EM 13c: How to Modify the Default Retention and Purging Policies for Metric Data in the Enterprise Manager Repository (Doc ID 2251910.1)

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APPLIES TO:

Enterprise Manager Base Platform - Version 13.1.0.0.0 to 13.2.0.0.0 [Release 13c]
Information in this document applies to any platform.

GOAL

This document explains the policies in Enterprise Manager Cloud Control 13c version.

For 12c version policies, please refer the following document:

Note 1405036.1 EM 12c: How to Modify the Default Retention and Purging Policies for Metric Data in the Enterprise Manager Repository

The metric data that is collected and uploaded by the Agents on the targets hosts is called 'raw' data, which is stored by the OMS into the repository tables. Enterprise Manager aggregates collected metric data by hour and by day to enhance query performance and help minimize the size of the Management Repository. One of the DBMS_SCHEDULER Job (Rollup job) in the Repository is responsible for rolling up / aggregating this raw data. Once a day, the previous day's raw metric data is rolled up, or aggregated, into a one-hour and a one-day table. These hourly and daily records will have hourly and daily metric data averages, minimums, maximums and standard deviations respectively. The Hourly and Daily tables are used for providing historical metric information for the metrics in the Cloud Console UI pages.

The 3 tables that store this data are:

EM_METRIC_VALUES_E
EM_METRIC_VALUES_HOURLY_E
EM_METRIC_VALUES_DAILY_E

After Enterprise Manager aggregates the data, the data is then considered eligible for purging. A certain period of time must pass for data to actually be purged. This period of time is called the retention time.
The goal of this document is to provide information on how to modify the default Retention and Purging Policies in the 13c Cloud Control.

Note:

1. The Enterprise Manager default aggregation and purging policies were designed to provide the most available data for analysis while still providing the best performance and least disk-space requirements for the Management Repository. As a result, you should not modify these policies to improve performance or increase your available disk space.
However, if you plan to extract or review the raw or aggregated data using data analysis tools other than Enterprise Manager, you may want to increase the amount of raw or aggregated data available in the Management Repository. While doing this, also consider increasing the amount of disk space for the Repository related Tablespaces in the Repository Database.

2. It is essential that the DBMS_SCHEDULER feature is enabled in the Repository Database for execution of all the Repository maintenance operations. You can view the 'Oracle Scheduler Status' in the Setup -> Management System and Repository -> Repository Operations page of the 13c console. If the scheduler is disabled, then use the steps in:

Enterprise Manager Cloud Control Administrator's Guide
Release 13.1
[Chapter 20 Maintaining and Troubleshooting the Management Repository](#)

SOLUTION

Default Aggregation and Purging Policies

The raw data, with the highest insert volume, has the shortest default retention time, which is set to 7 days. As a result, 7 days after it is aggregated into a one-hour record, a raw data point is eligible for purging. Hourly aggregate metric data records are purged after 31 days. The highest level of aggregation, one day, is kept for 24 months:

Aggregate Level	Retention Time
Raw Metric Data	7 days
Hourly aggregated metric data	31 days
Daily aggregated metric data	24 months

Note that these values apply to EM 12.1.0.5 and EM13c versions.
This data retention policy varies for JVMD and ADP data. If you have configured and enabled Application Performance Management, Enterprise Manager also gathers, saves, aggregates, and purges response time data. The response time data is purged using policies similar to those used for metric data. The Application Performance Management purging policies are shown below:

Aggregate Level	Retention Time
Raw Response time data	24 hours
One-hour aggregated response time data	7 days
One-hour distribution response time data	24 hours
One-day aggregated response time data	31 days
One-day distribution aggregated response time data	31 days

Besides the metric data and Application Performance Monitoring data, other types of Enterprise Manager data accumulates over time in the Management Repository.
For example, the last availability record for a target will also remain in the Management Repository indefinitely, so the last known state of a target is preserved.

Modifying the Default Retention and Purging Policies

A PL/SQL API has been provided to modify the default retention time for the core metric data tables in the Enterprise Manager repository. Below table shows the default number of partitions retained for each of the three tables and the size of the partitions for each table.

Table Name	Partitions Retained	Partition Size
EM_METRIC_VALUES_E	7	DAY
EM_METRIC_VALUES_HOURLY_E	32	DAY
EM_METRIC_VALUES_DAILY_E	24	MONTH

To modify the retention period for any of the above tables, execute:

```
SQ> execute gc_interval_partition_mgr.set_retention('SYSMAN', <table name>, <number of
partitions to retain>);
```

Replace the <table name> by name of table as listed above. The API will allow you to change the number of partitions retained only.

For example, to modify the default retention time for the table EM_METRIC_VALUES_E from 7 partitions to 14 partitions:

1. Use SQL*Plus to connect to the repository database as the SYSMAN user.
2. Check the current value of the retention periods:

```
SQL> select table_name, partitions_retained
from em_int_partitioned_tables
where table_name in
('EM_METRIC_VALUES_E','EM_METRIC_VALUES_HOURLY_E','EM_METRIC_VALUES_DAILY_E');

TABLE_NAME PARTITIONS_RETAINED
------------------------- -------------------
EM_METRIC_VALUES_E 7
EM_METRIC_VALUES_HOURLY_E 32
EM_METRIC_VALUES_DAILY_E 24
```

3. To modify the default retention time for the table EM_METRIC_VALUES from 7 partitions to 14, execute:

```
SQL> execute
gc_interval_partition_mgr.set_retention('SYSMAN', 'EM_METRIC_VALUES_E', 14);
```

4. Verify that the retention period has been modified:

```
SQL> select table_name, partitions_retained
from em_int_partitioned_tables
where table_name in
('EM_METRIC_VALUES_E','EM_METRIC_VALUES_HOURLY_E','EM_METRIC_VALUES_DAILY_E');

TABLE_NAME PARTITIONS_RETAINED
------------------------- -------------------
EM_METRIC_VALUES_E 14
EM_METRIC_VALUES_HOURLY_E 32
EM_METRIC_VALUES_DAILY_E 24
```

Verifying the Partition Maintenance

Login to repository database as the SYSMAN user and execute the below queries:

```
select count(*) from EM_METRIC_VALUES_E where collection_time < trunc(sysdate - 8);
select count(*) from EM_METRIC_VALUES_HOURLY_E where collection_time < trunc(sysdate - 33);
select count(*) from EM_METRIC_VALUES_DAILY where collection_time < trunc(add_months(sysdate,
-25));
```

The queries should return 0 rows if the default retention policies are set.

> Note: The queries check if there is any data in these tables beyond the default retention periods: 7 days, 32 days, 24 months, respectively. If the retention periods have been modified, then the corresponding numbers should be used.

For more details, refer to:

Oracle Enterprise Manager Cloud Control Administrator's Guide
Release 13.1.0.0.0
Chapter 20 - Maintaining and Troubleshooting the Management Repository
20.2 Management Repository Data Retention Policies

The correction for documentation Bug 25634868 Will replace these table names:

EM_METRIC_VALUES
EM_METRIC_VALUES_HOURLY

EM_METRIC_VALUES_DAILY

With these:

EM_METRIC_VALUES_E
EM_METRIC_VALUES_HOURLY_E
EM_METRIC_VALUES_DAILY_E

REFERENCES

BUG:24368304 - EM 13C - EM_METRIC_VALUES_E HAS DATA MORE THAN RETENTION PERIOD DEFINED
    Didn't find what you are looking for?