REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

A SOURCE CODE

Submitted by

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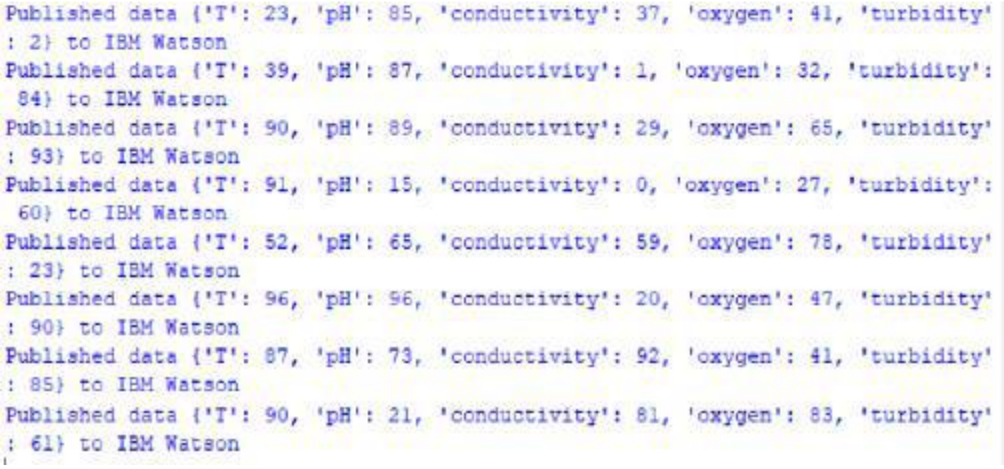
SOURCE CODE

Python Code to Publish Data

```
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)
```

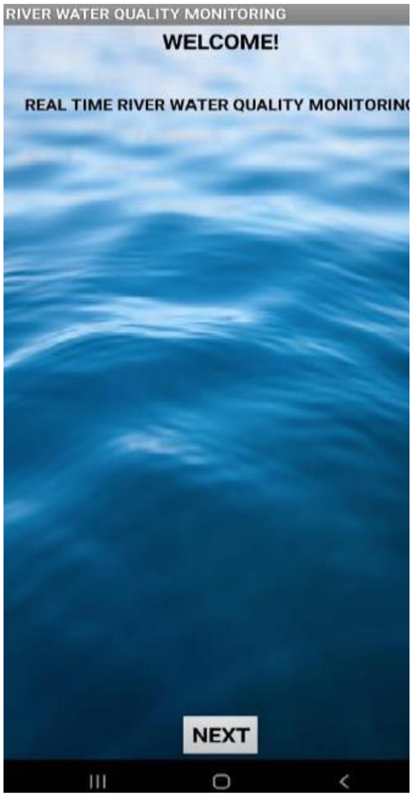
```
# .............................................
except Exception as e:
print("Caught exception connecting device: %s" % str(e))
sys.exit()
deviceCli.connect()
while True:
pH = random.randint(0,100)
conductivity = random.randint(0,100)
T = random.randint(0,100)
oxygen = random.randint(0,100)
turbidity = 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 IoTF")
time.sleep(5)
deviceCli.commandCallback = myCommandCallback

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

Output



```
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
```

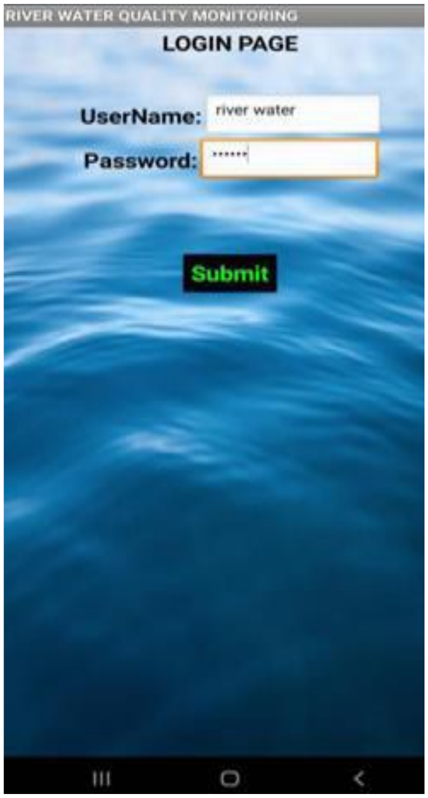
Output in Mobile App



RIVER WATER QUALITY MONITORING

WELCOME!

REAL TIME RIVER WATER QUALITY MONITORING

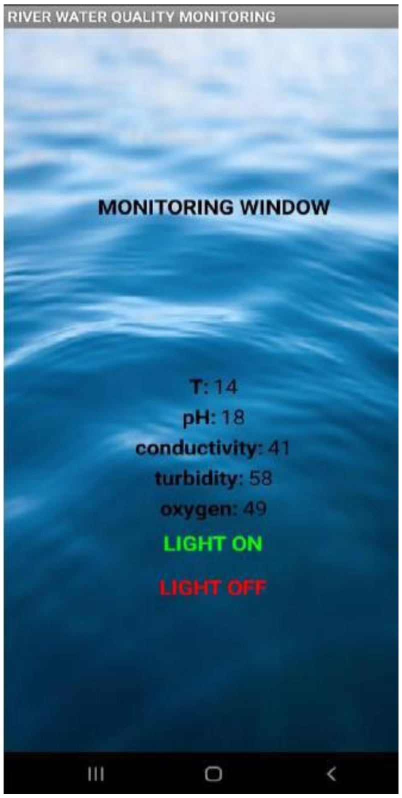


RIVER WATER QUALITY MONITORING

LOGIN PAGE

UserName: river water

Password: ******



RIVER WATER QUALITY MONITORING

MONITORING WINDOW

T: 14
pH: 18
conductivity: 41
turbidity: 58
oxygen: 49