HP Enterprise Maps

Software Version: 1.00

User Guide

Document Release Date: January 2014

Software Release Date: January 2014

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Contents

Using HP Enterprise Maps

You can use HP Enterprise Maps (HP EM) to manage your enterprise architecture. This user guide will introduce you to many of the key features, including:

- Getting Started and an overview of the user interface.
- How to create, edit, and view artifacts and relationships between artifacts and use the catalog browser.
- How to create, edit, and run reports, including heatmaps and structure maps.
- How to view the data model and select artifacts of interest within that model.
- How to perform administration tasks.
- How to use the integrations between HP EM and key data sources.
- How to install and use the extensions for Sparx EA and Inkscape.
- How to perform scripted XML publishing.

Chapter 1

HP EM Documentation Library

The HP EM Documentation Library consists of the following guides, which are available online, in PDF format, or both. PDFs can be read and printed using Adobe Reader, which can be downloaded from the Adobe website (http://www.adobe.com).

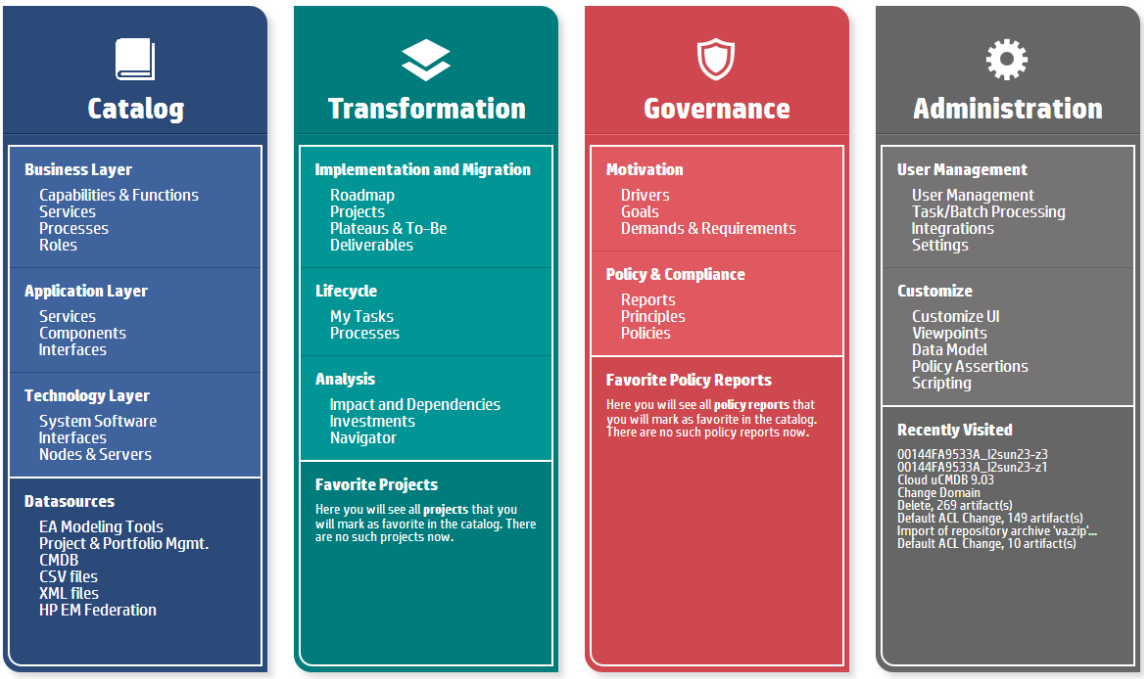
Click on the document link to access the PDF on the HP Software Product Manuals website. You must have an HP Passport account.

Guide	Description
Enterprise Maps 1.00 Concepts Guide	Provides conceptual information about HP EM.
Enterprise Maps 1.00 User Guide	Describes the HP EM UI and how to use it.
Enterprise Maps 1.00 Installation and Configuration Guide	Describes how to install and configure HP EM.
Enterprise Maps 1.00 Legal Guide	Provides open source and third-party license agreements and notices.
Enterprise Maps 1.00 Workbench - Assertion Editor Guide	Describes how to use the Assertion Editor in HP EM to create custom assertions for use in policy management.
Enterprise Maps 1.00 Workbench - Customization Editor Guide	Describes how to use the Customization Editor in HP EM to customize the SOA Definition Model (SDM).
Enterprise Maps 1.00 Workbench - Report Editor Guide	Describes how to use the Report Editor in HP EM to create custom reports for use in the Reports tab.
Enterprise Maps 1.00 Workbench - Taxonomy Editor Guide	Describes how to use the Taxonomy Editor inHP EM to create taxonomies for artifact categorization.
Enterprise Maps 1.00 Release Notes	Provides HP EM feature information, installation notes and known issues.

Chapter 2

Getting Started

The HP EM home page starts you off with an easy-to-use set of panels to guide you through the enterprise architecture process. This User Guide takes you through many common tasks as well as detailed information on the integrations and instructions on how to install the extensions for Sparx and Inkscape.



Note: If you are not logged in as Administrator, your home page will not include the Administration panel.

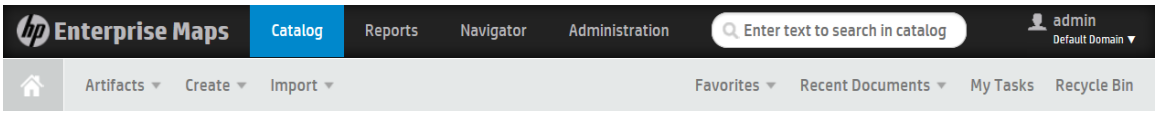
Chapter 3

User Interface Overview

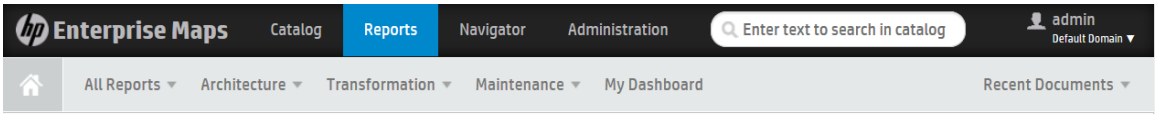
EM provides you with an easy-to-use user interface with the following features.

Menu Tabs

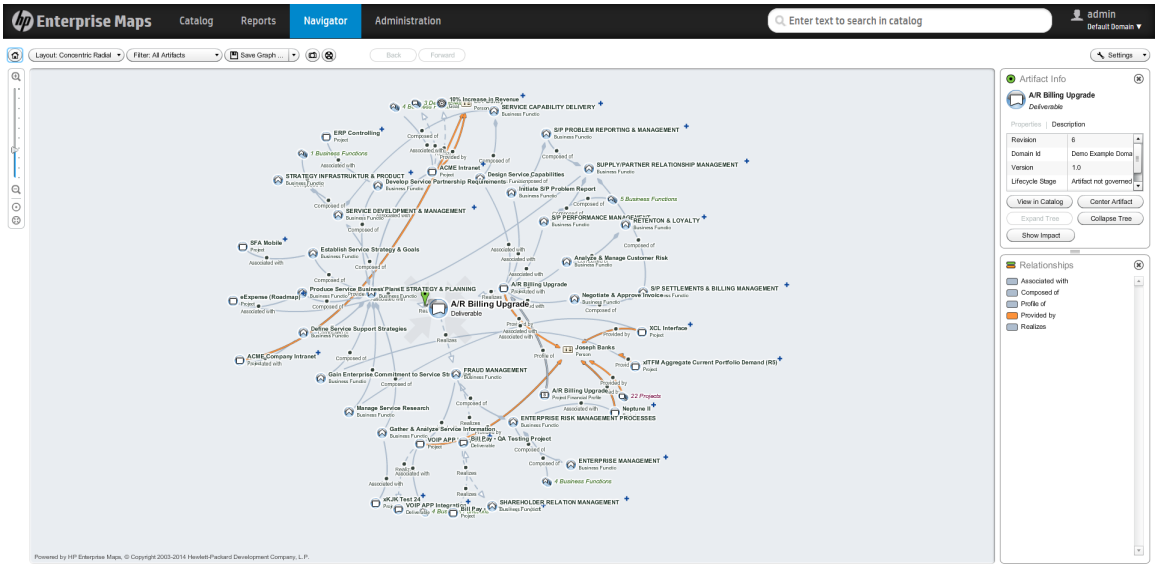
Catalog: On the Catalog tab you can access the main panels, which organize HP EM functionality through the enterprise architecture process phases, from creating artifacts by layer in the catalog, to undertaking lifecycle and analysis tasks in the transformation phase, to governance activities. You can list existing artifacts, create new ones, or import them from other repositories and data sources.



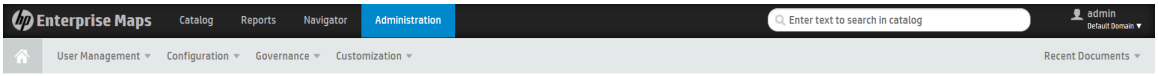
Reports: On the Reports tab, you can access many artifact, policy, heatmap, structure map, and custom reports. You can also view Architecture reports such as Archimate Compliance and Installed Software and Transformation reports such as Roadmaps, Investments, Project by Cost, and Applications by Cost. Maintenance reports such as Application Costs are also available, and you can also customize the reports that appear on your dashboard. For more information, see the Reports section.



Navigator: On the Navigator tab, you can view a diagrammatic view of your architecture and select an artifact that you wish to display as the center of the view.



Administration: On the Administration tab, which appears if you are logged in as Administrator, you will see many user management, configuration, governance, and customization options.



Navigation Tabs

After you select and open an artifact of any type, the following navigation tabs appear on the left side of your page view:

- **Overview**: Shows Relationships and Latest Events.
- **Documentation**: Shows any documentation that you wish to add to an artifact.
- **Tree View**: Shows relationships and approvals in a tree view and provides buttons to access additional views, for example Show Impact and Navigator, which will open the related views for the selected artifact.
- **Lifecycle**: Shows details on the artifact's lifecycle. If there is no Lifecycle process assigned, you can use the Start Governance action to start it.
- **Discussion**: Add, edit, or view a comment that others will see when they access the artifact.
- **Categories**: Add, edit, or view a category and description.
- **Specification**: Add, edit, or view any associated specifications.
- **Compliance**: View any associated policies and the level of compliance with those policies.
- **Access Rights**: Add, edit, or view any associated access rights.
- **Contacts**: Lists the contacts associated with the selected artifact, for example Architect, Developer, Administrator, or Project Manager.
- **History**: Lists the revision history table for the selected artifact, including revision, date, actor name, lifecycle stage, and lifecycle process.
- **Relationships**: Lists the outgoing and incoming relationships to the selected artifact.
- **Metrics**: Lists any associated metrics for the selected artifact.

Chapter 4

Catalog

The HP EM catalog panel is accessible to you through the Catalog tab home page. It includes the following layers and associated artifact types that you can create or modify:

- **Business Layer**:
  - Capabilities & Functions
  - Services
  - Processes
  - Roles
- **Application Layer**:
  - Services
  - Components
  - Interfaces
- **Technology Layer**:
  - System Software
  - Interfaces
  - Nodes & Servers

You can create or modify artifacts on each layer. Artifacts are thereby available as inputs for reports that you create by using the Reports tab features or to visualize by using the Navigator.

Data Sources

HP EM includes integrations with many data sources that you can access directly from the Catalog tab catalog panel. These include modeling tools, other HP solutions such as HP PPM and HP uCMDB, as well as CSV and XML file importing, and direct imports from other HP EM instances. For more information, go to the Integrations section. Data sources include:

- **EA Modeling Tools**: You can edit the whole repository in an external diagramming tool where the data will be bidirectionally synchronized between HP EM and the tool project space. Out of the box you can integrate with Sparx Enterprise Architect. For more information, go to the Sparx EA Extension section.
- **Project & Portfolio Management**: It is easy to connectHP EM to project and portfolio management solutions to import project and financial information, which enables you to analyze data in a broader IT perspective, including the application and technology layers of the enterprise architecture. HP EM is integrated with the following PPM servers: Cloud PPM. Out of the box you can integrate with HP Project and Portfolio Management, however, other systems may be supported as well. Contact your HP sales representative to request an extra integration connector license.
- **CMDB**: To be able to analyze the costs, impacts, and dependencies of IT infrastructure on your business, you can integrate HP EM with a configuration management database (CMDB). This

allows the system to get information about servers and software running on it as well as enabling you to connect these objects to application and business architecture. This also enables you to control the lifecycle of these entities. HP EM is integrated with the following CMDB servers: Cloud uCMDB 9.03. Out of the box you can integrate with HP Universal CMDB, however, other systems may be supported as well. Contact your HP sales representative to request an extra integration connector license.

- **CSV Files**: You can import CSV files into HP EM. If you have installed HP EM on your local machine you can find a command line tool for CSV file import in the following location: INSTALL_DIR\client\bin\csvImport.bat[sh]. You can also download the dedicated CSV importer distribution, which will enable you to use the csvImport command line tool. Note: You can also export CSV files by using a context action directly from HP EM tables.
- **XML Files**: You can publish XML files into HP EM by using the File Import function. The XML file is analyzed and decomposed into artifacts based on a configuration file stored within script artifacts. This configuration is customizable and you can define your own for your custom XML schemas.
- **HP EM Federation:** You can selectively export some artifacts (a whole plateau for example) from another HP EM instance by selecting the desired artifacts in the catalog browser and clicking the Export context action. An archive file is produced. You can import the archive by using the Import Repository Archive feature. This enables you to transfer data between multiple, even disconnected instances of HP EM. In a similar way, you may export whole HP EM domains.

CSV File Export and Import

EM can export and import data in the Comma-Separated Value (CSV) format. This is useful if you want to consolidate data from spreadsheets or relational databases. You can also edit multiple data sets efficiently in spreadsheet format and offline and send the data back to EM in one step.

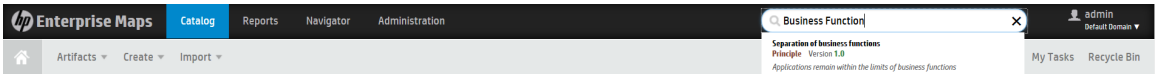
If you want to populate a simple collection from a spreadsheet file, a good practice to begin is to create one artifact in the HP EM collection by using the Catalog, and then you can open the collection list, select it, and then use the Save as CSV function to access the CSV file from HP EM. You can then open the result in Excel, add more data in the specified form according to the first record, and then use the CSV import tool to publish all the data inside HP EM. For more information, see the procedures listed in this section.

Exporting CSV Files

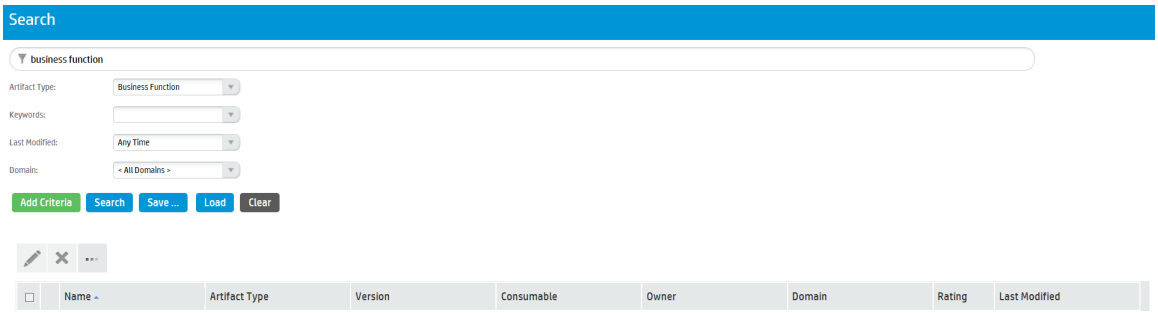
To export CSV data from HP EM:

1. Open the Catalog in a browser.
2. If the collection you are interested in is empty, create the first artifact so that the exported CSV file contains an example data row.
3. Open the collection you are interested in either by searching for it in the Search box or by opening the collection from the Catalog panel. For example, to open the Business Function collection, select Capabilities and Functions from the Catalog panel list and perform your search by clicking the Filter menu to open the Search page. Then you can the Business Function value from the Artifact Type selector and click Search.

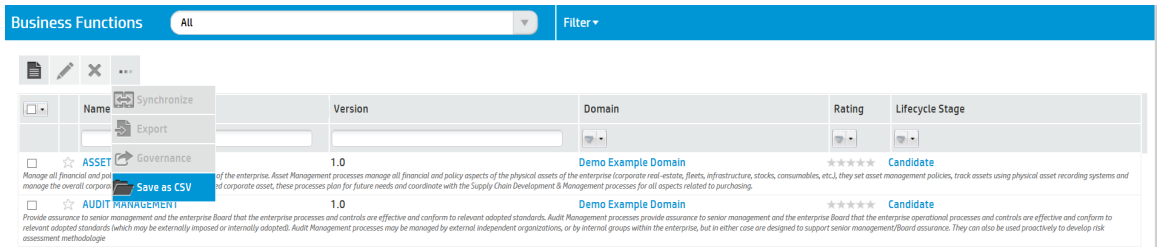
- Option A: Using the Menu Bar Search Field.



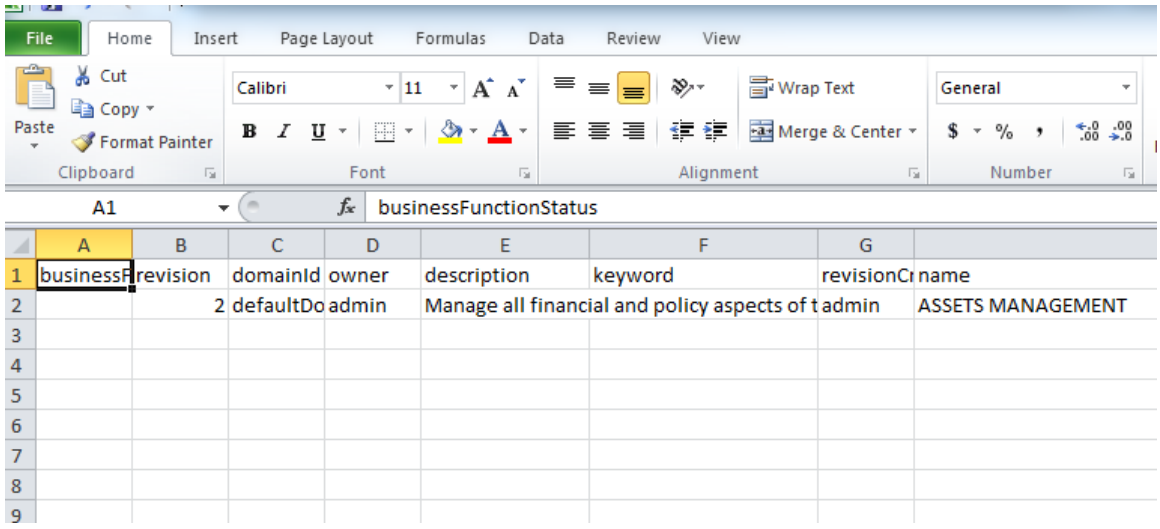
- Option B: Using the Catalog Search Page



4. After you have located and opened the collection you are interested in exporting, click the More Actions button (e.g., the button with three dots next to the Edit and Delete buttons), and click Save as CSV. This will start the download of data in CSV format from the table to your local computer.

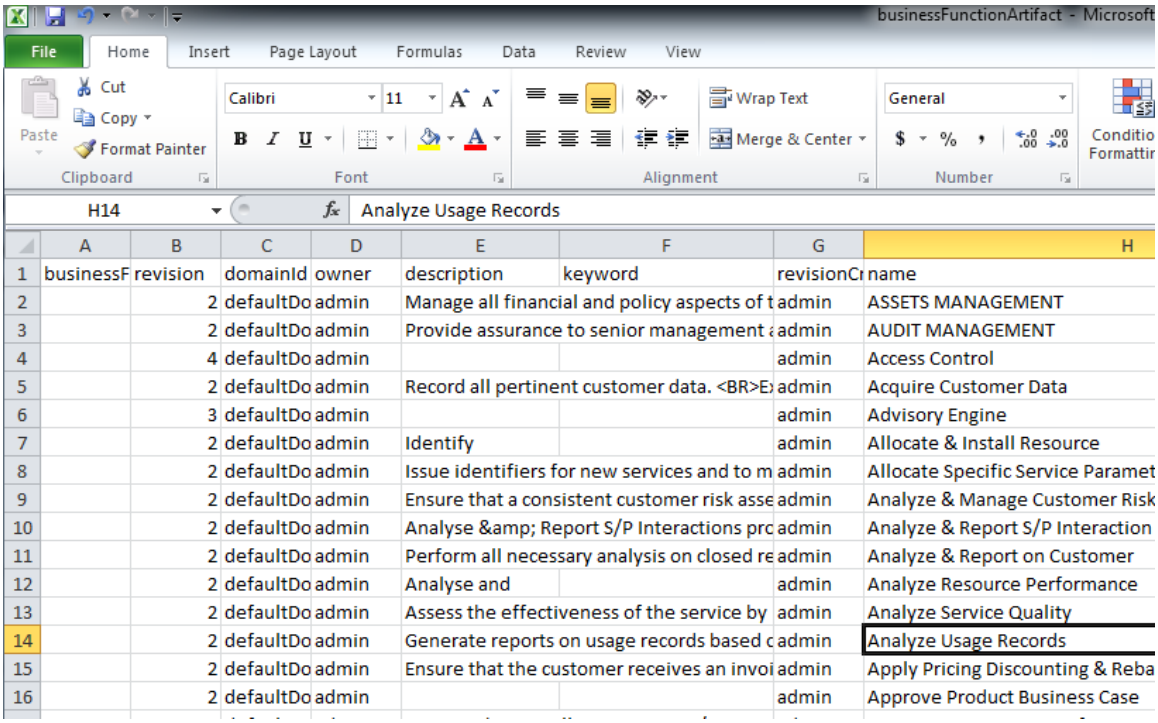


5. Open the downloaded CSV file in a spreadsheet editor, such as Excel. The first row is a header that specifies the mapping of data in HP EM. It helps you to learn how to link the data in specific columns to properties, relationships, etc.



6. Remove unnecessary and redundant headers. For example: delete all columns but keep the following headers: businessFunctionStatus, revision, domainId, owner, description, keyword, revisionCreator, name. Add new data to complete the collection in spreadsheet, and when you

are finished, make sure to Save as CSV. Once you do this, you are ready to Import back into HP EM.



	A	B	C	D	E	F	G	H
1	businessF	revision	domainId	owner	description	keyword	revisionCr	name
2		2	defaultDo	admin	Manage all financial and policy aspects of t		admin	ASSETS MANAGEMENT
3		2	defaultDo	admin	Provide assurance to senior management a		admin	AUDIT MANAGEMENT
4		4	defaultDo	admin			admin	Access Control
5		2	defaultDo	admin	Record all pertinent customer data. E		admin	Acquire Customer Data
6		3	defaultDo	admin			admin	Advisory Engine
7		2	defaultDo	admin	Identify		admin	Allocate & Install Resource
8		2	defaultDo	admin	Issue identifiers for new services and to m		admin	Allocate Specific Service Paramet
9		2	defaultDo	admin	Ensure that a consistent customer risk asse		admin	Analyze & Manage Customer Risk
10		2	defaultDo	admin	Analyse & Report S/P Interactions prc		admin	Analyze & Report S/P Interaction
11		2	defaultDo	admin	Perform all necessary analysis on closed re		admin	Analyze & Report on Customer
12		2	defaultDo	admin	Analyse and		admin	Analyze Resource Performance
13		2	defaultDo	admin	Assess the effectiveness of the service by		admin	Analyze Service Quality
14		2	defaultDo	admin	Generate reports on usage records based c		admin	Analyze Usage Records
15		2	defaultDo	admin	Ensure that the customer receives an invoi		admin	Apply Pricing Discounting & Reba
16		2	defaultDo	admin			admin	Approve Product Business Case

Importing CSV Files

To import CSV files, first decide what type of information and relationship data you want to import as well as how you would like to view the results of your import mapped into HP EM repository.

If you are an administrator or have administrator role privileges you will find the CSV Importer command line tool in the EM_HOME\client directory. If you are not an administrator, you can ask your administrator to archive the tool and share it with you so that you can access it.

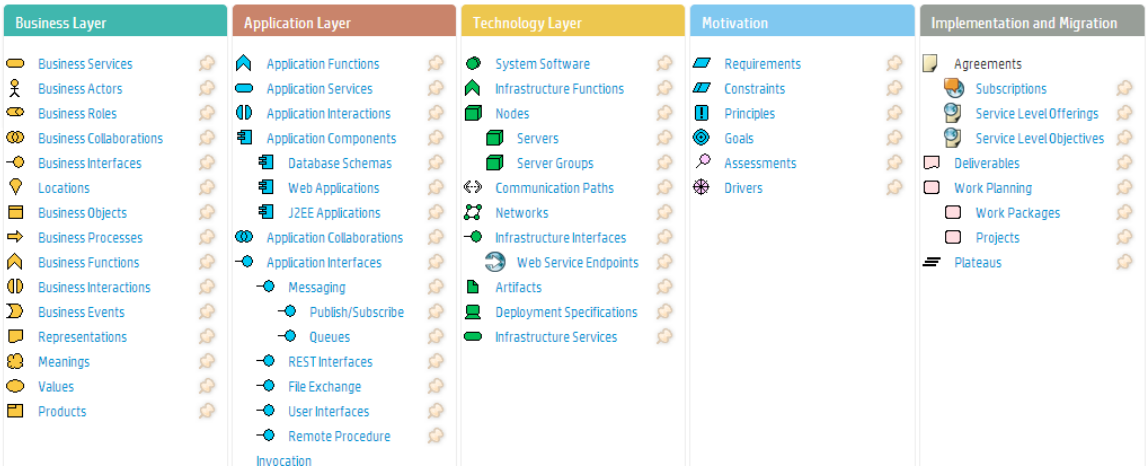
To get the CSV Importer command line tool and then run it:

1. Unzip the archive and open a command-line shell and change to the client/bin directory. The tool depends on Java 1.7, so make sure you have access to the java command at the PATH variable.
2. Call csvimport.bat or csvimport.sh to get help messages displaying the command-line options.
3. Type the command with at least host, user, password, sdmName and file parameters to your environment. For instance, “csvimport -host http://hpdemo/em -user admin -password changeit -file businessFunctions.csv –sdmName businessFunctionArtifact”
4. The CSV import of Business Functions from CSV file starts. The tool will log all events related to the progress and status of the import.
5. When you refresh your browser, you can view the results imported into the HP EM collection.

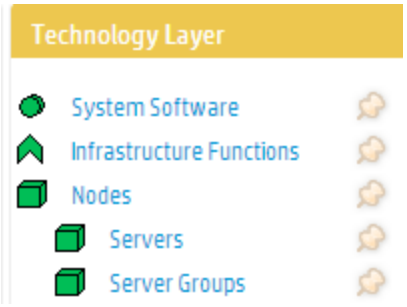
Catalog Browser

The HP EM catalog browser is the place for viewing artifacts by artifact collection type and Archimate model layer.

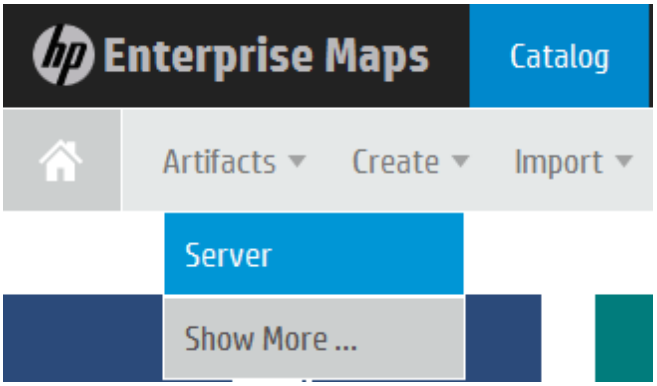
1. To open the catalog browser, click Catalog > Artifacts >Show More.



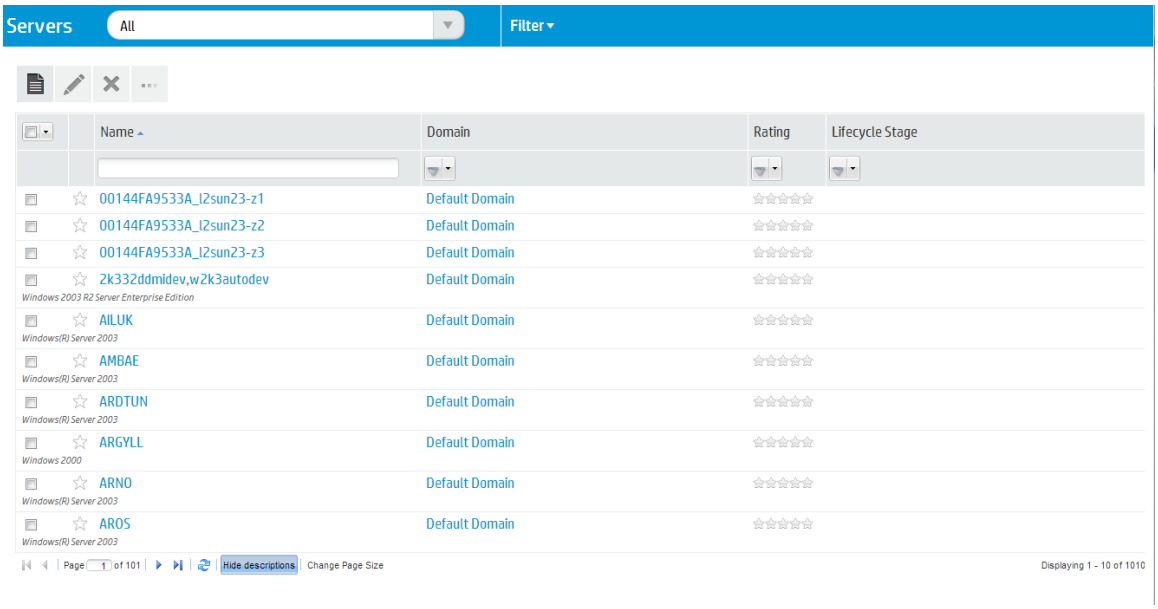
2. To open a collection of artifacts, click the type of artifact that you want to view. In this example, click Servers on the Technology Layer:



Tip: You can pin the Server artifact collection to your Artifact menu, by clicking the Pin next to the Server collection. Pinning a collection makes it quick and easy to select:



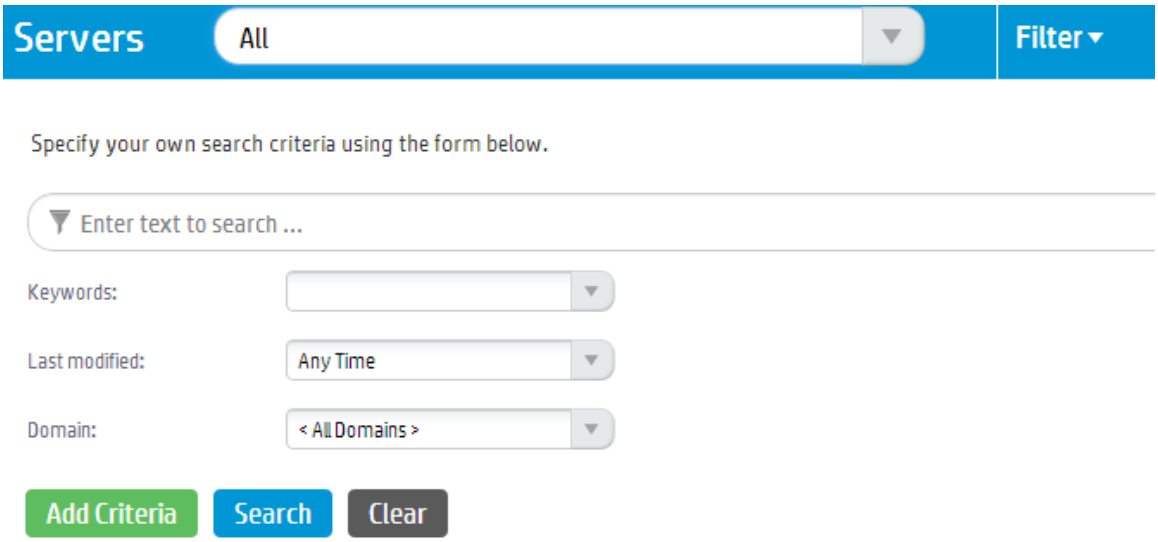
3. After you select the artifact collection you want to view, the collection page opens. In this example, the Server collection is shown:



4. To customize your view, you can sort, filter, and manage columns. You can use controls at the bottom of the collection page to control the page size and amount of description displayed.

