

Disk partition

```
hitendra@hitendra-VM:~$ 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      62M 1 loop /snap/core20/1587
loop2       7:2    0     63.3M 1 loop /snap/core20/1852
loop3       7:3    0       73M 1 loop /snap/core22/607
loop4       7:4    0    163.3M 1 loop /snap/firefox/1635
loop5       7:5    0    400.8M 1 loop /snap/gnome-3-38-2004/112
loop6       7:6    0    460.4M 1 loop /snap/gnome-42-2204/68
loop7       7:7    0    91.7M 1 loop /snap/gtk-common-themes/1535
loop8       7:8    0    349.7M 1 loop /snap/gnome-3-38-2004/137
loop9       7:9    0    45.9M 1 loop /snap/snap-store/638
loop10      7:10   0    49.8M 1 loop /snap/snapd/18596
loop11      7:11   0    45.9M 1 loop /snap/snap-store/582
loop12      7:12   0    284K 1 loop /snap/snapd-desktop-integration/14
loop13      7:13   0    428K 1 loop /snap/snapd-desktop-integration/57
loop14      7:14   0    241.9M 1 loop /snap/firefox/2559
loop15      7:15   0     9.6M 1 loop /snap/htop/3654
sda         8:0    0     32G 0 disk 
├─sda1      8:1    0       1M 0 part 
├─sda2      8:2    0     513M 0 part /boot/efi
├─sda3      8:3    0    31.5G 0 part /var/snap/firefox/common/host-hunspell
└─sda4      8:4    0   1007.5K 0 part 
sr0        11:0    1    126.8M 0 rom  /media/hitendra/CDROM
sr1        11:1    1     3.6G 0 rom  /media/hitendra/Ubuntu 22.04.1 LTS amd64
hitendra@hitendra-VM:~$
```

```
hitendra@hitendra-VM:~$ sudo fdisk -l
Disk /dev/loop0: 4 KiB, 4096 bytes, 8 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/loop1: 61.96 MiB, 64970752 bytes, 126896 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

```
Disk /dev/sda: 32 GiB, 34359738368 bytes, 67108864 sectors
Disk model: VMware Virtual S
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 2B7A1A7E-B102-4231-99A9-000440F2E64B

Device        Start      End  Sectors  Size Type
/dev/sda1      2048      4095     2048    1M BIOS boot
/dev/sda2      4096   1054719   1050624   513M EFI System
/dev/sda3   1054720  67106815  66052096  31.5G Linux filesystem
```

```
hitendra@hitendra-VM:~$ sudo fdisk /dev/sda

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.

This disk is currently in use - repartitioning is probably a bad idea.
It's recommended to umount all file systems, and swapoff all swap
partitions on this disk.
```

```
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/dev/sda1    2048      4095    2048     1M BIOS boot
/dev/sda2    4096   1054719  1050624   513M EFI System
/dev/sda3   1054720  67106815 66052096  31.5G Linux filesystem
/dev/sda4   67106816 67108830    2015   1007.5K Linux filesystem
```

Save & Exit

w write table to disk and exit
q quit without saving changes

Create a new label

g create a new empty GPT partition table
G create a new empty SGI (IRIX) partition table
o create a new empty DOS partition table
s create a new empty Sun partition table

Command (m for help): n

Partition number (4-128, default 4): 4

First sector (34-67108830, default 67106816):

Last sector, +/-sectors or +/-size[K,M,G,T,P] (67106816-67108830, default 67108830): '+1G'

Last sector, +/-sectors or +/-size[K,M,G,T,P] (67106816-67108830, default 67108830):

Created a new partition 4 of type 'Linux filesystem' and of size 1007.5 KiB.

Command (m for help): w

The partition table has been altered.

Syncing disks.

Command (m for help): p

Disk /dev/sda: 32 GiB, 34359738368 bytes, 67108864 sectors

Disk model: VMware Virtual S

Units: sectors of 1 * 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes

I/O size (minimum/optimal): 512 bytes / 512 bytes

Disklabel type: gpt

Disk identifier: 2B7A1A7E-B102-4231-99A9-000440F2E64B

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	1054719	1050624	513M	EFI System
/dev/sda3	1054720	67106815	66052096	31.5G	Linux filesystem
/dev/sda4	67106816	67108830	2015	1007.5K	Linux filesystem

Command (m for help): d

Partition number (1-4, default 4): 4

Partition 4 has been deleted.

Command (m for help): p

Disk /dev/sda: 32 GiB, 34359738368 bytes, 67108864 sectors

Disk model: VMware Virtual S

Units: sectors of 1 * 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes

I/O size (minimum/optimal): 512 bytes / 512 bytes

Disklabel type: gpt

Disk identifier: 2B7A1A7E-B102-4231-99A9-000440F2E64B

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	1054719	1050624	513M	EFI System
/dev/sda3	1054720	67106815	66052096	31.5G	Linux filesystem

Process management

To check running processes

