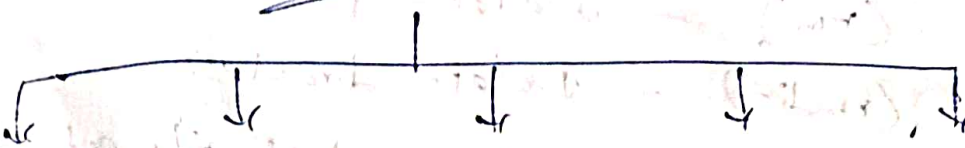
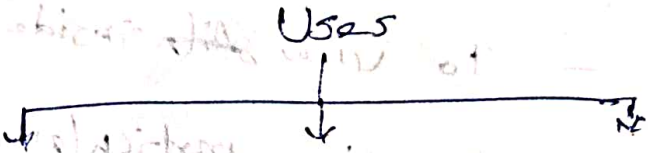
Linux



Linux is ⇒ open source, High security, Scalability



su - switch to root (su = root)

(su - sR) - Root to user

cd - change directory (Directory - folder

ls - List files.

(ls -ltrh) - show file size, permission, Date time.

(cd ..)

(Touch) - to create file.

(MKdir) - To create directory

(Vim editor) - open file.

(Filename)

to save file give (:) press (shift + esc + :)

then give (wq for save) for delete (q)

(wq!)

cd / go to directory

(rm) - Delete file

(rmdir) - Delete directory

(rm -rf) - Delete both file and directory

To delete directory

step 1 : give cd ..

step 2 : give rmdir (name of directory)

(cat) - To view ~~file~~ inside of file

(grep) → To view particular file using name, letters.

grep ⇒ ls -lrth | grep name.

User and Group:

(useradd username) → To create user

(id username) → To view user give (cat passwd)

(passwd username) - To create user password.

(passwd -d username) - To delete user password.

cat shadow used to check password

(Groupadd username) - To create group

(usermod -aG ~~fname~~ username groupname)

↳ To put user into group.

to view give (cat group)

(userdel (username / File-name)) — To delete user file.

(groupdel Group name) — To delete group.

(gpasswd -M (users name a,b,c) group name) → This used to put more user into group.

gpasswd -d user name group name → To delete user from group.

Permission

R — Read — 4
W — Write — 2
X — Execute — 1

} Permission.

U G O

For directory ⇒ drwxr-xr-x ⇒ drwx r-x r-x
4 2 1 | 4 1 | 4 1
7 | 5 | 5

For file ⇒ -rw-r--r--
4 2 | 4 | 4
6 | 4 | 4

chmod → change permission to (user, group, other)

Ex: chmod 666 File name
↓ (or)
permission Directory name

(Chmod o+w filename) → To change permission

root : root
↓ user owner
↓ Group owner

To change ownership → chown root : root file name

ACL (Access control List)

ACL
↓
setfacl ⇒ set the permission
↓
Getfacl.

For user ⇒ setfacl -m u:user1 : r file name
↓ permission

For Group ⇒ setfacl -m g:group name : permission ~~file~~ group name

For example : ACL indication ⇒ -rw-rw-rw-+
(+) → indicate ACL

ln - linked file

Linked file

- softlink
- hardlink.

For softlink:

ln -s /file name /etc/file name.

For hard:

ln /filename /etc/file name

ls -i filename → inode number → to check size, time date.

Ex: For hardfile

-rw-r--r--. 3 root root 6 Jan 7 09:41 abl.

↓ indicate hardfile.

Ex: For softfile.

lrwxrwxrwx 1 root root 6 Jan 7 09:52 link -> /link

↓ softfile.

Umask.

(Source bashrc) → To update permission in system.

(etc/bashrc) → To give file permission.

Directory - 777
file - 666

~~Crontab guru~~

Eg: This command is used to set default permission for files & directories

Directory :

Umask

step-1 Vi /etc/bashrc ⇒ To view and give Umask value (space)

step-2 source /etc/bashrc ⇒ To update permission in linux system.

step-3 ⇒ To create file (or) directory

step-4 ⇒ ⇒ give [ls -lart] for view the permission

Eg: For directory :

777 — max permission for directory
0022 — Umask
0755 — Default permission

For file :

666 — max permission
0022 — Umask
644 — Default permission

Crontab

Disk Management

Temporary

<lsblk.> → To view the available hard disk. in system

step 1 – fdisk.

step 2 – filesystem. ~~(ext4)~~ (ext4).

mkfs.ext4 /de

[step-1 to create partition and size

step 1 – (fdisk /dev/sdb) – To create partition

step 2 – give [m] for help

step 3 – give (n) → for add a new partition.

step 4 – give [p] → for primary

step 5 – give partition number (1, 2, 3, 4)

step 6 – give enter in (first sector)

step 7 – give Last sector [size of partition
Ex: +2G]

step 8 – give [wq] for save.

step 9 – give mkfs.ext4 /dev/sdb1

[step-9
To create file system

step 10 – Mkdir ~~name~~ <directory>
Folder1

mount /dev/sdb1 <directory>
Folder1

Permanent:

1. cd /etc - ~~check fstab~~
2. ls -lth | grep fstab → to check.
3. vi fstab → To edit
4. go to last line give /dev/sdb1 /linux ext4 default 0 0
   (directory name; give tab)
   first [0] - backup
   [0] - check file system check.

