

Service Profiles

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Service Profiles in UCS Manager

A service profile defines a single server and its storage and networking characteristics. You can create a service profile for Cisco UCS Manager and UCS Mini. When a service profile is deployed to a server, UCS Manager automatically configures the server, adapters, fabric extenders, and fabric interconnects to match the configuration specified in the service profile.

A service profile includes four types of information:

- Server definition: Defines the resources (e.g. a specific server or a blade inserted to a specific chassis) that are required to apply to the profile.
- Identity information: Includes the UUID, MAC address for each virtual NIC (vNIC), and WWN specifications for each HBA.
- Firmware revision specifications: Used when a certain tested firmware revision is required to be installed or for some other reason a specific firmware is used.
- **Connectivity definition**: Configures network adapters, fabric extenders, and parent interconnects, however this information is abstract as it does not include the details of how each network component is configured.

The UCS system provides two types of service profiles: Service profiles that inherit server identity and service profiles that override server identity.



Note

A server may also show a field for **Server Personality** as part of its properties. On Cisco UCS M6 and M7 servers, this field is displayed if a server personality is configured for HX servers. This field is not visible if no server personality is configured. The server personality is informational only and cannot be reset in the UCS Manager GUI. However, the UCS Manager CLI provides a command line option to revert the server back to a "no personality" state.

Service Profiles that Override Server Identity

This type of service profile provides the maximum amount of flexibility and control. This profile allows you to override the identity values that are on the server at the time of association and use the resource pools and policies set up in Cisco UCS Manager to automate some administration tasks.

You can disassociate this service profile from one server, then associate it with another server. This re-association can be done either manually or through an automated server pool policy. The burned-in settings, such as UUID and MAC address on the new server are overwritten with the configuration in the service profile. As a result, the change in the server is transparent to your network. You do not need to reconfigure any component or application on your network to begin using the new server.

This profile allows you to take advantage of and manage system resources through resource pools and policies, such as the following:

- Virtualized identity information, including pools of MAC addresses, WWN addresses, and UUIDs
- · Ethernet and Fibre Channel adapter profile policies
- Firmware package policies
- Operating system boot order policies

Unless the service profile contains power management policies, a server pool qualification policy, or another policy that requires a specific hardware configuration, you can use the profile for any type of server in the Cisco UCS domain.

You can associate these service profiles with either a rack-mount server or a blade server. The ability to migrate the service profile depends upon whether you choose to restrict migration of the service profile.



Note

If you choose not to restrict migration, Cisco UCS Manager does not perform any compatibility checks on the new server before migrating the existing service profile. If the hardware of both servers are not similar, the association might fail.

Service Profiles that Inherit Server Identity

This hardware-based service profile is the simplest to use and create. This profile uses the default values in the server and mimics the management of a rack-mounted server. It is tied to a specific server and cannot be moved or migrated to another server.

You do not need to create pools or configuration policies to use this service profile.

This service profile inherits and applies the identity and configuration information that is present at the time of association, such as the following:

- MAC addresses for the two NICs
- · For a converged network adapter or a virtual interface card, the WWN addresses for the two HBAs
- BIOS versions
- Server UUID

Important

The server identity and configuration information inherited through this service profile might not have the values burned into the server hardware at the manufacturer if those values were changed before this profile is associated with the server.

Guidelines and Recommendations for Service Profiles

In addition to any guidelines or recommendations that are specific to policies and pools included in service profiles and service profile templates, such as the local disk configuration policy, adhere to the following guidelines and recommendations that impact the ability to associate a service profile with a server:

Limit to the Number of vNICs that Can Be Configured on a Rack-Mount Server

You can configure up to 56 vNICs per supported adapter, such as the Cisco UCS P81E Virtual Interface Card (N2XX-ACPCI01), on any rack-mount server that is integrated with Cisco UCS Manager.

No Power Capping Support for Rack-Mount Servers

Power capping is not supported for rack servers. If you include a power control policy in a service profile that is associated with a rack-mount server, the policy is not implemented.

QoS Policy Guidelines for vNICs

You can only assign a QoS policy to a vNIC if the priority setting for that policy is not set to **fc**, which represents the Fibre Channel system class. You can configure the priority for the QoS policy with any other system class.

QoS Policy Guidelines for vHBAs

You can only assign a QoS policy to a vHBA if the priority setting for that policy is set to **fc**, which represents the Fibre Channel system class.

The Host Control setting for a QoS policy applies to vNICs only. It has no effect on a vHBA.

