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1) What is client-side and server-side in web development, and what is the main difference between the two?

Web development, refers to the tasks associated with creating, building, and maintaining websites and web applications that run online on our browsers. But the process of creating a website may also include web design, web programming and database management. Now client-side and server-side, these terms in web development, basically means where the code of the app or the website is actually running from.

Client-side web development : In web development, client side refers to everything in a web application on the client end or normally what users see on the browsers when the go to a website. It includes everything the user sees, such as text, images, and the rest of the UI. It also consists of any actions that an application or website performs within the user/client's browser. Client-side web development means the development for the client, the UI / design or the way the user will see the website or app.

Server-side web development : Just like client-side, server-side web development means the development on the server side. To be specific everything that happens on the server instead of on the client.

The main differences between client-side and server-side is given below :

client-side	server-side
Source code is visible to the user	Source code is not visible to the user
Main function is to provide the requested output to the end user.	Primary function is to manipulate and provide access to the respective database as per the request
It runs on the user's computer	It runs on the webserver
It does not provide security for data.	It provides more security for data

2) What is an HTTP request and what are the different types of HTTP requests?

HTTP request : HTTP or Hypertext Transfer Protocol request is a message format used by web browsers and other clients to communicate with web servers. It is the fundamental protocol used in the World Wide Web for fetching resources such as HTML pages, images, videos, and other data.

There are several types of HTTP request. They are, GET, POST, PUT, PATCH, DELETE, HEAD etc.

3) What is JSON and why is it commonly used for in web development?

JSON stands for Javascript Object Notation. It is a lightweight data interchange format. JSON is very lightweight, making in faster to transfer the data. It can be sent from the database to any platform. JSON can easily be converted into an object and can be used easily throughout the project. JSON is mostly used when creating API's, because of the fast transfer rate. Since, it has a faster data transfer rate and can be used in any platform, hence it is commonly used in web development.

4) What is a middleware in web development, and give an example of how it can be used.

In web development, middleware refers to a software component or layer that sits between the operating system or server and the actual web application. It acts as a bridge, processing requests and responses, and providing additional functionality and services to the web application. A middleware is simply a functionality that is executed in between request and response.

Middleware can be used for request processing. It can intercept incoming requests and perform tasks such as request validation, parsing, or manipulation before they reach the main application logic. For example, we can use middleware to check if the request contains valid authentication tokens or to parse the request body.

5) What is a controller in web development, and what is its role in the MVC architecture?

In web development, a controller is a component or module within a web application's architecture that handles user requests and coordinates the flow of data between the user interface, models, and views or presentation. It is a crucial part of the Model-View-Controller or similar architectural patterns.

In the MVC architecture, the controller plays a central role in mediating communication between the model or data, the view or presentation, and the user interface. It handles user input, coordinates model operations and based on the need updates the view with the relevant data. It basically manages the flow of the application