

Lecture 2 Introduction to Linux Notes

1. What is an Operating System?

An **operating system** is what provides all fundamental software features of a computer. An **OS** enables you to use the computer's hardware, providing you the basic tools that make the computer useful.

2. What is a kernel?

An **OS kernel** is a software component that's responsible for managing low-level features of the computer, including the following managing system hardware:

- Memory allocation
- CPU time
- Program to program interaction

3. Which other parts aside from the kernel identify an OS?

- Command-Line shells
- Graphical User Interfaces (GUIs)
- Utility and productivity programs
- Libraries

4. What is linux and linux distribution?

Linux is a **Unix-Like operating system** popular in academic and business environments. It consists of a kernel, libraries, and utilities that make up the entire operating system. A **Linux distribution** is any OS that runs on the Linux kernel.

6. List at least 4 linux characteristics:

- Linux is **open source software**
- Available for **FREE**
- **Highly scalable** and customizable
- Majority of **server applications** on the internet run on some version of Linux
-

7. What is Ubuntu?

Ubuntu is a **Linux distribution**, freely available with both community and professional support.

8. What is Debian?

Debian is an all-volunteer organization dedicated to developing free software. It is known to be the Grandfather of all linux distributions alongside **Slackware** and **Open Suse**

9. List and define the different types of licensing agreements

- **Open Source:** The software may be distributed for a fee or free. The source code is distributed with the software.
- **Closed Source:** The software is not distributed with the source code. The user is restricted from modifying the code.
 - **Freeware:** The software is free but the source code isn't available.
 - **Shareware:** The software is free on a trial basis.
- **Free software:** The software is distributed with the source code. The software can be free of charge or obtained by a fee.

10. What is Free Software? Define the 4 freedoms.

The **Free Software Foundation (FSF)**, is a critical force in the open source world. It is the driving force behind the **GNU project**. The four freedoms are as follows:

1. **Freedom 0:** use the software for any purpose
2. **Freedom 1:** examine the source code and modify it as you see fit
3. **Freedom 2:** redistribute the software
4. **Freedom 3:** redistribute your modified software

11. What is virtualization?

Virtualization is defined as creating virtual versions of something. It is often used to let multiple **OSs** run on the physical machine at the same time.