

How do I migrate data between Synology NAS (DSM 5.x)?

https://kb.synology.com/en-us/DSM/tutorial/How_to_migrate_between_Synology_NAS_DSM_5_0_and_later

Purpose

When you purchase a new Synology NAS, your existing data can be moved from the old Synology NAS to the new one. This process is called "migration", and must be performed with careful attention. Make sure to read the instructions below to avoid any accidental data loss due to human error.

Depending on your Synology product or individual setup, there are several methods used to perform migration. This article explains migration and guides you through the procedure of smoothly migrating data from one Synology NAS to another.

Environment

- Performing migration moves data and drives from one Synology NAS to another. In this article, the following terms will be used:
 - **Source Synology NAS:** The original Synology NAS from which data is moved.
 - **Target Synology NAS:** The Synology NAS to which data is moved.
- Performing migration requires Synology Assistant 5.0 and DSM 5.0 or higher. If you are using an older version of DSM, refer to the Copying data across the network section for instructions on performing migration.
- The migration procedures mentioned in this article allow you to keep most of your data. However, to prevent any accidental data loss, we strongly recommend backing up the following data:

Item	Backup Method
Shared folders and packages (MariaDB, Photo Station, Surveillance Station)	Go to Backup & Replication > Backup and click Create > Data backup task . Follow the wizard instructions to perform backup. ¹
System configuration	Go to Control Panel > Update & Restore > Configuration Backup and click Back up configuration to back up the following configurations: ¹ <ul style="list-style-type: none">• Users and groups• Workgroup, domain, and LDAP• File sharing services (i.e., Windows File Service, Mac File Service, NFS Service, FTP, and WebDAV)• Backup services (i.e., Network Backup, Shared Folder Sync, and Time Backup)• Others (i.e., shared folders, web services, SNMP, user homes, password settings, task scheduler, disk usage reports)
Surveillance device license keys ²	<ul style="list-style-type: none">• Using an account belonging to the administrators group, go to License > Show and write down the license keys.• To successfully install licenses on a new Synology device, uninstall the licenses on the previous Synology device first.
Blog posts	Go to the Settings page of Photo Station. In the Backup section under the Blog tab, click Start .

Contents

[Perform migration](#)

1. [Migrating between two identical Synology NAS models](#)
2. [Migrating between different Synology NAS models](#)

3. [What if Synology Assistant displays a warning message?](#)

[What if migration fails?](#)

1. [Backing up data to another storage device](#)
2. [Copying data across the network](#)

Resolution

Perform migration

Before you attempt this procedure, make sure to check the **Before you start** portion of each section. Also, to prevent accidental data loss, make sure to pay special attention to the [What if Synology Assistant displays a warning message?](#) section.

1. Migrating between two identical Synology NAS models

This section explains how to perform migration between two identical Synology NAS models, for example, migrating from an old DS713+ to a new DS713+.

Before you start:

- Prepare a temporary SATA drive. This temporary drive will be used to update DSM on the target Synology NAS.
- Make sure both Synology NAS are plugged into a power outlet and connected to the same network as your computer.
- Make sure the source Synology NAS is running and the target Synology NAS is turned off.

To start migration:

1. Sign in to the source Synology NAS.
2. Go to **Control Panel > Update & Restore**.
3. Make sure that the source Synology NAS is running the newest version of DSM. If a newer version is available, download and install it before continuing.
4. Install the temporary drive in the target Synology NAS.



5. Turn on the target Synology NAS and wait for it to boot up.



6. Open a web browser on your computer and go to find.synology.com.
7. Find the target Synology NAS and double-click on it.
8. The welcome screen will be displayed. Click **Next** to continue.
9. Use the **Synology Download Center** to download and install the newest version of DSM. Click **Install Now** to continue.
10. Continue the installation by creating an administrator account. Click **Next** to continue.

- When the installation is complete, shut down both Synology NAS. Wait for both Synology NAS to shut down completely.



- Remove the temporary drive from the target Synology NAS.



- Remove the drives from the source Synology NAS. Be sure to take note of the order that each drive was installed in.



- Install the drives in the target Synology NAS. Drives must be installed in the same order as they were installed in the source Synology NAS.



- Turn on the target Synology NAS and wait for it to boot up. Sign in to DSM and your data will be successfully migrated to the target Synology NAS.

