



Configuring Service Profiles

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Service Profiles

Service profiles are the central concept of Cisco UCS. Each service profile serves a specific purpose: ensuring that the associated server hardware has the configuration required to support the applications it hosts. The service profile maintains configuration information about the server hardware, interfaces, fabric connectivity, and server and network identity.

Every active server must be associated with a service profile.



Note You can view a service profile by clicking the **Service Profiles** tab for a Cisco UCS Manager account.



Note At any given time, each server can be associated with only one service profile. Similarly, each service profile can be associated with only one server at a time.

After you associate a service profile with a server, the server is ready to have an operating system and applications installed, and you can use the service profile to review the configuration of the server. If the server associated with a service profile fails, the service profile does not automatically fail over to another server.

When a service profile is disassociated from a server, the identity and connectivity information for the server is reset to factory defaults.

For more information about service profiles, including the types of service profiles and guidelines for using them, see the [Cisco UCS Manager configuration guides](#).

Service Profile 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.

For example, if you need several service profiles with similar values to configure servers to host the 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. However, after you create the profile, it is no longer connected to the template. If you must change one or more profiles created from this template, change each profile individually.

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.

Creating a Service Profile

You can also create a service profile on the **Service Profiles** tab for a Cisco UCS Manager account.

Before you begin

At a minimum, the following pools and policies that are required for service profiles must exist in the Cisco UCS Manager account:

- UUID pool
- Storage policy
- Network policy
- Boot policy



Note You cannot create a host firmware package in Cisco UCS Director. If you want to incorporate this policy in a service profile, import it from the Cisco UCS Manager account.

The other policies that you can include in a service profile are optional. However, we recommend that you review the **Create Service Profile** dialog box and ensure that you have created all of the policies that you want to include in the service profile before you begin.

Step 1 Choose **Physical > Compute**.

Step 2 On **Compute** page, choose the pod that includes the Cisco UCS Manager account.

Step 3 Click **Service Profiles**.

Step 4 Click **Add**.

Step 5 On the **Add Service Profile** screen, enter a name and description for the service profile.

Step 6 From the following drop-down lists, choose the organization, pools and policies that you want to include in this service profile:

- **Organization**—Required. Organization under which to create the Service Profile.
- **UUID Assignment**—Required. Include this policy to specify the UUID for the server.
- **Storage Policy**—Required. Include this policy to specify the SAN connectivity for the server.
- **PXE Network Policy**—Optional. Include this policy if you must have the server connected to the LAN.
- **Placement Policy**—Optional. Include this policy if you want to specify the vNIC, vHBA, and vCon placement for the server.
- **PXE Boot Policy**—Optional. Include this policy if you want to have the server to perform a PXE boot. The secondary boot in this policy must be from a local disk or a SAN boot. If you do not include this policy, the server uses the blade boot policy to determine the boot order.
- **Blade Boot Policy**—Optional. Include this policy to determine the server boot order.
- **BIOS Policy**—Optional. Include this policy if you want to change any of the default settings for the BIOS on the server.
- **IPMI Access Profile**—Optional. Include this policy if you want to be able to access the server through IPMI.
- **SOL Configuration Profile**—Optional. Include this policy if you want to be able to access the server through Serial over LAN.
- **Management IP Address**—Optional. Include this policy to specify the outband and inband management IP address for the server.

If you select **Outband IPv4**, then specify either a static or pooled management IP address policy. If you select a static policy, then enter the IP address, subnet mask, and default gateway details. If you select pooled, then select the outband pool names.

If you select **Inband**, then specify either an IPv4 or IPv6 Management IP address static policy. If you select IPv4 with the static policy, then enter the IP address, subnet mask, and default gateway details. If you select IPv6 with the static policy, then enter the IP address, prefix, and default gateway details.

- **Threshold Policy**—Optional. Include this policy to specify the thresholds for the server.
- **Scrub Policy**—Optional. Include this policy if you want to specify what happens to the local data and BIOS settings on a server during discovery and disassociation.
- **Host Firmware Policy**—Optional. Include this policy if you want to use a host firmware package to upgrade the server firmware.
- **Maintenance Policy**—Optional. Include this policy if you want to specify what happens when change that requires a server reboot is made to this service profile.
- **Power Control Policy**—Optional. Include this policy if the service profile is associated with a blade server and you want to specify the initial power allocation for the server.

