LINUX

What do you mean by Linux

Just like Windows and macOS, Linux is an operating system. It has come into existence in the mid-90s. An operating system manages all hard resources of a laptop or desktop. Linux is one of the most secure, reliable, and worry-free operating system available on the planet.
Linux comprises of following pieces:

1. Bootloader: It is a software for managing the boot process of your computer.

2. Kernel: This piece is actually called Linux. It is the core thing that manages CPU, memory, and peripheral devices.

3. Init system: A sub-system that bootstraps the user space and charged with controlling daemons. It is the first process to start after the kernel starts. systemd is one of the most popular init system.

4. Daemons: Background services like printing, sound, scheduling, etc. are called daemons. They either start during reboot or when you log in to the computer.

5. Graphical Server: Subsystem that displays graphics on the monitor and is also called the X server.

6. Desktop Environment: The piece with which the user actually interacts. Some of the desktop environments are GNOME, Cinnamon, Mate, Pantheon, Enlightenment, KDE, Xfce, etc.

7. Applications: High-quality software designed for specific tasks. Just like other operating systems, Linux has its own app store from where applications can be downloaded and installed.

Why should we use Linux

If you are facing the following problems:

1. Your OS does not really work fine
2. You are struggling with viruses, malware, slowdowns, and crashes
3. Costly repairs and license fees

Then you should switch to Linux. It is one of the most secure, reliable, and trouble-free operating systems. Every service is provided free of cost. You don't need to install any anti-virus.

Linux is open-source

It is distributed under an open-source license which means:

1. You have the freedom to run the program for any purpose
2. You have the freedom to study how the program works, and change it to make it do what you wish

3. You have the freedom to redistribute copies so you can help others
4. You have the freedom to distribute copies of your modified versions to others
So this is the operating system for the people and by the people.

Linux's Distribution

To suit different types of versions, Linux has different versions which are called distributions. The choice of distribution depend upon whether you are a new user or a hard-core user. Some of the popular distributions are:

- LINUX MINT
- MANJARO
- DEBIAN
- UBUNTU
- ANTERGOS
- SOLUS
- FEDORA
- ELEMENTARY OS
- OpenSUSE

Installing Linux

Typically, the installation process involves the following steps:

- ❖ Prepare your machine to see if your machine meets installation requirements or not. You may need to install third-party software.
- ❖ If you are using a laptop (or machine with wireless), you'll need to connect to the network, in order to download third-party software and updates.
- ❖ Tell installation wizard how do you want to install Linux. Are you going to install Linux alongside another operating system (called "dual booting"), use the entire hard drive, upgrade an existing Linux installation, or install over an existing version of Linux.
- ❖ Select your location from the map.
- ❖ Select the keyboard for your system.
- ❖ Set up your username and password.
- ❖ After installation is completed, reboot the system and you are ready to go.

How to install software on Linux

You can search from the central app store and install applications. For GUI-less servers or apps, you need to be dependent upon command line. The command for installing software is

```
sudo apt-get install software_name
```

The sudo command is added because you need superuser privileges in order to install the software. After above command, the terminal will ask your password, then software gets installed.

Some Common Commands used in Linux terminal

- **pwd :** To find path of the current working directory
- **cd :** To change the directory
- **ls :** To see the content of the directory
- **cat :** To list the content of a file
- **cp :** To copy files from the current directory to a different directory
- **mv :** To move files, although it can also be used to rename files
- **mkdir :** To make a new directory
- **rmdir :** To delete a directory(only empty directories)
- **rm :** To delete directories and the contents within them
- **touch :** To create a blank new file
- **locate :** To locate a file
- **find :** To search for a file within given directory

References

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- https://www.hostinger.in/tutorials/linux-commands