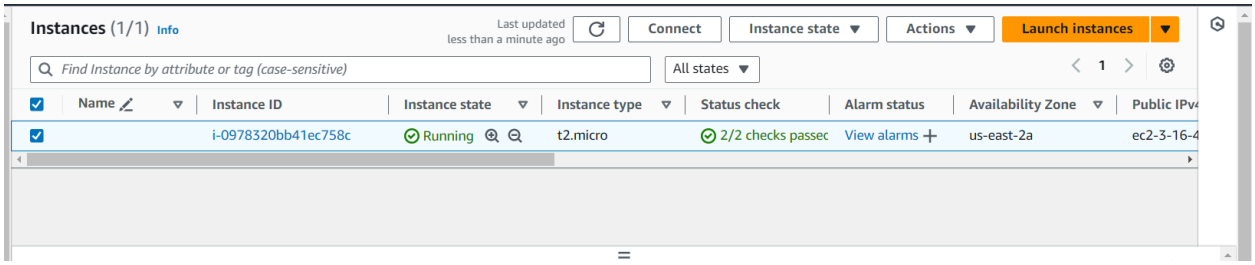
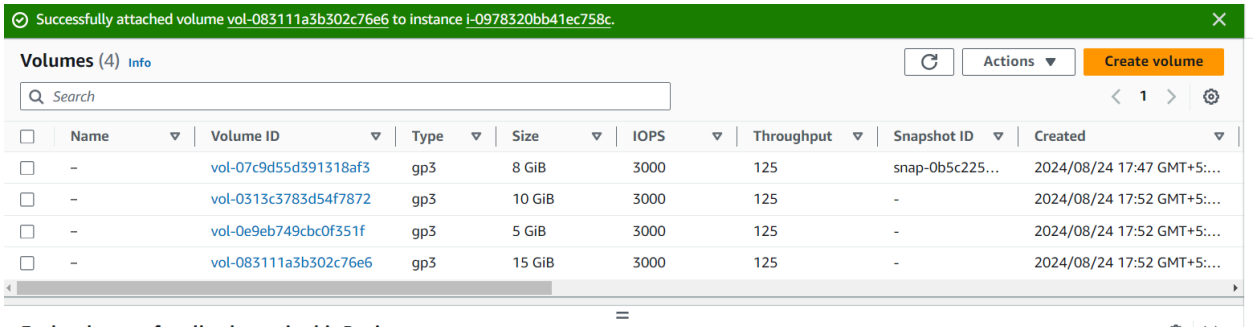
How to Create LVM Step-By-Step AWS Linux

1-Launch Ec2 Instance



2-Create a volume 15GB, 20GB, 25GB and attach the instance



3-Here you can see not attached the EBS volumes.

Session ID: root-pumrp347crw7gnzyco5pliucwm Instance ID: i-0978320bb41ec758c

```
sh-5.2$ sudo su -
[root@ip-192-168-1-32 ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        4.0M     0  4.0M   0% /dev
tmpfs           475M     0  475M   0% /dev/shm
tmpfs           190M  456K  190M   1% /run
/dev/xvda1      8.0G  1.6G  6.5G  20% /
tmpfs           475M     0  475M   0% /tmp
/dev/xvda128     10M  1.3M  8.7M  13% /boot/efi
tmpfs            95M     0   95M   0% /run/user/0
[root@ip-192-168-1-32 ~]#
```

4-Using this command you will see
Lsblk

Session ID: root-pumrp347crw7gnzyco5pliucwm Instance ID: i-0978320bb41ec758c

```
[root@ip-192-168-1-32 ~]# lsblk
NAME      MAJ:MIN   RM SIZE RO TYPE MOUNTPOINTS
xvda      202:0      0   8G  0 disk
├─xvda1   202:1      0   8G  0 part /
├─xvda127 259:0      0   1M  0 part
└─xvda128 259:1      0  10M  0 part /boot/efi
xvdbb     202:13568  0  10G  0 disk
xvdbc     202:13824  0   5G  0 disk
xvdbd     202:14080  0  15G  0 disk
[root@ip-192-168-1-32 ~]#
```

