

Session - 15

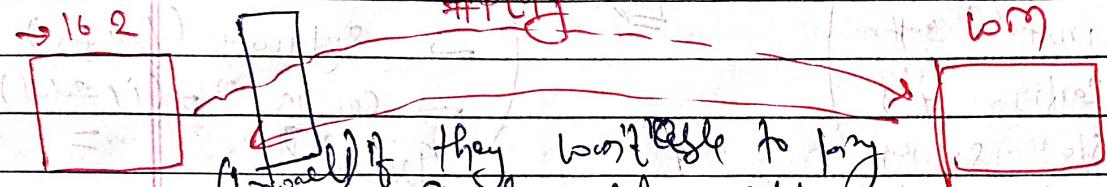
* Agenda - Apache web server

* When we reboot our system web server will stop.

* After reboot (by DHCPS) it will change.

*

→ 16.2



(firewall) If they won't able to ping
① firewall → stop. Stop w/o firewall.

* # systemctl start firewalld.
→ temporary firewall will start

* If you want if after every reboot your
firewall won't stop then here you go on
use (# systemctl disable firewalld)

* # systemctl start httpd

↳ This will temporary start
then again reboot they stop

systemctl start httpd.

→ start

↳ After every reboot they stopped.

* If you want to make your service permanent
enable them →

systemctl enable httpd.

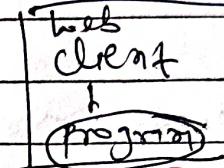
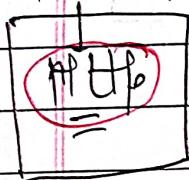
* If you want to make service permanent disable
systemctl disable httpd.

* Permanent == persistent

↳ (use enable command)

- * for client side if they want to access file URL i.e. https i.e. client browser i.e. chrome
- * W.S. internally work on two layers i.e., https.
 URL → https
 (access any server)

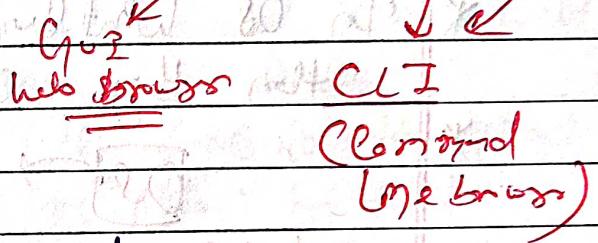
* webserver



(client)

CURL

- * In one system it can be client as well as web server.



- * It is a myth that one system never be client and server.
- * In system lots of program some program work as servers as well as some program as clients.

- * Client can access URL → ① firefox, ② curl
 # curl http://192.168.0.62/w.html =
 (They just execute/read file html)

- * In GUI, browser will know about html lang. they execute/and show to us.

- * By using curl and file we get output of file on screen. On server side, we can do one thing like on file that output of browser and put it into one file.

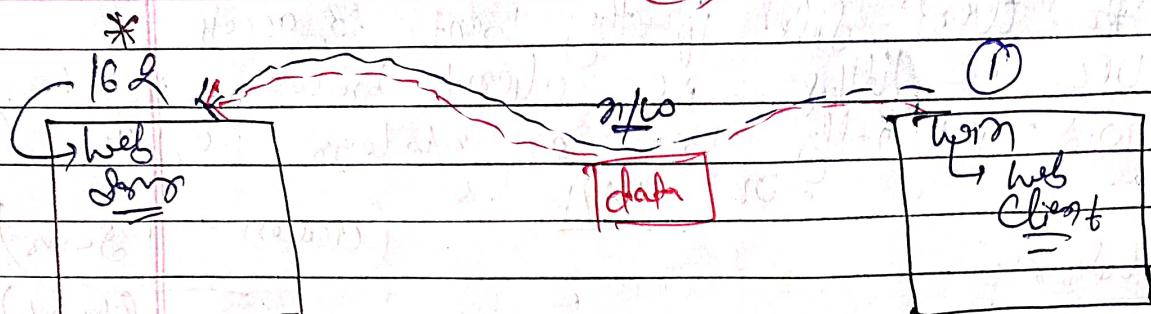
curl http://192.168.0.62/w.html > my.html =

cat my.html

(Need to use this cmd & create same webpage)

Configure Server
(route)

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* For OS what every user do is one program.
Then they execute it will become process.

OS → Program (Process)

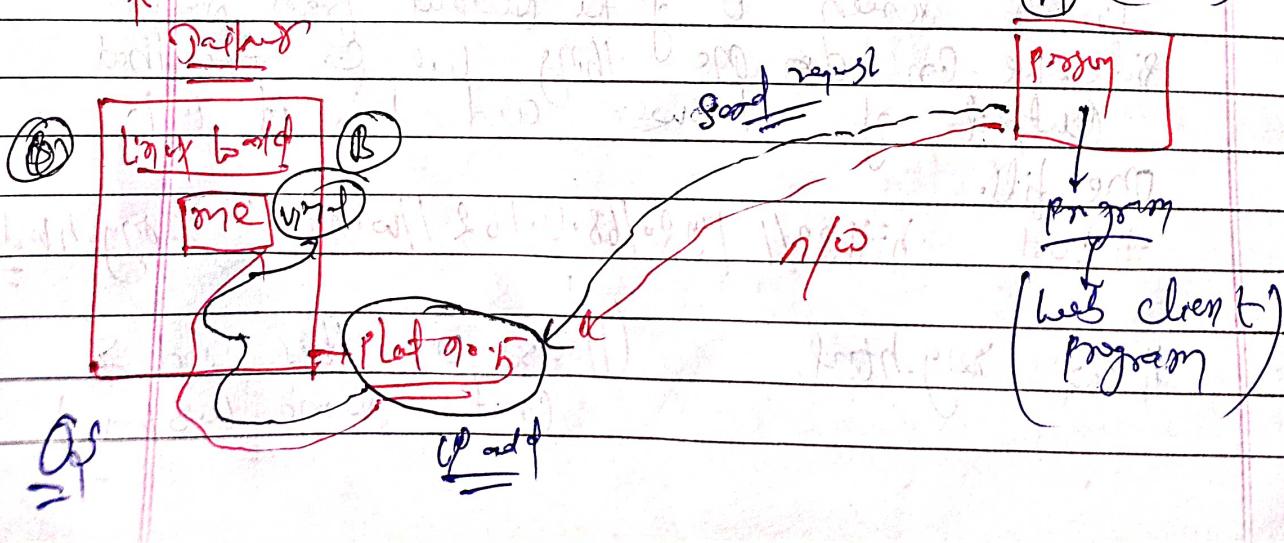
→ what ever you do in OS you connect with OS process.

→ without connecting process to that OS we can't do any thing in OS because it

* This thing you will do by yourself or automatically from outside. It could happen will connect with process.

* IP add → (Just a no. just an identity.)
= (To differentiate the any OS)

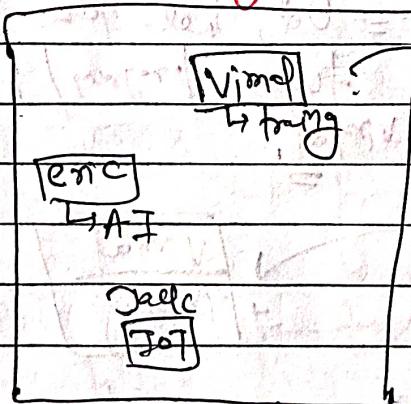
A (web server)



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- ① We have one company i.e Unisys in Gafur.
 - ② VMS are here inside the building.
 - ③ If any person want to communicate with me he have to come to my building then reach to me.
 - ④ If a person come through o/w first they visit (plat no. -5) i.e ip add.
 - ⑤ Person here is inside web browser a program i.e. Web Client.
 - ⑥ Then person reach to plat no. -5 then it will go to the inside building i.e. VMS.
 - ⑦ A internal program will take to the VMS. VMS office have some no. then by that they will reach to that room no. → 80 i.e port no.

* IP add is the way to reach to that org.

* Web Client will come to us via ip address.
 * In one building we have multiple guys i.e., they are providing some services.



② They have room no. =

$08 = \text{building}$

* In 08 we can create multiple doors, mail doors, ftp doors, DNS doors.

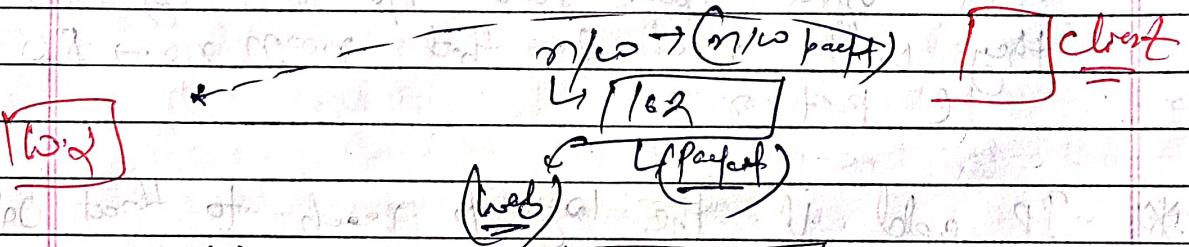
* In one system we have one IP & one NIC card.

* If any client reaches to that server they will get confused which server to access.

* In one US multiple programs / servers running.

* When clients come to that servers they have to tell which service they want to use either mail web, ftp service.