5. To perform bulk operations on artifacts in the collection, you can use the toolbar at the top of the collection page:

6. You can set up custom filters, such as a filter for favorite artifacts or artifacts that you own:

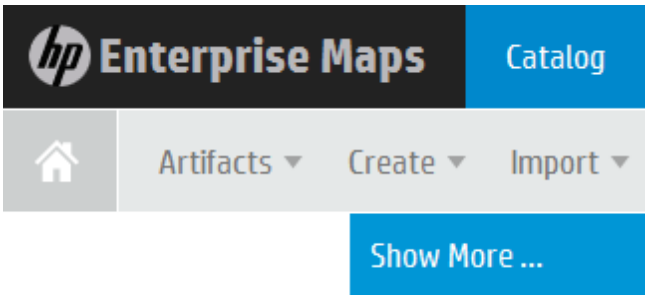


Creating Artifacts

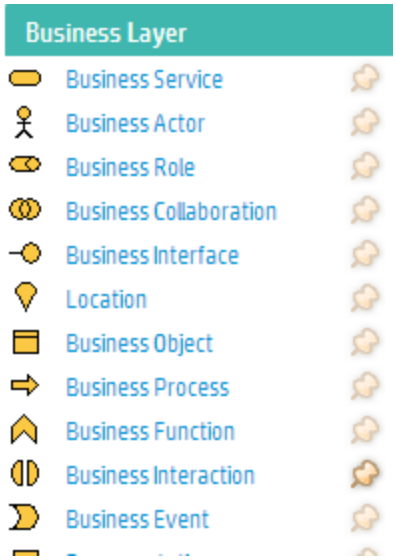
You can use HP EM to create new artifacts and the attributes and relationships that impact those artifacts.

To create a new artifact:

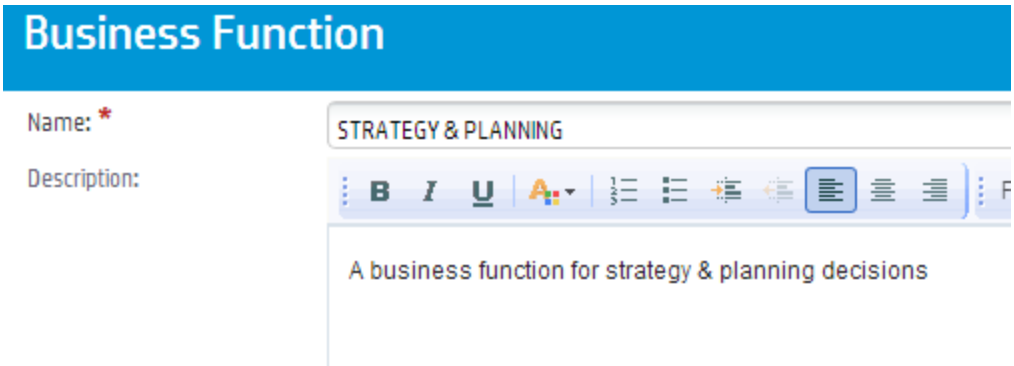
1. Click **Catalog > Create > Show More** to open the catalog browser Create Artifact window.



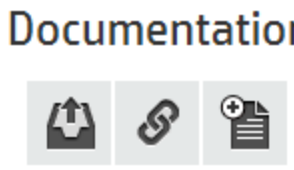
2. Select the artifact type that you want to create. The new artifact opens. This example shows a Business Function artifact on the Business Layer.



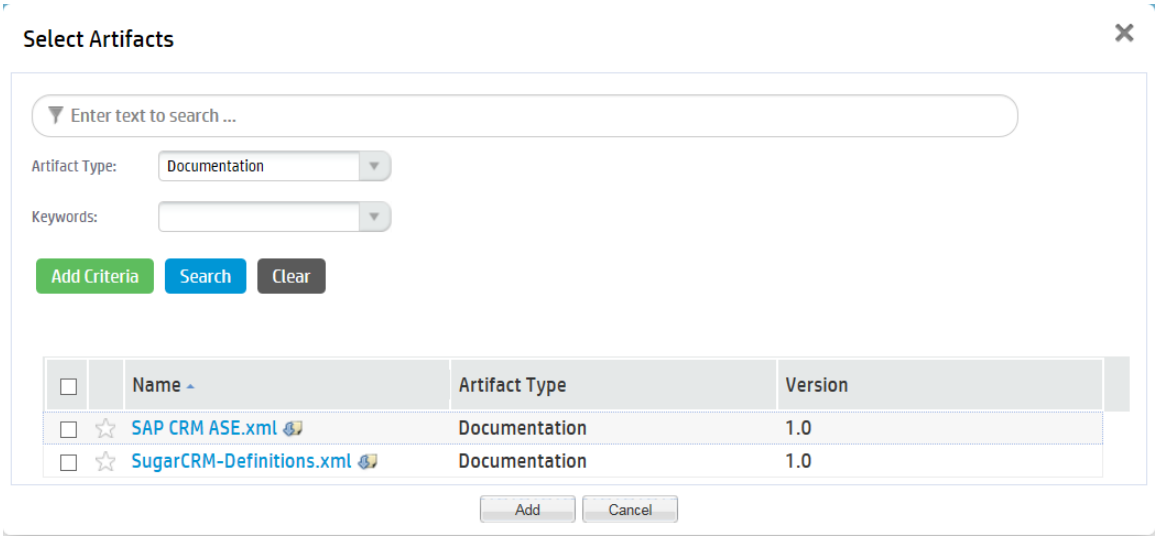
3. Enter the name of your new artifact. By using the text editor, you can also add a description and status.



3. In the Documentation area, you can attach or link to any associated documentation. Documents that you load are viewable on the Documentation tab.

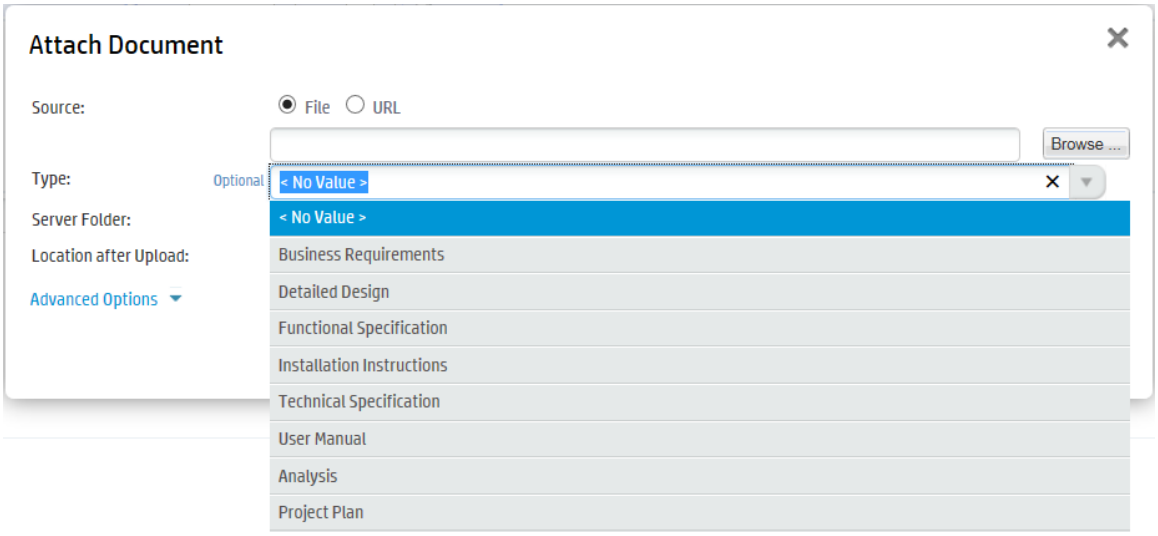


4. To add documentation from an existing artifact, click the Add Existing Documentation icon. The Select Artifact window displays a list of documentation artifacts to choose from.

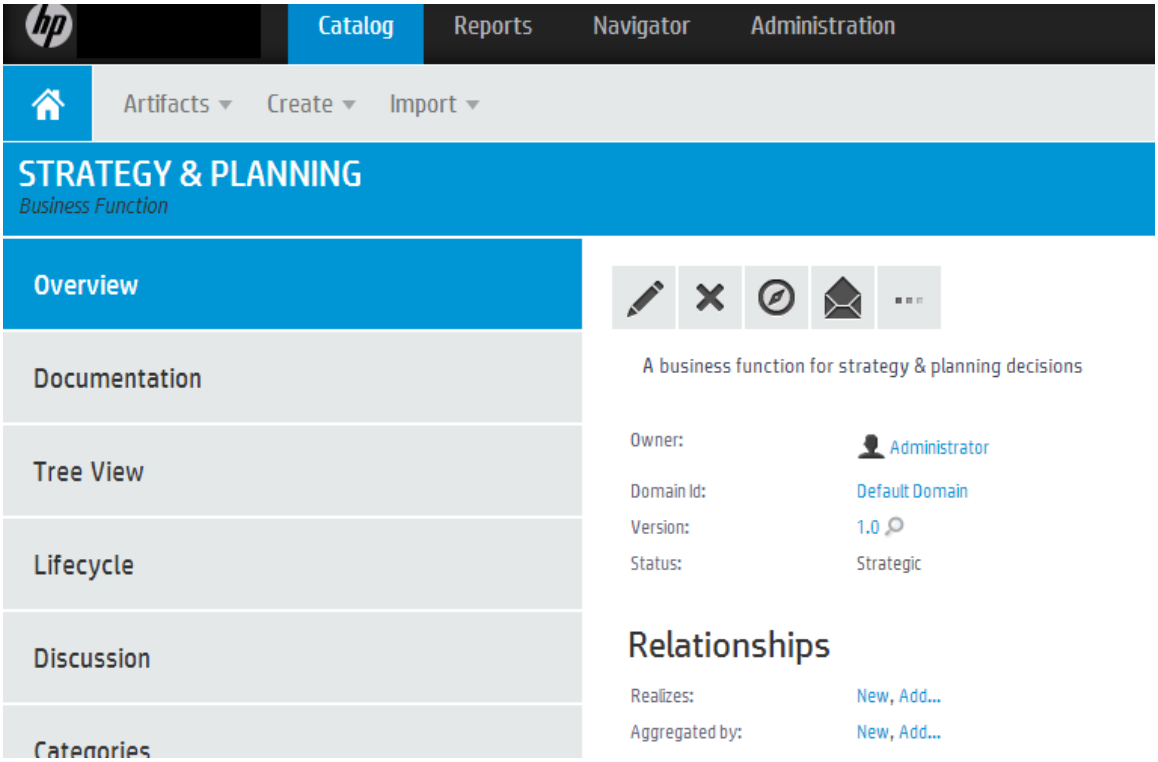


5. To add a link to documentation from a web resource, click the Link a Web Resource icon. The Add Document Reference window opens and you can use it to enter the document URL, the document type, and any text or keywords that you want to appear with the link.

6. To attach a documentation artifact directly, click the Upload a Local File icon. The Attach Document window opens and you can use it to enter the document source location, the document type, the server folder, and the location where the document should reside after upload, as well as keywords that you want to enable so that users can find the document. In this example, the document types are shown.



7. Click Save to save the new artifact that you created. Your new artifact record is displayed and you can add or modify attributes and relationships using the tabs. Documentation artifacts are shown on the Documentation tab.

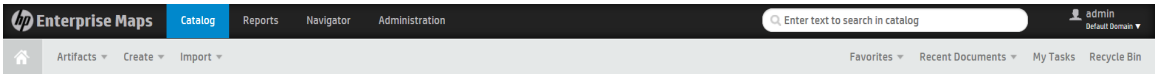


Searching for Artifacts

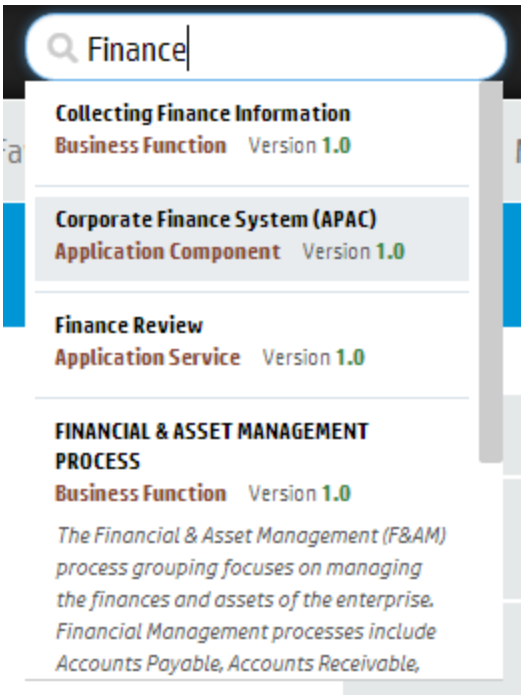
HP EM enables you to perform artifact searches quickly and easily from every page.

To perform a basic search:

1. Enter the text to search for in the Search box.



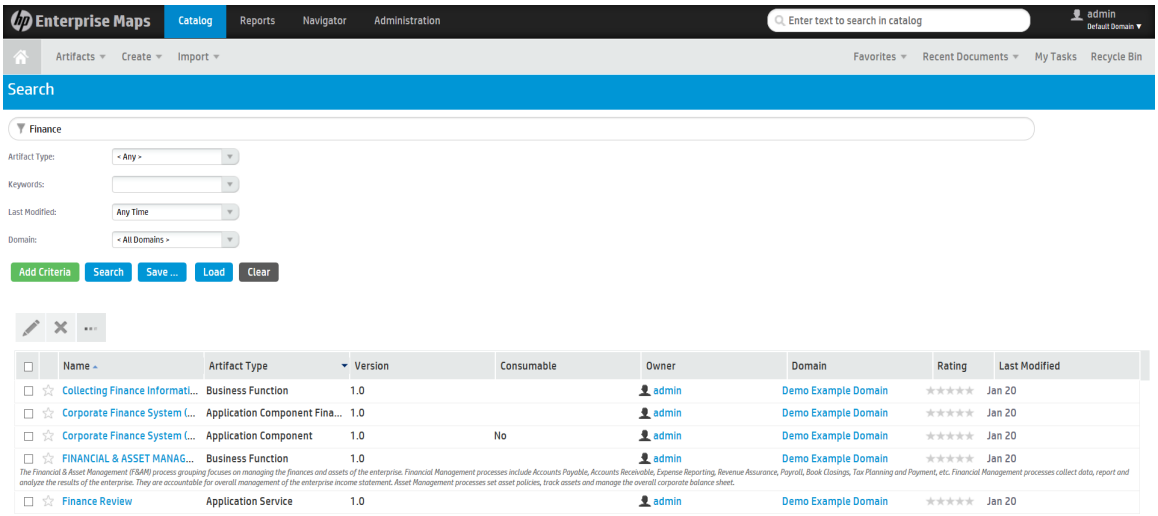
2. For example, if you search for the word "finance," a drop-down list of results is displayed.



3. Click on the artifact you are interested in to open the Artifact details page.

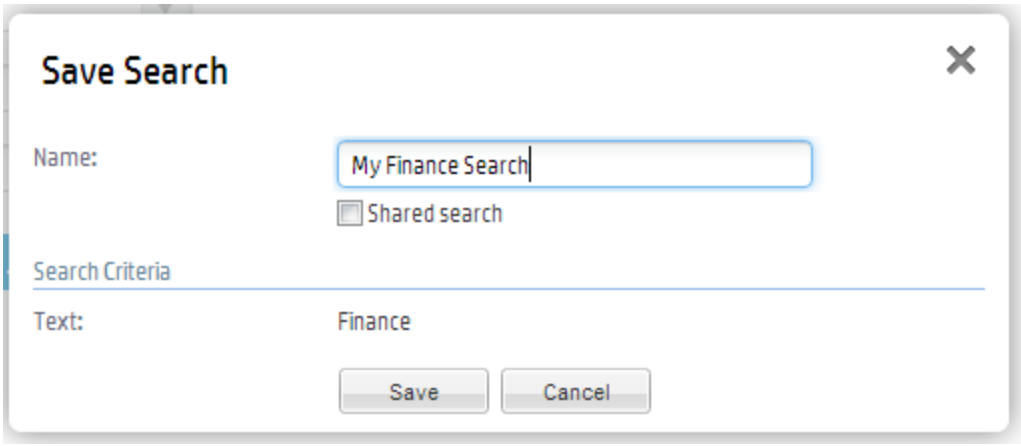
To perform an advanced search:

1. Enter the text to search for in the Search box and press Enter. The Search page opens showing the text you searched for. In this case, the search time "finance" is shown.

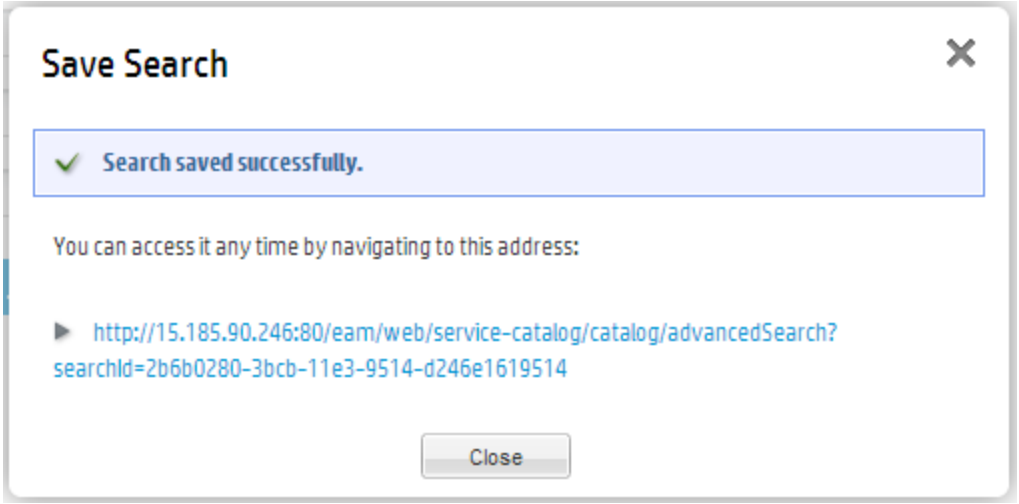


2. To refine your query, use the text field to add additional search terms, key words, or to add criteria.

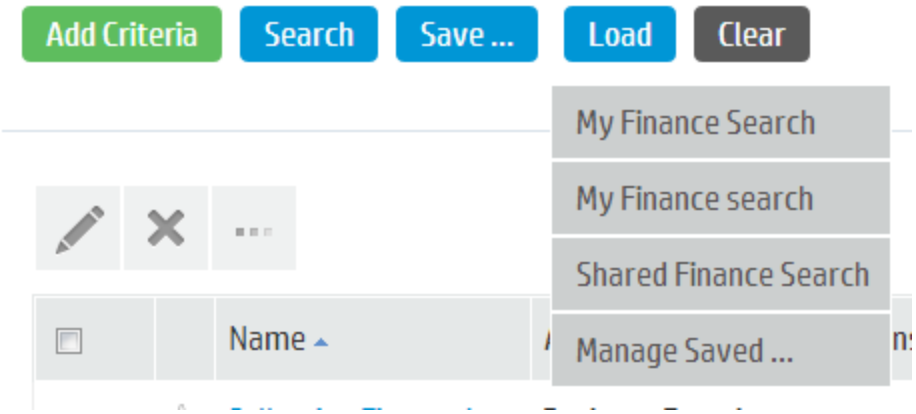
3. If you want to save the Search for future use, click Save. The Save Search box opens.



4. Type the name of your search, and then click Save. You can access your search at any time by navigating to the URL address provided. You can also share the search URL with others.



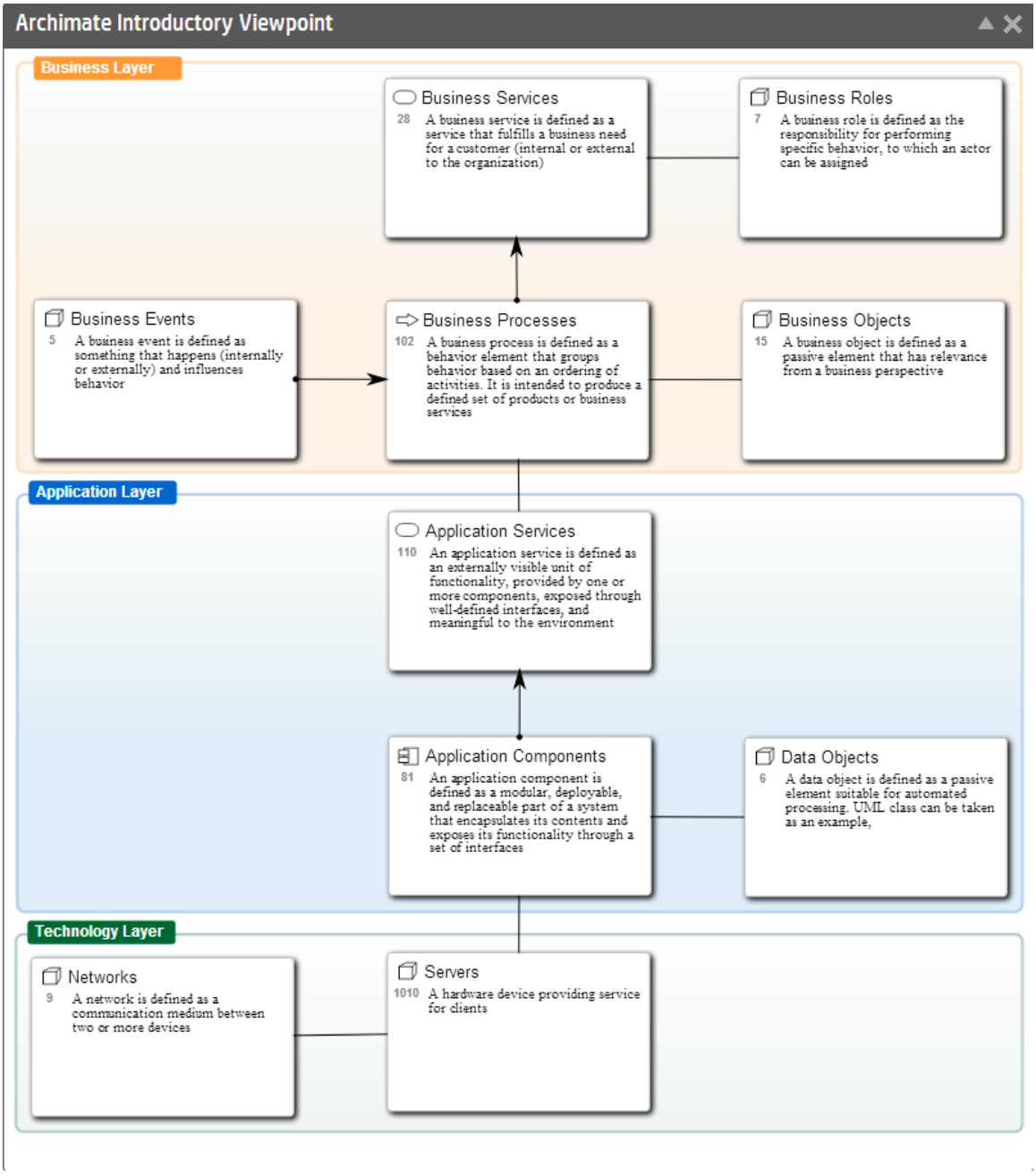
Once you have saved a search, it is displayed every time you click Load in the Search page.



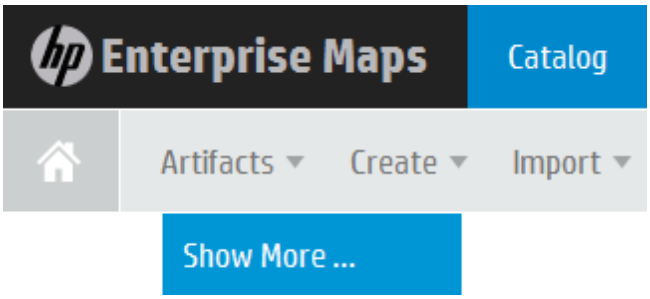
Viewing Artifacts in the Data Model

The HP EM data model is based on the Archimate modeling language specification and consists of artifacts grouped by type and layer, as well as artifact properties and relationships.

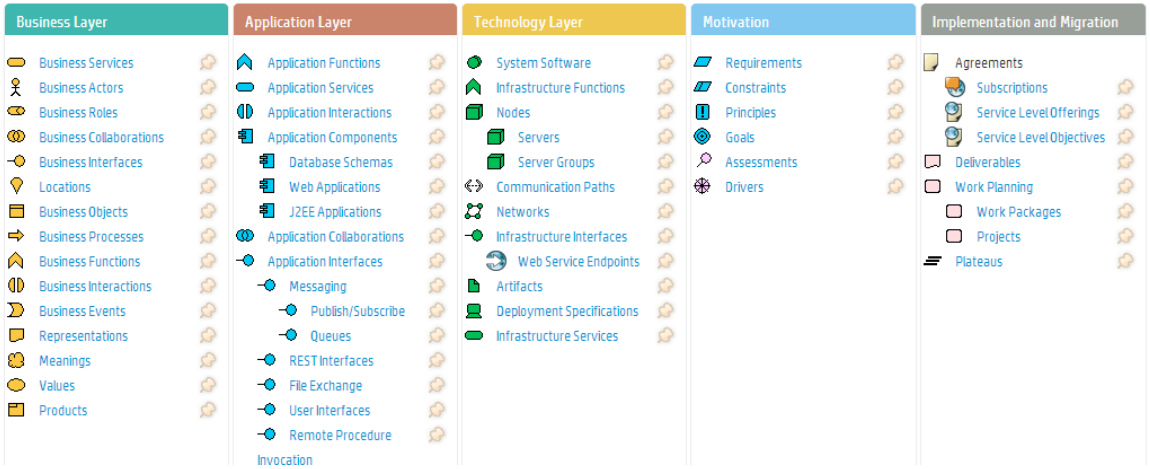
You can view the data model by logging in to HP EM and viewing the Archimate Introductory Viewpoint that displays the model's layers and selected artifact types.



You can view a complete list of artifacts by accessing the catalog browser. Select **Catalog>Artifacts>Show More**.



The catalog browser opens and displays all of the data model's artifact types grouped by Archimate layer.



Relationship Editor

The HP EM relationship editor enables you to view and modify artifact relationships directly. Relationships can be those predefined within the ArchiMate model or you can add new relationships. Both ArchiMate and non-ArchiMate relationships are shown on the Overview tab view. You can add new or manage relationships by using the Relationship tab view.

Creating and Managing Artifact Relationships

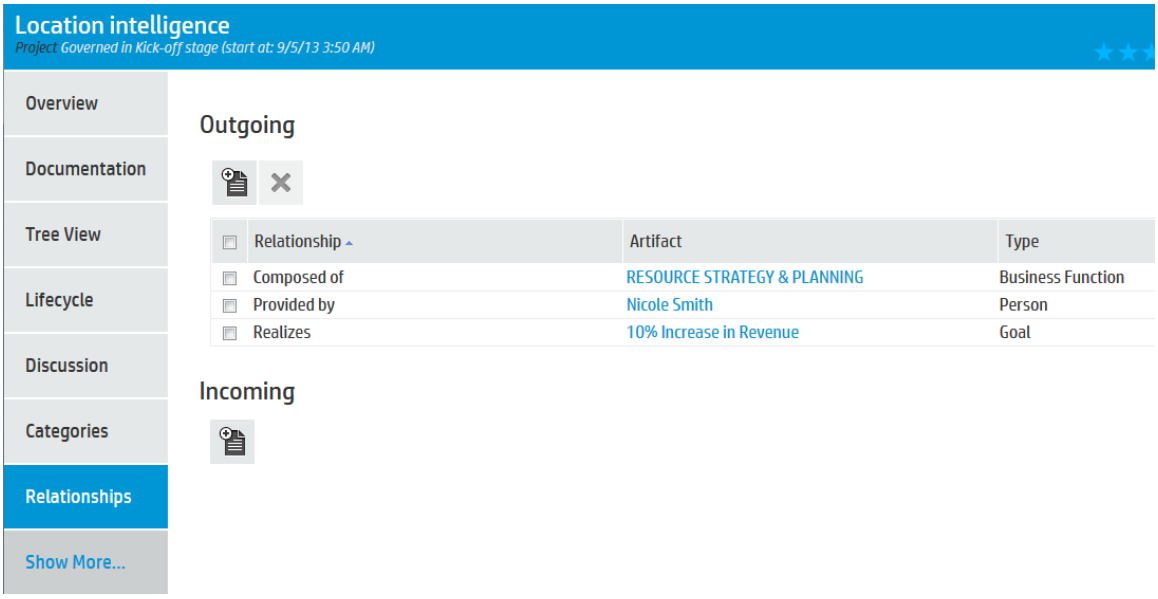
Relationships are created according to the HP EM data model. Each relationship that you create will have another paired artifact and each member of the paired relation is assigned a unique name, representing the outgoing and incoming relation between artifacts.

An outgoing relation between A and B automatically implies the corresponding incoming relation between B and A. Outgoing relations are properties of source artifacts (A), whereas incoming relations are projections of outgoing relationships to target artifacts (B).

You may want to assess the outgoing and incoming relationships listed for a selected artifact in order to navigate in the data and learn the relationship structures of the artifact.

To view the outgoing and incoming relationships of a selected artifact:

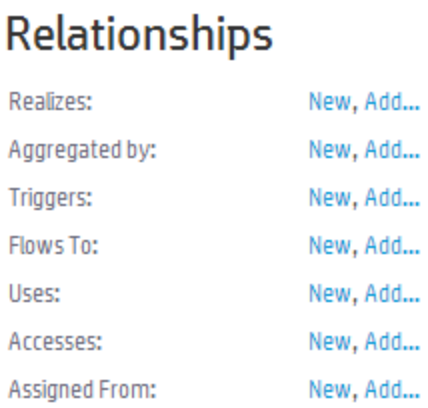
1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.
2. Click the Relationship tab. The artifact's relationships are shown, grouped by direction.



Create Artifact Relationships

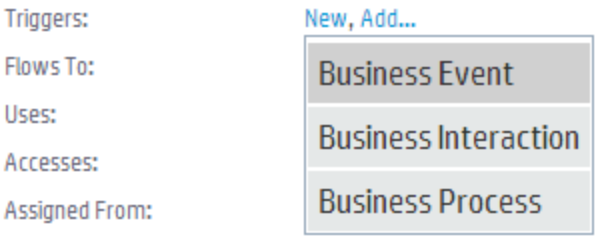
To add relationships to existing artifacts or create new artifacts to relate to:

1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.
2. There are New and Add buttons available next to the relationship type that you can use to create a new artifact or link to existing artifacts.

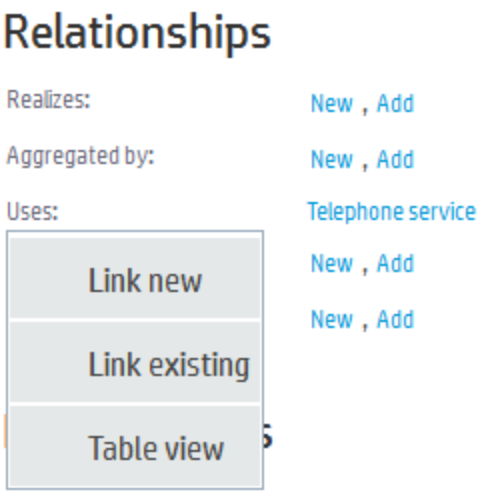


3. When you click the New button, the available artifact types will appear in a menu. Only an applicable artifact type is visible when you click the New or Add buttons. After establishing a relationship to one or more artifact(s),the menu is replaced with a list of the existing relationships.

