## Develop A Python Script To Publish And Subscribe To IBM IoT Platform

## **TEAM ID: PNT2022TMID34341**

## **PYTHON CODE;** import ibmiotf.device import random #Provide your IBM Watson Device Credentials organization = "x0fxss" #replace the ORG ID deviceType = "Testing"#replace the Device type wi deviceId = "Testdevice1"#replace Device ID authMethod = "token" authToken = "123456789" #Replace the authtoken # Initialize GPIO #Receives Command from Node-red 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") elif status == "motor30" : print ("motor is on for 30 minutes") try: deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "authtoken": authToken} deviceCli = ibmiotf.device.Client(deviceOptions) except Exception as e:

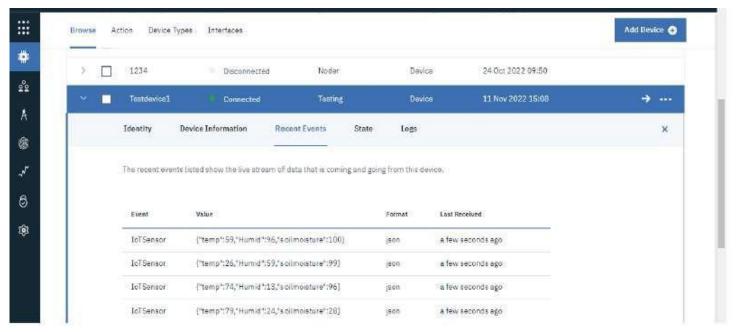
print("Caught exception connecting device: %s" % str(e))

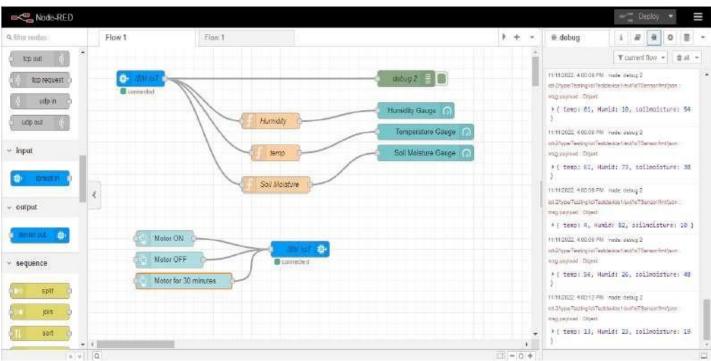
```
sys.exit() # Connect and send a datapoint "hello" with value "world" into the cloud as an event of type "greeting"
10 times
deviceCli.connect()
while True:
       #Get Sensor Data from DHT11
       temp=random.randint(0,100)
       Humid=random.randint(0,100)
       soilmoisture=random.randint(0,100)
       data = { 'temp' : temp, 'Humid': Humid, 'soilmoisture': soilmoisture }
                                                                             #print data
       def myOnPublishCallback():
               print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "soilmoisture = %s %%"
%soilmoisture, "to IBM Watson")
       success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on publish=myOnPublishCallback)
       if not success:
               print("Not connected to IoTF")
               time.sleep(5) deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
```

## **OUTPUT**:

deviceCli.disconnect()

```
*Python 3.7.0 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\charu\Downloads\ibmiotpublishsubscribe.py -----
2022-11-11 15:56:49,907 ibmiotf.device.Client
                                                             Connected successfully: d:x0fxss:Testing:Testdevicel
                                                     INFO
Published Temperature = 8 C Humidity = 44 % soilmoisture = 3 % to IBM Watson
Published Temperature = 13 C Humidity = 95 % soilmoisture = 43 % to IBM Watson
Published Temperature - 78 C Humidity - 83 % soilmoisture - 83 % to IBM Watson
Published Temperature = 100 C Humidity = 52 % soilmoisture = 60 % to IBM Watson
Published Temperature = 45 C Humidity = 93 % soilmoisture = 16 % to IBM Watson
Published Temperature = 53 C Humidity = 12 % soilmoisture = 59 % to IBM Watson
Published Temperature = 15 C Humidity = 49 % soilmoisture = 32 % to IBM Watson
Published Temperature = 37 C Humidity = 73 % soilmoisture = 25 % to IBM Watson
```









```
Published Temperature = 25 C Humidity = 32 % soilmoisture = 86 % to IBM Watson
Published Temperature = 27 C Humidity = 16 % scilmoisture = 26 % to IBM Watson
Command received: motoron
motor is on
Command received: motoron
motor is on
Published Temperature - 10 C Humidity - 69 % soilmoisture - 82 % to IBM Watson
Published Temperature = 75 C Humidity = 37 % soilmoisture = 2 % to IBM Watson
Published Temperature = 63 C Humidity = 59 % soilmoisture = 11 % to IBM Watson
Published Temperature - 31 C Humidity - 20 % soilmoisture - 43 % to IBM Watson
Published Temperature = 47 C Humidity = 38 % soilmoisture = 95 % to IBM Watson
Published Temperature = 62 C Humidity = 5 % soilmoisture = 93 % to IBM Watson
Command received: motoroff
motor is off
Command received: motor30
motor is on for 30 minutes
Published Temperature - 19 C Humidity - 99 % soilmoisture - 96 % to IBM Watson
Published Temperature = 6 C Humidity = 56 % soilmoisture = 85 % to IBM Watson
```