Methods of Creating Service Profiles

Creating a Service Profile with the Expert Wizard

Step 1	In the Navigation pane, click Servers .	
Step 2	2 Expand Servers > Service Profiles.	
Step 3	Expand th	e node for the organization where you want to create the service profile.
	If the systemet	em does not include multi tenancy, expand the root node.
Step 4	Right-clic	k the organization and select Create Service Profile (expert).
Step 5	In the Ide	ntify Service Profile panel, specify the service profile Name, UUID assignment and click Next.
		rovide an optional description for this service profile. If the UUID is not available, you can also UID Suffix Pool from this panel.
	Note	To create a service profile quickly, you can click Finish after specifying the name. Cisco UCS Manager creates a new service profile with the specified name and all system default values.
Step 6		In the Networking panel, specify the required information for the Dynamic vNIC Connection LAN Connectivity sections, then click Next .
	You can c	reate a dynamic vNIC connection policy and LAN connectivity policy from this panel.
	Note	Dynamic vNICs, usNICs, and VMQs are not supported when creating a vNIC for a LAN Connectivity Policy. RoCE, VXLAN, NvGRE are not supported when configuring the Ethernet Adapter Policy.
Step 7	` 1 /	In the Storage panel, specify the SAN configuration information such as, Local Storage Policy , nectivity , WWNN and VSAN , then click Next .
	You can c	reate a local disk configuration policy and SAN connectivity policy from this panel.
	Note	FC vNICs are not supported when configuring vHBA under the Storage Policy.
Step 8	(Optional)	In the Zoning panel, specify the required zoning information, then click Next .
	You can c	reate the vHBA initiator groups from this panel.
Step 9	(Optional)	In the vNIC/vHBA Placement panel, specify the placement method and PCI order, then clickNext.
	You can c	reate a placement policy from this panel.
Step 10	(Optional)	In the Server Boot Order panel, specify the Boot Policy from the drop-down list, then click Next.
	You can c	reate a boot policy from this panel.
Step 11	(Optional)	In the Maintenance Policy panel, specify the maintenance policy, then click Next.
	You can c	reate a new maintenance policy and specify a maintenance schedule from this panel.

Step 12	(Optional) In the Server Assignment panel, specify the Server Assignment from the drop down list and the power state to apply on assignment, then click Next .		
	You can create a server pool or a host firmware package from this panel.		
Step 13	(Optional) In the Operational Policies panel, specify the system operational information such as, BIOS Configuration , External IPMI Management Configuration , Management IP Address , Monitoring Configuration (Thresholds), Power Control Policy Configuration , and Scrub Policy , then click Finish .		
	Note	To set up an Outband IPv4 address or an Inband IPv4 or IPv6 address, click the respective tabs and complete the required fields.	
	TC 1		

If you do not find the policies you need for each of these configurations, you can create them from this panel.

Creating a Service Profile that Inherits Server Identity

Procedure

Step 1	In the Navigation pane, click Servers .		
Step 2	Expand Servers > Service Profiles.		
Step 3	Expand the node for the organization where you want to create the service profile.		
	If the system does not include multi tenancy, expand the root node.		
Step 4	Right-click the organization and select Create Service Profile.		
Step 5	In the Naming area of the Create Service Profile dialog box, complete the following fields:		
	a) In the Name field, enter a unique name that you can use to identify the service profile.		
	This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.		
	b) In the Description field, enter a description of this service profile.		
Step 6	In the vNICs area of the Create Service Profile dialog box, choose the primary and secondary vNICs.		
Step 7	In the vHBAs area of the Create Service Profile dialog box, choose the primary and secondary vHBAs.		
Step 8	In the Boot Order area of the Create Service Profile dialog box, choose the primary and secondary boot devices.		
Step 9	(Optional) In the Select column of the Server Association (optional) area, click the radio button for a server to associate this service profile with that server.		
Step 10	Click OK .		

Creating a Hardware Based Service Profile for a Blade Server

You cannot move a hardware based service profile to another server.

In the Navigation pane, click Equipment.

Procedure

Step 1

Ex	Expand Equipment > Chassis > Chassis Number > Servers.		
Ch	Choose the server for which you want to create a hardware based service profile.		
In	In the Work pane, click the General tab.		
In	the Actions area, click Create Service Profile.		
In	the Create Service Profile for Server dialog box, do the following:		
a)	From the Create Service Profile in Organization drop-down list, select the organization in which you want to create the service profile.		
b)	Click the Hardware Based Service Profile radio button.		
c)	In the Name field, enter a unique name for the service profile.		
	This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.		
d)	If you want Cisco UCS Manager to create vNICs for the service profile, check the Create Default vNICs check box.		
e)	If you want Cisco UCS Manager to create vHBAs for the service profile, check the Create Default vHBAs check box.		
f)	Click OK .		
	sco UCS Manager inherits and automatically applies the identity and configuration information in the server, eates the service profile, and associates it with the server.		

Guidelines for Creating Hardware-Based Service Profile for the M7 Servers

When you create a hardware-based service profile for servers which do not support Legacy boot mode, the following configuration failure message is displayed:

Legacy boot mode is not supported on the current platform

Creating a Hardware Based Service Profile for a Rack-Mount Server

You cannot move a hardware based service profile to another server.

Procedure

Step 1	In the Navigation pane, click Equipment.		
Step 2	Expand Equipment > Rack Mounts > Servers .		
	Note	For Cisco UCS C125 M5 Servers, expand Equipment > Rack Mounts > Enclosures > Rack Enclosure <i>rack_enclosure_number</i> > Servers .	

Step 3 Choose the server for which you want to create a hardware based service profile.

- **Step 4** In the **Work** pane, click the **General** tab.
- **Step 5** In the Actions area, click Create Service Profile.
- **Step 6** In the Create Service Profile for Server dialog box, do the following:
 - a) From the **Create Service Profile in Organization** drop-down list, select the organization in which you want to create the service profile.
 - b) Click the Hardware Based Service Profile radio button.
 - c) In the Name field, enter a unique name for the service profile.

This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.

- d) If you want Cisco UCS Manager to create vNICs for the service profile, check the **Create Default vNICs** check box.
- e) If you want Cisco UCS Manager to create vHBAs for the service profile, check the **Create Default vHBAs** check box.
- f) Click OK.

Cisco UCS Manager inherits and automatically applies the identity and configuration information in the server, creates the service profile, and associates it with the server.

Inband Service Profiles

Deleting the Inband Configuration from a Service Profile

This procedure removes the inband management IP address configuration from a service profile. If this action is greyed out, no inband configuration was configured.

Procedure

 Step 1
 In the Navigation pane, click Servers.

