

Notes Lecture 1 what is Linux

Why do you need to learn linux?

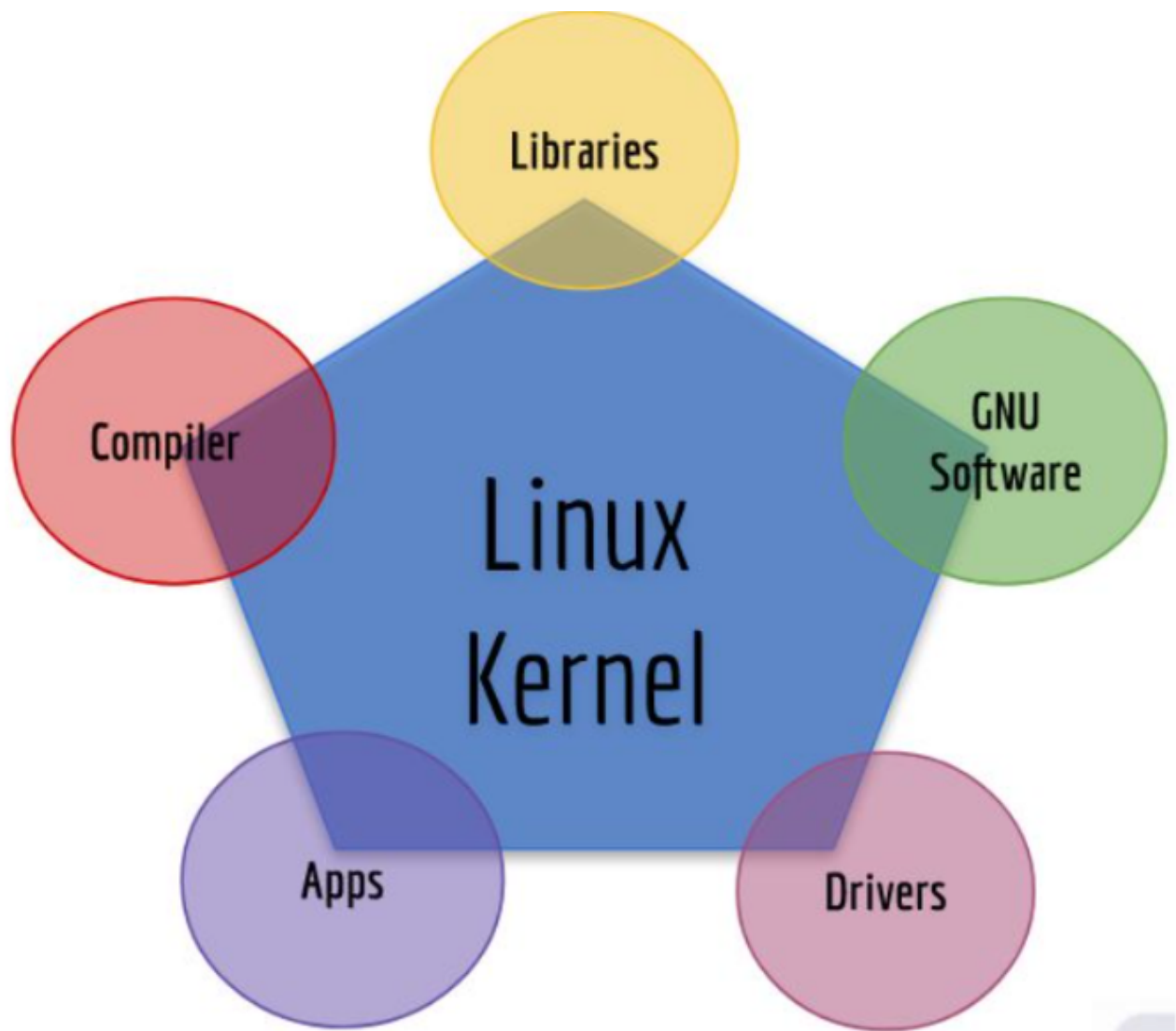
- Linux runs in a lot of devices. Example: Laptops, desktops, servers, smartphones, IoT, ect
- Linux powers the cloud
- Linux is used by a lot of companies even Microsoft

What is Linux?

- Linux is a kernel. A kernel is the core of any operating system
- An operating system that uses the linux kernel is called a linux distribution. Example: Ubuntu and Android.
- Linux is a multitasking, multi-user, and multipurpose OS.
- Linux is a modular operating system.

