

**CODE:**

```
import time

import sys

import ibmiotf.application
import ibmiotf.device

import random


#Provide your IBM Watson Device Credentials

organization = "ncgqpp"

deviceType = "arduino"

deviceId = "12345"

authMethod = "token"

authToken = "1234567890"


# Initialize GPIO

def myCommandCallback(cmd):

    print("Command received: %s" % cmd.data['command'])

    print(cmd)


    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()
```

```
# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type  
"greeting" 10 times
```

```
deviceCli.connect()
```

```
time.sleep(2)
```

```
def myOnPublishCallback():
```

```
    print ("Published Temperature = %s C" % temp, "Humidity = %s %" % pulse, "SoilMoisture = %s  
%" % soil, "to IBM Watson")
```

```
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=None)
```

```
    time.sleep(1)
```

```
while True:
```

```
    #Get Sensor Data from DHT11
```

```
    temp=random.randint(0,100)
```

```
    pulse=random.randint(0,100)
```

```
    soil=random.randint(0,100)
```

```
    data = { 'temp' : temp, 'pulse': pulse , 'soil':soil}
```

```
    myOnPublishCallback()
```

```
if not success:
```

```
    print("Not connected to IoT")
```

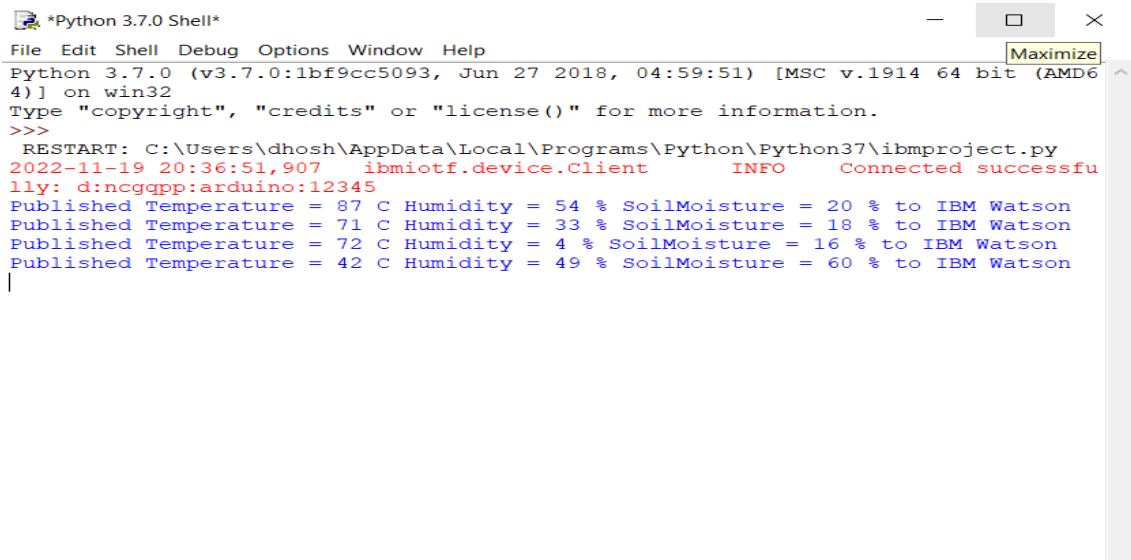
```
    time.sleep(5)
```

```
deviceCli.commandCallback = myCommandCallback
```

# Disconnect the device and application from the cloud

```
deviceCli.disconnect()
```

## OUTPUT:



```
*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\dhosh\AppData\Local\Programs\Python\Python37\ibmproject.py
2022-11-19 20:36:51,907 ibmiotf.device.Client INFO Connected successfully: d:ncggpp:arduino:12345
Published Temperature = 87 C Humidity = 54 % SoilMoisture = 20 % to IBM Watson
Published Temperature = 71 C Humidity = 33 % SoilMoisture = 18 % to IBM Watson
Published Temperature = 72 C Humidity = 4 % SoilMoisture = 16 % to IBM Watson
Published Temperature = 42 C Humidity = 49 % SoilMoisture = 60 % to IBM Watson
|
```