

Assignment Day 5 | 4th December 2020

Earlier Configuration in VM.

```
File Edit View Search Terminal Help
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                8:0    0   8G  0
├─sda1                            8:1    0 500M  0 /boot
├─sda2                            8:2    0 7.5G  0
│   └─vg_sonam-lv_root (dm-0) 253:0    0   6G  0 /
│       └─vg_sonam-lv_swap (dm-1) 253:1    0 1.5G  0 [SWAP]
sr0                               11:0    1 1024M  0
[root@sonam Desktop]# cat /proc/partitions
major minor #blocks name

 8         0   8388608 sda
 8         1   512000 sda1
 8         2  7875584 sda2
253        0  6266880 dm-0
253        1  1605632 dm-1
[root@sonam Desktop]# █
```

```
[root@sonam Desktop]# fdisk -l

Disk /dev/sda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x000b0a33

   Device Boot      Start         End      Blocks    Id  System
/dev/sda1 *           1           64     512000    83  Linux
Partition 1 does not end on cylinder boundary.
/dev/sda2             64        1045     7875584    8e  Linux LVM

Disk /dev/mapper/vg_sonam-lv_root: 6417 MB, 6417285120 bytes
255 heads, 63 sectors/track, 780 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

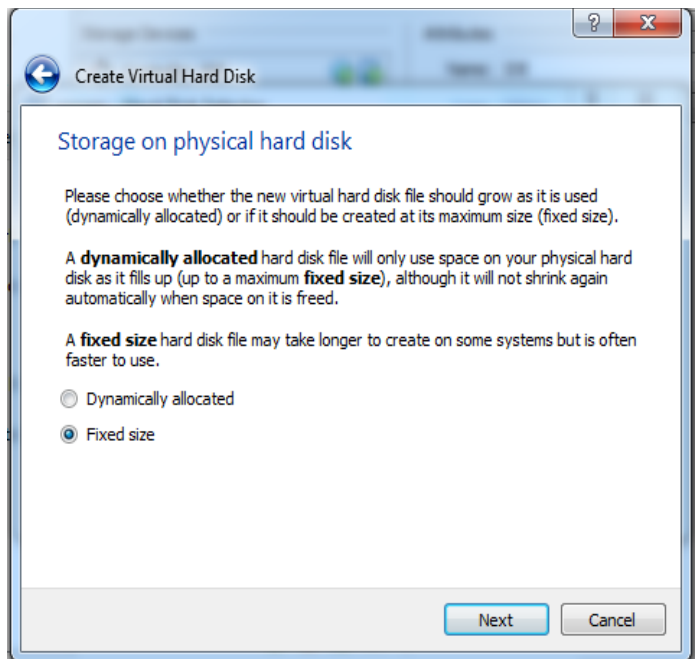
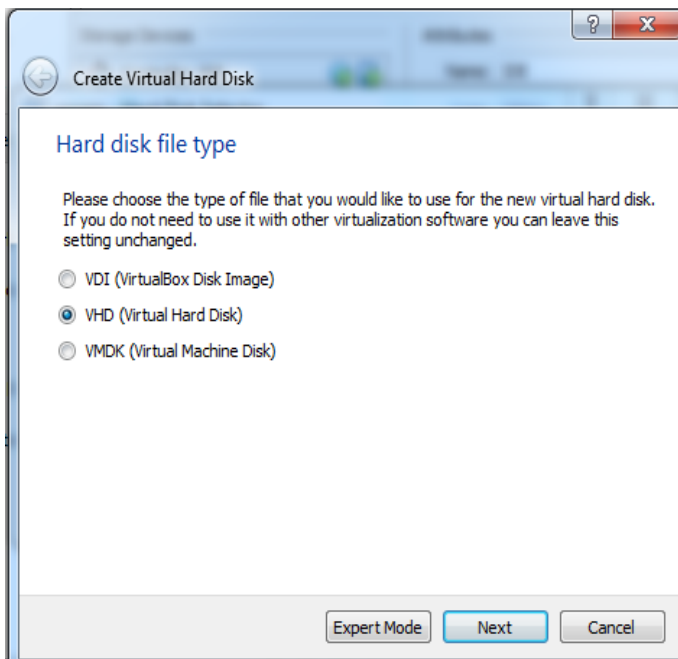
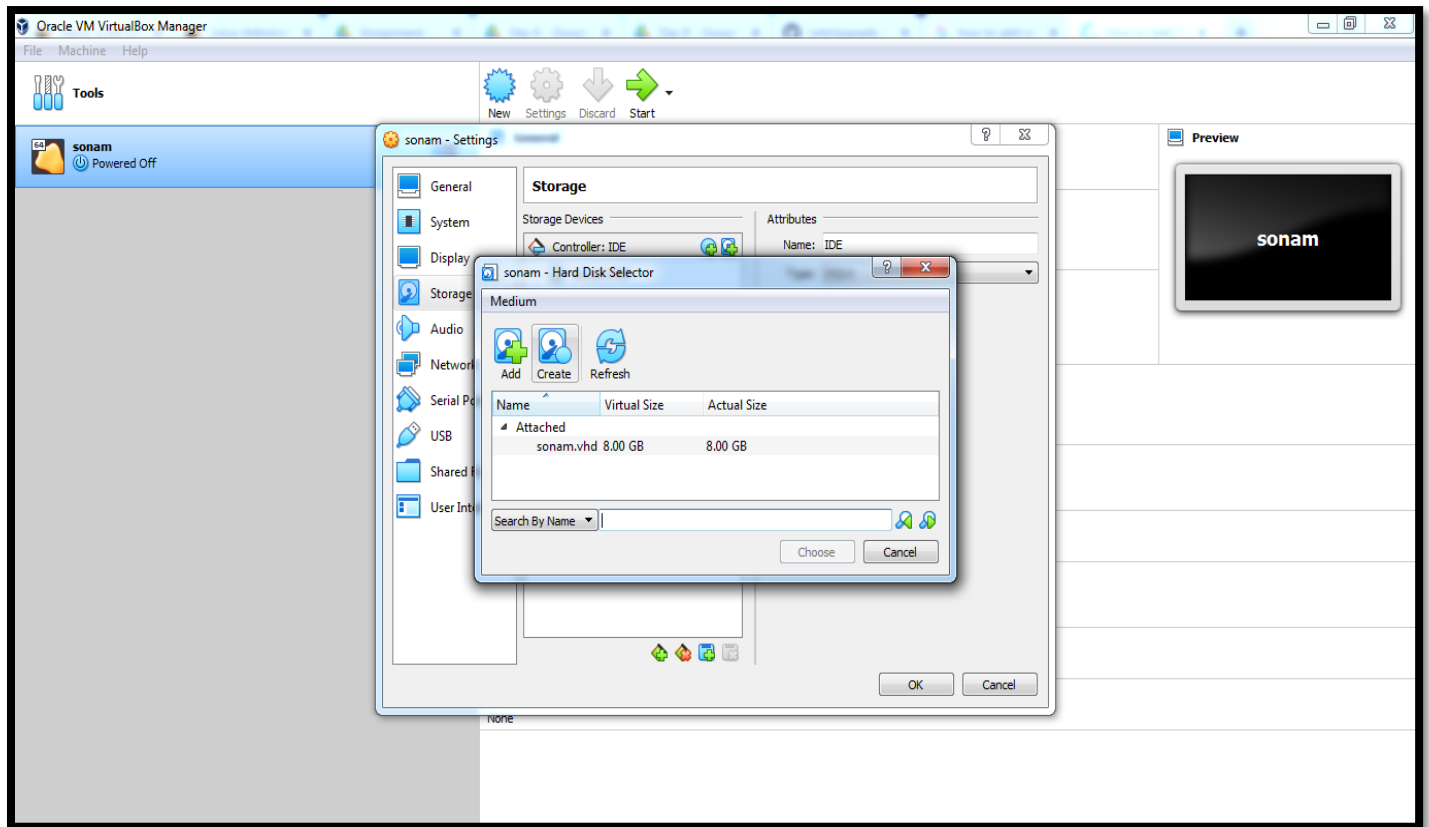
Disk /dev/mapper/vg_sonam-lv_root doesn't contain a valid partition table

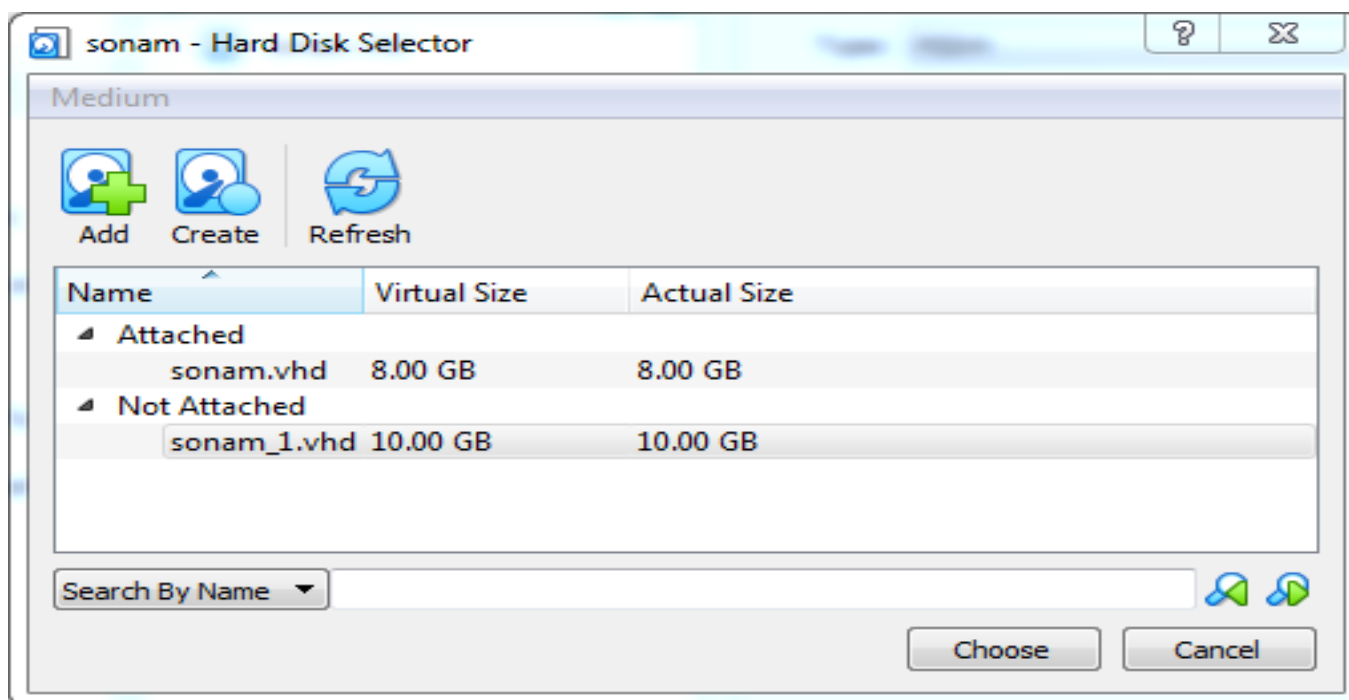
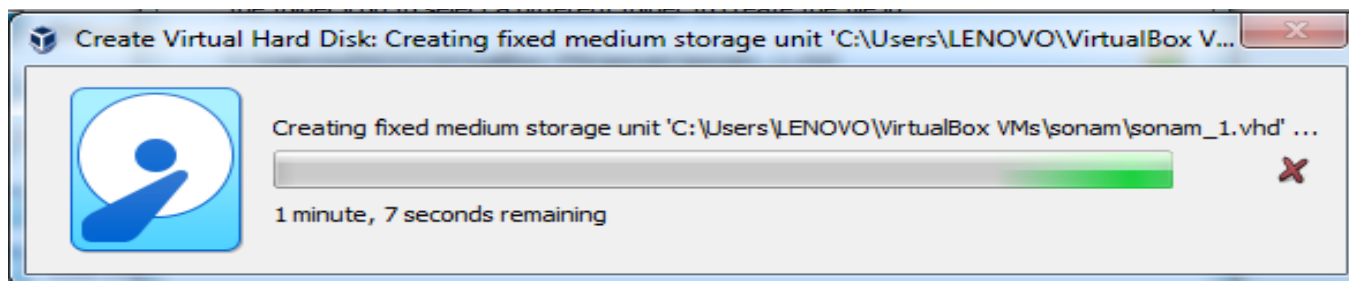
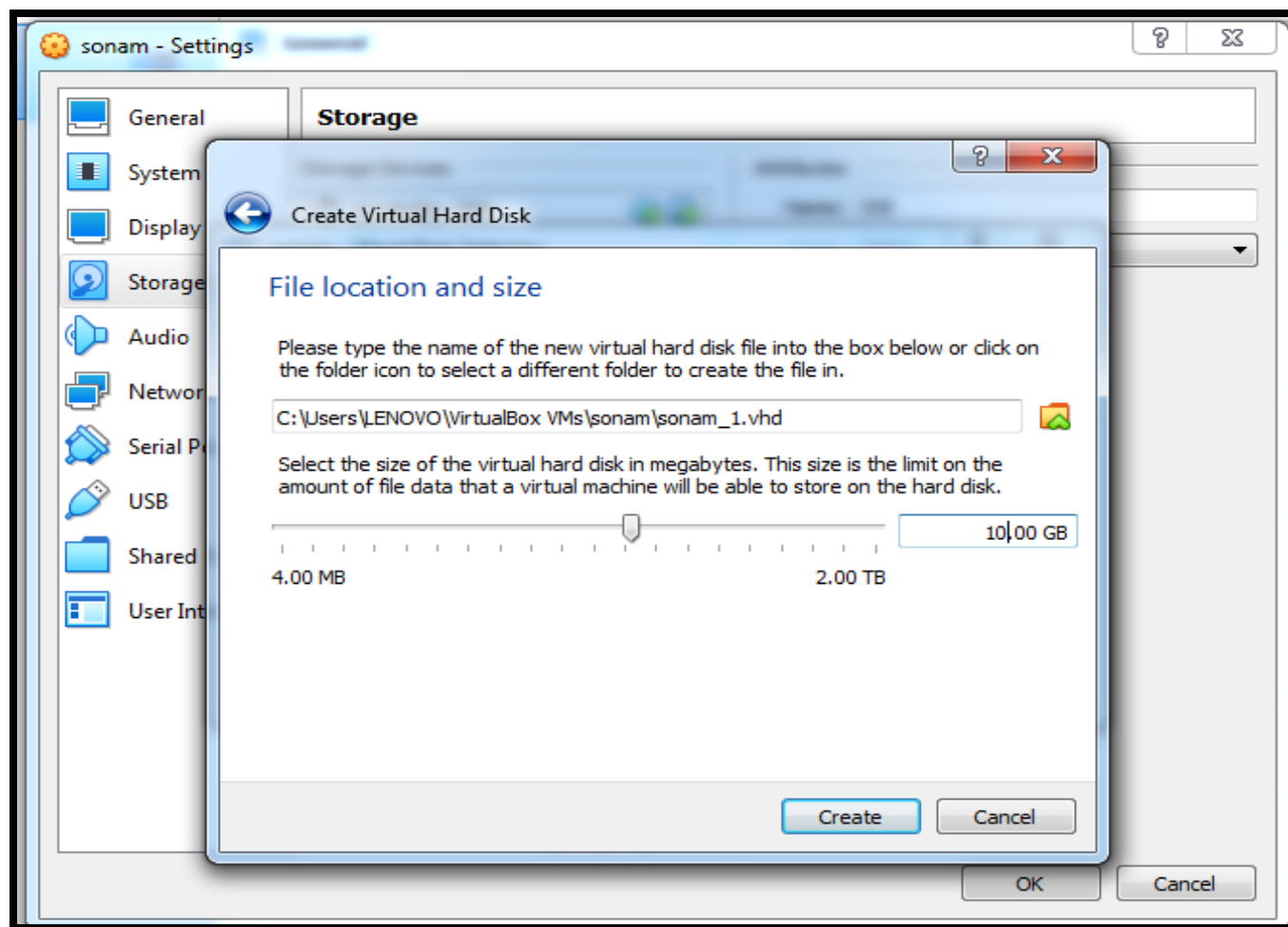
Disk /dev/mapper/vg_sonam-lv_swap: 1644 MB, 1644167168 bytes
255 heads, 63 sectors/track, 199 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000

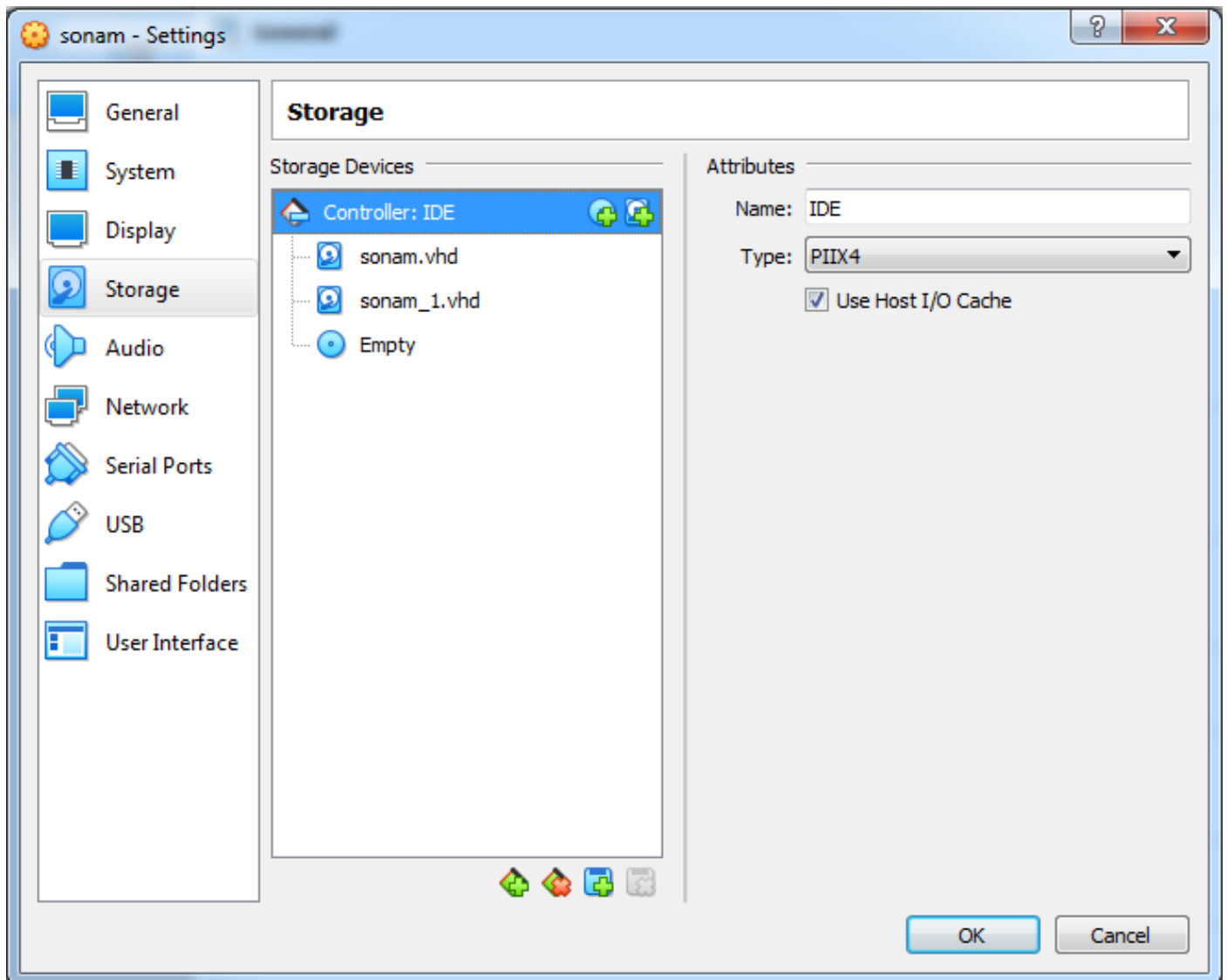
Disk /dev/mapper/vg_sonam-lv_swap doesn't contain a valid partition table
[root@sonam Desktop]# █

root@sonam: ~/Desktop
```

