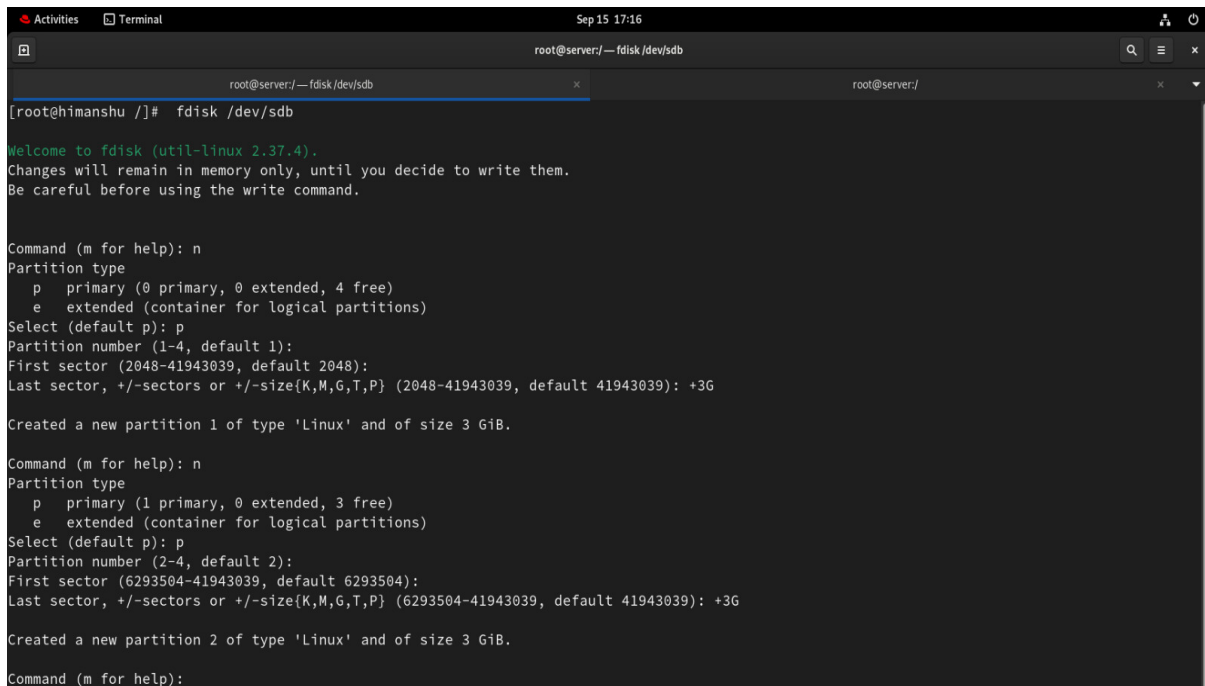


Assignment 4 – Disk Partitioning, File System Creation, Management and Mounting

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

Important Note:- Do not try partition, filesystem creation on your local desktop or laptop instead use virtual machine to do practice. These operations are destructive, chances of system crash. Work carefully. Create partition on newly attached disk as per below instructions –

- Create 2 primary partitions of 3 GB each
 - Create 2 logical partitions of 6 GB each
 - Format all 4 partitions and create ext4 filesystem on that
 - Create 4 folders inside root (/) folder name it as Data1, Data2, Data3, Data4
 - Mount all formatted partitions on the respective folders
 - 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"
 - Go inside /Data1 and run command - while(true); do sleep 5s; done , do ctrl-z
 - Check disk utilization of each mount point
 - Unmount all partitions /Data1, /Data2, /Data3 and /Data4
- Note:- All partitions should be automatically mounted post reboot.



```
root@server:/ -- fdisk /dev/sdb
[root@himanshu ~]# 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 (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): +3G

Created a new partition 1 of type 'Linux' and of size 3 GiB.

Command (m for help): n
Partition type
  p   primary (1 primary, 0 extended, 3 free)
  e   extended (container for logical partitions)
Select (default p): p
Partition number (2-4, default 2):
First sector (6293504-41943039, default 6293504):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (6293504-41943039, default 41943039): +3G

Created a new partition 2 of type 'Linux' and of size 3 GiB.

Command (m for help):
```

```
Activities Terminal Sep 15 17:13
root@server:/

[root@himanshu ~]# lsblk
NAME        MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
sda          8:0    0   40G  0 disk
├─sda1       8:1    0   600M  0 part /boot/efi
├─sda2       8:2    0    1G  0 part
├─sda3       8:3    0    1G  0 part /boot
├─sda4       8:4    0   37.4G  0 part
│   └─rhel-root 253:0  0   33.6G  0 lvm /
│       └─rhel-swap 253:1  0    3.8G  0 lvm [SWAP]
sdb          8:16   0    20G  0 disk
sr0         11:0    1    8.9G  0 rom  /run/media/root/RHEL-9-2-0-BaseOS-x86_64
[root@himanshu ~]#
```

```
Activities Terminal Sep 15 17:20
root@server:/ — fdisk /dev/sdb

root@server:/ — fdisk /dev/sdb
root@server:/

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 (2 primary, 0 extended, 2 free)
  e   extended (container for logical partitions)
Select (default p): e
Partition number (3,4, default 3):
First sector (12584960-41943039, default 12584960):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (12584960-41943039, default 41943039): +13G

Created a new partition 3 of type 'Extended' and of size 13 GiB.

Command (m for help): n
Partition type
  p   primary (2 primary, 1 extended, 1 free)
  l   logical (numbered from 5)
Select (default p): l

Adding logical partition 5
First sector (12587008-39847935, default 12587008):
Last sector, +/-sectors or +/-size{K,M,G,T,P} (12587008-39847935, default 39847935): +3G

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

Command (m for help):
```

```
Activities Terminal Sep 15 17:20
root@server:/ — fdisk /dev/sdb
root@server:/ — fdisk /dev/sdb
root@server:/

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

[root@himanshu ~]# 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): p
Disk /dev/sdb: 20 GiB, 21474836480 bytes, 41943040 sectors
Disk model: VMware Virtual S
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x91f68d11

Device Boot Start End Sectors Size Id Type
/dev/sdb1 2048 6293503 6291456 3G 83 Linux
/dev/sdb2 6293504 12584959 6291456 3G 83 Linux
/dev/sdb3 12584960 39847935 27262976 13G 5 Extended
/dev/sdb5 12587908 18878463 6291456 3G 83 Linux
/dev/sdb6 18880512 25171967 6291456 3G 83 Linux

Command (m for help):

Activities Terminal Sep 15 17:22
root@server:/
root@server:/
root@server:/

[root@himanshu ~]# mkfs.ext4 /dev/sdb1
mkfs.ext4 /dev/sdb2
mkfs.ext4 /dev/sdb5
mkfs.ext4 /dev/sdb6
mke2fs 1.46.5 (30-Dec-2021)
Found a dos partition table in /dev/sdb1
Proceed anyway? (y,N) y
Creating filesystem with 786432 4k blocks and 196608 inodes
Filesystem UUID: 52b809f1-d0c8-4672-9505-77de9bb4008c
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912

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

mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 786432 4k blocks and 196608 inodes
Filesystem UUID: 33a27ad8-373a-42a3-8091-4b0d914b87d7
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912

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

mke2fs 1.46.5 (30-Dec-2021)
Creating filesystem with 786432 4k blocks and 196608 inodes
```