

```
joe@fs:~$ sudo parted -l
[sudo] password for joe:
Model: ATA QEMU HARDDISK (scsi)
Disk /dev/sda: 8590MB
Sector size (logical/physical): 512B/512B
Partition Table: gpt
Disk Flags:
```

Number	Start	End	Size	File system	Name	Flags
1	1049kB	2097kB	1049kB			bios_grub
2	2097kB	6445MB	6442MB	ext4		
3	6445MB	6981MB	537MB	linux-swap(v1)		swap

```
joe@fs:~$ █
```



joe@fs: ~



```
joe@fs:~$ sudo cfdisk /dev/sda
```

**Disk: /dev/sda**

Size: 8 GiB, 8589934592 bytes, 16777216 sectors

Label: gpt, identifier: 9D74B84D-9EF7-44B5-9C6B-568B6ACCF9E0

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	12587007	12582912	6G	Linux filesystem
/dev/sda3	12587008	13635583	1048576	512M	Linux swap
>> Free space	13635584	16777182	3141599	1.5G	

Partition size: 100M

May be followed by M for MiB, G for GiB, T for TiB, or S for sectors.

**Disk: /dev/sda**

Size: 8 GiB, 8589934592 bytes, 16777216 sectors

Label: gpt, identifier: 9D74B84D-9EF7-44B5-9C6B-568B6ACCF9E0

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	12587007	12582912	6G	Linux filesystem
/dev/sda3	12587008	13635583	1048576	512M	Linux swap
>> /dev/sda4	13635584	13840383	204800	100M	Linux filesystem
/dev/sda5	13840384	14045183	204800	100M	Linux filesystem
Free space	14045184	16777182	2731999	1.3G	

Partition UUID: BF6094CB-9586-DB4E-A7E3-1B218E5EC985

Partition type: Linux filesystem (0FC63DAF-8483-4772-8E79-3D69D8477DE4)

[Delete] [Resize] [Quit] [**Type**] [Help] [Write] [Dump]**Change the partition type**

**Select partition type**

EFI System

MBR partition scheme

Intel Fast Flash

BIOS boot

Sony boot partition

Lenovo boot partition

PowerPC PReP boot

ONIE boot

ONIE config

Microsoft reserved

Microsoft basic data

Microsoft LDM metadata

Microsoft LDM data

Windows recovery environment

IBM General Parallel Fs

Microsoft Storage Spaces

HP-UX data

HP-UX service

Linux swap

Linux filesystem



0FC63DAF-8483-4772-8E79-3D69D8477DE4

**Disk: /dev/sda**

Size: 8 GiB, 8589934592 bytes, 16777216 sectors

Label: gpt, identifier: 9D74B84D-9EF7-44B5-9C6B-568B6ACCF9E0

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	12587007	12582912	6G	Linux filesystem
/dev/sda3	12587008	13635583	1048576	512M	Linux swap
/dev/sda4	13635584	13840383	204800	100M	Linux filesystem
/dev/sda5	13840384	14045183	204800	100M	Linux filesystem
>> Free space	14045184	16777182	2731999	1.3G	

[New] [Quit] [Help] [Write] [Dump]

Write partition table to disk (this might destroy data)

**Disk: /dev/sda**

Size: 8 GiB, 8589934592 bytes, 16777216 sectors

Label: gpt, identifier: 9D74B84D-9EF7-44B5-9C6B-568B6ACCF9E0

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	12587007	12582912	6G	Linux filesystem
/dev/sda3	12587008	13635583	1048576	512M	Linux swap
/dev/sda4	13635584	13840383	204800	100M	Linux filesystem
/dev/sda5	13840384	14045183	204800	100M	Linux filesystem
>> Free space	14045184	16777182	2731999	1.3G	

Are you sure you want to write the partition table to disk? yes

Type "yes" or "no", or press ESC to leave this dialog.



joe@fs: ~



```
joe@fs:~$ sudo fdisk -l
```




joe@fs: ~



```
joe@fs:~$ sudo mkfs.ext4 /dev/sda4
```



```
joe@fs:~$ echo "Create a mount point for the new fs"
```

```
Create a mount point for the new fs
```

```
joe@fs:~$ sudo mkdir /class
```

```
joe@fs:~$ sudo mkdir /class/linuxmount
```

```
joe@fs:~$ █
```



```
joe@fs:~$ echo "Mount it to those direcotries"
```

```
Mount it to those direcotries
```

```
joe@fs:~$ mount /dev/sda4 /class/linuxmount/
```

```
mount: only root can do that
```

```
joe@fs:~$ sudo mount /dev/sda4 /class/linuxmount/
```

```
joe@fs:~$
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596728	3199484	45%	/
tmpfs	1017692	0	1017692	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
/dev/loop0	30720	30720	0	100%	/snap/snapd/8542
/dev/loop1	56320	56320	0	100%	/snap/core18/1880
/dev/loop2	73088	73088	0	100%	/snap/lxd/16099
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount

```
joe@fs:~$
```



joe@fs: ~



```
joe@fs:~$ mount | grep sda4  
/dev/sda4 on /class/linuxmount type ext4 (rw,relatime)  
joe@fs:~$
```



```
joe@fs:~$ cd /class/linuxmount/
```

```
joe@fs:/class/linuxmount$ ls
```

```
lost+found
```

```
joe@fs:/class/linuxmount$ touch newfile.txt
```

```
touch: cannot touch 'newfile.txt': Permission denied
```

```
joe@fs:/class/linuxmount$ sudo touch newfile.txt
```

```
joe@fs:/class/linuxmount$ █
```

```
joe@fs:~$ sudo umount /class/linuxmount
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596728	3199484	45%	/
tmpfs	1017692	0	1017692	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
/dev/loop0	30720	30720	0	100%	/snap/snapd/8542
/dev/loop1	56320	56320	0	100%	/snap/core18/1880
/dev/loop2	73088	73088	0	100%	/snap/lxd/16099
tmpfs	203536	0	203536	0%	/run/user/1000

```
joe@fs:~$ █
```

```
# /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/sda2 during curtin installation
/dev/disk/by-uuid/9b784bc2-085b-4c17-9983-1e00fc30a471 / ext4 defaults 0 0
/dev/disk/by-uuid/46324a17-61f3-43b2-9261-d9df8207b9d8 none swap sw 0 0
```

```
# these are added by me for that new mount
/dev/sda4 /class/linuxmount ext4 defaults 0 0
```

```
~
```

```
~
```

```
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```
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```
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```
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```
~
```

```
~
```

```
"/etc/fstab" 13L, 609C written
```

```
13,46
```

```
All
```



```
joe@fs:~$ sudo vi /etc/fstab
```

```
[1]+  Stopped                  sudo vi /etc/fstab
```

```
joe@fs:~$ ls /class/linuxmount/
```

```
joe@fs:~$ fg
```

```
sudo vi /etc/fstab
```

```
joe@fs:~$ sudo mount /dev/sda4
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596732	3199480	45%	/
tmpfs	1017692	0	1017692	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
/dev/loop0	30720	30720	0	100%	/snap/snapd/8542
/dev/loop1	56320	56320	0	100%	/snap/core18/1880
/dev/loop2	73088	73088	0	100%	/snap/lxd/16099
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount

```
joe@fs:~$
```



joe@fs: ~



```
joe@fs:~$ sudo mkfs.vfat /dev/sda5
```

```
mkfs.fat 4.1 (2017-01-24)
```

```
joe@fs:~$
```



joe@fs: ~



```
joe@fs:~$ sudo mkdir /class/vfatmount
```

```
joe@fs:~$ sudo mount /dev/sda5 /class/vfatmount/
```

```
joe@fs:~$ █
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596736	3199476	45%	/
tmpfs	1017692	0	1017692	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
/dev/loop0	30720	30720	0	100%	/snap/snapd/8542
/dev/loop1	56320	56320	0	100%	/snap/core18/1880
/dev/loop2	73088	73088	0	100%	/snap/lxd/16099
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount
/dev/sda5	102182	0	102182	0%	/class/vfatmount

```
joe@fs:~$
```



joe@fs: ~



```
joe@fs:~$ sudo umount /dev/sda5
```

```
joe@fs:~$ ~
```

```
# /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/sda2 during curtin installation
/dev/disk/by-uuid/9b784bc2-085b-4c17-9983-1e00fc30a471 / ext4 defaults 0 0
/dev/disk/by-uuid/46324a17-61f3-43b2-9261-d9df8207b9d8 none swap sw 0 0

# these are added by me for that new mount
/dev/sda4 /class/linuxmount ext4 defaults 0 0
/dev/sda5 /class/vfatmount vfat defaults 0 0
```

