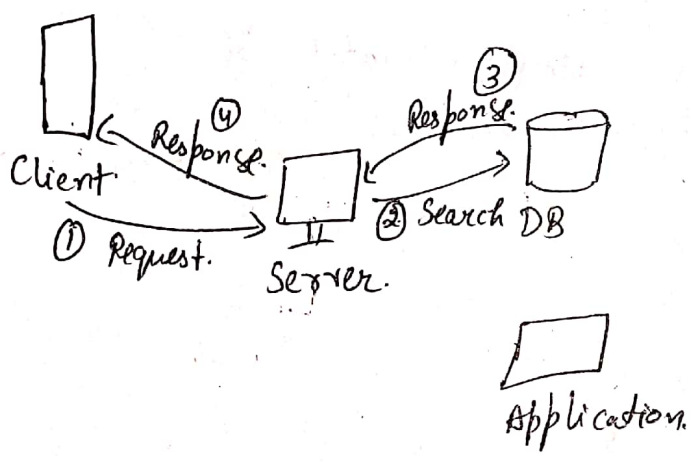


**Application layer** - responsible for providing services to user. It provides user interfaces & support for services such as file transfer, Access & Management, Mail Services SMTP, POP, Directory Services, and Virtual Terminals (TELNET). It allows the user to use the Internet or communicate over N/W.

FTP, HTTP, HTTPS, SMTP, POP, (Act like Central DB to store info to use it for authentication purpose)

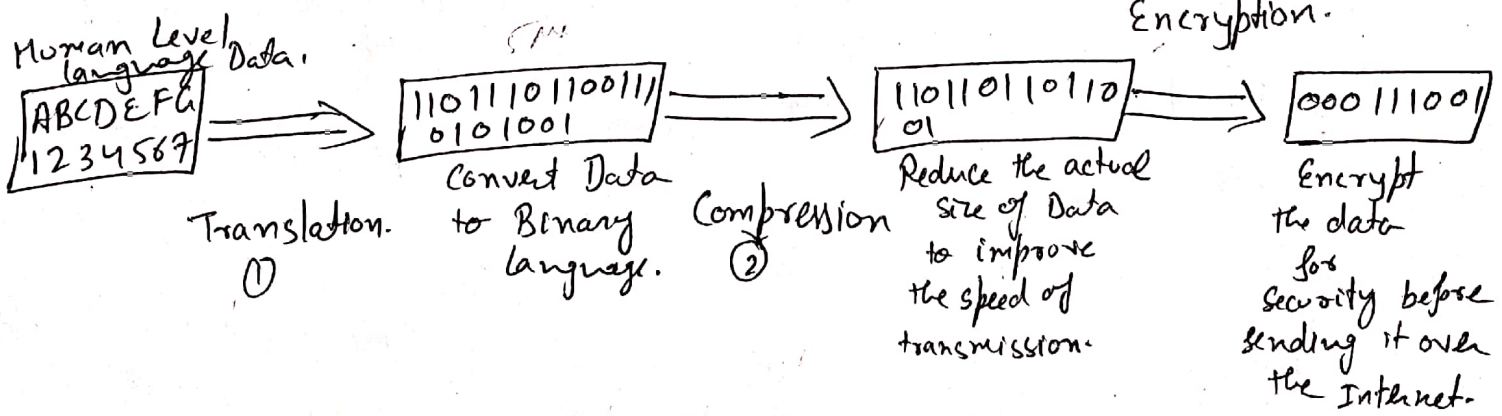
The Application layer Programs are based on the client-server Model.



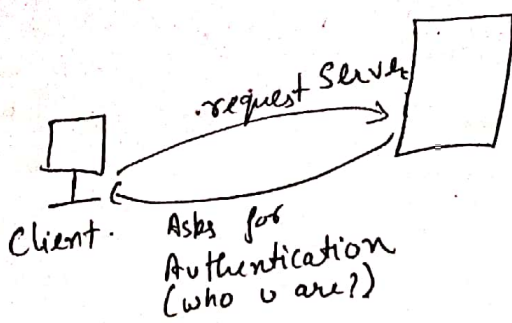
**Applications of Application layer.**

- Email
- WWW
- Multimedia (Online)
- Remote file transfer & Access (like Google Drive)