5-Now install lVM

```
Installed:
  device-mapper-devel-1.02.185-1.amzn2023.0.5.x86_64
  device-mapper-event-devel-1.02.185-1.amzn2023.0.5.x86_64
  device-mapper-persistent-data-0.9.0-7.amzn2023.0.2.x86_64
  libselinux-devel-3.4-5.amzn2023.0.2.x86_64
  lvm2-2.03.16-1.amzn2023.0.5.x86_64
  lvm2-devel-2.03.16-1.amzn2023.0.5.x86_64
  lvm2-lockd-2.03.16-1.amzn2023.0.5.x86_64
  pcre2-devel-10.40-1.amzn2023.0.3.x86_64
  pcre2-utf32-10.40-1.amzn2023.0.3.x86_64
  python3-gobject-base-noarch-3.42.2-2.amzn2023.0.3.noarch
  sanlock-lib-3.8.4-1.amzn2023.0.2.x86_64
  device-mapper-event-1.02.185-1.amzn2023.0.5.x86_64
  device-mapper-event-libs-1.02.185-1.amzn2023.0.5.x86_64
  gobject-introspection-1.73.0-2.amzn2023.0.3.x86_64
  libsepol-devel-3.4-3.amzn2023.0.3.x86_64
  lvm2-dbusd-2.03.16-1.amzn2023.0.5.noarch
  lvm2-libs-2.03.16-1.amzn2023.0.5.x86_64
  lvm2-testsuite-2.03.16-1.amzn2023.0.5.x86_64
  pcre2-utf16-10.40-1.amzn2023.0.3.x86_64
  python3-gobject-base-3.42.2-2.amzn2023.0.3.x86_64
  python3-pyudev-0.22.0-4.amzn2023.0.3.noarch
  systemd-devel-252.23-2.amzn2023.x86_64

Complete!
[root@ip-192-168-1-32 ~]# yum install lvm* -y
```

6-check LVM is there

Session ID: root-pumrp347crw7gnzyco5pliucwm Instance ID: i-0978320bb41ec758c

```
root@ip-192-168-1-32 ~]# lvm
lvm>
```

7-create pv volumes

```
[root@ip-192-168-1-32 ~]# blkid
/dev/xvda128: SEC_TYPE="msdos" UUID="78B3-5976" BLOCK_SIZE="512" TYPE="vfat" PARTLABEL="EFI System Partition" PARTUUID="a16c46c5-0bb6-4fd9-9228-bdbcebcb5556"
/dev/xvda127: PARTLABEL="BIOS Boot Partition" PARTUUID="dc0fd69c-eed3-4ab3-9852-4717e4fdc12e"
/dev/xvda1: LABEL="/" UUID="aac19826-060d-43e9-a76d-4d9cae6ea783" BLOCK_SIZE="4096" TYPE="xfs" PARTLABEL="Linux" PARTUUID="e4b828f9-e589-4822-8381-d2f4584ab8d4"
[root@ip-192-168-1-32 ~]# pvcreate /dev/xvdbb /dev/xvdbc /dev/xvdbd
  Physical volume "/dev/xvdbb" successfully created.
  Physical volume "/dev/xvdbc" successfully created.
  Physical volume "/dev/xvdbd" successfully created.
[root@ip-192-168-1-32 ~]#
```

8-list pv volumes

Session ID: root-pumrp347crw7gnzyco5pliucwm Instance ID: i-0978320bb41ec758c

```
[root@ip-192-168-1-32 ~]# pvs
  PV         VG Fmt  Attr PSize  PFree
  /dev/sdbb     lvm2 ---  10.00g 10.00g
  /dev/sdbc     lvm2 ---   5.00g  5.00g
  /dev/sdbd     lvm2 ---  15.00g 15.00g
[root@ip-192-168-1-32 ~]# pvscan
  PV /dev/sdbb                     lvm2 [10.00 GiB]
  PV /dev/sdbc                     lvm2 [5.00 GiB]
  PV /dev/sdbd                     lvm2 [15.00 GiB]
  Total: 3 [30.00 GiB] / in use: 0 [0   ] / in no VG: 3 [30.00 GiB]
[root@ip-192-168-1-32 ~]#
```

