

Linux Administration Day 5

1. Add a 10GB disk to the CentOS.

```
[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 ~]#
```

2. 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.

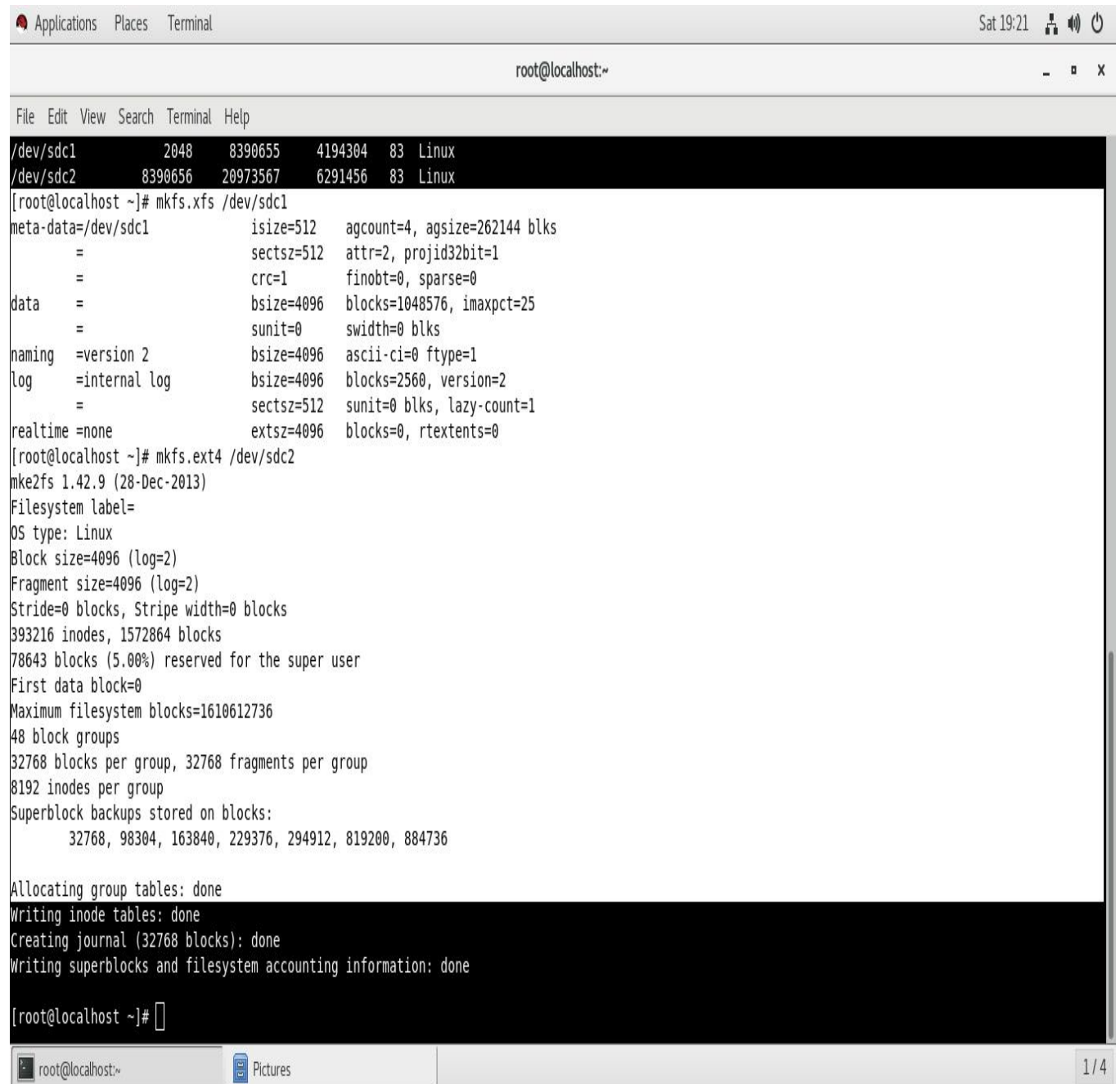
Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0x23ea359c.

