OS(operating system):

* An operating system (OS) is system software that manages computer hardware and software resources, and provides common services for computer programs.

* An operating system acts as an interface between the software and hardware.

Examples of operating system are Windows, Linux, Mac OS, etc.

Windows:(microsoft) [founders Bill gates, paul allen]

* OS -windows operating system
* single user mode
* paid service
* security less
*GUI & CMD(graphical user interface & Command promt)
*supports Any Hardware (laptops, desktop)
*performance less compared to linux
*30 gb space required (Hard-disk)
*require Antivirus
*kernal is standard

RHEL: RedHat enterprise Linux [founder linus torvalds in 1991 based on unix os]

*Os -linux os

*open source

*multi user mode

*GUI and command line interface

*performance is good

*kernel we can modify

*Any hardware(laptops,desktops)

*(8-10gb)required

*security high

unix: [AT&T at bell labs]

*Os

*paid service

*CLI

*DEdicated hardware

LINUX COMMANDS:-

ROOT: Root is the superuser account in Unix and Linux. It's **a user account for administrative purposes** and typically has the highest access rights on the system.

1) Touch: Allows us to creat files

a) For creating single file

[]touch filename

[]ls

[] filename

b) For creating multiple files

[]touch filen1 file2 file3 .....

c) Using directory path to creating files

[]touch folders_path/filename

d) Using directory path to creating files

[]touch /myfiles/movies/music/filename

2) Cat: Allows to create files and writes file content

a) For creating files

[] cat > filename.py

b) For creating files and writes file content while creating

[]cat > filename.py

a=10

b=15

c=a+b

print(c)

ctrl+c ---> to save the file

c) To read the file content without using editors

[]cat filename

hi

hello

d) For merges the files and store the output

[]cat > f1

hi

hel

[]cat > f2

welcome

[]cat f1 f2 > f3

[]cat f3

hi

hel

welcome

3) vi,nano: Allows users to create, edit and manage files

a) for editing the files

[]vi filename

i-insert/R-replace

Esc, :, qw! --> for saving data and exit

[]vi filename

i

Esc,:, q! --> exit without saving data

b) nano:

[]nano filename

4) mkdir: To create directories and multiple directories

a) To create single directories

[]mkdir dirname:

b) TO create multiple directories

[]mkdir {dir1,dir2,dir3}

c)To create subdirectories in directories

[]mkdir -p

ex: []mkdir -p /directory/subdir1/subdir-in-subdir.

ex: []mkdir -p /myfiles/movies/music

5) rm: used to delete files within in directories and delete directories

a) For removing files

[]rm filename

b) For removing directories

[]rm -rf dirname

c) For removing the filepath

[]rm -rf *

6) rmdir: To permanently delete an empty directory and empty subdirectories

a) For deleting empty directories

[]rmdir dirname

b) for deleting subdirectories and and its main directories mydir

[]rmdir -p dir/subdir

7) sudo: It give permission

[newuser]sudo docker images

img v1 5447

8)pwd (path working directory): To find the path of your current working directory

[] pwd

ex:- /myfiles/photos

9)cd: To check current working directory

a) To check directories

[root:/]cd dir1

[root9880--/dir1]

b) To check subdirectory in main directory

[root:] cd /f1/f2/f3

c) For go back to main directory or sub directory

[]cd ../../

ex:-[root:/f1/f2/f3/f4]cd ../../-->go back to f4 to f2

ex:-[root:/f2]cd .. -->back to f2

10)ls: Lists files and directories

[root;]ls

ex: f1 f2 dir1 dir2

b) for checking hidden files

[]ls -a:

ex:- .f1.f2 .f3

11)ll: For checking the which are files have write,read,excute permission

[]ll

ex:- rw_rwe_r__ root root file1

ex:- drw_r__rwe root root dir1

12) cp: For to copy files or directories and their content

a) for copy the files

[]cp filename

b) For copy the file to a new file

[]cp filename newfilename

c) for copy the file to sub file

[]cp filename/f2/f2/newfilename

13) mv: move and rename files

a) To moving file to directory

[]mv filename dir_path

ex:- mv movedfile /f1/f2/f3

[f3]ls

movedfile

b) For renaming

[]mv oldfilename newfilename

14)grep:find a word by searching through all the texts in a specific file

[]grep c=a+b add.py

[] c=a+b

[]rpm –qa|grep tree htop

15)df -h:

report the system's disk space usage, shown in percentage & in KB's

16)du :

