



## Backup and Restore

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## Configuration Backup and Restore

You can create backups of your Nexus Dashboard Orchestrator configuration that can facilitate in recovering from Orchestrator failures or cluster restarts. We recommend creating a backup of the configuration before every upgrade or downgrade of your Orchestrator and after every configuration change or deployment. The backups are always created on a remote server (not Nexus Dashboard cluster), which is defined in the Nexus Dashboard Orchestrator as described in the following sections.

## Backup and Restore Guidelines

When saving and restoring configuration backups, the following guidelines apply:

- Importing and restoring backups created from later releases is not supported.

For example, if you downgrade your Nexus Dashboard Orchestrator to an earlier release, you cannot restore a backup of the configuration created on a later release.

- Restoring configuration backups created on releases prior to Release 3.2(1) is supported as a one-time step during cluster migration to Nexus Dashboard.

Subsequent restore of backups from Multi-Site Orchestrator releases in VMware ESX or Application Services Engine deployments is not supported.

- When saving a backup, the configuration is saved in the same state in which it was deployed. When restoring a backup, any policies that were deployed will show as `deployed`, while any policies that were not deployed will remain in the `undeployed` state.

- Restoring a backup action restores the database on the Nexus Dashboard Orchestrator, but it does not make any changes to the controller (such as APIC, Cloud APIC, or DCNM) databases on each site. Therefore, after you restore the Orchestrator database, you must also re-deploy any existing schemas to avoid potentially mismatching policies between the Nexus Dashboard Orchestrator and each site's controller.
- Backups must be created on a remote location.

Prior to release 3.4(1), when you first deployed the cluster, any backups you created were saved to a default location on each node's local disk with an option to configure a remote location outside the Orchestrator cluster and relocate the backups there.

Starting with release 3.4(1), the local disk option has been deprecated and all backups must be created on a remote location outside the Nexus Dashboard cluster. You can configure a remote SCP or SFTP location using the NDO GUI and then exporting the backup files there as described in the following sections.

When you first upgrade from release 3.3(1) or earlier to release 3.4(1) or later, you will be able to download previously-created local backups as described in [Downloading and Importing Older Local Backups, on page 3](#). You can then re-import those backups into the Nexus Dashboard Orchestrator using a remote location.



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**Note** Local backups cannot be restored.

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- When you create a configuration backup and export it to a remote server, the files are first created on the Orchestrator's local drives, then uploaded to the remote location, and finally deleted from the local storage. If there is not enough local disk space, the backup will fail.
- If you have a backup scheduler enabled to take local backups before upgrading to Release 3.4(1) or later, it will be disabled after the upgrade.

### No Configuration Changes Since Backup

If there have been no policy changes between when the backup was created and when it is being restored, no additional considerations are required and you can simply restore the configuration as described in [Restoring Backups, on page 6](#).

### Sites, Objects, or Policies Created, Modified, or Deleted Since Backup

If any configuration changes took place between the time when the configuration backup was created and the time it is being restored, consider the following:

- Restoring a backup will not modify any objects, policies, or configurations on the sites. Any new objects or policies created and deployed since the backup will remain deployed. You will need to manually remove these after restoring the backup to avoid any stale configurations.  
  
Alternatively, you can choose to undeploy all policies first, which will avoid any potential stale objects after the configuration is restored from backup. However, this would cause a disruption in traffic or services defined by those policies.
- The steps required to restore a configuration backup are described in [Restoring Backups, on page 6](#).

- If the configuration backup you restored was saved before it was deployed to the sites, it will be restored in the `undeployed` state and you can simply deploy it to the sites as necessary.
- If the configuration backup you restored was saved when the configuration was already deployed, it will be restored in the `deployed` state, even though none of the configurations will exist in the sites yet. In this case, in order for the configuration to be properly pushed to each site, you will need to re-deploy it to sync the Nexus Dashboard Orchestrator's configuration with the sites.
- If sites that were managed when the backup was created are no longer present in the Nexus Dashboard, the restore will fail.
- If sites' status since the backup has changed (`managed` vs `unmanaged`) but the sites are still present in the Nexus Dashboard, the status will be restored to what it was at the time of backup.

## Downloading and Importing Older Local Backups

Releases prior to 3.4(1) supported creation of configuration backups on the Orchestrator's local disk. We recommend downloading any local backups before upgrading to release 3.4(1) or later. However, the local backups will still be available for download after the upgrade.

