

Publish Data to the IBM Cloud

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Project Name	Smart Waste Management System For Metropolitan Cities

PYTHON SCRIPT

```
PythonScript.py - C:\Python\Python7\PythonScript.py [3.7.4]
File Edit Format Run Options Window Help

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

#Provide your IBM Watson Device Credentials
organization = "dluschi"
deviceType = "SWMS"
deviceId = "5032"
authMethod = "token"
authToken = "311519306832"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    else :
        print ("led is off")

    #print(cmd)

try:
    deviceOptions = {"org": organization, "type": DeviceType, "id": deviceId, "authMethod": authMethod, "authToken": authToken}
    deviceOptions = { 'org': organization, 'type': DeviceType, 'id': deviceId, 'authMethod': 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)

    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(1)

    deviceCli.commandCallback = myCommandCallback

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

OUTPUT:

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:0000000, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Python\Python37\PythonScript.py =====
2022-11-06 18:04:52.909 itmioff.device.client INFO Connected successfully: dtd1msh1:SWMB:6032
Published Temperature = 73 C Humidity = 97 % to IBM Watson
Published Temperature = 29 C Humidity = 49 % to IBM Watson
Published Temperature = 22 C Humidity = 38 % to IBM Watson
Published Temperature = 38 C Humidity = 23 % to IBM Watson
Published Temperature = 62 C Humidity = 82 % to IBM Watson
Published Temperature = 96 C Humidity = 54 % to IBM Watson
Published Temperature = 93 C Humidity = 73 % to IBM Watson
Published Temperature = 25 C Humidity = 57 % to IBM Watson
Published Temperature = 67 C Humidity = 26 % to IBM Watson
Published Temperature = 98 C Humidity = 100 % to IBM Watson
Published Temperature = 92 C Humidity = 54 % to IBM Watson
Published Temperature = 6 C Humidity = 59 % to IBM Watson
Published Temperature = 97 C Humidity = 57 % to IBM Watson
Published Temperature = 64 C Humidity = 70 % to IBM Watson
Published Temperature = 38 C Humidity = 14 % to IBM Watson
Published Temperature = 6 C Humidity = 49 % to IBM Watson
Published Temperature = 59 C Humidity = 73 % to IBM Watson
Published Temperature = 57 C Humidity = 20 % to IBM Watson
Published Temperature = 3 C Humidity = 42 % to IBM Watson
Published Temperature = 19 C Humidity = 42 % to IBM Watson
Published Temperature = 68 C Humidity = 15 % to IBM Watson
Published Temperature = 10 C Humidity = 14 % to IBM Watson
Published Temperature = 32 C Humidity = 67 % to IBM Watson
```

DATA IN IBM CLOUD PLATFORM:

The screenshot shows the IBM Cloud IoT Platform console. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area displays details for a device with ID '6032', which is 'Connected' and has a 'SWMB' device type. Below this, there are tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is selected, showing a message: 'The recent events listed show the live stream of data that is coming and going from this device.' Below this message is a table with the following data:

Event	Value	Format	Last Received
IoT Sensor	["temp":100,"humid":49]	json	a few seconds ago
IoT Sensor	["temp":4,"humid":28]	json	a few seconds ago
IoT Sensor	["temp":80,"humid":86]	json	a few seconds ago
IoT Sensor	["temp":28,"humid":79]	json	a few seconds ago
IoT Sensor	["temp":36,"humid":98]	json	a few seconds ago