How to replace a drive on a Synology NAS with Synology Hybrid RAID (SHR) on DiskStation Manager (DSM) 6.2

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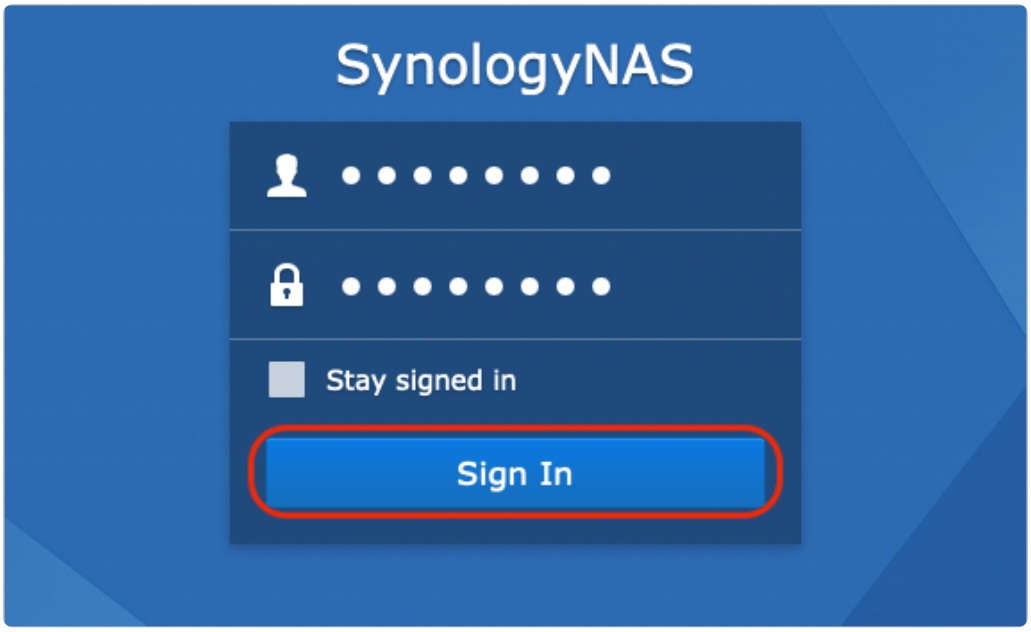
How to replace a drive on a Synology NAS with Synology Hybrid RAID (SHR) on DiskStation Manager (DSM) 6.2

We will in this article show how you can easily replace a drive on a Synology NAS with Synology Hybrid RAID (SHR) on DiskStation Manager (DSM) 6.2.

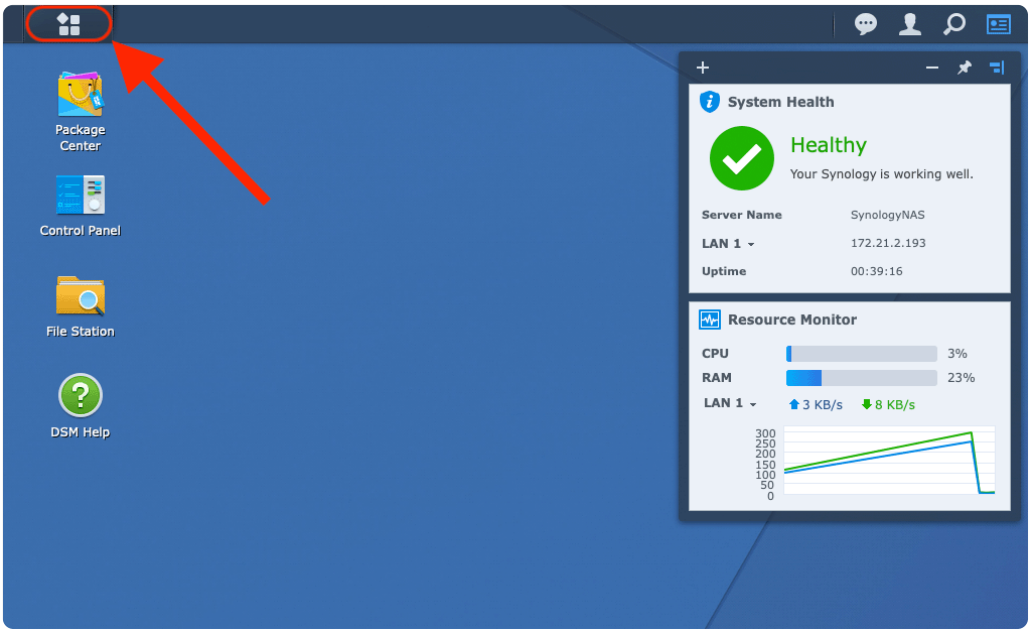
has been set up with Synology Hybrid RAID (SHR) with two-drive fail over. On this NAS, *Drive 5*, is only using a 512 GB disk, while the other five drives use 1 TB disks. *Our goal is to replace Drive 5 with a 1 TB disk.*

Log in to DiskStation Manager (DSM) 6.2 by typing in your `username` and `password`, followed by the **Sign In** button.



Launching Storage Manager

Once you are logged in to the desktop, open the **Main menu**…



… to launch **Storage Manager**.

