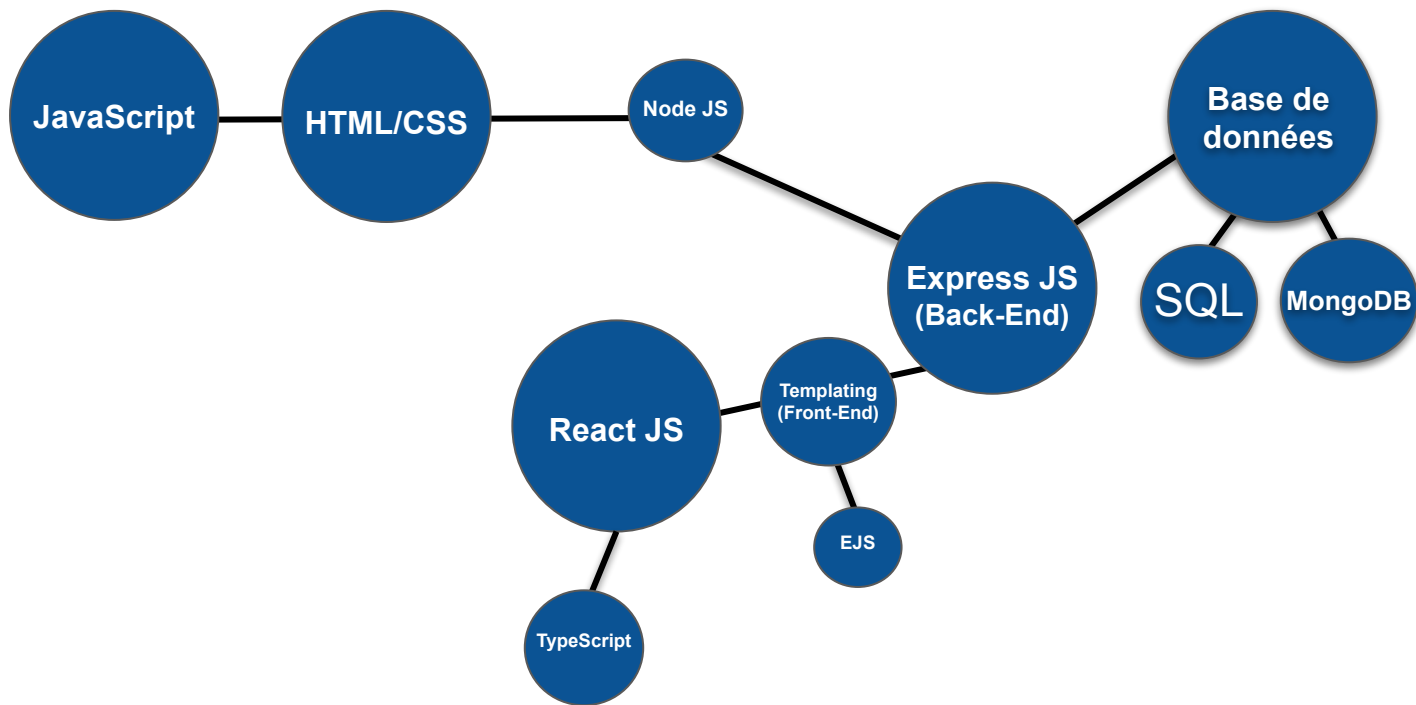


Web dev **training**

Introduction to API

</**becode**>

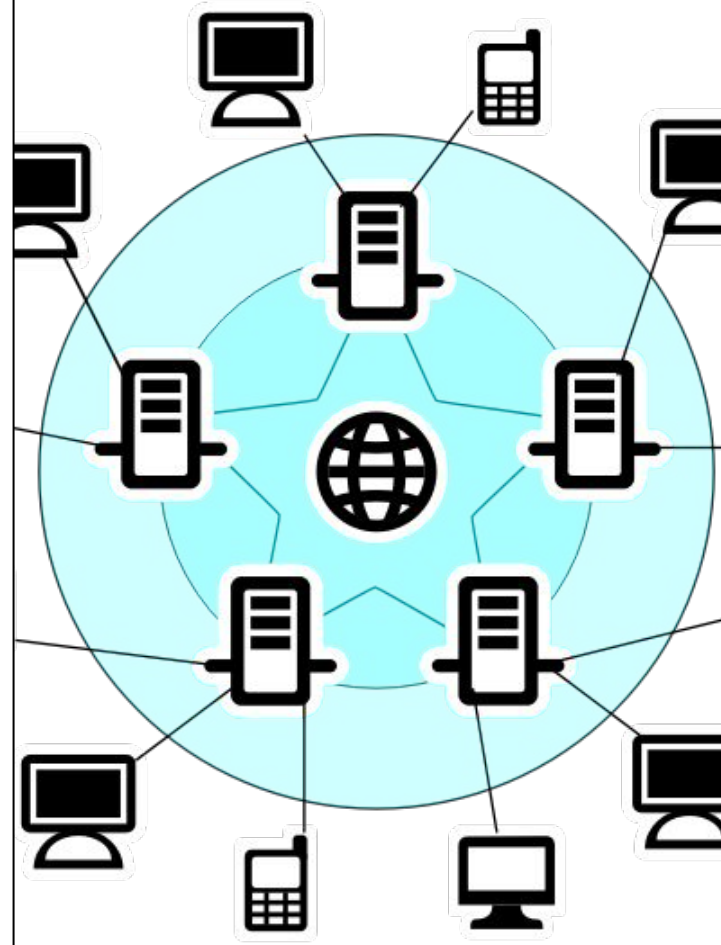
MODULES



DEFINITION

API stands for **Application Programming Interface**.

- In the context of APIs, the word **Application** refers to any software with a distinct function.
- **Interface** can be thought of as a contract of service between two applications. This contract defines how the two **communicate** with each other using **requests** and **responses**.

