

Linux:-

Linux

It is the open source & communicate developed operating systems for computer, server, mobile devices...etc.

Linux distribution:-

Ubuntu, Redhat, Centos, LinuxMint, fedora.

Linux Commands:-

↳ ls → list of files & directories

↳ touch → to create a file

Ex:- touch file

↳ ls -l → list of files & give long info files timing & dates & owner details.

↳ vi → it is editor for create & modify the file.

↳ i → insert mode

↳ :wq! → save & exit of file

↳ cat → displaying the content of file

↳ clear → terminal screen clear

↳ ls -lr → list of files & give long info.

↳ mkdir → Create the folder

↳ cd → into the particular directory

↳ cd .. → out from existing directory

↳ ls -lt → recent to old showing content

↳ ls -ltr → old to recent showing content

↳ pwd → present working directory

- ↳ cd ..\..\.. → It going to previous before before path.
- ↳ mkdir -p → recursively creating directories
Ex:- mkdir -p var\var
 - ∴ the var & var directories created
- ↳ tree → All files & directories shows in hierarchical format
- ↳ rmdir → Empty directories can easily deleted
Ex:- rmdir var [var folder is empty]
- ↳ rm → remove files
Ex:- rm valut.txt
- ↳ history → shows all history of commands
- ↳ rm -rf → forcefully deletes files & folders
- ↳ cp → Copy the files & directory.
Ex:- cp var var
- ↳ cp -r aws cloud → directories Copying here.
- ↳ mv → it is used to rename files & directories.
- ↳ cat -n → display Content in number Series
Ex:- cat -n aws.txt
- ↳ head → Top portion Content will shows in file.
Ex:- head -5 aws.txt
- ↳ tail → Bottom portion Content will shows in file.
Ex:- tail -5 aws.txt
- ↳ tac → it does reverse Cat Command
- ↳ uptime → Shows Server logon time & user logon info.

- ↳ date → shows date
- ↳ cal → calendar will showing
- ↳ whoami → checking who you are.
- ↳ ls aws → shows list of files in aws directory.
- ↳ df -h → it shows disk space.
- ↳ echo → it is used to print.
 - Ex:- echo "welcome drops" > value.txt
 - Any welcome drops.
 - new content & existing content
 - new content
 - ↓
 - new & existing Content
- ↳ uname -a → for knowing system info.
- ↳ cat /etc/os-release → giving info about OS & version.
- ↳ w → Server logins, uptime usage.
- ↳ top → it shows system CPU & memory details.
- ↳ ps -ef → Going to display currently Running processes.
- ↳ systemctl → used to check service running or not.
- ↳ cat /proc/meminfo → it give more details about memory.
- ↳ pipe [1] → send o/p of one command to another command.
- ↳ grep → it is used to find strings & values in text document.
 - i) cat Aws.txt | grep aws → this means starting with 'aws' Small letter name will shows entire Aws.txt.
 - ii) cat Aws.txt | grep -i aws → Small & Capital names shows here in entire file.

- iii) `Cat Aws.txt | grep -ir aws` → Except "aws" small & capital letters all Content will show.
 - iv) `Cat Aws.txt | grep -rn aws` → 'aws' word shows with line numbers.
- ↳ sort →
- i) Sort Aws.txt → Sort the Content in ascending order (A-Z)
 - ii) Sort -r Aws.txt → " " descending order (Z-A)

- ↳ find →
- i) `find .l -name Aws.txt` → for checking Aws.txt file is there or not.
 - ii) `find ./aws -name spot` → it means in 'aws' directory spot file is there.

↳ sed !— It is a stream editor without opening the file
 you can edit & replace & find something also.