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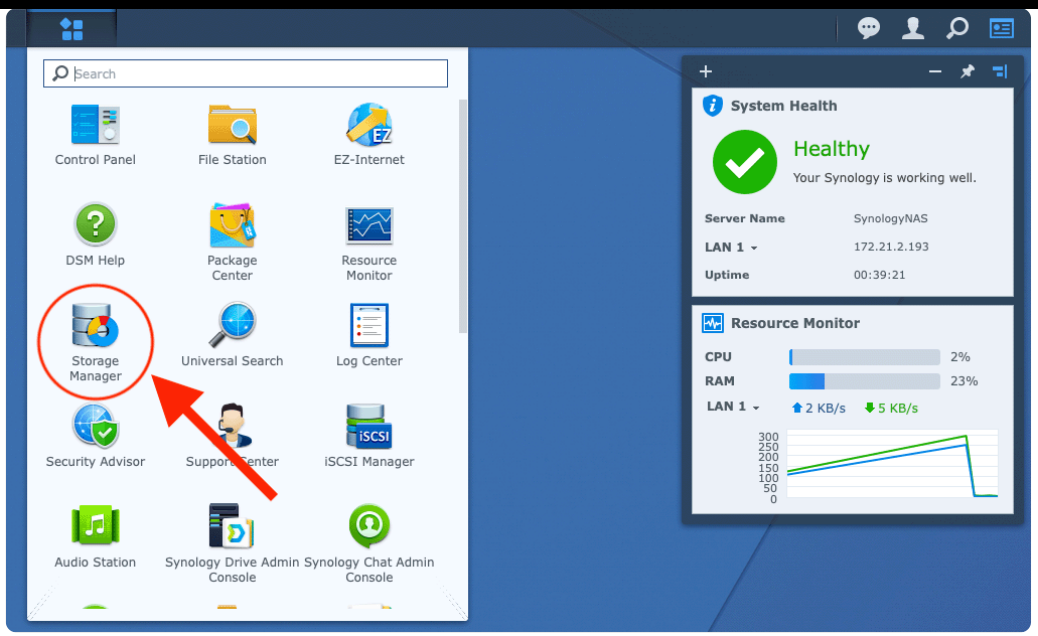
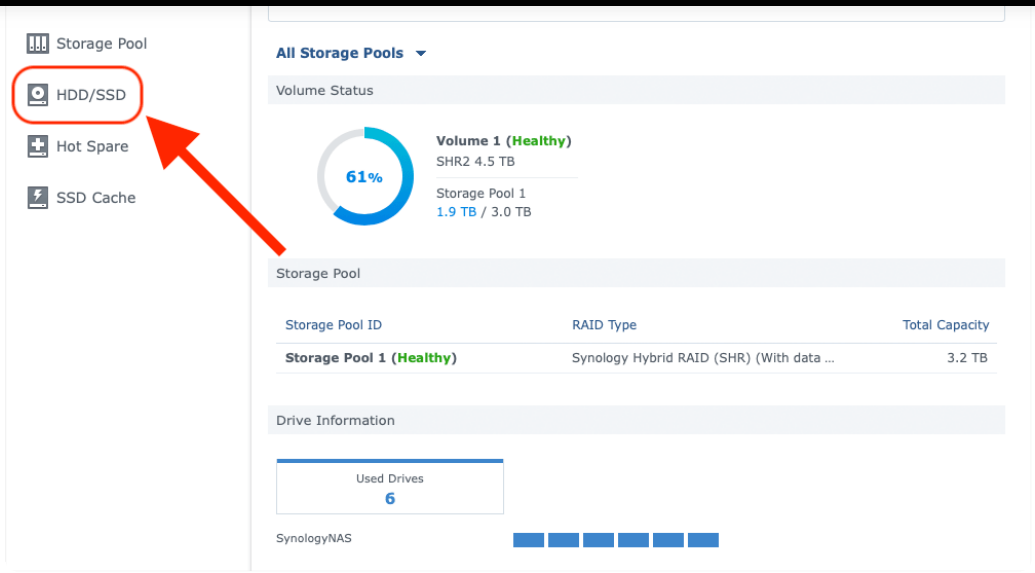
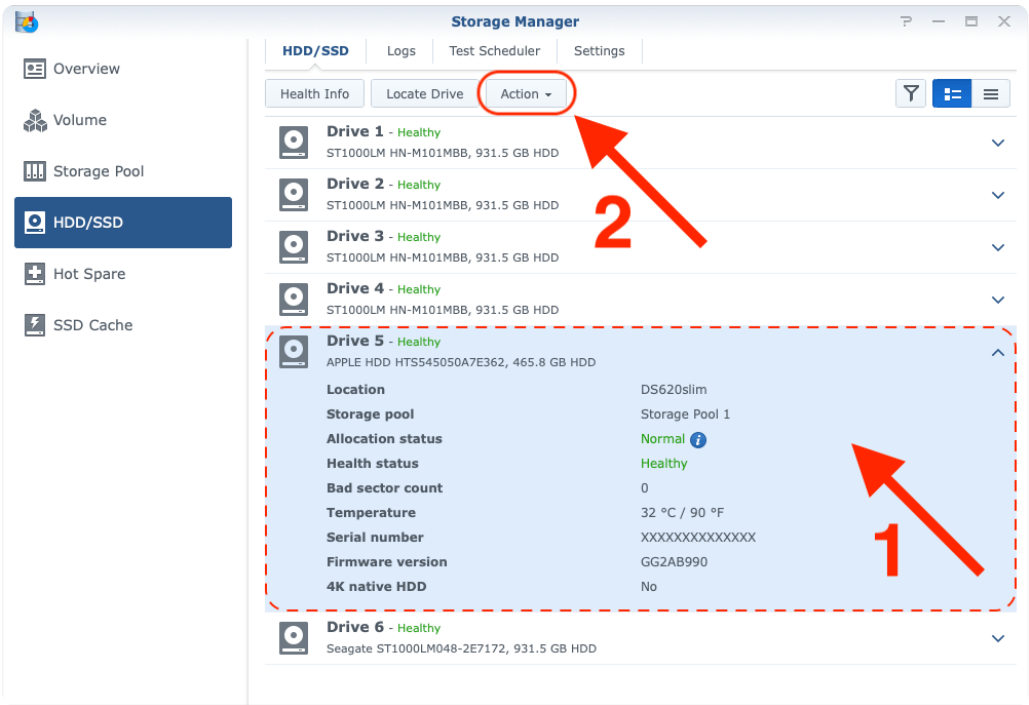


On the *Overview* page of *Storage Manager*, select the **HDD/SSD** button in the left-hand side column.

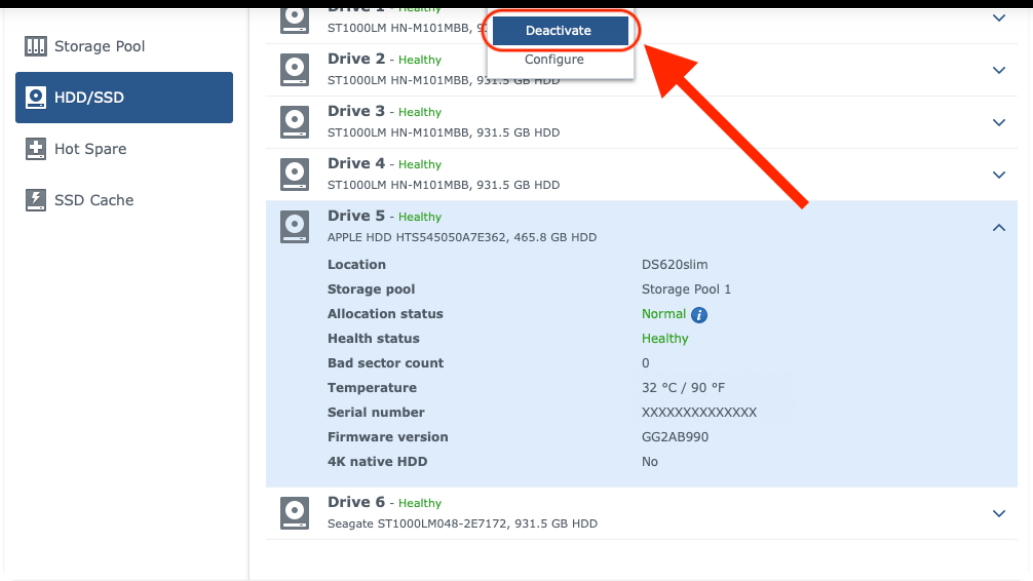


As a first step, make sure to select the drive that you want to replace (**Drive 5** in our example) and then press the **Action** button.



