



## **TOPIC 2: CLIENT-SERVER ARCHITECTURE**

### **1.Introduction to the Client-Server Model**

#### **What is a Client?**

- A user's device (computer, phone, tablet) that requests data from a server.
- Examples: Web browsers, mobile apps.

#### **What is a Server?**

- A powerful computer that stores and delivers content or services.
- Examples: Web servers, API servers, database servers.

#### **Example Analogy:**

A client is like a customer at a restaurant, and the server is like a waiter bringing food from the kitchen.



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### **2.Differences Between Client and Server**

<b>Feature</b>	<b>Client</b>	<b>Server</b>
Who use it?	End-User	Handles Request
Example	Web Browser	Website Backend
Processes	Displays UI	Manages's Logic, Databases

#### **Example Analogy:**

- You visit Youtube -> The Client Sends A Request
- The Youtube Server Processes it and respond with videos.



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### **3.HTTP Request/Response Cycle**

#### **How It Works:**

- 1.Client sends a request (e.g., GET /index.html).
- 2.Server processes the request.
- 3.Server responds with data.
- 4.Client displays the content.

#### **HTTP Methods:**

- GET → Retrieve data.
- POST → Send data (forms, logins).
- PUT → Update data.
- DELETE → Remove data.

#### **Example Analogy:**

A restaurant order – You (client) order pizza (GET), the kitchen (server) prepares it, and you receive it.



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## 4. Frontend vs Backend, Static vs Dynamic Websites

### Frontend (Client-Side)

- Code that runs in the browser.
- Technologies: HTML, CSS, JavaScript.

### Backend (Server-Side)

- Code that runs on the server.
- Technologies: Node.js, Python, PHP.

### Static vs Dynamic Websites

Type	Static Websites	Dynamic Websites
Example	Simple blogs , Portfolio's	Facebook , Amazon
Data Changes	Fixed Content	Updates dynamically
Backend Needed?	NO	Yes

### Example Analogy:

- A static website is like a printed book.
- A dynamic website is like a news website that updates regularly.



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### **5.Basics of Web Hosting**

- Web hosting stores websites for online access.
- Examples: Shared Hosting, VPS, Cloud Hosting.
- Popular Providers: GoDaddy, Hostinger, AWS, Netlify.

**Example Analogy:**

- Hosting is like renting an apartment for your website.