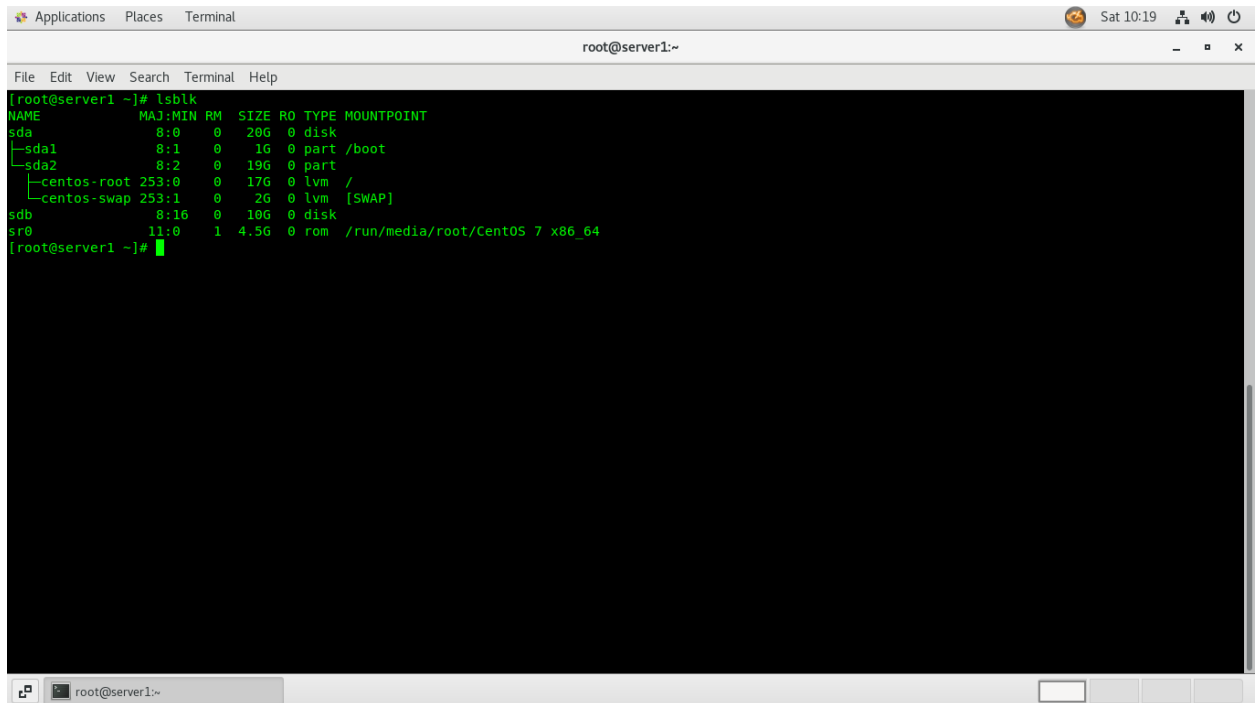


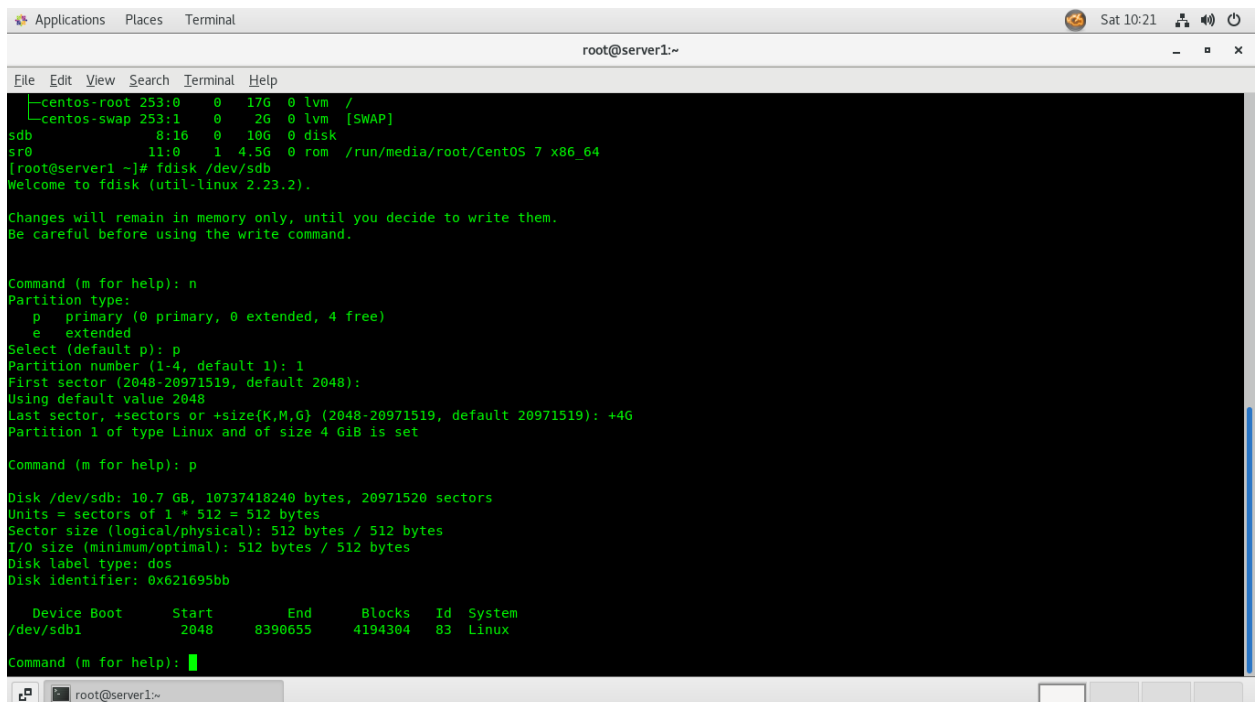
# ASSIGNMENT NO 2

1) Add a 10GB disk to the CentOS.

A terminal window titled 'root@server1:~' showing the output of the 'lsblk' command. The output lists disk partitions: sda (20G disk), sda1 (1G part /boot), sda2 (19G part), centos-root (17G lvm /), centos-swap (2G lvm [SWAP]), sdb (10G disk), and sr0 (4.5G rom).

```
[root@server1 ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda           8:0    0   20G  0 disk
├─sda1        8:1    0    1G  0 part /boot
├─sda2        8:2    0   19G  0 part
├─centos-root 253:0   0   17G  0 lvm  /
├─centos-swap 253:1   0    2G  0 lvm  [SWAP]
└─sdb         8:16   0   10G  0 disk
sr0          11:0    1  4.5G  0 rom   /run/media/root/CentOS 7 x86_64
[root@server1 ~]#
```

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

A terminal window titled 'root@server1:~' showing the output of the 'fdisk /dev/sdb' command. It shows the creation of a 4GB partition (sdb1) on the 10GB disk sdb. The output includes disk details, partition type selection, and the final partition table.

```
[root@server1 ~]# fdisk /dev/sdb
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.

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 (2048-20971519, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-20971519, default 20971519): +4G
Partition 1 of type Linux and of size 4 GiB is set

Command (m for help): p

Disk /dev/sdb: 10.7 GB, 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
Disk label type: dos
Disk identifier: 0x621695bb

   Device Boot      Start         End      Blocks    Id  System
/dev/sdb1           2048     8390655     4194304     83   Linux

Command (m for help):
```

# ASSIGNMENT NO 2

```
Applications Places Terminal Sat 10:29
root@server1:~
File Edit View Search Terminal Help
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
[root@server1 ~]# partprobe
Warning: Unable to open /dev/sr0 read-write (Read-only file system). /dev/sr0 has been opened read-only.
[root@server1 ~]# partprobe -s
/dev/sda: msdos partitions 1 2
/dev/sdb: msdos partitions 1
Warning: Unable to open /dev/sr0 read-write (Read-only file system). /dev/sr0 has been opened read-only.
/dev/sr0: msdos partitions 2
[root@server1 ~]# clear

[root@server1 ~]# fdisk /dev/sdb
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.

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):
First sector (8390656-22020095, default 8390656):
Using default value 8390656
Last sector, +sectors or +size{K,M,G} (8390656-22020095, default 22020095): +6G
Last sector, +sectors or +size{K,M,G} (8390656-22020095, default 22020095): +6G
Partition 2 of type Linux and of size 6 GiB is set

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

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

```
Applications Places Terminal Sat 10:33
root@server1:~
File Edit View Search Terminal Help

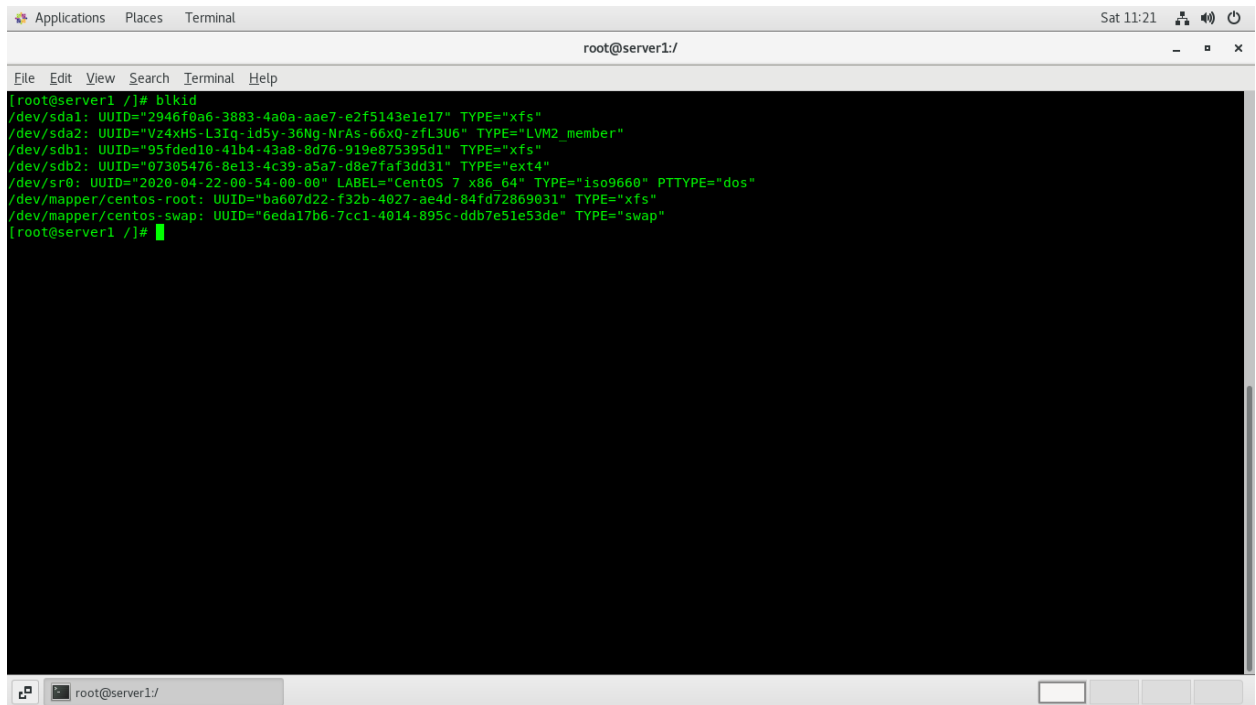
[root@server1 ~]# mkfs.xfs /dev/sdb1
meta-data=/dev/sdb1             isize=512    agcount=4, agsize=262144 blks
      =                       sectsz=512   attr=2, projid32bit=1
      =                       crc=1        finobt=0, sparse=0
data      =                       bsize=4096   blocks=1048576, 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@server1 ~]# mkfs.ext4 /dev/sdb2
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@server1 ~]#
```

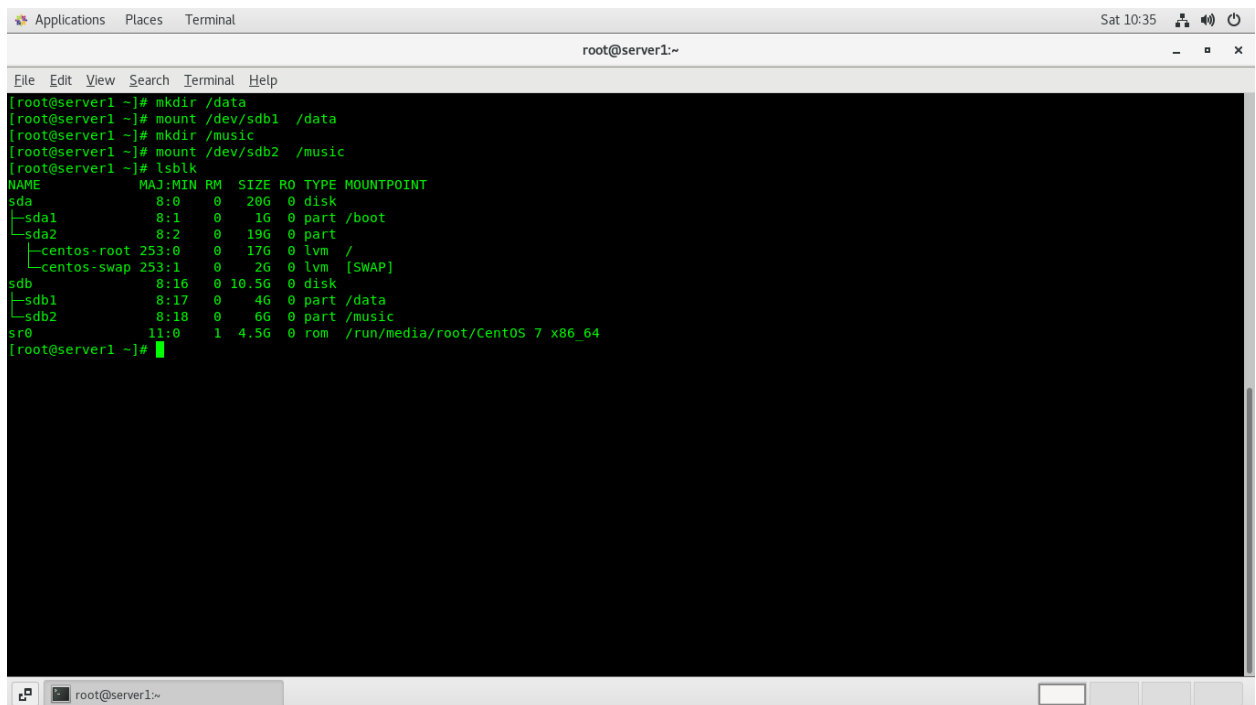
# ASSIGNMENT NO 2



A terminal window titled 'root@server1:/' showing the output of the 'blkid' command. The output lists various disk partitions and their UUIDs and types. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The status bar at the top right shows 'Sat 11:21' and system icons. The bottom status bar shows 'root@server1:/' and window controls.