While you can download the old backups after the upgrade, you cannot restore them directly in the UI. This section describes how to download any such backups from the Orchestrator GUI to your local machine and then re-import them back into the Nexus Dashboard Orchestrator GUI this time using a remote location.

### Before you begin

You must have completed the following:

- Upgraded from release 3.3(1) or earlier to release 3.4(1) or later, where local backups are no longer supported.
- Added a remote location for backups as described in [Configuring a Remote Location for Backups, on page 4](#).

### Procedure

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- Step 1** Log in to your Nexus Dashboard Orchestrator GUI.
- Step 2** From the left navigation menu, select **Operations > Backups & Restore**.
- Step 3** In the main window, click the actions (...) icon next to the backup you want to download and select **Download**.  
This will download the backup file to your system.
- Step 4** Delete the backup you downloaded in the Nexus Dashboard Orchestrator GUI.  
If you try to re-import the backup without deleting the existing local backup from previous version, the upload will fail as there is already a backup file with the same name.  
To delete the backup you just downloaded, click the actions (...) menu next to the backup and select **Delete**.
- Step 5** Import the backup to a remote location.

Simply re-upload the backup file you just downloaded back into the Nexus Dashboard Orchestrator but using a remote location, as described in [Uploading Backups, on page 5](#).

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## Configuring a Remote Location for Backups

This section describes how to configure a remote location in Nexus Dashboard Orchestrator to which you can then export your configuration backups.

### Procedure

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- Step 1** Log in to your Nexus Dashboard Orchestrator.
- Step 2** From the left navigation pane, select **Operations > Remote Locations**.
- Step 3** In the top right of the main window, click **Add Remote Location**.

An **Add New Remote Location** screen appears.

- Step 4** Provide the name for the remote location and an optional description.
- Two protocols are currently supported for remote export of configuration backups:

- SCP
- SFTP

**Note** SCP is supported for non-Windows servers only. If your remote location is a Windows server, you must use the SFTP protocol

- Step 5** Specify the host name or IP address of the remote server.
- Based on your **Protocol** selection, the server you specify must allow SCP or SFTP connections.

- Step 6** Provide the full path to a directory on the remote server where you will save the backups.
- The path must start with a slash (/) characters and must not contain periods (.) or backslashes (\). For example, */backups/multisite*.

**Note** The directory must already exist on the remote server.

- Step 7** Specify the port used to connect to the remote server.
- By default, port is set to 22.
- Step 8** Specify the authentication type used when connecting to the remote server.

You can configure one of the following two authentication methods:

- **Password**—provide the username and password used to log in to the remote server.
- **SSH Private Files**—provide the username and the SSH Key/Passphrase pair used to log in to the remote server.

**Step 9** Click **Save** to add the remote server.

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## Uploading Backups

This section describes how to upload an existing configuration backup you have previously downloaded and import it into one of the remote locations configured in your Nexus Dashboard Orchestrator.

### Before you begin

You must have completed the following:

- Created and downloaded a configuration backup as described in [Creating Backups, on page 6](#) and [Downloading Backups, on page 7](#).  
If your backup is already on a remote location, for example if it was created on release 3.4(1) or later, you can download it to your local machine and upload it to a different remote location.
- Added a remote location for backups as described in [Configuring a Remote Location for Backups, on page 4](#).

### Procedure

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**Step 1** Log in to your Nexus Dashboard Orchestrator.

**Step 2** From the left navigation pane, select **Operations > Backups & Restore**.

**Step 3** In the main pane, click **Upload**.

**Step 4** In the **Upload from file** window that opens, click **Select File** and choose the backup file you want to import.

Uploading a backup will add it to the list of the backups displayed the **Backups** page.

**Step 5** From the **Remote Location** dropdown menu, select the remote location.

**Step 6** (Optional) Update the remote location path.

The target directory on the remote server, which you configured when creating the remote backup location, will be displayed in the **Remote Path** field.

You can choose to append additional subdirectories to the path. However, the directories must be under the default configured path and must have been already created on the remote server.

**Step 7** Click **Upload** to import the file.

Importing a backup will add it to the list of the backups displayed the **Backups** page.

Note that even though the backups are shown on the NDO UI, they are located on the remote servers only.

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# Creating Backups

This section describes how to create a new backup of your Nexus Dashboard Orchestrator configuration.