 Step 2
 Expand Servers > Service Profiles > Service_Profile_Name.

 Step 3
 In the Work pane, click the General tab.

 Step 4
 In the Actions area, click Delete Inband Configuration.

 Step 5
 Click Yes in the Delete confirmation dialog box.

 The inband management IP address configuration for the service profile is deleted.

Service Profile Tasks

Renaming a Service Profile

When you rename a service profile, the following occurs:

- Event logs and audit logs that reference the previous name for the service profile are retained under that name.
- A new audit record is created to log the rename operation.
- All records of faults against the service profile under its previous name are transferred to the new service profile name.



Note You cannot rename a service profile with pending changes.

Procedure

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that includes the service profile you want to rename.
	If the system does not include multi tenancy, expand the root node.
Step 4	Click the service profile you want to rename.
Step 5	In the Work pane, click the General tab.
Step 6	In the Actions area, click Rename Service Profile.
Step 7	In the Rename Service Profile dialog box, enter the new name for the service profile in the New Name field.
	This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.
Step 8	Click OK .

Cloning a Service Profile

Step 1	In the Navigation pane, click Servers
Step 2	Expand Servers > Service Profiles.

Step 3	Expand the node for the organization where you want to create the service profile.		
	If the system does not include multi tenancy, expand the root node.		
Step 4	Right-click the service profile you want to clone and select Create a Clone .		
Step 5	In the Create Clone From Service Profile dialog box:		
	a) Enter the name you want to use for the new profile in the Clone Name field.		
	This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.		
	This name must be unique within the organization or sub-organization in which you are creating the service profile.		
	b) Click OK .		
Step 6	Navigate to the service profile you just created and make sure that all options are correct.		

Changing the UUID in a Service Profile

Step 1 Step 2 Step 3	In the Navigation pane, click Servers . Expand Servers > Service Profiles . Expand the node for the organization that contains the service profile for which you want to change the UUI		
Step 4 Step 5 Step 6 Step 7	If the system does not include multi tenancy, expand the root Choose the service profile that requires the UUID for the ass In the Work pane, click the General tab. In the Actions area, click Change UUID . From the UUID Assignment drop-down list, do one of the for	ociated server to be changed.	
	Option	Description	
	Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool. Continue with Step 9.	
	Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server.	

Option	Description
	Continue with Step 9.
xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxx	Uses the UUID that you manually assign.
	Continue with Step 8.
Pools Pool_Name	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list.
	Each pool name is followed by two numbers in parentheses that show the number of UUID still available in the pool and the total number of UUIDs in the pool.
	Continue with Step 9.

profile.b) To verify that the selected UUID is available, click the here link.

Step 9 Click OK.

Step 8

Modifying the Boot Order in a Service Profile

Step 1 In the Navigation pane, click Servers .				
Step 2	Expand Servers > Service Profiles.			
Step 3	Expand the node for the organization that includes the service profile for which you want to change the boot order.			
	If the system does not include multi-tenancy, expand the root node.			
Step 4	Click the service profile for which you want to change the boot order.			
Step 5	In the Work pane, click the Boot Order tab. Click Modify Boot Policy to change the existing boot policy. In the Modify Boot Policy dialog box, choose one of the following from the Boot Policy drop-down list:			
Step 6				
Step 7				
	Option	Description		
	Select Boot Policy to use	Assigns the default boot policy to this service profile.		
		Continue with Step 14.		
	Create a Specific Boot Policy	Finables you to create a local boot policy that can only be accessed by this service profile.		

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	Option	Description	
		Continue with Step 8.	
	Boot Policies <i>Policy_Name</i>	Assigns an existing boot policy to the service profile. If you choose this option, Cisco UCS Manager displays the details of the policy.	
		If you do not want use any of the existing policies, but instead want to create a policy that all service profiles can access, click Create Boot Policy and continue with Step 2. Otherwise, continue with Step 14.	
Step 8	If you chose to create a boot policy, in the Create Boot Policy dialog box, enter a unique name and description for the policy.		
	This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.		
Step 9	(Optional) To reboot all servers that use this boot policy after you make changes to the boot order, check the Reboot on Boot Order Change check box.		
		I, if the Reboot on Boot Order Change check box is checked for a boot ppy is the last device in the boot order, deleting or adding the device does not ad the server does not reboot.	
Step 10	(Optional) If desired, check the Enforce vNIC/vHBA/iSCSI Name check box.		
	• If checked, Cisco UCS Manager displays a configuration error and reports whether one or more of the vNICs, vHBAs, or iSCSI vNICs listed in the Boot Order table match the server configuration in the service profile.		
	• If not checked, Cisco UCS the service profile.	Manager uses the vNICs or vHBAs (as appropriate for the boot option) from	
Step 11	To add a local disk, virtual CD-	ROM, or virtual floppy to the boot order, do the following:	
-	a) Click the down arrows to early a state of the arrows to early a state of the arrows to early a state of the arrows are	-	
	, C	links to add the device to the Boot Order table:	
	Add Local Disk or		
	Add Local LUN		
	Add Local JBOI	D	
	Add SD Card		
	• Add Internal US		
	• Add External US		
	Add Embedded		
	Add Embedded	Local Disk	
	• Add CD/DVD or		
	• Add Local CD/E)VD	

Add Local Remote CD/DVD

In a setup with M5 blade servers, if an ISO is mapped to the KVM console, use only **Add Remote CD/DVD** in **Boot Order**.