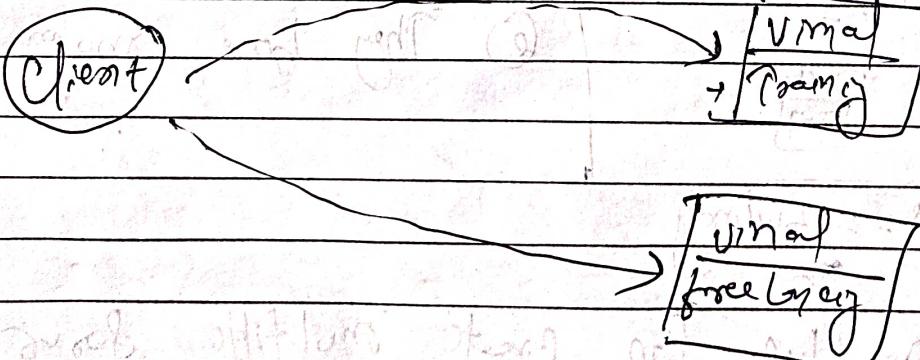
* When client come they come through port number. Inside the packet they have IP port.



* packets →

* Client has to confirm which program they want to use.

* In that one building = one, we have multiple program running but if two program / binary have same name i.e. Vmail.



* If any guy come and reach to that device
then if then they find at this OS they
have multiple program so, where to connect
they will get confused so for that we
can provide some unique numbers to that
program in OS.

* We can give unique no. i.e. → port no.

(mail → 25)
ftp → 21
DNS → 53
ssh → 22
http → 80

port no.

↳ Unique no. / id of
that system / server.

↳ (program / process.)

* If any program have tendency to connect with
outside world i.e. to server.

Date → not a server

firefox → (not a port no.) → not have tendency to
connect with outside world.

Systemd status httpd.

L (This program have tendency to connect
with outside world)

ps aux

L show all program / process running on the OS.

netstat -tnlp

L (All program running with a port no.)

netstat -tnlp

↳ See for programs
port no.

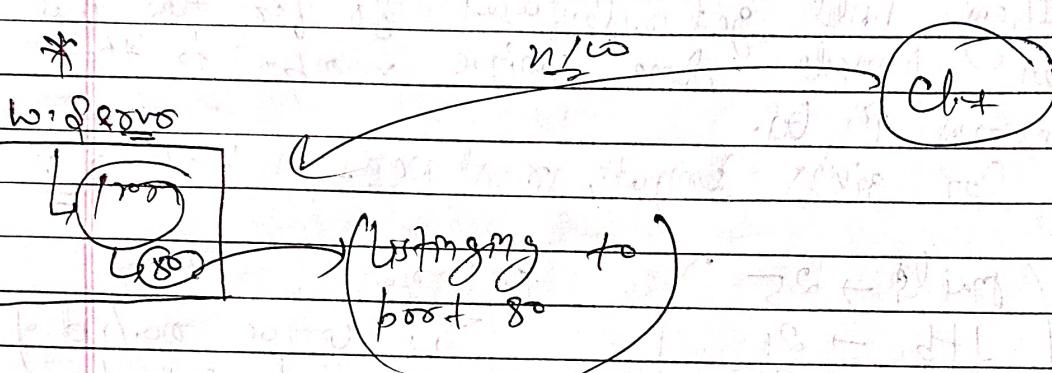
Systemd status httpd.

Systemd status https

web driver == HTTP log

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- * where we have mentioned that if any URL we go where file port no. is not writing?



- * Port no. - created a std. way body connect with host & port (HTTP) automatically but port - 80, it is hard coded.
- * When we client connect through URL they automatically go to some side through HTTP protocol, they are hardcoded by automatically start running on port 80.

URL \Rightarrow http://192.168.0.1:80/test.html

(Protocol) (IP & port) (Port no.) (Locality) (page)

- * When we put the URL, they first put :80 internally & go to some side through some packet.

* Standard : Some all work HTTP local.

$$2 \text{ bytes} \times 2^16 = 35536$$

0 - 35535
↳ by this range they give port no. =

*

http

port no.

80

x 80

→ free configuration that server

change 80 to 81 then,

* If you want to re-configure the web-server.

* We have own configuration file Change something in that folder.

cd /etc/httpd/conf.

ls

gedit httpd.conf

(line 45)

[Listen 80]

↓ 81

changed.

netstat -an | grep (for http)

* We have changed 80 → 81 But it is running on port no. 80.

*

Apache web server

(Configuration)
file

/etc/httpd

(memory - RAM)

* So when we changed the port and before that program get from hd & running on the top of httpd (memory), when we re-configure system doesn't know what changed has been made so they need to re-start the browser / programs.

* When something changed in Conf. file : restart.

systemctl restart httpd.

netstat -an | grep httpd

* Now over https:// - HTTP

http://192.168.0.192/wo.html

failed: Autobasic file port: 80

http://192.168.0.192:80/wo.html

Q19 → Why do we need/use port no.
Port by changing port no.

* Change file document root folder.
→ line → 122

* Deploy changes in after local host file