Introduction to Unix/Linux

Operating system

- Interface between user and the computer hardware.

Unix flavors

- Linux
- Mac OS
- AIX
- Solaris
- HP-UX

Linux Flavors

- RHEL (Red Hat Enterprise Linux)

- CentOS

- Ubuntu

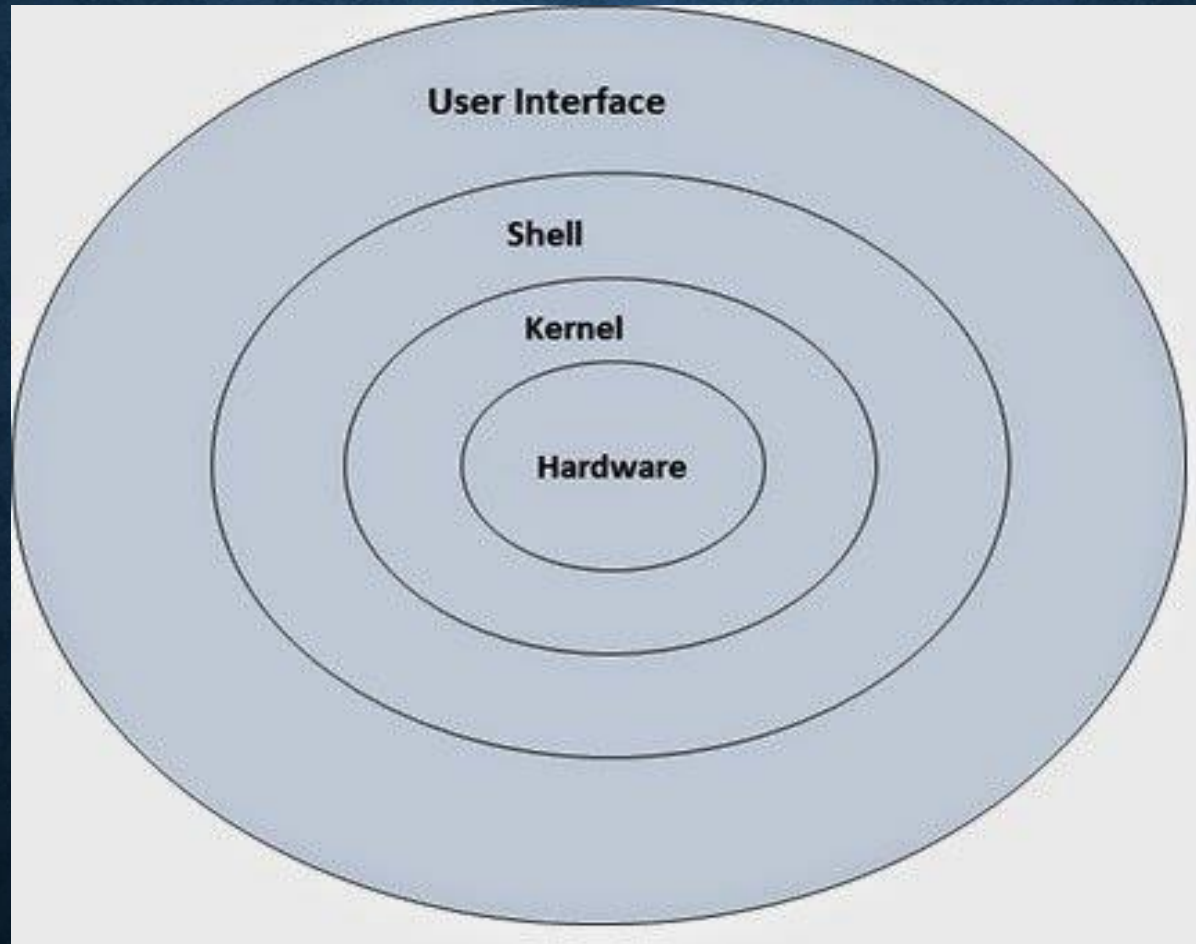- Amazon Linux

- Fedora

- Linux Mint

- OpenSUSE

Why Linux?

