NetApp

Upgrading SnapManager

SnapManager Oracle

NetApp
November 04, 2025

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Upgrading SnapManager

You can upgrade to the latest version of SnapManager for Oracle from any of the earlier versions. You can either upgrade all the SnapManager hosts simultaneously or perform a rolling upgrade, which allows you to upgrade the hosts in a staggered, host-by-host manner.

Preparing to upgrade SnapManager

The environment in which you want to upgrade SnapManager must meet the specific software, hardware, browser, database, and operating system requirements. For the latest information about the requirements, see the Interoperability Matrix.

You must ensure that you perform the following tasks before upgrading:

- Complete the required preinstallation tasks.
- Download the latest SnapManager for Oracle installation package.
- Install and configure the appropriate version of SnapDrive for Windows on all the target hosts.
- Create a backup of the existing SnapManager for Oracle repository database.

Interoperability Matrix: support.netapp.com/NOW/products/interoperability

Upgrading SnapManager hosts

You can upgrade all the existing SnapManager hosts to use the latest version of SnapManager. All the hosts are upgraded simultaneously. However, this might result in downtime of all the SnapManager hosts and the scheduled operations during that time.

1. Stop the SnapManager server by performing the following steps:
   a. In the Windows Services window, select **NetApp SnapManager for Oracle**.
   b. In the left panel, click **Stop**.
2. Double-click the SnapManager installation file.

If the operating system is…	Then use…
Windows x86	netapp.smo.windows-x86-version_number.exe
Windows x64	netapp.smo.windows-x64-version_number.exe

The following message is displayed: The publisher could not be verified. Are you sure you want to run this software?

3. Click **OK**.

The Introduction window is displayed.

4. Click **Next**.

   The Choose Install Folder window is displayed.

5. Click **Next** to accept the default installation location or select a new location.

   The default location is: C:\Program Files\NetApp\SnapManager for Oracle.

6. In the Menu Availability window, click **Next**.

7. In the Specify Service Properties window, enter the account and password information for Windows service.

   The specified account must be a member of the following groups:

   ◦ The storage system's local administration group

   ◦ The local administrator's group

   ◦ The ORA_DBA group You can specify if the service must start automatically after reboot or the service must be started manually.

8. In the Pre-Installation Summary window, click **Install**.

9. In the Install Complete window, click **Next**.

10. In the Important Information window, click **Done** to exit the installer.

Related information

Preparing to install SnapManager for Oracle

Preinstallation tasks

Downloading the SnapManager for Oracle installation package

Post-upgrade tasks

After upgrading to a later version of SnapManager, you must update the existing repository. You might also want to modify the backup retention class assigned to the existing backups.

> (i) After upgrading to SnapManager 3.3 or later, you need to set sqlnet.authentication_services to NONE if you want to use database (DB) authentication as the only authentication method. This feature is not supported for RAC databases.

Updating the existing repository

You do need not to update the existing repository if you are upgrading from SnapManager 3.3.x to SnapManager 3.4 or later, but for all other upgrade paths you must update the existing repository so that you can access it after the upgrade.

• The upgraded SnapManager server must have been started and verified.

• A backup of the existing repository must exist.

- If you are upgrading from any version earlier than SnapManager 3.1 to SnapManager 3.3 or later, you must first upgrade to SnapManager 3.2.

  After upgrading to SnapManager 3.2, you can then upgrade to SnapManager 3.3 or later.

- After you update the repository, you cannot use the repository with an earlier version of SnapManager.

  1. Update the existing repository: smo repository update -repository -dbname repository_service_name -host repository_host_name -login -username repository_user_name -port repository_port

     - The repository user name, repository service name, and repository host name can consist of alphanumeric characters, a minus sign, an underscore, and a period.

     - The repository port can be any valid port number. The other options used while updating the existing repository are as follows:

       - The force option

       - The noprompt option

       - The quiet option

       - The verbose option

```
smo repository update -repository -dbname SALESDB
-host server1 -login -username admin -port 1521


+
```

Restart the SnapManager server to restart any associated schedules.