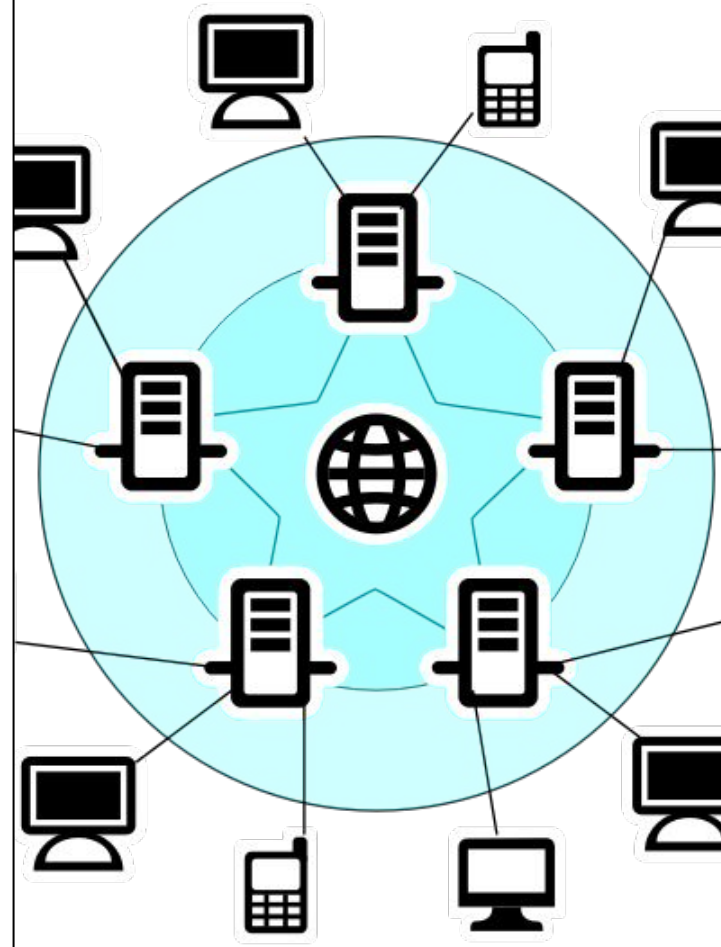


DEFINITION

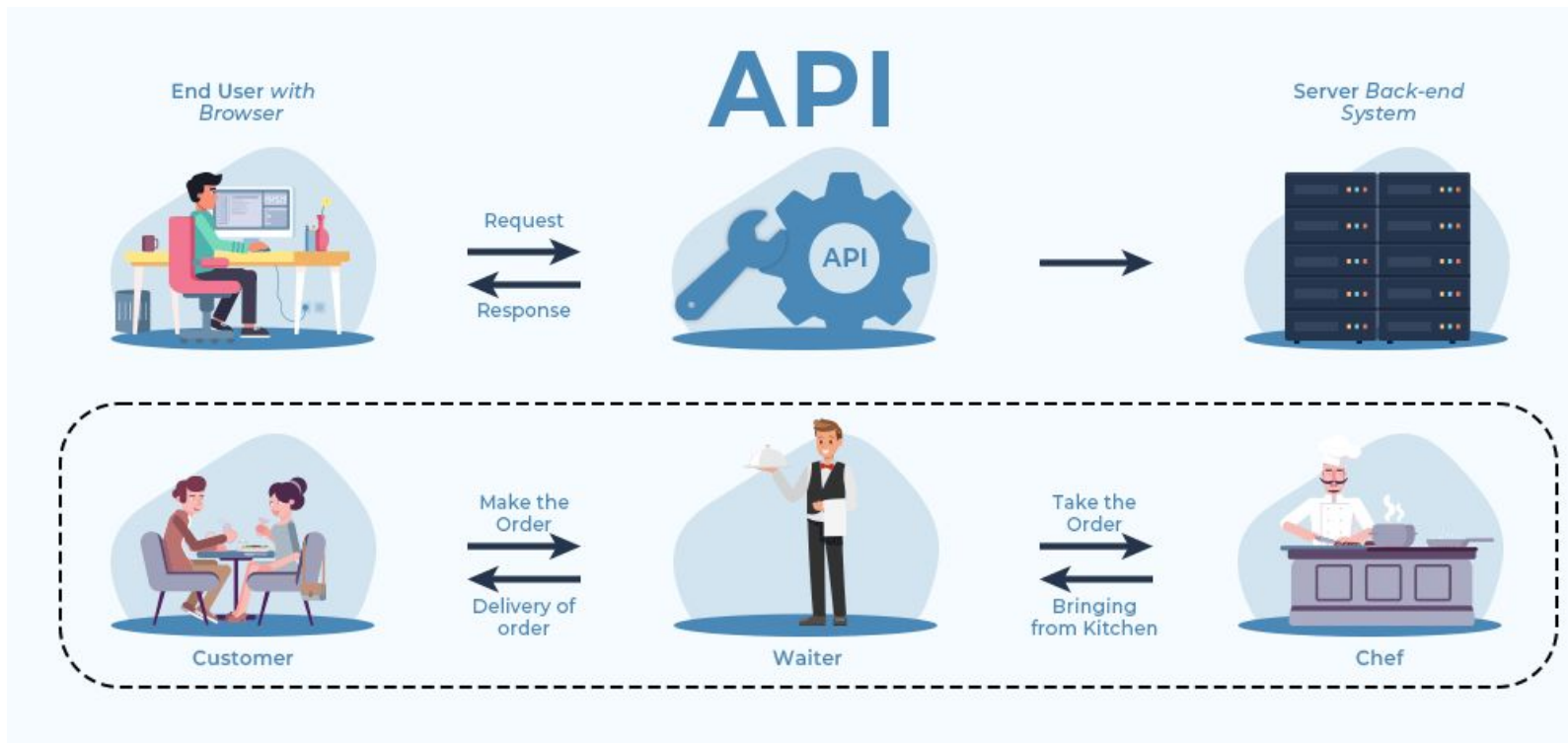
In other terms, an API is an *interface* between 2 programs. A way for them to *communicate*.

There are many possible protocol for exchanging information between two programs on the web.

One of these is the protocol HTTP
(HTTP= Hyper Text Transfer Protocol)



The concept



HISTORY

The concept of API predates the very notion of application.

2 British scientists: Maurice Wilkes and David Wheeler use a **catalog** listing all the subroutines that a program can use.

This **catalog** is technically an API: it gives a user instructions for launching subroutines.