	c) Add another boot device to the Boot Order table, or click OK to finish.
Step 12	To add a LAN boot to the boot order, do the following:
	a) Click the down arrows to expand the vNICs area.
	b) Click the Add LAN Boot link.
	c) In the Add LAN Boot dialog box, enter the name of the vNIC that you want to use for the LAN boot in the vNIC field, then click OK.
	d) Add another device to the Boot Order table, or click OK to finish.
Step 13	To add a SAN boot to the boot order, do the following:
	a) Click the down arrows to expand the vHBAs area.
	b) Click the Add SAN Boot link.
	c) In the Add San Boot dialog box, specify the vHBA and type, then click OK.
	 d) If this vHBA points to a bootable SAN image, click the Add SAN Boot Target link and, in the Add SAN Boot Target dialog box, specify the boot target LUN, boot target WWPN, and type, then click OK.
	e) Add another boot device to the Boot Order table, or click OK to finish.
Step 14	Click OK .

Creating a vNIC for a Service Profile

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that contains the service profile for which you want to create a vNIC.
Step 4	Expand the service profile for which you want to create a vNIC.
Step 5	Right-click the vNICs node and choose Create vNICs.
Step 6	In the Create vNIC dialog box, enter the name, select a MAC Address Assignment, and check the Use vNIC Template check box if you want to use an existing vNIC template.
	You can also create a MAC pool from this area.
Step 7	Choose the Fabric ID , select the VLANs that you want to use, enter the CDN Name and MTU , and choose a Pin Group .
	You can also create a VLAN and a LAN pin group from this area.
Step 8	In the Operational Parameters area, choose a Stats Threshold Policy.
Step 9	In the Adapter Performance Profile area, choose an Adapter Policy, QoS Policy, and a Network Control Policy.
	You can also create an Ethernet adapter policy, QoS policy, and network control policy from this area.

Step 10	In the Connection Policies area, choose the Dynamic vNIC , usNIC or VMQ radio button, then choose the corresponding policy.
	You can also create a dynamic vNIC, usNIC, or VMQ connection policy from this area.
Step 11	Click OK .

Deleting a vNIC from a Service Profile

Procedure

Step 1	In the Navigation pane, click Servers.	
Step 2	Expand Servers > Service Profiles.	
Step 3	Expand the node for the organization that contains the service profile from which you want to delete a vNIC.	
Step 4	Expand the service profile from which you want to delete a vNIC.	
Step 5	Expand the vNICs node.	
Step 6	Right-click the vNIC you want to delete and choose Delete .	
Step 7	If a confirmation dialog box displays, click Yes .	

Creating a vHBA for a Service Profile

Procedure

Step 1	In the Navigation pane, click Servers.	
Step 2	Expand Servers > Service Profiles.	
Step 3	Expand the node for the organization that contains the service profile for which you want to create a vHBA.	
Step 4	Expand the service profile for which you want to create a vHBA.	
Step 5	Right-click the vHBAs node and choose Create vHBAs.	
Step 6	In the Create vHBAs dialog box, enter the name and optional description.	
Step 7	Choose the Fabric ID, Select VSAN, Pin Group, Persistent Binding, and Max Data Field Size.	
	You can also create a VSAN or SAN pin group from this area.	
Step 8	In the Operational Parameters area, choose the Stats Threshold Policy.	
Step 9	In the Adapter Performance Profile area, choose the Adapter Policy and QoS Policy.	
	You can also create a fibre channel adapter policy or QoS policy from this area.	
Step 10	Click OK.	

Changing the WWPN for a vHBA

Procedure

Step 1	In the Navigation pane, click Servers .	
Step 2	Expand Servers > Service Profiles.	
Step 3	Expand the node for the organization that contains the service profile for which you want to change the WWPN.	
Step 4	Expand <i>Service_Profile_Name</i> > vHBAs.	
Step 5	Click the vHBA for which you want to change the WWPN.	
Step 6	In the Work pane, click the General tab.	
Step 7	In the Actions area, click Change World Wide Name.	
Step 8	In the Change World Wide Port Name dialog box, complete the required fields.	
Step 9	Click OK.	

Clearing Persistent Binding for a vHBA

Procedure

Step 1	In the Navigation pane, click Servers.	
Step 2	Expand Servers > Service Profiles.	
Step 3	Expand the node for the organization that contains the service profile for which you want to modify the vHBA.	
Step 4	Expand <i>Service_Profile_Name</i> > vHBAs.	
Step 5	Click the vHBA for which you want to clear the persistent binding.	
Step 6	In the Work pane, click the General tab.	
Step 7	In the Actions area, click Clear Persistent Binding.	
Step 8	If a confirmation dialog box displays, click Yes.	

Deleting a vHBA from a Service Profile

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that contains the service profile from which you want to delete a vHBA.
Step 4	Expand the service profile from which you want to delete a vHBA.
Step 5	Expand the vHBAs node.

Step 6 Right-click the vHBA you want to delete and choose Delete. Step 7 If a confirmation dialog box displays, click Yes.

Adding a vHBA Initiator Group to a Service Profile

Procedure

Step 1	1 Expand Servers > Service Profiles.	
Step 2	Expand the node for the organization that contains the service profile to which you want to add a vHBA	
	initiator group.	

If the system does not include multi tenancy, expand the **root** node.

- Step 3 Choose the service profile to which you want to add a vHBA initiator group.
- Step 4 In the Work pane, click the Storage > vHBA Initiator Groups.
- Step 5 On the icon bar at the right of the Select vHBA Initiator Groups table, click +.
- Step 6 In the **Create vHBA Initiator Group** dialog box, complete the following fields to set the name and description:

Name	Description
Name field	The name of the vHBA initiator group.
	This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.
Description field	A description of the group.
	Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).