[
 :Set nu → for starting shows file
 Shift+g → Ending ob-file line shows]

- i) I want to print first 10 lines ob-file.
 ↳ `Sed -n '1,10P' Aws.txt`
 ↳ Print
- ii) To print diff. range ob-line like 1 to 5 then 10 to 15, 21 to 24.
 ↳ `Sed -c '1,5P' -e '10,15P' -e '21,24P' Aws.txt`
 ↳ used to give multiple instructions.
- iii) I want to print 'denitor' word lines Aws.txt file.
 ↳ `sed -n 'denitor|P' Aws.txt`
 ↳ Content addressing

iv) I want to replace word 'director' with 'Hr' in file.

↳ sed 's/director/Hr/g' Aws.txt

v) I want to replace word 'director' with 'Hr' only first 10 lines in the file.

↳ sed '1,10s/director/Hr/g' Aws.txt

vi) I want to replace with 'director to Hr' & remove case sensitivity.

↳ sed 's/director/Hr/i' Aws.txt

↓
remove case sensitivity

vii) deletes 'director' word line in file.

↳ sed 'd' Aws.txt

↓
delete

↳ grep:- It is used to search for particular pattern or to search for string in particular file.

i) Search 'hr' String in given file,

↳ grep "hr" Aws.txt

ii) I don't want to search my pattern as Substring. I want to search my pattern as Complete word .

↳ grep -w "Paran" Aws.txt

iii) we want remove Case sensitivity for word "Paran".

↳ grep -iw "Paran" Aws.txt

↓ → Line number

remove case sensitivity

- iv) Print all lines given file which don't match the pattern
i.e Print "Paran" word Except all lines.
↳ grep -iwr "Paran" Aws.txt
- vi) If know the directory then search the filenames with having pattern,
↳ grep -iw "Paran" /home/ubuntu/*

↳ awk!— It is a scripting language used for manipulating data & generating reports.

i) for print file data

↳ awk '{print}' Aws.txt

ii) only 2nd column & 4th column I need to print in this file.

↳ awk '{print \$2, \$4}' Aws.txt

iii) I want specific row^(mem) in free -m command,

↳ free -m | awk '/mem/{print}'

iv) I want to columns for 2nd & 4th for specific Row,

↳ free -m | awk '/mem/{print \$2, \$4}'

v) for seeing no.of records (no.of lines),

↳ free -m | awk '{print NR, \$0}'

vi) for seeing particular number row,

↳ free -m | awk NR=2 {print NR, \$0}

If you have delimiter in the file for separation of columns
[!!!]

i) I want to print 2nd & 6th column of file,

↳ awk -F "!" '{print \$2,\$6}' Aws.txt

ii) I want to print 3rd line to 10th line & want to print 3 & 6 column,

↳ awk -F "!" 'NR==3, NR==10 {print \$3,\$6}' Aws.txt
I
delimiter

for showing no. of lines in file,

→ wc -l Aws.txt

→ cat -n Aws.txt

iii) I want to print those records who are having '8' columns & redirect to a file.

↳ awk -F "!" 'NF==8 {print}' Aws.txt > myfile.txt
>8
<8

iv) I want to print in 7th column only 'Hr' designation in file.

↳ awk -F "!" "\$7 ~ /Hr/ {print}" Aws.txt.

v) I want to print in 6th column only Greater 10000 Salary in file,

↳ awk -F "!" '\$6 > 10000 {print}' Aws.txt

↳ cut:- It allows to cut out sections of a specified file or piped data & print the result to standard output.

cut -d → used to specify delimiter

cut -f → used to cut particular field from a column specific file

cut -c → used to cut particular characters from particular file.

i) if you want to see 3rd field of file then show ~~the~~ third column,

↳ cut -d "1" -f 3 Aws.txt

ii) for seeing data of 2nd column to 5th column field,

↳ cut -d "1" -f 2-5 Aws.txt

iii) for seeing multirange fields,

↳ cut -d "1" -f 1-3,5-7 Aws.txt

iv) for after third field all columns show.

↳ cut -d "1" -f 3-

Attach new volume to ec2 & make partition, format & mount.

