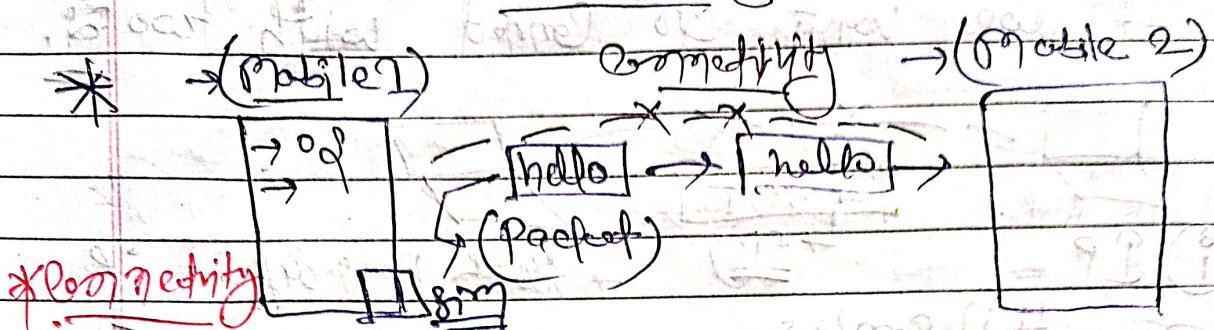


# Geek 1007-3

## Networking



- ① Mobile → for connectivity they need some wire, wireless, i.e. N/W.
- ② OD
- ③ Signal Card

→ (Unique no.) → (Mobile numbers)

\* N/W → Just Signals (wire, or wireless)

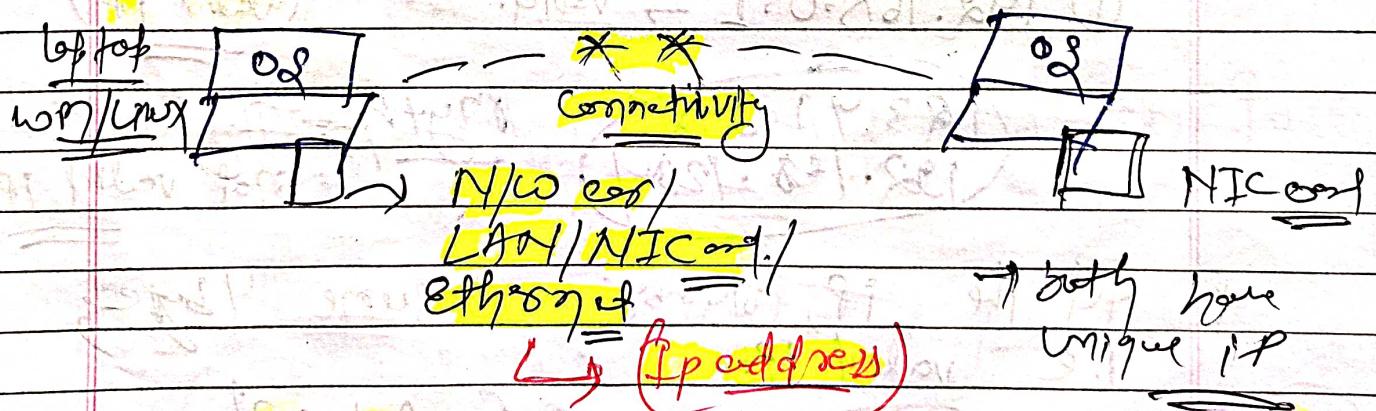
\* N/W Packet.

\* Every id mobile no's id unique → Can it is possible to use same mobile no at different possible.

\* Yes, it is possible to use multiple people a same mobile no's.

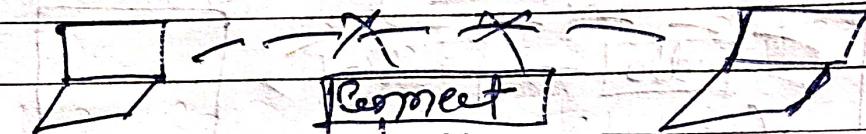
\* # [mobile numbers spoofing app]

\* Same kind of no's used with laptop, PC.