Web dev **training**

Tool to request an API

</**becode**>

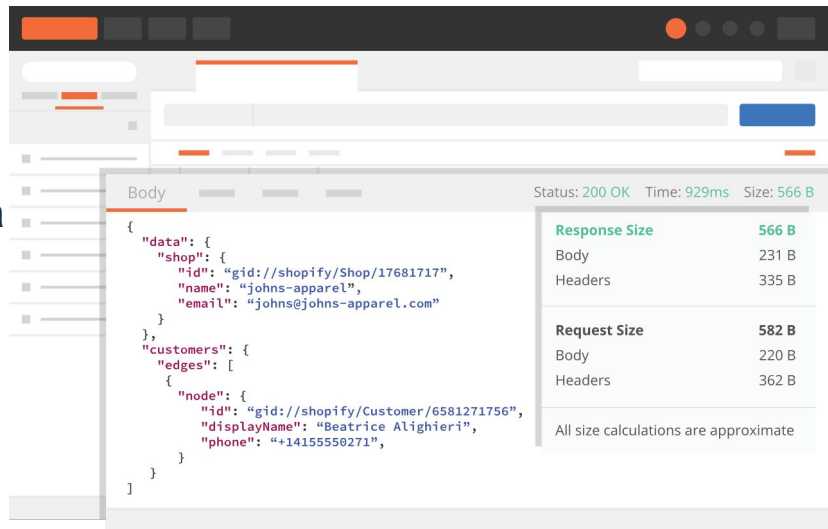
POSTMAN

APIs are used to make different applications communicate with each other. To make a direct call without a user interface we need a tool:

Postman is an excellent tool for managing and testing APIs. And maybe the most famous one.

It offers to send requests, instead of the user. The data can be in several forms, here in JSON.

A lot of other tools now copy its interface like <https://hoppscotch.io/>

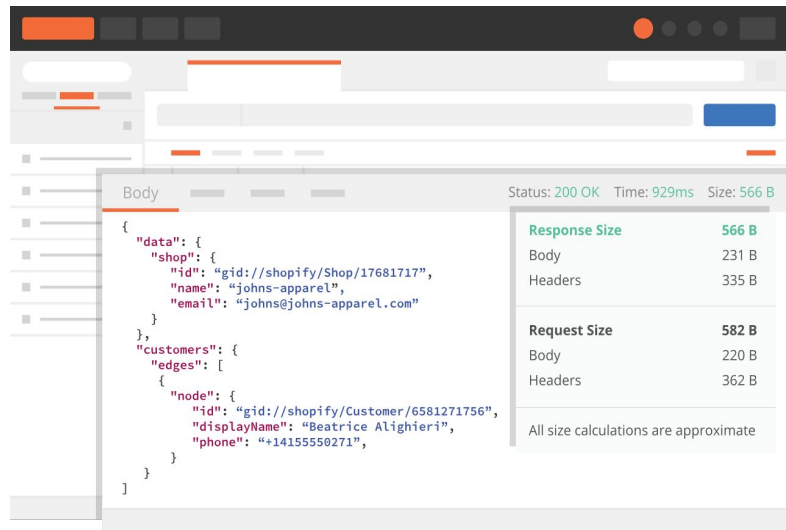


POSTMAN: why use it?



Postman offers several tools and features, such as:

1. **API requests:** Allows users to create and run requests to ensure their APIs are working correctly
2. **API Collection:** Groups related requests into collections, making it easier to organize and execute API calls;
3. **Documentation:** Offers the ability to create interactive documentation for your APIs, making it easier to share information with other developers;
4. **Collaboration:** Facilitates teamwork by allowing users to easily share their collections and documentation with teammates.



[illegible][illegible][illegible][illegible]

Web dev **training**

REST APIs

</**becode**>

HTTP methods

The 5 REST HTTP methods have different functionality:

- **GET** : Retrieves a resource
- **POST** : Places (or initializes) a resource
- **PUT** : Replaces an existing resource
- **PATCH** : Modifies an existing resource
- **DELETE** : Deletes a resource

