# Ostad

**Course: Full Stack Developement with MERN**

**Batch: 03**

**Name of Assignment:** Express MongoDB Back End Development 01

PART-1

**Full Name:** Md.Ibrahim Khalil

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# PART-1

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

In web development, client-side and server-side refer to the location where certain tasks or processes are carried out. Client-side processes are executed on the user's device, while server-side processes are executed on the web server.

**Client-Side:** The client refers to the browser on a user's device that sends a request to a server for your application code. It then turns the response it receives from the server into an interface the user can interact with.

**Server-Side:** Server refers to the computer in a data centre that stores your application code, Receives requests from a client, does some computation, and sends back an appropriate response

The main difference between client-side and server-side is that client-side processes are executed on the user's device, while server-side processes are executed on the web server.

## Question 2. What is an HTTP request and what are the different types of HTTP requests?

An HTTP request is a message that is sent by a client to a server in order to access a resource. The request contains information about the resource that the client is requesting, as well as information about the client itself.

**The different types of HTTP requests are:**

- **GET:** This is the most common type of request. It is used to retrieve a resource from the server.

- **POST:** This request is used to send data to the server. It is often used to submit forms or to upload files.

- **PUT:** This request is used to update a resource on the server.

- **DELETE:** This request is used to delete a resource from the server.

- **PATCH:** Partially updates an existing resource.

**Question 3. What is JSON and what is it commonly used for in web development?**

JSON (JavaScript Object Notation) is a lightweight data interchange format.

It is commonly used in web development to transmit and store structured data. JSON provides a human-readable and easy-to-parse format for data representation. It is frequently used for API responses, data transfer between the client and server, configuration files, and serialization/deserialization of data

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

Middleware is a special types of controller executed after request but before in response. It is a type of filtering mechanism to ensure API securities and more. Middleware acts as a bridge between a request and a response

For example, in the context of an Express.js application, middleware can be used to handle authentication, logging, or request parsing. It sits between the web server and the application's routes, allowing for additional processing or modifications before reaching the desired endpoints.

**Question 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 that handles user input and updates the model and view. It is the central part of the MVC architecture, and it is responsible for mediating between the user and the application.

The controller is a critical part of the MVC architecture. It is responsible for keeping the view and the model in sync, and it is responsible for handling user input and errors. Some of the key responsibilities are Receive user print, Update the model, Update the view, handle error and exceptions , response generations etc.