Cisco Container Platform

Cisco Container Platform is a turnkey, production grade, extensible platform to deploy and manage multiple Kubernetes clusters. It runs on 100% upstream Kubernetes. Cisco Container Platform offers seamless container networking, enterprise-grade persistent storage, built-in production-grade security, integrated logging, monitoring and load balancing.

Cisco Container Platform provides authentication and authorization, security, high availability, networking, load balancing, and operational capabilities to effectively operate and manage Kubernetes clusters. Cisco Container Platform also provides a validated configuration of Kubernetes and can integrate with underlying infrastructure components such as Cisco HyperFlex and Cisco ACI. The infrastructure provider for Cisco Container Platform is Hyperflex.

Using the Cisco Container Platform web interface, you can create Kubernetes clusters on which you can deploy containerized applications. The clusters are created on the infrastructure provider platform.

The two user personas in Cisco Container Platform are as follows:

- The **Administrator** persona, which is associated with the **Administrator** role.

- The **User** persona, which is associated with the **User** role.

This chapter contains the following topics:

Administrator Workflow

The following table lists the workflow for Cisco Container Platform administrators.

Task	Related Section
Access the Cisco Container Platform web interface with *Administrator* credentials.	Accessing Cisco Container Platform Web Interface, on page 3
Set up the Cisco Container Platform infrastructure configuration.	Setting Up Cisco Container Platform, on page 3

Task	Related Section
Configure Cisco Smart Software Licensing for your Cisco Container Platform instance.	Configuring Cisco Smart Software Licensing
Manage the Cisco Container Platform infrastructure configurations using which clusters are created.	Managing Cisco Container Platform Infrastructure Configuration
Create Kubernetes clusters.	Creating Kubernetes Clusters on vSphere On-prem Clusters Creating AWS EKS Clusters Creating Kubernetes Clusters on OpenStack Clusters Creating AKS Clusters
Add users, assign appropriate roles, and associate the new users to the Kubernetes clusters that you have created.	Managing Users and RBAC
Monitor Kubernetes clusters.	Monitoring Health of Cluster Deployments Monitoring Logs from Cluster Deployments
Manage Kubernetes cluster using the Kubernetes Dashboard.	Managing Kubernetes Clusters
Manage the lifecycle of Kubernetes clusters by scaling or upgrading the clusters.	Scaling vSphere Clusters Upgrading vSphere Clusters Scaling AWS EKS Clusters Upgrading AKS Clusters

User Workflow

The following table lists the workflow for developers assigned with the *User* role.

Task	Related Section
Access the Cisco Container Platform web interface with user credentials.	Accessing Cisco Container Platform Web Interface, on page 3
Monitor Kubernetes clusters that are assigned to the user.	Monitoring Health of Cluster Deployments Monitoring Logs from Cluster Deployments
Manage the assigned Kubernetes clusters using the Kubernetes Dashboard or CLI.	Managing Kubernetes Clusters
Deploy applications on the assigned Kubernetes clusters.	Deploying Applications on Kubernetes Clusters

Accessing Cisco Container Platform Web Interface

Before you begin

Ensure that you have configured the prerequisites for integrating ACI with Cisco Container Platform.

For more information, refer to the following documents:

- *ACI Integration Requirements* section of the *Cisco Container Platform Installation Guide*
- Planning and Prerequisites section of the Cisco ACI and Kubernetes Integration page

Ensure that you have powered on the installer VM on vCenter. The URL of the installer appears on the vCenter **Web console**.

Step 1   Obtain the URL to access the Cisco Container Platform web interface from the vCenter **Web console**.

Step 2   Access the URL using your web browser.

```
https://<Cisco Container Platform IP Address>
```

Note   We recommend that you use the Chrome, Safari, or Firefox browser to access the URL.

Step 3   Log in to the web interface as an *admin* user using the passphrase given during the Cisco Container Platform installation.

Setting Up Cisco Container Platform

Note   This topic is applicable only for an ACI environment. In a non-ACI environment, the IP address range of the default VIP pool must be expanded to include the additional VIPs for tenant clusters. For more information, see Managing Networks.

When you log in to Cisco Container Platform for the first time, you need to configure the Cisco Container Platform initial setup using the **Cisco Container Platform Setup** wizard.

Step 1   On the **Welcome** page, click **START THE SETUP**.

Step 2   In the **ACI Credentials** screen, specify information such as IP address, username, and passphrase of the APIC instance, click **CONNECT**, and then click **NEXT**.

Step 3   In the **ACI Configuration** screen, perform these steps:

a)   In the **NAMESERVERS** field, enter the IP address of all the DNS servers that the ACI fabric can access.

b)   From the **VMM DOMAIN** drop-down list, choose the Virtual Machine Manager Domain (VMMD) that you want to use.

c)   In the **INFRASTRUCTURE VLAN ID** field, enter the VLAN number for layer 2 networking.

d)   From the **VRF** drop-down list, choose the Virtual Routing and Forwarding (VRF) IP address.

e)   From the **L3OUT POLICY NAME** drop-down list, choose the ACI object for allowing external internet connectivity.

f) From the **L3OUT NETWORK NAME** drop-down list, choose the external network that is reachable through the L3OUT object.

g) From the **AAEP NAME** drop-down list, choose an Attachable Access Entity Profile (AAEP) name to associate the VMM domain with an AAEP.

h) In the **STARTING SUBNET FOR PODS** field, enter the starting IP address for the IP pool that is used to allocate IP addresses to the pods.

i) In the **STARTING SUBNET FOR SERVICE** field, enter the starting IP address for the IP pool that is used to allocate IP addresses to the service VLAN.

j) In the **CONTROL PLANE CONTRACT NAME** field, enter the name of the contract that is provided by the Control Plane endpoint group to allow traffic from the Control Plane cluster to the tenant cluster.

k) In the **NODE VLAN START ID** field, enter the starting VLAN ID that is used to allocate VLAN to the node.

l) In the **NODE VLAN END ID** field, enter the ending VLAN ID that is used to allocate VLAN to the node.

m) In the **OPFLEX MULTICAST RANGE** field, enter a range for the Opflex multicast.

n) Click **CONNECT**.

Step 4   In the **Summary** screen, verify the configuration, and then click **FINISH**.

For more information on adding, modifying, or deleting an ACI profile, see Managing ACI Profile.