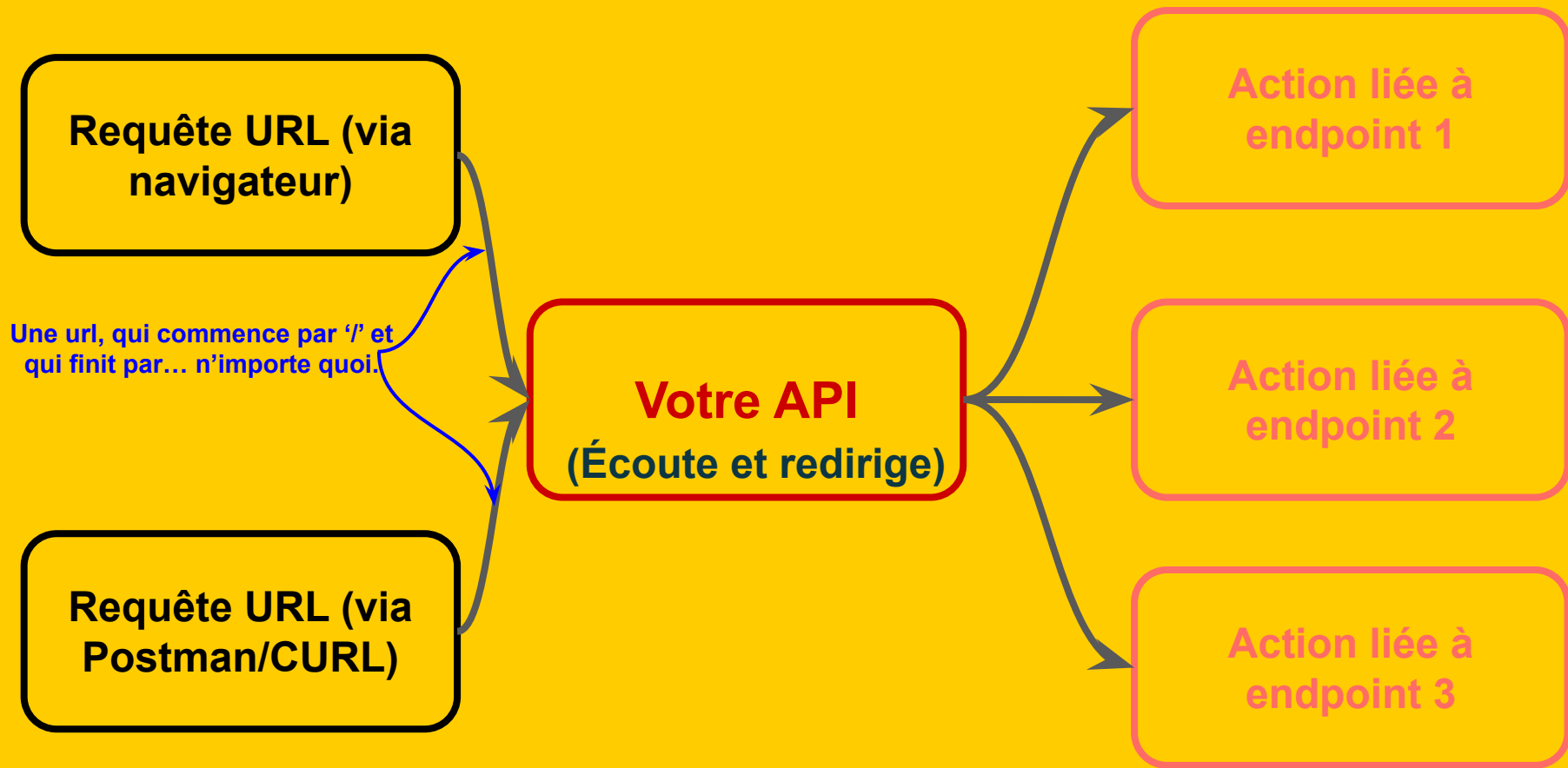


Web dev **training**

Exemple de requête

</**becode**>

Chaque requête sur un endpoint correspond une action sur l'API



Un *endpoint* est une adresse url à laquelle donne accès l'API

dans un navigateur
<http://localhost:5000/home>
(ou <http://127.0.0.1:5000/home>)

API

Dans le terminal

```
curl -X POST  
"http://localhost:5000/test"
```

Ou dans postman...

