

DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM

Date	24 September 2022
Team ID	PNT2022TMID21337
Project Name	Project – Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Code:

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

#Provide your IBM Watson Device Credentials
organization = "obbnyv"
deviceType = "raspberrypi"
deviceId = "123456789"
authMethod = "token"
authToken = "12345678910"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led 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()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event
of type "greeting" 10 times
deviceCli.connect()

while True:
```

#Get Sensor Data from DHT11

```
temp=random.randint(90,110)
Humid=random.randint(60,100)

data = { 'temp' : temp, 'Humid': Humid }
#print data
def myOnPublishCallback():
    print ("Published 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 IoT")
        time.sleep(10)

deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

The screenshot displays the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area shows a table of devices. The first device listed has ID '123456789', status 'Connected', device type 'raspberrypi', class ID 'Device', and was added on 'Oct 29, 2022 12:54 PM'. Below the table, the 'Recent Events' tab is selected, showing a table of events. The first event is from 'IoTSensor' with a value of '["temp":94,"Humid":65]' in 'json' format, received 'a few seconds ago'. A status box at the bottom right indicates '0 Simulations running'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
123456789	Connected	raspberrypi	Device	Oct 29, 2022 12:54 PM	

Event	Value	Format	Last Received
IoTSensor	["temp":94,"Humid":65]	json	a few seconds ago

0 Simulations running