

Disk Management

#add hard disk

```
[root@localhost ~]# echo '- - -' > /sys/class/scsi_host/host0/scan
[root@localhost ~]# echo '- - -' > /sys/class/scsi_host/host1/scan
[root@localhost ~]# echo '- - -' > /sys/class/scsi_host/host2/scan
[root@localhost ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sda          8:0    0   20G  0 disk
├─sda1       8:1    0    1G  0 part /boot
├─sda2       8:2    0   19G  0 part
│   └─cs-root 253:0    0   17G  0 lvm /
│       └─cs-swap 253:1    0    2G  0 lvm [SWAP]
sdb          8:16   0    5G  0 disk
sr0         11:0    1   8.1G  0 rom  /run/media/santhosh/CentOS-Stream-9-BaseOS-x86_64
[root@localhost ~]# fdisk /dev/sdb
```

Welcome to fdisk (util-linux 2.37.4).

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 0x6530c6ca.

Command (m for help): n
Partition type
 p primary (0 primary, 0 extended, 4 free)
 e extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (1-4, default 1):
First sector (2048-10485759, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-10485759, default 10485759): +1G

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

Command (m for help): n
Partition type
 p primary (1 primary, 0 extended, 3 free)
 e extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (2-4, default 2):
First sector (2099200-10485759, default 2099200):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2099200-10485759, default 10485759): +1G

Created a new partition 2 of type 'Linux' and of size 1 GiB.

Command (m for help): n
Partition type
 p primary (2 primary, 0 extended, 2 free)
 e extended (container for logical partitions)
Select (default p):

Using default response p.
Partition number (3,4, default 3):
First sector (4196352-10485759, default 4196352):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (4196352-10485759, default 10485759): +1G

Created a new partition 3 of type 'Linux' and of size 1 GiB.

Extended

```
Command (m for help): n
Partition type
  p   primary (3 primary, 0 extended, 1 free)
  e   extended (container for logical partitions)
Select (default e):

Using default response e.
Selected partition 4
First sector (6293504-10485759, default 6293504):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (6293504-10485759, default 10485759):

Created a new partition 4 of type 'Extended' and of size 2 GiB.

Command (m for help): n
All primary partitions are in use.
Adding logical partition 5
First sector (6295552-10485759, default 6295552):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (6295552-10485759, default 10485759): +1G

Created a new partition 5 of type 'Linux' and of size 1 GiB.

Command (m for help): n
All primary partitions are in use.
Adding logical partition 6
First sector (8394752-10485759, default 8394752):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (8394752-10485759, default 10485759): +1020M

Created a new partition 6 of type 'Linux' and of size 1020 MiB.
```

Print

```
Command (m for help): p
Disk /dev/sdb: 5 GiB, 5368709120 bytes, 10485760 sectors
Disk model: VMware Virtual S
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: 0x6530c6ca
```

Device	Boot	Start	End	Sectors	Size	Id	Type
/dev/sdb1		2048	2099199	2097152	1G	83	Linux
/dev/sdb2		2099200	4196351	2097152	1G	83	Linux
/dev/sdb3		4196352	6293503	2097152	1G	83	Linux
/dev/sdb4		6293504	10485759	4192256	2G	5	Extended
/dev/sdb5		6295552	8392703	2097152	1G	83	Linux
/dev/sdb6		8394752	10483711	2088960	1020M	83	Linux

Lsblk

```
[root@localhost ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sda          8:0    0   20G  0 disk
├─sda1       8:1    0    1G  0 part /boot
├─sda2       8:2    0   19G  0 part
│   └─cs-root 253:0    0   17G  0 lvm /
│       └─cs-swap 253:1    0    2G  0 lvm [SWAP]
sdb          8:16   0    5G  0 disk
├─sdb1       8:17   0    1G  0 part
├─sdb2       8:18   0    1G  0 part
├─sdb3       8:19   0    1G  0 part
├─sdb4       8:20   0    1K  0 part
├─sdb5       8:21   0    1G  0 part
└─sdb6       8:22   0  1020M  0 part
sr0          11:0    1   8.1G  0 rom  /run/media/santhosh/CentOS-Stream-9-BaseOS-x86_64
```

