HP Cloud OS for Moonshot Utilities

Version 1

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The current release features the HP Cloud OS for Moonshot Clean-up Utility. Additional utilities may be added in future releases and described in this topic.

HP Cloud OS for Moonshot Clean-up Utility

The HP Cloud OS for Moonshot Clean-up Utility ensures that the databases used to store data within HP Cloud OS for Moonshot are kept clean, and do not retain and accumulate data that is no longer being accessed.

Overview

The HP Cloud OS for Moonshot Clean-up Utility ensures that the HP Cloud OS for Moonshot and OpenStack databases are running smoothly and the databases are clean. The utility uses the Nagios web interface for scheduling database clean-up tasks.

It is possible for a HP Cloud OS for Moonshot or OpenStack resource in one table to be reliant on a resource in another table with no foreign key reference. If the dependent resource were simply deleted, a dangling reference in the referring table would result. Likewise, if there are two tables with foreign key relationships and the data is deleted in one table but not the other, referential integrity is broken.

As an example, a user entity may be associated with various resources in the system-projects, templates, key pairs, security groups, and so on. If the user represents an employee who has left the organization, and that user is removed in the Administration Dashboard, the data representing the user is marked for deletion in HP Cloud OS for Moonshot, but it is important that the data not be removed from the database until the associated data can be removed with the Clean-up Utility.

The HP Cloud OS for Moonshot Clean-up Utility addresses referential integrity issues by running a number of tasks that are offered as Nagios services. Running these tasks regularly keeps the HP Cloud OS for Moonshot and OpenStack databases clean.

This section includes:

Clean-up Tasks

The HP Cloud OS for Moonshot Clean-up Utility performs the following tasks:

- Clean up all resources associated with previously deleted resources. The HP Cloud OS for Moonshot Administration Dashboard does not delete projects or users. Instead, it "moves them to the trash can" by removing as many resources as possible and then prefixing the Project (or User) name with a tilde ~. Flavors are already only "marked for deletion" in the database.
- Prevent select HP Cloud OS for Moonshot database entries from existing in their respective tables longer than 24-Hours.
- Ensure that all of the database tables are referentially accurate. In other words, Cloud Utils cleans the database of all invalid data.
- Monitor key services to ensure that they are in a run state.

The Clean-up Utility runs every 24 hours by default, between 23:00 and 00:00 hours local time, but can be scheduled through Nagios to run whenever the admin needs to clean up the database.

The Clean-up Utility consists of the following four Nagios services:

- **Cloud clean db objects** — Cleans up the user and all the key pairs associated with that user from the database. For projects, removes the element from the database table or sets the "elements deleted" flag for the project. Removes hardware flavors that are marked for deletion and are no longer being used by a VM instance. Cleans up tokens that are expired for more than 24 hour, and for roles, removes the roles from the database table.
- **Cloud clean deleted objects** —-Cleans up referential integrity issues in the database.
- **Cloud clean outdated objects** — Deletes unused data that meets the deletion criteria.
- **Cloud clean tokens** — Cleans up tokens that have been expired for more than 24 hours from the database.

Using Nagios

Nagios is used to run the HP Cloud OS for Moonshot Clean-up Utility.

Note: In addition to the Clean-up Utility, other services that reside on the Cloud Controller and Compute Controller can be monitored using Nagios.

1. Access the Nagios dashboard (https://192.168.124.10/nagios3/). Login with the admin username and password that you defined after you launched the HP Cloud OS for Moonshot ISO.
2. Click the Services link in the left panel of the Nagios web interface to see the cloud service checks and the other cloud services.

In the Nagios dashboard, services and status information are grouped by node (or "host" in Nagios terminology). In the host column, only the admin node is identified by name. All other nodes are identified by their MAC addresses.

To find your alias (or node name) for a given MAC address, go to the Cloud Tab in the Operational Dashboard and click Manage Nodes. The Alias and Node ID columns show the name and corresponding MAC address for each node in the cloud.

To manually schedule the running of Clean-up Utility tasks

As mentioned above, the Clean-up Utility will run automatically every 24 hours. No manual scheduling or user intervention is required. But you can manually schedule the Clean-up Utility service to run by performing these steps:

1. Choose a node in the host column and click the name of the service you wish to schedule (Cloud clean db objects, Cloud clean deleted objects, Cloud clean outdated objects, or Cloud clean tokens).
2. In the Service Commands section, click Re-schedule the next check of this service.
3. In the Check Time field, enter the time when you want the service to run.
4. Click Commit.
5. When the task has completed, the Nagios display is refreshed, showing the date and time that the service was run and the current (updated) status value.

Note: Although the Nagios dashboard shows all of the Clean-up Utility services for all nodes, the Cloud clean deleted objects service will always fail if run on a Cloud Controller node. This is expected behavior because that Clean-up Utility service includes tasks that interact with the OpenStack Nova compute service, which is not installed on the Cloud Controller node, but only on Compute Controller nodes.