

# VMware vRealize Orchestrator Plug-in for Dell EMC Unity

## Product Guide

Version 1.0.4

## Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# Introduction

This chapter presents the following topics:

**Topics:**

- [Introduction to the vRealize Orchestrator plug-in for Dell EMC Unity](#)
- [About this document](#)
- [Audience](#)
- [Product overview](#)
- [vRealize Orchestrator](#)
- [Plug-in components](#)
- [vRealize Orchestrator architecture](#)

## Introduction to the vRealize Orchestrator plug-in for Dell EMC Unity

The vRealize Orchestrator plug-in for Dell EMC Unity provides workflows and actions that allow you to provision and manage file and block storage in the Dell EMC Unity (Unity) storage system.

Workflow packages are developed using the vRealize Orchestrator client.

## About this document

This document provides information about the vRealize Orchestrator plug-in for Dell EMC Unity.

It also provides instructions to deploy the plug-in, and provides the list of workflows.

## Audience

This plug-in is designed for VMware, storage, automation, and other types of administrators who use vRealize Orchestrator to manage and automate Dell EMC storage.

## Product overview

The vRealize Orchestrator Unity plug-in (referred to as the plug-in in this document) contains a Java plug-in developed using the vRealize Orchestrator plug-in SDK and a workflow package with workflows and actions that were developed using the vRealize Orchestrator Designer UI.

Workflows achieve systematic process automation for greater flexibility in automated server provisioning and operational tasks across VMware and third-party applications. You can download the vRealize Orchestrator Unity plug-in from VMware Solution Exchange.

The vRealize Orchestrator Unity plug-in provides workflows for discovery, provisioning, protection, and host access. The plug-in also provides Unity array inventory. Administrators can use integrated workflows directly or incorporate them into their custom workflows.

## vRealize Orchestrator

vRealize Orchestrator is a development platform that provides an extensive library of workflows.

The workflows provide a step-by-step process automation for increased flexibility in automated server provisioning and operational tasks across VMware and third-party applications.

For more details about vRealize Orchestrator, see the VMware documentation: <https://docs.vmware.com/en/vRealize-Orchestrator/index.html>

# Plug-in components

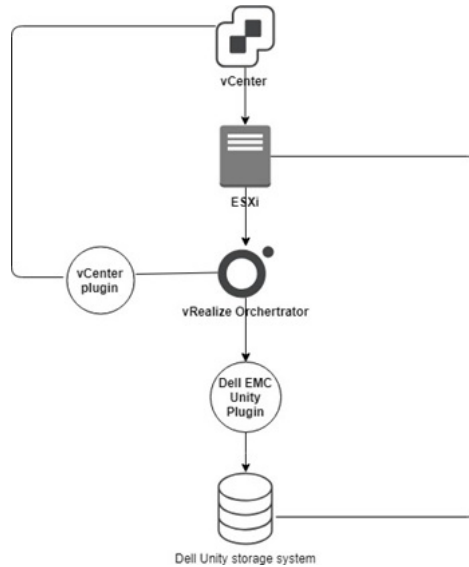
The plug-in is available as a <.vmoapp > package.

The <.vmoapp> file is installed through the Manage plugins task in the vRealize Orchestrator web-accessible Control Center.

## vRealize Orchestrator architecture

vRealize Orchestrator has an open architecture, which allows you to use the plug-in external third-party applications to the vRealize Orchestrator platform.

The plug-in provides connectivity to Unity storage system to support automation for replications between Unity storage arrays.



**Figure 1. High-level Dell EMC Unity vRealize Orchestrator plug-in architecture**

The Dell EMC Unity plug-in is deployed on a vRealize Orchestrator server. The Unity plug-in facilitates the creation of different workflows, such as register ESXi host workflow and many more, using the resource from the storage system. The plug-in enables vRealize Orchestrator to collect data from Unity storage systems.

For more details on how to use the workflows, see the [Sample Workflows](#) chapter.



# Deploy the vRealize Orchestrator plug-in for Dell EMC Unity

By default, vRealize Orchestrator has plug-ins configured. To use a specific plug-in, you must install the plug-in from vRealize Orchestrator Control Center. This chapter presents the following topics:

## Topics:

- [Prerequisites](#)
- [Memory and CPU Utilization](#)
- [Install the plug-in](#)
- [Disable the plug-in](#)
- [Delete the plug-in](#)
- [Navigate to the plug-in](#)
- [Configure the plug-in](#)
- [Register the storage system](#)
- [Modify storage system registration](#)
- [List storage systems](#)
- [Unregister a storage system](#)

## Prerequisites

Verify that vRealize Orchestrator is authenticated with vCenter Server.

The [Dell EMC Simple Support Matrix](#) provides the list of supported hardware and software versions.

**Table 1. Software and hardware versions**

Software/hardware	Version	Provider
VMware vRealize Orchestrator	7.6	VMware
Dell EMC Unity storage system	4.5, 5.0	Dell EMC

## Memory and CPU Utilization

The memory and CPU utilization of the plug-in have been characterized and it has been determined that none of the workflows or actions result in significant usage of these resources.

## Install the plug-in


All vRealize Orchestrator plug-ins are installed from Control Center. The supported file extension is `.vmoapp`.

### About this task

#### NOTE:

- When installing the `.vmoapp` file, you are presented with EULA that you must accept to continue further.
- By installing the plug-in, the vRealize Orchestrator server restarts, therefore ensure the vRealize Orchestrator server is not in use by other users before you begin, so that their work is not disrupted.
- You must have administrator access to the vRealize Orchestrator server.