Step 7 In the Select vHBA Initiators table, check the check box in the Select column for each vHBA you want to include in the vHBA initiator group.

Step 8 To add a storage connection policy to the initiator group, choose one of the following options:

- Choose an existing storage connection policy from the Storage Connection Policy drop-down list. Continue with Step 10.
- Click the Create Storage Connection Policy link if you want to create a new storage connection policy that will be available for use by other vHBA initiator groups within the Cisco UCS domain. For more information, see Creating a Fibre Channel Storage Connection Policy. After you create the storage connection policy, continue with Step 10.
- Choose the Specific Storage Connection Policy option to create a storage connection policy that is only available to this vHBA initiator group. Continue with Step 9.

Step 9 In the **Specific Storage Connection Policy** area, complete the following fields to create a storage connection policy that is only available to this vHBA initiator group:

Name	Description
Description field	A description of the policy. Cisco recommends including information about where and when to use the policy.
	Enter up to 256 characters. You can use any characters or spaces except `(accent mark), \(backslash), ^(carat), "(double quote), = (equal sign), $>$ (greater than), $<$ (less than), or '(single quote).
Zoning Type field	This can be one of the following:
	• None—Cisco UCS Manager does not configure Fibre Channel zoning.
	• Single Initiator Single Target—Cisco UCS Manager automatically creates one zone for each vHBA and storage port pair. Each zone has two members. We recommend that you configure this type of zoning unless you expect the number of zones to exceed the maximum supported.
	• Single Initiator Multiple Targets—Cisco UCS Manager automatically creates one zone for each vHBA. We recommend that you configure this type of zoning if you expect the number of zones to reach or exceed the maximum supported.
FC Target Endpoints table	The Fibre Channel target endpoints associated with this policy. This table contains the following columns and buttons:
	• WWPN column—The World Wide Port Name associated with the endpoint.
	• Path column—The path to the endpoint.
	• VSAN column—The VSAN associated with the endpoint.
	• Add button—Creates a new FC target endpoint.
	• Delete button—Deletes the selected endpoint.
	• Properties button—Displays all properties for the selected endpoint.

Step 10 Click OK.

Step 11 If a confirmation dialog box displays, click **Yes**.

Deleting a Service Profile

Procedure

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles > Organization_Name .
Step 3	Right-click the service profile you want to delete and select Delete.
Step 4	If a confirmation dialog box displays, click Yes.
Step 5	Click OK .

Service Profile Association

Associating a Service Profile with a Server or Server Pool

Follow this procedure if you did not associate the service profile with a blade server or server pool when you created it, or to change the blade server or server pool with which a service profile is associated.

In the Navigation pane, click Servers.		
Expand Servers > Service Profiles.		
Expand the node for the organization that contains the service profile that you want to associate with a new server or server pool.		
If the system does not include multi tenancy, expand the root node.		
Right-click the service profile you want to associate with a server and select Associate Service Profile.		
In the Associate Ser	vice Profile dialog box, select one of the following options:	
Option	Description	
Server Pool	Select a server pool from the drop-down list. Cisco UCS Manager assigns a server from this pool to the service profile.	
	Continue with Step 7.	
Server	Navigate to the desired available server in the navigation tree and select the server which will be assigned to the service profile.	
	Continue with Step 7.	
Custom Server	Specifies the chassis and slot that contains the server that will be assigned to the service profile. If the server is not in the slot or is otherwise unavailable, the service profile will be associated with the server when it becomes available.	
	Continue with Step 6.	

Step 6	 If you chose Custom Server, do the following: a) In the Chassis Id field, enter the number of the chassis where the selected server is located. b) In the Server Id field, enter the number of the slot where the selected server is located.
Step 7	If you want to restrict the migration of the service profile after it is associated with a server, check the Restrict Migration. check box.
	If you choose not to restrict migration, Cisco UCS Manager does not perform any compatibility checks on the new server before migrating the existing service profile. If the hardware of both servers are not similar, the association might fail.
Step 8	Click OK .

Disassociating a Service Profile from a Server or Server Pool

When you disassociate a service profile, Cisco UCS Manager attempts to shutdown the operating system on the server. If the operating system does not shutdown within a reasonable length of time, Cisco UCS Manager forces the server to shutdown.

Procedure

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that contains the service profile that you want to disassociate from a server or server pool.
	If the system does not include multi tenancy, expand the root node.
Step 4	Right-click the service profile you want to disassociate from a server and select Disassociate Service Profile.
Step 5	In the Disassociate Service Profile dialog box, click Yes to confirm that you want to disassociate the service profile.
Step 6	(Optional) Monitor the status and FSM for the server to confirm that the disassociation completed.

Service Profile Templates

Initial and Existing Templates

With a service profile template, you can quickly create several service profiles with the same basic parameters, such as the number of vNICs and vHBAs, and with identity information drawn from the same pools.

<u>}</u> Tip

If you need only one service profile with similar values to an existing service profile, you can clone a service profile in the Cisco UCS Manager GUI.

For example, if you need several service profiles with similar values to configure servers to host database software, you can create a service profile template, either manually or from an existing service profile. You then use the template to create the service profiles.

Cisco UCS supports the following types of service profile templates:

Initial template

Service profiles created from an initial template inherit all the properties of the template. Service profiles created from an initial service profile template are bound to the template. However, changes to the initial template do not *automatically* propagate to the bound service profiles. If you want to propagate changes to bound service profiles, unbind and rebind the service profile to the initial template.

