Linux VS Windows

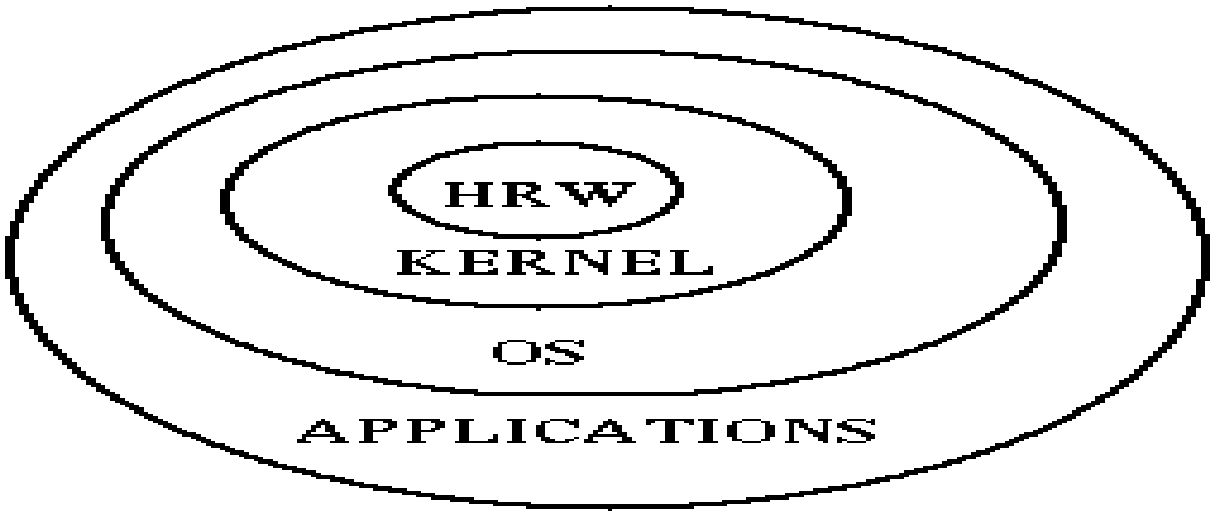
Things Linux does
better than Windows

Outlines

- What is OS
- What is SERVER
- Top 4 Things Linux does better than Windows
- Kernel Role
- Linux Boot Process
- Lab : GRUB Bootloader grub.cfg
  Editing Timing Out and RHGB
- To be Certified

Operating System

- An **operating system** (**OS**) is system software that manages computer hardware, software resources, and provides common services for computer programs.



SERVER

- **Server** is a computer software or a machine that offers services to other programs or devices, referred to as “clients”.
- There are different types of servers: web servers, database servers, application servers, cloud computing servers, file servers, mail servers, DNS servers and much more.

Data Centers

- Today a bigger percentage of servers on the Internet and data centers around the world are running a Linux-based operating system.

Things Linux does better than Windows:

1- Free and Open Source

- Linux or GNU/Linux is free and open source. you can see the source code used to create Linux (kernel).
- You can check the code to locate bugs, explore security vulnerabilities, or study what that code is doing on your machine.
- You may easily develop and install your own programs.

Things Linux does better than Windows:

2- Stability and Reliability

- What actually makes Linux systems stable?
- There are many determinants which include management of system and programs configurations, process management, security implementation.
- You can modify a system or program configuration file and effect the changes without rebooting the server, which is not the case with Windows.
- In case a process is behaving abnormally, you can send it a signal using commands such as kill, pkill thus dealing away with any implications on the overall system performance.
- The power of Linux in driving the Internet, companies such as Google, Facebook, Twitter, Amazon, stock markets and airline databases, all have their servers running on Linux-based server software.

Things Linux does better than Windows:

3- Flexibility

- You can modify it to meet you server needs.
- You can install a GUI or simply operate your server via a terminal only.
- One of the most powerful standard programs present in Linux is the shell, is a program that provides you with a consistent environment for running other programs in Linux; it helps you interact with the kernel itself.

