

FunLab-lvm

With LVM (Logical Volume Manager) you can create logical volumes on devices in a volume group. What you need is one or more disks that you can turn into “physical devices”. These physical devices will be placed in a volume group. And then you can create logical volumes in the volume group and create a filesystem on each of the volumes.

It is also possible to grow the volume and filesystem when needed.

1. List your available disks. Make sure you do not touch the boot device.

```
lsblk
```

2. For example if your available disk is called sda then you can use that device to create a physical volume.

```
pvcreate /dev/sda
```

3. Create a volume group with that physical device.

```
vgcreate vg1 /dev/sda
```

4. Create a logical volume in the volume group.

```
lvcreate -L 100 -n lvol1 /dev/vg1
```

5. Create a filesystem in the logical volume.

```
mkfs /dev/vg1/lvol1
```

6. Create a mountpoint and mount the volume.

```
mkdir /mnt/lvol1 ; mount /dev/vg1/lvol1 /mnt/lvol1
```

7. List the size and free space of lvol1

```
df -h | grep lvol1
```

8. Grow the volume with 100MB.

```
lvresize -L +100 /dev/vg1/lvol1
```

9. Do you now have more space in the file system?

```
df -h | grep lvol1
```

10. Resize the filesystem to 200M.

```
resize2fs /dev/vg1/lvol1 +200M
```

11. Check the space in the filesystem.

```
df -h
```

12. Unmount the volume.

```
umount /mnt/lvol1
```

13. Delete the volume and the volume group and wipe the disk.

```
lvremove /dev/vg1/lvol1  
vgremove /dev/vg1  
pvremove /dev/sda
```

And you are back where you started...

Can you now do it without help?