What is APIs?

APIs, or Application Programming Interfaces, are sets of rules and protocols that allow different software applications to communicate with each other.

APIs Examples?

Google maps, Facebook, PayPal, Weather APIs

What are the types of APIs?

There are several types of APIs, including:

Web APIs: These APIs are designed for communication over the web and are widely used for building web applications. Examples include RESTful APIs, SOAP APIs, and GraphQL APIs.

Operating System APIs: These APIs are used for interaction with a device or server's underlying operating system. Examples include Windows API, iOS API, and Android API.

Library APIs: These APIs are used for software development and provide pre-built functions and classes for common tasks. Examples include Python's requests library, Java's JDBC API, and. NET's Entity Framework.

Hardware APIs: These APIs are used for interacting with hardware devices such as sensors, cameras, and printers. Examples include USB APIs, Bluetooth APIs, and GPIO APIs.

What is Web APIs?

Web APIs are interfaces that allow different software applications to communicate with each other over the internet. They provide a way for developers to access the functionalities or data of another service, application, or platform through standardized HTTP requests and responses. Web APIs are a fundamental part of web development, enabling integration between different systems and services.

Types of Web APIs?

* REST APIs
* Soap APIs
* GraphQL APIs
* WebSocket APIs
* JSON RPC and XML RPC
* gRPC(Remote Procedure Calls)

What is REST APIs?

REST (Representational State Transfer) APIs are a type of web API that adhere to a set of principles and constraints for building scalable and efficient web services. RESTful APIs are designed around resources, which are identified by URLs, and use standard HTTP methods for performing operations on these resources.

* **Resources**
* **Client-Server Architecture**:
* **Cacheability**:
* **Layered System**:
* **HTTP Methods**:
* **Statelessness**:
* **Representation**:
* **Uniform Interface**:

Advantages of REST APIs

1. Scalability:
   * RESTful APIs are stateless, which allows for horizontal scaling by adding more servers.
2. Flexibility:
   * Clients can request specific data representations, making it easier to support different formats and types of clients.
3. Performance:
   * Caching mechanisms can be effectively used to improve performance.
4. Simplicity:
   * The use of standard HTTP methods and a uniform interface simplifies development and integration.