Developing a Python Script

Team ID	PNT2022TMID46724
Project Name	Smart farmer-IoT enabled smart farming application

Python Code:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


organization = "q9u3me"
deviceType = "abimaneu"
deviceId = "abimaneu123"
authMethod = "token"
authToken = "123456789"


def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    else :
        print ("please send proper command")

try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":
authMethod, "auth-token": authToken}
        deviceCli = ibmiotf.device.Client(deviceOptions)


except Exception as e:
        print("Caught exception connecting device: %s" % str(e))
        sys.exit()


deviceCli.connect()

while True:
```

```
        soil=random.randint(0,100)
        temp=random.randint(-20,125)
        Humid=random.randint(0,100)

        data = { 'soil' : soil, 'temp' : temp, 'Humid': Humid }

        def myOnPublishCallback():
            print ("Published, Soil_moisture = %s %%" % soil, "Temperature = %s C" % temp,
"Humidity = %s %%" % Humid, "to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(10)

        deviceCli.commandCallback = myCommandCallback


deviceCli.disconnect()
```

Output In Python Shell:

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:/Users/kabilan/AppData/Local/Programs/Python/Python37/farming.py
2022-11-15 15:09:52,397   ibmiotf.device.Client      INFO    Connected successfully: d:q9u3me:abimaneu:abimaneul23
Published, Soil_moisture = 50 % Temperature = 107 C Humidity = 30 % to IBM Watson
Published, Soil_moisture = 70 % Temperature = -17 C Humidity = 4 % to IBM Watson
Published, Soil_moisture = 51 % Temperature = 82 C Humidity = 11 % to IBM Watson
Published, Soil_moisture = 35 % Temperature = 12 C Humidity = 11 % to IBM Watson
Published, Soil_moisture = 74 % Temperature = 68 C Humidity = 9 % to IBM Watson
Published, Soil_moisture = 37 % Temperature = 120 C Humidity = 6 % to IBM Watson
```

IBM IOTPlatform Output:

Connection Information

Basic connection information about this device.

Device ID	abimaneu123
Device Type	abimaneu
Date Added	Nov 15, 2022 1:12 AM
Added By	abimansakthi@gmail.com
Connection Status	**Connected** Connection Time: Nov 15, 2022 1:39 AM Client Address: 113.30.176.66 SecureToken

Event	Value	Format	Last Received
IoTSensor	{"soil":35,"temp":12,"Humid":11}	json	a few seconds ago
IoTSensor	{"soil":51,"temp":82,"Humid":11}	json	a few seconds ago
IoTSensor	{"soil":70,"temp":-17,"Humid":4}	json	a few seconds ago
IoTSensor	{"soil":50,"temp":107,"Humid":30}	json	a few seconds ago
IoTSensor	{"soil":77,"temp":13,"Humid":58}	json	a minute ago