Deactivating the Drive

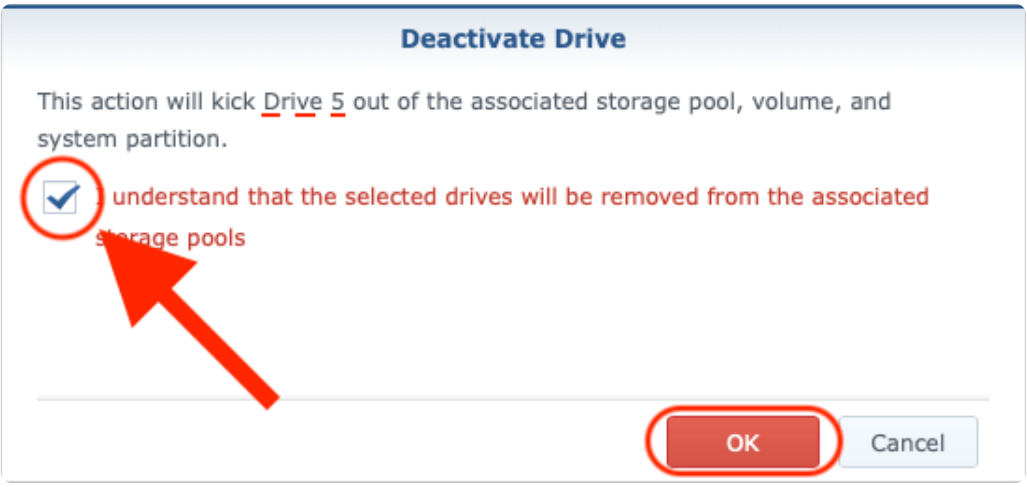
From the *Action* menu, select the **Deactivate** menu option.



You will now be asked to confirm if you want to remove the selected drive from the associated storage pool.

Tick the **checkbox** once you have *double checked* that the drive number is correct.

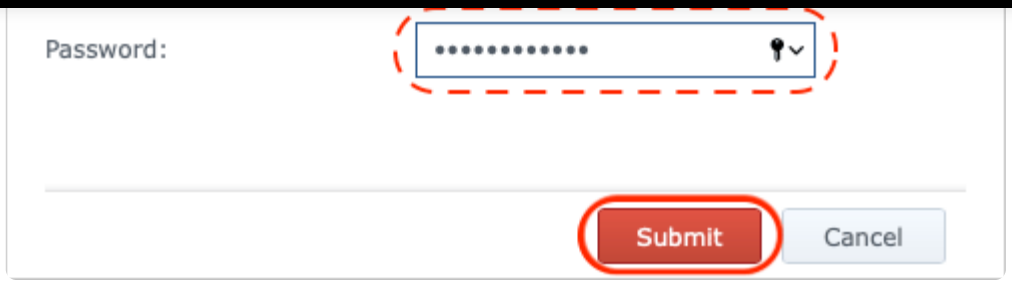
Press **OK** to continue.



You will then be asked to enter your administrator's `password`.

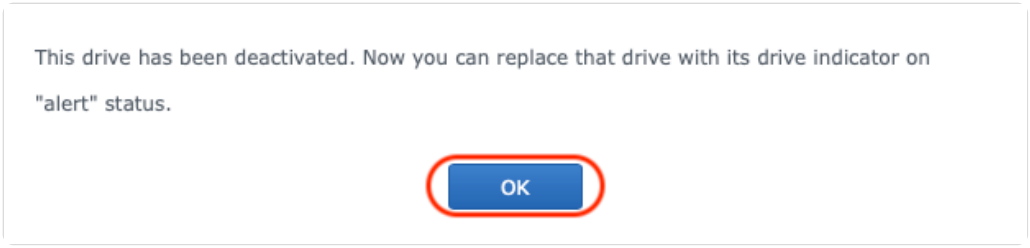
Press the **Submit** button to remove the drive.

There is no going back now!



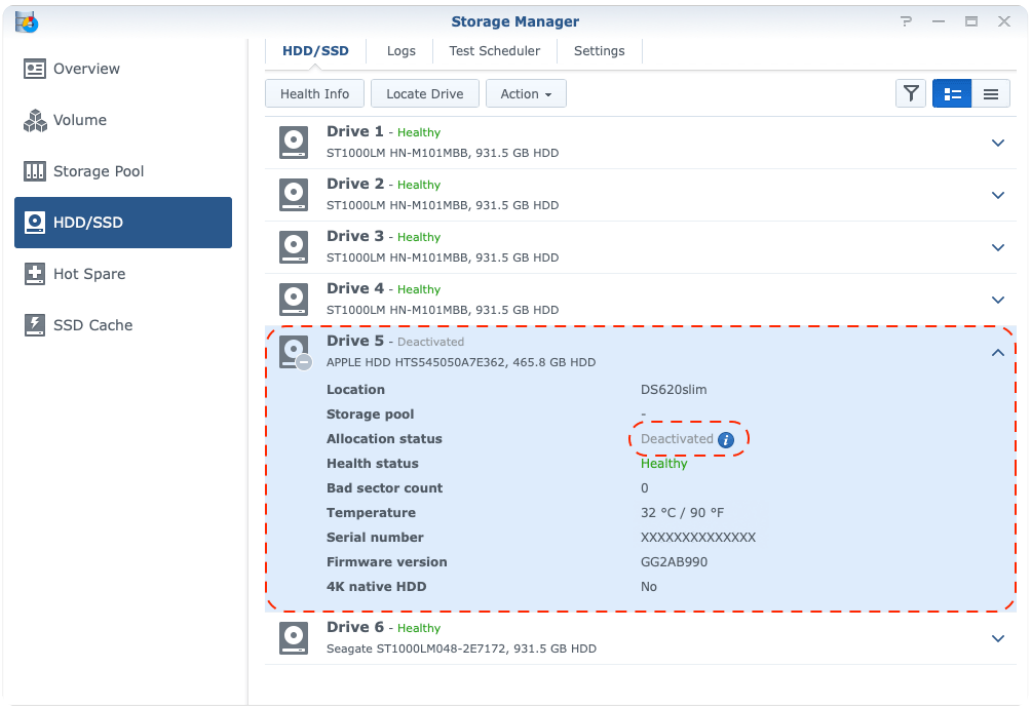
You will see confirmation that the selected drive has been *deactivated* (removed) from the system.

Press **OK** to close the window.