```
Activities Terminal Apr 17 16:41 hitendra@hitendra-VM: ~
hitendra@hitendra-VM: ~$ ps
  PID TTY          TIME CMD
  3161 pts/0    00:00:00 bash
  4621 pts/0    00:00:00 ps
hitendra@hitendra-VM: ~$
```

To check running processes including processes running in background

```
Activities Terminal Apr 17 16:44 hitendra@hitendra-VM: ~
hitendra@hitendra-VM: ~$ ps -ef
UID          PID    PPID  C STIME TTY          TIME CMD
root           1        0  0 16:04 ?        00:00:00 /sbin/init auto noprompt splash
root           2        0  0 16:04 ?        00:00:00 [kthreadd]
root           3        2  0 16:04 ?        00:00:00 [rcu_gp]
root           4        2  0 16:04 ?        00:00:00 [rcu_par_gp]
root           5        2  0 16:04 ?        00:00:00 [slub_flushwq]
root           6        2  0 16:04 ?        00:00:00 [netns]
root           8        2  0 16:04 ?        00:00:00 [kworker/0:0H-events_highpri]
root          10        2  0 16:04 ?        00:00:00 [mm_percpu_wq]
root          11        2  0 16:04 ?        00:00:00 [rcu_tasks_kthread]
root          12        2  0 16:04 ?        00:00:00 [rcu_tasks_rude_kthread]
root          13        2  0 16:04 ?        00:00:00 [rcu_tasks_trace_kthread]
root          14        2  0 16:04 ?        00:00:00 [ksoftirqd/0]
root          15        2  0 16:04 ?        00:00:03 [rcu_preempt]
root          16        2  0 16:04 ?        00:00:00 [migration/0]
root          17        2  0 16:04 ?        00:00:00 [idle_inject/0]
root          19        2  0 16:04 ?        00:00:00 [cpuhp/0]
root          20        2  0 16:04 ?        00:00:00 [cpuhp/1]
root          21        2  0 16:04 ?        00:00:00 [idle_inject/1]
root          22        2  0 16:04 ?        00:00:01 [migration/1]
root          23        2  0 16:04 ?        00:00:00 [ksoftirqd/1]
root          25        2  0 16:04 ?        00:00:00 [kworker/1:0H-events_highpri]
root          26        2  0 16:04 ?        00:00:00 [kdevtmpfs]
root          27        2  0 16:04 ?        00:00:00 [inet_frag_wq]
root          28        2  0 16:04 ?        00:00:00 [kauditd]
root          30        2  0 16:04 ?        00:00:00 [khungtaskd]
root          33        2  0 16:04 ?        00:00:00 [oom_reaper]
root          34        2  0 16:04 ?        00:00:00 [writeback]
root          35        2  0 16:04 ?        00:00:00 [kcompactd0]
root          36        2  0 16:04 ?        00:00:00 [ksmd]
root          37        2  0 16:04 ?        00:00:00 [khugepaged]
root          38        2  0 16:04 ?        00:00:00 [kintegrityd]
root          39        2  0 16:04 ?        00:00:00 [kblockd]
root          40        2  0 16:04 ?        00:00:00 [blkcg_punt_bio]
root          42        2  0 16:05 ?        00:00:00 [tpm_dev_wq]
```

To kill a running process