## Steps

1. Download the VMOAPP file from the [Dell EMC support site](#).
2. Browse to the IP address or DNS name of the vRealize Orchestrator server instance <https://<ipaddress>:8283/vco-controlcenter>
3. When prompted, log in with the root credentials.  
The Control Center page is displayed.
4. Click **Plugins > Manage Plugins**  
The **Manage Plugins** page is displayed.
5. Under **Manage Plugins**, in the **Install plug-in** section, click **Browse**. Select the location where plug-in is copied to.  
The <ollnplugin-dellemc-unity- (version number) .vmoapp> plug-in file is displayed in the text box.
6. Click **Upload** to install the plug-in on the vRealize Orchestrator server.  
On successfully uploading the plug-in file, the end-user license agreement (EULA) screen is displayed.
7. Read the EULA, click **Accept EULA**, and then click **Install** to install the plug-in.  
A notification message is displayed to inform the user that the plug-in is installed. Also, you are prompted that the vRealize Orchestrator server service will restart after the configuration change. The plug-in is displayed in the **Plug-in** tab.
8.  **NOTE: The vRealize Orchestrator server may take two to five minutes to restart and reconfigure before it is usable.**  
  
Log in to the vRealize Orchestrator client.  
The server that you are logging in to is verified and a notification message is displayed on the login screen. For details on how to go to the plug-in, see [Navigating to the plug-in](#).

## Next steps

After installation, you must configure the plug-in. For more details, see [Configuring Dell EMC Unity plug-in](#).

# Disable the plug-in

This section provides the details on how to disable the plug-in. Disabling the plug-in does not remove the plug-in.

## Steps

1. In a supported browser, launch Control Center. The Control Center login page is displayed.
2. Enter the user credentials, and click **Login**.
3. Click **Plug-ins > Manage Plugins**. The **Manage Plugins** page is displayed in the right pane.
4. Clear the **Enable plug-in** checkbox to disable the Dell EMC Unity plug-in and click **Save Changes**.  
The plug-in is disabled.

# Delete the plug-in

You can remove the plug-in if it is not required.

## Steps

1. Log in to the VMware vRealize Orchestrator server with the administrator username and password.  
The VCO page is displayed.
2. On the VCO page, click **Open Control Center**.  
The **Control Center Configuration** page is displayed.
3. In the **Plug-Ins** tab, click **Manage Plug-Ins**.  
The **Manage Plug-Ins** page is displayed.
4. On the **Manage Plug-Ins** page, select the Dell EMC Unity plug-in.
5. To delete the current version of the Dell EMC Unity plug-in, click the **Delete** icon. The following message is displayed: Are you sure you want to delete the Dell EMC Unity plug-in? The package that is included in the plug-in remains in the vRealize Orchestrator server. You must delete it manually from the vRealize Orchestrator client.
6. Click **Delete**. The plug-in is deleted from Control Center.

**NOTE:** To remove all remnants of the plug-in from the vRealize Orchestrator client, delete the workflows folder and actions.

- To delete the top-level workflows folder from the vRealize Orchestrator client, right-click the **Dell EMC Unity** folder and click **Delete**.

**NOTE:** The checkbox for **Delete non empty folder permitted** must be selected to enable the **Delete** option for the **Dell EMC Unity** folder. In the vRealize Orchestrator client, select **Tools > User preferences** and select the checkbox.

- To delete the action modules, select the **Actions** tab, right-click the folder **com.dell.unity.xxx** and select **Delete**.

**NOTE:** Delete all the folders that begin with **com.dell.unity.xxx** to remove all the remnants of the plug-in.

## Navigate to the plug-in

### About this task

The Dell EMC Unity folder is listed in the **Library** folder. The **Dell EMC Unity** folder provides a list of workflows that you can run.

### Steps

- Access the vRealize Orchestrator client with SSO credentials.
- Click the **Workflows** tab.  
A list of workflow folders is displayed.
- Go to the **Library > Dell EMC Unity** folder.  
All the available workflows are listed under the folder.

### Next steps

After you have installed the plug-in, you must register the Unity storage system. For more details about registering the Unity storage system, see [Register the storage system](#).

## Configure the plug-in

The **Plug-in Settings** workflow category contains workflows that allow you to manage plug-in registration.

Access the workflows from **Library > Dell EMC Unity > Plug-in Settings** in the **Workflows** view of the vRealize Orchestrator client.

You must run the **Register Storage System** workflow, which is located in the **Plug-in Settings** folder. This enables you to use the outputs of these workflows to initiate the remaining plug-in workflows, such as Unity Data Protection Operations, Unity Discovery, and Unity Provision Operations.

The following table provides the list of workflows that you can run from the **Plug-in Settings** folder.

**Table 2. Workflow list and description**

Workflow	Details
Register Storage System	This workflow registers the Unity storage system in the vRealize Orchestrator inventory.
Modify Storage System	This workflow modifies existing Unity storage system details. You can modify the connection name, username, password, and connection timeout. This workflow can also be used to update SSL certificates.
List Storage Systems	This workflow returns a list of the Unity storage systems.
Unregister Storage System	This workflow removes the Unity storage system from the vRealize Orchestrator inventory.

To use the Dell EMC Unity vRealize Orchestrator plug-in workflows, you must register the Unity storage system.


# Register the storage system

This topic describes how to register the Unity storage system in the vRealize Orchestrator inventory. The Register Storage System workflow connects vRealize Orchestrator to the Unity storage system through the Dell EMC Unity plug-in. After registering the Unity storage system, you can use the plug-in workflows.

## Prerequisites

The user should know the Unity username and password and the Unity IP address.

## Steps

1. Log in to the vRealize Orchestrator client.
2. On the **Workflows** tab, click **Library > Dell EMC Unity > Plug-in Settings > Register Storage System**.
3. Right-click **Register Storage System** and select **Start workflow** to run the workflow. The **Start workflow: Register Storage System** page is displayed.  
 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.
4. In the **Registration Name** text box, enter the Unity storage registration name. All characters except "(" and ")" are supported. The storage system is registered by this name.
5. In the **Unity Hostname/IP** text box, enter the Unity storage system hostname or the IP address.
6. In the **Unity Username** and **Unity Password** text boxes, enter the storage system username and password.
7. Select **Yes** to silently accept the SSL certificate to add the instance to the trusted store, otherwise it does not register the newly added storage system to vRealize Orchestrator.
8. In the **Time to wait** text box, adjust the timeout seconds as necessary.
9. Click **Submit**.

## Results

The Unity storage system is added to the vRealize Orchestrator inventory.

# Modify storage system registration


This section provides details on how to modify the Unity registered name and the user of a registered Unity storage system.

