

Introduction to Unix/Linux

Operating system

- Interface between user and the computer hardware.

Unix flavors

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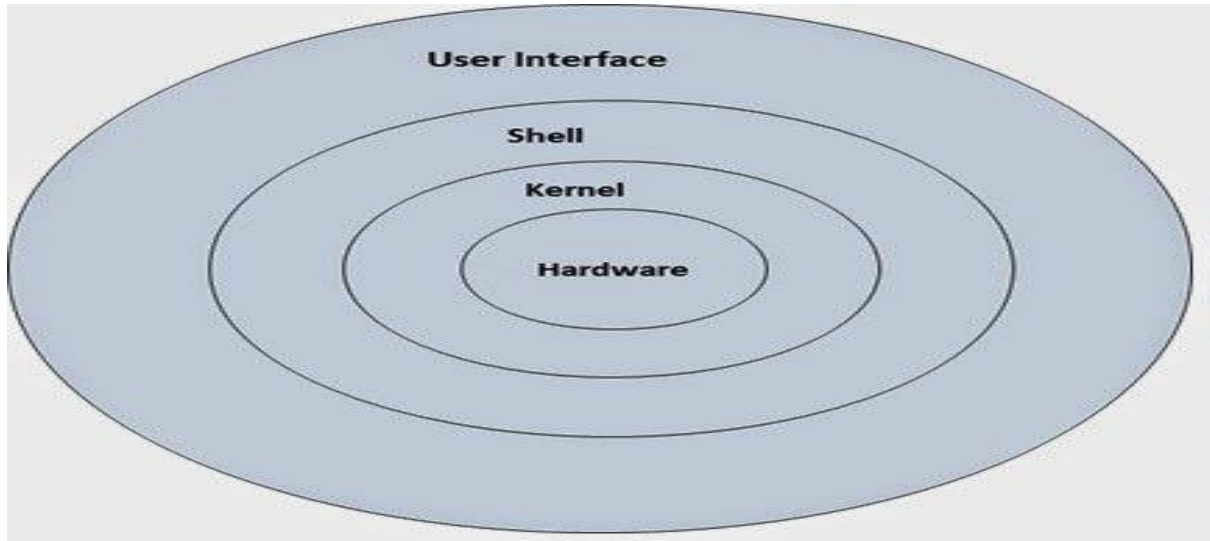
Linux Flavors

- RHEL (Red Hat Enterprise Linux)
 - CentOS
 - Ubuntu
 - Amazon Linux
 - Fedora
 - Linux Mint
 - OpenSUSE
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Why Linux?

- Multi-User & Multi -Tasking
 - Open Source
 - Security
 - Need less resources
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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)
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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)
 - `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)
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Important to remember

- 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>