If you want to check how much space a file or a directory takes up, use the du command.

You can run this command to identify which part of the system uses the storage excessively

[] du /dir1 or du file1

17) head:used to allow to view the top lines

a) For first 10 lines of code

[]head add.py

ex:-

a=1

b=2

c=3

d=4

e=5

f=6

g=7

h=8

i=9

j=10

b) For first 4 lines of code

[] head -n 5 app.py

ex:-

a

b

c

d

e

18)tail: Display the last ten lines of a file

a) For bottom 10 lines of code

[]tail app.py

b) For bottom 4 lines of code

[]tail -n -2 app.py --> specifying lines

19)diff: Command compares two contents of a file line by

line.it will display the parts that do not match

a) for comparing two files

[]diff file1 file2

<hi

<hel

> wlcm

20)chmod:command that modifies a file or directory's read, write, and execute permissions

each file is associated with three user classes – owner, group member, and others.

r=4,w=2,e=1

a)For allow the permissions

[]chmod 777 filename

(7=read(4)+write(2)+execute(1))

21) usermod:adding existing user to group

[]usermod -a -G root docker

[]usermod -a -G sudo user

21)useradd: Linux is a multi-user system, meaning more than one person can use it simultaneously.

a) for adding the user

[]useradd newuser

[]passwd newuser

newpswd:1234

retype:1234

b) For checking the user id

[]id -a newuser ->check user

uid=1002(newuser) gid=989(newusr)

c) For delet the user account

[]userdel user1

D)checking all users names

[]cat /etc/passwd

22)groupadd:used to add the group

a) For adding group

[]groupadd usa

[]cat /etc/group--->list of groups

usa

canada

b) For delet the user account

[]groupdel usa

21)chown: used to change the ownership

a)changing the owner and groups

[]chown name_of_owner:groupname filename

[]chown user1:usa file1

22)ping:used to check the whether a network is reachable

a)For checking

[]ping www.google.com

64 bytes *******

64 bytes *******

23)wget:used to download files from internet

a) For the downloading

[]wget https://wordpress.org/latest.zip

b) For the downloading

[]curl -O https://wordpress.org/latest.zip

24)top: display all the running processes and a dynamic real-time view of the current system.

It sums up the resource utilization, from CPU to memory usage.

[]top

25)history: system will list up to 500 previously executed commands

a) For checking history of previous commands

[]history

b) To clear previous commands history

[]history -c

26)echo:it is a built-in utility that displays a line of text or string using the standard output

[]echo "hi"

hi

27)zip:it is used to compress your files into a ZIP file

[]zip zipfilename file1 file2

[]ls

zipfilename.zip

28)unzip:it extracts the zipped files from an archive file(.zip)

[]unzip zipfilename.zip

[]ls

f1 f2 f3

28)apt-get install or apt install/ yum install:it is used to install applications

a) For updating server

[]apt update

b) To install applications

[]apt install python3

29)version checking:

[] git --version

[]git -v /git -version

30)Ifconfig: is to check public and private ip's

[]ifconfig / ifconfig –a

[]ip –a

[]inet address (virtual box)

[] ip addr show

31)start,stop,status:it is used to change the servies status or to check or to start the servies

Example: nginx

[]systemctl status nginx.service / service nginx status

[]systemctl start nginx.service / service nginx start

[]systemctl stop nginx.service / service nginx stop

[]systemctl status nginx

[]service nginx status