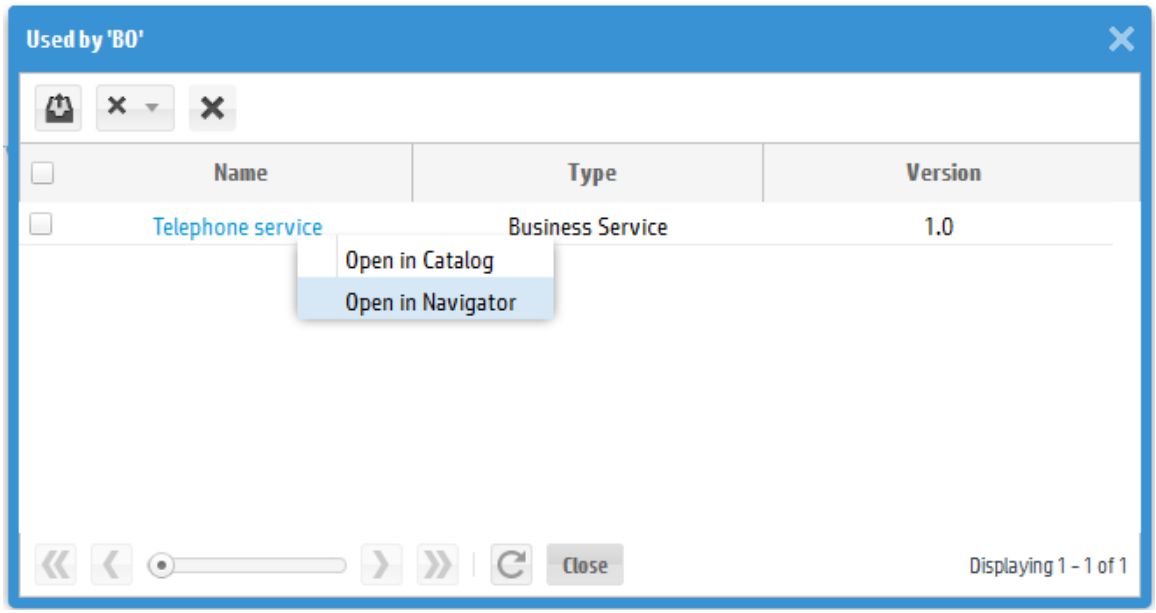
   For example, when you click New on the Triggers relationship type, the available type menu might display Business Event, Business Interaction, and Business Process as available artifact types.



4. For artifact types that already contain data, the New and Add buttons will be hidden from view. You can add more artifacts to this relationship type by clicking on the relationship type name. You will see a separate menu for managing the relationship, which includes the option to view the relationships in a table view:



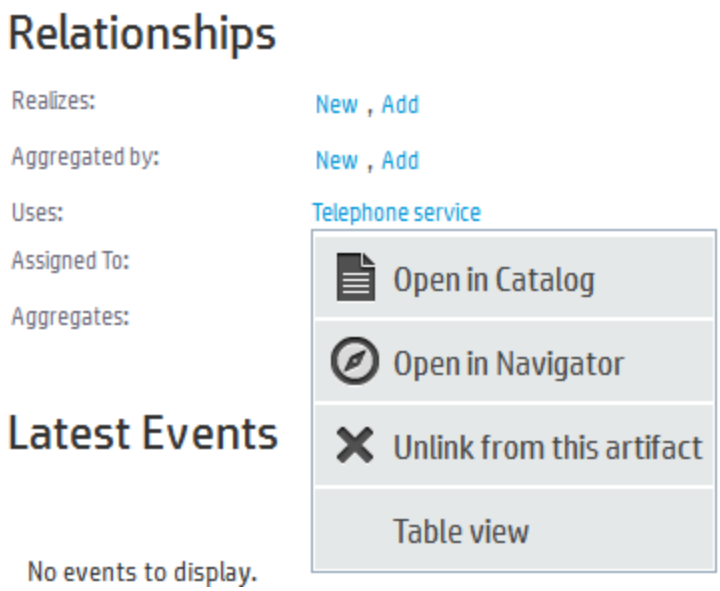
5. If you choose to view in Table View, each row has a context menu to open an artifact in the Catalog or Navigator:



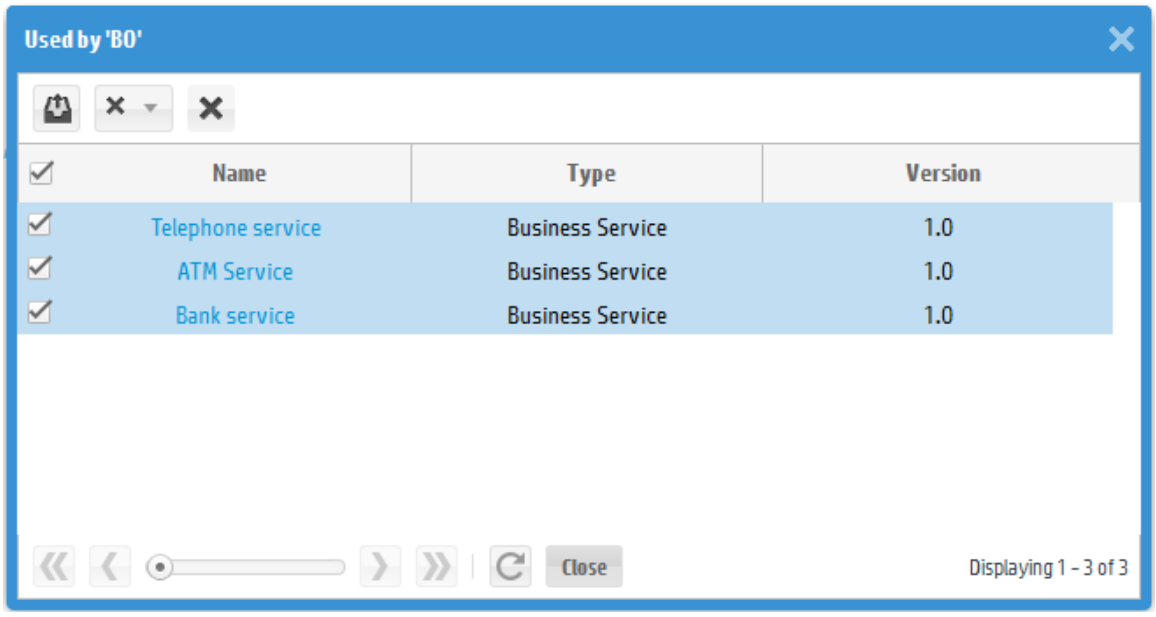
Remove Artifact Relationships

To remove existing artifact relationships:

1. Select the artifact in the Catalog Browser or in the Navigator, and then open the artifact.
2. From the Overview tab, you are able to remove the link between the selected artifact and another artifact. For removing a specific artifact link from a current artifact, right-click on the artifact you want to remove, then remove it by selecting the 'Unlink from this artifact' option.

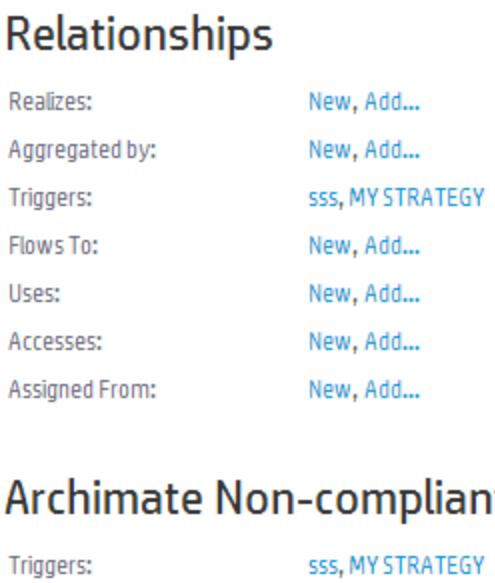


3. You can also remove a set of artifacts linked to a the selected artifact while in the Table view, simply by selecting each artifact you wish to remove from the list.



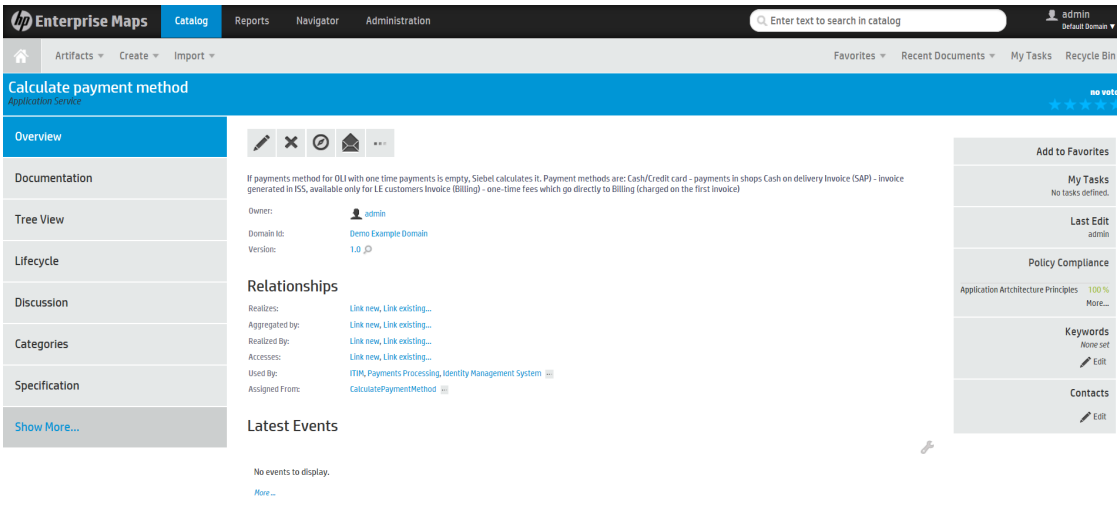
Non-Compliant Relationships

HP EM enables you to create relationships between compliant and non-compliant artifacts. Artifacts that are non-compliant with the Archimate-based HP EM data model are shown in the artifact view, however some of the relationships can be noncompliant according to the data model. These are shown in the artifact view, below the main Relationship Editor component:



Relationships: Overview Tab View

The Overview tab shows you two types of relationships: Archimate standard relationships in the Relationships area, and Non-Archimate standard relationship in the Archimate Non-compliant Relationships area. The example shows an application service artifact.

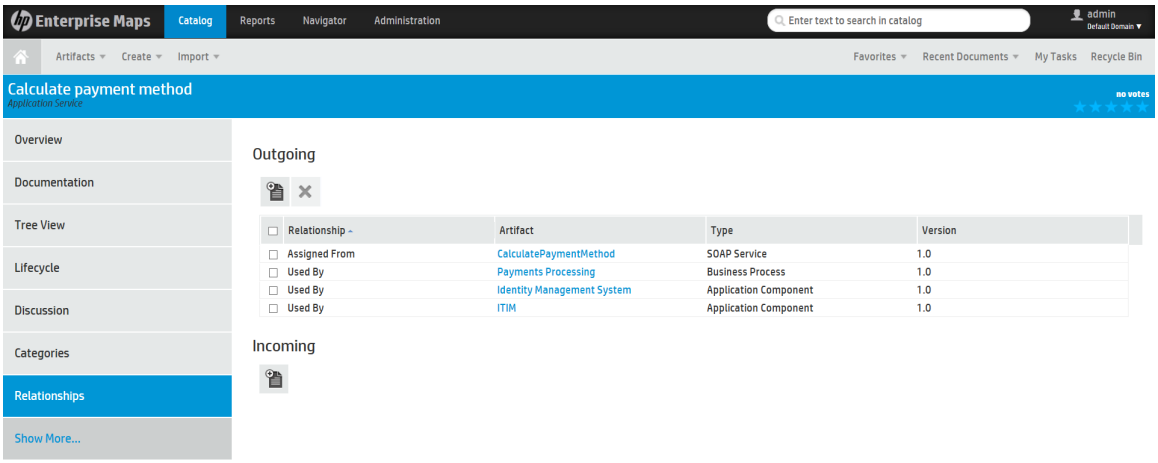


If you have many relationships defined by a single relationship type, only a few artifacts are shown on the artifact overview page. If you want to show more relationships, you can click the More button to show 10 artifacts at one time.

The most recently modified artifact will be displayed first on the list of relationship artifacts. The quantity of displayed artifacts after clicking More is decided by a system property titled platform.ui.relationship.artifact.max in system properties. Changing this value determines how many artifacts is shown.

Relationships: Relationships Tab View

The Relationships tab shows you lists of an artifact's relationships by Outgoing and Incoming. The example shows an application service artifact.



Chapter 5

Transformation

The HP EM transformation panel is accessible to you through the Catalog tab home page. It includes the following layers and associated artifact types that you can create or modify:

- **Implementation and Migration**:
  - Roadmap
  - Projects
  - Plateaus and To-Be
  - Deliverables
- **Lifecycle**:
  - My Tasks
  - Processes
- **Analysis**:
  - Impact and Dependencies
  - Investments
  - Navigator
- **Favorite Projects**: You can select projects of interest to you in the catalog and mark them as favorites so that they are easy to access from the home page. If you do not have any projects marked, the favorites list will be empty.

You can create or modify artifacts on each layer. Artifacts are thereby available as inputs for reports that you create by using the Reports tab features or to visualize by using the Navigator.

Chapter 6

Governance

The HP EM governance panel is accessible to you through the Catalog tab home page. It includes the following layers and associated artifact types that you can create or modify:

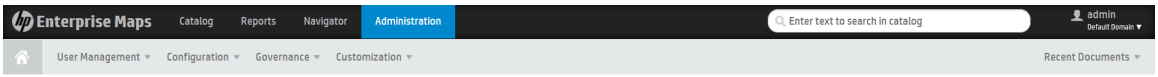
- **Motivation**:
  - Drivers
  - Goals
  - Demands & Requirements
- **Policy and Compliance**:
  - Reports
  - Principles
  - Policies
- **Favorite Policy Reports**: You can select policy reports of interest to you in the catalog and mark them as favorites so that they are easy to access from the home page. If you do not have any policy reports marked, the favorites list will be empty.

You can create or modify artifacts on each layer. Artifacts are thereby available as inputs for reports that you create by using the Reports tab features or to visualize by using the Navigator.

Chapter 7

Administration

On the Administration tab, which appears if you are logged in as Administrator, you will see many user management, configuration, governance, and customization options.



User Perspectives

New perspectives can be granted for one or many UI Roles in HP EM.

Each unique User Perspective is defined by the Administrator, and allows access to many different views and a variety of artifacts in the UI. The Administrator can grant the User Perspective to an existing user, or can create a new UI Role and define a User Perspective for the new user.

You can do the following sequences of operations to customize your user experiences:

- Create a new UI Role, create a new Perspective, and Grant a new Perspective to an existing UI Role.
- Create a new Role and assign a new UI Role to this role.
- Create a new User and assign a new Role for the user.

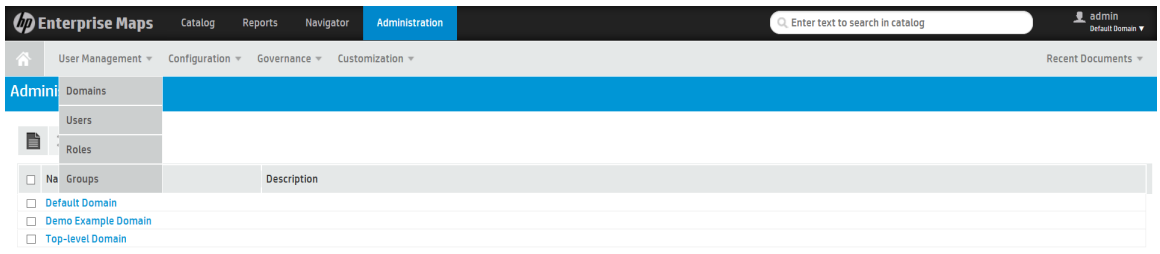
After following these steps, an assigned user will have access to a new perspective in theHP EM User Interface.

Create New User

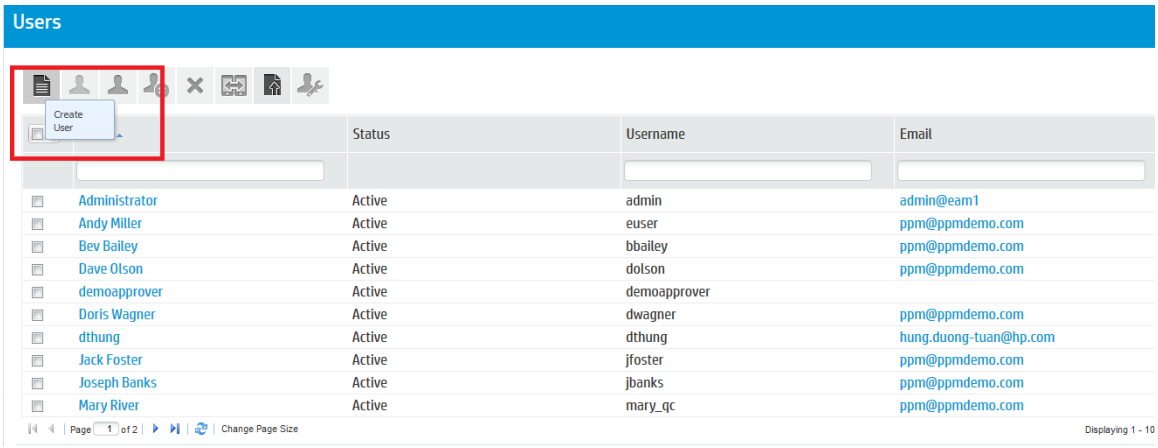
To create a new Internal User in HP EM, use the following procedure:

NOTE: This new user cannot log in until the Administrator creates and defines the user from LDAP or the user configuration file.

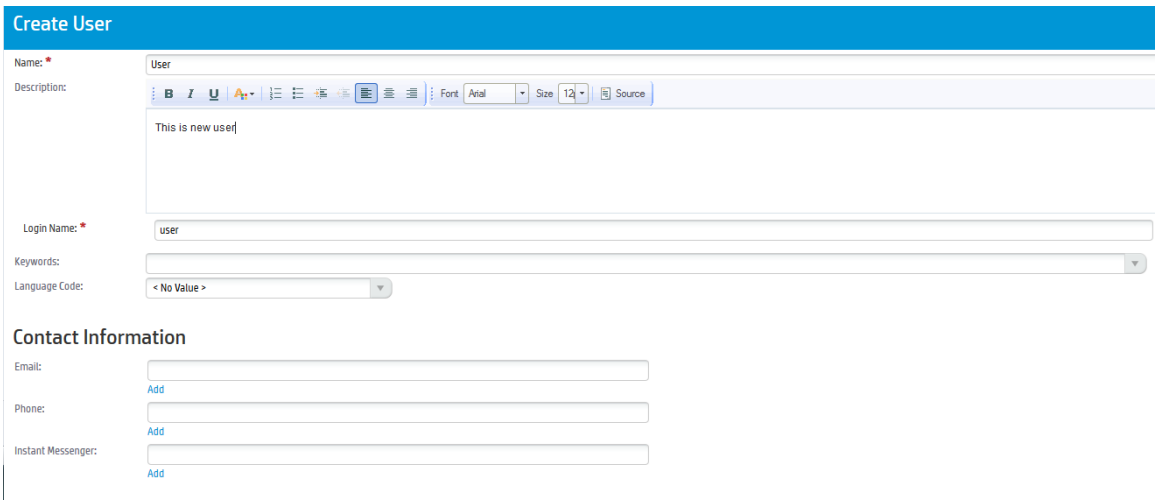
1. Log in as the Repository Administrator, and then navigate to the Administration tab.
2. Open User Management > Users.



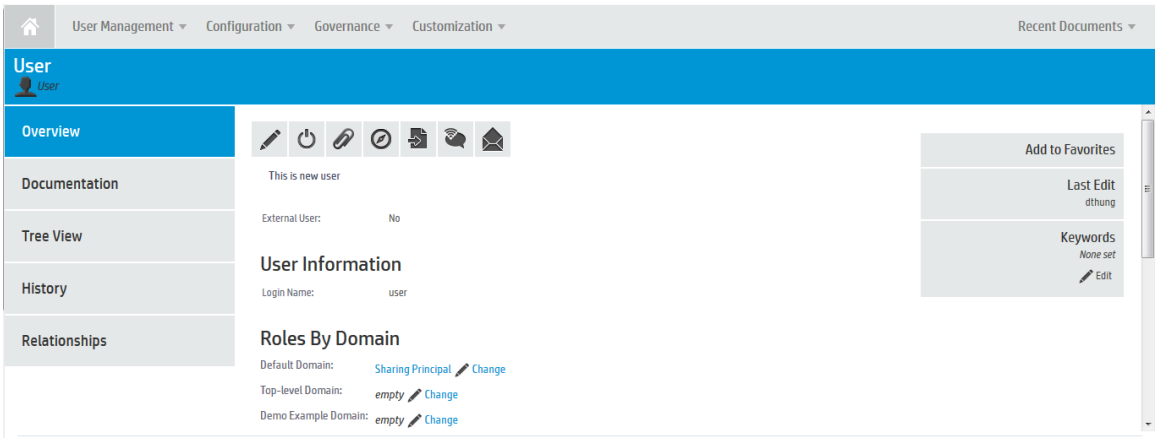
3. On the Users page, click the Create User icon to create a new user.



4. Enter the information about the new user such as Name, Description, Login Name, email, and Contact Information.

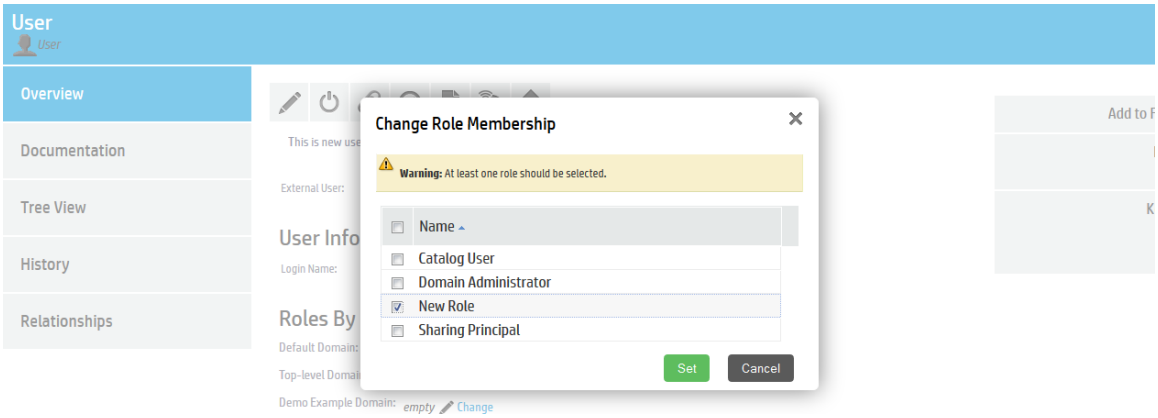


5. When you finish, click Save to save the new user. The resulting page will display the New User.



6. Now the Administrator needs to change the Role Membership of the user. On the New User view page, go to the Roles By Domain section. Find the role that the new user belongs to, and

click the Change link.

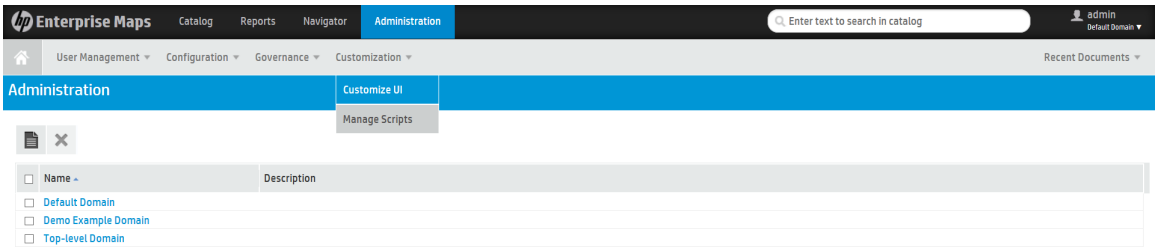


7. In the Change Role Membership dialog, select New Role, and then click the Set button to save the changes.

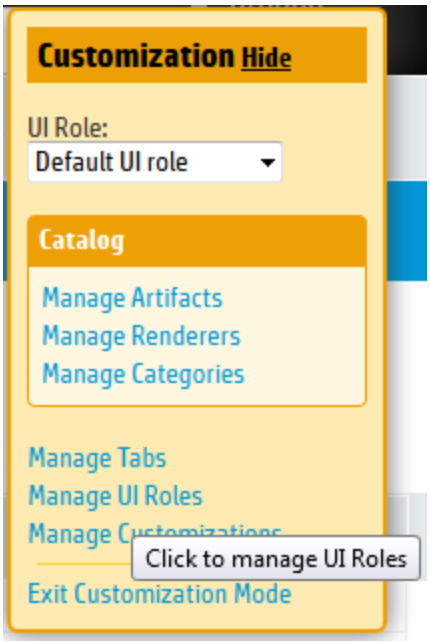
Create a New User Perspective

You can create a new perspective for users in HP EM, which changes the user's view of the artifacts and the data available to that user.

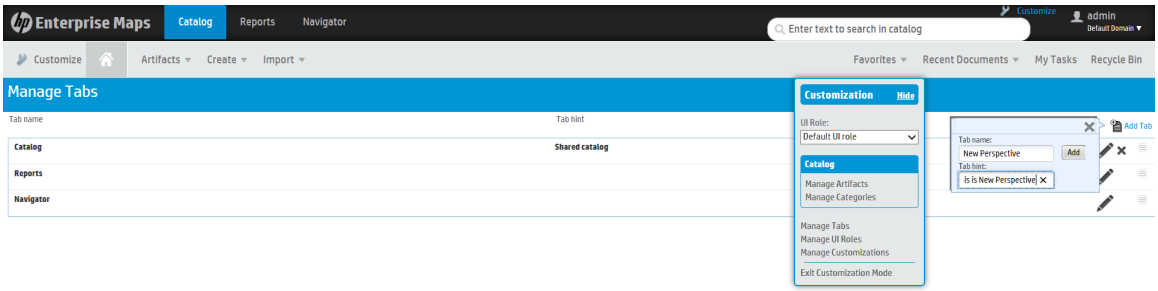
1. Log in as the Repository Administrator, and then navigate to the Administrator tab.
2. Navigate to the Customization tab and click Customize UI.



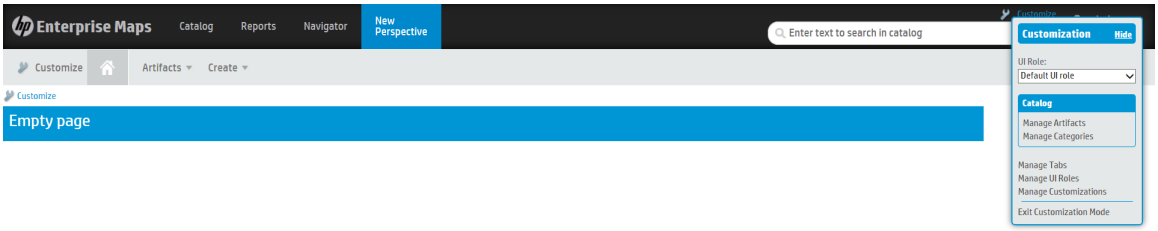
3. In the Customization menu, click Manage UI Roles.



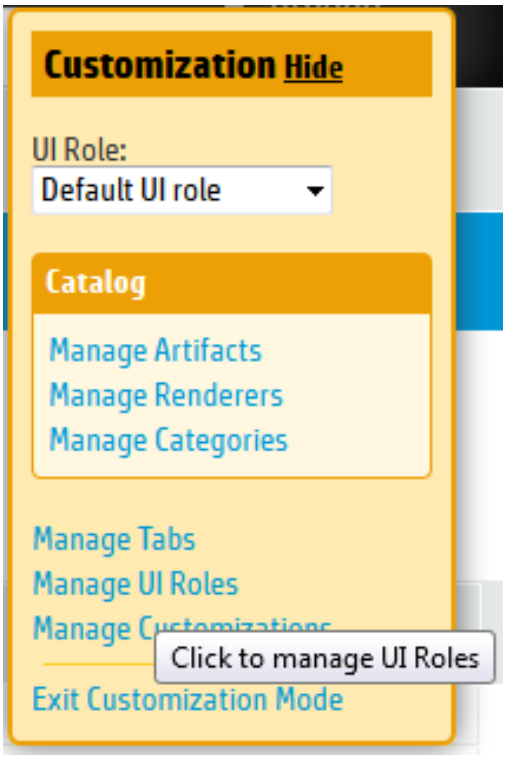
4. In the Manage Tabs page, select Add Tab > Input Tab name and Tab hint, and then click Add.

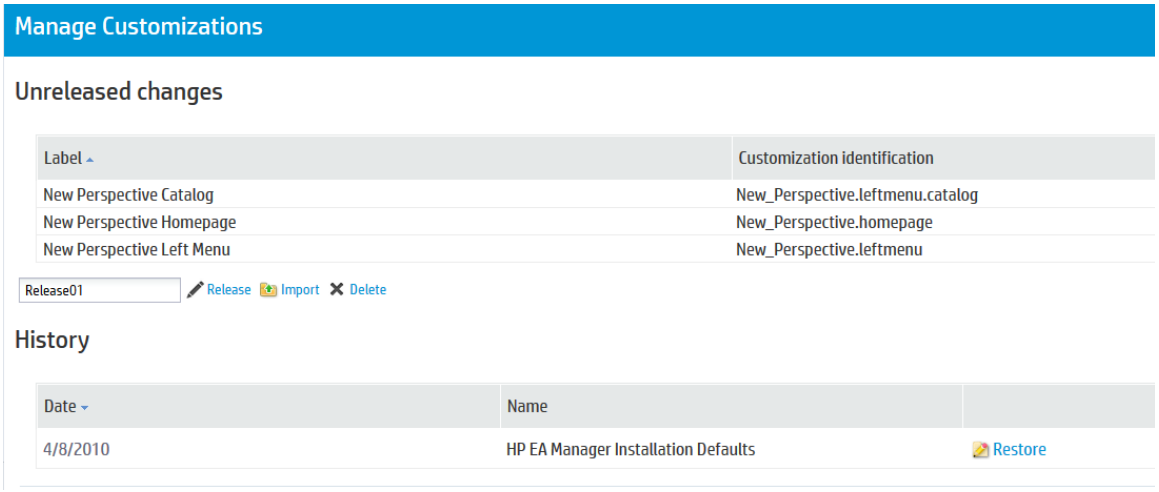


5. Navigate to the New Perspective tab. Click on the Customize icon and add the components and artifacts you want to make available in the user's new perspective.



6. Click on the Manage Customizations link in the Customization menu to open the Manage Customizations page, and then release all changes.



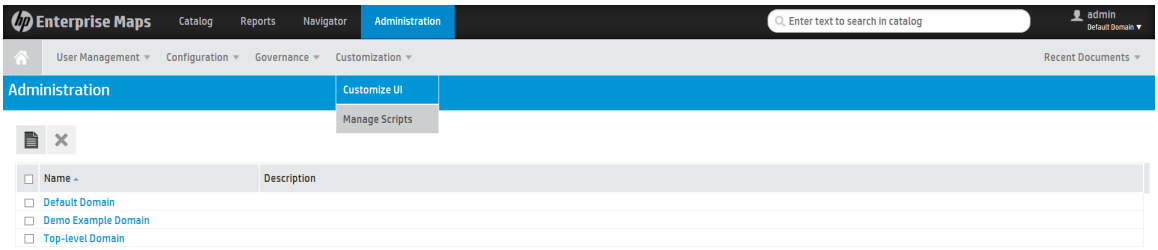


7. When you are finished, click Exit Customization Mode.

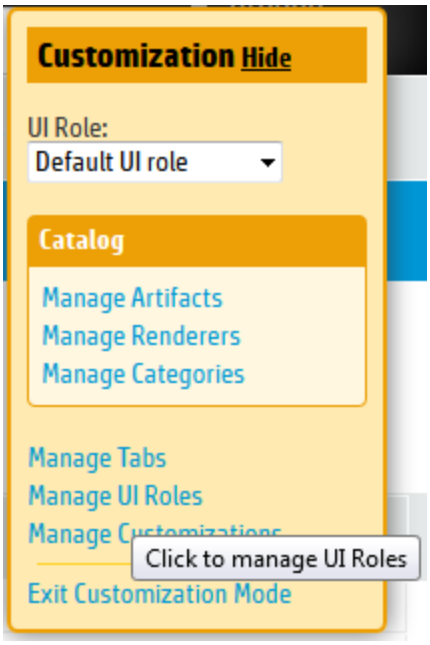
Create a New UI Role

Create a new UI role in HP EM using the following steps:

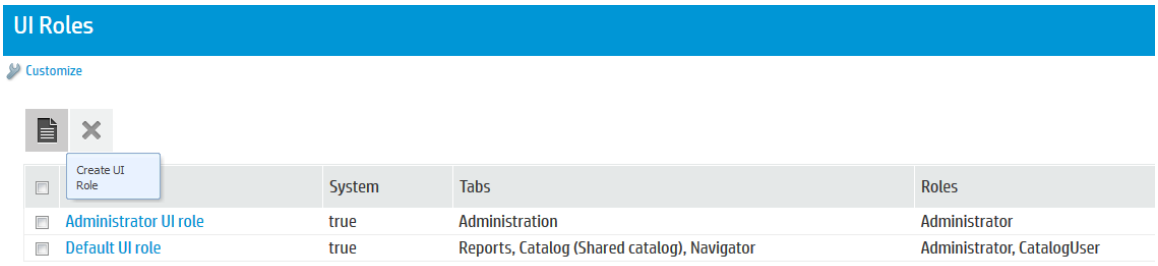
1. Log in as the Repository Administrator, and then navigate to the Administration tab.
2. Open Customization, and then click Customize UI.