Step①:- Create one instance with 10GB deskspace & Connect Putty.

Sudo su

↓

lsblk for deskspace volumes

xvda	10G
└─xvda1	1M
└─xvda2	10G

Step②:- Create volume with 20GB & attach to ec2 instance.

(gp2)

↓

lsblk

xvda	10G
└─xvda1	1M
└─xvda2	10G
xvdf	20G

But this is not mounted to ec2 instance
Just created.

file -s /dev/xvdf → file shows
mounting or
not disk.

free -m for checking free space

df -h for deskspace of all 10GB

Here you need do 1st Partition of 20GB & format
that one & mount it.

Step③:- make Partition the disk.

fdisk /dev/xvdf



for help(m)



n for I want to add new Partition.

p for default, w - Save & exit



lsblk (g) lsblk -Ps

xvda	10G
└─ xvda1	1M
└─ xvda2	10G
xvdf	20GB
└─ xvdf1	20GB

Partition is done.

Step④:- do format,

↳ mkfs.xfs /dev/xvdf1

for formatting, mkfs -t ext4 /dev/xvdf1



lsblk -P

Step⑤:- mount the disk for that Create one directory

mkdir /tmp/desk2



mount /dev/xvdf1 /tmp/desk2



lsblk

for disk space info.



df -h

here shows disk space about all 10GB & 20GB for instance.

The mount disk is not mounted after reboot the system

~~so~~ + so for that, follow the steps below

vi /etc/fstab



/etc/fstab

At last line,

/dev/xvdf1 /tmp/disk2 xfs defaults 0 0



:wq!

for unmount disk,

↳ umount /tmp/disk2

here check the mounting path is removed for disk.

for Again mount disk,

↳ mount -a

Allot Some memory for Particular file,

↳ fallocate 1 3G testfile

If you want to detach volume from the instance then,

↳ first delete Partition

↳ second delete

↳ third delete

lsblk: (check here)

then attach EBS volume & detach from the instance.

↳ detach volume

↳ attach volume

then check the disk state.

then mount it.

→ if any files like large files present in mount directory of disk then goto that path

↓
cd /tmp/disk
↓ du -sh *

[dummyfile 10G]

↓ df -h → disk space showing

du -sh * → All files & folders sizes showing here in particular directory of disk.

if you want to Compress the file then;

↳ tar -cvf dummyfile.targz dummyfile.

Instead of Compressing you can trancet the file.

↳ -> dummyfile
Space is coming but file size is '0G'

↳ rm -rf dummyfile

we have compressed the file, then you can delete the normal file then space is coming to free.

(dummyfile 10G)

↓ ls -lft (B) du -sh *

[dummyfile 10G
dummyfile.targz 3.1G]

↓ iostat → shows CPU utilization do user. if 'iowait' reaches to 60 to 70%, then danger state you can check what's going

badblocks → for checking badblocks.

