

# 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 ~]#
```

*Taken 11Gb To Avoid Any Kind Of Storage Issue.*

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

```
Applications Places Terminal
root@localhost:~

File Edit View Search Terminal Help
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.

```
Applications Places Terminal Sat 19:21 [system icons]
root@localhost:~

File Edit View Search Terminal Help
/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.

```
Applications Places Terminal

root@localhost:~

File Edit View Search Terminal Help

#
# /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-b5a5-0d4bf2d8fee4 / 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
```

```
Applications Places Terminal

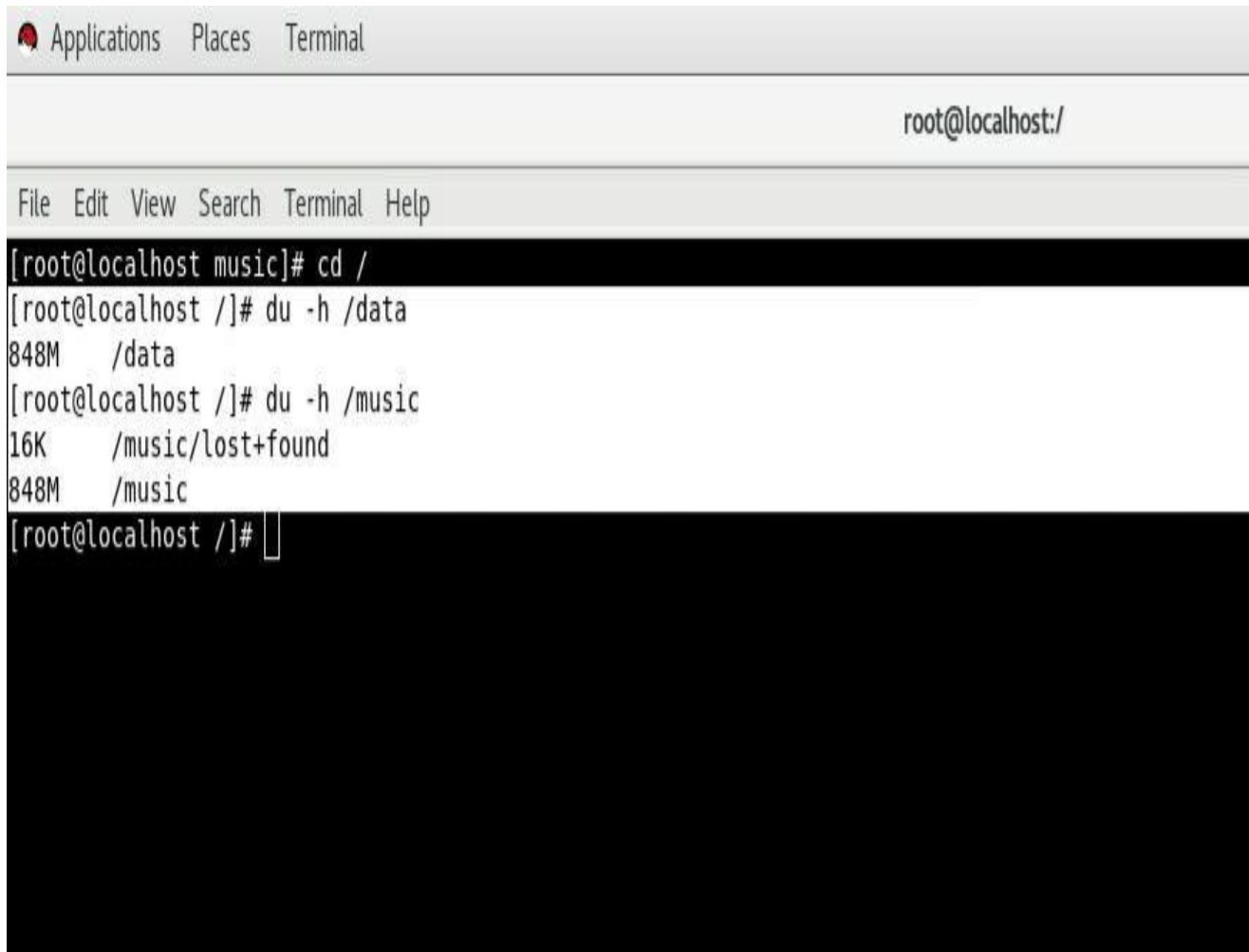
root@localhost:~

File Edit View Search Terminal Help

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.