## Prerequisites

Verify the following:

- A Unity storage system is registered in the vRealize Orchestrator inventory.
- If you want to modify the user, ensure that a user has already been created in the Unity storage system.

## Steps

1. Log in to vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Plug-in Settings > Modify Storage System Registration**.
4. Right-click **Modify Storage System Registration** and select **Start Workflow** to run the workflow. The **Start workflow: Modify Storage System Registration** page is displayed.  
 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.
5. To select a Unity storage system, click the **Not set** link in the **Registered Unity** field. A list of available storage systems is displayed.
  - a. Select the storage system that you want to modify. The details of the selected storage system are displayed as a tooltip.
  - b. Double-click the selected storage system. The storage system is updated in the **Registered Unity** field.
6. Update the **Unity Registration Name**, **Unity Username**, **Unity Password**, and **connectionTimeout**, as required.
7. Click **Submit**.

## Results

The Unity name and the user of the selected Unity storage system are modified.

# List storage systems

You can run a workflow to get a list of the Unity storage systems in the vRealize Orchestrator inventory. This workflow reads a list of registered storage systems from the plug-in cache.

## Prerequisites

A Unity storage system is registered in the vRealize Orchestrator inventory.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon in the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Plug-in Settings > List Storage Systems**
4. Right-click **List Storage Systems** and select **Start Workflow** to run the workflow. The List Storage Systems schema is displayed with the details of the workflow execution.

 **NOTE:** You can also click the Play button on the right panel to run the workflow.

5. In the right pane, click the **Variables** tab to view the list of storage systems.
6. In the **Value** field, click the **Information** icon to display a list of registered storage systems.

## Results

A list of Unity storage systems is returned as output.

# Unregister a storage system

You can run a workflow to unregister a Unity storage system in the vRealize Orchestrator inventory.

## Prerequisites

A Unity storage system is registered in the vRealize Orchestrator inventory.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Plug-in Settings > Unregister Storage Systems**
4. Right-click **Unregister Storage Systems** and select **Start Workflow** to run the workflow. The **Start Workflow: Unregister Storage System** page is displayed with the details of the workflow execution.

 **NOTE:** You can also click the Play button on the right panel to run the workflow.

5. To select a Unity storage system, click the **Not set** link in the **Unity Storage System** field. A list of available storage systems is displayed.
  - a. Select the storage system that you want to unregister.
  - b. Double-click the selected storage system. The storage system is updated in the **Unity Storage System** field.
6. Click **Submit**.

## Results

The Unity storage system is unregistered from the vRealize Orchestrator inventory.

# Dell EMC Unity vRealize Orchestrator Workflows

This chapter presents the following topics:

## Topics:

- [Dell EMC Unity vRealize Orchestrator workflows](#)
- [Plug-in settings](#)
- [Unity Data Protection Operations](#)
- [Unity Discovery](#)
- [Unity ESXi Host Operations](#)
- [Unity Provision Operations](#)
- [Unity Tenant Operations](#)

## Dell EMC Unity vRealize Orchestrator workflows

You can run workflows manually in vRealize Orchestrator from the **Workflows** view in **Run** mode.

This topic provides the list of workflows in Dell EMC Unity that you can run in the vRealize Orchestrator client.

## Plug-in settings

You can access the following workflows from **Library > Dell EMC Unity > Plug-in Settings** in the **Workflows** view of the vRealize Orchestrator client.

**Table 3. Plug-in settings**

Workflow	Details
Register Storage System	This workflow registers the Unity storage system in the vRealize Orchestrator inventory.
Modify Storage System	This workflow modifies existing Unity storage system details. You can modify the connection name.
List Storage Systems	This workflow returns a list of the Unity storage systems.
Unregister Storage System	This workflow removes the Unity storage system from the vRealize Orchestrator inventory.

## Unity Data Protection Operations

This topic lists and describes the Unity Data Protection Operations workflows.

You can access the following workflows from **Library > Dell EMC Unity > Unity Data Protection Operations** in the **Workflows** view of the vRealize Orchestrator client.

**Table 4. Unity Data Protection Operations workflows**

Workflow	Details
Replication Connection Operations	
Create Replication Connection	This workflow creates a replication connection.
Delete Replication Connection	This workflow deletes replication interface.
Modify Replication Connection	This workflow modifies user and connection mode of an existing replication connection.

**Table 4. Unity Data Protection Operations workflows (continued)**

Workflow	Details
Replication Management Operations	
Create Replication	This workflow creates a replication.
Delete Replication	This workflow deletes a replication.
Failback Replication Session	This workflow fails back the replication session.
Failover	This workflow performs a failover operation on the replication session.
Failover with Sync	This workflow performs a failover with sync operation on the replication session.
Modify RPO	This workflow modifies the RPO value for a given replication session.
Pause Replication	This workflow pauses the replication session.
Resume Replication	This workflow resumes the replication session.
Sync Now	This workflow performs synchronization operation on the replication session.
Snapshot Operations	
Attach LUN Snapshot to Hosts	This workflow attaches the LUN snapshots to a host.
Attach VMFS Datastore Snapshot to Hosts	This workflow attaches the VMFS datastore snapshot to a host.
Copy File System Snapshot	This workflow copies the file system snapshots.
Copy LUN Snapshot	This workflow copies the LUN snapshot.
Copy NFS Datastore Snapshot	This workflow copies the NFS datastore snapshot.
Create Snapshot for File System	This workflow creates snapshot for file system.
Create Snapshot for LUN	This workflow creates snapshots for LUN.
Create Snapshot for NFS Datastore	This workflow creates snapshots for NFS datastore.
Create Snapshot for VMFS Datastore	This workflow creates snapshots for VMFS datastore.
Delete File System Snapshot	This workflow deletes the snapshot of a file system.
Delete NFS Datastore Snapshot	This workflow deletes the snapshot on NFS datastore.
Delete VMFS Datastore Snapshot	This workflow deletes the snapshot on VMFS datastore.
Delete LUN Snapshot	This workflow deletes the snapshot of a LUN.
Detach Host from LUN Snapshot	This workflow detaches a host from LUN snapshot.
Detach Host from VMFS Datastore Snapshot	This workflow detaches a host from VMFS datastore snapshot.
Modify Snapshot for VMFS Datastore	This workflow modifies VMFS snapshot details such as name, description, and retention policy.
Modify Snapshot of File System	This workflow modifies the snapshot of file system details such as name, description, and retention policy.
Modify Snapshot of LUN	This workflow modifies snapshot of LUN details such as name, description, and retention policy.
Modify Snapshot of NFS Datastore	This workflow modifies snapshot of NFS datastore details such as name, description, and retention policy.
Refresh LUN Snapshot	This workflow refreshes the selected snapshot from LUN.
Refresh VMFS Datastore Snapshot	This workflow refreshes the selected snapshot from VMFS datastore.
Replicate Snapshot of File System	This workflow replicates the snapshot of a file system.
Replicate Snapshot of LUN	This workflow replicates snapshot of a LUN.

