HP Universal CMDB 9.10 Configuration Manager

for the Windows operating system

User Guide

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Welcome to This Guide

This guide explains how to configure and work with Configuration Manager.

This chapter includes:

- ➤ How This Guide Is Organized on page 9
- ➤ Who Should Read This Guide on page 10
- ➤ Configuration Manager Online Documentation on page 10
- ➤ Additional Online Resources on page 11
- ➤ Documentation Updates on page 12

How This Guide Is Organized

The guide contains the following chapters:

Part I Introduction

Introduces the Configuration Manager product and presents workflows for business use cases.

Part II Administration

Describes the administration modules.

Part III Application

Describes the application modules.

Who Should Read This Guide

This guide is intended for the following users:

- ➤ Configuration Manager administrators
- ➤ Configuration Manager platform administrators
- ➤ Configuration Manager application administrators
- ➤ Configuration Manager data collector administrators
- ➤ Global configuration managers
- ➤ Configuration owners
- ➤ Configuration architects

Readers of this guide should be knowledgeable about enterprise system administration, have familiarity with ITIL concepts, and be knowledgeable about Configuration Manager.

Configuration Manager Online Documentation

Configuration Manager includes the following online documentation:

Readme. Provides a list of version limitations and last-minute updates. From the Configuration Manager DVD root directory, double-click **readme.html**. You can also access the most updated readme file from the HP Software Support Web site.

Printer-Friendly Documentation. Choose **Help** > **Configuration Manager Help**. The following guide is published in PDF format only:

➤ the *HP Universal CMDB Configuration Manager Deployment Guide* PDF. Explains the hardware and software requirements needed to set up Configuration Manager, how to install Configuration Manager, how to harden the system, and how to log in to the application.

Configuration Manager Online Help. Online Help is available from specific Configuration Manager windows by clicking in the window and clicking the **Help** button.

Online books can be viewed and printed using Adobe Reader, which can be downloaded from the Adobe Web site (www.adobe.com).

Topic Types

Within this guide, each subject area is organized into topics. A topic contains a distinct module of information for a subject. The topics are generally classified according to the type of information they contain.

This structure is designed to create easier access to specific information by dividing the documentation into the different types of information you may need at different times.

Three main topic types are in use: **Concepts**, **Tasks**, and **Reference**. The topic types are differentiated visually using icons.

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Part I

Introduction

Introduction to Configuration Manager

This chapter includes:

Concepts

➤ HP Universal CMDB Configuration Manager on page 16

Tasks

➤ Best Practices for Working with Configuration Manager on page 21

Concepts



🚜 HP Universal CMDB Configuration Manager

Configuration Management is the ITIL V3 process responsible for the organization's single source of information for the IT which supports the business (the CMS - Configuration Management System). It ensures that there is a complete and accurate picture of the IT infrastructure and software, thus improving the quality of most ITIL processes and better facilitating business decision-making. In addition, Configuration Management ensures the health of the organizational IT, in order to minimize disruptions to the business.

The HP Universal CMDB Configuration Manager (Configuration Manager) provides the tools to help the system manager better control the CMS data. It focuses primarily on analyzing and controlling the data in the CMS, as the ITIL v3 directs. Configuration Manager provides an environment for controlling the CMS infrastructure, which encompasses many data sources and serves a variety of products and applications.

Configuration control ensures that there are adequate control mechanisms over CIs while maintaining a record of changes to CIs, versions, location and custodianship/ownership. Control of the physical or electronic assets and components of the infrastructure ensures that the configuration data is aligned and up to date with the physical world.

Configuration Modeling and Analysis

One of the basic areas of functionality in Configuration Manager is the ability to measure your IT environment against set standards. The underlying theory is that CIs serving the same purpose should have a similar configuration, to reduce maintenance costs and improve predictability. The Configuration Analysis module enables you to compare selected composite CIs to a configuration model which captures a standard in the organization. This can help you measure how similar they are.

The analysis consists of a comparison between the selected CIs and a custom configuration model which you construct to meet your organization's needs. The criteria for determining the degree of similarity between the CIs and the model include both the topology of the composite CIs as well as selected attributes of the CIs. The analysis is an iterative process that consists of two steps - model definition and comparison analysis. You determine a model, compare it against a given set of CIs, and drill down into the details of the comparison to locate configuration discrepancies or refine the model and rerun the comparison.

One use-case of this analysis is the ability to compare the configuration of different CIs in different environments. For example, comparing an application in the production environment to the same application in the staging environment could help to provide an explanation for production incidents originating under a tested configuration.

For details on the configuration analysis process, see "Configuration Analysis" on page 127.

Configuration Policies

Configuration policies are rules that define standards for an organization. These standards can be applied to the managed environments (views) to continuously monitor their compliance with those standards. When you apply a policy to a view, Configuration Manager checks whether the CIs in the view satisfy the policy or not. You can apply several policies to a view simultaneously.

The **policy status level** of a view is based on the sum of all the policies applied to the view. The view's policy status level is the percentage of CIs in the view that satisfy the relevant policies.

One type of configuration policy you can apply is the **baseline policy** which extends the Configuration Analysis functionality by saving a configuration model to serve as the baseline definition of a policy. Instead of comparing an individual CI to a baseline, you can compare all the CIs of that type in the view to the baseline by applying the policy to the view. In this way, you can ensure that CIs of the same type comply with the defined baseline, and that new CIs added to your system are also constructed in accordance with the baseline. For details on baselining, see "Baselining" on page 49.

Another type of configuration policy is the **topology policy** which is based on the Topology Query Language (TQL) used in UCMDB. A topology policy defines the desired topological configuration (the set of CIs and relationships between CIs).

An example of a use-case for defining a policy is the ability to ensure that any business-critical application is highly available and that the supporting servers do not physically reside in the same place in order to improve its resiliency in case of disaster.

For details on defining and managing policies, see "Policy Administration" on page 47.

Data Control - Actual and Authorized States

Configuration Manager enables you to control the data in your configuration management system by managing different states of the views.

The **actual state** is the service topology and configuration as it is currently being reported by the data sources of the configuration management system (for example, the Discovery module).

The **authorized state** is a controlled state of the service which indicates the correct configuration of the service according to its configuration manager.

Different products, processes and people are interested in different information regarding the CI, according to their needs. For example, when responding to an application error, there is a need to see the actual state of the servers running this application. This involves identifying the servers and the software installed on them. In addition, when signing a Service Level Agreement, it is important to define the authorized configuration of the servers. The actual configuration is not necessarily the same as the authorized one (perhaps an unauthorized change has occurred), and the configuration will not necessarily be the same a month from now (perhaps additional changes will be made by then). The authorized state provides a protected environment for the consumption of the portfolio with data that is less current but more stable and reliable.

Configuration Manager displays changes in the actual state of the service and enables you to authorize them. When you authorize changes in the actual state of a view, the state becomes the new authorized state of the view.

You can review the changes to composite CIs manually, and choose to authorize them on an individual basis. Alternatively, you can set conditions for automatic authorization for the entire view. All the changes in the view can then be authorized when the automatic authorization is executed, if all the conditions are satisfied.

For details on managing the different states, see "State Management" on page 137. For details on automatic authorization, see "View Administration" on page 37.

Historical Comparison

A configuration manager often needs to view configuration data from the past or a history of changes in order to understand the root cause of a problem and avoid repeating mistakes. Configuration Manager enables you to look into the past of either the actual or the authorized state using the Historical Comparison modules.

A snapshot is a configuration of a view recorded at a specific date and time. Comparing snapshots enables you to scan for a specific change that occurred in the past using an advanced user interface that highlights the changes between snapshots taken at different times as well as changes from the current configuration.

Configuration Manager automatically takes snapshots of the actual state of a view whenever a change occurs. It also takes a snapshot of the view at each authorization. The snapshots are recorded in the CMS and remain as a fixed historical record. You can then compare two snapshots of the same view in the same state to track changes in the environment over time. The Actual State Historical Comparison module displays snapshots of the actual state of a view and the Authorized State Historical Comparison module displays snapshots of the authorized state of a view.

An example of a scenario where snapshot comparison could be helpful might be a company's portal whose performance has been degraded over the past week. In response to customer complaints, the administrator would investigate it by comparing the current state of the environment with its snapshot from a week ago. He can then examine all the changes to determine which change may have caused the performance degradation.

For details on snapshot comparison, see "Historical Comparison" on page 151.

Topology Mode and Inventory Mode

Configuration management can be conducted from a topology perspective or from an inventory perspective. A service owner may prefer to view the complete service topology from the highest level business service CI down to the hardware CIs, while a manager focusing on a specific CI type, such as the database administrator, may want to see a list consisting of many CIs of the same type.

To address this issue, Configuration Manager offers two different modes for viewing each managed environment:

- ➤ Inventory mode. A filterable list of CIs
- ➤ Topology mode. A topological graph

Inventory mode enables you to filter large lists of composite CIs and to focus on subsets of interesting CIs, such as CIs that have changed or CIs that are in breach of a policy. Topology mode provides a broader graphical presentation of the service topology.

Tasks



Best Practices for Working with Configuration Manager

The following approach is recommended as a best practice for adopting the authorized state for applications that require high quality configuration data:

- ➤ Begin by determining the data you need to consume. Define views accordingly and add these views to be managed in Configuration Manager.
- ➤ Set automatic authorization conditions for those views to authorize all changes in the view. This essentially copies the configuration of the actual state to the authorized state.
- ➤ Configure your applications to consume data from the authorized state of the views, rather than the actual state.
- ➤ Gradually begin controlling the data in these views by applying policies, changing the automatic authorization rules, and manually authorizing changes. In this way, you can adopt the configuration authorization process while maintaining the ability to consume your data.

Chapter 1 • Introduction to Configuration Manager

Content Management

This chapter includes:

Concepts

- ➤ Content Management Overview on page 24
- ➤ Request for Change Management on page 25

Tasks

- ➤ Configuration Manager Content Workflow on page 26
- ➤ Managing Configuration Manager Content Use-Case on page 29

Reference

Troubleshooting and Limitations on page 33

Concepts



🚜 Content Management Overview

To work with managed views in Configuration Manager, you first need to prepare the content coming from UCMDB. The managed views contain IT elements organized such that you can analyze and control the CMS data using Configuration Manager.

One of the methods of restructuring the content in preparation for Configuration Manager is **CI composition**. CI composition is a process whereby a specific CI type is selected as the leading CI, and all the CIs which are part of that CI are grouped under it as component CIs. For example, CPUs are part of a host, so the composite CI of a host encompasses the CPUs as well.

Using composite CIs to display the content:

- ➤ is a more intuitive way of presenting the data. You would usually refer to a CPU only in the context of its host.
- ➤ helps to simplify the topology, since the topology is only mapped on the level of the composite CIs. Because composite CIs can be composed of many component CIs, the topology map is much simpler.
- ➤ enables you to manage a group of related CIs from the leading CI. All changes in the component CIs are captured as a change to the leading CI. You can drill down from there to see details of the component CIs.

The composite CIs that form the content of the managed views are defined by folding rules which detail which CI types are treated as components of composite CIs. You can set the folding rules for your composite CIs in the **topology-composition.settings** section of Server Administration.

Another method of organizing the data is by setting the layer and classification definitions for the composite CITs. Layers are categories used for grouping composite CITs functionally. Examples of layers include Business, Software, and Infrastructure. **Classifications** are categories for grouping the composite CITs into finer divisions.

A further step in preparing the UCMDB content for Configuration Manager involves defining managed and comparable attributes for the CITs. **Managed** attributes are the CIT attributes which you want to manage in Configuration Manager. They are the attributes that are copied to the authorized state when a change is authorized as well as tracked for their history. You can use them in defining policies. **Comparable** attributes are those managed attributes which are used for CI comparisons in Configuration Manager.

The values for layers and classifications, as well as the managed attributes and comparable attributes, are defined in the CI type definition in UCMDB.

Request for Change Management

Configuration Manager imports from UCMDB requests for change (RFCs) that were opened in Service Manager. Every RFC is associated with at least one CI. The RFCs for a CI are displayed in the Related RFCs tab of the Comparison Details pane in the State Management and Historical Comparison modules.

You can filter the RFCs retrieved based on the RFC properties, the CI types, and the number of days since the RFC was scheduled to be completed using the settings in Server Administration under **Fetched RFCs Criteria**. You can also select the RFC properties to be displayed using the settings under **RFC Display**.

Note: The filter by the scheduled RFC completion date is relevant for the State Management module. In the Historical Comparison modules, only RFCs scheduled for completion within the range of the selected snapshots are displayed.

It is a best practice to check the Related RFCs tab for a CI indicated as in breach of a policy, as part of the investigation of the causes of the breach.

Tasks



Configuration Manager Content Workflow

This task describes the workflow for managing Configuration Manager content.

1 Prerequisites

Start by examining a view in UCMDB. Consider the purpose of the view and how you want to display the data in composite CIs.

2 Define the CI Composition

When you have decided on rules for the scope of the composite CIs, go to Administration > Server Administration > Configuration Manager > **Topology Presentation > topology-composition.settings**, download the file, and edit the existing folding rule definitions for the relevant composite CIs. When you are finished, upload the file.

Note: You must restart the server for any configuration changes to take effect.

When Configuration Manager is started, it automatically generates relevant perspectives in UCMDB, based on the folding rules defined in the XML file. These perspectives are located in the **Configuration Manager - Do not change** folder in the Resources pane of Modeling Studio.

After defining your folding rules, go to the Configuration Explorer in Configuration Manager and verify that the view is appearing correctly according to the defined rules.

3 Define Layers and Classifications

Consider the layers and classifications in which each composite CIT belongs. Set these definitions for the composite CITs using the **layer** and **classification** static attributes in the CI Type Manager in UCMDB. The colors of the layers and classifications are defined in Configuration Manager in **Administration** > **Server Administration** > **Configuration Manager** > **Topology Presentation** > **Topology Layout**.

Note: It is not necessary to define layers and classifications for the component CITs. They are automatically assigned the layer and classification of their composite CIT.

4 Define Managed Attributes

Decide which CI Type attributes of all CI types (both composite and component) should be defined as managed attributes. Set these definitions by selecting the **Change Monitored** qualifier for the selected attributes in the CI Type Manager in UCMDB.

It is recommended that key attributes of CITs be defined as managed attributes, unless they do not contain meaningful values for users (such as Root Container).

Note: Only managed attributes are visible in Configuration Manager and are copied to the authorized state of the view during authorization.

5 Define Comparable Attributes

Decide which managed attributes of all CI types (both composite and component) should be defined as comparable. Comparable attributes are used for CI comparisons in Configuration Manager. Set these definitions by selecting the **Comparable** qualifier for the selected attributes in the CI Type Manager in UCMDB.

For composite CITs, it is recommended that the key attributes not be defined as comparable. For component CITs, it is recommended that the key attributes be defined as comparable if they contain meaningful values for users.

6 Define Comparison Matching Rules

You can define matching rules for the attributes of certain CITs, which provide guidelines for the comparison between component CIs. A matching rule tells Configuration Manager which attribute to use in identifying parallel CIs for comparison. You can define multiple matching rules for a CIT, with a different priority for each (the primary attribute is used first, the secondary one next, and so on). The matching rules are defined in Server Administration > Configuration Manager > Baseline Matching.

Note:

- ➤ Matching rules are not relevant for composite CITs.
- ➤ Matching rules can only be defined for attributes defined as comparable.