You can use pvdisplay also

```
[root@ip-192-168-1-32 ~]# pvdisplay
  "/dev/sdbb" is a new physical volume of "10.00 GiB"
  --- NEW Physical volume ---
  PV Name               /dev/sdbb
  VG Name
  PV Size               10.00 GiB
  Allocatable           NO
  PE Size               0
  Total PE              0
  Free PE               0
  Allocated PE          0
  PV UUID               bUdEyD-WaDD-WURy-cPAM-lzgP-psOX-4fICfF

  "/dev/sdbc" is a new physical volume of "5.00 GiB"
  --- NEW Physical volume ---
  PV Name               /dev/sdbc
  VG Name
  PV Size               5.00 GiB
  Allocatable           NO
  PE Size               0
  Total PE              0
  Free PE               0
  Allocated PE          0
  PV UUID               fKt4MK-swFU-b28V-N6du-6u7E-TLZ6-CtcxuH

  "/dev/sdbd" is a new physical volume of "15.00 GiB"
  --- NEW Physical volume ---
  PV Name               /dev/sdbd
  VG Name
  PV Size               15.00 GiB
  Allocatable           NO
```

9-create virtual volumes anji folder into 30gb all there like /dev/xvdbb 10GB and /dev/xvdbc 5GB and /dev/xvdbd 15GB

```
[root@ip-192-168-1-32 ~]# vgcreate anji /dev/xvdbb /dev/sdb
/dev/sdbb  /dev/sdbc  /dev/sdbd
[root@ip-192-168-1-32 ~]# vgcreate anji /dev/sdbb /dev/sdbc /dev/sdbd
  Volume group "anji" successfully created
[root@ip-192-168-1-32 ~]#
```

```
  VG   #PV #LV #SN Attr   VSize   VFree
  anji   3   0   0 wz--n- <29.99g <29.99g
[root@ip-192-168-1-32 ~]#
```

10-Now create LVM volumes into Vinod and Sampi

```
[root@ip-192-168-1-32 ~]# lvcreate -L +20G -n vinod anji
  Logical volume "vinod" created.
[root@ip-192-168-1-32 ~]# lvcreate -L +9G -n sampi anji
  Logical volume "sampi" created.
[root@ip-192-168-1-32 ~]#
```

```
[root@ip-192-168-1-32 ~]# mkfs.ext4 /dev/a
anji/   autofs
[root@ip-192-168-1-32 ~]# mkfs.ext4 /dev/anji/vinod
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 5242880 4k blocks and 1310720 inodes
Filesystem UUID: 8c6fd4da-0f01-40e8-a0a3-5fa3d4f357ce
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
        4096000

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

[root@ip-192-168-1-32 ~]# mkfs.ext4 /dev/anji/sampi
mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 2359296 4k blocks and 589824 inodes
Filesystem UUID: 823a130d-05ac-4ce9-9410-b114c9023fa7
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632

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

[root@ip-192-168-1-32 ~]#
```

```
[root@ip-192-168-1-32 ~]# mkdir vinod
[root@ip-192-168-1-32 ~]# mkdir sampi
[root@ip-192-168-1-32 ~]# ll
total 0
drwxr-xr-x. 2 root root 6 Aug 24 12:39 sampi
drwxr-xr-x. 2 root root 6 Aug 24 12:39 vinod
[root@ip-192-168-1-32 ~]#
```

```
[root@ip-192-168-1-32 /]# sudo mount /dev/anji/vinod /vinod
[root@ip-192-168-1-32 /]# sudo mount /dev/anji/sampi /sampi
[root@ip-192-168-1-32 /]#
```

Cat /etc/mtab

```
/dev/xvda15 /boot/efi vfat rw,relatime,fmask=0077,dmask=0077,codepage=437,iocharset=iso8859-1,shortname=mixed,errors=remount-ro 0 0
binfmt_misc /proc/sys/fs/binfmt_misc binfmt_misc rw,nosuid,nodev,noexec,relatime 0 0
tmpfs /run/user/0 tmpfs rw,nosuid,nodev,relatime,size=98040k,nr_inodes=24510,mode=700,inode64 0 0
/dev/mapper/anji-vinod /root/vinod xfs rw,relatime,attr2,inode64,logbufs=8,logbsize=32k,noquota 0 0
/dev/mapper/anji-sampi /root/sampi xfs rw,relatime,attr2,inode64,logbufs=8,logbsize=32k,noquota 0 0
root@ip-10-1-2-52:~# cat /etc/mtab
```

