

# HP EM Workbench

Software Version: 2.00  
Windows and Linux Operating Systems

## Taxonomy Editor User Guide

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# Chapter 1: About this Guide

Welcome to the *Taxonomy Editor User Guide*. This guide describes how to use Taxonomy Editor as part of HP Enterprise Maps (HP EM).

This guide contains the following chapters:

- ["Taxonomy Editor" on page 8](#)  
Provides an overview of the main features of Taxonomy Editor.
- ["Getting Started" on page 15](#)  
Describes the installation of the main features and shows you how to create a taxonomy project.
- ["Managing Taxonomies" on page 23](#)  
Explains how to create, download, edit, and compare taxonomies.
- ["Deploying Taxonomies" on page 30](#)  
Shows how to publish taxonomies and build and deploy a Taxonomy Extension.
- ["Conflicts and Validation Issues" on page 36](#)  
Shows how to resolve conflicts with taxonomies.
- ["Example: Creating and Publishing a Department Taxonomy" on page 38](#)  
A walkthrough example of creating and deploying a new taxonomy.
- ["Keyboard Shortcuts" on page 40](#)  
Keyboard shortcuts reference.
- ["Dialog Boxes Reference" on page 42](#)  
Dialog box reference.
- ["Troubleshooting" on page 44](#)  
Troubleshooting tips.

# Chapter 2: Taxonomy Editor

HP EM Workbench is a set of HP EM Workbench features that enable you to manage taxonomies in HP EM.

You can use Taxonomy Editor to create, modify, and delete taxonomies. You can also download taxonomies from, or upload them to, any number of HP EM servers.

This chapter introduces Taxonomy Editor in the following sections:

- ["HP EM Workbench Suite" below](#)
- ["Overview" below](#)
- ["User Interface" on the next page](#)

## HP EM Workbench Suite

HP EM Workbench is a suite of editor tools enabling you to customize your deployment of HP EM.

HP EM Workbench consists of the following editor tools, distributed as a single Eclipse development platform:

- Customization Editor  
Customizes the underlying System Data Model (SDM) within HP EM.
- Taxonomy Editor  
Customizes the taxonomies used to categorize artifacts in HP EM.
- Assertion Editor  
Customizes the conditions applied by your business policies within HP EM.
- Report Editor  
Customizes report definitions for use with HP EM.

## Overview

Taxonomies are, in their simplest form, a visual representation of what your organization actually knows. A well-constructed, meaningful taxonomy enables users in your organization to quickly find the information they need to achieve their goals.

Taxonomy Editor enables you to organize and reorganize content easily, giving more flexibility for knowledge sharing in your organization

Use Taxonomy Editor to do the following:

1. **Create a Taxonomy Project.**

For details, see the following sections:

- ["Creating a Taxonomy Project" on page 18](#)
- ["Downloading Taxonomies from a Server" on page 20](#)
- ["Searching for Taxonomies" on page 20](#)

2. **Create and Manage Taxonomies.**

For details, see the following sections:

- ["Creating Taxonomies" on page 23](#)
- ["Editing Taxonomies" on page 24](#)
- ["Editing Categories" on page 25](#)
- ["Deleting and Restoring Taxonomies" on page 27](#)
- ["Comparing Taxonomy Files" on page 28](#)
- ["Updating Taxonomies from the Server" on page 28](#)
- ["Importing and Exporting Taxonomy Files" on page 28](#)

3. **Publish taxonomies to an HP EM server.**

For details, see the following sections:

- ["Publishing Taxonomies" on page 30](#)
- ["Deploying Taxonomies" on page 30](#)

4. **Check local validity and manage conflicts.**

For details, see ["Conflicts and Validation Issues" on page 36](#).

## User Interface

The default perspective is split into a number of sections, with menu options across the top.

The platform perspective consists of the following views:

- **Project Explorer**

The tree view of your taxonomy projects. For details, see ["Project Explorer" below](#).

- **Server Explorer**

The view listing HP EM server connections to the HP EM Workbench. For details, see ["Server Explorer" on the next page](#).

- **Editor**

The view showing the components of the taxonomy. For details, see ["Editor View" on page 12](#).

## Project Explorer

Project Explorer contains a hierarchical list of projects, the taxonomies in each project, and the categories and subcategories of each taxonomy, as shown in the following screenshot.

The Project Explorer contains additional context menu options enabling you to interact with a running HP EM server. Right-click the project name or a particular assertion, and select **HP EM** to view the options listed in the following tables.

### Project Context Menu Options

Option	Function
Download Taxonomies	Import taxonomies from HP EM. For details, see <a href="#">"Downloading Taxonomies from a Server" on page 20</a> .
Upload to Server	Export taxonomies to the default HP EM server. For details, see <a href="#">"Publishing Taxonomies" on page 30</a> .
Update from Server	Update taxonomies from HP EM. For details, see <a href="#">"Updating Taxonomies from the Server" on page 28</a> .
Remove from Server	Delete taxonomies from HP EM. For details, see <a href="#">"Deleting and Restoring Taxonomies" on page 27</a> .
Upload To Other Server	Export taxonomies to a specified HP EM server.
Build Extension	Create a taxonomy extension for HP EM containing all the taxonomies in your project. For details, see <a href="#">"Building a Taxonomy Extension" on page 31</a> .

### Taxonomy Context Menu Options

Option	Function
Upload to Server	Export a taxonomy to the default HP EM server. For details, see <a href="#">"Publishing Taxonomies" on page 30</a> .

