Administering Clusters on OpenStack

Note This section is applicable only for OpenStack clusters deployed on Cisco Virtualized Infrastructure Manager (Cisco VIM).

You can create and delete OpenStack Kubernetes clusters using the Cisco Container Platform web interface.

This chapter contains the following topics:

Creating OpenStack Clusters

Before you begin

Ensure that you have added your OpenStack provider profile.

For more information, see Adding OpenStack Provider Profile.

Step 1 In the left pane, click **Clusters**, and then click the **OPENSTACK** tab.

Step 2 Click **NEW CLUSTER**.

Step 3 In the **Basic Information** screen, enter the following information:

a) From the **INFRASTRUCTURE PROVIDER** drop-down list, choose the provider related to the appropriate OpenStack account.

b) In the **KUBERNETES CLUSTER NAME** field, enter a name for your cluster.

c) From the **CONTAINER NETWORK INTERFACE (CNI)** drop-down list, choose the CNI that you want to use.

d) From the **KUBERNETES VERSION** drop-down list, choose the version of Kubernetes that you want to use for creating the cluster.

Step 4 In the **Provider Settings** screen, enter the following information:

a) From the **PROTOCOL** drop-down list, choose the **IPv4** or **IPv6** protocol.

b) From the **NETWORK TYPE** drop-down list, choose the type of network that you want to use.

c) From the **PUBLIC NETWORK** drop-down list, choose the network that you want to use.

d) In the **DNS SERVERS** field, enter the IP address of the necessary DNS servers.

You can use a comma-separated list to enter the IP addresses of additional DNS servers.

e) From the **IMAGE** drop-down list, choose an appropriate image file.

f) From the **CINDER AVAILABILITY ZONE** drop-down list, choose a suitable Cinder availability zone.

g) From the **NOVA AVAILABILITY ZONE** drop-down list, choose a suitable Nova availability zone.

h) Click **NEXT**.

Step 5 In the **Cluster Configuration** screen, enter the following information:

a) Under **MASTER NODES**, specify the number of master nodes.

b) Under **WORKER NODES**, specify the number of worker nodes.

c) From the **FLAVOR** drop-down list, choose a flavor to configure each node.

d) In the **POD NETWORK CIDR** field, enter a CIDR for your pod network.

e) From the **SSH KEY NAME** drop-down list, choose an appropriate key name.

f) If you want to allow connection to an external router, from the **ROUTER** drop-down list, choose the router that you want to use.

g) Under **ROOT CA REGISTRIES**, click **ADD REGISTRY**, and then specify root CA certificates to allow tenant clusters to securely connect to additional services.

You can use a comma-separated list to include multiple values.

h) Under **SELF-SIGNED REGISTRIES**, click **ADD REGISTRY**, and then specify self-signed certificates for Docker registries.

You can use a comma-separated list to include multiple values.

i) Under **NTP POOLS**, click **ADD REGISTRY**, and then specify IP address ranges for NTP pools.

You can use a comma-separated list to include multiple values.

j) Under **NTP SERVERS**, click **ADD REGISTRY**, and then specify IP addresses for NTP servers.

You can use a comma-separated list to include multiple NTP servers.

k) Click **NEXT**.

Step 6 In the **Summary** screen, review the cluster information, and then click **FINISH**.
Cluster creation can take up to 20 minutes. You can monitor the cluster creation status on the **Clusters** screen.

Configuring Add-ons for Clusters on Openstack

Note This section applies to v3 clusters.

In v3 clusters, the Harbor, and monitoring functions are available as configurable add-ons.

In v2 clusters, these add-ons are installed by default.

Step 1 In the left pane, click **Clusters**, and then click the **Openstack** tab.

Step 2 From the **VERSIONS** drop-down list, choose **VERSION 3** to view the v3 clusters.

Step 3   Choose the cluster for which you want to configure add-ons.

Step 4   Click the **ADD-ONS** tab.
The **Installed Add-ons** page appears.

Step 5   Click **INSTALL ADD-ON**.
The **Select an Add-on** page appears.

Step 6   Select one of the following add-ons:

- Harbor Operator: For deploying the Harbor operator service, which is required for running Harbor

- CVIMMON Plugin: For monitoring clusters

Step 7   Click **Close**.

For more information, see .

Customizing Size of Registry and Chartmuseum of Harbor Instance

Note   This section applies to v3 clusters.

The default size of the registry and chartmuseum of a Harbor instance is 20Gi and 5Gi respectively.

Customizing this size using the Cisco Container Platform web interface is not currently supported. As a workaround, you can use the following steps:

Step 1   Install the Harbor operator add-on.

For more information, see .

Step 2   Ssh into the master of the tenant cluster.

Step 3   Customize the size of the registry and Chartmuseum.

For example, to set the size of the registry and chartmuseum to `40Gi`, run the following command:

```
helm install -n harbor-cr /opt/ccp/charts/ccp-harbor-cr.tgz --set registrySize=40Gi --set
chartmuseumSize=40Gi
```

Deleting Add-ons for Clusters on Openstack

Note   This section applies to v3 clusters.

In v3 clusters, you can delete the monitoring, logging, Istio, Harbor, and Kubernetes dashboard functions through the Cisco Container Platform web interface.

In v2 clusters, you cannot delete these add-ons through the Cisco Container Platform web interface.

Step 1   In the left pane, click **Clusters**, and then click the **Openstack** tab.

Step 2   From the **VERSIONS** drop-down list, choose **VERSION 3** to view the v3 clusters.

Step 3   Choose the cluster for which you want to delete add-ons.

Step 4   Click the **ADD-ONS** tab.
The **Installed Add-ons** page appears.

Step 5   From the drop-down list displayed under the **ACTIONS** column, click **Delete** for the add-on that you want to delete.

Step 6   Click **Close**.

Deleting OpenStack Clusters

Before you begin

Ensure that the OpenStack cluster that you want to delete is currently not in use, as deleting a cluster removes the containers and data associated with it.

Step 1   In the left pane, click **Clusters**, and then click the **Openstack** tab.

Step 2   From the drop-down list displayed under the **ACTIONS** column, choose **Delete** for the cluster that you want to delete.

Step 3   Click **DELETE** in the confirmation dialog box.
Upon deleting an OpenStack cluster, it takes about 10 minutes for the cluster resources to be released.