🏲 Managing Configuration Manager Content - Use-Case

This use-case describes the Configuration Manager content workflow for an IIS Web Server view.

Note: For a task related to this scenario, see "Configuration Manager Content Workflow" on page 26.

This scenario includes the following steps:

- ➤ "Background" on page 29
- ➤ "Set the CI Composition" on page 30
- ➤ "Set Layer Definitions" on page 30
- ➤ "Set Classification Definitions" on page 30
- ➤ "Set Managed Attributes" on page 31
- ➤ "Set Comparable Attributes" on page 31
- ➤ "Define Matching Rules" on page 32

1 Background

Consider a view in UCMDB that includes CIs of the following types:

- ➤ IIS Web Server
- ➤ Node
- ➤ Oracle

To prepare the view for working in Configuration Manager, you can define various settings, as described in the following steps.

2 Set the CI Composition

Go to Administration > Server Administration > Configuration Manager > Topology Presentation > topology-composition.settings, download the file, and locate the section dealing with IIS Web Server. Note that the existing folding rules define the following CI types to be component CIs of IIS Web Server:

- ➤ IIS Application Pool
- ➤ IIS Web Service
- ➤ IIS Web Site

The rules further define **IIS Web Dir** to be a component CI of IIS Web Site, and **Configuration File** to be a component CI of IIS Web Dir.

If you want to modify any of these folding rules, make the required change in the file. When you are finished, upload the file.

3 Set Layer Definitions

Go to the CI Type Manager in UCMDB. Note that the **layer** attribute of the CI types in our view is defined as follows:

- ➤ IIS Web Server Software
- ➤ Node Infrastructure
- ➤ Oracle Software

If you want to modify any of these definitions, make the required change in the layer attribute of the relevant CIT.

4 Set Classification Definitions

Go to the CI Type Manager in UCMDB. Note that the **classification** attribute of the CI types in our view is defined as follows:

- ➤ IIS Web Server Web server
- ➤ Node Infrastructure
- ➤ Oracle Database

If you want to modify any of these definitions, make the required change in the classification attribute of the relevant CIT.

5 Set Managed Attributes

Select the CIT attributes to be defined as managed attributes. For example, for IIS Web Server the attributes **Version** and **Name** are defined as managed by default. The attribute **StartupTime** is not defined as managed by default, because it is not considered part of the configuration. You can change the default definition of an attribute to fit the needs of your system.

To define an attribute as managed:

- **a** Go to the Attributes tab of the CI Type Manager in UCMDB.
- **b** Select the required attribute and click the Edit button. The Edit Attribute dialog box opens.
- **c** Select the Advanced tab and select the check box for the **Change Monitored** qualifier. Click **OK**.
- **d** Save your changes.

Note: Only managed attributes are visible in Configuration Manager and are copied to the authorized state of the view during authorization.

6 Set Comparable Attributes

Select the managed attributes that should be used in comparing CIs. For example, for IIS Web Server, the **Version** attribute is appropriate for comparison (comparing the version of two web servers). However, the **Name** attribute would not be appropriate for a CI comparison, as web servers generally have different names.

To define an attribute as comparable:

- **a** Go to the Attributes tab of the CI Type Manager in UCMDB.
- **b** Select the required attribute and click the Edit button. The Edit Attribute dialog box opens.



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Chapter 2 • Content Management

- **c** Select the Advanced tab and select the check box for the **Comparable** qualifier. Click **OK**.
- **d** Save your changes.

7 Define Matching Rules

For component CITs, you can define matching rules for attributes to determine which CIs should be compared. For the component CITs IIS Application Pool and IIS Web Service, define the Name attribute as a matching rule in Server Administration > Configuration Manager > Baseline Matching.

As a result, when composite CIs of type IIS Web Server are compared, the IIS Application Pool and IIS Web Service CIs are matched by their names.

Reference

Troubleshooting and Limitations

Problem. Changes in CIs in UCMDB are not reflected in Configuration Manager.

Solution. Configuration Manager runs an offline asynchronous analysis process. The process may not yet have processed the latest changes in UCMDB. To resolve this, try one of the following:

- ➤ Wait a few minutes. The default interval between analysis process executions is 10 minutes. It is configurable in the Server Administration module.
- ➤ Execute a JMX call to run the offline analysis calculation on the relevant view.
- ➤ Go to Policy administration. Click the **Recalculate Policy Analysis** button. This invokes the offline analysis process for all views (which may take some time). You may also need to make an artificial change to one policy and save it.

Problem. When you click **Administration > Open UCMDB**, the UCMDB login page appears.

Solution. In order to access UCMDB without logging in again, you need to enable single sign-on. For details, see "Enable Lightweight Single Sign-On" in the *HP Universal CMDB Configuration Manager Deployment Guide* PDF. Additionally, ensure that the Configuration Manager user logged on is defined in the UCMDB user management system.

Chapter 2 • Content Management

Part II

Administration

View Administration

This chapter includes:

Concepts

- ➤ View Administration Overview on page 38
- ➤ Topology Views and Inventory Views on page 39
- ➤ Automatic Authorization on page 40

Tasks

- ➤ Add a View to be Managed on page 41
- ➤ Set Automatic Authorization Conditions for a View on page 42

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➤ View Administration User Interface on page 43

Troubleshooting and Limitations on page 46

Concepts



View Administration Overview

To begin working in Configuration Manager, you select views, which are defined in the UCMDB, to manage in your Configuration Manager environment. These are known as the managed views. Managing a view includes tracking its history, defining policies for it, and managing its different states by authorizing changes.

The View Administration module controls the list of views being managed by Configuration Manager. All the views currently being managed appear in the list. You can add new views to the list and remove views that you no longer want to manage from the list.

For each managed view, you should define the managed CI types in the view. You can only authorize changes in managed CI types. The nonmanaged CI types appear faded in the view. A CI type can be managed in different views at one time, however the same composite CI should not be managed in more than one view. If a CI in one managed view is also managed in a different view, a warning message indicates the other views in which the CI is managed.

In addition to selecting the views to manage, you can control how each view is managed by defining the following types of configuration behaviors:

- ➤ Delete Candidates. Enables you to remove CIs marked as candidates for deletion in UCMDB from the actual state of a view. For details, see "Delete Candidate Policy Pane" on page 44.
- **Automatic Authorization.** Enables you to define the conditions under which a view can be automatically authorized. For details, see "Automatic Authorization" on page 40.

These features can assist you by partially automating the management of the views.

For details on adding a view to the managed views list, see "Add a View to be Managed" on page 41.

Topology Views and Inventory Views

There are two types of managed views: **topology views** and **inventory views**. Topology views are used for understanding the topology of a view and the relationships between the composite CIs. Inventory views are used for grouping similar composite CIs and are generally larger views including few relationships. You define the type of a view in the General pane of the View Administration module. An example of an inventory view could be a view containing all the Database CIs connected with a server.

The Configuration Explorer, State Management, and Historical Comparison modules have two options for displaying a view: topology mode and inventory mode. Every view is designated as either a topology view or an inventory view, however both types of views can be displayed in either mode. Views with more than 250 composite CIs are automatically displayed in inventory mode even if they are defined as topology views.

Automatic Authorization

Configuration Manager includes an automatic authorization feature which enables you to define the conditions under which changes in a view are automatically authorized. For a selected view, you define the types of changes approved, the CI types for which changes are approved, and whether or not to allow new policy breaches. If all the changes in the view match your defined conditions, they become authorized when the automatic authorization is executed. The authorization is applied on the view level; that is, authorization does not proceed if the view contains any unapproved change. Partial authorization is not supported.

For example, if you select the CI types computer and net device as approved for changes, and you select Added CI as the only approved type of change, and you select not to allow any new policy breaches, then the only change approved for authorization is the addition of a CI of type computer or net device. If any other type of CI is added to the view, or if any CI in the view is removed or modified, none of the changes are automatically authorized. Similarly, if new policy breaches are detected in any CI, the authorization does not proceed.

You can define different automatic authorization conditions for each individual view. The automatic authorization is executed on all enabled views. All changes matching the relevant authorization conditions in any of the views become authorized.

Tasks



🏲 Add a View to be Managed

This task describes how to add a view to the managed view list.

To add a view to be managed:



- **1** In View Administration, click the **Add** button in the toolbar. The Select View to Manage dialog box opens.
- **2** Select the required view. Click **OK**. The view details are displayed in the Details area.

Note: If you do not see the required view in the list, try clicking **Refresh** to update the view list.

- **3** In the General pane, set the view type and managed CI types.
- **4** Optionally, select the check box in the Delete Candidates Policy pane. For details, see "Delete Candidate Policy Pane" on page 44.
- **5** Optionally, set automatic authorization conditions for the view. For details, see "Set Automatic Authorization Conditions for a View" on page 42.



6 Click the Save button in the toolbar. The view is added to the managed views list and can be accessed from the other modules.

Set Automatic Authorization Conditions for a View

This task describes how to set automatic authorization conditions for a view.

- 1 In View Administration, select a view in the left pane and select the **Enable automatic authorization** check box in the Automatic Authorization pane.
- **2** Select **CI Types** from the criteria table. A CI type tree appears below. Select the required CI types approved for authorization of changes.
- **3** Select **Configuration Policies** from the criteria table. Select the required option (Allow new policy breaches for authorization or do not allow new policy breaches for authorization).
- **4** Select **Detected Change Type** from the criteria table. Select the types of changes approved for authorization.
- **5** Click **Test Configuration** to determine if the view contains CIs with changes that match the conditions set for authorization. Click Save to save the conditions.
- **6** The automatic authorization conditions are now set. When you run automatic authorization, the changes in the view matching the conditions you set are authorized.

Note: Automatic authorization is executed on all views at once.

Reference

View Administration User Interface

This section includes (in alphabetical order):

➤ View Administration Page on page 43

🍳 View Administration Page

This page displays the list of views currently being managed.

To access	Select Administration > View Administration.
Important information	The left pane displays the list of managed views. The General pane, Delete Candidate Policy pane, and the Automatic Authorization pane display details for the managed view selected in the left pane. After adding a view to the managed views list, the view data may be unavailable for a few minutes, until the system is updated.
Relevant tasks	"Add a View to be Managed" on page 41

User interface elements are described below:

UI Elements (A-Z)	Description
食	Click Show favorite views only to toggle between displaying all views and displaying the favorite views only.
+	Click to select a view to add to the list of managed views. The Select View to Manage dialog box opens.
×	Click to remove the selected view from the list of managed views.

UI Elements (A-Z)	Description
5	Click to undo changes made to the view.
	Click to save changes made to the automatic authorization settings and the delete candidate policy.
O	Click to refresh the view list.
E _C	Click to run automatic authorization for all views.
View Name	The names of the managed views.

General Pane

UI Elements (A-Z)	Description
Description	The description of the selected managed view from UCMDB.
Managed CI Types	Select the CI types to be managed in this view. Only the completely selected CI types are managed in this view. If some of the child CI types of a CI type are selected and others are not, the parent CI type is not managed in the view. Note: All CI types are selected by default.
View Name	The name of the selected managed view.
View Type	Select the view type. The available options are Topology and Inventory . For details, see "Topology Views and Inventory Views" on page 39.

Delete Candidate Policy Pane

UI Elements (A-Z)	Description
Delete CIs marked as candidates for deletion from Actual State	When the check box is selected, CIs marked as candidates for deletion in UCMDB are deleted from the actual state of the view immediately. When the check box is cleared, the CIs are only deleted at the deletion time scheduled in UCMDB.

Automatic Authorization Pane

Important information	There is no partial authorization option available. If even one CI in the view does not meet the specified automatic authorization conditions, the authorization does not proceed. You can choose to manually authorize the CIs that did not meet the conditions.
Relevant tasks	"Set Automatic Authorization Conditions for a View" on page 42

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<criteria list=""></criteria>	The following criteria are used to set the automatic authorization conditions:
	 CI Types. Define the CI types for which you approve changes for authorization. When this option is highlighted, a CI type tree appears below. Select the required CI types from the tree. Configuration Policies. Define whether new policy breaches in the view are approved for authorization. Detected Change Type. Define which types of changes you approve for authorization. Select from the following options: Added CI Modified CI Removed CI
Enable automatic authorization	Select Enable automatic authorization to activate the fields in the Automatic Authorization pane.
Test Configuration	After selecting automatic authorization settings, click Test Configuration to check if the view contains changes matching the conditions set for authorization.

Troubleshooting and Limitations

The following limitation is applicable when working with managed views in Configuration Manager:

The following types of views cannot be selected to be added to the managed views list:

- ➤ views containing calculated links
- ➤ views containing federated data
- ➤ views containing compound links (compound links are allowed if they are set to return the full path)

If you try to select one of the above types of views to manage, an error message appears.

Policy Administration

This chapter includes:

Concepts

- ➤ Policy Administration Overview on page 48
- ➤ Baselining on page 49
- ➤ Policy Groups on page 50

Tasks

- ➤ Define a Policy on page 51
- ➤ Configuration Manager Topology Policy Use-Case on page 52

Reference

➤ Policy Administration User Interface on page 58

Troubleshooting and Limitations on page 65

Concepts



Policy Administration Overview

A configuration policy enables you to define the expected configuration of a view. By applying policies to your managed views, you set standards for the views. The policies help to ensure that the views adhere to the standards and make your IT environment more predictable.

The Policy Administration module controls the policy groups and policies you define for the managed views. There are two types of configuration policies you can define:

- Baseline policies
- > Topology policies

In a **baseline policy**, you define a baseline for a composite CI with selected attributes to be compared to the CIs of the relevant views. For instance, you could define a baseline policy stating that every production server in the view must contain at least two CPUs. All server CIs in the view are compared to the baseline CI. If any one does not satisfy the policy, the view is said to be in breach of the policy.

Note: If you identify an existing CI in your environment with the desired configuration, you can select that CI to serve as the baseline.

In a **topology policy**, you define a condition TQL which determines the configuration of the view. For instance, the condition TQL could stipulate that every cluster of a production J2EE include at least two servers. If the view satisfies this condition, it satisfies the topology policy. If it does not, it is said to be in breach of the policy.

In some cases, it is easier to define a TQL representing a problematic topology rather than the desired configuration. In that event, there is an option to set the condition of the topology policy as negative, which inverts the satisfaction of the policy (in the above example, only clusters with less than two servers would satisfy the condition).

In both types of policies, you can also define the following settings:

- ➤ **Validation**. Set the time period for which the policy is valid
- ➤ Advanced Filter. Select a TQL query that limits the policy to a subset of CIs in the view. For example, if the baseline CI is of type Oracle, the filter could limit it to Oracle version 9.

Both types of policies can be applied to all of the managed views in Configuration Manager.

For details on defining policies, see "Policy Administration Page" on page 59.

Baselining

A configuration baseline is the configuration of a service, product, or infrastructure that has been formally reviewed and accepted as the basis for further activities. It captures the structure, contents, and details of a configuration and represents a set of configuration items that are related to each other.

Establishing a baseline provides the ability to:

- ➤ Mark a milestone in the development of a service
- ➤ Build a service component from a defined set of inputs
- ➤ Change or rebuild a specific version at a later date
- ➤ Assemble all relevant components in preparation for a change or release
- ➤ Provide the basis for a configuration audit and back out (for example after a change)

Policy Groups

You can define policy groups to group policies together logically. A policy group can contain both baseline and topology policies. Assigning a policy group, rather than individual policies, to a view, can make it easier to manage the policies. You can also define subgroups within the policy groups.