Now add into vi /etc/fstab

```
[root@ip-192-168-1-32 /]# cat /etc/fstab
#
UUID=aac19826-060d-43e9-a76d-4d9cae6ea783     /           xfs    defaults,noatime  1   1
UUID=78B3-5976        /boot/efi       vfat    defaults,noatime,uid=0,gid=0,umask=0077,shortname=winnt,x-systemd.automount 0 2
[root@ip-192-168-1-32 /]# vi /etc/fstab
[root@ip-192-168-1-32 /]# cat /etc/fstab
#
UUID=aac19826-060d-43e9-a76d-4d9cae6ea783     /           xfs    defaults,noatime  1   1
UUID=78B3-5976        /boot/efi       vfat    defaults,noatime,uid=0,gid=0,umask=0077,shortname=winnt,x-systemd.automount 0 2


/dev/anji/vinod /vinod ext4 defaults 0 0
/dev/anji/sampi /sampi ext4 defaults 0 0

[root@ip-192-168-1-32 /]#
```

```
[root@ip-192-168-1-32 /]# df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                4.0M     0  4.0M   0% /dev
tmpfs                   475M   12K  475M   1% /dev/shm
tmpfs                   190M  476K  190M   1% /run
/dev/xvda1              8.0G  1.6G  6.4G  20% /
tmpfs                   475M     0  475M   0% /tmp
/dev/xvda128             10M  1.3M  8.7M  13% /boot/efi
tmpfs                    95M     0   95M   0% /run/user/0
/dev/mapper/anji-vinod   20G   24K   19G   1% /vinod
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
[root@ip-192-168-1-32 /]#
```

Now my manager come and say increate 5GB to 25GB and use that 20GB extra in Vinod folder

```
[root@ip-192-168-1-32 /]# lvs
  LV    VG   Attr       LSize  Pool Origin Data%  Meta%  Move Log Cpy%Sync Convert
  sampi anji -wi-ao----  9.00g
  vinod anji -wi-ao---- 20.00g
[root@ip-192-168-1-32 /]# df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                4.0M     0  4.0M   0% /dev
tmpfs                   475M   12K  475M   1% /dev/shm
tmpfs                   190M  476K  190M   1% /run
/dev/xvda1              8.0G  1.6G  6.4G  20% /
tmpfs                   475M     0  475M   0% /tmp
/dev/xvda128             10M  1.3M  8.7M  13% /boot/efi
tmpfs                    95M     0   95M   0% /run/user/0
/dev/mapper/anji-vinod   20G   24K   19G   1% /vinod
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
[root@ip-192-168-1-32 /]# lsblk
NAME         MAJ:MIN   RM SIZE RO TYPE MOUNTPOINTS
xvda         202:0      0   8G  0 disk
├─xvda1      202:1      0   8G  0 part /
├─xvda127    259:0      0   1M  0 part
└─xvda128    259:1      0  10M  0 part /boot/efi
xvdbb        202:13568  0  10G  0 disk
├─anji-vinod 253:0      0  20G  0 lvm  /vinod
└─anji-sampi 253:1      0   9G  0 lvm  /sampi
xvdbc        202:13824  0  25G  0 disk
└─anji-sampi 253:1      0   9G  0 lvm  /sampi
xvdbd        202:14080  0  15G  0 disk
└─anji-vinod 253:0      0  20G  0 lvm  /vinod
[root@ip-192-168-1-32 /]#
```

```
[root@ip-192-168-1-32 /]# pvdisplay
  --- Physical volume ---
  PV Name               /dev/sdbb
  VG Name               anji
  PV Size               10.00 GiB / not usable 4.00 MiB
  Allocatable           yes
  PE Size               4.00 MiB
  Total PE              2559
  Free PE               253
  Allocated PE          2306
  PV UUID               bUdEyD-WaDD-WURy-cPAM-lzgP-psOX-4fICfF

  --- Physical volume ---
  PV Name               /dev/sdbc
  VG Name               anji
  PV Size               5.00 GiB / not usable 4.00 MiB
  Allocatable           yes (but full)
  PE Size               4.00 MiB
  Total PE              1279
  Free PE               0
  Allocated PE          1279
  PV UUID               fKt4MK-swFU-b28V-N6du-6u7E-TLZ6-CtcxuH

  --- Physical volume ---
  PV Name               /dev/sdbd
  VG Name               anji
  PV Size               15.00 GiB / not usable 4.00 MiB
  Allocatable           yes (but full)
  PE Size               4.00 MiB
  Total PE              3839
```

```
PV Name               /dev/sdbb
VG Name               anji
PV Size               10.00 GiB / not usable 4.00 MiB
Allocatable           yes
PE Size               4.00 MiB
Total PE              2559
Free PE               253
Allocated PE          2306
PV UUID               bUdEyD-WaDD-WURy-cPAM-lzgP-psOX-4fICfF

--- Physical volume ---
PV Name               /dev/sdbc
VG Name               anji
PV Size               <25.00 GiB / not usable 3.00 MiB
Allocatable           yes
PE Size               4.00 MiB
Total PE              6399
Free PE               5120
Allocated PE          1279
PV UUID               fKt4MK-swFU-b28V-N6du-6u7E-TLZ6-CtcxuH

--- Physical volume ---
PV Name               /dev/sdbd
VG Name               anji
PV Size               15.00 GiB / not usable 4.00 MiB
Allocatable           yes (but full)
PE Size               4.00 MiB
Total PE              3839
Free PE               0
Allocated PE          3839
PV UUID               Aypdly-2lwh-nnqv-otBk-XuHx-1iX9-jMgWOv

root@ip-192-168-1-32 /]# pvresize /dev/sdbc
```

```
  PV UUID               Aypdly-2IWh-hhqv-UtBk-XuhX-TIX9-jMgWOV

[root@ip-192-168-1-32 /]# lvextend -L +20G /dev/anji/vinod
  Size of logical volume anji/vinod changed from 20.00 GiB (5120 extents) to 40.00 GiB (10240 extents).
  Logical volume anji/vinod successfully resized.
[root@ip-192-168-1-32 /]# resize2fs /dev/anji/vinod
resize2fs 1.46.5 (30-Dec-2021)
Filesystem at /dev/anji/vinod is mounted on /vinod; on-line resizing required
old_desc_blocks = 3, new_desc_blocks = 5
The filesystem on /dev/anji/vinod is now 10485760 (4k) blocks long.

[root@ip-192-168-1-32 /]#
```

```
[root@ip-192-168-1-32 /]# df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                4.0M     0  4.0M   0% /dev
tmpfs                   475M   12K  475M   1% /dev/shm
tmpfs                   190M  476K  190M   1% /run
/dev/xvda1              8.0G  1.6G  6.4G  20% /
tmpfs                   475M     0  475M   0% /tmp
/dev/xvda128             10M  1.3M  8.7M  13% /boot/efi
tmpfs                    95M     0   95M   0% /run/user/0
/dev/mapper/anji-vinod   40G   24K   38G   1% /vinod
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
[root@ip-192-168-1-32 /]#
```

