Datetime will be updated using the Schedule Type and Schedule Period.

23.3 Implementing Pre- and Post-Processing of Scheduled Imports and Exports

The Scheduled Imports feature provides the option to pre-process files before they are imported. The Scheduled Exports feature provides the option to post-process files after they have been exported. In both cases, the actual processing is handled by a Java class that is an extension of the BaseCustomProcessFile class found in the Services.jar file (or in an application-specific JAR file).

When a processing block is being configured within a Scheduled Import or Scheduled Export, details on the function and configurable parameters for the processing block are shown. The blocks are organized under Exports (com.enterworks.services.exports.<class>)

or Imports (com.enterworks.services.imports.<class>) based on how they are predominately used, but some modules can be used for either pre-processing or post-processing.

The table below lists available pre-defined pre/post-processing blocks.

Classpath	Description
com.enterworks.services.export s.CreateUpdateFile	Generates an update file, setting the desired set of columns to specific values for each primary key in the source file. The resulting file can be submitted to an import. This provides a way to update all records that were included in an export (for example, to indicate the records have been syndicated).

com.enterworks.services.export
s.GenerateFixedPositionFile

Creates a fixed position file using one or more export files as a source and one or more mapping files to define the format of the output file. One format file is defined for each format record appearing in the file. If multiple files are defined, records in each file must be related by a common key and sorted on that same key. This allows the file processing to complete the file merge in a single pass. The order of the records is determined by the order the file mappings are defined. If there is a one-to-one mapping of the different records, then the same file can be used as the source for each format. The mapping files must be comma-delimited files with the following columns:

- Description user-description for field (not used in processing)
- Type datatype for field:
 - N numeric with leading zeros for padding.
 - A alphanumeric with trailing spaces for padding.
- Length number of character columns for field
- Start starting column position with first column being 1
- End ending column position with first column being 1
- Value value for field or export file column reference (denoted by doublepipe characters). A single space can be denoted with: [SPACE].

Each mapping file is validated, ensuring the Start and End positions match the accumulated length of each field.

Classpath	Description
com.enterworks.services.export s.ProcessTaxonomyTemplateExpor t	Generates a Taxonomy Template in XLSX format using the exportTemplate for global attributes and the category-specific attributes for the designated taxonomyNode. They are shaded if they are mapped in the designated Taxonomy Node in the designated Publication Template.
com.enterworks.services.export s.ProcessTaxonomyTemplateNodeL ist	Reads the taxonomy template entries in the file and kicks off a Template Taxonomy export for each one, setting:
	Parameter1 to the publication name
	Parameter2 to the taxonomy node
	 Parameter3 to the name of the saved set for each job in the form: 'TaxonomyTemplate_<taxonomynode >_<datetime>'</datetime></taxonomynode
	Parameter4 to the batch number.
	Each launched job should use the ProcessTaxonomyExportTemplate post-processing block to generate the corresponding template. The collection of template jobs can be consolidated into a single file using the TaxonomyTemplateExportZip post-processing block.
com.enterworks.services.export s.RemoveHeaderRow	Removes the first line of the CSV file.
com.enterworks.services.export s.SplitCsvFile	Splits a CSV file into multiple parts, each no larger than the specified maximum number of records. Each part will be named collection of files will be placed in a ZIP file which is returned.

Classpath	Description
<pre>com.enterworks.services.export s.SplitDeltaExportIntoMultiple Parts</pre>	Splits a delta export into multiple export jobs, each including up to the maximum records per job. This can be used in situations where the target system cannot process large files. The delta date and time is specified and optionally additional conditions. The processing uses this information to generate separate saved sets for each batch of the specified size and then launches Scheduled Export jobs using the designated Scheduled Export as a template for each job, updating only the Parameter1 attribute to the name of the saved set for the part and Parameter2 to the part number, and optionally Parameter3 - Parameter5 with any additional data. This allows the target Scheduled Export to have full control over the file naming convention and how the saved set is used (for example, in 'Saved Set' or 'Root Repository Saved Sets' attributes. This processing can be used in conjunction with any export type and format that can operate on a saved set.
com.enterworks.services.export s.TaxonomyTemplateExportZip	Packages the TaxonomyTemplateExport files for the same batch into a single .zip file. The ProcessTaxonomyTemplatetNodeLis t processing block launches separate TaxonomyTemplateExport jobs for each taxonomy node listed in the seed file, each being identfied as being part of the same batch in Parameter4. This post-processing block collects the files from each job for the same batch and packages them in a single .zip file.

Classpath	Description
com.enterworks.services.import s.ConcatenateCSVFiles	Concatenate a set of files in the designated source directory that match the designated file name pattern, using the header from the designated import template for all files. If the sources files are not identical in structure and the import template contains a superset of attributes, some columns may be padded in each appended file. To prevent the attributes from being cleared, the keepRepoValues import option should be set to true.
com.enterworks.services.import s.CopyImportFile	Copies the import file using the designated file name, then processes the original file so that it can be processed by a second import job (for example, for another repository or different pre-processing).
com.enterworks.services.import s.EncodeFile	Converts the import file from one encoding to another.
com.enterworks.services.import s.EnterworksFileDiff	Generates a delta file using the current file and the previous one that was processed. The current and previous files must be CSV format. Requires the EnterworksDiff utility be installed and configured on the Enable server. The generated delta file will include the column il_modification_status, indicating whether the record is new, updated, or removed. If there is no previous file, the current file will be processed in full without the il_modification_status column added. If new records need a specific status then the corresponding status attribute should have that default value.

Classpath	Description
com.enterworks.services.import s.HorizontalToVerticalAttValUo mFileFormat	Converts a csv file containing multiple attributes as key-value-uoms into (several) vertical files containing a separate line for each triplet. No more than 500k lines will be saved in each target file, using the naming convention: vertical_ <filenumber>_<sourcefilename>. For example, consider an input file containing the following columns:</sourcefilename></filenumber>
	ITEM_ID, MFR_PART, STATUS, GROUP_1, ATTRIBUTE_NAME_1, VALUE_1, UOM_1, DIFFERENTIATOR_1, GROUP_2, ATTRIBUTE_NAME_2, VALUE_2, UOM_2, DIFFERENTIATOR_2,
	This will be converted into the multiple rows, with one row per attribute, with the following headers:
	ITEM_ID, ATTRIBUTE_NAME, VALUE, UOM
	Any global attributes (MFG_PART, STATUS) and extra columns (GROUP_*, DIFFERENTIATOR_*) are ignored.
	Note: This class returns the source filename. It does not return the vertical files. Separate jobs must be run to process the generated files.

Classpath	Description
com.enterworks.services.import s.ImportCustomCodeSets	Imports updates to existing single or multiple code sets from a file. If a single code set is imported, the expected columns are the same that are required when importing a code set through the UI. If multiple code sets are imported, the first column must be the code set name and all codes for that code set must be consecutive. For multiple code sets, all options apply to each code set and the file type must be csv. Each code set must already be defined in EnterWorks - the import will fail if the code set does not exist.
com.enterworks.services.import s.InitiateSaveAndSendForSavedS et	Initiates a 'Save and Send' work item on the designated workflow and starting point for the designated saved set and the specified properties. Several reserved words can be specified for the property values:
	%savedSetId% - indicates to use the ID for the saved set identified by the savedSetName property.
	• %userId% - use the ID for the user identified by the userName property.
	%repositoryId% - use the ID for the repository identified by the repositoryName property
com.enterworks.services.import s.PreProcessAddFields	Adds columns and values to the import file before loading.
com.enterworks.services.import s.PreProcessAddHeader	Adds a header line to the CSV import file before loading.

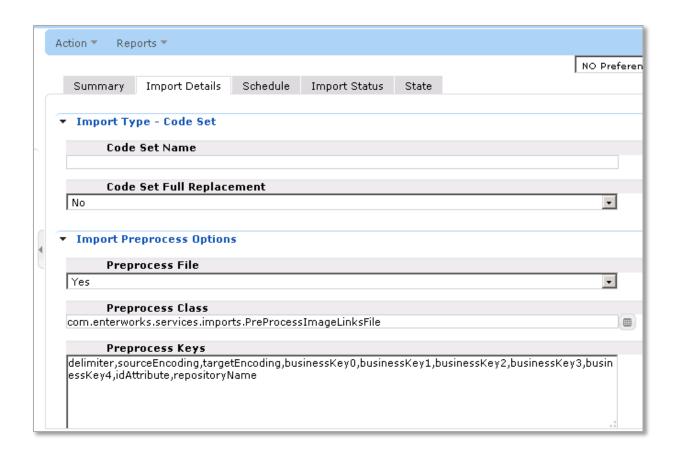
Classpath	Description
com.enterworks.services.import s.PreProcessConcatenateColumns	Performs concatenations of data to specific columns within an import template. A formula expression of other columns within the template can be used. Assumes that all columns already exist and does not create/remove any columns.
com.enterworks.services.import s.PreProcessXLSXAddFields	Preprocesses a .xlsx file containing with possible multiple header rows. Adds the designated columns and their values to the file to facilitate batch processing of the file. Generates a new .xlsx file for import into an EnterWorks repository.
com.enterworks.services.import s.ProcessImagePackage	Processes a single file or a zip file containing one or more image files. If the submitted file has the .csv extension, it is passed on for import processing by EPIM. If the submitted file has the zip extension, the contents of the zip file are processed. Any valid image files are copied to the designated image directory. If the submitted file is a valid image file, it is copied to the designated image directory.
com.enterworks.services.import s.ProcessMultiRepositoryFile	Splits a multi-repository comma-delimited CSV export file into separate import files based on the Import Template definitions referenced by the designated Scheduled Imports. Duplicate rows (providing they are consecutive in the file) are removed as well as rows containing no values. Jobs for each separate scheduled import are launched by this module. The main file contains only those columns in the Import Template assigned to the Scheduled Import launching this pre-processing.
<pre>com.enterworks.services.import s.SplitImportFile</pre>	Splits the import file into two parts: The first part is processed and the second part is staged in the designated target directory.

Classpath	Description
com.enterworks.services.import s.SplitKeyValueUomTriplexFile	Preprocess import file containing dynamic attributes in key/value pairs or optionally in key/value/UOM triplets. Files may contain explicit attribute names or pairs/triplets of columns that are numbered consecutively for each pair/triplet.
	When a file is processed, the contents of each record are split into pre-defined parts as defined in the designated import templates and each file is loaded separately. The first part is loaded by this import and subsequent parts are loaded by dependent imports that do not require pre-processing.
	If consecutive files contain the same primary key, the values from those lines are combined into a single update (split amongst the defined parts). This allows for vertical files where each row contains the primary key and a single key/value pair or key/value/UOM triplet and multiple rows are for the same repository record.
	Except for the last part, any empty rows for a part are filtered out since they will not make any changes to the target record, reducing overall import processing time. All records are included in the last part as it should be the only one that is validated but this requires the parts to be daisy-chained together to ensure it is truly the final part that is loaded.
	Each part import template can have up to 1022 attributes, including the primary key.
com.enterworks.services.import s.TransferFiles	This class will move all files from source to target directory passed to the pre-processing module that match the specified file patterns (allow up to 20 to be specified as separate arguments for the module) using the asterisk (*) as the wildcard indicator.

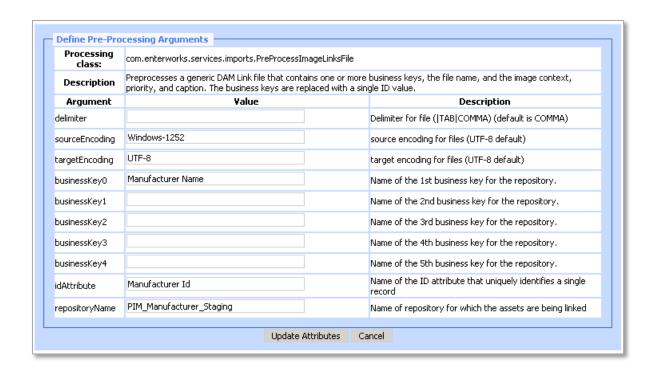
Classpath	Description
com.enterworks.services.import s.TransformFile	Transforms a .csv or .xlsx file into an .xlsx or .csv file containing either:
	 The columns that match the designated import template.
	Only the valid and transformed columns from the import file.
	Optionally, it validates designated columns for required or specific values, and rejects a row if the values are empty or do not match.
com.enterworks.services.import s.UncompressZipFile	Decompresses zip file before processing.

To configure a Scheduled Import or Export with a pre/post-processing block:

- 1. Open the Scheduled Import or Scheduled Export repository.
- 2. Open the record for the Import or Export.
- 3. Open the **Import Details** or **Export Details** tab, and open the **Import Preprocess Options** or **Export PostProcess Options** sub-tab.
- 4. Set Preprocess File or Postprocess File to "Yes".
- 5. Enter the full class path for the processing block class and click the **calculate** button on the **Pre-process Class** or **Post-process Class** field.



6. The define arguments window will open showing a description for what the block does along with what arguments can be set and the current values.



7. The argument values can be changed and saved by clicking **Update Attributes**.

23.3.1 Pre/Post-Processing Block

Each processing block class must implement the processFile method. This method is called when there is an import or export file to be processed:

String processFile (String <directory_name>, String <file_name>,
HashMap <args>, HashMap <inactive_records>, TreeMap
primary key>, StringBuffer <msgs>)

Argument	Data Type	Description
<directory_name></directory_name>	String	Fully-qualified path to the directory containing the file to be processed. The file to be returned must also be placed in this same directory.
<file_name></file_name>	String	Name of the file to be processed.
<args></args>	HashMap	Map of any pre/post processing arguments defined in the Scheduled Import/Export.

Argument	Data Type	Description
<inactive_records></inactive_records>	HashMap	Map containing the primary keys of any records in the repository having a Status of Inactive. This is only set for imports and only if the Inactive Records flag is set to Reactivate.
<primary_key></primary_key>	TreeMap	The primary key for the repository.
<msgs></msgs>	StringBuffer	Medium for returning error messages to be displayed with the job.

The method must return either the name of the processed file or null if the processing block failed.

If the processing block class has configurable arguments, there are three methods that must be implemented:

- String getDescription()
 - o Returns a detailed description of what the processing block does.
- void defineArguments()
 - o Builds the list of arguments that can be configured. Each argument is defined by calling the method: addArgument.
- void addArgument(String <arg>, String <description>)
 - Adds an argument to the list of arguments/properties that can be set for the class in the Scheduled Import or Scheduled Export record:

Argument	Data Type	Description
<arg></arg>	String	Name of argument. This name will be used to retrieve the actual value for the argument. Each defined argument must be uniquely named
<description></description>	String	Detailed description of the argument. It should include a list of possible values or a range of values, any default values, and any other information.

The BaseCustomProcessFile class has a set of methods that help minimize the amount of coding required in a processing block class:

- void clearBadDate(HashMap <parsed line>, String <column>)
 - Clears the date value if it is not 10 characters (in mm/dd/yyyy format) or is an invalid date (for example, 00/00/0000).
- void closeInput(BufferedReader <buffered reader>)
 - Closes the opened CSV or TXT file.
- void closeOutput(PrintWriter <output>)
 - Closes the opened CSV or TXT file.
- void convertToBoolean(HashMap <parsed_line>, String <column>)
 - Converts the values "Y" or "Yes" to 1 and everything else to 0 for the designated column.
- boolean doesFileExist(String <directory_name>, String <file name>)
 - o Returns true if the specified file in the specified directory exists.
- void dropLeadingZeros(HashMap <parsed_line>, String <column>)
 - o Removes leading zeros from each value containing them.
- ArrayList extractFiles(String <directory_name>, String <file_name>, String <file_encoding>, StringBuffer <msgs>)
 - o Extracts the contents of a zip file and returns a list of unzipped files.
- void freeQuery(DBQuery <database_query>)
 - Frees the query connection that was previously obtained with getQuery()
- - Returns a list of columns based on the mappings in the designated import template.
- String getHeaderForImportTemplateAsCsvString(String <import template name>, String <delimiter>)
 - Returns a delimited list of columns based on the mappings in the designated import template.
- String getJobNumber()

- o Retrieves the identification number of the job being processed. sele
- HashMap<String, String> getMapForHeader(String[] /header>)
 - o Returns a map of columns based on the list of columns for the header.
- DBQuery getQuery()
 - Retrieves a query connection that can subsequently be used to query the EPIM database.
- PrintWriter getReport()
 - Retrieves the PrintWriter object that is configured to generate the report for the job. Any calls on this object will update that report.
- void insertDecimal(HashMap <parsed_line>, String <column>, int <decimal position>)
 - Inserts a decimal point character in a value at the designated number of digits from the right.
- void logDebug(String <message>)
 - o Generates a message in the log file if debug logging is enabled (debugEnabled=true) in the Enterworks.properties file.
- void logReport (String <message>)
 - Adds a line to the import or export report file.
- void logError(String <message>)
 - Adds a line to the EPX BIC log file.
- void logError(StringBuffer msgs, String <message>)
 - o Adds a line to the EPX BIC log file and to the Errors attribute for the Scheduled Import Job or Scheduled Export Job record.
- BufferedReader newInput(String <directory_name>, String <file name>, String <character set>)
 - Opens a CSV or TXT file for reading.
- - Opens a CSV or TXT file for writing.
- void outputHeaderLine(PrintWriter <output>, String[]
 <columns>, String <delimiter>)

- Outputs the header line with each column separated using the specified delimiter.
- void outputHeaderLine(PrintWriter <output>, String[]
 <columns>, char <delimiter>, char <text qualifier>)
 - Outputs the header line with each column separated using the specified delimiter and text qualifier (for when column names include the delimiter or text qualifier character).
- void outputParsedLine(PrintWriter <output>, HashMap <parsed_line>, String[] <columns>, char <delimiter>, char <text qualifier>)
 - Outputs a line using the parsed values and the designated delimiter and text qualifier.
- void outputParsedLine(PrintWriter <output>, HashMap <parsed line>, String[] <columns>, String <delimiter>)
 - Outputs a line using the parsed values and the designated delimiter.
- String[] parseHeader(String <header_line>, String <delimiter>)
 - Parses the header line using the designated delimiter. If the delimiter is a comma, then special processing is done for commas and quotes embedded in the header names.
- String[] parseHeader(String <header_line>, char <delimiter>, char <text qualifier>)
 - Parses the header line using the designated delimiter. Uses the designated textQualifier to handle values that contain the delimiter or the text qualifier. Assumes the embedded text qualifier is escaped with the same character. For example, if the delimiter is a comma and the text qualifier is a double quote, then the value: ,"3"" x 4"", Rough Cut" would be stored as: 3" x 4", Rough Cut.
- HashMap parseLine(String <line>, String[] <header>, String <delimiter>)
 - Parses a line from the file using the defined header and delimiter. Returns a
 HashMap where each key matches a column name and its value is the
 corresponding value from the file.
- HashMap parseLine(String line, String[] <header>, String <delimiter>, boolean <trim white space>)

- Parses a line from the file using the defined header and delimiter. Returns a
 HashMap where each key matches a column name and its value is the
 corresponding value from the file. Trims white space from values if
 <trim_white_space> is true.
- HashMap parseMultiLine (BufferedReader <buffered_reader>, String[] <header>, String <delimiter>)
 - Parses a multi-line (where one or more values contains linefeed/carriage return characters and is properly quoted using the header for the map returned. Returns null if end of file or empty line is encountered.
- HashMap parseMultiLine(BufferedReader < buffered_reader >, String[] < header >, char < delimiter >, char < text qualifier >)
 - Parses a multi-line (where one or more values contains linefeed/carriage return characters and is properly escaped with the designated <text_qualifier> using the header for the map returned. Returns null if end of file or empty line is encountered.
- void reactivateRecord(HashMap <parsed_line>, HashMap <inactive_records>, TreeMap <primary_key>, String <reactivate column name>)
 - Reactivates a record that was previously inactivated but is now in the import file.
- void removeCharacter(HashMap <parsed_line>, String <character>)
 - o Removes the designated character from each parsed value.
- void removeSpaces (HashMap <parsed line>)
 - o Removes leading and trailing white space from each parsed value.
- String[] simpleParseHeader(String <header_line>, String <delimiter>)
 - o Parses the header line using the designated delimiter. Delimiter is passed to the String.split() method.
- void updateExport(HashMap <update>)
 - Updates the specified attributes in the export job with the specified values.
- void updateExportStatus(String <records_processed>, String <records_with_errors>, String <status>, String <export errors>)

- o Updates the Scheduled Export Job record with the specified details. This call should be made if the post-processing is going to take a considerable amount of time to complete. The call should be made no more than once every several minutes.
- void updateExportStatus(String <records_processed>, String <records_with_errors>, String <status>, String <download link>, String <export errors>)
 - Updates the Scheduled Export Job record with the specified details, including a URL for downloading the processed file. This call should be made after processing of the file has completed.
- void updateImportJob(HashMap <update>)
 - Updates the specified attributes in the import job record with the specified values.
- void updateImportStatus(String <records_processed>,
 String <records_updated>, String <records_created>,
 String <records_deleted>, String <records_with_errors>,
 String <status>, String <import errors>)
 - Updates the Scheduled Import Job record with the specified details.
 This call should be made if the pre-processing is going to take a considerable amount of time to complete. The call should be made no more than once every several minutes.

23.4 Scheduling Promotions

Staging records can be promoted manually from the EnterWorks UI via the Package Promotion workflow. They can also be automatically promoted via the Scheduled Promotions feature.

23.4.1 Scheduled Promotions Repository

When a scheduled promotion is activated (either manually or on a schedule), the records in the designated repository are validated. If the repository's validation requirements are met, the records are then promoted to Production.

All scheduled promotions are defined in the Promotions Repository. The attributes for this repository are listed alphabetically in the following table.

Attribute	Description
Active Days Only	If this is set to Yes, run the scheduled job on the designated Schedule Days. Only applies if the Schedule Type is Minutes.
Active End Time	If Active Times Only is set to Yes and Schedule Type is set to Minutes, jobs will not be executed after this time of day. Any jobs with a calculated time later than this time will be not be executed. The format of this field is HH:MM:SS.
Active Start Time	If Active Times Only is set to Yes jobs will not be executed before this time of day. Any jobs with a calculated time earlier than this time will be not be executed. The format of this field is HH:MM:SS.
Active Times Only	If Schedule Type is set to Minutes, only run the scheduled job if the calculated Minutes is between the Active Start Time and Active End Time.
Dependent Keys	The list of keys to be passed to each dependent operation. The keys must match attribute names in the dependent repository. The corresponding value in the Dependent Values attribute is then used to set the value of the key attribute when the job is created. The value can reference attributes from the source job by surrounding the attribute name with double-pipe characters.
	For example, if an export is dependent on a promotion and the export should specify the same user, the Dependent Key would be set to "Manager Login" and the value would be " Manager Login ". Conversely, if the same dependent Export needs to be set to the admin user regardless of its initial definition, the Dependent Key would be set to "Manager Login" and the Dependent Values set to "admin".
Dependent Operation	Name of the dependent Import, Export, or Promotion to be initiated upon successful completion of this job.
Dependent Operation Immediate	If this is set to Yes, initiate the dependent operation immediately. Otherwise the operation will be queued and processed by the scheduler.

Attribute	Description
Dependent Operation Type	The type of dependent operation: Promotion, Import, or Export.
Dependent Values	Values corresponding to the Dependent Keys that are passed to the dependent operations. Values may reference attributes by surround the attribute name with double-pipe characters. For example, to reference the Import Job number, the Dependent Values might contain: "Job Export Job ". If Export Job in the current record is set to 1234, the resulting value will be "Job1234"
Description	Description for promotion.
Group Lock Action	Group locks allow for multiple concurrent jobs to all attach to the same lock. The lock is not freed until all processes have detached from it.
	Action to be taken with the lock identified in Group Lock Name:
	Attach – the promotion will attach to the specified lock. Processing for the import will begin immediately.
	 Free – the promotion will detach from the named lock (presumably set by a previous job that invoked this promotion) once the import processing has completed. The lock is not completely freed until all attached processes have detached.
	Attach And Free – the promotion will attach to the named lock and begin processing and detach from the named lock once processing has completed.
	No Lock – the promotion will not attach to a group lock.
	Group locks will always acquire the designated lock, even if another process has acquired or attached to the same lock. If multiple jobs attach to the same lock via group lock, the lock is not free until all of the processes have freed the lock.
Group Lock Name	Name of the group lock.

Attribute	Description
Last Promotion Datetime	Date and time of when this promotion was last initiated (scheduled or manual).
Lock Action	Action to be taken with the lock identified in Lock Name:
	 Acquire – the promotion will wait until the named lock is acquired. Processing for the promotion will not begin until then.
	 Free – the promotion will free the named lock (presumably set by a previous job that invoked this promotion) once the promotion processing has completed.
	 Acquire And Free – the promotion will wait until the named lock is acquired and will free the named lock once processing has completed.
	No Lock – the promotion will not wait for any lock before processing.
	Locks will only be acquired if they are currently free. If the designated lock has been attached to by multiple jobs using the group lock, the lock does not become free until all of those jobs have freed the lock.
Lock Name	Name of the lock to acquire or free (depending upon Lock Action). If more than one promotion shares the same lock, then they will be processed serially. The name may contain references to other properties by surrounding each property name with double-pipe characters.
	If the referenced lock is associated with the group lock in other jobs, the lock will not be considered free until all the group lock jobs have detached from the lock.
Next Promotion Datetime	If a promotion is scheduled, this is the date and time it will be launched.
Parameter1-5	Five attributes that can serve as parameters when jobs are connected through the Dependent Operation attributes. They are not used directly by the export processing but can be referenced in other attributes.

Attribute	Description
Promote Now	If this is set to Yes, perform the promotion now. When the promotion is processed, this setting will be reset to No .
Promote Warnings	If this is set to Yes, promote records that are valid and records that have validation warnings.
Promotion Configuration Name	The configuration name for the promotion. It must match a named configuration in the EPIM sharedConfig.properties file.
Promotion Errors	Detailed error messages if promotion processing failed.
Promotion Priority	Relative priority for each promotion (the lower the number, the higher the priority).
Promotion Production Repository	Name of Production repository into which records are to be promoted.
Promotion Skip Validation	If this is set to Yes, validation is skipped (not performed) and the current validation status determines if records are promoted.
Promotion Staging Repository	Name of Staging repository from which records are to be promoted.
Promotion Timeout (Minutes)	Number of minutes the Promotion job will wait for the promotion to complete. The default is 600, (10 hours).
Saved Set	Name of the saved set containing items to be promoted. If this setting is empty, all items are promoted.
Schedule Days	If Schedule Type is Days of Week, this setting identifies the days of the week.
Schedule Exclude Dates Code Set	If this is set to a code set that lists dates as code values and if the calculated date is one of the dates in the code set, the scheduling logic will skip to the next scheduled date.

