



## Provisioning VMs

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### VM Provisioning on HyperFlex Pods

You have two options for provisioning VMs on a HyperFlex pod. The option you choose depends upon how many VMs you want to provision at one time and whether you want to enable your end users to provision VMs on a HyperFlex pod.

- VDC-based VMs enable a user with administrative permissions or your end users to provision one VM at a time.
- ReadyClone VMs enable a user with administrative permissions to provision multiple VMs at a time. ReadyClone VMs perform rapid cloning of many VMs through HyperFlex technology. All of these VMs must be based on the same VM template. See the [Cisco HyperFlex Data Platform Management Guide](#) for more information about ReadyClone VMs on Cisco HX Data Platform.

### Virtual Data Centers on HyperFlex Pods

You can use a Virtual Data Center (VDC) to provision a VM on a HyperFlex pod through the standard Cisco UCS Director VM provisioning process. If you provision VMs with VDCs, you must ensure that all HyperFlex VDCs have the recommended configuration.

See the [Cisco UCS Director Administration Guide](#) for more information about VDCs and how to provision VMs.

### ReadyClone VMs on HyperFlex Pods

ReadyClone VMs enable you to rapidly create and customize multiple cloned VMs from the same VM template. When the cloning operation is complete, the ReadyClone VM is a separate guest VM with its own operating system.

Changes made to a ReadyClone VM do not affect the VM template. A ReadyClone VM's MAC address and UUID are different from those of the VM template.

For more information about the features, benefits, best practices, and guidelines for ReadyClone VMs, see the [Cisco HyperFlex Data Platform Management Guide](#).

## Guidelines for VM Provisioning with ReadyClone VMs

Review the following guidelines before you provision the VMs using ReadyClone.

### Required User Permissions

You must have Cisco UCS Director administrative privileges to provision ReadyClone VMs in the Cisco UCS Director Admin Portal.

### VM Template Must Meet HyperFlex Guidelines

The VM template that you use to create ReadyClone VMs must meet the guidelines provided in the [Cisco HyperFlex Data Platform Management Guide](#).

### Maximum Number of VMs to Be Provisioned at One Time

You can simultaneously provision between 1 and 256 ReadyClone VMs from a single VM template.

### Guest Operating System Restrictions

All VMs provisioned with ReadyClone must use the same customization specification in VMware vCenter for the guest operating system (OS) settings. The guest OS can be either Linux or Windows.

### ReadyClone Check box Availability

To provision a VM through ReadyClone:

- Check the ReadyClone check box during Storage Policy configuration.
- Check the ReadyClone check box during Catalog creation.
- When using a Standard Catalog for provisioning, verify that the selected image is on an HX datastore, and the VM does not have multiple disks and VMware snapshots.

If this condition is not met, you will receive an error message when you use ReadyClone option to provision a VM.

## Provisioning VMs with ReadyClone VMs

### Before you begin

- Create the desired VM templates in VMware vCenter.
- (Optional) Create a customization specification in VMware vCenter to specify the guest OS settings for all VMs.
- Make sure that the datastore with the VM template is mounted on all of the hosts in the HX cluster.

- The space required for the number of VMs being provisioned must be less than the free space available on the datastore to avoid provisioning failure.

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **VM Templates**.
- Step 4** Click the row with the VM template on which you want to base the ReadyClone VMs and then click **Create ReadyClone VMs**.
- Step 5** On the **Create HyperFlex ReadyClone VMs** screen, complete the required fields, including the following:
- a) In the **Number of Clones** field, enter the number of VMs that you want to provision from this template.  
You can provision a minimum of one VM and a maximum of 256 VMs.
  - b) (Optional) From the **Customization Spec Name** drop-down list, choose the name of the customization specification that you want to use for the cloned VMs.  
The customization specification can include either Linux or Windows guest OS settings. See the [Cisco HyperFlex Data Platform Management Guide](#).
  - c) (Optional) Expand the **Resource Pool Name** field, click the row with the resource pool that you want to use for the VMs and then click **Select**.
  - d) In the **VM Name Prefix** field, enter the prefix that you want to use for the VM names.
  - e) In the **Guest Name Prefix** field, enter the prefix that you want to use for the guest host VM names.
  - f) In the **Start clone number** field, enter the number that you want to use for the first VM created.  
The system appends this number to the name prefix of the first VM clone. For example, if you choose **clone** for the VM name prefix and **1** for the start clone number, the first VM is named **clone1**.
  - g) In the **Increment clone number** field, enter the number by which you want to increment all subsequent clones.  
For example, if the first VM is named **clone1** and you enter **1** for the increment clone number, all subsequent VM names are incremented by 1, such as **clone2**, **clone3**, and so on.
  - h) Check **Power ON after deploy** if you want the guest VMs to automatically turn on after the cloning process is complete.
- Step 6** Check **Protect VM** if you want the guest VMs to be protected using replication to a paired cluster. See [Protecting VMs](#). This option appears only if the existing cluster is part of a replication pair. The replication pair is automatically discovered. If you choose to protect the VM, complete the following fields:
- a) Choose the **Protection Type**:
    - Add to an existing protection group**  
You are prompted to select from the protection groups on the cluster. Click **Select**, choose a protection group, and click **Select**.
    - Protect this virtual machine independently**  
Specify a protection schedule solely for the cloned VMs. Continue with the next substep.
  - b) Choose an **Interval** between backups. Choices range from 15 minutes to 24 hours.
  - c) Choose from **Protect now or later**:
    - Now**  
Protect the cloned VMs immediately.

**Later**

Specify when protection is to begin using the date and time drop-downs.

- d) Check **Use VMware Tools to quiesce the virtual machine** if you want the VMs to be replicated in a quiescent state.

**Step 7**

Click **Submit**.

**Note** You can also provision VMs through ReadyClones by:

- Running the **HyperFlex ReadyClone Workflow** task. See [Automation with Orchestration Workflows](#)
- Using **Clone VM**. See [Cloning a VM chapter in Cisco UCS Director Administration Guide](#).

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**What to do next**

You can view the following:

- Status of the service request for the VM provisioning. On the **HyperFlex** page, choose the pod and then click **Service Requests**.
- Provisioned VMs. On the **HyperFlex** page, choose the pod and then click **VMs**.