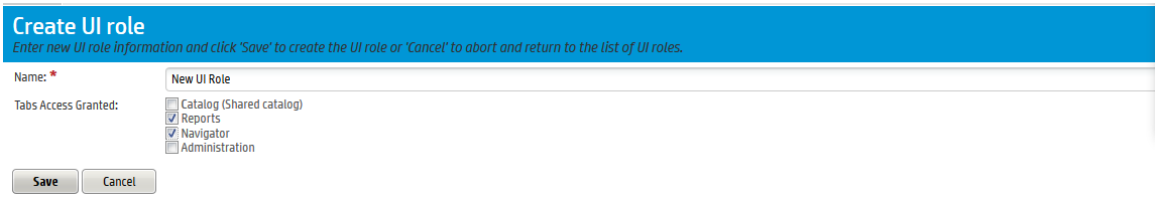
3. In the Customization menu, open UI Roles.



4. In the UI Roles page, click the Create UI Roles button.



5. Enter the Role Name, and then select Tabs Access Granted for the tabs you wish the role to have access to.



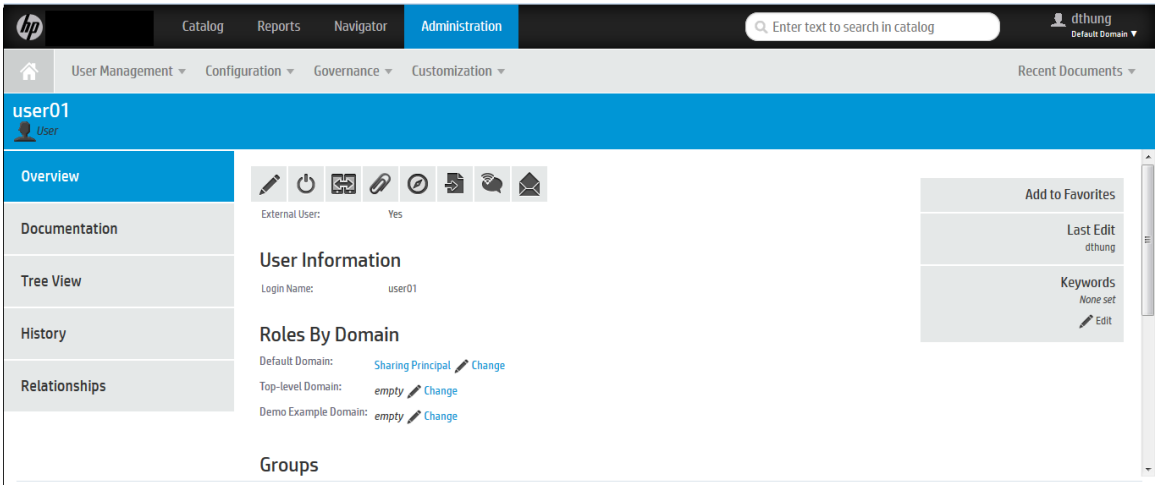
6. When you finish, click Save to save the UI Role. The resulting page will display the new UI Role.

Assign Users to a Role

You can assign a user to a distinct role in HP EM.

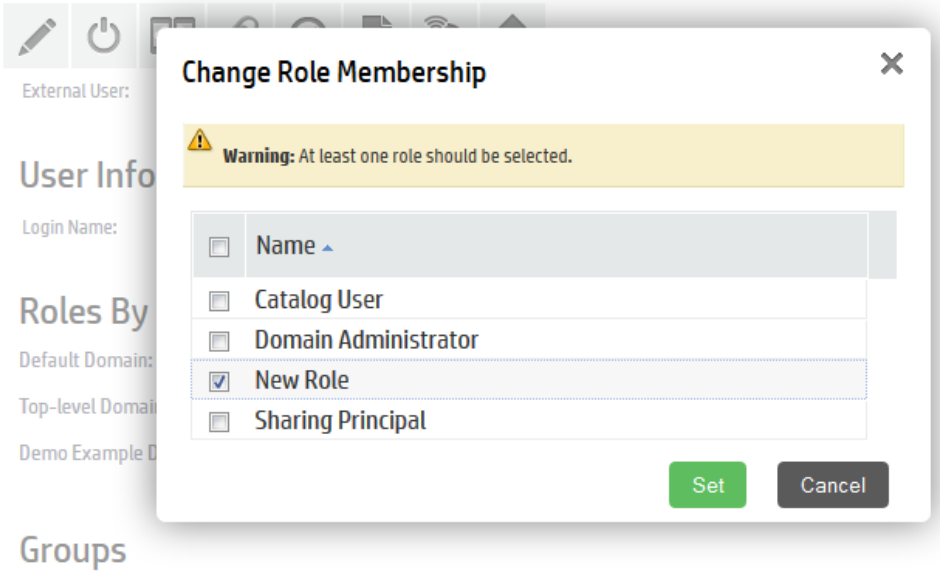
1. Log in as the Administrator, and then click the Administration tab.
2. Open Customization, and then click Customize UI.
3. In the Customization menu, open UI Roles.

   The Overview sidebar will open, where you can view the information page for the selected user.



4. In the Roles By Domain section, click the Change link. Note: Make sure to assign each user to the correct domain.
5. On the Change Role Membership page, select the roles that you want the User to be assigned to, and then click Set. The user will see the new perspective in their UI the next time they sign

in.

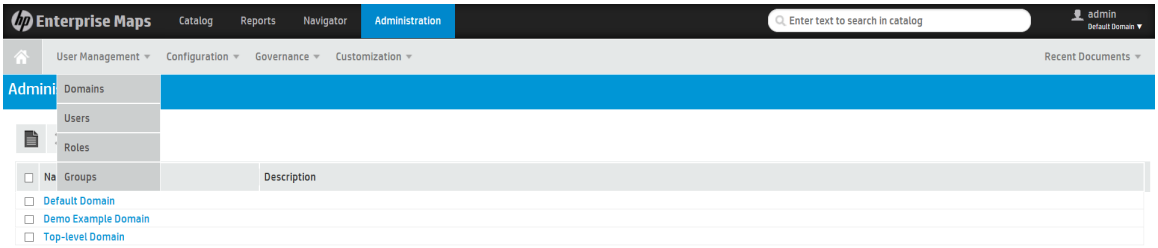


Import External Users

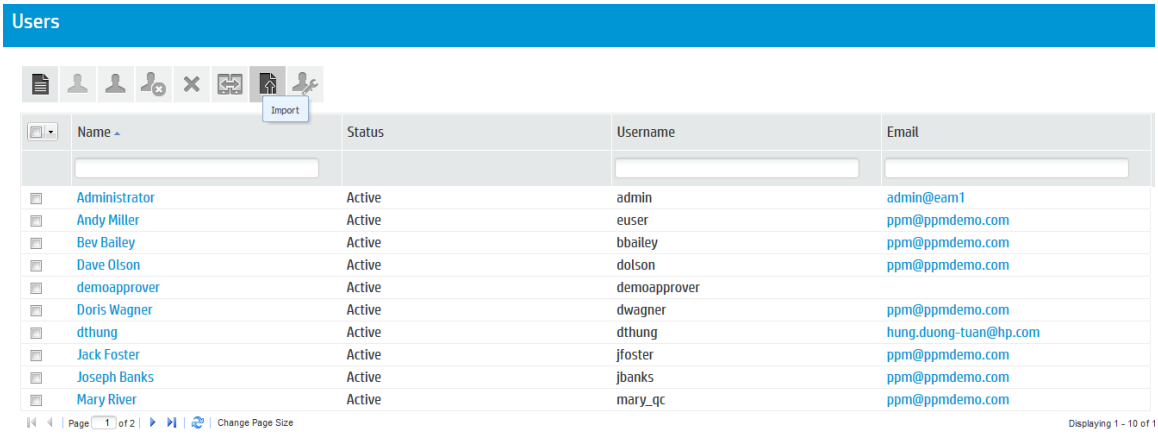
To import a new External User into HP EM, use the following procedure:

NOTE: This procedure is used when the HP EM server is already installed with LDAP.

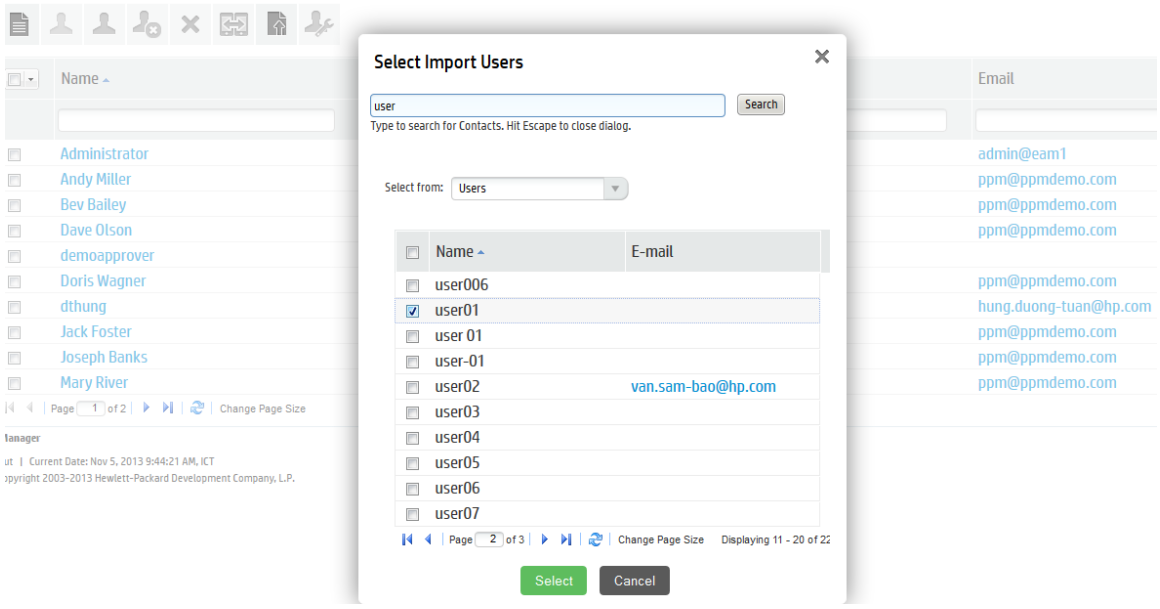
1. Log in as the Repository Administrator, and then click the Administration tab.
2. Click User Management > Users to open the Users page.



3. On the Users page, click the Import button to import users.



4. Select the users that you want to import, and then click the Select button to finish importing users.



Lifecycle Overview

Artifacts in EM go through several stages from candidate through development, implementation, and eventually deprecation and reuse. Each stage has own specific features and each organization has different detailed requirements for these different stages. The stages can be divided into development and runtime stages. Before an artifact is allowed to move from one stage to another, all necessary policy requirements and approvals must be in place.

In EM lifecycle processes are defined and given policy, task, and approval requirements by an administrator. These processes are then either automatically or manually applied to artifacts. Manual lifecycle tasks can be assigned to different users and can have policies that must be validated before a task is completed. Policies as well as permissions can be associated with the lifecycle process stage.

When all the requirements and tasks are complete, the artifact owner makes a request to move the process to the next stage. If the administrator has assigned approvers, they are notified and are required to vote on approval. Depending on the transition type, the governed artifact moves to the next stage and the lifecycle automatic actions defined for these stages are triggered.

Chapter 8

Reports

HP EM provides many reports that you can run based on the artifacts in your enterprise architecture data model. On the Reports tab, you can access many artifact, policy, heatmap, structure map, and custom reports. You can also view Architecture reports such as Archimate Compliance and Installed Software as well as Transformation reports such as Roadmaps, Investments, Project by Cost, and Applications by Cost. Maintenance reports such as Application Costs are also available, and you can also customize the reports that appear on your dashboard.

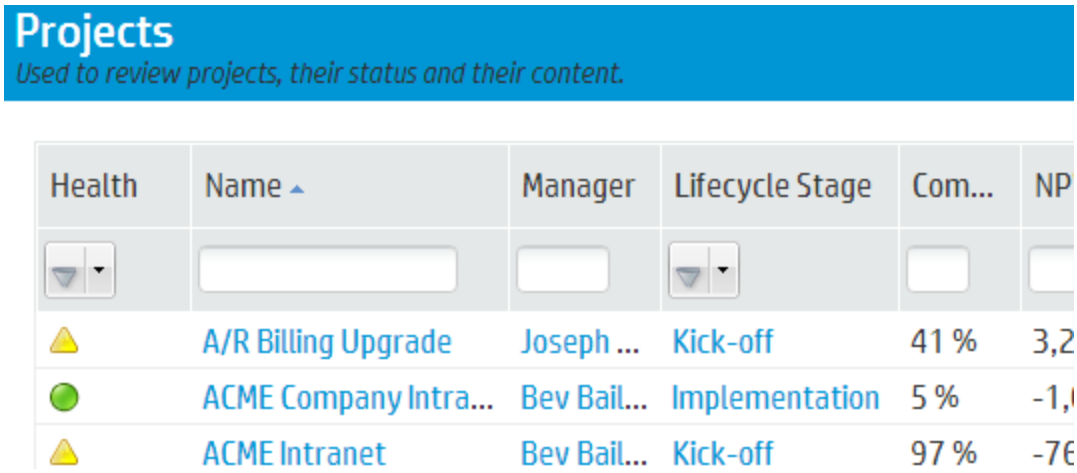
The report type that you choose depends on the results, data format, and granularity that you require. The following are the report types to choose from:

- Artifact Reports
- Policy Reports
- Viewpoint Portlet Reports
- Heatmap Reports
- Structure Map Reports
- Policy Radar Reports
- Custom BIRT Reports

All reports are customizable whenever required and you can create or deploy them without needing to restart EM. All report types use DQL to collect by query the data to display. DQL is an SQL-like language where tables are mapped to EM artifact types and columns mapped to artifact properties. Using DQL is much easier than using SQL since it does not require knowledge of the EM database schema. DQL by default also abides by artifact access rights, so that only artifacts that the current user is permitted to view are part of the results returned by the query.

Artifact Reports

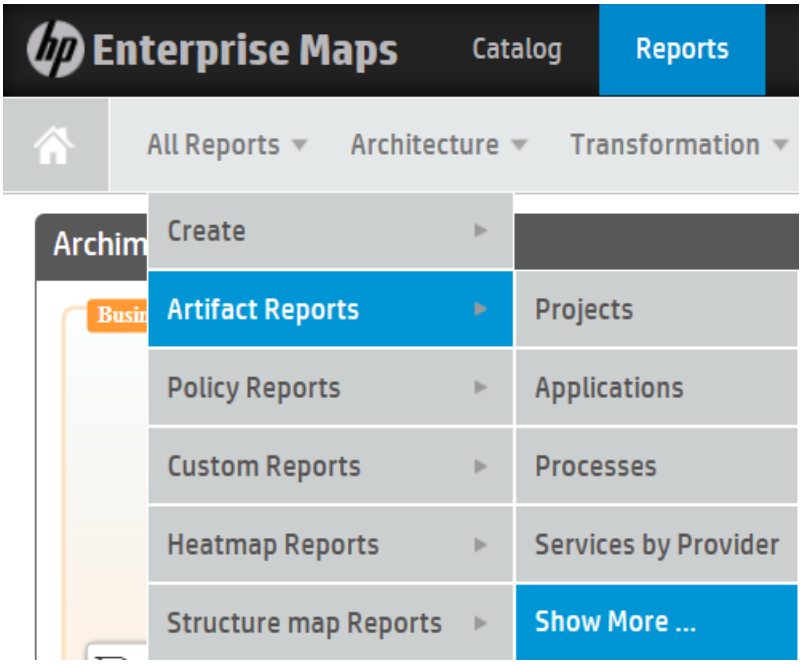
HP EM artifact reports provide table views of the artifact data contained in the HP EM repository. The report is designed and used directly in the HP EM web UI. The artifact table represents the result of a DQL query that is part of the report definition. Artifact reports are re-calculated every time the user accesses the report's web UI page.



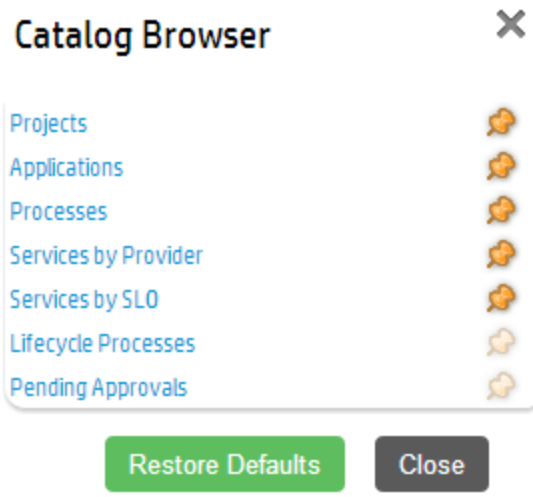
Viewing Artifact Reports

To view artifact reports:

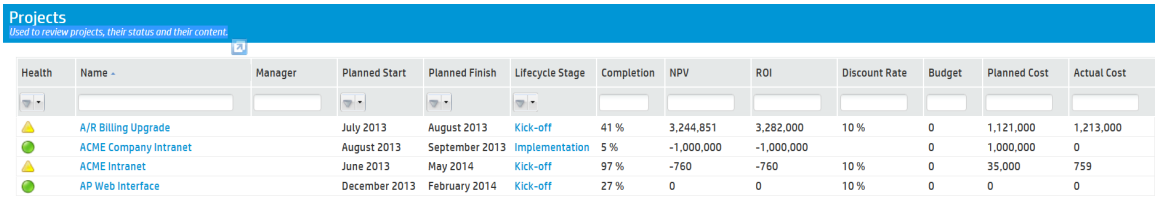
1. Log in to HP EM and select the Reports tab.
2. Select the All Reports > Artifact Reports menu, which shows any favorite reports as well as a Show More link.



2. Click Show More to open the catalog browser. The catalog browser lists all reports and also allows you to pin or unpin a particular report as a favorite onto the Artifact Reports menu.



3. Click Projects to view the artifact report called Projects, which is used to review projects and their status and content data. The Projects report is a table with columns that were defined by associated DQL queries.



Health	Name	Manager	Planned Start	Planned Finish	Lifecycle Stage	Completion	NPV	ROI	Discount Rate	Budget	Planned Cost	Actual Cost
	A/R Billing Upgrade		July 2013	August 2013	Kick-off	41 %	3,244,851	3,282,000	10 %	0	1,121,000	1,213,000
	ACME Company Intranet		August 2013	September 2013	Implementation	5 %	-1,000,000	-1,000,000		0	1,000,000	0
	ACME Intranet		June 2013	May 2014	Kick-off	97 %	-760	-760	10 %	0	35,000	759
	AP Web Interface		December 2013	February 2014	Kick-off	27 %	0	0	10 %	0	0	0

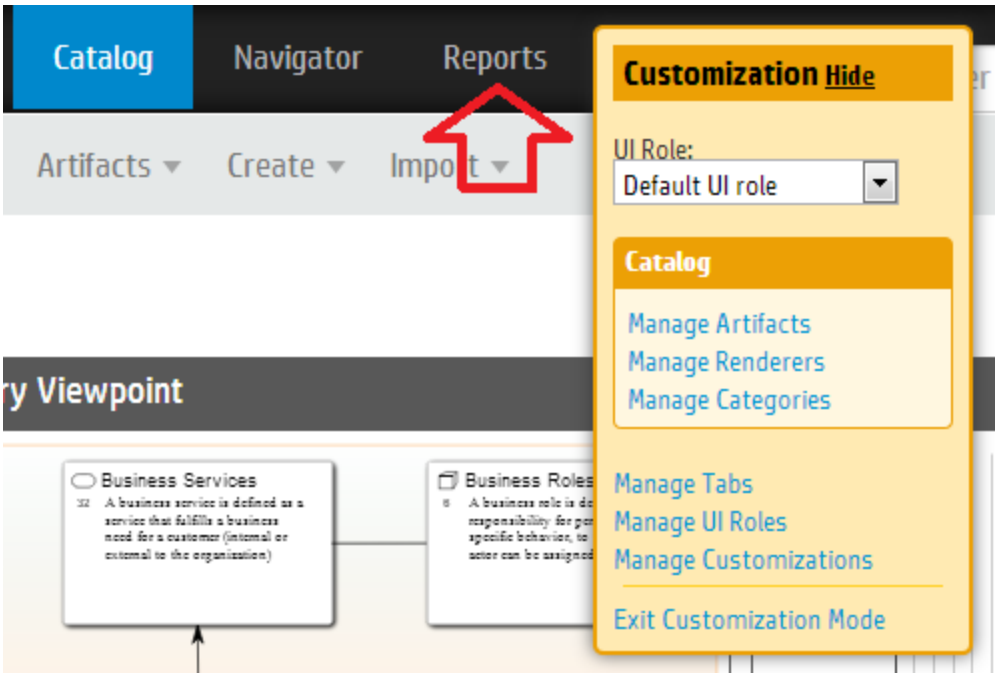
4. Make any modifications that you want. Column headers contain text fields or list boxes that allow you to perform additional filtering. A column's context menu appears when you click the right side of the column header. The menu lets you choose the sort order or make columns visible or invisible. The columns can be resized by moving the line between them. You can also reorder the columns by dragging them.

Defining Artifact Reports

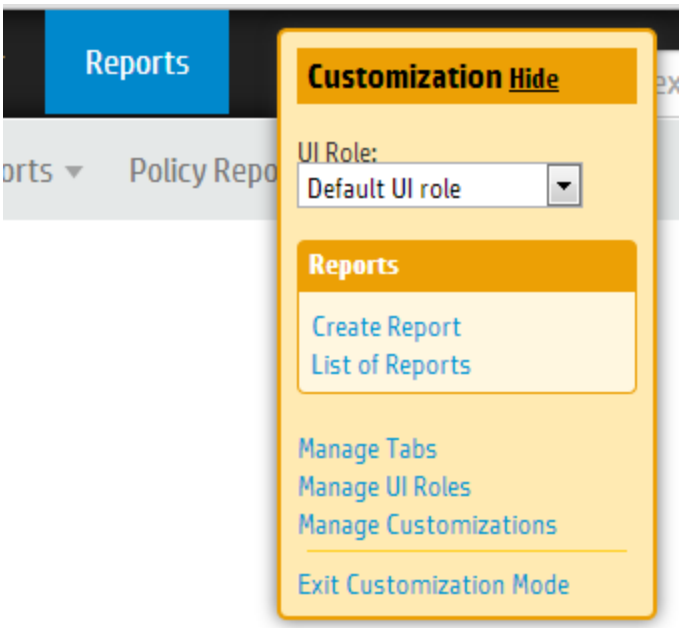
Artifact reports are defined as a part of the HP EM web UI. An administrator can change and customize the web UI directly using web UI. In this example, we will look at how to view or modify the definition of the Projects report.

To define an artifact report:

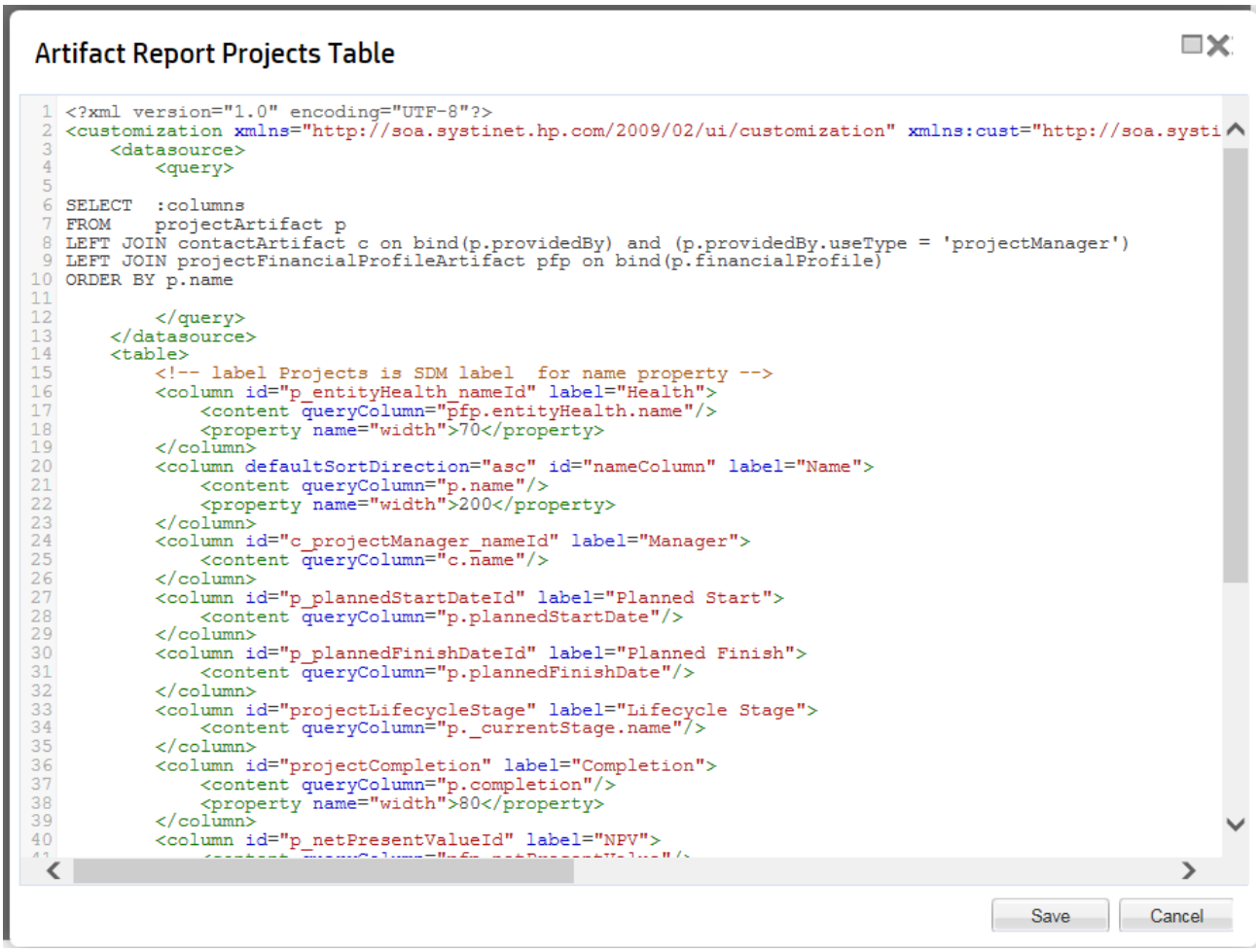
1. Log in to HP EM as administrator and select the Administration tab, and then select the Customize UI menu item from the Customization menu. The web UI switches to customization mode, in which all pages are editable. A customization box appears on the right side of every page.
2. Click the Reports tab.



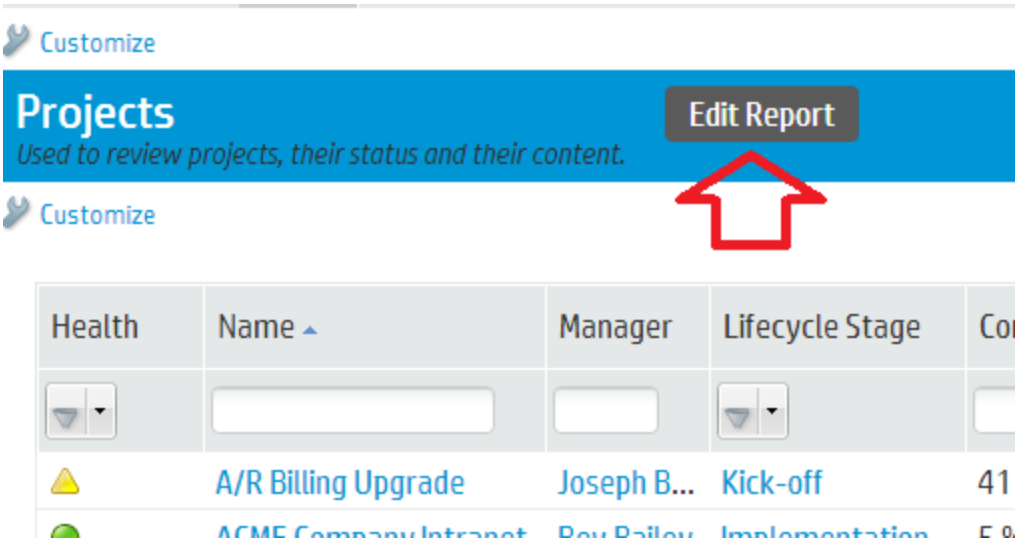
3. Once you click the Reports tab, the Customization box changes to include artifact report-related items. Click List of Reports. A list of all artifact reports is displayed; click the Projects link from the list.



4. The artifact report page is shown in the customization mode. It renders the results and displays Customize links at the top of each customizable section. The Customize link above the results table opens a window that shows an XML representation of the UI customization data that defines the report.

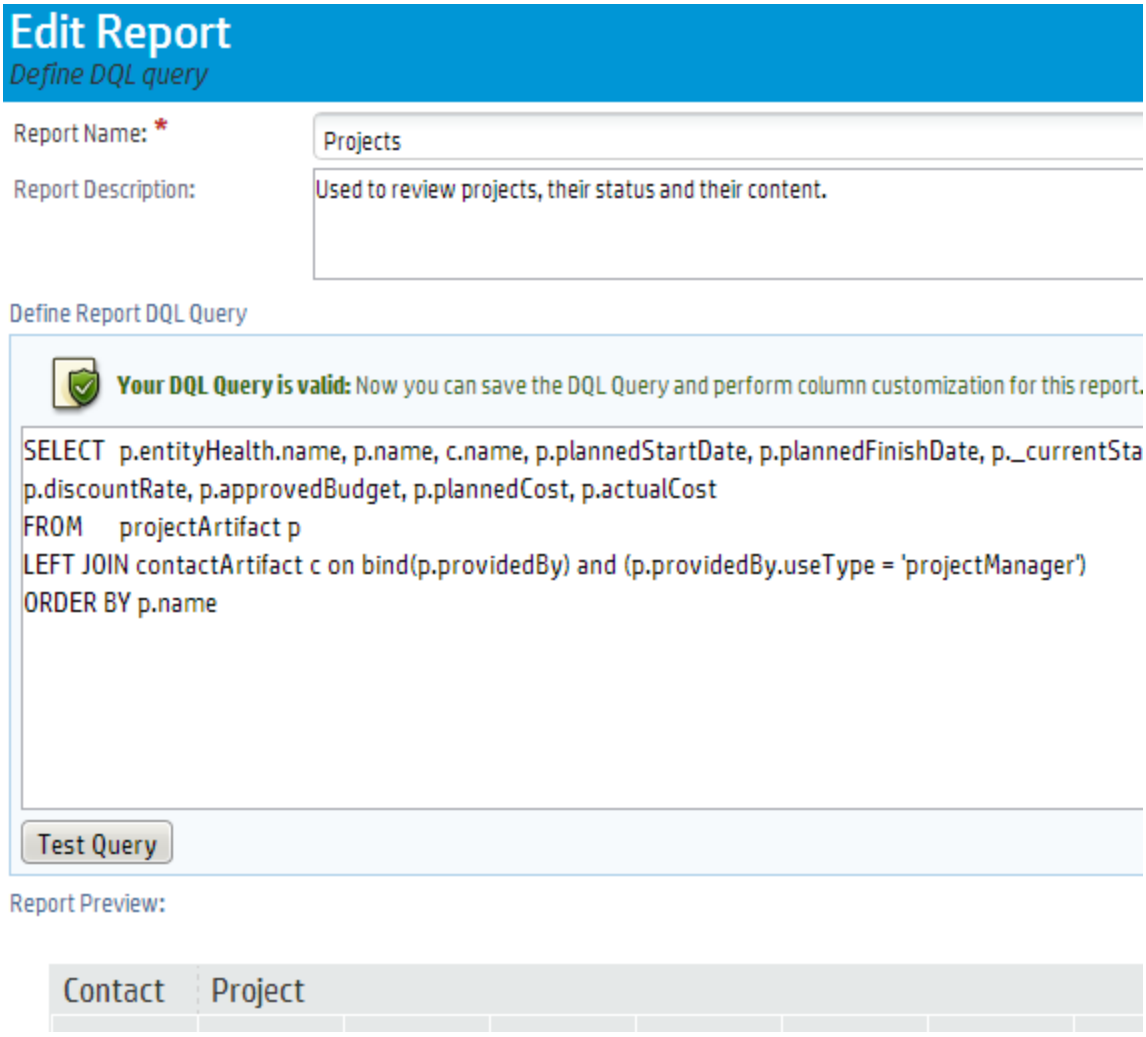


5. Click the Edit Report link in the header of Projects report page to access the report definition in Edit Report view.

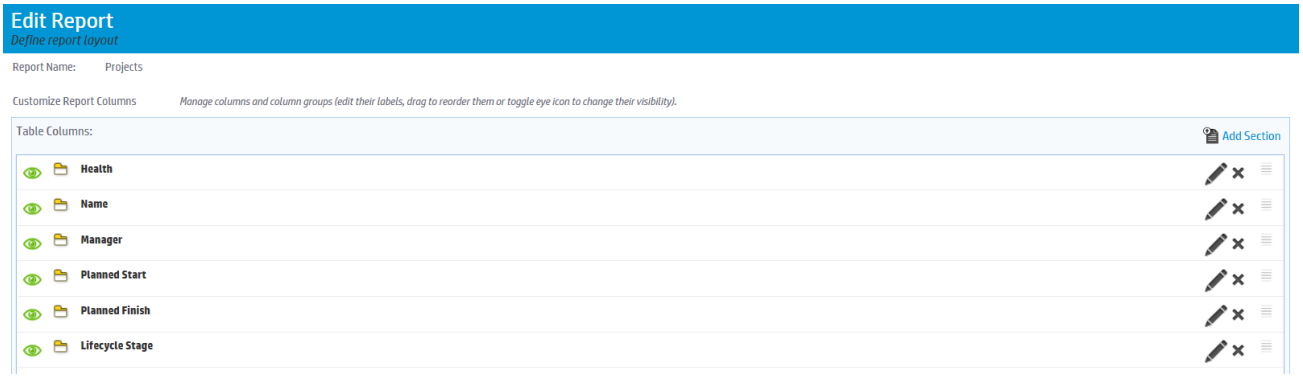


6. In the Edit Report view, you can define and test the DQL query that creates the resulting table data. You can preview the data as you tune the query. When you finish, click the Next button at

the bottom of the page below the project list.



