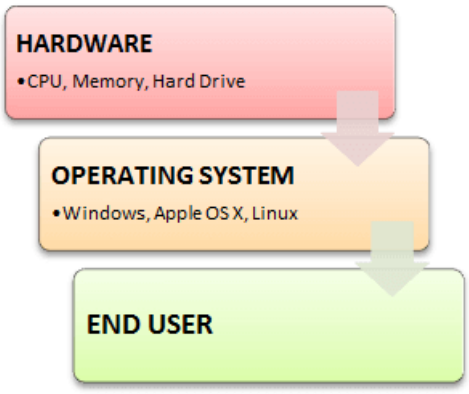
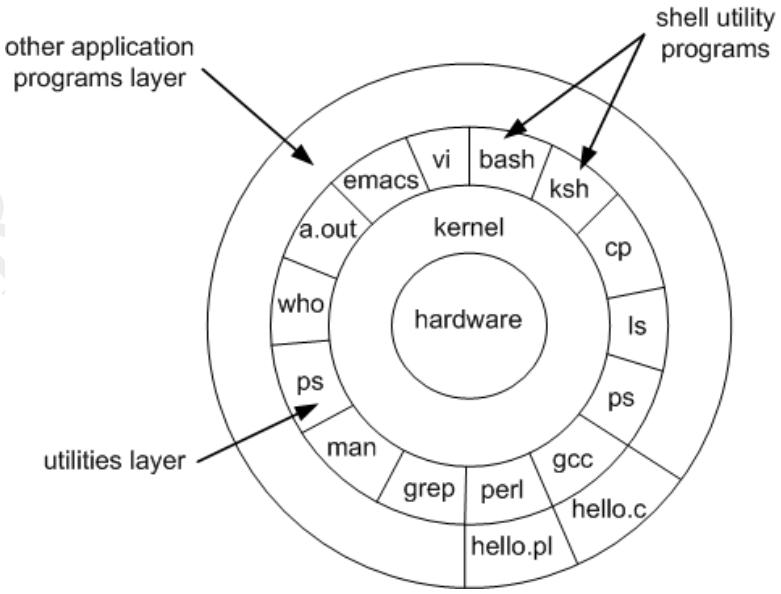
OS fundamentals : Linux - Ubuntu18.04

-: Operating System :-

- An operating system is a program that controls the execution of application programs and acts as an interface between the user of a computer and the computer hardware.
- An operating system is concerned with the allocation of resources and services, such as memory, processors, devices, and information. The operating system correspondingly includes programs to manage these resources, such as a traffic controller, a scheduler, a memory management module, I/O programs, and a file system.



Ubuntu18.04 – Open source (GPL)
(***Good Read***) Advanced Bash scripting guide : abs-guide.pdf



-: Here is a list of most widely used Linux commands :-
NOTE: Linux shell is case sensitive.

1. **pwd**
To find out the absolute path of the current working directory (folder) you're in.

2. **cd**
To navigate through the Linux files and directories
cd .. (with two dots) to move one directory up
cd to go straight to the home folder
cd- (with a hyphen) to move to your previous directory

3. **ls**
To view the contents of a directory.
ls -a will show the hidden files
ls -al will list the files and directories with detailed information like the permissions, size, owner, etc.

4. **cat**
To list the contents of a file on the standard output.
cat > filename creates a new file
cat filename1 filename2>filename3 joins two files (1 and 2) and stores the output of them in a new file (3)
cat filename | tr a-z A-Z >output.txt converts a file to upper or lower case use,

5. **cp**
To copy files from the current directory to a different directory

6. **mv**
To move files, and also to rename files.

7. **mkdir, rmdir**
To make one or more new directory
To delete one or more empty directory

8. **rm**
To delete directories and the contents within them
NOTE: Be careful with rm -rf command. Once you delete they are gone.

9. **touch**
To create, change and modify timestamps of a file. Also, to create a new empty file.

10. **find**
To locate files within a given directory.
To find files in the current directory use, **find . -name notes.txt**
To look for directories use, **/ -type d -name notes. txt**

11. **grep**
The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern (regex).

12. **sudo**
Short for "**SuperUser Do**", this command enables you to perform tasks that require administrative or root permissions.

13. **df, du**
To get a report on the system's disk space usage.
To check how much space a file or a directory takes.

14. **head, tail**
To view the first lines of any text file. By default, it will show the first ten lines. (head)
To view the last ten lines of a text file. By default, it will show the last ten lines. (tail)

15. **chmod**
To change the read, write, and execute permissions of files and directories

16. **chown**
To change or transfer the ownership of a file to the specified username
chown linuxuser2 file.ext will make **linuxuser2** as the owner of the **file.ext**

17. **kill**
If you have an unresponsive program, you can terminate it manually by using the **kill** command. It will send a certain signal to the misbehaving app and instructs the app to terminate itself.
SIGTERM (15) - requests a program to stop running and gives it some time to save all of its progress.
SIGKILL(9) - forces programs to stop immediately. Unsaved progress will be lost. kill -9 <PID>

18. **ping**
To check your connectivity status to a server.

19. **wget**
To download files from the internet.

20. **uname**
short for Unix Name, will print detailed information about your Linux system like the machine name, operating system, kernel, and so on.

21. **top**
Equivalent to Task Manager in Windows, the **top** command will display a list of running processes and how much CPU each process uses.

22. **clear**
To clean out the terminal if it is getting cluttered with too many past commands.
Windows users can use 'cls' with alias cls=clear

23. **ps**
To visualize what processes are currently run by your machine.
To view current running processes.

24. **service**
The service command is the de-facto command to invoke system-wide services from the terminal.
Check the status of a ssh service
service ssh status
Restart a service
service ssh restart

25. **batch, at, crontab**
To run system services in a pre-defined schedule.
View crontab entry for a specific user
crontab -u bhasvara -l

26. **ln**
To create symbolic links to some specific file. Hardlink/Softlink

27. **ssh, scp**
Secure command-line access to remote Linux systems.
Secure file copy to remote linux systems.

28. **ifconfig**
To view/configure network parameters.

29. **zip, tar, gzip**
Archiving utilities
tar cvf archive_name.tar dirname/
tar xvf archive_name.tar

31. **umask**
The user file-creation mode mask (umask) is use to determine the file permission for newly created files. It can be used to control the default file permission for new files.

32. **vi, vim**
Text editors (with syntax high lighting)
Vim /var/log/system.log

33. **env**
To list all environment variables set

34. **screen**
Push running terminal applications to the background and pull them forward when you want to see them.

35. **nohup**
A command in Linux systems that runs the process even after logging out from the shell/terminal.

36. **sed, awk**
Text processing commands.
They can be used to write programs also. There is a compiler written using awk.

37. **export**
It marks an environment variables to be exported to child-processes from current shell.

38. **xargs**
Build and execute command lines from standard input

39. **shutdown**
Shutdown the system and turn the power off immediately.
shutdown -h now

Reboot the system using shutdown command.
shutdown -r now

40. **info, man**
Display the man page of a specific command.
man grep

41. **lsof**
Lists the open files associated with your application

42. **alias**
The alias command lets you give your own name to a command or sequence of commands.

Most Important Commands for DevOPs :
cd, mkdir, ls, vi, ssh, scp, ifconfig, xargs, export, crontab, service, ps, wget, kill, sudo, grep