



# Configuring Port Profiles

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## Port Profiles

Port profiles contain the properties and settings that you can use to configure virtual interfaces in Cisco UCS for VM-FEX. The port profiles are created and administered in Cisco UCS Manager. After a port profile is created, assigned to, and actively used by one or more DVSEs, any changes made to the networking properties of the port profile in Cisco UCS Manager are immediately applied to those DVSEs.

In VMware vCenter, a port profile is represented as a port group. Cisco UCS Manager pushes the port profile names to VMware vCenter, which displays the names as port groups. None of the specific networking properties or settings in the port profile are visible in VMware vCenter. You must configure at least one port profile client for a port profile if you want Cisco UCS Manager to push the port profile to VMware vCenter.

# Creating a Port Profile

## Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>create port-profile</b> <i>profile-name</i>	Creates the specified port profile and enters system VM management VMware profile set port profile mode.
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set descr</b> <i>description</i>	(Optional) Provides a description for the port profile. <b>Note</b> If your description includes spaces, special characters, or punctuation, you must begin and end your description with quotation marks. The quotation marks do not appear in the description field of any <b>show</b> command output.
<b>Step 7</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set host-nwio-perf</b> { <b>high-performance</b>   <b>none</b> }	You can choose one of the following options:  <ul style="list-style-type: none"> <li>• <b>high-performance</b></li> <li>• <b>none</b></li> </ul>
<b>Step 8</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set max-ports</b> <i>max-num</i>	Specifies the maximum number of ports that the port profile can use.  The maximum number of ports that can be associated with a single distributed virtual switch (DVS) is 4096. If the DVS has only one associated port profile, that port profile can be configured with up to 4096 ports. However, if the DVS has more than one associated port profile, the total number of ports associated with all of those port profiles combined cannot exceed 4096.
<b>Step 9</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set nw-control-policy</b> <i>policy-name</i>	Specifies the network control policy to use for the port profile.

	Command or Action	Purpose
<b>Step 10</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set pin-group</b> <i>group-name</i>	Specifies the LAN pin group to use for the port profile.
<b>Step 11</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>set qos-policy</b> <i>policy-name</i>	Specifies the QoS policy to use for the port profile.
<b>Step 12</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>commit-buffer</b>	Commits the transaction.

The following example shows how to create and configure a port profile named MyProfile and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware # scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # create port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set descr "This is my port profile"
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set host-nwio-perf high-performance
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set max-ports 24
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set nw-control-policy ncp5
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set pin-group PinGroup54
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # set qos-policy QosPolicy34
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile #
```

### What to Do Next

Add a port profile client to the port profile.

## Deleting a Port Profile

You cannot delete a port profile if a VM is actively using that port profile.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>delete port-profile</b> <i>profile-name</i>	Deletes the specified port profile.

	Command or Action	Purpose
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>commit-buffer</b>	Commits the transaction.  Cisco UCS Manager deletes the port profile and all associated port profile clients.

The following example shows how to delete the port profile named MyProfile and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware # scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # delete port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set #
```

## Adding a Named VLAN to a Port Profile

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>scope port-profile profile-name</b>	Enters system VM management VMware profile set port profile mode for the specified port profile.
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>create vlan vlan-name</b>	Specifies a named VLAN to use for the port profile.  <b>Note</b> You can create multiple VLANs for guest VLAN trunking.
<b>Step 7</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/vlan # <b>set default-net no</b>	(Optional) Sets the default-net VLAN as the native VLAN in UCS Manager.
<b>Step 8</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/vlan # <b>commit-buffer</b>	Commits the transaction.

