

**DEVELOP A PYTHON SCRIPT
PYTHON SCRIPT**

Date	15 November 2022
Team ID	PNT2022TMID32705
Project Name	Real Time Water Quality monitoring And Control Systems

PYTHON SCRIPT :

```
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 = "Bluemix Free"
```

```
deviceType = "Microcontroller_device"
```

```
deviceId = "deivanai"
```

```
authMethod = "token"
```

```
authToken = "deiva@1234"
```

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

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

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

```
humidity = random.randint(30, 60)
```

```
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)
humidity = random.randint(30, 60)
data = {'pH': pH, 'turbid': turbidity, 'temp': temperature, 'humi' : 'humidity'}
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 pH<6 or turbidity>500 or humidity>40:
    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()

```

