

# 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/Python37/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 = "dluuhi"
deviceType = "SWMS"
deviceId = "6032"
authMethod = "token"
authToken = "311519106032"

# 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, "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(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 IoT")
        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:e09359112e, 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 ibmiotf.device.Client INFO Connected successfully: d:dluuh:SWMS: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 = 19 % 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 belongs to the 'SWMS' organization. The 'Recent Events' tab is selected, showing a table of live data events. The table has four columns: 'Event', 'Value', 'Format', and 'Last Received'. The events are all from an 'IoT Sensor' and represent temperature and humidity readings in JSON format, received 'a few seconds ago'.

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