

Synology Initial Setup Guide (DSM Version 7)

Guide for setting up Synology NAS system and Services

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Synology NAS Setup & Configuration: Initial Steps

These setup goes over a Synology NAS whether purchased new or factory reset. Ensure that your NAS is plugged in and has internet access before proceeding.

This Guide covers 7.0 Version install, and it assumes that NAS is plugged in, has drives and is truned on.

Find Synology NAS & Install DSM

1. Navigate to the website <http://find.synology.com> and wait for your device to be found. DHCP will automatically give your DiskStation an IP address. Select **Connect**
2. **Accept** the End User License Agreement and proceed
3. Select **Install**
4. DSM 7 requests that you download the latest version of DSM using Synology's Download Center. Select the model NAS that you have, then in the OS Version section, select 7.0 Series. You can then Download the current DSM 7 Operating System

OS Version

[Operating System](#) [Desktop Utilities](#) [Packages](#) [Documents](#) [Android Apps](#) [EOL products](#)

Operating System

DSM 7.0	DSM is the operating system of DS1019+.	Download	MD5	Release Note All Downloads
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5. You will be informed that all data on your drives will be deleted. If you agree, select the checkbox next to **I understand that all data on these drives will be deleted**, then **Continue**
6. DSM will install and reboot when finished. After a few minutes have passed, open a new tab and navigate to your synology IP address or <http://find.synology.com>
7. Give your DiskStation
 1. Server Name (Device Name)
 2. Username and Password

8. The next step will ask you to create a Synology account. You can do this at a later time if you'd prefer
9. The next step will ask you to enable Synology Active Insight and configuration backups. Select whichever you'd prefer, then proceed

Set up a Synology NAS Storage Pool/Volume

DSM 7 has made storage pool creation incredibly easy and straightforward. You will be prompted immediately to set up a Storage Pool and Volume, but if you're not, open the Storage Manager and select Storage, then Create a Storage Pool.

1. You will be brought to a wizard that will guide you through the setup process. Select **Start**
2. Give your storage pool a description if you'd like, select the RAID type you will be using and select **Next** to proceed
3. Select the **Hard Drives** (generally all of them) that you'd like in this Storage Pool and select **Next**. NOTE: You can always add drives later and expand your storage pool/volume
4. You will be prompted that all data on the drives will be erased. Select **Continue**
5. The next option will ask if you'd like to perform drive checks. If you'd like to test the drives, you can select **Perform drive check**. If you'd like to skip it, select **Skip** drive check
6. This next section will determine how much of the volume you'd like to allocate. Generally, most people will use all of it, so you can select **Max**. If you'd like to use something smaller, you can enter the value
7. Click **Apply** and your storage pool will be created

