Configuring Cisco UCS Server Pool Policies

This chapter contains the following sections:

Server Pool Policy Qualification Overview

This policy qualifies servers based on the inventory of a server conducted during the discovery process. The qualifications are individual rules that you configure in the policy to determine whether a server meets the selection criteria. For example, you can create a rule that specifies the minimum memory capacity for servers in a data center pool.

Qualifications are used in other policies to place servers, not just by the server pool policies. For example, if a server meets the criteria in a qualification policy, it can be added to one or more server pools or have a service profile automatically associated with it.

You can use the server pool policy qualifications to qualify servers according to the following criteria:

- Adapter type
- Chassis location
- Memory type and configuration
- Power group
- CPU cores, type, and configuration
- Storage configuration and capacity
- Server model

Depending upon the implementation, you might need to configure several policies with server pool policy qualifications including the following:

- Autoconfiguration policy
- Chassis discovery policy
- Server discovery policy

- Server inheritance policy
- Server pool policy

Creating Server Pool Policy Qualifications

Step 1 On the menu bar, choose **Physical** > **Compute**.

Step 2 In the left pane, expand the pod and then click the Cisco UCS Manager account.

Step 3 In the right pane, click the **Organizations** tab.

Step 4 Click the organization in which you want to create the policy and then click **View Details**.

Step 5 Click the **Server Pool Policy Qualifications** tab.

Step 6 Click **Add**.

Step 7 In the **Create Server Pool Policy Qualifications** wizard, enter a name and description for the policy and click **Next**.

Step 8 On the **Adapter Qualifications** page, do the following to add adapter qualifications to the policy or click **Next** if you do not want to add them:

a) Check the **Add Adapter Qualifications** check box.

b) From the **Type** drop-down list, choose the type of adapter that you want to include in the policy.
After you save the adapter qualification, this type cannot be changed.

c) In the **Model(RegEx)** field, enter a regular expression that the adapter PID must match.

d) In the **Maximum Capacity** field, enter the maximum capacity for the selected type.

e) Click **Next**.

Step 9 On the **Chassis/Server Qualifications** page, do the following to add chassis qualifications and server qualifications to the policy, or click **Next** if you do not want to add them:

a) Check the **Add Chassis/Server Qualifications** check box.

b) From the **First Chassis ID** field, enter the first chassis ID from which server pools associated with this policy can draw.
After you save the adapter qualification, this type cannot be changed.

c) In the **Number of Chassis** field, enter the total number of chassis to include in the pool, starting with the chassis identified in the **First Chassis ID** field.

d) In the **Server Qualification Ranges** field, enter the range of server locations that you want to use.
If you want to enter more than one range, separate the ranges by commas. For example, enter 1:5,2:6.

e) Click **Next**.

Example:
For example, if you want to use chassis 5, 6, 7, and 8, enter 5 in the **First Chassis ID** field and 4 in the **Number of Chassis** field. If you want to use only chassis 3, enter 3 in the **First Chassis ID** field and 1 in the **Number of Chassis** field.

Step 10 On the **Memory Qualifications** page, do the following to add memory qualifications to the policy, or click **Next** if you do not want to add them:

a) Check the **Add Memory Qualifications** check box.

b) Complete the following fields:

Name	Description
Clock field	The minimum clock speed required, in megahertz.
Min Cap field	The minimum memory capacity required, in megabytes.
Max Cap field	The maximum memory capacity allowed, in megabytes.
Width field	The minimum width of the data bus.
Latency field	The maximum latency allowed, in nanoseconds.
Units field	The unit of measure to associate with the value in the Width field.

   c) Click **Next**.