Attribute	Description
Schedule Period	Number of minutes after Last Scheduled Date that the next scheduled promotion is initiated.
	For example, a promotion that is to be processed daily would have a schedule period of 1440. The scheduled promotions are not affected by any manually initiated promotions
Schedule Type	Type of schedule:
	MINUTES — the Schedule Period identifies the number of minutes before re-invoking the promotion.
	DAYS – the Schedule Period identifies the number of days before re-invoking the promotion.
	DAYS OF WEEK – specific days of the week on which the promotion is to be executed.
	WEEKS — the Schedule Period identifies the number of weeks before re-invoking the promotion.
	MONTHS — the Schedule Period identifies the number of months before re-invoking the promotion.
Scheduled Folder	Logical folder in which the scheduled job is assigned for organization purposes. If this is set and the Scheduled Folder hierarchy is selected in the repository list view, this import job can be found by clicking a node in the Scheduled Folder hierarchy.
Scheduled Folder Sequence	Used to control the order of scheduled jobs in the Scheduled Folders.
Scheduled Promotion	Set to Yes if the promotion is to be scheduled. Each time the scheduled promotion is processed, the Next Promotion Datetime is updated based on the Schedule Period.
Status	Status of the Promotion:
	 Active – the promotion is active and will be processed when conditions are met
	 Inactive – the promotion is inactive and will not be processed.

23.4.2 Promotion Jobs Repository

The Promotion Jobs Repository contains records representing the currently active or recently completed promotion jobs. When a promotion is initiated, the details for that promotion are copied from the Promotions Repository to a new record in the Promotion Jobs Repository. This record is subsequently updated to reflect the current status of the promotion.

In addition to the attributes define in the Promotions Repository, the Promotion Jobs Repository has the following attributes.

Attribute	Description
# Errors	Total number of records with errors.
# Processed	Total number of records processed.
# Updated	Total number of records updated in Production.
Promotion Execution Datetime	Date and time of when this promotion was executed.
Promotion Job	Unique number for this job.
Promotion Status	Status of promotion job:s
	New — a new job that has not started yet because either it is being launched as a Dependent job with Dependent Operation Immediate set to No, or because an error occurs when launching the work item.
	Processing – the Promotion is currently processing.
	Completed – the Promotion has completed successfully.
	Aborted – the Promotion was aborted by a user.
	Error – the Promotion failed with an error.

23.4.3 Scheduled Promotion Configuration Properties

Management of the Scheduled Promotions feature is defined by configuration settings in the EPX configuration file Enterworks.properties, as listed below.

Property	Description
promote.expireActiveDays	Number of days before import jobs that still show "Processing" are deleted from the Scheduled Import Jobs repository.
promote.expireCompletedDays	Number of days before import jobs that have completed or failed are deleted from the Scheduled Import Jobs repository.

24 Channel Readiness

Channel readiness is a measure of how ready a Channel is to be syndicated to its target, that is to say, how many of the required record attribute values have reached a validation level sufficient to be syndicated to their target.

The interface to the Channel Readiness function is comprised of the **Channel Readiness** tab and the **Channel Readiness** widget. The configuration and use of both using the EnterWorks New UI are described in the EnterWorks online help at https://help.winshuttle.com.

25 Data Model Management

25.1 Managing Folders

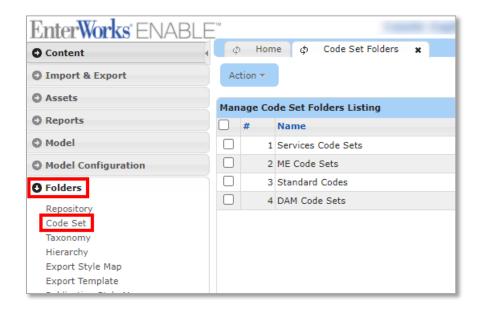
Data model objects are organized into folders, depending on their type. In order to create a data model object, you must have a folder to store it in. There are folder types for the following data model objects:

- Repository
- Code Set
- Taxonomy
- Hierarchy
- Export Style Map
- Export Template
- Publication Style Map

- Publication Template
- Syndication Template
- Exchange Template

To view existing folders, in the **Feature** bar, open the **Folders** tab. You will see a list of the different types of folders. Click the type of folder you wish to manage. A tab will open that displays the existing folders of that type.

For instance, if you click **Feature** > **Folders** > **Code Set**, the tab will show a list of the Code Set folders.



The **Action** dropdown shows available actions you can perform on folders:

• **New**: Create a new folder of that type.

• Edit: Edit a folder.

• **Delete**: Delete a folder.

Sequence:

o **By Name**: Lists the folders alphabetically by name.

Manually: You can drag and drop folders to arrange the list of folders.

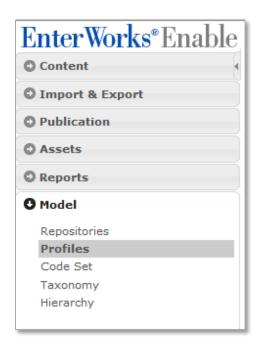
25.2 Managing Profiles

The Profiles function is used to manage the structure applicable to a given repository and the collection of attributes contained within. A repository can only have one active profile.

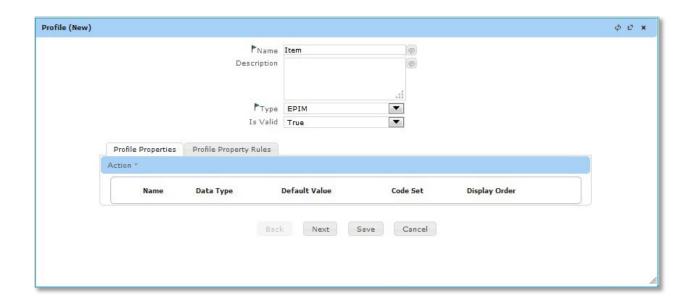
25.2.1 Creating and Editing Profiles

To create or edit a profile:

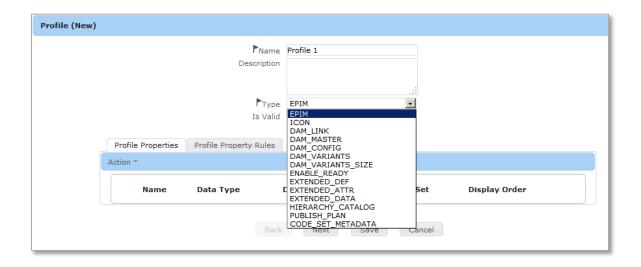
- 1. Select **Model** feature on the Feature bar.
- 2. Select the **Profiles** option under the **Model** feature.



- 3. To create a new profile, in the **Action** dropdown, select **New**.
- 4. To edit an existing profile, select the profile, then in the **Action** dropdown, select **Edit**. Select the **New** option under the **Action** drop-down menu.
- 5. The **Profile** editor will appear.



- 6. Edit the page's configuration options:
 - Name: Enter a name for the profile.
 - **Description** (optional): Enter a description for the profile.
 - Select the profile **Type**. (See <u>Profile Types</u>.)



7. After you have selected the profile type, click the Next button to edit the profile's properties.

25.2.1.1 Profile Types

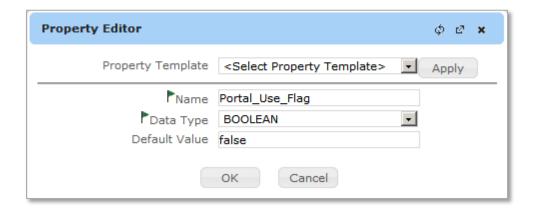
Туре	Description
EPIM	Used for generic repositories. Most Profiles are of this type.
ICON	Used to define an Icon repository for use in the publication process where it holds definitions and rules for translating specific attribute values into icon filenames.
DAM_LINK	Used to define the DAMLink repository. The DAMLink repository contains the link relationship attributes that link digital assets to data records, (for example, linking an image to a product record).
DAM_MASTER	Used to define the repository to hold the DAM Master attributes for the Digital Asset metadata.
DAM_CONFIG	Used to define the repository to hold the configuration attributes for the DAM process.
DAM_VARIANTS	Used to hold the configuration definitions for the variants created in the DAM.
DAM_VARIANTS_SIZE	Used to hold the configuration definitions for the variants created in the DAM.
ENABLE_READY	Deprecated
EXTENDED_DEF	Deprecated
EXTENDED_ATTR	Deprecated
EXTENDED_DATA	Deprecated
HIERARCHY_CATALOG	Used to define the repository for use in linking data to the Hierarchy.
PUBLISH_PLAN	Deprecated
CODE_SET_METADATA	Used to define the repository that extends code sets with custom attributes.

25.2.1.2 Profile Properties

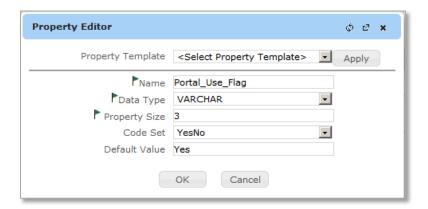
- 8. Create any needed **Profile Properties** to store attribute metadata. For example, a profile property called **Portal_Use_Flag** could be used to identify any attribute that needs to be sent to an external portal.
 - a. Select the **New** option under the **Action** Drop-down list.



b. Select a **Property Template**, if one exists that satisfies the requirement (optional).

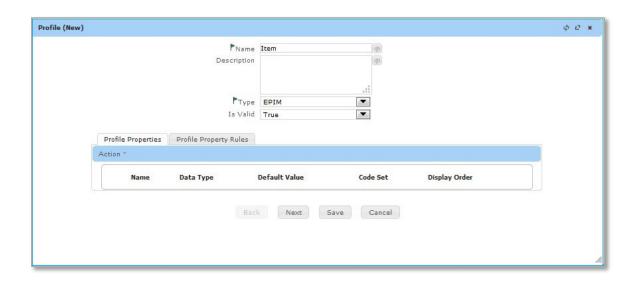


- c. Enter a Property **Name** and select the **Data Type.**
- d. Fill in the additional fields, which are different depending upon the **Data Type**.
- e. Click the **OK** button.

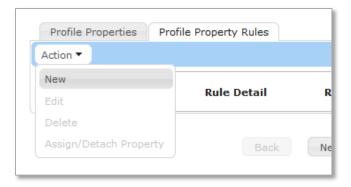


25.2.1.3 Profile Property Rules

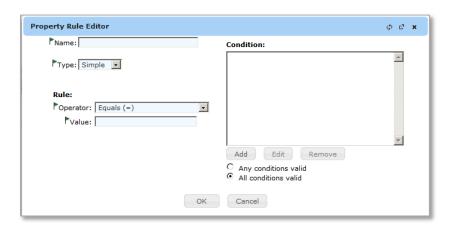
- 9. Create any needed **Profile Property Rules** (also called **Validation Rules**) to define checks made against one or more fields when a record is modified. These Profile Property Rules can be assigned to one or more attributes.
 - a. Click on the Profile Property Rules tab.



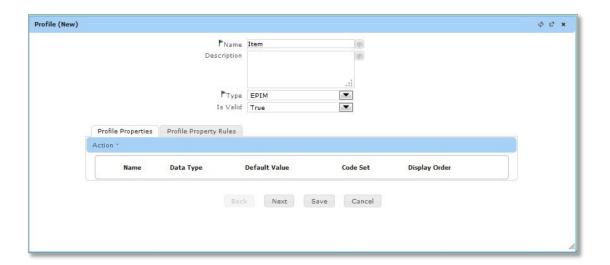
b. Click the **New** option under the **Action** drop-down menu.



c. The **Property Rule Editor** window is shown.

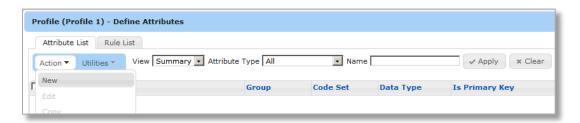


- d. Enter the **Property Rule** conditions.
- e. Click the **OK** button.
- f. Click the **Next** button after returning to the add **Profile** window.



25.2.1.4 Profile Attributes

10. The **Define Attributes** window will appear. Select the **New** or **Edit** option under the **Action** drop-down menu.



- 11. The attribute will be opened in a **Manage Attribute** window.
- 12. Edit the attribute configuration fields as desired. (See Profile Attribute Configuration Fields.)
- 13. When you are finished editing the Attribute, click the **OK** button.
- 14. In order for your changes to the Profile to be saved, you must click the **Save** button on the **Profile** editor before exiting.

25.2.1.4.1 Profile Attribute Configuration Fields

The following describes the configuration fields for Profile attributes.

• Name (Required) and Description (Optional): The name and description fields for attributes are translatable. To add translations, click the multi-language icon corresponding to either the name or description to open the multi-language editor

- (shown below). After the user is done adding translations, click the **Save** button on the multi-language editor page and click **OK** on the Define Attribute Details page to save your translations.
- **Restricted Name**: (Required) The relational database snapshot column name. Typically this is comprised of only alphanumeric and underscore characters. The auto-conversion function will change any blank characters to underscores.
- Data Type: (Required) Data type is one of the required fields for an attribute. By
 defining the Data Type you are defining what values the field can store and what
 functionality can be performed.
- **Data Type** specific: The appearance of the following characteristics depends on the **Data Type** selected for the attribute.
 - Data Precision: Appears for Data Types: BIGINT, CURRENCY, DECIMAL, INTEGER. Indicates the number of digits the value can have. While you can set the precision for BIGINT and INTEGER values, it is not used during validation and has no effect.
 - Data Scale: Appears for Data Type: Currency, Decimal. Indicates how many digits are to the right of the decimal point.
 - Data Size: Appears for Data Type: VARCHAR. Indicates the maximum number of characters in the data field.
- **Default Value**: (Optional) Specifies a default value for the Profile's attribute property. This will not affect any existing repositories' attribute property.
- **Group**: (Required) A group organizes a repository's attributes in a meaningful manner via tabs within a repository's **Detail Editor Tab**.
 - The names of the groups are displayed in a "xx yy" format or " $xx \mid yy$ " format. The first name is the name of the **Tab** and the second name after the dash is the **Group** (or section) on that tab that the attribute will be shown.
- **Associated Group:** (Optional) An Associated Group is a set of **Is Repeatable** attributes that are associated with each other. When the record appears in the **Detail Editor Tab**, the attributes in the Associated Group will appear as a table on the screen.
- Code Set: (Optional) Code sets are comprised of predefined values. The predefined values are used to give a selection to the user so that an attribute can be defined. (See How EnterWorks Works at https://help.winshuttle.com/ for more information on Code Sets.)
- **Control Type**: (Optional) Control types specify behavioral rules in which data can be entered. The graphical interface for an attribute is conditionally dependent upon the specified control type; which at times can be paired with the **Is Repeatable** option to help further determine the graphical interface. For instance, the use of a check box or radio button is dependent upon the **Is Repeatable** option.

The following table describes each control type within the EnterWorks system.

Control Types	Description
HTML Editor	Allows the user to format data via a WYSIWYG editor.
Numeric	Attribute field that only permits numerical characters.
Check Box or Radio	Check boxes are a series of small boxes which a user can select one or many particular values relative to an attribute. Radio buttons also offer a set of values relative to an attribute however, only one of which can be selected at a time.
Repository List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Repository names within the EnterWorks system.
Code Set List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Code Set names within the EnterWorks system.
Taxonomy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Taxonomy names within the EnterWorks system.
Hierarchy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Hierarchy names within the EnterWorks system.
Code Set – Taxonomy and Hierarchy List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of a combined list of all Taxonomy and Hierarchy names within the EnterWorks system.
Profile List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Profile names within the EnterWorks system.

Control Types	Description
User List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all User names within the EnterWorks system.
Group List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Group names within the EnterWorks system.
Import Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Import Template names within the EnterWorks system.
Export Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export Template Names within the EnterWorks system.
Export Style Map List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export Style Map names within the EnterWorks system.
Publication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Publication Template names within the EnterWorks system.
Publication Style Map List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Publication Style Map names within the EnterWorks system.
Syndication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Syndication Template List names within the EnterWorks system.
Export, Publication and Syndication Template List	Allows the user to choose a single value via a dropdown or multiple values via a multi-select box of all Export, Publication, and Syndication Template List names within the EnterWorks system.

Control Types	Description
Custom Dropdown List	Allows a user to specify values via a specified SQL query. The values are displayed via a dropdown list or multi- select list.

- Special Function Indicator: (Optional) Allows the user to specify that the attribute serves a special function, such as a Taxonomy Node Link or that it is a status indicator. The available selections for this characteristic are based on the type of Profile being defined.
- Category Attribute Association: (Optional) This is only used for Taxonomy Attributes
 and Dynamic Attributes. In the case of Taxonomy Attributes, it identifies the Category
 Attribute Association Object to be used. If an attribute is a Dynamic Attribute, this
 identifies the Association Object to be used. For more information on Association
 Objects, see How EnterWorks Works at https://help.winshuttle.com/...
- **Is Variant**: A configuration dependent variable. For more information, contact your EnterWorks account representative.
- **Copywriter**: A configuration dependent variable. For more information, contact your EnterWorks account representative.
- **Is Multi-Language**: Indicates if this attribute is to use the Multi-Language capability. For more information on the Multi-Language capability, see Multiple Language Support.
- Is Global/Category/Dynamic: (Required): Indicates if this attribute is a Global Attribute, Category Attribute or Dynamic Attribute. Note that the attribute will only be displayed in the Category Attribute tree if it is a Category Attribute.
- **Is Required**: (Optional) Allows the attribute to be defined as a required element for each record within a repository.
- **Is Primary Key**: (Optional) Indicates this attribute contains the record's unique identifier.
- **Seq Gen Ind**: (Optional) This indicates that the attribute is the repository's sequence attribute and its value will be automatically generated by EnterWorks unless it is supplied by the user or an import when the record is created. There can be only one Auto-sequenced Attribute per repository.
- **Is Repeatable**: Indicates if a record can have multiple values for this attribute. When checked, a field appears to the right to specify the delimiter between values (default is a comma).

• **Is Business Key**: Indicates this is a business key. A profile can have more than one business key. Used in conjunction with a bulk callout validation rule, they can be used to detect and prevent duplicate records from being imported in a single file

Note that other attribute definition fields may be present, depending on system configuration.

25.3 Managing Repositories

There are two ways to manage a repository:

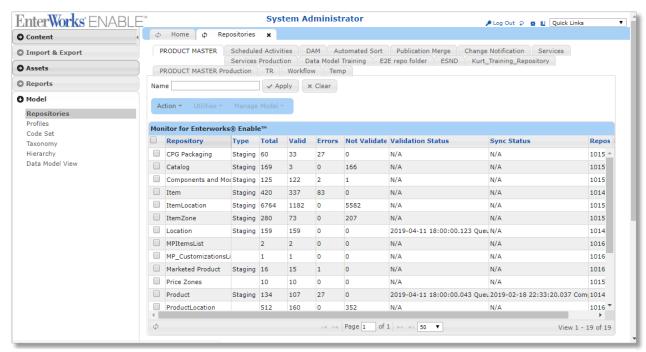
- From the **Model** Feature: to create or delete a repository, or to perform some editing of properties and source mapping.
- From the **Content** Feature: to manage all repository properties, manage the data model aspects of the repository, and to manage the repository's security filters.

25.3.1 Manage a Repository from the Model Feature

25.3.1.1 Create a Repository

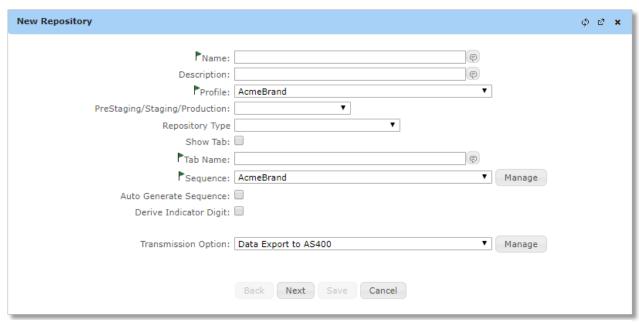
To create a repository:

- 1. Log into the EnterWorks Classic UI.
- 2. Open the **Repositories** tab by opening the **Feature Bar**, opening the **Model** tab, and selecting **Repositories**. The **Repositories** tab will open.



Repositories Tab

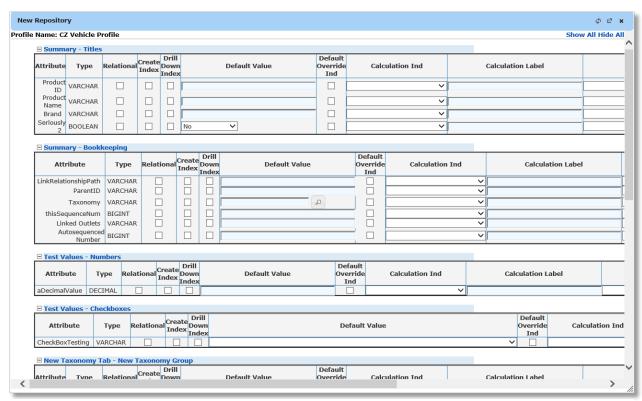
- 3. From the list of folders displayed at the top of the pane, select the folder where you would like the repository to be stored.
- 4. On the **Repositories** tab **Activity Bar**, open the **Action** drop-down and select **New**. A **New Repository** window will appear.



New Repository Tab

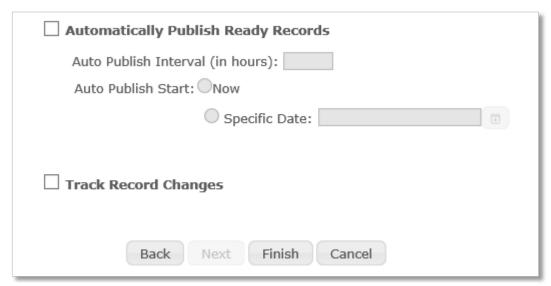
- 5. Edit the new repository's configuration options as desired.
 - Name: (Required) Name of the new repository.
 - **Description**: A description of the new repository.
 - **Profile**: (Required) The Profile to be used to define the new repository.
 - Pre-Staging/Staging/Production: If this repository will be used in a Pre-Staging(optional)/Staging/Production sequence, indicate which one of these the repository will be. Otherwise, leave the field empty.
 - Repository Type:
 - Hierarchy Catalog Repository View: Shows all the records from a Hierarchy properties repository.
 - Web Product Root: Pertains only to the Split/Clone functionality.
 Enables the Split/Clone menu option from the Action menu on repository.
 - Web Product: Pertains only to the Split/Clone functionality. Enables the Clone menu option on the Action menu.
 - Option Type: Pertains only to the Split/Clone functionality. Allows a user to select multiple variant attributes to split or to enter a count for cloning a product repository record.
 - Option: Pertains only to the Split/Clone functionality.
 - <empty>: If the repository is not one of the types listed above, leave the field empty.
 - Show Tab: Whether or not the repository's name will appear in the Feature Bar.

- Tab Name: (Required) The name of the repository's tab when it is opened in a Repository View and the name that will appear in the Feature Bar if Show Tab is selected.
- **Sequence**: (Required) The sequence object to be used to track record sequence numbers. Repositories can share sequence objects, which means that each record in the repositories has a unique sequence number across all the repositories using that object. Either select an already defined sequence or click the **Manage** button to define a new sequence:
 - o **Name**: (Required) The name of the sequence.
 - o **GTIN Prefix**: If you want your sequence number to be an auto-generated GTIN then put your GTIN prefix here.
 - o **Starting Sequence**: (Required) The first number in the sequence.
 - Current Max Sequence: This is a displayed value only; not a configuration option. It displays what is currently the highest number in the sequence.
- Auto-Generate Sequence: If selected, when a record is created, its sequence number will be automatically generated. If not selected, when a record is created, its sequence number must be manually entered.
- **Derive Indicator Digit**: Deprecated no longer in use. Depending on the release version of your EnterWorks system, this configuration option may not appear.
- Transmission Option: Defines the method of transmitting data exported from
 the repository, such as the protocol used, modifications to the resulting file
 name, destination, and any necessary destination-imposed user authentication.
 Transmission options can be used by more than one repository. Either select an
 already defined transmission option, or click the Manage button to define a new
 option.
- 6. When you have finished editing the configuration options, select **Next**. The **New Repository Attribute Configuration** window will appear. Edit the repository attribute properties as desired.



New Repository Profile Configuration Options

7. When you are finished editing the repository's attribute properties, select **Next**. The final configuration options appear.



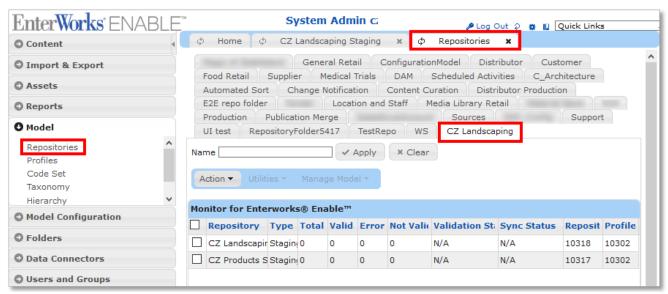
Final Repository Configuration Options

- 8. The following settings have been deprecated. Depending on the release version of you EnterWorks system, they may or may not appear. If they do, leave them empty.
 - Automatically Publish Ready Records: This configuration option is deprecated. Ignore this field and all subfields.
 - o Auto Publish Interval (in hours): Deprecated.
 - Auto Publish Start: Deprecated.
 - **Now**: Deprecated.
 - Specified Date: Deprecated.
 - **Track Record Changes:** This setting is deprecated. All record changes are now tracked automatically.
- 9. Select **Finish** to save the repository and exit the **New Repository** tab or select **Cancel** to exit the tab without creating the repository.
- 10. Clear the data cache.

25.3.1.2 Delete a Repository

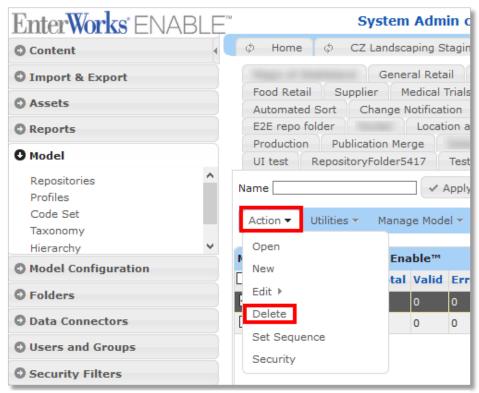
Use the EnterWorks Classic UI to delete a repository:

- 1. Log into the EnterWorks Classic UI.
- 2. Open the **Repositories** tab by opening the **Feature Bar**, opening the **Administration** tab, and selecting **Repositories**. The **Repositories** tab will open.



Open the Repositories Tab

- 3. Select the repository to be deleted.
- 4. On the **Repositories** tab's **Activity Bar**, open the **Action** drop-down and select **Delete**. The repository will be deleted.



Delete the Selected Repository

5. Clear the data cache.

25.3.2 Manage a Repository from the Content Feature

To manage a repository from the **Content** Feature:

- 1. Open the **Feature** bar, open **Content**, and right-click the desired folder, then click the arrow to the right of the desired repository's name to see your repository management options:
 - Open: Open the repository in a Repository View.
 - Edit:
 - Properties
 - Summary Attributes
 - Attribute Properties
 - Rule Properties
 - Source Mapping
 - Validation Model

- Workflow Properties
- Promotion Properties
- Trigger Properties
- Manage Model:
 - Manage Links
 - Profile
 - Attribute Tabs
 - Attribute Groups
 - Attribute Security Filters
 - Record Security Filters
- **Security**: Allows you to set a repository's access permissions, record attribute filter and record filter, according to user and user groups.
- 2. After you are done creating or editing a repository, clear the data cache so it will appear in the Feature bar.

25.3.3 Manage a Repository's Trigger Properties

The sharedConfig.properties file used to be the only location of a repository's Trigger property settings, but now many of them are also stored in the EPIM database and can be accessed through the EnterWorks Classic UI. In order to maintain backward compatibility, if a property is not available in the database, EnterWorks will fall back to reading the property from the sharedConfig.properties file.

