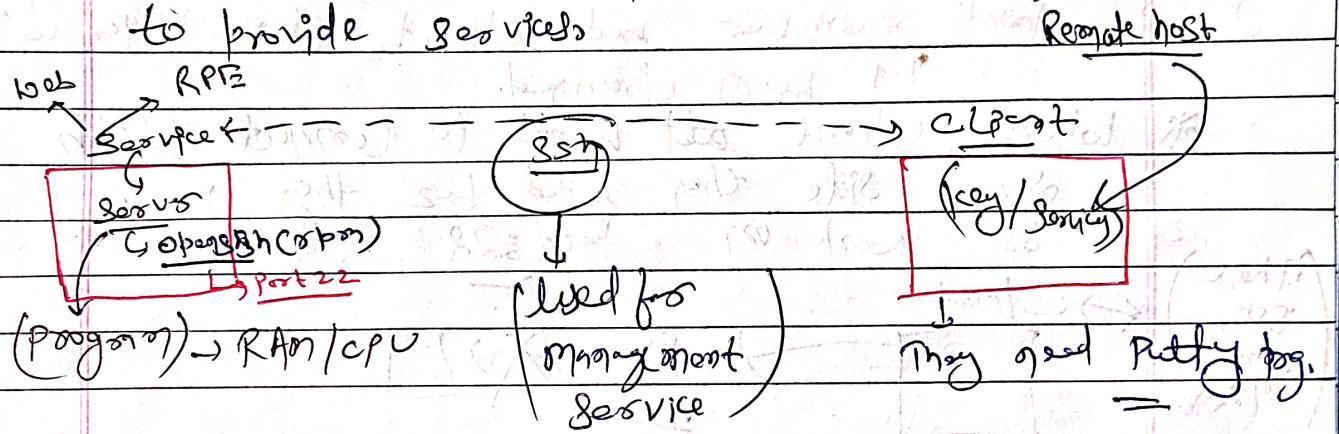


Session - 20

* Agenda - ssh.

- * We have servers that provide services, they provide services through web portal or RPE (Remote program Execution). You have to choose with medium you use as well as which product (openSSH), they need to provide services.



- * They help us to manage the servers
- * One service is running somewhere in the world via ssh from client side like putty to remotely access that server
- * ssh → works on port 22
- * If you want to change the port 22 to config file
 - # ssh -q config-service
 - # vi /etc/ssh/sshd_config
 - change port 22 → 27
 - Restart the service → # systemctl restart sshd
 - failed → Now check failed or not by journalctl
 - cmd → # journalctl -xe
 - (Show relay) → My ip not allow.
 - * Disable SELinux temporarily →
 - # getenforce
 - Enter any command → # setenforce 0
 - # getenforce
 - Problem

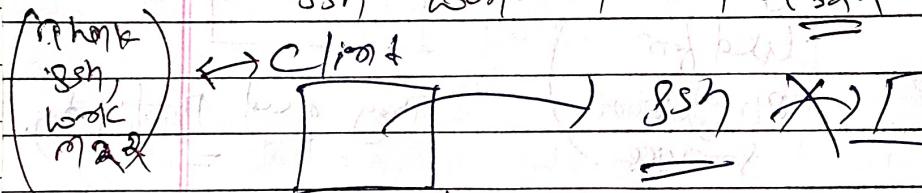
* Now, restart the sshd
 # systemctl restart sshd

netstat -tulp

(See part → 22)

* Server and Side IP have changed in the
 port number but client doesn't know
 port has been changed.

* When, client tries to connect with
 server side they failed bcz they know
 ssh works on port 22



* → Connection refused
 → Client never connects with ip add →
 they have to connect with program they have
 unique no. e.g., port 9000

* They reached to program to port 9000

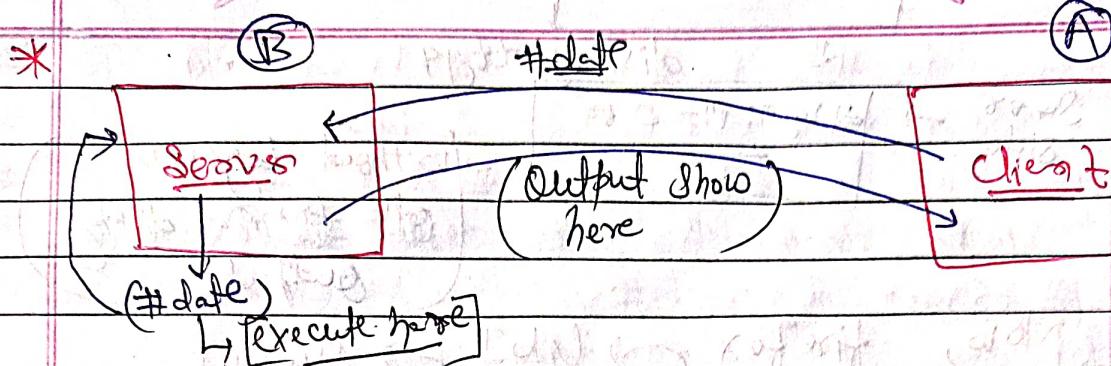
* Now, on client open port 22 while ssh
 # ssh -L 8000:172.20.10.13:22 172.20.10.13 X

ssh -L root -P 22 172.20.10.13

(Now they are in remote system)

