## Network Protocols

Protocol -> agreed set of rules for interaction Inturen posities

### IP Parket (ar a) network parket

when a machine sends data to another machine it will be sent in the form of IP packets. This is the fundamental unit of data ling sent from one machine to another

IP Pocket => 216 bytes (max size)

IP Header Payload

IP skaoler: (20-60 hytes)

The IP header consists of the

- 1) Bousice IP adolerss
- @ Destination IP adoless
- 3 IP volsion = IPV4 (or) IPVb

Since the IP packets size is 2<sup>th</sup> lytes = 0.065mb
65.000 bytes

the we done serroling am give (say 5mb) then
it will not git in one IP packet. So the
give will be sent in multiple IP packets

### Internet Perotocol

When the internet perotocol is used while sending multiple IP perskets there is no quarantee that the possets will be received it some of the packets might get lost and the packets will be ordered.

TCP

TCP = Jeranemission Conterol Brotocol. This is limbt

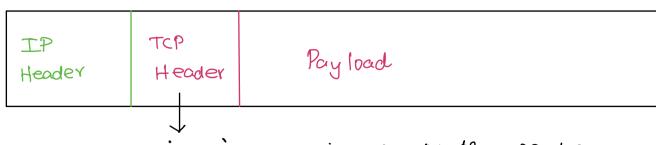
On top of the Internet Perotocol. Here the

packets one sent in our devolved manner and

if some packets gets corrupted when they

our getting sent TCP will inform so that the

packets can be resent.



Contains information about the ocider Of the packets

When the becouse wonts to communicate with a securer. The becouse well first records a TCP connection with the server. This broppens through or handshake. A TCP brandshake happens in 3 stages

Stage-1: The however sends or SYN character packet (SYN)
TO the secure

Stage - 2: The server receives the SYN packet and (SYN-ACK) of sends back SYN-ACK packet (oxoy we can connect)

Stage-3: The Revoluter fractures the SYN-ACK and (ACK)

Lends hack ACK
(we are now) connected)

The some receives the ACK and the TCP sacket

Syn-Synchronize

Ronnection is established

ACK - Acknowledgement

Devening this perocess if one of the machines sloesn't respond in or given period then the connection will be timed out.

HTTP: > application layer of TEP/IP

HTTP Stands for Byper Jeset Jaconsfer Rectocal. This was hunt on top of the TCP. HTTP perovioles showing only the recessory details higher level obstanction? above TCP. This obstanction is the request - response pooradigm. This req. - 9res pooradigm allows plevelopeers to forget about the IP packets, TCP and just use requests and responses.

In short HTTP peromides a framework that helps developers to easily send data between securers and howevers.

This was generally used for townsfording hypoaneolia documents such as HTML between the becausers and the seewers

But the data in HTTP is transferred via unencoupted connections.

HTTPS stands for Hyper Text Jeronefer Perotocol

Slewer : HTTPS user SSL (08) TIS to enought all the

communication between the client and the seawer.

Generally used for hunking activities / online

shopping.

#### TLS (Ora) SSL

TLS => Teransport honger Security SSL => Secure Socket honger.

When a source and a short communicates using TLS it ensures no third postry can secretly listen caucade of or tampear on email, ruch humaning, messaging etc.

TLS requires the securers and the herousers to persurile a valid digital certificate to confirm its identity

# Digital Certificate

A digital reutificale à a file that

has or supptographic key This key has encerypted information about the sugariyation Buch as the sugariyations name, location.