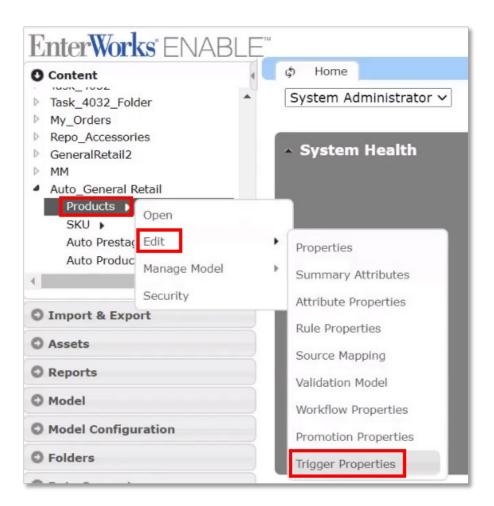
Anytime you modify trigger properties, whether they are in the EPIM database or the sharedConfig.properties file you must restart services and clear the data cache for the new property values to take effect.

If you migrate a repository, its Trigger properties will be migrated as well.

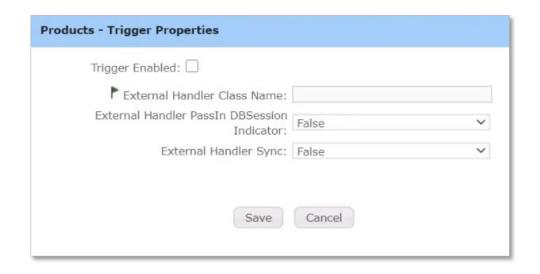
25.3.3.1 Repository Trigger Properties in EPIM Database

To modify a repository's Trigger properties through the EnterWorks Classic UI:

- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. In the **Feature** bar, open the **Content** Feature, select the desired repository, select **Edit**, and select **Trigger Properties**.



3. The **Trigger Properties** editor will appear.



- 4. Edit the settings as desired:
 - Trigger Enabled:
 - Check this checkbox to enable the trigger.
 - Uncheck this box to disable the trigger. After a trigger has been disabled and the Trigger Properties are saved, all settings in the database regarding this Trigger will be cleared.
 - External Handler Class Name: The java class name. The class must be accessible from the EnableServer Tomcat or EnableServer Jboss services.
 - To be accessible for the EnableServer Tomcat service, the class must be a JAR file and be placed in the folder:

```
<drive>:\Enterworks\EnableServer\tomcat\webapps
\webcm\WEB-INF\lib
```

 To be accessible for EnableServer Jboss service, the class must be injected into the epimServer.ear file. Execute the following for each EnableServer Jboss service:

```
<install_drive>:\Enterworks\bin\DeployServicesJ
ar.bat
```

- External Handler PassIn DBSession Indicator: If this is set, the database session is passed to the trigger's doWork() method as an argument. This session provides access to the EPIM database without having to open another connection.
- External Handler Sync: This is the event synchronous/asynchronous indicator:
 - If it is set to true, the event is a synchronous event, which means that if a
 user saves a record in the UI, the UI will not refresh until after the trigger has
 completed processing. Any changes the trigger made to the record being
 edited will be shown in the editor (if the editor is kept open).
 - Otherwise it is an asynchronous event, which means that if a user saves a
 record in the UI, the UI will refresh immediately, potentially before the
 trigger has completed processing. If the trigger changes the record being
 edited, those changes will not be reflected in the editor (if the editor is kept
 open).
- 5. Save and exit the **Trigger Properties** editor.
- 6. Clear the data cache and restart EnterWorks services.

25.3.3.2 Repository Trigger Properties in the sharedConfig.properties File

Anytime you modify sharedConfig.properties file, restart services and clear the data cache afterward.

```
1414#
1416 allow.external.event.handler=true
  1417 allow.external.event.links=false
   1418 external.event.handlers=handler1
   1419
   1420 # define external event handler1
   1421 external.event.handler1.passInDBSessionInd=true
   1422 external.event.handler1.type=0
   1423 external.event.handler1.sync=true
   1424 external.event.handler1.classname=com.enterworks.epim.shared.util.TestEventHandler
   1425 external.event.handler1.target.repository=Products
   1426
   1427 external.event.handler2.passInDBSessionInd=true
   1428 external.event.handler2.type=0
   1429 external.event.handler2.sync=true
   1430 external.event.handler2.classname=com.enterworks.epim.shared.util.TestEventHandler
   1431 external.event.handler2.target.repository=Task_5142_Testing
   1434# Special Trigger that says, on any repository change, call a class that will send it to an external
   1435 # message queue. (type=100)
   1436 external.event.amqp.passInDBSessionInd=false
   1437# Enqueue Message on AMOP
   1438 external.event.amqp.type=100
   1439 external.event.amqp.sync=true
   1440 external.event.amgp.classname=
   1441 external.event.amqp.target.repository=allrepositories
   1442
   1443# For SSL Connection the connection string must contain both username and password
   1444# or it will fail to connect
   1445# username:password@hostname
   1446 amqp.connectionString=@RABBIT_USER@:@RABBIT_PASS@@@RABBIT_HOST@
   1447 amqp.queueName=enableStoreItem
   1448
```

The settings in the sharedConfig.properties file that affect Triggers are:

- allow.external.event.handler: This enables or disables external event handling. If it is false, all the event handler settings will be ignored.
- allow.external.event.links:
- **external.event.handlers**: Lists the names of the defined events. To disable a particular event, remove it from this list. The names must match the **handlerName** specified in:

external.event.handlerName>......

• Settings for individual Triggers:

- external.event.
 handlerName
 passInDBSessionInd: If this is set, the database session is passed to the trigger's doWork() method as an argument. This session provides access to the EPIM database without having to open another connection.
- external.event.
 handlerName
 type: This is always set to 0 (zero).
- external.event.
 handlerName>.sync: This is the event synchronous/asynchronous indicator:
 - If it is set to true, the event is a synchronous event, which means that if a user saves a record in the UI, the UI will not refresh until after the trigger has completed processing. Any changes the trigger made to the record being edited will be shown in the editor (if the editor is kept open).
 - Otherwise it is an asynchronous event, which means that if a user saves a record in the UI, the UI will refresh immediately, potentially before the trigger has completed processing. If the trigger changes the record being edited, those changes will not be reflected in the editor (if the editor is kept open).
- external.event.
 handlerName>.classname: The java class name. The class must be accessible from the EnableServer Tomcat or EnableServer Jboss services.
 - To be accessible for the EnableServer Tomcat service, the class must be a JAR file and be placed in the folder:

```
<drive>:\Enterworks\EnableServer\tomcat\webapps
\webcm\WEB-INF\lib
```

To be accessible for EnableServer Jboss service, the class must be injected into the epimServer.ear file. Execute the following for each EnableServer Jboss service:

```
<install_drive>:\Enterworks\bin\DeployServicesJ
ar.bat
```

external.event.
 handlerName>.target.repository: The name of the repository the trigger is registered to.

Any time you modify sharedConfig.properties file, restart services afterward.

25.3.4 Manage a Repository's Promotion Properties

The sharedConfig.properties file used to be the only location of a repository's Promotion property settings, but now many of them are also stored in the EPIM database and can be accessed through the EnterWorks Classic UI. In order to maintain backward

compatibility, if a property is not available in the database, EnterWorks will fall back to reading the property from the sharedConfig.properties file.

If you are modifying Promotion properties in the EW classic UI, you do not have to restart EnterWorks services. However, if you are modifying the <code>sharedConfig.properties</code> file you will have to restart services for the new property values to take effect.

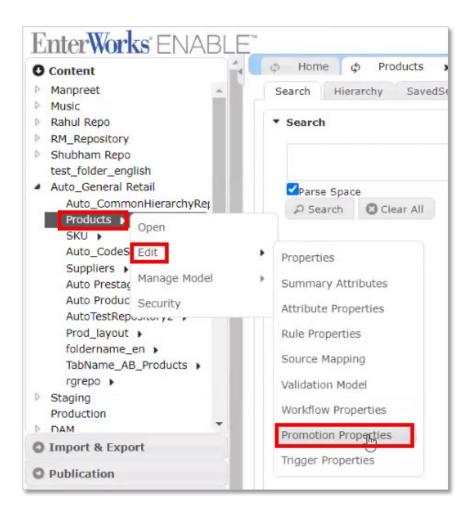
If you migrate a repository, its Promotion properties will be migrated as well.

25.3.4.1 Repository Promotion Properties in the Classic UI

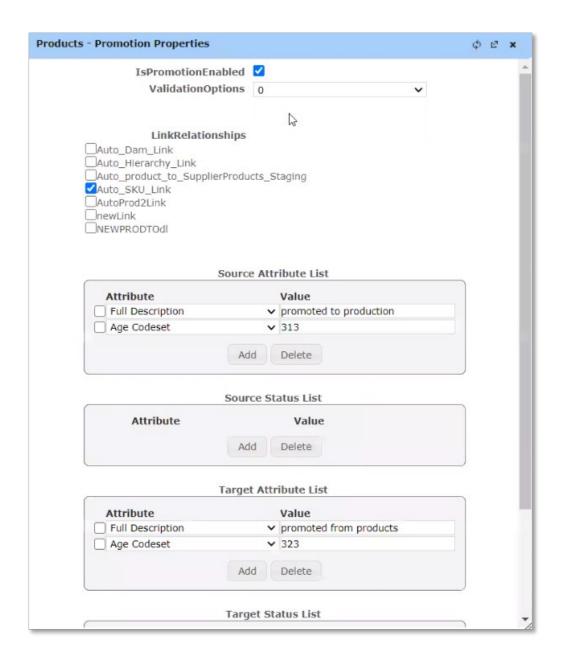
Note: You can modify a repository's Promotion properties through the EnterWorks Classic UI, however, the name of the source repository must be defined in the sharedConfig.properties file.

To modify a repository's Promotion properties through the EnterWorks Classic UI:

- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. In the **Feature** bar, open the **Content** Feature, select the desired repository, select **Edit**, and select **Promotion Properties**.



3. The **Promotion Properties** editor will appear.



- 4. The **Promotion Properties** editor will allow you to modify the following values:
 - IsPromotionEnabled: Check this checkbox to enable promotions for this repository.
 - ValidationOptions:
 - 0 = Promote all records.
 - 1 = Validate and promote all records.
 - 2 = Validate and promote valid records only -- no records with errors or warnings.

- **LinkRelationships**: These checkboxes identify the repositories (via link relationships) that are linked to the one being edited. If checked, when a record in the parent repository is promoted, any linked record in the designated linked repository will also be promoted (subject to the same validation options).
- Attribute and Status Lists: To add attributes to the list, click the Add button. Each
 time you click Add, a new attribute or status dropdown selector will be added. Use
 the dropdown's down arrow to select the desired attribute or status. Enter the
 desired value in the Value box.

To enable an attribute or status value assignment, check the checkbox to the left of the attribute's or status' name.

Attribute Lists:

Source Attribute List: Contains a list of attributes in the source repository that you want to set to a particular value after the records are promoted. The most common use of this feature is when needing to distinguish between add/new vs. update for a record in a syndication. For example, if the attribute "Add or Update" represents this status, it would default to the value "Add" for new records. When that record is promoted to Production and then syndicate, the downstream system will be notified that it is a new record. The promotion operation itself causes the attribute to be updated to "Update" in the Staging repository. The next time the staging record is modified, promoted, and syndicated, the syndication will indicate the record is existing and is being updated. This assumes the Production record is syndicated after the initial promotion before the same record can be modified and promoted a second time.

Warning: Attributes set through this mechanism are not recorded in the History information.

• Target Attribute List: Contains a list of attributes in the target repository that you want to set to a particular value when the records are promoted.

Status Lists:

- Source Status List: Contains a list of attribute statuses in the source repository that you want to set to a particular value after the records are promoted. The common state fields set are:
 - record_state = 0: This indicates the record is in sync.
 - external_session_info: This indicates the update was due to promotion.

- Target Status List: Contains a list of attribute statuses in the target repository that you want to set to a particular value after the records are promoted.
 The common state fields set are:
 - record_state = 0: This indicates the record is in sync.
 - external_session_info: This indicates the update was due to promotion.
- 5. Edit the properties as desired, then save the properties and exit from the Promotion Properties editor.
- 6. Restart EnterWorks services and clear the data cache.

25.3.4.2 Repository Promotion Properties in sharedConfig.properties

The sharedConfig.properties file identifies which repositories can be promoted and how each of those promotions will behave.

Warning: All sharedConfig.properties files should have the exact same property definitions for promotions. As a best practice, one file should be updated and then the entire repo.promote section be copied from that file to all of the other sharedConfig.properties files in the same environment.

```
1273 # Repository Promotion Configuration
1274 #
     -----
1275
1276
1277
      repo.promote.config.list=Brand STG, Product STG,
1278
1279 #default validation check for promotion - 0 promote All, 1 promote valid only, 2 promote val
1280 repo.promote.config.Brand STG.default.validation.option=2
1281
1282 repo.promote.config.Brand_STG.desc=Promote Brand Items
1283 repo.promote.config.Brand STG.srcRepo.name=Brand STG
1284 repo.promote.config.Brand_STG.srcRepo.linkList=
1285 repo.promote.config.Brand STG.srcRepo.linkList.linkl.name=
1286
1287 repo.promote.config.Product_STG.desc=Promote Product
1288 repo.promote.config.Product STG.srcRepo.name=Product
1289 repo.promote.config.Product_STG.srcRepo.linkList=
1290 repo.promote.config.Product_STG.srcRepo.linkList.linkl.name=
1291
1292 # Optional
1293 repo.promote.config.Brand STG.srcRepo.updateStatus.list=status1,status2,
1294 repo.promote.config.Brand_STG.srcRepo.updateStatus.statusl.name=RECORD_STATE
repo.promote.config.Brand_STG.srcRepo.updateStatus.status2.name=EXTERNAL_SESSION_INFO
1297 repo.promote.config.Brand STG.srcRepo.updateStatus.status2.value=promote
1298
1299 repo.promote.config.Brand_STG.srcRepo.updateAttr.list=attrl
1300
      repo.promote.config.Brand STG.srcRepo.updateAttr.attrl.name=Status
1301
      repo.promote.config.Brand STG.srcRepo.updateAttr.attrl.value=Active
1302
1303
repo.promote.config.Brand_STG.targetRepo.updateStatus.list=status1, status2,
repo.promote.config.Brand_STG.targetRepo.updateStatus.status1.name=RECORD_STATE repo.promote.config.Brand_STG.targetRepo.updateStatus.status1.value=0
1307 repo.promote.config.Brand STG.targetRepo.updateStatus.status2.name=EXTERNAL SESSION INFO
1308 repo.promote.config.Brand STG.targetRepo.updateStatus.status2.value=promote
1309
1310 repo.promote.config.Brand STG.targetRepo.updateAttr.list=attrl
repo.promote.config.Brand_STG.targetRepo.updateAttr.attrl.name=Status
1312 repo.promote.config.Brand STG.targetRepo.updateAttr.attrl.value=Active
1313
```

- 1. The Promotion Properties editor will allow you to modify the following values:
 - repo.promote.config.list: A list of the names of the repositories that can be
 promoted. This list must specify the repository name of each source repository to
 be promoted. The repository name must exactly match what is defined in the Name
 field on the Edit -> Properties page for the repository. This name must be
 referenced as the promotion name> in the properties listed below.
 - repo.promote.config.repo.promote.config.repo.promote.config.
 - 0 = Promote all records.
 - 1 = Validate and promote all records.

- 2 = Validate and promote valid records only -- no records with errors or warnings.
- repo.promote.config.config.configuration feature. The display name of the promotion. In the Model Configuration feature, if you select Promotion Configuration, the Promotion Configuration drop-down list will display this description as the name of the promotion.
- repo.promote.config.config.config.config.config.repository.
- Linked Repositories settings:
 - o repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repo.promote.config.
 repositories to be promoted at the same time a record is promoted from the source repository.
 For example, if the promotion is for the Product_Staging repository, which is linked to the Item_Staging repository, when a Product record is promoted, all of the Item records linked to that Product will also be promoted (subject to the promotion settings). The
 linkName
 values are used in subsequent properties
 - o repo.promote.config.config.config.config.config.config.config.config.config.config.config.config.config.config.config.config.
- Attribute settings: (Optional)
 - Source Repository Attribute settings:
 - repo.promote.config.
 <p
 - The attributes listed here will be set to their specified values in the source repository after the record is promoted.
 - repo.promote.config.
 promotion_name>.srcRepo.updateAttr.
 Name<n>>.name:
 The name of the attribute.
 - repo.promote.config.cpromotion_name>.srcRepo.updateAttr.<attr
 Name<n>>.value: The value the attribute will be set to after the
 record is promoted.
 - <u>Target Repository Attribute settings</u>:
 - repo.promote.config.
 promotion_name>.targetRepo.updateAttr.list
 =<attrName1>,<attrName2>,...,<attrName<n>>:
 The values in this list

will be used in the subsequent properties to identify attributes and their values.

The attributes listed here will be set to their specified values in the target repository when the record is promoted.

- repo.promote.config.
 <p
- repo.promote.config.
 <p

Status Settings:

- Source Repository Status settings:
 - repo.promote.config.

 repo.promote.config.
 - record_state = 0: This indicates the record is in sync.
 - **external_session_info**: This indicates the update was due to promotion.
 - repo.promote.config.cpromotion_name>.srcRepo.updateStatus.
 <statusName<n>>.name
 The name of the status.
 - repo.promote.config.cpromotion_name
 .srcRepo.updateStatus.
 <statusName<n>>.value
 The value of the status.
- o <u>Target Repository Status settings</u>:
 - repo.promote.config.config.config.contains a list of attribute statuses in the target repository that you want to set to a particular value when the records are promoted.
 - record_state = 0: This indicates the record is in sync.
 - **external_session_info**: This indicates the update was due to promotion.
 - repo.promote.config.config.config.config.config.config.config.
 - repo.promote.config.config.config.config.config.config.config.

- 2. Edit the properties as desired, then save the file and exit.
- 3. Restart services for the new property values to take effect.

25.3.5 Repository Link Management

This section describes how to create and edit link relationships. For information regarding the nature of link relationships, linked records, linked repositories, and link tables and how they are used, please see https://help.winshuttle.com/.

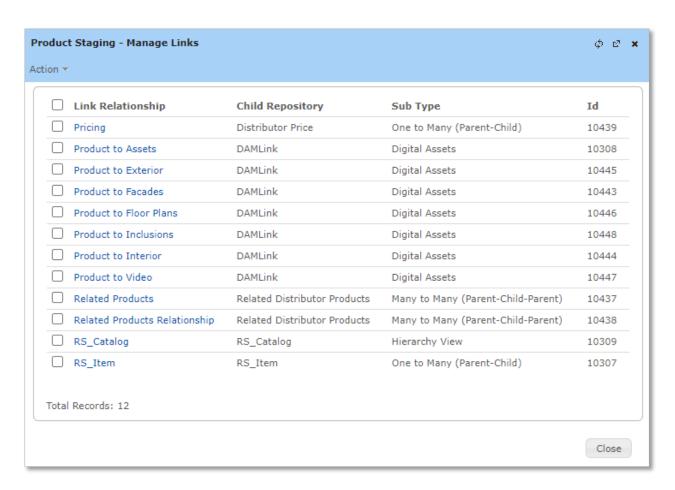
Be careful when modifying the definition of existing link relationships. They are fundamental to many EnterWorks functions. Modifications may affect the stability and functional behaviors of the EnterWorks system in ways you do not intend.

If a repository has staging and production versions of repositories, any link relationships must be duplicated in both environments.

25.3.5.1 Create or Edit a Link Relationship

To create or edit a link relationship:

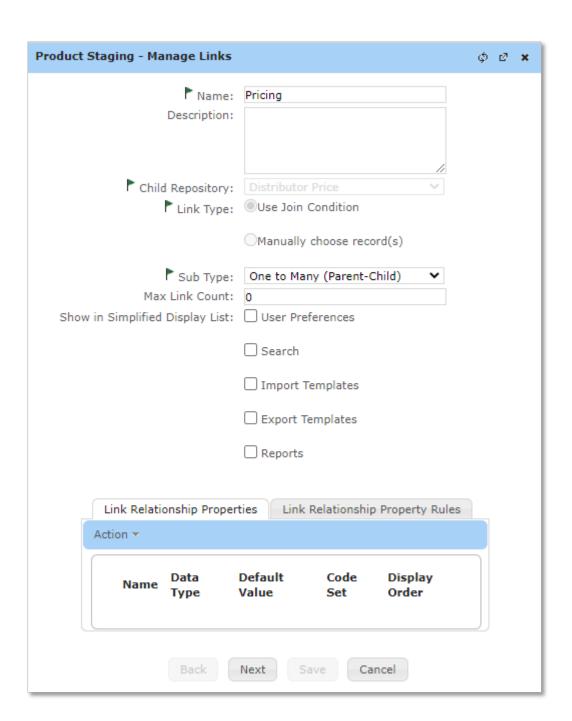
- 1. Log into the EnterWorks Classic UI as a user with Administrative privileges.
- Open the parent repository's Manage Links editor: open the Feature bar, open the Content folder, open the desired repository folder, click the arrow to the right of the repository's name, click the arrow to the right of Manage Model, and select Manage Links. The list of all link relationships for the repository will be displayed.



3. Do one of the following:

- To create a new link relationship, open the **Action** dropdown list and select **New**. An empty link relationship will be opened in the **Manage Links** editor.
- To edit an existing link relationship, select the link relationship, open the Action dropdown list, and select Edit. The link relationship will be opened in the Manage Links editor.

WARNING: Do not change the names of existing links, otherwise the EnterWorks views, Export Templates, and other EnterWorks features may break.



4. Edit the configuration values:

- Name: The name of the link relationship. Link relationships must have names that are unique across the EnterWorks system.
- **Description:** A description of the purpose of the link relationship.
- o **Child Repository:** Choose the child repository.

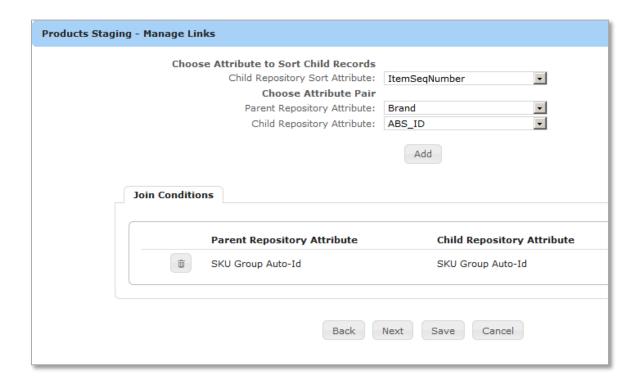
Link Type:

- Use Join Condition: One or more pairs of attributes are used to link the repositories. For more information, see <u>Join Conditions</u>.
- Manually choose records(s): Deprecated.

Sub Type:

- One to Many (Parent-Child): One parent repository is linked to one child repository.
- Many to Many (Parent-Child): Many parent repositories are linked to many child repositories.
- Accessory: This type of link is used in publications. For more information, contact your EnterWorks representative.
- Hierarchy View: To use a non-restricted hierarchy in a repository, you must create a link of sub-type Hierarchy View between the repository and the Hierarchy Catalog repository.
- Extended: Deprecated.
- Digital Assets: In order to link a repository to DamLink, you must create a linked relation of sub-type Digital Assets.
- **Retail Product:** For more information, contact your EnterWorks representative.
- **Retail Product SKU:** For more information, contact your EnterWorks representative.
- Show in Simplified Display List: These settings determine where this link relationship will be available to be used.
 - User Preferences: This link relationship will be available for use in user preferences.
 - **Search:** The link relationship will be available for use in searches.
 - **Import Templates:** The link relationship will be available for use when you create an import template.
 - **Export Templates:** The link relationship will be available for use when you create an export template.
 - **Reports:** The link relationship will be available for use when you create a report.
- 5. When you are finished editing the configuration options, click **Next.**

6. If you selected **Use Join Condition** for the **Link Type**, the **Join Condition** list will be displayed. Edit the configuration options:



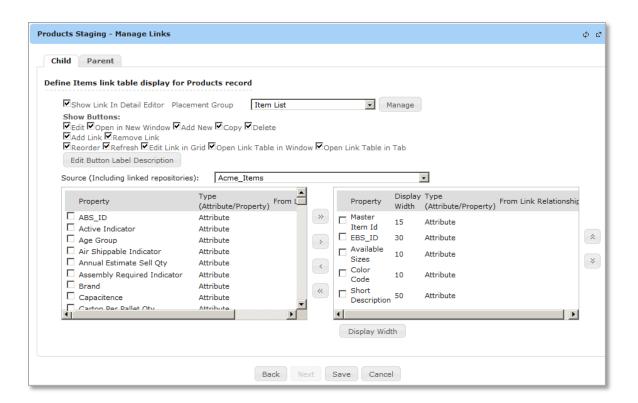
- a. **Child Repository Sort Attribute:** This attribute will be used to determine the order in which child records are displayed in the parent record. This attribute must be in the snapshot table.
 - If you want to be able to reorder the records, this attribute must be a dedicated attribute, meaning it must only be used for sorting. If a child record may be linked to more than one parent record, do not reorder the child records, because when you reorder the records in one parent record, it will disrupt the sort order in the other parent records.
- b. **Choose the Attribute Pair**: Join attribute pairs are used to identify linked records. They consist of an attribute in the parent repository and an attribute in the child repository. Both attributes must be in the snapshot table. For more details on join attribute pairs, see Join Conditions.

Define one or more join attribute pairs:

 To add a join attribute pair that <u>does not use</u> a literal value, (for information on literal values, see <u>Using Literal Values to Sort Child</u> Records):

- (1) **Parent Repository Attribute:** Select the join attribute for the parent repository. The parent repository's join attribute's values must be unique, meaning that no two records in the repository will have the same value in their join attribute.
- (2) **Child Repository Attribute:** Select the join attribute for the child repository. The child repository's join attribute must be dedicated it must only be used to identify a child record's parent record.
- (3) Click the **Add** button.
- To add a join attribute pair that uses a literal value:
 - (1) Parent Repository Attribute: Scroll to the bottom of the attribute dropdown list and select Enter Literal Value.
 - (2) A field will appear to the right of the **Parent Repository Attribute** field. Enter the character string you will use to identify the subset of child records, for instance "Documents", (without the quotes).
 - (3) **Child Repository Attribute:** Select a dedicated attribute that will only be used to record which subset of child attributes it will be displayed in, for instance "Image Context", (without the quotes).
 - (4) Click the Add button.
- To delete a join attribute pair, in the Join Conditions list, click the trashcan to the left of the attribute pair you wish to delete.
- c. When you have finished editing the join attributes, click **Next** to move to the **Display Options** screen.
- 7. The Display Option screen has two tabs:
 - Child: These settings define which attributes from the child repository will be
 displayed when the parent record is opened in the Detail Editor, and how those
 attributes will be displayed.
 - **Parent**: These settings define which attributes from the parent repository will be displayed when the child record is opened in the Detail Editor, and how those attributes will be displayed.