1. Add a 10GB disk to the CentOS.







```

root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                  8:0    0   8G  0
├─sda1                              8:1    0 500M  0 /boot
└─sda2                              8:2    0  7.5G  0
   ├─vg_sonam-lv_root (dm-0) 253:0    0    6G  0 /
   └─vg_sonam-lv_swap (dm-1) 253:1    0  1.5G  0 [SWAP]
sdb                                  8:16   0   10G  0
sr0                                 11:0    1 1024M  0
[root@sonam Desktop]# cat /proc/partitions
major minor #blocks name
 8         0   8388608 sda
 8         1   512000 sda1
 8         2  7875584 sda2
 8        16 10485760 sdb
253         0  6266880 dm-0
253         1  1605632 dm-1

```

```
[root@sonam Desktop]# fdisk -l
```

```
Disk /dev/sda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x000b0a33
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sda1	*	1	64	512000	83	Linux

Partition 1 does not end on cylinder boundary.

/dev/sda2		64	1045	7875584	8e	Linux LVM
-----------	--	----	------	---------	----	-----------

```
Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000
```

```
Disk /dev/sdb doesn't contain a valid partition table
```

```
Disk /dev/mapper/vg_sonam-lv_root: 6417 MB, 6417285120 bytes
255 heads, 63 sectors/track, 780 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000
```

```
Disk /dev/mapper/vg_sonam-lv_root doesn't contain a valid partition table
```

```
Disk /dev/mapper/vg_sonam-lv_swap: 1644 MB, 1644167168 bytes
255 heads, 63 sectors/track, 199 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

2. Create 2 Partitions 4GB and 6GB of Space respectively.

```
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                  8:0    0   8G  0
├─sda1                              8:1    0  500M  0 /boot
├─sda2                              8:2    0   7.5G  0
│   └─vg_sonam-lv_root (dm-0) 253:0    0    6G  0 /
│   └─vg_sonam-lv_swap (dm-1) 253:1    0   1.5G  0 [SWAP]
sdb                                  8:16    0   10G  0
sr0                                 11:0    1 1024M  0

[root@sonam Desktop]# fdisk /dev/sd
sda sda1 sda2 sdb
[root@sonam Desktop]# fdisk /dev/sdb
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF disklabel
Building a new DOS disklabel with disk identifier 0x978622e0.
Changes will remain in memory only, until you decide to write them.
After that, of course, the previous content won't be recoverable.

Warning: invalid flag 0x0000 of partition table 4 will be corrected by w(rite)

WARNING: DOS-compatible mode is deprecated. It's strongly recommended to
switch off the mode (command 'c') and change display units to
sectors (command 'u').

Command (m for help): m
Command action
a toggle a bootable flag
b edit bsd disklabel
c toggle the dos compatibility flag
d delete a partition
l list known partition types
m print this menu
n add a new partition
o create a new empty DOS partition table
p print the partition table
q quit without saving changes
s create a new empty Sun disklabel
t change a partition's system id
```

root@sonam:~/Desktop

Command (m for help): p

Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x978622e0

Device	Boot	Start	End	Blocks	Id	System
--------	------	-------	-----	--------	----	--------

Command (m for help):

root@sonam:~/Desktop

Command (m for help): p

Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x978622e0

Device	Boot	Start	End	Blocks	Id	System
--------	------	-------	-----	--------	----	--------

Command (m for help): n

Command action

e extended

p primary partition (1-4)

p

Partition number (1-4): 1

First cylinder (1-1305, default 1): 1

Last cylinder, +cylinders or +size{K,M,G} (1-1305, default 1305): +4G

Command (m for help): p

Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x978622e0

Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1		1	523	4200966	83	Linux

Command (m for help): n

Command action

e extended

p primary partition (1-4)

p

Partition number (1-4): 2

First cylinder (524-1305, default 524): 524

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305): +6G

Value out of range.