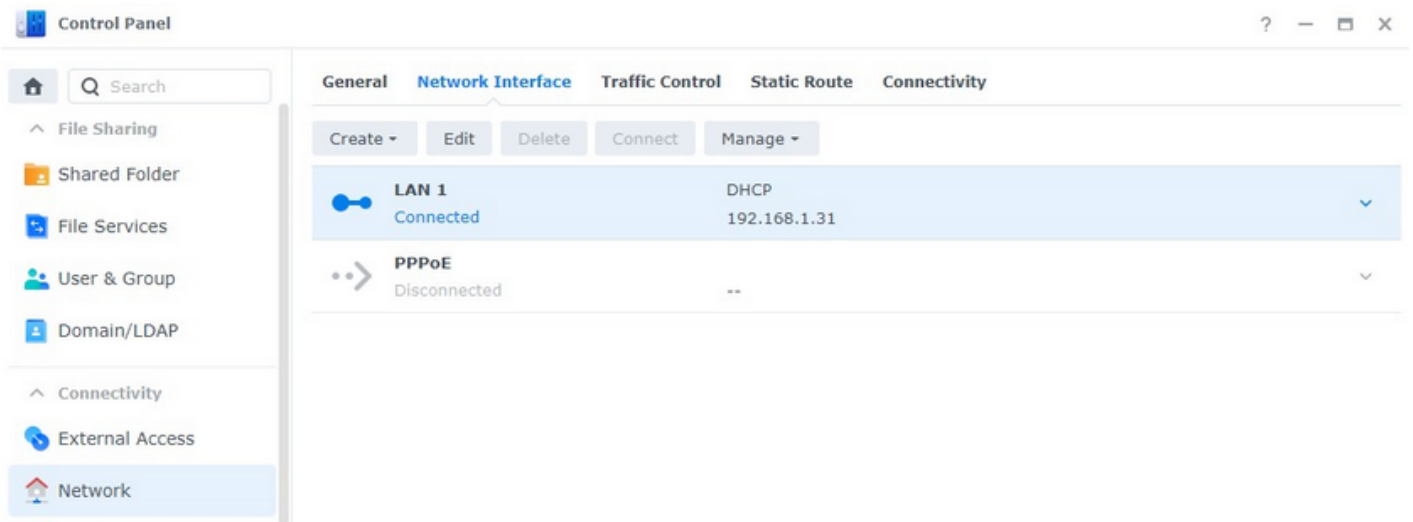
Setup Static IP

To setup Synology NAS with static IP address so that it's always the same. It's best to make a DHCP reservation in your router's configuration.

1. Go to **Unifi > Client Devices**
2. Select Synology NAS and under setup **select** Static IP. This will automatically assign one, but you can change it if you want, just make sure you restart computer after

Its also a good idea to set a static IP address from DSM, although not needed if router DHCP is set correctly

1. Go to the **Control Panel** and select Network Interface. Select **Edit** on the LAN device

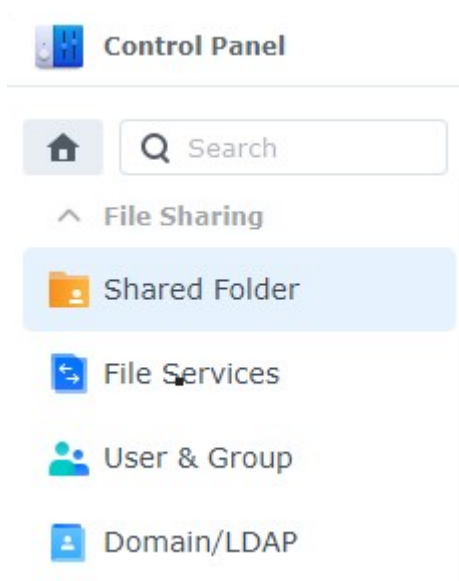


2. Select **Use manual configuration** and enter the **IP Address** you'd like to use
 1. The subnet mask, gateway, and DNS server can all stay as default (since they were pulled from DHCP). Select **OK**
 2. Your network settings will apply and your DSM session will refresh with your new IP address.

Shared Folder Setup

File Share is one of the big features in Synology giving users power to create content and share between each other. Also, Shared Folders can be user or role based, and there is a good amount of security involved when setting up folders.

1. Open **Control Panel** and select **Shared Folder**.



2. Select **Create**. A new dialogue box will appear where you'll need to change a few settings:
 1. **Name: Name of the Shared Folder.**
 2. **Description: Description you'd like to use.**
 3. **Location: Volume you'd like to use.**
 4. The next three options are personal preference based on if you'd like the folders visible to others and if you'd like a recycle bin enabled (so files aren't deleted permanently).

Set up basic information

Name *:

Backups

Description:

Location:

Volume 1: Btrfs

- Hide this shared folder in "My Network Places"
- Hide sub-folders and files from users without permissions [i](#)
- Enable Recycle Bin
 - Restrict access to administrators only

Note: [How to set up a Recycle Bin emptying schedule](#)

* This field is required.

3. Click **Next**
4. The next screen will ask if you'd like to [encrypt the shared folder](#). If you would, select the checkbox and enter an encryption key.

