

What is Web API and why we use it ?

API stands for Application Programming Interface

It can be accessed over the web using the HTTP protocol

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Difference b/w APIs and WEB-API

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Web-API is a subset of API.

Main purpose of creating a Web-API/API is same i.e to create a connection between b/w different servers.

API created using:-

- TCP
- SMTP
- HTTP

Web-API created using:-

- HTTP

In []:

In []:

Rest and Soap Architecture

REST stands for **Representational State Transfer**.

SOAP API	REST API
Simple Object Access Protocol	Representational State Transfer
Works over HTTP, HTTPS, SMTP, XMPP	Works over HTTP and HTTPS
Highly structured/typed	Simplicity, flexibility, scalability, Less structured -> less bulky data
Because it is XML based and relies on SOAP, it works with WSDL	It works with GET, POST, PUT, DELETE
more secure	less secure
Transports data in standard XML format.	Generally transports data in JSON. It is based on URI. Because REST follows stateless model, REST does not enforce message format as XML or JSON etc
Designed with large enterprise applications in mind	Designed with mobile devices in mind

WSDL- web service description language

RESTful services, also known as RESTful APIs, are web services that follow the REST architectural style. REST stands for Representational State Transfer, which is a set of principles for building web services that use HTTP (Hypertext Transfer Protocol) as the communication protocol.

RESTful services are based on the following principles:

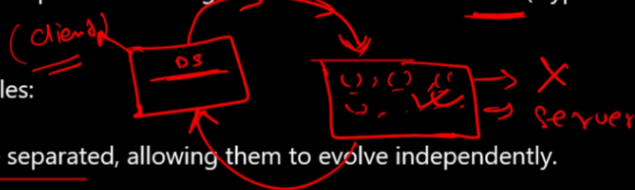
Client-server architecture: The client and server are separated, allowing them to evolve independently.

Stateless: Each request sent to the server contains all the information needed to complete the request. The server does not maintain any client context between requests.

Cacheable: Responses from the server can be cached to improve performance.

Uniform interface: RESTful services use a uniform interface consisting of resources, HTTP verbs (GET, POST, PUT, DELETE), and hypermedia links.

Layered system: RESTful services can be composed of multiple layers, allowing for scalability, flexibility, and security.



In [1]:

```
!python --version
```

Python 3.9.13

In [2]:

```
!python --update
```

unknown option --update

usage: python [option] ... [-c cmd | -m mod | file | -] [arg] ...

Try 'python -h' for more information.

In []: