

# Lecture 2 Introduction to Linux Notes

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## Important concepts:

- **Operating System:** An operating system provides all the fundamental software features of a computer.
- **Kernel:** An OS kernel is a software component that's responsible for managing low-level features of the computer.
- **Components of an operating system:** File management, process management, network management, I/O device management, main memory management, secondary-storage management, and security management.
- **Linux :** Unix like operating system popular in academic and business environments.
- **Linux Characteristics:** Open source, free of charge, many tools, highly scalable, server applications and can be installed on any system.
- **GNU Toolchain:** Collection of compilers, libraries, debuggers, and core utilities modeled on Unix.
- **Linux Distribution:** A complete linux package with a linux kernel, core unix tools, supplemental software, startup scripts, and an installer.
- **What is Ubuntu:** A linux distribution.
- **Ubuntu Release cycles:** Ubuntu is shipped in stable and regular release cycles.
- **What is Debian:** All volunteer organization dedicated to developing free software.
- **Different software licensing models (open source vs closed source):** Open source may be distributed for a fee or free. Closed source the software is not distributed with the source code.
- **The 4 Freedoms of Free Software:** Freedom 0- use the software for any purpose. Freedom 1- examine the source code and modify it as you see fit. Freedom 2- redistribute the software. Freedom 3- redistribute your modified software.
- **Virtualization:** Creating virtual versions of something.
- **Hypervisor and types:** Software or hardware in charge of creating, managing, and running virtual machines.
- **VirtualBox:** A powerful x86 and AMD 64/ Intel 64 virtualization product for enterprise as well as home use.

## List of the main Linux distributions

- Debian
- Redhat
- Slackware
- ArchLinux

## List of some of the Debian Based Linux distributions

- Linux mint
- Kali Linux
- Parrot OS
- Linux Deepin
- MX Linux
- Steam OS

## List of some of the Red Hat-based Linux distributions

- Fedora
- Alma Linux

## List of some of the Ubuntu Based Linux Distributions

- Linux Lite
- Linux Mint
- Elementary OS
- Pop OS
- Zorin OS
- Peppermint