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MERCURY BUSINESS AVAILABILITY CENTER™

Working with the CMDB

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Mercury Business Availability Center

Working with the CMDB

Version 6.1

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Mercury Business Availability Center, Version 6.1
Working with the CMDB

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Welcome to Working with the CMDB

This guide describes how to work with the Mercury Universal CMDB.

How This Guide Is Organized

The guide contains the following chapters:

Chapter 1 Introduction to CMDB Administration

Introduces the Mercury Universal CMDB, configuration items, and the tabs in CMDB Administration.

Chapter 2 Using View Explorer

Describes how to work with View Explorer to locate configuration items.

Chapter 3 Sharing the Mercury Universal CMDB Environment

Describes the additional Mercury Application Mapping functionalities you can use with Mercury Business Availability Center and the components it shares with Mercury Application Mapping when using the shared Mercury Universal CMDB environment.

Chapter 4 CMDB Logs Description

Describes various CMDB log files and how you can use them to perform basic troubleshooting.

Who Should Read This Guide

This guide is intended for the following users of Mercury Business Availability Center:

- Mercury Business Availability Center administrators
- Mercury Business Availability Center platform administrators
- Mercury Business Availability Center application administrators
- Mercury Business Availability Center data collector administrators

Readers of this guide should be knowledgeable about enterprise system administration, have familiarity with ITIL concepts, and be knowledgeable about Mercury Business Availability Center in general and Mercury Application Mapping technology specifically.

Getting More Information

For information on using and updating the Mercury Business Availability Center Documentation Library, reference information on additional documentation resources, typographical conventions used in the Documentation Library, and quick reference information on deploying, administering, and using Mercury Business Availability Center, refer to *Getting Started with Mercury Business Availability Center*.

1

Introduction to CMDB Administration

CMDB Administration contains administration tools that enable you to populate and manage the Mercury Universal CMDB, and to create service views to make the CMDB information available to other applications in Mercury Business Availability Center.

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Introducing CMDB Administration

You use the tools in CMDB Administration to:

- manage repositories contained in the Mercury Universal CMDB.
- manage the processes that automatically create configuration items (CIs) in the CMDB: discovery patterns and adapter sources.
- manually create CIs to add to the CMDB.
- create and manage views that organize the CIs into meaningful hierarchies for viewing in other Mercury Business Availability Center applications.

For more information on the CMDB Administration tools and their functions, see "CMDB Administration Components" on page 4.

The views are displayed in the IT Universe Manager tab and in other Mercury Business Availability Center applications using View Explorer. For details, see "Using View Explorer" on page 7.

What Is the CMDB?

The Mercury Universal CMDB (Configuration Management Database) is the central repository for the configuration information that is gathered from the various Mercury Business Availability Center and third-party applications and tools.

The CMDB contains all the configuration items (CIs) and relationships created in Mercury Business Availability Center, whether created automatically from the discovery process or source adapters, or manually using IT Universe Manager. The CIs and relationships together represent a model of the IT universe in which your business functions.

The IT universe model can be very large, containing thousands of CIs. To facilitate the management of your CIs, you work with the CIs in a service view that provides a subset of the overall IT universe model.

You use the service views (the factory service views supplied with Mercury Business Availability Center, or service views defined manually in IT Universe Manager and View Manager Administration) to display and manage the CIs and relationships in the CMDB. The views enable you to focus on specific IT areas and are available (via View Explorer) in different Mercury Business Availability Center applications, such as Dashboard and Service Level Management.

The CMDB also contains the TQL definitions that are used to query and retrieve data from the CMDB, for presentation in the pattern views (views based on TQLs); and the configuration item type (CIT) model, a repository for the XML definitions used to define the CIs and relationships.

In addition, the CMDB contains the object repositories for the various additional data added to CIs in Dashboard and Service Level Management, such as KPIs, context menus, and tooltips. For more information on these repositories, see "Introduction to Mercury Business Availability Center Repositories" in *Application Administration*.

What Are Configuration Items?

A CI is a component of the CMDB that represents a physical or logical entity in the system, for example, representing hardware, software, services, business processes, customers, and so forth. The CIs are part of the IT universe model in the CMDB, where they are organized into a hierarchical format based on the interdependencies in your organization's IT environment. The interdependencies are called relationships in Mercury Business Availability Center.

Each CI belongs to a configuration item type (CIT); the CIT defines a category of CIs used in Mercury Business Availability Center. The CITs provide templates for creating the CIs and associated properties in each category.

