

## PYTHON SCRIPT

<b>Date</b>	26.10.2022
<b>Team ID</b>	PNT2022TMID30880
<b>Project Title</b>	Real-Time River Water Quality Monitoring and Control System

### PROGRAM:

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

#provide Your IBM Watson Device Credentials
organization = "m89nt2"
deviceType = "arduino"
deviceId = "123"
authMethod = "token"
authToken = "12345678"

#Initialize GPIO
def myCommandCallback(cmd):
    print ("command received: %s" %cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led 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 exception connecting device:%s" % str(e))
```

```
sys.exit())
```

```
# connect and send a datapoint "hello"with value "world" info the cloud as an event of
type"greetings"10 times
deviceCli.connect())
```

```
while True:
```

```
#Get sensor Data from DHT11
```

```
temp=random.randint(90,110)
```

```
pH=random.randint(0,14)
```

```
turbidity=random.randint(0,100)
```

```
data = { 'Temperature' : temp, 'pH': pH, 'Turbidity':turbidity }
```

```
#print data
```

```
def myOnPublishCallback():
```

```
print ("published Temperature = %s C" % temp, "pH = is %s %" % pH, "Turbidity= is
%s %" % turbidity,"to IBM Watson")
```

```
success = deviceCli.publishEvent("IOTSensor",
"json",data,qos=0,on_publish=myOnPublishCallback)
```

```
if not success:
```

```
print("Not connected to IOTF")
```

```
time.sleep(10)
```

```
deviceCli.commandCallback = myCommandCallback
```

```
deviceCli.disconnect())
```

**OUTPUT:**

```
C:\Python 3.7\Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (tags/v3.7.0:1bf3cc5093, 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\vaishnavi\G\AppData\Local\Programs\Python\Python37\python_script.py
2022-11-05 19:53:06.719 18m0n0t.device.clients IBMIO Connected successfully: d1002515:gw:1607
published Temperature = 90 C pH = is 7 % Turbidity= is 2 % to IBM Watson
published Temperature = 100 C pH = is 6 % Turbidity= is 17 % to IBM Watson
published Temperature = 95 C pH = is 3 % Turbidity= is 46 % to IBM Watson
published Temperature = 100 C pH = is 9 % Turbidity= is 93 % to IBM Watson
published Temperature = 95 C pH = is 4 % Turbidity= is 34 % to IBM Watson
published Temperature = 92 C pH = is 1 % Turbidity= is 27 % to IBM Watson
published Temperature = 104 C pH = is 2 % Turbidity= is 16 % to IBM Watson
published Temperature = 102 C pH = is 9 % Turbidity= is 38 % to IBM Watson
published Temperature = 94 C pH = is 10 % Turbidity= is 74 % to IBM Watson
published Temperature = 94 C pH = is 5 % Turbidity= is 71 % to IBM Watson
published Temperature = 102 C pH = is 12 % Turbidity= is 100 % to IBM Watson
published Temperature = 91 C pH = is 15 % Turbidity= is 72 % to IBM Watson
published Temperature = 92 C pH = is 8 % Turbidity= is 71 % to IBM Watson
published Temperature = 99 C pH = is 10 % Turbidity= is 31 % to IBM Watson
published Temperature = 106 C pH = is 4 % Turbidity= is 17 % to IBM Watson
published Temperature = 109 C pH = is 0 % Turbidity= is 22 % to IBM Watson
published Temperature = 102 C pH = is 8 % Turbidity= is 20 % to IBM Watson
published Temperature = 90 C pH = is 1 % Turbidity= is 87 % to IBM Watson
published Temperature = 93 C pH = is 9 % Turbidity= is 56 % to IBM Watson
published Temperature = 107 C pH = is 14 % Turbidity= is 73 % to IBM Watson
published Temperature = 90 C pH = is 0 % Turbidity= is 29 % to IBM Watson
published Temperature = 101 C pH = is 11 % Turbidity= is 22 % to IBM Watson
published Temperature = 100 C pH = is 0 % Turbidity= is 90 % to IBM Watson
published Temperature = 90 C pH = is 8 % Turbidity= is 37 % to IBM Watson
published Temperature = 104 C pH = is 9 % Turbidity= is 52 % to IBM Watson
published Temperature = 103 C pH = is 2 % Turbidity= is 88 % to IBM Watson
published Temperature = 102 C pH = is 0 % Turbidity= is 60 % to IBM Watson
published Temperature = 90 C pH = is 4 % Turbidity= is 1 % to IBM Watson
published Temperature = 97 C pH = is 10 % Turbidity= is 58 % to IBM Watson
published Temperature = 101 C pH = is 3 % Turbidity= is 46 % to IBM Watson
published Temperature = 107 C pH = is 6 % Turbidity= is 44 % to IBM Watson
published Temperature = 109 C pH = is 11 % Turbidity= is 47 % to IBM Watson
published Temperature = 102 C pH = is 14 % Turbidity= is 32 % to IBM Watson
published Temperature = 90 C pH = is 10 % Turbidity= is 24 % to IBM Watson
published Temperature = 91 C pH = is 11 % Turbidity= is 77 % to IBM Watson
published Temperature = 96 C pH = is 12 % Turbidity= is 86 % to IBM Watson
published Temperature = 95 C pH = is 6 % Turbidity= is 20 % to IBM Watson
published Temperature = 92 C pH = is 0 % Turbidity= is 51 % to IBM Watson
published Temperature = 95 C pH = is 3 % Turbidity= is 70 % to IBM Watson
published Temperature = 104 C pH = is 11 % Turbidity= is 95 % to IBM Watson
published Temperature = 91 C pH = is 8 % Turbidity= is 39 % to IBM Watson
published Temperature = 103 C pH = is 1 % Turbidity= is 99 % to IBM Watson
published Temperature = 101 C pH = is 6 % Turbidity= is 56 % to IBM Watson
published Temperature = 94 C pH = is 7 % Turbidity= is 27 % to IBM Watson
published Temperature = 90 C pH = is 4 % Turbidity= is 52 % to IBM Watson
published Temperature = 107 C pH = is 10 % Turbidity= is 73 % to IBM Watson
published Temperature = 110 C pH = is 9 % Turbidity= is 22 % to IBM Watson
published Temperature = 92 C pH = is 3 % Turbidity= is 80 % to IBM Watson
```