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305): +6284794K

Value out of range.

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305): +6284793K

Value out of range.

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305): +6284700K

Value out of range.

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305): +6G

Value out of range.

Last cylinder, +cylinders or +size{K,M,G} (524-1305, default 1305):

Using default value 1305

Command (m for help): p

Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x978622e0

Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1		1	523	4200966	83	Linux
/dev/sdb2		524	1305	6281415	83	Linux

Command (m for help): █

```
Command (m for help): w
The partition table has been altered!
```

```
Calling ioctl() to re-read partition table.
```

```
Syncing disks.
```

```
[root@sonam Desktop]# lsblk
```

NAME	MAJ:MIN	RM	SIZE	RO	MOUNTPOINT
sda	8:0	0	8G	0	
└─sda1	8:1	0	500M	0	/boot
└─sda2	8:2	0	7.5G	0	
└─vg_sonam-lv_root (dm-0)	253:0	0	6G	0	/
└─vg_sonam-lv_swap (dm-1)	253:1	0	1.5G	0	[SWAP]
sdb	8:16	0	10G	0	
└─sdb1	8:17	0	4G	0	
└─sdb2	8:18	0	6G	0	
sr0	11:0	1	1024M	0	

```
[root@sonam Desktop]#
```

```
File Edit View Search Terminal Help
```

```
[root@sonam Desktop]# fdisk -l
```

```
Disk /dev/sda: 8589 MB, 8589934592 bytes
255 heads, 63 sectors/track, 1044 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x000b0a33
```

Device	Boot	Start	End	Blocks	Id	System
/dev/sda1	*	1	64	512000	83	Linux

Partition 1 does not end on cylinder boundary.

/dev/sda2		64	1045	7875584	8e	Linux LVM
-----------	--	----	------	---------	----	-----------

```
Disk /dev/sdb: 10.7 GB, 10737418240 bytes
255 heads, 63 sectors/track, 1305 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x978622e0
```

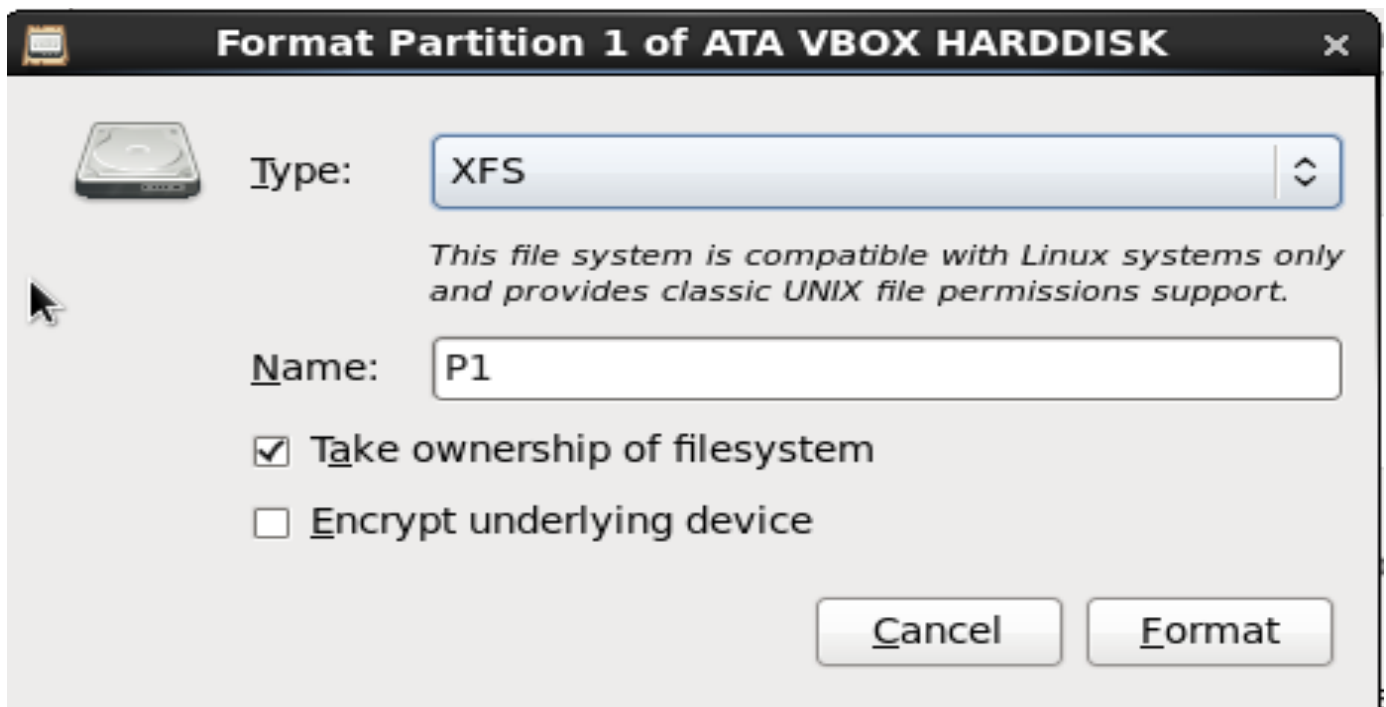
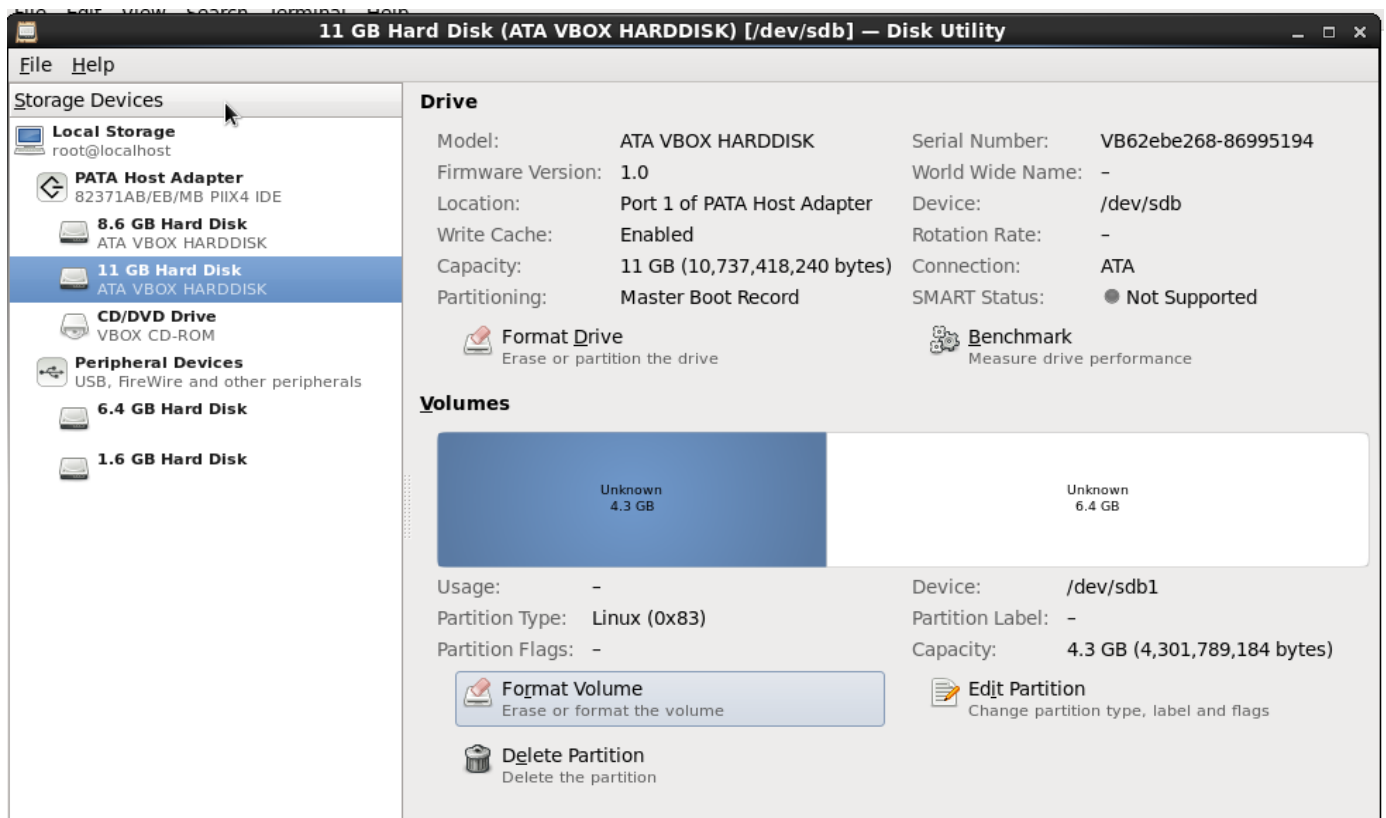
Device	Boot	Start	End	Blocks	Id	System
/dev/sdb1		1	523	4200966	83	Linux
/dev/sdb2		524	1305	6281415	83	Linux

