

Lecture 2 Introduction to Linux Notes

What is an Operating System?

It provides all fundamental software features of a computer. It also enables you to use the computers hardware providing you the basic tools that make the computer useful.

What is a kernel?

It is a software component that is responsible for managing low-level features of the computer, including the following managing system hardware, memory allocation, CPU time, and program to program interaction.

Which other parts aside from the kernel identify an OS?

The other parts that identifies as an OS is command- line shells, graphical user interfaces, utility and productivity program, and libraries.

What is linux?

It is an operating system thats popular is academic and business environments it consist of kernel, libraries and utilities.

What is a linux distribution?

It is any operating system that runs the Linux Kernel.

List at least 4 linux characteristics:

- Free of charge to use
- It includes many of the Unix tools including many important internet server programs and programming languages out the box.
- highly scalable and customizable.
- Many businesses and nonprofit organizations rely on Linux for their day to day operations.

What is Ubuntu?

It is also a Linux distribution, freely available with both community and professional support.

What is Debian?

It is an all-volunteer organization dedicated to developing free software and promoting the ideals of the Free Software community.

List and define the different types of licensing agreements

- Open source- the software may be distributed for 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 is not 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.

What is Free Software? Define the 4 freedoms.

A free software is a critical force in the open source world.

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

What is virtualization?

It is defined as creating virtual versions of something.

List 3 benefits of virtualization

1. Allows running multiple OSs on one machine without dual booting.
2. Allows applications to be tested before installing them on a host machine.
3. Reduces the cost by decreasing the physical hardware that must be purchased for a network.

What is a hypervisor? Include definitions of the 2 types

It is a software or hardware in charge of creating, managing, and running virtual machines.

1. type 1 (bare-metal hypervisor)- runs directly on the hardware and has better performance than Type 2.
2. type 2- an application that runs on top of an operating system. The most commonly used in client-side virtualization.

What is the difference between Guest OS and Host OS?

Host OS- it is running in the computer where the hypervisor is installed. Guest OS- it is being virtualized in the virtual machine.

What is virtualbox?

It is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use.