

# Expand virtual machine storage

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# 1 Expand virtual machine storage

In shell, run

```
df
```

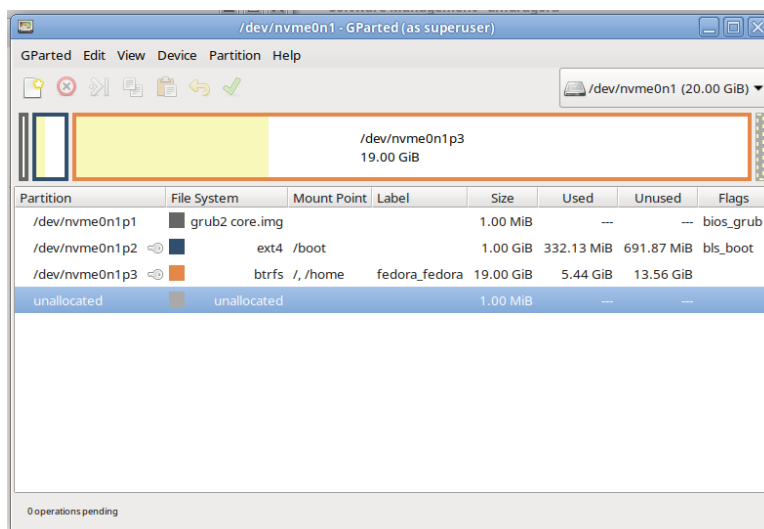
For F31, you'll see something like this:

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
devtmpfs	1976800	0	1976800	0%	/dev
tmpfs	1997076	0	1997076	0%	/dev/shm
tmpfs	1997076	1652	1995424	1%	/run
/dev/mapper/fedora-root	73390080	46464148	26925932	64%	/
tmpfs	1997076	64	1997012	1%	/tmp
/dev/sda1	1038336	241528	796808	24%	/boot
tmpfs	399412	76	399336	1%	/run/user/1000
vmhgfs-fuse	245791740	236583704	9208036	97%	/home/student/shares

For F40, you'll see something like

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
/dev/nvme0n1p3	19919872	6000576	13583728	31%	/
devtmpfs	4096	0	4096	0%	/dev
tmpfs	978916	0	978916	0%	/dev/shm
tmpfs	391568	1400	390168	1%	/run
tmpfs	978920	44	978876	1%	/tmp
/dev/nvme0n1p2	996780	288304	639664	32%	/boot
/dev/nvme0n1p3	19919872	6000576	13583728	31%	/home
tmpfs	195780	144	195636	1%	/run/user/1000

For F31, user files are probably stored in `/dev/mapper/fedora-root` which should be in the `/dev/sda2/` partition. For f40, user files are probably stored in `/dev/nvme0n1p3`. Run `su` to become root and then run `gparted` and you'll see the following partitions of your HD:

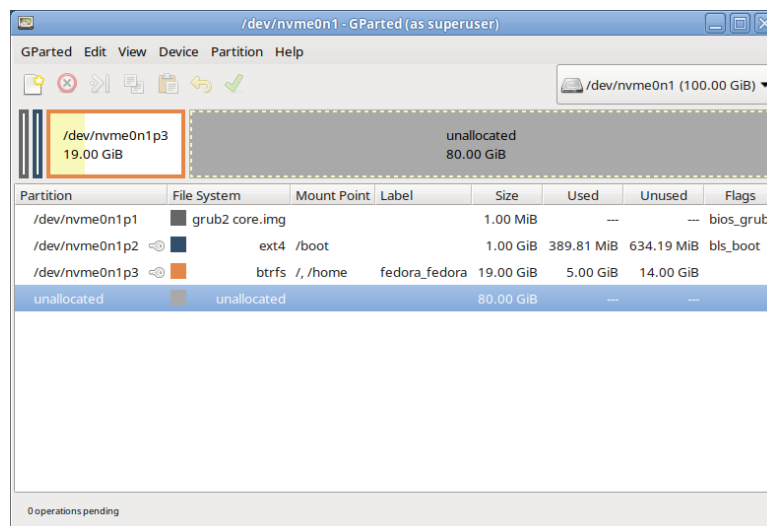


Note the biggest partition is about 19GB and take note the name.