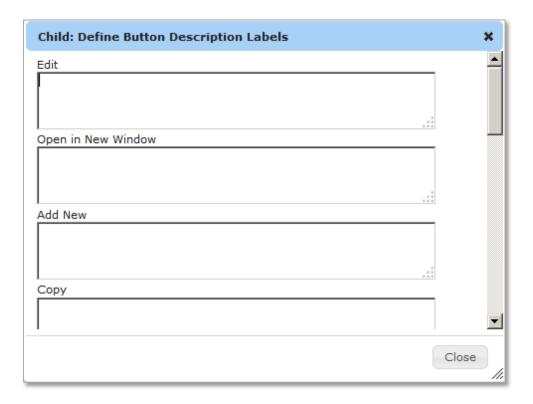
Edit the configuration options on the **Child** tab, then do the same on the **Parent** tab. The configuration options are the same on both tabs.



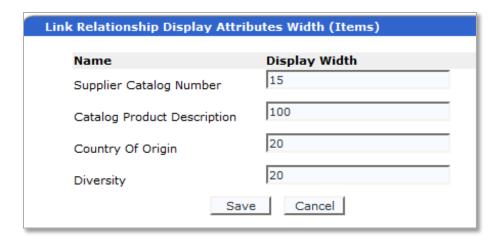
- Number of Records Per Page: How many records will be displayed on a page.
- Window Display Height: The height of the display, in pixels.
- **Show Link in Detail Editor:** If this is checked, the link table will be shown when the parent repository record is opened in the Detail Editor.
- Placement Group: When a record is opened in the Detail Editor, this is the
 Attribute Group and Attribute Tab in which the linked record's attributes will
 appear. Either select an existing Attribute Group and Tab or click the
 Manage button to add or change the Attribute Group or Tab.
- **Show Buttons:** These checkboxes control which action buttons will be available to users.
 - Open Link Table in Tab with Preference: The linked records will be displayed in a tab, as a table. The only attributes that will be displayed are those that are included in the specified preference.

NOTE: The **Edit Link in Grid** option will allow the link record attributes to be modified from the link relationship table in an Excel-like format.

• **Edit Button Label Description:** Click this button to modify the default labels for the selected buttons:



- There are two lists of attributes. The attribute list on the left holds attributes
 that are available to be shown in the parent's record when it is in the Detail
 Editor. The attributes in the list on the right are the attributes that will be
 shown.
 - To move an attribute from one list to the other, select it and use the arrow buttons to move it to the left or the right.
 - To change the display order of attributes in the Detail Editor, select one or more attributes and use the up and down arrows to move the attributes to the desired location.
- **Source:** To display attributes from another linked repository, select the repository in the **Source** dropdown list. That repository's attributes will be displayed in the list of available attributes.
- **Display Width:** To change the width of the boxes used to display the attributes, click the **Display Width** button, and edit the settings as desired.



• **Define Parent JSON Properties**: On the **Parent** tab, if you want to configure the Unified Parent Child View for the New UI, define the JSON properties that control it.

When the Unified Parent Child View capability is configured, when a child record is displayed in the Detail Editor in the New UI, selected attributes from the parent record are displayed in the group indicated by the setting **Placement Group**.

Note that the Unified Parent Child View capability does not support muti-edit (editing more than one record at once).

Build the JSON properties string to define how the parent record's attributes will be displayed.

NOTE: The quotes that surround the properties are conforming JSON (straight) double quotes, not beginning and ending double quotes. For example:

"mergeView":true

not:

"mergeView":true

JSON Property	Purpose
"mergeView":true	This property is mandatory. It enables the Unified Parent Child View.
"hideGrid": <true-or-false></true-or-false>	If this property is false, the parent record's attributes will be displayed in a table rather than in a list. The default value for this is true.
"filterByColocatePrefix": <true- or-false></true- 	If this property is true, the only parent attributes that will be displayed are those whose name begins with the text string specified by the colocatePrefix property.
	The default value for this is false. If "filterByPreference" is set to true, it will override the "filterByColocatePrefix" setting. The attributes will be filtered by the specified preference instead of filtered by the prefix specified by colocatePrefix.
"colocatePrefix":" <put-your- prefix-string-here>"</put-your- 	If this property is true, display the parent's attributes before the child attributes that begin with this string. If the filterByColocate property is true, the only parent attributes that will be displayed are those whose name begins with the text string specified by this property.

JSON Property	Purpose
"filterByPreference": <true-or-false></true-or-false>	If this property is true, the only parent record's attributes that will be displayed are those that are included in the preference specified by the Open Link Table in Tab with Preference setting. The default value for this is false. If "filterByPreference" is set to true, it will override the "filterByColocatePrefix" setting. The attributes will be filtered by the
	specified preference instead of filtered by the prefix specified by colocatePrefix.

Examples of Unified Parent Child View Configurations

To display the parent record's attributes that begin with the text string "member":

```
{"mergeView":true, "filterByColocatePrefix":true,
"colocatePrefix":"member"}
```

To display the parent record's attributes in a table:

```
{"mergeView":true, "hideGrid":false}
```

To display only the parent record's attributes included in the preference specified in the **Open Link Table in Tab with Preference** setting:

```
{"mergeView":true, "filterByPreference":true}
```

To display in a table the parent record's attributes that begin with the text string "member":

```
{"mergeView":true, "hideGrid":false,
"filterByColocatePrefix":true, "colocatePrefix":"member"}
```

8. When you are finished editing the settings on the **Child** tab, move to the **Parent** tab. This tab defines which of the parent record's attributes will be displayed when a child

- repository's record is viewed in the Detail Editor. The configuration options for the **Parent** tab are the same as those on the **Child** tab. Configure the **Parent** tab.
- 9. When you are finished editing the **Parent** tab, click the **Save** button to save your changes to the link relationship.
- 10. Clear the cache in both the Classic UI and the New UI.

25.3.5.2 Join Conditions

Join attribute pairs are used to identify linked records. They consist of an attribute in each repository. Both attributes must be in the snapshot table.

- <u>Parent Repository's join attribute:</u> The join attribute values in the parent's repository records must be unique, meaning that no two records in the repository will have the same value in their join attribute. Since each parent record has a different value in their join attribute, the join attribute value uniquely identifies each record.
- <u>Child repository's join attribute:</u> The child repository's join attribute must be dedicated it is only used to identify a child record's parent record. When a child record is created, the value of the parent record's join attribute will be stored in the child record's join attribute. That means that from the child record, you can tell which is the parent record. This creates the link from the child record to the parent record.

For example, you could have a parent repository with an attribute called "ProductID" and a child repository that also has an attribute called "ProductID". (The attributes used to link records do not need to have the same names, but if they do, it is easier to see at a glance which attributes are being used as the join attributes.) When a record in the child repository is linked to a record in the parent repository, the parent record's ProductID attribute's value is copied into the child record's ProductID attribute.

It is possible to define more than one join attribute pair. This may be useful, for instance, if you are using a set of primary keys to uniquely identify the parent record.

25.3.5.3 Using Literal Values to Sort Child Records

You can define a linked relation such that when a parent record is displayed in the Detail Editor, a subset of the linked child records will be displayed. To do this, in addition to defining one or more attribute join pairs that identify a child record as belonging to a particular parent record, you define an attribute pair that identifies the child record's type.

To do this, the child records must contain an attribute whose value indicates what type of record it is, for instance, "Document", or "Image", or whatever other character string you want

to use, (without the quotes). In the attribute pair, you would select this attribute as the child attribute.

For the parent attribute selection, you would scroll to the bottom of the attribute selection dropdown list and select **Enter Literal Value**. A field would appear to the right of the dropdown list that allows you to enter the character string for the type of child record you wish to display. You would enter one of the values stored in the children records' type attribute. For instance, if the set of values used in your children records' type attributes was "Document", "Image", and "Certificate", you would enter one of those strings, (without the quotes).

Literal value attribute join pairs are often used to display subsets of a record's digital assets. For instance, the linked relations defined may be:

- Product to Digital Assets
- Product to Digital Assets Documents
- Product to Digital Assets Images

In this case, when a product record is opened in the Detail Editor, it would display three lists of linked records:

- A list of all linked digital assets.
- A list of all linked digital assets that are documents.
- A list of all linked digital assets that are images.

An advantage of using literal value attribute pairs to display subsets of children records is that if when you have a parent record open in the Detail Editor, you add or upload a child record through one of the lists of records of a particular type, EnterWorks will assume that the record you are adding must be of the same type and it will enter the type into the new child record's type attribute.

To continue our example, if I upload a digital asset through the list of "Image" child records, EnterWorks will set the type of the new record to "Image". If I enter it through the list of all digital assets (whose link relationship does not contain a literal value attribute pair), EnterWorks will not set the new child record's type.

25.3.6 Configuring a Repository's Edit Screens

A repository's edit screens can be customized in the following ways by a Systems Administrator:

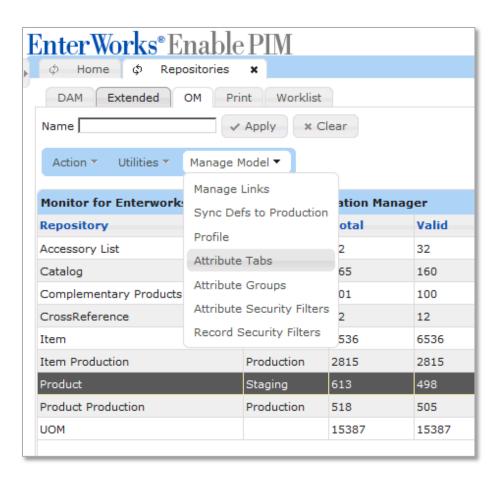
- **Tabs** attributes can be arranged on one or more tabs and the order of the tabs can be specified.
- **Groups** attributes can be grouped in one or more sections and the order of the groups can be specified.

- **Group Assignment** attributes can be moved from one group to another.
- Attribute order order of attributes within each group can be specified.
- Preference Views views can be defined for each repository, controlling which
 attributes are visible. See the "Using Repository Preference Views" section in the
 User Manual for more information. (Note that if you are using the EnterWorks New
 UI, in order to see category attributes, the Show Category Attributes checkbox
 needs to be selected.)
- **Security** security can be utilized for each repository to control which attributes can be seen and accessed (for example, read-only vs. read & edit). See the "**Managing Profiles**" section in the Administration Manual for more information.

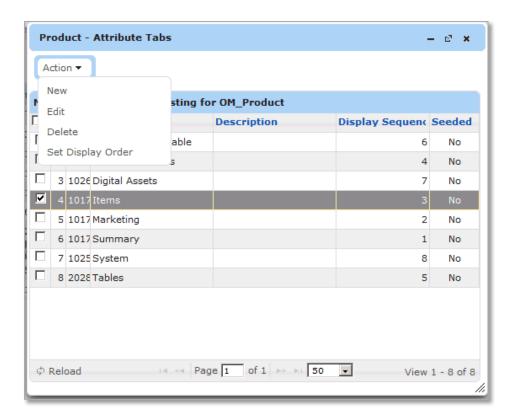
25.3.6.1 Tabs

The following procedure describes how to configure/manage the editor Tabs. Use tabs to organize attributes into logical groupings.

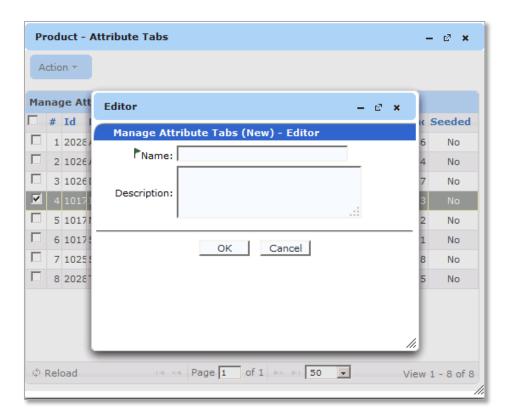
- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. From **Quick Links** dropdown, and select **Repositories**. The list of repositories will appear. Open the appropriate folder and select the desired repository.
- 3. Select the **Attribute Tabs** from the **Manage Model** drop-down menu.



4. The **Attribute Tab** listing will appear, showing the currently defined tabs and display order.



- 5. To create a tab, open the **Action** dropdown and select **New**.
- 6. To edit an existing tab, open the **Action** dropdown and select **Edit**.
- 7. The **Attribute Tab Details** editor will appear.



- 8. Enter or edit the name of the tab and a description (optional) and click **OK**. The **Attribute Tab Details** editor will close. If you have created a new tab, it will be at the end of the list of tabs.
- 9. To reorder the tabs, open the **Action** dropdown and select **Set Display Order**.

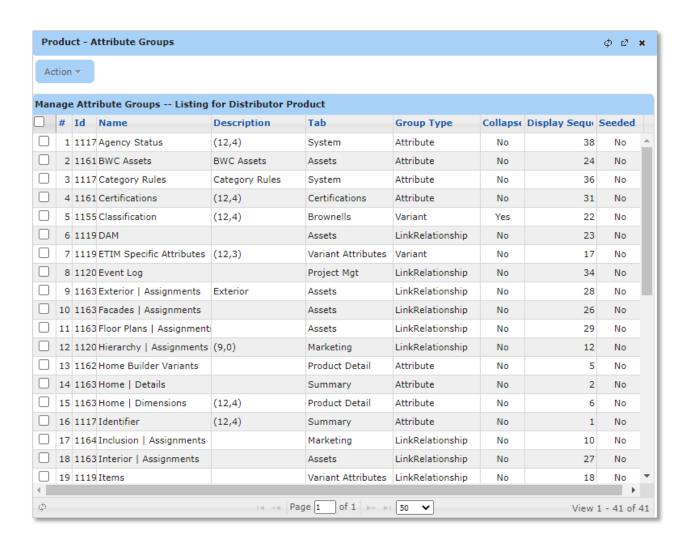


- 10. Select a tab and use the **Up** and **Down** buttons to move it to the desired position. When you are finished, click the **OK** button to close the editor.
- 11. To delete a tab, open the **Action** dropdown and select **Delete**.

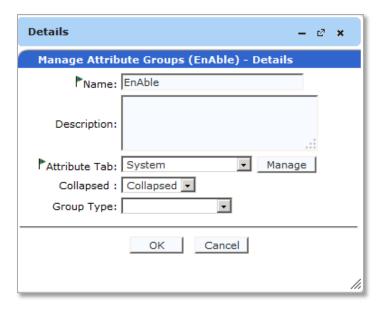
25.3.6.2 Groups

The following procedure describes how to configure/manage the Groups editor. Use Groups to organize attributes into logical groupings shown as sections in a tab.

- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. Open the **Repositories** tab, either from selecting it from the **Quick Links** dropdown or by opening the **Feature** bar, opening the **Model** folder, and selecting **Repositories**.
- 3. Open the appropriate sub-folder and select the desired repository.
- 4. Open the **Manage Model** dropdown and select **Attribute Groups**. The list of all attribute groups for the repository will be displayed, in the order they are displayed.



- 5. To add a new group, open the **Action** dropdown and select **New**.
- 6. To edit an existing group, select the group, then open the **Action** dropdown and select **Edit**.
- 7. The Attribute Group Details window will appear.



- 8. Edit the configuration options as desired:
 - Name: The name of the new group.
 - **Description**: There are two ways you can use the description field:
 - o Enter a description of the group.
 - Enter text that dictates how many columns will be used to display the group's attributes in the EnterWorks New UI. The format for the text is:

```
(<number-of-columns-the-group-uses>,<number-of-
columns-for-each-attribute>)
```

Note that there is no space between the comma and the second value.

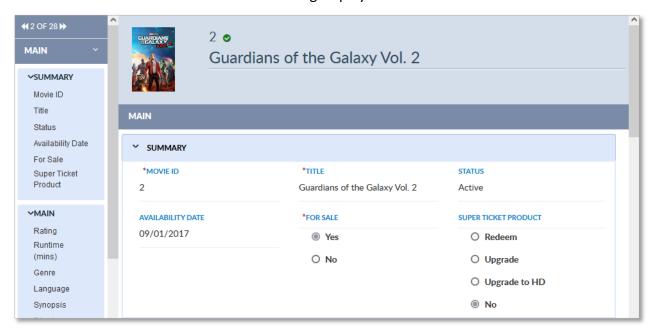
- <number-of-columns-the-group-uses>: The width of the display area is 12 columns. This setting indicates the number of columns the group will span.
- <number-of-columns-for-each-attribute>: The area the group will use is also divided into 12 columns. This setting indicates how many columns in the group's area each attribute will use. If this number is set to 0 (zero), all 12 columns will be used, just as if it was set to 12.

For example:

• (12,3): The group would use all twelve columns of the display area, (the entire width). The attributes would be displayed in four columns.

- (12, 6): The group would use all twelve columns of the display area. The attributes would be displayed in two columns.
- (6, 3): The group would use six of the twelve display columns.
 The attributes would be displayed in 4 columns. Each column would use three of the group's display columns.
- (3,0): The group would use three of the twelve display columns. The attributes would be displayed in one column, (the full width of the group's display area).

The image below shows the Summary group configured in a (12, 4) format, which results in the attributes being displayed in three columns.



If an attribute group does not use the full width of the display area, if the next attribute group can fit in the remaining columns, EnterWorks will place the next attribute group alongside the first attribute group.

- Attribute Tab: Which attribute tab the group will be shown in.
- Collapsed: Whether the group will be initially displayed collapsed or expanded.
- Group Type:
 - <not specified>: If this field is left empty, it is assumed that the group will be used to display attributes.
 - Link Relationship: The group will be used to display link relationships.
 - Variants: The group will be used to display variants. When a user tells
 EnterWorks to generate the variants, EnterWorks will use the attributes

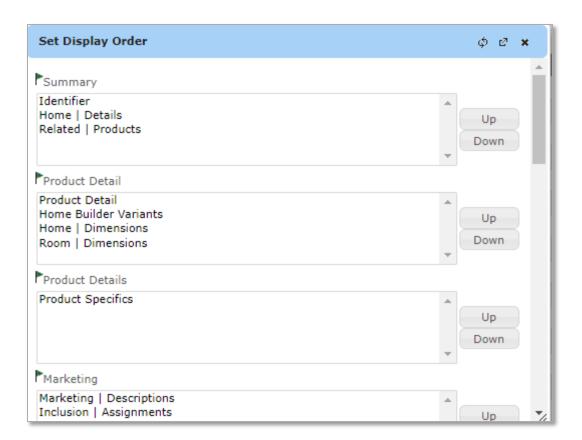
specified in the group to generate the variants. It will generate a record for each combination of existing values of the attributes.

For instance, if the record's variant attributes have the following values:

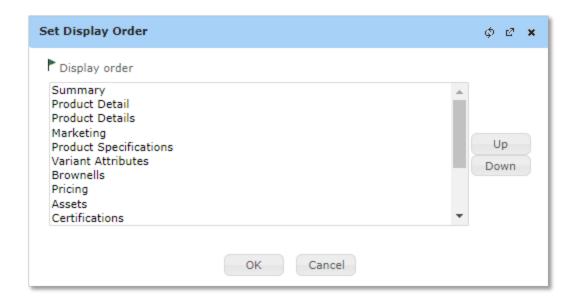
- Color: Red, Green, Blue
- Size: Small, Medium, Large, Extra-large
- Sleeve Length: Long, Short

There would be 24 variant records generated, (3 x 4 x 2):

- Variant record 1: Red, Small, Long
- Variant record 2: Red, Medium, Long
 - Etc.
- Variant record 24: Blue, Extra-large, Short
- 9. When you are finished, click **OK** to save your changes and exit back to the **Attribute Groups** list, or click **Cancel** to exit without saving your changes.
- 10. If you created a new group, it will be added to the end of the **Attribute Groups** list.
- 11. To change the order in which the groups are displayed, open the **Action** dropdown and select **Set Group Display Order**.



- 12. Each tab is listed and the groups are arranged in the tab as they will be displayed. To change the display order of a group, select it and use the **Up** and **Down** buttons to move it to the desired position.
- 13. When you are finished arranging the groups, click **OK** to save your changes and exit back to the **Attribute Groups** list, or click **Cancel** to exit without saving your changes.
- 14. From the **Attribute Groups** list, you can also define the display order of the existing tabs. To do so, open the **Action** dropdown and select **Set Tab Display Order**. The Set Display Order screen will open.



- 15. To change the display order of a tab, select it and use the Up and Down buttons to change its position in the list.
- 16. When you are finished arranging the tabs, click **OK** to save your changes and exit back to the **Attribute Groups** list, or click **Cancel** to exit without saving your changes.
- 17. To delete a group, on the **Attribute Groups** list, select the group, open the Action dropdown and select **Delete**.

25.3.6.3 Group Assignment

Attributes can be moved from one tab/group to another by editing the repository's Profile, (see <u>Profile Attributes</u>).

25.3.6.4 Attribute Order

The display order of attributes can be changed by editing the repository's Profile, (see <u>Profile</u> Attributes).

25.4 Managing Snapshot Tables

External applications have the option to access EnterWorks data via ODBC accessible database views (snapshot tables) for each repository. The contents of these views are dictated by which attributes are identified as being relational (on the Repository Attribute Properties page). Any

time the list of relational attributes changes, the corresponding views will be automatically updated.

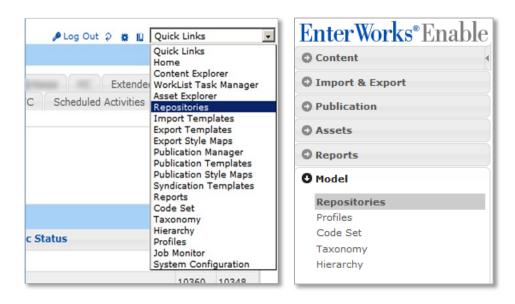
Keep performance in mind: while you *can* make all of your repository attributes Relational (SQL Server maximum is ~1,000) it will affect your system performance. Consider that whenever a repository record is created or edited, the Snapshot table must be updated for all relational attributes. In addition, before insertion into or an update of the Snapshot table, each relational attribute value must be validated for data type and size restrictions.

For each repository attribute that is declared as Relational, there is the option to create a database index on the Snapshot table column. A database table index allows for significant performance improvement when users will use the attribute frequently for searches in the repository. Keep in mind: It is important to keep the number of indexed columns as minimal as possible to keep the database workload to a minimum.

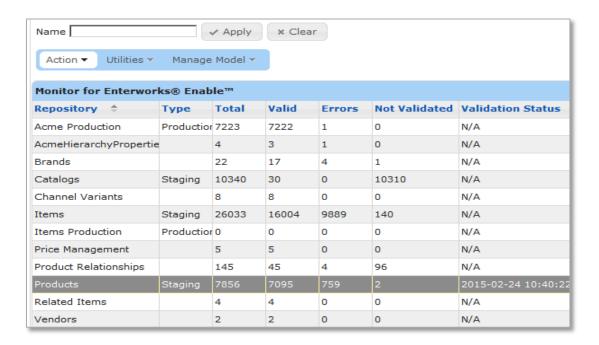
25.4.1 Add or Remove Attributes from a Snapshot Tables

The following steps show how to add (or remove) one or more attributes in a repository's snapshot table.

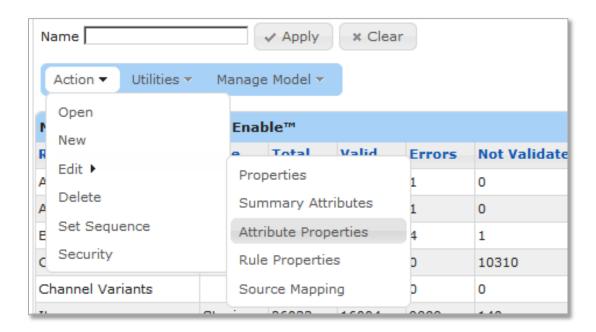
- 1. Log into EnterWorks Classic as a user assigned to the Administrator group.
- 2. Select **Repositories** from the Quick Links dropdown list on the top right of the screen or **Model/Repositories** from the Feature bar.



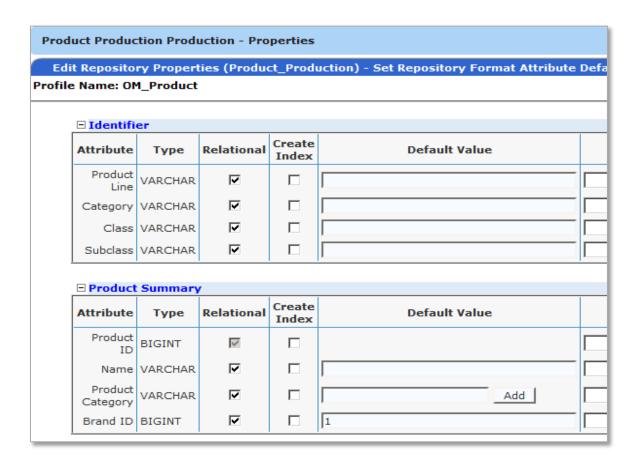
3. From the Repository list, single-click to select the repository record that contains the attribute(s) to add to the snapshot table.



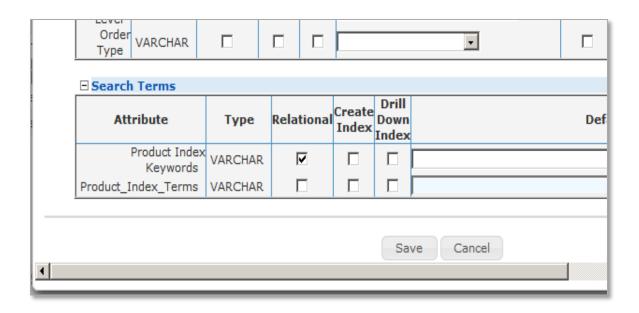
4. Select the Edit/Attribute Properties from the Action drop-down menu.



5. Check or uncheck the Relational checkbox for each attribute to be added to or removed from the Snapshot table.



6. Click the **Save** button at the bottom of the screen.



25.4.2 Rebuilding, Dropping, or Repopulating a Snapshot Table

Note: Depending on the number of records being processed, snapshot table jobs can take a significant amount of time to run and they can impact system performance. It is recommended that you run snapshot table jobs during non-business hours.

You can perform the following actions on a repository's snapshot table:

- <u>Full snapshot population</u>: This is also called "rebuilding" a snapshot table. Rebuilding a repository's snapshot table repopulates the entire table. EnterWorks will clear any existing records from the snapshot table, then for each record in the repository, write the values of the attributes included in the snapshot table to the snapshot table.
- <u>Full snapshot population and drop the snapshot table</u>: This is also called "dropping" the snapshot table. If you drop the snapshot table, the table will be entirely recreated, then EnterWorks will retrieve the values of all the attributes in the snapshot table for all the records in the repository, and store them in the new snapshot table.
- <u>Populate missing records</u>: If there are any records in the repository that have not been added to the snapshot table, EnterWorks will add those records to the snapshot table. This is particularly useful if a snapshot job has been interrupted or aborted and not all records were added to the snapshot table.

To trigger a job to perform one of these actions:

1. Log into EnterWorks Classic as a user assigned to an Administrator group.

- 2. Select **Repositories** from the Quick Links dropdown list on the top right of the screen; or from the Feature bar, select **Model**, then select **Repositories**.
- 3. A window will open and all the repository folders will be displayed. Open the folder containing the desired repository, and select the repository.
- 4. Open the **Utilities** dropdown list, open **Job**, and select **Snapshot**.
- 5. The Snapshot Job window will appear. Select the desired options.
 - Full Snapshot Population: This will rebuild the repository's snapshot table.
 - Drop Snapshot Table: You can only select this if you have already selected Full Snapshot Population. This will cause the snapshot table to be recreated before it is populated.
 - **Populate Missing Records**: This will retrieve the attribute values for any records missing from the snapshot table and store those values in the snapshot table.
- 6. When you have finished making your selections, select **Populate Snapshot**.

