Class 10

Partition

Dividation of the hard disk

Why we make it ?

Ans = C : = OS d: = data

Types of hard disk

1. PATA = parallel advance technology attachment = IDE (integrated device electronic) and magnetic HD
2. SATA = serial " "
3. SSD = solid stat drive
4. SCSI = small computer system interface (server hardware)
5. Nvme = Hard disk of virtual machine

Types of partition

*** we can make max 4 partition

1. Primary = it save the OS and data
2. Extended = it is logical boundary
3. Logical = it make under the extended partition

Primary = min =1 , max = 4

Extended = min = 0 ,max =1

Logical = min =0 , max = 255

Linux

1. PATA = /dev/hd
   /dev/hda = 1 PATA HD , /dev/hdb = 2 PATA HD
2. SATA ,SSD ,SCSI = /dev/sd
   /dev/sda = 1 SATA , /dev/sdb = 2 SATA
3. Virtual hard disk = /dev/nvme
   /dev/nvme01 = 1 VHD , /dev/nvme02 = 2 VHD

   Partition
   /dev/hda1 = 1 partition of 1 PATA HD , /dev/hdd10 = 10 partition of 4 PATA HD
   /dev/sdc11 = 11 partition of 3 SATA HD
   /dev/nvme01p11 =11 partition of 1 VHD

   See the HD and partition
   Fdisk -l
   Lsblk (list block)

   Imp= * means it is the booting partition

   Make the partition

Parathion number = 1-4 = primary or extended
5 or above = logical

Fdisk /dev/sda

Press n - make a new partition
Choose primary or extended
Partition number
Press enter
Give size = +200M
Press p = see the partition
Press w =save and exit

Partprobe = update the kernel

Delete the partition

Fdisk /dev/sda
Press d

Format the partition
Window = 2 file system
1. FAT = File allocation table
2. NTFS = new technology file system

Linux

4 type of filesystem

1. Ext2 = extended
2. Ext3
3. Ext4
4. XFS = extent file system

1. EXT 2 = introduced in 1993 , Max file size (32 bit OS = 16GB , 64 bit OS = 2TB) . Max partition size (32 bit = 2TB , 64 bit = 32TB) . It not support the journaling feature .
   Journaling = it is a feature of OS , if OS has issue then it will help to recover
2. EXT3 = introduced in 2001 , Max file size (32 bit OS = 16GB , 64 bit OS = 2TB) . Max partition size (32 bit = 2TB , 64 bit = 32TB) . It support the journaling feature .
3. EXT4 = introduced in 2008 , Max file size (32 bit OS = 16GB , 64 bit OS = 16TB) . Max partition size (1Exa B) . It support the journaling feature .
4. XFS = introduced with RHEL7 , Max file size (9EB) . Max partition size (18EB) . It not support the journaling feature .

Format it

/dev/sda1 = 5GB

1. EXT2 = mke2fs /dev/sda1 or mkfs.ext2 /dev/sda1 or mke2fs -t ext2 /dev/sda1 (-t =file system type)
2. EXT3 = mke2fs -j /dev/sda1 (-j = journaling) or mkfs.ext3 /dev/sda1 or mke2fs -t ext3 /dev/sda1
3. EXT4 = mke2fs -t ext4 /dev/sda1 or mkfs.ext4 /dev/sda1
4. XFS = mkfs.xfs /dev/sda1 or mkfs.xfs -f /dev/sda1 (forcefully)

See the filesystem

Blkid (block Identification)

Mounting

Partition and filesystem