Leture 1

HTTP:

H → Hyper
T → Text
T → Tranfer
P → Protocol.

So, HTTP is full form of Hyper Text Transfer Protocol.

Protocol:

The set of rules which are to be followed

Hyper Text:

Hyper text are text documents that contain link to other text documents

HTTP:

HTTP is a set of rules that are used to transfer hypertext

documents across the internet.

Stateless protocol:

HTTP is stateless protocol it means that it does not hold record of our previous interaction.

For example when we watch a movie on netflix and next time if movie starts from where we left last time it means it have maintained a ~~stack~~ state.

HTTP Headers

HTTP headers are instructions and meta data exchanged between the browser and server.

→ Extra information about request and response.

(i) Client info
(ii) Browser info
(iii) Date & time
(iv) Cookies to store

(i) Client info

Device, network making the request

* IP address
* Device type
* Device's OS

(ii) Browser Info

This is part of Client info, info about browser

* Browser Version
* Browser Name
* Rendering Engine

Request-Response model

It is a cycle in which browser request something from the server and in response is send from the server

Types of Request

* Get
* Post
* Delete
* Read

Types of Response

* 200
* 500
* 404

etc

HTTP/2

HTTP 1.1 is fallback and is still

used.
→ It uses compression
→ It uses multiplexing (sending multiple files at a time)
→ It uses encryption (https)

HTTP uses compression to sending large HTTP headers. Multiplexing allow browser to fetch multiple files over a single connection. It uses encryption but In AWS, we do not use https for internal communication.

Jargons:

User agent:

A user Agent

client is software who make a request to a web server. When brower makes an HTTP request, it includes a user Agent string in its headers. It includes browser type, OS version and device information.

TCP (Transmission Control Protocol)

It works on Transport layer. It is responsible for ensuring reliability, ordered and checked delivery.

Makes a connection between sender and receiver befor sending data.

It is responsible for sending complete data in order and if any

data packet is lost and damaged, (HTTP 2) TCP is responsible for retransmitting it

FTP (File Transfer Protocol)

File transfer protocol is used to secure the transfer of files over the internet.

It ensures files are transferred over between right devices securly.

IP address

IP address is the Internet protocol address. Every device, websie or has its unique IP address.

It helps in identifying and communicating with it.

URL (Universal Resource locator)

URL is a full web address that gives instruction to your browser to a specific resource.

It has several parts:

(i) Protocol to follow

(ii) Domain → Address of server hosting the site

(iii) Path → Specific location or file on server

(iv) Query Parameter → Extra info sent to server.

DNS:

DNS is like the address book or phonebook of Browser.

Header:

It provides extra information about request and response.

Payload:

Actual data that is transferred over a network during a request response cycle.

Cookies:

Cookies are small text files that are stored by browser to remember user data between different request.

→ They are stored on device

Sessional cookies are deleted (but) by closing the browser after a specific time (like 30-40 minutes) less or more

Persistent cookies remain even after closing the browser, lasts for months or years.

Cache:

Cache is a storage area in the browser where web resources (HTML, CSS, JS, API responses) are temporarily stored to make websites load faster.

→ Stores static content like CSS, JS Files

→ Also stores dynamic content.