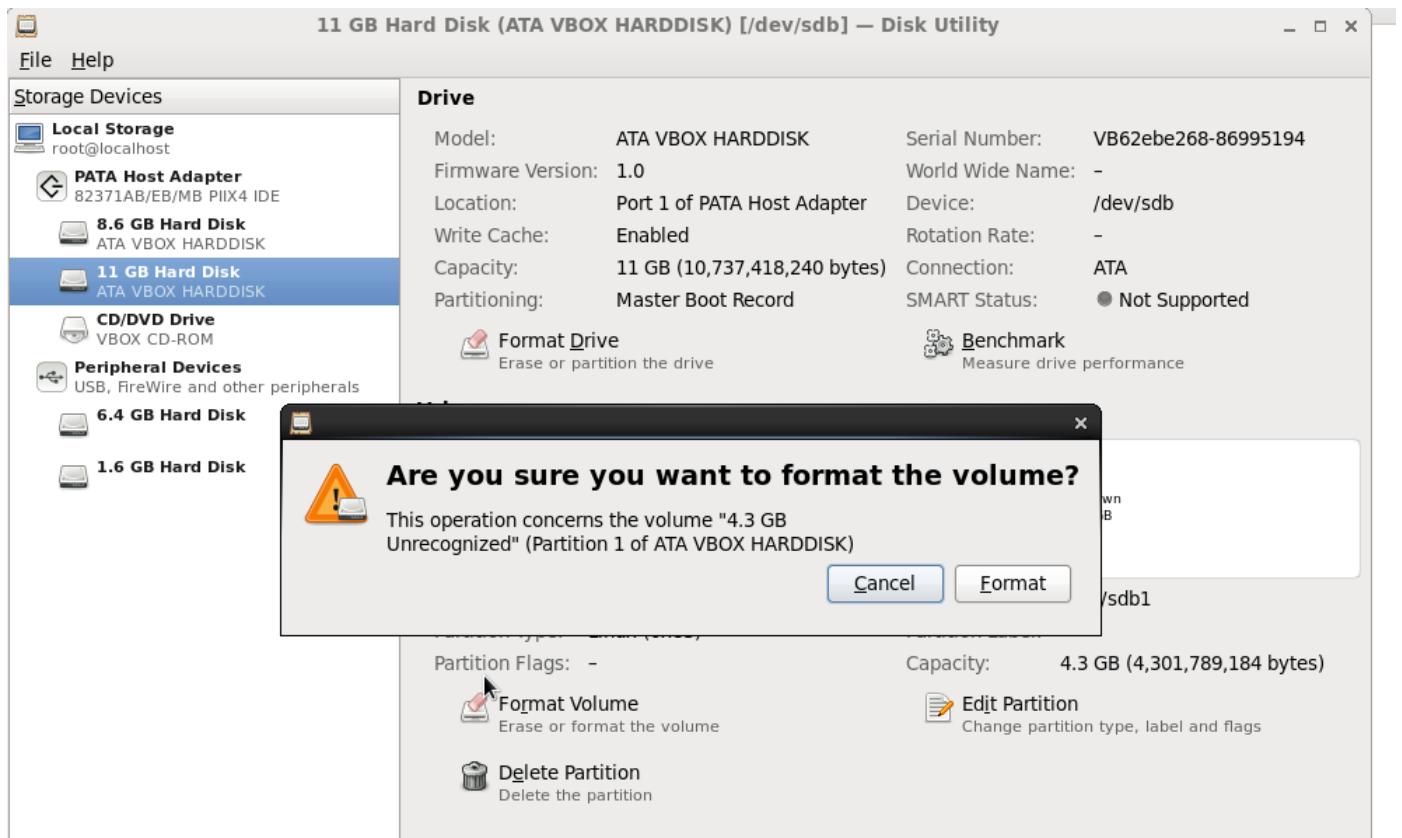
```
Disk /dev/mapper/vg_sonam-lv_root: 6417 MB, 6417285120 bytes
255 heads, 63 sectors/track, 780 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000
```

```
Disk /dev/mapper/vg_sonam-lv_root doesn't contain a valid partition table
```

