



Managing Datastores

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Managing Datastores

Datastores are logical containers used by the HX Data Platform to manage your storage usage and storage resources. Datastores are where the host places virtual disk files and other VM files. Datastores hide the specifics of physical storage devices and provide a uniform model for storing VM files.

You can add, refresh the list, edit name and size, delete, mount and unmount datastores from either the HX Connect UI or the HX Data Platform Plug-in UI. You can only rename an unpaired datastore that is unmounted. Renaming the datastore is not supported by the vCenter administrator interface.



Important

- Keep the number of datastores to as few as possible to avoid startup delay and to keep clone savings high.
 - Configuring more than 10 datastores could result in excessive startup delay.
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Step 1

Choose an interface.

- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.
- From HX Connect, select **Datastores**.

Step 2

Create a new or select an existing datastore, to view options.

- Create a new datastore
- Refresh the datastore list

- Edit the datastore name and size
- Delete the datastore
- Mount the datastore on the host
- Unmount the datastore from the host

Adding Datastores

Datastores are logical containers, similar to file systems, that hide specifics of physical storage and provide a uniform model for storing VM files. You can also use datastores to store ISO images and VM templates.

Step 1 Choose an interface.

- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.
- From HX Connect, select **Datastores**.

Step 2 Select the create datastore.

Step 3 Enter a name for the datastore. vSphere Web Client enforces a 42 character limit for the datastore name. Assign each datastore a unique name.

Step 4 Specify the datastore size. Choose **GB** or **TB** from the drop-down list.

Step 5 Specify the data blocksize. From HX Connect, choose **8K** or **4K**. Default is 8K. In the HX Data Platform Plug-in, the default is assumed. For VDI workloads, default is 4k.

Step 6 Click **OK** to accept your changes or **Cancel** to cancel all changes.

Step 7 Verify the datastore. Click the **Refresh** icon if needed to display your new datastore.

From HX Data Platform Plug-in, Click the **Manage > Datastores > Hosts** tab to see the mount status of the new datastore.

If you check the datastore through the vSphere Client application, **host > Configuration > Datastores**, the Drive Type is listed as `Unknown`. This is expected vSphere behavior, to list NFS datastores as Unknown.

Editing Datastores

A HX Data Platform datastore can be modified using the edit (pencil) option. Edit options are: 1. Change the datastore name, or 2. Change the datastore storage allocation. That is, the size of the datastore.



Note Do not rename datastores with controller VMs.

Step 1 Choose an interface.

- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.
- From HX Connect, select **Datastores**.

Step 2 Select a *datastore*.

Step 3 Unmount the datastore.

If you are only resizing the datastore, you do not need to unmount the datastore. Skip this step.

Step 4 Click the **Edit** (pencil icon) datastore.

Step 5 Change the datastore name and/or size, as needed. Click **OK**.

Step 6 Remount the datastore, if you previously unmounted it.

Mounting Datastores

Prepare to mount a datastore.

- No VM, template, snapshot, or CD/DVD image resides on the datastore. This is the most common error while unmounting.
- Storage I/O Control is disabled for the datastore.
- The datastore is not used for vSphere HA heartbeat.
- The datastore is not used to host RDM metadata files. RDM is not supported.
- The datastore is not used as a scratch location.



Note You can not select an NFS datastore as a destination for the persistent scratch location on ESXi. If you select the HX datastore for the persistent scratch location, it will be removed after the ESXi host reloads.

For all M5 servers, M.2 boot SSD is automatically selected for use as scratch. This is configured out of the box on any new install.

For HX240M4 (non-SED), Intel SSD is used for persistent logs/scratch (same applies on 220M5/240M5, but on a different local SSD).

For HX220M4 and HX240M4 (SED), there is no location to store the scratch partition. So, the only option is to use syslog for persistent logging over the network.

Mount a datastore.

Step 1 Choose an interface.

- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.

- From HX Connect, select **Datastores**.

- Step 2** Select a *datastore*.
- Step 3** Click the **Mount**.
- Step 4** Confirm to mount the datastore, click **OK**.
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Unmounting Datastores

Prepare to unmount a datastore.

- No VM, template, snapshot, or CD/DVD image resides on the datastore. This is the most common error while unmounting.
- Storage I/O Control is disabled for the datastore.
- The datastore is not used for vSphere HA heartbeat.
- The datastore is not used to host RDM metadata files. RDM is not supported.
- The datastore is not used as a scratch location.

Unmount a datastore.

- Step 1** Choose an interface.
- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.
 - From HX Connect, select **Datastores**.

Step 2 Select a *datastore*.

Step 3 Click the **Unmount**.

Step 4 Confirm to unmount the datastore, click **OK**.

Step 5 **If needed, recover from partial unmounts.**

- a) Go through the above checklist and unmount or delete through one of the UIs or CLI again.
- b) Use the UI or CLI to re-mount the datastore.

For additional information on recovering from partial unmounts, see [Recovering from Partially Unmounted Datastores, on page 5](#).

Deleting Datastores

Prepare to delete the datastores.

- Power off all VMs.

- Close all open shells on the datastore mount point.
- Disable HA on the datastore.
- Close all applications that use the datastore.

Delete datastores.

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- Step 1** Choose an interface.
- From the vSphere Web Client Navigator, select **vCenter Inventory Lists > Cisco HyperFlex Systems > Cisco HX Data Platform > cluster > Manage > Datastores**.
 - From HX Connect, select **Datastores**.
- Step 2** Select a *datastore*.
- Step 3** Click **Delete**.
- Step 4** Confirm to delete the datastore, click **OK**.
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Recovering from Partially Unmounted Datastores

When mounting, unmounting, or deleting datastores, sometimes a datastore can become partially unmounted. If this occurs, complete the following as needed.

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- Step 1** Depending upon the task you are attempting, complete the items in Prepare to mount a datastore, Prepare to unmount a datastore, or Prepare to delete the datastores.
- Step 2** Retry to mount, unmount, or delete the datastore through the HX Connect or HX Data Platform Plug-in UI or CLI again.
- Step 3** If the datastore is not in the desired mount, unmount, or deleted state, complete the following.
- Ensure VMs are not running on the datastore.
 - From ESX host, check to see if the HX Data Platform datastore is being used by VMware service, `storageRM`.


```
# ls -ltra /vmfs/volumes/stfs-ds1/ | grep -i iorm
```

Sample response

```
-rwxr-xr-x 1 root root 16511 Jan 20 20:05 .iormstats.sf
drwxr-xr-x 1 root root 1125 Jan 20 20:06 .iorm.sf
```
 - Check the `storagerm` status.


```
# /etc/init.d/storageRM status
```

Sample response

```
storageRM is running
```
 - Stop the `storagerm` service.


```
# /etc/init.d/storageRM stop
```

Sample response

```
watchdog-storageRM: Terminating watchdog process with PID 34096  
storageRM stopped
```

- e) Try to mount, unmount, or delete the datastore again.
 - f) This is one possible solution, if this doesn't resolve the issue, contact Technical Assistance Center (TAC).
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