Sunbeam Infotech

Exploring new ideas, Reaching new heights!

Agenda

- **Ubuntu Installations**
  - BIOS
  - Partitioning
  - Installation
  - Software installations
  - Subuntu Repository

- **Linux File system**

- **Absolute & Relative path**

- **Linux commands**

  $$UI \longrightarrow GNOME$$
  $$\searrow KDE$$

www.kernel.org

Linux : Kernel

$$+ \quad Utils \; / \; UI \; / \; apps$$

Red Hat $\rightarrow$ RHEL / Fedora

Novell $\rightarrow$ SuSE

Linux Distros
- CentOS
- Ubuntu $\rightarrow$ 18.04 (LTS)
- Mint
- Kali

distrowatch.com

Ubuntu Installation

BIOS – Basic Input Output System

- **What is BIOS?** → firmware (Sw that is fixed (burned into hw).
  → Base Rom
  → motherboard

- **Disk configuration** →

- **UEFI vs Legacy boot** →

- **Secure boot** →

- **Boot device priority** →

$$KB \; 2^{10} \qquad MB \; 2^{20} \qquad GB \; 2^{30}$$
$$TB \; 2^{40} \qquad PB \; 2^{50} \qquad \cancel{AB} \; 2^{60}$$
$$\boxed{ZB \; 2^{70}} \qquad YB \; 2^{80} \qquad BB \; 2^{90}$$

firmware →
- BIOS → IBM + MS → Max disk size = 2 TB.
  ↳ MBR partitioning

- EFI → Intel + HP → Max disk size = 8 ZB
  ↳ GPT partitng
  ↳ Unified EFI (EFI 1.10)

Disk partitioning

- Using Windows "diskpart" command
  - DISKPART> list disks
- Using Windows "Disk Management"
- Basic vs Dynamic disk layout → Ubuntu doesn't install in Dynamic.
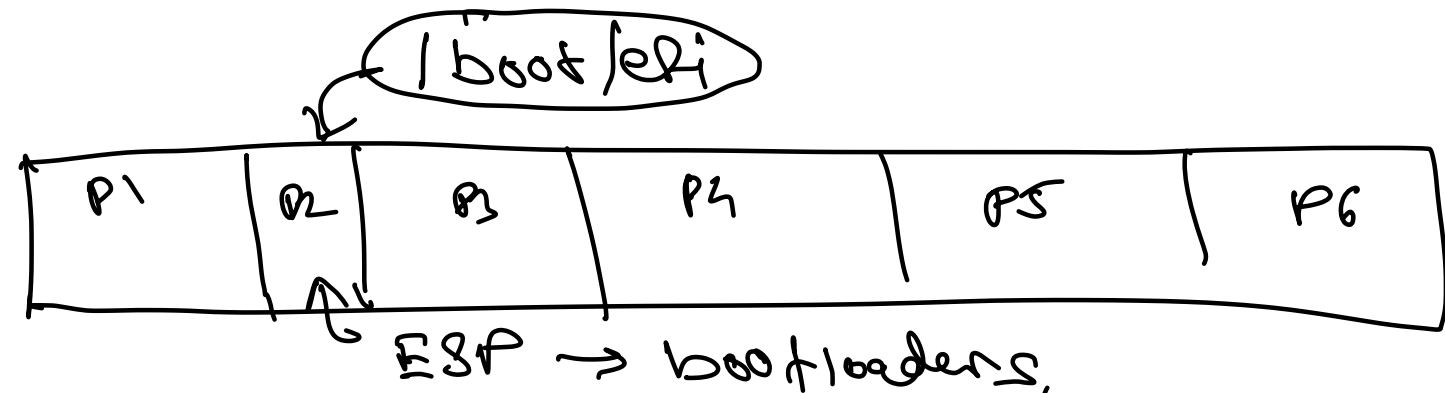- MBR vs GPT partitioning
- MBR partitioning
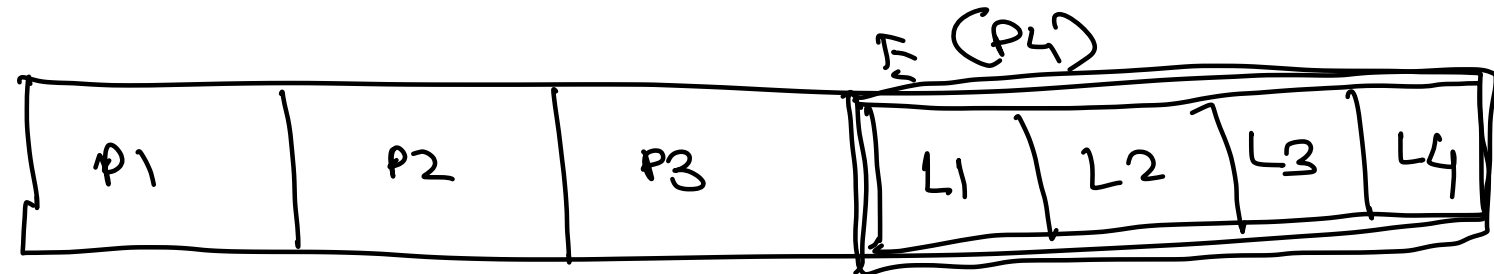 - Max 2 TB disk
  - Max 4 primary partitions
  - Extended primary
  - Multiple logical partitions
- GPT partitioning
  - Max 8 ZB disk
  - Max 128 partitions

First false backup
& change from dynamic
to basic.

E (P4)

| P1 | P2 | P3 | L1 | L2 | L3 | L4 |

/boot /efi

| P1 | P2 | P3 | P4 | P5 | P6 |

ESP → bootloaders.

Ubuntu installations

- Custom partitioning → "Something Else" → / ext4 90 GB+ sda4
- Bootloader location → Swap 4 GB . sda5
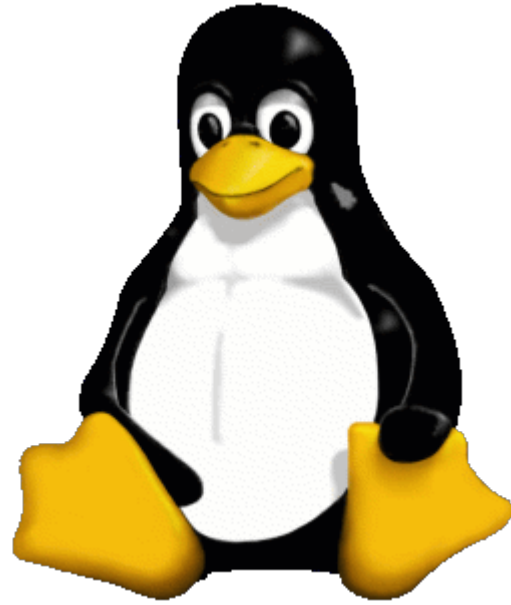 → /dev/sda

  Primary Partition

Sata
disk
a, b, c, ...