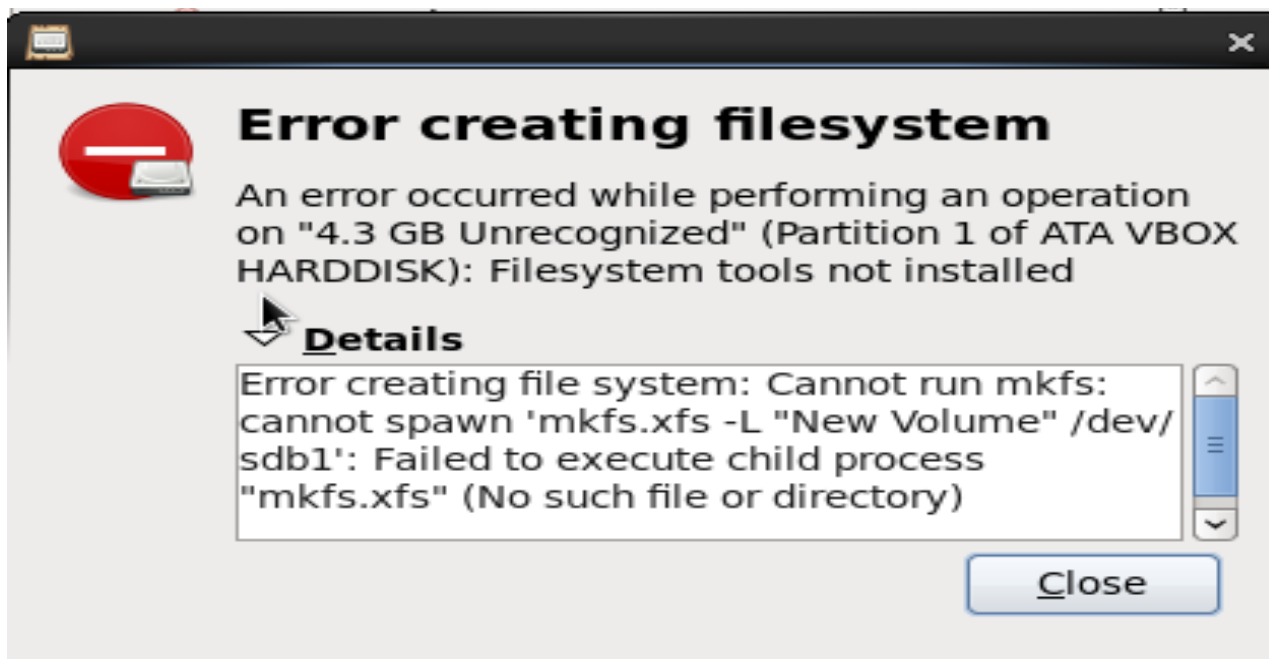
```
Disk /dev/mapper/vg_sonam-lv_swap: 1644 MB, 1644167168 bytes
255 heads, 63 sectors/track, 199 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```


3. Format 4GB with xfs and 6GB with ext4 file system.





This is throwing error as there is no mkfs.xfs in VM, tried with the GUI as well, but same error.



Also, tried to install it but that is also failing as Centos 6 is not supported now so not able to find proper repository, hence will be formatting 4GB with ext3.

Format 4GB with ext3.

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                  8:0    0    8G  0
├─sda1                              8:1    0   500M  0 /boot
├─sda2                              8:2    0    7.5G  0
│   └─vg_sonam-lv_root (dm-0) 253:0    0     6G  0 /
│   └─vg_sonam-lv_swap (dm-1) 253:1    0    1.5G  0 [SWAP]
sdb                                  8:16    0   10G  0
├─sdb1                              8:17    0     4G  0
├─sdb2                              8:18    0     6G  0
sr0                                 11:0    1 1024M  0
[root@sonam Desktop]# mkfs.ext3 -j /dev/sdb1
mke2fs 1.41.12 (17-May-2010)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
262944 inodes, 1050241 blocks
52512 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=1077936128
33 block groups
32768 blocks per group, 32768 fragments per group
7968 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736

Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 22 mounts or
180 days, whichever comes first.  Use tune2fs -c or -i to override.
[root@sonam Desktop]# █
```

Format 6GB with ext4.