7. Specify the layout of columns of the result table. You can edit column names, organize columns in sections, reorder them, or make them visible/invisible by default. You can preview by using the Refresh button. When you finish, click Finish. Alternatively, if you want to have more control over when your changes are published to users, click Cancel.

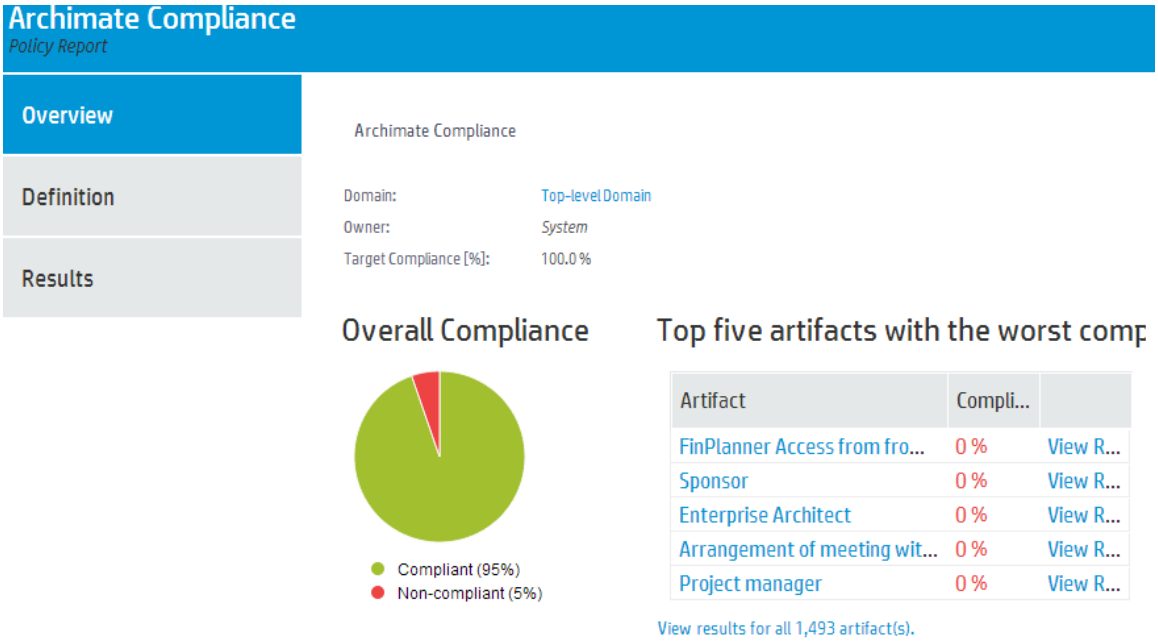


8. If you click Cancel, you remain in the customization mode of the web UI. Changes that you made in the web UI are visible only to you as an administrator. If you want to make your

changes visible to all users, you can release them in a page that appears when you click the Manage Customizations link in the Customization box. Click the Exit Customization Mode link when you are ready to exit customization mode.

Policy Reports

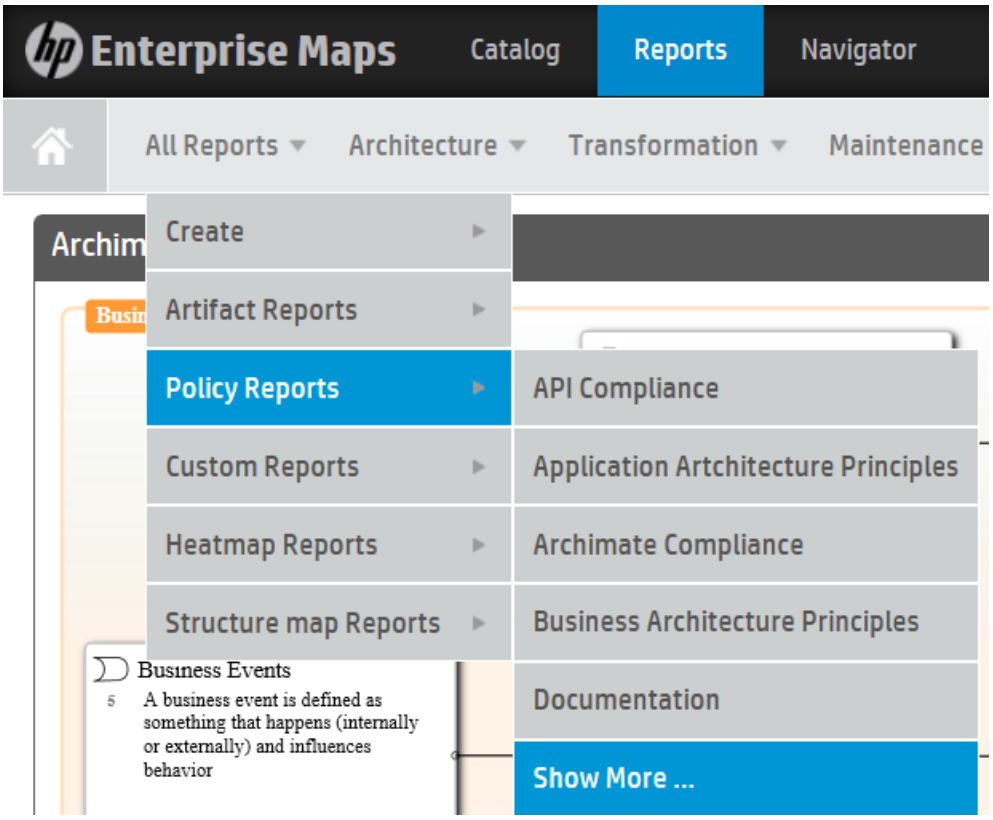
HP EM policy reports are used to report the levels of policy compliance of the artifacts in HP EM repository. The report is designed and used directly in the HP EM web UI. You can select the policies to validate as well as the filter that specifies what artifacts and data to include in the validation directly in the web UI when you define the report. The report's results are cached in the HP EM repository. Users always view results from the most recent calculation of the report.



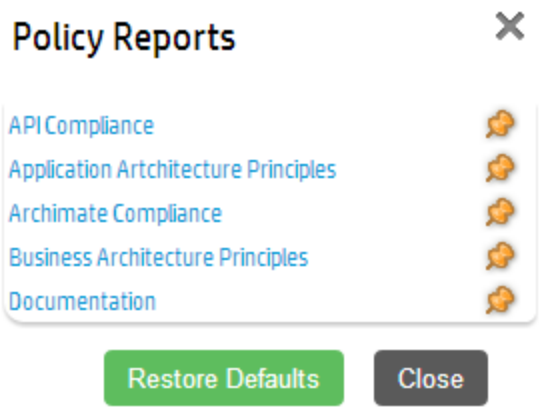
Viewing Policy Reports

To view policy reports:

1. Log in to HP EM and select the Reports tab.
2. Select the All Reports > Policy Reports menu, which shows any favorite reports as well as a Show More link.



3. Click Show More to open the catalog browser. The catalog browser lists all reports and also allows you to pin or unpin a particular report as a favorite onto the Policy Reports menu.



4. Click Archimate Compliance to view the policy report called Archimate Compliance.

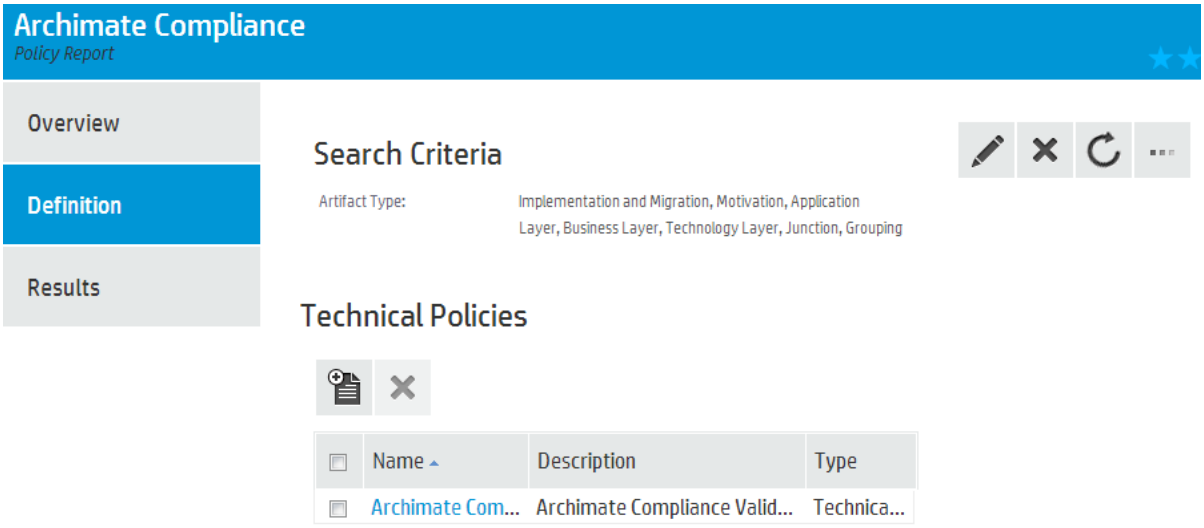
Defining Policy Reports

Policy reports are defined as a part of the HP EM web UI. In this example, we will look at how to view or modify the definition of the Archimate Compliance policy report.

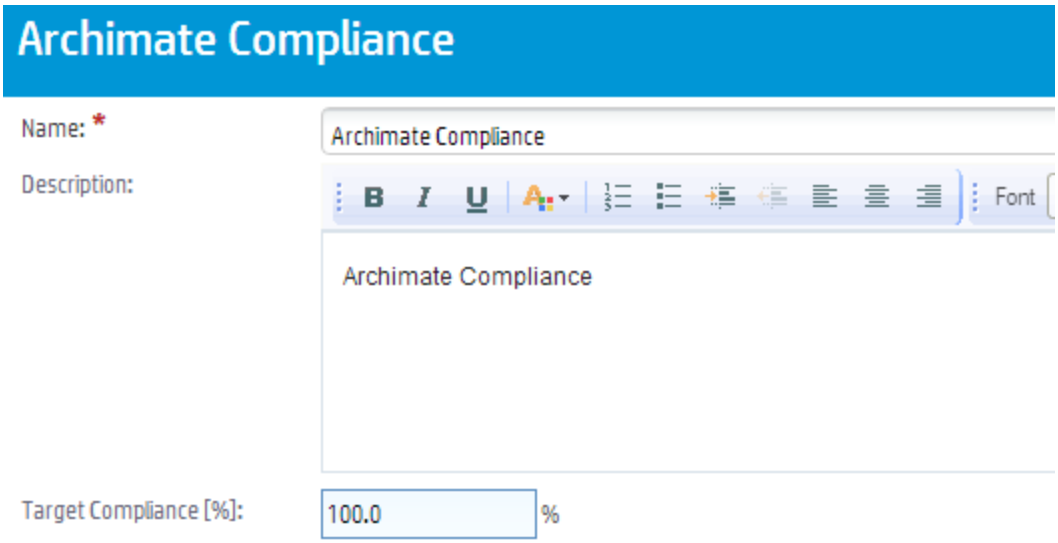
To define a policy report:

1. Click the Definition tab on the policy report page to see how the report is defined.

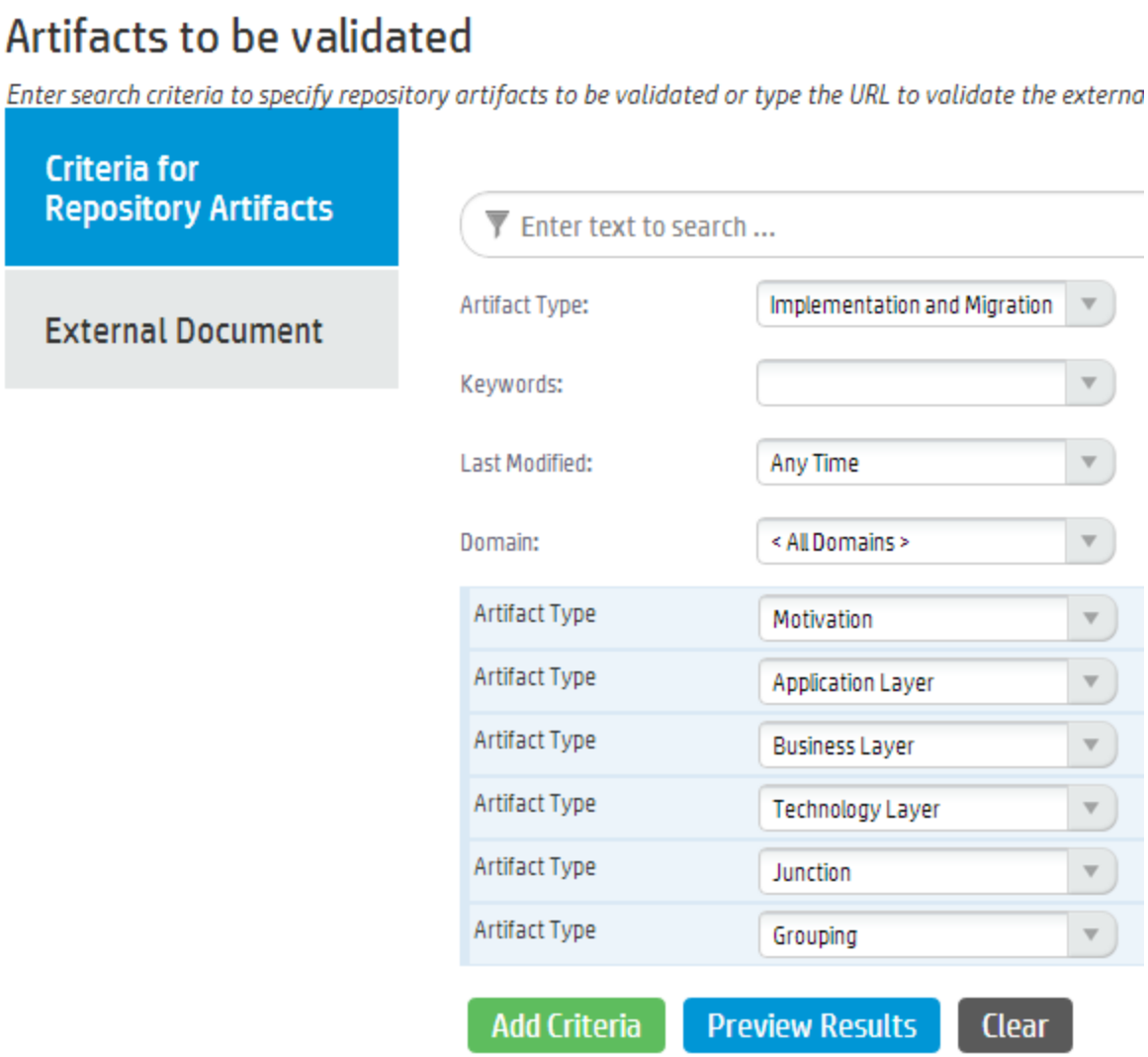
   It shows the Search Criteria that are used to filter artifacts subject to policy validation, and a list of Technical Policies that must be validated against the artifacts. An administrator can add or remove technical policies using a toolbox that appears above the list.



2. Click the pen icon in the toolbox on the right side to edit the report and view other important report definition items. The Edit page lists general fields that specify the report name, description, and target compliance by percentage. The target compliance field is used to indicate the overall goal of the policy report in percent of artifacts that should be compliant.



3. The Artifacts to be Validated section allows you specify a filter on which artifacts you want to validate. You can edit, remove, add, or clear criteria using the controls in this section. By clicking the Preview Results button, you can see artifacts that match the criteria. If required, click the Save button at the bottom of the page to save your changes.



4. You can also create a new policy report by selecting the Reports tab, and then clicking Create > Policy Reports. This will allow you to specify all the details of a new policy report on a single page.

Calculating Report Results

Policy report results are cached in the HP EM repository. Depending on the number of policies and resources being validated, it can take an hour or more to calculate the results. Users who are viewing the policy report are informed that the report might not be up-to-date. Recalculation of the policy report is started in the following ways:

- **Manually**: the user manually recalculates the report. An associated action is available in the Overview tab of the report.
- **By Automatic Task**: HP EM starts a Policy Report Validation task every day around 2:30 AM. The actual time may depend on the time zone of the server on which the HP EM application is running.

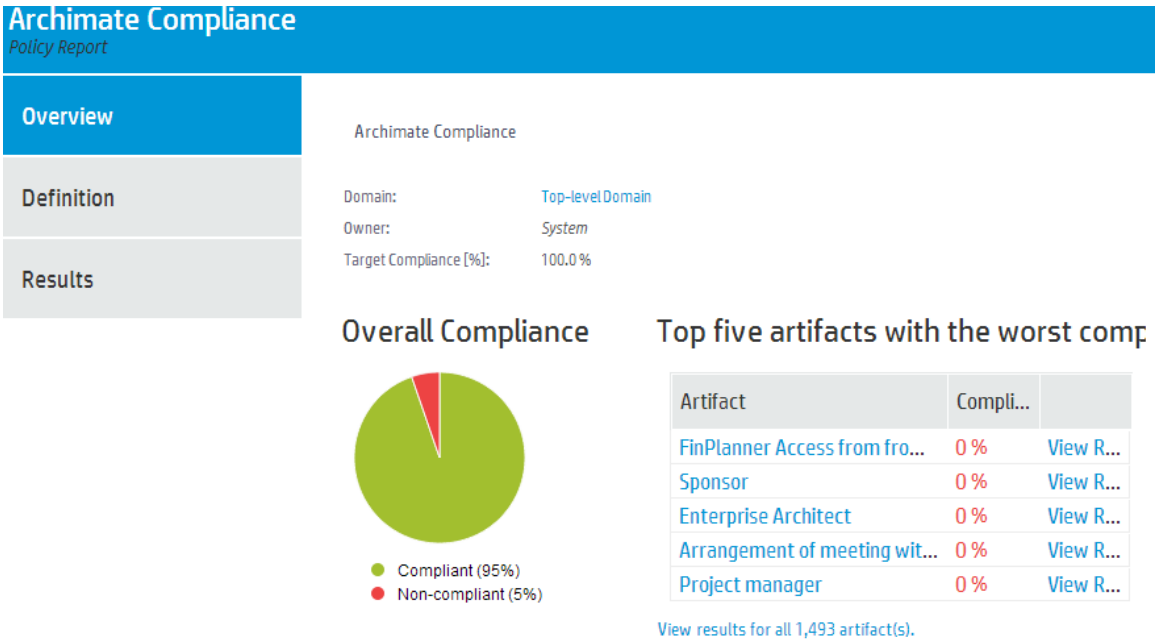
To check automatic Policy Report Validation task details:

1. Log in to HP EM as administrator and select the Administration tab, and then select the Tasks menu item on the Configuration menu.
2. Click the Policy Report Validation Task link on the Tasks page. If you cannot see it on the page, switch to a table view by using the associated Show Task List toolbar action. The Policy Report Validation Task page shows that the task is scheduled along with a table of the execution history.
3. Click Edit Schedule on the toolbar to open the Edit Schedule dialog in which you can view and change the scheduling details of the task.

Archimate Compliance Report Structure

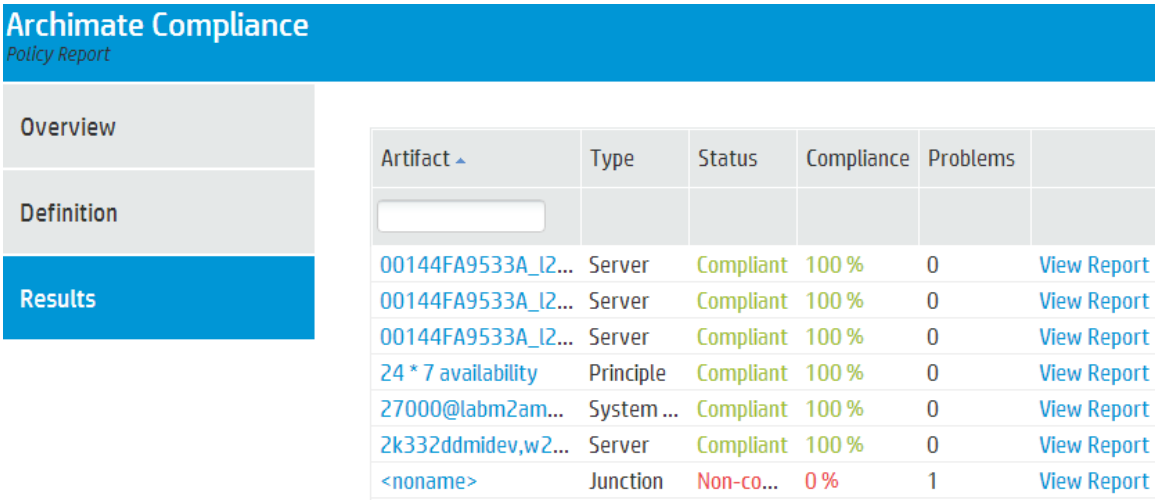
The Archimate Compliance policy report consists of three subreports:

- **Overview**: shows the percentage of compliant and non-compliant artifacts in a pie chart as well as a list of the top 5 artifacts with the worst compliance level. It is accessible when you click the Overview on the left side of the report page.

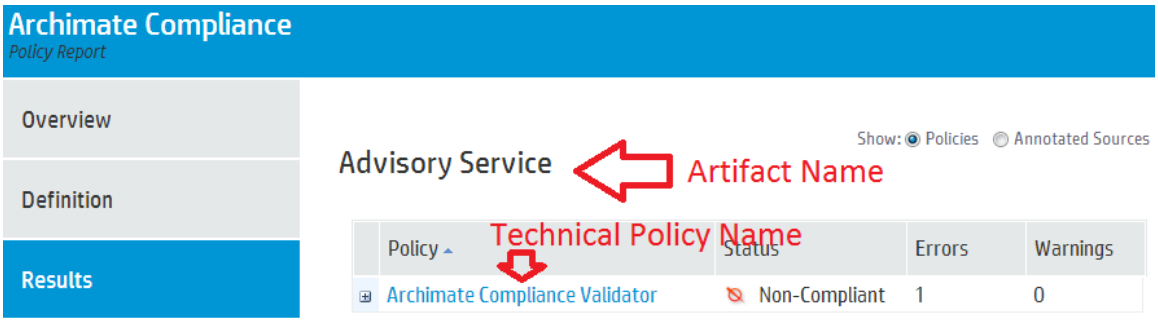


- **Results**: shows an index table with columns containing clickable artifact names, artifact types, compliance status (Compliant/Non-Compliant), artifact compliance (0 – 100 percent), number of problems found, and a link to details about policy calculations. It is accessible when you click

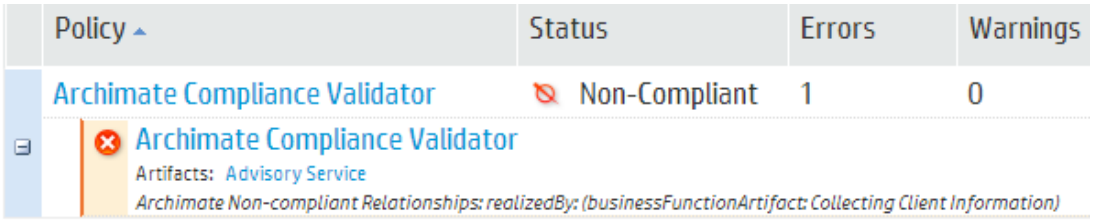
the Results tab on the left side of the report page.



- **Artifact Results**: shows a table with policy calculation details by artifact. Each row of the table represents a technical policy included in the report definition. It contains a clickable name, compliance status, and the number of errors and warnings. It is accessible when you click on the View Report link in any Results row or the Overview subreport.



Each row starts with a clickable plus symbol (+). When clicked it expands a row to show a full textual description of all errors are warnings.

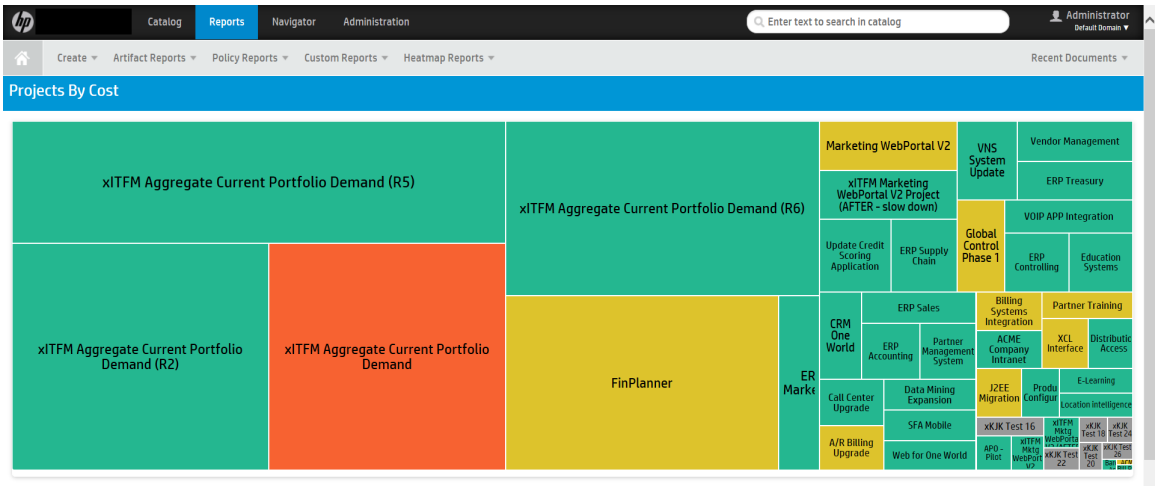


Heatmaps

You can use the HP EM heatmap portlet to create graphs of your data where individual values contained in a matrix are represented as colors. Planned cost is shown by the relative size of the rectangular areas and project health is shown by the color shading of the rectangles. Heatmap reports are updated immediately when there is a change in the data reported. HP EM provides two Heatmap reports out of the box:

- Applications by Cost report shows the Annual Cost Total(s) of selected projects.
- Projects by Cost report shows Planned Cost of selected projects (shown).

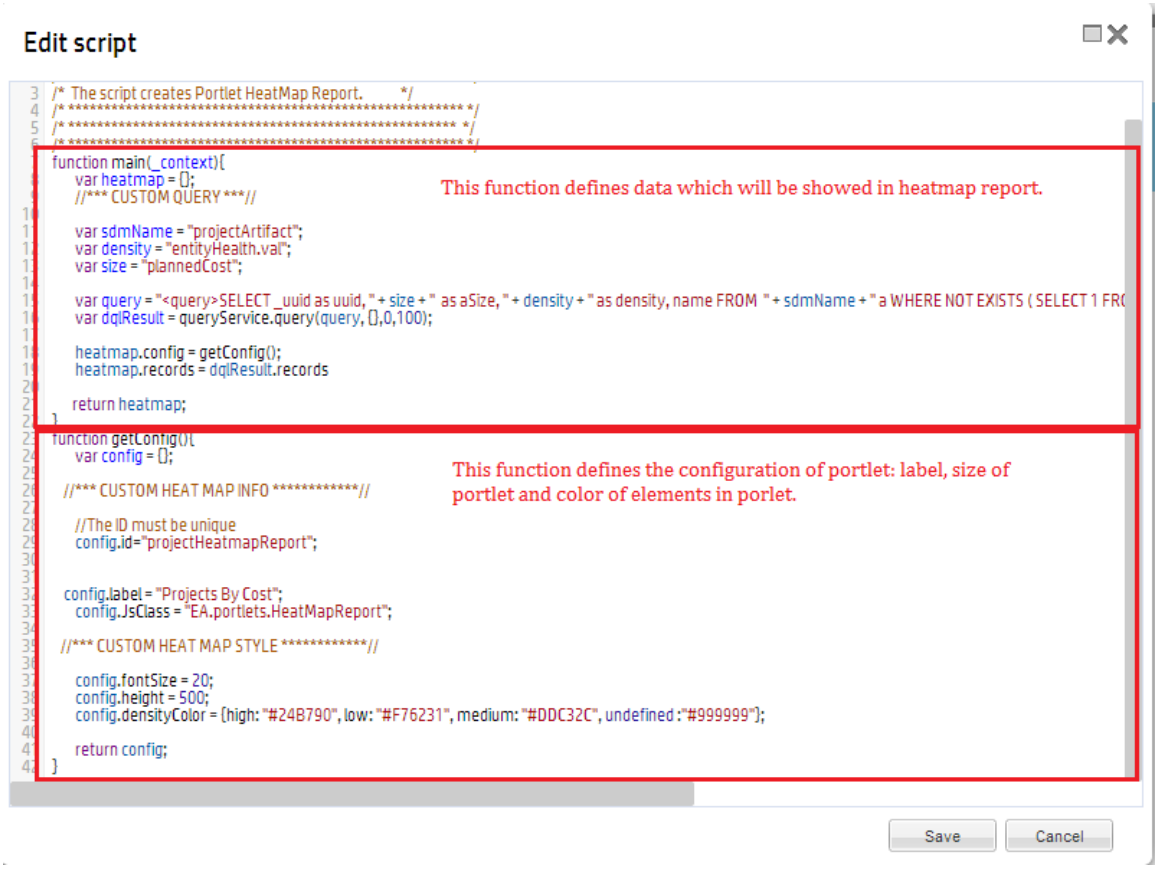
A heat map is defined in the web UI using a managed server-side script that specifies how the data and its two dimensions (that is, planned cost and project health) are calculated and visualized. The heat map is also shown directly in the web UI, either as a portlet (an area of the HP EM home page) or as a standalone report. Heat map reports are recalculated every time the user accesses the report's web UI page.



Create or Edit a Heatmap Portlet

To create a Heatmap portlet, first create an embedded script with Heatmap Portlet execution on type.