NOW i want to reduce the 40GB to 30GB and add 10GB in sampi

```
[root@ip-192-168-1-32 /]# df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                4.0M     0  4.0M   0% /dev
tmpfs                   475M   12K  475M   1% /dev/shm
tmpfs                   190M  476K  190M   1% /run
/dev/xvda1              8.0G  1.6G  6.4G  20% /
tmpfs                   475M     0  475M   0% /tmp
/dev/xvda128             10M  1.3M  8.7M  13% /boot/efi
tmpfs                    95M     0   95M   0% /run/user/0
/dev/mapper/anji-vinod   40G   24K   38G   1% /vinod
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
[root@ip-192-168-1-32 /]# sudo umount /vinod
[root@ip-192-168-1-32 /]# df -h
Filesystem              Size  Used Avail Use% Mounted on
devtmpfs                4.0M     0  4.0M   0% /dev
tmpfs                   475M   12K  475M   1% /dev/shm
tmpfs                   190M  476K  190M   1% /run
/dev/xvda1              8.0G  1.6G  6.4G  20% /
tmpfs                   475M     0  475M   0% /tmp
/dev/xvda128             10M  1.3M  8.7M  13% /boot/efi
tmpfs                    95M     0   95M   0% /run/user/0
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
[root@ip-192-168-1-32 /]# e2fsck -f /dev/anji/vinod
e2fsck 1.46.5 (30-Dec-2021)
```

```
[root@ip-192-168-1-32 /]# e2fsck -f /dev/anji/vinod
e2fsck 1.46.5 (30-Dec-2021)
Pass 1: Checking inodes, blocks, and sizes
Pass 2: Checking directory structure
Pass 3: Checking directory connectivity
Pass 4: Checking reference counts
Pass 5: Checking group summary information
/dev/anji/vinod: 11/2621440 files (0.0% non-contiguous), 209590/10485760 blocks
[root@ip-192-168-1-32 /]# resize2fs /dev/anji/vinod 30G
resize2fs 1.46.5 (30-Dec-2021)
Resizing the filesystem on /dev/anji/vinod to 7864320 (4k) blocks.
The filesystem on /dev/anji/vinod is now 7864320 (4k) blocks long.

[root@ip-192-168-1-32 /]# lvreduce -L 30G /dev/anji/vinod
  WARNING: Reducing active logical volume to 30.00 GiB.
  THIS MAY DESTROY YOUR DATA (filesystem etc.)
Do you really want to reduce anji/vinod? [y/n]: y
  Size of logical volume anji/vinod changed from 40.00 GiB (10240 extents) to 30.00 GiB (7680 extents).
  Logical volume anji/vinod successfully resized.
[root@ip-192-168-1-32 /]# mount /vinod
[root@ip-192-168-1-32 /]# df -h
Filesystem             Size  Used Avail Use% Mounted on
devtmpfs               4.0M     0  4.0M   0% /dev
tmpfs                  475M   12K  475M   1% /dev/shm
tmpfs                  190M  476K  190M   1% /run
/dev/xvda1             8.0G  1.6G  6.4G  20% /
tmpfs                  475M     0  475M   0% /tmp
/dev/xvda128            10M  1.3M  8.7M  13% /boot/efi
tmpfs                   95M     0   95M   0% /run/user/0
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
/dev/mapper/anji-vinod   30G   24K   28G   1% /vinod
[root@ip-192-168-1-32 /]#
```