### Taxonomy Context Menu Options, continued

Option	Function
Update from Server	Update a taxonomy from HP EM. For details, see <a href="#">"Updating Taxonomies from the Server" on page 28</a> .
Remove from Server	Delete the taxonomy from HP EM. For details, see <a href="#">"Deleting and Restoring Taxonomies" on page 27</a> .
Upload To Other Server	Export a taxonomy to a specified HP EM server.
Validate Data Consistency	Check the validity of the taxonomies. For details, see <a href="#">"Conflicts and Validation Issues" on page 36</a> .
Show Taxonomy Usage	Find the artifacts that use the taxonomy for categorization. For details, see <a href="#">"Conflicts and Validation Issues" on page 36</a> .
Compare With Latest From Server	Compares the selected taxonomy with the latest version on the server.
Build Extension	Create a taxonomy extension for HP EM containing all the taxonomies in your project. For details, see <a href="#">"Building a Taxonomy Extension" on page 31</a> .

## Server Explorer

The Server Explorer displays the HP EM servers connected to HP EM Workbench. The functionality is shared by all the HP EM Workbench editors.

Right-click a server in the Server Explorer to open the context menu described in the following table.

### Server Explorer Context Menu Options

Option	Function
New Server	Add a server for downloading assertions and taxonomies (Assertion Editor, Taxonomy Editor, and Customization Editor).
Remove Server	Delete a server from the Server Explorer.
Download Taxonomy	Download a taxonomy from a server (Taxonomy Editor and Customization Editor).
Download Assertion	Download assertions from a platform server (Assertion Editor).
Download Report	Download reports from a reporting server (Report Editor).
Properties	View and edit the server name, URL, username, and password.

## Editor View

The Editor pane is the main feature of the Taxonomy Editor UI.

It has four tabs, described in the following sections:

- **Overview Tab**

The Overview tab shows the components of the taxonomy.

The first section is General Information, where you can view and edit the following properties:

- **Name**

Name for the taxonomy. The content of the `name` element in the taxonomy's XML representation.

- **Taxonomy ID**

Identifier for the taxonomy, with the preceding `uddi:`. The value of `tModelKey` attribute in the taxonomy's XML representation.

- **Description**

Description of the taxonomy (optional).

The second section is Origin, which shows:

- **Resource URL**

REST interface URL enabling the published taxonomy to be viewed on the server.

- **Value Display Format**

These options allow changing how the value is presented.

- **Categories Tab**

The Categories tab enables you to change the structure and properties of taxonomy categories.

You can use the Categories tab to do the following:

- ["Adding a Category" on page 25](#)
- ["Removing a Category" on page 26](#)
- ["Copying a Category" on page 26](#)
- ["Moving a Category" on page 27](#)

- **Advanced Tab**

The Advanced tab enables you to set properties used with UDDI.

It is divided into the following sections:

- **Compatibility**

Enables you to select one or more of the main UDDI structures for the taxonomy. For example, `businessEntity`, `businessService`, `bindingTemplate`, and `tModel`.

All structure types are selected by default which is the required setting if you want your taxonomy to integrate with UDDI Registry.

- **Categorization**

Enables you to select from the following taxonomy types:

- **categorization**

Tags the UDDI structure with additional information, such as identity, location, and description.

- **categorizationGroup**

Groups several categorizations into one logical category. For example, a `categorizationGroup` could be a geographical location comprised of two categorizations: longitude and latitude.

The `categorizationGroup` option is disabled if the taxonomy has any categories.

- **Identifiers**

Reference published information in `businessEntities` and `tModels`.

- **Relationships**

Defines the relationship between two `businessEntities` in Publisher Assertions.

- **Validation**

Sets whether or not the values in `keyedReferences` within the taxonomy are checked. The validation service can check the expected syntax of values. For example, a credit card number or an ISBN number.

Validation can be against Taxonomy Editor's internal validation service or against an external service.

To select an external validation service, do one of the following:

- Enter the endpoint URL.
- Leave `keyedReferences` unvalidated.

- **Reference**

Enables you to add a reference to a key type.

- **Value Type**

Enables you to Select a Value type for keyValues, using one of the following comparators:

- **em-com.comparator.string**

keyValues are treated as string values. The maximum length is 255 characters.

- **em-com.comparator.numeric**

keyValues are treated as decimal numbers. The value can have a maximum of 19 digits before the decimal point and a maximum of 6 digits after the decimal point.

- **em-com.comparator.date**

keyValues are treated as dates.

- **custom**

Endpoint URL of a custom comparator.

- **Source Tab**

The Source tab enables you to view and directly edit the XML representation of the taxonomy.

## Chapter 3: Getting Started

This chapter describes the prerequisites for working with taxonomies in Taxonomy Editor. It contains the following sections:

- ["Installing HP EM Workbench" below](#)
- ["SSL Configuration" on page 17](#)
- ["Creating a Taxonomy Project" on page 18](#)
- ["Customizing Taxonomy Editor" on page 19](#)
- ["Downloading Taxonomies from a Server" on page 20](#)
- ["Searching for Taxonomies" on page 20](#)