```
root@server1 ~]# blkid
/dev/sda1: UUID="2946f0a6-3883-4a0a-aae7-e2f5143e1e17" TYPE="xfs"
/dev/sda2: UUID="Vz4xHS-L3Iq-id5y-36Ng-NrAs-66x0-zfL3U6" TYPE="LVM2_member"
/dev/sdb1: UUID="95fde10-41b4-43a8-8d76-919e875395d1" TYPE="xfs"
/dev/sdb2: UUID="07305476-8e13-4c39-a5a7-d8e7faf3dd31" TYPE="ext4"
/dev/sr0: UUID="2020-04-22-00-54-00-00" LABEL="CentOS 7 x86_64" TYPE="iso9660" PTTYPE="dos"
/dev/mapper/centos-root: UUID="ba607d22-f32b-4027-ae4d-84fd72869031" TYPE="xfs"
/dev/mapper/centos-swap: UUID="6eda17b6-7cc1-4014-895c-ddb7e51e53de" TYPE="swap"
root@server1 ~]#
```

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



A terminal window titled 'root@server1:~' showing the execution of commands to create directories and mount partitions. The commands are: 'mkdir /data', 'mount /dev/sdb1 /data', 'mkdir /music', 'mount /dev/sdb2 /music', and 'lsblk'. The 'lsblk' output shows a tree structure of disk partitions and their mount points. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The status bar at the top right shows 'Sat 10:35' and system icons. The bottom status bar shows 'root@server1:~' and window controls.

```
root@server1 ~]# mkdir /data
root@server1 ~]# mount /dev/sdb1 /data
root@server1 ~]# mkdir /music
root@server1 ~]# mount /dev/sdb2 /music
root@server1 ~]# lsblk
NAME                                MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda                                  8:0    0   28G  0 disk
├─sda1                               8:1    0    1G  0 part /boot
├─sda2                               8:2    0   19G  0 part
├─centos-root 253:0    0    17G  0 lvm  /
└─centos-swap 253:1    0    2G  0 lvm  [SWAP]
sdb                                  8:16    0  10.5G  0 disk
├─sdb1                               8:17    0    4G  0 part /data
└─sdb2                               8:18    0    6G  0 part /music
sr0                                  11:0    1   4.5G  0 rom   /run/media/root/CentOS 7 x86_64
root@server1 ~]#
```

# ASSIGNMENT NO 2

```
Applications Places Terminal Sat 11:04 root@server1:/
File Edit View Search Terminal Help

#
# /etc/fstab
# Created by anaconda on Tue Dec 1 17:50:29 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
#
/dev/mapper/centos-root / xfs defaults xfs 0 0
UUID=2946f0a6-3883-4a0a-aae7-e2f5143e1e17 /boot xfs defaults xfs 0 0
/dev/mapper/centos-swap swap swap defaults xfs 0 0
/dev/sdb1 /data xfs defaults 0 0
/dev/sdb2 /music ext4 defaults 0 0