You can copy a policy from one group and paste it into another group or the root of the tree. This can provide a shorter way of adding policies to your policy groups. If you want to define a similar policy to an existing one, you can copy it to the required location and modify it. Changes made to the copied policy do not affect the original policy. You can also cut a policy from a group and paste it into another group. In this case, the policy is deleted from the original group.

You can also cut or copy a policy group and paste it into the root of the policy tree or into another group. It is only possible to cut or copy a single policy or group at one time.

When cutting or copying policies and groups and pasting them elsewhere, the policies still apply to the views to which they were assigned. However, when a policy group is applied to a view and one of the group's policies is copied to a different group, the copied policy does not apply to the views of its previous group; rather, it now applies to the views of the new group.

For details on defining policy groups, see "Policy Administration Page" on page 59.

Tasks



🏲 Define a Policy

This task describes how to define a new policy and apply it to managed views.

To define a policy:



- 1 Click the Add Policy button in the Policy Administration toolbar and select Add Baseline Policy or Add Topology Policy.
- **2** Enter the policy name and description in the General area of the Details pane.
- **3** In the Views area of the Details pane, select the views to which the new policy applies.
- **4** In the Validity area of the Details pane, select the frequency of policy validation.
- **5** In the Filter area of the Details pane, select the CI type of the CIs to be tested against the policy. Optionally, select a TQL to serve as an advanced filter of the CIs to be tested against the policy.
- **6** For topology policies, set the condition type and condition TQL in the Condition area of the Details pane.
 - For baseline policies, define a baseline CI and its attributes in the Baseline area of the Details pane.



7 When you are finished, click the **Save** button in the Policy Administration toolbar to save your policy.

🦒 Configuration Manager Topology Policy - Use-Case

This section describes a use-case for a topology policy in Configuration Manager.

This scenario includes the following steps:

- ➤ "Background" on page 52
- ➤ "Create the Condition TQL Query in UCMDB" on page 54
- ➤ "Define the Topology Policy in Configuration Manager" on page 56

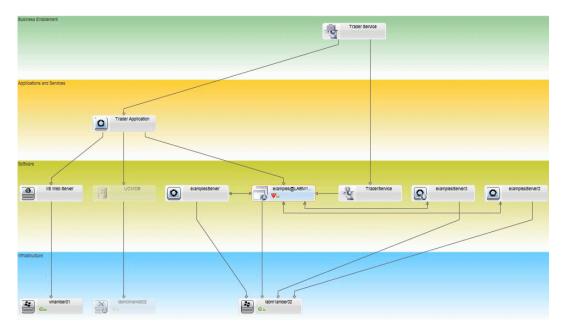
1 Background

A trader service owner needs to continually monitor the high-availability and/or resiliency of his service. The service is based on a J2EE Cluster that contains several Web Logic servers. Each server runs on a Windows host.

The service owner has determined that the cluster supporting this configuration requires a minimum of three physical hosts to provide sufficient coverage and responsiveness for the applications running. As a result, it is important to ensure that when changes occur, the proper level of resources is maintained to guarantee that the service continues to function in accordance with its agreed to requirements.

Toward this end, the service owner wants to define a Configuration Manager topology policy that monitors the number of hosts supporting the cluster. The owner would like to see an indication in the event that the number of hosts in the cluster supporting the service is less than three.

The service topology is modeled in a view in UCMDB and there is a corresponding managed view in Configuration Manager. The following image displays the service topology in Configuration Manager:

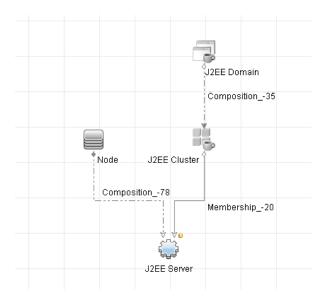


2 Create the Condition TQL Query in UCMDB

Open the UCMDB window (select **Administration > Open UCMDB** and log in).

Go to the **Modeling Studio**. Select **Views** as the resource in the Resources tab and locate the **Trader** view. Double-click the view to open it. This view contains the relationships that define the connection between the J2EE domain and the Windows hosts.

The following image displays the relevant portion of the view in UCMDB:



Using the relationship path between the J2EE domain and the Node CI, create a new query consisting of a compound relationship between the J2EE Domain and the host (Node CI).

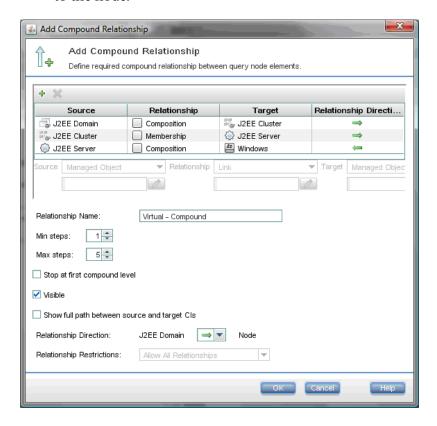
To create a query containing a compound relationship:



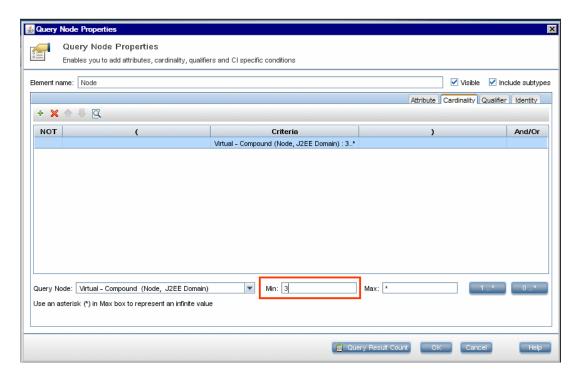
- **a** Click the New button in the Modeling Studio and select Query.
- **b** Drag a J2EE Domain CI and a Node CI onto the modeling pane.
- **c** Select both CIs and add a new compound relationship (using right click context menu).

- **d** Edit the compound link to add the following path elements:
 - ➤ J2EE Domain Composition J2EE Cluster
 - ➤ J2EE Cluster Membership J2EE Server
 - ➤ J2EE Server Composition Windows

Note that the direction of the compound link is from the J2EE Domain to the node:



e Edit the Node cardinality to be three at minimum. Right click the Node CI, select **Query Node Properties**, select the **Cardinality** tab and enter **3** in the **Min** box:



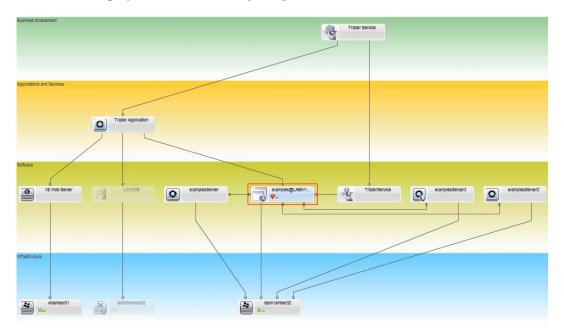
f When you are finished, save the query.

3 Define the Topology Policy in Configuration Manager

To define a new topology policy:

- **a** In Configuration Manager, go to Policy Administration and create a new topology policy.
- **b** Set the name and description and assign the new policy to the **Trader** managed view.
- **c** Under Condition, select the query you have prepared in UCMDB and select **positive** as the condition type.
- **d** Save the new policy and preview it.

Note that the new policy indicates a breach on the J2EE Domain if the number of nodes supporting the J2EE Cluster is less than three, as displayed in the following image:



Reference

Policy Administration User Interface

This section includes (in alphabetical order):

- ➤ Attribute Operators on page 58
- ➤ Policy Administration Page on page 59
- ➤ Policy Preview Dialog Box on page 63
- ➤ Select Managed CI Dialog Box on page 64

Attribute Operators

This following table contains a list of operators used to define attribute conditions.

Operator	Description
Equal	Checks whether the attribute value is equal to the specified value.
Equal ignore case	Checks whether the attribute value is equal to the specified value regardless of the case.
Greater than	Checks whether the attribute value is greater than the specified value.
Greater than or equal	Checks whether the attribute value is greater than or equal to the specified value.
In	Checks whether the attribute value is in a list of defined values. Click the Edit Values button to edit the list of values.
In ignore case	Checks whether the attribute value is in a list of defined values regardless of the case. Click the Edit Values button to edit the list of values.

Operator	Description
Less than	Checks whether the attribute value is less than the specified value.
Less than or equal	Checks whether the attribute value is less than or equal to the specified value.
Like	Uses a wildcard (%). Use Like to search for a fragment of a name. You can insert the wildcard character at any point in the name.
Like ignore case	Uses a wildcard (%). Use Like ignore case to search for a fragment of a name. The case of the string is ignored.
Not equal	Checks whether the attribute value is not equal to the specified value.
Not null	Checks whether the attribute value is not null.

Policy Administration Page

This page enables you to define and edit policies.

To access	Select Administration > Policy Administration.
Important information	The left pane contains an expandable list of the policies. The details pane displays details for the policy selected in the left pane.

User interface elements are described below:

UI Elements (A-Z)	Description
	Click Add Policy Group to define a new policy group.
4	Click Add Policy to define a new policy. Select one of the following options:
	➤ Add Baseline Policy ➤ Add Topology Policy

UI Elements (A-Z)	Description
×	Click Delete to delete the selected policy.
×	Click Cut to remove the selected policy or group from its current location and save it to the clipboard.
	Click Copy to copy the selected policy or group to the clipboard.
	Click Paste to add the copied policy or group to the selected location.
5	Click Undo to undo the last action.
	Click Save to save the changes made to the current policy.
Q	Click Preview to open the Policy Preview dialog box which provides a preview of the satisfaction level of the selected policy over the managed views.
6	Click Recalculate Policy Analysis to recalculate the policy analysis over all the managed views.
£	Click Export Report to choose the export format for the Policy Administration Report data. The available options are:
	➤ Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet.
	 PDF. The table data is exported in PDF format. CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
S	Click Refresh to refresh the policy list.

Left Pane

Important	Click the arrow next to Policies (the root of the policies
information	tree) to expand the tree. Click the arrow next to a policy
	group to expand the list of policies in the group.

Details Pane

Important	When you select a policy group in the left pane, the
information	group details appear in the Details pane. When you select
	a policy in the left pane, the policy details appear in the
	Details pane.

Policy Details

User interface elements are described below:

UI Elements (A-Z)	Description
Advanced Filter	A filter TQL by which to further refine the selection. Click the button to open the Select TQL dialog box which enables you to select the required filter TQL.
Assign policies to views	Lists the views to which this policy applies. Click the button to open the Select Views dialog box which enables you to select the views to which the policy applies.
Baseline	For baseline policies, define a baseline CI in the Baseline section.
СІ Туре	The CI type of the CIs to be tested against the policy. Click the button to open the Select CI Type dialog box which enables you to select the required CI type.
Condition TQL	The TQL to be used to as the condition for satisfying the policy. Click the button to open the Select TQL dialog box which enables you to select the required condition TQL.
	Note: Only relevant for topology policies.
Condition Type	Select the condition type:
	 Positive. The query determines which CIs satisfy the policy. Negative. The query determines which CIs are in breach of the policy. Note: Only relevant for topology policies.
Description	Enter the policy description.

UI Elements (A-Z)	Description
Perform validation	Select the scope of the policy's validity. The available options are:
	➤ Always ➤ Never
	➤ A fixed time period. Click the calendar buttons to select the dates and times for the beginning and end of the period.
Policy Name	Enter the policy name.

Baseline Section

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
₹	 Select one of the following options: Create baseline from composite CI. Select an existing CI from the view to serve as a baseline CI. Create baseline from existing Configuration Model. Select a model from the Configuration Analysis module to serve as a baseline CI.
ψ	Click Add CI class type to baseline to select a CI type to add to the baseline definition. (When no baseline is defined, this is called Create Baseline .) You can add multiple CIs of the same type using the CI count feature.
×	Click Remove Selected Item from Baseline to delete the selected CIs from the baseline definition.
<check box="" column=""></check>	Select the check boxes next to the attributes you to include in the baseline definition. You can select all of the attributes by selecting the check box in the column header.

UI Elements (A-Z)	Description
<comparable column=""></comparable>	If the comparable column is blank for a selected attribute, the attribute is not relevant for comparison.
	If a icon appears in the column for a selected attribute, the attribute is relevant for comparison.
	If a licon appears in the column for a selected attribute, the attribute is relevant for comparison and is assigned a rank in the system's matching algorithm.
Attribute Name column	The names of the attributes for the selected CI.
Attribute Value column	The values of the attributes for the selected CI.
СІ Туре	Select a CI type from the baseline. The attributes for this CI type are displayed in the table.
	Note: It is possible to select more than one CIT of the same type in the baseline. This is known as Common Definition mode. In this mode, any changes you make to one of the selected CITs apply to all of them.
Consider additional internal CIs as breach	When you select Consider additional internal CIs as breach , the CI being compared to this baseline is considered in breach of the policy if it has additional internal CIs.
Operator column	Select an operator defining the relationship between the attribute and its value. For details, see "Attribute Operators" on page 58.

Policy Preview Dialog Box

This page enables you preview the satisfaction level of a policy over the managed views.

To access	Click Preview 🔯 in the Policy Administration toolbar.
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User interface elements are described below:

UI Elements (A-Z)	Description
	Click Continue Calculation to continue the calculation of the policy satisfaction level after it was paused.
00	Click Pause Calculation to pause the calculation of the policy satisfaction level.
	Click Show Policy Details to display details for the CIs of the selected view.
CI Name	The names of the CIs in the selected view.
Policy Satisfaction	The policy satisfaction level for the view (by percentage).
Policy Status	The policy status for each CI in the selected view.
State	Select the state of the view.
View Name	The name of the view.

🙎 Select Managed CI Dialog Box

This dialog box enables you select a specific CI for a baseline definition.

To access	Select Create baseline from composite CI from the Baseline pane in the Details tab of Policy Administration.
Important information	When you select a specific CI for a baseline definition, the CI types previously included in that definition are removed.

User interface elements are described below:

UI Elements (A-Z)	Description
<list cls="" of=""></list>	A list of the CI names and types in the selected view. Select one to serve as the baseline CI.
Filter	Enter a string to filter the CIs in the list.

UI Elements (A-Z)	Description
State	Select Actual or Authorized.
View	Select a view from the drop-down list.

Troubleshooting and Limitations

The following limitation is applicable when working with configuration policies:

➤ Condition TQL queries must not include attribute conditions on unmanaged attributes.

Chapter 4 • Policy Administration

5

User Management

This chapter includes:

Concepts

➤ User Management Overview on page 68

Tasks

➤ How to Set Up Configuration Manager Users and Permissions on page 70

Reference

➤ User Management User Interface on page 72

Troubleshooting and Limitations on page 83

Concepts



🚜 User Management Overview

HP UCMDB Configuration Manager enables you to define users, groups, and their associated roles, permissions, and environments. A user's role defines which actions they can perform in HP Configuration Manager on which instances of data. For example, if none of the user's roles have permission for View Administration, the View Administration module is not available.

The users and permissions are managed by an LDAP server. You can choose which LDAP server should provide this information to HP Configuration Manager. For details see Chapter 6, "Server Administration."

