**RESTful API**

A **RESTful API** (Representational State Transfer API) is a web service that follows REST architectural principles, allowing communication between a client (like a web or mobile app) and a server over HTTP. RESTful APIs are stateless, flexible, and widely used to connect front-end applications to back-end services.

**Key Characteristics of RESTful APIs**

1. **Stateless**: Each request from a client to a server must contain all the information needed to understand and complete the request, without relying on stored context on the server. After processing a request, the server does not retain any session information.
2. **Client-Server Architecture**: REST separates concerns by having a client (frontend) that interacts with a server (backend). The server handles data storage and processing, while the client presents and manipulates that data.
3. **Uniform Interface**: REST APIs typically use a standardized set of HTTP methods:
   * **GET**: Retrieve data from the server.
   * **POST**: Submit new data to the server.
   * **PUT** or **PATCH**: Update existing data on the server.
   * **DELETE**: Remove data from the server.
4. **Resource-Based**: Each piece of data, or "resource," is represented by a unique URL (endpoint). Resources are typically nouns, like /users or /products, and actions on these resources are determined by the HTTP method.
5. **Data Representations**: REST APIs often use JSON (JavaScript Object Notation) to format data. JSON is human-readable, lightweight, and widely supported, making it ideal for web services.
6. **Stateless Communication**: Every interaction with the API is self-contained. The server does not store the client state between requests, so each request is independent.