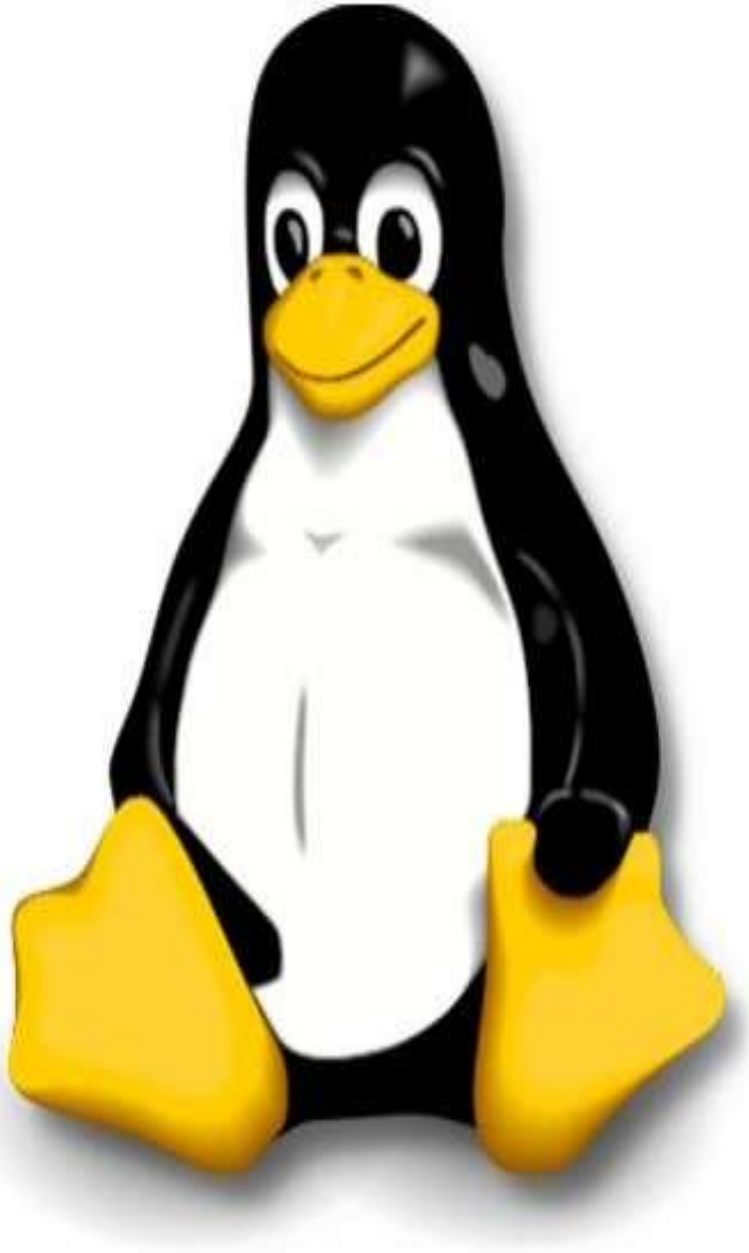

LINUX

OPERATING SYSTEM

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Operating System

An operating system is a software that communicates with the hardware and allows other programs to be run.

Features of Operating System:

- Task Scheduling
- Memory Management
- Network Communication Handling
- Data and User Security

Definition & Naming of Linux Operating System

- The **Linux** open source **operating system**, or **Linux OS**, is a freely distributable, cross-platform **operating system** based on Unix that can be installed on PCs, laptops, notebooks, mobile and tablet devices, video game consoles, servers, supercomputers and more.
- It was developed by Linus Torvalds.
- Linus Torvalds had wanted to call his invention "Freax" i.e., Free, Freak + x as an allusion to Unix. In this project his partner Mr. A.L.Torvalds did not think it's a good name, So they finally decided named their project name as "Linux".

History of Linux Operating System

- UNIX: 1969 Thompson & Ritchie AT&T Bell Labs.
- Commercial Vendors: Sun, HP, IBM, SGI, DEC.
- GNU: 1984 Richard Stallman, FSF.

Open Source: GPL.

Components of Linux System

a) **Kernel –** Kernel is the core part of Linux. It is responsible for all major activities of this operating system.

b) **System Library –** System libraries are special functions or programs using which application programs or system utilities accesses Kernel's features

c) **System Utility –** System Utility programs are responsible to do specialized, individual level tasks.

Basic Features of Linux

a) **Portable –** Portability means software can works on different types of hardware in same way.

b) **Open Source –** Linux source code is freely available and it is community based development project.

c) **Multiprogramming –** Linux is a multiprogramming system means multiple applications can run at same time.

d) **Security –** Linux provides user security using authentication features like password protection/ controlled access to specific files/ encryption of data.

Distribution of Linux

- Corel Linux
- Debian GNU/Linux
- OpenLinux (Caldera)
- Red Hat
- Ubuntu
- TurboLinux

Hardware requirements to installing Linux

- CPU
- Main memory
- Optical Drive
- Graphic card
- Hard Drive
- Sound Card

Software application for Linux

- OpenOffice: word processing, spreadsheets, drawing
- Adobe Acrobat Reader
- Konqueror: The KDE File Manager and Web Browser
- TV, Video, Radio, and Webcam

Editors of Linux

- There are some editors in Linux
  a) Vi/Vm editor
  b) Gedit editor
  c) Nano editor
  d) GNU Emacs editor
  e) Kate/Kwrite editor
  f) Lime Text editor

  and many more.

Comparison of Linux with Other Operating System

Linux v/s Windows

- Linux is freely available or online downloads, for windows companies have pay for their license.
- Windows need up to date time to time, its updating process is slower than Linux.
- Linux supports backward compatibility unlike to the windows.
- Most of the software made on the windows are need to be licensed but in Linux all of them are freely available.

Linux v/s IOS

- *Hardware Requirement:*

  IOS has restrictive hardware requirement, while Linux does not.

- *Customizability:*

  IOS keep restrictions in the arrangement of your data or display whereas Linux can make it simpler as you want.

- *Security:*

  In the terms of security both of them are highly secured, they did not give direct permission to their system administrator.

Commands of Linux

- There are some commands in Linux which give direct accessories to the files by using terminal.

Some of them are:

ls- (List Command)

mv- (Move Command)

mkdir- (Make Directories)

rmdir- (Remove Directory)

locate- (Locate Directory) etc..,

Why we use Linux?

- Costless
- Stable
- Reliable
- Extremely powerful
- Highly Secure

Merits and Demerits of Linux

- It can be easily accessible to the old computers .
- It cannot be made for gaming purpose.
- It is not easy to understand for those who are new to Linux.
- It is mostly used by the programmers.
- It is used for both commercial and personal but for home purpose, for this *Windows* is mostly preferred.

Use of Linux in various fields

Android App Development

Operating System for Routers/Transmittin g Devices.

Game Designing

It is used also used in the department of Defence, Education.
It is also popular in the field of Banking or Government Sector.

Commercial use of Linux Operating System

- Adoption of Linux in production environments, rather than being used only by hobbyists, its widely started in the mid-off 1990_s for supercomputing purpose.
- Today, Linux systems are used throughout computing, from embedded systems to supercomputers and provide a secured place in server installations such as the popular LAMP application stack.
- Linux also achieve a greatest success in the field of mobile development with the Android by providing ease-access and high security feature.