Web Applications

Desktop Apps:

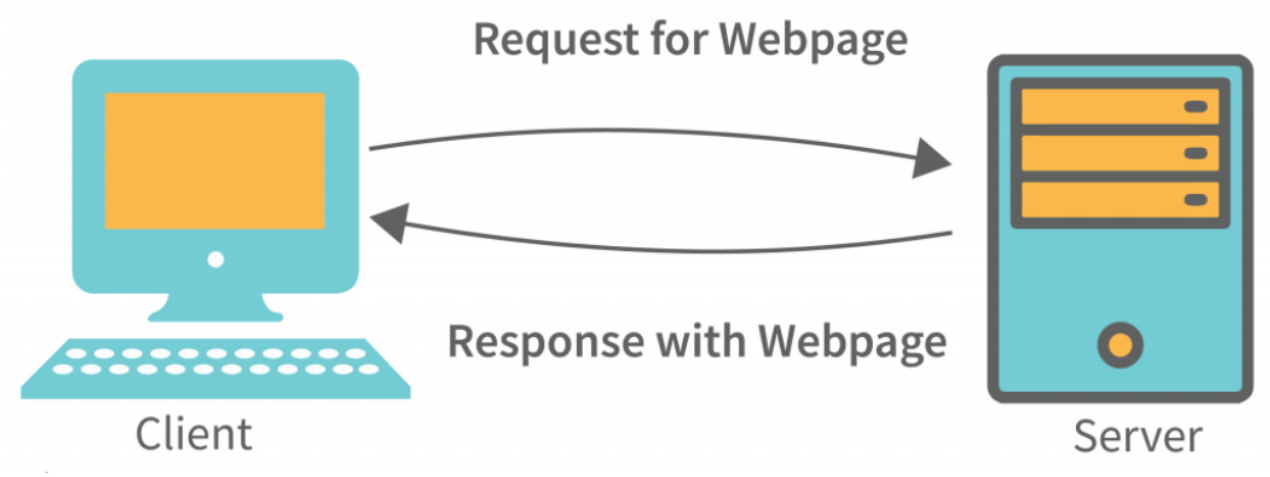
- The apps which are running on OS
- First we need to install them

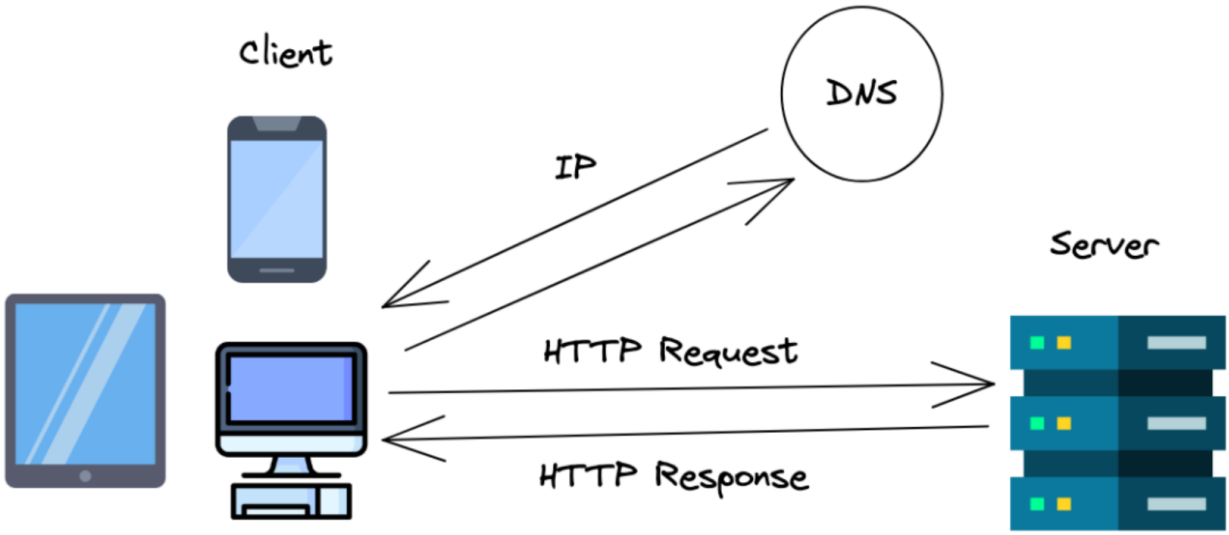
Mobile Apps

Web Apps:

- Dosent need to be installed

Client Server Architecture





Client ->

- Device/ Browser --- jisse request ki ja rahi hai website nd all.
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Server ->

- Machine similar to pv/laptop
- Server has high RAM, CPU, Storage units

Advantages of Client-Server Model

- Centralized system with all data in a single place.
- Cost efficient requires less maintenance cost and Data recovery is possible.
- The capacity of the Client and Servers can be changed separately.

