



Using Macros

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Note

You must be logged in to the appliance before you can run any of the following procedures.

About VM Name Template Customization

The Cisco UCS Director Macro feature allows you to customize a VM name and VM hostname using variables provided by the application. VM name and VM hostname creation is automated by using the variables in the system policy.

Cisco UCS Director also allows automatic creation of VM names and VM hostnames during VM provisioning. The VM name templates and VM hostname templates are available under the VMware system policy.

Using the VM Name Template

- Step 1** Click **Policies > Service Delivery**.
- Step 2** Choose the **VMware System Policy** tab.
- Step 3** Click **Add (+)**.
- Step 4** In the **Add Policy** dialog box, complete the following fields:


Name	Description
Policy Name field	The name of the policy. This name is used during catalog definition.
Policy Description field	The description of the policy.

Step 5 Choose the **VM Name Template** variable names. Complete the following fields:

Name	Description
VM Name Template field	<p>The VM name. VM Names can be automatically created using a set of variable names. Each variable must be enclosed in \${VARIABLE}.</p> <p>The VM name template variables are as follows:</p> <ul style="list-style-type: none"> CLOUD_NAME—The cloud name that is being deployed. GROUP_NAME—The name of the VM group. CATALOG_NAME—The name of the catalog item or entry. USER—Your user ID. SR_ID—The service request ID. COMMENTS—Your comments. PROFILE_NAME—The name of the policy. LOCATION—The name of the location as specified during cloud creation. UNIQUE_ID—A random ID to make the name unique. APPCODE—The application code that is the value specified during catalog creation. COST_CENTER—The cost center group or customer organization. It is specified during the group or customer organization creation.

Step 6 Choose the optional **VM Name Template** features.

Step 7 Complete the following fields:

Name	Description
# field	<p>The index character. The index character can be added at the end of the VM name template to create a unique index number for the VM name. It can be given in multiples. For example, if a VM name template is vm-\${GROUP_NAME}##, VM name is vm-ABCD01 for the first VM provisioned with this policy. The group name is ABCD and 01 represents ##.</p> <div style="text-align: center;">  </div> <p>Note This is an optional field. You can add # character to the variable mentioned in the VM Name template field to generate numbers.</p>
End User VM Name or VM Prefix check box	Check the check box to enable the option to add a VM suffix name during the creation of a service request (deployment configuration).
Power On after deploy check box	Check the check box to automatically power on all VMs deployed using this policy.


Step 8 Choose the **Host Name Template** variable names.

Step 9 Complete the following fields:

Name	Description
Host Name Template field	<p>The hostname. Cisco UCS Director allows automatic creation of VM hostnames. hostnames can be automatically created using a set of variable names. Each variable must be enclosed in \${VARIABLE}.</p> <p>The hostname template variables are as follows:</p> <ul style="list-style-type: none">• CLOUD_NAME—The cloud name that is being deployed.• GROUP_NAME—The name of the VM group.• CATALOG_NAME—The name of the catalog item or entry.• USER—Your user ID.• SR_ID—The service request ID.• COMMENTS—Your comments.• PROFILE_NAME—The name of the policy.• LOCATION—The name of the location as specified during cloud creation.• UNIQUE_ID—A random ID to make the name unique.• APPCODE—The application code that is the value specified during catalog creation.• COST_CENTER—The cost center group or customer organization. It is specified during the group or customer organization creation.

Step 10 Choose the optional **Host Name Template** features.

Step 11 Complete the following fields:

Name	Description
# field	<p>The index character. The index character can be added at the end of the VM name template to create a unique index number for the VM name. It can be given in multiples. For example, if a VM name template is vm-<code>{GROUP_NAME}##</code>, then VM name is vm-ABCD01 for the first VM provisioned with this policy. The group name is ABCD and 01 represents ##.</p> <div>  <p>Note This is an optional field. You can add # character to the variable mentioned in the Host Name template field to generate numbers.</p> </div>
DNS Domain field	The IP domain to use for the VM.
Time Zone drop-down list	Choose from the list of available time zones.
DNS Suffix List field	The DNS suffixes to configure for the DNS lookup. If more than one suffix is specified, they are separated by a comma.
DNS Server List field	The DNS server IP addresses. Use a comma to separate more than one server.
VM Image Type drop-down list	Choose the OS of the image that is installed on the VM. Choose Windows and Linux or Linux Only . For Windows images, further details must be provided.
Product ID field	The Windows product ID or license key. ¹ The product ID or license key can be provided here or at the OS license pool. The key at the OS license pool overrides the key provided here. For more information about the OS license, see the next section.
License Owner Name field	The Windows license owner name. ¹
Organization field	The organization name to configure in the VM. ¹
License Mode drop-down list	Choose the per-seat or per-server. ¹
Number of License Users field	The number of license users or connections. ¹
WINS Server List	The WINS server IP addresses. ¹ Multiple values are separated with a comma.
Auto Logon check box	Check the check box to enable automatic log on. ¹
Auto Logon Count field	The number of times to perform automatic log on. ¹
Administrator Password field	The password for the administrators account. ¹
Domain/Workgroup drop-down list	Choose either Domain or Workgroup . ¹
Workgroup field	The name for the workgroup. ²
Domain field	The name of the Windows domain. ¹
Domain Username field	The Windows domain administrator's username. ¹
Domain Password field	The Windows domain administrator's password. ¹