* Now, currently you are in client side you can
 run → # date → (all kind of program)
 # cal → (remotely)

* Qstn → How we can run any long program,
 through remote login (RPS),
 launch (#gedit) (#firefox),



* # date | #firefox
(Mon Mar 16 --) | Error: no DISPLAY--

* (Reset port → 22) → change l0p7h Vim →
Restart the sshd.

ssh -L 5002:172.20.200.13:22
→ failed

ssh -L 5002:172.20.200.13
→ Connected

→ When client run the #date cmd it will execute
from server side and display output Client side.

* But now we want display output at server side

(client side) #date → (server side)
(Mon --) → (Redirect)

* first know the server side terminal name
server → #tty4
side (1dev/p7s72)

* client side → #date > /dev/p7s72

* Check server side output there.

* They solve one use lsof

A ← ssh
(Server side) B
(Client side)

→ B is doing ssh to A → if client server side wants
to a create cmd from client side & without
login to other terminal in server side (tty4) etc,
execute cmd from client side display at server side.
date > /dev/p7s72

Client side

date > blerty4

Date
Page

display > ttty4

Server side

log: M to 9 ts

→ without login to
gets formal display
output

* Now, firefox → GUI → Output

(Client)
Side

(Server)
Side

Client Side

* # ssh -L 2220:localhost:22 → 172.20.10.13

* But, we want see launch firefox from
Client side but they launch at
Server side.

* While doing ssh if we use #firefox →
from Client side they have open Client
display → (DISPLAY)

Let's discuss from Server side

* All the screen that where look in long time
Console or terminal #tty

* In web UI (GUI console) they have also
device.

* If you want to see all the Console necessary
right after your co
(remote)

local

ssh

→ (id)

→ all user login to system.

* Then, here we cmd → #10
(Show all) with device option (TTY)

* Now add now #10 usess all pop

now

passed pop

→ Added new lines

#10

→ List of all who is login

* Show live update who is login and from where they log in with their type.

* All the black screen → tty (1, 2, 3)

* All the graphical screen → (0, 1, 2)

* All the remote login (ssh) → pts/0

→ Naming of terminals

* from server side if you run #firefox

→ They go to first → 0 in the GUI console and execute firefox cmd.

* from client side while along as ssh they need graphical (0) → kind of device.

* Client side they failed to launch firefox bcz of DISPLAY,

* # echo \$DISPLAY (check this variable there is no device attached)

\$DISPLAY = 0 (attach or get device)

echo \$DISPLAY

0 (Now, graphical cmd always correct)

→ Now #firefox (to environment variable 8)
telnet (Launch GUI)

→ They will display at 0 at server side
for (client side)

* But here they failed → why?

* Echo is the cmd from Shell → cmd
Firefox is not part of it.

* We have to tell use `#DISPLAY=$DISPLAY` as
Shell cmd so we need to export it

(Client
Side)

`#export $DISPLAY`

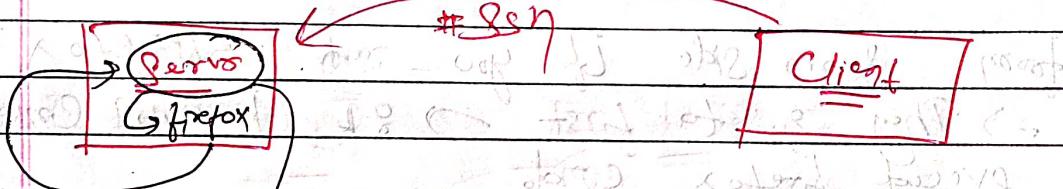
`#echo $DISPLAY`

`#firefox`

→ Again they failed bcz (RHEL-7)
these things work but from RHEL-8
they need to create X11 server

(OR)

→ From Client login to that server



Server has own GUI

(X-server) → They won't allow if you
create any GUI outside
would they denied.

* We can launch GUI locally.

`#xhost +` my local host authorized to UX GUI.

* Add Client side also give them access

`#xhost +` (There no issue of SELinux)

`#xhost`

(Security disabled) → Now any one of the two

* Now from client they connect → `#export DISPLAY=:1`

Client Side `#firefox`

Server Side

Firefox