

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, on page 1
- Configuring Add-ons for Clusters on Openstack, on page 2
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- Deleting OpenStack Clusters, on page 4

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 6In 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 7Click Close.For more information, see Customizing Size of Registry and Chartmuseum of Harbor Instance, on page 3.

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 Configuring Add-ons for Clusters on Openstack, on page 2.

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