2. Migrating between different Synology NAS models

This method requires reinstalling DSM and all packages on the target Synology NAS, which will result in **losing** certain data.

The **data that will be lost during DSM reinstallation** and the **requirements for migration between different NAS models** are all listed in the [Notes](#) section of this article.^{3,4}

Before you start:

Make sure both Synology NAS models are plugged into a power outlet and connected to the same network as your computer.

To start migration:

1. Sign in to the source Synology NAS.
2. Go to **Control Panel > Update & Restore**.
3. Make sure that the source Synology NAS is running the newest version of DSM. If a newer version is available, download and install it before continuing.
4. Go to the **Configuration Backup** tab and click **Back up configuration**. A configuration file named **[DiskStation Name]_[Created Date].dss** will be downloaded to your computer. Keep this file in a safe place.
5. If you need to back up any of the data mentioned above, go to **Backup & Replication > Backup** and click **Create > Data backup task**. Follow the wizard instructions and continue to the next step once the data is successfully backed up.
6. Shut down both Synology NAS. Wait for both Synology NAS to shut down completely.



7. Remove the drives from the source Synology NAS. **Be sure to take note of the order that each drive was installed in.**



8. Install the drives in the target Synology NAS. **Drives must be installed in the same order as they were installed in the source Synology NAS.** For details regarding drive slot numbering, please refer to the **Hardware Installation Guide** (available in the Synology [Download Center](#)) or try looking on the drive slots of your Synology NAS.



9. Turn on the target Synology NAS and wait for it to boot up.



10. Open a web browser on your computer and go to find.synology.com.

11. Find the target Synology NAS and double-click on it.

12. The status of the target Synology NAS should be **Migratable**. Click the arrow to continue.

13. **Important:** If you see a warning message similar to **Note: All data on the hard drive(s) will be deleted**, close the browser, and make sure you have installed drives in the same order as they were installed in the source Synology NAS.

14. Choose the option for **Migration**. Click the arrow to continue.

15. Choose the option to download and install the newest version of DSM. Click the arrow to continue.

16. Enter a new password for the admin account and click **Install Now**.

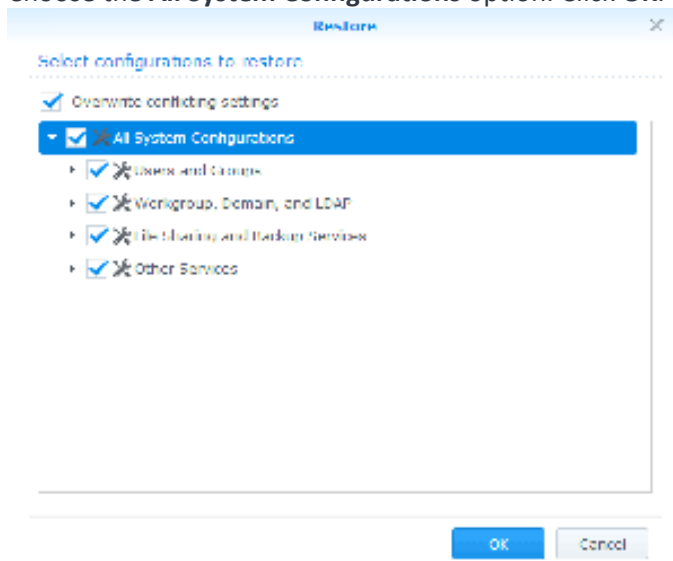
17. Once the installation is complete, sign in to the target Synology NAS.

18. Go to **Control Panel > Update & Restore**.

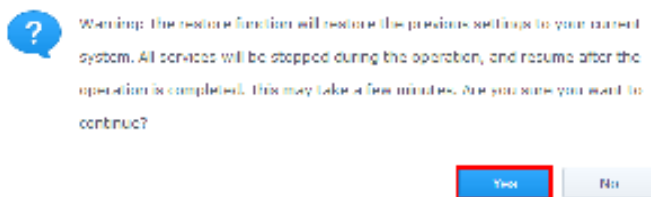
19. Go to the **Configuration Backup** tab and click **Restore configuration**.