You view and manage the CIs in the CMDB using service views. Each service view provides a mirror for part of the IT universe model, so that the changes you make in the view are actually changes to the IT universe model.

Managing CMDB

- **Shared CMDB** – Using a shared CMDB environment enables you to use Mercury Application Mapping functionalities and share Mercury Application Mapping components. For details, see Chapter 3, "Sharing the Mercury Universal CMDB Environment."
- **CMDB Log Files** – CMDB log files allow you to perform basic troubleshooting of common CMDB runtime problems. Additionally, tracking CMDB behavior in the log files lets you examine the effects of changes made in the system. For details, see Chapter 4, "CMDB Logs Description."

Note: You can modify certain CMDB configuration parameters in the Infrastructure Settings page: select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, click **Foundations**, and select **CMDB**. If you require information on the CMDB configuration parameters, contact Mercury Customer Support.

CMDB Administration Components

CMDB Administration contains tabs for the following administration tools:

IT Universe Manager Administration

The IT Universe Manager tab enables you to manage the CIs in the IT universe model, through service views that display a subset of the model.

From the IT Universe Manager tab, you can create a new instance view, and populate it with CIs that already exist in the CMDB. Within a view, you can also manually create new CIs and relationships to add to the CMDB and the view.

You can edit properties for the CIs and relationships, including properties that influence how the CI is presented in the Dashboard application, such as location, context menu, and impact on KPI calculations.

IT Universe Manager Administration is described in *IT Universe Administration*.

View Manager Administration

The View Manager enables you to manage the folder system that contains the service views, and to create and manage the two types of service views: pattern views and instance views.

- Pattern views are based on TQL queries, which are a series of rules and definitions for displaying query results. When you activate the TQL query, it retrieves information from the CMDB that matches the TQL you defined, and populates the pattern view with the retrieved CIs.
- Instance views are created manually. You can build instance views in View Manager by adding CIs that exist in the CMDB directly to the view.

View Manager Administration is described in *View Manager Administration*.

Discovery Manager Administration

The Discovery Manager enables you to run the discovery process, used to populate the CMDB with CIs representing the physical elements of your organization's IT universe.

The Discovery Manager contains discovery modules, where each module contains one or more discovery patterns required for discovering a specific group of CIs. You run the discovery process by activating and editing one or more discovery patterns.

The discovery modules have corresponding pattern views that are provided with Mercury Business Availability Center. These views are automatically populated with the discovered CIs that match the TQL query for the pattern view.

Discovery Manager Administration is described in *Discovery Manager Administration*.

Source Manager Administration

The Source Manager enables you to manage the source adapters that create CIs and relationships in the CMDB to represent the monitor objects in Monitor Administration. The source adapters also map the incoming data samples from the Mercury Business Availability Center data collectors and third-party sources to the created CIs in the CMDB.

You can define custom sources as required for your organization, and modify adapter templates to produce customized hierarchies.

Source Manager Administration is described in *Source Manager Administration*.

CI Type Manager Administration

The CI Type Manager enables you to create and manage the CITs in the CIT repository in the CMDB. The CIT repository contains the definitions of all the CITs used to create CIs in Mercury Business Availability Center, and definitions of the relationships that define the connections between CIs.

Each CIT functions as a template for creating each CI and relationship.

CI Type Manager Administration is described in *CI Type Manager Administration*.

2

Using View Explorer

Mercury Business Availability Center View Explorer enables you to locate configuration items (CIs) in the application with which you are working, for example, Dashboard, Service Level Management, or IT Universe Manager. View Explorer also enables end users to view IT elements and the relationships between them, to select CIs, and to perform operations on the CIs.

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View Explorer

View Explorer presents the elements of the IT universe model in the Mercury Universal CMDB through the medium of the service views. Mercury Business Availability Center displays View Explorer in the left pane of many of the applications and windows.

When a user selects a view in View Explorer, the configuration items (CIs) contained in the view are displayed, organized in a hierarchical tree format according to the relationships defined between the CIs. A view may be empty if no CIs have been added to it (for an instance view), or if no CIs were found matching the TQL query (for a pattern view). For details on views and their definitions, see *View Manager Administration*.

You use View Explorer to locate CIs. You can select a view and browse through the list of CIs, or you can search for a CI (if you do not know in which view the CI is included).