**Presentation layer -**

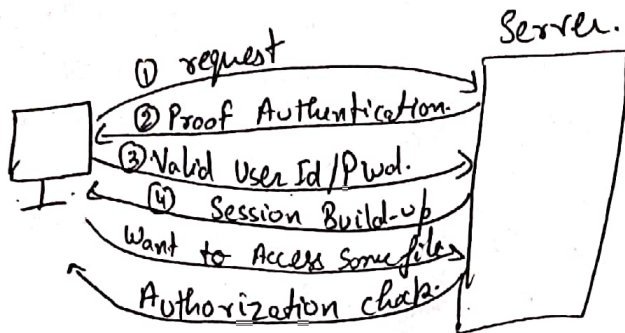


**Session layer** - responsible for the comm. of app. on different systems. It helps us in setting up & managing connections & sending & receiving of information and also closing the connections & sessions. NETBIOS is an e.g. of APIs which allows session setup, comm. & termination of session.



### Session Layer Fxns

- 1) Authentication.
- 2) Authorization.
- 3) Session Management.

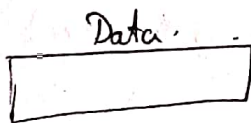


### Transport Layer -

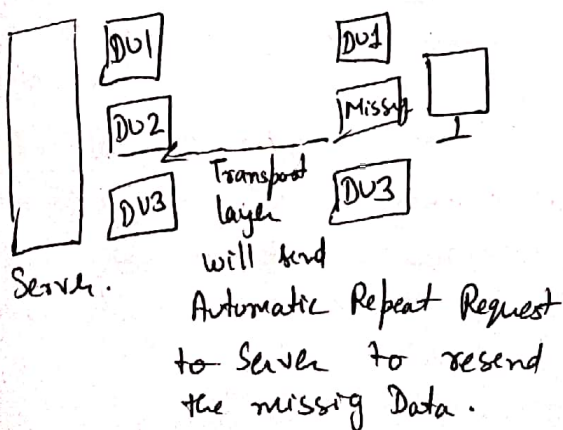
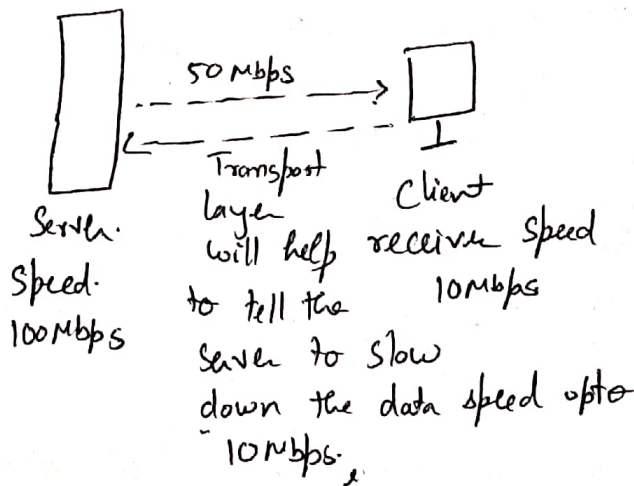
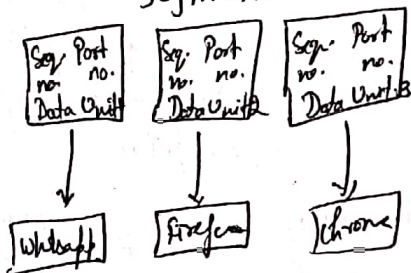
- Segmentation
- Flow Control
- Error Control.

### Protocols of T.L.

- ↳ TCP - Connection Oriented, slow, Email, WWW
- ↳ UDP - Connection less, Fast, Online Streaming of Audio, Video.