Updating template

Service profiles created from an updating template inherit all the properties of the template and remain connected to the template. Any changes to the template automatically update the service profiles created from the template.



Note

Service profiles that are created from the initial template and normal service profiles fetch the lowest available IDs in the sequential pool when you press **Reset**.

Service profiles created from updating template might attempt to retain the same ID when you press **Reset** even when lower IDs of sequential pool are free.

Creating a Service Profile Template

Step 1	1 In the Navigation pane, click Servers .		
Step 2	Expand S	Servers > Service Profile Templates.	
Step 3	Expand the node for the organization where you want to create the service profile template.		
	If the sys	stem does not include multi tenancy, expand the root node.	
Step 4	Right-click the organization and choose Create Service Profile Template.		
Step 5	In the Identify Service Profile Template panel, specify the service profile Name , Type , and UUID Assignment , then click Next .		
	You can	provide an optional description for this service profile template.	
	Note	To create a service profile template quickly, you can click Finish after specifying the name. Cisco UCS Manager creates a new service profile template with the specified name and all system default values.	
Step 6	(Optional) In the Networking panel, specify the required information for the Dynamic vNIC Connection Policy and LAN Connectivity sections, then click Next		
	You can	create a dynamic vNIC connection policy and LAN connectivity policy from this panel.	

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Step 7	(Optional) In the Storage panel, specify the SAN configuration information such as, Local Storage Polic SAN Connectivity , WWNN , and vHBAs , then click Next .		
	You can create a local disk configuration policy and SAN connectivity policy from this panel.		
Step 8	(Optional) In the Zoning panel, specify the required zoning information, then clickNext.		
	You can create the vHBA initiator groups from this panel.		
Step 9	(Optional) In the vNIC/vHBA Placement panel, specify the placement method and PCI order, then clickNext.		
	You can create a placement policy from this panel.		
Step 10	(Optional) In the Server Boot Order panel, specify the Boot Policy from the drop-down list, then click Next.		
	You can create a boot policy from this panel.		
Step 11	(Optional) In the Maintenance Policy panel, specify the maintenance policy, then click Next.		
	You can create a new maintenance policy and specify a maintenance schedule from this panel.		
Step 12	(Optional) In the Server Assignment panel, specify the Pool Assignment from the drop down list and the power state to apply on assignment, then click Next .		
	You can create a server pool or a host firmware package from this panel.		
Step 13	(Optional) In the Operational Policies panel, specify the system operational information such as, BIOS Configuration , External IPMI Management Configuration , Management IP Address , Monitoring Configuration (Thresholds), Power Control Policy Configuration , and Scrub Policy , then click Finish .		
	Note To set up an Outband IPv4 address or an Inband IPv4 or IPv6 address, click the respective tabs and complete the required fields.		
	If you do not find the policies you need for each of these configurations, you can create them from this panel.		

Creating One or More Service Profiles from a Service Profile Template

In the Navigation pane, click Servers .
Expand Servers > Service Profile Templates.
Expand the node for the organization that contains the service profile template that you want to use as the basis for your service profiles.
If the system does not include multi tenancy, expand the root node.
Right-click the service profile template from which you want to create the profiles and select Create Service Profiles From Template .
In the Create Service Profiles From Template dialog box, complete the required fields.
Click OK .

Creating a Template Based Service Profile for a Blade Server

Before you begin

A qualified service profile template with the desired values must exist in Cisco UCS Manager.

Procedure

Step 1	In the Navigation pane, click Equipment.		
Step 2	Expand Equipment > Chassis > Chassis Number > Servers.		
Step 3	Ch	oose the serv	ver for which you want to create a template based service profile.
Step 4	Int	the Work pa	ne, click the General tab.
Step 5	In the Actions area, click Create Service Profile.		
Step 6	In the Create Service Profile for Server dialog box, do the following:		
	a) b)		emplate Based Service Profile radio button. e field, enter a unique name for the service profile.
		characters of	can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique ervice profiles and service profile templates within the same organization.
	c)		ervice Profile Template drop-down list, select the template from which you want to create profile associated with this server.
		Note	The drop-down list only lists service profile templates compatible with the selected blade server.
	d)	Click OK.	

Creating a Template Based Service Profile for a Rack-Mount Server

Before you begin

A qualified service profile template with the desired values must exist in Cisco UCS Manager.

Step 1	In the Navi	he Navigation pane, click Equipment.	
Step 2	Expand Equipment > Rack Mounts > Servers .		
	Note	For Cisco UCS C125 M5 Servers, expand Equipment > Rack Mounts > Enclosures > Rack Enclosure <i>rack_enclosure_number</i> > Servers .	
Step 3	Choose the server for which you want to create a template based service profile.		
Step 4	In the Wor	k pane, click the General tab.	

- **Step 5** In the Actions area, click Create Service Profile.
- **Step 6** In the Create Service Profile for Server dialog box, do the following:
 - a) Click the Template Based Service Profile radio button.
 - b) In the Name field, enter a unique name for the service profile.

This name can be between 2 and 32 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and this name must be unique across all service profiles and service profile templates within the same organization.

- c) From the **Service Profile Template** drop-down list, select the template from which you want to create the service profile associated with this server.
- d) Click OK.

Creating a Service Profile Template from a Service Profile

Procedure

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that contains the service profile that you want to use as the basis for your template.
	If the system does not include multi tenancy, expand the root node.
Step 4	Right-click the service profile from which you want to create the template and select Create a Service Profile Template .
Step 5 Step 6	In the Create Template From Service Profile dialog box, complete the required fields. Click OK .

