

## PYTHON CODE

<b>TEAM ID</b>	PNT2022TMID23839
<b>Project Name</b>	REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM
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### CODE:

```
import ibmiotf.application
import ibmiotf.device import
time import random import
sys from twilio.rest import
Client import keys
Client = Client(keys.account_sid, keys.auth_token)

organization = "lwkiec" deviceType =
"Microcontroller_Device_1" deviceId =
"00002" authMethod =
"token" authToken = "sushi@123"

pH = random.randint(1, 14) turbidity =
random.randint(1, 1000) temperature =
random.randint(0, 100)

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()
```

```
deviceCli.connect()
```

```
while True:
```

```
pH = random.randint(1, 14) turbidity  
= random.randint(1, 1000)
```

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

```
data = {'pH': pH, 'turbid': turbidity, 'temp':  
temperature} def SMS(): message =  
Client.messages.create(      body="ALERT!!  
      THE WATER    QUALITY IS  
DEGRADED", from_=keys.twilio_number,  
to = keys.target_number)    print(message.body)
```

```
if temperature>70 or pH500:  
    SMS()
```

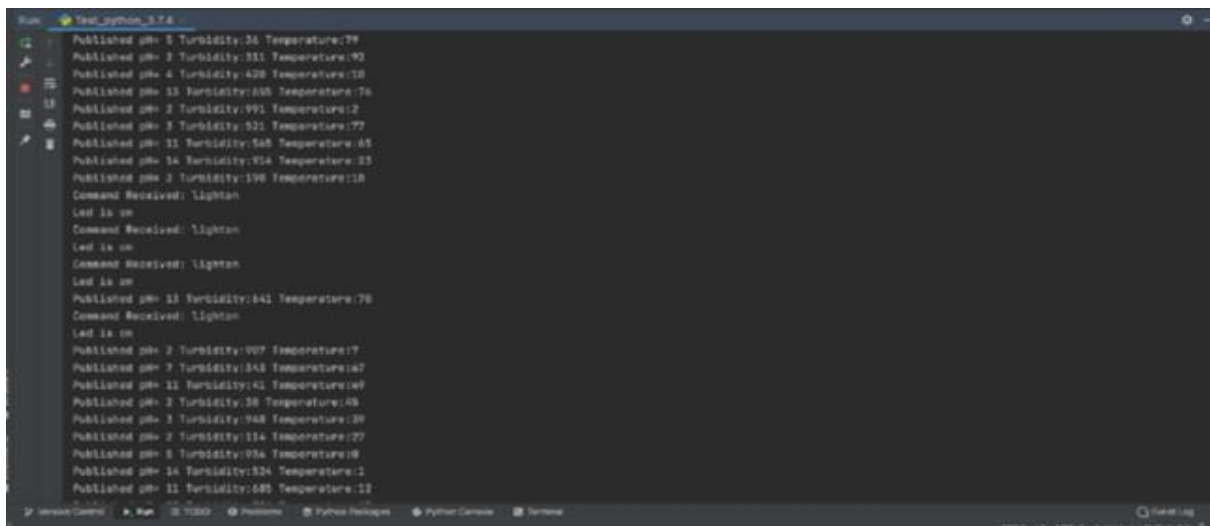
```
def myOnPublishCallback():    print("Published  
Ph=%s"      %      pH, "Turbidity:%s"      %  
      turbidity,  
"Temperature:%s" % temperature)
```

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

```
if not success:  
    print("Not Connected to ibmiot")  
    time.sleep(5) deviceCli.commandCallback =  
    myCommandCallback
```

```
deviceCli.disconnect()
```

## OUTPUT :



```
Run: Test_python_3.7.4  
Published pH= 8 Turbidity:36 Temperature:79  
Published pH= 2 Turbidity:331 Temperature:93  
Published pH= 4 Turbidity:420 Temperature:10  
Published pH= 13 Turbidity:655 Temperature:76  
Published pH= 2 Turbidity:991 Temperature:12  
Published pH= 3 Turbidity:521 Temperature:77  
Published pH= 11 Turbidity:565 Temperature:65  
Published pH= 14 Turbidity:914 Temperature:83  
Published pH= 2 Turbidity:190 Temperature:16  
Command Received: 'lighten'  
Led is on  
Command Received: 'lighten'  
Led is on  
Command Received: 'lighten'  
Led is on  
Published pH= 11 Turbidity:841 Temperature:70  
Command Received: 'lighten'  
Led is on  
Published pH= 2 Turbidity:907 Temperature:17  
Published pH= 7 Turbidity:343 Temperature:167  
Published pH= 11 Turbidity:41 Temperature:169  
Published pH= 2 Turbidity:30 Temperature:68  
Published pH= 2 Turbidity:948 Temperature:39  
Published pH= 2 Turbidity:114 Temperature:77  
Published pH= 8 Turbidity:936 Temperature:8  
Published pH= 14 Turbidity:324 Temperature:1  
Published pH= 11 Turbidity:685 Temperature:11
```