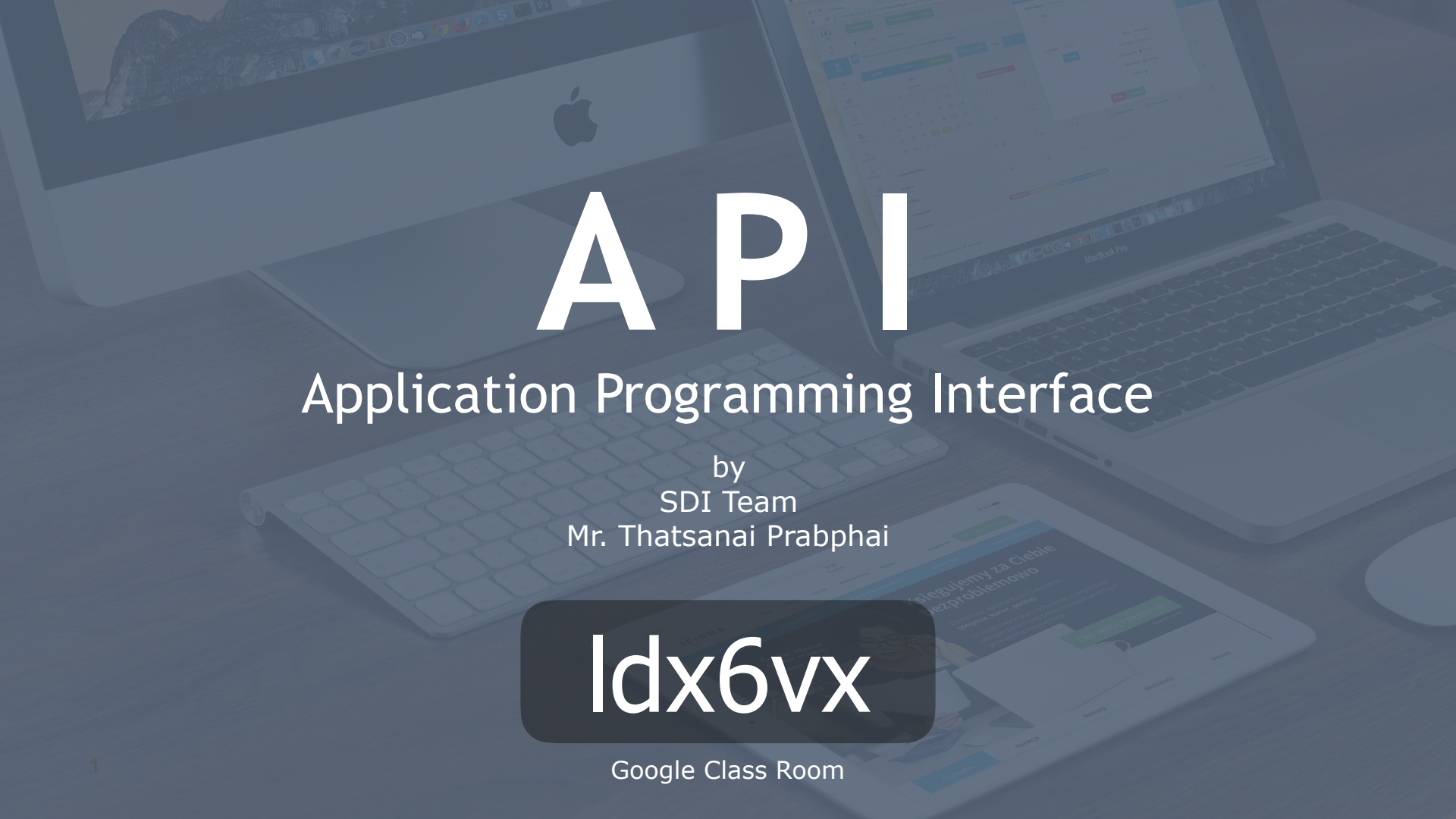


A P I

Application Programming Interface

by
SDI Team
Mr. Thatsanai Prabphai

ldx6vx

Google Class Room

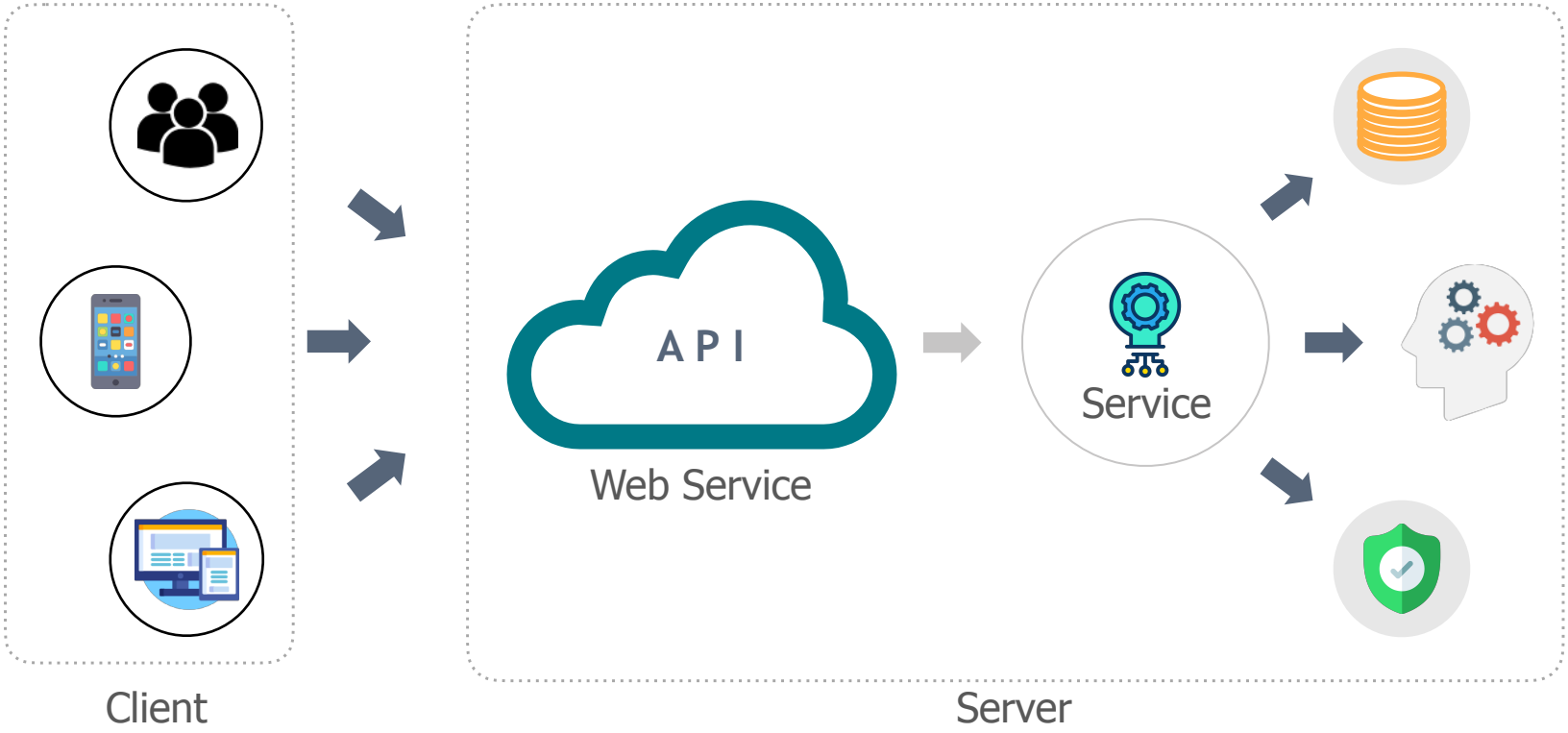
Content


A P I
Standard API
Secure API