Now add that 10 GB into sampi

```
/dev/mapper/anji-sampi  8.8G   24K  8.3G   1% /sampi
/dev/mapper/anji-vinod   30G   24K   28G   1% /vinod
[root@ip-192-168-1-32 /]# lvs
  LV    VG   Attr       LSize  Pool Origin Data%  Meta%  Move Log Cpy%Sync Convert
  sampi anji -wi-ao----  9.00g
  vinod anji -wi-ao---- 30.00g
[root@ip-192-168-1-32 /]# vgs'
> ^C
[root@ip-192-168-1-32 /]# vgs
  VG   #PV #LV #SN Attr   VSize   VFree
  anji   3   2   0 wz--n- <49.99g <10.99g
[root@ip-192-168-1-32 /]# lvextend -L +10G /dev/anji/sampi
  Size of logical volume anji/sampi changed from 9.00 GiB (2304 extents) to 19.00 GiB (4864 extents).
  Logical volume anji/sampi successfully resized.
[root@ip-192-168-1-32 /]# resize2fs /dev/anji/sampi
resize2fs 1.46.5 (30-Dec-2021)
Filesystem at /dev/anji/sampi is mounted on /sampi; on-line resizing required
old_desc_blocks = 2, new_desc_blocks = 3
The filesystem on /dev/anji/sampi is now 4980736 (4k) blocks long.

[root@ip-192-168-1-32 /]# df -h
Filesystem             Size  Used Avail Use% Mounted on
devtmpfs               4.0M     0  4.0M   0% /dev
tmpfs                  475M   12K  475M   1% /dev/shm
tmpfs                  190M  476K  190M   1% /run
/dev/xvda1             8.0G  1.6G  6.4G  20% /
tmpfs                  475M     0  475M   0% /tmp
/dev/xvda128            10M  1.3M  8.7M  13% /boot/efi
tmpfs                   95M     0   95M   0% /run/user/0
/dev/mapper/anji-sampi   19G   24K   18G   1% /sampi
/dev/mapper/anji-vinod   30G   24K   28G   1% /vinod
[root@ip-192-168-1-32 /]#
```

#this is a failed but useful

Now My Volume is full I Increased the 10GB Volume In the Console i want to resize