**Table 4. Unity Data Protection Operations workflows (continued)**

Workflow	Details
Restore File System using Snapshot	This workflow restores the file system using an existing snapshot.
Restore LUN using Snapshot	This workflow restores the LUN using an existing snapshot.
Restore NFS Datastore using Snapshot	This workflow restores the NFS datastore using an existing snapshot.
Restore VMFS Datastore using Snapshot	This workflow restores the VMFS datastore using an existing snapshot.
Schedule/Unschedule Snapshot File System	This workflow schedules or unschedules a snapshot for file system.
Schedule/Unschedule Snapshot LUN	This workflow schedules or unschedules a snapshot for a LUN.
Schedule/Unschedule Snapshot NFS Datastore	This workflow schedules or unschedules a snapshot for an NFS datastore.
Schedule/Unschedule Snapshot VMFS Datastore	This workflow schedules or unschedules a snapshot for a VMFS datastore.
Snapshot Schedule Management Operations	
Create Snapshot Schedule	This workflow creates a snapshot schedule.
Delete User Defined Snapshot Schedule	This workflow deletes a user-defined snapshot schedule under a storage system.

## Unity Discovery

You can access the following workflows from **Library > Dell EMC Unity > Unity Discovery** in the **Workflows** view of the vRealize Orchestrator client.

**Table 5. Unity Discovery workflows**

Workflow	Details
Get ESXi Host	This workflow shows the details of the selected ESXi host.
Get File System	This workflow shows the details of the selected file system.
Get LUN	This workflow shows the details of the selected LUN.
Get LUN Clone	This workflow shows the details of the selected LUN clone.
Get NFS Datastore	This workflow shows the details of the selected NFS datastore.
Get NFS Share	This workflow shows the details of the selected NFS share.
Get Quota Tree	This workflow shows the details of the selected quota tree.
Get Replication Connection	This workflow shows the details of the selected replication connection.
Get Replication Session	This workflow shows the details of the selected replication session.
Get SMB Share	This workflow shows the details of the selected SMB share.
Get Snapshot of File System	This workflow shows the details of the selected snapshot of a file system.
Get Snapshot of LUN	This workflow shows the details of the selected snapshot of a LUN.
Get Snapshot of NFS Datastore	This workflow shows the details of the selected snapshot of an NFS datastore.
Get Snapshot of VMFS Datastore	This workflow shows the details of the selected snapshot of a VMFS datastore.
Get Snapshot Schedule	This workflow shows the details of the selected snapshot schedule.
Get Storage System	This workflow rediscovers a Unity storage system and updates system data in the plug-in cache.



**Table 5. Unity Discovery workflows (continued)**

Workflow	Details
Get Storage Systems	This workflow rediscovers all registered Unity storage systems and updates system data in the plug-in cache.
Get Tenant	This workflow shows the details of the selected tenant.
Get User Quota	This workflow shows the details of the selected user quota.
Get vCenter Server	This workflow shows the details of the selected vCenter Server instance.
Get VMFS Datastore	This workflow shows the details of the selected VMFS datastore.
List All LUNs	This workflow lists the details of all LUNs.
List ESXi Hosts	This workflow lists the details of all ESXi hosts.
List File System	This workflow lists the details of all file systems.
List LUN Clones	This workflow lists the details of all LUN clones.
List NFS Datastores	This workflow lists the details of all NFS datastores.
List NFS Datastore Snapshots	This workflow lists the details of all NFS datastore snapshots.
List NFS Shares	This workflow lists the details of all NFS shares.
List Quota Trees	This workflow lists the details of all quota trees.
List Replication Connection	This workflow lists the details of all replication connections.
List Replication Session	This workflow lists the details of all replication sessions.
List SMB Shares	This workflow lists the details of all SMB shares.
List Snapshot Schedules	This workflow lists the details of all snapshot schedules.
List Snapshots for File System	This workflow lists the snapshots for file system.
List Snapshots for LUN	This workflow lists the details of all snapshots for a LUN.
List Tenants	This workflow lists the details of all tenants.
List User Quotas	This workflow lists the details of user quotas.
List vCenter Servers	This workflow lists the details of all vCenter Server instances.
List VMFS Datastores	This workflow lists the details of all VMFS datastores.
List VMFS Datastore Snapshots	This workflow lists the details of all snapshots of a VMFS datastore.

## Unity ESXi Host Operations

You can access the following workflows from **Library > Dell EMC Unity > Unity ESXi Host Operations** in the **Workflows** view of the vRealize Orchestrator client.

**Table 6. Unity ESXi Host Operations**

Workflow	Details
Register a vCenter Server	This workflow registers a vCenter Server instance in Unity
Register ESXi Host	This workflow registers an ESXi host in Unity.
Unregister a vCenter Server	This workflow unregisters a vCenter Server instance in Unity.
Unregister ESXi Host	This workflow unregisters an ESXi host in Unity.

# Unity Provision Operations

You can access the following workflows from **Library > Dell EMC Unity > Unity Provision Operations** in the **Workflows** view of the vRealize Orchestrator client.