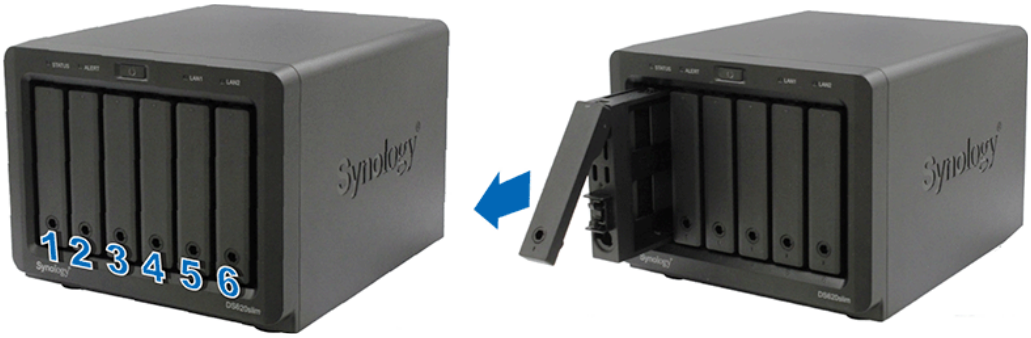
Back on the *HDD/SDD* page you should see that the *Allocation status* of **Drive 5** says *Deactivated*.

You will also start to hear a short beep from your Synology NAS at regular intervals.



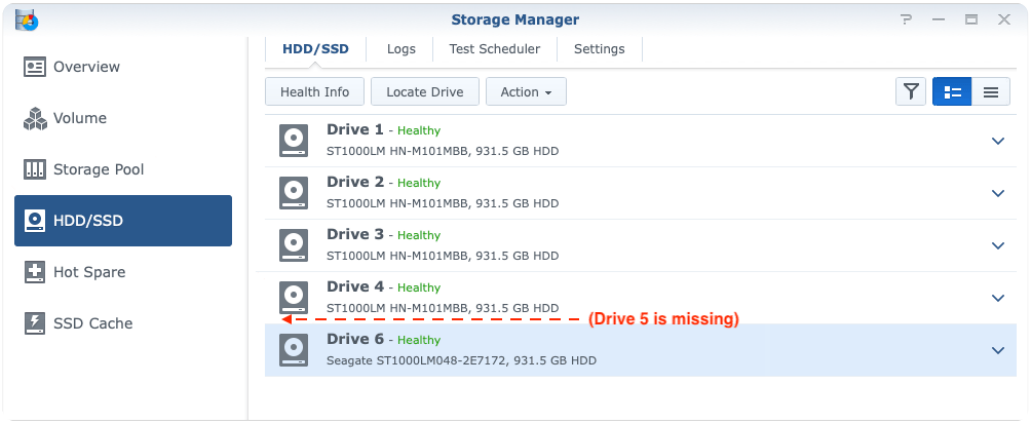
supports hot-swapping, you can simply pull out the drive while the system is running. On the other hand, if your NAS does **not** support hot-swapping, then you will need to **power it down first**.

Please read the manual for your specific NAS model so that you do not accidentally corrupt the RAID!

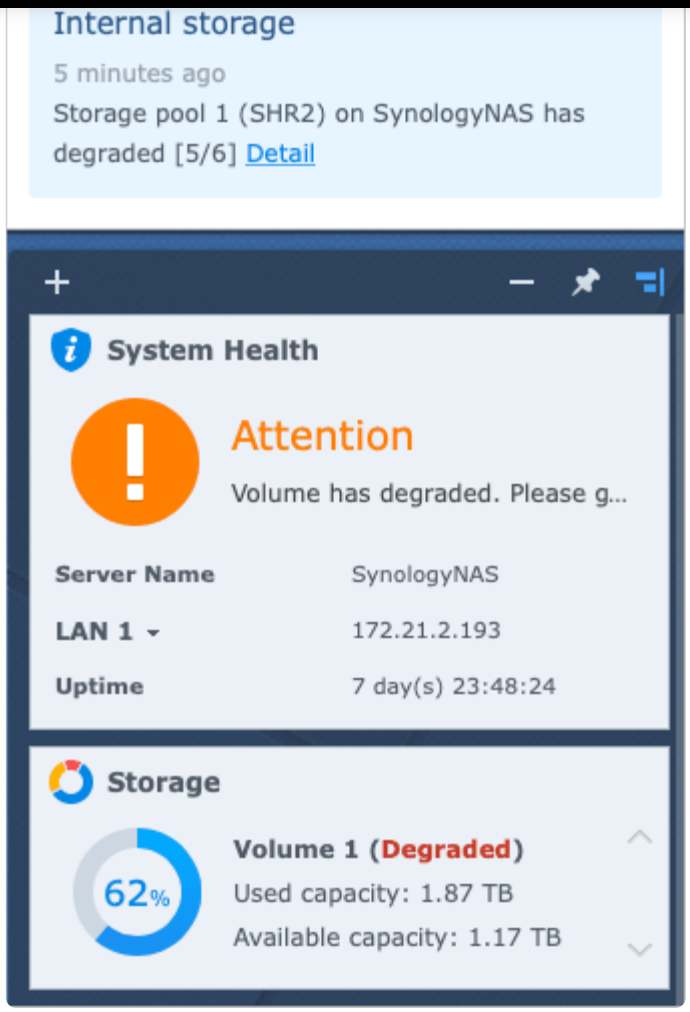


Apologies for the inaccurate stock-photo representation which shows Drive 1 being pulled out, when it is in fact Drive 5 that we are replacing in this tutorial! :)

You will notice that **Drive 5** is now missing from the *HDD/SDD* page.



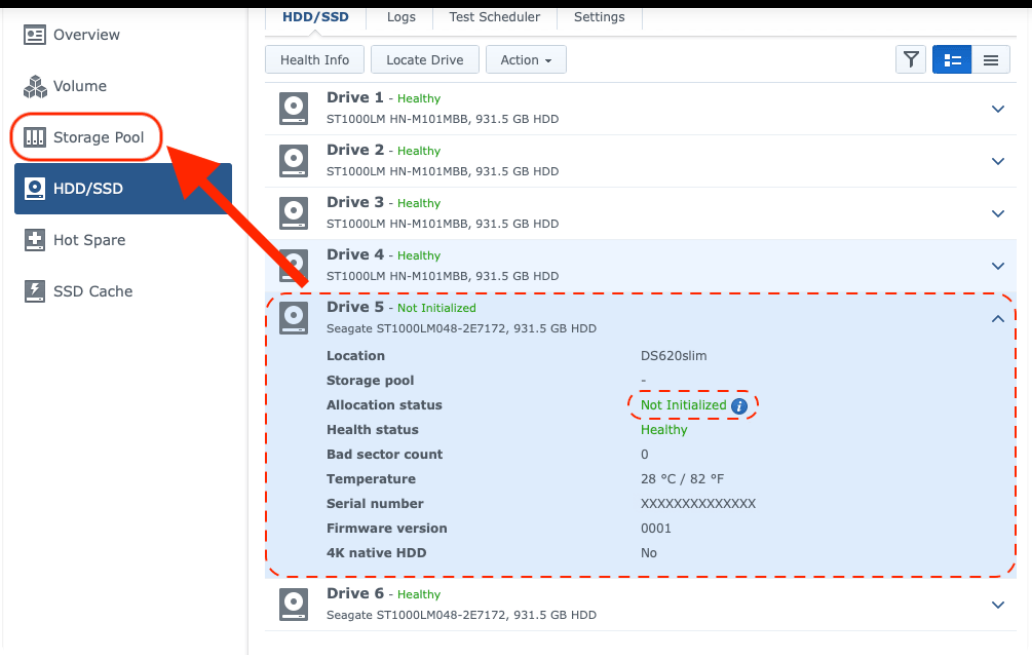
You will also see several warnings that your storage pool has been *degraded*.



