Project Development Phase Sprint IV

Date	14 November 2022
Team ID	PNT2022TMID21418
Project Name	Signs with smart connectivity for Better road safety

Code for print the random temperature, Road signs, Speed limit, Message :

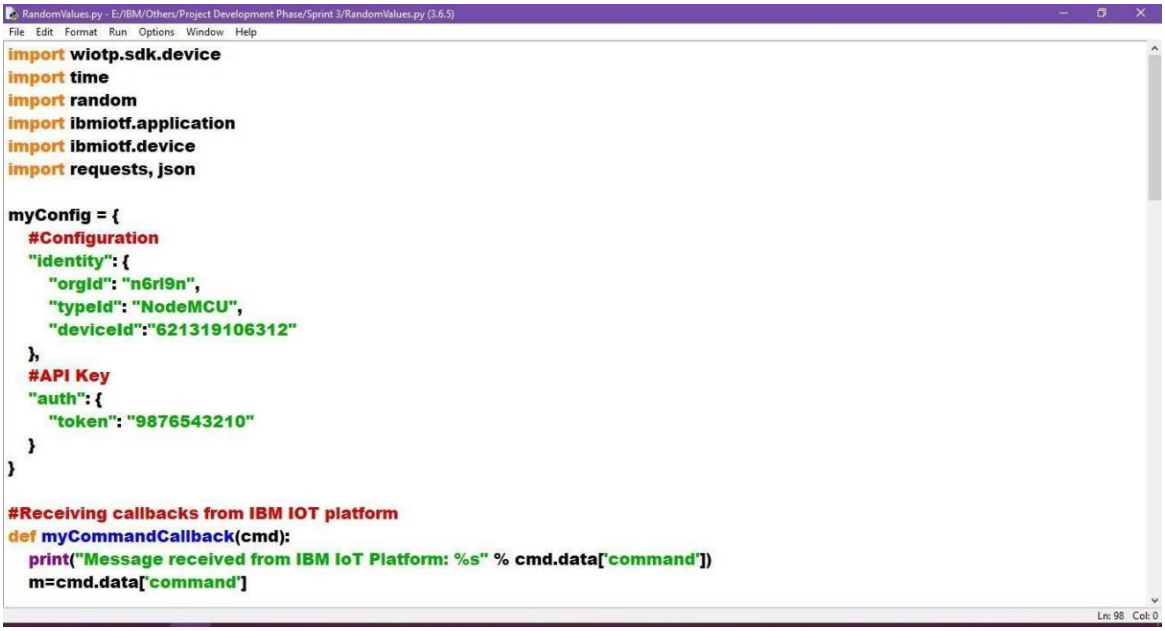
(RandomValues.py)

```
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device
import requests, json

myConfig = {
    #Configuration
    "identity": {
        "orgId": "n6rl9n",
        "typeId": "NodeMCU",
        "deviceId":"621319106312"
    },
    #API Key
    "auth": {
        "token": "9876543210"
    }
}

#Receiving callbacks from IBM IOT platform
def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
```

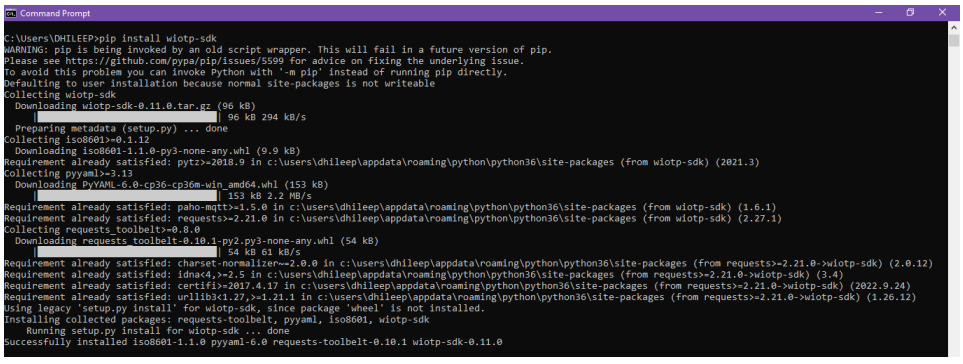
```
#OpenWeatherMap Credentials
BASE_URL = "https://api.openweathermap.org/data/2.5/weather?"
CITY = "Salem, IN"
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid=" + "f58e4720c739a54c439aba9b05176839"

while True:
    response  =  requests.get(URL)
    if response.status_code == 200:
        data = response.json()
       main = data['main']
       temperature = main['temp']
       humidity = main['humidity']
       pressure = main['pressure']
       report = data['visibility']

       #messge part
       msg=random.randint(0,5)
       if msg==1:
           message="GO SLOW, SCHOOL ZONE AHEAD"
       elif msg==2:
           message="NEED HELP, POLICE STATION AHEAD"
       elif msg==3:
           message="EMERGENCY, HOSPITAL NEARBY"
       elif msg==4:
           message="DINE IN, RESTAURENT AVAILABLE"
       elif msg==5:
           message="PETROL BUNK NEARBY"
       else:
           message=""

        #Speed Limit part
       speed=random.randint(0,150)
       if speed>=100:
           speedMsg=" Limit Exceeded"
       elif speed>=60 and speed<100:
           speedMsg="Moderate"
       else:
            speedMsg="Slow"

        #Diversion part
       sign=random.randint(0,5)
       if sign==1:
           signMsg="Right Diversion"
       elif sign==2:
           signMsg="Speed Breaker"
       elif sign==3:
           signMsg="Left Diversion"
       elif sign==4:
           signmsg="U Turn"
        else:
             signMsg=""

         #Visibility
        if temperature < 24:
            visibility="Fog Ahead, Drive Slow"
        elif temperature < 20:
            visibility="Bad Weather"
        else:
            visibility="Clear Weather"
    else:
       print("Error in the HTTP request")
```