- Step 7** From the **Server Power State** drop-down list, choose one of the following to set the power state that is applied to the server when it is associated with this service profile:
- **Down**—If you want the server to be powered down before the profile is associated with the server.
 - **Up**—If you want the server to be powered up before the profile is associated with the server.
- Step 8** From the **vMedia Policy** drop-down list, choose a vMedia policy.
- Step 9** From the **Storage Profile** select list, click the check box for a storage profile and then click **Select**.
- Step 10** Click **Submit**.

Creating a Service Profile Template

Before you begin

At a minimum, the following pools and policies that are required for service profile templates must exist in the Cisco UCS Manager account:

- UUID pool
- Storage policy
- Network policy
- Boot policy



Note You cannot create a host firmware package in Cisco UCS Director. If you want to incorporate this policy in a service profile template, you must import it from the Cisco UCS Manager account.

The other policies that you can include in a service profile template are optional. However, we recommend that you review the **Create Service Profile Template** dialog box and ensure that you have created all of the policies that you want to include in the template before you begin.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Organizations**.
- Step 4** Click the organization in which you want to create the policy and then click **View Details**.
- Step 5** Click **Service Profile Templates**.
- Step 6** Click **Add**.
- Step 7** On the **Create Service Profile Template** screen, enter a name and description for the template.
- Step 8** From the **Type** drop-down list, choose one of the following:
- **Initial Template**—Any service profiles created from this template are not updated if the template changes.
 - **Updating Template**—Any service profiles created from this template are updated if the template changes.
- Step 9** From the following drop-down lists, choose the pools and policies that you want to include in this template:

- **UUID Assignment**—Required. Include this policy to specify the UUID pool used for the server.
- **Storage Policy**—Required. Include this policy to specify the SAN connectivity for the server.
- **Network Policy**—Optional. Include this policy if you need to have the server connected to the LAN.
- **Placement Policy**—Optional. Include this policy if you want to specify the vNIC, vHBA, and vCon placement for the server.
- **Blade Boot Policy**—Optional. Include this policy to determine the server boot order.
- **BIOS Policy**—Optional. Include this policy if you want to change any of the default settings for the BIOS on the server.
- **IPMI Access Profile**—Optional. Include this policy if you want to be able to access the server through IPMI.
- **SOL Configuration Profile**—Optional. Include this policy if you want to be able to access the server through Serial over LAN.
- **Management IP Address**—Optional. Include this policy to specify the outband and inband management IP address for the server.

If you select **Outband IPv4**, then you can specify a pooled management IP address policy. If you select pooled, then you must select the outband pool names.

If you select **Inband**, then you must specify either an IPv4 or IPv6 Management IP address policy. If you select a pooled policy, then you must select the inband pool names.

- **Threshold Policy**—Optional. Include this policy to specify the thresholds for the server.
- **Scrub Policy**—Optional. Include this policy if you want to specify what happens to the local data and BIOS settings on a server during discovery and disassociation.
- **Host Firmware Package**—Optional. Include this policy if you want to use a host firmware package to upgrade the server firmware.
- **Maintenance Policy**—Optional. Include this policy if you want to specify what happens when change that requires a server reboot is made to a service profile created from this template.
- **Power Control Policy**—Optional. Include this policy if the service profile is associated with a blade server and you want to specify the initial power allocation for the server.
- **Server Power State**—Required. Select the server power state to be applied to the server when a Service Profile is associated.
- **vMedia Policy**—Optional. Include this policy if it is bound to a service profile to allow for an external image file to be dynamically mapped to the server. A service profile can have only one vMedia Policy at a time.
- **Storage Profile**—Optional. Include the storage profile to define the number of storage disks, roles and usage of these disks, and other storage parameters. A storage profile encapsulates the storage requirements for one or more service profiles.

You can also search for a Storage profile and or filter on a specific profile.

Step 10 Click **Submit**.