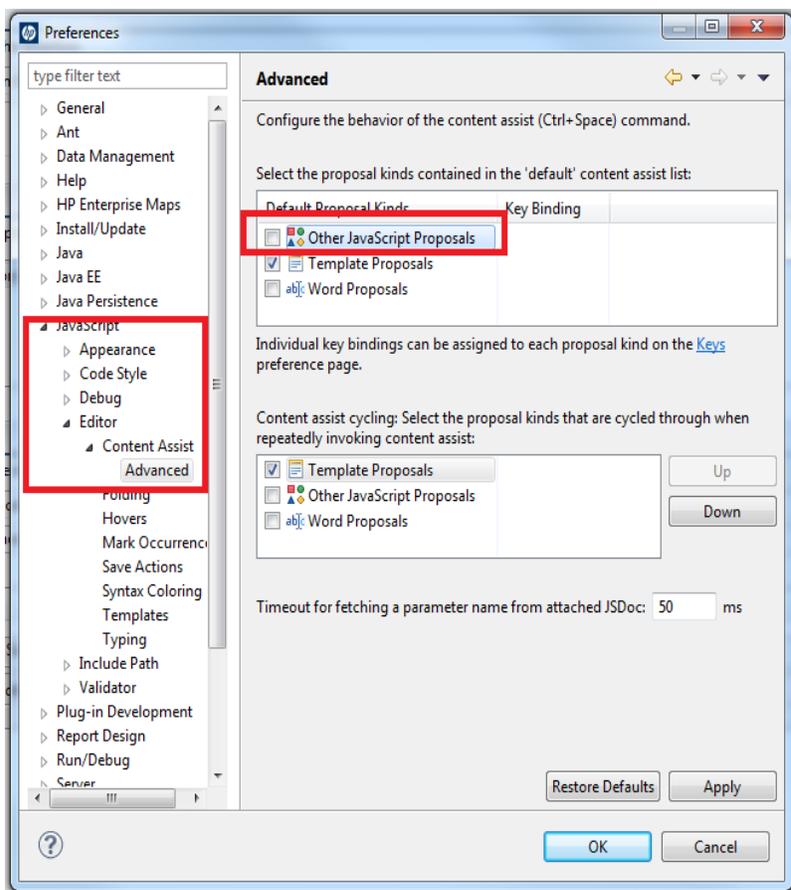
### Installing HP EM Workbench

HP EM is an Eclipse development platform distributed as a zip file, `hp-em-workbench-2.00-win64.zip`.

**Tip:** For supported platforms and known issues, see `release-notes.doc` alongside the archive.

**Note:** HP EM requires Java SE Development Kit (JDK) 1.7.0 (64 bit version only) or higher. You must include the path to this version of the JDK in the `JAVA_HOME` environment variable.

**Note:** In case you use EM Workbench to implement Javascript assertions, the built-in Javascript editor might produce unexpected errors. To resolve this, uncheck 'Other JavaScript Proposals' in **Window > Preferences > JavaScript > Editor > Content Assist > Advanced**.



### To Start HP EM Workbench:

- Execute **WB\_HOME/workbench/start.exe**.

The first time you start HP EM Workbench, the welcome screen opens.

Select one of the options to open one of the editor tools, start a new editing project, or view the documentation set.

You can return to the welcome screen from any of the editor tools by selecting **Help>Welcome** from the menu options.

By default, HP EM Workbench runs in 'normal' mode which prevents users from uploading system taxonomies (IDs start with `uddi:system.com:soa:model:taxonomies`) and the Report Editor `.rptlibrary` file to HP EM servers. If you need to work with system taxonomies or want to upload the `.rptlibrary` file you can switch HP EM Workbench into 'admin' mode.

**Caution:** Be extremely careful when working with system taxonomies, HP EM uses some hard-coded values from system taxonomies. Changing or removing them may cause errors.

### To Switch HP EM Workbench to Admin Mode

1. Open `WB_HOME/configuration/config.ini` with a text editor.
2. Add `mode=admin` to `config.ini`.
3. Restart HP EM Workbench.

**Tip:** HP EM Workbench is memory-intensive. If you experience performance issues, HP recommends increasing the memory allocation.

**To increase the memory allocation for HP EM Workbench:**

1. Open `WB_HOME/workbench/start.ini` for editing.
2. Set these new values:
  - `-Xms128m`
  - `-Xmx1024m`
3. Save your changes.
4. Restart HP EM Workbench.

**Tip:** HP EM Workbench downloads from HP EM may time out. If you experience issues, HP recommends increasing the time out.

**To increase the time out for HP EM Workbench:**

1. Open `WB_HOME/workbench/start.ini` (or `eclipse.ini` for stand-alone installation) for editing.
2. Set the new value:

```
-Dorg.em.platform.rest.Client.timeout=200000
```

The value is in milliseconds with a default value of 120000 (2 minutes).
3. Save your changes.
4. Restart HP EM Workbench.

## SSL Configuration

By default, HP EM Workbench trusts all HP EM server certificates. You may want HP EM Workbench to verify HP EM certificates.

**To Verify HP EM Server Certificates:**

- Add the following options to `WB_HOME/workbench/start.ini`:

```
-Dcom.hp.em.security.ssl.verifyCert=true  
-Djavax.net.ssl.trustStore=USER_TRUSTSTORE  
-Djavax.net.ssl.trustStorePassword=TRUSTSTORE_PASS  
-Djavax.net.ssl.trustStoreType=TRUSTSTORE_FORMAT
```

If HP EM is configured for 2-way SSL, you must provide HP EM Workbench certificates to HP EM.

#### To Provide HP EM Workbench Client Certificates to HP EM:

- Add the following options to `WB_HOME/workbench/start.ini`:

```
-Djavax.net.ssl.keyStore=USER_KEYSTORE  
-Djavax.net.ssl.keyStorePassword=KEYSTORE_PASS  
-Djavax.net.ssl.keyStoreType=KEYSTORE_FORMAT
```

## Creating a Taxonomy Project

To work with taxonomies, you need a Taxonomy Project. You can create any number of Taxonomy Projects to help organize your work.

#### To Create a Taxonomy Project:

1. Do one of the following:
  - In the HP EM Workbench Welcome page, click **Create Taxonomy Project**.
  - Click **New**  to open the Select a Wizard window, and select **HP EM > Taxonomy Project**.
  - From the menu, select **File > New > Taxonomy Project**.
  - Press **Alt+Shift+N**, and then press **R**, to open the Select a Wizard window. Then select **HP EM>Taxonomy Project**.

The New Taxonomy Project dialog box opens.

2. In the New Taxonomy Project dialog box, enter the following parameters:

Parameter	Definition
Project Name	The name of your assertion project.
Taxonomy ID Prefix	The URN prefix to apply to all taxonomies in the project.

Parameter	Definition
Create from Existing Extension	Select this option if you want to create a new project from a previous taxonomy extension. If selected, input the path or browse for the location of the taxonomyn extension.
Use Default Location	If selected, Taxonomy Editor stores the project in your default workspace. If unselected, input the path or browse for an alternative workspace.