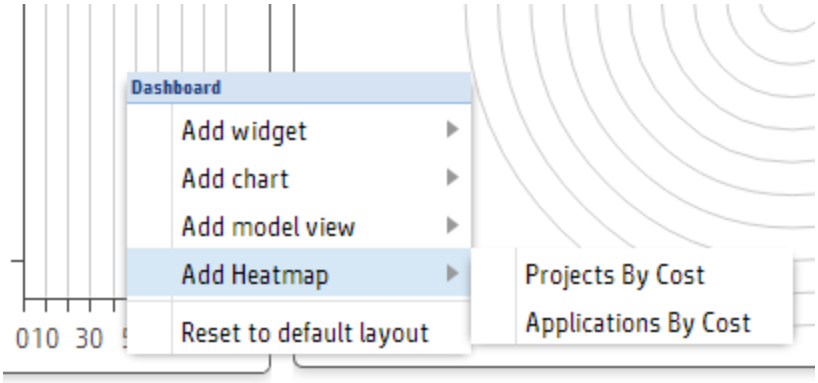
1. On the Administration tab, go to Customization > Manage Scripts.
2. Click the Create new script icon to open the Managed Script editor.
3. Create a new Script in JavaScript and select Heatmap Portlet from the Execute on menu.
4. Add content to the script. The following is a content example:



5. After you save your new Heatmap Portlet script, you can go to the Dashboard and add the Heatmap Portlet to your dashboard view using the Dashboard menu.

Add a Heatmap Portlet to Your Dashboard View

You can add the Heatmap portlet to your dashboard view, by selecting it from the Dashboard menu.

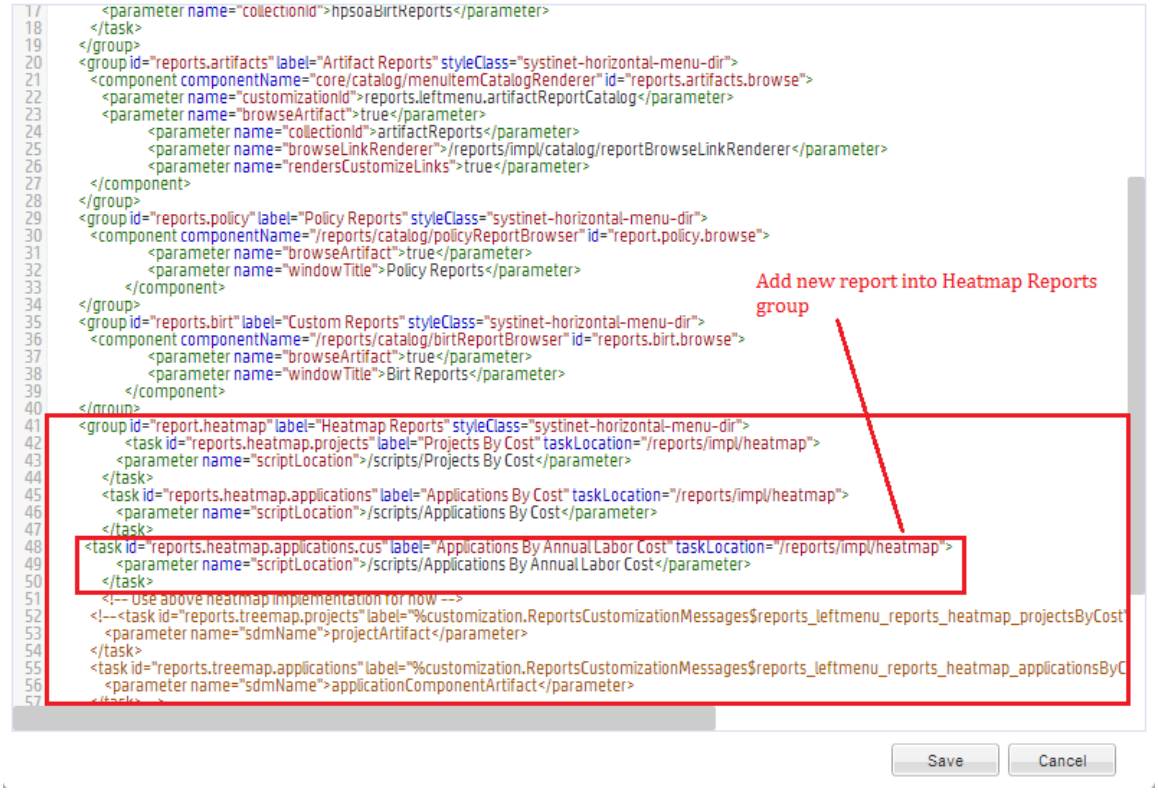


Create or Edit a Heatmap Report

You can create a customized Heatmap report after you create a Heatmap portlet's embedded script. The new report will appear on the Reports menu under Heatmap Reports.

1. Go to the Scripts Manager page on the Administration tab.
2. Create a new Script in JavaScript and select to Execute on Heatmap Portlet.

3. Add content to the script.
4. Open the Customization mode in the Report tab.
5. Customize the Dashboard menu by adding a new item for the Heatmap Reports group. The following is a content example:

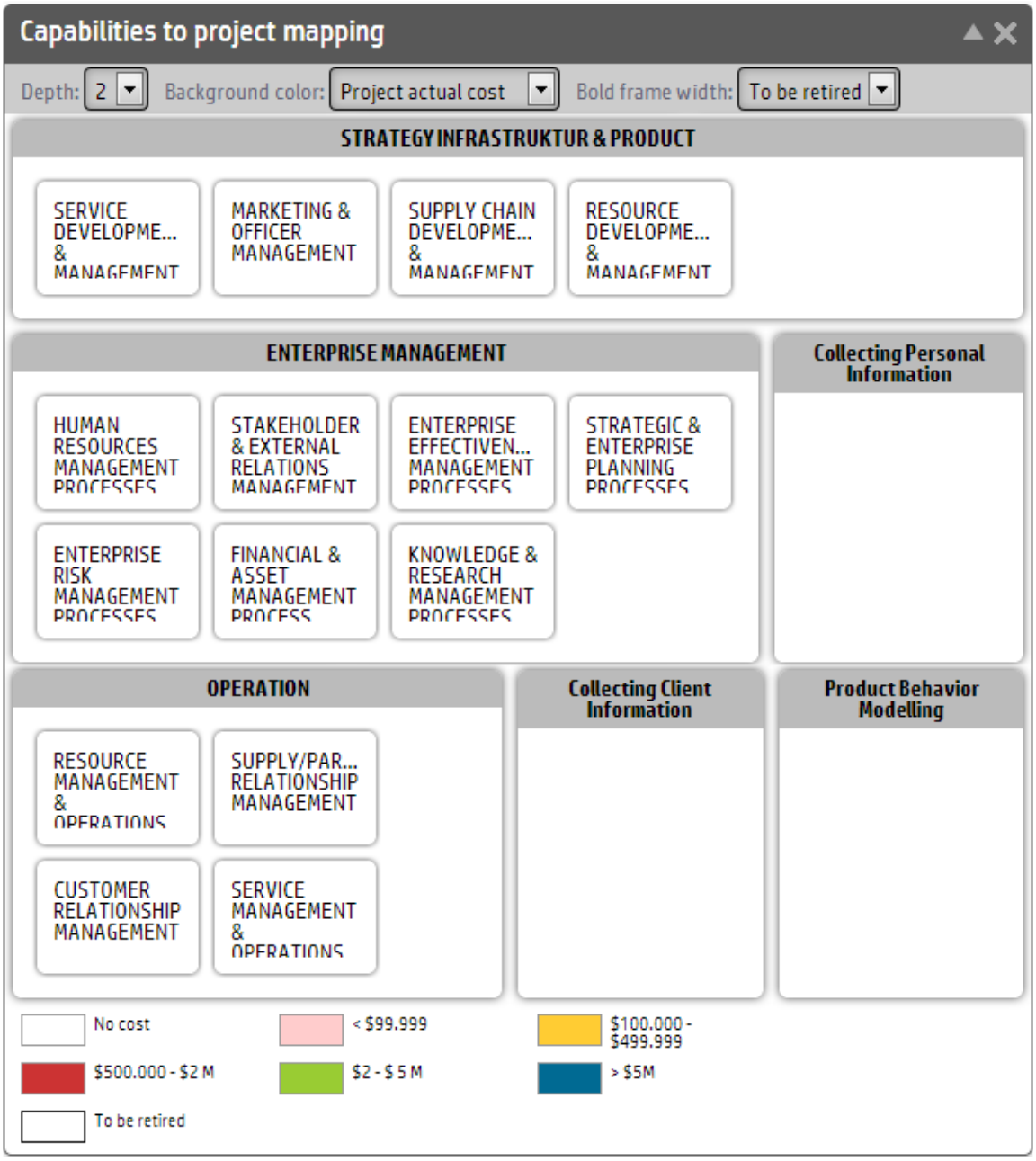


Structure Map Reports

As an HP EM administrator, you can use HP EM to create a structure map of artifacts by business function, which allows you to view the relationships between artifacts and the status of each artifact. Users can group artifacts by defining DQL queries and colors, and can modify the way that artifacts are displayed by using a color renderer and legend renderer.

Another way to characterize structure map reporting is as a boxed visualization of a data tree structure. You can use a structure map to model business capabilities, but the visualization itself is not restricted to business capabilities. Each rectangular area contains boxes that can be nested several levels. Boxes can be decorated to show dimensions of input data by using background colors or border lines of varying widths. Unlike the heap map report, the area size of a box is calculated to fit. Several levels of boxes are shown at the same time.

For example, an out-of-box Capabilities to project mapping structure map report shows business functions as nested boxes. The box's background color represents the cost of the projects allocated to a business function. The box's bold frame indicates that the function is going to retire.



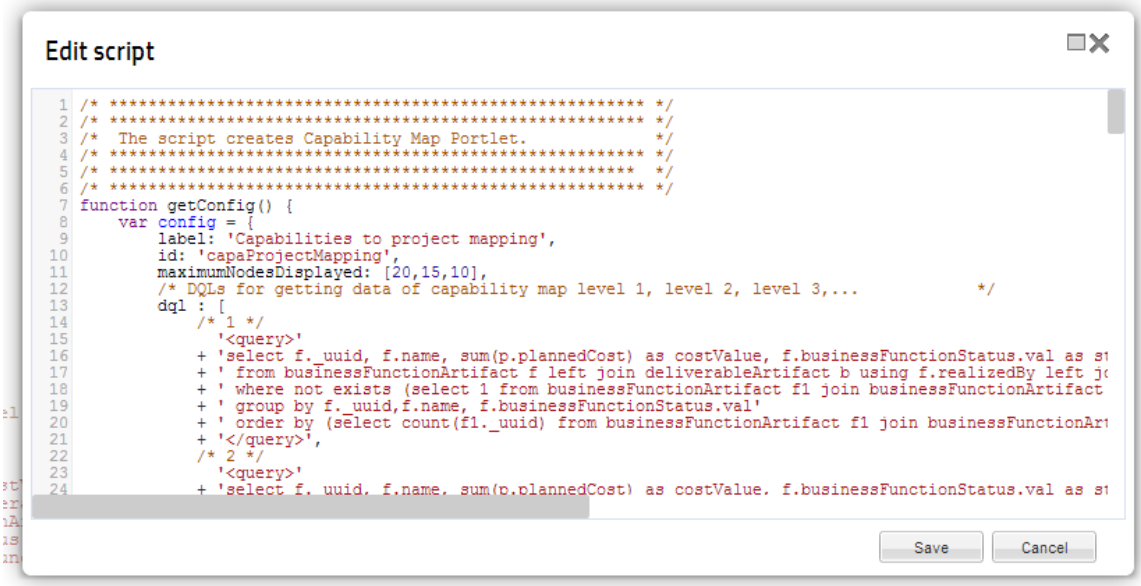
A structure map is defined in the web UI using a managed server-side script that specifies how the data and its dimensions are calculated and visualized. The structure map is shown directly in the web UI, either as a portlet (an area of the HP EM home page) or as a standalone report. Structure map reports are recalculated every time the user accesses the report's web UI page.

Creating Structure Maps

You can use HP EM to create structure maps, an important tool to help manage infrastructure, reduce ongoing costs, and increase areas of investment within your enterprise architecture.

To create a Structure Map portlet, first create an embedded script with Structure Map execution on type.

1. On the Administration tab, go to Customization > Manage Scripts.
2. Click the Create new script icon to open the Managed Script editor.
3. Create a new Script in JavaScript and select Structure Map Portlet from the 'Execute on' menu.
4. Add content to the script. The following is a content example :



5. After you save your new structure map portlet script, you can go to the dashboard and add the structure map portlet to your dashboard view using the dashboard menu.

Customizing Structure Maps

You can use HP EM to show the ongoing cost and areas of investment within your enterprise architecture. Structure maps are a unique visual tool that highlight these features and more.

As an HP EM administrator, you can use HP EM to customize the look and feel of the structure maps that you or other users create.

To customize structure maps:

1. On the Administration tab, click **Customization > Manage Scripts**. The Managed Scripts page opens.
2. Find the Structure Map script, and then open it.
3. You can customize the following properties:

   Label: Label of Structure Map

   Id: Identification of map, using different values to enable the user to add capability map instances on the HP EM home page.

   Dql: String Array, query data for map

   Length of array is the maximum depth of the tree view

   maximumNodesDisplayed: Number Array – Limits the item number for each query

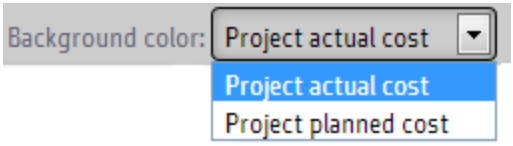
   Visualizations: Item Selector Array

4. To control the rendering of the Item style, you modify the legend is based on defined rules.

   Visualization Structure:

   ```
   Visualization [

   Selector 1: [{selector 1 value 1, rule 1-1}, {selector 1 value 2,
   rule 1-2}...],

   Selector 2:  [{selector 2 value 1, rule 2-1}, {selector 2 value 2,
   rule 2-2}...],

   …

   Selector N:  [{selector N value 1, rule N-1}, {selector N value 2,
   rule 2-2}...],

   ]
   ```

   ```
   visualizations: [
       {
                       label : 'Background color',
                       items: [
                           {
                               name: 'Project actual cost',
                               •
                               •
                               •
                           },
                           {
                               name: 'Project planned cost',
                               •
                               •
                               •
   ```

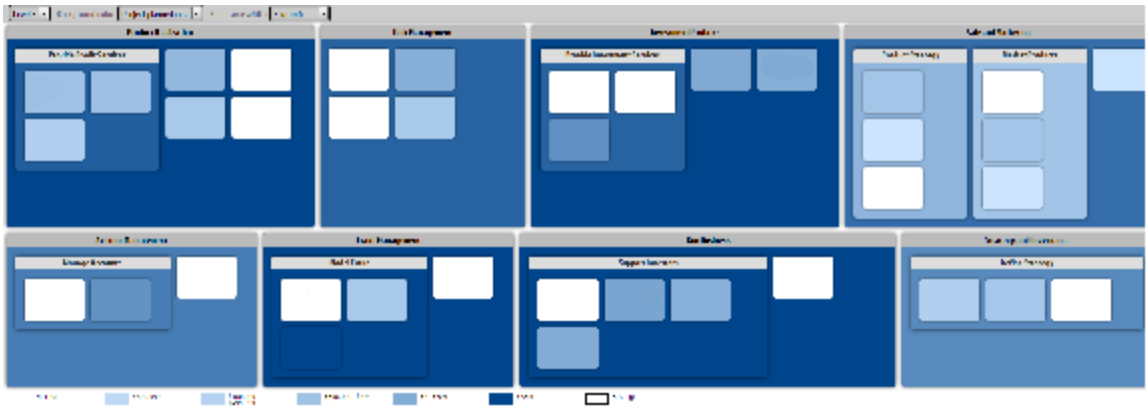
   Selector Item Structure:

   ```
   items: [
       {
           name: 'Project actual cost',
           init: function(capaMap) {
                   // Called when Selecting Value changed
           },
           renderer: function(container, node)
           {
                   // Called when rendering Node Style
           },
           legendRenderer : function(container) {
                   //Called to render Legend below Capability Map
           }
       },
   ```

5. You can also define a list of specified colors to display, and can also modify the capability map using the renderer. In this example, definitions are set to display only two colors for minimum cost and maximum cost, and then the node item colors and legend item colors will be calculated automatically for use throughout the capability map.

```
renderer: function(container, node)
{
                if (node.costValue>=2000000) return  'background: #006A93; color: #fff;';
                if (node.costValue>=1000000) return  'background: #99CC33;';
                if (node.costValue>=500000) return 'background: #CC3333; color: #fff;';
                if (node.costValue>=100000) return 'background: #FFCC33;';
                if (node.costValue> 0) return 'background: #FFCCCC;';
                return '';
},


legendRenderer : function(container) {

                var costRange = [
                        {style: 'background: #FFFFFF', description: 'No cost'},
                        {style: 'background:  #FFCCCC', description: ' < $99.999'},
                        {style: 'background: #FFCC33', description: '$100.000 - $499.999'},
                        {style: 'background: #CC3333', description: '$500.000 - $1 M'},
                        {style: 'background: #99CC33', description: '$1 - $ 2 M'},
                        {style: 'background: #006A93', description: '> $2M '}
                ];
                var legendHTMLcontent = '<div>';
                for(var i = 0; i < costRange.length; i++) {
                        legendHTMLcontent += '<div class="capa-legend-tile"><div class="view" style="'•••
                }
                legendHTMLcontent +='<div class="clear"></div></div>';
                $('#' + container.config.id + '-legend').append(legendHTMLcontent);
        }
```

```
renderer: function(container, node)
{


        var colorRange = [{minCostValue: 0, hexColor : '#ffffff'},{minCostValue: 5000000,  hexColor : '#00458c'}];
        return container.nodeStyleRenderer(node, 'background-color', colorRange);
},
legendRenderer : function(container) {


        if(container.legendRenderer != null) {
                var costRange = [
                        {maxCostValue: 0, description: ' No cost'},
                        {minCostValue: 1, description: ' < $100.000'},
                        {minCostValue: 100000, description: '$100.000 - $499.999'},
                        {minCostValue: 500000, description: '$500.000 - $1 M'},
                        {minCostValue: 1000000, description: '$1 - $5M'},
                        {minCostValue: 5000000, description: '> $5 M'}
                ];

                var colorRange = {};

                colorRange.style = 'border: 1px solid #666; background-color';
                colorRange.minCostColor= '#ffffff';
                colorRange.maxCostColor = '#00458c';

                container.legendRenderer(colorRange, costRange);
        }
}
```

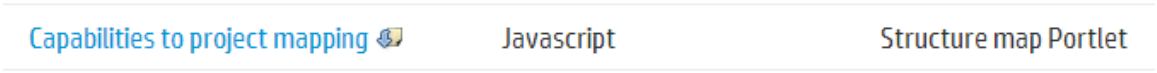


Embed Structure Map Components

You can reuse content in a structure map from the managed script and then modify and place it in the customization XML file as CDATA content. This enables display of structure map components directly on related artifact pages.

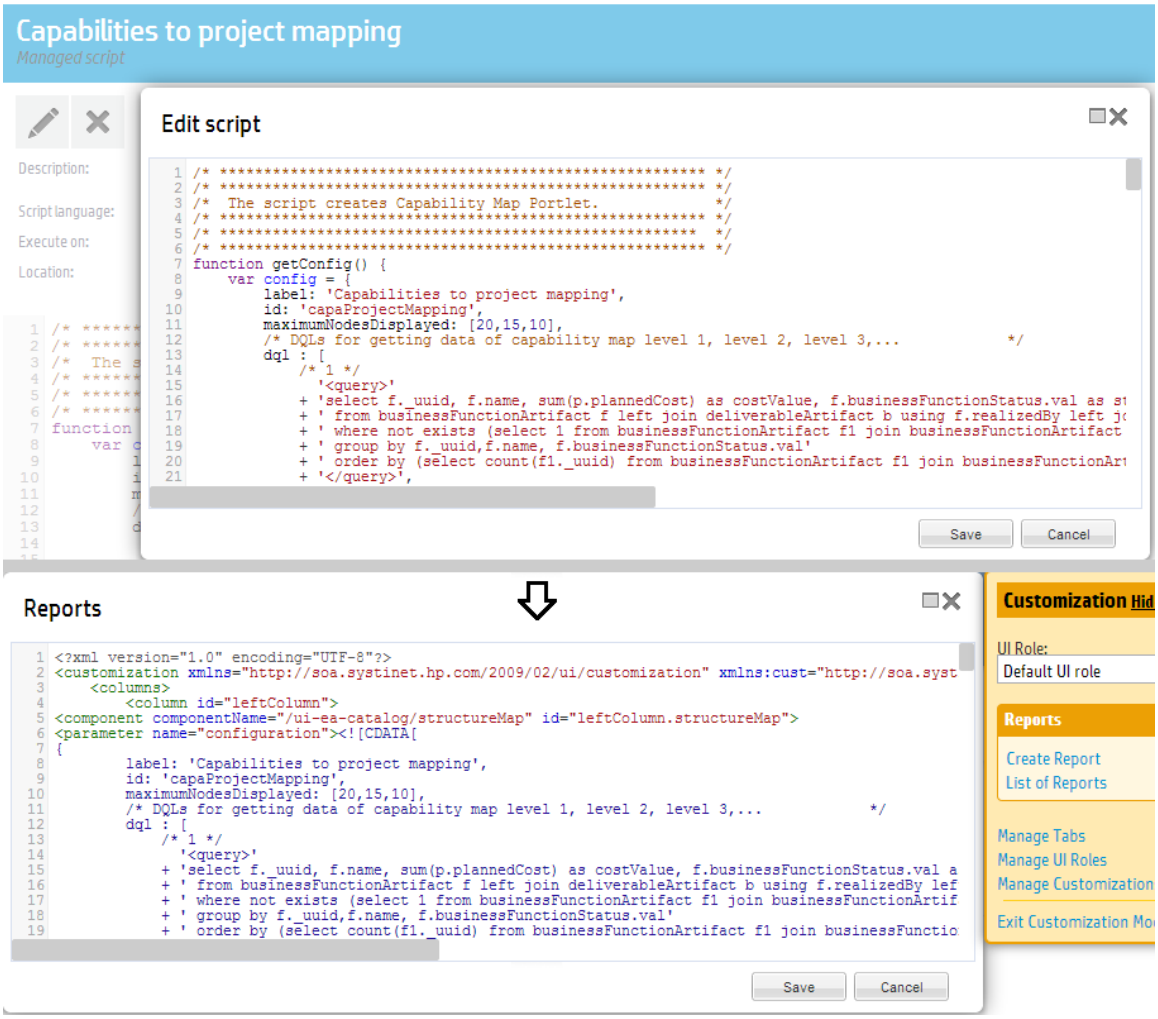
To embed structure map components:

1. Go to Administration > Customization > Manage Scripts, and then select a script with Structure Map Portlet as Execution on Type.




```
<?xml version="1.0" encoding="UTF-8"?>
<customization xmlns="http://soa.systinet.hp.com/2009/02/ui/customization" xmlns:cust="
    <columns>
        <column id="leftColumn">
            <component componentName="/ui-ea-catalog/structureMap" id="leftColumn.structureMap">
            <parameter name="configuration"><![CDATA[
            {
                    ... JSON Config of Structure map...
                }
            ]]></parameter>
            </component>
        </column>
    </columns>
</customization>
```

2. Copy the contents of JSON Config, and then customize. The following shows an example:

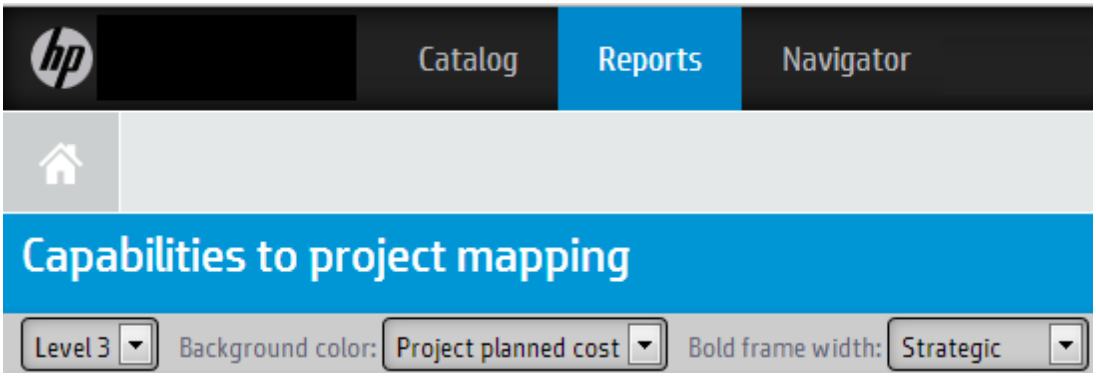


The resulting artifact page shows the embedded structure map component below the Latest Events section.

3. To add a menu link to a structure map page that will display in the Reports tab, add this code to the script:

```
<task id="reports.capabilities.projectmapping" label="Capabilities to project mapping" taskLocation="/reports/impl/structureMap">
    <parameter name="scriptLocation">/scripts/Capabilities to project mapping</parameter>
    <parameter name="renderHeader">true</parameter>
</task>
```

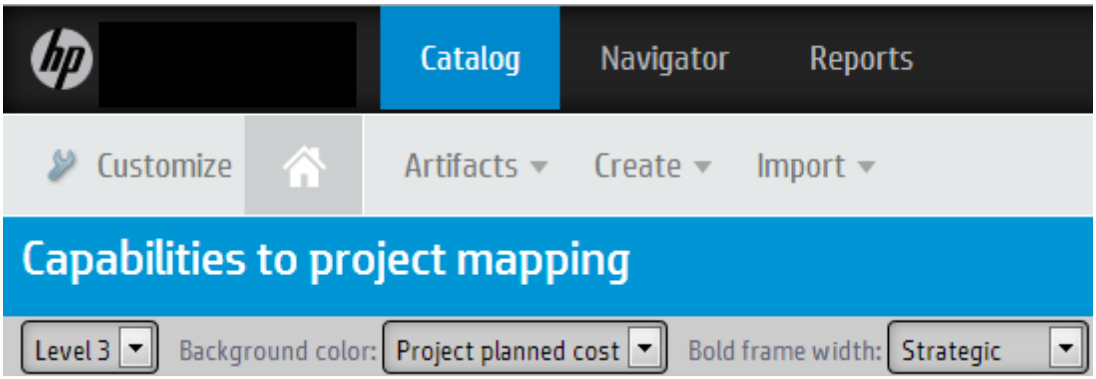
Your new menu link will appear when you access the Reports tab.



4. To add a menu link to a structure map page that will display in the Catalog tab, add this code to the script:

```
<task id="catalog.capabilities.projectmapping" label="Capabilities to project mapping" taskLocation="/ui-ea-catalog/structureMap">
    <parameter name="scriptLocation">/scripts/Capabilities to project mapping</parameter>
    <parameter name="renderHeader">true</parameter>
</task>
```

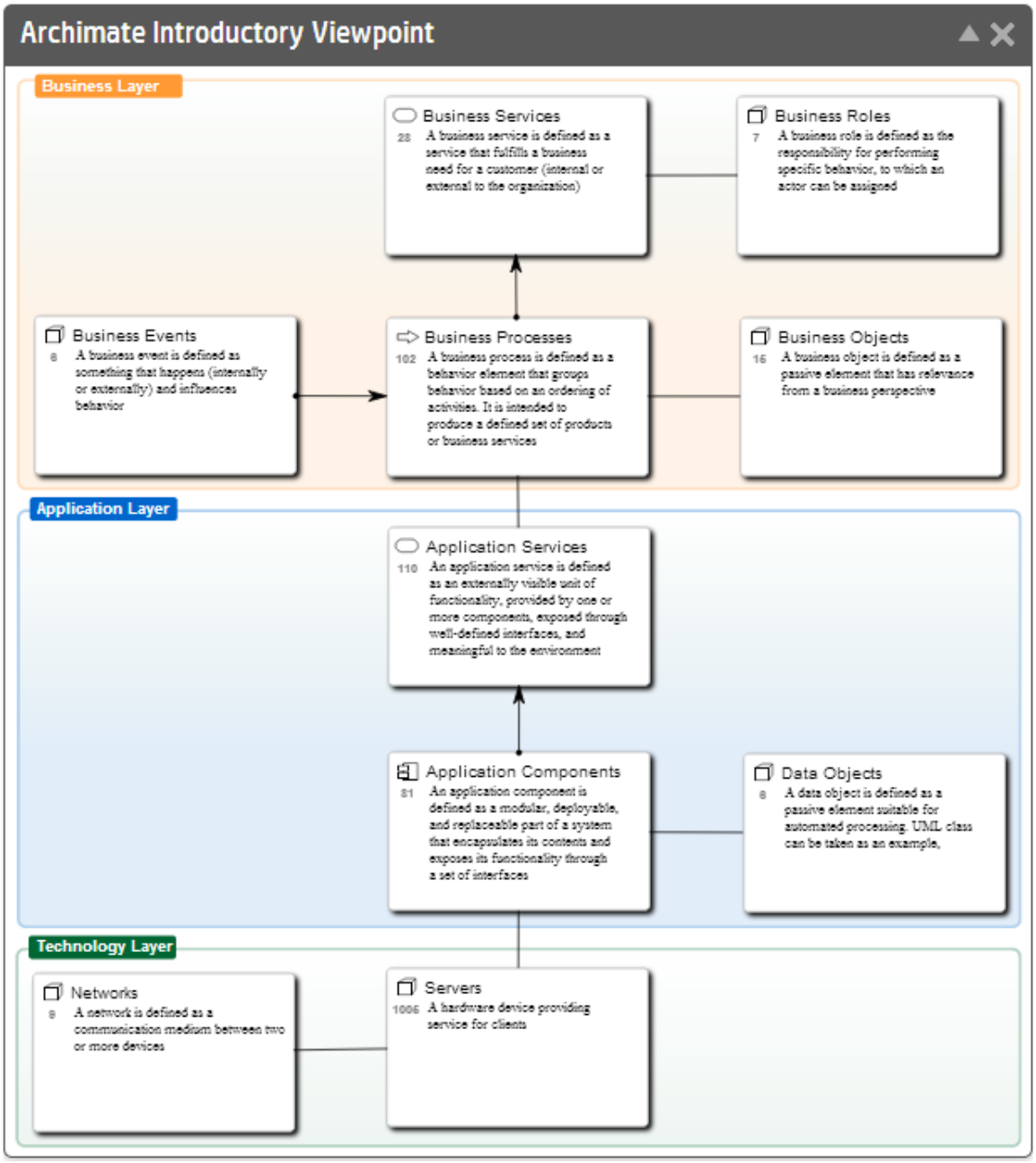
Your new menu link will appear when you access the Catalog tab.



Viewpoint Portlet Reports

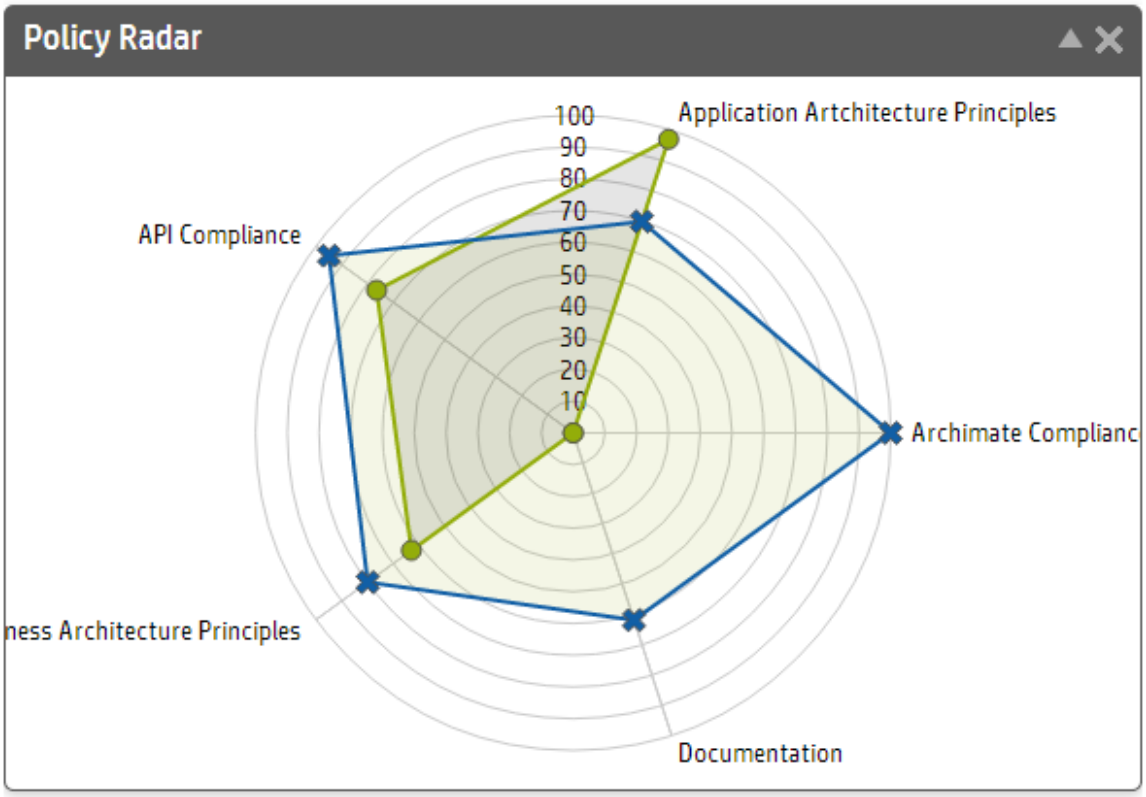
HP EM viewpoint portlet reporting is displayed directly in the web UI to visualize pre-defined artifact types along with the dependencies between those artifacts. It provides a view to the HP EM repository artifact types and each type is displayed as a box with a number of matching artifacts. The lines between the boxes represent relationships between artifact types. The boxes are clickable to show the artifacts in a dialog window in which a selected artifact can be used to run impact or dependency analysis that is then visualized directly in the viewpoint portlet.

