Managing Partition Task

Hard disk creation
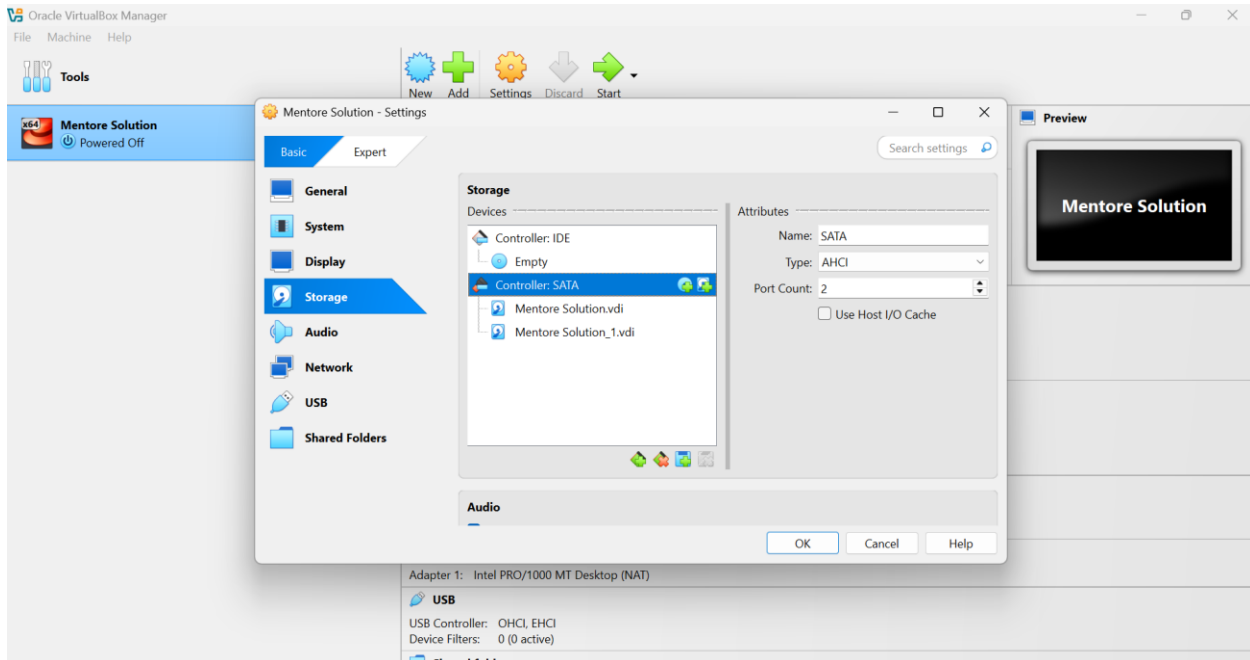
```
[root@sakshi ~]# fdisk /dev/sdb

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 0x3a14d984.

Command (m for help): n
Partition type
   p   primary (0 primary, 0 extended, 4 free)
   e   extended (container for logical partitions)
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-41943039, default 2048):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (2048-41943039, default 41943039): +5G

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

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

[root@sakshi ~]#
```

```
[root@sakshi ~]# 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_vbox-root 253:0    0   17G  0 lvm  /
  └─cs_vbox-swap 253:1    0    2G  0 lvm  [SWAP]
sdb                    8:16    0   20G  0 disk
└─sdb1                 8:17    0    5G  0 part
sr0                   11:0    1 1024M  0 rom
[root@sakshi ~]#
```

```
[root@sakshi ~]# 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.


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 (10487808-41943039, default 10487808):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (10487808-41943039, default 41943039): +5G

Created a new partition 2 of type 'Linux' and of size 5 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 (20973568-41943039, default 20973568):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (20973568-41943039, default 41943039): +5G

Created a new partition 3 of type 'Linux' and of size 5 GiB.

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 (31459328-41943039, default 31459328):
```

```
Using default response e.
Selected partition 4
First sector (31459328-41943039, default 31459328):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (31459328-41943039, default 41943039):

Created a new partition 4 of type 'Extended' and of size 5 GiB.

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

[root@sakshi ~]# 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_vbox-root 253:0   0   17G  0 lvm  /
  └─cs_vbox-swap 253:1   0    2G  0 lvm  [SWAP]
sdb               8:16   0   20G  0 disk
├─sdb1            8:17   0    5G  0 part
├─sdb2            8:18   0    5G  0 part
├─sdb3            8:19   0    5G  0 part
└─sdb4            8:20   0    1K  0 part
sr0              11:0    1 1024M  0 rom
[root@sakshi ~]#
```

```
[root@sakshi ~]# 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.


Command (m for help): n
All primary partitions are in use.