Content
Postman
Flask
Python

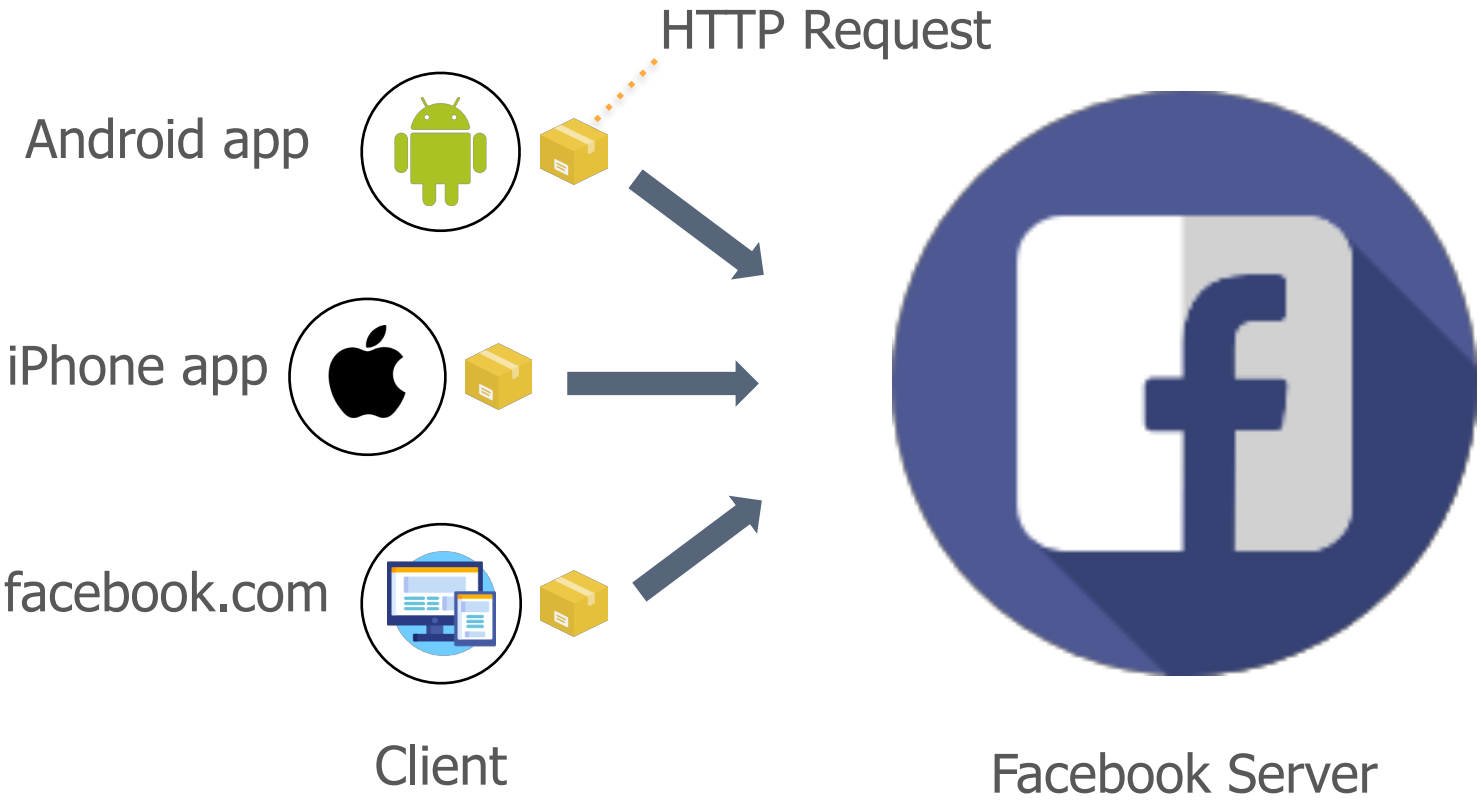

Flask
web development,
one drop at a time

What is API

API :: Application Programming Interface



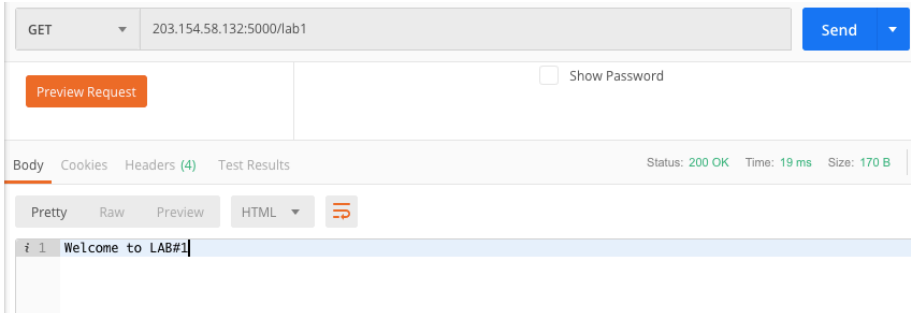