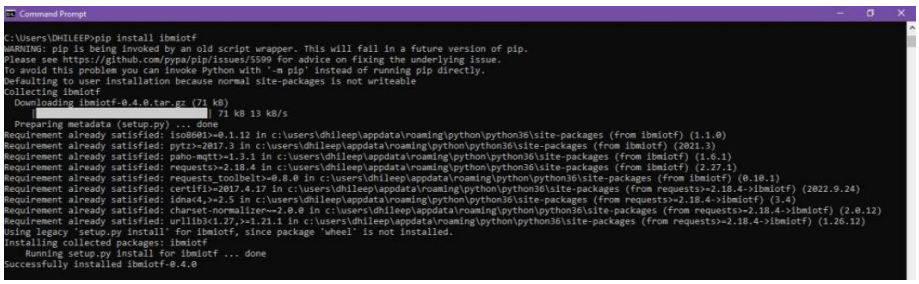
```
    myData={'Temperature':temperature, 'Message':message, 'Sign':signMsg, 'Speed':speedMsg,
'Visibility':visibility}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
#PUBLISHING TO IOT WATSON
    print("Published data Successfully: ", myData)
    print("————————————————————————————————————————————————————————————————————————————————
————————————————————————————————————————————————————————————————————————————————")
    client.commandCallback = myCommandCallback
    time.sleep(5)
client.disconnect()
```

Python Simulation :

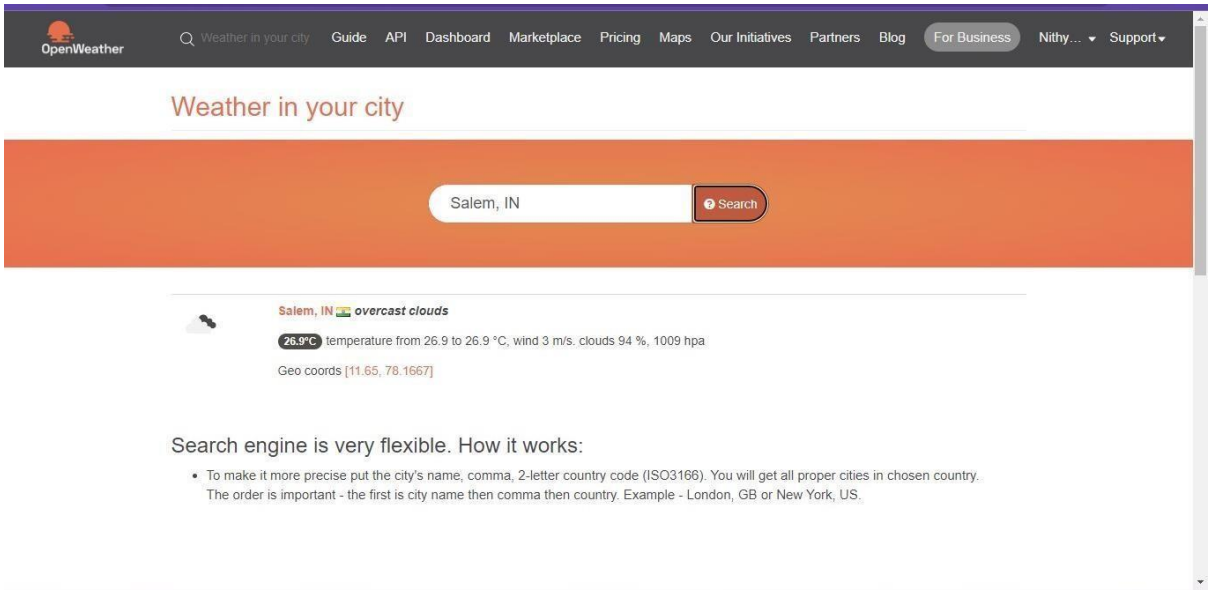


Import wiotp-sdk & ibmiotf :





OpenWeatherMap - (Ex., Salem, IN) :



Python IDLE Output :