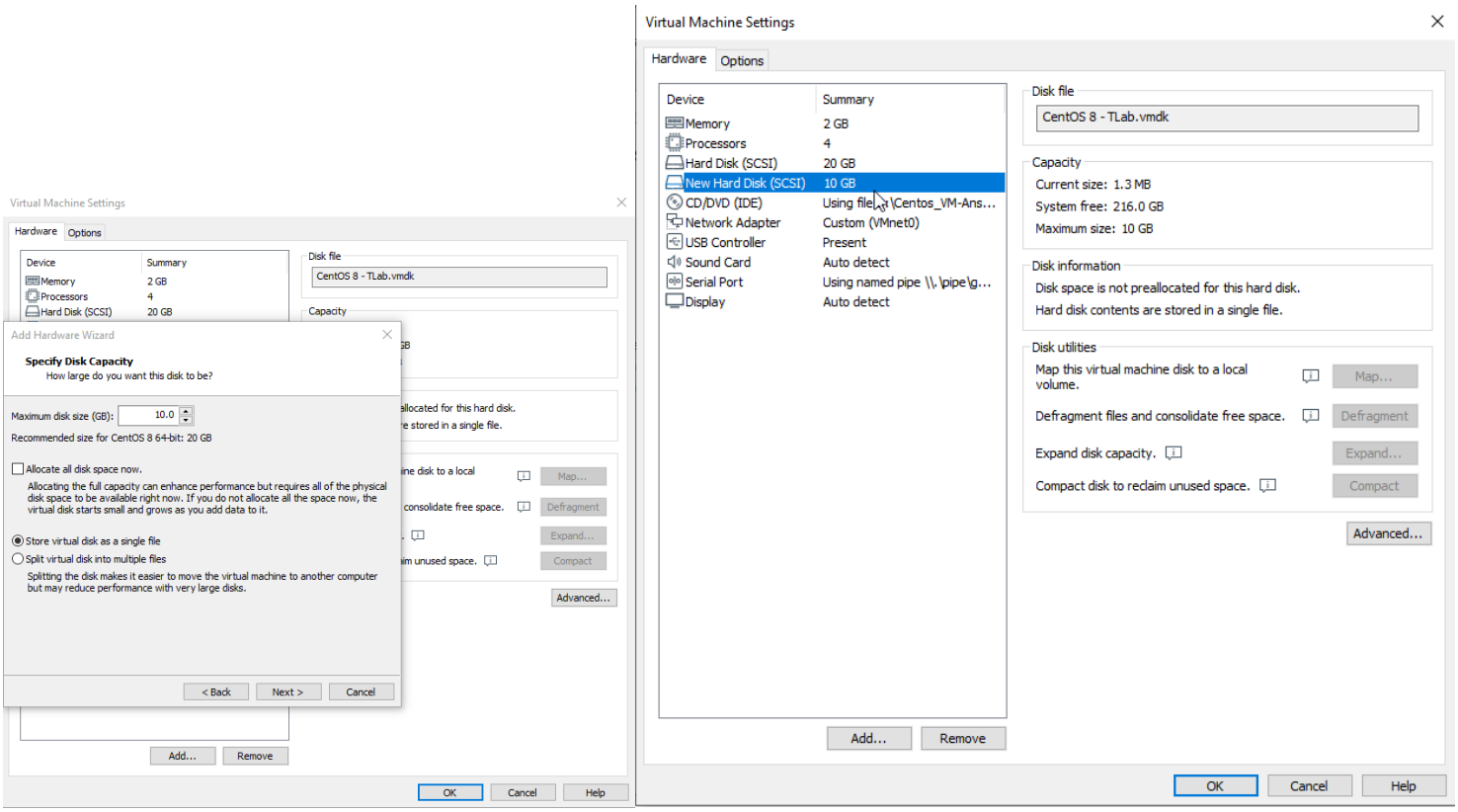
1. **Add a 10GB disk to the CentOS.**



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

```
[root@Control ~]# fdisk -l
Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 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
```

```
[root@Control ~]# fdisk /dev/sdb

Welcome to fdisk (util-linux 2.32.1).
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 0xff39aaa0.

Command (m for help): m

Help:

  DOS (MBR)
   a   toggle a bootable flag
   b   edit nested BSD disklabel
   c   toggle the dos compatibility flag

  Generic
   d   delete a partition
   F   list free unpartitioned space
   l   list known partition types
   n   add a new partition
   p   print the partition table
   t   change a partition type
   v   verify the partition table
   i   print information about a partition
```

u change display/entry units

F list free unpartitioned space

```
Command (m for help): u

Changing display/entry units to sectors.

Command (m for help): F
Unpartitioned space /dev/sdb: 10 GiB, 10736369664 bytes, 20969472 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes

Start      End  Sectors Size
 2048 20971519 20969472  10G

Command (m for help):
```

n add a new partition

```
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): 1
First sector (2048-20971519, default 2048): 2048
Last sector, +sectors or +size{K,M,G,T,P} (2048-20971519, default 20971519): +4096M

Created a new partition 1 of type 'Linux' and of size 4 GiB.

Command (m for help): F
Unpartitioned space /dev/sdb: 6 GiB, 6441402368 bytes, 12580864 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes

  Start      End  Sectors Size
8390656 20971519 12580864   6G

Command (m for help):
```

n add a new partition (additional)

```
Command (m for help): n
Partition type
   p   primary (1 primary, 0 extended, 3 free)
   e   extended (container for logical partitions)
Select (default p): p
Partition number (2-4, default 2): 2
First sector (8390656-20971519, default 8390656): 8390656
Last sector, +sectors or +size{K,M,G,T,P} (8390656-20971519, default 20971519): 20971519

Created a new partition 2 of type 'Linux' and of size 6 GiB.

Command (m for help):
```

p print the partition table

```
Command (m for help): p
Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 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: 0xff39aaa0

Device     Boot   Start      End  Sectors Size Id Type
/dev/sdb1          2048  8390655  8388608   4G 83 Linux
/dev/sdb2       8390656 20971519 12580864   6G 83 Linux

Command (m for help):
```

w write table to disk and exit

```
Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

[root@Control ~]#
```