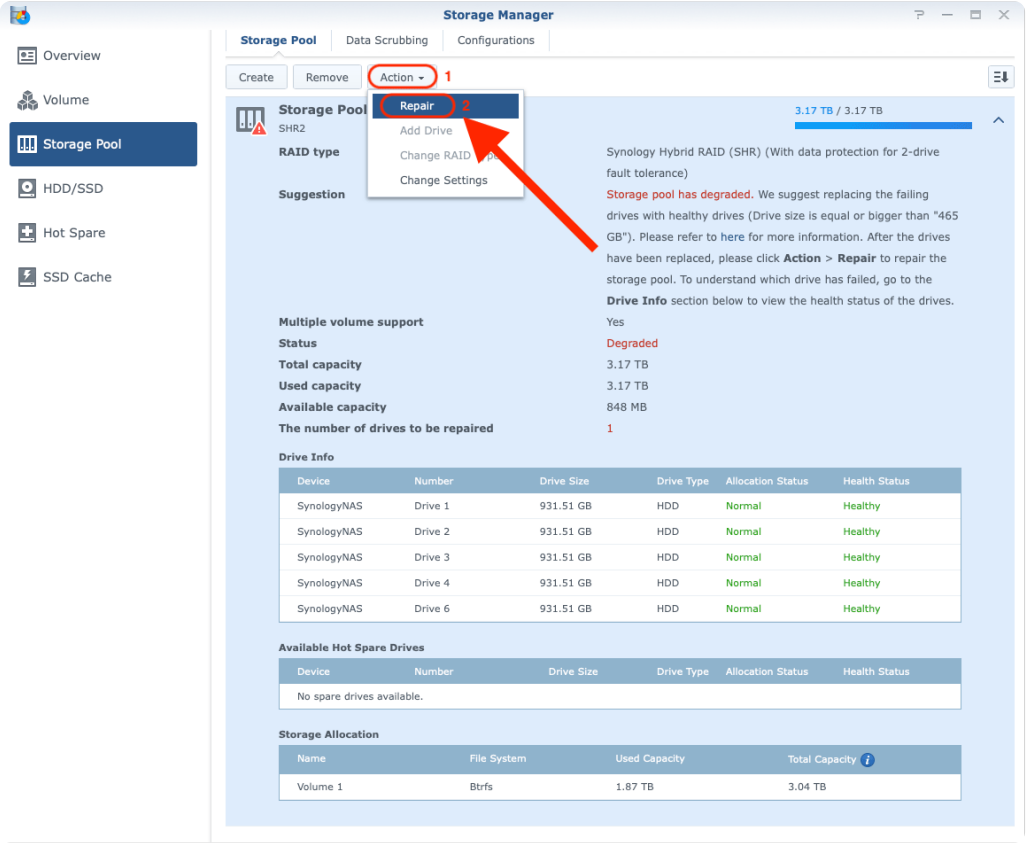
Do not worry about the warnings, as we will now insert our new drive into the NAS.

Repairing the Storage Pool

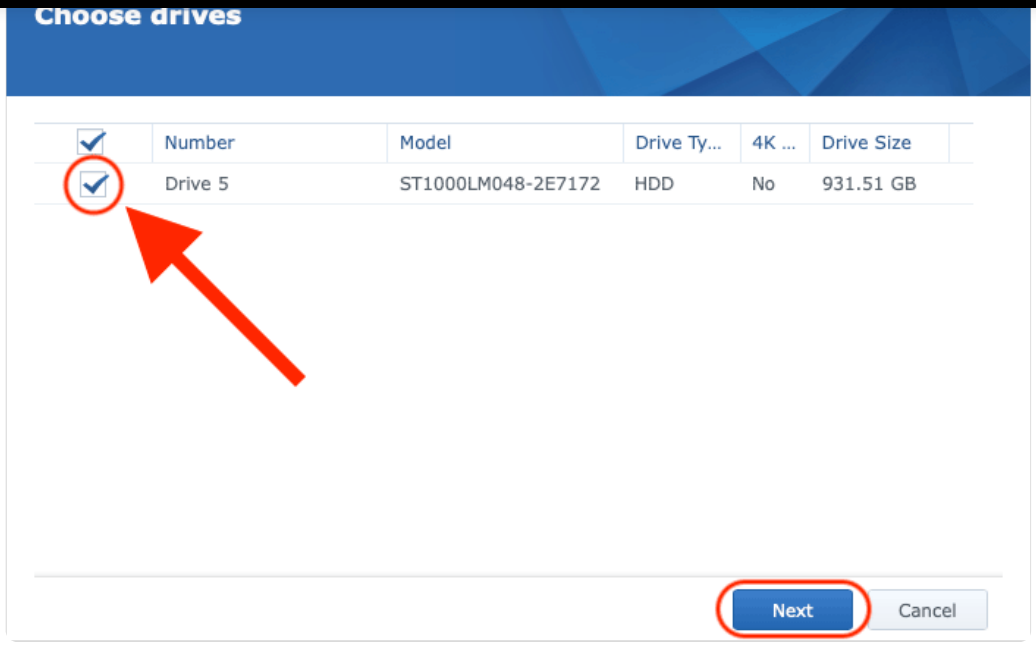
Once you have added the new drive, **Drive 5** will show up as *Not Initialized* on the *HDD/SSD* page.



On the *Storage Pool* page, press **Action > Repair**.

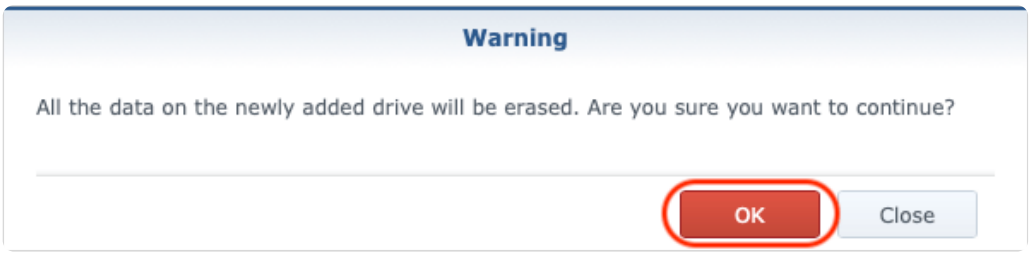


Select your newly added drive by ticking the appropriate **checkbox** and then press **Next** to continue.



