API - **A**pplication **P**rogram **I**nterface

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An ***a****pplication****p****rogram****i****nterface*(**API**) is a set of [routines](https://www.webopedia.com/TERM/R/routine.html), [protocols](https://www.webopedia.com/TERM/P/protocol.html), and tools for building [software applications](https://www.webopedia.com/TERM/A/application.html). Basically, an API specifies how software components should interact. Additionally, APIs are used when programming graphical user interface ([GUI](https://www.webopedia.com/TERM/G/Graphical_User_Interface_GUI.html)) components. A good API makes it easier to develop a [program](https://www.webopedia.com/TERM/P/program.html) by providing all the building blocks. A [programmer](https://www.webopedia.com/TERM/P/programmer.html) then puts the blocks together.

***Different Types of APIs***

There are many different types of APIs for operating systems, applications or websites. Windows, for example, has many [API sets](http://msdn.microsoft.com/en-us/library/windows/desktop/hh802935%28v=vs.85%29.aspx) that are used by system hardware and applications — when you copy and paste text from one application to another, it is the API that allows that to work.

Most [operating environments](https://www.webopedia.com/TERM/O/operating_environment.html), such as  [MS-Windows](https://www.webopedia.com/TERM/M/Microsoft_Windows.html), provide APIs, allowing programmers to write applications consistent with the operating environment. Today, APIs are also specified by websites. For example, Amazon or eBay APIs allow developers to use the existing retail infrastructure to create specialized web stores. Third-party software developers also use Web APIs to create software solutions for end-users, and developers use APIs to create Web applications, internal applications, and commercial applications.

***Popular API Examples***

*ProgrammableWeb*, a site that tracks more than 15,500 APIs, lists Google Maps, Twitter, YouTube, Flickr and Amazon Product Advertising as some of the the most popular APIs. The following list contains several examples of popular APIs:

1. [Google Maps API](https://cloud.google.com/maps-platform/): Google Maps APIs lets developers embed Google Maps on webpages using a JavaScript or Flash interface. The Google Maps API is designed to work on mobile devices and desktop browsers.

2. [YouTube APIs](https://developers.google.com/youtube/): YouTube API: Google's APIs lets developers integrate YouTube videos and functionality into websites or applications. YouTube APIs include the YouTube Analytics API, YouTube Data API, YouTube Live Streaming API, YouTube Player APIs and others.

3. [Flickr API](https://www.flickr.com/services/api/): The Flickr API is used by developers to access the Flick photo sharing community data. The Flickr API consists of a set of callable methods, and some API endpoints.

4. [Twitter APIs](https://dev.twitter.com/): Twitter offers two APIs. The REST API allows developers to access core Twitter data and the Search API provides methods for developers to interact with Twitter Search and trends data.

5. [Amazon Product Advertising API](https://www.amazon.com/ap/signin?openid.return_to=https%3A%2F%2Faffiliate-program.amazon.com%2Fassoc_credentials%2Fhome&openid.identity=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.assoc_handle=amzn_associates_us&openid.mode=checkid_setup&marketPlaceId=ATVPDKIKX0DER&openid.claimed_id=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0%2Fidentifier_select&openid.ns=http%3A%2F%2Fspecs.openid.net%2Fauth%2F2.0&openid.pape.max_auth_age=0): Amazon's Product Advertising API gives developers access to Amazon's product selection and discover functionality to advertise Amazon products to monetize a website.

<<<https://www.webopedia.com/TERM/A/API.html#:~:text=An%20application%20program%20interface%20(API,user%20interface%20(GUI)%20components.> >>

Exercises:

* Com base na leitura do texto e em sua experiência de vida explique como os APIs podem ser úteis na gestão e desenvolvimento de projetos. Tente ser claro e use exemplos de rotinas e protocolos para se chegar até o *front end* com a interface final.

R:

* Complete o glossário:

1. set (n.) = Conjunto.
2. providing = Providenciar / fornecendo.
3. building blocks = Blocos de construção.
4. paste (v.) = Colar.
5. allows (v.) = Permitir.
6. such as = Tais como.
7. retail (n.) = Varejo.
8. end-users = Usuários finais / clientes.
9. lets = Permitem.
10. embed = Embutido, embarcado.
11. callable methods = Métodos chamáveis.
12. monetize = Monetizar.