A few things to note with encrypted files: Encrypted files work by mounting/unmounting them with the encryption key (password) in DSM. When you mount the folder, it functions the same way as other shared folders do. It simply gives you the option to unmount the shared folder when you're done adding files.

When the drive is unmounted, **no one can access the files** until you mount the folder again. **If you lose the encryption key, your files will be lost forever.** Keep it somewhere safe!

4. Enable data checksum (if applicable) and file compression/folder quota if you'd like. Select **Next**.
5. Select **Next** and **Confirm Settings** if everything looks as desired

Configure advanced settings

Enable data checksum for advanced data integrity [i](#)

File self-healing and data scrubbing are available to ensure data integrity.

Enable file compression [i](#)

Enable shared folder quota

0 GB ▾

Note: To ensure service quality, we recommend not enabling data checksum when the shared folder will be used for the following services:

- Hosting databases or virtual machines
- Storing video recordings of Surveillance Station

- After the folder is created, you will be brought to the folder's permissions. Change the permissions to match what you'd like. Your folder is now created!
- Change local users to Groups to so it's group based rather than user based, for better control.

Configure user permissions

Local users ▾

Q Search

Name	Preview	Group Per...	No Access	Read/Write	Read Only	Custom
admin	Read/Write	Read/Write	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
frank	Read/Write	Read/Write	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
guest	No Access	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Data Protection and Monitoring Setup

Now that a storage pool, volume, and shared folder are created, we need to change a few settings to protect and monitor our data.

Set up a Data Scrubbing Schedule on a Synology NAS

Data scrubbing inspects your volumes and modifies detected inconsistencies. In simple terms, this protects your NAS against bit-rot. There isn't a specific schedule that's mandatory, but it's a good idea to run it at a minimum, bi-annually.

1. Open **Storage Manager**, select **Storage Pool**, then **Schedule Data Scrubbing**. Then select **Set Schedule**



The screenshot shows the Synology Storage Manager interface. At the top, there are navigation tabs: "Create", "Schedule Data Scrubbing", "Hot Spare", "SSD Cache Advisor", and "Global Settings". Below the tabs, there are two main sections. The first section is for "Storage Pool 1 - SHR", which is 21.8 TB and has a "Healthy" status. The second section is for "Volume 1 - SP1-SHR", which is 15.8 TB / 20.9 TB (75% full) and also has a "Healthy" status.

Component	Capacity	Status
Storage Pool 1 - SHR	21.8 TB	Healthy
Volume 1 - SP1-SHR	15.8 TB / 20.9 TB (75%)	Healthy

1. Select **Enable Data Scrubbing schedule**, then select the **Storage Pool**, select a **Frequency** and **Save**

Performing data scrubbing periodically ensures data consistency and lowers the risk of data loss in the event of a drive failure.

Enable data scrubbing schedule

Data scrubbing can only run on one storage pool at a time. Please select and prioritize the storage pools that you want to perform data scrubbing.

<input checked="" type="checkbox"/>	Name	Status
<input checked="" type="checkbox"/>	Storage Pool 1	Scheduled on 08/08/2021

Frequency

Repeat every three months

Run data scrubbing only during specific periods

Running data scrubbing may take some time and occupy computing resources. You can set data scrubbing to run only during specific periods and thereby prevent this process from affecting the system performance when other important services or tasks are in progress.

Set Time Grid

Next run time: **08/08/2021 12:00 am**

Cancel

Save

Set up Snapshots on a Synology

The easiest way to think of snapshots is that they “freeze” your files in time and allow you to recover those files later if necessary.

Every time a snapshot is created, a “restore” point is created, which allows you to recover files/folders from a point in time. The best part about this is that the snapshots themselves take up very little space and give you tons of flexibility!

