INTRODUCTION TO API

Understanding APIs, Data Flow, and Tools like Postman & JSON Server

WHAT IS AN API?

- API (Application Programming Interface) is a set of rules that allows software applications to communicate.
- APIs define how requests and responses should be structured.
- APIs enable integration between different systems, platforms, and services.

HOW APIS WORK

- A client sends a request to an API endpoint.
- The server processes the request and retrieves or modifies data.
- The response is sent back in a structured format (usually JSON or XML).

TYPES OF API METHODS

- GET: Retrieve data
- POST: Send new data
- PUT: Update existing data
- DELETE: Remove data
- PATCH: Partially update data

API FLOW & DATA TRANSFER EXECUTION

- Client sends a request to API.
- API processes the request and interacts with the database.
- The response is formatted (JSON/XML) and sent back to the client.
- The client displays the response data.

EXAMPLE OF A FAKE API

- JSONPlaceholder (https://jsonplaceholder.typicode.com) is a free fake API for testing.
- Example:
- GET https://jsonplaceholder.typicode.com/posts
- Returns a list of fake posts in JSON format.

INTRODUCTION TO POSTMAN

- Postman is a tool to test and develop APIs.
- Features:
- Send API requests and view responses
- Automate API testing
- Organize API collections for development.

CREATING APIS USING JSON SERVER

JSON Server is a lightweight tool to create a mock API with a JSON file.

Steps:

Install JSON Server: **npm install -g json-server**

Create a **db.json** file with sample data.

Start the server: **json-server --watch db.json**

Access API at: **http://localhost:3000**