Here I have one doubt i have three volumes with 15GB, 20 GB, and 25GB now i increased the 15GB volume into 25gb here which mount i increased I am getting confused screenshot you will clarity

```
root@ip-10-1-2-52:~# df -h
Filesystem             Size  Used Avail Use% Mounted on
/dev/root              6.8G  1.8G  5.0G  27% /
tmpfs                  479M   12K  479M   1% /dev/shm
tmpfs                  192M  888K  191M   1% /run
tmpfs                  5.0M     0  5.0M   0% /run/lock
/dev/xvda16            881M   76M  744M  10% /boot
/dev/xvda15            105M  6.1M   99M   6% /boot/efi
tmpfs                   96M   12K   96M   1% /run/user/0
/dev/mapper/anji-vinod  29G  600M   29G   3% /root/vinod
/dev/mapper/anji-sampi  30G  620M   30G   3% /root/sampi
root@ip-10-1-2-52:~# lsblk
NAME         MAJ:MIN   RM  SIZE RO TYPE MOUNTPOINTS
loop0          7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1          7:1      0 55.7M  1 loop /snap/core18/2829
loop2          7:2      0 38.8M  1 loop /snap/snapd/21759
xvda         202:0      0    8G  0 disk
├─xvda1      202:1      0    7G  0 part /
├─xvda14     202:14     0    4M  0 part
├─xvda15     202:15     0  106M  0 part /boot/efi
└─xvda16     259:0      0  913M  0 part /boot
xvdbb        202:13568  0   25G  0 disk
└─anji-sampi 252:0      0   30G  0 lvm  /root/sampi
xvdbc        202:13824  0   20G  0 disk
├─anji-sampi 252:0      0   30G  0 lvm  /root/sampi
└─anji-vinod 252:1      0   29G  0 lvm  /root/vinod
xvdbd        202:14080  0   25G  0 disk
└─anji-vinod 252:1      0   29G  0 lvm  /root/vinod
root@ip-10-1-2-52:~#
```

How to solve the above problem
Here you can see the 15 GB volume mount point name xvdbb you can now resize this

```
xvdbd        202:14080  0   25G  0 disk
└─anji-vinod 252:1      0   29G  0 lvm  /root/vinod
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <15.00g       0
root@ip-10-1-2-52:~#
```

pvresize /dev/xvdbd

```
└─anji-vlnod 252:1    0   29G  0 lvm  /root/vlnod
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <15.00g       0
root@ip-10-1-2-52:~# pvresize /dev/xvdbd
  Physical volume "/dev/xvdbd" changed
  1 physical volume(s) resized or updated / 0 physical volume(s) not resized
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <25.00g   10.00g
root@ip-10-1-2-52:~#
```

Here you can see 10GB free

```
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <15.00g       0
root@ip-10-1-2-52:~# pvresize /dev/xvdbd
  Physical volume "/dev/xvdbd" changed
  1 physical volume(s) resized or updated / 0 physical volume(s) not resize
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <25.00g   10.00g
root@ip-10-1-2-52:~# vgs
  VG   #PV #LV #SN Attr   VSize   VFree
  anji   3   2   0 wz--n- <69.99g <10.99g
root@ip-10-1-2-52:~#
```

Now I added the remaining 10 GB into sampi

```
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <15.00g       0
root@ip-10-1-2-52:~# pvresize /dev/xvdbd
  Physical volume "/dev/xvdbd" changed
  1 physical volume(s) resized or updated / 0 physical volume(s) not resized
root@ip-10-1-2-52:~# pvs
  PV         VG   Fmt  Attr PSize   PFree
  /dev/xvdbb anji lvm2 a--  <25.00g       0
  /dev/xvdbc anji lvm2 a--  <20.00g 1012.00m
  /dev/xvdbd anji lvm2 a--  <25.00g   10.00g
root@ip-10-1-2-52:~# vgs
  VG   #PV #LV #SN Attr   VSize   VFree
  anji   3   2   0 wz--n- <69.99g <10.99g
root@ip-10-1-2-52:~# lvextend -L +10G /dev/anji/sampi
  Size of logical volume anji/sampi changed from 30.00 GiB (7680 extents) to 40.00 GiB (10240 extents).
  Logical volume anji/sampi successfully resized.
root@ip-10-1-2-52:~#
```

Lsblk

Now you can see Sampi before 30GB now 40GB

```
  Logical volume anji/sampi successfully resized.
root@ip-10-1-2-52:~# lsblk
NAME          MAJ:MIN   RM  SIZE RO TYPE MOUNTPOINTS
loop0           7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1           7:1      0 55.7M  1 loop /snap/core18/2829
loop2           7:2      0 38.8M  1 loop /snap/snapd/21759
xvda          202:0      0    8G  0 disk
├─xvda1       202:1      0    7G  0 part /
├─xvda14      202:14     0    4M  0 part
├─xvda15      202:15     0  106M  0 part /boot/efi
└─xvda16      259:0      0  913M  0 part /boot
xvdbb         202:13568  0   25G  0 disk
└─anji-sampi  252:0      0   40G  0 lvm  /root/sampi
xvdbc         202:13824  0   20G  0 disk
├─anji-sampi  252:0      0   40G  0 lvm  /root/sampi
└─anji-vinod  252:1      0   29G  0 lvm  /root/vinod
xvdbd         202:14080  0   25G  0 disk
├─anji-sampi  252:0      0   40G  0 lvm  /root/sampi
└─anji-vinod  252:1      0   29G  0 lvm  /root/vinod
root@ip-10-1-2-52:~#
```