What is API

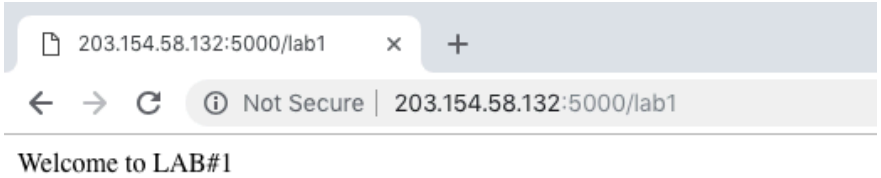

HTTP Request
Android app
iPhone app
facebook.com
Client
Facebook Server

Lab #1

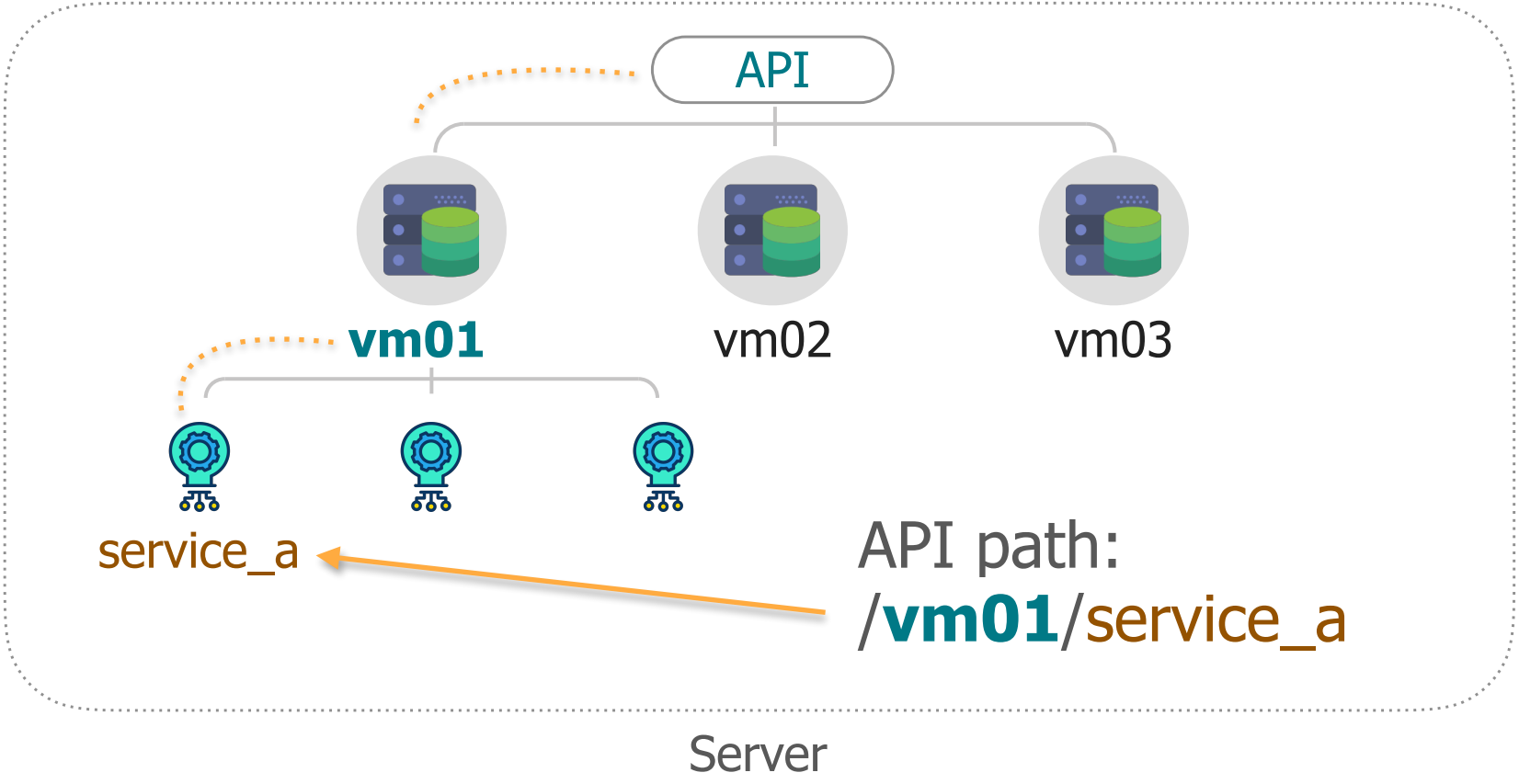
Try to shoot API to get response TEXT by following.

