

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 hardware providing you 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.

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

- Hardware, memory allocation, CPU time

4. What is Linux?

- Linux is a Unix-like operating system popular in academic and business environments.

5. What is a Linux distribution?

- Arch, CentOS, Debian, Fedora, openSUSE, Red Hat, Ubuntu and many more.

6. List at least 4 Linux characteristics:

- Open source software
- Free of charge
- Unix tools
- Highly scalable

7. What is Ubuntu?

- Ubuntu is a free and open-source operating system based on the Linux kernel.

8. What is Debian?

- Debian is a free, open-source Linux distribution known for its stability, security, and extensive package repository.

9. List and define the different types of licensing agreements

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

- Free Software refers to software that respects users' freedom and community, meaning users have the freedom to run, study, modify, and share the software. It is not about price but about freedom.

11. What is virtualization?

- Virtualization is defined as creating virtual versions of something.

12. List 3 benefits of virtualization

- Allow running multiple OSs on 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. **Type1**- this type of hypervisor runs directly in the hardware. **type2** hypervisor its an application that runs on top of an operating system.

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

Host OS the operating system that is running in the computer where the hypervisor is installed. **Guest OS** The operating system that is being virtualized in the virtual machine. 15. ## What is virtualbox?

- Virtual Box is a powerful *86 and AMD64/Intel64 virtualization product for enterprise as well as home use.