LetsUpgrade Linux Administration Essentials Batch 1
Assignment Day 5 | 4th December 2020

Step1: Add a 10GB disk to the CentOS.

Verify That Disk Is Added Using **fdisk -l**

```
Applications    Places    Terminal                                                root@localhost:~

File  Edit  View  Search  Terminal  Help
[root@localhost ~]# fdisk -l

Disk /dev/sda: 32.2 GB, 32212254720 bytes, 62914560 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 label type: dos
Disk identifier: 0x0008367b

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1   *        2048     1026047      512000   83  Linux
/dev/sda2         1026048    41986047    20480000   83  Linux
/dev/sda3        41986048    50178047     4096000   82  Linux swap / Solaris

Disk /dev/sdb: 21.5 GB, 21474836480 bytes, 41943040 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 label type: dos
Disk identifier: 0x2e86ee15

   Device Boot      Start         End      Blocks   Id  System
/dev/sdb1            2048    20973567    10485760   83  Linux

Disk /dev/sdc: 11.8 GB, 11811160064 bytes, 23068672 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@localhost ~]# 
```

Step2: Create 2 Partitions 4GB and 6GB of Space respectively.


```
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

[root@localhost ~]# clr
bash: clr: command not found...
[root@localhost ~]# clear
[root@localhost ~]# fdisk /dev/sdc
Welcome to fdisk (util-linux 2.23.2).

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
Building a new DOS disklabel with disk identifier 0x23ea359c.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p): p
Partition number (1-4, default 1): 1
First sector (2048-23068671, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-23068671, default 23068671): +4G
Partition 1 of type Linux and of size 4 GiB is set

Command (m for help): n
Partition type:
   p   primary (1 primary, 0 extended, 3 free)
   e   extended
Select (default p): p
Partition number (2-4, default 2): 2
First sector (8390656-23068671, default 8390656):
Using default value 8390656
Last sector, +sectors or +size{K,M,G} (8390656-23068671, default 23068671): +6G
Partition 2 of type Linux and of size 6 GiB is set
```

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

```
/dev/sdc1           2048     8390655    4194304   83  Linux
/dev/sdc2        8390656    20973567    6291456   83  Linux
[root@localhost ~]# mkfs.xfs /dev/sdc1
meta-data=/dev/sdc1              isize=512    agcount=4, agsize=262144 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=1        finobt=0, sparse=0
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@localhost ~]# mkfs.ext4 /dev/sdc2
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
393216 inodes, 1572864 blocks
78643 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

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

[root@localhost ~]# 
```