1. Open the **Package Center**, search for **Snapshot** and install the **Snapshot Replication** package.

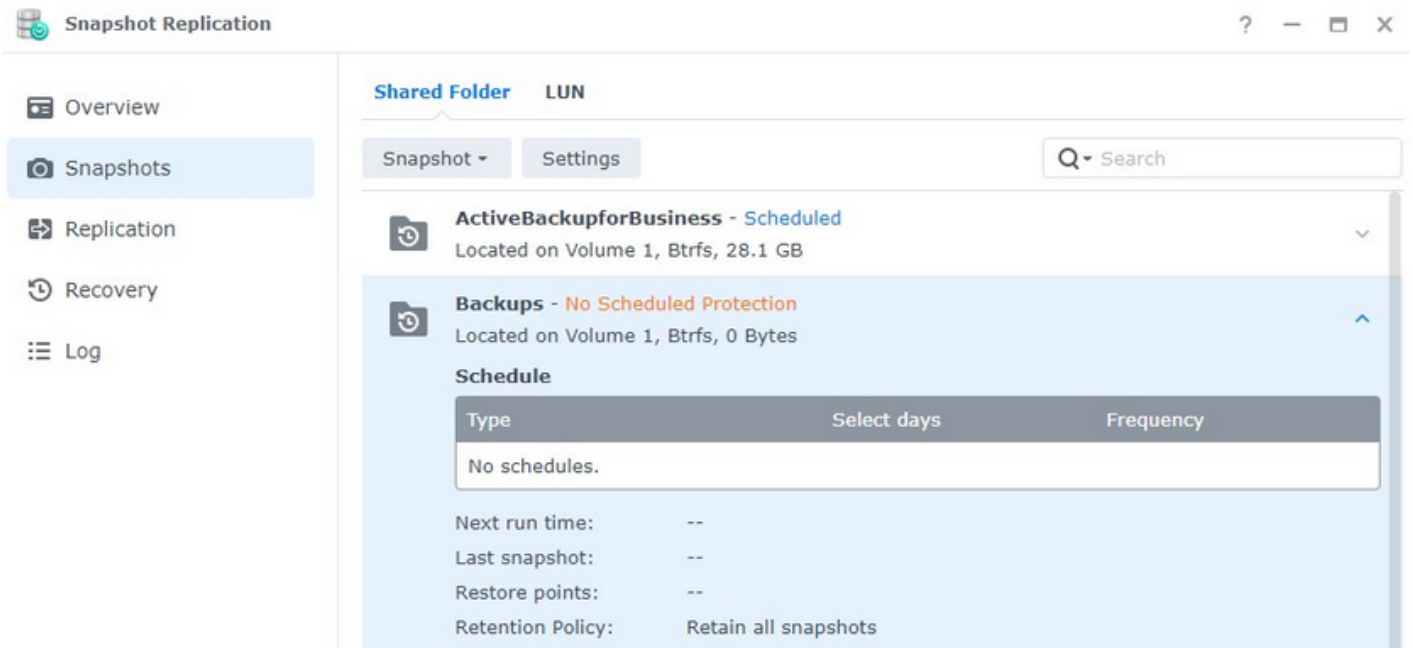


**Snapshot
Replication**

06/01/2021

Open

- When the install finishes, launch the **Snapshot Replication** application. Select **Snapshots** and select **settings** on the folder you'd like to schedule protection for.



- Enable the snapshot schedule.** At this point, there are two final settings you'll need to check:

- **Retention:** Select how many snapshots you'd like to retain. Depending on the file type (and size), you'll most likely have different retention policies for different folders.
- **Snapshot Visibility:** If you would like snapshots to be visible, select the checkbox under the **Advanced** section.

