CI Lifecycle and the Aging Mechanism

This chapter provides information on the CI Lifecycle application that enables you to manage the aging mechanism.

This chapter includes:

Concepts

Tasks

Reference

The Aging Mechanism – Overview

After your system has been running for some time, previously discovered CIs may no longer exist. Such CIs should be removed from UCMDB to keep it up to date.

Discovery and Dependency Mapping (DDM) runs periodically and updates the last access time for all CIs and relationships that it discovers. This process is known as "touching," and prevents CIs and relationships that represent active components in the system from becoming deletion candidates. If DDM does not discover a CI that exists in the CMDB, the last access time is not updated, so after some predefined time (by default, 20 days) the CI becomes a deletion candidate.

Deletion candidates are reviewed and managed in the CI Lifecycle module.

If the CI remains untouched for a longer period of time (by default, 40 days), the aging mechanism deletes the CI from the system. In other words, aging deletes CIs and relationships that are no longer relevant, that is, have not been accessed for a specified period of time (by default, 40 days).

The deletion of large quantities of CIs and relationships creates a significant load for the UCMDB and database servers and can impact overall UCMDB performance. To reduce this performance impact, the aging mechanism divides the objects to be deleted into chunks. A delay between chunks lowers the database load and enables other tasks to continue working. For faster work, you can shorten the delay, but the default delay value is the recommended delay. For details, see "Aging Parameters" on page 16.

Note:

- The aging mechanism is disabled by default.
- Aging operations are run only on CIs and relationships that have **Enable Aging** set to **true**. By default, CIs and relationships added by out-of-the-box DDM patterns are created with **Enable Aging** set to **true**. This behavior can be changed in the **Enable aging** check box in DDM in the Pattern Management tab. For details, see **Enable aging** in *Discovery and Dependency Mapping Guide*.

CI Lifecycle – Overview

The CI Lifecycle application enables you to view a list of CIs and relationships that are candidates for deletion by the aging mechanism, and to initiate the aging procedure. You can also select specific CIs or relationships and postpone their deletion or mark them as deletion-proof.

For each CIT, you can set the time period before a specific CI becomes a candidate for deletion or before it is actually deleted. For details, see **Actual Deletion Period**, **Deletion Candidate Period,** and **Enable Aging** in the "Properties Dialog Box" in *Model Management*.

Enable and Run the Aging Mechanism

This task describes how to enable aging and run the aging mechanism.

This task includes the following steps:

- "Enable Aging" on page 3
- "First Aging Run" on page 4

1 Enable Aging

Access the Aging Status tab in the CI Lifecycle window (**Application** > **Universal CMDB** > **CI Lifecycle**). Select the **Enable Aging** check box. For details, see "Aging Status Tab" on page 8.

Note: When aging is turned on or off (that is, enabled or disabled), you must restart the server for the changed setting to take effect.

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2 First Aging Run

After your system has been running for some time, there are probably many CIs that need deleting. You should perform this step in the procedure to keep UCMDB and the database up to date.

If the number of CIs to be deleted is greater than 10,000, a confirmation message is displayed. Choose between the following options:

- UCMDB divides the number of CIs and/or relationships that must be deleted into chunks (to avoid overloading the database), deletes them, and adds the information to the History database. Chunk size is determined by the value in the **Aging Chunk Size** field in the Infrastructure Settings Manager.

  This is the preferred method of deletion because the History database is updated with the information and there is no server downtime.

- You run the database aging tool, located at **<UCMDB installation folder>\UCMDBServer\j2f\cmdb\dbscripts\dbtool.bat**. If you choose this option, you must stop the UCMDB server service.

  You would choose this second option if you needed a fast system of deletion: the database aging tool is an order of magnitude faster than the aging mechanism.

Important: Before running this option, be aware of the following:

- You must completely shut down the server before running the tool, that is, there will be server downtime.
- No information is written to the History database.

To run the database aging tool:

a Back up the UCMDB database schemas. This step is mandatory.

b Run the tool in a testing environment before running it in a production environment. This step is recommended.

c Stop the UCMDB server.

d Run the **dbtool.bat** file from the file system.

e Restart the UCMDB server.

f Return to the Aging Status tab and enable aging.

Generate CI Lifecycle Data and Filter the Results

This task describes how to generate a list of CIs that are candidates for deletion, and to filter the results.

This task includes the following steps:

➤ "Generate CI Lifecycle Data" on page 5

➤ "Filter the CI Lifecycle Results" on page 6

1 Generate CI Lifecycle Data

To generate CI Lifecycle results for CIs or relationships, select either the **CIs** tab or the **Relationship** tab. Select the time period in which to search, using the drop-down calendars in the **From** and **To** fields, and click **Generate**. For details, see "CI Lifecycle Window" on page 14.

UCMDB displays a list of CITs that are candidates for deletion.

Tip: If no results are generated, try extending the time period further into the future.