Environments

In Configuration Manager, an environment is defined as one or more Managed View instances. For more information about HP UCMDB Configuration Manager Managed Views, see Chapter 3, "View Administration." Once you define environments, you attach the environment to a permission. For example, you can specify that the Configuration Manager Administrator has View and Write permissions in all environments, while the DB Manager has View and Write permissions in an environment defined as local_lab_databases.

Roles and Permissions

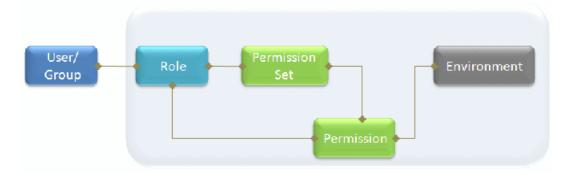
Each role is associated with permissions. Permissions define which Configuration Manager actions the role can perform according to their responsibilities in the organization. For example, you could create a role that enables its users to create views, or you could create a role that enables its users to edit configuration policies but not to create views.

Users and Groups

Every user has a list of roles that define their permissions for working with Configuration Manager. When you assign a role, that user will only have access to specific portions of the program and specific environments that are relevant to their role. You can also define groups of users with the same roles or access rights. When you attach a user/group to a group, the user/group inherits all of the group's roles.

User Management Diagram

The following diagram illustrates the relationship between users, groups, roles, permissions, and environments in HP UCMDB Configuration Manager.



Tasks

Phow to Set Up Configuration Manager Users and Permissions

This task describes the working order for defining users and permissions in Configuration Manager.

This task includes the following steps:

- ➤ "Prerequisites" on page 71
- ➤ "Define the environment" on page 71
- ➤ "Define the roles and permissions" on page 71
- ➤ "Define users and groups" on page 71

1 Prerequisites

Select views to manage in Configuration Manager. This will enable you to define the environments for users and permissions. For details, see "View Administration" on page 37.

2 Define the environment

Define the environment details in the Environment Management page. For user interface details, see "Environment Management Page" on page 72.

3 Define the roles and permissions

Define the Configuration Manager roles and the associated permissions in the Role Management page. For user interface details, see "Role Management Page" on page 75 and the "Assign Permission to Role Wizard" on page 80.

4 Define users and groups

Define a hierarchy of Configuration Manager users and user groups in the User Management page. Assign roles to each user and group. For user interface details, see "User Management Page" on page 77.

Reference

🔍 User Management User Interface

This section includes:

- ➤ Environment Management Page on page 72
- ➤ Role Management Page on page 75
- ➤ User Management Page on page 77
- ➤ Assign Permission to Role Wizard on page 80
- ➤ Assign Roles Dialog Box on page 82

🍳 Environment Management Page

This page enables you to define working environments that contain views.

To access	Select Administration > User Management > Environment Management
Important information	Environments are the basis for user and role management. For each user or group, you assign permissions to perform specific actions in specific environments. Click Refresh to refresh the display.
Relevant tasks	"How to Set Up Configuration Manager Users and Permissions" on page 70

Environments Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
*	Select an environment type and click Create Environment to create a new environment of that type.
×	Click Delete Environment to delete the selected environment.
	Note: If the environment is the only environment attached to a permission and that permission is attached to any roles, deleting the environment will detach the corresponding permissions and permission sets from these roles.
<environments tree=""></environments>	Contains the environment types and the environments defined for each type.

Environment Details Pane

When you select an environment in the Environments pane, the details appear in this pane. User interface elements are described below:

UI Elements (A-Z)	Description
.	Click Add Instances to add view instances to the selected environment using the Manage Instances Dialog Box. Each environment can have one or more assigned view instances.
	In the Manage Instances Dialog Box, select a view instance from the Available Instances list and use the arrows to move the instance to the Selected Instances list. Note: These instances are views defined in the Configuration Manager View Administration. For more information, see Chapter 3, "View Administration."
0	Click Remove Instances to remove the selected instance from the environment.
Edit Details	Click Edit Details to edit the selected environment name and description.
Environment Description	The description of the selected environment.
Environment Name	The name of the selected environment.
Instance	List of view instances for the selected environment.

Environment Type Details Pane

When you select an environment type in the Environments pane, the details appear in this pane. User interface elements are described below:

UI Elements (A-Z)	Description
Edit Details	Click Edit Details to edit the selected environment type name and description.
Environment Description	The description of the selected environment type.
Environment Name	The name of the selected environment type.

🍳 Role Management Page

This page enables you to define the user roles and application permissions for working with Configuration Manager.

To access	Select Administration > User Management > Role Management
Important information	It is recommended to define environments prior to defining roles. For details, see "Environment Management Page" on page 72. Click Refresh to refresh the display.
Relevant tasks	"How to Set Up Configuration Manager Users and Permissions" on page 70

Roles Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
*	Click Create Role to create a new role.

UI Elements (A-Z)	Description
×	Click Delete Role to delete the selected role.
<role list=""></role>	A list of roles currently defined in Configuration Manager. When you select a role, the details appear in the Role Details and Permissions panes.

Role Details Pane

User interface elements are described below:

UI Elements (A-Z)	Description
+	Click Attach Permissions to select permissions to attach to the selected role. You select permissions using the Assign Permission to Role Wizard. For user interface details, see "Assign Permission to Role Wizard" on page 80.
0	Click Manage Permission to modify the selected permission. You modify permissions using the Assign Permission to Role Wizard. For user interface details, see "Assign Permission to Role Wizard" on page 80.
0	Click Detach Permissions to remove permissions from the selected role.
Edit Details	Click Edit Details to edit the selected role name and description.
Environment	The list of environments for each permission. If the list does not fit into the environment column, use the tooltip to view the entire list.
	Not Applicable: Used for permissions that do not require a specific environment setting.
	Environment Name>: The permission is attached to a specific environment.
	All: The permission is applicable to all environments.
Permission	The permission sets and permissions attached to the selected role.

UI Elements (A-Z)	Description
Role Description	The description of the selected role.
Role Name	The name of the selected role.

User Management Page

This page enables you to create users and groups, and to assign corresponding roles.

To access	Select Administration > User Management > User Management
Important information	 ➤ The user and group details are managed by the LDAP server. Some of the information is read-only and some can be edited. You can configure the read/write properties of the user information, and choose which LDAP server should provide this information to HP Configuration Manager. For details see "User Identity Management Page" on page 101. ➤ It is recommended to define environments and roles prior to defining users. For details, see "Environment Management Page" on page 72 and "Role Management Page" on page 75 ➤ Click Refresh to refresh the display.
Relevant tasks	"How to Set Up Configuration Manager Users and Permissions" on page 70

Search Users Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Search	Click Search to search for users that match the details in the Search Users section.
Search Users	The search criteria. To search for users, enter some or all of the user details: First Name, Last Name, Login Name, Display Name, Email.
User Name	A list of all users that match the search criteria.

Users and Groups Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
**	Click Create User to create a new user under the selected group. The user will inherit the group's roles.
	Click Create group to create a new group under an existing group. the group will inherit the group's roles.
	Click Add group under the root to create a new group under the root.
×	Click Delete to delete the selected user or group.
\$	Click Attach to group to attach the selected user or group to groups. The users/groups will inherit all of the group's roles.

UI Elements (A-Z)	Description
0	Click Detach from group to detach the selected user or group from a group. When you detach a user/group from a group, they will no longer have the roles that they inherited from the group.
	Note:
	 Users that are not attached to a group will not be displayed in Configuration Manager. To find users that are not attached to a group, use the Search pane. For user interface details, see "Search Users Pane" on page 78. When you detach a group from a group, it moves to the "root" of the groups and users tree.
<groups and="" list="" users=""></groups>	A tree containing all of the existing groups and users attached to those groups.
	Note: Users that are not attached to a group will not be displayed in Configuration Manager. To find users that are not attached to a group, use the Search pane. For user interface details, see "Search Users Pane" on page 78.

Group/User Details Pane

User interface elements are described below:

UI Elements (A-Z)	Description
\$	Click Assign role to open the Assign Roles Dialog Box and assign a role to the selected user or group. For details, see "Assign Roles Dialog Box" on page 82.
0	Click Remove role to remove the selected role from the user or group.
<roles and="" list="" permissions=""></roles>	The assigned roles and corresponding permissions and environments for the selected user or group.

UI Elements (A-Z)	Description
Edit Details	Click Edit Details to edit the selected user or group details. Note: The user and group details are managed by the LDAP server, and the details displayed depend on the LDAP configuration. Some of the information is readonly and some can be edited. You can configure the read/write properties of the user information, and choose which LDAP server should provide this information to HP Configuration Manager. For details see "User Identity Management Page" on page 101.
Group\User Description	The description of the selected group or user.
Group\User Name	The name of the selected group or user.

🞕 Assign Permission to Role Wizard

This wizard enables you to assign permissions to the selected role.

To access	Select Administration > User Management > Role Management. Select a role and click in the Role Details pane.
Wizard map	The Assign Permission to Role Wizard contains:
	Select a Permission or Permission Set Page > Assign Environments to Permissions Page > Confirmation Page

💐 Select a Permission or Permission Set Page

This wizard page enables you to select the permissions to assign.

Important information	Select a permission or a permission set from the tree.
Wizard map	The Assign Permission to Role Wizard contains:
	Select a Permission or Permission Set Page > Assign Environments to Permissions Page > Confirmation Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<permissions tree=""></permissions>	Pre-defined permission sets and individual permissions for the Configuration Manager.

Assign Environments to Permissions Page

This wizard page enables you to assign environments to permissions.

Important information	This page only appears if the permission are applicable for an environment.
Wizard map	The Assign Permission to Role Wizard contains:
	Select a Permission or Permission Set Page > Assign Environments to Permissions Page > Confirmation Page

User interface elements are described below:

UI Elements (A-Z)	Description
*	Select a permission and use the arrows to move the required environments from the Available Environments list to the Selected Environments list.
Available and Selected Environments	Each permission can be applicable for specific environments, for all environments, or not applicable to an environment.
Permission	A tree containing the permission or permission set.

Q Confirmation Page

This wizard page confirms the permissions assignments you have made.

Wizard map	The Assign Permission to Role Wizard contains:
	Select a Permission or Permission Set Page > Assign Environments to Permissions Page > Confirmation Page

User interface elements are described below:

UI Elements (A-Z)	Description
Environment	List of environments associated with the selected permission.
Permission	The new permissions assigned to this role.

🖎 Assign Roles Dialog Box

This dialog box enables you to assign roles to users or groups.

To access	Click the Assign Roles button from the Roles and Permissions pane of the User Management tab.
Important information	When users launch HP Configuration Manager, the actions that they can access depend on their roles and permissions.

User interface elements are described below:

UI Elements (A-Z)	Description
→	Select a role from the Available Roles list and use the arrows to move the role to the Selected Roles list.
Available and Selected Roles	Each user or group can have one or more assigned roles.
Permission details	Displays read-only details about the Permissions and corresponding Environments for the selected role.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for User Management. The Configuration Manager configuration settings for these solutions are in Administration > Server Administration > User Management

Problem. The user cannot log in to Configuration Manager

Solution. Validate the user definitions and permissions. The user login information is checked by the Authentication Provider.

- **1** Make sure that the correct authentication provider is configured in the User Management Configuration page, Authentication Provider (SHARED or EXTERNAL).
- **2** Verify that the LDAP server with the Authentication Provider configured in the previous step is running:

Make sure that the bsf.log file has no errors.

If the server is not running, follow the instructions in the LDAP Troubleshooting section of the Configuration Manager Deployment Guide.

3 Make sure that the user has login permissions in the **conf\permissions-mode.xml** file.

Problem. Cannot create a user under a group

Solution. Validate the group settings and the user settings.

- 1 Check the group root according to the LDAP troubleshooting information in the Configuration Manager Deployment Guide.
- **2** Make sure that the correct user provider is configured in the **User Management Configuration** page, **User Provider (SHARED** or **EXTERNAL**).
- **3** In the **User Repository > Enablement** page, enable **Principle updatable**.

Problem. Cannot update a user

Solution. Verify that the User Provider can be updated. In the **User Repository > Enablement** page, enable **Principle updatable**.

Problem. Cannot update a user field

Solution. Verify that the User Provider and the user fields can be updated:

- 1 In the User Repository > Enablement page, enable Principle updatable.
- 2 In the User Repository > Personalization page, verify that the fields ending in "Editable" are enabled. (For example, User Display Name Attribute Editable)

Problem. Cannot create a group

Solution. In the **User Repository > Personalization** page, enable **Group Creatable**.

Problem. Cannot update a group

Solution. In the **User Repository > Personalization** page, enable **Group Updatable**.

Problem. Cannot assign a role to a user

Solution. Verify the Roles Provider and the fields can be updated:

- 1 Make sure that the correct roles provider is configured in the User Management Configuration page, Roles Provider (SHARED or EXTERNAL).
- **2** If the LDAP server containing the Roles Provider is not running, follow the instructions in the LDAP Troubleshooting section of the Configuration Manager Deployment Guide.
- **3** In the User Repository > Enablement page, enable Principle Role Assignable Write.

Problem. Security error appears in Configuration Manager

Solution. If the security error message indicates an issue with configuration, it should provide enough details for finding the correct configuration setting.

For example, if a security exception appears when you try to change group details, the message will indicate "group was defined non updatable." In this case, in the **User Repository** > **Enablement** page, enable **Group Updatable**.

Problem. Cannot update the password field when updating user information

Solution. Verify the User Provider settings.

- 1 Make sure that the correct user provider is configured in the User Management Configuration page, User Provider (SHARED or EXTERNAL).
- 2 In the User Repository > Personalization page, enable User Password Attribute Editable.

Problem. Groups disappear after you detach users or groups

Solution. Check the user and group provider settings.

- 1 The Users Provider and Groups Provider should point to the same LDAP server. In the User Management Configuration page, check that Users Provider and Groups Provider are both EXTERNAL or both SHARED.
- 2 The Roles Provider and Roles Relations Provider should point to the same LDAP server. In the User Management Configuration page, check that Roles Provider and Roles Relations Provider are both EXTERNAL or both SHARED. These providers usually reside in the SHARED LDAP.

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6

Server Administration

This chapter includes:

Concepts

- ➤ Server Administration Overview on page 88
- ➤ LDAP Configuration Overview on page 89

Tasks

➤ Save and Apply Configuration Changes on page 91

Reference

➤ Server Administration User Interface on page 92

Concepts



Server Administration Overview

The Server Administration module enables you to define the configuration settings needed to set up your environment.

A configuration set contains the properties defined for the system. You can create any number of configuration sets and then select one with which to run your system. HP UCMDB Configuration Manager maintains a history of all the configuration sets created. For details on how to display a list of all the existing configuration set versions, see "Open Configuration Set Dialog Box" on page 92.

HP UCMDB Configuration Manager enables you to move configuration sets from one system to another. You can:

- ➤ Export a configuration set to your local directory.
- ➤ Import a configuration set from your local directory to another system. For example, from a test to a production environment.

A new configuration set is initially saved as a draft. A draft is a configuration set that has not yet been activated. A draft can be edited only until it is first activated. The new configuration properties are only applied to Configuration Manager after a draft is activated. For details on how to activate a draft, see "Save and Apply Configuration Changes" on page 91.

You cannot edit a configuration set after it has been activated. You must rather create a new draft. You can create a new draft based on an existing configuration set and save it with a new name.

For details on how to create a draft, see "Save as Draft Dialog Box" on page 93.