If, in addition to using the Search feature in View Explorer, you display the Filter tab in the right pane of the Dashboard, the resulting filtered report displays only the CIs that have been located by the search, filtered by the selected filter in the Filter tab. You can:

- **search for CIs in the current view** – View Explorer lists all the CIs corresponding to the search criteria. The Filters tab displays a filtered list of the CIs and the CI's children CIs corresponding to the search criteria filtered by the active filter and the current operational status in each KPI for each one of those CIs.

  For details, see "Searching For CIs in the Current View" in *Using Dashboard*.

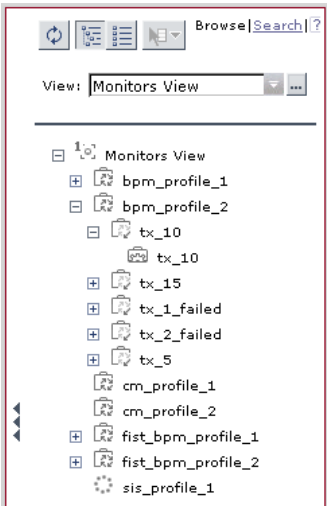
- **search for CIs in more than one view** – View Explorer lists all the CIs and the views in which they are included, corresponding to the search criteria. The Filters tab displays a filtered list of the CIs corresponding to the search criteria filtered by the active filter and the current operational status in each KPI for each of those CIs.

  For details, see "Searching for CIs in More Than One View" in *Using Dashboard*.

Note: The list of views in View Explorer includes only the views for which you have the necessary permissions set in Permissions Management (**Admin** > **Platform** > **Users and Permissions** > **Permissions Management**). In addition, when using View Explorer in IT Universe Manager, Dashboard, or Service Level Management, the list of views includes only those views that are assigned to that application (for details, see "Defining View Properties to Create Views" in *View Manager Administration*).

Out-of-the-box views for which you do not have a license may appear in the views list, but these views will not contain CIs.

View Explorer includes the following components:



The navigation and display palette:



Refresh – To refresh the list of CIs (if new CIs have been added to a view) or to refresh the View list (if Views have been newly defined), click the **Refresh** button.





Change display – To change the way a view is displayed, that is, in the type of hierarchy, click either the **Related CIs tree structure** or **CI type tree structure** button.

- If the **Related to tree structure** hierarchy is chosen, the CIs are displayed below the View list organized by view.
- If the **CI type tree structure** hierarchy is chosen, the CIs are displayed below the View list organized by CIT.



Choose action – To display all the actions you can perform on a selected CI, select the CI and click the **Actions** button. For details, see "The Actions Menu" on page 17. You can also display the actions menu by right-clicking a CI.

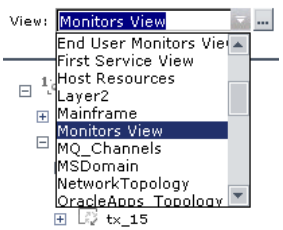
Browse a view – Choose **Browse** if you know the location of a CI. For details, see "Locating a Configuration Item by Browsing" on page 11.

Search for a CI – Choose **Search** if you do not know the location of a CI. For details, see "Locating a Configuration Item by Searching" on page 12.



Help – To display the help for View Explorer, click the **Help** button.

View – Select the view that includes the CI you want to locate. The CIs are displayed below the View list. The best way to find a view is to place the cursor in the list and begin typing the view name. Mercury Business Availability Center completes the view name – if the first few letters that you type match an existing entry. If the names of several views begin with those letters, you can scroll down the list to choose the appropriate view.



For other methods of browsing for CIs, see "Locating a Configuration Item by Browsing" on page 11.

CIT name – To determine to which CIT a CI belongs, hold the cursor over the CI. The CIT name is displayed in a tooltip.

Close/Open – To close or open the View Explorer pane, click the **Close/Open** button.



Locating a Configuration Item by Browsing

If you know in which view a CI is located, you can display the CI in View Explorer.

To locate a CI by browsing:

1 To display the appropriate view, choose the view from the list.

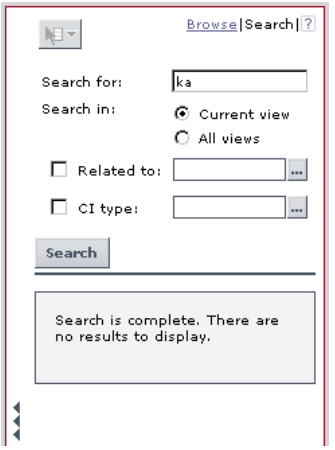


To locate a view according to its folder, click the button to open the Select View window (where views are organized by folder). For details, see "Selecting a Configuration Item by View" on page 16.