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

mkfs.xfs /dev/sdb1

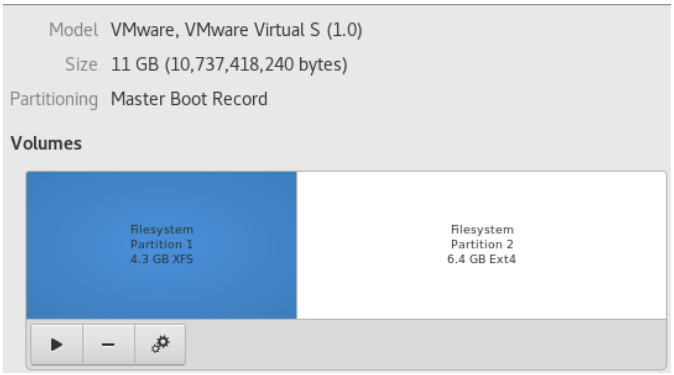
```
[root@Control ~]# mkfs.xfs /dev/sdb1
meta-data=/dev/sdb1              isize=512    agcount=4, agsize=262144 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=1        finobt=1, sparse=1, rmapbt=0
         =                       reflink=1
data     =                       bsize=4096   blocks=1048576, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0, ftype=1
log      =internal log           bsize=4096   blocks=2560, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
[root@Control ~]#
```

#mkfs.ext4 -j /dev/sdb2

```
[root@Control ~]# mkfs.ext4 -j /dev/sdb2
mke2fs 1.45.4 (23-Sep-2019)
Creating filesystem with 1572608 4k blocks and 393216 inodes
Filesystem UUID: 3d04c3d8-8cbd-46ed-a2b8-d0a74fe8311b
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done

[root@Control ~]#
```




```
[root@Control ~]# fdisk -l /dev/sdb
Disk /dev/sdb: 10 GiB, 10737418240 bytes, 20971520 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: 0xff39aaa0

Device     Boot   Start      End  Sectors Size Id Type
/dev/sdb1          2048  8390655  8388608   4G 83 Linux
/dev/sdb2       8390656 20971519 12580864   6G 83 Linux
[root@Control ~]#
[root@Control ~]# lsblk -f | grep sdb
sdb
├─sdb1      xfs                 f2f4bb48-0d5f-49f1-a9f6-9e855ce92ea1
└─sdb2      ext4                3d04c3d8-8cbd-46ed-a2b8-d0a74fe8311b
```

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

```
[root@Control Desktop]#
[root@Control Desktop]# mkdir /data
[root@Control Desktop]#
[root@Control Desktop]# mkdir /music
[root@Control Desktop]#
[root@Control Desktop]#
[root@Control Desktop]# mount /dev/sdb1 /data
[root@Control Desktop]#
[root@Control Desktop]# mount /dev/sdb2 /music
[root@Control Desktop]#
[root@Control Desktop]# df -h
Filesystem           Size  Used Avail Use% Mounted on
devtmpfs             873M     0  873M   0% /dev
tmpfs                901M     0  901M   0% /dev/shm
tmpfs                901M  9.7M  891M   2% /run
tmpfs                901M     0  901M   0% /sys/fs/cgroup
/dev/mapper/cl-root   17G  6.3G   11G  37% /
/dev/sda1            976M  272M  638M  30% /boot
tmpfs                181M  1.2M  179M   1% /run/user/42
tmpfs                181M  5.7M  175M   4% /run/user/0
/dev/sdb1            4.0G   61M  4.0G   2% /data
/dev/sdb2            5.9G   24M  5.6G   1% /music
[root@Control Desktop]#
```

vi /etc/fstab – to permanently mount disk

```
#
# /etc/fstab
# Created by anaconda on Fri Nov 20 21:34:29 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.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
/dev/mapper/cl-root     /                       xfs     defaults        0 0
UUID=931ef615-a4a7-431f-b2b9-869958a0b828 /boot                   ext4    defaults        1 2
/dev/mapper/cl-swap     swap                    swap    defaults        0 0
/dev/sdb1               /data                   xfs     defaults        0 0
/dev/sdb2               /music                  ext4    defaults        0 0
~
~
```

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

```
[root@Control music]# df -ah | grep sdb
/dev/sdb1           4.0G   61M  4.0G   2% /data
/dev/sdb2           5.9G   24M  5.6G   1% /music
[root@Control music]#
[root@Control music]# dd if=/dev/sdb1 of=/data/1g.bin bs=1G count=1
1+0 records in
1+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.30609 s, 822 MB/s
[root@Control music]#
[root@Control music]# dd if=/dev/sdb2 of=/music/1g.bin bs=1G count=1
1+0 records in
1+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 1.21866 s, 881 MB/s
[root@Control music]#
```

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

```
[root@Control music]#
[root@Control music]# df -ah | grep sdb
/dev/sdb1           4.0G  1.1G  3.0G  27% /data
/dev/sdb2           5.9G  1.1G  4.6G  19% /music
[root@Control music]#
```