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Creating a FreeNAS Volume

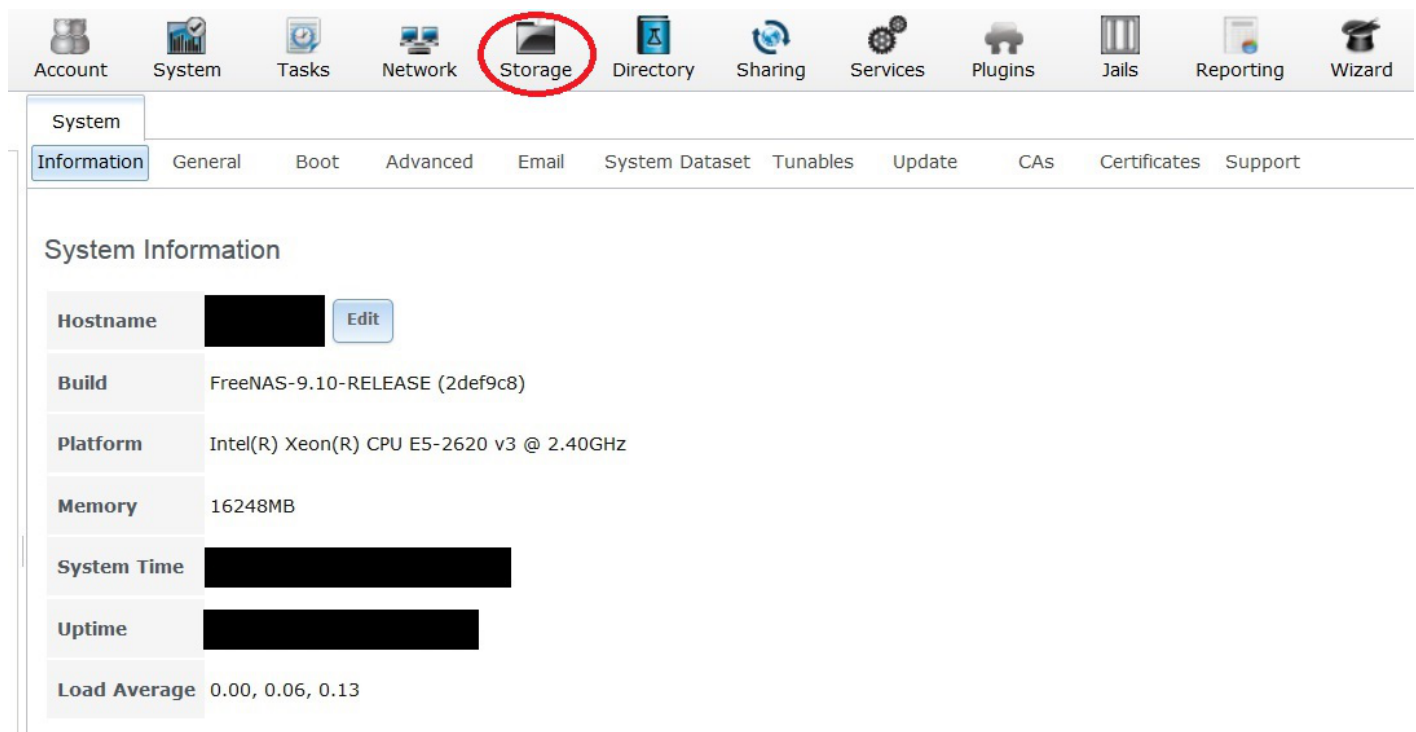
There are many different ways to organise the storage of your FreeNAS server. I can't tell you what is best for you because it depends on various factors, how many vdevs and Zpools you want, how many data storage drives you have available, etc. Review [cyberjock's guide to ZFS for newbies](#) if you aren't thoroughly familiar with it.

Whatever way you decide to arrange things make sure you build in some sort of redundancy. This goes for the vdevs as well.

Remember, if one vdev fails in a Zpool it takes the whole Zpool with it.

This is how I arranged mine.

Go to the "Storage" page.



Now click on the "Volumes" button (1) if it is not already selected.