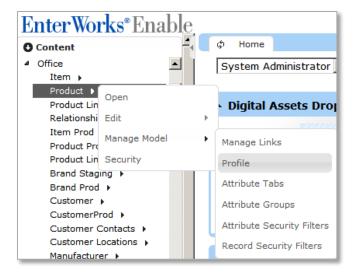
25.5 Auto-Generated Sequence Maintenance

The following sections cover defining and/or maintaining an auto-generated sequence attribute for a repository.

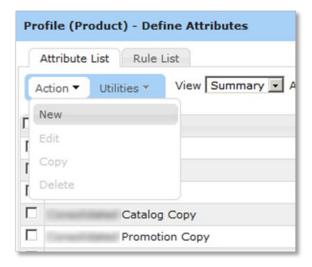
25.5.1 Defining the Sequence Attribute

To define the attribute that will use a generated sequence number definition.

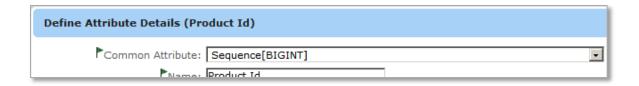
1. From the repository, select the **Manage Model / Profile** option.



- 2. Click the Next button.
- 3. Select **New** from the **Action** drop-down list (or select an existing field and select **Edit**).



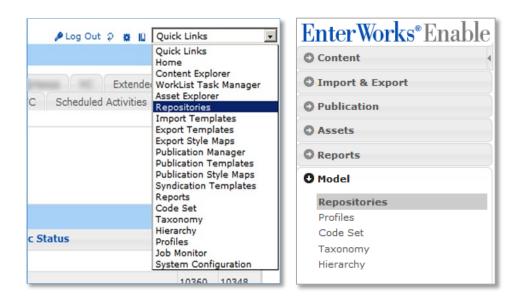
4. Select the Common Attribute of "Sequence" and that field will use the repository's sequence definition to get the next sequential value if the field is blank when the record is saved.



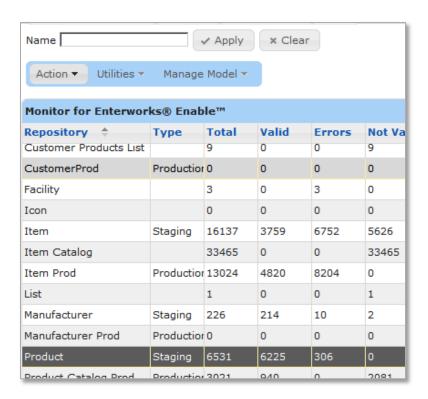
25.6 Adding a Sequence Definition

An auto-generated sequence value for a repository is controlled by the corresponding sequence definition associated to the repository. When a new record is created in the repository and no value for the auto generated id field is provided, the next sequence number is selected from the sequence definition. Even though a sequence definition can be shared by multiple repositories, it is recommended as best practice to create a separate sequence definition for each repository. A repository sequence definition is defined as follows:

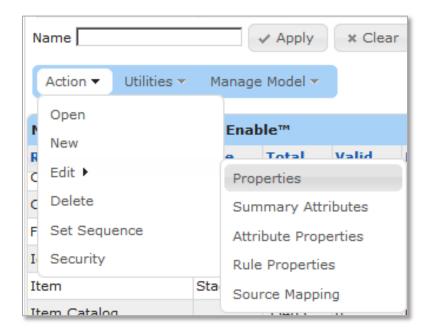
- 1. Log into EnterWorks Classic as a user assigned to the Administrator group.
- 2. Select **Repositories** from the **Quick Links** dropdown list on the top right of the screen or **Model/Repositories** from the **Feature** bar.



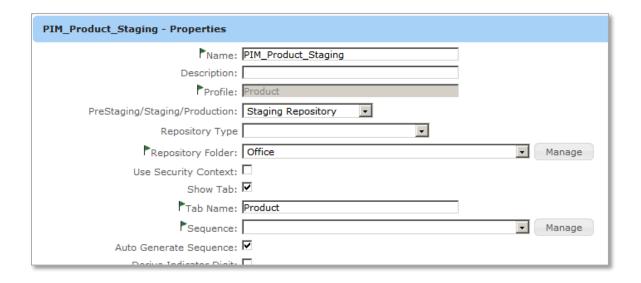
3. From the **Repository** list, single-click to select the repository record that contains the auto-generated sequence attribute.



4. Select the **Edit/Properties** option from the **Action** drop-down menu.

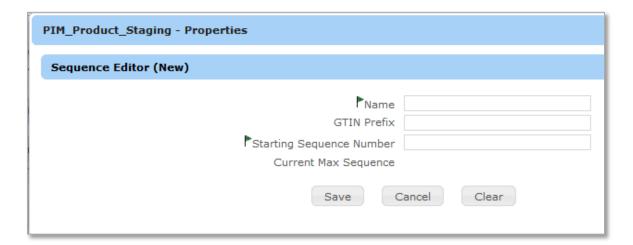


5. Select the Auto Generate Sequence checkbox.



6. Click the **Manage** button next to the **Sequence** drop-down list (above the Auto Generate Sequence checkbox) to create a new sequence definition.

NOTE: Sequence definitions can also be accessed via the **Model Configurations** / **Sequences** option on the Feature Pane.



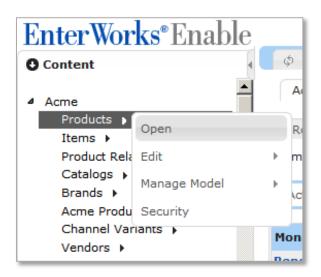
7. Enter a Name and Starting Sequence Number for the sequence number definition.

8. Click the Save button.

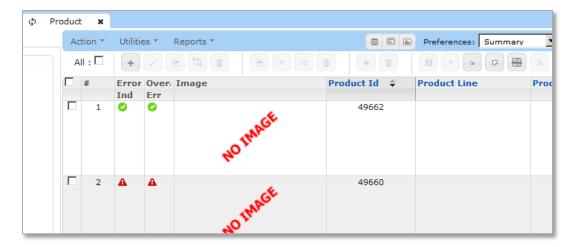
25.6.1 Adjusting the Starting Sequence Number

If the auto-generated sequence attribute is the primary key, a validation error will be shown if the value is not unique. This could indicate a need to reset the starting sequence value for the repository. Perform the following steps to adjust the next sequence for a repository.

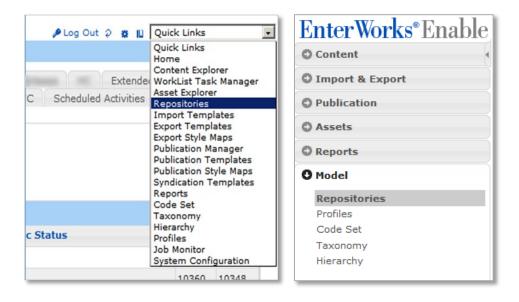
- 1. Log into EnterWorks Classic as a user assigned to the Administrator group.
- 2. Find the highest currently used sequence value:
 - a. Open the repository.



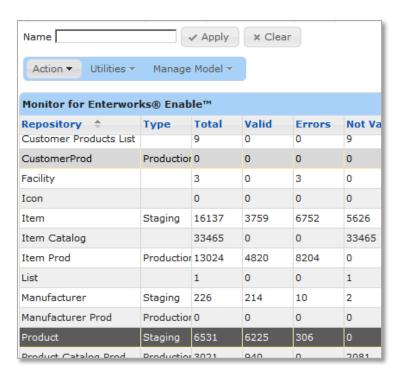
b. If the sequence attribute is not listed in default preference view, select a user preference that contains the auto-generated attribute (or the "No Preference" option that contains all fields).



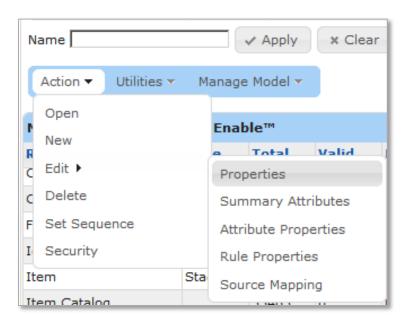
- c. **Single-click** on the table header column for the sequence attribute. First time will sort ascending, second time will sort descending. Note the highest value for this attribute will appear as the first or last item.
- 3. Select **Repositories** from the Quick Links dropdown list on the top right of the screen or **Model/Repositories** from the **Feature** bar.



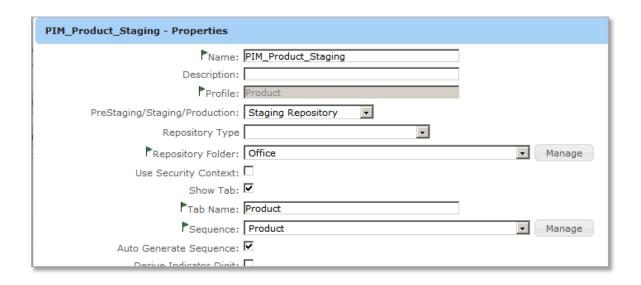
4. From the **Repository** list, single-click to select the repository record that contains the auto-generated sequence attribute.



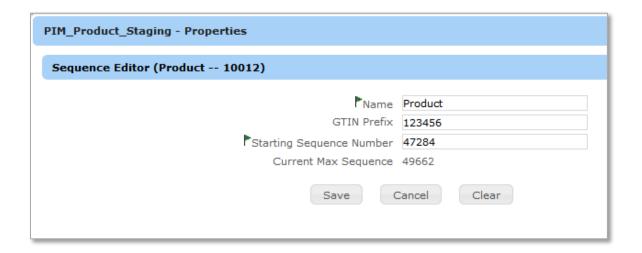
5. Select the **Edit/Properties** option from the **Action** drop-down menu.



6. If the repository has an auto-generated sequence attribute the **Auto Generate**Sequence checkbox will be selected.



7. Click the **Manage** button next to **Sequence** drop-down list to change the next sequence number to use, which is the field above the checkbox.

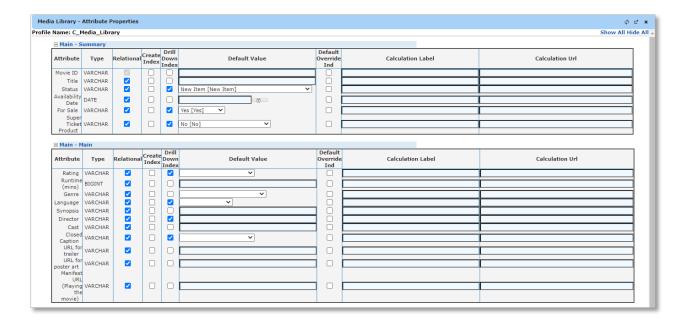


- 8. Change the **Starting Sequence Number** to the next number you want the system to use for the auto-generated field. (Set the **Starting Sequence Number** to number greater than the value retrieved in step 2.)
- 9. Click the **Save** button and a confirmation widow will be shown.

25.7 Managing the Custom Controls to select linked data

Perform the following steps to configure the custom JSP UI control that is to be displayed next to a repository attribute.

- 1. Log into EnterWorks Classic as a user in the Administrator group.
- 2. In the **Feature** bar, select the desired repository, click **Edit**, and select **Attribute Properties**.
- 3. The Attribute Properties screen for the selected repository will appear.



- 4. In the attribute's **Calculation Label** field, enter the text you want to appear when the user hovers over the button to the right of the field.
- 5. Click the attribute's **Calculation URL** field. The **Attribute Calculation URL Setup** editor will appear. Set the configuration values as desired:
 - a. **Calculation Ind.**: The Calculation Indicator controls how the control will behave when the control is clicked.
 - i. <none>: No calculation indicator will be displayed. This is the default for any attribute for which no calculations are to be performed.
 - ii. **Open as Dialog**: This opens the selected JSP page as a dialog prompt.
 - iii. **No User Interface**: This opens the selected JSP page in the background. There will not to be any user input fields on the form.

- iv. **Open as Window**: This opens the selected JSP page in a new window.
- v. **Hidden Window**: Similar to No User Interface. No pop-up is shown.
- vi. **Control with Window**: A pop-up window will appear that has a button for the attribute. The attribute will not be updated.
- vii. **Control with Hidden Window**: A hidden pop-up window will appear that has a button for the attribute. The attribute will not be updated.
- viii. **Calculated Attribute**: The attribute value may be updated by the custom control. This is used for an attribute that is going to be updated by a popup page but there is not a button to open the page.
- b. Calculation URL: This is the name of the JSP page you want to invoke.

Note: The EnterWorks Classic UI calls a JSP page. The New UI looks for an HTML page with the same name as the JSP page specified here and uses it. If this control will only be used in the New UI, the contents of the JSP page are not used, however, if the control needs to operate in both UIs, both the JSP page and the HTML page need to be operational.

6. When you are finished editing the custom controls, click the **OK** button to save your changes and exit. Default mapping messages will indicate updates or snapshot update.

25.8 Migrating EnterWorks

The EnterWorks migration feature allows for the transfer of the following data model components from one EnterWorks server to another:

- Users and user groups.
- Data sources.
- Security filters.
- Transmission options.
- File definitions.
- Home configuration.
- Server Properties.
- Data model objects: such as Repositories, Code Sets, Profiles, etc.

For example, a common installation setup consists of three separate environments: DEV, QA, and PROD. The data model is developed in the DEV environment, tested in the QA environment, and put into production in the PROD environment. The migration feature is designed to facilitate the transfer of initial data model components, plus all future changes and improvements, from DEV to QA, and ultimately to PROD. Each data model component has an

underlying unique identifier assigned to it, which ensures the correct migration of components even if their names have been changed.

For example, if we have an attribute called "User Desc" in the DEV environment that is migrated to QA and PROD as "User Desc". Later, the attribute name is changed to "User Description" but all other qualities of the attribute remain the same. A second migration of the profile containing this attribute would successfully locate the "User Desc" attribute in the QA and PROD environments and update its name to be "User Description".

The migration flow should always be from DEV to QA and then to PROD. Development changes and enhancements should always be performed in DEV, migrated to QA, and then migrated to PROD. Conforming to this protocol allows migration to properly locate the data model components to change.

Examples of reasons you may want to migrate data model components:

- EnterWorks Data Model objects:
 - Code set definition changes.
 - Addition, modification (for example, character length, data type, etc.) or removal of attributes to any profiles.
 - Hierarchy or Taxonomy changes (for example, addition of new nodes).
 - Change to attribute order, group, or tab assignments.
- Repository Migration:
 - Addition of attributes to the Snapshot Table.
 - Change of default values.
 - Change of assignment of Pop-Up controls and pages.
 - Change in Trigger or Promotion properties.

For a detailed description of when you should migrate data model components, which components should be migrated together, how migration of the data model fits in the EnterWorks deployment process, and how to migrate EPX, see *Best Practices for EnterWorks Deployments and Migrations*.

25.8.1 Migration Process Overview

The below is an overview of the process for migrating EnterWorks data model components:

- 1. Migrate out the desired data model components from the source environment.
- 2. Migrate in the desired data model components to the target environment.
- 3. On the target environment:

- a. Perform any necessary data model component integration as specified in *Best Practices for EnterWorks Deployments and Migrations*.
- b. Update the Snapshot Table.
- c. Restart EnterWorks services.

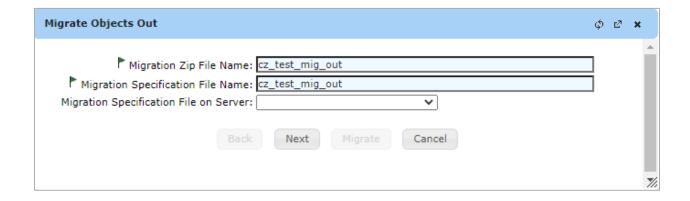
The following sections provide detailed directions for migrating data model components.

25.8.2 Migrate Out Data Model Components

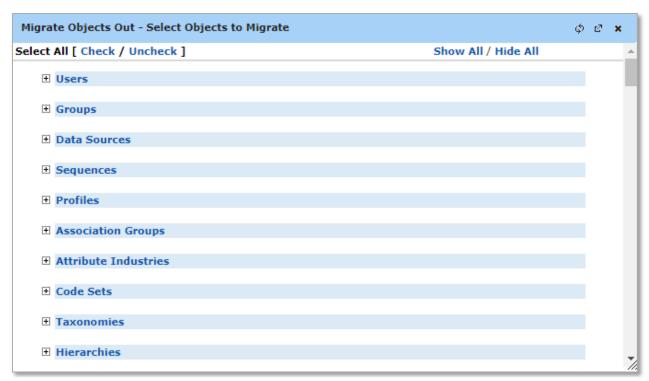
Perform the following steps to migrate the EnterWorks data model components from one EnterWorks server to another.

NOTE: Before performing these steps, be sure there is a backup of the target EnterWorks database in case migration failures necessitate restoring the database from the backup.

- 1. Log in to the source EnterWorks server (for example, QA) as a system administrator.
- 2. Click on the **Migration** option on the feature bar and select **Migrate Out** function. The Migrate Objects Out page appears.



- 3. Enter the name for the **Migration file** in the Zip and **Specification file** name fields. The actual file name will include a time-based number to ensure uniqueness.
- 4. Optionally select an existing **Migration Specification** file. This will pre-select the objects to be migrated.
- 5. Click **Next**. The Select Objects to Migrate page appears.



Migrate Objects Out page with all dropdowns collapsed.

- 6. To collapse all the dropdown menus, click **Hide All**. To expand all dropdown menus, click **Show All**. To expand or collapse a dropdown menu, click the + or icons to the left of the dropdown name.
- 7. Scroll down the list of data model components and select the items you would like to migrate by checking the checkbox to the right of the item's name. Click **Check** or **Uncheck** to select or unselect all the items in a dropdown.
- 8. When you have finished selecting the components to migrate, scroll to the bottom of the list and click **Migrate**.
- 9. Check the **Job Monitor** to see the progress of the migration. You may need to refresh the **Job Monitor** tab.
- 10. Repeatedly click **Refresh** to monitor the progress of the migration, until the Status shows **Completed**.
- 11. Two migration files will have been created in

```
<install_drive>:\Enterworks\shared\migration
```

They are:

• <your-file-name>.zip

- <your-file-name>.msf: This is the migration specification file.
- 12. To download the log file for the migrate out procedure, in the **Job Monitor**, click the job's Download Log File icon .

25.8.3 Migrate In Data Model Components

To migrate in data model components:

1. Copy your migration .zip and .msf files from the folder:

```
<install drive>:\Enterworks\shared\migration
```

folder on the source system (for example, QA) to the same location on the target system (for example, PROD).

- 2. Log into the target EnterWorks server (for instance, PROD) as a user who belongs to the System group.
- 3. Click on the **Migration** option on the feature bar and select **Migrate In** function. The **Migrate Objects In** page appears.
- 4. Select the .zip and .msf files and click **Next**. The **Select Objects to Migrate** page will appear.
- 5. The **Select Objects to Migrate In** page contains a list of dropdowns, one for each type of component that can be migrated. All dropdowns will be expanded and all objects that can be migrated in will be pre-selected.
- 6. To select all available components, click the **Overwrite All Check link**.
- 7. Scroll to the bottom of the list and click **Migrate**.
- 8. Check the **Job Monitor** to see the progress of the migration. You may need to refresh the **Job Monitor** tab.
- 9. If you have imported Groups, select the **Users and Groups** Feature and select the **Groups** function. The list of groups will appear.
- 10. For each group, perform the following:
 - a. Click the checkbox next to the group record, open the **Action** dropdown, and select **Security**. The security page for the group will appear.
 - b. Click the **Hide All** link on the top right and open the Code Sets table.
 - c. Click the **Check** link under the **Read** column to ensure all code sets are readable by the group.
 - d. Click **Save**. The changes to security are saved.

11. To download the log file for the migrate out procedure, in the Job Monitor, click the job's Download Log File icon . Open the migration log file and check for errors. If the errors are substantial and cannot be quickly remedied, abort the migration attempt by restoring the target EnterWorks database from the backup.

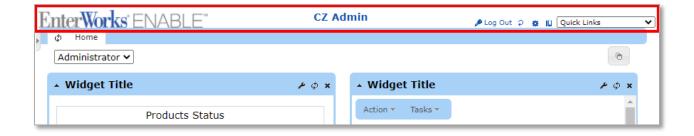
26 System Administration

26.1 UI Customization

26.1.1 Customize the EnterWorks Classic UI Title Bar

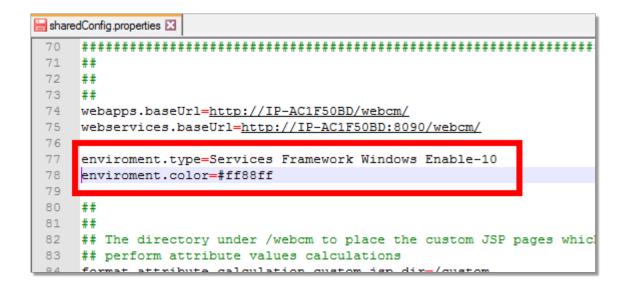
Customizing the EnterWorks Classic UI's title bar is a good way to provide a visual aid to administrators who are working on multiple EnterWorks environments. If you use different colors for the title bars, it is easy for administrators to see at a glance which environment they are working on.

Upon installation, the Enterworks title bar looks like the below image.

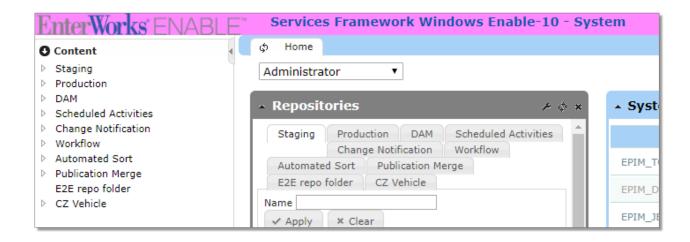


To customize the EnterWorks title bar:

- 1. Log into Enable Classic UI.
- 2. In the sharedConfig.properties file, edit the following fields.
 - environment.color: This hex number is an RGB value for the title bar's color. This will affect only the Classic UI.
 - environment.type: This value will appear as the text in the title bar in both the Classic and EnterWorks 2020 UIs.



- 3. Restart all services.
- 4. After you restart services, you may need to log in again to see the title change take effect.



26.2 System Architecture

26.2.1 EnterWorks Environments

EnterWorks recommends at least two separate environments for the EnterWorks implementation: DEV and PROD. The DEV server should be used to test system upgrades, import templates, and system changes before applying to production.

If possible, a QA test environment should also be set up and configured to mimic PROD. This is especially useful for system upgrade testing.

26.2.2 Controller and Workers Services

Some user tasks such as Importing, Exporting, Validation, and Mass updates are submitted as background jobs. These background jobs are distributed to an available free Worker service to execute. The Controller service monitors for new jobs. When it receives one, it determines if it can be run simultaneously with other jobs or if it must be run sequentially, then sends the job to the next free Worker service. If the job is run on a separate server, log files associated with the job will be located with that server. In general, the greater the number of Workers configured, the greater the number of jobs that can run concurrently. However, some jobs will be serialized due to resource constraints. For example, import jobs to the same target repository will be processed serially, regardless of the number of configured workers.

NOTE: In distributed environment, for the EnterWorks system to access files, the services must be run using a network account that has permission to access shared resources for all locations where the EnterWorks application is installed.

26.2.3 Configuration Files

The following configuration files have settings that are unique to an organization or an organization's environment (DEV, QA, and Production). They include configuration settings, custom property files, and settings within standard property files.

The folder/directory tree structure is the same for all installations; however, the location of the folder/directory tree varies depending on system configuration.

26.2.3.1 EPIM Configuration Files

26.2.3.1.1 Shared Properties

EPIM has shared configuration settings, such as: the location of EPIM folders; the server host name; port usage; database connection information; and controls for triggers, promotion configuration, the UI, and publication options.

The <code>sharedConfig.properties</code> file used to be the only location of these settings, but now many of them are stored in the Shared Configuration List in the EPIM database and can be accessed through the EnterWorks Classic UI. In order to maintain backward compatibility, if a property is not available in the database, EnterWorks will fall back to reading the property from the <code>sharedConfig.properties</code> file.

26.2.3.1.1.1 Installing and Patching EnterWorks

Fresh installs of EnterWorks populate the Shared Configuration List by running the seed script:

If you are patching EnterWorks, edit the seed script to supply any custom configurations, then run the seed script. Properties that are already defined in the Shared Configuration List will NOT be updated by the script. Their values can only be updated through the UI. It is possible that a patch may have additional properties defined in the script. Only these new properties will be added.

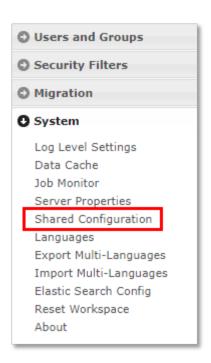
CAUTION: If you are patching EnterWorks and the SQL script is not updated to contain the values in the current <code>sharedConfig.properties</code> file, it is possible that when you run it you will be changing the configuration of your system, which may lead to unexpected results. Do not run the seed script until you compare it with the current <code>shared.Config.properties</code> file.

26.2.3.1.1.2 Shared Configuration List

Anytime a change is made to this file the EnterWorks services must be restarted.

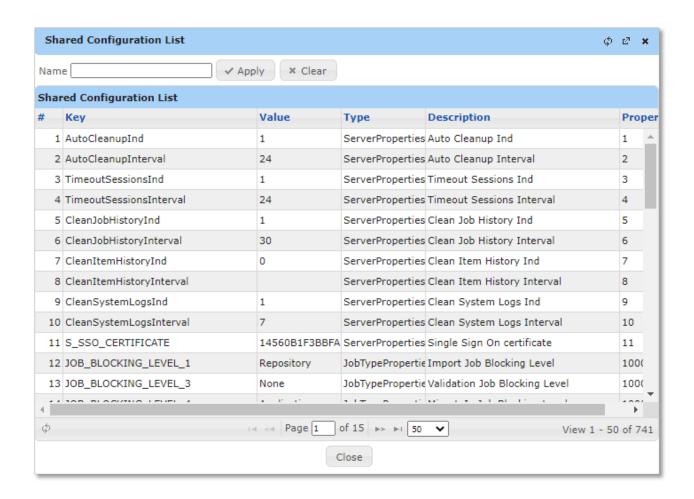
To modify the Shared Configuration List:

- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. In the Feature bar, open the **System** tab and select **Shared Configuration**.

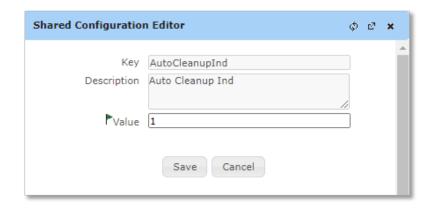


3. The **Shared Configuration List** will appear.

Tip: If a field value is too long to be seen comfortably, double-click it and the property will be opened in the editor where the value can be seen in its entirety.



- 4. Descriptions of properties are provided in the **Description** column. For more information on a particular setting, please contact your EnterWorks account representative.
- 5. Double-click the setting you wish to change. A **Shared Configuration Editor** will appear.