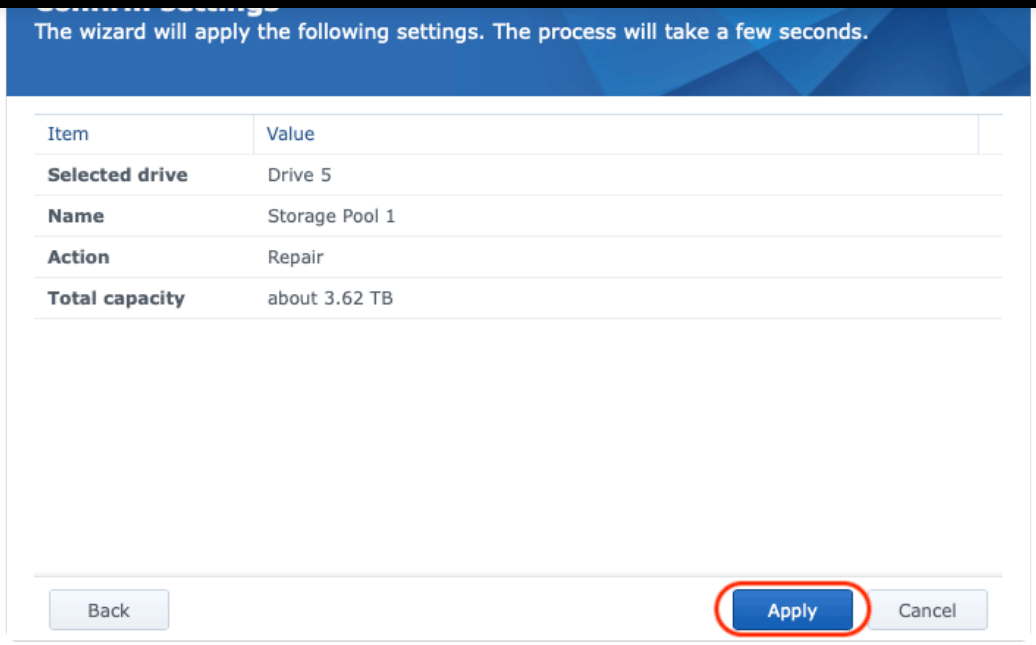
You will receive a warning that all the data on the newly added drive will be erased.

Press **OK** to continue.

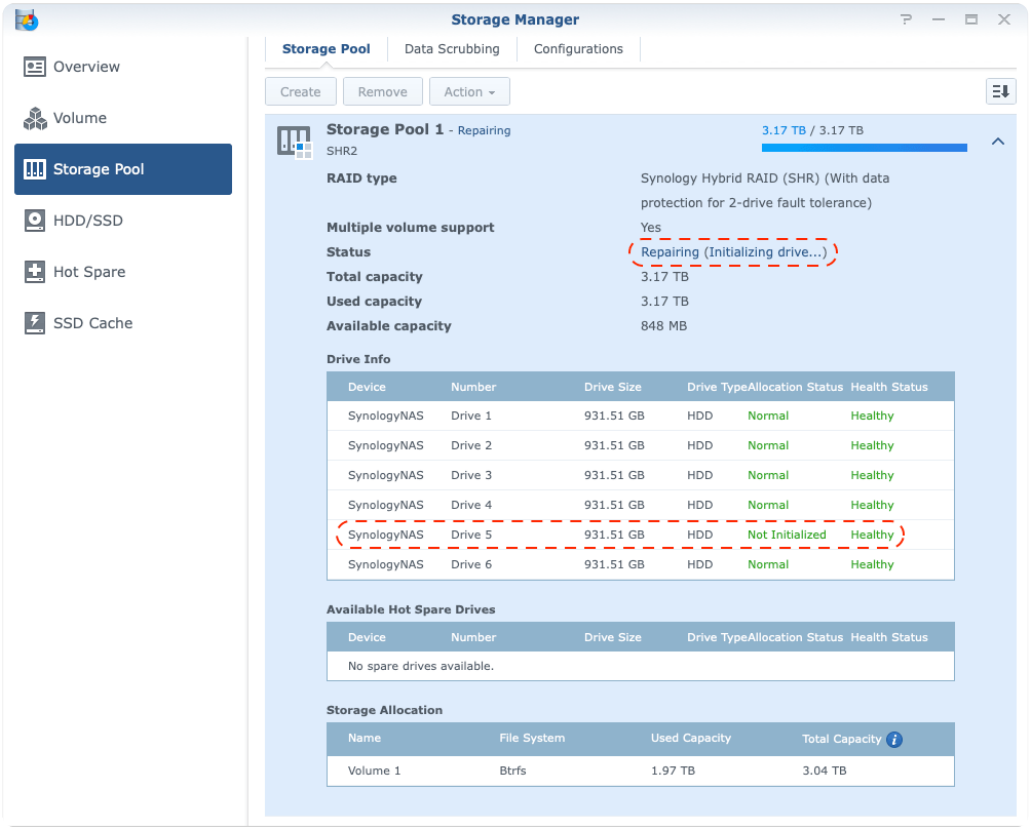


You will see a final confirmation page.

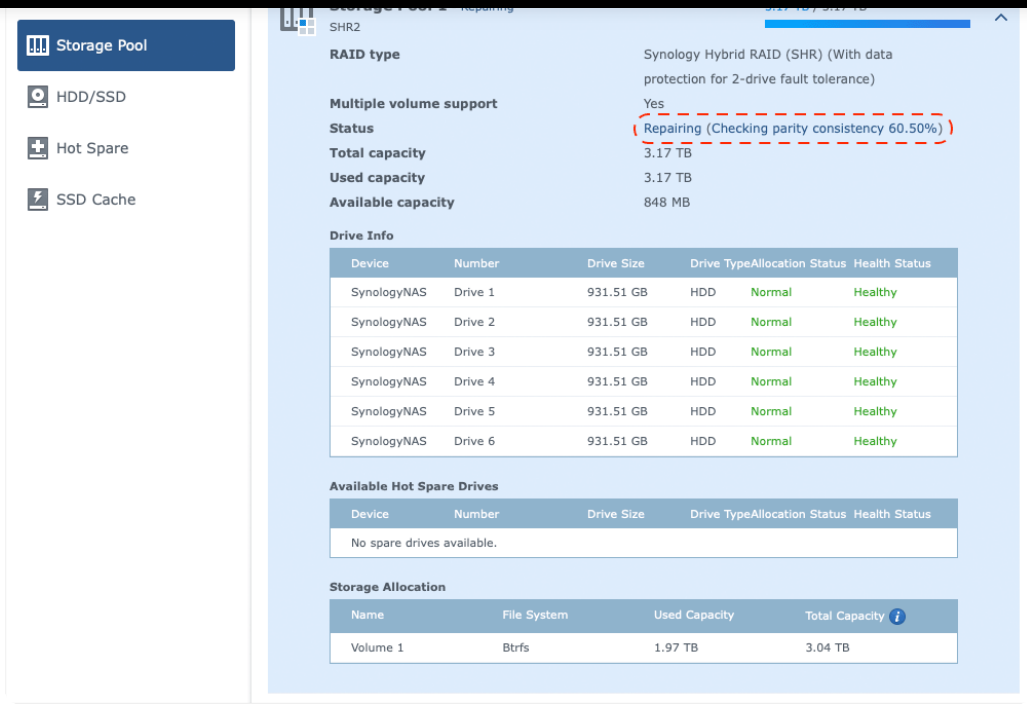
Press **Apply** to *repair* (and format) the drive.



