

Project Development Phase

Date	01 November 2022
Team ID	PNT2022TMID51098
Project Name	Real Time River Water Quality Monitoring and Control System

SPRINT 1

Code:

```
import random
```

```
import time
```

```
import sys
```

```
import ibmiotf.application
```

```
import ibmiotf.device
```

```
# Provide your IBM Watson Device Credentials
```

```
organization = "nqat1y" # repalce it with organization ID
```

```
deviceType = "NodeMCU" # replace it with device type
```

```
deviceId = "501238" # repalce with device id
```

```
authMethod = "token"
```

```
authToken = "10571213" # repalce with token
```

```
def myCommandCallback(cmd):
```

```
    print("Command received: %s" % cmd.data['command'])
```

```
    status=cmd.data['command']
```

```
    if status == 'lighton':
```

```
        print("LIGHT ON")
```

```
    elif status == 'lightoff':
```

```
        print("LIGHT 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()
```

```
deviceCli.connect()
```

```
while True:
```

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

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

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

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

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

```
    # Send Temperature & Humidity to IBM Watson
```

```
    data = {'T': T, 'pH': pH, 'conductivity': conductivity, 'oxygen': oxygen, 'turbidity': turbidity}
```

```
    # print data
```

```
    def myOnPublishCallback():
```

```
        print("Published data", data, "to IBM Watson")
```

```
    success = deviceCli.publishEvent("event", "json", data, 0, myOnPublishCallback)
```

```
    if not success:
```

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

```
    time.sleep(5)
```

```
    deviceCli.commandCallback = myCommandCallback
```

```
# Disconnect the device and application from the cloud
```

Output:

```
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Toshiba\Documents\vishnu\ibm2.py =====
2022-11-16 22:30:51,089 ibmiotf.device.Client INFO Connected successfu
lly: d:nqatly:NodeMCU:501238
Published data {'T': 23, 'pH': 85, 'conductivity': 37, 'oxygen': 41, 'turbidity'
: 2} to IBM Watson
Published data {'T': 39, 'pH': 87, 'conductivity': 1, 'oxygen': 32, 'turbidity':
84} to IBM Watson
Published data {'T': 90, 'pH': 89, 'conductivity': 29, 'oxygen': 65, 'turbidity'
: 93} to IBM Watson
Published data {'T': 91, 'pH': 15, 'conductivity': 0, 'oxygen': 27, 'turbidity':
60} to IBM Watson
Published data {'T': 52, 'pH': 65, 'conductivity': 59, 'oxygen': 78, 'turbidity'
: 23} to IBM Watson
Published data {'T': 96, 'pH': 96, 'conductivity': 20, 'oxygen': 47, 'turbidity'
: 90} to IBM Watson
Published data {'T': 87, 'pH': 73, 'conductivity': 92, 'oxygen': 41, 'turbidity'
: 85} to IBM Watson
Published data {'T': 90, 'pH': 21, 'conductivity': 81, 'oxygen': 83, 'turbidity'
: 61} to IBM Watson
|
```