

Lecture 2 Introduction to Linux Notes

1. What is an Operating System?

- An operating system 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, and program interaction.

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

- Command-Line Shells, Graphical User Interfaces, Utility and Productivity Programs, and, Libraries.

4. What is linux?

- Linux is a Unix-like Operating System popular in academic and business environments.

5. What is a linux distribution?

- A complete Linux system package that is entirely open source or free software; however, some include proprietary components and are for sale only, typically with a support contract.

6. List at least 4 linux characteristics:

- Multitasking, Free and Open Source, Secure and portability.

7. What is Ubuntu?

- Is a Linux distribution, freely available with both community and professional support.

8. What is Debian?

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

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 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.

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

- **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.

11. What is virtualization?

- Creating virtual versions of something.

12. List 3 benefits of virtualization

- Allows running multiple OSs on one machine without dual booting.
- Allows applications to be tested before installing them on a host machine.
- Can be used to keep legacy applications sandboxed and running past their end of life.

13. What is a hypervisor? Include definitions of the 2 types

- Software or Hardware in charge of creating, managing, and running virtual machines.

14. What is the difference between Guest OS and Host OS?

- The host operating system is software installed on a computer system that communicates with the underlying hardware. While a guest OS is software that is installed in a virtual machine.

15. What is virtualbox?

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