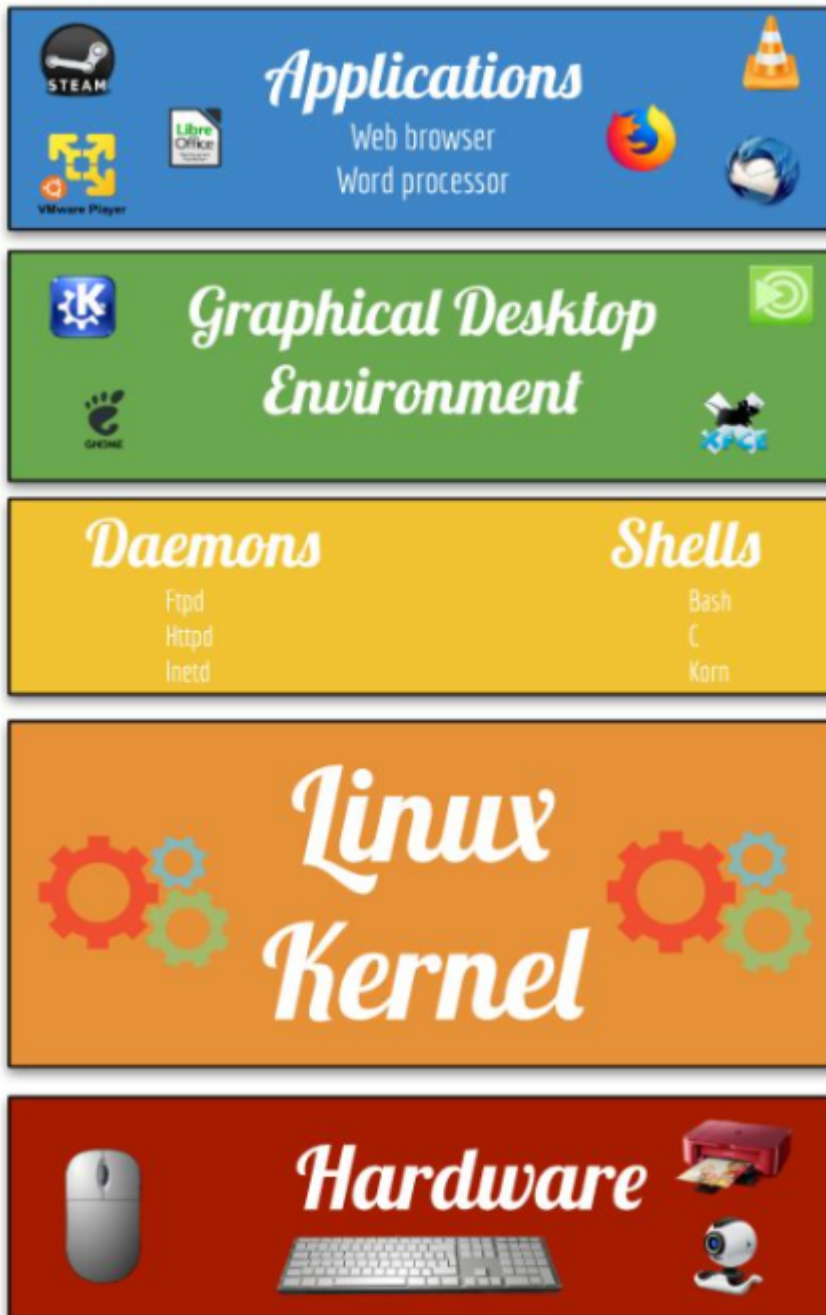
Linux books I can use:

- Linux Administration A Beginners's Guide 8th editioin by Wale Soyinka
 - CompTia Linux + study Guide by Christine Bresnahan
 - The Linux Command Line By William Shotts
- Linux distributions



- There are a Large number of Linux Distributions.
- There are two main Linux Distributions:
 - Debian
 - Redhat
- There are also other independent distributions:
 - Slackware
 - Arch
 - Gentoo

Linux Architecture



- Linux is modular which means that the users can remove and add/remove what ever they need or don't need.
 - **Kernel** = the core of the system. Manages the hardware.
 - **Daemons** = background programs that run independent of the user.
 - **Shells** = the interface that accepts user input and translates it so that the kernel can use it.
 - **Graphical Desktop Enviornment** = a collection of software that makes the graphical interface.
- In linux everything is a file.
 - Device files
 - Dsirectory files
 - Binary files
 - Regular files

Software licensing agreement

- A license agreement outline the rights a user has to a given software

- Types of licensing agreements:

Opens source	Closed source	free software
Software can be distributed for free or a fee. The source code must be distributed with the software.	Software can be distributed for free or a fee. The end user has limited access to the software and the source code is not available.	Software can be distributed for free or a fee. The user has total control of the software and the source code. The software must comply with the 4 freedoms

Open Source Software



Libre Office



Mozilla Firefox



VLC Media Player

Close Source Software



Microsoft Office



Internet Explorer



Windows Media Player

the 4 freedoms

- Freedom 0: the user can run the program as you wish, for any purpose .
- Freedom 1: the user can study how the program works, and change it
- Freedom 2: the user can redistribute copies
- Freedom 3: the user can distribute copies of your modified versions. **Learn more:** [gnu](#)

Advantages/Disadvantages of Open Source software

Advantages

- Software is "generally" available for free
- The user can modify the code
- General more reliable

Disadvantages

- Can be risky
- User friendliness
- Lack of corporate support

What is Ubuntu?

- linux Distributer available free of charge.
- Shipped in Stable and regular release cycles
 - Regular or non-LTS:** shipped every six months and supported for 9 months.
 - LTS (long-term support)** Shipped every two even years and is supported for 5 years.
 - Suitable for both desktop and server use. **included in thousands of pieces of software such as:**



Full
Productivity
Suite
(Libre Office)



Web Browser
(Firefox)



Email Client
(Thunderbird)



App Store
(Software
Center)

What is Debian?

- A all volunteer organization dedicated to developing free software and promoting the ideals of the free software community.
- Began in 1993. Ian Murdock gathered a group of developers to create a coherent linux distribution.
- Known as the grandfather of all linux distribution along with Slackware and open source.
- Ubuntu is the user friendly versin of Debian.

What is GNU/Linux

- Linux is modelled on the Unix operating system.
- Linux what a multitasking , multi-user system
- No one owns linux. Most of development is done by volunteers.
- Linux operating system is a really combination the Linux Kernel and the GNU Tools developed by the free software foundation.