Modifying the backup retention class

The upgraded SnapManager assigns the default backup retention class to the existing backups. You can modify the default retention class values to meet your backup requirements.

The default backup retention class assigned to the existing backups are as follows:

Backup type	Retention class assignment after upgrade
Backups to be retained forever	Unlimited
Other backups	Daily

Note: You can delete the backups that are retained forever without changing the retention class.

If you upgrade to SnapManager 3.0 or later, the greater of the following two values are assigned to the existing profiles:

- Previous retention count for the profile

- Default values for the retention count and duration of daily backups as specified in the smo.config file

  1. Modify the values assigned to retain.hourly.count and retain.hourly.duration in the smo.config file.

You can enter the following values:

- retain.hourly.count = 12
- retain.hourly.duration = 2

Related information

SnapManager configuration parameters

Upgrading SnapManager hosts by using rolling upgrade

The rolling upgrade approach that enables you to upgrade the hosts in a staggered, host-by-host manner is supported from SnapManager 3.1.
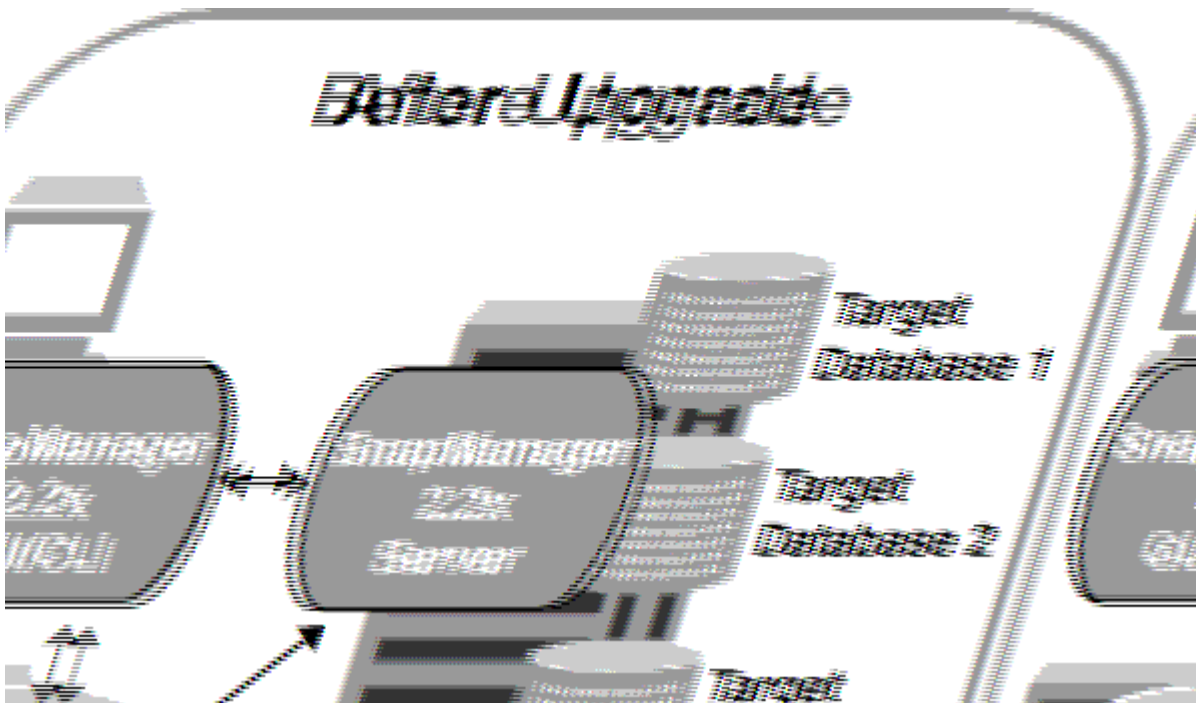
SnapManager 3.0 or earlier only enabled you to upgrade all the hosts simultaneously. This resulted in downtime of all the SnapManager hosts and the scheduled operations during upgrade operation.

