

### 1. sudo touch lab5

mount | grep Desktop

dd if=/dev/zero of=tmp/disk.img bs=512 count=40000

```
donia@donia-VirtualBox:~/Desktop$ sudo touch lab5
[sudo] password for donia:
donia@donia-VirtualBox:~/Desktop$ ls
index.html  iti-0  lab5  listing.txt  script.sh
donia@donia-VirtualBox:~/Desktop$ mount | grep Desktop
donia@donia-VirtualBox:~/Desktop$ dd if=/dev/zero of=/tmp/disk.img bs=512 count
=40000
40000+0 records in
40000+0 records out
20480000 bytes (20 MB, 20 MiB) copied, 0.880409 s, 23.3 MB/s
donia@donia-VirtualBox:~/Desktop$
```

### 2. sudo losetup -f

sudo losetup /dev/loop16 /tmp/disk.img

```
donia@donia-VirtualBox:~/Desktop$ sudo losetup -f
[sudo] password for donia:
/dev/loop16
donia@donia-VirtualBox:~/Desktop$ sudo losetup /dev/loop16 /tmp/disk.img
donia@donia-VirtualBox:~/Desktop$ losetup -l | grep 16
/dev/loop16      0      0      0 0 /tmp/disk.img
                  0      512
donia@donia-VirtualBox:~/Desktop$
```

### 3. sudo fdisk /dev/loop16

```
donia@donia-VirtualBox:~/Desktop$ sudo fdisk /dev/loop16

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 0xcc4164a6.

Command (m for help): n
Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-39999, default 2048):
Last sector, +/-sectors or +/-size[K,M,G,T,P] (2048-39999, default 39999):

Created a new partition 1 of type 'Linux' and of size 18.5 MiB.

Command (m for help): p
Disk /dev/loop16: 19.53 MiB, 20480000 bytes, 40000 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
Disklabel type: dos
Disk identifier: 0xcc4164a6
```

```

donia@donia-VirtualBox:~/Desktop$ sudo partprobe /dev/loop16
donia@donia-VirtualBox:~/Desktop$ cat /proc/partitions
major minor #blocks name
7          0      63448 loop0
7          1         4 loop1
7          2     64800 loop2
7          3     74656 loop3
7          4    244856 loop4
7          5    245568 loop5
7          6    410416 loop6
7          7    354640 loop7
11         0    1048575 sr0
8          0   15728640 sda
8          1       1024 sda1
8          2     525312 sda2
8          3   15200256 sda3
7          8     463256 loop8
7          9     93888 loop9
7         10     46964 loop10
7         11     47032 loop11
7         12     51024 loop12
7         13     51036 loop13
7         14        304 loop14
7         15        428 loop15
7         16     20000 loop16
259        0     18976 loop16p1
donia@donia-VirtualBox:~/Desktop$

```

#### 4. `sudo mkfs.ext4 /dev/loop16p1`

```

donia@donia-VirtualBox:~/Desktop$ sudo mkfs.ext4 /dev/loop16p1
mke2fs 1.46.5 (30-Dec-2021)
Discarding device blocks: done
Creating filesystem with 4744 4k blocks and 4752 inodes

Allocating group tables: done
Writing inode tables: done
Creating journal (1024 blocks): done
Writing superblocks and filesystem accounting information: done

donia@donia-VirtualBox:~/Desktop$

```

#### 5. `sudo mount -t auto -v /dev/loop16p1 /mnt`

```

donia@donia-VirtualBox:~/Desktop$ sudo mount -t auto -v /dev/loop16p1 /mnt
mount: /dev/loop16p1 mounted on /mnt.
donia@donia-VirtualBox:~/Desktop$

```



6. sudo touch/mnt/file2.txt

sudo touch/mnt/file3.txt

```
donia@donia-VirtualBox:~/Desktop$ cd /mnt
donia@donia-VirtualBox:/mnt$ ls
lost+found
donia@donia-VirtualBox:/mnt$ sudo touch /mnt/file2.txt
[sudo] password for donia:
donia@donia-VirtualBox:/mnt$ ls
file2.txt  lost+found
donia@donia-VirtualBox:/mnt$ sudo touch /mnt/file3.txt
donia@donia-VirtualBox:/mnt$ ls
file2.txt  file3.txt  lost+found
donia@donia-VirtualBox:/mnt$ mount |grep 16
/dev/loop16p1 on /mnt type ext4 (rw,relatime)
donia@donia-VirtualBox:/mnt$
```

7. sudo umount /mnt

```
donia@donia-VirtualBox:/mnt$ cd
donia@donia-VirtualBox:~$ sudo umount /mnt
donia@donia-VirtualBox:~$ ls /mnt
donia@donia-VirtualBox:~$ cd /mnt
bash: cd: /mnt: No such file or directory
donia@donia-VirtualBox:~$ cd /mnt
donia@donia-VirtualBox:/mnt$ ls
donia@donia-VirtualBox:/mnt$ cd
donia@donia-VirtualBox:~$
```

8. apt-cache search gparted

sudo apt-get install gparted








```
donia@donia-VirtualBox:~$ apt-cache search gparted
gparted - GNOME partition editor
gparted-common - GNOME partition editor -- common data
partitionmanager - file, disk and partition management for KDE
donia@donia-VirtualBox:~$ sudo apt-get install gparted
[sudo] password for donia:
Sorry, try again.
[sudo] password for donia:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi i965-va-driver
intel-media-va-driver libaacs0 libaom3 libass9 libavcodec58 libavformat58
libavutil56 libbdplus0 libblas3 libbluray2 libbs2b0 libchromaprint1
libcodec2-1.0 libdavid5 libflite1 libgme0 libgsm1
libgstreamer-plugins-bad1.0-0 libigdgmm12 liblilv-0-0 libllvm15 libmfx1
libmysofa1 libnorm1 libopenmpt0 libpgm-5.3-0 libpostproc55 librabbitmq4
librubberband2 libserd-0-0 libshine3 libsnappy1v5 libsord-0-0 libsratom-0-0
libsrt1.4-gnutls libssh-gcrypt-4 libswresample3 libswscale5 libudfread0
libva-drm2 libva-wayland2 libva-x11-2 libva2 libvdpau1 libvidstab1.1
libx265-199 libxvidcore4 libzimg2 libzmq5 libzvbi-common libzvbi0
mesa-va-drivers mesa-vdpau-drivers pocketsphinx-en-us systemd-hwe-hwdb
va-driver-all vdpau-driver-all
Use 'sudo apt autoremove' to remove them.
```

## 9. sudo gparted /dev/loop16p1

```
donia@donia-VirtualBox:~$ sudo gparted /dev/loop16p1
[sudo] password for donia:
GParted 1.3.1
configuration --enable-libparted-dmraid --enable-online-resize
libparted 3.4
donia@donia-VirtualBox:~$
```


/dev/loop16p1 - GParted

GParted Edit View Device Partition Help



/dev/loop16p1 (18.53 MiB) v

/dev/loop16p1  
18.53 MiB

Partition	File System	Size	Used	Unused	Flags
/dev/loop16p1	 ext4	18.53 MiB	5.23 MiB	13.30 MiB	

0 operations pending