Interaction with API

API (Application Program Interface) is the most used method for a client application such as mobile application to interact with web services or servers.

In this example, we will interact with a third-party free API and create our own simple REST API which handle database operation. Then, we will use and access these APIs via our flutter mobile app.

1. Setup the MySQL database and Apache web server

* Install either Xampp or Wamp package.
* Run the Apache Web Server service and MySQL database service.
* Create database on MySQL named **dbExpense** – Use PhpMyadmin or MySQL Workbench
* Create a table named expenses that has the following attributes:

A screenshot of a computer

Description automatically generated

* Open the Xampp/Wamp installation directory and find htdocs folder.
* Create a folder name it as api.
* Inside the created folder, create PHP file named it as expenses.php
* Install and use any file authoring tool such as Notepad++ or Visual Studio code to edit the php file.

1. Develop the REST API in expenses.php

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* The PDO (PHP Data Object) will establish connection to our database
* This php program will receive and process HTTP request with method POST or GET.
* If the request header contains Content-Type=application/json it will parse the request body data into object.
* By default, the response code is set to **404** using http\_response\_code()
* When the code execution goes into POST or GET the response code will be changed accordingly so that if the code does not go into any of the specified conditions it means that the process requested is not available hence not found (http error code 404).
* While technically it is possible for us to set any code we want but it is important to use the globally recognized standard HTTP response code <https://developer.mozilla.org/en-US/docs/Web/HTTP/Status>. Commonly used: 200 (good/success), 400 (bad request, invalid data etc), 500 (internal server error, database error etc).



- Install and use any file authoring tool such as Notepad++ or Visual Studio code to edit the php file

- Create database on MySQL named dbStudent – Use PhpMyadmin or MySQL Workbench tool

- Create a table named students that has the following attributes:

• stud\_name (text)

• stud\_no (varchar)

• stud\_gender(varchar)

• stud\_state(varchar)

• stud\_dob(date)

2) Create the REST api via PHP program