Rolling upgrade provides the following benefits:

- Improved SnapManager performance because only one host is upgraded at one time.
- Ability to test the new features in one SnapManager server host before upgrading the other hosts.

ⓘ | You can perform rolling upgrade only by using the command-line interface (CLI).

After successful completion of rolling upgrade, the SnapManager hosts, profiles, schedules, backups, and clones associated with the profiles of the target databases are migrated from the repository database of the earlier SnapManager version to the repository database of the new version. The details about the operations performed by using the profiles, schedules, backups, and clones that were created in the earlier SnapManager version are now available in the repository database of the new version. You can start the GUI by using the default configuration values of the user.config file. The values configured in the user.config file of the earlier version of SnapManager are not considered.

The upgraded SnapManager server can now communicate with the upgraded repository database. The hosts that were not upgraded can manage their target databases by using the repository of the earlier version of SnapManager and thereby can use the features available in the earlier version.

> ℹ️ Before performing rolling upgrade, you must ensure that all the hosts under the repository database can be resolved. For information about how to resolve the hosts, see the troubleshooting section in *SnapManager for Oracle Administration Guide for UNIX*.

Related information

What a rollback is

Troubleshooting SnapManager

Prerequisites for performing rolling upgrade

Before performing rolling upgrade, you must ensure that your environment meets certain requirements.

- If you are using any version earlier than SnapManager 3.1 and want to perform a rolling upgrade to SnapManager 3.3 or later, you need to first upgrade to 3.2 and then to the latest version.

  You can directly upgrade from SnapManager 3.2 to SnapManager 3.3 or later.

- External scripts that are used to perform any external data protection or data retention must be backed up.

- The SnapManager version to which you want to upgrade must be installed.

  > ℹ️ If you are upgrading from any version earlier than SnapManager 3.1 to SnapManager 3.3 or later, you must first install SnapManager 3.2 and perform a rolling upgrade. After upgrading to 3.2, you can then install SnapManager 3.3 or later and perform another rolling upgrade to SnapManager 3.3 or later.

- The SnapDrive for Windows version supported with the SnapManager version to which you want to upgrade must be installed.

  For information about installing SnapDrive, see SnapDrive documentation set.

- The repository database must be backed up.

- The amount of SnapManager repository utilization should be minimum.

- If the host to be upgraded is using a repository, SnapManager operations must not be performed on the other hosts that are using the same repository.

  The operations that are scheduled or running on the other hosts will wait for the rolling upgrade to complete.

- Profiles that point to the same repository database must be created with different names in the SnapManager server hosts.

  If you use profiles with the same name, the rolling upgrade involving that repository database fails without warning.

- SnapManager operations must not be performed on the host that is being upgraded.

> ⓘ The rolling upgrade runs for longer as the number of backups of the hosts being upgraded together increases. The duration of the upgrade can vary depending on the number of profiles and backups associated with a given host.

Related information

Installing SnapManager for Oracle

Documentation on the NetApp Support Site: mysupport.netapp.com

Performing rolling upgrade on a single host or multiple hosts

You can perform rolling upgrade on a single or multiple SnapManager server hosts by using the command-line interface (CLI). The upgraded SnapManager server host is then managed only with the later version of SnapManager.

You must ensure that all the prerequisites for performing rolling upgrade are completed.

1. To perform a rolling upgrade on a single host, enter the following command: smorepository rollingupgrade-repository-dbnamerepo_service_name-hostrepo_host-login-usernamerepo_username-portrepo_port-upgradehosthost_with_target_database-force [-quiet | -verbose]

   The following command performs the rolling upgrade of all target databases mounted on hostA and a repository database named repoA located on repo_host:

   ```
   smo repository rollingupgrade
       -repository
         -dbname repoA
         -host repo_host
         -login
          -username repouser
          -port 1521
        -upgradehost hostA
   ```

2. To perform a rolling upgrade on multiple hosts, enter the following command: smorepository rollingupgrade-repository-dbnamerepo_service_name-hostrepo_host-login-usernamerepo_username-portrepo_port-upgradehosthost_with_target_database1,host_with_target_database2-force [-quiet | -verbose]

   > ⓘ For multiple hosts, enter the host names separated by a comma and ensure that you do not include any space between the comma and the next host name.Also, ensure that you enter all the host names within double quotation marks.