## Before you begin

You must first add the remote location as described in [Configuring a Remote Location for Backups, on page 4](#).

## Procedure

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**Step 1** Log in to your Nexus Dashboard Orchestrator.

**Step 2** Create a new backup.

- a) From the left navigation pane, select **Operations > Backups & Restore**.
- b) In the main window, click **New Backup**.

A **New Backup** window opens.

**Step 3** Provide backup information.

- a) Provide the **Name** and optional **Notes** for the backup.

The name can contain up to 10 alphanumeric characters, but no spaces or underscores (\_).

- b) From the **Remote Location** dropdown, select the remote location you have configured for backups.
- c) In the **Remote Path**, either leave the default target directory or append additional subdirectories to the path.

Note that the directories must be under the default configured path and must have been already created on the remote server.

- d) Click **Save** to create the backup.
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# Restoring Backups

This section describes how to restore a Nexus Dashboard Orchestrator configuration to a previous state.

## Before you begin

Restoring a backup action restores the database on the Nexus Dashboard Orchestrator, but it does not make any changes to the controller databases on each site. Therefore, after you restore the Nexus Dashboard Orchestrator database, you must also re-deploy any existing schemas to avoid potentially mismatching policies between the Nexus Dashboard Orchestrator and sites.

For information on specific configuration mismatch scenarios and recommended restore procedures related to each one, see [Backup and Restore Guidelines, on page 1](#).

## Procedure

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- Step 1** Log in to your Nexus Dashboard Orchestrator GUI.
- Step 2** If necessary, undeploy existing policies.  
We recommend you perform this step if new objects or policies were added to the configuration between when the backup was created and current configuration. Additional context is available in [Backup and Restore Guidelines, on page 1](#).
- Step 3** From the left navigation menu, select **Operations > Backups & Restore**.
- Step 4** In the main window, click the actions (...) icon next to the backup you want to restore and select **Rollback to this backup**.  
If the version of the selected backup is different from the running Nexus Dashboard Orchestrator version, the rollback could cause a removal of the features that are not present in the backup version.
- Step 5** Click **Yes** to confirm that you want to restore the backup you selected.  
If you click **Yes**, the system terminates the current session and the user is logged out.
- Note** Multiple services are restarted during the configuration restore process. As a result, you may notice an up to 10 minute delay before the restored configuration is properly reflected in the NDO GUI.
- Step 6** If necessary, redeploy the configuration.  
We recommend you perform this step to sync the restored configuration with the sites. Additional context is available in [Backup and Restore Guidelines, on page 1](#).
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# Downloading Backups

This section describes how to download the backup from the Nexus Dashboard Orchestrator.

## Before you begin

## Procedure

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- Step 1** Log in to your Nexus Dashboard Orchestrator GUI.
- Step 2** From the left navigation menu, select **Operations > Backups & Restore**.
- Step 3** In the main window, click the actions (...) icon next to the backup you want to download and select **Download**.  
This will download the backup file in `msc-backups-<timestamp>.tar.gz` format to your system. You can then extract the file to view its contents.
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# Backup Scheduler

This section describes how to enable or disable the backup scheduler, which will perform complete configuration backup at regular intervals.

## Before you begin

You must have already added a remote location for backups as described in [Configuring a Remote Location for Backups, on page 4](#).

## Procedure

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- Step 1** Log in to your Nexus Dashboard Orchestrator GUI.
- Step 2** From the left navigation menu, select **Operations > Backups & Restore**.
- Step 3** In the top right of the main pane, click **Scheduler**.

The **Backup Scheduler Settings** window will open.

- Step 4** Set up backup scheduler.

- a) Check the **Enable Scheduler** checkbox.
- b) In the **Select Starting Date** field, provide the day when you want the scheduler to start.
- c) In the **Select Time** fields, provide the time of day when you want the scheduler to start.
- d) From the **Select Frequency** dropdown, choose how often the backup should be performed
- e) From the **Remote Location** dropdown, select the location where the backups will be saved.
- f) (Optional) In the **Remote Path** field, update the path on the remote location where the backups will be saved.

The target directory on the remote server, which you configured when creating the remote backup location, will be displayed in the **Remote Path** field.

You can choose to append additional subdirectories to the path. However, the directories must be under the default configured path and must have been already created on the remote server.

- g) Click **OK** to finish.

- Step 5** If you want to disable the backup scheduler, simply uncheck the **Enable Scheduler** checkbox in the above step.
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