20. Click **Browse** and choose the backup file that you saved on your computer earlier. Click **OK**.

21. Choose the **All System Configurations** option. Click **OK**.



22. A warning message will appear. Click **Yes**.

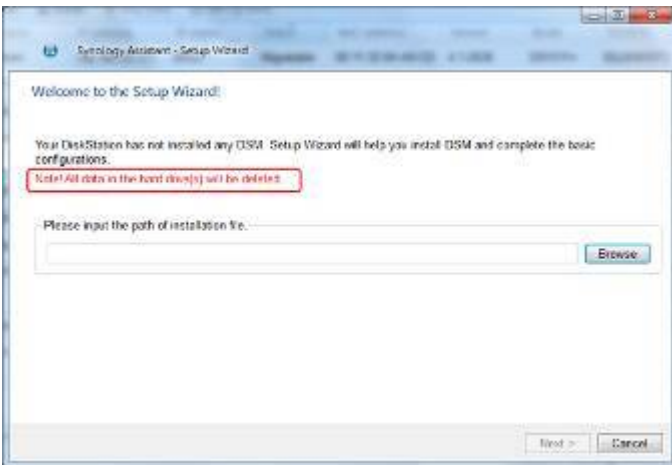


23. Wait for the system configurations to be restored. When finished, your data should be successfully migrated to the target Synology NAS.

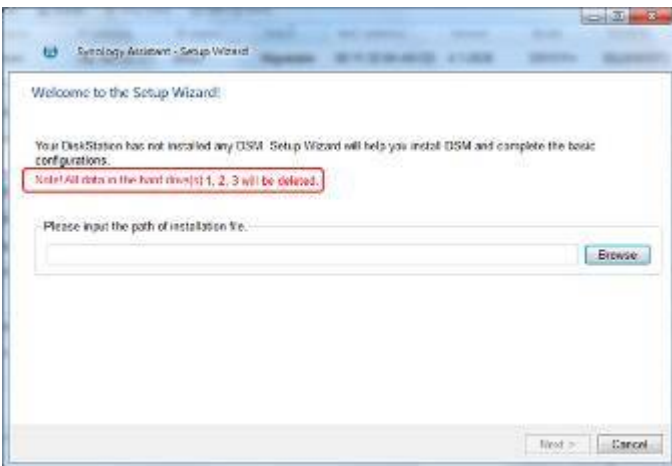
3. What if Synology Assistant displays a warning message?

During the migration procedure above, you might encounter a warning message when using Synology Assistant to install DSM on the target Synology NAS. If you see any of the following warning messages, abort the migration procedure immediately, and see the [What if migration fails?](#) section.

- **Note! All data in the hard drive(s) will be deleted:** This message means that all data on your drives will be deleted.



- **Note! All data on the hard drive(s) [number] will be deleted:** This message means that only data on the mentioned drive will be erased. Data on the other drives will remain intact.



What if migration fails?

This section explains how to perform migration in situations where the migration methods mentioned above cannot be executed. These methods can move data from one Synology NAS to another by creating backups or copies.

1. Backing up data to another storage device

The steps below explain how to copy data from the source Synology NAS to a storage device, and then copy the data from the storage device to the target Synology NAS.

Before you start:

Make sure you are using the latest DSM and Synology Assistant. Both are available in the Synology [Download Center](#).

To back up configurations:

1. Sign in to the source Synology NAS.
2. Go to **Control Panel > Update & Restore**.
3. Go to the **Configuration Backup** tab and click **Back up configuration**. A configuration file named **[DiskStation Name]_[Created Date].dss** will be downloaded to your computer. Keep this file in a safe place.

To back up data:

1. Sign in to the source Synology NAS.
2. Go to **Backup & Replication > Backup**.
3. Click **Create** and choose **Data backup task** to back up the data on the source Synology NAS to a local or network storage device.

Make sure to complete the steps above before continuing.