Adding logical partition 5
First sector (31461376-41943039, default 31461376):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (31461376-41943039, default 41943039): +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 (33560576-41943039, default 33560576):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (33560576-41943039, default 41943039): +1G

Created a new partition 6 of type 'Linux' and of size 1 GiB.

Command (m for help):
```

```
Command (m for help): n
All primary partitions are in use.
Adding logical partition 7
First sector (35659776-41943039, default 35659776):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (35659776-41943039, default 41943039): +1G

Created a new partition 7 of type 'Linux' and of size 1 GiB.

Command (m for help): w
The partition table has been altered.
Calling ioctl() to re-read partition table.
Syncing disks.

[root@sakshi ~]# 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_vbox-root 253:0    0   17G  0 lvm  /
  └─cs_vbox-swap 253:1    0    2G  0 lvm  [SWAP]
sdb                   8:16    0   20G  0 disk
├─sdb1                8:17    0    5G  0 part
├─sdb2                8:18    0    5G  0 part
├─sdb3                8:19    0    5G  0 part
├─sdb4                8:20    0    1K  0 part
├─sdb5                8:21    0    1G  0 part
├─sdb6                8:22    0    1G  0 part
└─sdb7                8:23    0    1G  0 part
sr0                   11:0    1 1024M  0 rom
[root@sakshi ~]#
```

```
[root@sakshi ~]# blkid
/dev/mapper/cs_vbox-swap: UUID="4186c7ad-02af-43a8-925c-a6181bad4456" TYPE="swap"
/dev/mapper/cs_vbox-root: UUID="eea78649-33c0-4522-ba17-e30556ba650c" TYPE="xfs"
/dev/sda2: UUID="72dghg-VAGn-2aiK-e9t0-6WIj-73TT-BI4qea" TYPE="LVM2_member" PARTUUID="db6b740f-02"
/dev/sda1: UUID="0dd1b2e9-2224-4f4a-bccd-5ed895c3de6e" TYPE="xfs" PARTUUID="db6b740f-01"
/dev/sdb2: PARTUUID="3a14d984-02"
/dev/sdb7: PARTUUID="3a14d984-07"
/dev/sdb5: PARTUUID="3a14d984-05"
/dev/sdb3: PARTUUID="3a14d984-03"
/dev/sdb1: PARTUUID="3a14d984-01"
/dev/sdb6: PARTUUID="3a14d984-06"
[root@sakshi ~]# mkfs.
mkfs.cramfs  mkfs.ext2    mkfs.ext3    mkfs.ext4    mkfs.fat     mkfs.minix   mkfs.msdos   mkfs.vfat    mkfs.xfs
[root@sakshi ~]# mkfs.
mkfs.cramfs  mkfs.ext2    mkfs.ext3    mkfs.ext4    mkfs.fat     mkfs.minix   mkfs.msdos   mkfs.vfat    mkfs.xfs
[root@sakshi ~]# mkfs.
mkfs.cramfs  mkfs.ext2    mkfs.ext3    mkfs.ext4    mkfs.fat     mkfs.minix   mkfs.msdos   mkfs.vfat    mkfs.xfs
[root@sakshi ~]# mkfs.ext4 /dev/sdb1
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 1310720 4k blocks and 327680 inodes
Filesystem UUID: dbb4cc85-6f69-4cae-997e-6b68f852fca0
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736

Allocating group tables: done
Writing inode tables: done
Creating journal (16384 blocks): done
Writing superblocks and filesystem accounting information: done

[root@sakshi ~]# blkid
/dev/mapper/cs_vbox-swap: UUID="4186c7ad-02af-43a8-925c-a6181bad4456" TYPE="swap"
/dev/mapper/cs_vbox-root: UUID="eea78649-33c0-4522-ba17-e30556ba650c" TYPE="xfs"
/dev/sda2: UUID="72dghg-VAGn-2aiK-e9t0-6WIj-73TT-BI4qea" TYPE="LVM2_member" PARTUUID="db6b740f-02"
/dev/sda1: UUID="0dd1b2e9-2224-4f4a-bccd-5ed895c3de6e" TYPE="xfs" PARTUUID="db6b740f-01"
/dev/sdb2: PARTUUID="3a14d984-02"
/dev/sdb7: PARTUUID="3a14d984-07"
/dev/sdb5: PARTUUID="3a14d984-05"
/dev/sdb3: PARTUUID="3a14d984-03"
/dev/sdb1: UUID="dbb4cc85-6f69-4cae-997e-6b68f852fca0" TYPE="ext4" PARTUUID="3a14d984-01"
/dev/sdb6: PARTUUID="3a14d984-06"
[root@sakshi ~]#
```

Mount:

```
[root@sakshi ~]# mkdir /partition
[root@sakshi ~]# mount dev/sdb1/partition
mount: dev/sdb1/partition: can't find in /etc/fstab.