2 Select the CI.

Locating a Configuration Item by Searching

You can search for a configuration item (CI) using the View Explorer search function to filter the list of CIs that Mercury Business Availability Center displays. This is useful if you want to locate a specific CI in a lengthy list. In the View Explorer Browse pane, click the **Search** link.



Note: If the search criterion does not find a suitable CI, Mercury Business Availability Center displays the message **Search is complete. There are no results to display**.

To locate a CI if you know the CI's name:

1. In the Search window, enter the name of the CI (or part of the name) in the **Search for** box.
2. Choose to search either in the current view or in all views.
3. Click the **Search** button to display the results below.
4. In the lower pane, you can sort the search results by clicking the appropriate heading. Locate and right-click the CI. Choose **Locate CI in View** from the menu to return to the Browse pane.

The right pane displays details of the CI you selected, in the context in which you are working.

Note for Service Level Management users: To return to the Service Level Management procedure for adding a CI to an SLA, see "Defining an SLA: Configuration Items" in *Application Administration*.

To locate a CI by searching for a related CI:



1 Select the **Related to** check box and click the button to open the Select Configuration Item window. For details, see "Finding a Related Configuration Item" on page 15.

The CI you selected is displayed in the Related to box.

2 In the Search pane, click the **Search** button to display the results below.

3 In the lower pane, you can sort the search results by clicking the appropriate heading. Locate and right-click the CI. Choose **Locate CI in View** from the menu to return to the Browse pane.

The right pane displays details of the CI you selected, in the context in which you are working.

Note for Service Level Management users: To return to the Service Level Management procedure for adding a CI to an SLA, see "Defining an SLA: Configuration Items" in *Application Administration*.

To locate a CI by searching for its CIT:



1 Select the **CI type** check box and click the button to open the Select Configuration Item Type window. For details, see "Finding a Configuration Item by Its Type" on page 15.

The CIT you selected is displayed in the **CI type** box.

2 In the Search pane, click the **Search** button to display the results below.

3 In the lower pane, you can sort the search results by clicking the appropriate heading. Locate and right-click the CI. Choose **Locate CI in View** from the menu to return to the Browse pane.

The right pane displays details of the CI you selected, in the context in which you are working.

Note for Service Level Management users: To return to the Service Level Management procedure for adding a CI to an SLA, see "Defining an SLA: Configuration Items" in *Application Administration*.

Finding a Related Configuration Item

You can search for CIs using the **Related to** box. **Related to** searches for CIs that have defined connections to the selected CI.

To find a related CI:

1 In the Select Configuration Item window, select the view and locate the CI.



To search for a view, click the button to open the Select View window. For details, see "Selecting a Configuration Item by View" on page 16.

The view you chose is displayed, together with its CIs.

2 Locate the CI for which you want to search.

3 Click **OK** to return to the Search pane, or click **Cancel** to close the window without selecting a CI.

4 Continue with in the procedure to locate a CI by searching for a related CI. For details, see step 2 on page 13.

Note for Service Level Management users: To return to the Service Level Management procedure for adding a CI to an SLA, see "Defining an SLA: Configuration Items" in *Application Administration*.

Finding a Configuration Item by Its Type

You can search for CIs using the **CI Type** box.

To find a CI by its CIT:

1 In the Select Configuration Item Type window, locate the CIT.

2 Click **OK** to return to the Search pane, or click **Cancel** to close the window without selecting a CIT.

3 Continue with in the procedure to locate a CI by searching for its CIT. For details, see step 2 on page 13.

Selecting a Configuration Item by View

Views in this window are organized by folder. For an explanation, see "Creating a New Folder" in *View Manager Administration*.