3. Click **Next** to select or create a server.

**Note:** If no servers are currently defined, the dialog box continues to ["Creating a Taxonomy Project" on the previous page](#).

4. Do one of the following:

- Select **Create a New Server**, and click **Next**.

Continue to ["Creating a Taxonomy Project" on the previous page](#).

- Select **Use an Existing Server**, select the server from the list and input its credentials, and then click **Next**.

Continue to ["Creating a Taxonomy Project" on the previous page](#).

5. In the New Server dialog box, add the required parameters, and then click **Next**.
6. Select the taxonomies to download from the server. Optionally, select **Show System Taxonomies** to view system taxonomies for selection.
7. Click **Finish**.

## Customizing Taxonomy Editor

Some settings are customizable in Taxonomy Editor.

### To Change Taxonomy Editor Preferences:

1. Select **Window>Preferences**.

The Preferences dialog box opens.

2. In the tree menu, select **HP EM>Taxonomy Editor**.
3. You can change the following:

- **Default taxonomy namespace**

The default namespace setting is 5.5. This defines taxonomy compatibility level with other UDDI products.

- **Data consistency**

Select **Validate before publishing taxonomies** to validate changes before publishing them to the server

## Downloading Taxonomies from a Server

Initially, Taxonomy Editor does not contain any taxonomies. To edit HP EM taxonomies, you must download them from a server.

### To Download Taxonomies from a Server:

1. In Server Explorer, right-click the server containing the taxonomies you need to open its context menu, and select **Download Taxonomies**.

The Download Taxonomies wizard opens.

2. Select the taxonomies to download and click **Next**.

The Choose Location dialog box opens.

3. Select the project to add the taxonomies to, and then click **Finish**.

Taxonomy Editor displays the download progress. When the download is complete, the taxonomies are visible in Project Explorer.

## Searching for Taxonomies

This section describes the search facilities provided by Taxonomy Editor.

Quick Find is the easiest way to find a taxonomy.

### To use Quick Find:

1. Do one of the following:
  - Click **Search**, and then select **Quick Jump**.
  - Press **Ctrl+J**.

The Find Taxonomy dialog box opens. For details, see "[Find Taxonomy Dialog](#)" on page 43.

2. In the input field, enter a search string.

3. Click **View Menu** , and then select one of the following options:
  - **Show in the tree without opening detail**

Shows the taxonomy in the tree but does not open its details page.
  - **Case-sensitive**

Enables a case-sensitive or case-insensitive search.
4. In the `in project` field, select in which project to search for the taxonomy.

Taxonomies that match your search criteria are displayed in the Matching taxonomies pane.
5. Select the required taxonomy and click **Open taxonomy**.

The taxonomy opens in the Editor pane.

For a more detailed search, you can use Advanced Search to do the following:

- Search for a specific property type.
- Search according to a specific value of a property.
- Search different text strings: full text, regular expression, or whole word.

#### To Use Advanced Search:

1. Do one of the following:
  - Select **Search>Search**.
  - Press **Ctrl+H**.

The Search dialog box opens.
2. Select the **Taxonomy Search** tab to open the dialog box. For details, see "[Search Taxonomy Dialog](#)" on page 43.
3. In the `Containing` text field, do one of the following:
  - Enter the text to search.
  - Select text used in a previous search by using the drop-down list.
4. In `Search only in`, choose the taxonomy properties or categories to search.
5. In `Search controls`, select one or more of the following:

- **Case-sensitive**

To perform a case-sensitive search.

- **Whole words only**

To search for whole word matches.

- **Regular expression**

To search using regular expressions.

6. In **Scope**, select one of the following:

- **Workspace**

To search the Eclipse workspace.

- **Selected resources**

To search all entities selected in Project Explorer.

- **Working set**

To customized resources from Project Explorer.

7. Click **Choose**.

The Select Working Sets wizard opens.

Do one of the following:

- Select from existing working sets.

- Create new working sets.

8. Click **Search**.

The results are displayed in the Search view of the UI.

# Chapter 4: Managing Taxonomies

This chapter describes how to work with taxonomies, as detailed in the following sections:

- ["Creating Taxonomies" below](#)
- ["Editing Taxonomies" on the next page](#)
- ["Editing Categories" on page 25](#)
- ["Deleting and Restoring Taxonomies" on page 27](#)
- ["Comparing Taxonomy Files" on page 28](#)
- ["Updating Taxonomies from the Server" on page 28](#)
- ["Importing and Exporting Taxonomy Files" on page 28](#)

## Creating Taxonomies

In ["Creating a Taxonomy Project" on page 18](#), you created a Taxonomy Project and looked at how to download taxonomies. The following section describes how to create new taxonomies.

### To Create a New Taxonomy:

1. Do one of the following:
  - Click **New**  to open the Select a Wizard dialog box, and select **HP EM>Taxonomy**, and then click **Next**.
  - Select **File>New>Taxonomy**.
  - Press **Alt+Shift+N** to open the context menu, and then select **Taxonomy**.

The New Taxonomy wizard opens.

2. In the New Taxonomy wizard, enter the required parameters.

**Note: Note:** A default Taxonomy ID and Filename are assigned according to the Taxonomy Name entered. The Source Folder is assigned by default, according to whether there is an active extension project. You can change these parameters to meet your requirements.

3. Click **Finish** to create the taxonomy.

The taxonomy is now visible in Project Explorer and the Taxonomy Editor opens.

4. Open the Categories tab and add the categories you need. For details, see ["Editing Categories" on the next page](#).
5. Open the Advanced tab and enter the required parameters, as described in ["Editor View" on page 12](#).

## Editing Taxonomies

A taxonomy can be modified in the following ways:

- ["Editing Taxonomy Properties" below](#)
- ["Refreshing Taxonomies to Reflect External Changes" below](#)
- ["Copying Taxonomies" on the next page](#)

## Editing Taxonomy Properties

**To Edit Taxonomy Properties:**

1. Double-click the taxonomy in Project Explorer to open the Editor view.
2. Edit properties as required in the tabs of the Editor view. For details, see ["Editor View" on page 12](#).
3. Click **Save**.