unable much to speak Server! -

~~~~~

vi /etc/hosts



here IP's & hostnames there.



↳ ping localhost → Pings work

↳ ping google.com → ↗  
IP of google

↳ nslookup google.com → showing

vi /etc/hosts.conf



here nameservers we have enable, there will  
the hostname to IP.

Converts

vi /etc/nsswitch.conf

when we are pinging, mostly it's will check  
inside file first checking file hosts  
in this file, then DNS servers

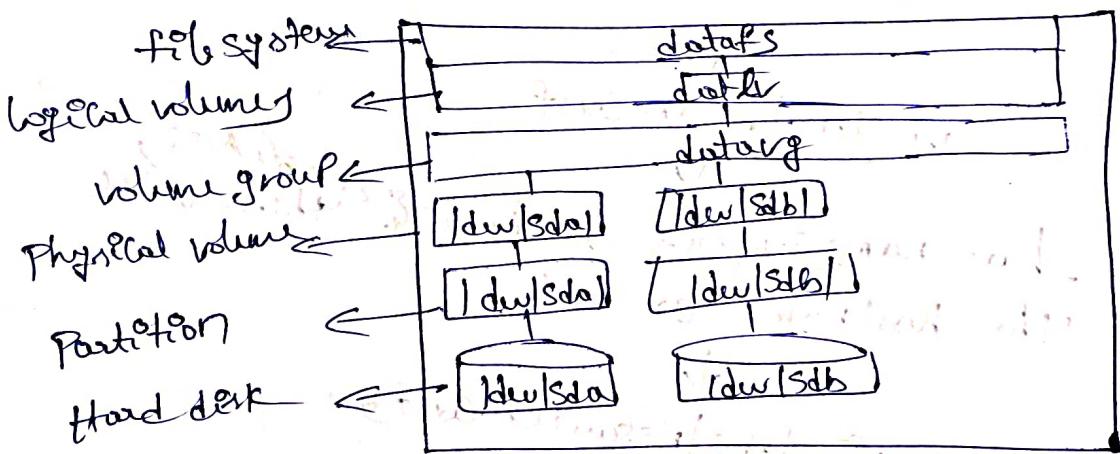
Above steps if pinging successfully then you can check  
another Server with in the same network.

Here you can found issue of your server or  
another Server or another Domain name.  
more, if you want to check your server connectivity then  
you can Ping Gateway,  
↳ netstat -rn  
↳ ping <GatewayIP>

If Pinging work then no issue with your server.

↓  
If Config → Sometimes you need to check whether IP is Configured or not for that Server. This is also issue happening sometimes.

Add disk & Create LVM Partition



Partition Create! -

Trust you add one disk (2G) to instance not mounted,

↓  
lsblk

→ `sda[2G]`

↓

fdisk `/dev/sda`

enter 'p' for new Partition [↑, ↓]

Partition created but here 'm' for help

↓  
(d) for del Part

(n) for Create "

(w) for write

(t) for change Partition system id

↓  
L for list all

↓  
'se' for linux LVM

↓  
w for ext.

physical vol creates:-

↓  
lvmcreate /dev/sda1

↓  
physical volume successfully created

↓  
lvsdisplay → to give display of volume info.

↓  
pvs → shows info of volume groups of physical vol.

volume group creates:-

↓  
lvgcreate kafkavg /dev/sda1

↓  
lvg created successfully

↓  
vgdisplay kafkavg → to give vg info.

logical vol creates:-

↓  
lvcREATE -n lcaffka\_lv -size 1000M kafkavg

↓  
logical name vol group

from volgroup to we are created one logical vol.

↓  
pvs → shows info.

↓  
lvdisplay → shows logical vol info.

then format the disk

↳ mkfs.xfs /dev/kafka-vg/kafka-lv

then mount the disk,

↳ mkdir /kafka

↳ mount /dev/kafka-vg/kafka-lv /kafka

↳ chown -R kafka:kafka /kafka

[format disk  
df -h  
Shows free disks]

vi /etc/fstab  
here update the mount path if you are reboot the system also it's not problem.

Extend the logical volume mounts lk(sdb-to-sda) :-

lv partition created! -> sdb1

physical vol created! -> sdb1

↳ lvcreate -L 10G /dev/sdb1

↳ mkfs.xfs /dev/sdb1

↳ mkswap

↳ fs

volume group extend :-

vgextend | dev | sdb1  
↓  
kafka\_vg  
↓  
Previous vg.

logical vol extend :-

↓

lvextend -L+1024M /dev/mapper/kafka\_vg-kafka\_lv

lvextend -L+1024M /dev/mapper/kafka\_vg-kafka\_lv

( logical vol added )

↓  
df -h

[not showing extended disk]  
in existing desktop.]

↓

xfs-growfs /dev/mapper/kafka\_vg-kafka\_lv → for  
↓  
showing & added in existing  
disk

df -h → shows here.