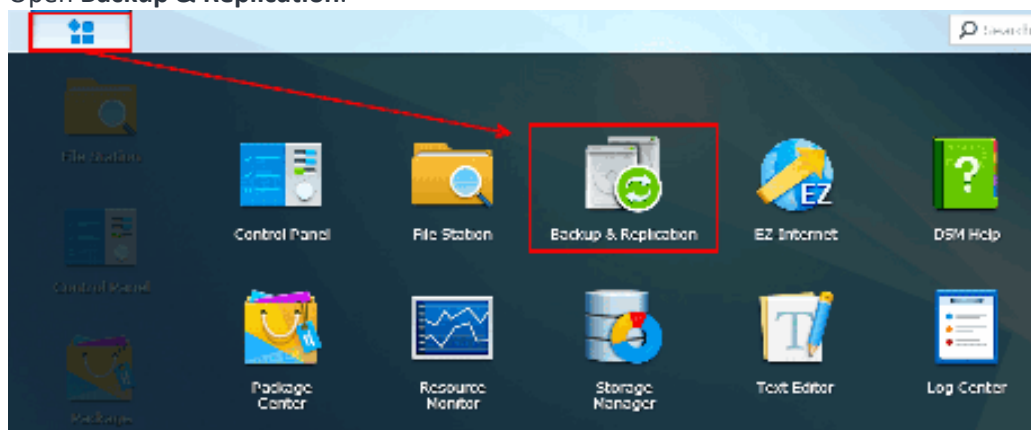
To erase data on your drives:

1. Remove the drives from the source Synology NAS.
2. Delete all partitions and data on the drives by doing any of the following:

- Install the drives into your computer, and then use the computer's disk utility to delete all partitions on the drives. Deleting data on drives with your computer should lower the chances of errors occurring. After that, install the drives into the target Synology NAS.
- Install the drives directly into the target Synology NAS and let **Synology Assistant** delete partitions and data on the drives during DSM installation.

To install DSM and restore configurations:

1. Open a web browser on your computer and go to find.synology.com.
2. Find the target Synology NAS and double-click it.
3. The welcome screen will be displayed. Click **Next** to continue.
4. Use the **Synology Download Center** to download and install the newest version of DSM. Click **Install Now** to continue.
5. Continue the installation by creating an administrator account. Click **Next** to continue.
6. Once the installation has finished, sign in to the target Synology NAS.
7. Go to **Control Panel > Update & Restore**.
8. Go to the **Configuration Backup** tab.
9. Click **Restore configuration** to upload and restore configurations using the backup file you exported earlier.
10. Open **Backup & Replication**.



11. On the **Restore** page, click **Restore from...** and choose **Data** to copy the data from your storage device to the target Synology NAS.

2. Copying data across the network

With the network backup feature in **Backup & Replication**, you can copy data from one Synology NAS to another without going through the hassle of migrating hard drives.

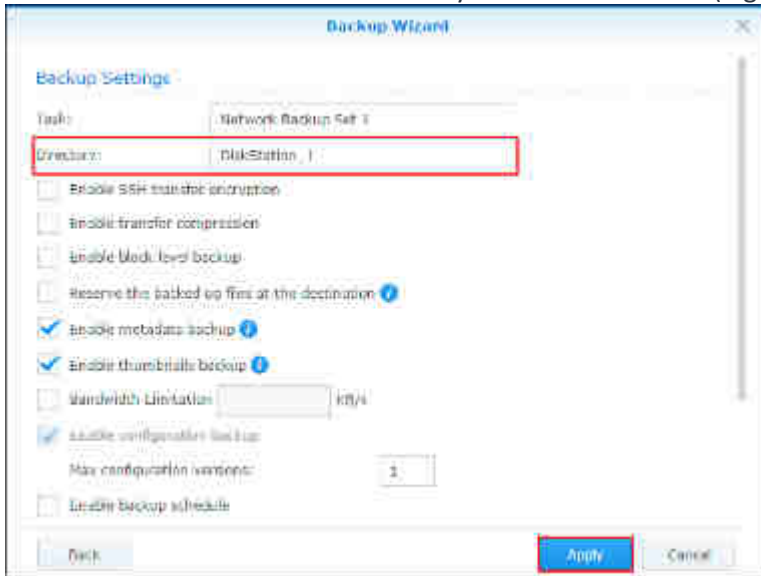
Before you start:

- Set up and install DSM on both Synology NAS. Connect them to the same network as your computer.
- Sign in to the target Synology NAS, go to **Storage Manager > Volume**, and make sure there is a volume with twice the amount of storage capacity as the amount of data on your source Synology NAS. For example, if you want to migrate 100GB of data from your source Synology NAS, then your target Synology NAS must have a volume of at least 200GB.

