Configuring Cisco ACI in VMware vCenter

Configuring Cisco ACI with the Cisco ACI HTML5 vCenter Plug-in

The Cisco Application Centric Infrastructure (ACI) HTML5 vCenter plug-in enables you to perform basic Cisco ACI configuration tasks in VMware vCenter. This makes it easy for the virtualization manager create tenants, application profiles, and other key objects without having to use the Cisco Application Policy Infrastructure Controller (APIC).

Although the Cisco ACI HTML5 vCenter plug-in enables you to perform key configuration tasks, you need to use the Cisco APIC to perform more sophisticated configurations.

See the following documents on Cisco.com for instructions for configuring virtual switches that use the VMware vCenter:

- The chapter "Cisco ACI with VMware VDS Integration" in the *Cisco ACI Virtualization Guide*

- The *Cisco ACI Virtual Edge Configuration Guide*

- The Cisco APIC Basic Configuration Guide

Create a Tenant

This section describes how to create a tenant in VMware vCenter.

Note When you create a tenant using the Cisco Application Centric Infrastructure (ACI) HTML5 vCenter plug-in, the following objects are automatically created: an application profile, `tenant_name_default`; a Virtual Routing and Forwarding context (VRF), `tenant_name_default`; and a bridge domain, `tenant_name_default`.

Before you begin

Ensure that a Cisco ACI fabric is registered. For more information, see Connecting the Cisco ACI HTML5 vCenter Plug-in to your Cisco ACI Fabric.

Step 1   Log into the VMware vSphere Client.

Step 2   Go to **Cisco ACI Fabric** > **Tenants**.

At the upper left of the **Tenants** work pane, make sure that the correct fabric is chosen from the **Fabric** drop-down menu.

Step 3   In the upper right of the work pane, click **ACTIONS** and then choose **Create Tenant**.

You can later return to the **ACTIONS** button to edit or delete a tenant.

Step 4   In the **Create New Tenant** dialog box, in the **Name** field, enter a name for the tenant.

Step 5   In the **Description** field, enter a description of the tenant.

Step 6   Click **OK**.
The **Tenants** work pane displays information about the newly created tenant.

What to do next

If you do not see the newly created tenant in the **Tenants** work pane, you can verify that the tenant was created:

- In the upper right of the **Tenants** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create Tenant** entry for the tenant that you just created.

  You can also find the tenant by entering its name in the **Filter** field under **Actions**.

Create an Application Profile

This section describes how to create a new application profile for a tenant.

Before you begin

You must have configured a tenant. See Create a Tenant, on page 1.

Step 1   Log into the VMware vSphere Client.

Step 2   Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create an application profile.
The work pane displays the **Summary** page with information about the tenant, including the health and any configurations for the tenant.

Step 3   Click the **Application Management** tab.

Step 4   In the work pane, left of the table displaying the tenant, click **Application Profiles**, click the white **ACTIONS** button, and then choose **Create App. Profile**

You can later return to the **ACTIONS** button to edit or delete an application profile.

Step 5   In the **Create New Application Profile** dialog box, complete the following steps:

a) In the **Name** field, enter a name for the application profile.
b) In the **Description** field, enter text to describe the application profile.
c) Click **OK**.

The **Application Profiles** work pane displays information about the newly created application profile.

What to do next

If you do not see the application profile in the **Application Profiles** work pane, you can verify that the application profile was created:

You can also find the application profile by entering its name in the **Filter** field under **Actions**.

- In the upper right of the **Tenants** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create App** entry for the tenant that you just created.

Create a VRF

This section describes how to create a Virtual Routing and Forwarding context (VRF).

Before you begin

You must have created a tenant; see Create a Tenant, on page 1.

Step 1   Log into the VMware vSphere Client.

Step 2   Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create a VRF.
The work pane displays the **Summary** page with information about the tenant, including the health and any configurations for the tenant.

Step 3   Click the **Application Management** tab.

Step 4   In the work pane, left of the table displaying the tenant, click **VRFs**, click the white **ACTIONS** button, and then choose **Create VRF**.

You can return to the **ACTIONS** button to edit or delete a VRF.