Managing Service Profiles

Creating a Template from a Service Profile

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Service Profiles**.
- Step 4** Click the row for the service profile from which you want to create a service profile template.
- Step 5** From **More Actions** drop-down menu, choose **Create Template**.
- Step 6** On the **Create Template** screen, do the following:
- In the **Service Profile Template Name** field, enter a unique name for the template.
 - From the **Type** drop-down list, choose one of the following:
 - Initial Template**—Any service profiles created from the template are not updated if the template changes.
 - Updating Template**—Any service profiles created from the template are updated if the template changes.
 - From the **Organization** drop-down list, choose the organization for the service profile template.
 - Click **Submit**.
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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 that has pending changes.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Service Profiles**.
- Step 4** Click the row for the service profile that you want to rename.
- Step 5** From **More Actions** drop-down menu, choose **Create Rename**.
- Step 6** On the **Rename** screen, do the following:

- a) In the **New SP Name** field, enter a unique name for the template.
- b) If desired, check one or both of the following check boxes:

Name	Description
Affected Workflows	Allows you to choose which of the workflows that reference the service profile are updated with the new service profile name. If you do not check this check box, no workflows are updated with the new service profile name.
Affected SRs	Allows you to choose which of the SRs that reference the service profile are updated with the new service profile name. If you do not check this check box, no SRs are updated with the new service profile name.

- c) Click **Submit**.

Cloning a Service Profile

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Service Profiles**.
- Step 4** Click the row for the service profile that you want to clone.
- Step 5** From **More Actions** drop-down menu, choose **Clone**.
- Step 6** On the **Clone Service Profile** screen, do the following:
 - a) In the **Name** field, enter a unique name for the cloned service profile.
 - b) From the **Organization** drop-down list, choose an organization for the cloned service profile.
 - c) Click **Submit**.
- Step 7** Navigate to the service profile you created and make sure that all options are correct.

Associating a Service Profile with a Server

You can also associate a service profile with a server on the **Service Profiles** tab for a Cisco UCS Manager account.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Service Profiles**.
- Step 4** Click the row for the server that you want to associate with a service profile.
- Step 5** From **More Actions** drop-down menu, choose **Associate**.

- Step 6** On the **Associate Server Profile** screen, choose **Existing Server** to associate with.
- Step 7** Expand **Existing Server**, and check the check box for the service that you want to associate with the server and click **Validate**.
- Step 8** Click **Submit**.
- Cisco UCS Director sends a request to Cisco UCS Manager to associate the service profile with the server.
- A progress bar indicates the status of the association. You can click **Close** to close the progress indicator and move to a different page. Closing this progress indicator does not affect the association process.

Associating a Service Profile with a Server Pool

Before you begin

Create at least one server pool that includes at least one available server.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Service Profiles**.
- Step 4** Click the row for the service profile that you want to associate with a server pool.
- Step 5** From **More Actions** drop-down menu, choose **Associate**.
- Step 6** On the **Associate Server Profile** screen, choose **Existing Server Pool** to associate with.
- Step 7** Expand **Existing Server Pool**, and check the check box for the service that you want to associate with the server and click **Validate**.
- Step 8** Click **Submit**.
- Cisco UCS Director sends a request to Cisco UCS Manager to associate the service profile with the server pool.
- A progress bar indicates the status of the association. You can click **Close** to close the progress indicator and move to a different page. Closing this progress indicator does not affect the association process.

Disassociating a Service Profile from a Server

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

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **UCS Servers**.
- Step 4** Click the row for the server that you want to disassociate from its service profile.

Step 5 From **More Actions** drop-down menu, choose **Disassociate**.

Step 6 On the **Disassociate Server** screen, click **Disassociate**.

A progress bar indicates the status of the disassociation task. You can click **Close** to close the progress indicator and move to a different page. Closing this progress indicator does not affect the disassociation process.

Assigning a Service Profile to a Cisco UCS Director Group

Step 1 Choose **Physical > Compute**.

Step 2 On **Compute** page, choose the pod that includes the Cisco UCS Manager account.

Step 3 Click **Service Profiles**.

Step 4 Click the row for the service profile that you want to assign to a group.

Step 5 From **More Actions** drop-down menu, choose **Assign Group**.

