Step1: Install LVm tools (if already not installed)

Ensure that the LVM tools are installed on your system



**1.create physical volume of 20GB**

Step:

1.Identify the disk:

Ensure you have a disk of 20GB available ’ lsblk’

2.create physical volume



3.verify the physical volume:

To verify the physical volume we use ‘ pvdisplay’



Result:

Physical volume created: ‘/dev/sdX1’

Size:20GB

**2.Create Volume Group of 10GB**

Create the volume group:



Create a logical volume we use ‘my\_lv’



Result:

Volume group is created:’/dev/sdb1’

Size:10GB

**3. Create Logical volume-1 with 2.5GB, apply the filesystem. Mount the file system with /lvm1 mount path**

Create logical volume:

For logical volume we use ‘lv1’



Format for logical volume in file system we use such as ‘ext4’



Create a Mount Point:

Create a directory where the logical volume will be mounted. We use ‘/lvm1’



Result:

Logical volume created: ‘/dev/vg1/lv1’

Size:2.5

Mount: ‘lvm1’

**4.Create another logical volume-2 with 2.5GB, apply the filesystem. Mount the filesystem with /lvm2 mount path**

Create a file system

Logical volume with file system:



Create a mount point

Create the mount point diretory:



Create mount the filesystem



Result:

Logical volume –2 create:’/dev/vg0/lv2’

Mount point :’/lvm2’

Monut filesystem: ‘.dev/vg0/lv2/lvm2’

**5.Increase the logical volume-1 by 2GB**

Check the current logical volumes:



Available space in volume group:

ensure you have enough free space in the volume group to add 2GB.



Resize the logical volume:

To increase the size of the logical volume we use:’ lvextend ‘



Resize the filesystem

* Filesystem is depending on type
* Filesystem include ext4 and xfs:

For example:

Xfs



Result:

Logical volume: ‘lvdisplay’

Resize logical volume: ‘/dev/volume\_group\_name/logical\_volume\_name’

Xfs: ‘/mount/point’

**6.Decrease the logical volume-2 by 2GB**

Check the filesytsem

* The logical volume, ensure the filesystem is consistent
* Replace /dev/mapper/your-vg-your-lv with your logical volume path.



Reduce the logical volume

We can recude the size of the logical volume: ‘your-vg ‘ , ‘your-lv’



Result:

Filesystem:’ /dev/mapper/your\_vg\_your\_lv’

Reduce lv: ‘/dev/your\_vg/your\_iv’

**7. Restart the server and observe mounts are exist**

Restart the server

* You can restart the server using by linux and unix



Verify mounts:

After the server restarts

* Linux:

To view all mounted file systems, use



To check specific mount points or devices, we can use



* Windows

To see all drives and their status, we can use



Troubleshoot if necessary

* If any mounts are missing or not functioning as expected
* Logs

On Linux/Unix, we can check system logs for errors related to mounts



**8. Find the solution to find for permanent mounts. Even after restart also we need mounts to be exist**

Indentify the filesystem to mount:

* Before editing ‘ /etc/fstab’, you need to know the device
* Filesystem you want to mount and where you want to mount it

Create a mount point:

Ensure the directory where you want to mount the filesystem exists



UUID filesystesm:

* It's often better to use the UUID of the filesystem instead
* UUID use the : ‘blkid’



Test the configuration:

To test if your changes are correct without rebooting we use ‘mount -a’



**9. Create 2GB empty file. Apply for swap filesystem. check swap is active or not**

Create a 2GB Empty file:

* Use ‘dd’ to create a 2GB file



Set up the swap file:

* Change the permissions of the swap file to make it readable only by root



Enable the swap file:

* We use ‘swapon’



Make swap file permanent:

* To ensure the swap file is used after a reboot, we should add it to /etc/fstab



Result :

2GB empty file: ‘/dev/zero of =/swapfile