

API (Application Programming Interface) is crucial for software communication, data exchange, and integration. It allows apps to access external services, fostering innovation and efficient development in the tech industry.

APIs:

What is an API?

- An API is a mechanism that allows two software programs to communicate with each other using a set of definitions, like the 'weather app'.
- API stands for Application Programming Interface.
- You can get an API for any software to use it.
- There are four diverse ways to create APIs.

SOAP API:

- In the past, APIs used Simple Object Access Protocol (SOAP).
- Both client and server used XML.
- Considered low quality.

RPC API:

- These APIs are called Remote Procedure Calls (RPC).
- They wait to complete a function before sending output.

WebSocket API:

- Uses JSON.

REST API:

- The most popular and flexible API on the web today.
- The client can send requests.

What is REST?

- REST defines a set of functions such as GET, PUT, DELETE, etc.
- The client and server use HTTP.
- The web API is an application processing interface between a server and a browser.
- You can use it with any language backend.

What are API integrations?

- Don't need to wait as XML; with JSON, the time and data are automatically handled.

What are the benefits of REST APIs?

- Interaction
- Innovation
- Expansion
- Easy maintenance

What are the diverse types of APIs?

- Private APIs -> require email and password for access.

- Public APIs -> freely accessible APIs.
- Partner APIs -> access only for authorized partners.
- Composite APIs -> combine two or more different APIs, like 'composer'.

What is an API endpoint?

- The endpoint is the server URL.
- API endpoints are critical to enterprises for two main reasons:
 - 1- Security -> API endpoints make the system invulnerable to attacks.
 - 2- Performance -> especially during high traffic.

How to secure REST APIs?

- Authentication tokens.
- API keys.

How to create an API?

- Plan the API.
- Build the API.
- Test the API.
- Document the API.

What is API testing?

- Making multiple requests to API endpoints.
- Writing unit tests to check business logic.
- Security testing by simulating system attacks.

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