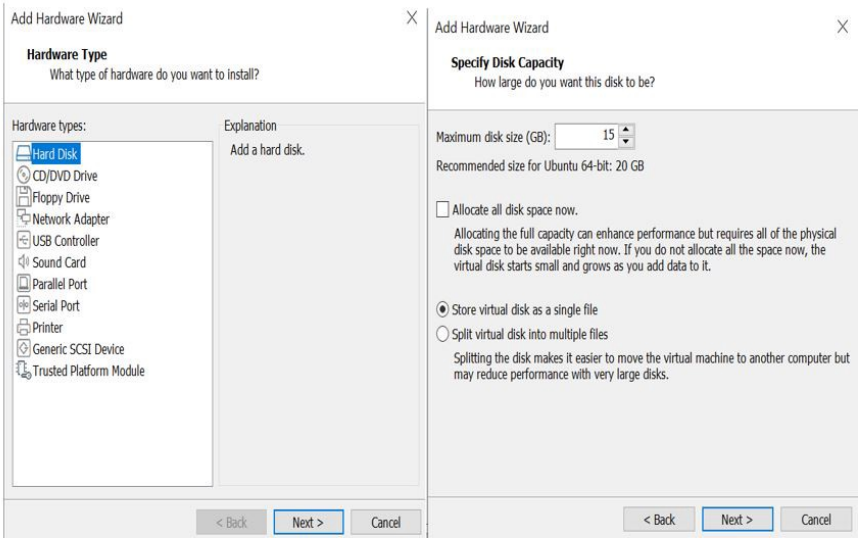
Let's understand Disks and create partitions in the Ubuntu 22.04 LTS server.

1. Connect the new disk to your server. If you are using a virtual machine, you may need to add a new virtual disk to the VM.



2. Once the disk is connected, check that Ubuntu recognizes it by running the command **sudo fdisk -l**. You should see the new disk listed, along with any other disks that are already connected to your server.

Use the **LSBLK** command to list all of the available block devices and their mount points.

```
root@mpn-virtual-machine:~# lsblk
NAME   MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
fd0      2:0    1   1.4M  0 disk
loop0    7:0    0     4K  1 loop /snap/bare/5
loop1    7:1    0  63.3M  1 loop /snap/core20/1822
loop2    7:2    0 163.3M  1 loop /snap/firefox/1635
loop3    7:3    0    62M  1 loop /snap/core20/1587
loop4    7:4    0 240.6M  1 loop /snap/firefox/2356
loop5    7:5    0 400.8M  1 loop /snap/gnome-3-38-2004/112
loop6    7:6    0  91.7M  1 loop /snap/gtk-common-themes/1535
loop7    7:7    0 346.3M  1 loop /snap/gnome-3-38-2004/119
loop8    7:8    0  45.9M  1 loop /snap/snap-store/638
loop9    7:9    0  45.9M  1 loop /snap/snap-store/582
loop10   7:10   0  49.8M  1 loop /snap/snapd/18357
loop11   7:11   0   284K  1 loop /snap/snapd-desktop-integration/14
loop12   7:12   0   304K  1 loop /snap/snapd-desktop-integration/49
sda      8:0    0    20G  0 disk
├─sda1   8:1    0     1M  0 part
├─sda2   8:2    0   513M  0 part /boot/efi
└─sda3   8:3    0  19.5G  0 part /var/snap/firefox/common/host-hunspell
                                 /
sdb      8:16   0    15G  0 disk
sr0     11:0    1 126.8M  0 rom  /media/mpn/CDROM
sr1     11:1    1  1024M  0 rom
root@mpn-virtual-machine:~#
```

3. Use the fdisk command to partition the new disk. For example, if your new disk is located at /dev/sdb, run the following command:

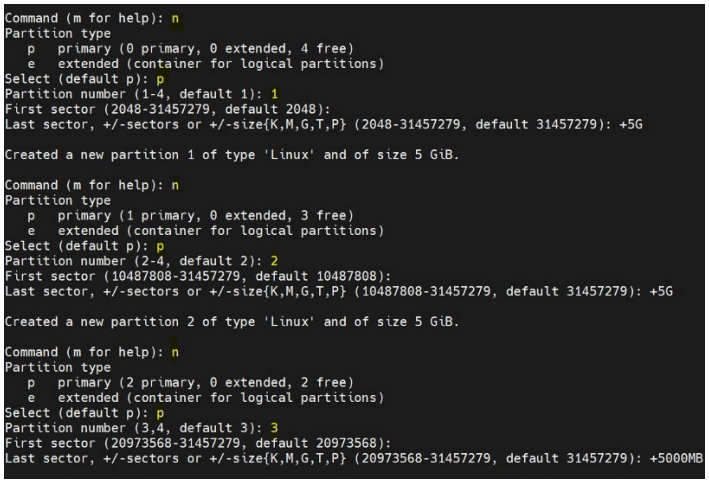
sudo fdisk /dev/sdb

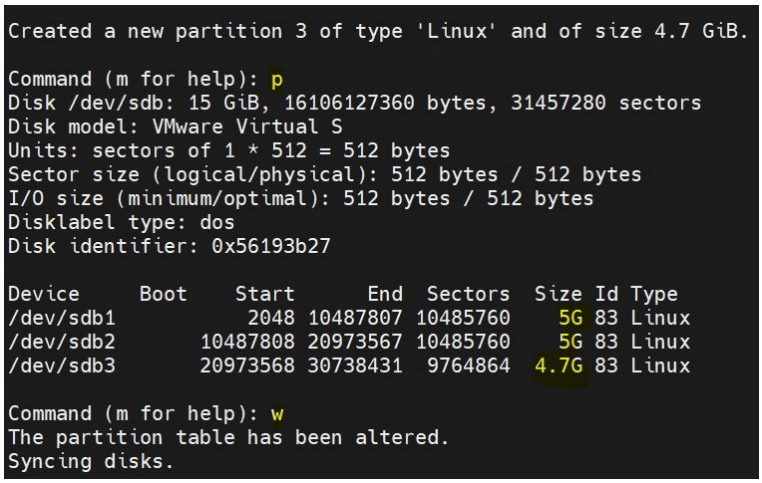
```
root@mpn-virtual-machine:~# fdisk /dev/sdb

Welcome to fdisk (util-linux 2.37.2).
Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table.
Created a new DOS disklabel with disk identifier 0x1512438e.
```

4) This will open the fdisk tool. From here, you can create partitions by following the on-screen instructions. When you're finished, save your changes and exit **fdisk**.



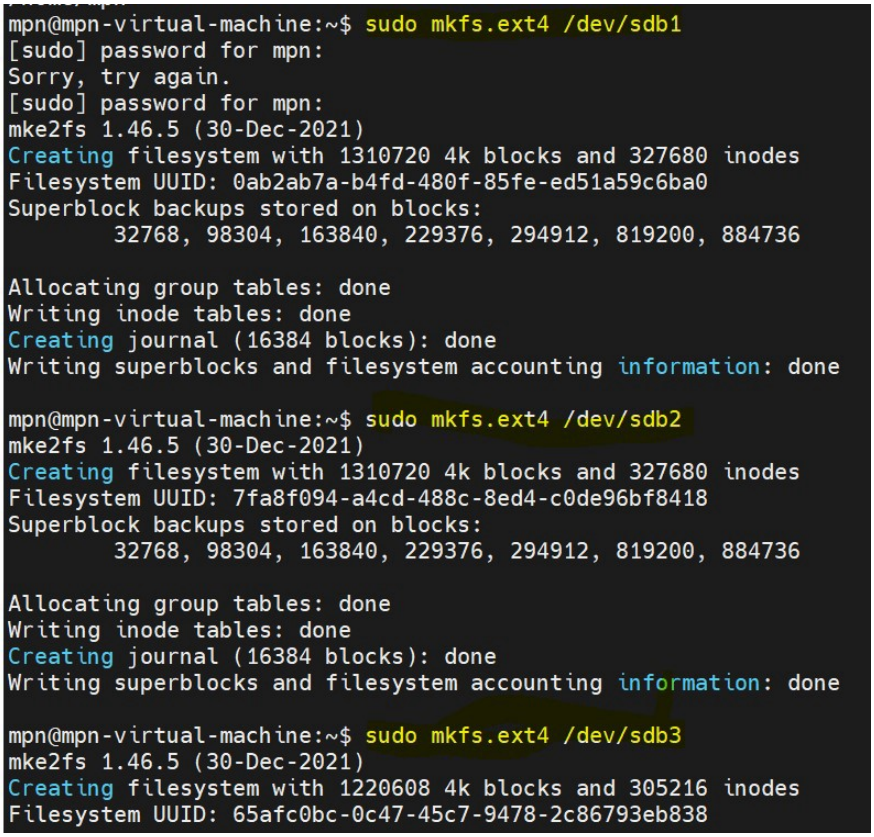


5) Format the new partition with a file system of your choice. For example, if you want to use the Ext4 file system, run the following command:

sudo mkfs.ext4 /dev/sdb1

sudo mkfs.ext4 /dev/sdb2

sudo mkfs.ext4 /dev/sdb3



6) This will create an Ext4 file system on the first partition of your new disk.

7) Create a mount point for the new partition. For example, if you want to mount the new partition at **/mnt/newdisk**, run the following command: **sudo mkdir /mnt/newdisk**

8) Mount the new partition to the mount point you just created. For example, to mount the first partition of the new disk to **/mnt/newdisk**, run the following command.

```
root@mpn-virtual-machine:~# lsblk
NAME   MAJ:MIN RM   SIZE RO TYPE MOUNTPOINTS
fd0      2:0    1     4K  0 disk
loop0    7:0    0     4K  1 loop /snap/bare/5
loop1    7:1    0    62M  1 loop /snap/core20/1587
loop2    7:2    0  63.3M  1 loop /snap/core20/1822
loop3    7:3    0 163.3M  1 loop /snap/firefox/1635
loop4    7:4    0 240.6M  1 loop /snap/firefox/2356
loop5    7:5    0  91.7M  1 loop /snap/gtk-common-themes/1535
loop6    7:6    0  45.9M  1 loop /snap/snap-store/582
loop7    7:7    0  45.9M  1 loop /snap/snap-store/638
loop8    7:8    0 400.8M  1 loop /snap/gnome-3-38-2004/112
loop9    7:9    0  49.8M  1 loop /snap/snapd/18357
loop10   7:10   0 346.3M  1 loop /snap/gnome-3-38-2004/119
loop11   7:11   0   284K  1 loop /snap/snapd-desktop-integration/14
loop12   7:12   0   304K  1 loop /snap/snapd-desktop-integration/49
sda      8:0    0    20G  0 disk
├─sda1   8:1    0     1M  0 part
├─sda2   8:2    0   513M  0 part /boot/efi
└─sda3   8:3    0  19.5G  0 part /var/snap/firefox/common/host-hunspell
                                 /
sdb      8:16   0    15G  0 disk
├─sdb1   8:17   0     5G  0 part
├─sdb2   8:18   0     5G  0 part
└─sdb3   8:19   0   4.7G  0 part
sr0     11:0    1 126.8M  0 rom  /media/mpn/CDROM
sr1     11:1    1  1024M  0 rom
root@mpn-virtual-machine:~#  sudo mount /dev/sdb1 /mnt/newdisk
root@mpn-virtual-machine:~# sudo mount /dev/sdb2 /mnt/newdisk
root@mpn-virtual-machine:~# sudo mount /dev/sdb3 /mnt/newdisk
```

9) To make the mount permanent across reboots, add an entry to the /etc/fstab file. For example, add the following line to the /etc/fstab file to mount the new partition at boot time:

/dev/sdb1 /mnt/newdisk ext4 defaults 0 2

/dev/sdb2 /mnt/newdisk ext4 defaults 0 2

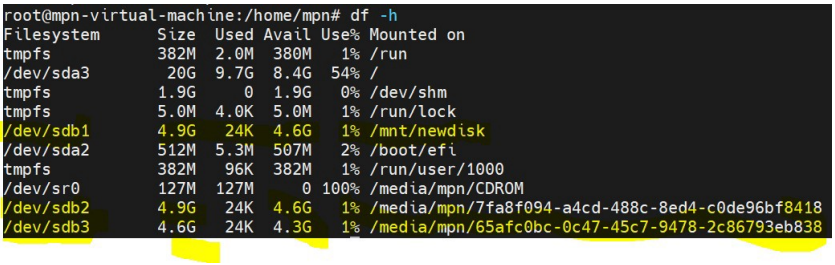
/dev/sdb3 /mnt/newdisk ext4 defaults 0 2

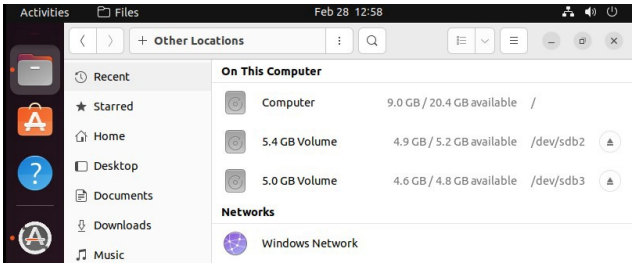
```
 GNU nano 6.2                                        /etc/fstab
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point>   <type>  <options>       <dump>  <pass>
# / was on /dev/sda3 during installation
UUID=d7dbecae-da7f-4e2d-bb15-2b4e7e35fe0d /               ext4    errors=remount-ro 0       1
# /boot/efi was on /dev/sda2 during installation
UUID=C93D-225C  /boot/efi       vfat    umask=0077      0       1
/swapfile                                 none            swap    sw              0       0
/dev/fd0        /media/floppy0  auto    rw,user,noauto,exec,utf8 0       0
/dev/sdb1 /mnt/newdisk ext4 defaults 0 2
/dev/sdb2 /mnt/newdisk ext4 defaults 0 2
/dev/sdb3 /mnt/newdisk ext4 defaults 0 2
```

10) This will mount the new partition at /mnt/newdisk with the ext4 file system and default options

11)Finally, run the command df -h to verify that the new partition is mounted and available for use.

If the mounts not shows reboot the server and check





That's it! You have successfully added a new disk and created partitions in Ubuntu 22.04 LTS server