Setting an Asset Tag for a Service Profile

Step 1	Navigate to Servers > Service Profiles		
Step 2	Expand the node for which you want to create the asset tag.		
	If the system does not include multitenancy expand the root node		
Step 3	In the Work pane, click the General tab.		
Step 4	In the Asset Tag field, enter a name to identify the server.		
	The name can be between 2 to 32 alphanumeric characters. You can use space or any special characters other than ` (accent mark), \ (backslash), $^{(carat)}$, " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).		

Step 5 Click Save Changes.

Step 6 Reboot the server manually for the changes to be in effect.

Service Profile Template Tasks

Binding a Service Profile to a Service Profile Template

You can bind a service profile to a service profile template. When you bind the service profile to a template, Cisco UCS Manager configures the service profile with the values defined in the service profile template. If the existing service profile configuration does not match the template, Cisco UCS Manager reconfigures the service profile. You can only change the configuration of a bound service profile through the associated template.

Procedure

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profiles.
Step 3	Expand the node for the organization that includes the service profile you want to bind.
	If the system does not include multi-tenancy, expand the root node.
Step 4	Click the service profile you want to bind.
Step 5	In the Work pane, click the General tab.
Step 6	In the Actions area, click Bind to a Template.
Step 7	In the Bind to a Service Profile Template dialog box, do the following:
	a) From the Service Profile Template drop-down list, choose the template to which you want to bind the service profile.
	b) Click OK .

Unbinding a Service Profile from a Service Profile Template

Step 1	In the Navigation pane, click Servers .
Step 2	Expand Servers > Service Profiles .
Step 3	Expand the node for the organization that includes the service profile you want to unbind.
Step 4 Step 5	If the system does not include multi-tenancy, expand the root node. Click the service profile you want to unbind. In the Work pane, click the General tab.

Step 6 In the Actions area, click Unbind from the Template.Step 7 If a confirmation dialog box displays, click Yes.

Changing the UUID in a Service Profile Template

Procedure

Step 1 Step 2 Step 3 Step 4 Step 5 Step 6	 In the Navigation pane, click Servers. Expand Servers > Service Profile Templates. Expand the node for the organization that contains the service profile template for which you want to change the UUID. If the system does not include multi tenancy, expand the root node. Choose the service profile template whose UUID assignment you want to change. In the Work pane, click the General tab. 		
Step 7	In the Actions area, click Change UUID. From the UUID Assignment drop-down list, choose one of the following:		
	Option	Description	
	Select (pool default used by default)	Assigns a UUID from the default UUID Suffix pool.	
	Hardware Default	Uses the UUID assigned to the server by the manufacturer. If you choose this option, the UUID remains unassigned until the service profile is associated with a server. At that point, the UUID is set to the UUID value assigned to the server by the manufacturer. If the service profile is later moved to a different server, the UUID is changed to match the new server.	
	Pools Pool_Name	Assigns a UUID from the UUID Suffix pool that you select from the list at the bottom of the drop-down list. Each pool name is followed by two numbers in parentheses that show the number of UUIDs still available in the pool and the total number of UUIDs in the pool.	

Step 8 Click OK.

Resetting the UUID Assigned to a Service Profile from a Pool in a Service Profile Template

If you change the UUID suffix pool assigned to an updating service profile template, Cisco UCS Manager does not change the UUID assigned to a service profile created with that template. If you want Cisco UCS Manager to assign a UUID from the newly assigned pool to the service profile, and therefore to the associated

server, you must reset the UUID. You can only reset the UUID assigned to a service profile and its associated server under the following circumstances:

- The service profile was created from an updating service profile template and includes a UUID assigned from a UUID suffix pool.
- The UUID suffix pool name is specified in the service profile. For example, the pool name is not empty.
- The UUID value is not 0, and is therefore not derived from the server hardware.

Procedure

	Step 1	In the Navigati	on pane,	click	Servers
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- **Step 2** Expand **Servers** > **Service Profiles**.
- Step 3Expand the node for the organization that contains the service profile for which you want to reset the UUID.If the system does not include multi tenancy, expand the root node.
- **Step 4** Choose the service profile that requires the UUID for the associated server to be reset to a different UUID suffix pool.
- **Step 5** In the Work pane, click the General tab.
- **Step 6** In the **Actions** area, click **Reset UUID**.

If this action is not visible, then the UUID configuration in the service profile does not meet the requirements for resetting a UUID.

- **Step 7** If a confirmation dialog box displays, click **Yes**.
- Step 8 Click OK

Resetting the MAC Address Assigned to a vNIC from a Pool in a Service Profile Template

If you change the MAC pool assigned to an updating service profile template, Cisco UCS Manager does not change the MAC address assigned to a service profile created with that template. If you want Cisco UCS Manager to assign a MAC address from the newly assigned pool to the service profile, and therefore to the associated server, you must reset the MAC address. You can only reset the MAC address assigned to a service profile and its associated server under the following circumstances:

- The service profile was created from an updating service profile template and includes a MAC address assigned from a MAC pool.
- The MAC pool name is specified in the service profile. For example, the pool name is not empty.
- The MAC address value is not 0, and is therefore not derived from the server hardware.

Procedure

Step 1 In the Navigation pane, click Servers.

Step 2	Expand Servers > Service Profiles.		
Step 3	Expand the node for the organization that contains the service profile for which you want to reset the MA address.		
	If the system does not include multi tenancy, expand the root node.		
Step 4	Expand <i>Service_Profile_Name</i> > vNICs.		
Step 5	Click the vNIC for which you want to reset the MAC address.		
Step 6	In the Work pane, click the General tab.		
Step 7	In the Actions area, click Reset MAC Address.		
Step 8	If a confirmation dialog box displays, click Yes.		
Step 9	Click OK .		