To select a view:

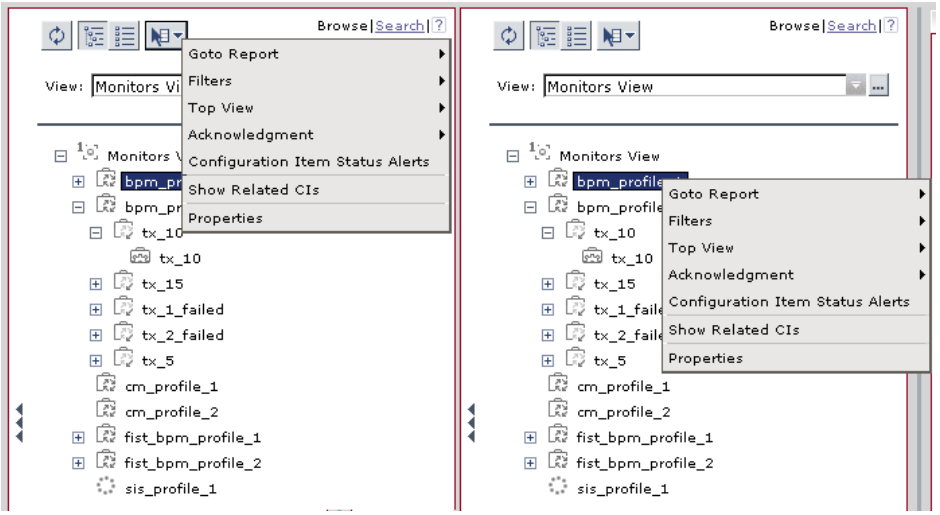
1. Locate the folder that includes the view you want to display and select the view.
2. Click **OK**, or click **Cancel** to close the window without selecting a view.

   You are returned to the Select Configuration Item window. Continue with step 2 of the procedure for finding a related configuration item. For details, see "Finding a Related Configuration Item" on page 15.

Note for Service Level Management users: To return to the Service Level Management procedure for adding a CI to an SLA, see "Defining an SLA: Configuration Items" in *Application Administration*.

The Actions Menu

You use the Actions menu to perform actions on a CI. Some of the Actions menu commands are specific to the application in which you are working. For example, when working in the Dashboard application, the menu includes the following commands:

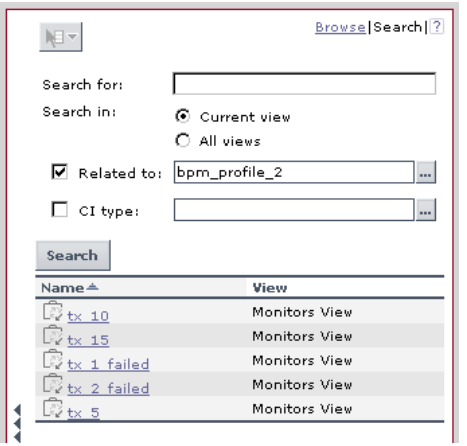


You display the Actions menu by selecting the CI and clicking the Actions menu, or by right-clicking the CI, as shown in the above example.

Two of the commands are available in all applications: **Show Related CIs**, described in “Show Related Configuration Items” on page 18 and **Properties**, described in “Configuration Item Properties” on page 19.

Show Related Configuration Items

You can view a list of the CIs in all views that are related to a CI by selecting **Show Related CIs** in the Actions menu. View Explorer changes to Search mode and displays a list of the related CIs (and the view in which each appears) in the lower pane.



Note: The list does not include relationships that exist in the CMDB but are not included in any view.

You can sort the list by clicking the appropriate heading. Click the link for a CI in the list to see information for that CI displayed in the right pane. Right-click a CI and select **Locate CI in View** from the menu to return to Browse mode with the focus changed to the selected CI in its view.

Configuration Item Properties

You view a CI's properties by selecting **Properties** in the Actions menu. Mercury Business Availability Center displays the General Properties window in read-only mode.

You can edit the CI properties in the **Admin** > **CMDB** > **IT Universe Manager** tab.

For details on CI properties, see "Configuration Item Properties" in *IT Universe Administration*.

View Explorer Configuration

Caution: Many of the settings in the Infrastructure Settings Manager should not be modified without first consulting Mercury Customer Support or your Mercury Services representative. Modifying certain settings can adversely affect the performance of Mercury Business Availability Center.

To access the Infrastructure Settings Manager, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**. Select the Foundations context and choose **View Explorer** from the list.

For details on editing infrastructure settings, see "Editing Infrastructure Settings" in *Platform Administration*.

Immediate Children Count – Number of children immediately displayed when expanding their parent's node in View Explorer.

Maximal Children Count – Maximum number of children displayed under their parent's node in View Explorer.

Maximal search results size – Maximum number of CMDB objects that can be returned in one search operation.

3

Sharing the Mercury Universal CMDB Environment

This chapter describes the additional Mercury Application Mapping functionalities you can use with Mercury Business Availability Center and the components it shares with Mercury Application Mapping when using the shared Mercury Universal CMDB environment.

