

DEVELOP THE PYTHON SCRIPT

Date	03 November 2022
Team ID	PNT2022TMID43379
Project Name	River Water Quality Monitoring and Control System
Maximum Marks	4 Marks

Develop A Python Script:

```
RivWatQuality.py - C:\Users\MANO BHARATHI\OneDrive\Desktop\Desktop\Ibm\RivWatQuality.py (3.7.0)
File Edit Format Run Options Window Help
import ibmiotf.application
import ibmiotf.device
import time
import random
import sys

#ibm watson device credentials
organization="rj0qwb"
deviceType="RivWatQuality"
deviceid="RivWatQuality"
authMethod="token"
authToken="UFT_PB+dHA3k)0_pA7"

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status == "MotorON":
        print("motor in on")
    else:
        print("motor is off")

#generate random values for pH and turbidity

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()
```

```
RivWatQuality.py - C:\Users\MANO BHARATHI\OneDrive\Desktop\Desktop\Ibm\RivWatQuality.py (3.7.0)
File Edit Format Run Options Window Help

#connect and sending data of pH Values and Turbidity
deviceCli.connect()

while True:
    time.sleep(2)
    Ph=random.randint(0,14)
    Turb=random.randint(0,10)

    data={'Ph':Ph, 'Turb':Turb}
    print(data)

    def myOnPublishCallBack():
        print("pH Value of Water %s " %Ph)
        print("Turb Value of Water %s " %Turb)

    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 from the cloud
deviceCli.connect()
```

Publish Data To The IBM Cloud

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:\Users\MANO BHARATHI\OneDrive\Desktop\ibm\ibm\RivWatQuality.py
2022-11-11 11:53:11,376 ibmiotf.device.Client INFO Connected successfully: d:rj0qwb:RivWatQuality:RivWatQuality
{'Ph': 8, 'Turb': 3}
pH Value of Water 8
Turb Value of Water 3
{'Ph': 2, 'Turb': 0}
pH Value of Water 2
Turb Value of Water 0
{'Ph': 12, 'Turb': 10}
pH Value of Water 12
Turb Value of Water 10
{'Ph': 8, 'Turb': 9}
pH Value of Water 8
Turb Value of Water 9
{'Ph': 5, 'Turb': 0}
pH Value of Water 5
Turb Value of Water 0
{'Ph': 6, 'Turb': 5}
pH Value of Water 6
Turb Value of Water 5
{'Ph': 10, 'Turb': 4}
pH Value of Water 10
Turb Value of Water 4
{'Ph': 5, 'Turb': 6}
pH Value of Water 5
Turb Value of Water 6
{'Ph': 13, 'Turb': 4}
pH Value of Water 13
Turb Value of Water 4
```

IBM Watson IoT Platform

19ec127@psgitech.ac.in
ID: rj0qwb

Browse

Action

Device Types

Interfaces

Add Device

Browse Devices

All Devices

Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
>	<input type="checkbox"/> RivWatQuality	Connected	RivWatQuality	Device	7 Nov 2022 19:47	

Items per page 50

1-1 of 1 item

1 of 1 page

1

IBM Watson IoT Platform

19ac127@pg@tech.ac.in
ID: rj0qwb

← Back

Device Drilldown - RivWatQuality

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Event	Value	Format	Last Received
IoTSensor	{"Ph":6,"Turb":4}	json	a few seconds ago
IoTSensor	{"Ph":9,"Turb":9}	json	a few seconds ago
IoTSensor	{"Ph":11,"Turb":9}	json	a few seconds ago
IoTSensor	{"Ph":8,"Turb":2}	json	a few seconds ago

State

This table shows a list of data points that are reported by this device.

Showing Raw Data

No Interfaces Available

Property	Value	Type	Event	Last Received
Ph	6	Number	IoTSensor	
Turb	4	Number	IoTSensor	

0 Simulations running