**Table 7. Unity Provision Operations workflows**

Workflow	Details
File System Operations	
Quota Operations	<p><b>Add User Quota to Quota Tree:</b> This workflow adds user quota to the quota tree.</p> <p><b>Create Quota Tree:</b> This workflow creates a quota tree.</p> <p><b>Create User Quota:</b> This workflow creates a user quota.</p> <p><b>Delete Quota Tree:</b> This workflow deletes a quota tree.</p> <p><b>Modify Quota Tree:</b> This workflow modifies the description, soft limit, hard limit, and grace period of an existing quota tree.</p> <p><b>Modify User Quota:</b> This workflow modifies an existing user quota.</p> <p><b>Modify User Quota in Quota Tree:</b> This workflow modifies an existing user quota in the quota tree.</p> <p><b>Remove User Quota from Quota Tree:</b> This workflow removes an existing user quota from the quota tree.</p>
Create File System	This workflow creates a file system.
Delete File System	This workflow deletes a file system from the inventory.
Modify File System	This workflow modifies existing file system details, such as description, size, and tiering policy.
LUN Operations	
Clone LUN	This workflow clones the LUN either by creating a new snapshot or by using an existing snapshot.
Create LUN	This workflow creates a LUN.
Delete LUN	This workflow deletes a LUN from the LUN list.
Delete LUN Clone	This workflow deletes a LUN clone from the LUN clones list.
Modify LUN	This workflow modifies LUN details such as name, description, size, SP owner, host access, and tiering policy.
Move LUN	This workflow moves a LUN from one pool to another pool with details such as, Session Priority, Pool, Thin, Data Reduction, and Advanced Data Deduplication.
Refresh LUN	This workflow refreshes a LUN or LUN clone.
Share Operations	
Add NFS Share	This workflow adds an NFS share to the inventory.
Add SMB Share	This workflow adds an SMB share to the inventory.
Delete NFS Share	This workflow deletes an NFS Share from the NFS shares list.
Delete SMB Share	This workflow deletes an SMB Share from the NFS shares list.
Modify NFS Share	This workflow modifies NFS Share details such as description and host access (Read only, Read/Write, Read only- Allow root, Read/Write- Allow root).
Modify SMB Share	This workflow modifies the SMB Share details such as Description, Continuous availability, Protocol Encryption; Access based Enumeration, Branch Cache enable, and Offline Availability.
VMware Operations	

**Table 7. Unity Provision Operations workflows (continued)**

Workflow	Details
Datastore Operations	<p><b>Add NFS Datastore:</b> This workflow adds an NFS datastore in the inventory.</p> <p><b>Create VMFS Datastore:</b> This workflow creates a VMFS datastore in the inventory.</p> <p><b>Delete NFS Datastore:</b> This workflow deletes an NFS datastore from the inventory.</p> <p><b>Delete VMFS Datastore:</b> This workflow deletes a VMFS datastore from the inventory.</p> <p><b>Modify VMFS Datastore:</b> This workflow modifies the VMFS datastore details such as Datastore name, description, size, SP owner, host access, and tiering policy.</p> <p><b>Move VMFS Datastore:</b> This workflow moves a VMFS datastore from one pool to another pool with session priority and thin policy.</p> <p><b>Refresh VMFS Datastore:</b> This workflow refreshes the VMFS datastore.</p>

## Unity Tenant Operations

You can access the following workflows from **Library > Dell EMC Unity > Unity Tenant Operations** in the **Workflows** view of the vRealize Orchestrator client.

**Table 8. Unity Tenant Operations**

Workflow	Details
Create Tenant	This workflow creates a new tenant.
Delete Tenant	This workflow deletes a tenant from the inventory.
Modify Tenant	This workflow modifies tenant details, such as the tenant name and vLAN ID.

# Sample Workflows

This chapter presents the following topics:

## Topics:

- [Unity Provision Operations workflows](#)
- [Unity Data Protection Operations workflows](#)
- [Unity Discovery Operations workflows](#)
- [Unity ESXi Host Operations workflows](#)
- [Unity Tenant Operations workflows](#)

## Unity Provision Operations workflows

The Unity Provision Operations workflow category of the plug-in contains workflows that let you manage LUN and file system, share operations such as add, delete, and modify NFS share, and VMware operations.

You can access the Unity Provision Operations workflows from **Library > Dell EMC Unity > Unity Provision Operations** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow executions are described in the following sections.

## Create a LUN

This topic describes how to create a LUN using a pool in the vRealize Orchestrator inventory.

### Prerequisites

A pool should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > LUN Operations > Create LUN**
4. Right-click **Create LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Create LUN** page is displayed with the details of the workflow execution.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. In the **Configure LUN** wizard, provide the following details:
  - **Select Unity Storage System:** Select the required Unity storage system on which you want to create the LUN.
  - **Name:** Name of the LUN you want to create.
  - **Pool:** Select the pool on which you want to create the LUN from the drop-down list.
  - **Tiering Policy:** Select the required tiering policy. You can select a policy from the following options:
    - Start High Then Auto-Tier
    - Auto-Tier
    - Highest Available Tier
    - Lowest Available Tier
  - **Size:** Size of the LUN.
  - **Size Unit:** Select the LUN size unit, either GB or TB, as required.
  - **Thin:** Select **Yes** to create a thin LUN and **No** to create a thick LUN.
  - **Host I/O Limit:** Provide the host I/O limit.
6. Click **Next**.  
The **Access** page is displayed.

7. In the **Configure Access** field, select the host, and click **Next**.  
The **Snapshot** page is displayed.
8. Select **Yes** for the **Enable automatic Snapshot Creation** to enable automatic snapshot creation. By default **No** is selected.
9. Click **Submit**.

### Results

A LUN is created in the selected pool.


## Move a LUN

This topic describes how to move a LUN from one pool to another in the vRealize Orchestrator inventory.

### Prerequisites

A LUN should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > LUN Operations > Move LUN**
4. Right-click **Move LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Move LUN** page is displayed.  
 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.
5. In the **Unity Storage System** field, select the Unity storage system that has the LUN you want to move.
6. From the **LUN** drop-down list, select the required LUN.
7. From the **Session Priority** drop-down list, select the required priority from the following options:
  - **Normal**
  - **Below Normal**
  - **Above Normal**
  - **High**
  - **Idle**
  - **Low**
8. From the **Pool** list, select the destination pool to which you want to move the LUN.
9. In the **Thin** field, select **Yes** if you want to change the data size of the newly moved LUN.