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2 Filter the CI Lifecycle Results

To filter the CI Lifecycle data, click the **Filter** button to open the Filter dialog box. For each column by which you want to filter, select a condition from the drop-down list and fill in the value column, either by entering a value, selecting from a drop-down list, or using the calendar. Click **OK** to apply your filter.

To clear the filter and restore the original results, click the **Clear** button. For details, see “Filter Dialog Box” on page 15.

CI Lifecycle User Interface

This section describes:

Aging Run Statistics Dialog Box

Description	Enables you to view statistics for the five previous runs of the aging mechanism. **To access**: Click the Statistics button  in the CI Lifecycle window.
Included in Tasks	“Enable and Run the Aging Mechanism” on page 3

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Aging Runs	**Run at**. The start and finish time of the run. **Deleted**. The number of CIs that have been deleted. **Failed**. The number of CIs that have not been deleted.
Errors	**ID**. The IDs of the failed CIs, that is ,of the CIs that could not be deleted. **Error message**. A message describing the cause of failure.

Aging Status Tab

Description	Enables you to enable the aging mechanism and to run the mechanism for the first time. **To access:** Select **Application** > **Universal CMDB** > **CI Lifecycle**.
Important Information	This tab displays information about the number of CIs that are candidates for deletion, and functions as follows, if you select the **Enable Aging** check box: ➤ If the number of CIs for deletion is larger than 10,000, you can choose to use the aging mechanism to delete the CIs in chunks, or to use the database aging tool. For details on which procedure to use, see "First Aging Run" on page 4. ➤ If the number of CIs for deletion is smaller than 10,000, the estimated time for deletion is displayed and the CIs are immediately deleted. A progress bar shows the stage of the deletion.
Included in Tasks	"Enable and Run the Aging Mechanism" on page 3

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Enable Aging	➤ To enable aging, select the check box. The frequency and size of the chunks that are marked as candidates for deletion are determined in the Infrastructure Settings Manager. For details, see "Aging Parameters" on page 16. ➤ To disable aging, clear the check box.
Run results	**Total CIs to delete**. The number of CIs or relationships that are delete candidates and that are being deleted by the aging mechanism. **Deleted**. The number of CIs or relationships that have been deleted. **Failed**. CIs or relationships that could not be deleted. If any failures exist, click the **Failed** link to view their details.

CI Lifecycle Report

Description	Enables you to present filtered CI Lifecycle results in report format and to print or export them, or to send them by email. **To access:** Click **Report Export** from the CI Lifecycle window.
Important Information	The CI Lifecycle report is generated for the period selected in the CI Lifecycle window. From the CI Lifecycle report dialog box, you can adjust the period and regenerate the results within the dialog box.
Useful Links	For details on working with reports, see "Working in Reports" in *Reports* For details on the View pane, see "Common Report Elements" in *Reports*

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click to reset the width of the columns to the default setting.
	Click to open the Select Columns dialog box, which enables you to change the display order of the columns, hide a column, or display a hidden column. For details, see "Working with Tables" in *Reports*.
Actual Delete Time	The date and time when the CI or relationship is deleted.
Configuration Item Type	The type of CI or relationship.
End1	The node at one end of the relationship (relevant only for relationships).
End2	The node at the second end of the relationship (relevant only for relationships).
From	Indicates the beginning of the period for the generation of the report. Click on the link to open a calendar which enables you to change the date and time.
Generate	Click **Generate** to generate the data for the selected period.
Label	The name of the CI or relationship as it appears in the Topology Map.
Last Access Time	The last time the CI or relationship was accessed, whether it was updated or discovered by DDM.
To	Indicates the end of the period for the generation of the report. Click the link to open a calendar that enables you to change the date and time.
Updated By	The administrator or process that updated the CI or relationship.
View	Sets the time period of the report from the beginning time. Select a time period from the drop-down list.

CI Lifecycle and Relationship Tabs

Description	Enable you to display a list of CIs and relationships that are candidates for deletion, and to manage the list (for example, to delete or prevent or postpone deletion of specific CIs, to view statistics, and to filter the list). **To access:** Select **Application** > **Universal CMDB** > **CI Lifecycle**.
Included in Tasks	"Generate CI Lifecycle Data and Filter the Results" on page 5
Useful Links	"Working with CIs" on page 67

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
	Click to delay the deletion of a CI. It disappears from the list of candidates for deletion.
	Click to prevent a CI or relationship from being deleted. It disappears from the list of candidates for deletion.
	Click to delete a selected CI or relationship.
	Click to view statistics (such as the start and finish time of each run and the number of deleted CIs), for the previous five runs of the aging mechanism. For details, see "Aging Status Tab" on page 8.
	Click to select or clear all rows of data on the current page.
	Click to update the data displayed.
	Click to open the Filter dialog box, which enables you to customize the filter. For details, see "Filter Dialog Box" on page 15.
	Click to clear the filter and display the full results.