Settings

Schedule **Retention** **Advanced**

Enable snapshot schedule

Select days:

First run time: :

Frequency:

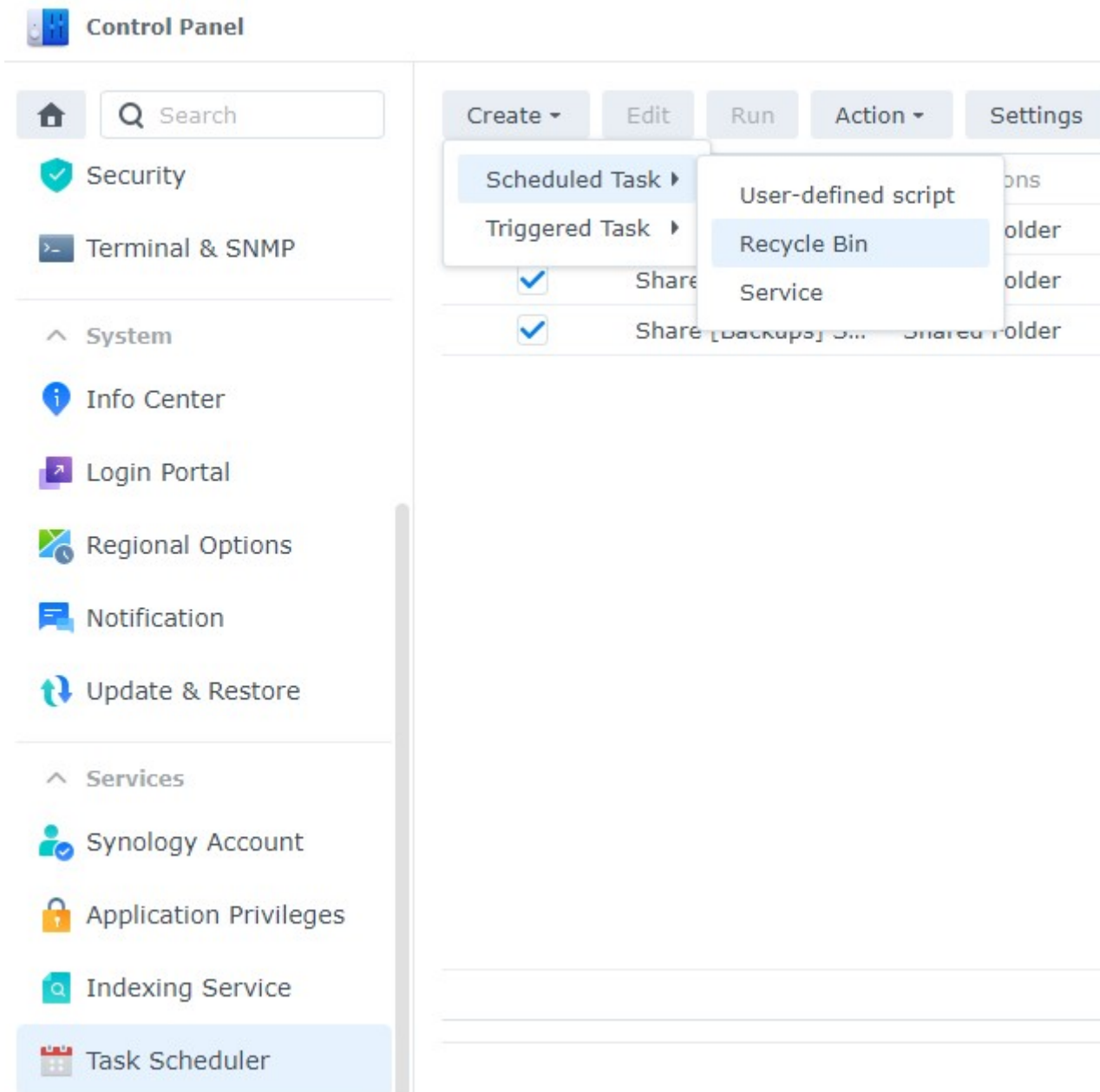
Last run time:

- After the snapshots have been configured, your system will start to create snapshots regularly. When the retention policy hits its maximum, old snapshots will be deleted.

Set up a Recycle Bin Task on a Synology NAS

By default, the recycle bin will retain files until you empty it. However, there's an easy way to set up a schedule so that your NAS automatically deletes these old files after a certain period of time.