Resetting the WWPN Assigned to a vHBA from a Pool in a Service Profile Template

If you change the WWPN pool assigned to an updating service profile template, Cisco UCS Manager does not change the WWPN assigned to a service profile created with that template. If you want Cisco UCS Manager to assign a WWPN from the newly assigned pool to the service profile, and therefore to the associated server, you must reset the WWPN. You can only reset the WWPN assigned to a service profile and its associated server under the following circumstances:

- The service profile was created from an updating service profile template and includes a WWPN assigned from a WWPN pool.
- The WWPN pool name is specified in the service profile. For example, the pool name is not empty.
- The WWPN value is not 0, and is therefore not derived from the server hardware.

Step 1	In the Navigation pane, click Servers .		
Step 2	Expand Servers > Service Profiles.		
Step 3	Expand the node for the organization that contains the service profile for which you want to reset the WWPN.		
	If the system does not include multi tenancy, expand the root node.		
Step 4	Expand Service_Profile_Name > vHBAs.		
Step 5	Click the vHBA for which you want to reset the WWPN.		
Step 6	In the Work pane, click the General tab.		
Step 7	In the Actions area, click Reset WWPN.		
Step 8	If a confirmation dialog box displays, click Yes .		
Step 9	Click OK .		

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Deleting the Inband Configuration from a Service Profile Template

This procedure removes the inband management IP address configuration from a service profile template. If this action is greyed out, no inband configuration was configured.

Procedure

Step 1	In the Navigation pane, click Servers.	
Step 2	Expand Servers > Service Profile Template > <i>Service_Profile_Template_Name</i> .	
Step 3	In the Work pane, click the General tab.	
Step 4	In the Actions area, click Delete Inband Configuration.	
Step 5	Click Yes in the Delete confirmation dialog box.	
	The inband management IP address configuration for the service profile template is deleted.	

Service Profile Association

Associating a Service Profile with a Server or Server Pool

Follow this procedure if you did not associate the service profile with a blade server or server pool when you created it, or to change the blade server or server pool with which a service profile is associated.

In the Navigation	pane, click Servers.	
Expand Servers > Service Profiles . Expand the node for the organization that contains the service profile that you want to associate with a new server or server pool.		
Right-click the ser	vice profile you want to associate with a server and select Associate Service Profile.	
In the Associate Service Profile dialog box, select one of the following options:		
Option	Description	
Server Pool	Select a server pool from the drop-down list. Cisco UCS Manager assigns a serv from this pool to the service profile.	
	Continue with Step 7.	
Server	Navigate to the desired available server in the navigation tree and select the serv which will be assigned to the service profile.	

Option	Description		
Custom Server	Specifies the chassis and slot that contains the server that will be assigned to the service profile. If the server is not in the slot or is otherwise unavailable, the service profile will be associated with the server when it becomes available.		
	Continue with Step 6.		
If you chose Custon	n Server , do the following:		
,	d field, enter the number of the chassis where the selected server is located. field, enter the number of the slot where the selected server is located.		
If you want to restric Migration. check bo	t the migration of the service profile after it is associated with a server, check the Restrict bx.		
Migration. check be If you choose not to	bx. restrict migration, Cisco UCS Manager does not perform any compatibility checks on e migrating the existing service profile. If the hardware of both servers are not similar,		

Associating a Service Profile Template with a Server Pool

Follow this procedure if you did not associate the service profile template with a server pool when you created it, or to change the server pool with which a service profile created from this template is associated.

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profile Templates.
Step 3	Expand the node for the organization that contains the service profile that you want to associate with a server pool.
	If the system does not include multi tenancy, expand the root node.
Step 4	Right-click the service profile template you want to associate with a server pool and select Associate with Server Pool.
	The Associate with Server Pool dialog box opens.
Step 5	From the Server Pool section of the Pool Assignment drop-down list, select a server pool.
	If you select Assign Later, the service profile template is not associated with a server pool.
Step 6	(Optional) From the Select Qualification drop-down list, select the server pool policy qualifications you want to apply to a server that is associated with a service profile created from this template.
Step 7	Click OK .

Disassociating a Service Profile from a Server or Server Pool

When you disassociate a service profile, Cisco UCS Manager attempts to shutdown the operating system on the server. If the operating system does not shutdown within a reasonable length of time, Cisco UCS Manager forces the server to shutdown.

Procedure

n the Navigation pane, click Servers.
Expand Servers > Service Profiles.
Expand the node for the organization that contains the service profile that you want to disassociate from a erver or server pool.
f the system does not include multi tenancy, expand the root node.
Right-click the service profile you want to disassociate from a server and select Disassociate Service Profile .
n the Disassociate Service Profile dialog box, click Yes to confirm that you want to disassociate the service profile.
Optional) Monitor the status and FSM for the server to confirm that the disassociation completed.
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Disassociating a Service Profile Template from its Server Pool

Step 1	In the Navigation pane, click Servers.
Step 2	Expand Servers > Service Profile Templates.
Step 3	Expand the node for the organization that contains the service profile that you want to disassociate from its server pool.
	If the system does not include multi tenancy, expand the root node.
Step 4	Right-click the service profile template you want to disassociate from its server pool and select Disassociate Template .
Step 5	If a confirmation dialog box displays, click Yes .

Disassociating a Service Profile Template from its Server Pool