The confirmation window will close and bring you back to the *Storage Pool* page where you can see that it is in the process of *repairing* itself. **Drive 5** has also shown up in the *Drive Info* table, but has not yet been *Initialized*.



After a short while the Storage Pool *Status* will change to *Repairing (Checking parity consistency %)*.



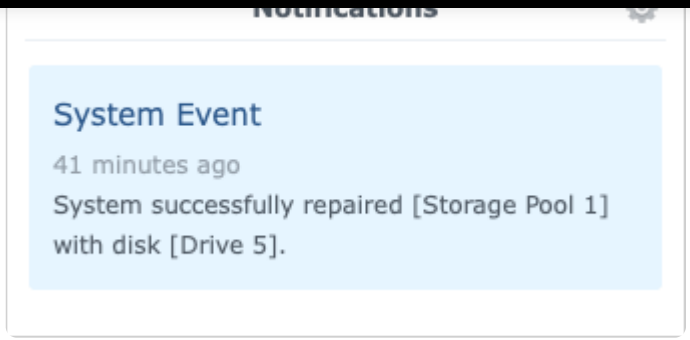
This is the time when you might want to call it a day, because the repair process will take a **very long time**. The percentage counter will also restart from 0% for each additional drive that you have in the storage pool, so you can easily imagine how many hours (or days) this will take.

Please note that you can continue to use the NAS while the storage pool is in the process of being repaired, but that you will experience a substantial performance hit.

We are going to bed anyway. See you in the morning! :)

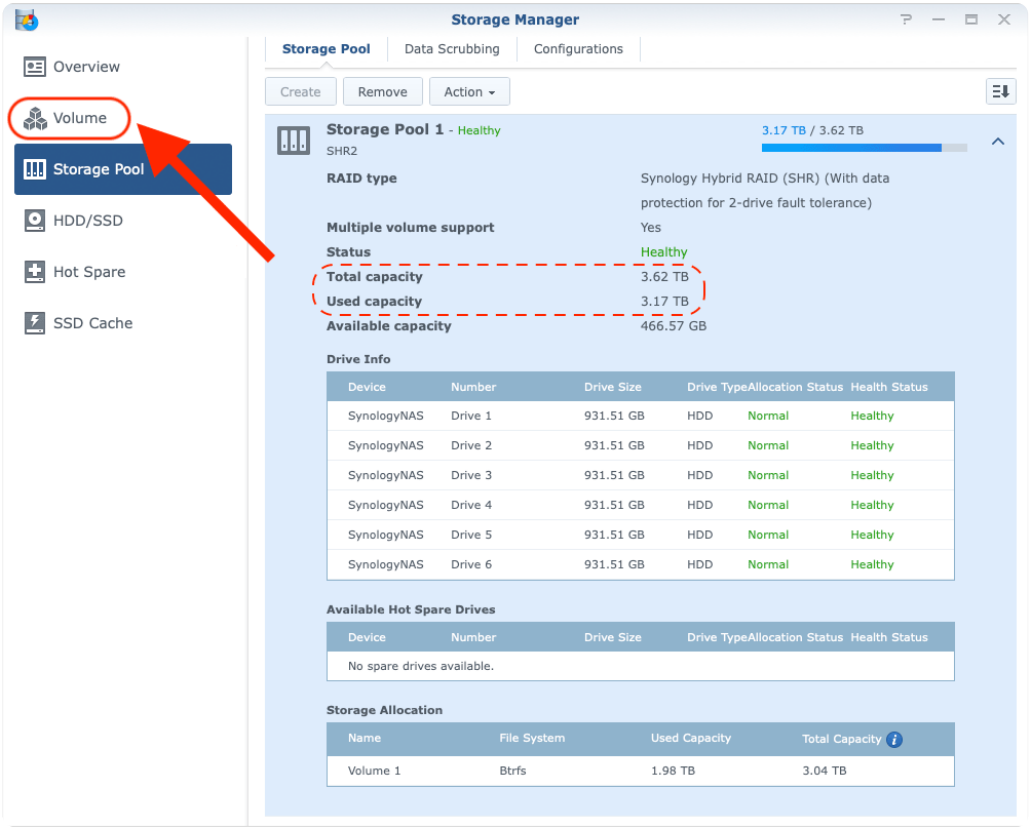
Expanding the Volume

Fast-forward to the next morning, we finally see the notification that we have been waiting for:



Our work is, however, not yet done. On the *Storage Pool* page, if we compare *Used capacity (3.17 TB)* versus *Total capacity (3.62 TB)*, we can see that the numbers are not identical. This is because even though the drive has been added to the storage pool, we have not yet configured the *Volume* to use up this extra space. We will do that now.

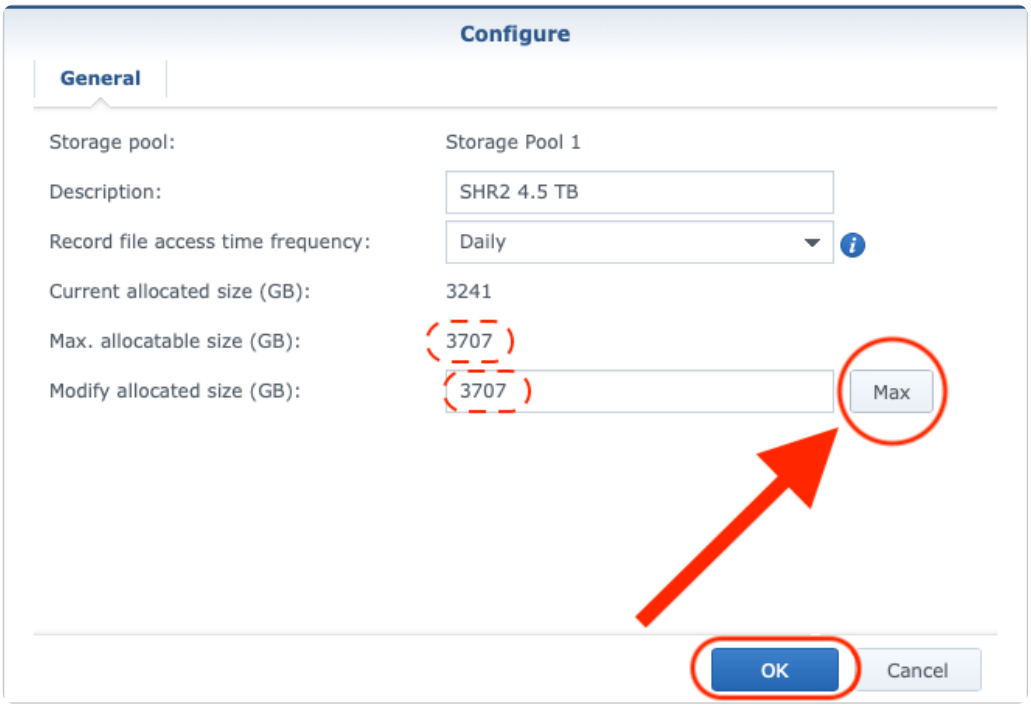
Select the **Volume** button in the left-hand side column.



