1,what is rest api

For this reason, REST APIs are sometimes referred to RESTful APIs. First defined in 2000 by computer scientist Dr. Roy Fielding in his doctoral dissertation, REST provides a relatively high level of flexibility and freedom for developers

characteristics and principles of REST APIs:
1.Stateless: Each request from a client to a server must contain all the information needed to understand and process the request. The server doesn't store any information about the client's state between requests. This allows for scalability and reliability.

2.Resources: In REST, everything is considered a resource, and these resources are identified by URLs (Uniform Resource Locators). Resources can be physical entities like web pages, or abstract concepts like users and products.

3.HTTP Methods: REST APIs typically use HTTP methods to perform CRUD (Create, Read, Update, Delete) operations on resources.

The most commonly used HTTP methods in REST are

- GET: Retrieve information about a resource.
- POST: Create a new resource.
- PUT: Update an existing resource.
- DELETE: Remove a resource.

4.Uniform Interface: REST APIs should have a uniform and consistent interface. This means using standard HTTP methods and status codes, as well as a consistent naming convention for resources and their representations.

5.Representation: Resources can have multiple representations, such as JSON, XML, HTML, or plain text. Clients can specify their preferred representation using HTTP headers, like "Accept" and "Content-Type."

6.Statelessness: As mentioned earlier, each request should be self-contained, meaning the server should not store information about the client's state. Any necessary state information should be included in the request.