**API**

**What is api**

Api stand for application programming interface

Api is a mechanism by using which one type application can communicate with another

Application.

In general api is vary big topic.

Api are used by different application to date , from one platform to another platform

Woldometer.com corona virus api

Api application A B C D E F can utilise the api of worldometer.com to get live update of corona

1. Interoperability : conversion of one type of language to same common language so that data can be exchanged without directly converting the one language to another language .
2. Interoperability refer to shearing of data from one application to another application without changing native language by mean of some common interconversion language OR
3. Shearing of data form one app to another app without directly converting the native language is called interoperability

FOR EG:

Android ---🡪json 🡪java

Python --🡪 json --🡪java

Python-🡪json --🡪 php

Php----🡪json--🡪 sql

Main features of interoperability is platform indepent nature

Php ---(serialisation /json Encoding )🡪 JSON -🡪(deserialization /JSON Dcode)🡪SQL

serialisation /json Encoding: converting one type PL. to JSON OBJECT

deserialization /JSON Dcode: converting JSON type to one type of data type of PL

EG:-

Php🡪 jSON\_ENCODE()--🡪 json (serialisation)

Associative array ----🡪 JSON

Lson --🡪 json\_decode() associative array . (De-serialisation)

**What is web-service**

Any type of service access over the internet is termed as web-service , it can be any type of service and can use any protocol

What is web-api ?

The api which can be accessed only via interface or internet as a medium is called as web-api

Java application ------🡪 oracle local DB

localDriver Api

game Application ------------------🡪 sound Driver

audio Api

every web-api is api but not every api is web-api

what is soap ?.

it is type of web-api which can be used to transport data represent the data , in from simpleObject access protocol which used XML data representation

Eg:-

<xml:nmps=”version/xml-document-4”>

<xml : Envelope>

<user id=”1”>

<email>[abhi@gmail.com</email](mailto:abhi@gmail.com%3c/email)>

<password>1234</password>

</user>

</Envelope>

</xml>

Used for very heavy data transmission

Soap in highly scalable

Soap is secure , why because you have access nth node for access real data node

Soap architecture can very very deep that it can be very complex to handle

What is rest ?.  
rest : stand for representation state transfer

It is type of web -api which works under http protocol

Its representation is always in json format

Is will very very light weight ,

Easy to Handle , due to organised data structure in from of key and value pairs

Rest api work on the basis HTTP METHOD

Request :get

Request :post

Request :options

Request :PATCH

Request :PUT

Request :DELETE

Request :LOCK

Request :HEAD

“type”:”GET”.

“vesion”:”1.0.1”,

“status”:true,

“error”: false

“code”:200;

“data”:[

{“empid”:1001,”name”:abhi,”salary”:10000},

{“empid”:1001,”name”:abhi,”salary”:10000},

{“empid”:1001,”name”:abhi,”salary”:10000},

{“empid”:1001,”name”:abhi,”salary”:10000},

]

“keword”,[],

}

What is postman ?.

Postman is the client tool to send pure http request to send to server . and testing api’s

Postman has set of http method to intersepct the rest API by using GET ,POST ,PUT,PATCH ,DELETE…

And also has different payload which can be binded as header ,and body content

What is difference b/w rest & soap

Rest Soap

1. Representational state transfer Simple object access protocol
2. Uses lower bandwith Uses higher bandwith
3. Its follows web-standards related http protocol Its follow xml structure and convention

Based on envelops and web-standards

1. Lower security higher security
2. Easy to handle ,easy to deserialise and serialise Very difficult to handle
3. Data representation is in json yml Data representation is I XML

API related terms:-

1. http method :these are set of method which are defined to preform some unique operation
2. In rest API http method are equivalent DB operation

C : Create the data HTTP / 1.1 POST

R : Read the data HTTP / 1.1 GET

U : Update the data HTTP /1.1 PUT AND PATCH

PUT : Full update

PATCH: Partial update

D : Delete the data HTTP / 1.1 DELETE

HTTP has two version 1.1 and 2.1

Headers : are the type of payload (information) attached to request before data .

Header can contain information like ,http status :200, or 404, 500

Header has contain information like content type : text /html content type: application /json

Content type : image /json all these are called MIME types.

Header has allowed methods : GET , POST ,….

Header can be used to check if request are Authentic or Not

Header can be used to enable cores policy (content origin request security policy )

Body Content : it refer to form data ,supplied from form , or any client like postman

Type of Body data

1. Formdata : form
2. Urlencoded : data
3. www-encoded : data
4. row data : Json

Array

(

[DOCUMENT\_ROOT] => C:\laragon\www\App20-21\crud\API

[REMOTE\_ADDR] => ::1

[REMOTE\_PORT] => 60894

[SERVER\_SOFTWARE] => PHP 7.4.19 Development Server

[SERVER\_PROTOCOL] => HTTP/1.1

[SERVER\_NAME] => localhost

[SERVER\_PORT] => 7000

[REQUEST\_URI] => /api.php

[REQUEST\_METHOD] => GET

[SCRIPT\_NAME] => /api.php

[SCRIPT\_FILENAME] => C:\laragon\www\App20-21\crud\API\api.php

[PHP\_SELF] => /api.php

[HTTP\_HOST] => localhost:7000

[HTTP\_CONNECTION] => keep-alive

[HTTP\_CACHE\_CONTROL] => max-age=0

[HTTP\_SEC\_CH\_UA] => " Not;A Brand";v="99", "Google Chrome";v="97", "Chromium";v="97"

[HTTP\_SEC\_CH\_UA\_MOBILE] => ?0

[HTTP\_SEC\_CH\_UA\_PLATFORM] => "Windows"

[HTTP\_UPGRADE\_INSECURE\_REQUESTS] => 1

[HTTP\_USER\_AGENT] => Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.99 Safari/537.36

[HTTP\_ACCEPT] => text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,\*/\*;q=0.8,application/signed-exchange;v=b3;q=0.9

[HTTP\_SEC\_FETCH\_SITE] => none

[HTTP\_SEC\_FETCH\_MODE] => navigate

[HTTP\_SEC\_FETCH\_USER] => ?1

[HTTP\_SEC\_FETCH\_DEST] => document

[HTTP\_ACCEPT\_ENCODING] => gzip, deflate, br

[HTTP\_ACCEPT\_LANGUAGE] => en-GB,en-US;q=0.9,en;q=0.8

[REQUEST\_TIME\_FLOAT] => 1644037140.7473

[REQUEST\_TIME] => 1644037140

)