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
```

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

Formating And Creating File System Using **mkfs** Command



The screenshot shows a terminal window titled 'root@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Sat 19:21, system icons). The terminal displays the following commands and output:

```
/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 ~]#
```

At the bottom of the terminal window, there is a taskbar with icons for 'root@localhost:~' and 'Pictures', and a page indicator '1 / 4'.

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
~
```

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

Applications Places Terminal

root@localhost:~

File Edit View Search Terminal Help

```
[root@localhost music]# cd /
```

```
[root@localhost /]# du -h /data
```

```
848M    /data
```

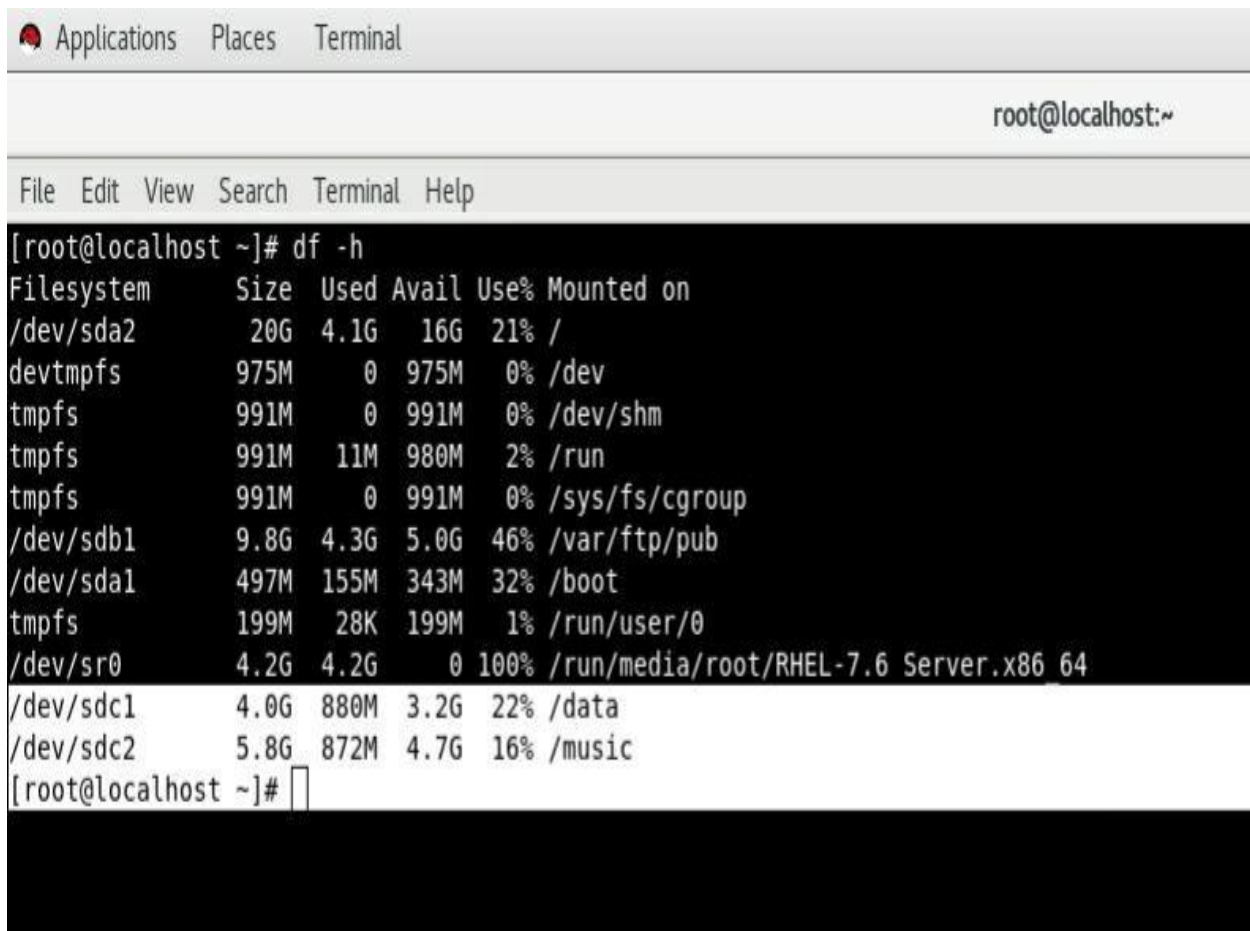
```
[root@localhost /]# du -h /music
```

```
16K     /music/lost+found
```

```
848M    /music
```

```
[root@localhost /]#
```

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



A terminal window titled 'Terminal' with tabs for 'Applications', 'Places', and 'Terminal'. The user is 'root@localhost:~'. The terminal shows the command 'df -h' and its output, which is a table of disk usage for various filesystems.

```
[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 ~]#
```