Step 5   In the **Create New VRF** dialog box, complete the following steps:
   a) In the **Name** field, enter a name for the VRF.
   b) In the **Description** field, enter a description for the VRF.
   The **Enforce Policies** check box is checked by default.
   c) Click **OK**.
   the **VRFs** work pane displays information about the newly created VRF.

What to do next

If you do not see the VRF in the **VRFs** work pane, you can verify that the VRF was created:

- In the upper right of the **Tenants** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create VRF** entry for the tenant that you just created.

   You can also find the VRF by entering its name in the **Filter** field under **Actions**.

Create a Bridge Domain

This section describes how to create a bridge domain.

Before you begin

You must have created a virtual routing and forwarding context (VRF); see Create a VRF, on page 3.

Step 1   Log into the VMware vSphere Client.

Step 2   Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create a bridge domain. The work pane displays the **Summary** page with information about the tenant, including the health and any configurations for the tenant.

Step 3   Click the **Application Management** tab.

Step 4   In the work pane, left of the table displaying the tenant, click **Bridge Domains**, click the white **ACTIONS** button, and then choose **Create Bridge Domain**.

You can return to the **ACTIONS** button to edit or delete a bridge domain.

Step 5   In the **Create New Bridge Domain** dialog box, complete the following steps:

a) In the **Name** field, enter a name for the bridge domain.
b) In the **Description** field, enter a description for the bridge domain.
c) From the **VRF** drop-down list, choose a VRF.
d) (Optional) In the **Private Subnets:** area, if you want to add a subnet, click **Add Gateway**, enter the address in the **Gateway** field, and then click the check mark.
e) Click **OK**.
   The **Bridge Domains** work pane displays information about the newly created bridge domain.

What to do next

If you do not see the newly created bridge domain in the **Bridge Domains** work pane, you can verify that the bridge domain was created:

- In the upper right of the **Tenant** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create Bridge Domain** entry for the bridge domain that you just created.

  You can also find the bridge domain by entering its name in the **Filter** field under **ACTIONS**.

Create an EPG

This section describes how to create a new endpoint group (EPG) for a tenant. During the procedure you associate a virtual machine manager (VMM) domain with the EPG.

Before you begin

You must have created an application profile; see Create an Application Profile, on page 2.

Step 1 Log into the VMware vSphere Client.

Step 2 Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create an endpoint group. The work pane displays the **Summary** page with information about the tenant, including the health and any configurations for the tenant.

Step 3 Click the **Application Management** tab.

Step 4 In the work pane, left of the table displaying the tenant, click **EPGs**, click the white **ACTIONS** button, and then choose **Create EPG**.

You can later return to the **ACTIONS** button to edit or delete an EPG.

Step 5 In the **Create EPG** dialog box, complete the following steps:

a) In the **Name** field, enter a name for the EPG.

b) From the **Application Profile** drop-down list, choose the application profile.

c) In the **Description** field, enter text to describe the EPG.

d) In the **Domains** area, click **ACTIONS**, and then choose **Add Domain**.

e) In the **Add VMM Domain Association** dialog box, choose a domain from the **Domain** drop-down list.

f) (Optional) In the **Enhanced Lag Policy** area, choose a policy from the drop-down list.

For information about Enhanced LACP policy, see the chapter "Cisco ACI with VMware VDS Integration" in the *Cisco ACI Virtualization Guide* or the *Cisco ACI Virtual Edge Configuration Guide* on Cisco.com

g) Click **OK**.

Step 6 In the **Create EPG** dialog box, from the **Bridge Domains** drop-down list, choose a bridge domain.

Step 7 (Optional) Check the **Intra EPG Isolation** check box.

For information about intra-EPG isolation, see the chapter "Intra-EPG Isolation Enforcement and Cisco ACI" in the *Cisco ACI Virtualization Guide* or the chapter "Intra-EPG Isolation Configuration" in the *Cisco ACI Virtual Edge Configuration Guide* on Cisco.com

Step 8 Click **OK**.
The **EPGs** work pane displays information about the newly created EPG.

