Part - 01

Question – 01

What is client side…….???

Client-side refers to the part of a software application or system that runs on the client's machine or device like web browser and it encompassed the code, resources, and functionality that are executed on the client side, providing an interactive and user-facing experience.

There are three main components:

i) HTML(Hyper Text Markup Language)
ii) CSS(Cascading Style Sheets)
iii) JavaScript

What is server side……..???

"server-side" refers to the part of a software application or system that runs on the server or backend. It involves the code, processes, and resources that are executed on the server to handle requests, process data, perform business logic, and generate responses to be sent back to the client-side.

And client side consists of three main components:

i) Server
ii) Server-side Programming Language:
   (a) JavaScript with Node.js
   (b) Python with Django,
   (c) Ruby with Ruby on Rails
iii) Web frameworks
iv) Database

Main difference between server-side and client-side

Client-side:

1) Source code is visible to the user.
2) Its main function is to provide the requested output to the end user.
3) It usually depends on the browser and its version.
4) It runs on the user's computer.
5) There are many advantages linked with this like faster. response times, a more interactive application.
6) It does not provide security for data.

7) It does not provide security for data. It is a technique used in web development in which scripts run on the client's browser.
8) HTML, CSS, and JavaScript are used.
9) No need of interaction with the server.
10) It reduces load on processing unit of the server.

Server-side:

1) Source code is not visible to the user because its output of server-side is an HTML page.
2) Its primary function is to manipulate and provide access to the respective database as per the request.
3) In this any server-side technology can be used and it does not depend on the client.
4) It runs on the webserver.
5) The primary advantage is its ability to highly customize, response requirements, access rights based on user.
6) The primary advantage is its ability to highly customize, response requirements, access rights based on user.
7) It is a technique that uses scripts on the webserver to produce a response that is customized for each client's request.
8) PHP, Python, Java, Ruby are used.
9) It is all about interacting with the servers.
10) It surge the processing load on the server

Question – 2

What is HTTP request…..???

An HTTP request is a structured message sent by a client to a server, specifying the desired action, providing additional information, and potentially including data.

There are mainly 5 types of HTTP request such as:

- ⇨ Get
- ⇨ Post
- ⇨ Put
- ⇨ Patch
- ⇨ Delete

Question - 3

What is JSON…….???

JSON (JavaScript Object Notation) is a lightweight data interchange format that is widely used for transmitting data between a server and a client, or between different components of a system. It is a text-based format that is easy for humans to read and write, and it is also easy for machines to parse and generate.

Why JSON is commonly used for in web development…..???

- Lightweight and Human-Readable
- Language-Independent
- Easy to Parse and Generate
- Native Support in Web Browsers
- Standard Format for API Communication:
- Versatility:
- Compatibility with NoSQL Databases:
-

Question – 4

What is middleware in web development……???

Middleware refers to a software component or a function that sits between the incoming HTTP request and the outgoing HTTP response in the request-response lifecycle.

Example of how middleware can be used:

```
const requestLogger = (req, res, next) =>

{

console.log(‘hello world’)

 next();

 };
```

```
const authenticateUser = (req, res, next) =>
{
const isAuthenticated = checkAuthentication(req);
if (isAuthenticated)
{
 next();
}
 else
{
 res.status(401).send('Unauthorized')
}
 };
```

Question – 5

What is controller…..???

A controller is a component of the application that is responsible for processing incoming requests and generating appropriate response and a controller acts as an intermediary between the user interface and the data or services required to fulfill a request.

What is controllers role in the MVC architecture…….???

In the Model-View-Controller (MVC) architecture, the controller is one of the core components that plays a vital role in separating concerns and organizing the application's logic. The controller is responsible for receiving user input, processing it, and updating the model and view accordingly. Here's a breakdown of the controller's role in MVC:

- Receives User Input:
- Updates the Model:
- Communicates with the View
- Orchestrates the Flow:
- Handles Routing and Dispatching: