

API REFRESHER



WHAT TO EXPECT



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What is an API ?

An API, which stands for application programming interface, comprises a set of specified rules facilitating communication between diverse applications.

Serving as a mediator, it manages data transfers between systems, allowing companies to expose their application data and functionalities to external third-party developers, business partners, and internal departments.



Working of an API

Examine a typical scenario - third-party payment processing.

In the context of an ecommerce transaction, when a user buys a product, they might encounter an option like "Pay with Credit Card" or a different third-party system. The seamless functioning of this process hinges on the utilization of APIs to establish the necessary connections.



Working of an API



Working of an API

SUBMIT



Request

The process begins with a request. One software, known as the client, initiates communication by sending a request to another software, known as the server. The request typically contains specific instructions or data requirements.



Processing

The server receives the request and processes it according to the predefined rules set by the API. This may involve retrieving or manipulating data, performing a specific function, or any other action that the API is designed to handle.



Response

After processing the request, the server sends back a response to the client. This response contains the requested information or indicates the success or failure of the requested operation.



DataFormat

Many APIs require authentication to ensure that only authorized users or applications can access the requested data or services. This is often done using API keys, tokens, or other authentication mechanisms.

Benefits of using API

Interoperability

Modularity

Scalability

Ecosystem Integration

Security

Live examples of API



BOOKSTORE API

Live examples of API

Jokes API

<https://v2.jokeapi.dev/joke/Programming>

icanhazdad joke.com

<https://icanhazdad joke.com/slack>

worldtimeapi.org

<https://worldtimeapi.org/api/timezone/Asia/Kolkata>

Protocols in APIs

REST (Representational State Transfer)

REST is a set of web API architecture principles. REST APIs—also known as a RESTful API)—are APIs that adhere to certain REST architectural constraints. It's possible to build RESTful APIs with SOAP protocols, but the two standards are usually viewed as competing specifications.

SOAP (Simple Object Access Protocol)

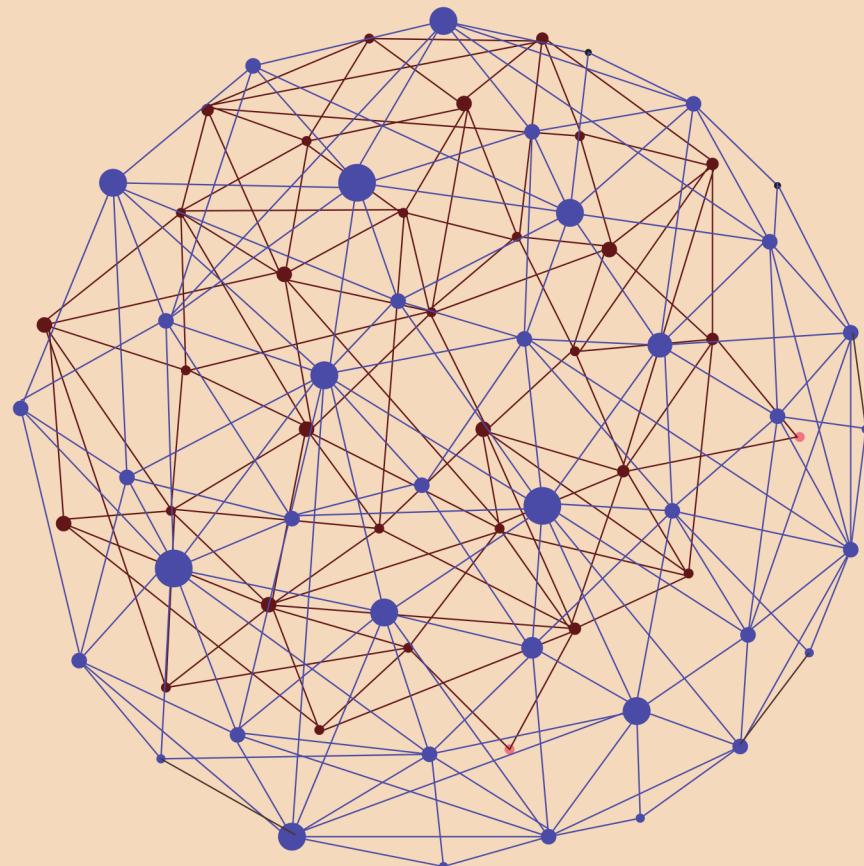
Built with XML, SOAP enables endpoints to send and receive data through SMTP and HTTP. SOAP APIs make it easier to share information between apps or software components that are running in different environments or written in different languages.

& more

APIs & Microservices

Microservices is an architectural style that divides an application into smaller, independent components (also called microservices), connected using REST APIs. Building an application as a collection of separate services enables developers to work on one application component independent of the others, and makes applications easier to test, maintain, and scale.

Microservices architecture has become more prevalent with the rise of cloud computing, and, together with containers and Kubernetes, is foundational to cloud native application development.





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See you in Next Video

