**WEB API**

**Abbreviation:** Application Programming Interface

**Definition:** An application programming interface (API) is a set of programming instructions and standards for accessing a web-based program

APIs allow one program to speak with another.

Software companies release their APIs to the public so that other software developers can design products that are powered by its service.

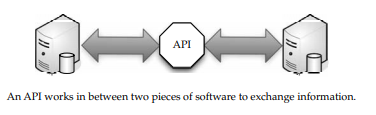
**Example:** when you buy something at Amazon and enter your credit card information, Amazon uses an API to send your credit card information to a remote application that verifies whether your information is correct

**Who uses API?**

These services can be accessed by different kind of users like:

* Web Browsers
* Mobile applications
* Desktop applications
* IOTs (Internet of Things)

**How APIs Work:**

****

1. User triggers a request to the recipient web server over the Internet, either through a web browser or the application’s user interface
2. Web API forwards this request to the appropriate web server
3. Web server forwards this request to the appropriate web application server for processing the client data.
4. Web application server performs the requested task – such as querying the database or processing the data – then generates the results of the requested data
5. Web application server sends results to the web server with the requested information or processed data
6. Web server responds back to the client via **WEBAPI** with the requested information that then appears on the user’s display

**What types of Technologies used in WEBAPI:**

* **XML:**  XML is a general-purpose markup language. . It describes structured data in a way that both humans and computers can read and write.
* **SOAP (Simple Object Access Protocol)** SOAP encodes XML messages so that they can be received and understood by any operating system over any type of network protocol.
* **UDDI (Universal Description, Discovery, and Integration)** UDDI is an XMLbased directory that allows businesses to list themselves, find each other, and collaborate using web services
* **WSDL (Web Services Description Language)** WSDL is the SOAP of UDDI. WSDL is the XML-based language that businesses use to describe their services in the UDDI

**API Creators**

There are many different APIs you can use to link your organization with your cloud applications.

**1. Google Gadgets:**

Google Gadgets are a desktop search application that enables users to search their email, files, web history, and chats. Called Google Desktop Search, this new application makes it possible for users to find information on their computers as fast and easily as they can search the Web with Google.

The Google Gadgets API is composed of three languages:

**XML:** This is the language you use to write gadget specifications

**HTML:** HTML is used to format web documents,

**JavaScript**: JavaScript is the scripting language you can use to add dynamic behavior to your gadgets.

Google Desktop Search is a lightweight, free, downloadable application that brings Google search to information on your computer. The application operates locally on the user’s computer, where it provides the following capabilities:

**System-wide search** Users can search across their email and a wide range of files and information such as email in Microsoft Outlook and Outlook Express; files in Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and text; web site history in Internet Explorer; and instant message chats in AOL Instant Messenger.

**High search speed** Google.com can search billions of web pages in a fraction of a second. Google Desktop Search is built with the same technology, and it can search a single hard drive in even less time.

**Easy access to desktop results via Google.com** Google Desktop Search enables users to search both their computer and the Web simultaneously.

**Dynamic results** Unlike traditional computer search software that updates once a day, Google Desktop Search updates continuously for most file types. When a user downloads a new email in Outlook, for example, it can be found within seconds using Google Desktop Search.

**Examples of Google Data APIs:**

Google Calendar Data API, Google Spreadsheets Data API, YouTube Data API etc..

**2. GoGrid:**

GoGrid’s API that allows developers to control their interaction with GoGrid’s cloud hosting infrastructure.

The GoGrid API provides two-way communication for controlling GoGrid’s control panel functionality.

Typical uses for the API include

• Auto-scaling network servers

• Listing assigned public and private IP addresses

• Deleting servers

• Listing billing details

GoGrid’s REST-like API Query interface is designed for individuals who want to

Programmatically control their cloud hosting infrastructure over the Internet.

The GoGrid API requires you to be a GoGrid customer and to have technical knowledge

and programming skills. The GoGrid API supports these languages:

• Java • PHP • Python • Ruby

**3. APEX:**

Apex includes an application program interface (API) that developers can use to access user data on Salesforce.com.

The Apex platforms consist of three tools:

• **Apex Builder** An on-demand component allowing easy drag-and-drop

Customization with a limited set of features.

• **Apex API** A method of retrieving raw data from Salesforce.com’s servers. The API

is used by programs that are external to Salesforce.com, like Java applications that

need access to information on a client’s Salesforce.com account.

• **Apex Code** A programming language that is executed on Salesforce.com’s servers.

The Apex Code offers flexibility in developing by using the Apex API while reducing

the number of calls between the client and server.

### Advantages

* No need for buying the infrastructure and hire IT people as all the facilities are [provided by Salesforce](https://www.educba.com/what-is-salesforce-technology/).
* Cost-effective, as the cost of maintenance of the application, the licensing cost of various software is quite high than buying the monthly subscription of Salesforce.
* Security of application, full Authentication and Authorization is provided to the end-users by Salesforce for accessing the application.
* It is easy to develop an application in the Salesforce.com platform for developers as developers can use the existing applications or make changes in the existing ones according to business needs.
* Apex allows its developers to access the Salesforce.com backend database to third-party Saas applications.