- **Multi-User & Multi -Tasking**

- **Open Source**

- **Security**

- **Need less resources**

Architecture of Linux

File system hierarchy

- / - This is top level directory

- /root - It is home directory for root user

- /home - It is home directory for other users

- /boot - It contains bootable files for Linux

- /etc - It contains all configuration files

- /usr - by default soft wares are installed in this directory

- /bin - It contains commands used by all users

- /sbin - It contains commands used by only root user (root)
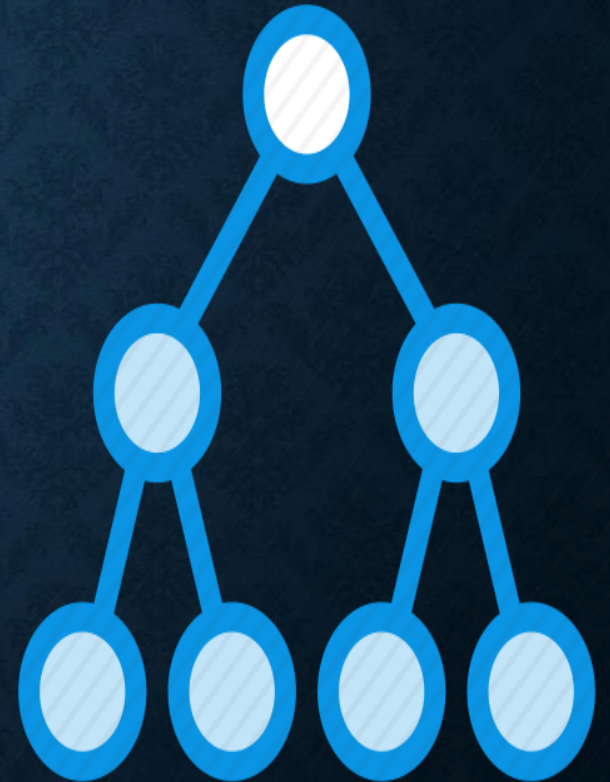
Unix Basic Commands

- cat (create & append file)
- touch (create blank file)
- nano (create & edit file)
- vi/vim (create & edit file)
- ls (list) (-a, -la)
- cd (change directory)
- pwd (print working directory)
- mkdir (create directory, multiple)
- cp (copy)
- mv (move)

- mv (rename)
- rm (remove file)
- tree (see in tree structure)
- rm -rf(remove directory & recursive)
- grep (pick & print)
- less (see output)
- head (see top 10 lines)
- tail (see last 10 lines)
- sort (display in Alphabetic/Numeric order)

- User
- Group
- Soft Link (shortcut)
- Hard Link (backup)
- tar (to pack)
- gz (to compress)
- yum (to install)
- wget (to download)
- File/Directory Permissions:
  - chmod (permissions)
  - chown (owner)
  - chgrp (group)

Unix Basic Commands

- hostname (to see hostname)

- ifconfig (to get ip address)

- cat /etc/*rele* (to get os version)

- yum install httpd (to install package)

- yum update httpd (to upgrade package)

- yum remove httpd (to uninstall package)

- yum list installed (to see installed packages)

- service httpd status (to see status)

- service httpd start (to start service)

- service httpd reload (to restart service)

- service httpd restart (to restart service)

- chkconfig httpd on (to start service permanently)

- chkconfig httpd off (to stop service permanently)

- Redirection (redirecting output)

- which (to see package installed or not)

- sudo (to get root privileges)

- whoami (to see user)

- find -type f (to see all files in current directory)

- find -type d (to see all directories in current directory)

- find / -type f (to see all files under top level root directory)

- find / -type d (to see all directories under top level root directory)

- find / -type f -name <file_name> (to search specific file under top level root directory)

- find / -type d -name <dir_name> (to search specific dir under top level root directory)

Commands

- cat : ctrl+d

- nano : ctrl+x

- directory : mkdir -p dir1/dir2 & rm -rf

- grep : grep root /etc/passwd

- less,more,head,tail : less etc/passwd, head -3 etc/passwd (contents inside file)

- sort : contents inside file (sort <file name>)

- soft link : ln –s <mainfile> <linkfile>

- hard link : ln <mainfile> <linkfile>

- Adding single/multiple users to group : gpasswd -a/-M <user>,<user1> <group>

- Removing users from group : gpasswd –d <user>,<user1> <group>

- tar : tar -cvf <new.tar> <old> ,   tar -xvf <new.tar>   (du -h file name)

- zip : gzip <new.tar>   ,   gunzip <new.tar.gz>