



# **Upgrading SnapManager hosts by using rolling upgrade**

## **SnapManager for SAP**

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# 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.

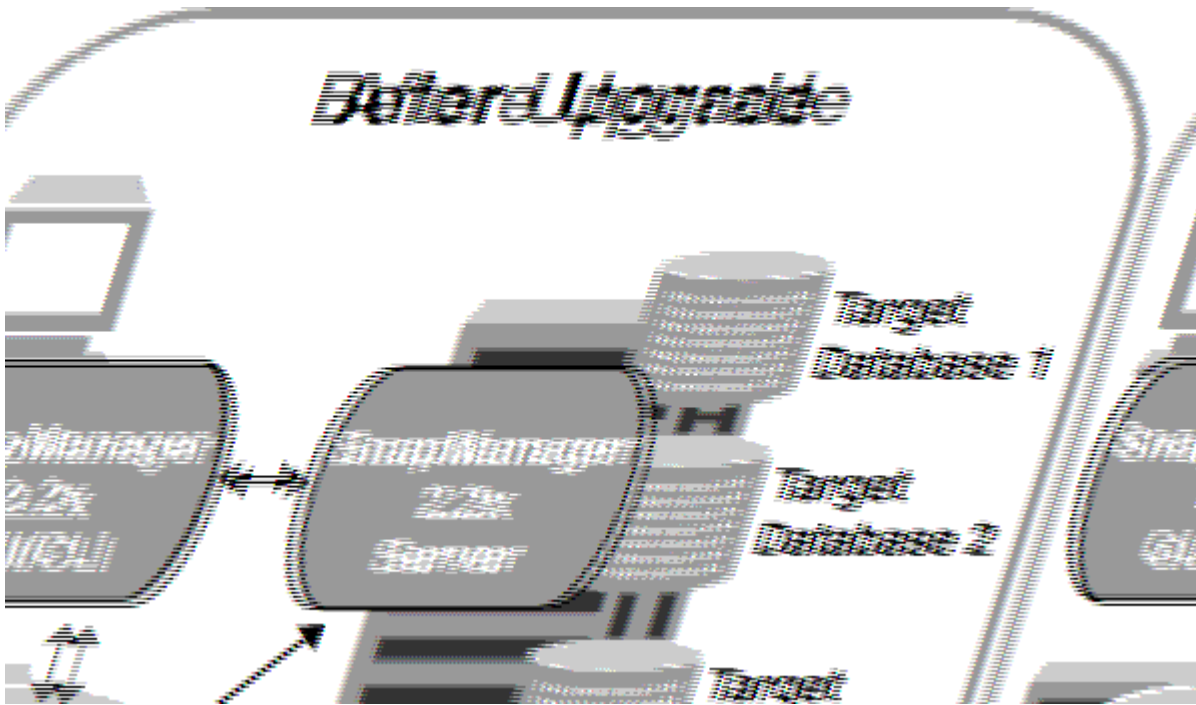
SnapManager 3.0 or earlier only enabled you to upgrade all the hosts simultaneously. This resulted in downtime of all the SnapManager hosts and the scheduled operations during upgrade operation.

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.



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 *Troubleshooting SnapManager for SAP*.

## Prerequisites for performing rolling upgrades

Before performing a 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.



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.

The SnapDrive documentation contains details about installing SnapDrive.

- 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 wait for the rolling upgrade to finish.



It is recommended that you perform a rolling upgrade when the repository is least busy, such as over the weekend or when operations are not scheduled.

- 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

## Perform roll 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.

### What you'll need

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

### Steps

1. To perform a rolling upgrade on a single host, enter the following command:

```
smsap repository rollingupgrade -repository-dbname repo_service_name -host repo_host -login _login -username _repo_username -port _repo_port upgrade host host_with_target_database -force [-quiet | -verbose]
```

### Example

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

```
smsap 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:

```
smsap repository rollingupgrade -repository-dbname repo_service_name -host repo_host -login _login -username repo_username -port repo_port -upgradehost host_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.

### Example

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:

```
smsap 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:

```
smsap repository rollingupgrade -repository -dbname repo_service_name -host repo_host -login -username repo_username -port repo_port -allhosts -force [-quiet | -verbose]
```

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

### Example

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

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

## After you finish

- 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.



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.

# What a rollback is

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



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.

## 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.



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.



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

[Documentation on the NetApp Support Site: mysupport.netapp.com](https://mysupport.netapp.com)

## Perform 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).



## What you'll need

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

## Steps

1. To perform a rollback on a single host, enter the following command:

```
smsaprepository rollback -repository -dbname repo_service_name -host repo_host -login -username repo_username -port repo_port -rollbackhost host_with_target_database
```

## Example

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:

```
smsap 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:

```
smsaprepository rollback -repository-database repo_service_name -host repo_host -login -username repo_username -port repo_port -rollbackhost host_with_target_database1,host_with_target_database2
```



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.

## Example

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:

```
smsap 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.

## 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.

### Steps

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.

### Example

The file names might be as follows:

- `repository#SMSAP300a#SMSAPREPO1#10.72.197.141#1521`
- `repository-smsap300a-smsaprep01-10.72.197.141-1521`

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

### Example

The file name that had the number sign (#), now contains hyphen (-): `repository-SMSAP300a-SMSAPREPO1-10.72.197.141-1521`.

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