(multiple person have same IP)  
→ both have unique ip

\* If we want to connect with two of,



① IP

IP

→ Both have different IP

# if config

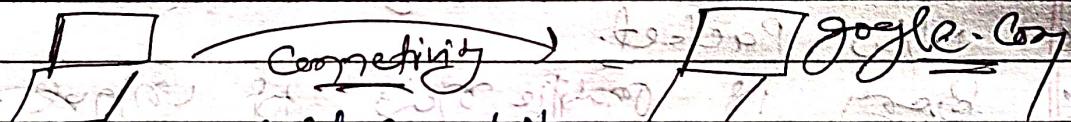
(No card)

left end port 3 → main or w. card, ethernet card.

\* We always give IP add to ethernet card.

\* ping → closing the connectivity.

\*



# ping

google.com

\*

IP

(4 octet → valid IP)

(0-255)

① 192.168.0.2 → valid. (valid IP)

192.168.1.234  
192.168.1.234

Myth → They are not valid IP

\* All the IP, mostly consist of 4 bytes,  
i.e. valid IP.

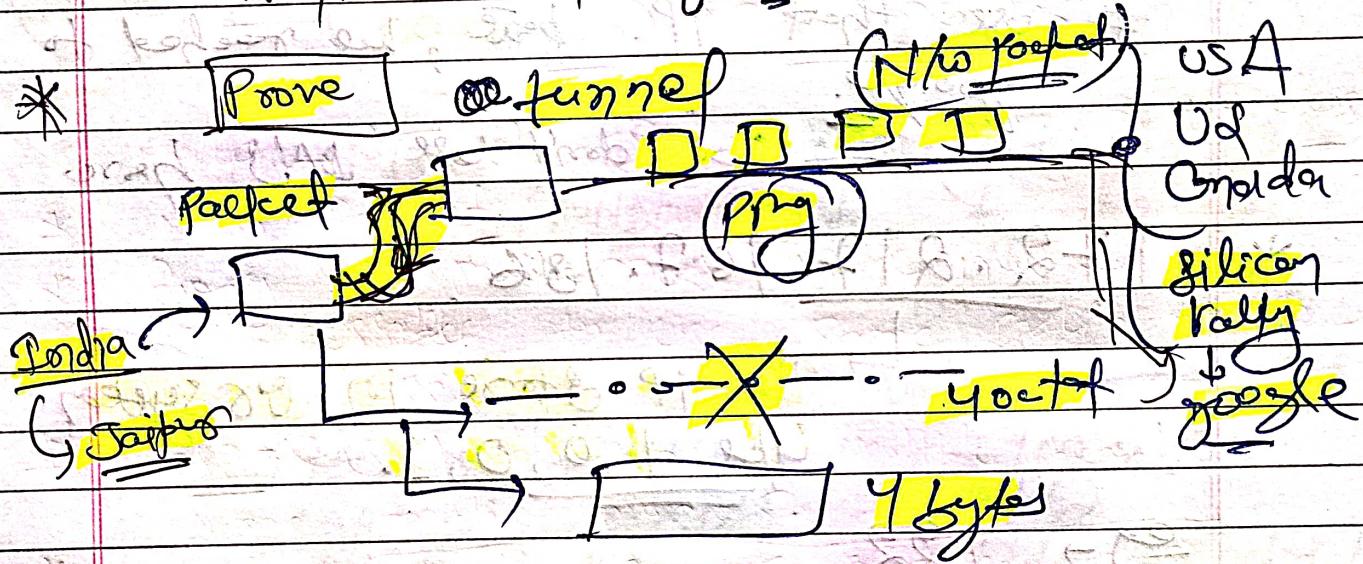
Any IP

4 bytes

Valid IP

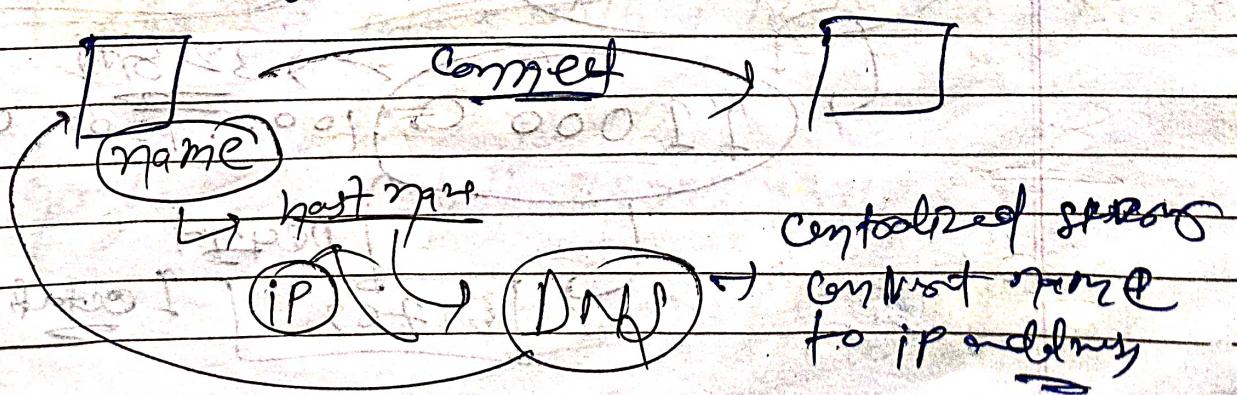
(1 byte = 8 bit)

- \* we write this way only for representation  
 $5 \cdot 9 \cdot 6 \cdot 4 \cdot 8 \cdot 9 \cdot 7$
- \* Internally ip stored without (.)  
 ↗ Vision  
 ↗ subject  
 ↗ to know the ip
- \* Diff just way of representation, for look & feel.



- \* nettrace → tool how yours packet travel  
 launch firefox → Gmail → google.ip  
 # firefox &

- \* If you want to connect our system to other system.



\* ~~DNS~~ → Just to Configure, if I don't  
know.

\* If we know both system IPs easily  
we can connect.

# nslookup [www.google.com](http://www.google.com).

Shows the IP of google.

