**API- Application Programming Interface**

Today, we use mobile apps for almost all purposes. The purpose ranges from simply sending a message to checking cricket scores online. Application Programming Interface (API) is used to communicate between apps and to access and fetch the required information.

**What is API?**

API is the abbreviation of the term Application Programming Interface. It is the software responsible for the connection for the communication and information exchange between two apps. API connects two devices or programs in order to facilitate the exchange of information between them. It is the interface that serves the other parts of the software. The API specifications are the standards or documents designed to describe the creation of such connections. If a computer system meets these standards, then it is said to expose an API. The specification or implementation both are known as the API.

**History of APIs**

The concept of the API has been there since an early age. The implementation of API has seen various transformations over the years. The only difference has been the way in which the API was accessed and implemented.

In the 1990s the Salesforce launched the web-based API that acted as the sales automation tool. It began the SaaS Revolution, which emphasized software as a service concept. The World Wide Web also encouraged the new way of delivering the software and built the infrastructure to accommodate the new system.

The existence of the API can be traced even before the introduction of the World Wide Web and the Internet. It was first used to provide a service for a limited area. It connected the computer networks in that limited area.

API has a bright future with users and programmers all over the world are using and creating apps that are hosted on the World Wide Web. The function of the API is to enable the API provider to expose the services. Therefore, the external systems call API providers and access the services.

**WEB APIs**

Web APIs provides services such as web notification and storage. These APIs can be accessed through the HTTP protocol. Different APIs differ in the level of security and privacy that they offer. It is possible to combine multiple web API to form a composite API. It is also known as a collection of data or service APIs.

**Types of APIs**

The various types of API are-

* **Open APIs**: It is also known as the external or public API and is the API that has minimal restrictions for the user. These sometimes require registration or API key or sometimes are completely open. These are meant for external users to access data. Therefore, the developers can access the data without the registrations.
* **Internal APIs**: Internal APIs differ from open APIs as these are hidden from external users. These are useful for businesses and are used in a company to share resources within the company. It facilitates different sections and departments of the company to access each other's data. Internal APIs are useful in providing a standard interface for the connection of multiple services in a company.
* **Partner APIs**: Partner APIs are very much similar to open APIs. The only difference is that these feature restricted areas that are controlled by an API gateway, a third-party gateway. These APIs are used for specific services, such as the paid service on any software.
* **Composite APIs**: Composite APIs are unique as they facilitate the developer to access several endpoints in one call. It may have different endpoints for a single API or multiple data sources and services. Composite types of APIs are useful when there is the need to access data from multiple services for the completion of a single task. The composite APIs have three major benefits, which are as follows;
* It reduces the server load.
* Improves the performance of the application.
* Fetches multiple service data in a single call.

**Example of API**

The most common example of API is searching for information on the internet using an app. If you use an application for a particular purpose, you use the internet. A connection is established between the internet and the application. The internet provides data to the server; it retrieves data, processes the information, and sends it back to the phone. The task of the application is to interpret data and present it to the user in a readable format. This process is facilitated using API.

**Use of APIs Everyday**

Application Programming Interface (API) plays a crucial part in the economy. APIs are not easily noticed, but they are almost everywhere in our lives and affect us significantly. API is crucial in sharing data and aids communication between two individuals, apps or devices. Following are some of the common daily life functions of API.

* **Weather Monitoring**

Weather monitoring is one of the most common daily life applications of API. The weather update can be seen on Google Search, smart home devices or Apple's Weather app. whenever you search for the weather of your city using any of these platforms, you'll see an instant result. For example, although Google doesn't do Business in weather, you will get data immediately if you search on Google. It is because Google takes data from a third party using API. After getting this data, Google reformats it and presents it to the user. Many APIs have weather data functionality and are crucial in providing weather conditions and forecasts.

* **For Logging in**

APIs are also helpful for logging into accounts such as Facebook, Google, Twitter, Github, etc. It helps in accessing the functionalities in these accounts after you log in.

API does not directly login into a user's account as it would pose a threat to security and privacy. Applications use the API of platforms to authenticate the user with each login.

* **Payments**

The payment functionality is also built using APIs. Using APIs, it is ensured that the application is only exposed to the necessary data rather than the sensitive data. API prevents the apps from accessing the unintended data and helps it achieve the set objective.

The working of the payment system is similar to the login functionality. After the user sends the pay command to the application, he sends an order with the payment amount. Additionally, he also adds other relevant information. A pop-up will then confirm the payment by authenticating the user. Subsequently, the API sends payment confirmation to the application and hence the user.

* **Bots**

Bots are another everyday application of the API. For example, there are many Twitter Bots which are Twitter accounts that carry out functions such as a tweet, follow and send messages directly with the order from the software. Some of the Bots are listed below;

**TinyCare Bot**: It has the function of reminding the user to drink water, stretch, get fresh air, etc.

**Grammar Police**: Rectifies the grammar mistakes of the users and makes corrections accordingly.

**Netflix Bot**: Tweets content-related updates from Netflix.

These are Twitter API powered bots. The API tells the bots about specific platform details or events. Moreover, it also allows users to execute actions such as tweeting, following.

**Bookings**

Travel bookings are another domain where API is of huge importance. Online travel services collect information from third party APIs and present it to the user. The information is useful for the user to choose and proceed with the bookings.