Disadvantages of Client-Server Model

- Clients are prone to viruses, Trojans, and worms if present in the Server or uploaded into the Server.
- Servers are prone to Denial of Service (DOS) attacks.
- Data packets may be spoofed or modified during transmission.
- Phishing or capturing login credentials or other useful information of the user are common and MITM(Man in the Middle) attacks are common.
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Client & Server technical aspects:

- Note: These technical aspects are same for all the clients and server regardless of the tech used

Analogy for requests:-

1. Client send request to server:
    - To send that we need URL, Domain name or IP address of the server.
2. Method Of Request : (Purpose of the request)
    - Is it for getting the data from the server , Saving the deta on the server, Deleting the data, Updating data.
    - GET, POST, PUT, DELETE, PATCH ...etc.
    -

Analogy for the response/server:

1. Server will accept the request
2. It will start the processing
3. Server will generate the response
    - We have certian properties associated withe the responce:
        1. Response Data ->
            - Array, string, page
        2. Response Status ->
            - Status code is always a numeric value and we will have a msg associated with it.
            - 200, 201, ...299. -> SUCCESS event from server
            - 300, 301,.... 399. -> Redirection
            - 400, 401,... 499. -> ERROR due to client mistake
            - 500, 501,... 599. -> ERROR due to server mistake

Frontend:-

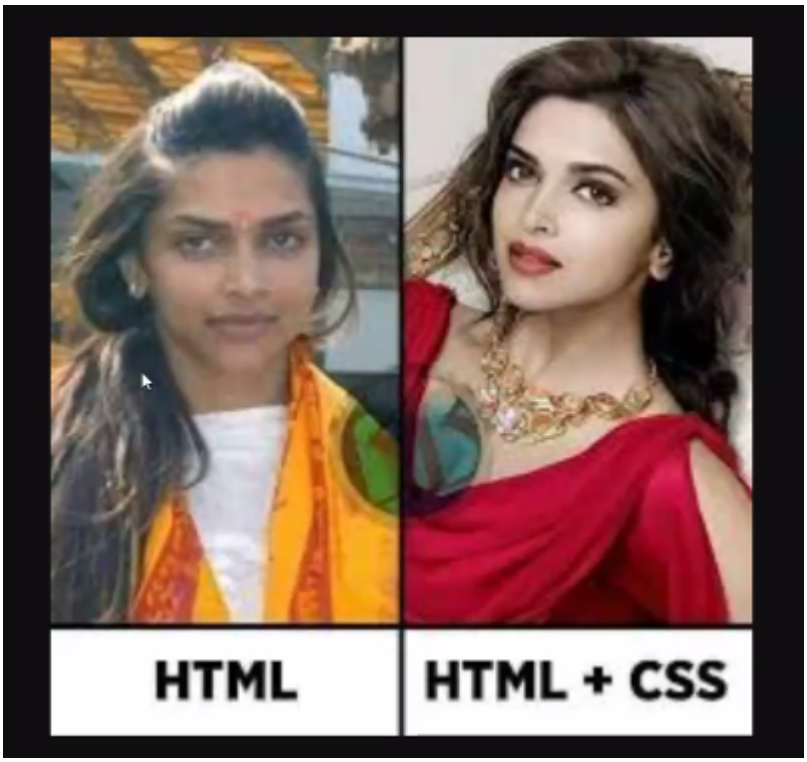
- UI
- HTML, CSS, JS, Bootstrap, Jquery, React vs Angular, next js

HTML

- Hyper Text Markup Language
- Is used to create layout of web app, is used to display content on the web page.
- It is only used to create the raw structure of website
- e.g. button kaha hai, footer kaha hai

CSS

- Cascading Style Sheet
- Beautyparlour of website
- For styling of webpage, beautification



JS

- Is used for client side scripting
- Form validation, animations, arithmetic operations, , popups.
- Every browser has a JS Engine (interpreter)
- node js is an interpretor for JS, it is used to run my JS code.... Like JVM for java

Bootstrap

- To make our page responsive (fit according to the dimentions...phone, laptop)
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React

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- Lib to develop
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Backend :-

- Operations + Database
- Operations:
    - C, C++, Java, Python, PHP, .Net,
- (We will use)... JS, Node JS, Express JS-(if u dont want to write js code from scratch...it has some predefined stuff)
- Database: - (MySQL, MongoDB), SQL Server, SQLite, PoatgreSQL, Cassandra, etc.

Node JS

- It is neither a language nor a library, it is runtime environment for JS.