Now remount the mount point

```
root@ip-10-1-2-52:~# df -h sampi/
Filesystem             Size  Used Avail Use% Mounted on
/dev/mapper/anji-sampi   30G  620M   30G   3% /root/sampi
root@ip-10-1-2-52:~# lvresize -L 40G /dev/anji/sampi
  New size (10240 extents) matches existing size (10240 extents).
root@ip-10-1-2-52:~# df -h sampi/
Filesystem             Size  Used Avail Use% Mounted on
/dev/mapper/anji-sampi   30G  620M   30G   3% /root/sampi
root@ip-10-1-2-52:~# mount -o remount /dev/anji/sampi sampi/
mount: (hint) your fstab has been modified, but systemd still uses
       the old version; use 'systemctl daemon-reload' to reload.
root@ip-10-1-2-52:~# systemctl daemon-reload
root@ip-10-1-2-52:~# df -h sampi/
Filesystem             Size  Used Avail Use% Mounted on
/dev/mapper/anji-sampi   30G  620M   30G   3% /root/sampi
root@ip-10-1-2-52:~# xfs_growfs /dev/anji/sampi
meta-data=/dev/mapper/anji-sampi isize=512    agcount=4, agsize=1966080 blks
         =                       sectsz=512   attr=2, projid32bit=1
         =                       crc=1        finobt=1, sparse=1, rmapbt=1
         =                       reflink=1    bigtime=1 inobtcount=1 nrext64=0
data     =                       bsize=4096   blocks=7864320, imaxpct=25
         =                       sunit=0      swidth=0 blks
naming   =version 2              bsize=4096   ascii-ci=0, ftype=1
log      =internal log           bsize=4096   blocks=16384, version=2
         =                       sectsz=512   sunit=0 blks, lazy-count=1
realtime =none                   extsz=4096   blocks=0, rtextents=0
data blocks changed from 7864320 to 10485760
root@ip-10-1-2-52:~# df -h sampi/
Filesystem             Size  Used Avail Use% Mounted on
/dev/mapper/anji-sampi   40G  816M   40G   2% /root/sampi
root@ip-10-1-2-52:~#
```

here I have 29GB in Vinod we used 10GB we have 19GB free space I want to use that 19GB in Sampi how to decrease that Vinod

Now unmount the Vinod

```
root@ip-10-1-2-52:~# df -h
Filesystem              Size  Used Avail Use% Mounted on
/dev/root               6.8G  1.8G  5.0G  27% /
tmpfs                   479M   12K  479M   1% /dev/shm
tmpfs                   192M  904K  191M   1% /run
tmpfs                   5.0M     0  5.0M   0% /run/lock
/dev/xvda16             881M   76M  744M  10% /boot
/dev/xvda15             105M  6.1M   99M   6% /boot/efi
tmpfs                    96M   12K   96M   1% /run/user/0
/dev/mapper/anji-sampi   40G  816M   40G   2% /root/sampi
/dev/mapper/anji-vinod   29G  600M   29G   3% /root/vinod
root@ip-10-1-2-52:~# umount /dev/anji/vinod anji-vinod/
umount: anji-vinod/: no mount point specified.
root@ip-10-1-2-52:~# df -h
Filesystem              Size  Used Avail Use% Mounted on
/dev/root               6.8G  1.8G  5.0G  27% /
tmpfs                   479M   12K  479M   1% /dev/shm
tmpfs                   192M  904K  191M   1% /run
tmpfs                   5.0M     0  5.0M   0% /run/lock
/dev/xvda16             881M   76M  744M  10% /boot
/dev/xvda15             105M  6.1M   99M   6% /boot/efi
tmpfs                    96M   12K   96M   1% /run/user/0
/dev/mapper/anji-sampi   40G  816M   40G   2% /root/sampi
root@ip-10-1-2-52:~#
```