### Results

The selected LUN is moved from one pool to another pool.


## Modify a LUN

This topic describes how to modify the name, storage, and host access of an existing LUN.

### Prerequisites

A LUN should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > LUN Operations > Modify LUN**
4. Right-click **Modify LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Modify LUN** page is displayed.  
 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. In the **Unity Storage System** field, select the Unity storage system that contains the LUN you want to modify.
6. From the **LUN** drop-down list, select the required LUN.
7. From the **Modify Operation** drop-down list, select one of the following options:
  - **General:** LUN name, description, LUN size, SP owner
  - **Host Access:** Select host access to add or remove a LUN
  - **Fast VP:** Change the tiering policy
8. Make the required changes, and click **Submit**.

## Results

The selected LUN is modified.


# Refresh a LUN

This topic describes how to refresh a LUN or a LUN clone at point-in-time and create a new snapshot.

## Prerequisites

A LUN should exist.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > LUN Operations > Refresh LUN**.
4. Right-click **Refresh LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Refresh LUN** page is displayed.  
 **NOTE:** You can also click the Play button on the right panel to run the workflow.
5. In the **Unity Storage System** field, select the Unity storage system that contains the LUN you want to refresh and click **Next**.
6. From the **Unity LUN or LUN Clone** list, select the required LUN.
7. In the **Unity Snapshot (for backup)** list, use the default pre-populated name or change the default name to the name required for the backup snapshot.
8. From the **Unity Snapshot** drop-down list, select the required snapshot to refresh from.
9. Click **Submit**.

## Results

The new snapshot is created.


# Create a file system

This topic describes how to create a file system.

## Prerequisites

A storage pool should exist.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > File System Operations > Create File System**.
4. Right-click **Create File System** and select **Start Workflow** to run the workflow. The **Start Workflow: Create File System** page is displayed.  
 **NOTE:** You can also click the Play button on the right panel to run the workflow.

5. In the **Unity Storage System** field, select the Unity storage system that has the pool in which you want to create the file system.
  6. From the **Configure the Protocols of the File System Supports** drop-down list, select the protocol that supports the file system you are creating. Select one of the following:
    - Linux/Unix Shares (NFS)
    - Windows Share (SMB)
    - Multiprotocol Shares (SMB and NFS)
  7. From the **NAS Server** list, select the NAS server on which you want to create the file system, and then click **Next**. The **Name and Description** page is displayed.
  8. Enter the name and description of the file system, and then click **Next**. The **File-level Retention** page is displayed.
  9. From the **Configure the File-level Retention** drop-down list, select the retention policy for the file system from the following, and then click **Next**:
    - Off
    - Enterprise and Compliance:
      - Maximum retention policy: Unlimited
      - Default Retention Period: Unlimited
      - Minimum Retention Period: Limited
      - Retention Period: Enter the period in numbers
      - Days/Months/Year from drop-down list
- The **Configure the File System Storage Characteristics** page is displayed.
10. Select the Unity pool on which you want to create the file system.
  11. Enter the size of the file system in the **Size** field and select the unit of the file system from the **Size Unit (GB/TB)** list.
  12. Click **No** if you want to create a thick file system in the **Thin** field. By default, the option is **Yes**.
  13. Select the **Tiering Policy** from the list.
  14. Click **Submit**.

## Results

A file system is created.

# Delete a file system

This topic describes how to delete a file system.

## Prerequisites

A file system should exist.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > File System Operations > Delete File System**.
4. Right-click **Delete File System** and select **Start Workflow** to run the workflow. The **Start Workflow: Delete File System** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. In the **Storage System** field, select the Unity storage system from which you want to delete the file system.
6. From the **Unity NAS Server** drop-down list, select the NAS server that has the file system you want to delete.
7. From the **Unity File System** drop-down list, select the required file system.
8. Click **Submit**.
9. Click **Yes** in the confirmation message to delete the file system. The schema shows the progress of the operation.

# Modify a file system

This topic describes how to modify an existing file system.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Provision Operations > File System Operations > Modify File System**.
4. Right-click **Modify File System** and select **Start Workflow** to run the workflow. The **Start Workflow: Modify File System** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. In the **Unity Storage System** field, select the Unity storage system that has the file system you want to modify.
6. From the **Unity NAS Server** drop-down list, select the NAS server that has the required file system.
7. From the **Unity File System** drop-down list, select the required file system.
8. In the **Description** field, enter the required details.
9. Enter the size of the file system, and select the unit size.
10. In the **Tiering policy** field, select the policy for the modified file system.
11. Click **Submit**.

## Results

The selected file system is modified.

# Unity Data Protection Operations workflows

The Unity Data Protection Operations workflow category contains workflows that allow you to perform several operations.

Unity Data Protection Operations workflow operations:

- Replication Connection Operations
- Replication Management Operations
- Snapshot Operations
- Snapshot Schedule Management Operations

The Unity Data Protection Operations workflow enables you to create and schedule snapshots for LUN and file system. You can run these workflows from the Unity Data Protection Operations folder. Sample workflow executions are described in the following sections.

# Replication Management Operations workflows

This topic describes replication operations in the vRealize Orchestrator inventory, such as create, delete, pause, and resume replication, failback replication session, modify RPO, and so on.

You can access the following workflows from **Library > Dell EMC Unity > Unity Data Protection Operations > Replication Management Operation** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow execution is described in the following sections.

## Creating a replication

This topic describes how to add a replication session in the vRealize Orchestrator inventory.

## Prerequisites

- A replication connection should be available.
- Identical resources must be present on both the source and the destination systems.

## Steps

1. Log in to the vRealize Orchestrator client.



2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Replication Management Operations > Create Replication**.
4. Right-click **Create Replication** and select **Start Workflow** to run the workflow. The **Start Workflow: Create Replication** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Storage resource type for replication session** list, select the type of storage resource to create the replication session.
6. Click **Next**.  
The **Select Source Storage Resource** page is displayed.
7. Select the following source device details to create the replication session:

 **NOTE:** The selections shown here are based on choosing a storage resource type of **File System** in step 5.

- **Source Storage System** in which you want to create the replication session.
- **Unity NAS Server** that has the file system in which you want to create the replication session.
- **Unity File System** in which you want to create the replication session.

