



# Managing Ports

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## About Ports

Switch ports are Layer 2-only interfaces that are associated with a physical port. Switch ports belong to one or more VLANs. A switch port can be an access port, a trunk port, or a tunnel port. Switch ports are used to manage the physical interface and associated Layer 2 protocols; they do not handle routing or bridging.

In Cisco UCS Director, you can configure ports and port profiles on the following Cisco network devices:

- Cisco Nexus 1000 and 1110 Series switches
- Cisco Nexus 3000 Series switches
- Cisco Nexus 5000, 5500, and 5672 Series switches
- Cisco Nexus 6000 Series switches
- Cisco Nexus 7000 Series switches
- Cisco Nexus 9300 and 9500 Series switches
- Cisco MDS 9100 Series switches
- Cisco MDS 9500 Series switches
- Cisco MDS 9700 Series switches
- Cisco ASA 5500 Series firewall

- Cisco IOS Devices
- Cisco Adaptive Security Virtual Appliance (ASAv)

**Note**

For more detailed information about managing ports, see the [Cisco NX-OS Software Configuration Guides](#).

## Configuring a Port

- Step 1** Choose **Physical > Network**.
- Step 2** On the **Network** page, choose the pod.
- Step 3** Select the network device to be configured.
- Step 4** Click **Interfaces**.
- Step 5** Choose an interface to be configured.
- Step 6** Click **Configure Port**.
- Step 7** In the **Configure Port** screen, complete the required fields, including the following:

Name	Description
Select Port field	The port to be configured is displayed.
Enable check box	Check the check box to enable the port.
Copy Running configuration to Startup configuration check box	Check the check box to copy the running configuration to the startup configuration.

- Step 8** Click **Submit**.

## Configuring an STP Port

- Step 1** Choose **Physical > Network**.
- Step 2** On the **Network** page, choose the pod.
- Step 3** Select the network device to be configured.  
The summary status of the device is displayed.
- Step 4** Click **Configure STP Port**.
- Step 5** In the **Configure STP Port** screen, complete the required fields, including the following:

Name	Description
<b>Select Port Select</b> button	(Required) Click <b>Select</b> . In the <b>Select</b> dialog box, choose the designated STP port. Continue to Step 7 if the required parameters are specified for this port.
<b>VLAN</b> field	The VLAN ID number from 1 to 4094.
<b>Cost Auto</b> check box	Check this check box to enable automatic choosing of the least costly port path. Port costs break a tie for the designated port.
<b>Hello Time</b> field	The hello time to be used on this port. This is the time between each bridge protocol data unit (BPDU) that is sent on a port.
<b>Forward Time</b> field	The forward delay to be used on this port. This is the time that is spent in the listening and learning state.
<b>Max Age</b> field	The maximum length of time before a bridge port saves its configuration BPDU information.
<b>Copy Running configuration to Startup configuration</b> check box	Check the check box to copy the running configuration to the startup configuration.

**Step 6** Click **Submit**.

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## Configuring a Port License

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**Step 1** Choose **Physical > Network**.

**Step 2** On the **Network** page, choose the pod.

**Step 3** Select the network device to be configured.  
The summary status of the device is displayed.

**Step 4** Click **Configure Port License**.

**Step 5** In the **Configure Port License** screen, complete the required fields, including the following:

Name	Description
<b>Select Port</b> drop-down	Choose a port from the list.
<b>Acquire</b> check box	Check this check box to acquire the license.

Name	Description
Copy Running configuration to Startup configuration check box	Check the check box to copy the running configuration to the startup configuration.

**Step 6** Click **Submit**.

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## Managing Port Profiles

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**Step 1** Choose **Physical > Network**.

**Step 2** On the **Network** page, choose the pod.

**Step 3** In the **Managed Network Elements** screen, choose the network device that needs to be configured.

**Step 4** Click **View Details**.

**Step 5** Click **Port Profiles**.

The port profiles created in the network device are displayed. The channel group mode and subgroup type of the port profile appear only when you choose the network device that is configured with Hyper-V. The **Port Profiles** screen provides the following actions:

Action	Description
<b>Refresh</b>	Refreshes the current page.
<b>Favorite</b>	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
<b>Create Port Profile</b>	Creates a port profile in the network device.

When you choose a port profile, the following additional actions appear:

Action	Description
<b>View Details</b>	Appears when you choose the network device that is not configured with Hyper-V. Click <b>View Details</b> to view the service request details of the port profile.
<b>Delete Port Profile</b>	Deletes a port profile.
<b>Update Port Profile</b>	Updates a port profile.

