

PROJECT DEVELOPMENT-DELIVERY OF SPRINT PHASE 1

DATE	18 NOVEMBER 2022
TEAM ID	PNT2022TMID18233
PROJECT NAME	Name Project – Smart Farmer-IoT Enabled smart Farming Application

PYTHON CODE:

```
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",
        "type": "device",
        "id": "17lsro"
    },
    "auth": {
        "token": "17lsro"
    }
}
```

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    "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()
```

```
IDLE Shell 3.8.10*
File Edit Shell Debug Options Window Help
Python 3.8.10 (tags/v3.8.10:3d8993a, May 3 2021, 11:48:03) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\B.SOMESHWARAN\Desktop\IBM\Project Development Phase\sprint -l\api python mit app.py
2022-11-13 10:02:58,056 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:17lsro:MyDeviceType:12345
Published data Successfully: {{"temperature": 122, "humidity": 88, "soilmoisture": 11, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": -17, "humidity": 4, "soilmoisture": 97, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 29, "humidity": 36, "soilmoisture": 96, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 81, "humidity": 68, "soilmoisture": 90, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 10, "humidity": 4, "soilmoisture": 3, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 32, "humidity": 53, "soilmoisture": 35, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": -17, "humidity": 99, "soilmoisture": 81, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 116, "humidity": 58, "soilmoisture": 52, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 21, "humidity": 4, "soilmoisture": 77, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}

= RESTART: C:\Users\B.SOMESHWARAN\Desktop\IBM\Project Development Phase\sprint -l\api python mit app.py
2022-11-13 10:03:19,663 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:17lsro:MyDeviceType:12345
Published data Successfully: {{"temperature": 59, "humidity": 13, "soilmoisture": 36, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": -20, "humidity": 40, "soilmoisture": 54, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": -9, "humidity": 74, "soilmoisture": 24, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 27, "humidity": 96, "soilmoisture": 17, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 18, "humidity": 76, "soilmoisture": 96, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 28, "humidity": 69, "soilmoisture": 94, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}
Published data Successfully: {{"temperature": 6, "humidity": 72, "soilmoisture": 98, "status": "motor off", "api_temperature": 298.14, "api_pressure": 1014, "api_humidity": 94, "api_weather_description": "light intensity drizzle"}}

In: 17 Col: 0
```