8. Click **Next**.  
The **Select Destination Storage Resource** page is displayed.
9. Select the following destination device details to create replication session:

 **NOTE:** The selections shown here are based on choosing a storage resource type of **File System** in step 5.

- **Unity Storage System** in which you want to create the replication session.
- **Unity NAS Server** that has the file system in which you want to create the replication session.
- **Unity File System** in which you want to create the replication session.

10. Click **Next**.
11. From the **Unity Remote System** drop-down list, select the remote system that you want to connect.
12. From the **Replication Mode** drop-down list, select the replication mode for the new connection you are creating.
13. Select **Yes** to replicate all existing snapshots. By default, **No** is selected.
14. Click **Submit**.

## Results

A replication session is created.

## Delete a replication

This topic describes how to delete a replication session created between a LUN, file system, NAS, and so on.

### Prerequisites

A replication session should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Replication Management Operations > Delete Replication**.
4. Right-click **Delete Replication** and select **Start Workflow** to run the workflow. The **Start Workflow: Delete Replication** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Replication Source Type** list, select the type of storage resource from which to delete the replication session.
6. From the **Unity Storage System** list, select the storage system from which you want to delete a replication session.
7. From the **Unity Replication Session** list, select the required replication session.
8. Click **Submit**.

- Click **Yes** in the confirmation message to delete the replication session. The schema displays the progress of the operations.

### Results

A replication session is deleted.

## Modify Recovery Point Objective

This topic describes how to modify the Recovery Point Objective (RPO) of an existing replication.

### Prerequisites

- A replication connection should exist.
- An asynchronous or manual mode replication session should exist.

### Steps

- Log in to the vRealize Orchestrator client.
- Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
- On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Replication Management Operations > Modify RPO**.
- Right-click **Modify RPO** and select **Start Workflow** to run the workflow. The **Start Workflow: Modify RPO** page is displayed.

 **NOTE:** You can also click the Play button on the right panel to run the workflow.

- From the **Unity Storage System** drop-down list, select the storage system that has the replication session you want to modify.
- From the **Unity Replication Session** drop-down list, select the replication session that you want to modify.
- From the **Mode** drop-down list, select the replication mode that you want to modify, either **Manual** or **Asynchronous**.
- Enter the maximum time out in minutes.
- Click **Submit**.

### Results

The selected replication session is modified.

## Snapshot operations

This topic describes snapshot operations in the vRealize Orchestrator inventory. The operations include Copy LUN Snapshot, Copy NFS Datastore Snapshot, Create Snapshot for File System, Create Snapshot for LUN, and so on.

You can access the following workflows from **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow executions are described in the following sections.

## Copying a LUN snapshot

This topic describes how to create a copy of a LUN snapshot.

### Prerequisites

A LUN snapshot should exist.

### Steps

- Log in to the vRealize Orchestrator client.
- Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
- On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations > Copy LUN Snapshot**.
- Right-click **Copy LUN Snapshot** and select **Start Workflow** to run the workflow. The **Start Workflow: Copy LUN Snapshot** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** drop-down list, select the storage system that has the LUN snapshot you want to copy.
6. From the **Unity LUN** drop-down list, select the required LUN.
7. From the **Unity Snapshot** drop-down list, select the required snapshot.
8. Enter the name of the snapshot in the **Name** field.
9. Click **Submit**.

### Results

A LUN snapshot copy is created.

## Creating a snapshot of a LUN

This topic describes how to create a snapshot of an existing LUN.

### Prerequisites

A LUN should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations > Create Snapshot for LUN**.
4. Right-click **Create Snapshot for LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Create Snapshot for LUN** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** drop-down list, select the storage system that has the LUN on which you want to create a snapshot.
6. From the **Unity LUN** drop-down list, select the required LUN.
7. Enter the name and description of the snapshot and click **Next**.  
The **Retention Policy** page is displayed.
8. From the **Local Retention Policy** drop-down list, select the retention policy.
9. From the **Access Type** drop-down list, select the access type, **Read-only** or **Read/Write**.
10. Select **Yes** for **Replicate Snapshot** if you want to replicate both the source and snapshots in the snapshot. Select **No** to only replicate the source.
11. Click **Submit**.

### Results

A snapshot copy of the source LUN is created.

## Deleting a LUN snapshot

This topic describes how to delete an existing LUN snapshot.

### Prerequisites

A LUN snapshot should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations > Delete LUN Snapshot**.

4. Right-click **Delete LUN Snapshot** and select **Start Workflow** to run the workflow. The **Start Workflow: Delete LUN Snapshot** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** list, select the required storage system.
6. From the **Unity LUN** drop-down list, select the required option for deletion.
7. From the **Unity Snapshot** drop-down list, select the required snapshot.
8. Click **Submit**.
9. Click **Yes** in the confirmation message to delete the LUN snapshot. The schema displays the progress of the operations.

## Results

The LUN snapshot is deleted.

## Modify snapshot for VMFS datastore

This topic describes how to modify an existing snapshot for a VMFS datastore.

### Prerequisites

- A VMFS datastore should exist.
- A retention policy should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library** > **Dell EMC Unity** > **Unity Data Protection Operations** > **Snapshot Operations** > **Modify Snapshot for VMFS Datastore**.
4. Right-click **Modify Snapshot for VMFS Datastore** and select **Start Workflow** to run the workflow. The **Start Workflow: Modify Snapshot for VMFS Datastore** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** list, select the required storage system.
6. From the **Unity VMFS Datastore** drop-down list, select the VMFS datastore that you want to modify.
7. From the **Snapshot** list, select the snapshot you want to modify.
8. Enter a name in the **Snapshot Name** field.
9. Enter a description in **Description** field (optional) and click **Next**.  
The **Retention Policy** page is displayed.
10. From the **Local Retention Policy** drop-down list, select the required option.
11. Click **Submit**.