#make file system

```
[root@localhost ~]# mkfs.xfs /dev/sdb1
meta-data=/dev/sdb1      isize=512    agcount=4, agsize=65536 blks
                =          sectsz=512    attr=2, projid32bit=1
                =          crc=1        finobt=1, sparse=1, rmapbt=0
                =          reflink=1    bigtime=1 inobtcount=1
data        =            bsize=4096    blocks=262144, 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.xfs /dev/sdb2
meta-data=/dev/sdb2      isize=512    agcount=4, agsize=65536 blks
                =          sectsz=512    attr=2, projid32bit=1
                =          crc=1        finobt=1, sparse=1, rmapbt=0
                =          reflink=1    bigtime=1 inobtcount=1
data        =            bsize=4096    blocks=262144, 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.xfs /dev/sdb3
meta-data=/dev/sdb3      isize=512    agcount=4, agsize=65536 blks
                =          sectsz=512    attr=2, projid32bit=1
                =          crc=1        finobt=1, sparse=1, rmapbt=0
                =          reflink=1    bigtime=1 inobtcount=1
data        =            bsize=4096    blocks=262144, 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.xfs /dev/sdb4
mkfs.xfs: /dev/sdb4 appears to contain a partition table (dos).
mkfs.xfs: Use the -f option to force overwrite.
[root@localhost ~]# mkfs.xfs /dev/sdb5
meta-data=/dev/sdb5            isize=512    agcount=4, agsize=65536 blks
        =                      sectsz=512    attr=2, projid32bit=1
        =                      crc=1        finobt=1, sparse=1, rmapbt=0
        =                      reflink=1    bigtime=1 inobtcount=1
data      =                    bsize=4096   blocks=262144, 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.xfs /dev/sdb6
meta-data=/dev/sdb6            isize=512    agcount=4, agsize=65280 blks
        =                      sectsz=512    attr=2, projid32bit=1
        =                      crc=1        finobt=1, sparse=1, rmapbt=0
        =                      reflink=1    bigtime=1 inobtcount=1
data      =                    bsize=4096   blocks=261120, imaxpct=25
        =                      sunit=0      swidth=0 blks
naming    =version 2           bsize=4096   ascii-ci=0, ftype=1
log       =internal log        bsize=4096   blocks=1566, version=2
        =                      sectsz=512    sunit=0 blks, lazy-count=1
realtime  =none                extsz=4096   blocks=0, rtextents=0

```

Mount

```

[root@localhost ~]# mkdir /sun1
[root@localhost ~]# mount /dev/sdb1 /sun1
[root@localhost ~]# mkdir /sun2
[root@localhost ~]# mount /dev/sdb2 /sun2
[root@localhost ~]# mkdir /sun3
[root@localhost ~]# mount /dev/sdb3 /sun3
[root@localhost ~]# mkdir /sun5
[root@localhost ~]# mount /dev/sdb5 /sun5
[root@localhost ~]# mkdir /sun6
[root@localhost ~]# mount /dev/sdb6 /sun6

```

Permanently mount

```

[root@localhost ~]# vi /etc/fstab

```

```
#
/dev/mapper/cs-root      /                xfs      defaults    0 0
UUID=afb5c341-4508-469e-99a9-e545153fd508 /boot            xfs      defaults    0 0
/dev/mapper/cs-swap      none            swap     defaults    0 0
/dev/sdb1                /sun1          xfs      defaults    0 0
/dev/sdb2                /sun2          xfs      defaults    0 0
/dev/sdb3                /sun3          xfs      defaults    0 0
/dev/sdb5                /sun5          xfs      defaults    0 0
/dev/sdb6                /sun6          xfs      defaults    0 0
```

df -hT

```
[root@localhost ~]# df -hT
Filesystem      Type      Size  Used Avail Use% Mounted on
devtmpfs        devtmpfs  4.0M   0    4.0M  0% /dev
tmpfs           tmpfs     849M   0    849M  0% /dev/shm
tmpfs           tmpfs     340M   9.6M  330M  3% /run
/dev/mapper/cs-root xfs       17G   5.3G   12G  32% /
/dev/sda1       xfs      1014M  283M  732M  28% /boot
tmpfs          tmpfs     170M  108K  170M   1% /run/user/1000
/dev/sr0       iso9660    8.2G  8.2G    0 100% /run/media/santhosh/CentOS-Stream-9-BaseOS-x86_64
/dev/sdb6      xfs      1014M   40M  975M   4% /sun
/dev/sdb1      xfs      1014M   40M  975M   4% /sun1
/dev/sdb2      xfs      1014M   40M  975M   4% /sun2
/dev/sdb3      xfs      1014M   40M  975M   4% /sun3
/dev/sdb5      xfs      1014M   40M  975M   4% /sun5
```