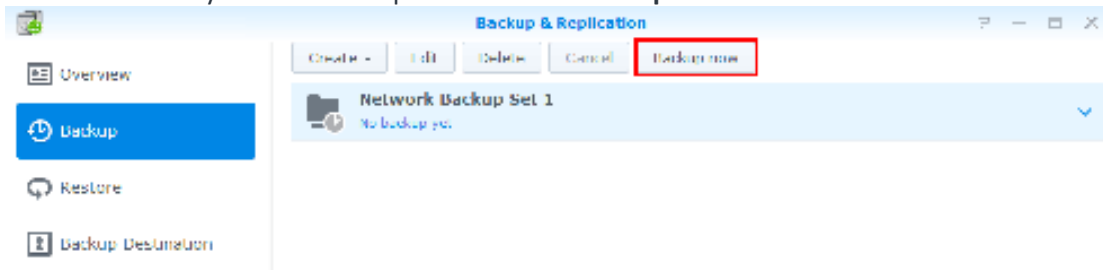
To copy data across the network:

3. Sign in to the target Synology NAS.
4. Open **Backup & Replication**.
5. Go to the **Backup Services** page and tick the **Enable network backup service** checkbox. Click **Apply**.
6. Sign in to the source Synology NAS.
7. Go to **Backup & Replication > Backup**.
8. Click **Create** and choose **Data backup task**.
9. Choose the **Network Backup Destination** option. Click **Next**.
10. Enter the server name or IP address, admin account, and password of the target Synology NAS. You can also find the target Synology NAS by clicking the arrow in the **Server name or IP address** text field. Click **Next**.

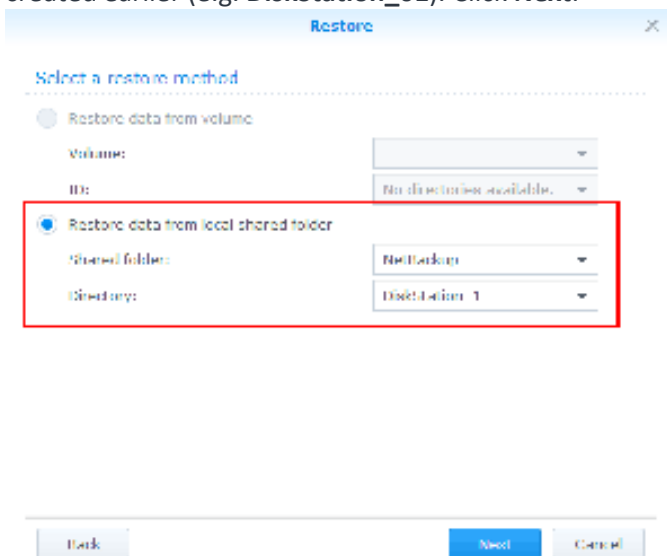
11. Choose the **Back up data to remote shared folder** option. You can specify the backup destination name as well as which shared folder to back up data to. Click **Apply**.
12. Tick the checkbox of each folder you want to back up. Click **Next**.
13. Tick the checkbox of each application you want to back up. Click **Next**.
14. Take note of the name of the directory that will be created (e.g. **DiskStation_1**). Click **Apply**.



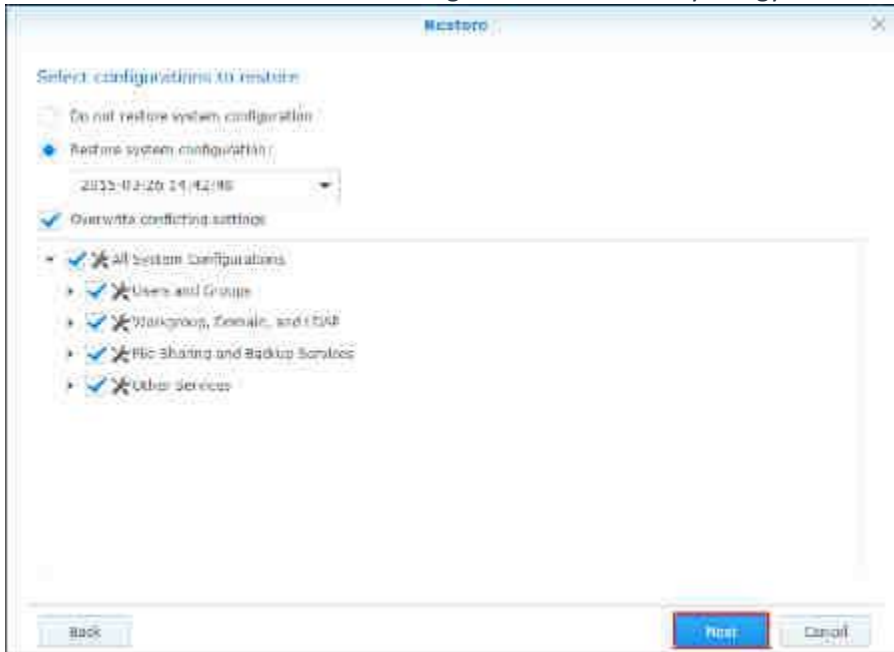
15. Choose the newly created backup task and click **Backup now**.



