

PYTHON CODE TO PUBLISH DATA TO IBM CLOUD

Date	11 NOVEMBER 2022
Team ID	PNT2022TMID53629
Project Name	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

Code:

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

#Provide your IBM Watson Device Credentials

```
organization = "s0uwr0"
deviceType = "weather_device"
deviceId = "vpsr_weather"
authMethod = "token"
authToken = "9mMbsPkwZ-NtBMUAPc"
```

Initialize GPIO

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

```
Propane = random.randint(0, 2000);
```

```
Carbon_Monoxide = random.randint(0, 100);
```

```
LPG= random.randint(0, 2000);
```

```
Methane = random.randint(0, 1000);
```

```
Hydrogen= random.randint(0, 5000);
```

```
data = {"d":{
```

```
"Propane": Propane,
```

```
"Carbon_Monoxide": Carbon_Monoxide,
```

```
"LPG": LPG,
```

```
"Methane": Methane,
```

```
"Hydrogen":Hydrogen
```

```
}
```

```
}
```

```
#print data
```

```
def myOnPublishCallback():
```

```
print ("Published Propane = %s ppm" % Propane, "LPG = %s ppm" % LPG, "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()
```

Service Details - IBM Cloud

IBM Watson IoT Platform

s0uwr0.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

vpnsalraam@gmail.com

ID: s0uwr0

Add Device

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\welcome\AppData\Local\Programs\Python\Python37\ibmcodepy.py
2022-11-13 11:11:14,590 ibmiotf.device.Client INFO Connected successfully: d:s0uwr0:weather_device:vpnsr_weather
Published Propane = 938 ppm LPG = 733 ppm to IBM Watson
Published Propane = 165 ppm LPG = 1201 ppm to IBM Watson
Published Propane = 753 ppm LPG = 672 ppm to IBM Watson
Published Propane = 1727 ppm LPG = 67 ppm to IBM Watson
Published Propane = 559 ppm LPG = 479 ppm to IBM Watson
Published Propane = 620 ppm LPG = 1534 ppm to IBM Watson
Published Propane = 1065 ppm LPG = 1596 ppm to IBM Watson
Published Propane = 1654 ppm LPG = 989 ppm to IBM Watson
Published Propane = 1896 ppm LPG = 1330 ppm to IBM Watson
Published Propane = 1901 ppm LPG = 1692 ppm to IBM Watson
Published Propane = 1062 ppm LPG = 879 ppm to IBM Watson
Published Propane = 841 ppm LPG = 232 ppm to IBM Watson
Published Propane = 418 ppm LPG = 554 ppm to IBM Watson
Published Propane = 1851 ppm LPG = 1126 ppm to IBM Watson
Published Propane = 427 ppm LPG = 1363 ppm to IBM Watson
Published Propane = 1400 ppm LPG = 16 ppm to IBM Watson
Published Propane = 621 ppm LPG = 1335 ppm to IBM Watson
Published Propane = 1667 ppm LPG = 525 ppm to IBM Watson
Published Propane = 223 ppm LPG = 270 ppm to IBM Watson
Published Propane = 1252 ppm LPG = 1412 ppm to IBM Watson
Published Propane = 719 ppm LPG = 1197 ppm to IBM Watson
Published Propane = 1396 ppm LPG = 706 ppm to IBM Watson
Published Propane = 631 ppm LPG = 1327 ppm to IBM Watson
Published Propane = 1376 ppm LPG = 569 ppm to IBM Watson
Published Propane = 20 ppm LPG = 4 ppm to IBM Watson

different

Device Simulator

Date Added

Descriptive Location

Nov 12, 2022 7:14 PM

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Service Details - IBM Cloud

IBM Watson IoT Platform

s0uwr0.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

vpnsalraam@gmail.com

ID: s0uwr0

Add Device

Browse Action Device Types Interfaces

vpnsr_weather Connected Weather_device Device Nov 12, 2022 7:14 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoTSensor	{"d":{"Propane":358,"Carbon_Monoxide":93,"LP...	json	a few seconds ago
IoTSensor	{"d":{"Propane":472,"Carbon_Monoxide":83,"LP...	json	a few seconds ago
IoTSensor	{"d":{"Propane":1951,"Carbon_Monoxide":42,"L...	json	a few seconds ago
IoTSensor	{"d":{"Propane":1143,"Carbon_Monoxide":35,"L...	json	a few seconds ago
IoTSensor	{"d":{"Propane":383,"Carbon_Monoxide":88,"LP...	json	a few seconds ago

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Application Details - IBM Cloud x Node-RED : node-red-hrcpc-201 x IBM Watson IoT Platform x +

node-red-hrcpc-2022-11-11.eu-gb.mybluemix.net/red/#flow/14d0eabe2b57b68a

Node-RED

filter nodes

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change
- range

Hydrogen

Methane

Methane

LPG

Carbon_Monoxide(CO)

Propane

msg.payload

msg.payload

msg.payload

Hydrogen

LPG

Carbon_Monoxide

Propane

debug

all nodes

```
{ d: object }
11/13/2022, 11:14:18 AM node: 756d069c9419c93
iot-
2/type/weather_deviceId/vpsr_weather/ev/iotSensor/rmsd
:msg.payload: Object
{ d: object }
11/13/2022, 11:14:19 AM node: 756d069c9419c93
iot-
2/type/weather_deviceId/vpsr_weather/ev/iotSensor/rmsd
:msg.payload: Object
{ d: object }
11/13/2022, 11:14:20 AM node: 756d069c9419c93
iot-
2/type/weather_deviceId/vpsr_weather/ev/iotSensor/rmsd
:msg.payload: Object
{ d: object }
11/13/2022, 11:14:21 AM node: 756d069c9419c93
iot-
2/type/weather_deviceId/vpsr_weather/ev/iotSensor/rmsd
:msg.payload: Object
{ d: object }
11/13/2022, 11:14:22 AM node: 756d069c9419c93
iot-
2/type/weather_deviceId/vpsr_weather/ev/iotSensor/rmsd
:msg.payload: Object
{ d: object }
```