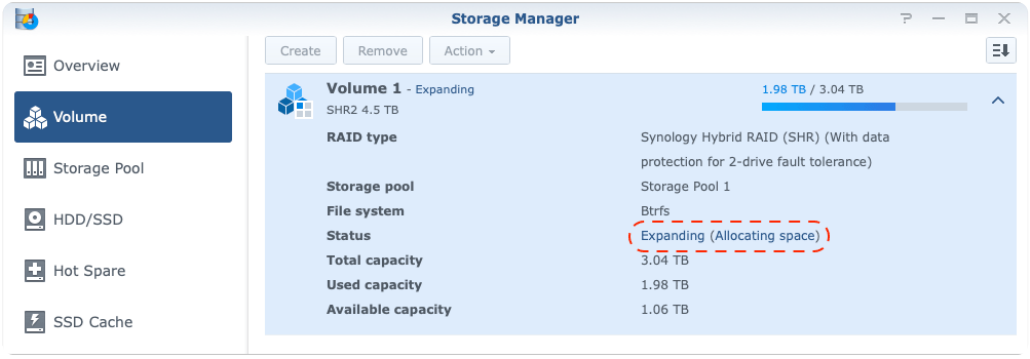
On the *Volume* page, press **Action > Configure**.

Select your new *allocated size*. We will just press the **Max** button to use all available space for this *Volume*.

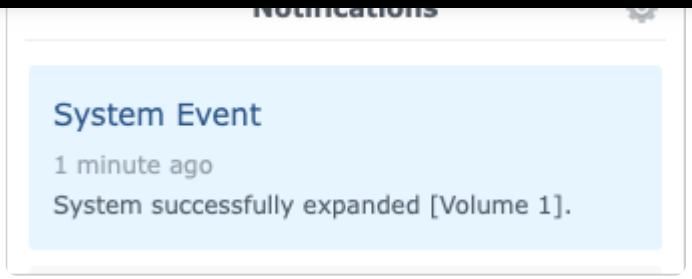
Press **OK** to start the expansion process.



The confirmation window will close and bring you back to the *Volume* page where you can see that the *Status* column now shows *Expanding (Allocating space)*.

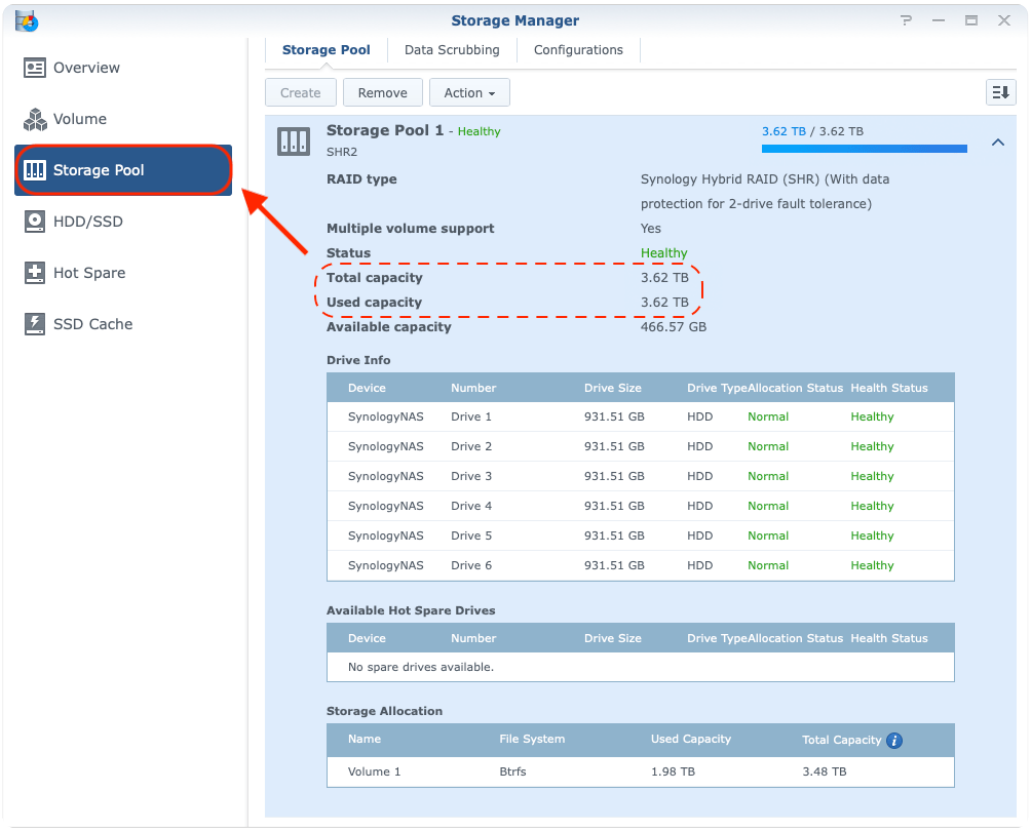


You should receive the following notification in a couple of minutes:

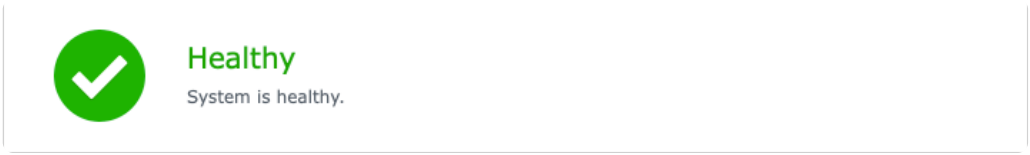


If we now go back to the *Storage Pool* page, we can see that *Total capacity* matches *Used capacity*.

Great, our *Volume* has successfully been expanded.



That is it! We have successfully replaced and expanded our new drive on the Synology NAS.



All that remains now is to confirm is that our *System is healthy*.