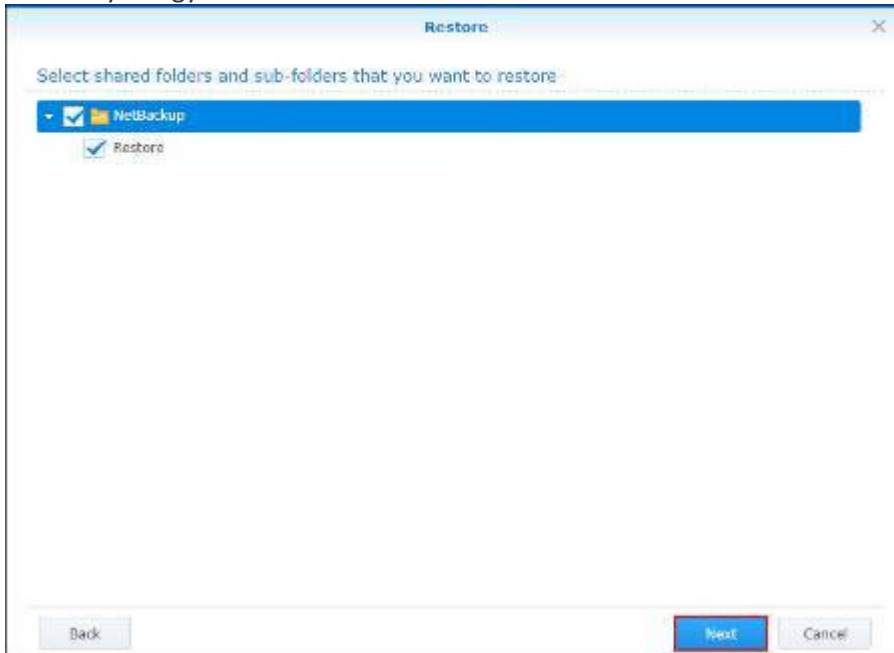
16. Wait for the backup task to finish backing up data to the target Synology NAS.
17. Sign in to the target Synology NAS.
18. Open **Backup & Replication**.
19. In the **Restore** page, click **Restore from...** and choose **Data**.
20. Choose the **Local restoration** option. Click **Next**.
21. Choose the **Restore data from local shared folder** option. The **Directory** should be the same one that was created earlier (e.g. **DiskStation_01**). Click **Next**.



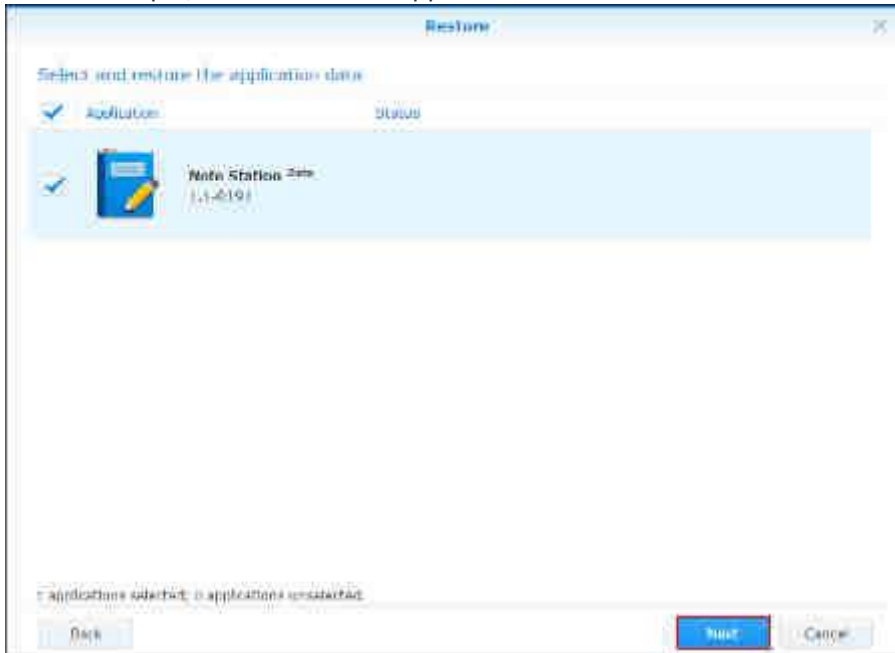
22. In this example, we ticked the **Overwrite conflicting settings** and **All System Configurations** checkboxes, because we want to restore all settings from the source Synology NAS. Click **Next**.