- 6. Set the Value as desired, then click the **Save** button.
- 7. The setting will be changed to reflect your changes. Clear the data cache and restart EnterWorks services.

26.2.3.1.1.3 sharedConfig.properties File

Anytime a change is made to this file the EnterWorks services must be restarted.

There are multiple <code>sharedConfig.properties</code> files: one for Tomcat; one for Jboss Controller; and one for each Jboss Worker. With the exception of a small number of properties, the multiple <code>sharedConfig.properties</code> files must be the same. If you update a property in one of the <code>sharedConfig.properties</code> files, make the same change to each of the other copies of the file, unless the property is specific to the service to which it applies.

The following properties may be different in each sharedConfig.properties file:

Property	Description
jboss.context.url	Defines the server on which the process resides and the port number on which it listens: • 8034 – Tomcat and Controller
	8x34 – Worker (where x is the worker number)
epim.connection.url	Potentially different on each server if the appName property is set so that each connection to the EPIM database can be traced to the specific process.
debug.file.prefix	Prefix for the debug log file for the process. • enable_webController • enable_appController • enable_appWorker <n></n>

Property	Description
job.controller.type	Type of process:
	 0 – independent (Tomcat and JBoss Controller when there are no workers)
	• 1 – Controller (Jboss Controller)
	• 2 – Worker (Jboss Worker)

26.2.3.1.1.4 Configure Validation Levels

Validation levels are defined in the Shared Properties, (see **Shared Properties**).

- validation.error.stop: This value will only affect validation jobs and sync out jobs.
 - 1: Stop validating all rules for an item after encountering first error.
 - o 0: Continue validating all rules for an item even after encountering error.
- validation.level.num.active: Holds the number of active validation levels.
- **validation.job.level.<***x>*: These hold the names (labels) of the validation levels. Level e is the lowest quality bar to pass.
- item.default.validationLevelInd: Default validation level indicator for new repository items. Possible values are: 1,2,3,4,5; where 1 is level a.
- validation.write.to.log

26.2.3.1.1.5 Configure Google Translate API

In order to use the Google Translate API, the customer must have created an account with Google and obtained the following:

- URL for the Google IP site.
- Google Translate API key

Configuration of the Google Translate API is performed by modifying Shared Properties values, (see Shared Properties).

If you are configuring Google Translate API by modifying the sharedConfig.properties file and the following settings do not appear in the file, stop the services using the STOP ENTERWORKS.cmd script, add the property settings to the bottom of the

sharedConfig.properties file, and start the services again using the START ENTERWORKS.cmd script.

- **google.translate.enabled**: Specified whether the translation is enabled.
 - 1: Google Translate is enabled.
 - 0: Google Translate is disabled.
- google.translate.refer.site: URL for the Google IP site.
- google.translate.key: The Google Translate API key.

26.2.3.1.1.6 Regional Language Login Access

Configuration of Regional Language functionality is performed by modifying Shared Properties values, (see <u>Shared Properties</u>).

If you are configuring Regional Language functionality by modifying the sharedConfig.properties file and the following setting does not appear in the file, stop the services using the STOP ENTERWORKS.cmd script, add the property to the bottom of the sharedConfig.properties file, and start the services again using the START ENTERWORKS.cmd script.

- allowRegionalLogin:
 - o true: the Regional Login link is to be available on the Login Page.

26.2.3.1.2 EPIM .bat Files

The EPIM .bat files are:

- service.bat
- standalone.bat
- standalone.conf.bat

These files contain Tomcat, JBoss Controller, and JBoss Worker settings, including:

- Class paths to custom library files and log level and log file settings.
- Memory setting information for the JBoss JVM.
- EPIM product Master JBoss service settings.

Generally, changes should only be made to these property files based on direction from a patch deployment procedure. Any time a change is made to these files, the EnterWorks services must be restarted.

service.bat	
Component	File Path
Tomcat	<pre><install_drive>:\Enterworks\EnableServer\t omcat\bin\</install_drive></pre>
JBoss Controller	<pre><install_drive>:\Enterworks\EnableServer\j bossMaster\bin\service\</install_drive></pre>
JBoss Worker <n></n>	<pre><install_drive>:\Enterworks\EnableServer\j bossSlave<n>\bin\service\</n></install_drive></pre>

standalone.conf.bat	
Component	File Path
JBoss Controller	<pre><install_drive>:\Enterworks\EnableServer \jbossMaster\bin\standalone\</install_drive></pre>
JBoss Worker <n></n>	<pre><install_drive>:\Enterworks\EnableServer \jbossSlave<n>\bin\standalone\</n></install_drive></pre>

standalone.bat	
Component	File Path
JBoss Controller	<pre><install_drive>:\Enterworks\EnableServer \jbossMaster\bin\standalone\</install_drive></pre>
JBoss Worker <n></n>	<pre><install_drive>:\Enterworks\EnableServer \jbossSlave<n>\bin\standalone\</n></install_drive></pre>

26.2.3.1.3 workFlowHandlerConfig.properties

workFlowHandlerConfig.properties – This properties file has been deprecated. For more information, contact your EnterWorks account representative.

26.2.3.2 EPX Property Files

26.2.3.2.1 config.properties

The config.properties file contains configuration settings for the Web Server's EPX component, including:

- The location of EPX folders.
- The server host name.
- Port usage.

Generally, changes should only be made to this property file based on direction from a patch. Any time a change is made to this file the EPX services must be restarted.

This file is located in:

```
<install drive>:\Enterworks\EPX\bin\
```

26.2.3.2.2 esjdbc.properties

The esjdbc.properties file contains configuration settings for EPX, including information for connecting to the SQL Server database.

The password to the database is encrypted. Use the script in:

```
<install_drive>:\Enterworks\EPX\DesignConsole\getEncryptedS
tring.bat
```

to get the encrypted password.

Generally, changes should only be made to this property file based on direction from a patch. Any time a change is made to this file the EPX services must be restarted.

This file is located in:

```
<install drive>:\Enterworks\EPX\bin\
```

26.2.3.2.3 Enterworks.properties

The Enterworks.properties file contains custom settings, including:

- Scheduled Exports, Imports, Promotions, Package Promotions Workflow.
- Email notification.

- Database connectivity for EPIM and EPX databases.
- Server connectivity for EnableServer (Tomcat/Jboss) and EPX (Tomcat/EPXJboss).
- Amazon S3 connectivity.
- Validation Levels.
- Miscellaneous defaults.

Any time a change is made to this file the EPX services must be restarted.

This file is located in the following directories:

- <install_drive>:\Enterworks\EnableServer\jbossController\ standalone\configuration\conf

- <install drive>:\Enterworks\EPX\bin\conf\

26.2.3.2.4 service.bat

service.bat – Contains the EPX product Tomcat and JBoss service settings, including:

- Class paths to custom library files.
- Memory setting information for the Tomcat JVM.

Generally, changes should only be made to this property file based on direction from a patch. Any time a change is made to this file the EPX services must be restarted.

This file is located in:

```
<install drive>:\Enterworks\EPX\tomcat\bin\
```

26.2.3.3 EnterWorks DAM & PUB

The EnterWorks DAM settings are controlled through the EnterWorks DAMConfig repository. Variant settings are set in the DAMVariant repository and the file:

```
<install drive>:\Enterworks\EnableWeb\web.config
```

Any changes to image location and file paths must be updated in these repositories and the system must be restarted for changes to take effect.

The Enable DAM will load images from the defined DAMRoot folder path. The DAM will automatically create all defined variants in separate folders under DAMRoot. The

DAMFilesPerNumberedFolder property in the DAMConfig repository dictates how many images are to be placed into each physical file folder. When the number of images reaches the configured maximum, the system will automatically create a separate subfolder for the next set of images.

For uploading large image files or multiple image files, a bulk upload utility service will run in background. This service monitors the DAMDrop folder for new images. The drop folder must be shared and have the correct security setting so that users can drop new images into the folder. The background bulk upload service will periodically monitor the DAMDrop folder and upload the new images.

26.3 System Management

Additional system management tasks are documented in the EnterWorks Online Help at https://help.winshuttle.com/.

26.3.1 Stopping and Starting EnterWorks Services

The scripts for stopping and starting EnterWorks services on Windows servers are:

- Stop Enterworks.cmd
- Start Enterworks.cmd

They are installed on each server containing non-3rd party components, (EnterWorks Server, EnterWorks New UI, Utilities, and EPX). These scripts will call the appropriate component Stop and Start scripts to stop and start the services running on that server. This may include one or more of the following commands:

- EPIM Stop.cmd and EPIM Start.cmd: Stop and start the EnterWorks Server services.
- EPX Stop.cmd and EPX Start.cmd: Stop and start the EPX services.
- Microservices Stop.cmd and Microservices Start.cmd: Stop and start the EnterWorks microservices.

The component scripts will only stop and start the corresponding services that have been configured on the server. Some components may be installed on more than one server. For example, the EPIM Stop.cmd and EPIM Start.cmd scripts on one server might stop and start the EnterWorks Tomcat and JBoss Controller processes, while the same scripts on another server might stop and start the JBoss Worker processes.

The Start Enterworks.cmd and Stop Enterworks.cmd command scripts on each server are located in:

<install directory>\Enterworks\bin

When you run any start or stop scripts, run them as Administrator.

It is important to stop and start services in the correct order, depending on your system's configuration. See the configuration-specific documentation provided to you by your EnterWorks account representative for more information regarding the stop and start orders for services.

In general, the proper order for stopping the EnterWorks components is:

- 1. EPX
- 2. EnterWorks microservices
- 3. EPIM

The proper order for starting the components is:

- 1. EPIM
- 2. EnterWorks microservices
- 3. EPX

Typically, when EnterWorks is running on Windows, 3rd party applications, (such as Elasticsearch, RabbitMQ, and MongoDB), are not restarted. If they are restarted, all EnterWorks components on all servers must also be restarted.

Every time the EnterWorks services are started using the $<\!XXX\!>$ Start.cmd scripts, system log files are moved to an archive folder whose name is comprised of the current year, date, and time. The archive folders are stored in:

```
<install drive>:\Enterworks\logs\archive
```

For instance:

```
<install\_drive>: \Enterworks\logs\archive\2019-03-14@15-23-43-84
```

might hold the following folders:

- DAMReportUtility
- EnableServer
- EPX
- MonitorDAMDrop
- RegenerateDAMVariant

which would contain logfiles for those components of EnterWorks.

Periodically, older archive directories should be removed to prevent the archives from becoming large enough to impact EnterWorks system's efficiency.

26.3.1.1 To Stop all EnterWorks Services

To stop all EnterWorks services on all servers in an environment, perform the following steps on each server:

1. Open **File Explorer** and navigate to:

```
<install drive>:\Enterworks\bin
```

- 2. Right-click **Stop Enterworks** and select **Run as Administrator**.
- 3. A command prompt will appear and services will start shutting down.
- 4. Once the script is finished, verify that no EnterWorks related services are still running.
 - a. Open Task Manager and select the Processes tab.
 - b. Right-click either **CPU** or **Memory** on the header to bring up the list of available columns.
 - c. Select Command line.
 - d. Expand the width of the **Command line** column until you can see the path and name of any running processes.
 - e. Verify that the following processes do not appear in the list:
 - o Commons Daemon Service Runner: Any that have EnableServer in the file path.
 - o enable2020-<serviceName>-service
 - o Java (TM) Platform SE Binary: Any that have EnableServer or EPX in the file path.
 - f. If any of the listed processes appears, right-click the process and select **End Task**.

EnterWorks services are now shut down.

26.3.1.2 To Start all EnterWorks Services

To start all EnterWorks services on all servers in an environment, repeat the following steps on each server:

1. Open **File Explorer** and navigate to:

```
<install drive>:\Enterworks\bin
```

- 2. Right-click **Start Enterworks** and select **Run as Administrator**.
- 3. A command prompt will appear indicating that the services are starting. This prompt will close once all services have been started.

4. Verify that the services have been started by opening the **Services** control panel and confirming that all Enable* and enable* services (that have not been disabled) have a status of **Running**.

The EnterWorks services have been started.

26.3.2 Changing the EPIM Database Password

For the most current instructions for changing the EPIM or EPX Database Passwords, see the EnterWorks online help at https://help.winshuttle.com.

26.4 Users, Groups, and Security Management

Users are entered into EnterWorks and then assigned to Groups. The groups are defined based on types of system responsibilities, such as Administrator, Product Manager, Publications Manager, or Syndication Manager. These groups are designed around each organization's specific business processes. To efficiently manage the EnterWorks users' security, EnterWorks recommends that system security is managed at the group level.

Some user and user group management must be performed in both the EnterWorks Classic UI and the EnterWorks New UI. For more information regarding users and user groups, see the EnterWorks online help at https://help.winshuttle.com.

26.4.1 Groups

EnterWorks Groups control both the functional areas of the application a user is allowed to view or perform, and what level of access a user has access to objects within EnterWorks, (for example code sets, users, groups, repositories etc.). Each type of object has permissions that can be set at the group level. These permissions give users in the group the ability to create an object and to read, edit or delete an existing object.

Repositories have additional permissions that allow a user to add, edit, sync-in (import), and delete records inside of repository. Be careful to assign correct permissions to a repository and its underlying objects. Anyone given access to the repository must have read privilege on the underlying profile and the code sets used by the repository. If you are allowing a user to import data into a repository, they must have permission to create File Definition and Data Source objects.

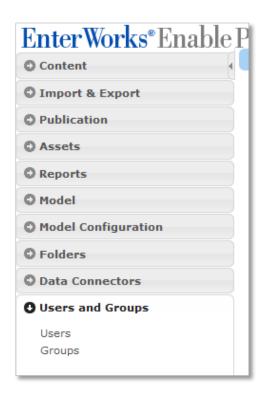
Repositories security assignments must include an attribute security filter and optionally a record security filter. The filter attribute controls which attributes in a repository the user is allowed to read and edit. If no specific filter is defined for profile, the default filter must be specified. If no filter is defined, the user will not see any data. The Record security filter applies

a search condition on records returned from a repository to limited access to only those records that match the Record filter criteria.

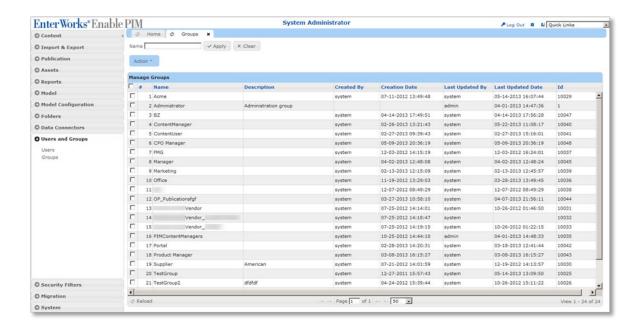
26.4.1.1 Adding or Removing a User to or from an EPIM Group

To add or remove a user from a Group:

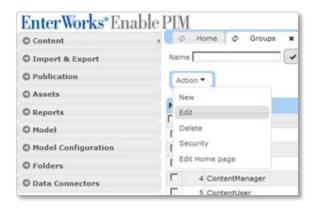
- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the Users and Groups Feature.



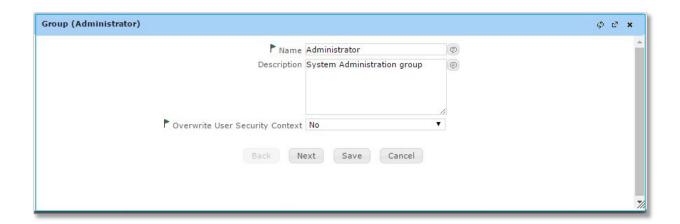
3. Click the **Groups**. The list of defined groups appears.



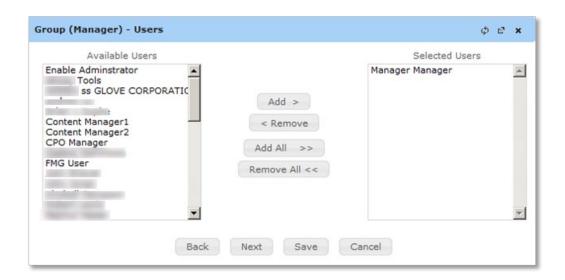
- 4. To create a new Group, select the **New** option under the **Action** drop-down menu.
- 5. Click on the group record and select the **Edit** option from the **Action** drop-down menu.



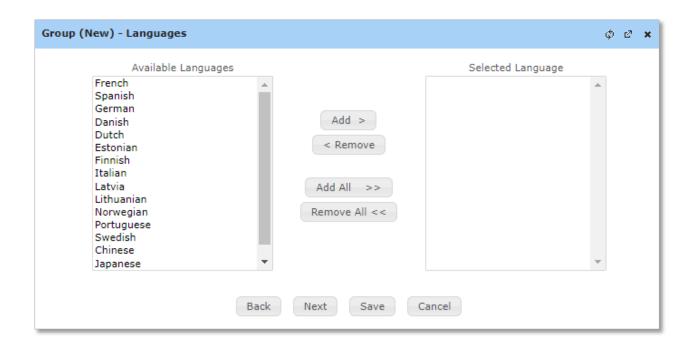
6. Alternatively, double-click on the group's record and it will open in the editor.



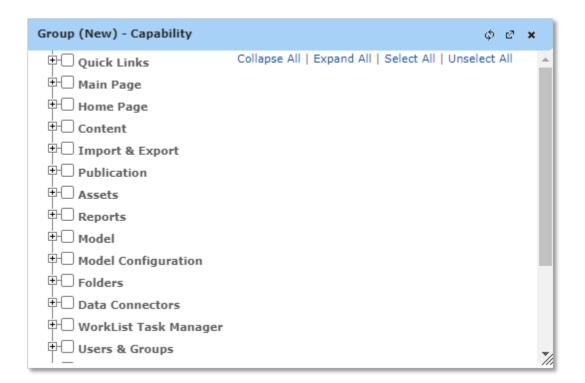
- 7. The group's name and description fields are translatable. In order to add translations simply click the multi-language icon corresponding to name or description and add the translations through the multi-language editor.
- 8. Click Next. The Users page appears.



- 9. Select the users to be added from the Available Users list.
- 10. Click the Add > button. The users will be added to the Selected Users list.
- 11. Select the users to be removed from the **Selected Users** list and click the **< Remove** button. The users will be removed from the **Selected Users** list.
- 12. Click **Next** to continue to the **Languages** page.



- 13. Select the Languages to be added from the Available Languages list.
- 14. Click the Add > button. The languages will be added to the Selected Languages list.
- 15. Select the languages to be removed from the **Selected Languages** list and click the **< Remove** button. The languages will be removed from the **Selected Languages** list.
- 16. Click **Next** to continue to the **Group Capability** page.



- 17. These capabilities represent aspects of the user interface that members of the Group will have access to. By expanding each Node in the list, individual aspects of each section can be granted to the Group. A checkmark in the checkbox indicates that users in the Group will have access to the capability.
- 18. Click the **Next** button to advance to the **Set Display Attribute Tabs** page.

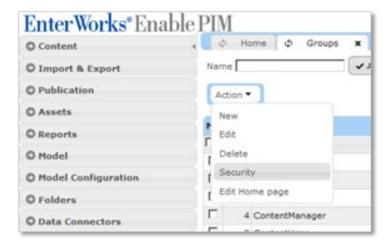


- 19. Here all of the Attribute Tabs (collections of attributes within a repository) within each defined Profile are displayed. Check the checkbox next to each Attribute Tab that members of this Group should be able to view with Detail Item Editor. This feature allows certain collections of Attributes to be hidden from group members.
- 20. Click **Save** if no more changes are desired. The changes to the Group are saved and an Operation Successful dialog prompt appears.

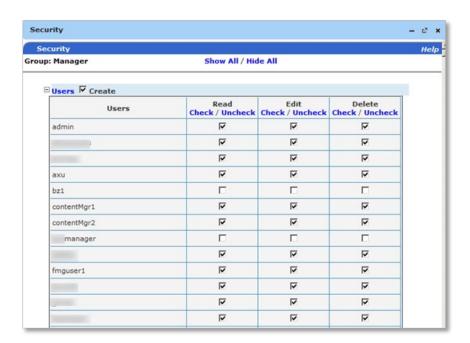
26.4.1.2 Assigning Object Security to an EnterWorks Group

To assign object security to a Group:

- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the Users and Groups feature bar.
- 3. Open the **Users and Groups** Feature and click on **Groups**. The **Groups** list appears.
- 4. Select the Group to which privilege(s) will be added or removed.
- 5. Then on the **Action** dropdown, select Security.



6. The **Security** page will be shown for the selected group.



7. Click the **Hide All** link on the upper right of the page to view all categories of security.



- 8. Each category of permissions pertains to a specific EnterWorks security-enabled object type.
 - a. Click the **Create** check box in each subgroup to allow a user in the group to create that object.
 - b. Click the **Read**, **Edit** or **Delete** checkbox for each object to set permissions for that object.
- 9. Additional permissions are available on repositories. The Attribute filter and optionally the item filter need to be defined.
 - a. **Sync-in** allows importing of data into a repository.
 - b. Add Records allows adding new records to repository.
 - c. **Delete Records** allows deleting records from repository.
 - d. **Edit MetaData** allows changing repository properties.
 - e. **Edit Record Attribute Filter**: You must select a filter. The default filter allows access to all attributes.
 - f. **Record Filter**: You must select a defined available item filter. If none is specified, this will give access to all rows of data in the repository.

The security categories available and permissions for each are described in this table:

Security Category	Permissions Available	Description
Users	Read/Edit/Delete	User has Read/Edit/Delete permission by default to themselves; must be granted access to others.
Groups	Read/Edit/Delete	User has Read permission by default to Groups they belong to; must be granted access to others.
Style Maps	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Style Maps (used in publication) created themselves; must be granted access to others.
Templates	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Templates (used in publication) created themselves; must be granted access to others.
Data Sources	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Data Sources (used for import) created themselves; must be granted access to others.
Sequences	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Sequences (used in repositories with auto-generated sequence attributes) created themselves; must be granted access to others.
Profiles	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Profiles (attributes defined for a repository) created themselves; must be granted access to others.

Security Category	Permissions Available	Description
Code Sets	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Code Sets created themselves; must be granted access to others.
Taxonomies	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Taxonomies created themselves; must be granted access to others.
Hierarchies	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Hierarchies created themselves; must be granted access to others.
Transmission Options	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Transmission Options (used in definition of a repository) created themselves; must be granted access to others.
Attribute Security Filters	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Attribute Security Filters (used to grant access to repository attributes) created themselves; must be granted access to others.
Record Security Filters	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Record Security Filters (used to grant select privilege to certain rows in repositories) created themselves; must be granted access to others.
File Definitions	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any File Definitions created themselves; must be granted access to others.

Security Category	Permissions Available	Description
Repository Folders	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Repository Folders created themselves; must be granted access to others.
Media Groups	Read/Edit/Delete	User has Read/Edit/Delete permission by default to any Media Groups created themselves; must be granted access to others.
Repositories	Read/Edit/Delete/View/ SyncIn/Add Records/ Delete Records/ Edit Meta Data/ Edit Record Attribute Filter/ Record Filter	Read: permission to read repository definition
		Edit: permission to Edit items within repository; combine with Edit Record Attribute Filter to determine which attributes have Read/Edit
		Delete: permission to delete repository and contents
		View: permission to view the repository in context of EnterWorks Content feature listing
		SyncIn: permission to use Import to add data to repository
		Add Records: permission to add new rows to repository
		Delete Records: permission to delete rows from repository
		Edit Metadata: permission to change repository properties

^{10.} Click **Save**. The changes to the Group Security are saved and an Operation Successful dialog prompt appears.

26.4.2 Users

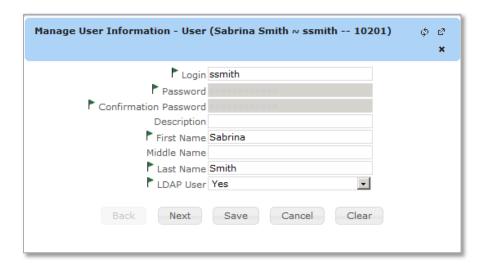
Users must be defined locally and assigned to one or more Groups for maintaining security and access. User's authentication can be from SSO or from the Local EnterWorks Database.

26.4.2.1 Configuring the SSO, LDAP(S), or Active Directory

For information on configuring EnterWorks to use SSO, LDAP(S), or Active Directory, see the *EnterWorks Installation Guide* or the EnterWorks online help at https://help.winshuttle.com/.

26.4.2.2 Change a Local User to SSO, LDAP(S) or Active Directory User

- 1. Log into EnterWorks Classic as a user with Administrative privileges.
- 2. Click on the Users and Group feature bar.
- Open the Users, select a user and click on menu Action→ Edit or double-click on a user row in listing
- 4. Change the LDAP User dropdown to Yes.



26.4.2.3 Managing Users with Active Directory

When SSO is configured and the user is identified as an "Is LDAP" user, the EnterWorks system will validate the user password using SSO.

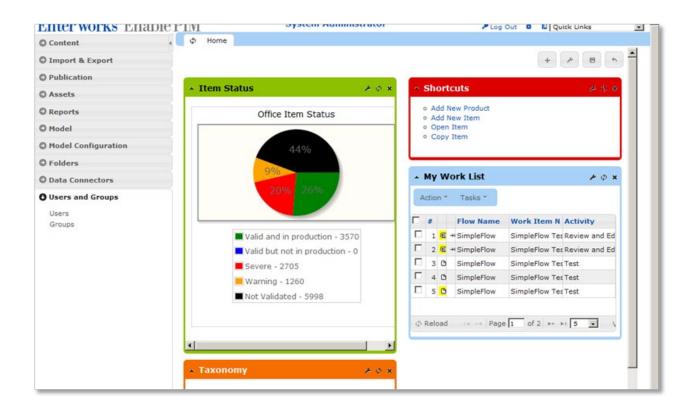
26.4.2.3.1 Automatically Add a User from Active Directory

In order for EnterWorks to automatically add users from Active Directory, it must be configured to do so. For information on performing this configuration, see the *EnterWorks Installation Guide*.

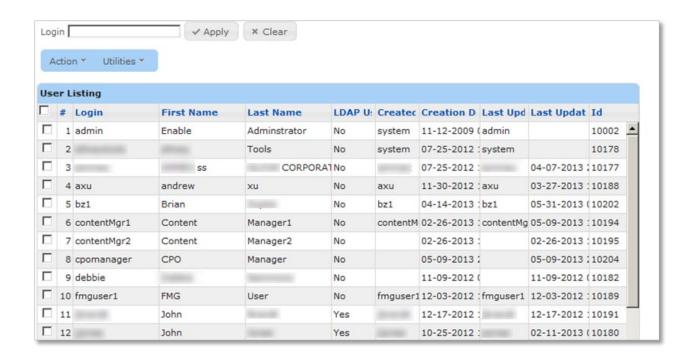
26.4.2.4 Managing Users Locally

26.4.2.4.1 Adding a Local User

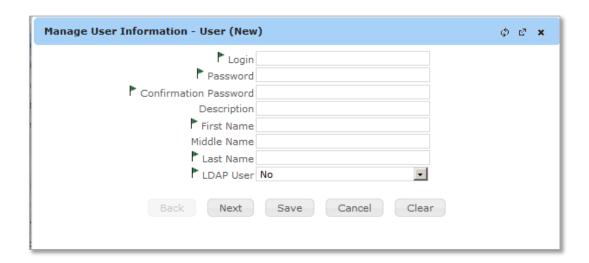
- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the Users and Groups feature bar.