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


```
#
# /etc/fstab
# Created by anaconda on Thu Apr 23 04:18:30 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
#
UUID=17ad28c5-7578-4822-b5a5-0d4bf2d0fee4 /                      xfs      defaults    0 0
UUID=2aab8e9e-39ca-4f97-8c2e-26564426b1e6 /boot                  xfs      defaults    0 0
UUID=e2132d0a-8cd9-4892-a88e-46005b497bc8 swap                   swap     defaults    0 0
/dev/sdb1                                 /var/ftp/pub           ext4     defaults    0 0
/dev/sdc1                                 /data                  xfs      defaults    0 0
/dev/sdc2                                 /music                 ext4     defaults    0 0
```
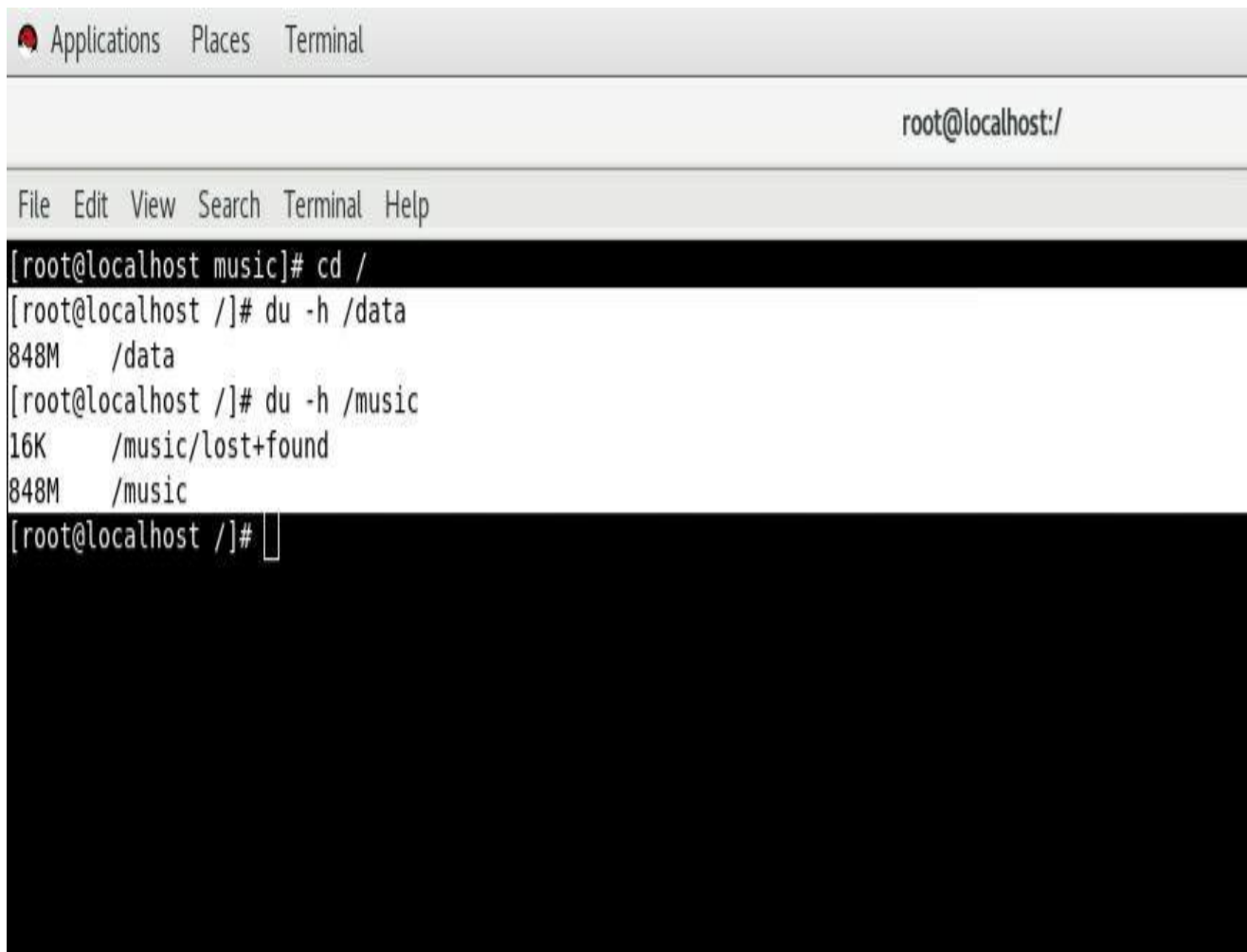


```
8.0K      ./.local/share/keyrings
32K       ./.local/share/Trash/info
316K      ./.local/share/Trash/files
348K      ./.local/share/Trash
696K      ./.local/share
696K      ./.local
0         ./Desktop
0         ./Downloads
0         ./Templates
0         ./Public
0         ./Documents
0         ./Music
416K      ./Pictures
0         ./Videos
4.0K      ./.ssh
5.2M      .
[root@localhost ~]# du -h /dev/sdc
0         /dev/sdc
[root@localhost ~]# df -h /dev/sdc
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        975M     0  975M   0% /dev
[root@localhost ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda2        20G  4.1G   16G  21% /
devtmpfs        975M     0  975M   0% /dev
tmpfs           991M     0  991M   0% /dev/shm
tmpfs           991M   11M  980M   2% /run
tmpfs           991M     0  991M   0% /sys/fs/cgroup
/dev/sdb1       9.8G  4.3G  5.0G  46% /var/ftp/pub
/dev/sda1       497M  155M  343M  32% /boot
tmpfs           199M   24K  199M   1% /run/user/0
/dev/sr0        4.2G  4.2G     0 100% /run/media/root/RHEL-7.6 Server.x86_64
/dev/sdc1       4.0G   33M  4.0G   1% /data
/dev/sdc2       5.8G   24M  5.5G   1% /music
[root@localhost ~]#
```