23. In this example, we ticked the **Shared Folder** checkbox, because we want to restore all shared folders from the source Synology NAS. Click **Next**.



24. In this example, we restored the application data for Note Station. Click **Next**.



25. A confirmation message may appear depending on which applications you want to restore. Click **Yes** to continue.

26. A summary of the restoration task appears. Click **Apply** to continue.

27. Wait for the data to be restored to your target Synology NAS. Click **OK** to finish. Once you have confirmed that all data and settings have been successfully copied and restored to the target Synology NAS, you can delete the shared folder used to restore the data.

Notes:

1. Backup & Replication is only available on DSM 5.x. To migrate data between Synology NAS devices running DSM 6.0 or above, you can consider the following options:

- Use **Hyper Backup** on the source Synology NAS to create a backup task (Refer to [this help article](#)).
- Use **Hyper Backup Vault** on the target Synology NAS to store the backup data (Refer to [this help article](#)).

2. The Surveillance device license key can only be applied to one Synology product at a time, and each license key can only be migrated once.

3. The following data will be lost when reinstalling DSM:

- The database of LDAP Server (formerly Directory Server)
- Photo Station/blog content
- Auto-block settings
- Video info content in Video Station
- Mail Server and Mail Station settings
- Surveillance Station settings
- Download Station tasks and temporary storage
- All media files will be re-indexed after migration
- You can refer to [this article](#) to learn more about the CPU of your Synology NAS.

4. Requirements and limitations for migrating data between different Synology NAS models:

- **Number of drive slots:** The target Synology NAS must have enough drive slots to accommodate all of the drives belonging to the RAID volume on the source Synology NAS. For example, if you have a DS214 with a RAID 1 volume consisting of two drives, then your target Synology NAS must have at least two drive slots.
- **Single-bay and multiple-bay models:** Due to differences in the disk partition system, single-bay models cannot migrate drives to multiple-bay models and vice versa. For example, drives from a DS114 cannot be migrated to a DS214 or DS414. Likewise, you cannot migrate drives from a DS214 or DS414 to a DS114.
- **DSM version:** If the target Synology NAS is not in the brand-new out-of-the-box status, the DSM version running on the target Synology NAS must be the same or newer than the version on the source Synology NAS. For example, you cannot perform migration from a DS411 running DSM 5.1 to a DS411 running DSM 5.0.

- **Advanced system services:** Some advanced system services are not supported in all Synology NAS models. You will not be able to use the following services if they're not supported by the target Synology NAS, including:
 - iSCSI LUN/virtualization support
 - SSD cache/TRIM support
 - HFS+ read/write support on external drives
 - Packages that are designed for specific Synology NAS
 - **SSD cache:** If your SSD cache fits any of the following conditions, you will need to remove it on the source Synology NAS before migrating its data to the target Synology NAS to proceed. Otherwise, the SSD cache can be migrated directly.
 - The target Synology NAS does not support SSD cache
 - The SSD read/write cache was built before DSM 5.2 and the target Synology NAS runs on an Alpine CPU
 - **Single volume size beyond 16TB:** Most Synology NAS models in the J Series and Value Series support a single volume size up to 16TB. If the single volume size in the source Synology NAS is larger than 16TB, please select a target Synology NAS that supports a single volume size of 108TB before migration.
-