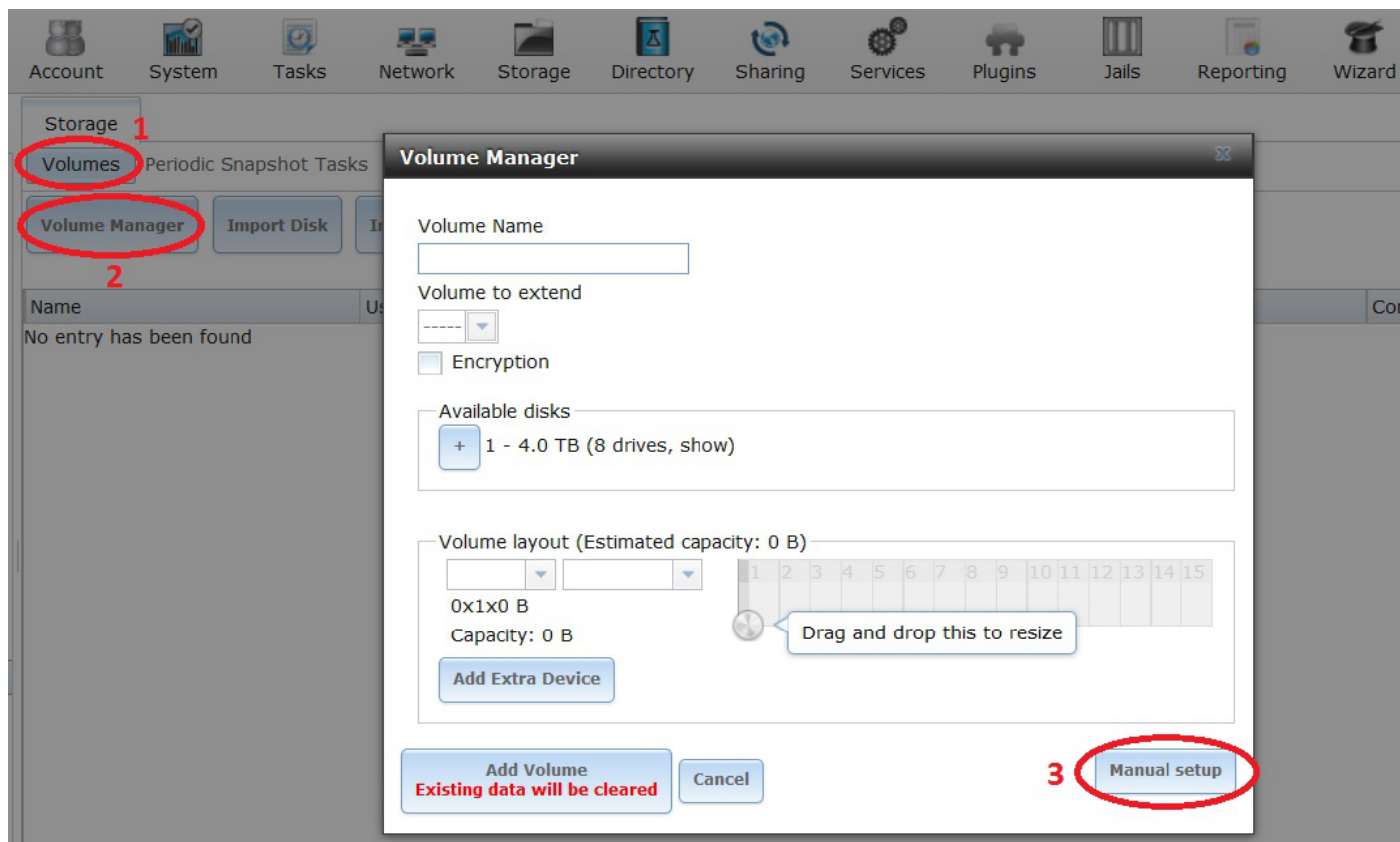
Then click on the "Volume Manager" button (2). This will open up another smaller window.

You have two options at this point.

You can stay in this window and supply some details to the FreeNAS OS and it will suggest a redundancy option which you can accept or change.

The other option is to use manual setup (Fester always uses manual setup, it's just my preference).

Now click on the "Manual setup" button (3).



Give your volume a name in the “Volume name” text box (1). If you cannot think of anything then “Tank” seems to be popular amongst FreeNAS users (I don’t know why?).

If you want the Zpool to use encryption then tick the “Encryption” box (2). But only do this if your processor supports AES-NI encryption and you have enabled it in the BIOS, otherwise don’t use it. Remember to save a recovery key.

Now select the storage drives you want to form part of the Zpool in the “Member disks” selection box (3). To select all available disks click on the first drive, hold down the “Shift” key and with the key held down click on the last disk.

Leave “Deduplication” set to **off** (4) (unless you understand deduplication and have plenty of RAM in your system).

If you did not select all the available storage drives in the “Member disks” section then you will have the option of choosing the function of the unused disks in the “ZFS Extra” section. This is where you can designate a disk/s as a spare device that will immediately be utilised when one of your disks fail, or as an extra cache or log for ZFS and the FreeNAS OS. I always use all the available drives so this section has disappeared by this point.

If you selected all available drives in the “Member disk” section then you will see a section entitled “Group Type”. In the “Group Type” section, select with the appropriate radio button the type of redundancy you wish to utilise in the Zpool (5) (Fester likes Raid-Z2 as this allows two devices to fail and the zpool is still operable. If a third device fails the zpool is trashed).

Now click the “Add Volume” button (6).

Manual Setup

Volume name: Give_ The_Volume_A_Name **1**

Encryption: ☐ **2**

Member disks (8): da2 (4.0 TB), da3 (4.0 TB), da4 (4.0 TB), da5 (4.0 TB), da6 (4.0 TB), da7 (4.0 TB) **3**

Deduplication: Off **4**

Group type: mirror, stripe, RAID-Z, RAID-Z2, RAID-Z3 **5**

6 Add Volume
Existing data will be cleared

Cancel

When the operation completes often the FreeNAS GUI may not update to reflect the change, so you don't see your newly created volume listed under "Volumes".

If this happens to you just navigate away from the page and then navigate back to it and the page will be forced to update. You should now see the volume listed.

If all goes well you should get something like this.

Account	System	Tasks	Network	Storage	Directory	Sharing	Services	Plugins	Jails	Reporting	Wizard
Storage											
Volumes	Periodic Snapshot Tasks	Replication Tasks	Scrubs	Snapshots	VMware-Snapshot						
Volume Manager	Import Disk	Import Volume	View Disks								
Name	Used	Available	Compression	Compre							
▲ Tank1	1.2 MiB (0%)	29.0 TiB	-	-							
Tank1	665.4 KiB (0%)	20.0 TiB	lz4	1.00x							

That's the FreeNAS storage volume created.

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