## Results

The selected VMFS datastore is modified.

## Replicate snapshot of a LUN

This topic describes how to replicate a snapshot of a LUN.

### Prerequisites

A snapshot LUN should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.

- On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations > Replicate Snapshot of a LUN**.
- Right-click **Replicate Snapshot of a LUN** and select **Start Workflow** to run the workflow. The **Start Workflow: Replicate Snapshot of a LUN** page is displayed.

 **NOTE:** You can also click the Play button on the right panel to run the workflow.

- From the **Unity Storage System** list, select the required storage system.
- From the **Unity LUN** drop-down list, select the LUN that you want to replicate.
- From the **Unity Snapshot** drop-down list, select the required snapshot.
- From the **Remote Retention Policy** drop-down list, select the required policy.
- Click **Submit**.

### Results

The LUN snapshot is replicated.

## Restoring a LUN

This topic describes how to restore a LUN using a snapshot.

### Prerequisites

A LUN snapshot should exist.

### Steps

- Log in to the vRealize Orchestrator client.
- Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
- On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Data Protection Operations > Snapshot Operations > Restore LUN using Snapshot**.
- Right-click **Restore LUN using Snapshot** and select **Start Workflow** to run the workflow. The **Start Workflow: Restore LUN using Snapshot** page is displayed.

 **NOTE:** You can also click the Play button on the right panel to run the workflow.

- From the **Unity Storage System** list, select the required storage system.
- From the **Unity LUN** drop-down list, select the LUN you want to restore.
- From the **Unity Snapshot** drop-down list, select the snapshot that you want to restore.
- Enter a name in the **Backup Snapshot Name** textbox.
- Click **Submit**.

### Results

The LUN is restored using a snapshot.

## Unity Discovery Operations workflows

The Unity Discovery Operations workflow category contains workflows that allow you to perform discovery operations. The workflows include Get ESXi host, List ESXi host, Get Storage System, and Get Storage Systems.

You can access the following workflows from **Library > Dell EMC Unity > Unity Discovery Operations** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow execution is described in the following sections.

## Get ESXi host details

This topic describes how to get ESXi host details.

### Prerequisites

An ESXi host should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Discovery > Get ESXi Host**.
4. Right-click **Get ESXi Host** and select **Start Workflow** to run the workflow. The **Start Workflow: Get ESXi Host** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. To select a storage system, click the **Not set** link in the **Unity Storage System** field. A list of available storage systems is displayed.
6. From the **Unity ESXi Host** drop-down list select the required option.
7. Click **Submit**.

### Results

The ESXi host details are displayed.

## Listing ESXi host details

This topic describes how to list ESXi host details.

### Prerequisites

An ESXi host should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Discovery > List ESXi Host**.
4. Right-click **List ESXi Host** and select **Start Workflow** to run the workflow. The **Start Workflow: List ESXi Host** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** list, select the required storage system.
6. Click **Submit**.

### Results

A list of ESXi host details is displayed.

## Get storage system

This topic describes how to get Unity storage system details.

### Prerequisites

A Unity storage system should exist.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Discovery > Get Storage System**.
4. Right-click **Get Storage System** and select **Start Workflow** to run the workflow. The **Start Workflow: Get Storage System** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. From the **Unity Storage System** list, select the required storage system.
6. Click **Submit**.

## Results

The Unity storage system details are displayed.

# Get storage systems

This topic describes how to get details of all registered Unity storage systems.

## Prerequisites

A Unity storage system should exist.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Discovery > Get Storage Systems**.
4. Right-click **Get Storage Systems** and select **Start Workflow** to run the workflow.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

Details are obtained of all registered Unity storage systems.

## Results

The system data is updated in the plug-in cache.

# Unity ESXi Host Operations workflows

The Unity ESXi Host Operations workflow category contains workflows that let you manage the registration and unregistration of vCenter Server and ESXi hosts.

You can access the following workflows from **Library > Dell EMC Unity > Unity ESXi Host Operations** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow execution is described in the following sections.

# Registering vCenter Server

This topic describes how to register vCenter Server.

## Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity ESXi Host Operations > Register vCenter Server**.
4. Right-click **Register vCenter Server** and select **Start Workflow** to run the workflow. The **Start Workflow: Register vCenter Server** page is displayed.

 **NOTE:** You can also click the **Play** button on the right panel to run the workflow.

5. To select a storage system, click the **Not set** link in the **Unity Storage System** field. A list of available storage systems is displayed.
6. Specify the vCenter IP/Host in the **vCenter Storage IP/Host** textbox.
7. Specify the vCenter Server username in the **vCenter Storage User Name** textbox.
8. Specify the vCenter Server password in the **vCenter Storage Password** textbox.
9. To select an ESXi host, click the **Not set** link in the **Unity ESXi Hosts** field.
10. Click **Submit**.

## Results

A vCenter Server instance is registered.

# Unity Tenant Operations workflows


The Unity Tenant Operations workflow category of the plug-in contains workflows that let you create, modify, and delete tenants.

You can access the following workflows from **Library > Dell EMC Unity > Unity Tenant Operations** in the **Workflows** view of the vRealize Orchestrator client. Sample workflow execution is described in the following sections.

## Creating a tenant

This topic describes how to create a tenant.

### Steps

1. Log in to the vRealize Orchestrator client.
2. Select **Run** mode from the drop-down list, and click the **Workflows** icon on the left pane.
3. On the **Workflows** tab, click **Library > Dell EMC Unity > Unity Tenant Operations > Create Tenant**.
4. Right-click **Create Tenant** and select **Start Workflow** to run the workflow. The **Start Workflow: Create Tenant** page is displayed.  
 **NOTE:** You can also click the Play button on the right panel to run the workflow.
5. To select a storage system, click the **Not set** link in the **Unity Storage System** field. A list of available storage systems is displayed.
6. Enter a name for the tenant in the **Name** textbox.
7. Select **Yes** or **No** for the **Enter UUID manually**.
8. Select the VLANs for creating a tenant in the **VLANs** field by clicking the **Not set** link.
9. Click **Submit**.

### Results

A tenant is created.