The changed status of the taxonomy is displayed in Project Explorer.

## Refreshing Taxonomies to Reflect External Changes

If you want the Editor to reflect changes made outside Taxonomy Editor, you can refresh the taxonomy.

To refresh a taxonomy, do one of the following:

- Right-click the individual taxonomies or the project in Project Explorer to open the context menu, and then select **Refresh**.
- Select the individual taxonomies or the project in Project Explorer, and then press **F5**.

The selected taxonomies are then updated to reflect external changes.

## Copying Taxonomies

You can copy or move taxonomies from one project to another using cut, copy, or paste.

### To Copy or Move a Taxonomy to a Different Project:

1. Right-click the taxonomy in Project Explorer and select **Copy** or **Cut**.
2. Right-click the project to which you want to copy or move the taxonomies and select **Paste**.

The taxonomies are then either copied or moved to the other project.

A pasted taxonomy has the status:

- **New**

If a taxonomy of that name is new to that location.

- **Modified**

If an existing taxonomy is overwritten.

## Editing Categories

A taxonomy can be modified in the following ways:

- ["Adding a Category" below](#)
- ["Removing a Category" on the next page](#)
- ["Copying a Category" on the next page](#)
- ["Moving a Category" on page 27](#)

## Adding a Category

### To Add a New Category to a Taxonomy:

1. Open the required taxonomy in the Editor pane and click the **Categories** tab.
2. Do one of the following:
  - Click **Add Next** to add a new category at the same level.
  - Click **Add Child** to add a new sub-category.

The New Category wizard opens.

3. Enter the category properties, as follows:

- **Name**

Name for the category. This represents the value of the `keyName` attribute in the taxonomy's XML representation.

- **Value**

Identifier for the category. This represents the value of the `keyValue` attribute in the taxonomy's XML representation.

- **Disabled**

Select this check box to make sure the category *cannot* be used in an artifact.

4. Click **Finish**.

The new category is displayed in **Category Structure**.

## Removing a Category

### To Remove a Category:

1. Open the required taxonomy in the Editor pane and click the **Categories** tab.
2. Right-click the category in the Category Structure pane to open its context menu, and select **Delete**.

The deleted category is no longer visible in the Category Structure pane.

## Copying a Category

### To Copy a Category:

1. Open the required taxonomy in the Editor pane and click the **Categories** tab.
2. Right-click the required source category in the Category Structure pane to open its context menu, and then select **Copy** or **Cut**.
3. Right-click the required destination category in the Category Structure pane to open its context menu.
4. Do one of the following:
  - Select **Paste** to add the category as a sub-category.
  - Select **Paste as Sibling** to add the category at the same level.

## Moving a Category

### To Move a Category:

1. Open the required taxonomy in the Editor pane and click the **Categories** tab.
2. Select the required category in the Category Structure pane.
3. Do one of the following:
  - Click **Up**, to move a category up.
  - Click **Down**, to move a category down.
  - Click **Unindent**, to move a category to the left.
  - Click **Indent**, to move a category to the right.

**Note: Note:** To move multiple categories at the same time, you must select categories that are consecutive.

## Deleting and Restoring Taxonomies

You can also delete taxonomies and restore them from your local history.

### To Delete a Local Taxonomy:

1. Right-click the taxonomy in Project Explorer to open its context menu, and then select **Delete**.
2. Confirm deletion of the taxonomy when prompted.

### To Restore a Deleted Taxonomy:

1. Right-click the project in Project Explorer to open its context menu and select **Restore from Local History**.

The Restore from Local History dialog box opens.

2. Select the check box of the required taxonomy and click **Restore**.
3. Download the published taxonomy from the server, as described in “Downloading Taxonomies from a Server”.

### To Delete a Taxonomy from the Server:

1. Right-click the taxonomy in Project Explorer to open its context menu and select **HP EM>Remove from Server**.

2. Choose if you also want to delete the local copy.
3. Confirm deletion of the taxonomy when prompted.

**Note: Note:** Taxonomy Editor automatically performs a data consistency check before removing the taxonomy from the server. For details, see “Conflict With Server”.

## Comparing Taxonomy Files

If you are importing or exporting taxonomies between servers, it is essential to compare taxonomies to keep track of changes.

Taxonomy Editor enables you to compare the following taxonomies:

- Local taxonomy against the server taxonomy.
- Server taxonomy against a local history taxonomy.

### To Compare Taxonomies:

Right-click the taxonomies you want to compare in Project Explorer to open a context menu, and then select one of the following:

- **Compare With>Each Other**
- **HP EM>Compare with the latest on server**
- **Compare With>Local History**

The results are displayed in the Compare view.

## Updating Taxonomies from the Server

If the most current version of a taxonomy exists on a server, you can update your local copy to reflect any changes.

### To Update a Local Taxonomy:

- Right-click the taxonomy in Project Explorer to open the context menu, and then select **HP EM>Update from Server**.

**Note:** Confirmation is required to overwrite existing taxonomies.

## Importing and Exporting Taxonomy Files

You can import and export taxonomies between your projects and your local file system.

### To Import a Taxonomy from your File System:

1. In Project Explorer, right-click the taxonomy project to which you want to import taxonomies to open its context menu, and then select **Import>Taxonomy**.

The Import Taxonomies wizard opens. For details, see ["Import Taxonomies" on page 42](#).

2. Browse for the folder from which you want to export taxonomies in the `Folder` field.

The selected folder is displayed in the left pane.

3. Click the check box of the chosen folder.

Compatible file types are displayed in the right pane.

4. Click the check box of the files you want to import and, and then browse for the required import folder in the `Into folder` field.