# use that IP value, we needed to  
use google.

If we don't use DNS here

\* 192.168.1.36

↳ The IP address in our system  
like 1,0,0,1.

e.g. → 192

↳ 8 bits

↳ 11000

↳ (They reserve  
for data.)

\*

192 × 188 × 0.1²

8 bits + 8 + 8 + 8

11000 0.1000.1000.0001

32 bits

Design

154769

1 octet

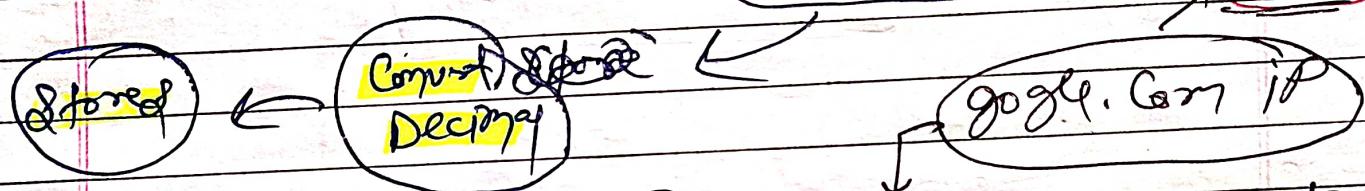
\* Valid IP → 4 bytes  
 1 byte = 8 bits.

$$8 \text{ bits} + 8 + 8 + 8 = 32 \text{ bits}$$



Reasons: (circled)

Octet



$$\text{formula} \rightarrow \text{IP} \rightarrow 172 \cdot 217 \cdot 167 \cdot 196 \\ (\text{Convert to binary}) \rightarrow 2^8 + 2^16 + 2^24 + 2^0$$

→ Valid IP, that store

$$\Rightarrow 172 \times 2^{24} + 217 \times 2^{16} + 167 \times 2^8 + 196 \times 2^0 \quad (\text{Right to left}) \\ \rightarrow \text{They binary} \rightarrow 32 \text{ bit} \quad (\underline{\text{1 octet}})$$

(Then decimal)

\* After that they execute the  $\text{IP} \rightarrow \text{Packet}$   
 1 Octet. (Binary calculator)

# b c

$$172 \times 2^{24} + 217 \times 2^{16} + 167 \times 2^8 + 196 \times 2^0$$

$$\Rightarrow 283937842$$

→ google → http://283937842

open → google (packet found)  
 (no need to go to google)

\* If firewall knows  $\rightarrow$  Yocto, we can  
convert & use this for the so  
reach any site.

\* You can use any website