Step 11   On the **CPU/Cores Qualifications** page, do the following to add CPU qualifications and cores qualifications to the policy, or click **Next** if you do not want to add them:

   a) Check the **Add CPU/Cores Qualifications** check box.

   b) Complete the following fields:

Name	Description
Processor Architecture drop-down list	Choose the CPU architecture to which this policy applies.
Min Number of Cores field	The minimum number of CPU cores required. This integer can be between 1 and 65535.
Max Number of Cores field	The maximum number of CPU cores allowed. This integer can be between 1 and 65535.
Min Number of Threads field	The minimum number of CPU threads required. This integer can be between 1 and 65535 in the associated text field.
Max Number of Threads field	The maximum number of CPU threads allowed. This integer can be between 1 and 65535.
CPU Speed field	The minimum CPU speed required.
Model(RegEx) field	A regular expression that the processor PID must match.
CPU Stepping field	The minimum CPU version required.

    c) Click **Next**.

Step 12 On the **Storage Qualifications** page, do the following to add storage qualifications to the policy, or click **Next** if you do not want to add them:

    a) Check the **Add Storage Qualifications** check box.

    b) Complete the following fields:

Name	Description
Diskless drop-down list	Choose whether the available storage must be diskless. Your choice can be one of the following: • **Unspecified**—Either storage type is acceptable. • **Yes**—The storage must be diskless. • **No**—The storage cannot be diskless. If you choose **Yes**, no additional fields are displayed.
Min Cap field	The minimum storage capacity across all disks in the server, in megabytes.
Max Cap field	The maximum storage capacity allowed, in megabytes.
Number of Blocks field	The minimum number of blocks required.
Per Disk Cap field	The minimum storage capacity per disk required, in gigabytes.
Block Size field	The minimum block size required, in bytes.
Units field	The number of units.

    c) Click **Next**.

Step 13 On the **Power Group Qualifications** page, do the following to add power group qualifications to the policy, or click **Next** if you do not want to add them:

    a) Check the **Add Power Group Qualifications** check box.

    b) From the **Power Group** drop-down list, choose the power group that you want to include in the policy.

    c) Click **Next**.

Step 14 On the **Rack Qualifications** page, do the following to add rack-mount server qualifications to the policy, or click **Next** if you do not want to add them:

    a) Check the **Add Rack Qualifications** check box.

    b) From the **First Slot ID** field, enter the first rack-mount server ID from which server pools associated with this policy can draw.
After you save the adapter qualification, this type cannot be changed.

    c) In the **Number of Slots** field, enter the total number of rack-mount server slots to include in the pool, starting with the server slot identified in the **First Slot ID** field.

    d) Click **Next**.

Step 15   On the **Server Model Qualifications** page, do the following to add rack-mount server qualifications to the policy, or click **Next** if you do not want to add them:

    a) Check the **Add Server Model Qualifications** check box.

    b) In the **Model(RegEx)** field, enter a regular expression that the server model PID must match.

    c) Click **Next**.

Step 16   Click **Submit**.

Server Pool Policy Overview

This policy is invoked during the server discovery process. It determines what happens if server pool policy qualifications match a server to the target pool specified in the policy.

If a server qualifies for more than one pool and those pools have server pool policies, the server is added to all those pools.

Creating a Server Pool Policy

Before You Begin

This policy requires that at least one of the following resources exists in the system:

- A minimum of one server pool.

- Server pool policy qualifications, if you choose to have servers automatically added to pools.

Step 1   On the menu bar, choose **Physical** > **Compute**.

Step 2   In the left pane, expand the pod and then click the Cisco UCS Manager account.

Step 3   In the right pane, click the **Organizations** tab.

Step 4   Click the organization in which you want to create the policy and then click **View Details**.

Step 5   Click the **Server Pool Policies** tab.

Step 6   Click **Add**.

Step 7   In the **Create Server Pool Policy** dialog box, complete the following fields:

Name	Description
Name field	A unique name for the policy.
Description field	A description for the policy.
Target Pool drop-down list	Choose a server pool to associate with the policy.

Name	Description
Qualification drop-down list	Choose a server pool qualification policy to associate with the policy.

Step 8   Click **Submit**.