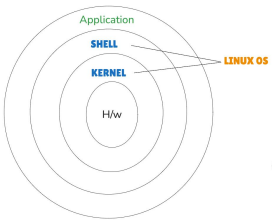
SHELL SCRIPTING



Kernel

- core/brain of Linux OS.
- manages all the resources by directly communicating w the hardware.
- interface b/w hardware & application/software.

Unix –> AT & T's Bell
(Dennis Ritchie & Ken Thomsponn)

Linux –> Linus Torvalds

Shell

- Shell is an interface between kernel & the application.
- It will convert the human understandable language to machine understandable language.
- Users will make use of shell, to give instruction to the system which will get executed.
- Shell provides a text-based-input to give the instruction to the system.

IS LINUX AN OS?

LINUX –> KERNEL, NOT A COMPLETE OS

UBUNTU –> COMPLETE LINUX OS

BECAUSE THEY COMBINE (LINUX KERNEL + SHELL + OTHER PROCESSING RESOURCES

open-source

Types of Shells:

COMMAND LINE INTERFACE (CLI)

- Type of shell that operates through text-based-input i.e, commands, to interact with the system.
- eg: Windows -> Command Prompt
  MacOS -> Terminal
  Linux -> Linux Terminal

Types of CLI/shell in Linux:

1. sh (Bourne Shell):
   - Original Unix Shell.
   - It is very light-weight but limited in features.
2. bash (Bourne Again Shell):
   - Default shell of Linux system.
   - part of GNU project.
3. cshell
4. ksh
5. zshell

Commands:

>> cat /etc/shells: list all the diff. shells in my system.

>> echo $0: current shell which is being used

>> echo: printing statement

GRAPHICAL USER INTERFACE (GUI)

- Type of shell that consists of icons, toggles & menus which is used to communicate with the system.
- eg: Windows -> Windows Explorer
  MacOS -> Finder

Types of GUI in Linux:

1. GNOME Shell
2. KDE Plasma

Shell Scripting

>> Shell Script is an executable file that contains multiple commands, which is executed sequentially.
   - top to bottom
   - line by line

>> Extension is '.sh'

>> Shell Scripting is a process of writing a series of commands in a file that shell executes.

-- to run series of commands.
-- run same set of commands over & over again (automating).

STEPS TO CREATE & RUN A SCRIPT

1. Create a file with '.sh' extension

```
touch filename.sh
```

2. Edit/add content inside it

```
nano filename.sh
```

3. Give the executable permission to the file

```
chmod +x filename.sh
```

4. Execute/run the file

- by giving the path

```
./filename.sh
/home/vboxuser/filename.sh
```

```
bash ./filename.sh(macOS)
```