



Backup and restore using NetApp Snapshots

Active IQ Unified Manager 9.8

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Backup and restore using NetApp Snapshots

A NetApp Snapshot backup creates a point-in-time image of the Unified Manager database and configuration files that you can use to restore in case of a system failure or data loss. You schedule a Snapshot backup to be written to a volume on one of your ONTAP clusters periodically so that you always have a current copy.



This functionality is available only when Unified Manager is installed on a Red Hat Enterprise Linux or CentOS Linux server.

Snapshot backups take very little time, usually just a few minutes, and the Unified Manager database is locked for a very short timeframe, so there is very little disruption to your installation. The image consumes minimal storage space and incurs negligible performance overhead because it records only changes to files since the last Snapshot copy was made. Because the Snapshot is created on an ONTAP cluster, you can take advantage of other NetApp features such as SnapMirror to create secondary protection, if needed.

Before beginning a backup operation, Unified Manager performs an integrity check to verify that the destination system is available.

Note that you can restore a Snapshot backup only on the same version of Unified Manager. For example, if you created a backup on Unified Manager 9.8, the backup can be restored only on Unified Manager 9.8 systems.

Creating the volume where backups are stored

You can create the volume where Snapshot backups will be stored on one of your ONTAP clusters from ONTAP System Manager or from the ONTAP CLI.

Before you begin

The cluster, storage VM, and volume must meet the following requirements:

- Cluster requirements:
 - ONTAP 9.3 or greater must be installed
 - It should be geographically close to the Unified Manager server
 - It can be monitored by Unified Manager, but it is not required
- Storage VM requirements:
 - CIFS/SMB or NFS services must be enabled
 - The name switch and name mapping must be set to use “files”
 - NFSv4 must be enabled on the NFS server and NFSv4 iddomain specified on the client and storage VM
 - Local users created to correspond with client-side users
 - Make sure All Read/Write access is selected
 - Make sure that Superuser Access is set to “any” in the export policy
- Volume requirements:

- The volume should be at least double the size of the Unified Manager /opt/netapp/data directory

Use the command `du -sh /opt/netapp/data/` to check the current size.

- The security style must be set to UNIX
- The local snapshot policy must be disabled
- Volume autosize should be enabled
- The performance service level should be set to a policy with high IOPS and low latency, such as "Extreme"

About this task

For detailed steps to create the NFS volume, see [How to configure NFSv4 in ONTAP 9](#) and the [ONTAP 9 NFS Configuration Express Guide](#).

Specifying the destination location for Snapshot backups

You configure the destination location for Unified Manager Snapshot backups on a volume you have already configured in one of your ONTAP clusters. You define the location from the Unified Manager maintenance console.

Before you begin

- You must have the root user credentials for the Linux host on which Unified Manager is installed.
- You must have a user ID and password authorized to log in to the maintenance console of the Unified Manager server.
- You must have the Cluster Management IP address, the name of the storage VM, the name of the volume, and the storage system user name and password.
- You must have mounted the volume to the Unified Manager host, and you must have the mount path.

Steps

1. Using Secure Shell, connect to the IP address or fully qualified domain name of the Unified Manager system.
2. Log in to the system with the maintenance user (umadmin) name and password.
3. Enter the command `maintenance_console` and press Enter.
4. In the maintenance console **Main Menu**, enter the number for the **Backup Restore** option.
5. Enter the number for **Configure NetApp Snapshot Backup**.
6. Enter the number for **Configuration for NFS**.
7. Review the information that you will need to provide and then enter the number for **Enter Backup Configuration Details**.
8. To identify the volume where the Snapshot will be written, enter the IP address of the Cluster Management interface, the name of the storage VM, the name of the volume, the storage system user name and password, and the mount path.
9. Verify this information and enter `y`.

The system performs the following tasks:

- Establishes the connection to the cluster
- Stops all the services
- Creates a new directory in the volume and copies the Unified Manager database configuration files
- Deletes the files from Unified Manager and creates a symlink to the new database directory
- Restarts all the services

10. Exit the maintenance console and launch the Unified Manager interface to create the Snapshot backup schedule if you have not already done this.

Defining a schedule for Snapshot backups

You can configure the schedule at which Unified Manager Snapshot backups are created by using the Unified Manager UI.

Before you begin

- You must have the Operator, Application Administrator, or Storage Administrator role.
- You must have configured the NetApp Snapshot backup settings from the maintenance console to identify the destination where the snapshots will be created.
- You should not schedule backup operations to occur immediately after a new cluster has been added while Unified Manager is collecting 15 days of historical performance data.

About this task

Snapshot backups are created in just a few minutes and the Unified Manager database is locked only for few seconds.

Steps

1. In the left navigation pane, click **General > Database Backup**.
2. In the **Database Backup** page, click **Backup Settings**.
3. Enter the maximum number of Snapshot copies that you want to retain in the **Retention Count** field.

The default value for retention count is 10. The maximum number of Snapshot copies is determined by the version of ONTAP software on the cluster: 1020 for ONTAP 9.4 and greater, and 250 for ONTAP 9.3 and earlier. You can leave this field blank to implement the maximum value regardless of ONTAP version.

4. Select the **Scheduled Daily** or **Scheduled Weekly** button, and then specify the schedule details.
5. Click **Apply**.

Results

Snapshot backup files are created based on the schedule. You can see the available backup files in the Database Backup page.

After you finish

Because of the importance of this volume and the snapshots, you may want to create one or two alerts for this volume so you are notified when either:

- The volume space is 90% full. Use the event **Volume Space Full** to set up the alert.

You can add capacity to the volume using ONTAP System Manager or the ONTAP CLI so that the Unified Manager database does not run out of space.

- The number of snapshots is close to reaching the maximum number. Use the event **Too Many Snapshot Copies** to set up the alert.

You can delete older snapshots using ONTAP System Manager or the ONTAP CLI so that there is always room for new snapshot backups.

You configure alerts in the Alert Setup page.

Restoring a Snapshot backup

If data loss or data corruption occurs, you can restore Unified Manager to the previous stable state with minimum loss of data. You can restore the Unified Manager Snapshot database to a local or remote Red Hat Enterprise Linux or CentOS system by using the Unified Manager maintenance console.

Before you begin

- You must have the root user credentials for the Linux host on which Unified Manager is installed.
- You must have a user ID and password authorized to log in to the maintenance console of the Unified Manager server.

About this task

The restore feature is platform-specific and version-specific. You can restore a Unified Manager backup only on the same version of Unified Manager.

Steps

1. Using Secure Shell, connect to the IP address or fully qualified domain name of the Unified Manager system.
2. Log in to the system with the maintenance user (umadmin) name and password.
3. Enter the command `maintenance_console` and press Enter.
4. In the maintenance console **Main Menu**, enter the number for the **Backup Restore** option.
5. Enter the number for **Backup and Restore using NetApp Snapshot**.

If you are performing a restore onto a new server, after installing Unified Manager do not launch the UI or configure any clusters, users, or authentication settings when the installation is complete. Enter the number for **Configure NetApp Snapshot Backup** and configure the Snapshot backup settings as they were configured on the original system.

6. Enter the number for **Restore using NetApp Snapshot**.
7. Select the Snapshot backup file that you want to restore and press Enter.
8. After the restore process is complete, log in to the Unified Manager user interface.

After you finish

After you restore the backup, if the OnCommand Workflow Automation server does not work, perform the following steps:

1. On the Workflow Automation server, change the IP address of the Unified Manager server to point to the latest machine.
2. On the Unified Manager server, reset the database password if the acquisition fails in step 1.

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