

Assignment 4 – Disk Partitioning, File System Creation, Management and Mounting

Launch virtual machine in the cloud, attach 20 GB EBS volume

Create partition on newly attached disk as per below instructions –(Assume the disk name as /dev/sda)

Step 1:- identify the newly attached disk using lsblk or fdisk

lsblk

- a) Create 2 primary partitions of 3 GB each **sudo fdisk /dev/sdb**

(n,p,1,default sector,+3G)

- b) Create 2 logical partitions of 6 GB each

fdisk -l

lsblk -l

```
ubuntu@ip-172-31-20-134:~$ lsblk -l
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0      0 25.2M  1 loop /snap/amazon-ssm-agent/
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
xvdb         202:16    0  20G   0 disk
xvda16       259:0     0  913M  0 part /boot
```

Fdisk /dev/xvda

n -> to create a new partition

P -> for primary partition

E -> extended partition

- c) Format all 4 partitions and create ext4 filesystem on that

sudo mkfs.ext4 /dev/sdb1

sudo mkfs.ext4 /dev/sdb2

sudo mkfs.ext4 /dev/sdb5

sudo mkfs.ext4 /dev/sdb6

- d) Create 4 folders inside root (/) folder name it as Data1, Data2, Data3, Data4

sudo mkdir /Data1 /Data2 /Data3 /Data4

- e) Mount all formatted partitions on the respective folders

```
sudo mount /dev/sdb1 /Data1 sudo
```

```
mount /dev/sdb2 /Data2 sudo
```

```
mount /dev/sdb5 /Data3 sudo
```

```
mount /dev/sdb6 /Data4
```

- f) Create empty file inside each folders of size 2 GB, 2GB, 4 GB and 4 GB respectively using

command - dd - "convert and copy a file"

```
Sudo fallocate -l +2GB /data1/file1
```

```
Dd if=/dev/zero of=/data2/file2 bs=1M count=4096
```

```
Dd if=/dev/zero of=/data3/file3 bs=1M count=4096
```

```
Dd if=/dev/zero of=/data4/file4 bs=1M count=4096
```

- g) Go inside /Data1 and run command - while(true); do sleep 5s; done , do ctrl-z

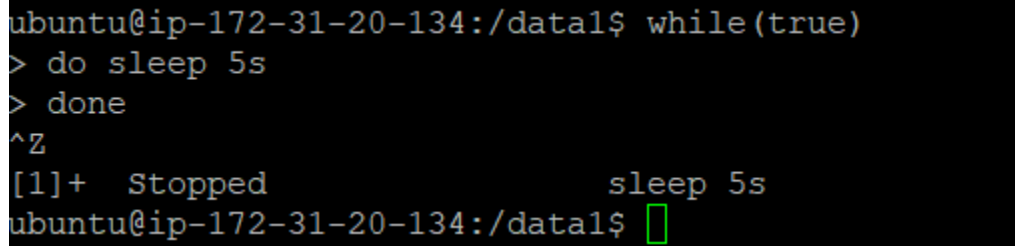
```
cd /data1
```

```
While(true)
```

```
-do sleep 5s
```

```
-done
```

```
Ctrl+z
```



```
ubuntu@ip-172-31-20-134:/data1$ while(true)
> do sleep 5s
> done
^Z
[1]+  Stopped                  sleep 5s
ubuntu@ip-172-31-20-134:/data1$
```

- h) Check disk utilization of each mount point

```
df -h /Data1 /Data2 /Data3 /Data4
```

- i) Unmount all partitions /Data1, /Data2, /Data3 and /Data4

```
sudo umount /Data1 sudo
```

```
umount /Data2 sudo
```

```
umount /Data3 sudo
```

```
umount /Data4
```

Note:- All partitions should be automatically mounted post reboot.

identify the newly attached disk using lsblk or fdisk