Action	Description
<b>Publish Port Profile</b>	This action appears when you choose the network device that is configured with Hyper-V. Click <b>Publish Port Profile</b> to publish the port profile to System Center Virtual Machine Manager (SCVMM).
<b>Manage Tag</b>	Adds a tag to the port profile, edits the assigned tag, and deletes the tag from the port profile.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .
<b>Add Tags</b>	Adds a tag to the port profile.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .
<b>Delete Tags</b>	Deletes the tag(s) from the port profile.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .

## Creating a Port Profile

The port profile that you create for a network device is available as a distributed port group on VMware vCenter if there is a connection between the Virtual Supervisor Module (VSM) and vCenter.

- Step 1** Navigate to the **Port Profiles** tab.  
For more information about how to navigate to the **Port Profiles** tab, see [Managing Port Profiles, on page 4](#).
- Step 2** Click **Create Port Profile**.
- Step 3** In the **Port Profile Configuration** screen, complete the fields.  
When you choose the network device that is not configured with Hyper-V, you see the following fields:

Name	Description
<b>Port Profile Name</b> field	(Required) The name for the network device port profile.
<b>Description</b> field	The description of the port profile.
<b>Port Profile Type</b> drop-down list	Choose one of the following: <b>Vethernet</b> or <b>Ethernet</b> .
<b>Mode</b> drop-down list	Choose one of the following: <b>Access</b> or <b>Trunk</b> .
<b>Access VLAN</b> drop-down list	(Required) Choose the access VLAN type.
<b>Enable VXLAN Capability</b> check box	Check this check box to enable the virtual extensible LAN (VXLAN) capability on this port profile. Uncheck the check box if you do not want to enable the VXLAN capability.
<b>IP address</b> field	The IP network address.
<b>IP network mask</b> field	The subnetwork address mask for this network.
<b>IP next-hop address</b> field	The IP next-hop address.
<b>QOS Policy Map</b> drop-down list	Choose the quality of service (QoS) policy map to apply to the port profile if applicable.
<b>Select SGT</b> field	This field appears when you choose <b>Vethernet</b> as the port profile type. Click <b>Select</b> . In the <b>Select</b> dialog box, choose an SGT.  <b>Note</b> SGT support is provided for the Cisco Nexus 1000v and Cisco Nexus 1110 switches.
<b>Copy Running configuration to Startup configuration</b> check box	Check this check box to copy the running port profile configuration to the startup configuration.

When you choose the network device that is configured with Hyper-V, you see the following fields:

Name	Description
<b>Port Profile Name</b> field	(Required) The name for the network device port profile.
<b>Description</b> field	The description of the port profile.
<b>Port Profile Type</b> drop-down list	Choose one of the following: <b>Ethernet</b> or <b>Vethernet</b> .  Defining a port profile type as Ethernet allows the port profile to be used for physical (Ethernet) ports. In a vCenter server, the corresponding port group can be selected and assigned to physical ports (PNICs).
<b>Publish Port Profile</b> check box	This check box appears when you choose <b>Vethernet</b> as the port profile type. Check this check box to publish the port profile to System Center Virtual Machine Manager (SCVMM).

Name	Description
<b>Publish Port Profile Name</b> check box	This field appears when you check the <b>Publish Port Profile</b> check box. The name for the published port profile name.
<b>Channel Group Mode</b> drop-down list	<p>This drop-down list appears when you choose <b>Ethernet</b> as the port profile type. Choose one of the following:</p> <ul style="list-style-type: none"> <li>• <b>Sub-Group</b>—Subgroups are logically smaller port channels that can consist of one or more uplinks to the physical switch.</li> <li>• <b>Mac-Pinning</b>—If you are connecting to multiple upstream switches that do not support port channels, MAC pinning is the preferred configuration. MAC pinning designates that one subgroup per Ethernet member port must be automatically assigned.</li> </ul>
<b>Sub Group Type</b> drop-down list	<p>This drop-down list appears when you choose <b>Sub-Group</b> as the channel sub-group mode. Choose one of the following:</p> <ul style="list-style-type: none"> <li>• <b>CDP</b>—Automatically creates subgroups using information from the Cisco Discovery Protocol (CDP) packets.</li> <li>• <b>Manual</b>—Manually configures port channel subgroups to manage the traffic flow on multiple upstream switches. This option is required for a port channel that connects to multiple upstream switches where CDP is not configured.</li> </ul>
<b>Mode</b> drop-down list	<p>Choose one of the following as mode:</p> <ul style="list-style-type: none"> <li>• <b>Trunk</b>—Automatically creates subgroups using information from the Cisco Discovery Protocol (CDP) packets.</li> <li>• <b>Access</b>—Manually configures port channel subgroups to manage the traffic flow on multiple upstream switches. This option is required for a port channel that connects to multiple upstream switches where CDP is not configured.</li> </ul>
<b>Allowed VLANs</b> field	This field appears when you choose <b>Trunk</b> as the mode. Click <b>Select</b> and choose VLANs that are allowed on the trunk link.
<b>Enable VXLAN Capability</b> check box	This field appears when you choose <b>Vethernet</b> as the port profile type and <b>Access</b> as the mode of port profile. Check this check box to enable the virtual extensible LAN (VXLAN) capability on this port profile. Uncheck the check box if you do not want to enable the VXLAN capability.
<b>Access VLAN</b> field	This field appears when you choose <b>Access</b> as the mode. Choose the VLAN for which this access port carries traffic.
<b>Add to System VLAN</b> check box	Check this check box to add the port profile to system VLAN.