Viewpoint portlets are defined by HP EM managed server-side scripts. The layout of the viewpoint is specified by using an SVG file that you can create in Inkscape (see www.inkscape.org). If you have installed the HP EM Extension for Inkscape, which provides a seamless integration between Inkscape and HP EM, you can create an SVG file that can be used as a viewpoint. For more information, see the topic Installing the HP EM Extension for Inkscape.



Policy Radar Reports

HP EM policy radar reporting is a web UI portlet that displays a radar chart showing the difference between the policy report's actual and target compliance. By default, the policy radar displays all policy reports available HP EM. The layout and contents of the radar can be customized using a managed server-side script.



Custom BIRT Reports

You can use the HP EM Workbench to design custom reports. The reports are defined and executed using Eclipse's BIRT, which is a very powerful reporting system that includes the reporting features such as report layout, data access, and scripting. For more information, see http://www.eclipse.org/birt/ where you can find details about the technology used and a few report examples.

BIRT report definitions can be deployed and used in HP EM. The BIRT execution engine is part of HP EM and the report definitions are executed to create a custom report. Custom reports are cached in HP EM and you can access them directly in the HP EM web UI. Unlike other reports, custom reports are provided as standalone documents (PDF or HTML) that can be easily downloaded from HP EM.

Chapter 9

HP EM Extension for Inkscape

HP EM integrates with the open source Inkscape vector graphics editing tool via an extension module. By using Inkscape, you can easily edit SVG graphic files and other graphical elements residing in the HP EM data models.

Installing the HP EM Extension for Inkscape

Before you install the Inkscape EM extension, make sure that you have the following on your system:

- Inkscape 0.48 for Windows (You can download Inkscape from: www.inkscape.org.)
- JDK version 1.7

To install the HP EM Extension for Inkscape:

1. Execute hp-em-inkscape-1.00.msi

   NOTE: Inkscape MUST be installed before launching the installer.

2. After installation has finished, the add-in files MUST be place into the following directories:

File Name	Directory
addArtifact.inx	INKSCAPE_HOMW\share\extensions\
addLayer.inx	INKSCAPE_HOMW\share\extensions\
publishToEAM.inx	INKSCAPE_HOMW\share\extensions\
eamanager.py	INKSCAPE_HOMW\share\extensions\
eamanager(folder)	INKSCAPE_HOMW\share\extensions\

3. When you restart Inkscape, click on Extensions in the main menu bar. EM will appear in the list. Double-click it to open.

Using the HP EM Extension for Inkscape

By using the HP EM Extension for Inkscape, you can add artifacts or layers or publish your graphics directly to EM.

To add an artifact:

1. Click Extensions > Enterprise Maps > Add Artifact.
2. Input the exact values for the Label and the Artifact Local Name in the Add Artifact fields.
3. Click Apply to create the new artifact. Alternatively, you can click Close to exit without creating a new artifact.

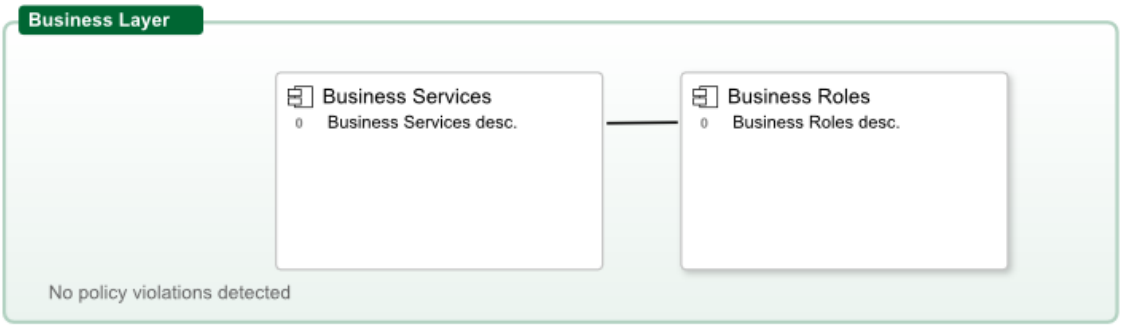
To add a layer:

1. Click Extensions > Enterprise Maps > Add Layer.
2. Input the exact values for the Label and the Artifact Local Name in the Add Layer fields.
3. Click Apply to create the new layer. Alternatively, you can click Close to exit without creating a new layer.

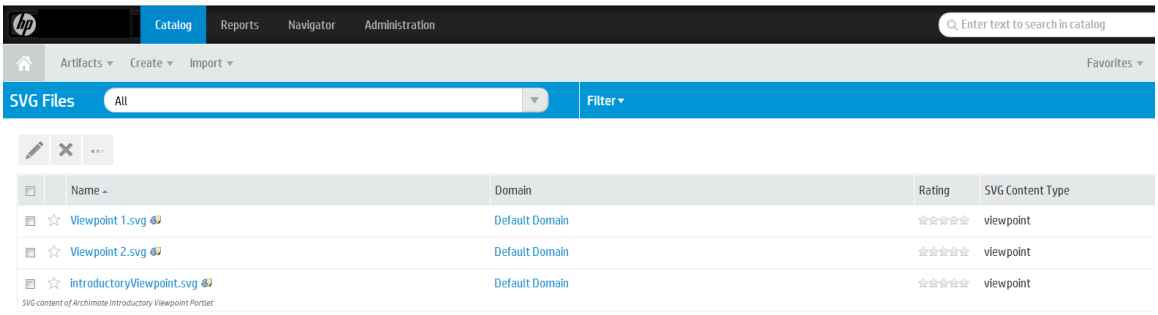
To publish to HP EM:

1. Click Extensions > Enterprise Maps > Publish to EM.
2. Input the exact values for the Viewpoint Name, EM Url, Username, and Password fields.
3. Click Apply to publish the new file to EM. Alternatively, you can click Close to exit without publishing.
4. You can publish a single SVG file multiple times. Based on the file name, EM will do one of the following actions:
   a. Publish the new file if there is no SVG artifact having the same name already, or
   b. Update the existing file if there is an artifact with that name.
5. After you publish, you can view the SVG artifacts in the EM catalog.

   The new artifact and layer will appear in HP EM.



You can also view artifacts in the catalog.

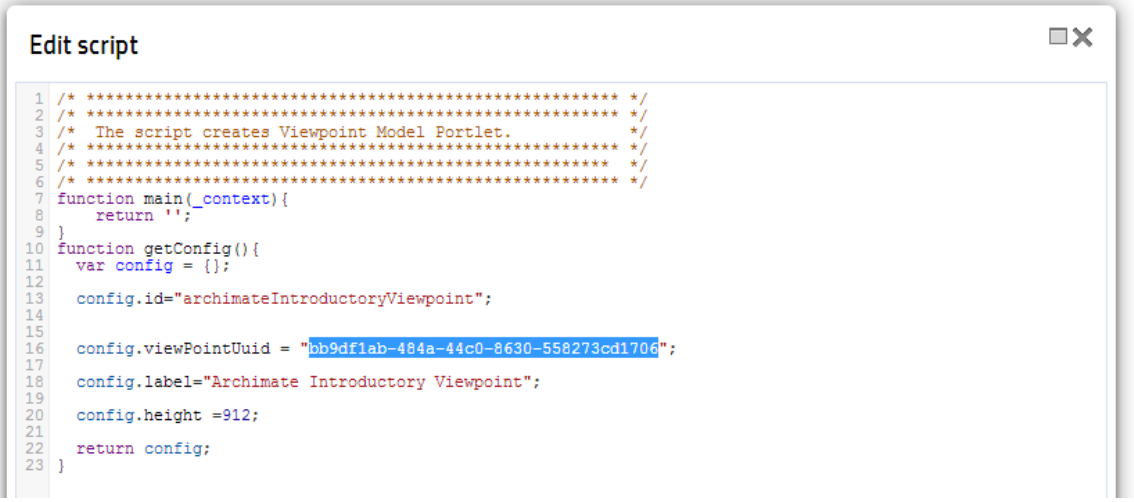


Apply a New SVG File to Your EM Home Page

You can apply any SVG file you choose to appear on your EM home page.

To apply a new SVG file to Your EM home page:

1. Log in to HP EM.
2. Go to the Catalog showing the list of SVG files and open the artifact that you want to use.
3. Copy its UUID to the clipboard.
4. Go to the Administration tab > Customization > Manage Scripts, and then open the Archimate Introductory Viewpoint.
5. Click Edit Script, and then paste the UUID into the config.viewPointuuid value. When you finish, save the script.



6. Go to the Catalog tab and right click on your home page dashboard. The context menu will be displayed.
7. Click Archimate Introductory Viewpoint and the new file will display.

Using the Log Files for the HP EM Extension for Inkscape

You can use log files to track or investigate any errors that occur. The log files are located at:

INKSCAPE_HOME\share\extension\em\log

There are two log files to use:

- The file inkscape.log contains the trace output for adding artifacts and layers.
- The file publish.log contains trace output for publishing of SVG files to HP EM.

Chapter 10

Scripted XML Publishing

HP EM supports "Scripted XML Publishing" where HP EM is extended with script artifacts. These script artifacts contain instructions of how to recognize/parse new XML document types that are imported from the web UI. The script artifacts:

- Can be created/modified/deleted anytime
- Modify HP EM publishing pipeline immediately without the need of applying extra extensions or a server restart
- Can be easily bundled (by PSO) in a model extension to provide a default way of how to publish new document types/artifacts
- Are written in a XML format, the structure is expressed using XML schema (XSD); your XML editor can be easily configured to provide hints and help regarding script structure
- Are controlled for XML schema validity and passes semantical analysis upon every change (create/update), invalid scripts cannot be published

Creating Scripted XML Artifacts

The script can be published to HP EM using the following simple steps.

To create a scripted XML artifact:

1. Select the **Administration** Tab **> Customization > Manage Scripts**.
2. Click the **Create new script** icon to open the Managed Script editor.
3. Enter a unique name (spaces are OK) and an optional description.
4. For **Script Language**, select **XML**.
5. For **Execute On**, select **XML Data Import**.
6. Click **Save**.
   A view page of the script opens.
7. Click the **Edit Script** button on the right to open a blank Edit script dialog.
8. Enter the script content and click **Save**. You can copy and paste the script from a text file. For example, you could enter the following script:

```
<publisherConfiguration
xmlns="urn:com.hp.systinet.publishing.xml:1.0"
name="simpleBook">
<artifact sdmName="documentationArtifact">
<recognition>
<rootElement name="book" namespace=""/>
</recognition>
<stringProperty sdmName="name">
```

```
<text>BOOK: </text>
<xpath>name/text()</xpath>
</stringProperty>
</artifact>
</publisherConfiguration>
```

Every successfully saved script is active immediately. You can now import and publish a book file. See "Importing and Publishing a Book File" (on page 72).

Importing and Publishing a Book File

To import a book file:

1. Select the **Catalog** tab **> Import > File**.
2. Change **File** to **URL** and enter the URL of the simple book.
3. Click **Import**. A documentation artifact is created.

For Example: If the script content of the book is the following:

```
<?xml version="1.0" encoding="UTF-8"?>
<book xmlns="urn:simpleBook">
<name>Dunno on the Moon</name>
</book>
```

A documentation artifact is created and the name of the created artifact is **BOOK: Dunno on the Moon**.

Script Properties

This topic describes:

- "Enhanced Script Components" (on page 72)
- "Script Elements and Attributes " (on page 73)

Enhanced Script Components

The script is enhanced with the following parts:

- namespace is **urn:com.hp.systinet.publishing.xml:1.0**
- root element is **publisherConfiguration**
  - The root element should have the **name** attribute to identify the script by name. The name must be unique between all publishing scripts.
- *optional* **registration** element is important during recognition of a document/file type. For details see "Recognition Order" (on page 77).
- *optional* **namespaceContext** element defines mapping from prefix to namespace. This mapping is supplied to all xpath elements (xpath,select) in the script.
- recognition and parsing of input filesare controlled by nested **artifact** elements, which are optional (but a script without artifact elements is useless).
  - each artifact must have the **sdmName** attribute that matches an existing SDM artifact type name.

- an artifact element can be marked with enabled='false' to ignore the artifact during publishing.

Script Elements and Attributes

The script is supported by the following elements and attributes:

Artifact Recognition

The **recognition** element defined in the **artifact** element is used to describe how the publisher can recognize the input document/file. The recognition element can contain multiple sub-elements. The artifact element recognizes the input if all recognition's children elements evaluate to **true**.

The following recognition elements are supported:

- **and** is a container element that returns **true** only if all nested recognition elements returns **true**. The artifact's recognition element is an **and** in fact.
- **or** is a container element that returns true only if at least one nested recognition element returns **true**.
- **not** returns **true** if the mandatory nested recognition element returns **false**.
- **rootElement** can contain **namespace** and **name** attributes, returns true only if (all) the following conditions are **true**.
  - name attribute is not supplied or root element local-name (name without namespace prefix) equals to name attribute value.
  - namespace attribute is not supplied or root element namespace equals to namespace attribute value.
- **xpath** contains text with an xpath expression, returns true only if the xpath expression is true (non-empty node-set also yields to true).
- **empty** is a container element that returns true only if all nested extractors create empty value.
- **extension** contains text with a required extension. Returns true only if the input file extension is exactly the same. the extension always start with ".", for example ".xml" or ".doc".
- **any** can contain nested extractor element, it returns **true** only if
  - it does not contain a nested extractor element.
  - or the extractor extracts a non-empty string.
- **xml** returns **true** only if the input document was fully parsed and it is a valid XML file.

Extractors

Extractors are used to extract string data out of the input (file/document or document part). Extractor elements are obviously used to define artifact property value, but they can be also used to

recognize data (using empty or any recognition elements described in the Artifact recognition section) or define variables (see "Variables" (on page 78)).

The following extractors are supported:

- **all** is a container extractor that returns concatenation of values that are created by nested extractors.
- **first** is a container extractor that returns the value of the first nested extractor that creates a value.
- **for-each** is a container extractor that returns concatenation of nested extractors evaluated against each node in the node list defined by the select element; it has to contain:
  - **select** element as a first element with a text defining an xpath to extract a node list.
  - at least one extractor element to extract data for an element in the node list.
- **xpath** returns a string value that is a result of xpath evaluation, where xpath is a text value of this element; xpath value may only use namespace prefixes defined by **namespaceContext** element (defined as a direct child of the root element of the script).
- **regexp** is a container extractor that concatenates the output of all nested extractors and then applies a regular expression pattern to the extracted value. The pattern must be specified in the pattern attribute. It returns a value only if the pattern matches. The value is then either the first substitution group found in the pattern or the whole matched string if there is no substitution group in the pattern.
  - example1: input "file.xml", pattern ".xml$" ... does not match
  - example1: input "file.xml", pattern "^.*\.xml$" ... matches and output is "file.xml"
  - example2: input "file.xml", pattern "^(.*)\.xml$" ... matches and output is "file"
- **replace** is a container extractor that concatenates the output of all nested extractors and then replaces all occurrences of supplied regular expression pattern (using mandatory pattern attribute) by the value supplied in the mandatory replacement attribute.
- **text** returns the value of the text content.
  - example: <text>This is a constant value</text>
- **location** returns the location of the input file as it would appears in the repository location space.
- **variable** returns the value of the variable. It supports the following attributes:
  - **name** is a mandatory variable name.
  - **default** is an optional default value if the variable is not defined.
  - **scope** is an optional scope to look for variables (local, shared, all).
- **substituteVariables** is a container extractor that concatenates the output of all nested extractors and then replaces all occurrences of supplied regular expression pattern (using mandatory pattern attribute) by variables. The mandatory pattern attribute must contain a substitution group to know the name of the variable.
  - Example:
    If you input: "This is ${NAME}", pattern is "\$\{.*\}"; if NAME variable is defined to "Pavel".

    Then the output is: "This is Pavel", otherwise the output is "This is ${NAME}."

- **if** extracts a value when a condition matches, it has to contain nested
  - **condition** element that with the condition expressed as recognition element, it is in fact an and extractor container.
  - **value** element that with the value, it behaves as all extractor container.

Artifact Properties

There are several types of artifact properties, the handling of the property depends on the property type. The way how the properties are set to artifact is defined by any of the supported property element of the script's artifact element. These are:

- **stringProperty** defines string/text property with single occurrence(0..1 or 1..1)
  - is an instance of all extractor element, nested elements extracts a text value that is set, the property value depends on property type:

    string — the text is set as property value

    boolean — the value is true only if the text is "true", false otherwise

    category — the text is a category value, which is used to create a category value

    nameUrlPair — text is set to the URL portion of the property value
- **booleanProperty** defines boolean property with single occurrence
  - is an instance of and recognition element, nested elements evaluate the input as either **true** or **false**.
- **integerProperty** defines integer property with single occurrence
  - is similar to stringProperty, but the value is parsed to be an integer
- **dateProperty** defines date property with single occurance, it has
  - zero, one more **format** elements that are used to try parsing the value in the order that they appear, the content of the format element is a string, one of the following values are accepted:
  - **epoch** - a long value is expected as a count of milliseconds from epoch (the date is then constructed using new java.util.Date(millis))
  - **current** independently on value, it result in a current Date
  - **default** default format is ISO8601 (SimpleDateFormat with yyyy-MM-dd'T'HH:mm:ss.SSS'Z' pattern in "UTC" timezone and lenient parsing)
  - any other value is used as a pattern to create java.text.SimpleDateFormat
- the format element can have the following attributes
  - **lenient** means that the parsing will try some heuristics with inputs that do not strictly match the pattern, true by default
  - **timezone** is a timezone string see java.util.TimeZone for details
- **value** is an all extractor that specifies the value to extract from
- **categoryProperty** defines a category property by using either
  - only a **value** attribute is used to specify a category value, associated category's tModelkey and name are obtained from the property descriptor and HP Atlas database. The category value is validated during creation of the script, it has to be a category of a checked taxonomy.

  - a **val** element can be used to specify an all extractor that extracts the category value from the input; name (3rd) and taxonomyUri (1st) are other optional elements that are all extractors as well.
  - if the **taxonomyUri** is not specified, category's taxonomyURI is obtained from associated property descriptor (recommended)
  - if the **name** is not specified, category's value is queried from the HP Atlas database using taxonomyURI and value
- **relation** defines relational property with single occurrence and it is quite complex to understand, see "Relation property" section below.
- **multiProperty** defines property with multiple occurrences (?..n) using nested select element and one 'single occurrence' property. The select element must be the first, it defines an xpath expression that used to split the present input into a node list, where each node is then used to parse a single occurrence property.

Each 'single occurrence' property has an 'sdmName' attribute that carries the name of the property according to SDM model, it can also contain a flag attribute **identifier**. All artifact's properties that are marked as identifiers are considered to be a composed identifier of the artifact, which is used when finding duplicates. A new artifact is considered as a duplicate if it has the same SDM name and identifiers of another artifact that already exists.

Relation Property

Unlike other properties, the value of the relation property is not known from the input. The value value of the relational property represents a connection to another artifact, that need not exists during the publishing. The process of creating a relation can typically create also a target artifact.

Each **relation** element must have **sdmName** attribute to define property name in the SDM model. There are the following type of relation properties:

- relation to local artifact means that relation's second side (target) is an artifact instance that exists (or is created) locally for this artifact. It is defined with
  - targetType attribute undefined or set to "localArtifact".
  - Nested artifact element that defines the target artifact; in order to resolve duplicates, at least one property should be marked by identifier attribute set to true.
  - Semantical example: book with chapters where
    - chapters are local to the book
    - more chapters with the same name can exist in the repository
- file reference means that a relation is represented by another file in the input. It is defined with
  - **targetType** attribute undefined or set to "importedResource"
  - Nested **import** element that defines how to include the resource. The import element must contain these elements:
    - **relativeLocation** element being an all extractor that is supported to create relative or absolute URL that can be used to download the resource.
    - **targetSdmName** elements can follow, each with a text value that must be an SDM name of expected target artifact; **targetSdmName** elements can be only used to enforce specific target artifact sdm names, when no **targetSdmName** is present, the target types are taken from the relationship descriptor.

  - Semantical example: a library references a large number of books. An HTML page references images and CSS files.

- **relation to shared artifact**, it means that relation's second side (target) must be a shared artifact instance. It is defined with the following:
  - **targetType** is used to set up a method of how to find a shared artifact.Following are methods used:
    - **repositoryReference** - a matching artifact is searched the repository.
    - **sharedReference** - a matching artifact searched in the publisher input; if it is not found, use **repositoryReference**.
      - publisher input contains all resources that were recognized in the "still running" processing; including locally decomposed artifacts, imported resources, and all files in the zip file.
    - **sharedArtifact** - if no sharedReference is found, create a new artifact
  - Nested artifact element that defines the target artifact; in order to resolve duplicates, at least one property should be marked by identifier attribute set to true.
  - Semantical example: book with author where
    - author is assumed to be only one author in the repository.
    - author is shared between books.

Recognition Order

The publishing pipeline internally manages a list of DocTypeFactory instances, these instances are called (in the list order) to create DocType instances that are asked to recognize the input. The first DocType that recognizes the input is used to parse the data and eventually create artifact(s). A DocTypeFactory instance is created by runtime for every publishing script, the factory creates DocType for every artifact element in the script (in the same order). The server log contains INFO messages that describe the order of DocTypeFactory instances, these INFO messages are generated during HP Atlas EAR initialization or upon a change in publishing scripts (create/delete/update).

```
14:17:09,369 INFO [PublishingScriptsRegistration] Registering
factories:
14:17:09,369 INFO [PublishingScriptsRegistration]
ScriptedDocTypeFactory[bookWithChapters_withVariables]
14:17:09,370 INFO [PublishingScriptsRegistration]
ScriptedDocTypeFactory[simpleBook]
14:17:09,370 INFO [PublishingScriptsRegistration]
ScriptedDocTypeFactory[helloworldPublisher]
14:17:09,370 INFO [PublishingScriptsRegistration]
ScriptedDocTypeFactory[simpleUddiPublisher]
14:17:09,371 INFO [PublishingScriptsRegistration] DocTypeFactoryImpl
[sc-publishing-ext.docTypes]
14:17:09,371 INFO [PublishingScriptsRegistration] DocTypeFactoryImpl
[sc-publishing-sca.docTypes]
14:17:09,371 INFO [PublishingScriptsRegistration] DocTypeFactoryImpl
[sc-publishing-wsdl.docTypes]
14:17:09,372 INFO [PublishingScriptsRegistration] DocTypeFactoryImpl
[sc-publishing.docTypes.default]
```

DocTypeFactoryImpl instances are built-in factories that are used to recognized WSDL, SCA, XPDL etc document. These are by default at the bottom of the list. The ScriptedDocTypeFactory instances are created out of publishing scripts. The order in which DocType instances are asked if they recognize the input can be changed in the script. You can

- Add a **registration** element as a first child of the publishing script's root element. This element can contain multiple **after** or **before** elements, both with mandatory text content that should be the factory name (script name in the case publishing script), for example <after>helloworldPublisher</after><before>simpleUddiPublisher</before>. Note that the names are listed in the log. You may also use the names of built-in DocTypeFactoryImpl instances if required.
- Change the order of artifact elements in the particular publishing script will change the recognition order managed by the ScriptedDocTypeFactory.

Variables

Variables can be used to simplify and/or speed up the script execution. A variable can be set using optional **setVariable** element that can occur multiple times as a first child of the **artifact** element. The **setVariable** element contains

- Optional scope element that identifies the scope of the defined variable(s), **local** means local for the published file/document, **shared** means a variable that is visible between all published files
- Mandatory **name** element is an **all** extractor and defines variable name
- Mandatory **value** element is an **all** extractor and defines variable value
- Optional **select** element can be used to set up multiple variables, the select element text must be an xpath expression that is used to create node list, each node in the list is then used to define variable (using extractors of setVariable's name and value elements)

Variables are used in **variable** or **substituteVariables** extractors, which are explained in the "Extractors" section above.

Read more supported elements and attributes in **publisherConfiguration_1.0.xsd**.

Scripted XML Samples

The following topics provide different use-case samples:

- "Sample 1: Publish a Book With All Its Chapters" (on page 78)
- "Sample 2: Cross-Reference to Another Book" (on page 80)
- "Sample 3: Ignore Some Book Files or Document Types" (on page 80)
- "Sample 4: Books Share the Same Author" (on page 81)

Sample 1: Publish a Book With All Its Chapters

You want to publish a book with all its chapters, which are artifacts connected to the book. A single input book file now differs:

- It has a namespace "urn:bookWithChapters"
- It has children element chapter, each chapter having attribute "name" with chapter name

```
<book xmlns="urn:bookWithChapters">
 <name>Dunno on the Moon</name>
 <chapter name="The mystery of moon stone"/>
```

```
  <chapter name="Upside down"/>
  <chapter name="Start"/>
  <chapter name="Landing"/>
  <chapter name="The first day on the Moon"/>
 </book>
```

The associated script is:

```
<publisherConfiguration
xmlns="urn:com.hp.systinet.publishing.xml:1.0"
name="bookWithChapters"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="urn:com.hp.systinet.publishing.xml:1.0
publisherConfiguration_1.0.xsd">
<namespaceContext>
<namespace prefix="b" uri="urn:bookWithChapters"/>
</namespaceContext>
<artifact sdmName="documentationArtifact">
<recognition>
<extension>.xml</extension>
<rootElement name="book" namespace="urn:bookWithChapters"/>
</recognition>
<stringProperty sdmName="name">
<text>BOOK: </text>
<xpath>b:name/text()</xpath>
</stringProperty>
<multiProperty>
<select>b:chapter</select>
<relation sdmName="r_consistsOf" targetType="localArtifact">
<artifact sdmName="documentationArtifact">
<stringProperty sdmName="name" identifier="true">
<text>CHAPTER '</text>
<xpath>@name</xpath>
<text>' of '</text>
<xpath>/b:book/b:name/text()</xpath>
<text>'</text>
</stringProperty>
</artifact>
</relation>
</multiProperty>
</artifact>
</publisherConfiguration>
```

Create the script using the Administration tab in HP EM. Then import an example file (Catalog tab >Import > File). The result is a documentation artifact **BOOK: Dunno on the Moon** that has a relation that consists_of' 5 documentation artifacts named

- CHAPTER 'The mystery of moon stone' of 'Dunno on the Moon'
- CHAPTER 'Upside down' of 'Dunno on the Moon'
- CHAPTER 'Start' of 'Dunno on the Moon'

- CHAPTER 'Landing' of 'Dunno on the Moon'
- CHAPTER 'The first day on the Moon' of 'Dunno on the Moon'

Sample 2: Cross-Reference to Another Book

Assume that the book requires another book in order to know the context before reading. A book XML file is now modified with reference to another book (as a relative/absolute URL). using readAfter elements:

```
<book xmlns="urn:bookWithChapters">
<name>Dunno on the Moon</name>
<chapter name="The mystery of moon stone"/>
<chapter name="Upside down"/>
<chapter name="Start"/>
<chapter name="Landing"/>
<chapter name="The first day on the Moon"/>
<readAfter ref="./bookWithChapters_sunCity.xml"/>
</book>
```

The associated changed publishing script adds the following property definition:

```
<multiProperty>
<select>b:readAfter</select>
<relation sdmName="r_dependsOn">
<import>
<relativeLocation>
<xpath>@ref</xpath>
</relativeLocation>
<targetSdmName>documentationArtifact</targetSdmName>
</import>
</relation>
</multiProperty>
```

Use the administration UI to update the script with the reference. Then you can re-import (Catalog tab, Import/File). Now the publishing includes also the reference, the result now contains:

- A new 'BOOK: Dunno in Sun City' documentation artifact with 2 chapters (document artifacts) that are connected.
- 'BOOK: Dunno on the Moon' now has relationship 'r_dependsOn' to 'BOOK: Dunno in Sun City'.

Sample 3: Ignore Some Book Files or Document Types

In some cases, HP EM may need to ignore some book files or document types during publishing. This usecase is also supported by scripted publishing.

An artifact element can have attribute enabled set to false to ignore the recognized input file. For example: the following artifact element in your script will ignore books that have no chapters:

```
<artifact sdmName="documentationArtifact" enabled="false">
<recognition>
<xpath>/b:book[not(b:chapter)]</xpath>
</recognition>
</artifact>
```

Modify the existing to have the above artifact element as a first artifact and then import data file. The publishing will result with a message "No modification". The file bookWithoutChapters.xml will not be imported, and thus ignored.

Sample 4: Books Share the Same Author

Authors (unlike chapters) are shared between books, the author is a **sharedArtifact** between all books in the repository.

The associated changed publishing script adds the following property definition:

```
<multiProperty>
<select>b:author</select>
<relation sdmName="documentationOf" targetType="sharedArtifact">
<artifact sdmName="personArtifact">
<stringProperty sdmName="name" identifier="true">
<xpath>text()</xpath>
</stringProperty>
</artifact>
</relation>
</multiProperty>
```

Create the script using administration UI. Then import an example file:

```
<?xml version="1.0" encoding="UTF-8"?>
<book xmlns="urn:bookWithChapters">
<name>Dunno on the Moon</name>
<author>Nikolay Nosov</author>
<chapter name="The mystery of moon stone"/>
<chapter name="Upside down"/>
<chapter name="Start"/>
<chapter name="Landing"/>
<chapter name="The first day on the Moon"/>
<readAfter ref="bookWithChapters_sunCity.xml"/>
</book>
```

The books will then contain a shared reference to a person artifact **Nikolay Nosov**.

Chapter 11

Integrations

HP EM integrates by importing and synchronizing with the following products:

- HP Project & Portfolio Management (PPM), see "PPM Integration" (on page 82)
- HP Universal Configuration Management Database (UCMDB), see "UCMDB Integration" (on page 87)

PPM Integration

HP EM integrates (imports and synchronizes) the following areas of the HP PPM (Project & Portfolio Management) software with Enterprise Architecture: Project, Financial and Demand Management.

The PPM software is a primary source of financial and project information about applications in the corporation. The HP EM integration and synchronization with PPM provides useful financial insights into enterprise architecture. HP EM can generate views showing architecture aligned with demand management, project, and asset management, including financial views from PPM. The PPM artifacts can be modified in HP EM and then exported back to PPM.

You can also customize the HP EM synchronization with other PPM software vendors. HP EM synchronization is not limited to one PPM endpoint. See "Customize and Export PPM Synchronized Data" (on page 86) for details.

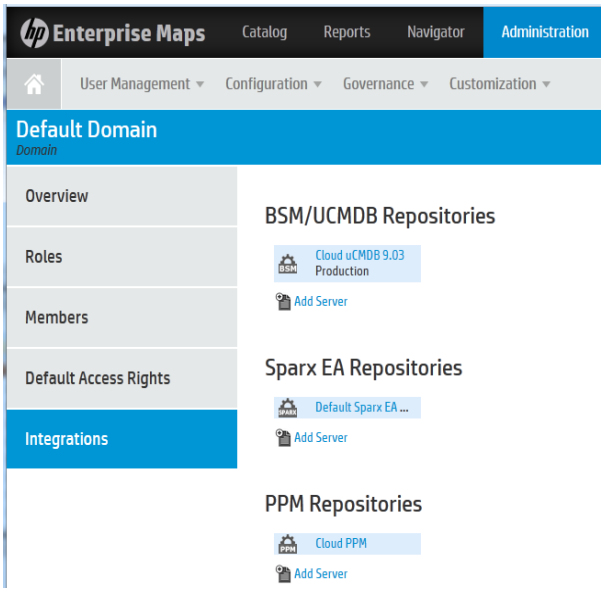
Only the Administrator role can synchronize HP EM with HP PPM.

