SATA HDD

This shape is Header to read & write data

Magnetic Disk Platter

These circles are called tracks

These Divisions are called sectors

HDD Manufacturing companies give the warranty of HDD because it has magnet & by the time it loses its magnetic power mostly company give 3yrs to 5yrs warranty & after that warranty some time it shows input output error writing of data across sectors is called flashing & it is stored in 0 1 binary

In CentOS 6 or earlier it was calculated in cylinders

In CentOS 7 it’s calculated in sectors

To see hard disk in OS we use device drivers, device drivers are low level program & are interface between Respected software and Hardware, at last drivers are a program in a file

For Hard Disk drivers it can be /dev/sda , /dev/sdb , /dev/sdc they are loaded initially in ram memory

For example we have 80GB Hard Disk & it’s associated with /dev/sda then we create 3 partition into it

Of (20, 20, 40) GBs then drivers will be associated like this

Total Hard Disk = /dev/sda

20GB = /dev/sda1

20GB = /dev/sda2

40GB = /dev/sda23

Another example 100GB

It will have 5 drivers

Of (25, 25, 20, 30) GBs then drivers will be associated like this

Total Hard Disk = /dev/sdb

25GB = /dev/sdb1

25GB = /dev/sdb2

20GB = /dev/sdb3

30GB = /dev/sdb4

Assignment search on YouTube:

1. How HDD & other hard disk works?
2. Inside hard disk?
3. How data is written in hard disk?
4. Hard Disk types?
5. SAN & NAS Working?
6. How SSD works?

**Hard Disk Companies**

1. **Segate**
2. **Hitachi**
3. **WD**

**Linux Partition Hard Disk**

Disk Druid:

Disk Druid is part of the Red Hat installation program. It features a user-friendly interface, so if

it does all that you need, by all means use it in place of Linux fdisk

**Tools Command**

Fdisk, Sfdisk, Cfdisk, Parted

Fdisk has limitation that it cannot create more than 2TB partition

CAT Task:

1. Add Hard disk (800MB)
2. Discover hard disk
3. Make partition in hard disk
4. Write partition
5. Update kernel table
6. Mount partition

List all disk partition /dev/sd\*

Fdisk –l = to list all /dev/sd\*

Fdisk –l /dev/sdb = to list details of /dev/sdb

Step 1: In VM add virtual hard disk using vm settings

Step 2: The discover hard disk without rebooting using command:

Command = echo “- - -“ > /sys/class/scsi\_host/host0/scan

Step 3 make partition using fdisk :

1. To view fdisk menu type m
2. To make new partition type n
3. To make primary partition type p after typing n

Note: There can be total 4 primary partition if we have to make 6 partition first we need to 3 primary partitions then create an extended partition with whole remaining memory sectors or cylinders then create 4th, 5th & 6th primary partitions with respective size

1. To write newly made partition type w
2. To print newly made partition type p
3. To delete partition type d

Step 4 w – save = update partition table

Step 5 Partx –a = update partition table

Partx –a <sd\*>

Step 6 format driver & create file system

Command = mkfs.ext4 <driver> = mkfs.ext4 /dev/sdd

Step 7

Make directory

Step 8 mount partition

Mount <device-driver> </dir> = mount /dev/sdb1 /tomcat

Step 9

Verify using df –h

Step 10

Persist mount point on reboot using fstab file