HP UCMDB Configuration Manager calculates the validation of the configuration setting and identifies the problems in the configuration - for example, a field with a missing value. If a problem is found, Configuration Manager displays a description of the problem, a link to the configuration pane in which the problem was found, and an icon that indicates the severity of the problem.

Configuration validation is performed after the following operations:

- ➤ Saving a configuration set
- ➤ Opening a configuration set
- ➤ Importing a configuration set

For details on handling problems, see "Problems Pane" on page 100.

& LDAP Configuration Overview

The HP UCMDB Configuration Manager uses LDAP for user management information.

There are six providers of user management information:

- ➤ The **Groups provider** contains definitions for users and groups.
- ➤ The **Authentication provider** contains login information for authenticating users.
- ➤ The **User provider** contains user personalization information.
- ➤ The **Roles provider** contains the standard Configuration Manager roles defined by LDAP.
- ➤ The Roles Relations provider contains the relationships between roles, and users and groups.
- ➤ The **Personalization provider** contains additional user information not found in the User provider, and any information that should override information in the User provider.

Chapter 6 • Server Administration

These providers can come from the default LDAP server (an internal LDAP server provided with the Configuration Manager User Management module) or an external LDAP server. Any user information that you modify in Configuration Manager will be updated in the appropriate provider repository.

Tasks



Save and Apply Configuration Changes

This task describes how to save configuration changes and then apply the new configuration properties to Configuration Manager.

- 1 Select Administration > Server Administration and make the required configuration changes.
- **2** In the left pane, click the **Save current editable configuration set** button to open the Save as Draft dialog box and save the modified configuration set as a draft. A draft is a configuration set that has not yet been activated. After a draft is activated, the new configuration properties are applied to Configuration Manager.
- **3** In the **Draft name** box, enter the name of the draft and click **Save**.
- **4** In the left pane, click **Open Configuration Set** to open the Open Configuration Set dialog box.
- **5** Click the **Drafts** button to display only the existing drafts.
- **6** Select the required draft and click **Open**. The name of the currently selected configuration set appears at the top of the left pane.
- 0
- 7 In the left pane, click the Activate current configuration set button to activate the selected draft and apply the new configuration properties to Configuration Manager.

Reference

Server Administration User Interface

This section includes (in alphabetical order):

- ➤ Open Configuration Set Dialog Box on page 92
- ➤ Save as Draft Dialog Box on page 93
- ➤ Server Administration Page on page 94
- ➤ User Identity Management Page on page 101

Open Configuration Set Dialog Box

This dialog box displays a list of all the existing configuration set versions.

To access	Select Administration > Server Administration > Open Configuration Set in the left pane.
Important Information	You cannot change the name of any of the configuration set versions.

User interface elements are described below:

UI Elements (A-Z)	Description
₽ ô	Currently active configuration set . Denotes the currently activated configuration set.
2	Previously active configuration set. Denotes a previously active configuration set.
	Draft. Denotes a draft, that is, a configuration set that has not yet been activated. The changes in the draft are only applied and saved in Configuration Manager's history after the draft is activated.

UI Elements (A-Z)	Description
Activated	Displays the currently activated configuration set.
All	Displays all existing configuration sets and drafts.
Drafts	Displays all existing drafts.
Last Activated By	The name of the user who last activated the draft/configuration set.
Last Activated On	The time and date on which the draft/configuration set was last activated.
Last Modified By	The name of the user who last modified the draft/configuration set.
Last Modified On	The time and date on which the draft/configuration set was last modified.

🍳 Save as Draft Dialog Box

This dialog box enables you to create a draft of a new configuration set. A draft is a configuration set that has not yet been activated. It can be edited only until it is first activated. When the draft is activated, the configuration properties are applied to HP Universal CMDB Configuration Manager. For details on how to activate a draft, see "Save and Apply Configuration Changes" on page 91.

To access	Select Administration > Server Administration > Save in the left pane.
Important Information	You cannot change the name of an existing draft.

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User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<list drafts="" existing="" of=""></list>	Displays a list of all existing drafts.
Draft name	Enter a unique name for the new draft.
Last Modified By	The name of the user who last modified the draft.
Last Modified on	The time and date on which the draft was last modified.
Name	The name of the draft.

💐 Server Administration Page

This page enables you to modify the configuration settings for HP Universal CMDB Configuration Manager.

To access	Select Administration > Server Administration.
Important information	An asterisk appears next to the category name in the left pane when a change is made to one of the settings in that category.

Left Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Save the current editable configuration set. Enables you to create a draft of a new configuration set. A draft is a configuration set that has not yet been activated and can still be edited.
	This button is enabled when you make a change to the currently activated configuration set. For details, see "Save as Draft Dialog Box" on page 93.
	Open configuration set. Displays a list of all the existing configuration set versions. For details, see "Open Configuration Set Dialog Box" on page 92.
2	Import configuration set. Enables you to import a configuration set from your local directory to another system. Opens the Import Configuration set dialog box.
£	Export configuration set to a zip file. Enables you to Export a configuration set to your local directory as a zip file.
0	Activate current configuration set. Applies the configuration properties in the draft/configuration set to HP Universal CMDB Configuration Manager and becomes the active configuration set.
	Note: Only one configuration set is considered active at any given point of time.
	Add configuration to configuration set. This button is only enabled when you select a node on the configuration tree that allows you to add a child configuration.
×	Remove configuration from configuration set. This button is only enabled when you select a node on the configuration tree that allows you to delete a child configuration.

UI Elements (A-Z)	Description
	Denotes a configuration category. Note: The arrow next to each category enables you to expand or collapse the lower-level categories.
<configuration tree=""></configuration>	Contains the configuration categories. The configuration fields for each selected node in the tree are displayed in the right pane. Select a file from the tree to open in the right pane.

The following categories contain configuration settings:

Baseline Matching

Setting	Description
CI Type Matching	Configure the CI types available for comparison:
	➤ □ Click to add a new CI type.➤ □ Click to delete the selected CI type.
	You can select the CI type from the drop-down list and enter the attributes for the selected CI type.

Offline Analysis and Authorization Tasks

Setting	Description
Offline Analysis repeat interval	Define a base interval in seconds. The other task settings are configured using multiples of this interval.
View comparison statistics repeat cycles	The number of cycles between successive runs of statistics comparison.
Delete candidate repeat cycles	The number of cycles between successive runs of candidate deletion.
Automatic authorization repeat cycles	The number of cycles between successive runs of automatic authorization.

Value Suggestions

Setting	Description
Max count to save	The maximum number of suggested attribute values stored in the database.
Max count to show	The maximum number of suggested attribute values displayed.
Attribute Values statistics repeat cycles	The number of cycles between successive recalculations of attribute value statistics.

Offline Purging

Setting	Description
Offline purge repeat interval	The number of days between successive purges of policy history and statistics history.
Policy history	The number of days to store policy history. Policy history older than this limit is deleted at the next purge.
Statistics history	The number of days to store statistics history. Statistics history older than this limit is deleted at the next purge.

Fetched RFCs Criteria

Setting	Description
RFC maximum days	The maximum number of prior days for which to retrieve RFCs.

Setting	Description
RFC CI Types	Configure the CI types for which RFCs can be defined: Click to add a new CI type. Click to delete the selected CI type. You can edit the CI type names manually.
RFC Filters	Filter the RFCs displayed by property names and values: Click to add a new property. Click to delete the property. You can edit the property names and values manually. Note: Every row represents a different property and the values should appear in a comma-separated list. Each property listed must have one of the specified values for the RFC to be displayed.

RFC Display

Setting	Description
RFC Properties	Configure the RFC properties for display:
	➤ □ Click to add a new property.➤ □ Click to delete the selected property.
	You can edit the property names manually.

System Parameters

Setting	Description
Root class	The root class of all managed classes.
Graphical layout limit	The maximum number of composite CIs that can be displayed in the topology map.

Topology Layout

Setting	Description
Layers	Configure the layers of the topology map display:
	► ☐ Click to add a new layer.► ☐ Click to delete the selected layer.
	You can edit the name, display name, level number, and color of the layers.
Classifications	Configure the classifications of the topology map display:
	➤ 👨 Click to add a new classification.
	➤ 🙀 Click to delete the selected classification.
	You can edit the name, display name, and color of the classifications.
Layout Exceptions	Configure exceptions to the classifications defined above:
	➤ 👨 Click to add a new exception.
	➤ 🙀 Click to delete the selected exception.
	For the selected CI type, if the specified attribute has the specified value, the specified classification applies.

Topology Composition Settings

This file defines the composition rules of the composite CIs. It determines which component CIs are included under the composite CIs.

GUI Element	Description
Download	To edit the file, click the filename link to download the file.
Upload File	When you are finished editing the file, click the Upload File button to upload the file.

UCMDB Connection

Setting	Description
Connection strategy	The method of connection to the UCMDB.
Customer	The UCMDB customer name.
UCMDB server name	The name of the UCMDB server.
UCMDB server port	The port number of the UCMDB server.
UCMDB access URL	The URL for accessing UCMDB.
User name	The UCMDB user name.
Password	The UCMDB user password.

Problems Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Δ	Indicates the severity level of the problem. The following icons appear:
	 ➤ ② . Indicates that there is an error in the configuration settings. In this case, HP UCMDB Configuration Manager does not allow you to activate the configuration set and the Activate current configuration set with button is disabled. ➤ △ . Indicates a warning. In this case, Configuration Manager allows you to activate the configuration set. ➤ ☐ . Provides an informative message. In this case, Configuration Manager allows you to activate the configuration set.
Code	Contains a link to the pane containing the problem. When you click the link, the relevant node in the configuration tree is selected and its relevant pane appears on the right.
Description	Contains a description of the problem.

🔍 User Identity Management Page

The user management settings for HP Universal CMDB Configuration Manager control the users, groups, roles, and permissions. This page enables you to configure these settings and the connection to the LDAP server.

To access	Select Administration > Server Administration > User Management.
Important information	The user management settings come from the LDAP server. This configuration requires a thorough understanding of your LDAP implementation.
Related Tasks	"Configuring LDAP" in the Configuration Manager Deployment Guide
	User Management "Troubleshooting and Limitations" on page 83

User Management Configuration

This page defines the connection information for the LDAP server. Any user information that you modify in Configuration Manager will be updated in the appropriate server.

User interface elements are described below:

UI Elements	Description
<type> Provider</type>	The repository containing the Authentication, Groups, Personalization, Users, Roles, and Role Relations providers. For each provider, specify the LDAP server, EXTERNAL or SHARED . For a description of the providers, see "Server Administration Overview" on page 88.
External/Shared UUM Name	The name used to connect to the LDAP server.
External/Shared UUM Source	Enable the relevant option to specify whether to use the internal LDAP server (Shared) or an external LDAP (External). The initial configuration uses Shared UUM Source , but when you define the connection to an external LDAP you enable External UUM Source .

UI Elements	Description
External/Shared UUM Start	Enable this option to start External or Shared LDAP server when you connect to Configuration Manager.
User <attribute> Attribute Mandatory</attribute>	Users object class LDAP vendor dependant attributes: ➤ usersObjectClass. The object class used to hold the user information. ➤ The following settings (enabled/disabled) specify which attributes in the user's object classes are used to hold user-specific information: usersUniqueIDAttribute, usersDisplayNameAttribute, usersLoginNameAttribute, usersFirstNameAttribute, usersLastNameAttribute, usersEmailAttribute, usersPreferredLanguageAttribute, usersPreferredLocationAttribute, usersTimeZoneAttribute, usersDateFormatAttribute, usersNumberFormatAttribute, usersWorkWeekAttribute, usersTenantIDAttribute, usersPasswordAttribute

External/Shared User Repository

This page contains the connection properties for the LDAP servers. User interface elements are described below:

UI Elements	Description
External/Shared User Repository	The properties in this page come from the LDAP properties table for the repository called External or Shared.

UI Elements	Description
Enablement	Defines the access information for the roles, users, groups, and principles. Specify whether the groups, roles, and principles can be created, deleted, readable, and assigned.
Personalization	Specifies which user attributes are readable or editable. The settings in this page define which information will be editable and which will be read-only when you create or modify users in the User Management module. For user interface details, see "User Management Page" on page 77.

Chapter 6 • Server Administration

Part III

Application

Home Page

This chapter includes:

Concepts

➤ Home Page Overview on page 108

Reference

➤ Home Page User Interface on page 109

Concepts



Home Page Overview

The Home Page provides a dashboard view of the key metrics being monitored by Configuration Manager. The page includes graphical displays of data over time, including the number of managed CIs by authorization status, the number of CIs by policy status, the number of authorized changes, and the number of non-compliant CIs.

Reference

Home Page User Interface

This section includes (in alphabetical order):

➤ Home Page on page 109

Nome Page

This page provides an overview of data relating to your managed views.

To access	Select Application > Home
Important information	The Managed CIs pane displays the number of authorized and unauthorized CIs over the selected period.
	The Policy Summary pane displays the number of satisfied and breaching CIs in each state for each of the policies under administration.
	The Authorized Changes pane displays the number of authorized changes over the selected period.
	The Non-Compliant CIs pane displays the total number of CIs satisfying or in breach of baseline policies.
	Note: You can rearrange the layout of the Home Page panes by dragging them to the desired position.

Left Pane

User interface elements are described below:

UI Elements (A-Z)	Description
S	Click to refresh the displayed data.
食	Click Show favorite views only to toggle between displaying data for all views and displaying data for favorite views only.
New Policy Breaches	Displays a list of the managed views with the number of policy breaches on the total number of CIs for each view.
Pending Authorizations	Displays a list of the managed views with the number of unauthorized CIs out of the total CIs for each view.

Managed Cls Pane

UI Elements (A-Z)	Description
√ Week ▼	Select the time period for the data displayed in the graph. The options are:
	➤ Week
	➤ Month
	➤ Three Months
	➤ Year
	Use the horizontal arrows to select data from the next or previous period.
=	Click to display a legend of the graph.
III	Click to change the display to table format.

UI Elements (A-Z)	Description
ih	Click to change the display to graph format.
<graph></graph>	The graph displays the number of authorized and unauthorized CIs over the selected time period. The green area represents the authorized CIs and the blue area represents the unauthorized CIs.

Policy Summary Pane

For details on the Policy Summary pane, see "Policy Summary Page" on page 123.

Authorized Changes Pane

UI Elements (A-Z)	Description
√ Week ▼	Select the time period for the data displayed in the graph. The options are:
	➤ Week
	➤ Month
	➤ Three Months
	➤ Year
	Use the horizontal arrows to select data from the next or previous period.
:	Click to display a legend of the graph.
III	Click to change the display to table format.
ılı	Click to change the display to graph format.
All Views ▼	Select the view(s) reflected in the graph.
<graph></graph>	The graph displays the number of changes authorized over the selected time period.

Non-Compliant Cls Pane

UI Elements (A-Z)	Description
♦ Week ▼	Select the time period for the data displayed in the graph. The options are:
	➤ Week
	➤ Month
	➤ Three Months
	➤ Year
	Use the horizontal arrows to select data from the next or previous period.
:	Click to display a legend of the graph.
III	Click to change the display to table format.
II.	Click to change the display to graph format.
All Views ▼	Select the view(s) reflected in the graph.
All Policies ▼	Select the policy or policies reflected in the graph.
<graph></graph>	The graph displays the number of CIs satisfying all their baseline policies (compliant CIs) with the green bar and the number in breach of a baseline policy (non-compliant CIs) with the red bar.