Ubuntu software installations

- Central software repository
  - High speed internet connection
  - sudo apt-get update
  - sudo apt-get install pkg-name
  - Repo address: /etc/apt/sources.list
- Custom repository
  - Download packages in a directory and create repo metadata.
  - Can be accessed locally (file:///) or over network (http:///).
  - Change repo address in sources.list.
  - sudo apt-get update
  - sudo apt-get install pkg-name
  - ./install.sh automate the task of updating sources.list and installing packages.
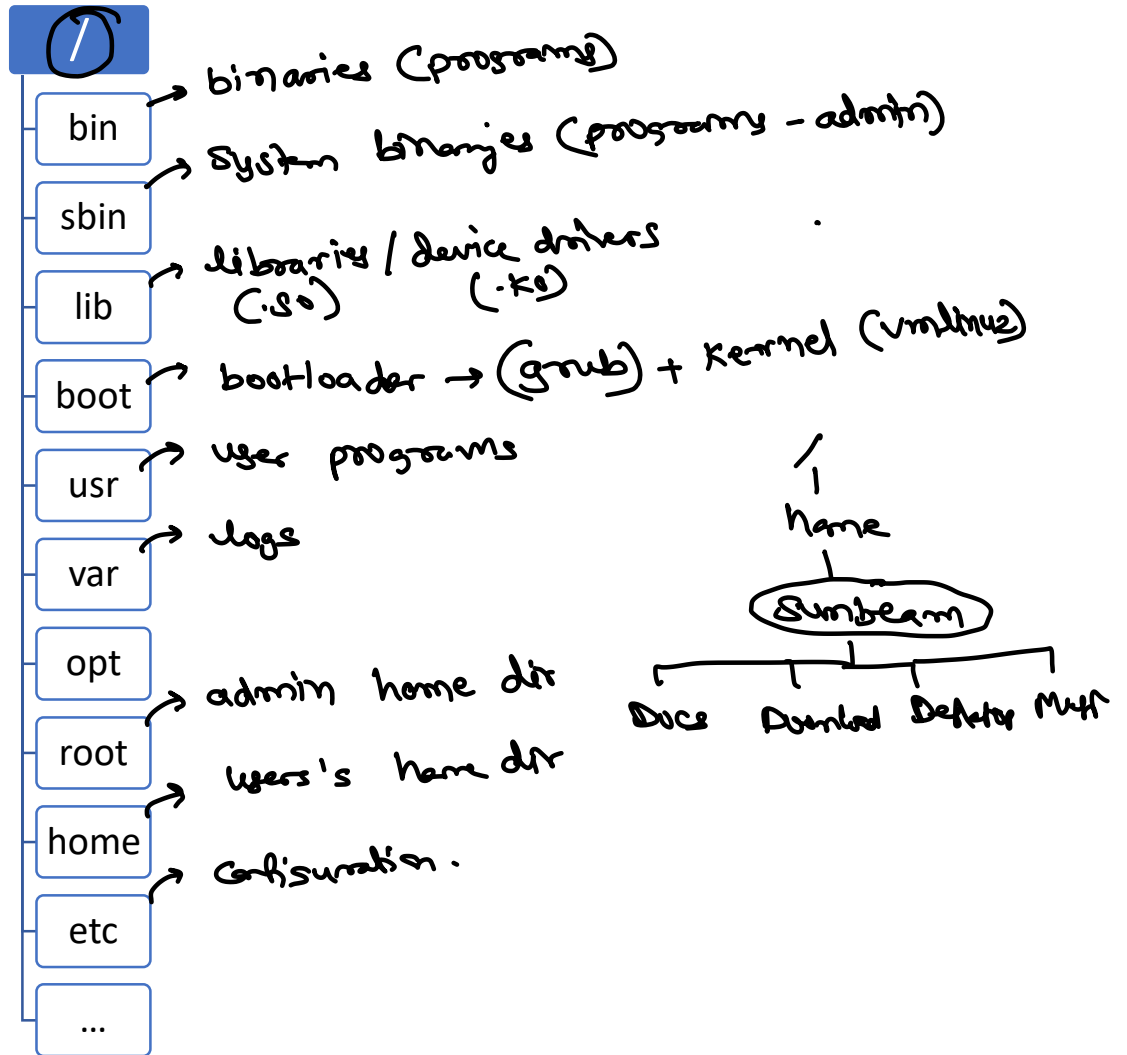
Linux

Linux file system

- File system is way of organizing files on storage.

- Start with root (/)

- File systems
  - ext2/3/4   *ext4*
  - ReiserFS
  - xfs

/

bin → binaries (programs)

sbin → System binaries (programs - admin)

lib → libraries / device drivers
      (.so)   (.ko)

boot → bootloader → (grub) + Kernel (vmlinuz)

usr → User programs

var → logs

opt

root → admin home dir

home → users's home dir

etc → Configuration.

home
  Sunbeam
    Docs   Download   Desktop   Music

Thank you!

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