1. Open the **Control Panel** and select **Task Scheduler**
2. Select **Create**, then **Scheduled Task**, then **Recycle Bin**



- General: Enter a Task Name.

Create task

General Schedule Task Settings

General Settings

Task:

User:

Enabled

- **Schedule:** Specify when you'd like the task to run.

Create task

General **Schedule** Task Settings

Date

Run on the following days

Run on the following date

Time

First run time: :

Frequency:

Last run time:

- **TaskSettings:** Specify if you'd like all recycle bins to empty or only specific ones.
 - **Retention Policy:** This is an important step! I retain all deleted files for 14 days, but this is completely personal preference. This setting specifies when files are deleted. There are also advanced settings you can check.

Create task

General Schedule **Task Settings**

Empty Recycle Bin

- Empty all Recycle Bins
- Empty the Recycle Bin of the below shared folder

Retention Policy

- Delete all files
- Number of days to retain deleted files:
- Limit Recycle Bin size (MB):

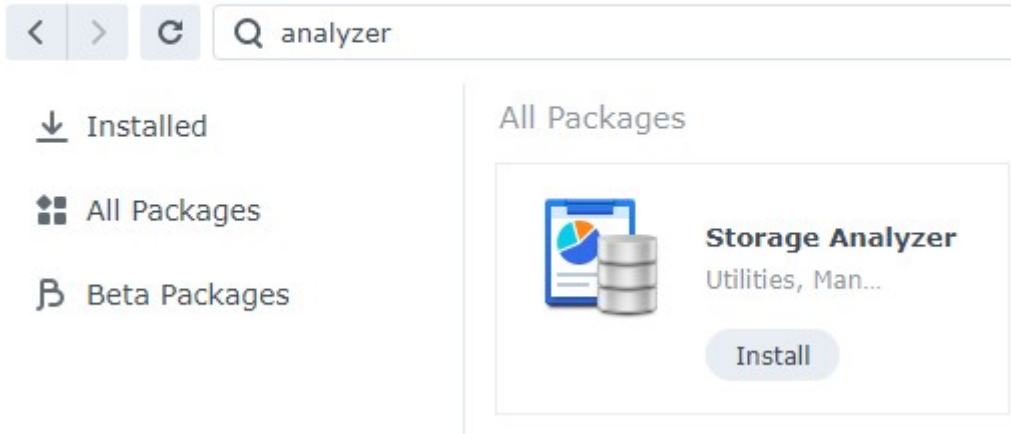
Advanced Settings

This is very important because when you're using a NAS, you generally have data rotating like snapshots and backup files.

Set up the Storage Analyzer on a Synology NAS

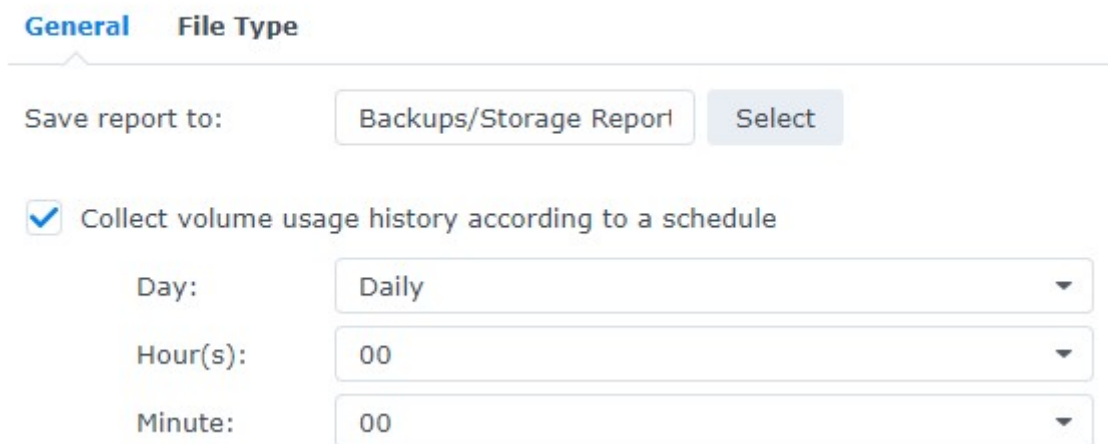
The storage analyzer allows you to see what files/folders are taking up space on your NAS and if any duplicates exist. It's a powerful tool that periodically comes in handy.