Step 6 On the **Select Group** screen, do the following:

- a) From the **Group** drop-down list, choose the Cisco UCS Director group to which you want to assign this service profile.
 - b) In the **Label** field, enter a label to identify this service profile.
 - c) Click **Submit**.
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Unassigning a Service Profile from a Cisco UCS Director Group

Step 1 Choose **Physical > Compute**.

Step 2 On **Compute** page, choose the pod that includes the Cisco UCS Manager account.

Step 3 Click **Service Profiles**.

Step 4 Click the row for the service profile that you want to unassign from a Cisco UCS Director group.

Step 5 From **More Actions** drop-down menu, choose **Unassign Group**.

Step 6 On the **Unassign Group** screen, click **Unassign**.

Requesting Inventory Collection for a Service Profile

Step 1 Choose **Physical > Compute**.

Step 2 On **Compute** page, choose the pod that includes the Cisco UCS Manager account.

Step 3 Click **Service Profiles**.

Step 4 Click the row for the service profile for which you want to request inventory collection.

Step 5 From **More Actions** drop-down menu, choose **Request Inventory Collection**.

Step 6 On the **Collect Inventory** screen, click **Submit**.

Managing Service Profile Templates

Creating a Service Profile from a Template

You can create up to 255 service profiles from a service profile template at one time.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Organizations**.
- Step 4** Click the organization that contains the service profile template from which you want to create a service profile and then click **View Details**.
- Step 5** Click **Service Profile Templates**.
- Step 6** Click the row for the service profile template from which you want to create a service profile.
- Step 7** From **More Actions** drop-down menu, choose **Create Service Profile**.
- Step 8** On the **Create Service Profile** screen, do the following:
- In the **Service Profile Name Prefix** field, enter a unique prefix to be added to the name of each service profile that you create.
 - In the **Number of Service Profiles** field, enter the number of service profiles that you want to create.
You can create between 1 and 255 service profiles.
 - Click **Submit**.
- Step 9** To view the service profile(s) that you created, do the following:
- Click **Back** to return to the **Organizations** tab.
 - Click the **Service Profiles** tab.
 - Click **Refresh**.

The **Template Instance** column in the **Service Profiles** table lists the template from which you created the service profile.

Cloning a Service Profile Template

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Organizations**.
- Step 4** Click the organization in which you want to create the policy and then click **View Details**.
- Step 5** Click **Service Profile Templates**.
- Step 6** Click the row for the service profile template that you want to clone.

- Step 7** From **More Actions** drop-down menu, choose **Clone**.
- Step 8** On the **Clone Service Profile Template** screen, do the following:
- In the **Name** field, enter a unique name for the cloned service profile template.
 - From the **Organization** drop-down list, choose an organization for the cloned service profile template.
 - Click **Submit**.
- Step 9** Navigate to the service profile template you created and make sure that all options are correct.
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Associating a Service Profile Template with a Server Pool

Before you begin

Create at least one server pool that includes at least one available server.

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Organizations**.
- Step 4** Click the organization that contains the service profile template you want to associate and then click **View Details**.
- Step 5** Click **Service Profile Templates**.
- Step 6** Click the row for the service profile template that you want to associate with a server pool.
- Step 7** From **More Actions** drop-down menu, choose **Associate**.
- Step 8** On the **Select Server Pool to Associate Server Profile Template** screen, expand the **Server Pool** and check one or more check boxes for the server pools that you want to associate with the service profile template..
- Step 9** Expand **Server Pool Policy Qualification** and check one or more check boxes for the server pool policy qualifications.
- Step 10** Click **Associate**.
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Disassociating a Service Profile Template from a Server Pool

- Step 1** Choose **Physical > Compute**.
- Step 2** On **Compute** page, choose the pod that includes the Cisco UCS Manager account.
- Step 3** Click **Organizations**.
- Step 4** Click the organization that contains the service profile template you want to disassociate and then click **View Details**.
- Step 5** Click **Service Profile Templates**.
- Step 6** Click the row for the service profile template that you want to disassociate from a server pool.
- Step 7** From **More Actions** drop-down menu, choose **Disassociate**.
- Step 8** On the **Disassociate Service Profile Template** screen, click **Disassociate**.
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