To delete partition:

⇒ [Umount] directory - ~~Umount~~ umount directory from disk

To delete partition → give (fdisk /dev/sdb) → give(d) → give partition (number)
name

→ give (wq) for save

To set hard disk size:

⇒ power off the machine → Go to setting → storage → controller: SATA to click [+] symbol. → click create → Enter hard disk size Eg: 10GB → click Finish

LVM (Logical Volume Manager)

step 1 : To create partition some GB and save it. (fdisk /dev/sdb)

step 2 : give [fdisk /dev/sdb] to change partition type.

step 3 : give m and enter give [t.] and give [partition number] and give [8e]

step 4 : give Hex code ⇒ [8e] give enter to give (wq) for save.

step 5 : pvcreate /dev/sdb2 → to create PV

step 6 : vgcreate <vgname> /dev/sdb2
Eg: rsb

step 7 : lvcreate -L +2G -n LV name vg name

~~step 8~~ : ~~To create directory~~

step 8 : Go to file system

mkfs.ext4 /dev/vg name/LV name

step 9 : To create directory [mkdir directory name]

step 10 : ~~permanent~~ mount /dev/vg name/LV name directory name.

⇒ ~~vi fstab~~ vi /etc/fstab

give ⇒ /dev/vg name/LV name /directory name ext4 default 0 0

vgs - to view volume group

pvs - to view physical volume

lvs - " " Logical volume.

Lv - extend

step: lvextend -L

Step1: lvextend -L +2G /dev/vgname/Lvname

(Partition extend size)

Step2: extsck -f /dev/vgname/lvname
(check file system)

Step3: Umount directory

Step4: Lv - Reduce

Step1: lvreduce -L -1G /dev/vgname/lvname

Step2: check by (lsblk).

SWAP

Step1: To create a partition. (fdisk /dev/sdb)

Step2: Go to ~~fstab~~ fdisk /dev/~~vgro~~ sdb

Step3: Give [t] for change partition type <Enter>
give partition number [eg: 3] <Enter>
give [L] for known partition type <Enter>
give [82] for Linux swap.

step4: give (w) for save

step5: check by (fdisk -l).

Step6: give [Free -h] it display the amount of free and used ~~memories~~ system and swap memories.

Step7: [mkswap /dev/sdb3] to set the swapspace.

step 8 :) Vi /etc/fstab

*) /dev/sdb3 swap swap defaults 0 0

step 9 : [swapon -a] to enable the swap.

↓
To enable purpose.

check by [free -h] and [lsblk]

step 10 : [swapoff /dev/sdb3] to disable the swap. check by [free -h]. [lsblk]

(disable purpose)

Remove volume group and Logical volume.

step 1 : Umount /dev/vg name/lv name. directory name

step 2 :*) vgremove vg name (vgb)

*) give (yes) and <enter> and give (yes) <enter>

*) check by (lsblk).

Process Management

Process

- Foreground process
- Background process

[ps] ⇒ This command used to view process status.

PID - process ID

PPID - parent process ID

TTY - Terminal type.

Time - consumed time of CPU

CMD - Command.

[ps -ef] ⇒ This command used to view process of foreground and Background process.

[ip a] ⇒ It used to check IP.

[systemctl restart NetworkManager].

↳ It used to restart the NetworkManager service of linux system.

[nmtui] ⇒ It used to enable (or) disable network interface.

step 1: press down button go to activate a connection, give enter

step 2: press right button go to deactivate give enter again enter.

step 3: Go to Back, give <enter> and go to Quit ~~give <enter>~~ click right button go to ok <enter>

Putty :

Putty allows users to remotely access and manage computers over a network using various protocols.

step 1: To download and install putty

step 2: Go to VM → click setting go to network → Go to Adapter 1 → click Attached to → To change bridged adapter. → click ok

step 3: Give [ip a] in terminal to get Ip address.

step 4: open putty give Ip address get from terminal and open.

step 5: Give [root] in login as. give root password. and give [cd /] and give [top]

[top] ⇒ To list all running process and check % cpu

step 6:: Go to VM terminal give [ps -ef]

step 7: Give [kill PID No] for Eg: [kill 3718]
It kill the top

kill → It is used to kill process

This command
[kill PID No] → For kill process

[kill -9 process PID No] → For force kill

[ctrl + c] → For exit

processor → -20 (Low priority)
+20 (High ").

chage

The chage in linux, used to manage user password aging and account expiration policies.

step 1: create user [useradd username]

step 2: [chage -l username] used to display password aging and account expiration

To change maximum number of days:

step 1: [chage -M number of day username]

Eg: [chage -M 30 sabari]

step 2: [chage -l username] to view.

To change days of warning before password expires

step 1: [chage -W number of day user name]

Eg: [chage -W 2 sabari]

step 2: [chage -l username] for check.

[vi /etc/login.defs]

↳ This command used to set the password aging and account expiration count. once set the number of days by using this command after creating any user have same days.

*) In case to change number of day give

[chage -M number of day username]

[chage -W number of day username]