1. What is a RESTful API and its importance in mobile applications?

A RESTful API (Representational State Transfer API) is a way for different software systems to communicate with each other over the internet using standard HTTP protocols. It allows a client (like a mobile app) to request data or send data to a server in a simple and structured manner.

Importance in mobile applications:
RESTful APIs are important because they help mobile apps connect to online services such as databases, authentication systems, payment gateways, and cloud servers. They make it possible for apps to fetch real-time data, store user information, and stay updated without hardcoding data inside the app.

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2. How is JSON data parsed and used in Flutter?

JSON (JavaScript Object Notation) is a lightweight data format used to exchange data between a server and an application. In Flutter, JSON data is received as a string and then converted into Dart objects.

The process usually involves decoding the JSON string into a Map or List using a JSON decoder. After decoding, the data can be accessed like normal variables and displayed in the user interface. This allows Flutter apps to dynamically show data such as user profiles, product lists, or movie details fetched from an API.

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3. Purpose of HTTP methods (GET, POST, PUT, DELETE)

HTTP methods define the type of action a client wants to perform on a server.

- **GET** is used to retrieve data from the server without changing anything. Example: fetching a list of products.

- **POST** is used to send new data to the server. Example: creating a new user account.

- **PUT** is used to update existing data on the server. Example: editing a user profile.

- **DELETE** is used to remove data from the server. Example: deleting a record from a database.