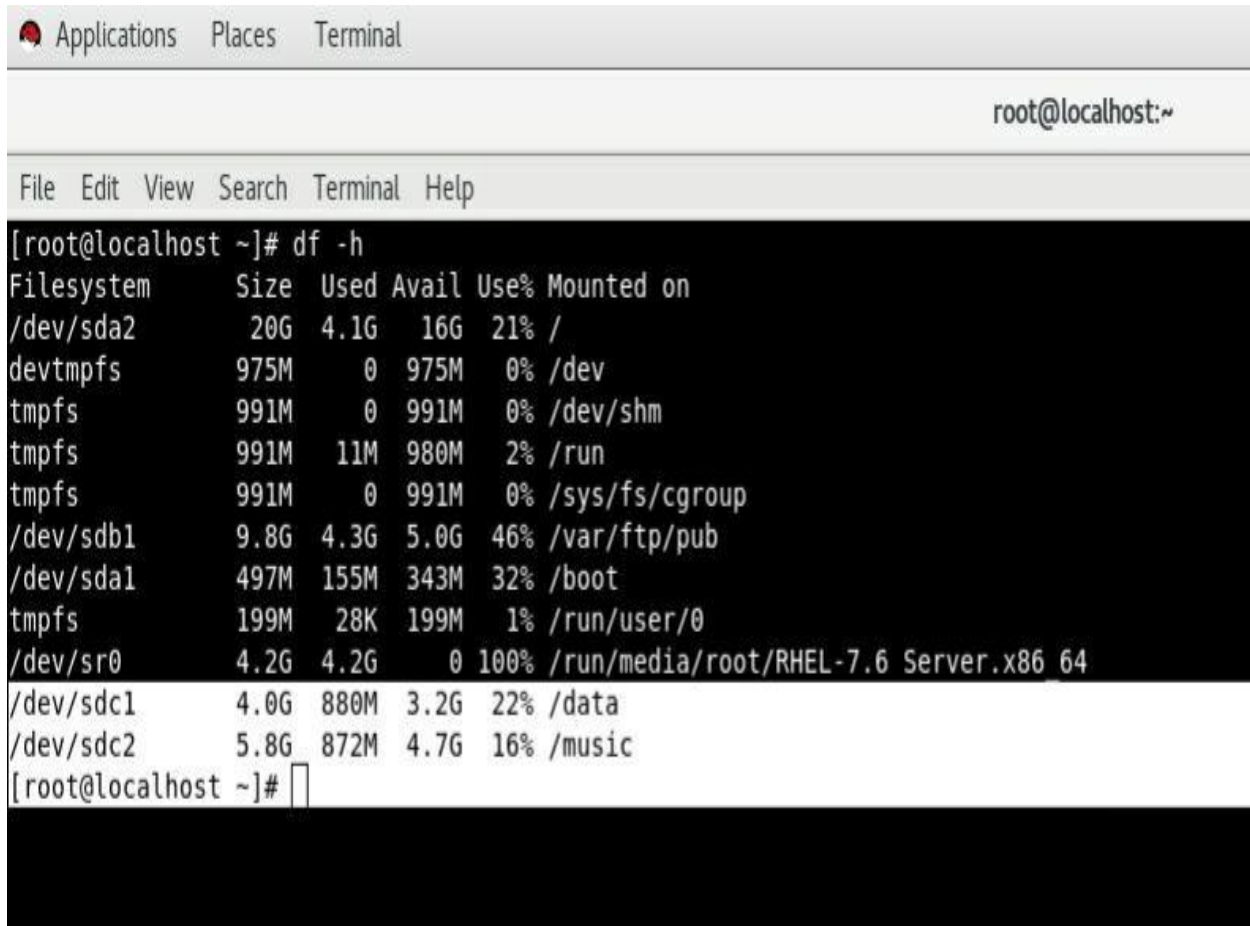## Step 5: Create one file of 1GB in each of the mount point created above.

Creating 1Gb File Using **seq > 1000000** Command


```
Applications   Places   Terminal

                                                    root@localhost:/

File  Edit  View  Search  Terminal  Help

[root@localhost music]# cd /
[root@localhost /]# du -h /data
848M    /data
[root@localhost /]# du -h /music
16K     /music/lost+found
848M    /music
[root@localhost /]#
```

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

Verify Disk Usage Using **df -h** Command

```
Applications   Places   Terminal                                          root@localhost:~

File  Edit  View  Search  Terminal  Help
[root@localhost ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda2        20G  4.1G   16G  21% /
devtmpfs        975M     0  975M   0% /dev
tmpfs           991M     0  991M   0% /dev/shm
tmpfs           991M   11M  980M   2% /run
tmpfs           991M     0  991M   0% /sys/fs/cgroup
/dev/sdb1       9.8G  4.3G  5.0G  46% /var/ftp/pub
/dev/sda1       497M  155M  343M  32% /boot
tmpfs           199M   28K  199M   1% /run/user/0
/dev/sr0        4.2G  4.2G     0 100% /run/media/root/RHEL-7.6 Server.x86_64
/dev/sdc1       4.0G  880M  3.2G  22% /data
/dev/sdc2       5.8G  872M  4.7G  16% /music
[root@localhost ~]#
```

Submitted To: Binayak P Gupta (LetsUpgrade Instructor)

Submitted By: Monisha Sharma
bloggermonisha@gmail.com