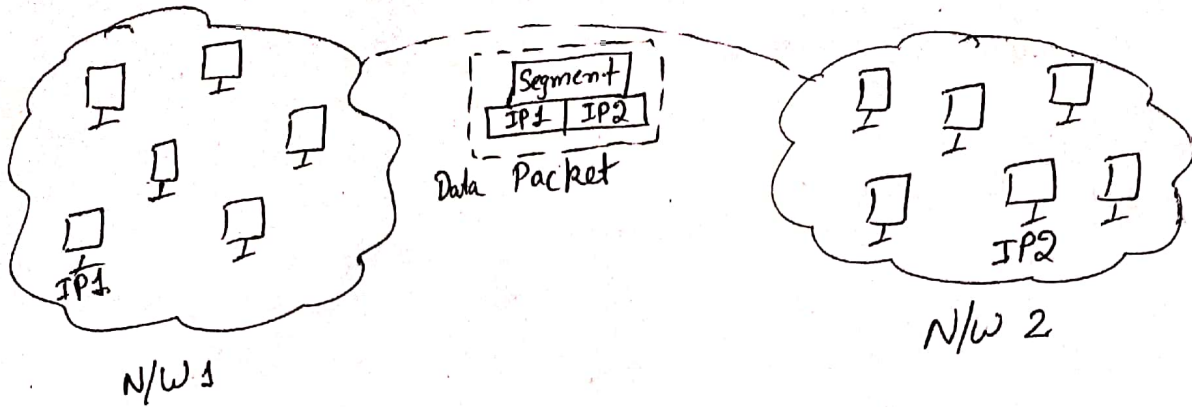


### Segments.



\* Transport Layer for Error Control adds a grp of bits with each Data Unit to check/find the missing ~~cor~~ corrupted or damaged Data Unit.

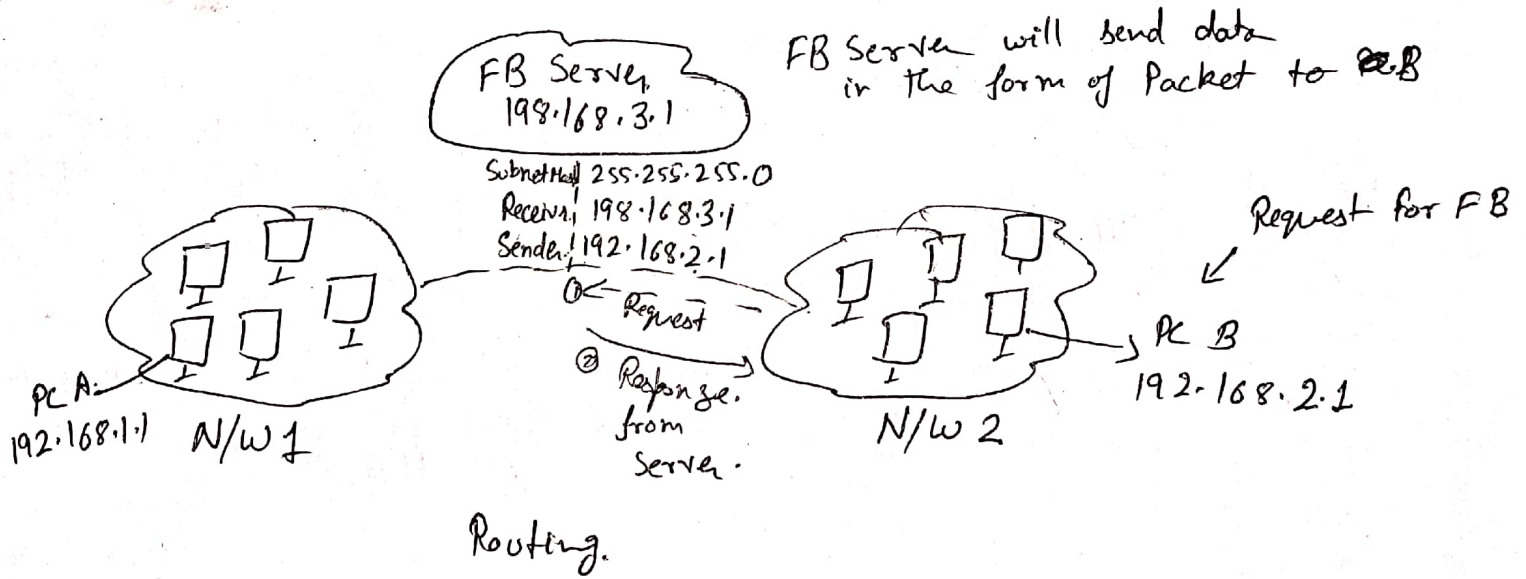
N/w Layer



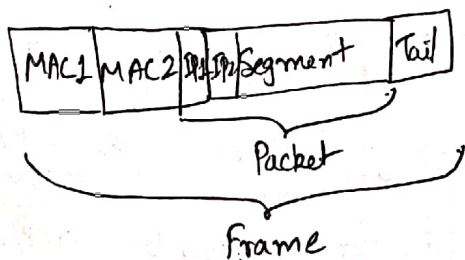
→ Logical Addressing.  
 IP<sub>v4</sub>      IP<sub>v6</sub>  
 unique address given to each PC for global identification

→ Routing.  
 It is based upon the logical address format to send the data Packet to correct destination.