The following example shows how to add the VLAN named accounting to the port profile named MyProfile, set the VLAN as non-native, and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware# scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # scope port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # create vlan accounting
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/vlan* # set default-net no
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/vlan* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/vlan #
```

## Deleting a Named VLAN from a Port Profile

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>scope port-profile profile-name</b>	Enters system VM management VMware profile set port profile mode for the specified port profile.
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>delete vlan vlan-name</b>	Deletes the specified named VLAN from the port profile.
<b>Step 7</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>commit-buffer</b>	Commits the transaction.

The following example shows how to delete the VLAN named accounting from the port profile named MyProfile and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware# scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # scope port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # delete vlan accounting
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile #
```

## Port Profile Clients

The port profile client determines the DVSEs to which a port profile is applied. By default, the port profile client specifies that the associated port profile applies to all DVSEs in the VMware vCenter. However, you can configure the client to apply the port profile to all DVSEs in a specific datacenter or datacenter folder or only to one DVS.

## Adding a Port Profile Client to a Port Profile

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>scope port-profile profile-name</b>	Enters system VM management VMware profile set port profile mode for the specified port profile.
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>create client client-name</b>	Creates the specified port profile client and enters system VM management VMware profile set port profile client mode.  The port profile client determines the DVSEs to which the port profile is applied. By default, a port profile applies to all DVSEs in the vCenter; however, you can use the optional <b>set data-center</b> , <b>set folder</b> , and <b>set dvs</b> commands to apply the port profile to all DVSEs in a specific datacenter, datacenter folder, or to a specific DVS.
<b>Step 7</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client # <b>set descr description</b>	(Optional) Provides a description for the port profile client.

	Command or Action	Purpose
		<b>Note</b> If your description includes spaces, special characters, or punctuation, you must begin and end your description with quotation marks. The quotation marks do not appear in the description field of any <b>show</b> command output.
<b>Step 8</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client # <b>set data-center</b> <i>data-center-name</i>	(Optional) Specifies the datacenter to which the port profile is applied.
<b>Step 9</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client # <b>set folder</b> <i>folder-name</i>	(Optional) Specifies the datacenter folder to which the port profile is applied.
<b>Step 10</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client # <b>set dvs</b> <i>name</i>	(Optional) Specifies the DVS to which the port profile is applied.
<b>Step 11</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client # <b>commit-buffer</b>	Commits the transaction.

The following example shows how to create a port profile client named OtherClient that applies the port profile named MyProfile to all DVSEs in the datacenter named OtherDatacenter and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware # scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # scope port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # create client MyClient
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client* # set descr "This is my other
client for my port profile"
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client* # set data-center
OtherDatacenter
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile/client #
```

## Deleting a Port Profile Client from a Port Profile

You cannot delete a port profile client if a VM is actively using the port profile with which the client is associated.

**Procedure**

	<b>Command or Action</b>	<b>Purpose</b>
<b>Step 1</b>	UCS-A# <b>scope system</b>	Enters system mode.
<b>Step 2</b>	UCS-A /system # <b>scope vm-mgmt</b>	Enters system VM management mode.
<b>Step 3</b>	UCS-A /system/vm-mgmt # <b>scope vmware</b>	Enters VMware mode.
<b>Step 4</b>	UCS-A /system/vm-mgmt/vmware # <b>scope profile-set</b>	Enters system VM management VMware profile set mode.
<b>Step 5</b>	UCS-A /system/vm-mgmt/vmware/profile-set # <b>scope port-profile</b> <i>profile-name</i>	Enters system VM management VMware profile set port profile mode for the specified port profile.
<b>Step 6</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>delete client</b> <i>client-name</i>	Deletes the specified port profile client.
<b>Step 7</b>	UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # <b>commit-buffer</b>	Commits the transaction.

The following example shows how to delete the port profile client named OtherClient from the port profile named MyProfile and commit the transaction:

```
UCS-A# scope system
UCS-A /system # scope vm-mgmt
UCS-A /system/vm-mgmt # scope vmware
UCS-A /system/vm-mgmt/vmware# scope profile-set
UCS-A /system/vm-mgmt/vmware/profile-set # scope port-profile MyProfile
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile # delete client OtherClient
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile* # commit-buffer
UCS-A /system/vm-mgmt/vmware/profile-set/port-profile #
```