What to do next

If you do not see the newly created EPG in the **EPGs** work pane, you can verify that the EPG was created:

- In the upper right of the **Tenant** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create EPG** entry for the EPG that you just created.

  You can also find the EPG by entering its name in the **Filter** field under **Actions**.

Create a Filter

This section describes how to create a filter.

Before you begin

You must have configured a tenant. See Create a Tenant, on page 1.

Step 1 Log into the VMware vSphere Client.

Step 2 Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create a filter.
The work pane displays the **Summary** page with information about the tenant, including the health and any configurations for the tenant.

Step 3 Click the **Application Management** tab.

Step 4 In the work pane, left of the table displaying the tenant, click **Filters**, click the white **ACTIONS** button, and then choose **Create Filter**

You can return to the **ACTIONS** button to edit or delete the filter.

Step 5 In the **Create New Filter** dialog box, complete the following steps:

a) In the **Name** field, enter a name for the filter.

b) In the **Description** field, enter a description for the filter.

c) In the **Entries:** area, right-click **ACTIONS** and from the drop-down list, choose **Create Entry**.

d) In the **Create New Entry** dialog box, enter a name for the entry in the **Name** field.

e) Complete one of the following series of steps:

- If you want a simple entry, enter a name for the entry in the **Name** field, leave the **Advanced** check box unchecked, in the **Port:** area, choose a port from the selector or check the **Any** check box, and then click **OK**.

- If you want an advanced entry, enter a name for the entry in the **Name** field, check the **Advanced** check box, choose a type from the **Ethernet** type drop-down list, choose a protocol from the **IP protocol** drop-down list, configure the **Source Port** and **Destination Port** fields, in the **TCP Rules** area, check the check box next to one of the rules, and then click **OK**.

f) In the **Create New Entry** dialog box, click **OK**.
The **Filters** work pane displays information about the newly created filter. Click the filter to display information about the filter's entries below the list of filters.

What to do next

If you do not see the filter in the **Filters** work pane, you can verify that the filter was created:

- In the upper right of the **Tenants** work pane, click the clipboard icon.

- In the **ACI Tasks & Settings** pane, look for the **Create Filter** entry for the tenant that you just created.

You can also find the filter by entering its name in the **Filter** field under **Actions**.

Create a Contract

This section describes how to create a contract.

Step 1 Log into the VMware vSphere Client.

Step 2 Go to **Cisco ACI Fabric** > **Tenants**, and in the work pane, click the tenant where you want to create a contract.

Step 3 Click the **Application Management** tab.

Step 4   In the work pane, left of the table displaying the tenant, click **Contract**, click the white **ACTIONS** button, and then choose **Create Contract**.

You can later return to the **ACTIONS** button to edit or delete a contract.

Step 5   In the **Create New Contract** dialog box, complete the following steps:

a) In the **Consumers:** area, click the plus (+) icon.
b) In the **Select EPG** dialog box, in the **Available objects** column, check the check box for the EPG that you want to be the consumer of the contract, click **ADD**, and then click **OK**.
c) In the **Providers:** area, click the plus (+) icon.
d) In the **Select EPG** dialog box, in the **Available objects** column, check the check box for the EPG that you want to be the provider of the contract, click **ADD**, and then click **OK**.
e) In the **Create New Contract** dialog box, enter a name for the contract in the **Name** field.
f) (Optional) In the **Description** field, enter a description for the contract.
g) (Optional) In the **Traffic:** area, click the **Filters:** plus (+) icon.
h) (Optional) In the **Select Filters** dialog box, in the **Available objects** column, check the check box for the filter that you want to apply to the contract, click **ADD**, and then click **OK**.

The filters shown are those configured for the tenant and the common tenant.

i) (Optional) In the **Create New Contract**, check the **Bidirectional** check box if you want the contract to be bidirectional.
j) Click **OK**.
The **Contracts** work pane displays information about the newly created contract.

What to do next

If you do not see the contract in the Contracts work pane, verify that the contract was created:

• In the upper right of the **Tenant** work pane, click the clipboard icon.

• In the **ACI Tasks & Settings** pane, look for the **Create Contract** entry for the contract that you just created.

You can also find the contract by entering its name in the **Filter** field under **Actions**.