

PYTHON CODE

TEAM ID	PNT2022TMID23838
Project Name	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)
```

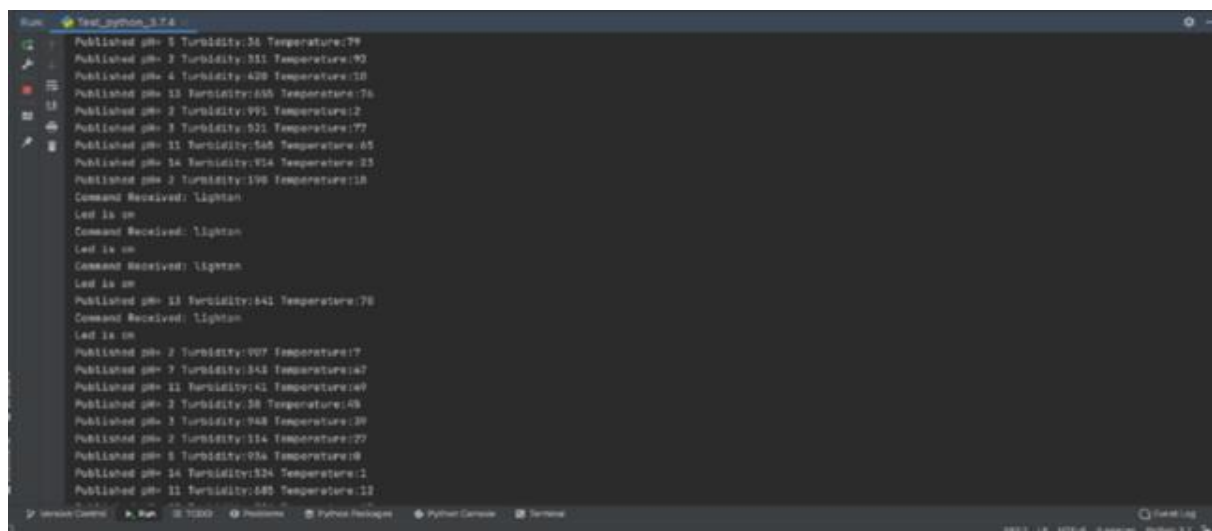
```
success = deviceCli.publishEvent("demo", "json",
data, qos=0, on_publish=myOnPublishCallback)
```

```
if not success:
```

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

```
deviceCli.disconnect()
```

OUTPUT :



```
Run: TestAppPython_3.7.4
Published pH= 5 Turbidity:34 Temperature:79
Published pH= 3 Turbidity:331 Temperature:92
Published pH= 4 Turbidity:420 Temperature:10
Published pH= 12 Turbidity:655 Temperature:76
Published pH= 2 Turbidity:991 Temperature:2
Published pH= 3 Turbidity:931 Temperature:77
Published pH= 11 Turbidity:560 Temperature:65
Published pH= 14 Turbidity:914 Temperature:25
Published pH= 2 Turbidity:190 Temperature:18
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:7
Published pH= 7 Turbidity:842 Temperature:67
Published pH= 11 Turbidity:42 Temperature:69
Published pH= 2 Turbidity:30 Temperature:49
Published pH= 3 Turbidity:748 Temperature:39
Published pH= 2 Turbidity:114 Temperature:77
Published pH= 5 Turbidity:934 Temperature:9
Published pH= 14 Turbidity:524 Temperature:1
Published pH= 11 Turbidity:685 Temperature:12
```