1. Open Browser or Postman(GET)
2. Go to http://203.154.58.132:5000/lab1





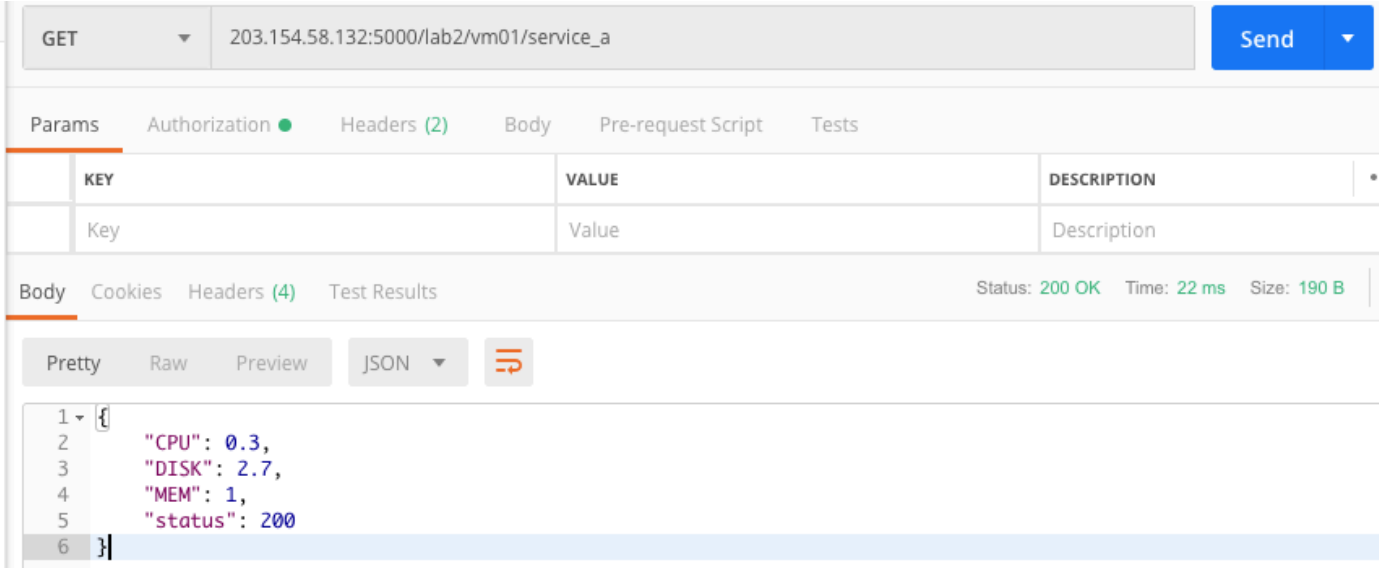
What is API



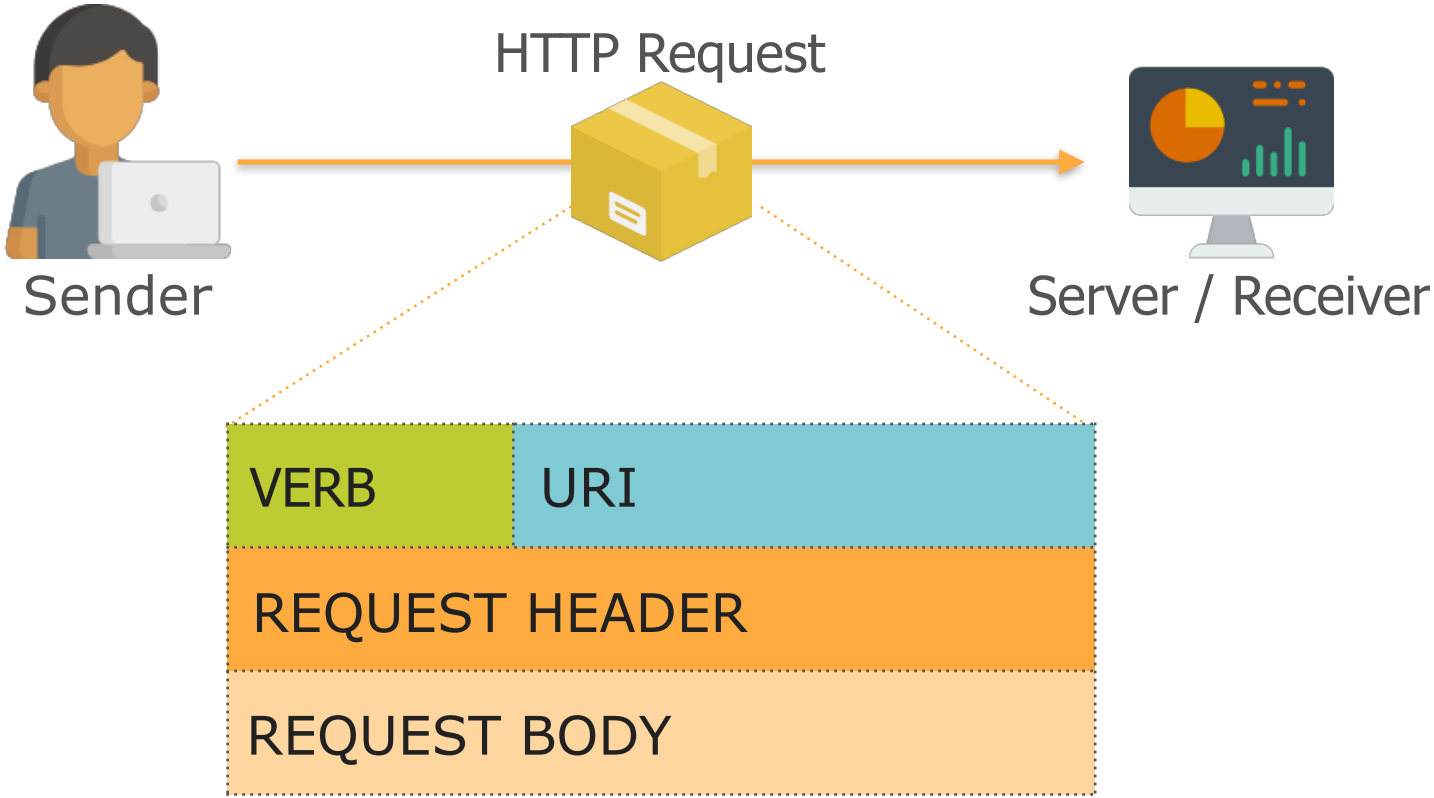
Lab #2