5. Click **Finish**.

6. Publish the taxonomies to an HP EM repository, as described in ["Publishing Taxonomies" on page 30](#).

**Tip: Tip:** When importing a taxonomy from a file whose file name already exists in the local folder, Taxonomy Editor asks if you want to overwrite the taxonomy. If you click **Yes** or **Yes To All**, the current taxonomy is updated by attributes and *categories* from the XML file and its status is changed to modified.

### To Export a Taxonomy:

1. Right-click the taxonomy in Project Explorer to open its context menu, and then select **Export** to open the Export wizard. For details, see ["Export Taxonomies Wizard" on page 42](#).
2. Select the required file type and click **Next** to open the corresponding wizard.
3. Browse for the required destination and enter the required parameters.
4. Select whether to overwrite existing files.
5. Click **Finish**.

**Note: Note:** You can export a taxonomy to any file type supported by Eclipse. For example:

- XML file
- JAR archive
- EAR-deployable or JAR-deployable archiv

# Chapter 5: Deploying Taxonomies

This chapter explains how to deploy a set of taxonomies as an Extension Project.

You can publish individual taxonomies as described in "[Publishing Taxonomies](#)" below.

Alternatively, create a taxonomy extension and deploy it as described in the following sections:

- "[Building a Taxonomy Extension](#)" on the next page
- "[Applying Extensions](#)" on the next page
- "[Redeploying the EAR File](#)" on page 35

## Publishing Taxonomies

Publishing is the process of updating changes to an HP EM server.

### To Publish a Taxonomy:

- Right-click the taxonomy in the Project Explorer to open its context menu, and then select **HP EM>Upload to Server**. Multiple taxonomies may be selected by holding **CTRL** and selecting them.

The taxonomy is published to the defined HP EM server.

**Caution: Caution:** You cannot publish a System taxonomy to a remote repository.

The status of a taxonomy after publishing updates as described in the following table.

### Taxonomy Status After Publication

Status	Description	Impact
UP-TO-DATE	Local and server versions are identical.	Publication was successful, including any modifications.
NEW ?	Local version of the taxonomy has not been published to the server.	Publication was unsuccessful and the status is unchanged. Possibly due to one of the following: <ul style="list-style-type: none"><li>• Exception error.</li><li>• Breach of server data integrity.</li></ul>

### Taxonomy Status After Publication, continued

Status	Description	Impact
MODIFIED >	Changes have been made to a local version of a taxonomy after it has been published.	
SYSTEM 	Taxonomies automatically generated by HP EM. For system use only.	Changes to these taxonomies cannot be published.

## Building a Taxonomy Extension

After publishing taxonomies, you can create a Taxonomy Extension.

### To Build a Taxonomy Extension:

1. Right-click the taxonomy project in Project Explorer to open its context menu, and expand **HP EM>Build Extension** to open the location browser.
2. Enter a name for the extension project and browse for the location you want to save the project to, and click **Save**.

All taxonomies from the selected taxonomy project are copied to the Taxonomy Extension.

## Applying Extensions

You can extend HP EM by adding libraries or JSPs to the deployed EAR files, by modifying the data model, by configuring the appearance of the UI, and by importing prepackaged data.

Extensions to HP EM come from the following sources:

- **Customization Editor**

Typical extensions created by Customization Editor contain modifications to the data model, and possibly data required by the customization (taxonomies). They may also contain new web components, which may include custom JSP and Java code.

**Caution: Caution:** If your extension contains new artifact types, HP EM does not create default ACLs for them. Set default ACLs for the new artifact types in HP EM.

- **Assertion Editor, Report Editor, and Taxonomy Editor**

These extensions contain assertion, reporting, and taxonomy data only. They do not involve changes to the data model.

The Setup Tool opens the EAR files, applies the extensions, and then repacks the EAR files.

Apply extensions according to one of the following scenarios:

- **Single-Step Scenario**

The Setup Tool performs all the processes involved in applying extensions, including any database alterations, as a single step.

Follow this scenario if you have permission to alter the database used for HP EM.

**To Apply Extensions to HP EM in a Single Step:**

- a. Make sure that all extensions are in the following directory:

EM\_HOME/extensions

The Setup Tool automatically applies all extensions in that directory.

**Note:** If you are applying extensions to another server, substitute the relevant home directory for EM\_HOME.

- b. Stop the server.
- c. Start the Setup Tool by executing the following command:

**EM\_HOME/bin/setup.bat(sh)**

- d. Select the **Apply Extensions** scenario, and click **Next**.

The Setup Tool automatically validates the step by connecting to the server, copying the extensions, and merging the SDM configuration.

- e. Click **Next** for each of the validation steps and the setup execution.

**Note:** This process takes some time.

- f. Click **Finish** to end the process.
- g. Deploy the EAR file:

- **JBoss**

The Setup Tool deploys the EAR file automatically.

If you need to deploy the EAR file to JBoss manually, see ["Redeploying the EAR File" on page 35](#).

- **Other Application Servers**

You must deploy the EAR file manually.

- h. Restart the server.

**Caution:** Applying an extension that modifies the SDM model may drop your full text indices. EM\_HOME/log/setup.log contains the following line in these cases:

```
Could not apply alteration scripts, application will continue with slower DB  
drop/create/restore scenario. ... .
```

In these cases, reapply full text indices as described in the *Installation and Configuration Guide*.

- **Decoupled DB Scenario**

Database SQL scripts are run manually. The Setup Tool performs the other processes as individual steps that are executable on demand. This scenario is useful in organizations where the user applying extensions does not have the right to alter the database, which is done by a database administrator.

Follow this scenario if the user who applies extensions does not have permission to modify the database.

**To Apply Extensions and Modify the Database Separately:**

- a. Make sure that all extensions are in the following directory:

```
EM_HOME/extensions
```

The Setup Tool automatically applies all extensions in that directory.

- b. Stop the server.

- c. Start the Setup Tool by executing the following command:

```
EM_HOME/bin/setup -a
```

- d. Select the **Apply Extensions** scenario, and click **Next**.

