Linux Summer Training

~# WHOAMI

- Developer at MUFIX community
- RHCSA certificate of achievement
- Participated in competitive programming competition 2019

Training Outlines

- Linux Ideas and History

  An Introduction to Linux and Open Source: what are the central ideas behind the Linux phenomenon and where do they come from?
- Linux Usage Basics

  Logging into the system, changing users and editing text files.
- Running Commands and Getting Help

  How to use built-in and online documentation to enhance your experience.
- Browsing the File-system

  Understanding the locations of important directories on Linux

  system and navigating them from the command line and using the

  graphical Nautilus browser (GNOME).
- Users, Groups and permissions

  Reading and setting permissions on files and directories.
- Using the bash Shell

  Basic tips and tricks to make Linux's default shell work for you.

  Topics include tab completion, history and an introduction to shell scripting
- Standard I/O and Pipes

  The ins-and-outs of redirecting output between programs and files.
- Text Processing Tools

  An introduction to some of the most useful text-processing utilities in RedHat Enterprise Linux, including grep, cut, sed, sort, diff and patch.
- Vim: An Advanced Text Editor

  How to get the most out of the powerful and flexible vim text editor?
- Investigating and Managing Processes

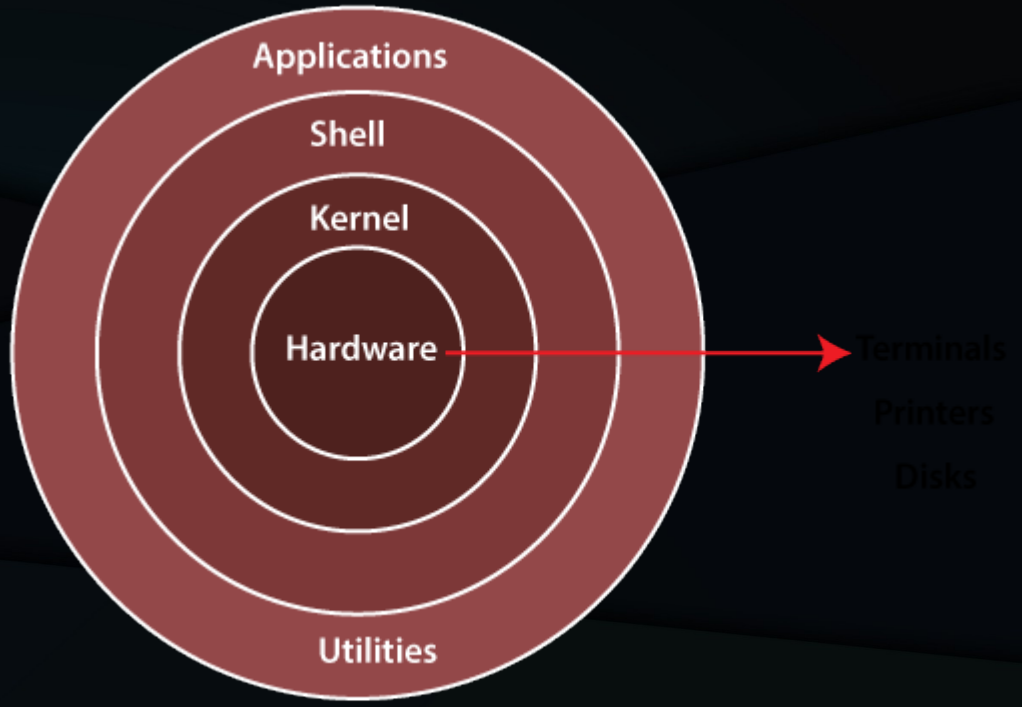
  Listing, terminating and scheduling program executions on a Red Hat Enterprise Linux system.
- Finding and Processing Files

  In-depth coverage of using the find command and related utilities to locate and act upon files based on arbitrary criteria.
- The Linux File-system In-Depth

  The nuts-and-bolts of how Red Hat Enterprise Linux deals with file-systems. Topics include partitions, inodes, linking and archiving tools.

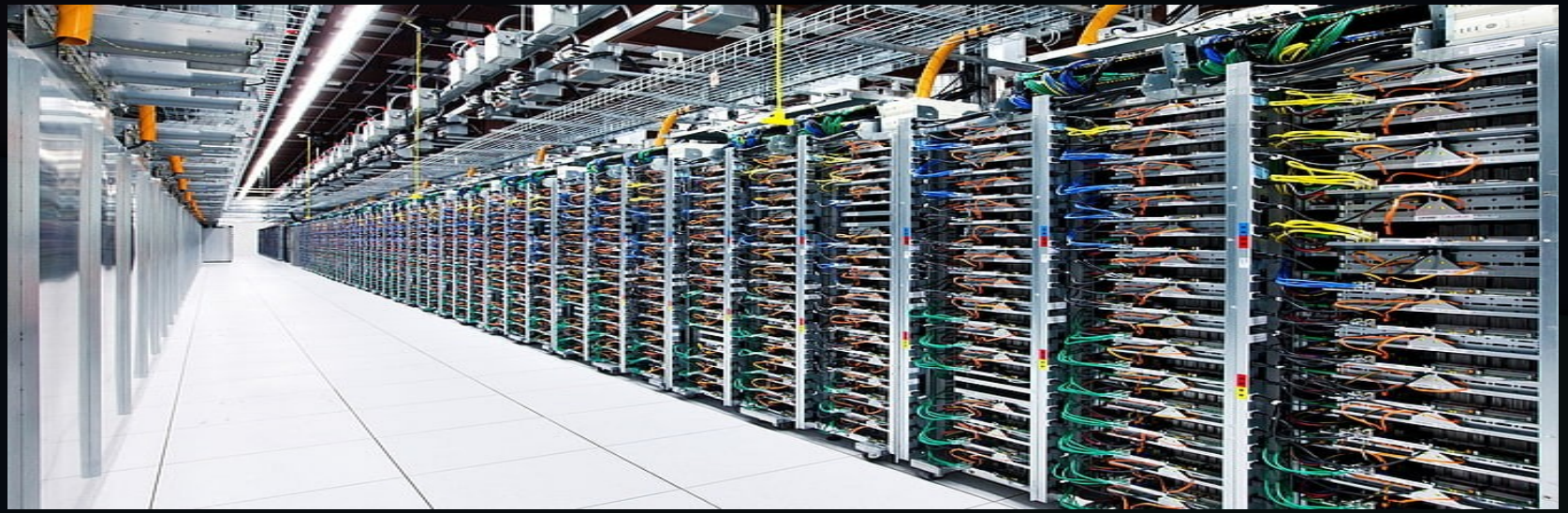
What is an OS !

- An operating system is system software that manages computer hardware, software resources, and provides common services for computer programs



Servers and Data centers

- Server is a computer software or a machine that offers services to other programs or devices, referred to as “clients”.
- 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:

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:

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:

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:

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.