Try to shoot API to get response from “service_a” by following.

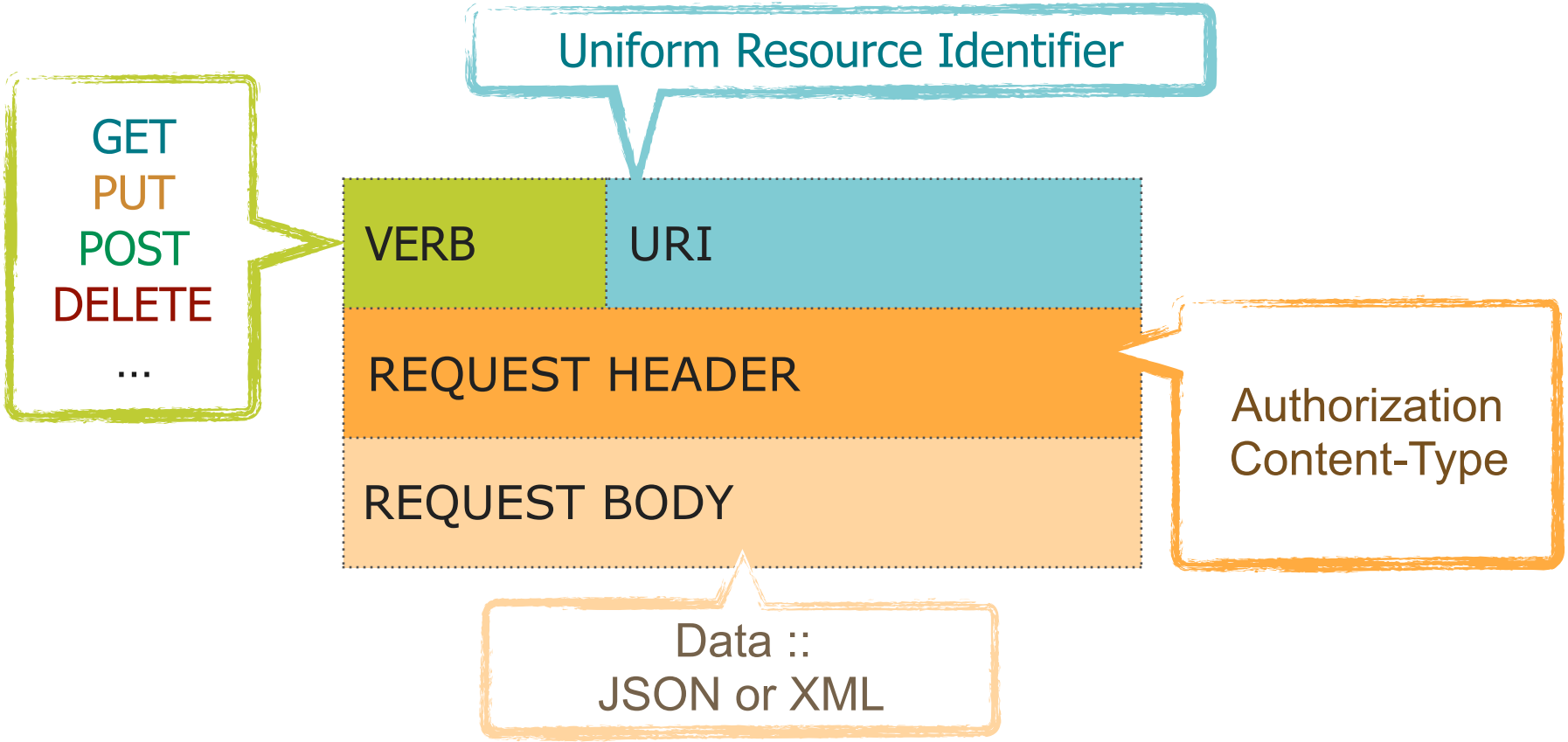
1. Open Browser or Postman(GET)
2. Go to http://203.154.58.132:5000/lab2/vm01/service_a



