

CODE FOR THE PROJECT

SOURCE CODE:

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

#Provide your IBM Watson Device Credentials
organization = "de9kb6"
deviceType = "123"
deviceId = "123"
authMethod = "token"
authToken = "12345678"

# 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 IoTf")
        time.sleep(10)

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

Published Temperature = 102 C Humidity = 99 % to IBM Watson
Published Temperature = 97 C Humidity = 79 % to IBM Watson
Published Temperature = 93 C Humidity = 91 % to IBM Watson
Published Temperature = 101 C Humidity = 63 % to IBM Watson
Published Temperature = 94 C Humidity = 88 % to IBM Watson
Published Temperature = 95 C Humidity = 84 % to IBM Watson
Published Temperature = 105 C Humidity = 73 % to IBM Watson
Published Temperature = 105 C Humidity = 72 % to IBM Watson
Published Temperature = 97 C Humidity = 68 % to IBM Watson
Published Temperature = 92 C Humidity = 63 % to IBM Watson
Published Temperature = 98 C Humidity = 94 % to IBM Watson
Published Temperature = 109 C Humidity = 73 % to IBM Watson
Published Temperature = 109 C Humidity = 61 % to IBM Watson
Published Temperature = 93 C Humidity = 83 % to IBM Watson

=== RESTART: C:\Users\91949\AppData\Local\Programs\Python\Python37\pyth.py ===
2022-11-19 12:07:45,348 ibmiotf.device.Client INFO Connected successfully: d:m22k3n:abcd:12345
Published Temperature = 97 C Humidity = 82 % to IBM Watson
Published Temperature = 90 C Humidity = 62 % to IBM Watson
Published Temperature = 109 C Humidity = 62 % to IBM Watson
Published Temperature = 97 C Humidity = 90 % to IBM Watson
Published Temperature = 103 C Humidity = 70 % to IBM Watson
Published Temperature = 97 C Humidity = 83 % to IBM Watson
Published Temperature = 110 C Humidity = 91 % to IBM Watson
Published Temperature = 102 C Humidity = 99 % to IBM Watson
Published Temperature = 90 C Humidity = 95 % to IBM Watson
Published Temperature = 106 C Humidity = 78 % to IBM Watson
Published Temperature = 95 C Humidity = 60 % to IBM Watson
Published Temperature = 97 C Humidity = 74 % to IBM Watson
Published Temperature = 91 C Humidity = 61 % to IBM Watson
Published Temperature = 103 C Humidity = 85 % to IBM Watson
Published Temperature = 102 C Humidity = 76 % to IBM Watson
Published Temperature = 102 C Humidity = 94 % to IBM Watson
Published Temperature = 106 C Humidity = 83 % to IBM Watson
Published Temperature = 108 C Humidity = 62 % to IBM Watson
Published Temperature = 103 C Humidity = 95 % to IBM Watson

=== RESTART: C:\Users\91949\AppData\Local\Programs\Python\Python37\pyth.py ===
2022-11-19 12:10:51,914 ibmiotf.device.Client INFO Connected successfully: d:m22k3n:abcd:12345
Published Temperature = 108 C Humidity = 74 % to IBM Watson

```

IBM Watson IoT Platform

Browse

Action

Device Types

Interfaces

12345

Connected

abcd

Identity

Device Information

Recent Events

State

The recent events listed show the live stream of data that is coming and going

Event	Value
IoTSensor	{"temp":98,"Humid":100}
IoTSensor	{"temp":105,"Humid":98}
IoTSensor	{"temp":92,"Humid":95}
IoTSensor	{"temp":95,"Humid":98}
IoTSensor	{"temp":102,"Humid":81}

Device Type: abcd

Events 1

New event type +

Event type name

event_1

Send

Schedule

20

Every Minute

Payload

Specify the event payload in the editor window or by uploading a [CSV file](#).

0 {

1 Temperature=random.randint(90,110)

2 Humidity=random.randint(60,100)

3 }

4

Upload a CSV file

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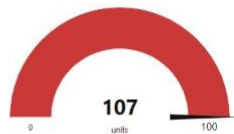
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ESP32

BME280 SENSOR

TEMPERATURE



BME280 SENSOR

HUMIDITY