To expand your HD, do the following:

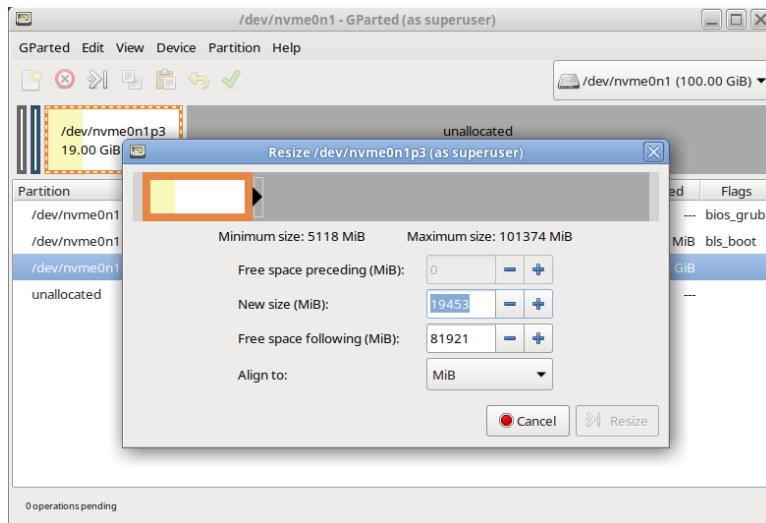
- Shutdown your virtual machine.
- Run VMware workstation.
- Click on Hard Disk. (For F31 next to the Hard Disk is SCSI. For F40 you see NVMe.) You'll see "Capacity: Maximum size 20GB".
- (You might want to click on Compact.)
- Click on "Expand" and then choose Maximum disk size (say 100.0)
- Run your virtual machine.

In your bash shell, run `su` to be root. Run `gparted`:

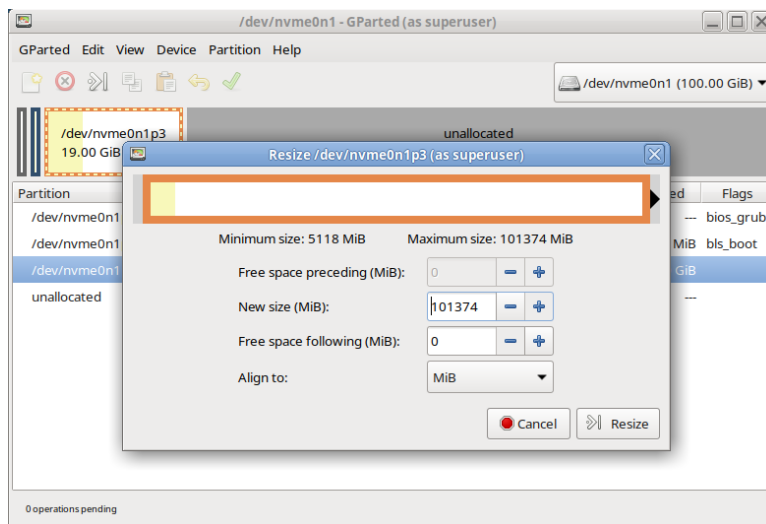


Right click on `/dev/nvme0n1p3` (the largest partition) and select `Resize/Move`:

## EXPAND VIRTUAL MACHINE STORAGE

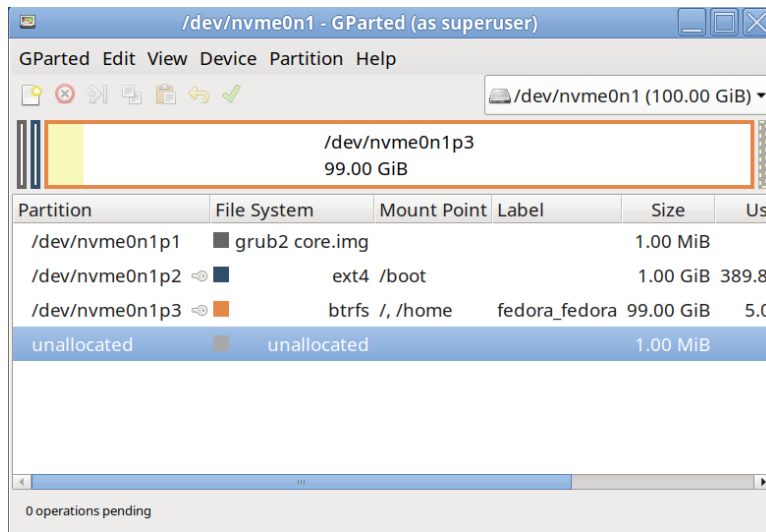


Make this partition as large as possible:



Click on the green arrow and Apply All Operations.

Run `gparted` again and you'll see:



Note the size of the largest partition is now largest. And `df` gives

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
/dev/nvme0n1p3	103805952	5637244	97872372	6%	/
devtmpfs	4096	0	4096	0%	/dev
tmpfs	976956	0	976956	0%	/dev/shm
tmpfs	390784	1392	389392	1%	/run
tmpfs	976960	36	976924	1%	/tmp
/dev/nvme0n1p2	996780	347368	580600	38%	/boot
/dev/nvme0n1p3	103805952	5637244	97872372	6%	/home
tmpfs	195388	144	195244	1%	/run/user/1000

For F31, you'll also need to do the following. In your bash shell, run

```
lvm lvresize --verbose --resizefs -L 70G /dev/mapper/fedora-root
```

replacing 70G with whatever is appropriate. Run

```
df
```

again and check that `/dev/mapper/fedora-root` is larger.