Endpoint:

'/test'

```
app.post('test',  
handler...)
```

'/home'

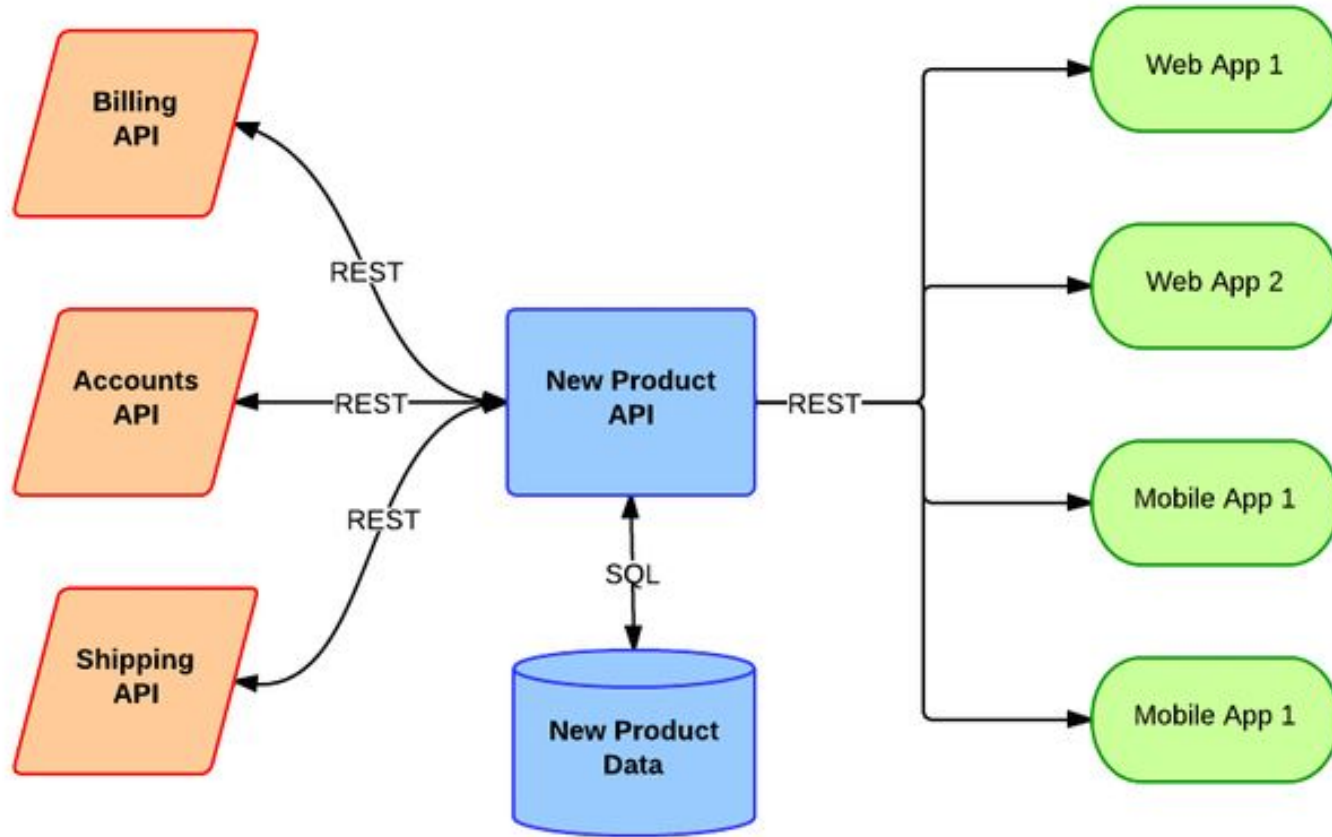
```
app.get('home',  
handler...)
```

Web dev **training**

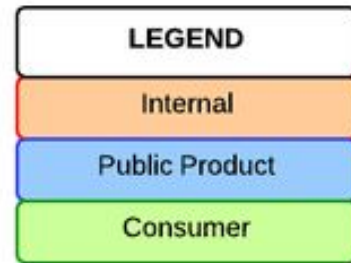
Exemple d'app utilisant
plusieurs APIs

</**becode**>

In some companies, they create one big API which communicate with others internal APIs



Can you understand this schema?



Ex: Amazon