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Understanding the Shared CMDB Environment

Using a shared CMDB environment enhances Mercury Business Availability Center with additional Mercury Application Mapping functionality.

It enables you to view some of the same information in Mercury Business Availability Center as in Mercury Application Mapping and access the same views (depending on the permissions you have been assigned). Once you are working in a shared environment, you can build pattern and instance views in one of the applications and it appears in both Mercury Business Availability Center and Mercury Application Mapping. You can access the shared views from either one of the applications. Only pattern views can be edited from both Mercury Business Availability Center and Mercury Application Mapping. Instance views can be edited from the application in which it was created.

You can also view the snapshots of views that you saved in Mercury Application Mapping in Mercury Business Availability Center.

Since the Discovery Manager is a component shared by both, you can perform a discovery in either Mercury Business Availability Center or Mercury Application Mapping and see the results in both clients.

The added functionalities provided by a shared CMDB environment are functionalities that are otherwise not available in Mercury Business Availability Center.

Installing the CMDB Shared Environment

To work with a shared CMDB environment, you must install Mercury Application Mapping and the **BACMAMShareCMDB.exe** package.

For details on how to create a shared environment, see the *Mercury Application Mapping Installation Guide*.

Shared Components and Functionalities

Mercury Business Availability Center and Mercury Application Mapping have the following shared components and functionalities:

- **Discovery** – Discovery Manager is accessible for both Mercury Business Availability Center and Mercury Application Mapping clients. You can perform a discovery in one, and see the results in the other. For example, if you perform a discovery in Mercury Business Availability Center, you can see the discovery results in Mercury Application Mapping as well as Mercury Business Availability Center. For details, see "Discovery Manager" in *Discovery Manager Administration*.
- **Discovery Probe** – The Discovery Probe you install serves bothMercury Application Mapping and Mercury Business Availability Center. For details, see "Installing the Discovery Probe" in *Discovery Manager Administration*.
- **Views** – Views that are created by one client can be accessed by the other according to the permissions assigned to the users and user groups.
  - **Pattern Views** – Pattern views created in one client can be viewed and edited by the other client.
  - **Instance Views** – Instance views that are created in:
    - Mercury Business Availability Center are accessible by Mercury Application Mapping users but can only be edited in Mercury Business Availability Center.
    - Mercury Application Mapping are accessible by Mercury Business Availability Center users but can only be edited in Mercury Application Mapping.

  For details on pattern and instance views, see *View Manager Administration*.

- **Setting Permissions for Views** – Administrators have the following permission capabilities when working in a shared environment:
  - Administrators for Mercury Business Availability Center have access to a list of existing Mercury Application Mapping views and can assign permissions to different Mercury Business Availability Center users.
  - Administrators for Mercury Application Mapping have access to a list of existing Mercury Business Availability Center views and can assign permissions to different Mercury Application Mapping users.

  For more information on setting permissions for views, "Configuring User Permissions" in *Platform Administration*.

- **Deploying Packages** – Packages that are deployed in one client using the JMX console are automatically installed in the other. For details on deploying packages using the JMX console, see "Deploying, Removing, and Displaying Deployed Packages Using the JMX Console" in *Discovery Manager Administration*.

Additional Capabilities in Mercury Business Availability Center

The following features are available in Mercury Business Availability Center only if you are working in a shared CMDB environment.

- **Change Report** – Contains all the changes that occurred for the selected CI and all its children. For details, see "Change Report" on page 135.
- **Display Attribute History** – Displays a list of attributes in which changes have occurred only in the selected CI. For details, see "Viewing the Change Report for a CI" on page 136.
- **View Snapshots** – Enables you to perform a snapshot comparison if snapshots were saved for the selected view in Mercury Application Mapping. For details, see "Performing a Snapshot Comparison" on page 138.
- **Monitor Changes** – Mercury Business Availability Center monitors the changes that occur in CIs and provides information about those changes in the tooltip of the selected CI. For details, see "Real-Time Monitoring of CI Property Changes" on page 36.

4

CMDB Logs Description

This chapter describes various CMDB log files and how you can use them to perform basic troubleshooting.

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About CMDB Log Files

This chapter describes Mercury Universal CMDB(CMDB) log files.

