



BAITUSSALAM
—TECH PARK—



Class Agenda

**Rest API, Network
Requests, HTTP Methods,
CRUD and Blog Application**

What are Servers

A server is a type of computer that is equipped with software and hardware to offer services to other computers connected to it

Types of Servers:

Web Server: Hosts websites and serves web pages to clients.

Database Server: Provides database services to other computers.

File Server: Stores and manages files for network users.

Example: When you enter a URL in your browser, your browser (client) sends a request to a web server which then responds with the requested web page.

Network Requests and HTTP Servers

Network Request: A request made by a client to a server to retrieve or send data.

HTTP Server: A server that uses the Hypertext Transfer Protocol (HTTP) to communicate with clients.

Key Terms:

HTTP Methods: Define the type of action to be performed (e.g., GET, POST, PUT, PATCH, DELETE).

HTTP Status Codes: Indicate the outcome of the request (e.g., 200 OK, 404 Not Found, 500 Internal Server Error).

HTTP Methods

GET: Retrieve data from the server.

POST: Send data to the server to create a new resource.

PUT: Update an existing resource on the server.

PATCH: Partially update an existing resource on the server.

DELETE: Remove a resource from the server.

What is API?

An API, which stands for Application Programming Interface, is basically a messenger between apps.

Simple Explanation:

Think of an API as a waiter in a restaurant.

The customer (client) tells the waiter (API) what they want to order (request).

The waiter (API) takes the order to the kitchen (server) and brings back the food (response) to the customer (client).

Example:

When you use an app on your phone to check the weather, the app uses an API to request weather data from a server. The server sends the data back to the app through the API, and the app displays the weather information to you.

What are RESTful APIs?

A RESTful API is an architectural style for an application programming interface that uses HTTP requests to access and use data. That data can be used to GET, PUT, POST and DELETE data types, which refers to reading, updating, creating and deleting operations related to resources.

RESTful API is an interface that two computer systems use to exchange information securely over the internet.

Each request from a client to server must contain all the information needed to understand and process the request.

Difference Between PUT and PATCH

PUT

Purpose: Update an existing resource.

Behavior: Replaces the entire resource with the provided data.

PATCH

Purpose: Partially update an existing resource.

Behavior: Updates only the specified fields of the resource.

CRUD Application

Create a CRUD Application with Fetch API

Student Database Management

Name	Major	Actions	
Alice Johnson	Computer Science	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
Bob Smith	Mathematics	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
David Kim	Chemistry	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
Eva Brown	Botany	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
Frank White	Literature	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
ali	rider	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
Basit	React	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>
Waqas	rider	<input type="button" value="Delete"/>	<input type="button" value="Edit"/>

Post Request using Fetch

```
16 ✓ async function postData(data) {  
17 ✓   const response = await fetch(URL, {  
18     method: 'POST',  
19     body: JSON.stringify(data),  
20 ✓   headers: {  
21     |     'Content-Type': 'application/json',  
22   |   },  
23   },  
24   })  
25 ✓   if (!response.ok) {  
26     throw new Error(`Failed to add student: ${response.status}`)  
27   }  
28  
29   const content = await response.json()  
30  
31   console.log(content)  
32 }  
33
```

URL: The endpoint you are sending the request to.

Options Object:

method: Specifies the HTTP method (e.g., 'POST').

headers: Includes headers for the request, such as 'Content-Type'.

body: The data being sent with the request, converted to a JSON string.

Blog Application

Build a blog application in JavaScript using Fetch API user will also be able to visit the individual blog page

The End