8

View Summary

This chapter includes:

Concepts

➤ View Summary Overview on page 114

Reference

➤ View Summary User Interface on page 116

Concepts



View Summary Overview

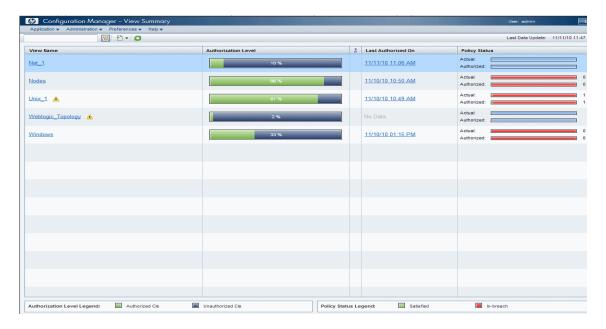
The View Summary provides a general summary of all of the managed views, displaying authorization level, policy status, the date and time of the last authorization, and the automatic authorization status. It serves as a portal for accessing the managed views by drilling down to the State Management module. You can also export the View Summary data in a report format.

The policy status information enables you to track the views' levels of adherence to policies, both in the actual and in the authorized state. For views with policy breaches, you can drill into the view to see the details (the breaching CIs and policies).

The automatic authorization information enables you to track the views' levels of authorization. It indicates whether a view is state-managed manually or automatically. You can quickly identify the views that require authorization and drill into those views to take the appropriate action.

Additionally, the View Summary enables you to track when the view was last authorized, by whom, and how many changes where authorized. You can drill down to view the last authorization in detail.

The following image displays an example of the View Summary page for a Configuration Manager user:



Reference

View Summary User Interface

This section includes (in alphabetical order):

- ➤ User Preferences Dialog Box on page 116
- ➤ View Summary Page on page 118

🔍 User Preferences Dialog Box

This dialog box enables you to select favorite views for display in all Configuration Manager modules as well as the language for the display.

To access	Select Preferences > User Preferences.
Important	The following options are available:
information	➤ Favorite Views. To select views as favorite views, select them in the left table and double-click them or use the arrow buttons to move them to the right table.
	➤ Localization Settings. Select the language for the Configuration Manager display.
	Note: When you define favorite views, you then have the option of displaying all views or only favorite views in the different modules.

Favorite Views

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
×	Click to remove the selected view from the favorite views list.
*	Click to remove all views from the favorite views list.
***	Click to add all views to the favorite views list.
⇒	Click to add the selected views to the favorite views list.
<left table=""></left>	Displays the names and descriptions of all the available views.
<right table=""></right>	Displays the names of the favorite views.
Select favorite views	Enables or disables the favorite view filter. Select one of the following options:
	 All views. No favorite views list is defined. All views are displayed. Selected views. Select the views for the favorite views list. Only the favorite views are displayed.

Localization Settings

UI Elements (A-Z)	Description
Language	Select a language from the drop-down box.
Samples	The date and number format reflect the selected language.

💐 View Summary Page

This page displays a summary of the authorization and policy satisfaction statuses for all of the managed views.

To access	Select Application > View Summary.
Important information	Click a column header to sort the view summary by that column. When you click a column header, a small black triangle appears. An upward triangle indicates an ascending sort and a downward triangle indicates a descending sort. Click the column header again to toggle between an ascending and a descending sort.

UI Elements (A-Z)	Description
<filter box="" views=""></filter>	Enter a string in the box to filter the views displayed. Only views with names including the entered string are displayed.
食	Click Show favorite views only to toggle between displaying all views and displaying the favorite views only.
*	Click Export Report to choose the export format for the View Summary report data. The available options are:
	 Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet. PDF. The table data is exported in PDF format.
	➤ CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
S	Click Refresh to refresh the policy list.
À	If a warning icon appears next to the view name, hold the pointer over it to display the warning in a tooltip or click it to open the warning in a dialog box.

UI Elements (A-Z)	Description
1	If an information icon appears next to the view name, hold the pointer over it to display the message in a tooltip or click it to open the message in a dialog box.
*	Displays the automatic authorization status of the view.
Authorization Level	Displays the authorization level of the view in graphical format as well as numerically (the number of authorized CIs out of total CIs).
	Hold the pointer over the graph to display a tooltip with percentages for the data.
Authorization Level	The legend for the authorization level graph.
Legend	The following categories are included:
	➤ Authorized CIs
	➤ Unauthorized CIs
Last Authorized On	The date and time when the view was last authorized. Click on the date to go to the snapshot of the view at that time in the Authorization History.
Last Data Update	The date and time when the view was last updated.
Policy Status	Displays the status of view's policies in the actual and authorized states using bar graphs.
	Hold the pointer over the graph to display a tooltip with percentages for the data.
Policy Status Legend	The legend for the policy status graph.
	The following categories are included:
	➤ Satisfied ➤ In-breach
View Name	Click on the view name to go to the State Management page for the selected view.

Chapter 8 • View Summary

Policy Summary

This chapter includes:

Concepts

➤ Policy Summary Overview on page 122

Reference

➤ Policy Summary User Interface on page 123

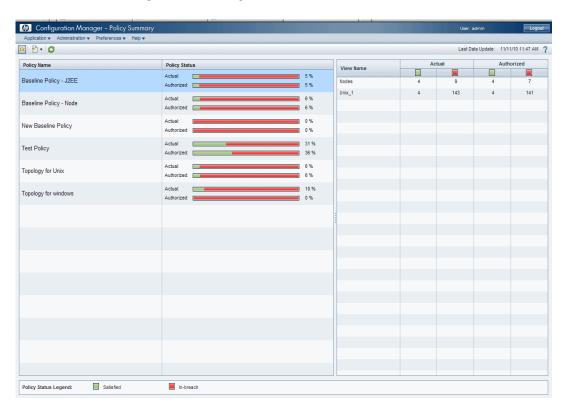
Concepts



🚜 Policy Summary Overview

The Policy Summary module provides a general summary of all policies defined in Configuration Manager. The display enables you to view the policy status of all the CIs for which a given policy is defined. You can also export the Policy Summary data in a report format.

The following image displays an example of the Policy Summary page for a Configuration Manager user:



Reference

Nolicy Summary User Interface

This section includes (in alphabetical order):

➤ Policy Summary Page on page 123

Q Policy Summary Page

This page displays a summary of policy satisfaction levels broken down by policy.

To access	Select Application > Policy Summary.
Important information	For each policy, the number of CIs in all views at each satisfaction status is displayed. The available states are indicated in the Policy Status Legend:
	➤ Satisfied ➤ Breaching Click a column header to sort the policy summary by that column. When you click a column header, a small black triangle appears. An upward triangle indicates an ascending sort and a downward triangle indicates a descending sort. Click the column header again to toggle between an ascending and a descending sort.

User interface elements are described below:

UI Elements (A-Z)	Description
食	Click Show policies relevant to favorite views only to toggle between displaying all policies and displaying policies relevant to favorite views only.
£	Click Export Report to choose the export format for the Policy Summary Report data. The available options are:
	➤ Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet.
	➤ PDF. The table data is exported in PDF format.
	➤ CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
S	Click Refresh to refresh the policy list.

Left Pane

UI Elements (A-Z)	Description
Policy Name	The policy name. Hold the pointer over the policy name to display a tooltip showing the policy details, including a description and the rule validity.
Policy Status	Bar graphs display the policy satisfaction status for the actual and authorized states. Hold the pointer over a graph to display a tooltip which summarizes the data by percentage and number of CIs.

Right Pane

UI Elements (A-Z)	Description
<breakdown by="" view<br="">Table></breakdown>	A table displaying the policy satisfaction data broken down by view for the policy selected in the left pane. The number of CIs in each view at each status is indicated.

Chapter 9 • Policy Summary

10

Configuration Analysis

This chapter includes:

Concepts

➤ Configuration Analysis Overview on page 128

Tasks

➤ Define a Configuration Model for Comparison on page 129

Reference

➤ Configuration Analysis User Interface on page 130

Concepts



Configuration Analysis Overview

The Configuration Analysis module provides an environment for comparing the composite CIs in your managed views with a model composite CI, which serves as a baseline for the comparison. You define the model in the Configuration Model pane by adding a CI type for the composite CI of the model and then adding CI types for the contained CIs of the model. You can then select the attributes for each CI type that are used in the comparison.

Alternatively, you can select a specific composite CI from one of the managed views to serve as the configuration model. It is also possible to select a baseline CI from a baseline policy, defined in Policy Administration, to serve as the composite CI of the model.

In the Analysis Scope pane, you select the composite CIs to be compared against the model. After you run the comparison, the pane displays a bar graph for each composite CI in the comparison, showing the degree to which it matches the model. The closeness of the match is determined by comparing the composite CIs to the model with regard to the attributes selected for comparison in each CI in the composite CI of the model. If no attributes are selected for comparison in a particular CI of the model, the comparison for that CI is based purely on the topology of the model.

A composite CI is considered to be in-breach if even one attribute selected for comparison does not match the model, or if the topology of the composite CI differs from the model.

For details on the Configuration Analysis module, see "Configuration Analysis Page" on page 130.

Tasks



Define a Configuration Model for Comparison

This task describes how to define a configuration model for comparison with selected composite CIs.

To define a configuration model:



- 1 In the Configuration Model pane of the Configuration Analysis module, click the Add CI Type to the Configuration Model button to open a dialog box. Select the required CI type and click **OK**.
- **2** Select the attributes to participate in the comparison by selecting the check boxes next to the required attributes. Enter values for the selected attributes in the Attribute Value column and operators in the Operator column.
- **3** In the Analysis Scope pane of the Configuration Analysis module, select the state of the view from which you want to select composite CIs. The available options are Actual or Authorized.



- **4** Click the **Add Composite CI** button to open the Select Composite CIs dialog box.
- **5** Select the view containing the CIs you want to compare. Then move the CIs to the Selected CIs column using the arrow buttons. Click **OK**.

Note: If you select CIs in the Analysis Scope pane first and then build a model, Configuration Manager automatically removes any selected CIs which do not match the model.



6 Click the Analyze button in the main toolbar to run the comparison. The results are displayed in the Composite CIs Analysis Results pane.

Reference



🍳 Configuration Analysis User Interface

This section includes (in alphabetical order):

- ➤ Configuration Analysis Page on page 130
- ➤ Comparison Details Dialog Box on page 134
- ➤ Select Managed CI Dialog Box on page 135

🙎 Configuration Analysis Page

This page enables you to build a configuration model to compare to composite CIs from managed views.

To access	Select Application > Configuration Analysis.
Important information	The Configuration Analysis page includes the following panes:
	➤ Configuration Model
	➤ Analysis Results
	➤ Analysis Scope
	Define the model in the Configuration Model pane. Select the composite CIs for comparison in the Analysis Scope pane. When you are finished, click Analyze to run the comparison.
	The results are not updated dynamically in response to changes. Every time you make a change in either the model or the composite CI selection, you need to click Analyze again to re-run the comparison.

User interface elements are described below:

UI Elements (A-Z)	Description
*	Click Create New Model to build a new configuration model.
	Click Open Model to select an existing model to open.
	Click Save Model to save the current model.
	Click Save Model As to save the current model under a new name.
Analyze	Click Analyze to run the comparison.

Configuration Model Pane

Important	In this pane, you build a configuration model by adding
information	CI types to the model and selecting the attributes by
	which to compare it to the selected composite CIs.

UI Elements (A-Z)	Description
≨ 9	Select one of the following options:
	➤ Create model from a composite CI. Select an existing CI from the view to serve as a configuration model.
	➤ Create model from existing baseline policy. Select a configuration model already defined in a policy.
+	Click to select a CI type to add to the configuration model. You can add multiple CIs of the same type using the CI count feature.
×	Click to delete the selected CIs from the configuration model.
	Click to select a specific CI to serve as a configuration model.

Chapter 10 • Configuration Analysis

UI Elements (A-Z)	Description
	Click Matching CI Results to view a breakdown of the compared CIs into satisfied and in-breach categories.
<u> </u>	Indicates that the attribute is relevant for comparison.
哩	Indicates that the attribute is relevant for comparison and is assigned a rank in the system's matching algorithm.
Attribute Name column	The names of the attributes of the selected CI type.
Attribute Value box	Enter a value for the selected attribute in the box.
Attribute Value column	The values of the attributes of the selected CI type. Select or enter a value for each attribute.
CI Type	The selected CI types.
	It is possible to select more than one CIT of the same type in the model. This is known as Common Definition mode . In this mode, any changes you make to one of the selected CITs apply to all of them.
Consider additional internal CIs as breach	When you select Consider additional internal CIs as breach , the CI being compared to this configuration model is considered in breach of the policy if it has additional internal CIs.
Matching CI Results column	A bar graph displays the number of satisfied, in-breach, and missing CIs for each CI type. Hold the pointer over the graph to display a tool tip with percentages.
Matching Results column	For each selected attribute, the percentage indicates the number of composite CIs matching the values specified for that attribute in the model.
Operator column	Select an operator defining the relationship between the attribute and its value. For details, see "Attribute Operators" on page 58.

Analysis Results Pane

Important information	After the analysis is run, this pane displays a pie chart
information	showing the percentages of satisfied and in-breach composite CIs.

Analysis Scope Pane

Important	In this pane, you select the composite CIs to compare to
information	the configuration model. You can select composite CIs
	from both the actual and authorized states of managed
	views.

UI Elements (A-Z)	Description
÷	Click Add Composite CI to select composite CIs to add to the Analysis Scope.
×	Click Delete Composite CI to delete the selected composite CI from the Analysis Scope.
	Click Show Comparison Details to open the Policy Details dialog box which displays the attributes of a CI that is in breach of a policy.
Composite CI Name	The names of the composite CIs in the Analysis Scope.
Similarity Results	Displays a bar graph indicating the degree to which the CI matches the model.
State	Select the state of the view from which you are selecting composite CIs.
	You can select CIs from both the actual and authorized state of any view, but the comparison is only done in the selected state. If any of your selected CIs do not exist in that state of the view, they appear in faded text and do not participate in the comparison.

Comparison Details Dialog Box

This dialog box enables you to display comparison details for the selected CI.

To access	Click Show comparison details in the Analysis Scope
	pane.

UI Elements (A-Z)	Description
<u>~</u>	Toggle between displaying all attributes and only those with breaches, for the selected CI.
a	Jump to the next breach in the list.
<left pane=""></left>	Displays the CI names and their respective models. For composite CIs, click the arrow to expand it and display the component CIs. For each CI for which there is a model value, an icon indicates whether it is in breach of the policy or not.
	Note: A CI is considered in breach of a policy if at least one of its attributes breaches the policy or if it does not match a CI in the model.
<right pane=""></right>	Displays the attribute names and values, as well as the baseline values, for the CI selected in the left pane. For attributes with baseline values, an icon indicates whether or not the selected CI is in breach of the policy with reference to that attribute.

🙎 Select Managed CI Dialog Box

This dialog box enables you select a specific CI for a model definition.

To access	Select Create model from a composite CI from the Configuration Model pane.
Important information	When you select a specific CI for a model definition, the CI types previously included in that definition are removed.

UI Elements (A-Z)	Description
<list cls="" of=""></list>	A list of the CI names and types in the selected view. Select one to serve as the model CI.
Filter	Enter a string to filter the CIs in the list.
State	Select Actual or Authorized.
View	Select a view from the drop-down list.