CMDB is a system that enables modeling of object-oriented information with topological characteristics. It enables modeling the information, storing and managing it, querying the information, and applying customer business logic to its structure. CMDB is composed of several subsystems: Framework, Model, CI Type Model, TQL, Enrichment, Notification, and Data Access Layer. Each subsystem has several log files.

CMDB log files allow you to perform basic troubleshooting of common CMDB runtime problems. Additionally, tracking CMDB behavior in the log files lets you examine the effects of changes made in the system.

Note: All log files are in **<Mercury Business Availability Center root directory>\log\EJBContainer** directory.

CMDB Server Parameters

This section contains definitions for CMDB server parameters:

Life Cycle Log

The log name is **cmdb.info_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about the CMDB server life cycle: ➤ all server tasks ➤ customer loading and unloading ➤ startup and shutdown of task manager Contains information about any application that did not start properly.		Startup errors of CMDB subsystems, primarily in the data access layer.	Not applicable	➤ If the CMDB client got the exception that the customer does not exist, check that the customer is properly loaded. ➤ If the CMDB client got the exception that it did not find CMDB in a JNDI lookup, check that the CMDB server is bound in the JNDI tree. ➤ If the HA Controller did not load CMDB customers, check that the CMDB server is registered in the HA controller.

General CMDB Log

The log name is **cmdb_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains errors of all CMDB subsystems and CMDB CITs that do not have their own log file.	Information from the CMDB server not directed to any specific log.	All errors in the CMDB server.	Debug information in the CMDB server that is not directed to a specific log.	If you suspect any problem during CMDB deployment, check this file for all CMDB server errors.

Quota Log

The log name is **cmdb.quota_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about all quota names, quota values, and current quota levels.	Quota names and values set in the server and customer levels during a customer load.	CMDB operations that failed because they exceeded quota limits.	A count collector runs every *n* minutes and gathers current counts for all quotas. Collected counts are logged.	If operations fail because of quota limits, check the count growth and quota values.

CI Type Model Log

The log name is **cmdb.classmodel_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about all CI Type Model errors and debug messages.	When a CI Type Model is loaded, incorrect definitions are logged as informational messages. For example, an incorrect definition might be duplicate attributes.	N/A	Every CI Type Model update includes the following: ➤ original CIT in xml format ➤ new CIT in xml format ➤ differences between the CITs If the CI Type Model update was rejected, the reason is logged.	Compare the differences that the server found between the original CIT and the new CIT. This is useful to understand the following scenarios: ➤ a CIT in a package failed ➤ an action in the CIT browser applet failed ➤ an action in the CIT browser applet succeeded when it should have failed

CMDB Notification Logs

The log name is **cmdb.notification_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains notification messages from the time of the component's creation in CMDB until the client's listener receives a message. Most components get configuration changes from CMDB in push mode, by the notification mechanism, rather than in pooling mode.	➤ startup and shutdown of publishers ➤ register and unregister remote and internal listeners	➤ errors when messages are published ➤ errors when messages are received	➤ unique message id ➤ number of changes that a message includes as well as more details according to the type of the message (for example, the TQL result version) ➤ JMS header properties	If an application does not get a notification, check the following: 1 A listener was registered with the appropriate notification filter. 2 A message was published with data that matches this filter. 3 A message was received by the listener. Use the unique message id to check this.

CMDB Model Audit Short Log

The log name is **cmdb.model.audit.short_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about a CI Type Model's operations: type of operation, data received as input, and what was done to the data in each CIT. Also contains information about the caller application, execution times, and persistency time.	operation details	N/A	N/A	If there no changes when there should have been, check the following: ➤ the operation exists ➤ the input is correct ➤ what happened to the data. There may have been a false update. This is especially useful when running discovery to trace the input.

TQL Logs

This section contains definitions for TQL parameters:

Pattern Log

The log name is **cmdb.pattern_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about the life cycle of a TQL pattern that is handled and calculated in the CMDB. Only TQLs stored in the CMDB are included. Information about ad hoc TQLs is not included.	N/A	Only failed TQL patterns are logged. These TQL patterns include: ➤ A pattern that failed and is to be recalculated soon. ➤ A pattern that failed three consecutive times. The status is set to **Fail** and the pattern is not recalculated. ➤ A pattern that recovered from **Fail** status.	Possible actions performed on each TQL pattern include: ➤ status changes ➤ model changes ➤ pattern changes ➤ completed calculations	Check if a TQL pattern has the same status for a long time: ➤ **new** means that it is in lazy loading ➤ **inactive** ➤ **calculation** means that the calculation may have failed but the scheduler was not informed You can also see the number of notifications that a TQL received.

