

DEVELOP A PYTHON SCRIPT

Date	22 October 2022
Team ID	PNT2022TMID08171
Project Name	Project - Real-time River Water Quality Monitoring And Control System
Maximum Marks	4 Marks

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y.py - C:\Users\Yogeswar\AppData\Local\Programs\Python\Python37\y.py (3.7.0)
File Edit Format Run Options Window Help

#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(0,50)
    ph=random.uniform(0.0,14.0)
    turb=random.uniform(0.0,3.0)

    data1={'temp':temp,'ph':ph,'turb':turb,'str1':"Not safe to drink"}
    data2={'temp':temp,'ph':ph,'turb':turb,'str2':"safe to drink"}

    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp,"ph = %.1f" % ph,"Turbidity = %.1f NTU" % turb, "to IBM Watson")
        if ((temp > 6 and temp < 20) and (ph > 6.5 and ph < 8.5) and turb < 1):
            print(data2)
        else:
            print(data1)

    success = deviceCli.publishEvent("IoTSensor", "json", data1 or data2, qos=2, on_publish=myOnPublishCallback)

    if not success:
        print("Not connected to IoT")
        time.sleep(20)
        deviceCli.commandCallback = myCommandCallback

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

Ln: 46 Col: 74
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27°C Rain to stop

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ipy - C:\Users\Yogeswar\AppData\Local\Programs\Python\Python37\ipy (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 = "Wgirt"
deviceType = "raspberrypi"
deviceId = "12345"
authMethod = "token"
authToken = "123456789"

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")

    #print(cmd)

try:
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    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

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    turb=random.uniform(0.0,3.0)

    data1={'temp':temp,'ph':ph,'turb':turb,'str1':'Not safe to drink'}
    data2={'temp':temp,'ph':ph,'turb':turb,'str2':'safe to drink'}

Ln: 46 Col: 74
```

```
*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\Yogeswar\AppData\Local\Programs\Python\Python37\ipy.py ==
2020-11-11 14:52:39.520 ibmiotf.device.Client INFO Connected successfully: d:\Wgirt:raspberrypi:12345
Published Temperature = 36 C Ph = 7.6 Turbidity = 0.5 NTU to IBM Watson
{'temp': 36, 'ph': 7.639209273857929, 'turb': 0.4771226498874004, 'str1': 'Not safe to drink'}
Published Temperature = 4 C Ph = 11.0 Turbidity = 0.7 NTU to IBM Watson
{'temp': 4, 'ph': 11.02586061602329, 'turb': 0.6510452497292212, 'str1': 'Not safe to drink'}
Published Temperature = 32 C Ph = 3.8 Turbidity = 0.6 NTU to IBM Watson
{'temp': 32, 'ph': 3.6372921804503572, 'turb': 0.6433034351085176, 'str1': 'Not safe to drink'}
Command received: motoron
Motor is on
Published Temperature = 37 C Ph = 1.9 Turbidity = 2.3 NTU to IBM Watson
{'temp': 37, 'ph': 1.8674393993937655, 'turb': 2.2770478733856723, 'str1': 'Not safe to drink'}
Published Temperature = 27 C Ph = 3.1 Turbidity = 0.2 NTU to IBM Watson
{'temp': 27, 'ph': 3.0803234577735608, 'turb': 0.1511040068916041, 'str1': 'Not safe to drink'}
Command received: motoroff
Motor is off
Published Temperature = 31 C Ph = 13.2 Turbidity = 1.0 NTU to IBM Watson
{'temp': 31, 'ph': 13.226178045470665, 'turb': 1.79060022596076895, 'str1': 'Not safe to drink'}
Published Temperature = 26 C Ph = 12.1 Turbidity = 1.0 NTU to IBM Watson
{'temp': 26, 'ph': 12.126770397092171, 'turb': 1.0437024962477056, 'str1': 'Not safe to drink'}
Published Temperature = 27 C Ph = 13.4 Turbidity = 2.5 NTU to IBM Watson
{'temp': 27, 'ph': 13.352904585300896, 'turb': 2.4970261329018237, 'str1': 'Not safe to drink'}
Published Temperature = 43 C Ph = 0.7 Turbidity = 2.0 NTU to IBM Watson
{'temp': 43, 'ph': 0.7032201063937377, 'turb': 1.9994471088369910, 'str1': 'Not safe to drink'}
Published Temperature = 42 C Ph = 0.7 Turbidity = 2.6 NTU to IBM Watson
{'temp': 42, 'ph': 0.7232353593321187, 'turb': 2.568043696540401, 'str1': 'Not safe to drink'}
Published Temperature = 6 C Ph = 10.3 Turbidity = 2.3 NTU to IBM Watson
{'temp': 6, 'ph': 10.281596351602175, 'turb': 2.259222655530099, 'str1': 'Not safe to drink'}
Published Temperature = 39 C Ph = 5.2 Turbidity = 1.4 NTU to IBM Watson
{'temp': 39, 'ph': 5.227030057139946, 'turb': 1.448778792980808, 'str1': 'Not safe to drink'}
Published Temperature = 39 C Ph = 8.8 Turbidity = 2.1 NTU to IBM Watson
{'temp': 39, 'ph': 8.805089195133327, 'turb': 2.08540551701794, 'str1': 'Not safe to drink'}
Published Temperature = 30 C Ph = 10.4 Turbidity = 0.2 NTU to IBM Watson
{'temp': 30, 'ph': 10.36590709249534, 'turb': 0.2167417854325565, 'str1': 'Not safe to drink'}
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Ln: 22 Col: 0
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