Chapter 10 • Configuration Analysis

11

State Management

This chapter includes:

Concepts

➤ State Management Overview on page 138

Tasks

➤ Authorize a Change on page 139

Reference

➤ State Management User Interface on page 140

Concepts



🚜 State Management Overview

The State Management module is the module which enables you to authorize changes in a view. State Management displays all the CIs currently contained in the view in either the actual or authorized state. CIs that were added to the view, removed from the view, or updated between the two states are indicated by the appropriate indicator icon in the Composite CIs pane and the Topology pane. For details on the indicator icons, see "Composite CIs Pane" on page 146.

You begin the authorization process by selecting the changes you want to authorize from among the CIs marked as changed. When you click Authorize, all of the selected changes are submitted for authorization. After the authorization finished, the updated state of the view becomes the new authorized state and a snapshot of the view is saved. For details on manual authorization, see "Authorize a Change" on page 139.

It is also possible to authorize views automatically using the automatic authorization feature. For details, see "Automatic Authorization" on page 40.

Tasks



🏲 Authorize a Change

This task describes how to authorize a change in a CI.

To authorize changes in a CI:

- **1** In the Composite CIs pane of the State Management, expand the entries for the CIs with changes by clicking the small arrow to the left of each check box. Each change for a given CI appears on its own line.
- **2** After reviewing the changes, select the check boxes for the ones that you want to authorize.

Note: If you select the check box for a CI, all the changes for that CI are automatically selected.



3 When you are finished, click the **Authorize** button. A message appears stating that the changes were submitted for authorization. Click **OK**.

Note: The authorization process may take a long time. You can continue working on other views while it proceeds.

4 The updated view becomes the new authorized state of the view.

Reference

🙎 State Management User Interface

This section includes (in alphabetical order):

- ➤ Authorize Selected Differences in Service Dialog Box on page 140
- ➤ CI Details Dialog Box on page 141
- ➤ Policy Details Dialog Box on page 142
- ➤ Sort CIs Dialog Box on page 143
- ➤ State Management Page on page 145
- ➤ View Topology Dialog Box on page 149

🍳 Authorize Selected Differences in Service Dialog Box

This dialog box enables you to authorize selected changes to CIs in a view.

To access	Click Authorize Selected Changes in the left pane of the State Management page.
Important information	By clicking Submit , you are authorizing the proposed changes. This transforms the actual state of the CI into its new authorized state.
	Note: You cannot authorize a CI whose parent CI is not contained in the view.

UI Elements (A-Z)	Description
<list changes="" of="" proposed=""></list>	The list of changes that were marked for authorization in the Composite CIs pane.

CI Details Dialog Box

This dialog box enables you to view details of a selected CI.

To access	Click Show Composite CI Details are double-click a CI
	in the Composite CIs pane or Topology pane.

UI Elements (A-Z)	Description
Q	Click Show Only Differences to display only those attributes where the value differs between the two states displayed.
a	Click Next Difference to jump to the next component CI in the list.
	In the Attributes tab, toggle between displaying all attributes for the selected CI and displaying only the managed attributes.
= / =	Indicates a difference between the value in the two states displayed.
Attributes tab	The left pane displays the CI name. For composite CIs, you can expand a CI entry to display the individual component CIs.
	The right pane displays the attribute names and values for this CI. Both the actual values and the authorized values of the attributes are displayed.

Chapter 11 • State Management

UI Elements (A-Z)	Description
Incoming Relationships tab	Displays all the relationships of the selected CI in the incoming direction.
	For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.
Outgoing Relationships tab	Displays all the relationships of the selected CI in the outgoing direction.
	For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.

Policy Details Dialog Box

This dialog box enables you to display detailed information on CI policy breaches for baseline policy rules.

To access	Click Show Policy Details in the Policy Details pane.
Important information	The Policy Details dialog box is only relevant when a CI with a baseline policy is selected.
	Click the small arrow next to the icon and select the dialog box displaying policy details for the actual or authorized state.

User interface elements are described below:

UI Elements (A-Z)	Description
<u> </u>	Toggle between displaying all attributes and only those with breaches, for the selected CI.
a	Jump to the next breach in the list.
<left pane=""></left>	Displays the CI names and their respective baselines. For composite CIs, click the arrow to expand it and display the component CIs. For each CI for which there is a baseline value, an icon indicates whether it is in breach of the policy or not. Note: A CI is considered in breach of a policy if at least
	one of its attributes breaches the policy or if it does not match a CI in the baseline.
<right pane=""></right>	Displays the attribute names and values, as well as the baseline values, for the CI selected in the left pane. For attributes with baseline values, an icon indicates whether or not the selected CI is in breach of the policy with reference to that attribute.

Sort Cls Dialog Box

This dialog box enables you to sort the CI list in the Composite CIs pane.

To access	Click the Sort Cls button from the toolbar in the Composite Cls pane.
Important information	After sorting the CIs, click the Refresh button for the change to take effect.

Chapter 11 • State Management

UI Elements (A-Z)	Description
1	Move all the fields from the Available Sort Fields pane to the Selected Sort Fields pane.
⇒	Move the selected field from the Available Sort Fields pane to the Selected Sort Fields pane.
×	Remove the selected field from the Selected Sort Fields pane.
*	Remove all the fields from the Selected Sort Fields pane.
1	Move a selected field up or down within the Selected Sort Fields list.
	For each selected field, select Ascending or Descending for the sort direction.
Available Sort Fields	All the available fields by which to sort the CIs.
Selected Sort Fields	The selected fields by which to sort the CIs. The sort order follows the order of the list.

🙎 State Management Page

This page enables you to display a view in the actual state and select changes to authorize.

To access	Select Application > State Management.
Important information	The State Management page includes the following panes:
	➤ Composite CIs. Displays a list of CIs in the view with icons indicating the types of changes that occurred for each CI between the actual and authorized states.
	➤ Topology. Displays a topology map of the CIs in the view with icons indicating the types of changes that occurred for each CI between the actual and authorized states. For details, see "Topology Pane" on page 172. Note: In inventory mode, the Topology pane is called Related CIs.
	➤ Comparison Details. Displays details of the changes for the selected CI. Click the relevant tab to view the change details for the selected CI.
	➤ Filter. In inventory mode, the Filter pane enables you to filter the composite CI list. For details, see "Filter Pane" on page 174.
	Select the changes to authorize by clicking the check boxes next to the relevant CIs in the list in the Composite CIs pane.

UI Elements (A-Z)	Description
A_{k}	Click Select View to select a different view to open on the State Management page.
III	Click to change the display to inventory mode.
il.	Click to change the display to topology mode.

UI Elements (A-Z)	Description
£	Click Export Report to choose a report to export and the export format for the data.
	The available reports are:
	➤ State Comparison Report
	➤ Policy Analysis Report
	The available format options are:
	➤ Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet.
	➤ PDF. The table data is exported in PDF format.
	➤ CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
O	Click Refresh to refresh the CI list.

Composite Cls Pane

UI Elements (A-Z)	Description
€ _D	Click Select All to select all the CI entries.
8	Click Clear All to clear all the CI entries.
5↑	Click Sort Composite CIs to open the Sort CIs dialog box which enables you to sort the CI list by different sort fields.
	Click Show Composite CI Details to open the CI Details dialog box which displays the managed attributes of the selected CI.
∠ *	Click Authorize Selected Changes to approve the selected changes and change their status to authorized.
	Note: This button is only enabled if you have selected at least one CI in the list.

UI Elements (A-Z)	Description
0	Indicates that the selected CI was added to view.
0	Indicates that the selected CI was removed from the view.
۵	Indicates that the selected CI was updated.
▼	Indicates that the CI is in breach of at least one policy in the actual state.
F₩	Indicates that the CI is in breach of at least one policy in the authorized state.
•	Indicates that the CI satisfies all of its policies in the actual state.
ìo	Indicates that the CI satisfies all of its policies in the authorized state.
<list cls="" of=""></list>	The list displays all CIs currently or previously in the view. The icons appearing to the right of the CI indicate the changes that have occurred to this CI and its policy status. Click the triangle next to the CI to display each of the changes in a separate row.
	Hold the pointer over a CI in the list to display a tooltip containing the name and type of the CI.
	If no icons appear after a CI, it indicates that no changes have occurred to that CI.
	Click the check box next to a selected change to mark it for authorization.

Comparison Details Pane

Important information	When you select a CI in the Composite CIs pane or the Topology pane, the tabs that contain data for that CI are marked with an asterisk (*).
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Chapter 11 • State Management

UI Elements (A-Z)	Description
Changed Attributes tab	The left pane displays the CI name and the change type icon. For composite CIs, the component CIs with changed attributes are displayed.
	The right pane displays the attribute names and actual and authorized values for the CI selected in the left pane.
Changed Outgoing Relationships tab	The left pane displays the CIs to which the selected CI is related by an outgoing relationship. Click the arrow to expand each entry and display the relationships of the component CIs. For each relationship, the relationship type is displayed and an icon indicates the relevant type of change.
	The right pane displays the source, target, and direction for the relationship selected in the left pane.
Policy Details tab	In the Policy List pane , the following data is displayed for each policy rule:
	➤ the policy rule name
	➤ the rule status in the actual state
	➤ the rule status in the authorized state
	➤ the related CI
	The Details pane displays the details for the policy rule selected in the Policy List pane, including the rule name, description, type, and validation dates.
Related RFCs tab	The left pane displays the request for change ID and the related CI.
	The right pane displays details of the request for change.

View Topology Dialog Box

This page displays the topology map in a large format.

To access	Click the Show Topology in Full Screen button 📮 from
	the Topology pane toolbar.

UI Elements (A-Z)	Description
₫ 2	Click the small arrow next to the Highlight Topology Nodes button to open the menu.
	Select the display mode for the map:
	➤ Highlight Actual State
	➤ Highlight Authorized State
	➤ Highlight Both
<topology pane<br="">toolbar buttons></topology>	The toolbar buttons from the Topology pane are also available in the View Topology dialog box. For details, see "Topology Pane" on page 172.

Chapter 11 • State Management

12

Historical Comparison

This chapter includes:

Concepts

➤ Snapshots on page 152

Tasks

➤ Compare Snapshots on page 153

Reference

➤ Historical Comparison User Interface on page 154

Concepts



Snapshots

A **snapshot** of a view is a documentation of a state of a view at a particular time which is recorded as part of the view history. Configuration Manager automatically records a snapshot of the actual and authorized states of a view at the time of each authorization. In addition, Configuration Manager periodically checks for changes in managed views and takes a snapshot of the actual or authorized state when a change is identified. Snapshots can be useful in problem management by providing accurate information about a system from the time an incident occurred.

An example of an application of snapshots is where a snapshot is taken after an installation, and later compared to the original configuration baseline.

The Actual State Historical Comparison module enables you to display a comparison of two snapshots of a view in a the actual state. The Authorized State Historical Comparison module enables you to display a comparison of two snapshots in the authorized state. In both modules, the topology map and CI list display all CIs included in the view in either snapshot. The CIs with differences have icons indicating the changes in the CI between the two snapshots.

The snapshots for comparison can be selected from a list of previously saved snapshots as well as the current (actual or authorized) state of the view. For details on selecting snapshots, see "Select Snapshot to View Dialog Box" on page 161.

Tasks



🔭 Compare Snapshots

This task describes how to select two snapshots of the actual or authorized state of a view and compare them.

To compare snapshots:

- 1 In Actual State Historical Comparison or Authorized State Historical Comparison, click the first selection box in the toolbar. The Select Snapshot to View dialog box opens.
- **2** Select a snapshot from the list and click **OK**.
- **3** Click the second selection box in the toolbar. Select a different snapshot and click **OK**.
- **4** The data displayed in the topology map reflects the difference between the two selected snapshots of the view.

Reference

Nistorical Comparison User Interface

This section includes (in alphabetical order):

- ➤ Actual State Historical Comparison Page on page 155
- ➤ Authorized State Historical Comparison Page on page 159
- ➤ CI Details Dialog Box on page 159
- ➤ Policy Details Dialog Box on page 160
- ➤ Select Snapshot to View Dialog Box on page 161
- ➤ Sort CIs Dialog Box on page 162
- ➤ View Topology Dialog Box on page 163

Actual State Historical Comparison Page

This page enables you to compare two snapshots of a view in the actual state.

To access	Select Application > Historical Comparison > Actual State.
Important information	The Actual State Historical Comparison page includes the following panes:
	➤ Composite Cls. Displays a list of CIs in the view with icons indicating the types of changes that occurred for each CI between the two selected snapshots.
	➤ Topology. Displays a topology map of the CIs in the view with icons indicating the types of changes that occurred for each CI between the two selected snapshots. For details, see "Topology Pane" on page 172. Note: In inventory mode, the Topology pane is called Related CIs.
	➤ Comparison Details. Displays details of the changes for the selected CI. Click the relevant tab to view the change details for the selected CI.
	➤ Filter. In inventory mode, the Filter pane enables you to filter the composite CI list. For details, see "Filter Pane" on page 174.

UI Elements (A-Z)	Description
A_{k}	Click Select View to select a different view to open on the Actual State Historical Comparison page.
Ш	Click to change the display to inventory mode.
II.	Click to change the display to topology mode.

Chapter 12 • Historical Comparison

UI Elements (A-Z)	Description
<compare between="" snapshots=""></compare>	Select the two snapshots you want to compare by clicking the snapshot selection boxes to open the Select snapshot for comparison dialog box.
0	Click Edit Comments to edit the comments for the selected snapshot.
△	Click the arrows to jump to the previous or the next pair of snapshots.
*	Click Export Report to choose a report to export and the export format for the data.
	The available reports are:
	➤ State Comparison Report
	➤ Policy Analysis Report
	The available format options are:
	➤ Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet.
	➤ PDF . The table data is exported in PDF format.
	➤ CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
S	Click Refresh to refresh the CI list.

Composite Cls Pane

UI Elements (A-Z)	Description
5↓	Click Sort Composite CIs to open the Sort CIs dialog box which enables you to sort the CI list by different sort fields.
	Click Show Composite CI Details to open the CI Details dialog box which displays the managed attributes of the selected CI.
•	Indicates that the selected CI was added to view.
Θ	Indicates that the selected CI was removed from the view.
۵	Indicates that the selected CI was updated.
▼	Indicates that the CI is in breach of at least one policy in the primary snapshot.
₹	Indicates that the CI is in breach of at least one policy in the secondary snapshot.
•	Indicates that the CI satisfies all of its policies in the primary snapshot.
lo	Indicates that the CI satisfies all of its policies in the secondary snapshot.
<list cls="" of=""></list>	The list displays all CIs currently or previously in the view. The icons appearing to the right of the CI indicate the changes that have occurred to this CI and its policy status. Click the triangle next to the CI to display each of the changes in a separate row. Hold the pointer over a CI in the list to display a tooltip
	containing the name and type of the CI. If no icons appear after a CI, it indicates that no changes have occurred to that CI.

Comparison Details Pane

Important information	When you select a CI in the Composite CIs pane or the Topology pane, the tabs that contain data for that CI are
	marked with an asterisk (*).