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                8:0    0   8G  0
├─sda1                            8:1    0 500M  0 /boot
├─sda2                            8:2    0  7.5G  0
│   └─vg_sonam-lv_root (dm-0) 253:0    0   6G  0 /
│   └─vg_sonam-lv_swap (dm-1) 253:1    0  1.5G  0 [SWAP]
sdb                                8:16    0  10G  0
├─sdb1                            8:17    0   4G  0
└─sdb2                            8:18    0   6G  0
sr0                               11:0    1 1024M  0
[root@sonam Desktop]# mkfs.ext4 -j /dev/sdb2
mke2fs 1.41.12 (17-May-2010)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
393216 inodes, 1570353 blocks
78517 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=1610612736
48 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736

Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 22 mounts or
180 days, whichever comes first. Use tune2fs -c or -i to override.
[root@sonam Desktop]# █
```

4. Mount 4GB and 6GB in /data and /music directory respectively.

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# mkdir /data
[root@sonam Desktop]# mkdir /music
[root@sonam Desktop]# ls
firefox-78.5.0-1.el7.centos.x86_64.rpm google-chrome-stable_current_x86_64.rpm sonam xfsprogs-4.5.0-22.el7.i686.rpm
[root@sonam Desktop]# ls /
bin data etc lib lost+found misc music opt root selinux sys usr
boot dev home lib64 media mnt net proc sbin srv tmp var
[root@sonam Desktop]#
```

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# ls /
bin data etc lib lost+found misc music opt root selinux sys usr
boot dev home lib64 media mnt net proc sbin srv tmp var
[root@sonam Desktop]# lsbls
bash: lsbls: command not found
[root@sonam Desktop]# lsblk
NAME                                MAJ:MIN RM  SIZE RO MOUNTPOINT
sda                                  8:0    0   8G  0
├─sda1                              8:1    0 500M  0 /boot
├─sda2                              8:2    0  7.5G  0
│   └─vg_sonam-lv_root (dm-0) 253:0    0   6G  0 /
│       └─vg_sonam-lv_swap (dm-1) 253:1    0  1.5G  0 [SWAP]
sdb                                  8:16   0   10G  0
├─sdb1                              8:17   0    4G  0 /media/a523bcb5-c5fe-43a0-80ab-0c8e39efd6c0
├─sdb2                              8:18   0    6G  0 /media/ada96eaa-32f0-45a2-a1b8-a755f6a5cf90
sr0                                  11:0    1 1024M  0
[root@sonam Desktop]# mount /dev/sdb1 /data
[root@sonam Desktop]# mount /dev/sdb2 /music

[root@sonam Desktop]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/mapper/vg_sonam-lv_root
5.9G  3.1G  2.5G  56% /
tmpfs           387M  296K  387M   1% /dev/shm
/dev/sda1       485M   32M  429M   7% /boot
/dev/sdb1       4.0G  137M   3.7G   4% /media/a523bcb5-c5fe-43a0-80ab-0c8e39efd6c0
/dev/sdb2       5.9G  140M   5.5G   3% /media/ada96eaa-32f0-45a2-a1b8-a755f6a5cf90
/dev/sdb1       4.0G  137M   3.7G   4% /data
/dev/sdb2       5.9G  140M   5.5G   3% /music
[root@sonam Desktop]#
```



File Edit View Search Terminal Help

```
[root@sonam Desktop]# mount
/dev/mapper/vg_sonam-lv_root on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
tmpfs on /dev/shm type tmpfs (rw,rootcontext="system_u:object_r:tmpfs_t:s0")
/dev/sda1 on /boot type ext4 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
gvfs-fuse-daemon on /root/.gvfs type fuse.gvfs-fuse-daemon (rw,nosuid,nodev)
/dev/sdb1 on /data type ext3 (rw)
/dev/sdb2 on /music type ext4 (rw)
[root@sonam Desktop]#
```

```
[root@sonam Desktop]# cat /etc/fstab
```

```
#
# /etc/fstab
# Created by anaconda on Sat Dec 12 10:50:33 2020
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/vg_sonam-lv_root / ext4 defaults 1 1
UUID=f66b1975-623e-4c25-9b7f-eb45fbaaba6d /boot ext4 defaults 1 2
/dev/mapper/vg_sonam-lv_swap swap swap defaults 0 0
tmpfs /dev/shm tmpfs defaults 0 0
devpts /dev/pts devpts gid=5,mode=620 0 0
sysfs /sys sysfs defaults 0 0
proc /proc proc defaults 0 0
/dev/sdb1 /data ext3 defaults 0 0
/dev/sdb2 /music ext4 defaults 0 0
```

```
[root@sonam Desktop]#
```

```
[root@sonam Desktop]# mount
/dev/mapper/vg_sonam-lv_root on / type ext4 (rw)
proc on /proc type proc (rw)
sysfs on /sys type sysfs (rw)
devpts on /dev/pts type devpts (rw,gid=5,mode=620)
tmpfs on /dev/shm type tmpfs (rw,rootcontext="system_u:object_r:tmpfs_t:s0")
/dev/sda1 on /boot type ext4 (rw)
none on /proc/sys/fs/binfmt_misc type binfmt_misc (rw)
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw)
gvfs-fuse-daemon on /root/.gvfs type fuse.gvfs-fuse-daemon (rw,nosuid,nodev)
/dev/sdb1 on /data type ext3 (rw)
/dev/sdb2 on /music type ext4 (rw)
[root@sonam Desktop]#
```

5. Create one file of 1GB in each of the mount point created above.

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# seq -f "BTS%02g" 100000000 > /data/BTS_seq
[root@sonam Desktop]# seq -f "ARMY%02g" 100000000 > /music/ARMY_seq
```

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# ls -lh /data/
total 1.4G
-rw-r--r--. 1 root root 1.4G Dec 12 14:57 BTS_seq
[root@sonam Desktop]# ls -lh /music
total 1.5G
-rw-r--r--. 1 root root 1.5G Dec 12 15:02 ARMY_seq
[root@sonam Desktop]#
```

6. Verify the disk Consumption and disk space free in the mounted partitions.

```
root@sonam:~/Desktop
File Edit View Search Terminal Help
[root@sonam Desktop]# df -hT /data
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdb1       ext3      4.0G  1.6G  2.3G  41% /data
[root@sonam Desktop]# df -hT /music
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdb2       ext4      5.9G  1.7G  4.0G  29% /music
[root@sonam Desktop]#
[root@sonam Desktop]#
[root@sonam Desktop]# du -h /data
4.0K    /data/.Trash-0/files
4.0K    /data/.Trash-0/info
4.0K    /data/.Trash-0/expunged
16K     /data/.Trash-0
1.4G    /data
[root@sonam Desktop]# du -h /music
4.0K    /music/.Trash-0/files
4.0K    /music/.Trash-0/expunged
4.0K    /music/.Trash-0/info
16K     /music/.Trash-0
1.5G    /music
[root@sonam Desktop]#
```