```
hitendra 3557      2  0 16:40 ?        00:00:00 [kworker/1:0-events]
hitendra 4058     3907  0 16:40 ?        00:00:00 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -parentBuildID 20230411042149 -prefsLen 26
hitendra 4078     3907  1 16:40 ?        00:00:02 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -childID 1 -isForBrowser -prefsLen 26410 -
hitendra 4114    1633  0 16:40 ?        00:00:00 /usr/bin/snap userd
hitendra 4252     3907  0 16:40 ?        00:00:00 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -childID 2 -isForBrowser -prefsLen 31789 -
hitendra 4359      2  0 16:40 ?        00:00:00 [kworker/u256:3-flush-8:0]
hitendra 4548     3907  0 16:40 ?        00:00:00 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -childID 3 -isForBrowser -prefsLen 28823 -
hitendra 4550     3907  0 16:40 ?        00:00:00 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -childID 4 -isForBrowser -prefsLen 28823 -
hitendra 4558     3907  0 16:41 ?        00:00:00 /snap/firefox/2559/usr/lib/firefox/firefox -contentproc -childID 5 -isForBrowser -prefsLen 28823 -
root       4668      2  0 16:43 ?        00:00:00 [kworker/u257:1-hci1]
root       4690      2  0 16:43 ?        00:00:00 [krfconmd]
hitendra 4694     3161  0 16:44 pts/0    00:00:00 ps -ef
hitendra@hitendra-VM: ~$ kill 3907
hitendra@hitendra-VM: ~$
```

AWK commands

```
hitendra@hitendra-VM:~/Hitendra$ awk '{print}' employee.txt
Hitendra Mhatre 26 trainee
Rayan Khan 28 Senior_Engineer
Rashmi Patil 32 Manager
hitendra@hitendra-VM:~/Hitendra$ awk '{ print $1,$3}' employee.txt
Hitendra 26
Rayan 28
Rashmi 32
hitendra@hitendra-VM:~/Hitendra$ awk '{ if ($2=="Khan") print}' employee.txt
Rayan Khan 28 Senior_Engineer
hitendra@hitendra-VM:~/Hitendra$ awk '{ sum += $3} END { print sum }' employee.txt
86
hitendra@hitendra-VM:~/Hitendra$ awk '{ sum += $3} END { print sum/NR }' employee.txt
28.6667
hitendra@hitendra-VM:~/Hitendra$ awk ' END { print NR }' employee.txt
3
hitendra@hitendra-VM:~/Hitendra$ awk ' { if (length > max) {max=length; longest=$0}}END { print longest}' employee.txt
Rayan Khan 28 Senior_Engineer
hitendra@hitendra-VM:~/Hitendra$
```

Tar commands

```
hitendra@hitendra-VM:~/Hitendra$ cd ..
hitendra@hitendra-VM:~$ tar -cvf Hitendra.tar Hitendra
Hitendra/
Hitendra/Linux.txt
Hitendra/file.txt
Hitendra/employee.txt
Hitendra/newfile.txt
hitendra@hitendra-VM:~$ tar -xvf Hitendra.tar
Hitendra/
Hitendra/Linux.txt
Hitendra/file.txt
Hitendra/employee.txt
Hitendra/newfile.txt
hitendra@hitendra-VM:~$ tar -jcvf Hitendra.tar.bz2 Hitendra.tar
Hitendra.tar
hitendra@hitendra-VM:~$
```