Import and Synchronize PPM Data

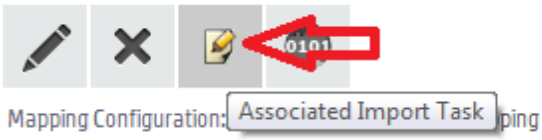
You can import and synchronize the associated PPM data with HP EM.

To import and synchronize PPM data with HP EM:

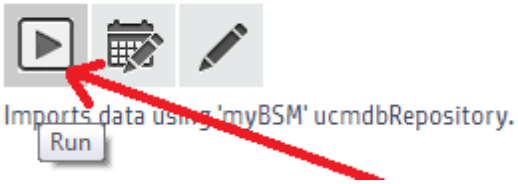
1. Select the **Administration** tab > **Configuration > Integrations**.
2. Click **Add Server** inside the PPM Repositories section to create a new PPM repository for the PPM synchronized data. The PPM Repository opens.



3. Enter the following information:
   - Name (Required): Server name
   - Description (Optional): Enter a description of the PPM repository.
   - Base URL (Required): PPM Server URL
   - Username (Required): Server login username
   - Password (Required): Server login password
4. Click **Save**.
5. Click the Associated Import Task icon (third icon from the left at the toolbar).



   The Import page opens.
6. Click the Run icon to start the synchronization, and confirm the decision. The import runs in the background, which means that you can perform other tasks without interrupting the import.



7. The import takes less than 10 minutes. During the import you can see the synchronized data being added in Projects, Application components and Goal collections in the Catalog as a result of the task.
8. If you worked on another task during the import and want to see the import results, do the following:

a. Select the **Administration** tab > **Configuration > Integrations**.

b. Select the new PPM repository you just created.

c. Click the Associated Import Task icon to see the Execution History on the Import page.

View PPM Imported Data

You can view PPM imported data in HP EM as normal artifacts in the PPM repository and as artifact reports (Projects or Applications). Some PPM data can also be viewed as graphical diagrams such as a Heatmaps Report showing Projects By Cost or Applications by Cost.

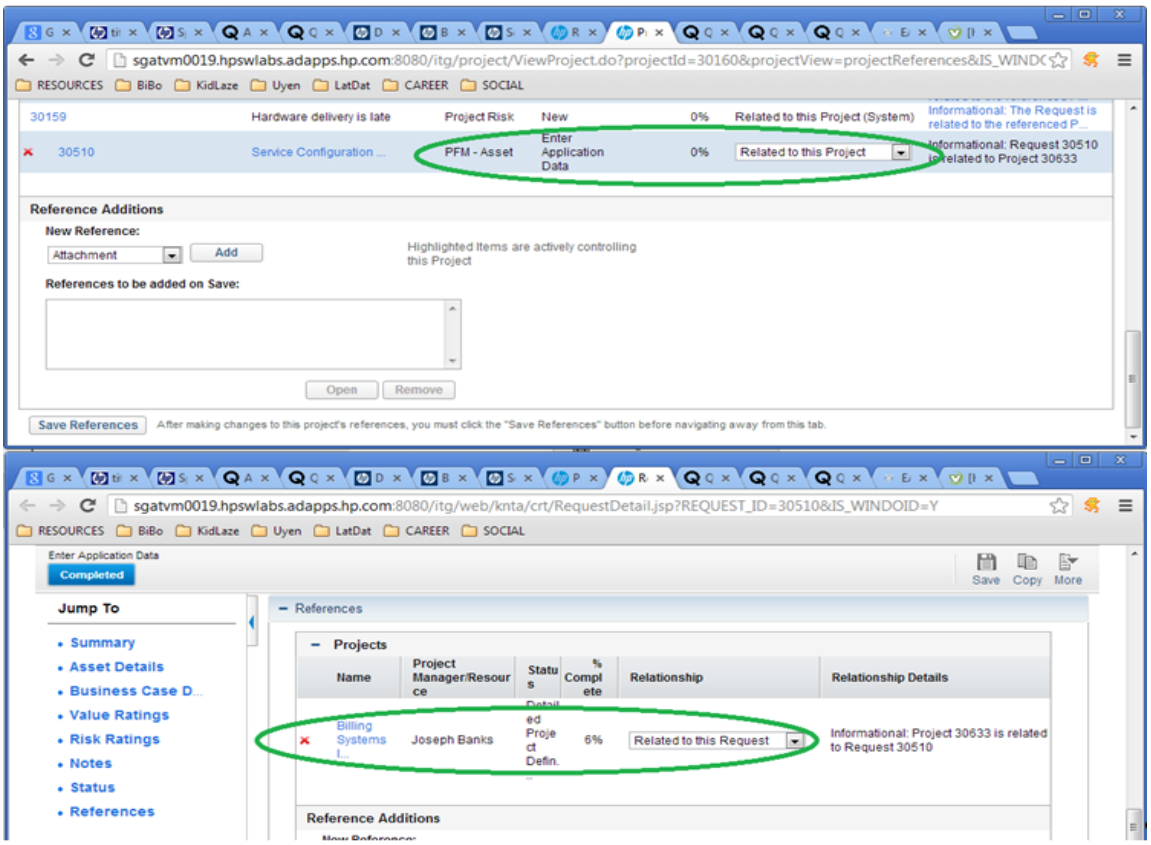
PPM Mapped Data

The PPM data is mapped to HP EM data, with the same corresponding relationships:

- PPM assets are mapped to HP EM Application Component artifacts and corresponding Application Component Financial Profile artifacts.
- PPM projects are mapped to HP EM Project artifacts and corresponding Project Financial Profile artifacts.
- PPM business objectives are mapped to HP EM Goal artifacts.

On HP EM, the PPM data can be viewed as “Relationships” as seen in the Overview tab or Relationship tab when you view the Artifacts.

On PPM, you can see the assets on “Project Details” or “References” section of the corresponding Project/Asset.

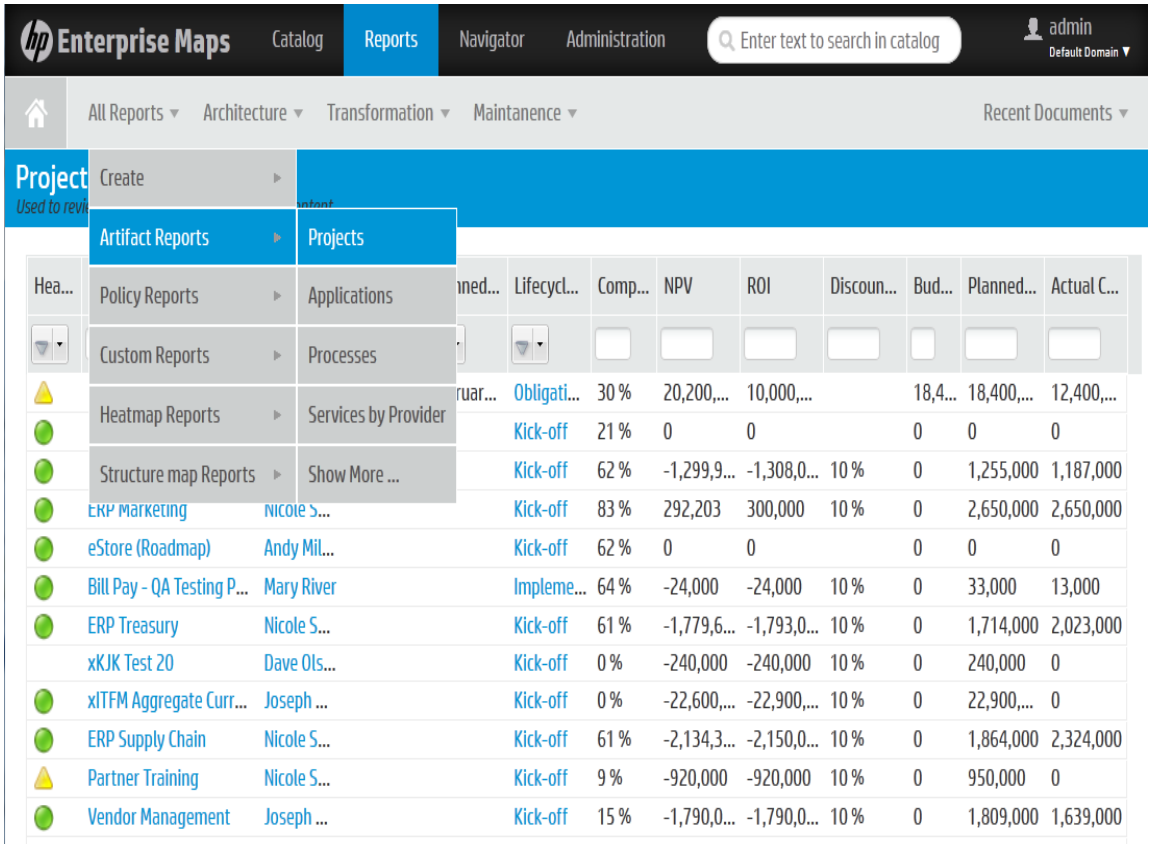


PPM Reports

You can view imported reports of PPM projects and applications, as well as all imported PPM records as HP EM Application Component artifacts. In each case, when you click on a PPM artifact, you can then click on the PPM Link to see the artifact's corresponding asset in the PPM UI.

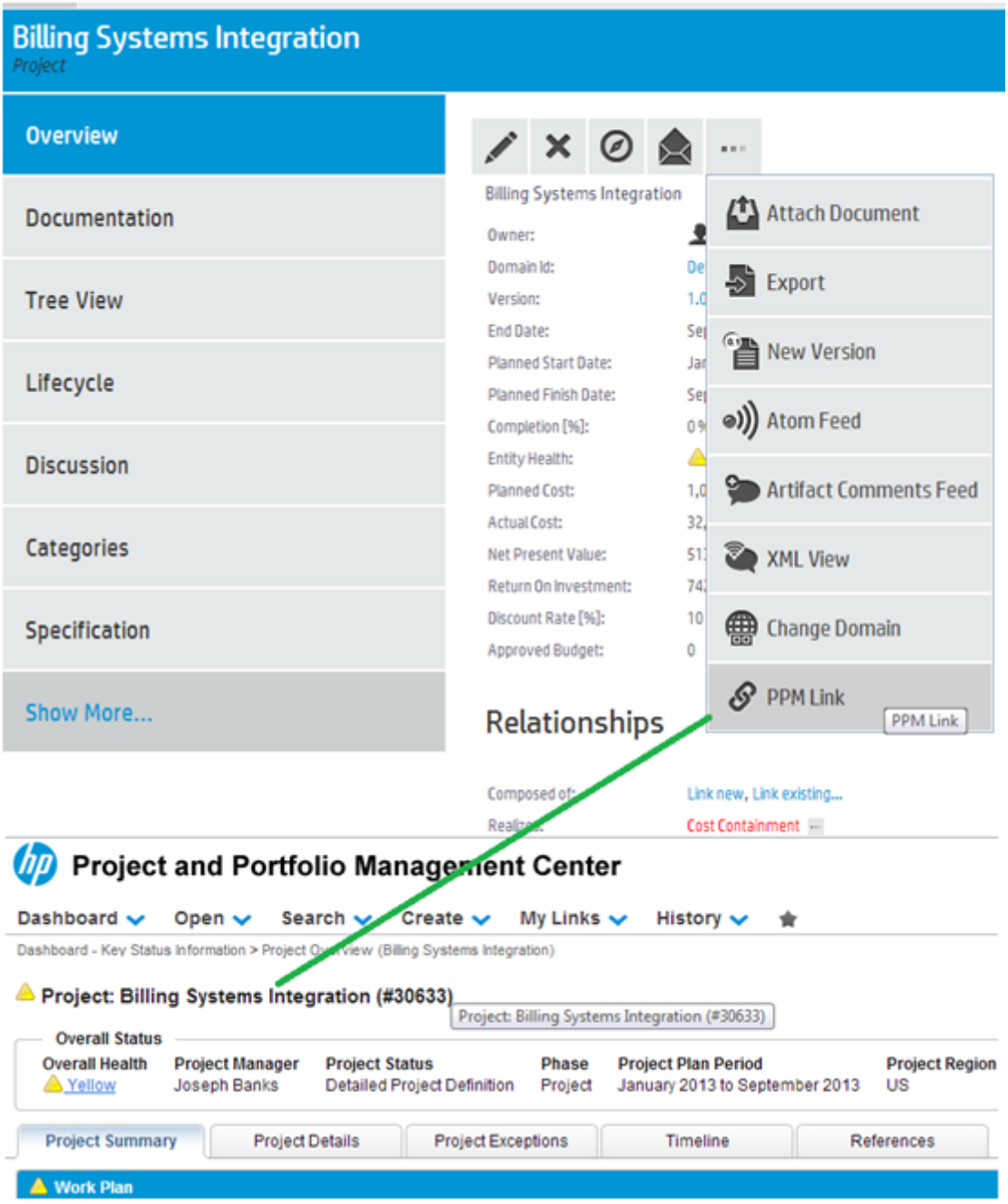
To view the PPM reports and see the corresponding asset in the PPM UI:

1. Open the projects, applications or imported records:
   a. To see a list of the PPM projects,select the **Reports** tab **> All Reports > Artifact Reports > Projects**.



   b. To see a list of the PPM applications, select the **Reports** tab **> All Reports > Artifact Reports > Applications**.
   c. To see the list of all imported PPM records, select the **Administration** tab **> Configuration > Integrations > PPM Repositories > <*PPM_repository*>**.
2. In any of these lists, click on a PPM artifact to open the artifact Overview page.
3. Click on the More icon (the last icon with three dots) to open the menu and select the PPM Link at the bottom of the menu.

The PPM UI opens on a new tab in the browser to the corresponding PPM asset information. (If you are not already logged in to PPM, you will be directed to the login page and then redirected to the corresponding PPM asset.)



Customize and Export PPM Synchronized Data

You can customize and export PPM synchronized data in HP EM and export the data back to PPM.

To customize PPM synchronized data:

1. Select the **Administration** tab **> Configuration > Integrations**.
2. Click the**< *PPM_repository*>** in which you want to edit an artifact's properties.
3. Click the artifact to be edited and click the Edit icon.
4. Make your changes and click **Save**.

To export the customized PPM synchronized data:

1. Still in the artifact properties page, click the More (3 dots) icon and select Export.
2. Click the **Export** button.
   The export process exports all dependencies by default. If you want to export only aggregates without dependencies, open Advanced Options and uncheck the **Include Dependencies** option.

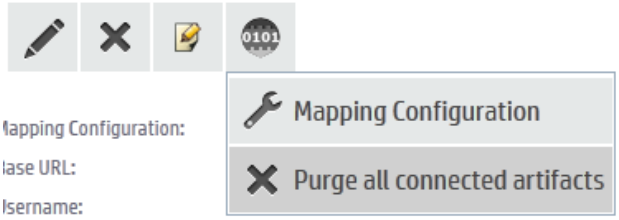
A confirmation dialog pops up confirming the export was completed.

Purge Artifacts From the PPM Repository

As the Administrator you may want to clear the data.

To purge all connected artifacts from the PPM repository:

1. Select the **Administration** tab **> Integrations > <*PPM_repository*>**.
2. Click the Expert tools icon and select **Purge all connected artifacts**.



3. Click Yes to confirm the purge.

UCMDB Integration

HP EM integrates UCMDB (Universal Configuration Management Database) software with Enterprise Architecture.

UCMDB is a primary source of information about runtime systems. (HP EM) can import and synchronize relevant data from UCMDB configuration items (CIs). This gives the architect up-to-date data about the baseline architecture at the Technology layer and brings visibility on the as-is state. The enterprise architect can reuse the imported UCMDB CIs and link them to the application architecture to provide traceability between the application and technology layer.

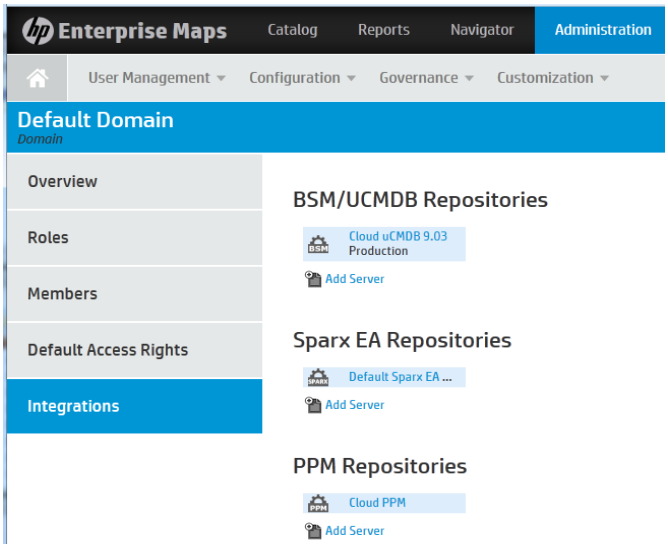
Import and Synchronize UCMDB Data

You can import and synchronize the associated UCMDB data with HP EM.

Only the administrator role can synchronize HP EM with HP UCMDB.

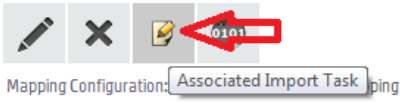
To import and synchronize UCMDB data with HP EM:

1. Select the **Administration** tab > **Configuration > Integrations**.
2. Click **Add Server** under the BSM/UCMDB Repositories section to create a UCMDB repository for the synchronized data.



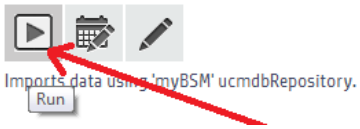
The BSM/UCMDB Repository opens.

3. Enter the following information:
   - Name (Required): BSM/UCMDB Repository name.
   - Base URL: Server URL.
   - Username: Server login username.
   - Password: Server login password.!
4. Click Save to save the data.
5. Click the Associated Import Task icon (third icon from the left at the toolbar).



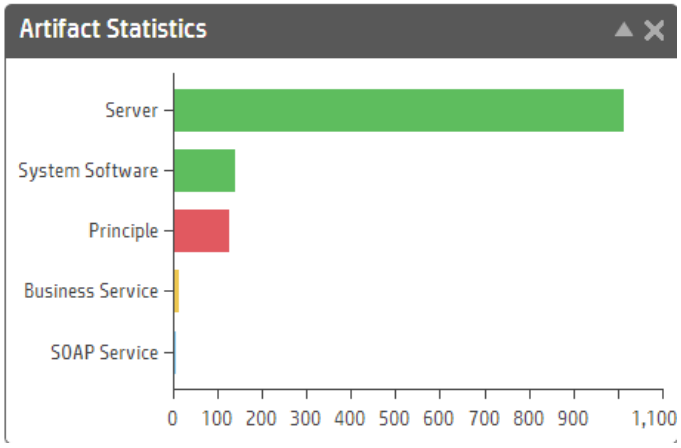
The Import page opens.

6. Click the Run icon to start the synchronization and confirm the decision.



The import starts asynchronously in the background so that you can continue with other tasks. The import takes less than 10 minutes.

7. To see the progress of the new data as it is loaded, select the Catalog tab and view the Artifact Statistics on the Catalog home page.



You can schedule the task to run periodically.

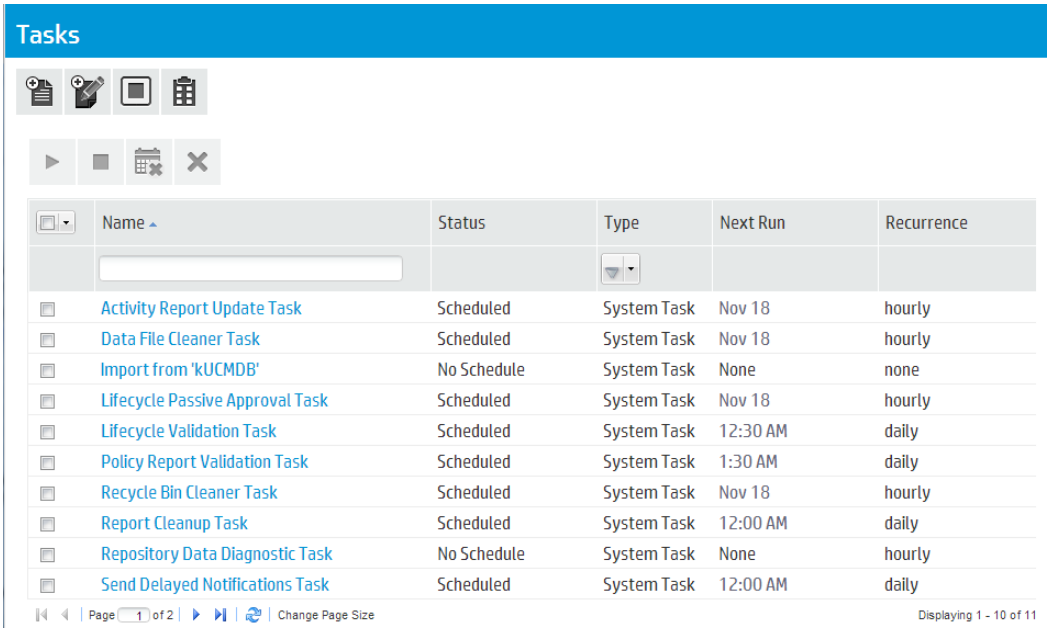
View UCMDB Tasks

You can view the UCMDB task status or open the details of the current synchronization.

To view UCMDB tasks:

1. Select the **Administration** tab **> Configuration > Tasks** and click the Show Task List icon.

The data acquired by HP EM from the sample UCMDB server is connected with the <*UCMDB_repository*>.



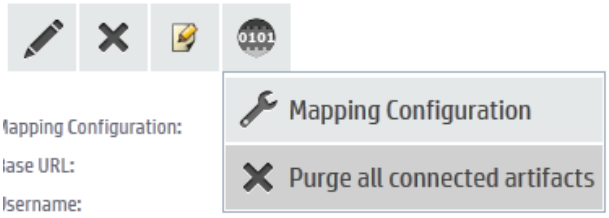
2. Click on a task to see the status.

Purge Artifacts From the UCMDB Repository

As the Administrator you may want to clear the data.

To purge all connected artifacts from the UCMDB repository:

1. Select the **Administration** tab **> Integrations > <*UCMDB_repository*> repository**.
2. Click the Expert tools icon and select **Purge all connected artifacts**.



3. Click Yes to confirm the purge.

Chapter 12

Extension for Sparx EA

HP EM integrates with the widely used Sparx Systems EA data modeling tool via extension module. The Extension for SPARX EA is a fully integrated data modeling environment for you to use with HP EM. The HP EM user is able to synchronize data models bi-directionally using the extension.

Installing the Extension for Sparx EA

You can install the HP EM Extension for Sparx EA to extend your local installation of Sparx EA in order to synchronize models with the HP EM server.

You must already have Sparx EA version 10 installed.

To install the HP EM Extension for SPARX EA:

1. Close Enterprise Architect 10 if it is running.
2. Run the installer hp-em-sparx-1.00.msi
3. Click Next until the final wizard panel appears, and then click Finish.

WARNING: Sparx EA stores the HP EM user password(s) using a Triple DES password encryption method.

User passwords are stored outside the HP EM server, thus bypassing HP security policies, and may be subject to security issues such as decryption or corruption.

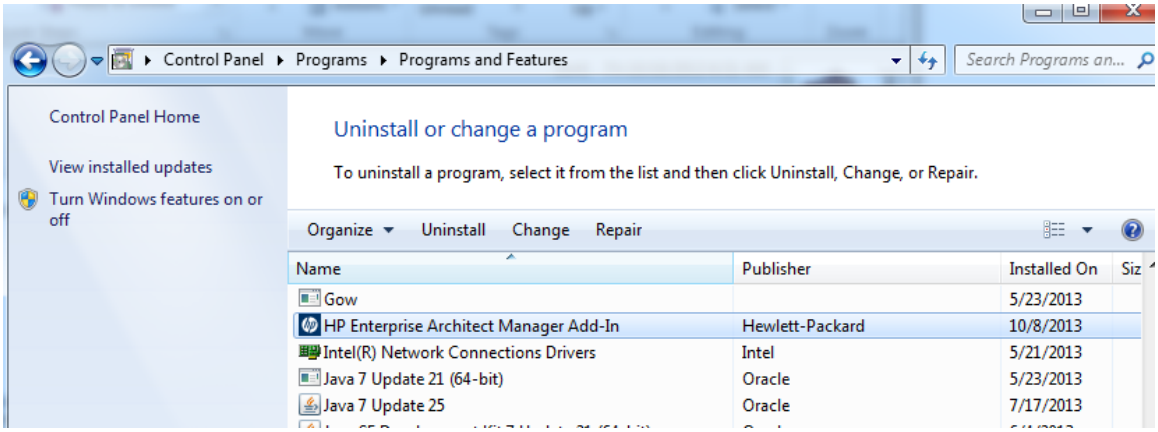
Uninstalling the Add-In for Sparx Enterprise Architect

Before you install a new version of the HP EM Extension for Sparx EA, it is helpful to uninstall any existing version on your system.

To uninstall the HP EM Add-In:

1. Close Enterprise Architect 10 if it is running.
2. Open the Control Panel > Programs > Programs and Features.

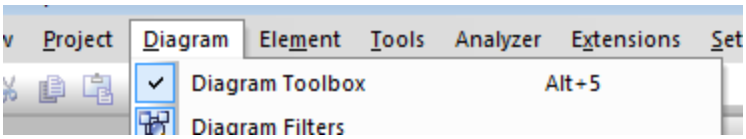
3. Select the program from the list, and then click Uninstall.



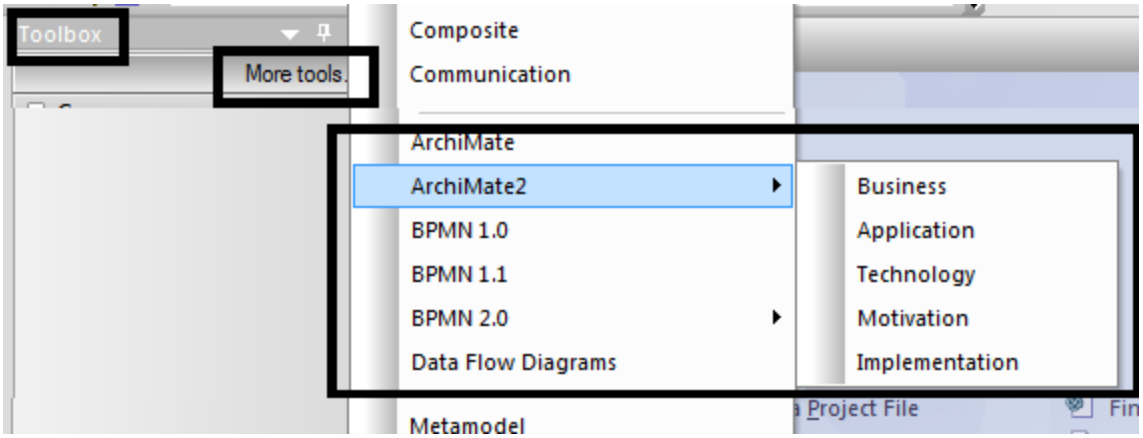
Getting Started with the Extension for SPARX EA

When building data models in HP EM, Sparx EA users can access Archimate 2.0 elements using the following steps:

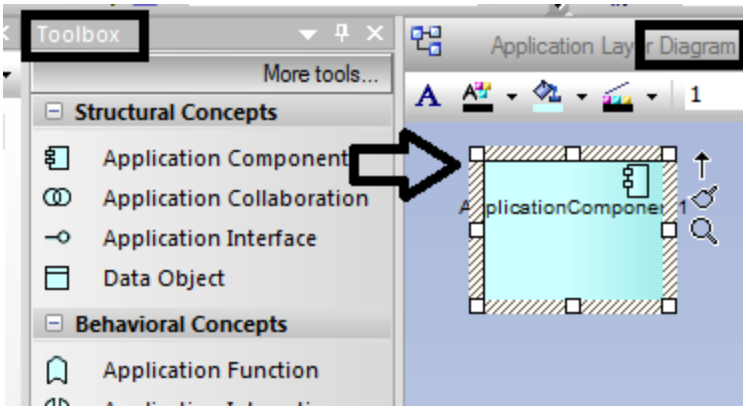
1. Display Toolbox by clicking Diagram > Diagram Toolbox in the Main menu.



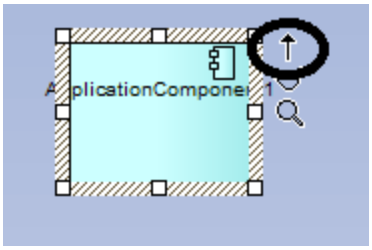
2. Display elements of an Archimate 2.0 layer by clicking More tools, and then select the layer for your model.



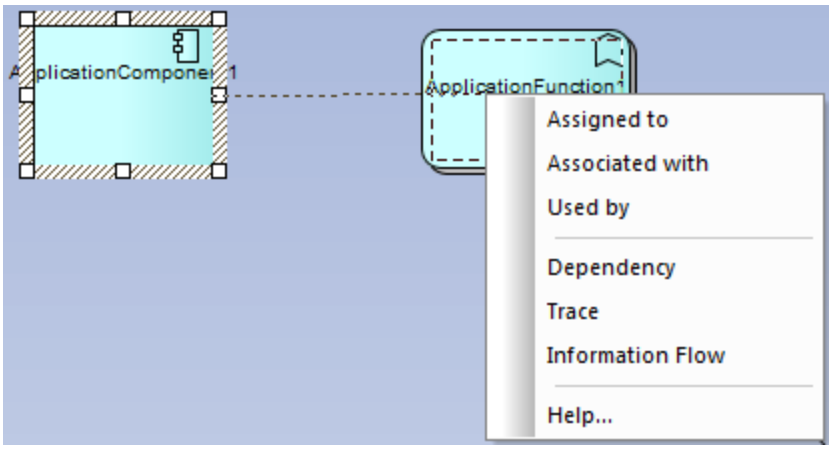
3. You can create new elements by dragging them from the Toolbox to a working diagram.



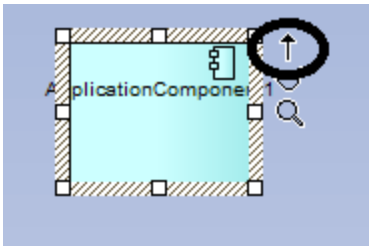
4. In a working diagram, you can create a link between elements by dragging the arrow (quick linker) from a selected element to another element.



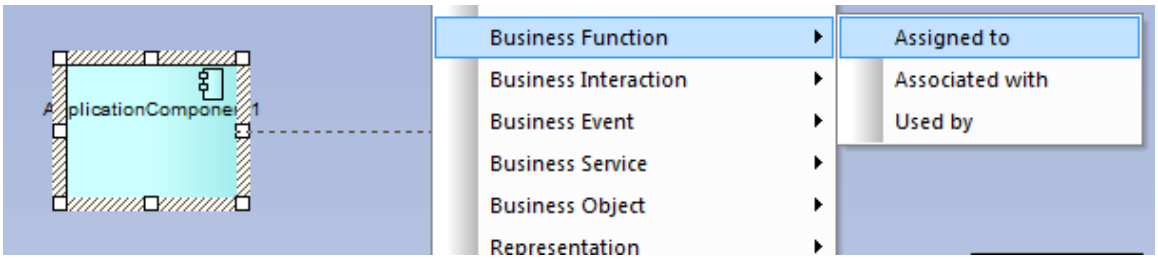
5. After linking elements, Sparx EA will ask for a link type. Define the relationship between elements using the link type menu.



6. You can create a new element together with a link by dragging the arrow from a selected element to an empty area of your diagram.



7. Sparx EA prompts you for a target element type and link type after you stop dragging the arrow.



8. Sparx EA opens a dialog that allows you to specify element properties. After you click OK, the element is created along with the link.

Supported Versions

The HP EM Extension for SPARX EA currently supports only the Archimate 2.0 specification.

- Archimate 2.0 is now available as a feature of Sparx EA version 10.
- HP EM Extension for Sparx EA mapping configuration supports only synchronization elements having Archimate 2.0 stereotypes.