

#Notes Lecture 03 | Learning the Bash Shell ##Desktop Environments ###GUI

- A graphical user interface is a set of programs that allows a user to interact with the computer system via icons, windows, and various other visual elements. ###DE
- A desktop environment is an implementation of the desktop of the desktop metaphor made of a bundle of programs running on top of a computer operating system, which shares a common GUI, sometimes described as a graphical shell. ##GNOME DE
- Default desktop in Ubuntu is GNOME 3. It is used not only by Ubuntu but also several other Linux distributions such as, Debian, Fedora, Red Hat, Enterprise Linux, and Oracle Linux. The official GUI for GNOME 3 is called GNOME Shell.
- GNOME was an acronym for HNU Network Object Model Environment, but the acronym was dropped because it no longer reflected the vision of the GNOME project.
- GNOME was started August 15, 1997, by Miguel de Icaza and Federico Mena as a free software project to develop a desktop environment and applications for it. ##KDE DE
- The Kool Desktop environment got its start in 1996, with its first version released in 1998
- Through time the name KDE was no longer just referring to a desktop environment, but instead, it specified the project's organization and the strong community that supported it. ##XFCE DE
- XFCE is a lightweight DE that aims to be fast and low on system resources, while still being visually appealing and user friendly
- The XFCE project was started by Oliver Fourdan in 1996. ##Mate DE
- The Mate DE is the continuation of GNOME 2.
- Mate has forked applications from GNOME core
- Mate Applications include:
 - File manager
 - Text editor
 - Document viewer
 - Archive manager
 - Terminal emulator
 - Window manager ##Cinnamon DE
- Cinnamon is a free and open-source DE for the X Windows System that derives from GNOME 3 but follows traditional desktop metaphor conventions.
- Cinnamon is the principal DE of the Linux Mint distribution
- The development of Cinnamon started as a response to the release GNOME 3 and the GNOME Foundation decision of dropping support for GNOME 2 ###What is a Shell Shells make large-scale IT possible. They're a necessary component to modern computing. But it might not have turned out that way without a lot of hard work from a developer at the Free Software foundation named Brian Fox. The Bash shell is shipped with almost every computer in the world. ##The Bash Shell
- The GNU bash shell is a program that provides interactive access to the Linux system.
- It runs as a regular program and is normally started whenever a user logs in into a terminal.
- Most Linux distributions use the bash shell as the default shell. however, other shells exist like
 - Tcsh Shell
 - Csh Shell
 - Ksh Shell
 - Zsh Shell
 - Fish Shell ##Managing Software ###Debian Package Management System
- The DPMS is the foundation for managing software on all Debian distributions

- Debian package names end with .deb extension and are called ".deb files"
- At the core of the DPMS is the dpkg (Debian Package) application
- Dpkg works in the back-end of the system. dpkg can directly manipulate .deb files. ##The Linux Filesystem
- Linux organizes its files in what is called a hierarchical directory structure (tree like pattern of folders).
- Directory and folder mean the same thing
- the first directory in the file system is called the root directory. the root directory contains files and subdirectories.
- Filesystem Hierarchy Standard (FHS) Specifies requirements and guidelines for file and directory placement in UNIX-like operating systems.