What is API : HTTP Request



What is API : HTTP Request



What is API : HTTP Request

GET
PUT
POST
DELETE

/users
/resource/vm01

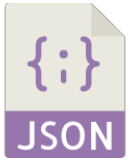
VERB | URI

REQUEST HEADER

REQUEST BODY

Key-value

Body

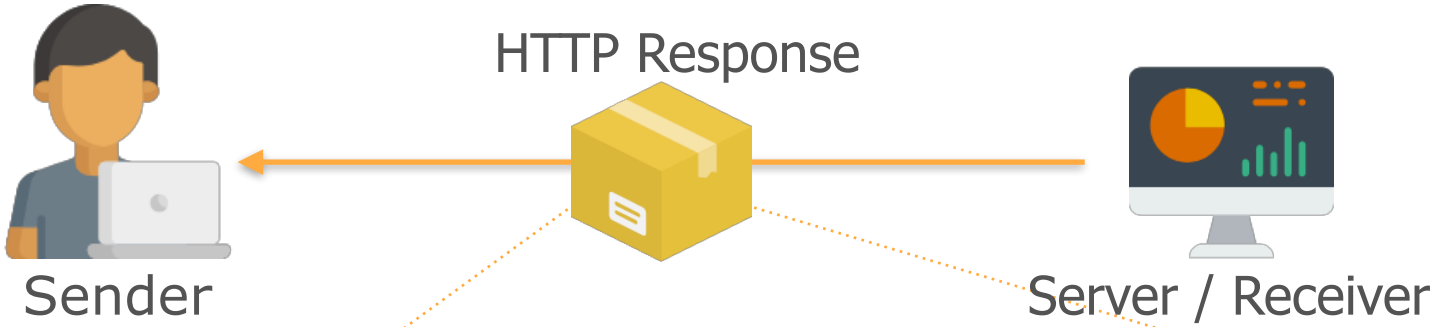


Authorization: Credential

Authorization: Basic
WdASqwsaRRSxawsitlth==SZq22

Content-Type: application/JSON

What is API : HTTP Response



2xx: Success
4xx: Client Error
5xx: Server Error

RESPONSE STATUS CODE	RESPONSE TYPE
RESPONSE HEADER	
RESPONSE BODY	

Response : Response status code

2xx: Success

200 OK

201 Created

202 Accept

204 No Content

4xx: Client Error

400 Bad Request

401 Unauthorized

404 No Found

405 Method Not Allowed

5xx: Server Error

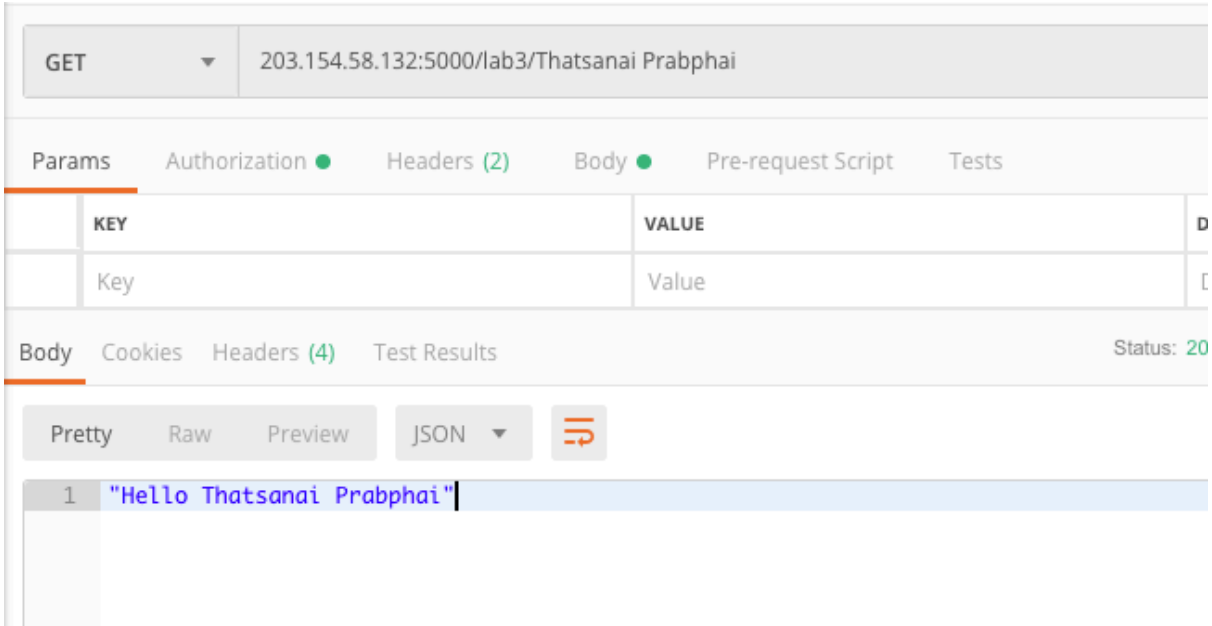
500 Internal Server Error

503 Service Unavailable

Lab #3

Try to send your name to API.

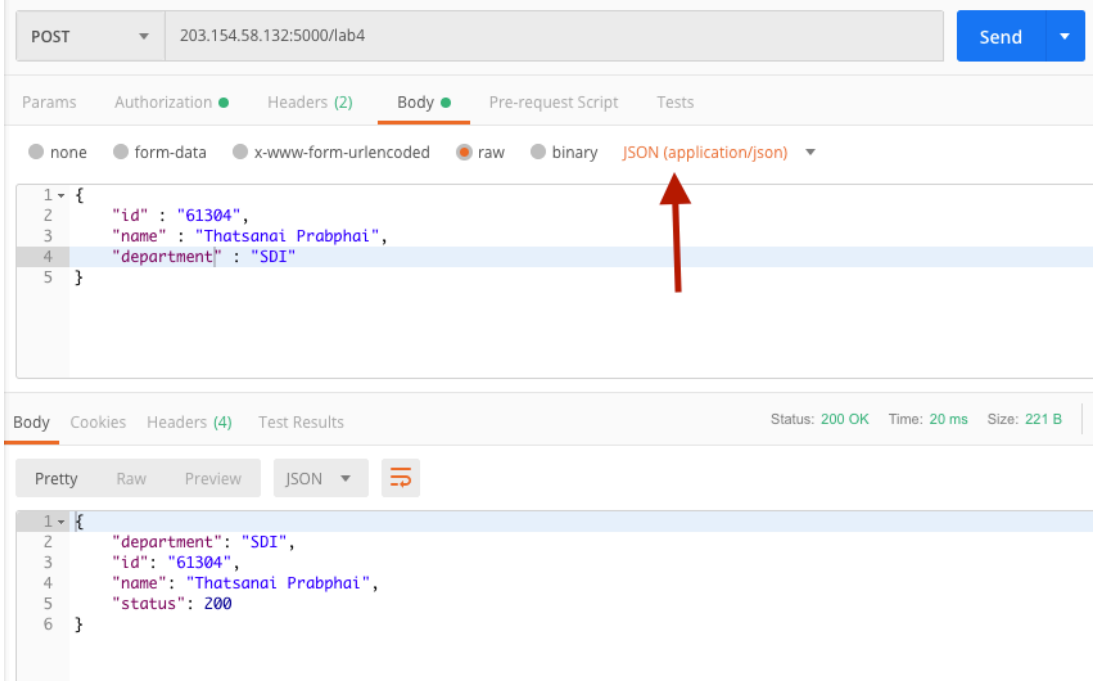
GET https://203.154.58.132/lab3/"YOUR NAME"



