

# Introduction to Linux



## What is operating system?

It is an intermediate between computer hardware & user.

It manages computer hardware .

It also helps to convert human to language to machine language.

## What is Linux ?

Linux is kernel based operating system.

It is written from scratch.

Linux distribution is the linux kernel & a collection of software that together create a operating system .

## History of Linux

In 1985 a free software foundation started to develop an operating system like Unix and it was finished by Linus Torvald by developing Kernel. They gave the name Linux after a combination of Torvald's first name and the words of Unix.

## Linux features :

1. **Open Source:** Linux is an open-source operating system that allows to user modify and add new features in the operating system as needed.
2. **More Secure:** Linux is more secure than another operating systems.
3. **Lightweight:** Linux is not needed for high system requirements. Linux does not have more storage or RAM to run the operating system.
4. **Multitasking:** Linux is a multitasking operating system because you can run multiple processes and commands at a time.
5. **Multiple Distribution:** In Linux, there are multiple distributions like Redhat, Debian, Ubuntu, Centos, Fedora, etc.

## Linux distors

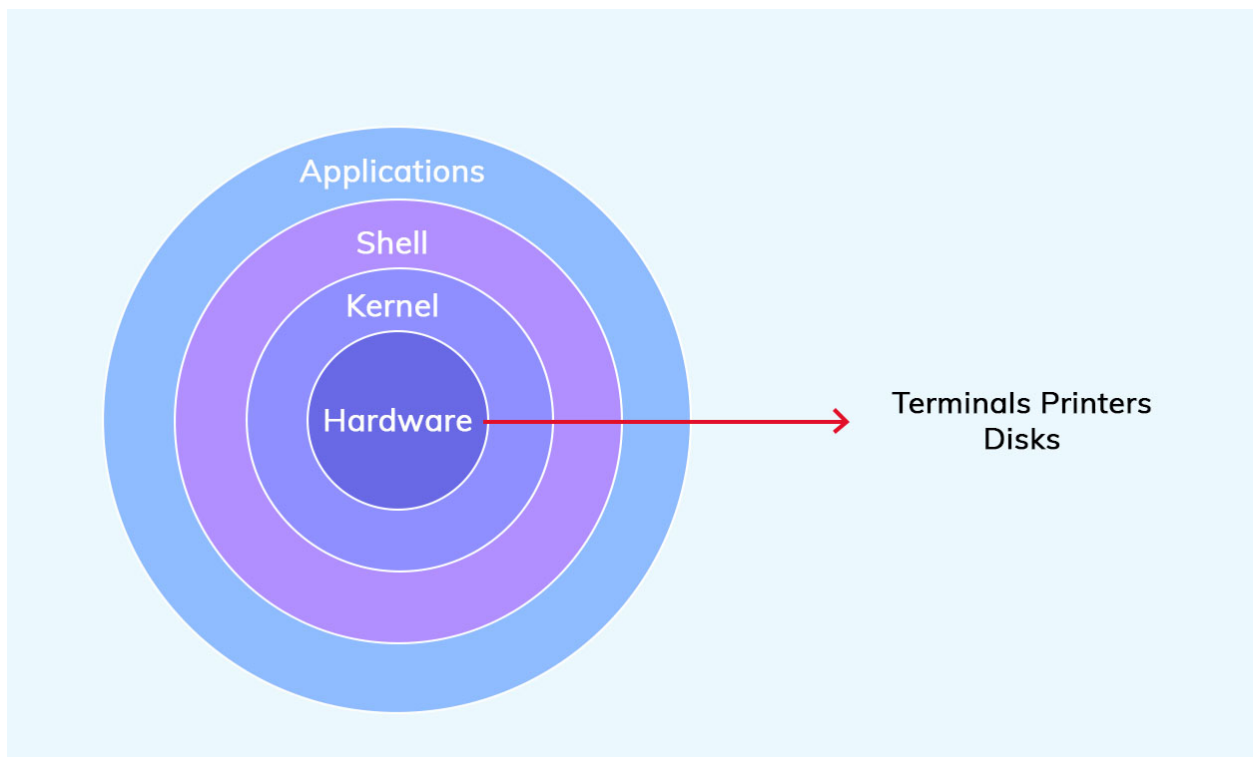
- 1.RHEL
- 2.Fedora
- 3.Debian
- 4.Ubuntu

5.Centos

6.Kali Linux

## Linux Architecture

The Linux Architecture has four layers. Those are application, shell, kernel, and hardware.



1. **Hardware:** Hardware is the lowest layer of Linux Architecture. All hardware devices are included in this layer like a Hard drive, RAM, CPU, and all peripheral devices.
2. **Kernel:** The kernel is the core of the operating system which is mainly used for communication between Hardware and the user, it translates Human Language in binary language. The kernel works as a manager it manages many tasks in operating systems.

3. **Shell:** Shell is a command line interpreter. it provides an interface between the kernel and the user. Help to user execute commands. There are such types of shell in Linux Bourne Again Shell (bash), the C Shell (csh), and the Z Shell (zsh).
4. **Application:** Application is the last layer of Linux architecture. The application is known as a software program that performs a specific function directly for an end-user