Name	Description
System VLAN field	This field appears when you check the <b>Add to System VLAN</b> check box. Click <b>Select</b> and choose system VLAN to which you need to add the port profile.
Copy Running configuration to Startup configuration check box	Check this check box to copy the running port profile configuration to the startup configuration.

**Step 4** Click **Submit**.

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## Managing Port Channels

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**Step 1** Choose **Physical > Network**.

**Step 2** On the **Network** page, choose the pod.

**Step 3** In the **Managed Network Elements** screen, choose the network device to be configured.

**Step 4** Click **View Details**.

**Step 5** Click **Interfaces**.

The interfaces created in the network device are displayed. The **Interfaces** screen provides the following actions:

Action	Description
Refresh	Refreshes the current page.
Favorite	Adds this page to the <b>Favorites</b> tab which displays the page that you go to most often.
Create Port Channel	Creates a port channel in the network device.

When you choose a port channel, the following actions appear:

Action	Description
Configure Port	Configures a port.
Delete Port Channel	Deletes a port channel.



Action	Description
<b>Manage Tag</b>	Adds a tag to the port channel, edits the assigned tag, and deletes the tag from the port channel.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .
<b>Add Tags</b>	Adds a tag to the port channel.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .
<b>Delete Tags</b>	Deletes the tags from the port channel.  <b>Note</b> The tags that are assigned with the taggable entities as physical storage and network device are displayed. For more information on the tab library, see <a href="#">Cisco UCS Director Administration Guide</a> .
<b>Configure Access</b>	Configures the interface as an access port.
<b>Configure Trunk</b>	Configures the interface as a trunk port.
<b>Update Trunk</b>	Updates the trunk port that is configured on the interface.

## Creating a Port Channel

- Step 1** Choose **Physical > Network**.
- Step 2** On the **Network** page, choose the pod.
- Step 3** Choose the network device to be configured.
- Step 4** Click **Interfaces**.
- Step 5** Click **Create Port Channel**.
- Step 6** In the **Create Port Channel** screen, complete the required fields, including the following:

Name	Description
Port Channel Number field	The port channel number that you choose within the valid range. The valid port channel range value can be between 1 and 4096.
Description field	The description of the port channel.
Copy Running configuration to Startup configuration check box	Check this check box to copy the running configuration to the startup configuration.

**Step 7** Click **Submit**.

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## Configuring a Private VLAN Port Profile

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**Step 1** Choose **Physical > Network**.

**Step 2** On the **Network** page, choose the pod.

**Step 3** Choose the network device to be configured.

**Step 4** Click **Private VLANs**.

**Step 5** Click **Configure Private VLAN Port Profile**.

**Step 6** In the **Configure Private VLAN Port Profile** screen, complete the required fields, including the following:

Name	Description
Port Profile Name field	(Required) The port profile name.
Port Profile Type drop-down list	The port profile type.
Trunk check box	Check this check box to create the port profile in trunk mode.
Type drop-down list	Choose either <b>host</b> or <b>promiscuous</b> .
Primary VLAN ID drop-down list	Choose the primary VLAN ID.
Secondary VLAN ID Select button	Click <b>Select</b> . In the <b>Select Items</b> dialog box, choose the valid secondary VLAN ID(s) and click <b>Select</b> .
Copy Running configuration to Startup configuration check box	Check this check box to copy the running configuration to the startup configuration.

**Step 7** Click **Submit**.

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