[root@sakshi ~]# mount dev/sdb1 /partition
mount: /partition: special device dev/sdb1 does not exist.
[root@sakshi ~]# mount /dev/sdb1 /partition
[root@sakshi ~]# 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_vbox-root 253:0   0    17G  0 lvm  /
  └─cs_vbox-swap 253:1   0     2G  0 lvm  [SWAP]
sdb               8:16   0    20G  0 disk
├─sdb1            8:17   0     5G  0 part /partition
├─sdb2            8:18   0     5G  0 part
├─sdb3            8:19   0     5G  0 part
├─sdb4            8:20   0     1K  0 part
├─sdb5            8:21   0     1G  0 part
├─sdb6            8:22   0     1G  0 part
└─sdb7            8:23   0     1G  0 part
sr0              11:0    1  1024M  0 rom
[root@sakshi ~]# cd /partition
[root@sakshi partition]# touch sakshi1
[root@sakshi partition]# touch sakshi{2..20}
[root@sakshi partition]# ls
lost+found  sakshi10  sakshi12  sakshi14  sakshi16  sakshi18  sakshi2   sakshi3   sakshi5   sakshi7   sakshi9
sakshi1     sakshi11  sakshi13  sakshi15  sakshi17  sakshi19  sakshi20  sakshi4   sakshi6   sakshi8
```

Umount:

```
[root@sakshi ~]# umount /partition
[root@sakshi ~]# cd /partition/
[root@sakshi partition]# ls
[root@sakshi partition]# 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_vbox-root  253:0    0    17G  0 lvm  /
  └─cs_vbox-swap  253:1    0     2G  0 lvm  [SWAP]
sdb                8:16    0    20G  0 disk
├─sdb1             8:17    0     5G  0 part
├─sdb2             8:18    0     5G  0 part
├─sdb3             8:19    0     5G  0 part
├─sdb4             8:20    0     1K  0 part
├─sdb5             8:21    0     1G  0 part
├─sdb6             8:22    0     1G  0 part
└─sdb7             8:23    0     1G  0 part
sr0               11:0     1  1024M  0 rom
```

```
[root@sakshi ~]# mkdir /Task
mkdir: cannot create directory '/Task': File exists
[root@sakshi ~]# mkdir /task
[root@sakshi ~]# cd /task/
[root@sakshi task]# touch file{1..100}
[root@sakshi task]# ls
file1    file14 file2   file25 file30 file36 file41 file47 file52 file58 file63 file69 file74 file8  file85 file90 file96
file10   file15 file20  file26 file31 file37 file42 file48 file53 file59 file64 file7  file75 file80 file86 file91 file97
file100  file16 file21  file27 file32 file38 file43 file49 file54 file6  file65 file70 file76 file81 file87 file92 file98
file11   file17 file22  file28 file33 file39 file44 file5  file55 file60 file66 file71 file77 file82 file88 file93 file99
file12   file18 file23  file29 file34 file4  file45 file50 file56 file61 file67 file72 file78 file83 file89 file94
file13   file19 file24  file3  file35 file40 file46 file51 file57 file62 file68 file73 file79 file84 file9  file95
[root@sakshi task]# cd
[root@sakshi ~]# blkid
/dev/mapper/cs_vbox-swap: UUID="4186c7ad-02af-43a8-925c-a6181bad4456" TYPE="swap"
/dev/mapper/cs_vbox-root: UUID="eea78649-33c0-4522-ba17-e30556ba650c" TYPE="xfs"
/dev/sda2: UUID="72dghg-VAGn-2aiK-e9t0-6WIj-73TT-BI4qea" TYPE="LVM2_member" PARTUUID="db6b740f-02"
/dev/sda1: UUID="0dd1b2e9-2224-4f4a-bccd-5ed895c3de6e" TYPE="xfs" PARTUUID="db6b740f-01"
/dev/sdb1: UUID="dbb4cc85-6f69-4cae-997e-6b68f852fca0" TYPE="ext4" PARTUUID="3a14d984-01"
/dev/sdb4: PARTUUID="3a14d984-04"
/dev/sdb2: PARTUUID="3a14d984-02"
/dev/sdb7: PARTUUID="3a14d984-07"
/dev/sdb5: PARTUUID="3a14d984-05"
/dev/sdb3: UUID="e630a678-1161-4057-a75d-2e596eed0405" TYPE="ext2" PARTUUID="3a14d984-03"
/dev/sdb6: PARTUUID="3a14d984-06"
[root@sakshi ~]# df -hT
Filesystem              Type      Size  Used Avail Use% Mounted on
devtmpfs                devtmpfs  4.0M     0  4.0M   0% /dev
tmpfs                   tmpfs     2.8G     0  2.8G   0% /dev/shm
tmpfs                   tmpfs     1.1G  9.2M  1.1G   1% /run
/dev/mapper/cs_vbox-root xfs       17G  5.7G   12G  34% /
/dev/sda1               xfs      960M  368M  591M  39% /boot
tmpfs                   tmpfs     555M   96K  555M   1% /run/user/0
[root@sakshi ~]# mount /dev/sdb3 /mnt
```

```
[root@sakshi ~]# 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_vbox-root 253:0   0    17G  0 lvm  /
    └─cs_vbox-swap 253:1   0     2G  0 lvm  [SWAP]
sdb                8:16    0    20G  0 disk
 ├─sdb1            8:17    0     5G  0 part
 ├─sdb2            8:18    0     5G  0 part
 ├─sdb3            8:19    0     5G  0 part /mnt
 ├─sdb4            8:20    0   512B  0 part
 ├─sdb5            8:21    0     1G  0 part
 ├─sdb6            8:22    0     1G  0 part
 └─sdb7            8:23    0     1G  0 part
sr0               11:0     1  1024M  0 rom
[root@sakshi ~]# df -hT
Filesystem              Type      Size  Used Avail Use% Mounted on
devtmpfs                devtmpfs  4.0M     0  4.0M   0% /dev
tmpfs                   tmpfs     2.8G     0  2.8G   0% /dev/shm
tmpfs                   tmpfs     1.1G  9.2M  1.1G   1% /run
/dev/mapper/cs_vbox-root xfs       17G  5.7G   12G  34% /
/dev/sda1               xfs       960M  368M  593M  39% /boot
tmpfs                   tmpfs     555M   96K  555M   1% /run/user/0
/dev/sdb3               ext2      5.0G   24K  4.7G   1% /mnt
[root@sakshi ~]#
```

```
[root@sakshi ~]# umount /mnt
[root@sakshi ~]# 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_vbox-root 253:0   0    17G  0 lvm  /
    └─cs_vbox-swap 253:1   0     2G  0 lvm  [SWAP]
sdb                8:16    0    20G  0 disk
 ├─sdb1            8:17    0     5G  0 part
 ├─sdb2            8:18    0     5G  0 part
 ├─sdb3            8:19    0     5G  0 part
 ├─sdb4            8:20    0   512B  0 part
 ├─sdb5            8:21    0     1G  0 part
 ├─sdb6            8:22    0     1G  0 part
 └─sdb7            8:23    0     1G  0 part
sr0               11:0     1  1024M  0 rom
```

```
cp: cannot stat  /etc/boot : No such file or dir
[root@sakshi ~]# cp -R /etc /boot /mnt
[root@sakshi ~]# cd /mnt
[root@sakshi mnt]# ls
boot   etc
```

Permanent Mount:

```
#
# /etc/fstab
# Created by anaconda on Sat Jun 14 17:22:23 2025
#
# 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.
#
# After editing this file, run 'systemctl daemon-reload' to update systemd
# units generated from this file.
#
/dev/mapper/cs_vbox-root /                       xfs     defaults       0 0
UUID=0dd1b2e9-2224-4f4a-bccd-5ed895c3de6e /boot                xfs     defaults        0 0
/dev/mapper/cs_vbox-swap none                    swap    defaults       0 0
/dev/sdb2                /mnt                     ext4    defaults       0 0
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~
:wq!
```

```
[root@sakshi ~]# vim /etc/fstab
[root@sakshi ~]# mount -a
mount: (hint) your fstab has been modified, but systemd still uses
       the old version; use 'systemctl daemon-reload' to reload.
[root@sakshi ~]# df -hT
Filesystem              Type      Size  Used Avail Use% Mounted on
devtmpfs                devtmpfs  4.0M     0  4.0M   0% /dev
tmpfs                   tmpfs     2.8G     0  2.8G   0% /dev/shm
tmpfs                   tmpfs     1.1G  9.2M  1.1G   1% /run
/dev/mapper/cs_vbox-root xfs       17G  6.0G   11G  36% /
/dev/sda1               xfs       960M  368M  593M  39% /boot
tmpfs                   tmpfs     555M   96K  555M   1% /run/user/0
/dev/sdb1               ext4      4.9G   24K  4.6G   1% /mnt
[root@sakshi ~]# 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_vbox-root 253:0   0   17G  0 lvm  /
  └─cs_vbox-swap 253:1   0    2G  0 lvm  [SWAP]
sdb               8:16   0   20G  0 disk
├─sdb1            8:17   0    5G  0 part /mnt
├─sdb2            8:18   0    5G  0 part
├─sdb3            8:19   0    5G  0 part
├─sdb4            8:20   0  512B  0 part
├─sdb5            8:21   0    1G  0 part
├─sdb6            8:22   0    1G  0 part
└─sdb7            8:23   0    1G  0 part
sr0              11:0    1 1024M  0 rom
[root@sakshi ~]#
```