Lab #4

Try to send your name to API.

POST https://203.154.58.132/lab4



Response : Response status code

GET 203.154.58.132:5000/lab2/vm01/service_a Send

Params Authorization Headers (2) Body Pre-request Script Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body Cookies Headers (4) Test Results Status: 200 OK Time: 22 ms Size: 190 B

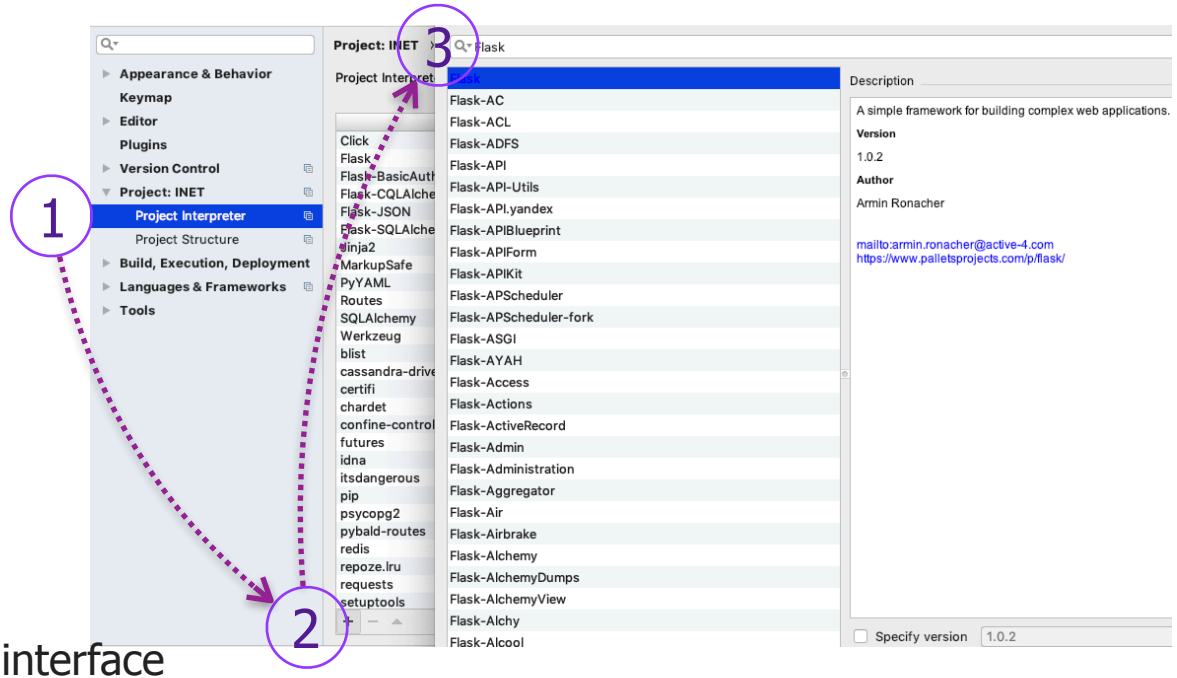
Pretty Raw Preview JSON

```
{
    "CPU": 0.3,
    "DISK": 2.7,
    "MEM": 1,
    "status": 200
}
```

Install Flask

Flask is WSGI toolkit.

NOTE:
WSGI is Web server gateway interface



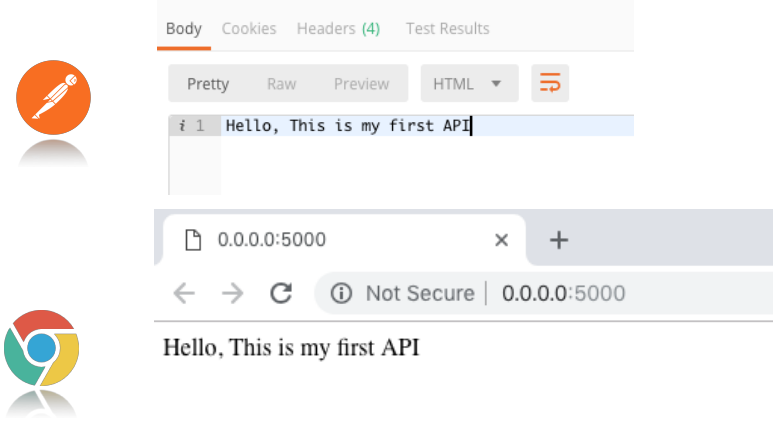
Lab #5

Create your first "API" by Flask.

```
from flask import Flask

my_app = Flask(__name__)


@my_app.route("/")
def myFirstApi():
    return "Hello, This is my first API"


my_app.run(host="0.0.0.0")
```