-- INSERT --
```

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

```
Applications Places Terminal Sat 10:59 root@server1:/
File Edit View Search Terminal Help

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
For complete documentation, run: info coreutils 'dd invocation'
[root@server1 data]# clear

[root@server1 data]# cd ..
[root@server1 /]# dd if=/dev/sdb1 of=/data bs=1GB count=1
dd: failed to open 'data': Is a directory
[root@server1 /]# dd if=/dev/sdb1 of=/data/text.txt bs=1GB count=1
1+0 records in
1+0 records out
1000000000 bytes (1.0 GB) copied, 3.36783 s, 297 MB/s
[root@server1 /]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda          8:0    0   20G  0 disk
├─sda1       8:1    0    1G  0 part /boot
├─sda2       8:2    0   19G  0 part
│ └─centos-root 253:0  0   17G  0 lvm /
│   └─centos-swap 253:1  0    2G  0 lvm [SWAP]
sdb          8:16   0  10.5G  0 disk
├─sdb1       8:17   0    4G  0 part /data
└─sdb2       8:18   0    6G  0 part /music
sr0         11:0    1   4.5G  0 rom  /run/media/root/CentOS 7 x86_64

[root@server1 /]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        894M   0  894M   0% /dev
tmpfs           910M   0   910M   0% /dev/shm
tmpfs           910M  11M   900M   2% /run
tmpfs           910M   0   910M   0% /sys/fs/cgroup
/dev/mapper/centos-root 17G  4.7G   13G  28% /
/dev/sda1       1014M  185M   830M  19% /boot
tmpfs           182M   20K   182M   1% /run/user/0
/dev/sr0         4.5G   4.5G    0 100% /run/media/root/CentOS 7 x86_64
/dev/sdb1       4.0G  986M   3.1G  25% /data
/dev/sdb2       5.8G   24M   5.5G   1% /music
[root@server1 /]#
```

# ASSIGNMENT NO 2

```
Applications Places Terminal Sat 11:01 root@server1:/
File Edit View Search Terminal Help
centos-root 253:0 0 176 0 lvm /
centos-swap 253:1 0 26 0 lvm [SWAP]
sdb 8:16 0 10.5G 0 disk
|sdb1 8:17 0 46 0 part /data
|sdb2 8:18 0 66 0 part /music
sr0 11:0 1 4.5G 0 rom /run/media/root/CentOS 7 x86_64
[root@server1 /]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        894M  0  894M  0% /dev
tmpfs           910M  0  910M  0% /dev/shm
tmpfs           910M  11M  900M  2% /run
tmpfs           910M  0  910M  0% /sys/fs/cgroup
/dev/mapper/centos-root 17G  4.7G  13G  28% /
/dev/sda1       1014M  185M  830M  19% /boot
tmpfs          182M  20K  182M  1% /run/user/0
/dev/sr0        4.5G  4.5G  0 100% /run/media/root/CentOS 7 x86_64
/dev/sdb1       4.0G  986M  3.1G  25% /data
/dev/sdb2       5.8G  24M  5.5G  1% /music
[root@server1 /]# dd if=/dev/sdb2 of=/music/text1.txt bs=1GB count=1
1+0 records in
1+0 records out
1000000000 bytes (1.0 GB) copied, 2.57517 s, 388 MB/s
[root@server1 /]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        894M  0  894M  0% /dev
tmpfs           910M  0  910M  0% /dev/shm
tmpfs           910M  11M  900M  2% /run
tmpfs           910M  0  910M  0% /sys/fs/cgroup
/dev/mapper/centos-root 17G  4.7G  13G  28% /
/dev/sda1       1014M  185M  830M  19% /boot
tmpfs          182M  20K  182M  1% /run/user/0
/dev/sr0        4.5G  4.5G  0 100% /run/media/root/CentOS 7 x86_64
/dev/sdb1       4.0G  986M  3.1G  25% /data
/dev/sdb2       5.8G  978M  4.6G  18% /music
[root@server1 /]#
```

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

```
Applications Places Terminal Sat 11:17 root@server1:/
File Edit View Search Terminal Help
[root@server1 /]# ls -l /data
total 976564
-rw-r--r-- 1 root root 1000000000 Dec  5 10:58 text.txt
[root@server1 /]# df -h /data
Filesystem      Size  Used Avail Use% Mounted on
/dev/sdb1       4.0G  986M  3.1G  25% /data
[root@server1 /]# df -h /music
Filesystem      Size  Used Avail Use% Mounted on
/dev/sdb2       5.8G  978M  4.6G  18% /music
[root@server1 /]#
```