   The following command performs the rolling upgrade of all the target databases mounted on the hosts, hostA and hostB and a repository database named repoA located on repo_host:

```
smo repository rollingupgrade
    -repository
      -dbname repoA
      -host repo_host
      -login
       -username repouser
       -port 1521
     -upgradehost hostA,hostB
```

3. To perform a rolling upgrade on all the hosts on a repository database, enter the following command:
   smorepository rollingupgrade-repository-dbnamerepo_service_name-hostrepo_host-login-
   usernamerepo_username-portrepo_port-allhosts-force [-quiet | -verbose]

   After successfully upgrading the repository database, you can perform all the SnapManager operations on
   the target database.

   The upgraded SnapManager for Oracle retains the host-based user credentials, the Oracle software user
   credentials, and the Oracle Recovery Manager (RMAN) user credentials from the earlier version of
   SnapManager for Oracle.

   The following command performs the rolling upgrade of all the target databases available on a repository
   database named repoA located on repo_host:

```
smo repository rollingupgrade
    -repository
      -dbname repoA
      -host repo_host
      -login
       -username repouser
       -port 1521
      -allhosts
```

   ◦ If the SnapManager server starts automatically, you must restart the server to ensure that you can view
     the schedules.

   ◦ If you upgrade one of the two related hosts, you must upgrade the second host after upgrading the first.

     For example, if you have created a clone from host A to host B or mounted a backup from host A to
     host B, the hosts A and B are related to each other. When you upgrade host A, a warning message is
     displayed asking you to upgrade the host B soon after upgrading host A.

     > (i) The warning messages are displayed even though the clone is deleted or the backup is
     > unmounted from host B during the rolling upgrade of host A. This is because metadata
     > exists in the repository for the operations performed on the remote host.

Related information

Prerequisites for performing rolling upgrade

What a rollback is

The rollback operation enables you to revert to an earlier version of SnapManager after you perform a rolling upgrade.

> ℹ️ Before performing a rollback, you must ensure that all the hosts under the repository database can be resolved.

When you perform a rollback, the following are rolled back:

- Backups that were created, freed, and deleted by using the SnapManager version from which you are rolling back
- Clones created from a backup that was created by using the SnapManager version from which you are rolling back
- Profile credentials modified by using the SnapManager version from which you are rolling back

The features that were available in the SnapManager version that you were using but are not available in the version to which you are rolling back, are not supported. For example, when you perform a rollback from SnapManager 3.3 or later to SnapManager 3.1, the history configuration set for profiles in SnapManager 3.3 or later is not rolled back to the profiles in SnapManager 3.1. This is because the history configuration feature was not available in SnapManager 3.1.

Related information

Troubleshooting SnapManager

Limitations for performing a rollback

You must be aware of the scenarios in which you cannot perform a rollback. However, for some of these scenarios you can perform some additional tasks before performing rollback.

The scenarios in which you cannot perform rollback or have to perform the additional tasks are as follows:

- If you perform one of the following operations after performing a rolling upgrade:
  - Create a new profile.
  - Change the mount status of the backup.

    In this scenario, you must first change the mount status to its original state and then perform a rollback.

  - Restore a backup.
  - Change the authentication mode from database authentication to operating system (OS) authentication.

    In this scenario, after performing a rollback, you must manually change the authentication mode from OS to database.

- If the host name for the profile is changed
- If profiles are separated to create archive log backups

  In this scenario, you cannot rollback to a version that is earlier than SnapManager 3.2.

Prerequisites for performing a rollback

Before performing a rollback, you must ensure that your environment meets certain requirements.