1. For Windows VMs only.

2. This option is visible if **Workgroup** is chosen.

About VM Template and Hostname Variables

The VM template and hostnames can be automatically generated using a set of variable names. Each variable must be enclosed in `${VARIABLE}`. The allowed variable names are as follows:

Name	Description
<code>\${CLOUD_NAME}</code>	The name of the cloud used for VM provisioning.
<code>\${GROUP_NAME}</code>	The name of the group to which the VM belongs.
<code>\${CATALOG_NAME}</code>	The name of the catalog item used for VM provisioning.
<code>\${USER}</code>	The requesting user ID.
<code>\${SR_ID}</code>	The service request ID.
<code>\${COMMENTS}</code>	The comments specified by the requesting user.
<code>\${COST_CENTER}</code>	The cost center that is associated with a group or customer organization. This is specified during group or customer organization creation.
<code>\${APPCODE}</code>	The application code that is specified during catalog creation.

About Application Codes

The application code specified during catalog creation can be used in the VM name. By specifying an application code for a catalog, the value can be called in the VMware system policy by adding `${APPCODE}` as a variable.

Typically, APPCODE can be used to a type of application such as DB, WS, SQL, and so on. The application type in the VM name or hostname allows you to easily identify the type of the application within the VM. For example, `vm-${GROUP_NAME}-${APPCODE}-##`. For the first VM provisioned using this system policy the VM name is `vm-Demo-DB-01` (Demo is group name, DB is Application code specified in Catalog and 01 is ##) The next VM name will be `vm-Demo-DB-02`.

For example, `vm-${GROUP_NAME}##`, the VM name is `vm-HR01` for the first VM provisioned with this policy (in here the group name is HR and 01 represents ##). If a new VM is provisioned for the same group and catalog, that VM is named `vm-HR02`.

About Macro Orchestration

During the creation of a Cisco UCS Director workflow, you can use macros for **Workflow Task** inputs. During the runtime execution of the workflow, the Orchestrator replaces the values for each macro before executing the associated action.

Each Cisco UCS Director workflow typically has the following components:

- Workflow inputs that are defined by the administrator.
- Tasks that are drag-and-dropped by the administrator from a predefined set of the task library. Each task has an ID, set of inputs, and outputs.

Macros may be used for each task input. Any workflow level input or a previous task output can be used as a macro in a subsequent task. For example, a workflow has two inputs labeled **Enter Disk Size**, and **Max Snapshots**, and it has two tasks with IDs task1 and task2. Any input values to task1 or task2 that takes free-form input can use those two values as macros:

- `${Enter Disk Size}`
- `${Max Snapshots}`

Each variable name is exactly the same as the label associated with the input. task2 can also use the output of task1. If task1 has two output variables, `OUTPUT_VOLUME_NAME` and `OUTPUT_VOLUME_SIZE`, then task2 may refer to them both using the syntax `${task1.OUTPUT_VOLUME_NAME}` and `${task1.OUTPUT_VOLUME_SIZE}`. Each input field may refer to more than one macro.

For all workflows, two additional predefined variables can be used in the task input fields:

- `SR_ID`: ID: the ID of the current service request
- `PARENT_SR_ID`: the Parent SR ID of the current service request (if applicable).

For workflows that are executed in the context of a VM, these additional variables can be used in a macro:

Name	Description
<code>\${VM_NAME}</code>	The name of the VM.
<code>\${VM_IPADDRESS}</code>	The IP address of the VM.
<code>\${VM_STATE}</code>	The state of the VM (ON or OFF).
<code>\${VM_STATE_DETAILS}</code>	The state of the VM, power-on or power-off.
<code>\${VM_PARENT}</code>	The ESX server or host node that is hosting the VM.
<code>\${VM_CLOUD}</code>	The name of the cloud used for VM provisioning.
<code>\${VM_HOSTNAME}</code>	The hostname of the VM
<code>\${VM_GROUP_NAME}</code>	The name of the group to which the VM belongs.
<code>\${VM_GROUP_ID}</code>	The group ID to which the VM belongs.
<code>\${VM_CATALOG_ID}</code>	The catalog ID used for VM.
<code>\${VM_ID}</code>	The VM ID of the chosen VM.
<code>\${VM_SR_ID}</code>	The VM service request ID.
<code>\${VM_COMMENTS}</code>	The comments specified by the requesting user.
<code>\${VM_VDC_NAME}</code>	The name of the vDC.
<code>\${VM_VDC_ID}</code>	The vDC ID.
<code>\${VM_TYPE}</code>	The type of the VM.
<code>\${VM_SCHED_TERM}</code>	The scheduled termination time for the VM.