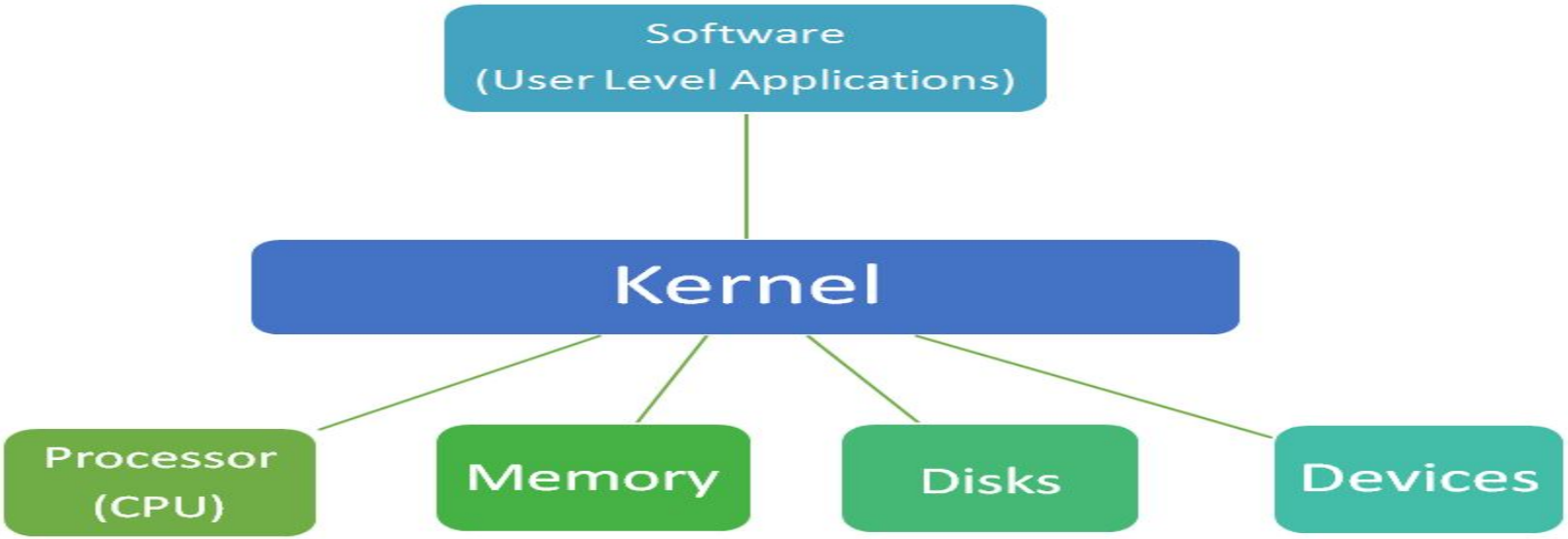
Things Linux does better than Windows:

4- Security

- Linux is the most secure kernel, making Linux based operating systems secure and suitable for servers.
- Linux implements a variety of security mechanisms to secure files and services from attacks and abuses.
- You can secure services using programs such as a firewall, TCP wrappers and SELinux which helps to limit the resources a service can access on a server.

Kernel Role

- The kernel is a program at the core of a system that has complete control over the system.
- On most systems, the kernel is one of the first programs loaded after the bootloader.



Linux Boot Process

- **BIOS** **>>** POST
- **IPL** **>>** Initial Program Loader
- **Bootloader** **>>** MBR to GRUB
- **Kernel** **>>** Systemd to Runlevel scripts
- **User Interface** **>>** GUI or CLI

Lab

GRUB Bootloader grub.cfg

Editing Timing Out and RHGB

To be Certified

- RHCSA (Redhat Certified System Administrator)
  - Basic system administration
  - Intermediate System Administration
- RHCE (Redhat Certified Engineer)
  - RHCSA Tracks
  - Network and Security Administration
  - Real World Administration solutions and tools