GUID:

1.Import Flask framework.
2.Coding by following.
3.Run your code.
4.Try use Postman(GET) or Web browser
http://0.0.0.0:5000/

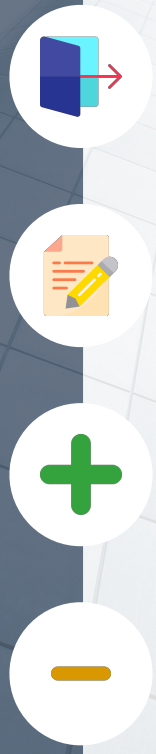



{RESTful API}

API

GET	/get_all_users
GET	/get_user/{username}
PUT	/update_user/{username}
POST	/create_user/{username}
DELETE	/delete_user/{username}

RESTful API



Action	Resource
GET	/users
GET	/users/{username}
PUT	/users/{username}
POST	/users/{username}
DELETE	/users/{username}

Request :: Verb

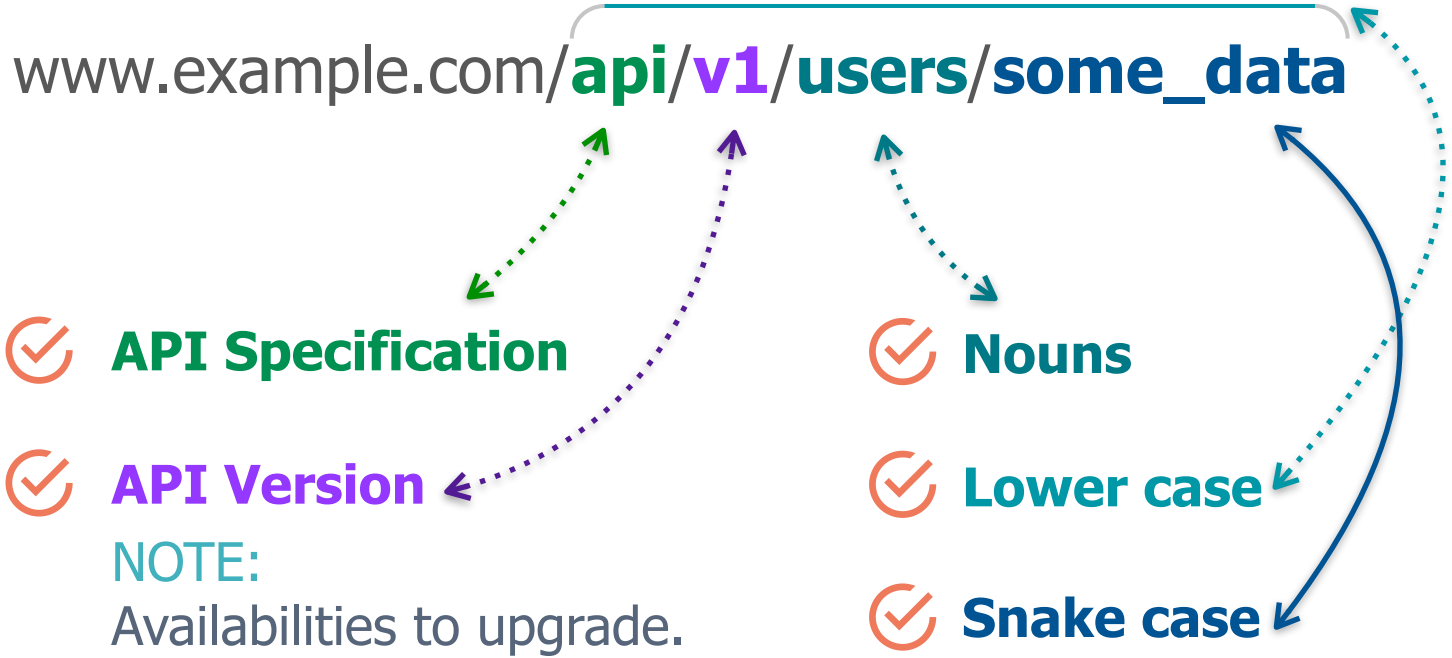
GET
Get the data.

POST
Create the data.

PUT
Edit the data.

DELETE
Delete the data.

Path design


www.example.com/api/v1/users/some_data
API Specification
API Version
NOTE:
Availabilities to upgrade.
Nouns
Lower case
Snake case

Lab #6

Create your "API" by Flask.

Solution:

1. Design your API path to get CPU, MEM and Disk usage follow by principal.
2. Develop your code to get our CPU, MEM and Disk usage.
3. Run your script.
4. Try use Postman(GET) to get CPU, MEM and Disk usage of your computer.


Secure API
by Basic Authentication

Secure API by BasicAuthen

Flask-BasicAuth is a Flask extension that provides an easy way to protect certain views or your whole application with HTTP basic access authentication.

```
pip install Flask-BasicAuth
```

Secure API by BasicAuthen

Set username
Set password

Setup
Basic Authentication
parameter.

Set required
username/password.

```
from flask import Flask
from flask_basicauth import BasicAuth

app = Flask(__name__)

app.config['BASIC_AUTH_USERNAME'] = 'sdi'
app.config['BASIC_AUTH_PASSWORD'] = 'admin'

secure_my_api = BasicAuth(app)

@app.route('/')
@secure_my_api.required
def securedByBasicAuth():
    return "Hello, You're passed the authentication."

app.run(host="0.0.0.0")
```

Lab #7

Create your "API" by Flask.

1. Design your username/password.
2. Secure all of your API.

Thanks for Attention