What is rest api

- Resources:
  - In a REST API, everything is considered as a resource. Resources can be data entities, services, or anything else that can be named.
- Uniform Interface:
  - A REST API has a uniform and consistent interface. It follows a set of constraints, including:
    - Resource Identification: Each resource is identified by a unique URI (Uniform Resource Identifier).
    - Resource Manipulation through Representations: Resources are manipulated through representations, such as XML or JSON.
    - Stateless Communication: Each request from a client to the server must contain all the information needed to understand and fulfill the request. The server should not store any client state between requests.
- HTTP Methods:
  - RESTful APIs use standard HTTP methods (GET, POST, PUT, DELETE, etc.) for different operations on resources.
    - GET: Retrieve a representation of the resource.
    - POST: Create a new resource.
    - PUT: Update an existing resource.
    - DELETE: Delete a resource.
- Statelessness:
  - Each request from a client to a server must contain all the information needed to understand and fulfill the request. The server should not store any client state between requests.
- Representation:
  - Resources are represented in a format such as JSON or XML. Clients interact with these representations to perform operations on resources.
- Hypermedia (HATEOAS):
  - Hypermedia as the Engine of Application State (HATEOAS) is a constraint in REST, which means that a client interacts with the application entirely through hypermedia provided dynamically by application servers.
- Scalability and Performance:
  - REST APIs are designed to be scalable, and they can take advantage of the HTTP protocol's caching mechanisms for better performance.