Pattern Statistics Log

The log name is **cmdb.pattern.statistics_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains general calculation data for each TQL. It is updated at predefined intervals.	The following information is given for each TQL: ➤ name ➤ average, minimum, and maximum calculation times ➤ number of calculations ➤ last calculation time ➤ result size	N/A	N/A	➤ Verify that a specific TQL was updated. ➤ Evaluate a TQL's calculation time. ➤ Evaluate a TQL's result size.

Audit Short/Detailed Log (TQL Perspective)

The log name is **cmdb.audit.short_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains all CMDB state changes, CI Type Model changes, and TQL results. You can use this log to follow the results of TQL patterns.	N/A	N/A	➤ Final calculation for TQLs is logged. ➤ If the final TQL calculation is unchanged from the previous calculation, this is noted. ➤ If the final TQL calculation is changed from the previous calculation, results of the CIs and relationships are recorded in the detailed log. The number of CIs and relationships are recorded in the short log.	➤ Use this log to know what notifications the TQL subsystem published. ➤ Check the section at the end of each result. This section includes added, removed, and updated CIs and relationships. ➤ Track the model changes and see if the pattern results also changed. This helps you correlate the model changes to the results of the pattern calculations.

Incremental Statistics Log

The log name is **cmdb.incremental.statistics_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Traces the calculation procedure, full or incremental, of every pattern.	N/A	N/A	➤ Gives the date, time, pattern name, and if an incremental was performed (yes/no). ➤ If an incremental was not performed, states the reason, the number of subcalculations (relevant for incremental only), and the complete calculation time.	Monitor the calculation process If a specific pattern calculation takes a lot of time, check if it is a full or incremental calculation: ➤ If full, check why. ➤ If incremental, check how many subcalculations were performed.

Incremental Splitter Log

The log name is **cmdb.incremental.splitter_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Monitors the incremental splitter result made during an incremental calculation	N/A	N/A	Gives the set of node numbers of each pattern graph created by the incremental splitter.	If the TQL result calculated by the incremental calculator is wrong, verify that the splitter result is correct.

Incremental Detailed Log

The log name is **cmdb.incremental.detailed_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Monitors the incremental calculation process.	N/A	N/A	Each incremental subcalculation entry includes the following: ➤ the trigger node ➤ the number of elements classified to the trigger node ➤ whether the subcalculation step is driven by new elements added to the model or by existing elements ➤ the calculated pattern graph	Follow the basic steps of an incremental calculation.

History Log

The log name is **cmdb.history_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
➤ Records CITs the history database found when it was initialized from an existing topology. ➤ Records what is to be saved in the history database. ➤ Tracks events saved in the history database. ➤ Records when the history database was purged.	➤ when the last purge was done ➤ information about initialization of the history database	Lists errors when trying to insert event information into the history database.	➤ details about CITs inserted during initialization of the history database ➤ details about changes in the TQL results saved in the history database	

CMDB Enrichment Log

The log name is **cmdb.enrichment_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains enrichment definitions: adding, updating, removing, and calculating. Contains calculation results such as how many CIs were added, how many relationships were removed, and so forth. Supplies the reason for a calculation failure. Failure in a model update, however, is not included here since it is an asynchronous execution.	➤ add, update, and remove enrichment definitions ➤ add, update, and remove CIs or relationships to a model	calculation failure		➤ If no calculation was done, check the definition of **add enrichment**. ➤ If there are no results, check the **finish calculate** entry.

CMDB Plug-in Log

The log name is **cmdb.plugins_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Displays plug-in input and output notification.	life cycle of publisher	➤ no customer name exists in the customer id ➤ publisher failure	receive or send a change	If notification did not reach the destination, check that the plug-in received the input.

CMDB Dal Log

The log name is **cmdb.dal_ejb.log**.

Purpose	Information Level	Error Level	Debug Level	Basic Troubleshooting
Contains information about all activity that occurred in the data access layer, the layer that works with CMDB.	N/A	➤ connection pool errors ➤ database errors ➤ command execution errors	➤ all Dal commands executed ➤ all SQL commands executed	If you suspect that CMDB actions are taking too long, check the time spent on queries and updates in the CMDB. Exception details and id are entered into the log. The exception id appears in the exception itself so you can easily find it in this log.

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