~

~

~

~

~

~

~

~

~



joe@fs: ~



```
joe@fs:~$ sudo mount /dev/sda5
```

```
joe@fs:~$ echo "Here is another test for /etc/fstab completeness"
```

```
Here is another test for /etc/fstab completeness
```

```
joe@fs:~$ sudo umount -a
```

```
umount: /run/user/1000: target is busy.
```

```
umount: /sys/fs/cgroup/unified: target is busy.
```

```
umount: /sys/fs/cgroup: target is busy.
```

```
umount: /: target is busy.
```

```
umount: /run: target is busy.
```

```
umount: /dev: target is busy.
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596744	3199468	45%	/
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
tmpfs	203536	0	203536	0%	/run/user/1000

```
joe@fs:~$ sudo mount -a
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	976	202564	1%	/run
/dev/sda2	6127168	2596744	3199468	45%	/
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount
/dev/sda5	102182	0	102182	0%	/class/vfatmount

```
joe@fs:~$
```




joe@fs: ~



```
joe@fs:~$ sudo cfdisk /dev/sda
```



Disk: /dev/sda

Size: 8 GiB, 8589934592 bytes, 16777216 sectors

Label: gpt, identifier: 9D74B84D-9EF7-44B5-9C6B-568B6ACCF9E0

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	4095	2048	1M	BIOS boot
/dev/sda2	4096	12587007	12582912	6G	Linux filesystem
/dev/sda3	12587008	13635583	1048576	512M	Linux swap
/dev/sda4	13635584	13840383	204800	100M	Linux filesystem
/dev/sda5	13840384	14045183	204800	100M	Linux filesystem
>> Free space	14045184	16777182	2731999	1.3G	

[**New**] [Quit] [Help] [Write] [Dump]

Create new partition from free space



joe@fs: ~



```
joe@fs:~$ sudo mkfs.ntfs /dev/sda6
```



joe@fs: ~



```
joe@fs:~$ sudo mkfs.ntfs /dev/sda6
```

```
Cluster size has been automatically set to 4096 bytes.
```

```
Initializing device with zeroes: 100% - Done.
```

```
Creating NTFS volume structures.
```

```
mkntfs completed successfully. Have a nice day.
```

```
joe@fs:~$ █
```



joe@fs: ~



```
joe@fs:~$ sudo mkdir /class/ntfsmount
```



joe@fs: ~



```
joe@fs:~$ sudo mount /dev/sda6 /class/ntfsmount/
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	980	202560	1%	/run
/dev/sda2	6127168	2596748	3199464	45%	/
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount
/dev/sda5	102182	0	102182	0%	/class/vfatmount
/dev/sda6	102396	2500	99896	3%	/class/ntfsmount

```
joe@fs:~$
```



joe@fs: ~



```
joe@fs:~$ sudo umount /dev/sda6
```

```
joe@fs:~$ █
```



```
# /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/sda2 during curtin installation
```

```
/dev/disk/by-uuid/9b784bc2-085b-4c17-9983-1e00fc30a471 / ext4 defaults 0 0
```

```
/dev/disk/by-uuid/46324a17-61f3-43b2-9261-d9df8207b9d8 none swap sw 0 0
```

```
# these are added by me for that new mount
```

```
/dev/sda4 /class/linuxmount ext4 defaults 0 0
```

```
/dev/sda5 /class/vfatmount vfat defaults 0 0
```

```
/dev/sda6 /class/ntfsmount ntfs defaults 0 0
```

```
~
```

```
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```

```
~
```

```
"/etc/fstab" 15L, 701C written
```

```
joe@fs:~$ sudo vi /etc/fstab
```

```
joe@fs:~$ sudo umount -a
```

```
umount: /run/user/1000: target is busy.
```

```
umount: /sys/fs/cgroup/unified: target is busy.
```

```
umount: /sys/fs/cgroup: target is busy.
```

```
umount: /: target is busy.
```

```
umount: /run: target is busy.
```

```
umount: /dev: target is busy.
```

```
joe@fs:~$ sudo mount -a
```

```
joe@fs:~$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	972740	0	972740	0%	/dev
tmpfs	203540	980	202560	1%	/run
/dev/sda2	6127168	2596748	3199464	45%	/
tmpfs	1017692	0	1017692	0%	/sys/fs/cgroup
tmpfs	203536	0	203536	0%	/run/user/1000
/dev/sda4	95088	72	87848	1%	/class/linuxmount
/dev/sda5	102182	0	102182	0%	/class/vfatmount
/dev/sda6	102396	2500	99896	3%	/class/ntfsmount

```
joe@fs:~$
```