UI Elements (A-Z)	Description
Changed Attributes tab	The left pane displays the CI name and change type icon. For composite CIs, the component CIs with changed attributes are displayed.
	The right pane displays the names and the primary and secondary snapshot attribute values for the CI selected in the left pane.
Changed Outgoing Relationships tab	The left pane displays the CIs to which the selected CI is related by an outgoing relationship. Click the arrow to expand each entry and display the relationships of the component CIs. For each relationship, the relationship type is displayed and an icon indicates the relevant type of change.
	The right pane displays the source, target, and direction for the relationship selected in the left pane.
Policy Details tab	In the Policy List pane , the following data is displayed for each policy rule:
	➤ the policy rule name
	➤ the rule status in the primary snapshot (Status)
	➤ the rule status in the secondary snapshot (Previous Status)
	➤ the related CI
	The Details pane displays the details for the policy rule selected in the Policy List pane, including the rule name, description, type, and validation dates.
Related RFCs tab	The left pane displays the request for change ID and the related CI.
	The right pane displays details of the request for change.

🍳 Authorized State Historical Comparison Page

This page enables you to compare two snapshots of a view in the authorized state.

To access	Select Application > Historical Comparison > Authorized State.
Important information	For details, see "Actual State Historical Comparison Page" on page 155.

CI Details Dialog Box

This dialog box enables you to view details of a selected CI.

To access	Click Show Composite CI Details are or double-click a CI
	in the Composite CIs pane or Topology pane.

UI Elements (A-Z)	Description
€	Click Show Only Differences to display only those attributes where the value differs between the two states displayed.
a	Click Next Difference to jump to the next component CI in the list.
	In the Attributes tab, toggle between displaying all attributes for the selected CI and displaying only the managed attributes.
- /-	Indicates a difference between the value in the two states displayed.

UI Elements (A-Z)	Description
Attributes tab	The left pane displays the CI name. For composite CIs, you can expand a CI entry to display the individual component CIs.
	The right pane displays the attribute names and values for this CI. The attribute values of the two compared snapshots are displayed.
Incoming Relationships tab	Displays all the relationships of the selected CI in the incoming direction.
	For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.
Outgoing Relationships tab	Displays all the relationships of the selected CI in the outgoing direction.
	For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.

Policy Details Dialog Box

This dialog box enables you to display detailed information on CI policy breaches for baseline policy rules.

To access	Click Show Policy Details in the Policy Details pane.
Important information	The Policy Details dialog box is only relevant when a CI with a baseline policy is selected.
	Click the small arrow next to the icon and select the dialog box displaying policy details for either of the selected snapshots.

Select Snapshot to View Dialog Box

UI Elements (A-Z)	Description
<u>~</u>	Toggle between displaying all attributes and only those with breaches, for the selected CI.
a	Jump to the next breach in the list.
<left pane=""></left>	Displays the CI names and their respective baselines. For composite CIs, click the arrow to expand it and display the component CIs. For each CI for which there is a baseline value, an icon indicates whether it is in breach of the policy or not.
	Note: A CI is considered in breach of a policy if at least one of its attributes breaches the policy or if it does not match a CI in the baseline.
<right pane=""></right>	Displays the attribute names and values, as well as the baseline values, for the CI selected in the left pane. For attributes with baseline values, an icon indicates whether or not the selected CI is in breach of the policy with reference to that attribute.

This dialog box enables you to select two snapshots to compare.

To access	Click one of the snapshot selection boxes from the toolbar.
Important information	Select a snapshot in the first selection box and then select another snapshot in the second selection box. A comparison of the two snapshots is displayed.
Relevant tasks	"Compare Snapshots" on page 153

Chapter 12 • Historical Comparison

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<calendar></calendar>	Select a date in the calendar.
<list of="" snapshots=""></list>	The list includes all snapshots taken of the selected view on the selected date.
Comments	Notes regarding the snapshot.
Creation Time	The time that the snapshot was taken.
Description	A brief description of the snapshot.

🙎 Sort Cls Dialog Box

This dialog box enables you to sort the CI list in the Composite CIs pane.

To access	Click the Sort Cls button from the toolbar in the Composite Cls pane.
Important information	After sorting the CIs, click the Refresh button for the change to take effect.

UI Elements (A-Z)	Description
***	Move all the fields from the Available Sort Fields pane to the Selected Sort Fields pane.
⇒	Move the selected field from the Available Sort Fields pane to the Selected Sort Fields pane.
×	Remove the selected field from the Selected Sort Fields pane.
*	Remove all the fields from the Selected Sort Fields pane.

UI Elements (A-Z)	Description
1	Move a selected field up or down within the Selected Sort Fields list.
	For each selected field, select Ascending or Descending for the sort direction.
Available Sort Fields	All the available fields by which to sort the CIs.
Selected Sort Fields	The selected fields by which to sort the CIs. The sort order follows the order of the list.

View Topology Dialog Box

This page displays the topology map in a large format.

To access	Click the Show Topology in Full Screen button 📮 from
	the Topology pane toolbar.

UI Elements (A-Z)	Description
T.	Click the small arrow next to the Highlight Topology Nodes button to open the menu.
	Select the display mode for the map:
	➤ Highlight <primary snapshot=""></primary>
	➤ Highlight <secondary snapshot=""></secondary>
	➤ Highlight Both
<topology pane<br="">toolbar buttons></topology>	The toolbar buttons from the Topology pane are also available in the View Topology dialog box. For details, see "Topology Pane" on page 172.

Chapter 12 • Historical Comparison

13

Configuration Explorer

This chapter includes:

Concepts

➤ Configuration Explorer Overview on page 166

Reference

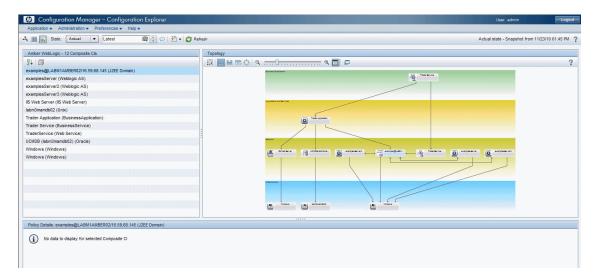
➤ Configuration Explorer User Interface on page 168

Concepts



Configuration Explorer Overview

The Configuration Explorer module enables you to survey the current status of your IT environment in either the actual or authorized state. It also enables you to display a saved snapshot of a managed view in the actual or authorized state. You can view CI and policy information for the view and check if the view's policies are satisfied or in breach.



The CIs of the view are listed in the Composite CIs pane and a topology map of the view is displayed in the Topology pane. You can specify the layout of the topology map, including the option to organize the CIs in the map by layer or classification. Also note that only the composite CIs of the view appear in the topology map, however, you can drill down to the component CIs using the CI Details dialog box. This makes the topology map much simpler and easier to read.

The CIs for which policies are defined have icons indicating the CI's policy status. Details of any policy breaches of the view's CIs are displayed in the Policy Details pane.

For details on the Configuration Explorer user interface, see "Configuration Explorer User Interface" on page 168.

Reference



🍳 Configuration Explorer User Interface

This section includes (in alphabetical order):

- ➤ CI Details Dialog Box on page 168
- ➤ Configuration Explorer Page on page 170
- ➤ Policy Details Dialog Box on page 175
- ➤ Select Snapshot to View Dialog Box on page 176
- ➤ Sort CIs Dialog Box on page 176
- ➤ View Topology Dialog Box on page 177

🙎 CI Details Dialog Box

This dialog box enables you to view details of a selected CI.

To access	Click Show Composite CI Details or double-click a CI
	in the Composite CIs pane or Topology pane.

UI Elements (A-Z)	Description
a	Click Next Difference to jump to the next component CI in the list.
	In the Attributes tab, toggle between displaying all attributes for the selected CI and displaying only the managed attributes.

UI Elements (A-Z)	Description
Attributes tab	The left pane displays the CI name. For composite CIs, you can expand a CI entry to display the individual component CIs. The right pane displays the attribute names and values for this CI.
Incoming Relationships tab	Displays all the relationships of the selected CI in the incoming direction. For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.
Outgoing Relationships tab	Displays all the relationships of the selected CI in the outgoing direction. For composite CIs, you can expand a CI entry to display the individual component CIs. When you select one of the component CIs, the Internal Relationship Path Details pane at the bottom of the dialog box displays more detailed information about the relationship.

🙎 Configuration Explorer Page

This page enables you to display a snapshot of a view in the actual or authorized state.

To access	Select Application > Configuration Explorer
Important information	The Configuration Explorer page includes the following panes:
	➤ Composite Cls. Displays a list of CIs in the view with icons indicating the policy status for each CI.
	➤ Topology. Displays a topology map of the CIs in the view with icons indicating the policy status for each CI. Note: In inventory mode, the Topology pane is called Related CIs.
	➤ Policy Details. Displays details of policy breaches and satisfaction for the selected CI.
	➤ Filter. In inventory mode, the Filter pane enables you to filter the composite CI list.
	The Composite CIs pane and the Topology pane are linked; when you select a CI in one pane, it is automatically selected in the other.

UI Elements (A-Z)	Description
Ak	Click Select View to select a different view to open on the Configuration Explorer page.
=	Click to change the display to inventory mode.
il.	Click to change the display to topology mode.

UI Elements (A-Z)	Description
State: Actual ▼	 Select the state of the view to display: Actual. Displays all CIs and relationships in the actual state of the view. Authorized. Displays all CIs and relationships in the authorized state of the view.
	Click Select Snapshot to open the Select Snapshot to View dialog box which enables you to select a saved snapshot of the view.
Q	Click Edit Comments to edit the comments for the selected snapshot.
	Click Export Report to choose a format for the Policy Analysis report data. The available data format options are: > Excel. The table data is formatted as an .xls (Excel) file that can be displayed in a spreadsheet. > PDF. The table data is exported in PDF format. > CSV. The table data is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet.
S	Click Refresh to refresh the CI list.

Composite Cls Pane

UI Elements (A-Z)	Description
₽+	Click Sort Composite Cls to open the Sort CIs dialog box which enables you to sort the CI list by different sort fields.
	Click Show Composite CI Details to open the CI Details dialog box which displays the managed attributes of the selected CI.

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UI Elements (A-Z)	Description
▼	Indicates that the CI is currently in breach of at least one policy.
•	Indicates that the CI is currently satisfying all of its policies.
<list cls="" of=""></list>	The list displays all CIs currently or previously in the view.
	Hold the pointer over a CI in the list to display a tooltip containing the name and type of the CI.
	If no icons appear next to a CI, it indicates that no policies are defined for that CI.

Topology Pane

UI Elements (A-Z)	Description
<u>a</u>	Click Show Topology Overview Display to toggle between displaying and hiding the Topology Overview Display.
	Click Layers Layout to display the topology map in a layout consisting of CIs grouped according to their layer.
	Click Hierarchical Layers Layout to display the topology map in a layout consisting of CIs grouped according to their layer arranged in a hierarchy.
88	Click Classification Layout to display the topology map in a layout consisting of CIs grouped according to their classification.
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Click Circular Layout to display the topology map in a circular layout.
Q @	Use the zoom control bar to zoom in or out of the topology map.
×	Click Fit to Window to resize the topology map to the size of the Topology Pane.

UI Elements (A-Z)	Description
	Click Show Topology in Full Screen to display the topology map in the View Topology box.
<topology overview<br="">Display></topology>	The Topology Overview Display appears in the upper right corner of the pane. It indicates which portion of the topology map is displayed in the Topology pane. This is useful for large views or when you zoom in on a view.

Policy Details Pane

UI Elements (A-Z)	Description
1	Click to open the Policy Details dialog box. Note: This button is only active when a baseline rule is selected in the policy list.
Details pane	Displays the details for the policy rule selected in the Policy List pane, including the rule name, description, type, and validation dates.
Policy List pane	Displays all the policy rules defined for the selected CI. For each rule, the name, status in the selected state, and related CIs are displayed.

Filter Pane

UI Elements (A-Z)	Description
Any Change	Filter the CIs by their change status. When you select Yes , only CIs with changes appear in the view display. When you select No , only CIs without changes appear in the view display.
	Note: This filer is not available in the Configuration Explorer module.
CI Name	Filter the CIs by CI name. Only the selected CIs appear in the view display.
	Enter a CI name manually in the value box or click More to open a dialog box which enables you to select CIs from a list.
СІ Туре	Filter the CIs by CI type. Only CIs of the selected CI types appear in the view display.
	Click More to open a dialog box which enables you to select available CI types from a list.
Managed Status	Filter the CIs by their management status. Only CIs of the selected status appear in the view display.
	Select Managed or Not Managed.
Policies Status	Filter the CIs by their policy status. Only CIs of the selected status appear in the view display.
	Select Breaching or Not Breaching.
Policy Name	Filter the CIs by the names of their policies. Only CIs affected by the selected policies appear in the view display.
	Click More to open a dialog box which enables you to select available policies from a list.

Policy Details Dialog Box

This dialog box enables you to display detailed information on CI policy breaches for baseline policy rules.

To access	Click Show Policy Details in the Policy Details pane.
Important information	The Policy Details dialog box is only relevant when a CI with a baseline policy is selected. The dialog box displays policy details for the selected state (actual or authorized).

UI Elements (A-Z)	Description
<u>~</u>	Toggle between displaying all attributes and only those with breaches, for the selected CI.
a	Jump to the next breach in the list.
<left pane=""></left>	Displays the CI names and their respective baselines. For composite CIs, click the arrow to expand it and display the component CIs. For each CI for which there is a baseline value, an icon indicates whether it is in breach of the policy or not. Note: A CI is considered in breach of a policy if at least one of its attributes breaches the policy or if it does not match a CI in the baseline.
<right pane=""></right>	Displays the attribute names and values, as well as the baseline values, for the CI selected in the left pane. For attributes with baseline values, an icon indicates whether or not the selected CI is in breach of the policy with reference to that attribute.

Select Snapshot to View Dialog Box

This dialog box enables you to select a snapshot to display.

To access	Click one of the snapshot selection boxes from the toolbar.
	toolbal.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<calendar></calendar>	Select a date in the calendar.
<list of="" snapshots=""></list>	The list includes all snapshots taken of the selected view on the selected date.
Comments	Notes regarding the snapshot.
Creation Time	The time that the snapshot was taken.
Description	A brief description of the snapshot.

Sort Cls Dialog Box

This dialog box enables you to sort the CI list in the Composite CIs pane.

To access	Click the Sort Cls button from the toolbar in the Composite Cls pane.
Important information	After sorting the CIs, click the Refresh button for the change to take effect.

User interface elements are described below:

UI Elements (A-Z)	Description
***	Move all the fields from the Available Sort Fields pane to the Selected Sort Fields pane.
>	Move the selected field from the Available Sort Fields pane to the Selected Sort Fields pane.
×	Remove the selected field from the Selected Sort Fields pane.
*	Remove all the fields from the Selected Sort Fields pane.
† \$	Move a selected field up or down within the Selected Sort Fields list.
	For each selected field, select Ascending or Descending for the sort direction.
Available Sort Fields	All the available fields by which to sort the CIs.
Selected Sort Fields	The selected fields by which to sort the CIs. The sort order follows the order of the list.

💐 View Topology Dialog Box

This page displays the topology map in a large format.

To access	Click the Show Topology in Full Screen button 📮 from
	the Topology pane toolbar.

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UI Elements (A-Z)	Description
<topology buttons="" pane="" toolbar=""></topology>	The toolbar buttons from the Topology pane are also available in the View Topology dialog box. For details, see "Topology Pane" on page 172.