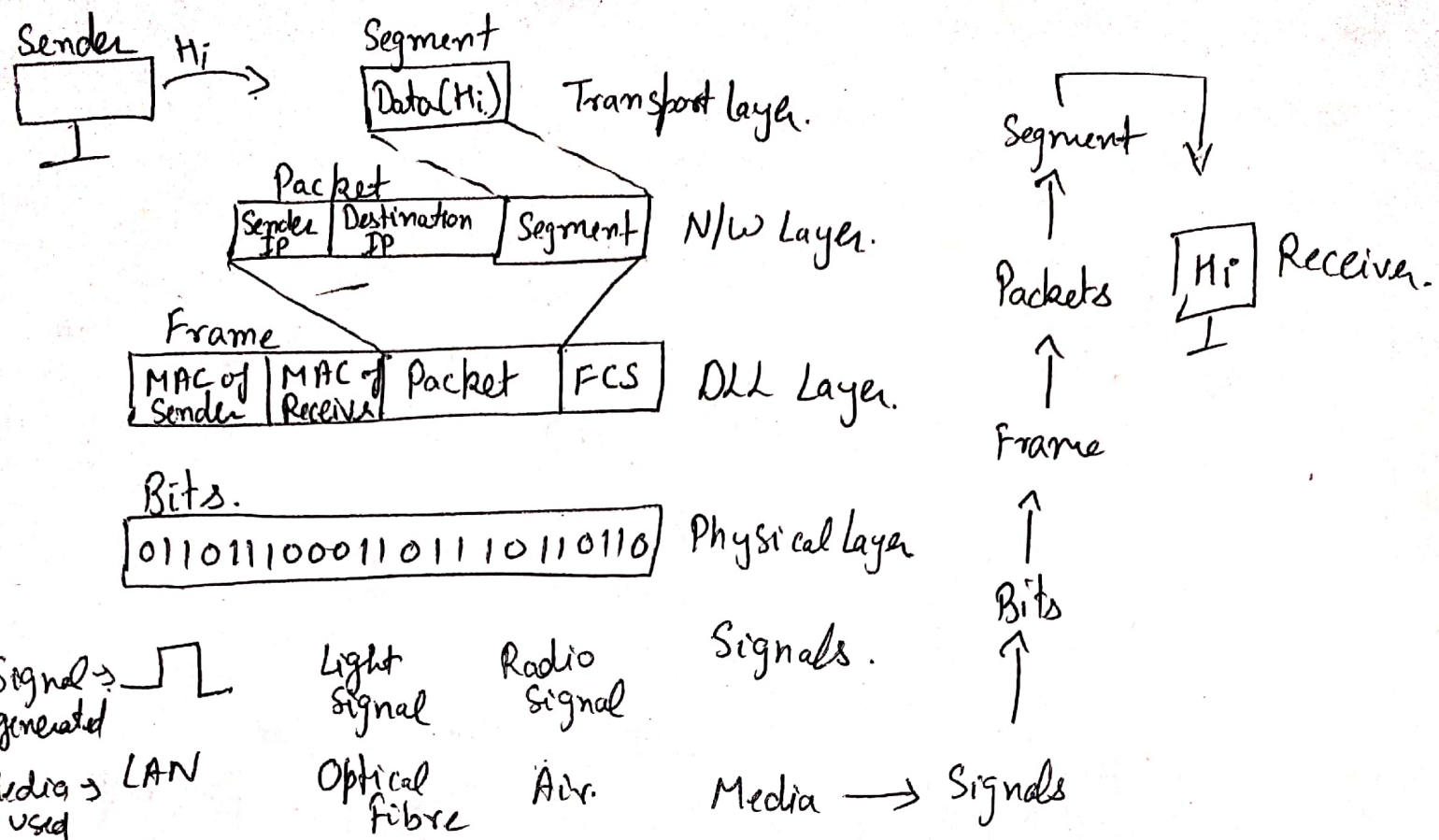
→ Path determination.  
 OSPF } To get best possible path to send data.  
 BGP }  
 IS-IS }



D/L Layer







Transmission of Data from one device to another

## TCP/IP Model

Transmission Control Protocol/Internet Protocol.