- e. Click **Next**, to execute the extension application, and exit the Setup Tool.

- f. Provide the scripts from EM\_HOME/sql to the database administrator.

The database administrator can use `all.sql` to execute the scripts that drop and recreate the database schema.

- g. Execute the Setup Tool in command-line mode to finish the extension application:

### EM\_HOME/bin/setup -c

h. Redeploy the EAR file:

- o **JBoss**

The Setup Tool deploys the EAR file automatically.

If you need to deploy the EAR file to JBoss manually, see ["Redeploying the EAR File" on the next page](#).

- o **Other Application Servers**

You must deploy the EAR file manually.

**Caution:** In some specific circumstances (underscores and numbers in property names), extension application may fail because HP EM cannot create short enough database table names (31 character maximum for most databases).

The error in setup.log resembles the following:

```
[java] --- Nested Exception ---  
[java] java.lang.RuntimeException: cannot reduce length of identifier  
      'ry_c_es_Artifact02s_c_priEspPty01Group_c_priEspPty01',  
      rename identifier elements or improve the squeezing algorithm  
[java] at com.em.platform.rdbms.design.decomposition.naming.impl.  
      BlizzardNameProviderImpl.getUniqueLimitedLengthName(  
          BlizzardNameProviderImpl.java:432)  
[java] at com.em.platform.rdbms.design.decomposition.naming.impl.  
      BlizzardNameProviderImpl.filterTableName(BlizzardNameProviderImpl.java:374)
```

If you do not require backwards compatibility with these older versions, you can change the table naming algorithm.

#### To Change the Table Naming Algorithm:

1. Open EM\_HOME/lib/pl-repository-old.jar#META-INF/rdbPlatformContext.xml with a text editor.
2. In the rdb-nameProvider bean element, edit the following property element:  

```
<property name="platform250Compatible" value="false"/>
```
3. Save rdbPlatformContext.xml

This solution only impacts properties with multiple cardinality. If the problem persists or you need to preserve backwards compatibility, then review the property naming conventions in your extension.

## Redeploying the EAR File

After using the Setup Tool to apply extensions or updates, you must redeploy the EAR file to the application server. For JBoss, you can do this using the Setup Tool.

### To Redeploy the EAR file to JBoss:

1. Stop the application server.
2. Start the Setup Tool by executing the following command:

**EM\_HOME/bin/setup.bat(sh)**

3. Select the **Advanced** scenario, and click **Next**.
4. Scroll down, select **Deployment**, and then click **Next**.

When the Setup Tool validates the existence of the JBoss Deployment folder, click **Next**.

5. Click **Finish** to close the Setup Tool.
6. Restart the application server.

# Chapter 6: Conflicts and Validation Issues

Editing taxonomies can result in validation and conflict issues, as described in the following sections:

- ["Local Validity" below](#)
- ["Server Conflicts" below](#)
- ["Repair Action" below](#)

## Local Validity

By default, the validity of local taxonomies is constantly checked as you modify them.. Invalid taxonomies are marked in Project Explorer and the associated errors are listed in the Problems view.

To disable validation, from the menu, deselect **Build automatically**.

## Server Conflicts

A local taxonomy and the version on a server can come into conflict either when the version on the server is changed or when changes to the local version affect artifacts on the server.

Conflicts are displayed when you try to publish the taxonomy. An error message is displayed, stating that the taxonomy could not be published.

To help prevent conflicts, you can do the following:

- Right-click the taxonomy in Project Explorer to open its context menu, and then select one of the following:

- **HP EM>Show Taxonomy Usage**

All artifacts categorized by the taxonomy are displayed in the Taxonomy Usage view.

- Right-click the taxonomy in Project Explorer to open its context menu, and then select **HP EM>Validate Data Consistency**

Conflicts are displayed in the Validation Results view.

## Repair Action

The Data Consistency Check reports artifacts that use categories which no longer exist in the taxonomy project.

Taxonomy Editor features a Repair Action which enables you to resolve these inconsistencies.

**To Repair an Inconsistency:**

1. In the Validation Results view, expand the problem category, and right-click an artifact to open its context menu, then select one of the following:
  - **Remove Referenced Category From Artifact**
  - **Change Category**
2. Re-run validation.

**Note: Note:** Some conflicts relate to the validity of policy and lifecycle data (non-standard artifacts). The repair actions cannot resolve these conflicts.

# Chapter 7: Example: Creating and Publishing a Department Taxonomy

In this example, you create and deploy a new taxonomy containing the identities of departments in your organization.

Before proceeding, you must do the following:

- Define your HP EM server.
- Update the local taxonomies, as described in ["Updating Taxonomies from the Server" on page 28](#).

## To Create a Department Taxonomy:

1. Create a new taxonomy, entering Departments as the Taxonomy Name.

For details of the procedure, see ["Creating Taxonomies" on page 23](#).

2. Open the Editor for the Departments taxonomy and select the **Categories** tab.

3. Add the following categories:

- HR
- IT
- Payroll
- Finance
- Sales
- Development
- QA

For details of the procedure, see ["Adding a Category" on page 25](#).

4. Press **Ctrl+S** to save the taxonomy.

The Departments taxonomy is now visible in Project Explorer.

5. Right-click the Departments taxonomy to open its context menu, and then select one of the following:

- **HP EM>Publish Taxonomy**

To publish the taxonomy to the defined HP EM server.

- **HP EM>Publish To Other Server**

To publish the taxonomy to a different server.

