**React – JSON-server and Firebase Real Time Database**

Question 1: What do you mean by RESTful web services?

Ans:

**RESTful web services** refer to web services that adhere to the principles of **REST** an architectural style for designing networked applications.

Question 2: What is Json-Server? How we use in React ?

Ans:

**ANS:** JSON-Server is a simple, lightweight tool that provides a full fake REST API file as the

database.-

* It allows developers to quickly prototype and test applications without setting up a real

backed.

* It is widely used for development purposes, especially in React projects.
* **Key features:**

• Provides a REST API for CRUD operations.

• Uses a JSON file (e.g., db.json) as the database.

* **How to use JSON-Server:**

**Step 1:** install JSON-Server. (npm i json-server@0.17.4)

**Step 2:** create a db.json file.

- This will act as your fake database.

**Step 3**: start JSON-Server

* **Why use JSON-Server in React Projects?**

• Set up a backend API in seconds.

• Test your React app’s API calls without building a real backend.

Question 3: How do you fetch data from a Json-server API in React? Explain the role of

fetch() or axios() in making API requests.

Ans:

To fetch data from a JSON-Server API in a React app, you can use either the

- fetch API (built in JavaScript)

- axios

both allow you to make HTTP request to interact with the JSON-Server.

**1. Using fetch()**

* The fetch function is a built-in JavaScript function for making HTTP requests. It

returns a promise that resolves to the Response object.

* **How it works:**

• fetch(“URL”): Sends a GET request to the JSON-Server API.

• .then((response) => response.json()): Converts the response to JSON format.

• .then((data) => setData(data)): Updates the React state with the fetched data.

• .catch((error) => console.log(error)): Catches and handles errors.

**2. Using axios**

- axios is a third-party library for making HTTP requests.-

It simplifies API requests by providing an easy-to-use syntax and automatic handling

of JSON data.

- npm install axios.

* **How it works:**

• **axios.get(“URL”):** Sends a GET request to the JSON-Server.

• **response.data:** Axios automatically parses JSON responses, so you directly access the data.

• **.then((response) => setData(response.data)):** Updates the React state with the fetched

data.

• **.catch((error) => console.log(error**)): Catches and handles errors.

* **Role of fetch() or axios() in API requests** 
  + - Both fetch and axios allow you to make HTTP requests like GET, POST, PUT, DELETE.
    - They help retrieve data from an API, process it, and update your app’s state.
    - Both handle network errors and server-side errors so you can respond gracefully in your app.

You can use them

Question 4: What is Firebase? What features does Firebase offer?

Ans:

**Firebase** is a **Backend-as-a-Service (BaaS)** platform developed by **Google** that provides a suite of tools and services to help developers build, improve, and scale web and mobile applications.

Features:

1. **Realtime Database**
2. **Cloud Firestore**
3. Firebase Authentication
4. Firebase Hosting
5. **Cloud Functions**

Question 5: Discuss the importance of handling errors and loading states when working with APIs in React

Ans:

When working with APIs in **React**, managing **errors** and **loading states** is **crucial** for building robust, user-friendly, and professional applications.

1. **Enhances User Experience (UX)**
2. Prevents App Crashes
3. Improves Debugging and Maintenance