

Configuring Cisco UCS Server Pool Policies

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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.