## Appendix A: Keyboard Shortcuts

Shortcut	Action	Context
<b>Ctrl+Alt+S</b>	Add HP EM server.	Global
<b>Ctrl+N</b>	New taxonomy.	Global
<b>Alt+A, Insert</b>	Add next category.	Categories tab
<b>Alt+C</b>	Add child category.	Categories tab
<b>Alt+U, Ctrl+ArrowUp</b>	Move category up.	Categories tab
<b>Alt+D, Ctrl+ArrowDown</b>	Move category down.	Categories tab
<b>Alt+E, Ctrl+ArrowLeft</b>	Move category left (unindent).	Categories tab
<b>Alt+I, Ctrl+ArrowRight</b>	Move category right (indent).	Categories tab
<b>F2</b>	Navigate to Category Name field.	Categories tab
<b>Esc</b>	Ignore changes in current test field and switch to Category Structure	Categories tab
<b>Ctrl+PgDn</b>	Switch to next editor tab.	Taxonomy Editor
<b>Ctrl+PgUp</b>	Switch to previous editor tab.	Taxonomy Editor
<b>F12</b>	Activate Editor.	Global
<b>Ctrl+W, Ctrl+F4</b>	Close current editor.	Global
<b>Ctrl+Shift+W, Ctrl+Shift+F4</b>	Close all editors.	Global
<b>Ctrl+F6</b>	Go to next editor.	Global
<b>Ctrl+Shift+F6</b>	Go to previous editor.	Global
<b>Ctrl+Shift+E</b>	Switch to editor.	Global

<b>Shortcut</b>	<b>Action</b>	<b>Context</b>
<b>Ctrl+J</b>	Quick find taxonomy.	Global
<b>Ctrl+H</b>	Search taxonomy or category.	Global
<b>Alt+Shift+W</b>	Show editing resource in Taxonomy Editor.	Global
<b>F5</b>	Refresh items.	Global
<b>Ctrl+S</b>	Save changes for active editor.	Global
<b>Ctrl+Shift+S</b>	Save changes for all editors.	Global
<b>Ctrl+C, Ctrl+Insert</b>	Copy	Global
<b>Ctrl+X, Shift+Delete</b>	Cut	Global
<b>Delete</b>	Delete	Global
<b>Ctrl+V, shift+Insert</b>	Paste	Global
<b>Ctrl+Shift+L</b>	Show key assist	Global

# Appendix B: Dialog Boxes Reference

Each Taxonomy Editor input dialog is described in the following sections:

- ["Import Taxonomies" below](#)
- ["Export Taxonomies Wizard" below](#)
- ["Find Taxonomy Dialog" on the next page](#)
- ["Search Taxonomy Dialog" on the next page](#)

## Import Taxonomies

Select taxonomy files to import into your taxonomy project:

Parameter	Definition
Folder	Browse for the source folder containing the taxonomy files you want to import.
Left Pane	Select the source folder containing the taxonomy files you want to import.
Right Pane	Select the individual taxonomy files you want to import.
Into Folder	Browse for the destination folder into which you want to import the selected taxonomies.

## Export Taxonomies Wizard

Select a destination for the taxonomies you wish to export:

Parameter	Definition
Select an export destination	Enter text to filter your search.
Tree View	Select File System as your destination folder.

Select the taxonomies you want to export, then browse for the destination directory:

Parameter	Definition
Left Pane	Select the project from which you want to export taxonomies.

Parameter	Definition
Right Pane	Select the individual taxonomies you want to export.
To Directory	Browse for and select the directory into which you want to export the selected taxonomies.

## Find Taxonomy Dialog

A quick search for matching taxonomies:

Parameter	Definition
Top Field	Enter text to filter your search results.
Matching Taxonomies	A list of taxonomies matching your search request.
In Project	Select the project in which you want to search for taxonomies.

## Search Taxonomy Dialog

An advanced search for matching taxonomies:

Parameter	Definition
Containing Text	Enter text to search or use the drop-down menu to select a previous search parameter.
Working Set	Browse for and select a working set as a scope for your search.

## Appendix C: Troubleshooting

Case	Indications	Resolution	Type	Severity
A taxonomy was changed on the remote server while you were modifying your local version.	Your local taxonomy is CONFLICTING. The local version cannot be published and its modifications are kept.	To replace the local taxonomy with the server version, use the taxonomy context action <b>HP EM&gt;Update Taxonomy</b> . You might want to first copy your local version to a temporary location.	Conflict	Error
A taxonomy was published that has the same file name as a new taxonomy you are trying to publish to the remote server.	Taxonomy is CONFLICTING. The local version cannot be published. Changes to the local taxonomy and server remain in Project Explorer.	To replace the local taxonomy with the remote server version, use the taxonomy context action <b>HP EM&gt;Update Taxonomy</b> . You might want to first make a backup copy your local version.	Conflict	Error
The taxonomy you have created has the same ID as an existing taxonomy on the remote server	The local taxonomy cannot be published. Changes to the local taxonomy and server remain in Project Explorer. The Validation Results include a node giving the taxonomy ID.	Change the ID of the new taxonomy.	Validation Results	Error
You have changed the ID of a taxonomy used by artifacts.	The local taxonomy cannot be published and remains MODIFIED. The Validation Results list artifacts that use the taxonomy.	To restore the original taxonomy, use the taxonomy context action <b>HP EM&gt;Update Taxonomy</b> .	Validation Results	Error
A category that you modified is used by other artifacts.	The local taxonomy cannot be published and remains MODIFIED. Validation Results lists artifacts that use the category.	To restore the original taxonomy, use the taxonomy context action <b>HP EM&gt;Update Taxonomy</b> .	Validation Results	Error

<b>Case</b>	<b>Indications</b>	<b>Resolution</b>	<b>Type</b>	<b>Severity</b>
A new taxonomy ID is identical to that of another local taxonomy.	An error message for this taxonomy is shown.	Change taxonomy ID to another value.	Local Inconsistency	Error
Taxonomy ID format is invalid.	A warning message for this taxonomy is shown.	Change taxonomy ID to valid format.	Local Inconsistency	Warning
Category value is duplicated by another category in the same taxonomy.	An error message for this taxonomy is shown.	Change the category value.	Local Inconsistency	Error
Taxonomy file name contains invalid character for REST URL.	An error message for this taxonomy is shown.	Change file name so that it does not contain invalid character.	Local Inconsistency	Error