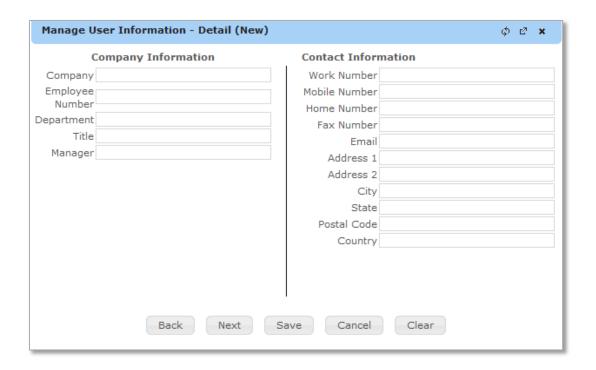
3. Click on the Users feature within the Users and Groups feature. The Users list appears.



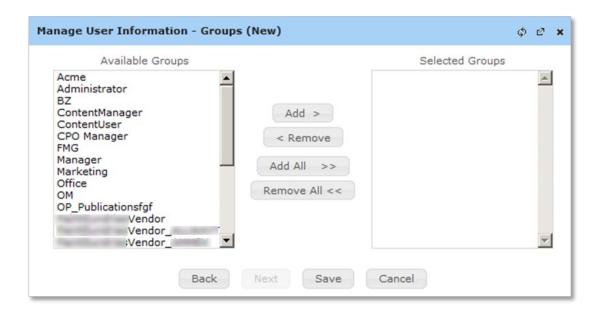
4. Select the **New** menu option from the **Action** menu. The New User editor appears.



5. Fill in all fields prefaced with a green flag (required fields) and click **Next** to continue. The Detailed user editor appears. These fields are all optional; click **Next** to continue.



- 6. The Manage User Groups editor appears.
- 7. Move entries from the **Available Groups** list to the **Selected Groups** list. The entries in the **Selected Groups** list will be the groups to which your user will belong.

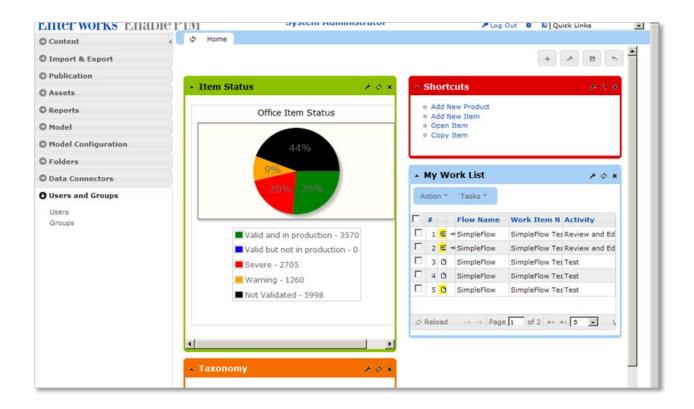


8. Click **Save** to save the user.

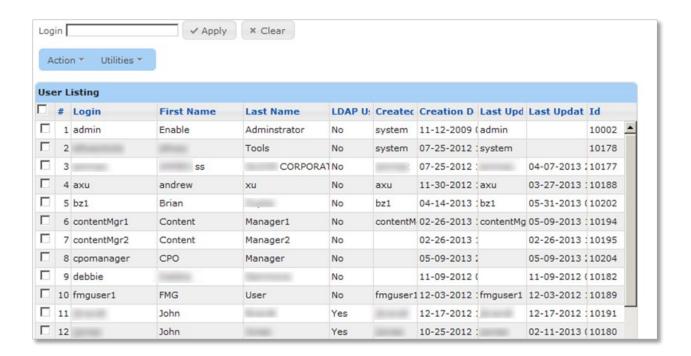
26.4.2.4.2 Deleting a Local User

To delete a local user:

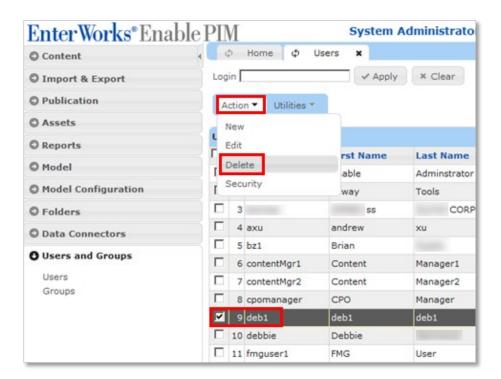
- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the **Users and Groups** feature bar.



3. Click on the Users feature within the Users and Groups feature. The Users list appears.



4. Select the desired user, open the **Action** dropdown, and select **Delete**.



5. Respond to the confirmation request.

26.4.2.4.3 Change a Local User's Password

While other attributes of a user account can be edited in the New UI, changing a user's password must be done in the Classic UI.

To change a user's password:

- 1. Log into the Classic UI as an Administrator.
- 2. Open the Users tab: in the Features bar, open the **Users and Groups** folder and select **Users**.
- 3. Open the Manage User Information pop-up: either double-click the desired user; or select the desired user, open the **Action** dropdown, and click **Edit**.
- 4. Edit the password as desired.
- 5. Click the **Save** button.

26.4.2.5 Configure User Impersonation

The Impersonate User capability allows a user with proper credentials to impersonate another user to carry out EnterWorks tasks using the user's security credentials. The actions of the impersonator are logged and auditable.

Note that the impersonator must have read access for the users they impersonate.

Also, for security reasons, users who belong to the system administration group are prevented from being able to impersonate the EnterWorks system user.

The Classic UI is used to give the impersonator the ability to impersonate a user. To enable this feature:

Log into the Classic UI.

- 1. Open the **Users** tab: from the Feature Bar, open **Users and Groups**, and select **Users**.
- 2. Select the user who will be able to impersonate, open the **Action** drop-down, and select **Impersonate Config**.
- 3. An Impersonate Config window will appear. Check the Impersonate Enabled checkbox.
- After the Impersonate Enabled checkbox is checked, the Available Users by Group and Selected Users can be Impersonated lists will appear. Select a user group the member belongs to.

If the user belongs to the System Administration group, the Impersonate Config window will not include the **Available Users by Group** and **Selected Users can be Impersonated** lists because system administrators can impersonate any user.

 To add a user who can be impersonated, select their name from the Available Users list and click the right-arrow icon to move the user to the Selected Users can be Impersonated list.

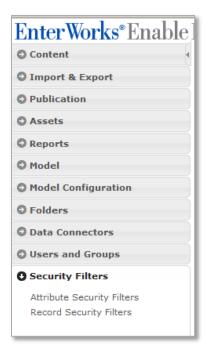
To remove a user who can be impersonated, select their name from **Selected Users can be Impersonated** list and click the left-arrow icon to move the user to the **Available Users** list.

6. Select **OK** to save your changes and exit, or select **Cancel** to exit the dialog without saving your changes.

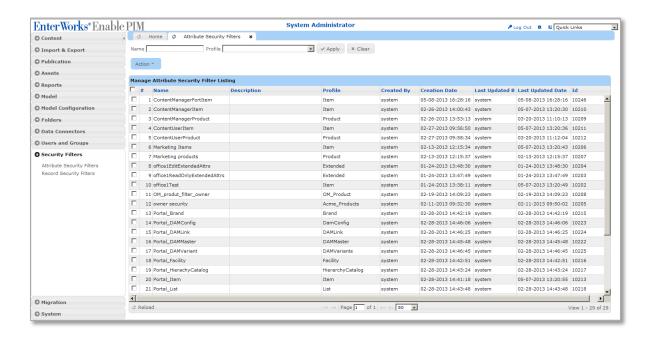
26.4.3 Attribute Security Filter Management

An Attribute Security filter controls access to column data (attributes) in a repository. The filters are created based on the profile definition and assigned to repository security to users and groups.

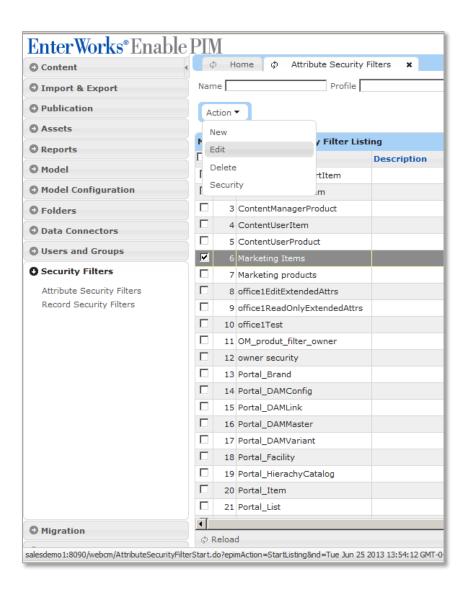
- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the Security Filters feature bar option.



3. Click on the **Attribute Security Filters** function. The list of defined attribute security filters appears.



- 4. Click on the desired attribute security filter record.
- 5. Select **Edit** from the **Action** menu. The **Attribute Security Filter** page will appear.

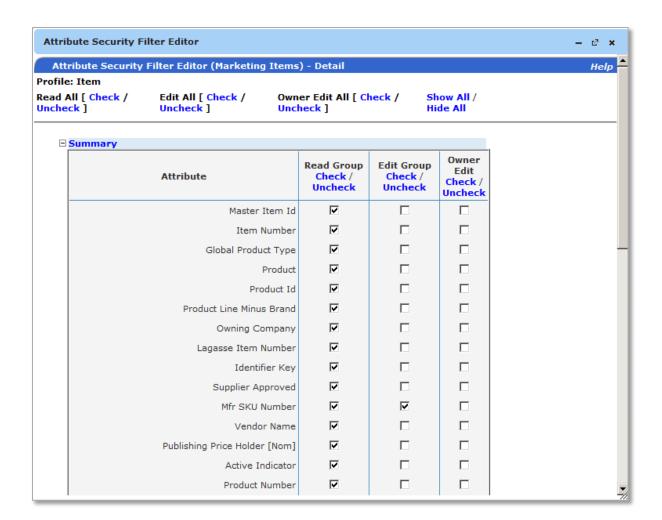


6. The attribute security filter is defined for a profile. For new filter, a profile must be chosen. Click **Next**.

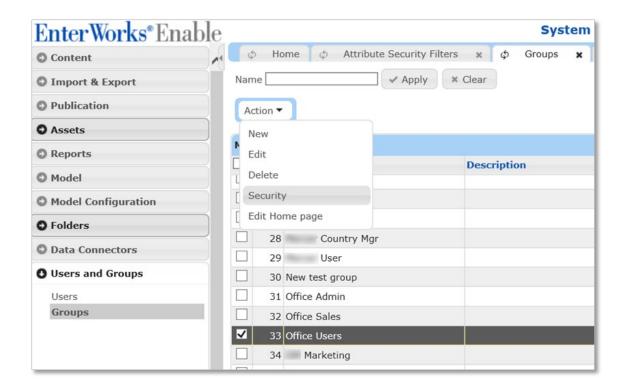




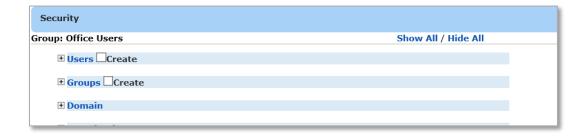
- 7. The Attributes for the profile are listed in a collapsible sub grouping list. Set read and edit permission for each attribute in all sub groups. If you have selected a profile where a **Taxonomy with Owner** configuration is defined for one of the attributes, then an additional column titled **Owner Edit** will appear for each attribute section. A check in this column means that only the user defined as the owner of the Taxonomy code value will have edit permission to item data containing that value.
- 8. Click Save.



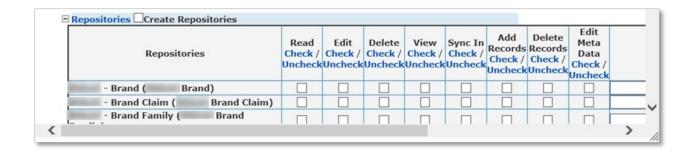
- 9. To assign the Attribute Security Filter to a Group:
 - a. Open the Users and Group feature
 - b. Open the **Group** function
 - c. Select the Group record the Attribute Security Filter applies to.
 - d. Select the **Security** option under the **Action** drop-down menu.



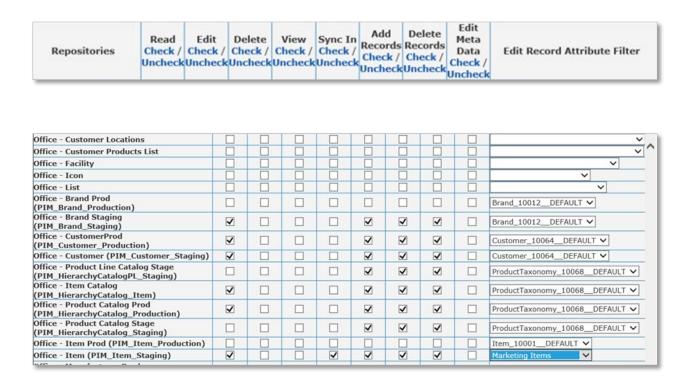
e. The Security window will appear.



- f. Click the **Hide All** link on the top right of the screen to close all the category details.
- g. Navigate to the **Repositories** section and open it by clicking the + plus sign.



- h. Navigate to the repository needing the attribute security filter applied for the group.
- i. Select the Attribute Security Filter in the Record Attribute Filter column.
- j. Navigate to the bottom of the list and click the **Save** button.

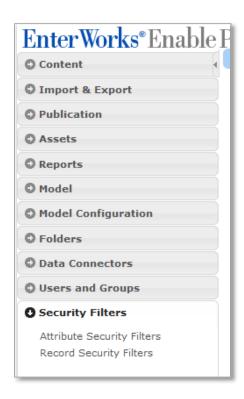


10. The same method can be used to assign an Attribute Security Filter to a User (starting with a User instead of a Group), but it is recommended as best practice to use a group (even if there is only one person in the group).

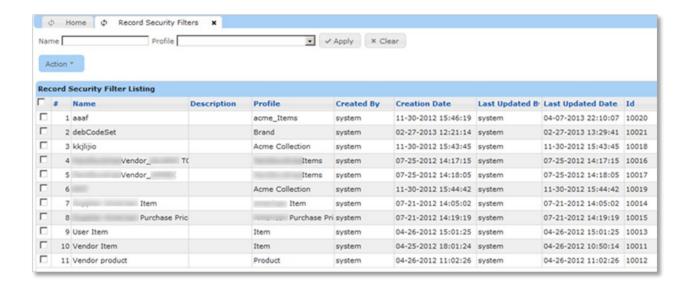
26.4.4 Record Security Filter Management

Record Security filter controls access to row data in a repository. The filters are created based on the profile definition and assigned to repository security to users and groups.

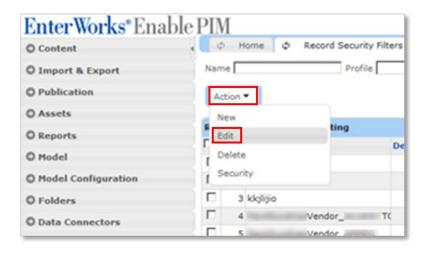
- 1. Log into EnterWorks Classic as an Administrator.
- 2. Click on the **Security Filters** feature bar.



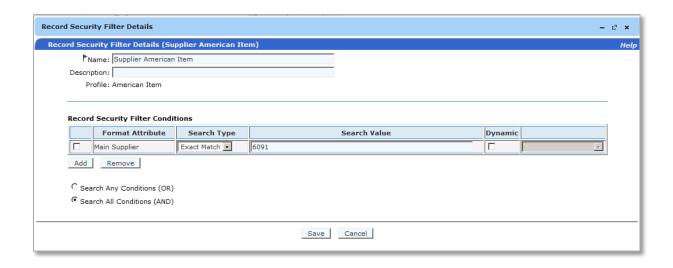
3. Click on the **Record Security Filters** function within the **Security Filters** feature. The list of defined record security filters appears.



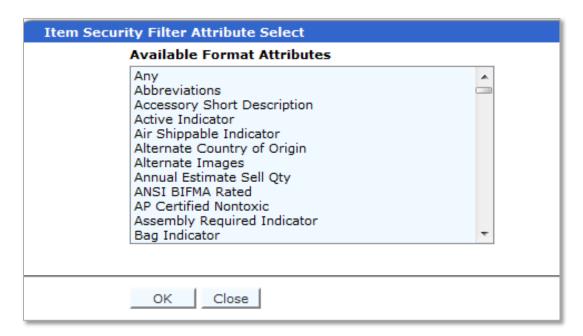
4. Select the item security filter record to edit and double-click the record or select **Edit** under the **Action** drop-down menu.



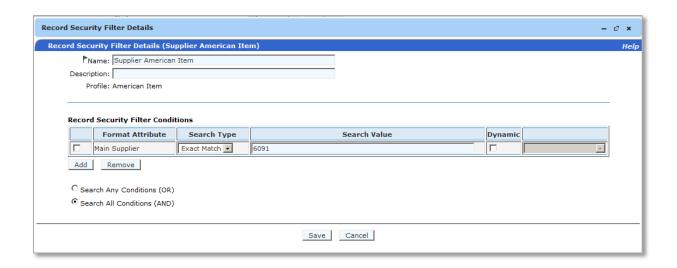
5. The **Record Security Filter** page appears.



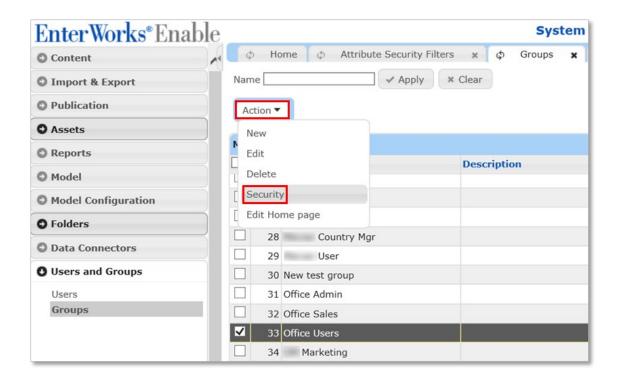
6. Add filter conditions by pressing the add button. A list of available attributes will be displayed.



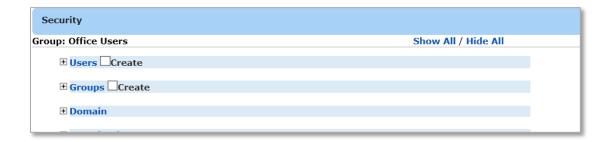
7. Select the desired attribute, then click **OK** to exit the list and return to the **Record Security Feature Details** screen.



- 8. Select a Search Type (Contains or Exact Match) and enter the Search Value.
- 9. If more than one search condition is defined, select the "**OR**" or "**AND**" operation radio button.
- 10. Click the **Save** button.
- 11. To assign the Record Filter to a Group:
 - a. Open the **Users and Group** feature.
 - b. Open the **Group** function.
 - c. Select the **Group** record the Attribute Security Filter applies to.
 - d. Select the **Security** option under the **Action** drop-down menu.



e. Click the **Hide All** link on the top right of the screen to close all the category details.



- f. Navigate to the **Repositories** section and open it by clicking the **+ plus** sign.
- g. Navigate to the repository needing the record security filter applied for the group.
- h. Select the Record Security Filter in the Record Attribute Filter column.





- i. Navigate to the bottom of the list and click the **Save** button.
- 12. The same method can be used to assign a Record Security Filter to a User (starting with a User instead of a Group), but it is recommended as best practice to use a group (even if there is only one person in the group).

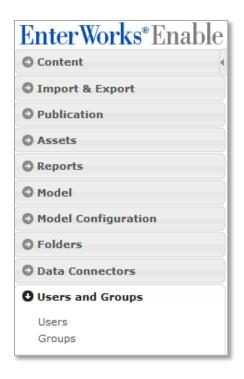
26.5 Configuring a Group's Home Page Dashboard

The terms in "dashboard" and "home page" are used interchangeably.

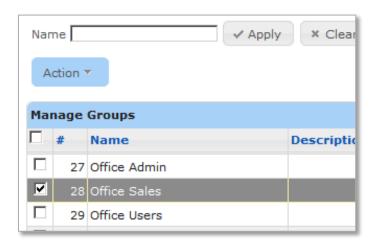
26.5.1 Define a Home Page in the Classic UI

To define a user group home page in the EnterWorks Classic UI:

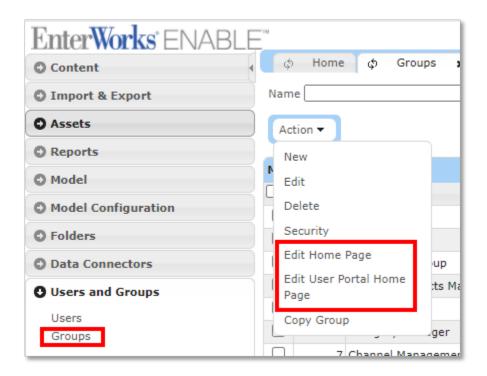
1. In the **Feature** bar, open the **Users and Groups** folder and select **Groups**.



2. Select the **User Group** that needs a default home page defined.



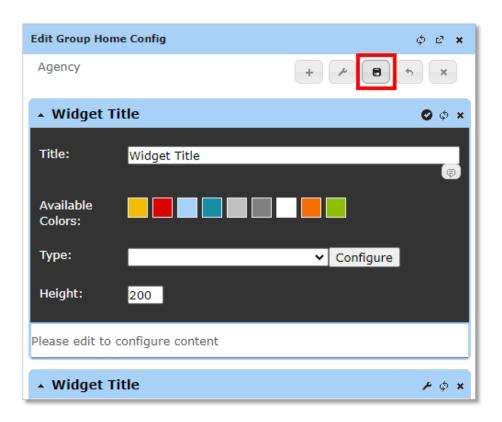
3. Open the **Action** dropdown and select **Edit Home Page**. (The **Edit Home Page** action edits the EnterWorks Classic homepage; the **Edit User Portal Home Page** action edits the EnterWorks New UI dasboard.)



4. The Edit Group Home Config editor will open.



- 5. Set up (or edit) the report widgets for the user group.
- 6. Before exiting, make sure to click the Save icon .

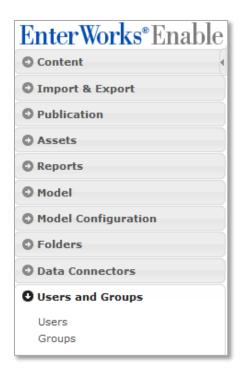


26.5.2 Define a Dashboard in the New UI

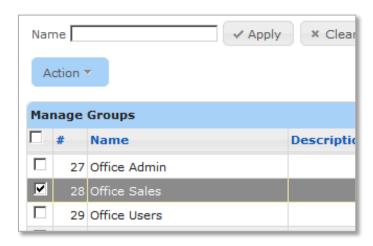
To define a user group's dashboard in the EnterWorks New UI, you must first use the EnterWorks Classic UI to create the user group's EnterWorks New UI dashboard and save it. You do not have to configure it completely, but you do need to create it and save it. Then you need to log into the EnterWorks New UI and configure the dashboard there.

To do so:

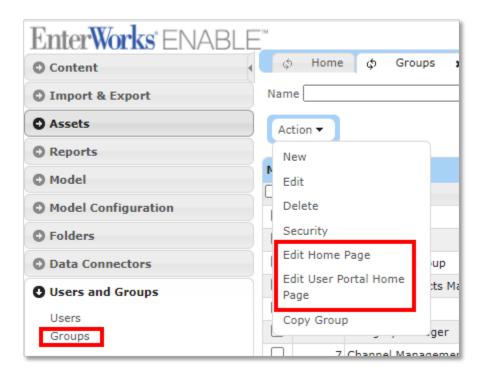
- 1. Log into the EnterWorks Classic UI as a user with administrative privileges.
- 2. In the **Feature** bar, open the **Users and Groups** folder and select **Groups**.



3. Select the **User Group** that needs a default home page defined.



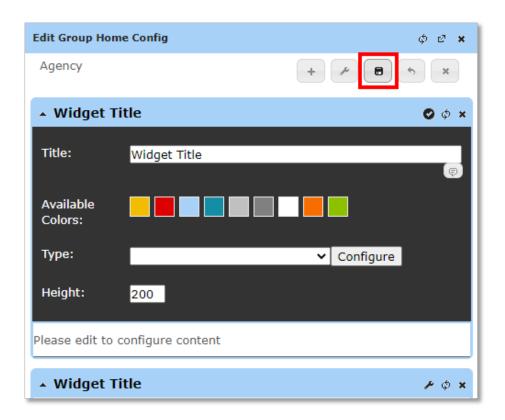
4. Open the **Action** dropdown and select **Edit User Portal Home Page**. (The **Edit Home Page** action edits the EnterWorks Classic home page; the **Edit User Portal Home Page** action edits the EnterWorks New UI home page.)



5. The Edit Group Home Config editor will open.



- 6. If you'd like, set up (or edit) the report widgets for the user group. This can also be done later, in the EnterWorks New UI.
- 7. Before exiting, make sure to click the Save icon , even if you did not set up any widgets.

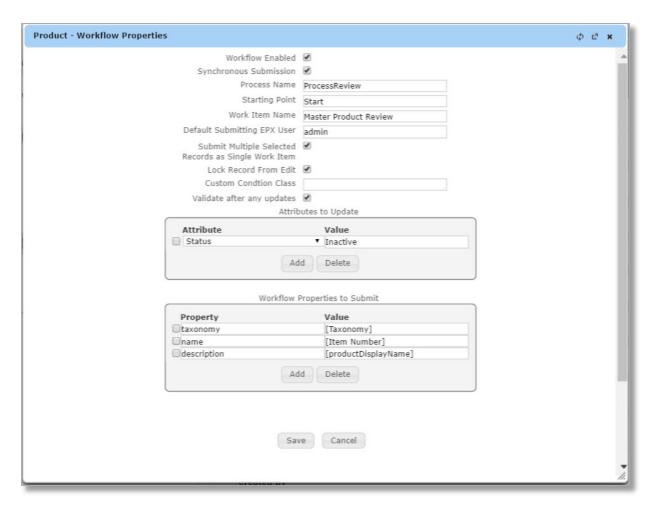


26.6 Workflow

EPX is a standalone workflow application used to drive automation. The EnterWorks Workflow feature consists of EPX, custom workflow processes, and scheduling activities. EPX is comprised of a JAVA thick client application used to build and manage workflows, and a browser web based portal for users to interact with the workflow. EPX is fully integrated with EnterWorks.

26.6.1 Workflow Properties

Workflow Properties are used to tailor the EnterWorks Workflow functionality according to enterprise requirements. The following screen shows the Workflow Properties screen which is accessed via the **Repository** → **Edit** menu.



To access the Workflow Properties window:

- 1. Log into the EnterWorks Classic UI.
- 2. Open the **Content** tab, the repository's folder, select the repository's name, select **Edit**, and select **Workflow Properties**.
- 3. The Workflow Properties window will appear.

The configuration options on the **Workflow Properties** window are:

- Workflow Enabled When checked, the repository has the ability to link to an EPX Process Flow.
- Synchronous Submission Synchronous Submission will be checked by default.
 When checked, the user interface will wait for the submission to process before
 rendering. Normally, when a submission is large or requires time to interface with
 other systems, this option will not be checked so that the submission is
 asynchronous, meaning the user interface will not have to wait for a submission to
 complete in order to render.

