DEVELOP A PYTHON SCRIPT

TO PUBLISH AND SUBSCRIBE TO IBM PLATFORM

Date	19 NOV 2022
Team ID	PNT2022TMID04737
Project Name	Project -Smart farmer-IOT enabled smart Farming Application

Step:1 Python Program

```python
#IBM Watson IOT Platform

#pip install wiotp-sdk

import wiotp.sdk.device

import time

import random


ms=0

status='light off'

myConfig = {
  "identity": {
    "orgId":"eegz11",
    "typeId": "MyDeviceType",
    "deviceId":"12345"
  },
  "auth": {
    "token": "GkatKdiUS?UVHKvnAD"
  }
}


def myCommandCallback(cmd):
```

```python
    print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])

  m=cmd.data['command']

  if(m=="MOTOR ON"):

    print("MOTOR  IS ON")

    status='motor on'

    myData={'temperature':temp,
'humidity':hum,'soilmoisture':sm_percentage,'status':status}

    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}

    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:

    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}

    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()
```

Step:2 Run the Program


```
*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 -1\python code ibm.py.txt
2022-11-10 11:33:11,239   wiotp.sdk.device.client.DeviceClient  INFO    Connected successfully: d:17lsro:MyDeviceType:12345
Published data Successfully: %s {'temperature': 29, 'humidity': 16, 'soilmoisture': 97}
Published data Successfully: %s {'temperature': 26, 'humidity': 12, 'soilmoisture': 67}
Published data Successfully: %s {'temperature': 13, 'humidity': 79, 'soilmoisture': 43}
Published data Successfully: %s {'temperature': 97, 'humidity': 15, 'soilmoisture': 22}
Published data Successfully: %s {'temperature': 41, 'humidity': 63, 'soilmoisture': 4}
Published data Successfully: %s {'temperature': -14, 'humidity': 66, 'soilmoisture': 68}
Published data Successfully: %s {'temperature': 3, 'humidity': 64, 'soilmoisture': 91}
Published data Successfully: %s {'temperature': 33, 'humidity': 68, 'soilmoisture': 6}
Published data Successfully: %s {'temperature': 33, 'humidity': 81, 'soilmoisture': 58}
```

Step:3 Go To IBM WATSON IOT Platform, Under The Devices See the Status of Output

← Back

Device Drilldown - 12345

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Recent Events

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	{"temperature":108,"humidity":75,"soilmoisture"...	json	a few seconds ago
status	{"temperature":-9,"humidity":27,"soilmoisture":...	json	a few seconds ago
status	{"temperature":1,"humidity":29,"soilmoisture":57}	json	a few seconds ago
status	{"temperature":115,"humidity":89,"soilmoisture"...	json	a few seconds ago
status	{"temperature":119,"humidity":45,"soilmoisture"...	json	a few seconds ago

State

This table shows a list of data points that are reported by this device.

← ⌁ **Showing Raw Data** | No Interfaces Available