GUI Element (A-Z)	Description
	Click to open the Select Columns dialog box, which enables you to change the display order of the columns, hide a column, or display a hidden column. For details, see "Select Columns Dialog Box" in *Reference Information*.
	Click the arrow to define the number of rows that should appear on each display page.
	Click to navigate through the results page by page or to jump to the first or last page.
	Generates data for a selected period. **Tip**: If no results are generated, try extending the time period further into the future (the **To** field).
	Opens the CI Lifecycle Report dialog box, which presents the data in the format of a report. For details, see "CI Lifecycle Report" on page 9.
<Right-click a CI>	For details on the menu options, see "IT Universe Manager Context Menu" in *Model Management*.
<Right-click a column header>	For details, see "Customizing Columns" in *Reference Information*.

GUI Element (A-Z)	Description
CIs/Relationships tabs	Select to see a list of CIs or relationships that are candidates for deletion: **Select**. Select the check box to select a CI or relationship before performing an operation on it (such as Delete or Postpone Deletion). **End1**. The node at one end of the relationship (relevant only for relationships). **Display Label**. The name of the CI or relationship as it appears in the Topology Map. **End2**. The node at the second end of the relationship (relevant only for relationships). **CI Type**. The type of the CI or relationship. **Last Access Time**. The last time that the CI or relationship was accessed, whether it was updated or discovered by the DDM process. **Updated by**. The administrator or process that updated the CI or relationship. **Actual Delete Time**. The date and time when the CI or relationship is deleted.
From	Click the arrow and use the calendar to select the beginning date and time for the CI Lifecycle report.
Relationships tab	Select to see lifecycle results for relationships.
Set Rows per Page	Select the number of rows per page from the drop-down list.
To	Click the arrow and use the calendar to select the end date and time for the CI Lifecycle report.

CI Lifecycle Window

Description	Enables you to enable and run the aging mechanism. Also, enables you to display a list of CIs and relationships that are candidates for deletion, and to manage the list (for example, to delete or prevent or postpone deletion of specific CIs, to view statistics, and to filter the list). **To access:** Select **Application** > **Universal CMDB** > **CI Lifecycle**.
Important Information	The CI Lifecyle window includes the following tabs: ➤ **Aging Status**. Use this tab to enable the aging mechanism and to run aging. For details, see "Aging Status Tab" on page 8. ➤ **CIs**. Use this tab to display a list of CIs that are candidates for deletion. For details, see "CI Lifecycle and Relationship Tabs" on page 11. ➤ **Relationships**. Displays the same information as the CIs tab, with the addition of the **End1** and **End2** columns. The tab that is displayed by default depends on whether aging is enabled or disabled: ➤ **If aging is enabled**, the CIs tab is displayed. ➤ **If aging is disabled**, the Aging Status tab is displayed.
Included in Tasks	➤ "Enable and Run the Aging Mechanism" on page 3 ➤ "Generate CI Lifecycle Data and Filter the Results" on page 5
Useful Links	"Working with CIs" in *Model Management*

Filter Dialog Box

Description	Enables you to filter the list of CIs that are candidates for deletion. **To access:** Click **Filter** in the CI Lifecycle window.
Included in Tasks	"Generate CI Lifecycle Data and Filter the Results" on page 5

The following elements are included (unlabeled GUI elements are shown in angle brackets):

GUI Element (A-Z)	Description
Condition	Click in the **Condition** column and select an option.
Display Name	The columns displayed for the CIs or relationships in the CI Lifecyle window.
Value	Click in the **Value** column to set a value for the selected condition. Depending on the condition selected, you can select a value from a drop-down list, select a date and time from the calendar, or click the ellipsis button  to open an editing dialog box where you can enter a value. When the conditions **Like** or **Like ignore case** are selected in the **Condition** column, you can use a wildcard (%) before and after the string you are searching for. **Note:** You must select a condition before entering a value.

Aging Parameters

Aging parameters are defined in the Infrastructure Settings Manager (**Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**):

- **Aging Chunk Size**. The number of CIs or relationships that are sent to the aging mechanism at one time. The default is 1,000.
- **Aging Scheduler Hour of the First Run.** Defines at what time aging first runs after server startup (for example, 02=2:00 AM).
- **Aging Scheduler Interval.** Defines the interval between runs. If Aging Time Unit = days, the interval value is days; if Aging Time Unit = hours, the interval value is hours.
- **Aging Time Unit.** The default is days. (The hours option is provided to enable convenient verification checks of specific CIs.)
- **Delay Between Chunks in Milliseconds**. The period between one chunk being deleted by the aging mechanism and the next chunk being sent to the aging mechanism to be deleted. The default is 30 seconds, that is, 30,000 milliseconds.
- **Threshold for running storage optimization**. The threshold for running storage optimization during the aging operations (for example, each N deleted CIs). As database operations could take considerable time (several minutes), this option enables the technical organization of the schema to reduce this time.