1. Open the **Package Center**, search for Analyzer, and install the **Storage Analyzer** package.

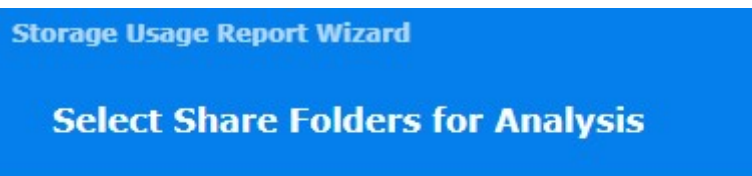


- When it's done installing, open the package. You will be asked to specify a location to save your reports. Select **Yes**. Specify a location to save your reports and the frequency you'd like reports generated.

Settings



- A wizard will then start to assist you in the creation of the scheduled task. Give your report a name, set a schedule, and then specify the total number of reports you'd like to keep.
- Keep all Report Types selected (unless you don't want specific ones generated) and click
- Determine if you'd like to analyze all current and future shared folders, then select



- Analyze all the existing and future shared folders
- Only analyze specific shared folders

6. Select the settings you'd like to use to find duplicate files.

Storage Usage Report Wizard

Advanced Settings

Potential Duplicate Files

Find duplicate files when generating reports i

Ignore file names

Ignore modified time

Max number of duplicate files: i

File List

List files owned by these users by file group:

7. Select **Generate reports now**, then **Done**, and the process is officially set up!

Summary

Item	Value
Enable Schedule	Yes
Generate reports accordin...	Sunday Monday Tuesday Wednesday Thursday F...
Generate reports now	No
Report Task	Storage Analyzer
Email	
Report Rotation	100
Report Type	Quota Usage,Files by Owner,Volume Usage,Shar...
Select shared folders	Include all shared folders
Find confirmed duplicate fi...	Yes
Ignore modified time	Yes