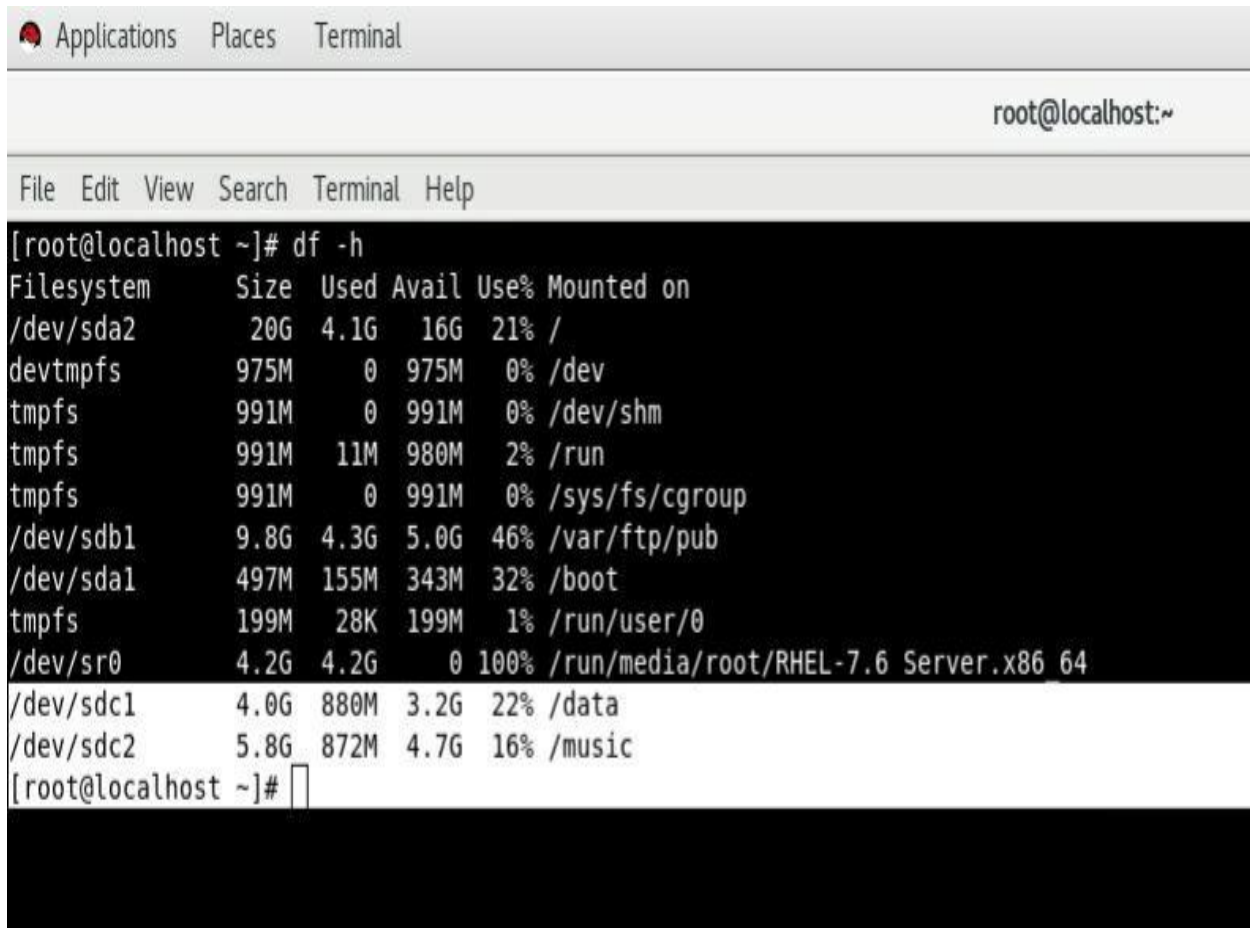
Creating 1Gb File Using **seq > 1000000** Command

A terminal window titled 'Terminal' with tabs for 'Applications', 'Places', and 'Terminal'. The prompt is '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



The image shows a terminal window with the following content:

```
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 ~]#
```

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