

DEVELOP A PYTHON SCRIPT TO PUBLISH AND SUBSCRIBE TO IBM IOT PLATFORM

Date	05 November 2022
Team ID	PNT2022TMID36156
Project Name	Project- Real Time River Quality Monitoring and Control System.

Task:

Develop the Python Code,

```
code.py:ht - C:\Users\Seen\Music\test\code.py:ht (3.7.0)
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 = "hdn629"
deviceType = "Cloud"
deviceId = "ISM10T"
authMethod = "token"
authToken = "12245679"
def myCommandCallback (cmd):
    print ("Command received: %s" % cmd.data['command'])
    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 evention connecting device: %s" % str(e))
    sys.exit()

deviceCli.connect()
while True:
    temp=random.randint (90,110)
    Humid=random.randint (60,100)
    Ph=random.randint (0,14)
    Water_turbidity=random.randint (15,60)
    data = {'temp': temp,'Humid': Humid,'Ph': Ph,'Water_turbidity': Water_turbidity}
    def myonPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %" % Humid,"Ph = %s" % Ph,"Water Turbidity = %s NTU" % Water_turbidity, "to IBM Watson")
    success = deviceCli.publishEvent("IoT8ensor", "json", data, qos=0, on_publish=myonPublishCallback)
    if not success:
        print("Not connected to IOTF")
    time.sleep (10)
    deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()
```

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2016, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Seenu\Music\test\code.py.txt =====
2022-11-19 11:12:29.024 IBMiotf.device.Client INFO Connected successfully: d:\hdn6z8:Cloud:IBMiotf
Published Temperature = 102 C Humidity = 68 % Ph = 5 Water Turbidity = 39 NTU to IBM Watson
Published Temperature = 100 C Humidity = 67 % Ph = 10 Water Turbidity = 47 NTU to IBM Watson
Published Temperature = 104 C Humidity = 72 % Ph = 10 Water Turbidity = 37 NTU to IBM Watson
Published Temperature = 110 C Humidity = 85 % Ph = 3 Water Turbidity = 33 NTU to IBM Watson
Published Temperature = 100 C Humidity = 95 % Ph = 7 Water Turbidity = 41 NTU to IBM Watson
Published Temperature = 100 C Humidity = 83 % Ph = 0 Water Turbidity = 18 NTU to IBM Watson
Published Temperature = 99 C Humidity = 61 % Ph = 1 Water Turbidity = 51 NTU to IBM Watson
Published Temperature = 109 C Humidity = 94 % Ph = 4 Water Turbidity = 39 NTU to IBM Watson
Published Temperature = 109 C Humidity = 77 % Ph = 7 Water Turbidity = 59 NTU to IBM Watson
Published Temperature = 109 C Humidity = 90 % Ph = 10 Water Turbidity = 33 NTU to IBM Watson
Published Temperature = 96 C Humidity = 62 % Ph = 0 Water Turbidity = 46 NTU to IBM Watson
Published Temperature = 102 C Humidity = 77 % Ph = 12 Water Turbidity = 31 NTU to IBM Watson
Published Temperature = 110 C Humidity = 93 % Ph = 13 Water Turbidity = 16 NTU to IBM Watson
Published Temperature = 99 C Humidity = 92 % Ph = 12 Water Turbidity = 23 NTU to IBM Watson
Published Temperature = 101 C Humidity = 92 % Ph = 4 Water Turbidity = 23 NTU to IBM Watson
Command received: motoroff
motor is off
Command received: 2gGicjx7
please send proper command
Published Temperature = 106 C Humidity = 98 % Ph = 3 Water Turbidity = 18 NTU to IBM Watson
Published Temperature = 107 C Humidity = 77 % Ph = 2 Water Turbidity = 35 NTU to IBM Watson
Published Temperature = 108 C Humidity = 98 % Ph = 11 Water Turbidity = 46 NTU to IBM Watson
Published Temperature = 101 C Humidity = 96 % Ph = 4 Water Turbidity = 30 NTU to IBM Watson
Published Temperature = 92 C Humidity = 81 % Ph = 10 Water Turbidity = 25 NTU to IBM Watson
Published Temperature = 106 C Humidity = 69 % Ph = 4 Water Turbidity = 39 NTU to IBM Watson
Published Temperature = 98 C Humidity = 64 % Ph = 14 Water Turbidity = 17 NTU to IBM Watson
Published Temperature = 100 C Humidity = 98 % Ph = 5 Water Turbidity = 35 NTU to IBM Watson
Published Temperature = 106 C Humidity = 95 % Ph = 3 Water Turbidity = 30 NTU to IBM Watson
Published Temperature = 98 C Humidity = 64 % Ph = 7 Water Turbidity = 25 NTU to IBM Watson
Published Temperature = 94 C Humidity = 100 % Ph = 8 Water Turbidity = 32 NTU to IBM Watson
Published Temperature = 107 C Humidity = 61 % Ph = 14 Water Turbidity = 55 NTU to IBM Watson
Published Temperature = 96 C Humidity = 72 % Ph = 3 Water Turbidity = 17 NTU to IBM Watson
Published Temperature = 97 C Humidity = 68 % Ph = 6 Water Turbidity = 49 NTU to IBM Watson
Published Temperature = 93 C Humidity = 82 % Ph = 3 Water Turbidity = 33 NTU to IBM Watson
Published Temperature = 92 C Humidity = 66 % Ph = 14 Water Turbidity = 51 NTU to IBM Watson
Published Temperature = 110 C Humidity = 83 % Ph = 6 Water Turbidity = 32 NTU to IBM Watson
```

Output in IBM IOT Platform:

Service Details - IBM Cloud

IBM Watson IoT Platform

hdn6z8.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM TRADING SCHOLARSHIP IBM EPRI/IBM- Proj... Python Program...

IBM Watson IoT Platform 110319106023@smarInternz.com ID: hdn6z8

Browse Action Device Types Interfaces

Search by Device ID Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
IBMiotf	Connected	Cloud	Device	Nov 19, 2022 10:29 AM	

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	{\"temp\":110,\"Humid\":85,\"Ph\":3,\"Water_turbidity...}	json	a few seconds ago
IoTSensor	{\"temp\":104,\"Humid\":72,\"Ph\":10,\"Water_turbidit...	json	a few seconds ago
IoTSensor	{\"temp\":100,\"Humid\":67,\"Ph\":10,\"Water_turbidit...	json	a few seconds ago
IoTSensor	{\"temp\":102,\"Humid\":68,\"Ph\":5,\"Water_turbidity...	json	a few seconds ago

0 Simulations running