- If you are using SnapManager 3.3 or later and want to roll back to a version earlier than SnapManager 3.1, you need to roll back to 3.2 and then to the desired version.

- External scripts that are used to perform any external data protection or data retention must be backed up.

- The SnapManager version to which you want to roll back must be installed.

> (i) If you want to perform a rollback from SnapManager 3.3 or later to a version earlier than SnapManager 3.1, you must first install SnapManager 3.2 and perform a rollback. After rolling back to 3.2, you can then install SnapManager 3.1 or earlier and perform another rollback to that version.

- The SnapDrive for Windows version supported with the SnapManager version to which you want to roll back must be installed.

  For information about installing SnapDrive, see SnapDrive documentation set.

- The repository database must be backed up.

- If the host to be rolled back is using a repository, SnapManager operations must not be performed on the other hosts that are using the same repository.

  The operations that are scheduled or running on the other hosts wait for the rollback to complete.

- Profiles that point to the same repository database, must be created with different names in the SnapManager server hosts.

  If you use profiles with the same name, the rollback operation involving that repository database fails without warning.

- SnapManager operations must not be performed on the host which you want to rollback.

  If there is an operation running, you must wait until that operation completes and before proceeding with the rollback.

> (i) The rollback operation runs for a longer time as the cumulative number of backups of the hosts that are being rolled back together increases. The duration of the rollback can vary depending on the number of profiles and backups associated with a given host.

Related information

Installing SnapManager for Oracle

Documentation on the NetApp Support Site: mysupport.netapp.com

Performing a rollback on a single host or multiple hosts

You can perform a rollback on a single or multiple SnapManager server hosts by using the command-line interface (CLI).

You must ensure that all the prerequisites for performing a rollback are complete.

1. To perform a rollback on a single host, enter the following command: smorepository rollback-repository-dbnamerepo_service_name-hostrepo_host-login-usernamerepo_username-portrepo_port-rollbackhosthost_with_target_database

   The following example shows the command to roll back all the target databases that are mounted on hostA and a repository database named repoA located on the repository host, repo_host:

   ```
   smo repository rollback
       -repository
         -dbname repoA
         -host repo_host
         -login
          -username repouser
          -port 1521
        -rollbackhost hostA
   ```

2. To perform a rollback on multiple hosts, enter the following command: smorepository rollback-repository-dbnamerepo_service_name-hostrepo_host-login-usernamerepo_username-portrepo_port-rollbackhosthost_with_target_database1,host_with_target_database2

   > (i) For multiple hosts, enter the host names separated by a comma and ensure that there is no space between the comma and the next host name.Also, ensure that you enter the whole set of multiple host names within double quotation marks.

   The following example shows the command to roll back all the target databases that are mounted on the hosts, hostA, hostB, and a repository database named repoA located on the repository host, repo_host:

   ```
   smo repository rollback
       -repository
         -dbname repoA
         -host repo_host
         -login
          -username repouser
          -port 1521
        -rollbackhost hostA,hostB
   ```

   The hosts, profiles, schedules, backups, and clones that are associated with the profiles of the target databases for the host are reverted to the earlier repository.

Related information

Prerequisites for performing a rollback

Post rollback tasks

You must perform some additional steps after you rollback a repository database and downgrade the SnapManager host from SnapManager 3.2 to SnapManager 3.0, to view the schedules created in the earlier version of the repository database.

1. Navigate to C:\Program Files\NetApp\SnapManager for Oracle\repositories.

   The repositories directory might contain two files for each repository. The file name with the number sign (#) is created using SnapManager 3.1 or later and the file name with the hyphen (-) is created using SnapManager 3.0.

   The file names might be as follows:

   - repository#SMO300a#SMOREPO1#10.72.197.141#1521
   - repository-smo300a-smorepo1-10.72.197.141-1521

2. Replace the number sign (#) in the file name with the hyphen (-).

   The file name that had the number sign (#), now contains hyphen (-): repository-SMO300a-SMOREPO1-10.72.197.141-1521.