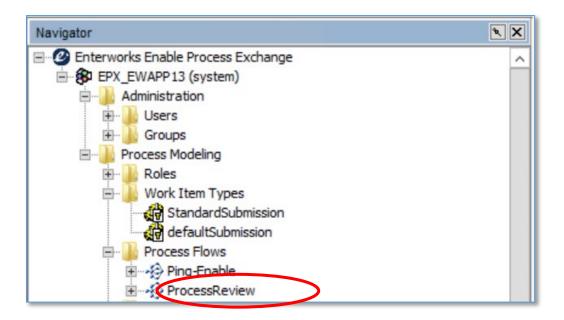
- Process Name, Starting Point, and Work Item Name are the default work item configurations when a work item is automated.
 - Process Name EnterWorks PIM uses the Process Name value to locate the EPX Process Name so that it knows where to send a work item.
 - Starting Point EnterWorks PIM uses the Starting Point value to locate the starting point for an EPX process flow.
 - Work Item Name EnterWorks PIM uses the Work Item Name to give a
 default name to an automated work item.
- **Default Submitting EPX User EnterWorks** PIM will login to EPX as the specified user when an automated work item is submitted.
- Submit Multiple Selected Records as a Single Work Item When this option is checked, multiple records can be submitted as a single work item/multi-record work item to an EPX process flow. When this option is unchecked, multiple records will be submitted as individual work items.
- Lock Record from Edit When this option is checked, any record that is part of a work item is locked for all users, except for certain user roles when the work item is at an activity for that role.
- **Custom Condition Class** Allows EnterWorks PIM Workflow to callout to customized JAVA class(es) that define customer specific processes.
- Validate After Any Update Works in conjunction with Attributes to Update and only executes for a new submission. Upon submission of a work item, all attributes within Attributes to Update will be updated with the specified value.
- Attributes to Update Provides a list of attributes within a repository's Profile and provides the ability to specify a value that an attribute will utilize upon an update.
- Workflow Properties to Submit This option only applies to a single record work item. It allows an administrator to associate properties with a work item and gives the administrator the ability to specify either literal values or dynamic values retrieved from a repository's profile.

26.6.2 EnterWorks PIM Options

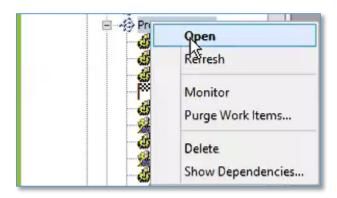
The EnterWorks PIM Options provide the ability to link an EPX activity to an EnterWorks PIM repository. Values either reference work item properties or are literal words. Typically, an administrator will keep **Repository Name**, **Repository Friendly Name**, and **Repository Id** dynamic. However, in rare scenarios, they can have literal values. For instance, the activity of processing a specific image of the DAMMaster repository.

1. Log into EPX as an administrator.

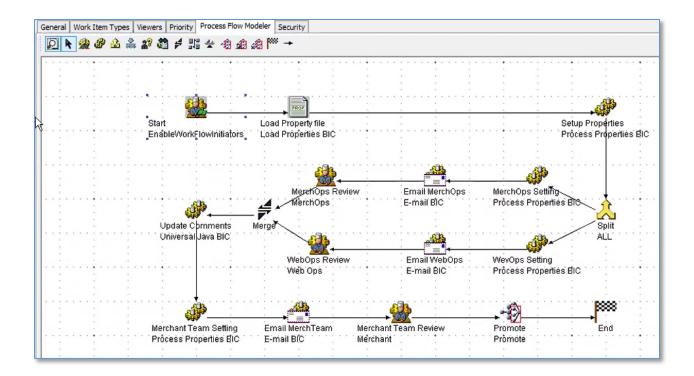
2. From the Navigator, go to Process Modeling \rightarrow Process Flows \rightarrow <select a flow>.



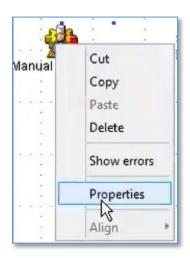
- 3. Right-click the flow.
- 4. Click Open.



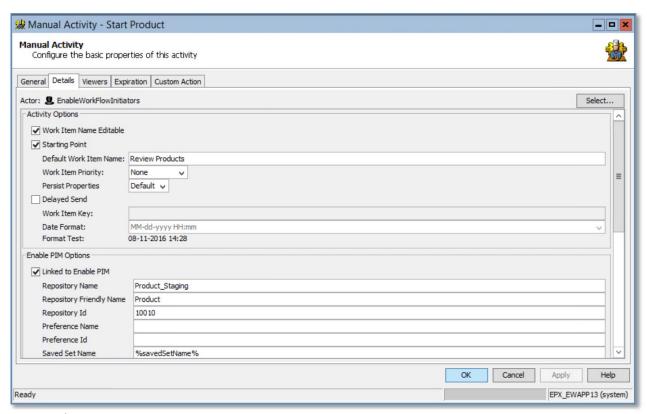
5. Click on the **Process Flow Modeler** tab.



6. Right click on a manual activity and click **Properties**.



7. Click on the **Details** tab.



EnterWorks PIM Options

Enable PIM Options	
✓ Linked to Enable PIM	
Repository Name	%repositoryName%
Repository Friendly Name	%repositoryFriendlyName%
Repository Id	%repositoryId%
Preference Name	
Preference Id	
Saved Set Name	%savedSetName%
Saved Set Id	%savedSetId%
Search Name	
Search Id	
Additional Search Attribute	
Item Id(s)	%itemIds%
Task Name	View Work Item
Task Instructions	Send work item on once viewed.
Task Role	
Task Status	
Task Icon	
Task Notification	%workflowCommentHistory%
Task Object	

En PIM Options Details

Anytime you submit an item to a workflow there are properties that are attached to the work item. For instance the following properties are always attached:

- Repository Name
- Repository Friendly Name
- Repository Id
- If you submit a preference: (Deprecated)
 - Preference Name (Deprecated)
 - Preference Id (Deprecated)
- If you submit a saved set:
 - Saved Set Id
 - Saved Set Name
- If you submit a search: (Deprecated)
 - Search Name (Deprecated)
 - Search Id (Deprecated)
 - Additional Search Attribute (Deprecated)

• Item Id(s): If more than one item is selected, values will be in a comma separated list format.

The following options allow you to add additional information to submit to the workflow. Anything between two percent signs is a dynamic reference to an attribute inside an associated repository's Profile.

- **Task Name** Details the process flow activity.
- Task Instructions Informs the user what actions need to be done.
- **Task Role** Informs the user the role assigned to a task.
- Task Status Allows the user to manage the status of a task. The value specified will be the default value.
- Task Icon Requires a URL of a 16x16 icon.
- Task Notification option to specify notifications to the user when viewing the work item in the EnterWorks UI. This is typically set to the %workflowCommentHistory% property reference.
- **Task Object** References the object the activity will act upon. If you know it will be a saved set, then specify the saved set name. If you know it will be a record, then specify the name of the record. If you leave **Task Object** blank, it will not appear.
- Allow Reassign Future feature that allows users to reassign their own tasks to someone else.
- Allow Listing Send this option controls whether or not the work item can be sent directly from the Active Work Items list on the Workflow Task Manager widget.
- **Listing Viewer Type** When a user is in the **Workflow Task Manager** viewer, the user will be able to be redirected to:
 - Editor the Detail Editor Tab.
 - Listing a record listing of repository records associated with the work item (for example, in the referenced saved set).
 - Listing Preference
- Work Item Type References an EPX Work Item Type and allows EnterWorks PIM
 to render the workflow submission screen based on the work item type selected
 during the initial workflow submission or upon completion of an activity. If a Work
 Item Type is specified (recommended), the Task Attribute JSON field is disabled.
- Task Attribute JSON Specifies the content of the submission form when creating
 or advancing a work item for a repository record. This is only required if a Work
 Item Type is not selected. The data inside the square bracket is a JSON array
 object. Everything inside each curly bracket is one attribute. For each attribute,
 there is:

- o **name** name of attribute.
- o **default** default value.
- type determines an HTML control type.
 - **Type 0** Text Box
 - Type 1 Dropdown Select Box
 - Type 2 Select Area Box
 - Type 3 Check Box
 - Type 4 Radio Selection
 - Type 5 Hidden
- o **list** values for the control type.
- In the second attribute there is "name": "workflowComment".
 workflowComment is a special feature that causes a viewer of an activity to append whatever the user enters into a comment history, so when the next user comes up then they can look at the comment history.

Task Attributes JSON [{"default":"Approved", "displayname":"Submission Type", "name":"workflowApproval", "type":"1", "list":["Approved", "Rejected", "Review"]}, {"default":"", "displayname":"Submission Notes", "name":"workflowComment", "type":"2", "list":[]}]

26.6.3 Work Item Types

When a record, multiple records, or a saved set are sent to a workflow, the EnterWorks New UI will display a **Workflow Submission** screen with multiple input fields, such as the following screen.



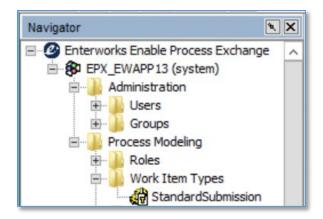
Workflow Submission Screen

The **Workflow Submission** screen is rendered based on the specified EPX Work Item Type. A Work Item type allows admins to specify how input should be specified by a user and what input should be gathered from the user.

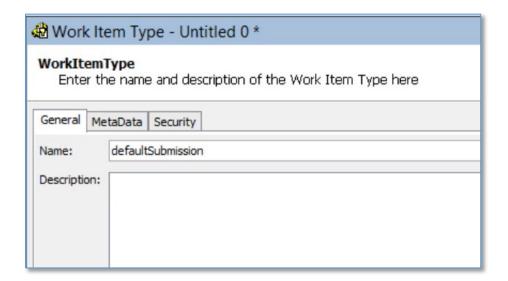
26.6.3.1 Create a Work Item Type

Work Item Types are created in EPX.

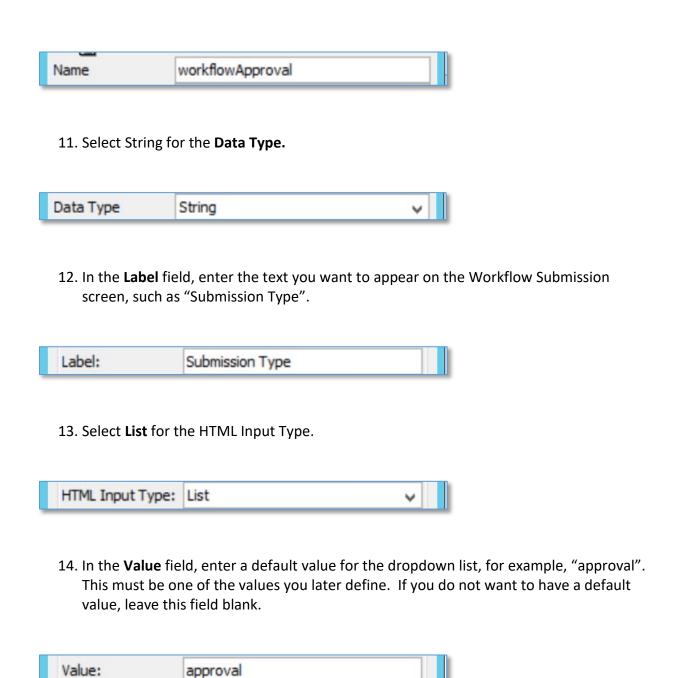
- 1. Log into EPX as an admin.
- 2. From the Navigator, go to Process Modeling → Work Item Types.



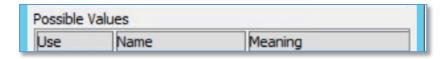
- 3. Right click on the directory Work Item Types.
- 4. Click New...
- 5. On the **General** tab, in the **Name** field, enter a name for your Work Item Type.



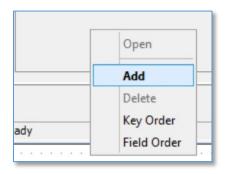
- 6. Click on the MetaData tab.
- 7. Right click inside the table.
- 8. Select Add.
- 9. At this point there are many different combinations of html input fields you can create. For this example, we are going to create a dropdown list.
- 10. In the **Name** field, enter a name for the property that is to be defined in the Work Item.



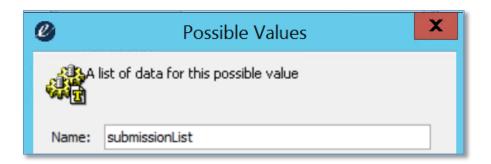
15. Right click in the **Possible Values** table.



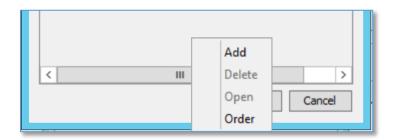
16. Select Add...



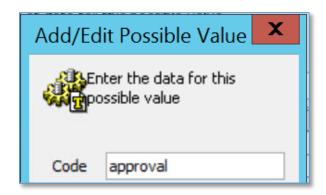
17. In the **Name** field, enter the name for the dropdown list.



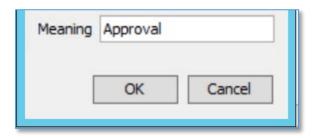
18. Right click in the table below the **Name** field.



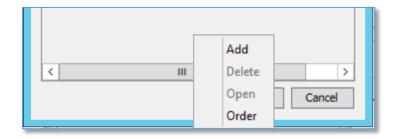
- 19. Select Add.
- 20. In the **Code** field, enter the value you want associated with that item, for instance, "approval".



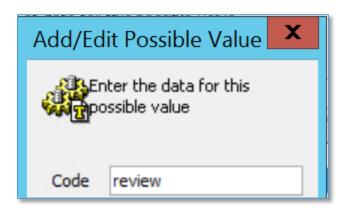
21. In the **Meaning** field, enter the label the user will see and select when they look at the dropdown list, such as "Approval".



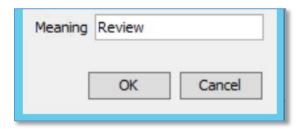
- 22. Click **OK**.
- 23. Right click in the **Possible Values** table again.
- 24. Select Add.



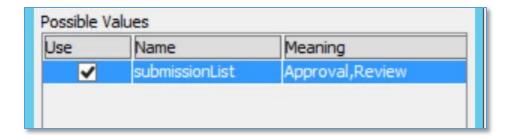
25. In the **Code** field, enter the value you want associated with that item, for instance "review".



26. In the **Meaning** field, enter the label the user will see and select when they look at the dropdown list, such as "Review".



- 27. Click **OK** to save the new submission value.
- 28. Click **OK** again to return to the Define the Work Item Type's metadata window.
- 29. Within the **Possible Values** table under the **Use** column, click on the checkbox for the newly created possible value.

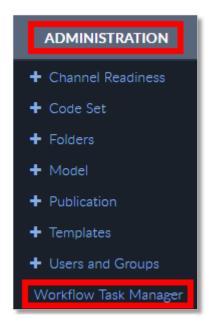


- 30. Click **OK** to return to the **WorkItemType** window.
- 31. Click Apply.
- 32. Click **OK.**

26.6.4 Open Workflow Task Manager

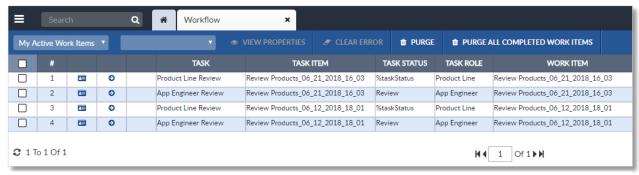
To open the **Workflow Task Manager** in a tab:

1. Open the **Feature Sidebar**, select the **Administration** tab, and select **Workflow Task Manager**.



Open Workflow Task Manager

2. The Workflow Task Manager will open.



Workflow Task Manager Detail

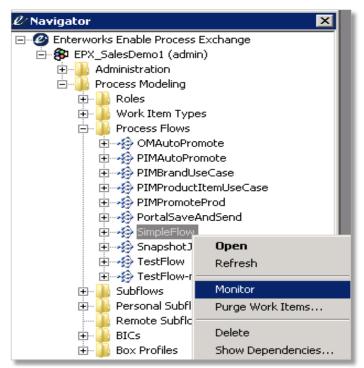
26.6.5 Monitor Workflow Process

EnterWorks administrator can monitor and manually initiate workflow process from the EnterWorks application. For information on monitoring Workflow, see the EnterWorks online help pages at https://help.winshuttle.com/.

26.6.6 Manage Workflow Process

To manage workflow you must install and use the JAVA thick client "EPX Design Console". From the **Design** console, you can monitor workflow activities, add or modify work flow activities.

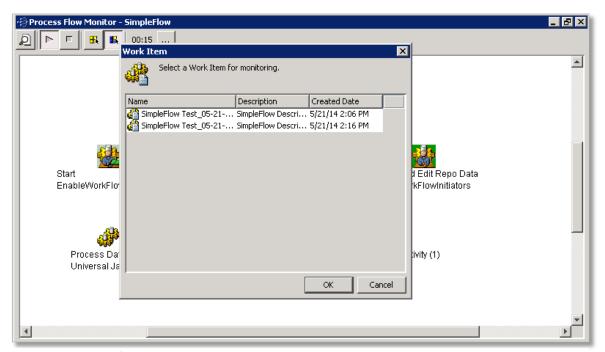
- 1. Log onto APP server or a client box that has **EPX Design Console** installed.
- 2. Open EPX Design Console.
- 3. Expand the tree and log on using an administrative account.
- 4. Open the Process Flow Monitor by opening the **Process Modeling** folder, opening the **Process Flows** folder, right-clicking on a workflow, and selecting **Monitor**.



Open the Process Flow Monitor

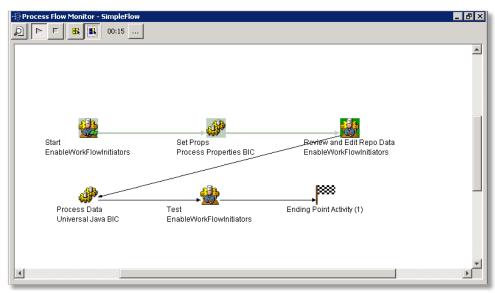
- 5. Click the **Play** icon to view a count of all work items at each activity.
- 6. Click the Monitor One Work Item icon to select an individual work item to monitor.

 After selecting, click the **Play** icon to track the flow of the work item.



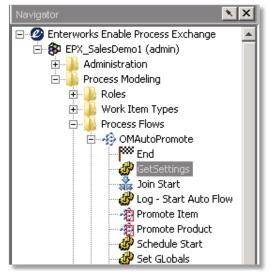
Select a Work Item for Monitoring

7. The work item flow will highlight the path the work item has taken. A green icon indicates the current location of the work item. A red icon indicates an error at that activity.



The Path and Status of a Work Item

- 8. If an activity has error, expand the navigation menu to find the activity under the corresponding flow or sub-flow.
- 9. Right-click on the activity and select **Work Items**.



View Work Items at an Activity

- 10. Double-click the work item from the list.
- 11. Click on the **Error** tab. Review the error. Once resolved, click on the **Clear Error** button.

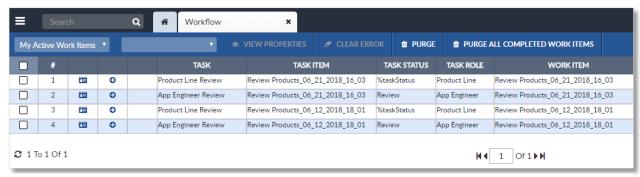
26.6.7 Purge a Workflow – DO NOT USE

WARNING: Purging a workflow will delete all work items (active and completed) from the workflow, even those not visible to the user. **DO NOT USE THIS FUNCTION**.

Purging a workflow also clears the **Locked in Workflow** state for all records associated with the work items.

To purge a workflow, first open the **Workflow Task Manager**. This can be done either by opening a **Workflow Task Manager Widget** (see *Using EnterWorks* at https://help.winshuttle.com/) or by opening the **Workflow Task Manager** in a new tab.

To open it in a tab, open the **Feature Sidebar** by selecting the **Feature Sidebar** icon on the **Tab Bar**, select the **Administration** tab, then select **Workflow Tasks**. The **Workflow Task Manager** tab will appear.



Workflow Task Manager Detail

To purge all work items (active and completed) from a workflow:

1. Select one item in the workflow and click the **Purge** button on the **Workflow Task**Manager's Activity Bar. A confirmation window will appear:

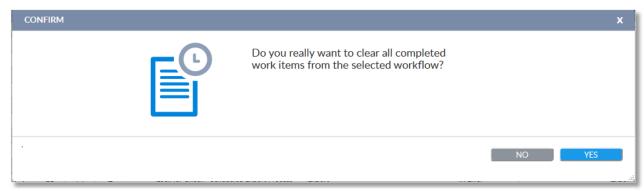


Purge Workflow: Confirm the Purge of All Work Items from a Workflow

2. Click **Yes** to purge all work items.

To purge all completed work items in a workflow:

1. Select one item in the workflow and click the **Purge All Completed Work Items** button on the **Workflow Task Manager's Activity Bar**. A confirmation window will appear.



Purge Workflow: Confirm the Purge of All Completed Work Items from a Workflow

2. To purge the workflows, click the **Yes** button.

26.6.8 Add a Task to the Worklist

To add an additional task that can be initiated from the EnterWorks work list, the workflow process first must be defined. The <code>sharedConfig.properties</code> files must be updated to add the task to the configuration. Search the <code><drive></code>: \Enterworks folder to find all instances of the <code>sharedconfig.properties</code> file and update them.

- 1. Add the new task's name to key epx.tasklist.tasks.
- 2. Using the new task name, add the following keys, replacing <task> with the new task name and the appropriate value for the key.

Key	Value examples	Description
epx.tasklist. <task>. name</task>	Start PMFImport	Name of task as it will appear in UI
epx.tasklist. <task>. flowname</task>	PMFImport	Name of workflow in EPX
epx.tasklist. <task>. startingpoint</task>	Manual Start	Starting activity for workflow
epx.tasklist. <task>. workitemname</task>	Manual Initiated PMFImport	Name for work item

Кеу	Value examples	Description
epx.tasklist. <task>. workitemdescription</task>	Manual Initiated PMFImport	Description for work item.
epx.tasklist. <task>. proplist</task>	prop1, prop2	Optional list of property values to pass to work flow.
<pre>epx.tasklist.<task>. props.prop1.name</task></pre>	test1	Name of property, substitute "prop1" for value in prop list, repeat for each value.
epx.tasklist. <task>. props.prop1.value</task>	test1val	Value of property, substitute "prop1" for value in prop list, repeat for each value.
epx.tasklist. <task>. groupList</task>	Administrator	Optional comma separated list of groups that have access to execute this task.
epx.tasklist. <task>. userList</task>	admin	Optional comma separated list of users that have access to execute this task.

- 3. All sharedConfig.properties files must be updated with the same settings.
- 4. EnterWorks services must be restarted for the changes to take effect.

26.7 Detailed Debugging

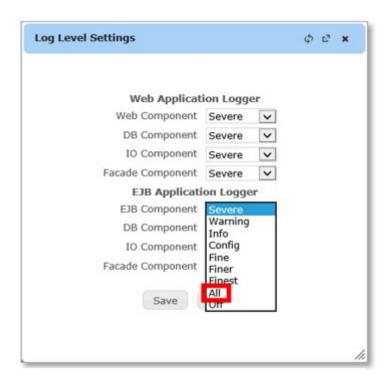
For more information about debugging an EnterWorks system, please see: https://help.winshuttle.com/.

26.7.1 Debugging Logs

To track errors in the system, it can be useful to turn on the Enterworks detailed debugging logs. However, these logs can produce a large amount of log information, so it is recommended to turn on debugging logs only after requested to do so by EnterWorks support staff. It is recommended that you turn off detailed debugging for daily use.

To turn on the debug logs:

- 1. Log into EnterWorks Classic as a user with the Administrator group.
- 2. Open the **Feature** bar and open the **System** folder.
- 3. Click on Log Level Setting.



- 4. Set all the components to the level **All** and click **Save**.
- 5. Perform the action(s) that caused the errors.
- 6. Repeat this process, but this time set the log levels to **Severe**.
- 7. When you are finished generating the logs, it is recommended that you disable the Debug Logs feature, as the debugging logs create a large number of entries. To disable the debug logs, set all the log levels to **Off**.

26.7.2 Debugging Logs for EPX Workflows

There are configuration options in two files that control debug logging for workflow processes:

- config.properties
- Enterworks.properties

The debugging logs configured in the config.properties file provide a large amount of detailed debugging log messages. It is recommended that you disable this debug log function for daily use.

To configure this function:

1. In the configuration file:

2. Restart the EPX services for the configuration change to take effect.

The debugging logs configured in the <code>Enterworks.properties</code> file provide debugging log messages, but they have a smaller footprint. It is not necessary to disable this debug log function for daily use; however, you may wish to do so once the EnterWorks system has been installed and live for a few months, and this debug log is not necessary. To configure this function:

1. In the configuration file:

```
<install_drive>:\Enterworks\EPX\bin\conf\Enterworks.pr
operties
```

set the flag:

```
debug.enable=true: logging is enabled. debug.enable=false: logging is disabled.
```

2. Restart the EPX services for the configuration change to take effect.

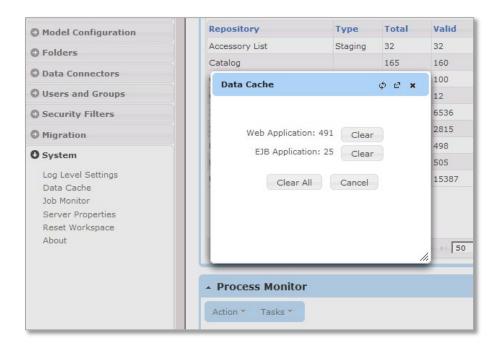
27 System Maintenance

For the most recent recommendations for configuring and performing EnterWorks maintenance and monitoring tasks, see the *Enable 10 Maintenance and Monitoring Guide* on the EnterWorks Online Help at https://help.winshuttle.com.

27.1.1 Clear Data Cache

Any time there are changes to the data model (for example, Profiles, Code Sets, Taxonomies, Hierarchies, etc.), the Data Cache must be cleared to ensure the changes go into effect.

- 1. Log into EnterWorks Classic as a user with administrative privileges.
- 2. Open the **Feature** bar, open the **System** folder, and select **Data Cache**.



- 3. Click the Clear All button to clear all caches.
- 4. In order for open tabs and windows to reflect the new state of the cleared cache, they must be refreshed.

27.1.2 Configure System Maintenance Tasks

Server property settings allow you to specify how often specific system maintenance tasks are to be performed.

To set the server property settings:

- 1. Log into EnterWorks Classic as a user with administrative privileges.
- 2. Open the **Feature** bar, open the **System** folder, and select **Server Properties**.
- 3. Edit the properties as desired, then click the **Save** button.

4. Restart all EnterWorks services.

The server properties are as follows:

- Schedule Cleanup Job
- Timeout User Sessions
- Clean Job History
- Clean Record History
- Clean System Log Files
- Clean Saved Sets

The following settings are deprecated:

- Configure Retail Product Generation:
 - Retail Product Generation Type
 - Retail Product Clone Max Count