Project Development -Delivery of Sprint-1

Date	29 Oct 2022
Team ID	PNT2022TMID20496
Project Name	Project -Smart farmer-IOT enabled smart Farming Application

Python Code:

```
#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

import time

import random

import requests, json


ms=0

api_key = "a0db30a689a774b93ffcb58ef2eddfda"


base_url = "http://api.openweathermap.org/data/2.5/weather?"


city_name = 'Chennai, IN'


complete_url = base_url + "appid=" + api_key + "&q=" + city_name


status='motor off'

myConfig = {

   "identity": {

      "orgId": "17lsro",
```

```
        "typeId": "MyDeviceType",
        "deviceId":"12345"
    },
    "auth": {
        "token": "GkatKdiUS?UVHKvnAD"
    }
}


def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
    m=cmd.data['command']
    if(m=="MOTOR ON"):
        print("MOTOR  IS ON")
        global status
        status='motor on'
        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}
        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
        print("Published data Successfully: %s", myData)


        time.sleep(2)


    elif(m=="MOTOR OFF"):
        print("MOTOR IS OFF")
```

```
        status='motor off'
        myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}
        client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
        print("Published data Successfully: %s", myData)


        time.sleep(2)



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


while True:
    response = requests.get(complete_url)
    x = response.json()
    if x["cod"] != "404":




        y = x["main"]



        api_temperature = y["temp"]
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```
        api_pressure = y["pressure"]



        api_humidity = y["humidity"]



        z = x["weather"]



        api_weather_description = z[0]["description"]


    temp=random.randint(-20,125)

    hum=random.randint(0,100)

    soilmoisture=random.randint(0,1023)#analog sensor

    sm_percentage=(soilmoisture/1023)*100

    sm_percentage=int(sm_percentage)

    myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':
api_temperature,'api_pressure':api_pressure,'api_humidity':api_humidity,'api
_weather_description':api_weather_description}

    client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)

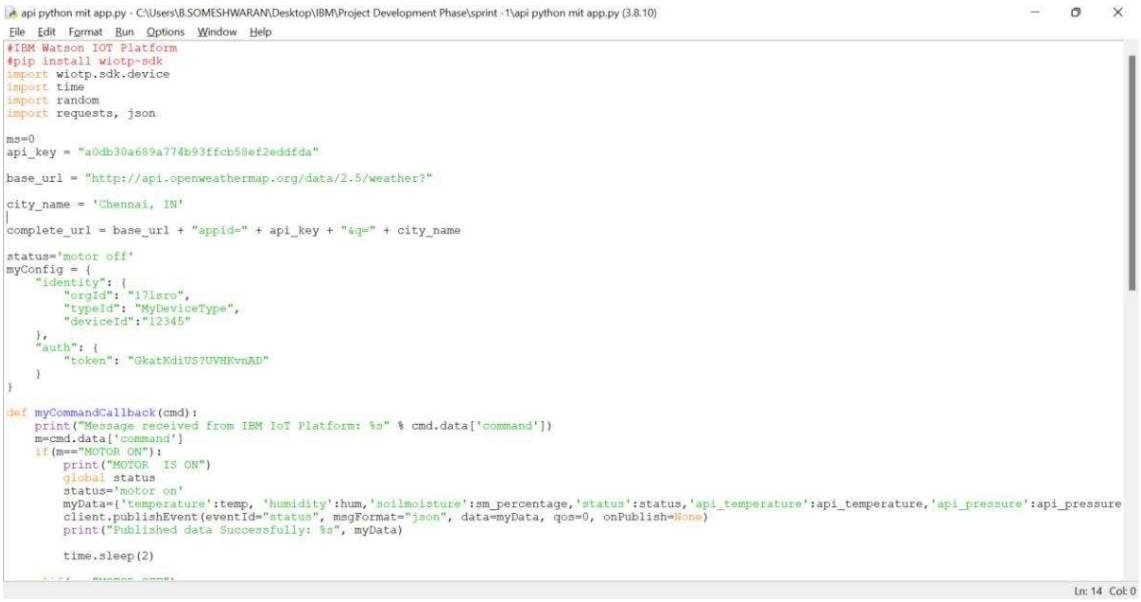
    print("Published data Successfully: %s", myData)

    client.commandCallback = myCommandCallback

    time.sleep(2)
```

time.sleep(2)

client.disconnect()



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    sm_percentage=int(sm_percentage)
    myData={'temperature':temp, 'humidity':hum,'soilmoisture':sm_percentage,'status':status,'api_temperature':api_temperature,'api_pressure':api_pressure,'ap
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)

time.sleep(2)
client.disconnect()
```

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Running of Python Code