Generate reports now

Back

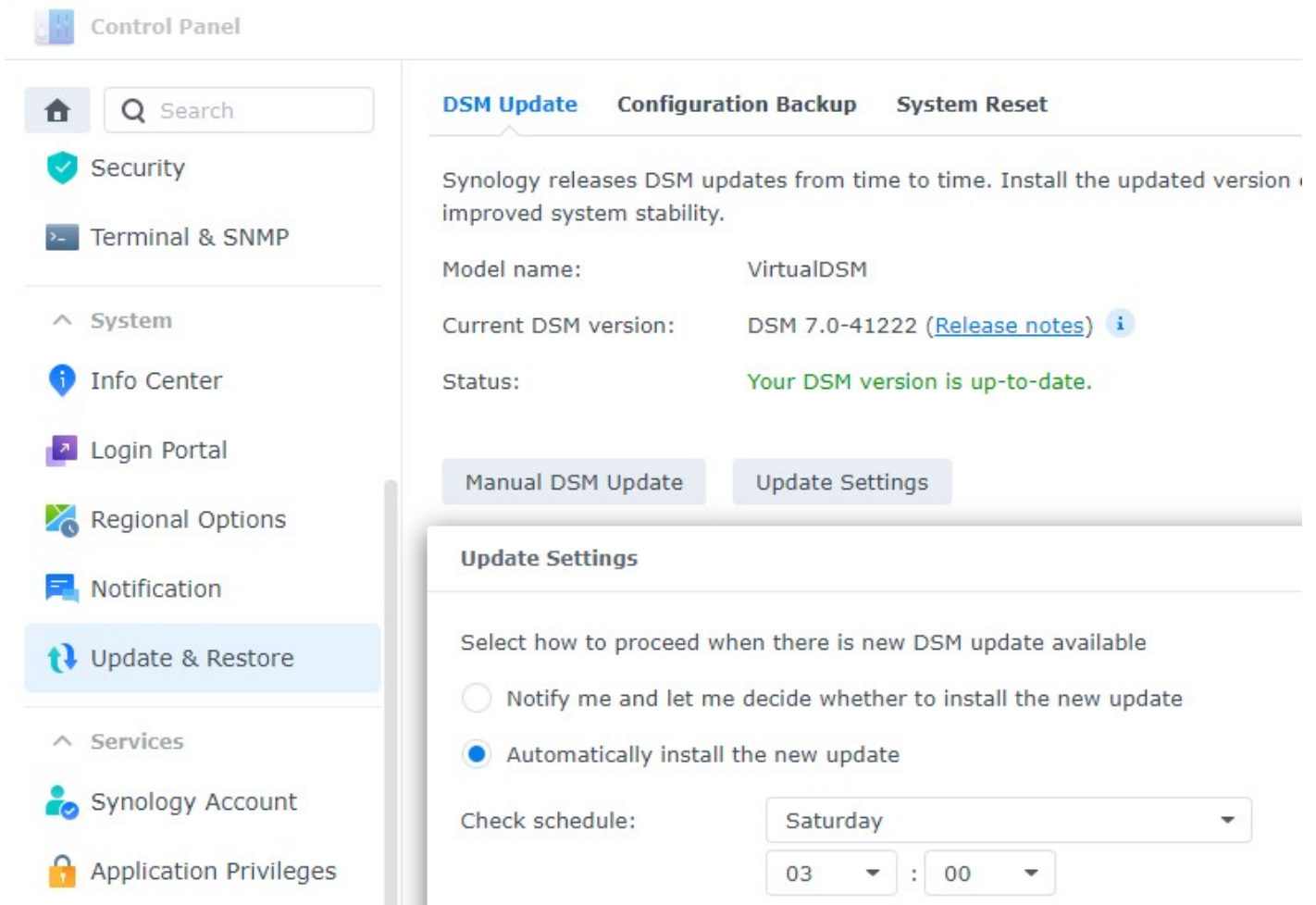
Done

This might not seem important on the surface, but understanding how your storage is being used is integral!

Setting up Updates

Installing Synology's newest updates should be at the top of your list. Not only do you get new features, but more importantly, you get the newest security enhancements.

1. Open **Control Panel** and select **Update & Restore**
2. Select **Update Settings** and **Automatically install** the **new update**. Pick a date and time (preferably during the middle of the night) that updates will install



The screenshot shows the Synology Control Panel interface. On the left is a navigation sidebar with categories: Home, Security, Terminal & SNMP, System, Info Center, Login Portal, Regional Options, Notification, Update & Restore (highlighted), Services, Synology Account, and Application Privileges. The main content area is titled 'Control Panel' and has three tabs: 'DSM Update' (active), 'Configuration Backup', and 'System Reset'. Below the tabs, there is a descriptive paragraph: 'Synology releases DSM updates from time to time. Install the updated version to improve system stability.' Below this, three status fields are shown: 'Model name: VirtualDSM', 'Current DSM version: DSM 7.0-41222 (Release notes) i', and 'Status: Your DSM version is up-to-date.' Two buttons are present: 'Manual DSM Update' and 'Update Settings'. The 'Update Settings' dialog is open, showing the title 'Update Settings' and the instruction 'Select how to proceed when there is new DSM update available'. There are two radio button options: 'Notify me and let me decide whether to install the new update' (unselected) and 'Automatically install the new update' (selected). Below these is a 'Check schedule:' section with a dropdown menu set to 'Saturday' and two time selection boxes set to '03' and '00'.