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Introduction to Linux and Terminal Commands

* Terminal Emulator:

It is a program that lets us use the terminal in graphical way.

① Shell:

- It is a command line interface that will interpret our commands and will tell the OS what to do.
- Part of terminal is known as cmd prompt where you write command
- docker run -it ubuntu
username of current user
- Root @ 277d4ce30328: / # current directory exit
+ host name of server
separator
- ls : List all the things in current directory (.) previous (..)
- mkdir : Create a folder in current directory
- cd : (change directory) Enter into the folder
- cd.. : To go back
- where python3 : Where it is
- open : To open [python3] → open /usr/bin

* 25 How does it know where is python3 located

↳ Environment variable : Named values that are used to change how commands and processes are executed

Any instance of running command is known as process

* Path Environment Variable

exit() / exit

echo \$PATH
Display

exist here, here, here ✓

5 Library / Framework / Python . framework / version 3 /usr:/local:/bin:/

→ ls -a : show me all the hidden files

• Own environment variable : export my_PATH = "Sohil"
echo \$my_PATH

↳ Not permanent

* Commands :

① 15 pwd : (Print working directory)

→ In which directory you are in currently

② ls -l

→ More information

③ ls -al

→ List all hidden files with long details

• Go back to previous directory : cd .. /

④ ls -R

→ List all the things that are in folder

⑤ cat

→ 30 list all the contents that are in folder

cat > Hello
↳ output

" " → To exit : AC (control)

cat files.txt two.txt > total.txt

↳ Contents of files & two will be in total

- echo "Hello world"

↳ Hello world

⑥ man

→ Know information about particular command Eg: man echo

- To translate the contents from lowercase to uppercase

↳ cat files.txt | tr a-z A-Z > upper.txt

(Known as piping i.e output of the first file is going to act as input of second file)

- To write new command in new line for existing file → cat file.txt |

⑦ mkdir :

→ To create folder or file Eg:- mkdir test

- mkdir random/hello

↳ To create a folder between two folders

mkdir -p random/middle/hello

⑧ To make a file (touch):

→ Eg: touch names.txt

⑨ cp - (copy command)

→ To copy the contents of one file to another

cp file.txt copyfile.txt

⑩ mv - (move files)

→ Move names.txt inside random

Rename → mv file.txt rename.txt

⑪ rm : Remove a file

→ rm copyfile.txt

⑫ cp -R test Random

→ Test will be inside Random and all the contents of test will be inside it

⑬ mv test renamedTest

→ Rename test

⑭ mv Random/renamedTest .

→ Move renamedTest inside Random to current directory

⑮ rm -R renamedTest

(rm -rf) - force delete

→ To delete a folder

* For some commands you will require administrative permissions, only admin can access important files and need to add password

↳ such echo Hello World

- Password : _____

⑯ df

→ Disk space usage

↳ df -m : Shows in MB

↳ df -hg : Human readable in GB

↳ du : Disk usage statistics

↳ du -h : " " " in bytes

⑰ head total.txt

→ Display first 10 lines

(18) `head -n 4 total.txt`

→ Display first four lines

(19) `tail total.txt`

→ Display from last

(20) `diff:`

→ Compares the files line by line & output will not match lines that

Eg: `diff total.txt two.txt`

(21) `locate "*.txt"`

→ Locate all the files that end with .txt

↳ `locate (filename)`

→ will give location

(22) `find:`

→ To find in current directory

↳ To find folder → `find -type d`

↳ To find files → `find -type f`

↳ To find particular file → `find -type f -name "two.txt"`

Case sensitive

`find -type f -iname "*.*"` - Not case sensitive

- `find -type f -min -20/+2`

→ files modified less than 20 min age / more than 2 min ago

- `find -type f -mtime -10`

→ files modified less than 10 days ago

* File permissions:

↳ Three types of permissions i.e. read, write & execute

23) 5 ls -l

→ To check the permissions i.e. ls -l upper.txt

- r--r--r-- 1 sahil
3 people group other

* 10 Changing file permissions

↳ chmod [read, write, execute]

↳ chmod u=rw, g=rw, o=r upper.txt

• chmod 777 upper.txt

15 - rwxrwx.rwx read=4, execute=1, write=2, O=NP

• ls -l : Check user

• whoami : who is current user

* 20 Giving access to root to names.txt file

↳ sudo chown root upper.txt

Par 8:

↳ ls -l

25 -r--r--r-- root

↳ cat upper.txt → permission denied

↳ sudo cat upper.txt → ✓

* 30 ROOT : It is the super user account in Linux/unix systems used for administrative purposes & has highest number of access rights

- * To delete all the text files

↳ find . -type f -name "*.txt" -exec rm -rf {} \;

(24) 5 grep (Global regular expression print)

- To find things written in the file

↳ grep "cisco" companies.txt

- 10 To search complete word → grep -w "sahil" names.txt
- " " using lowercase (vcs) → " -i " " "

- To get line number → grep -n "sahil" names.txt

- If we don't know file → grep -wini "sahil" ./*.txt

- 15 If file is in folder → grep -Rwini " "

- Location of file → grep -wini "sahil".

- Count how many file contain sahil → -winc

- History → To check all history

- history | grep "ls" - shows history of list

(25) reper (Regular expression)

- 25 alias - shows all the alias

↳ vi ~/.zprofile → we can put our own alias
gpm = "git push origin main"

* Terminal shortcuts

1. → git push origin main : If you want to go to start: control+A and to the end → control+E
2. control + K : Removes everything after the cursor
3. " + U : Remove everything
4. tab : Used for auto completion
5. ↑ ↓ : Previous commands
6. history : !2747
↳ 2747 cmd
7. !find . It will run previous find command
8. control + R : Search previous commands
9. cmd + K : Clear entire screen
10. ; : Using multiple commands in a single line

(26) sort -R companies.txt

→ Sort companies.txt in reverse order (-r) - ascending order

(27) sort -n

→ To return in numerical order

• jobs : Processes started by shell

(28) wget

→ Download any file from the internet

↳ wget -O myfile.pdf URL

• top → To see how many processes are running

• kill processId : Will kill it

② zip file.zip companies.txt

→ will zip the file, (unzip)

hostname : gives the hostname

" -i : gives IP address

* Add a new user

↳ useradd user
passwd user

↳ userdel user

* lscpu : To get CPU details

id : will give id

lsof : list all open files

* Networking commands :

1. nslookup google.com

→ Check IP address

2. netstat

→ list number of active ports

* cut -c 1-2 companies.txt

→ Gives first two columns