

FINAL DELIVERABLES

COMPLETE DEMONSTRATION OF OUR PROJECT

Date	15-11-2022
Team ID	PNT2022TMID00966
Project Name	Real-Time River Water Quality Monitoring and Control System
Marks	

ABOUT OUR PROJECT

As our Project Titled Real-Time River Water Quality Monitoring and Control System, we have created the respective Code with requirements Temperature, Humidity and pH value. The code runs successfully and the output displays in the IBM Watson IoT Platform.

FINAL CODE

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "xnmpcv",
        "typeId": "Water_quality_monitoring",
        "deviceId": "Temperature_Monitoring"
    },
    "auth": {
        "token": "APTPlwZ&Wtb75ga@5&"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    ph=random.randint(0,14)
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    if ph<7:
        pH='Acidic'
    elif ph==7:
        pH='Neutral'
    else:
        pH='Basic'

    myData={'temperature':temp, 'humidity':hum,'pH':pH,'pH_value':ph}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
    onPublish=None) print("Published data Successfully: % s", myData) client.commandCallback =
    myCommandCallback
    time.sleep(2)
client.disconnect()
```

CODE OUTPUT

```
Python 3.7.0 (v3.7.0:bb9c95093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Parameswari\Documents\temperature code.py =====
2022-11-07 20:04:41,315 ibmof.device.Client     INFO  Connected successfully: d:udjkocs:1234:1234567
Published Temperature = 95 C Humidity = 82 % pHValue = 1 to IBM Watson
Published Temperature = 82 C Humidity = 12 % pHValue = 1 to IBM Watson
Published Temperature = 23 C Humidity = 5 % pHValue = 2 to IBM Watson
Published Temperature = 88 C Humidity = 98 % pHValue = 6 to IBM Watson
Published Temperature = 42 C Humidity = 49 % pHValue = 4 to IBM Watson
Published Temperature = 95 C Humidity = 65 % pHValue = 6 to IBM Watson
Published Temperature = 55 C Humidity = 31 % pHValue = 6 to IBM Watson
Published Temperature = 21 C Humidity = 3 % pHValue = 2 to IBM Watson
Published Temperature = 23 C Humidity = 85 % pHValue = 1 to IBM Watson
Published Temperature = 13 C Humidity = 94 % pHValue = 6 to IBM Watson
Published Temperature = 48 C Humidity = 54 % pHValue = 1 to IBM Watson
Published Temperature = 42 C Humidity = 15 % pHValue = 0 to IBM Watson
Published Temperature = 59 C Humidity = 0 % pHValue = 1 to IBM Watson
Published Temperature = 55 C Humidity = 5 % pHValue = 7 to IBM Watson
Published Temperature = 89 C Humidity = 55 % pHValue = 9 to IBM Watson
Published Temperature = 20 C Humidity = 0 % pHValue = 3 to IBM Watson
Published Temperature = 94 C Humidity = 76 % pHValue = 3 to IBM Watson
Published Temperature = 75 C Humidity = 40 % pHValue = 2 to IBM Watson
Published Temperature = 78 C Humidity = 4 % pHValue = 2 to IBM Watson
Published Temperature = 59 C Humidity = 7 % pHValue = 0 to IBM Watson
Published Temperature = 52 C Humidity = 37 % pHValue = 4 to IBM Watson
Published Temperature = 77 C Humidity = 72 % pHValue = 1 to IBM Watson
Published Temperature = 7 C Humidity = 86 % pHValue = 8 to IBM Watson
Published Temperature = 45 C Humidity = 88 % pHValue = 4 to IBM Watson
Published Temperature = 36 C Humidity = 41 % pHValue = 4 to IBM Watson
Published Temperature = 12 C Humidity = 7 % pHValue = 3 to IBM Watson
Published Temperature = 3 C Humidity = 4 % pHValue = 0 to IBM Watson
Published Temperature = 24 C Humidity = 7 % pHValue = 6 to IBM Watson
Published Temperature = 6 C Humidity = 84 % pHValue = 4 to IBM Watson
Published Temperature = 27 C Humidity = 93 % pHValue = 8 to IBM Watson
Published Temperature = 61 C Humidity = 16 % pHValue = 3 to IBM Watson
Published Temperature = 34 C Humidity = 94 % pHValue = 3 to IBM Watson
Published Temperature = 83 C Humidity = 87 % pHValue = 7 to IBM Watson
Published Temperature = 78 C Humidity = 4 % pHValue = 3 to IBM Watson
Published Temperature = 94 C Humidity = 95 % pHValue = 1 to IBM Watson
Published Temperature = 89 C Humidity = 71 % pHValue = 4 to IBM Watson
Published Temperature = 90 C Humidity = 57 % pHValue = 2 to IBM Watson
```

IBM Watson IoT Platform

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ID: xmppcv

Browse Action Device Types Interfaces Add Device

Temperature_Monitoring Disconnected Water_quality_monitoring Device 4 Nov 2022 11:23

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	{"Temperature":13,"Humidity":20}	json	a few seconds ago
event_1	{"Temperature":98,"Humidity":65}	json	a minute ago
event_1	{"Temperature":1,"Humidity":29}	json	a minute ago
event_1	{"Temperature":50,"Humidity":52}	json	a minute ago
event_1	{"Temperature":90,"Humidity":56}	json	a minute ago

Items per page 50 | 1–1 of 1 item

1 Simulation running

Fig. OUTPUT DISPLAYS IN IBM WATSON PLATFORM

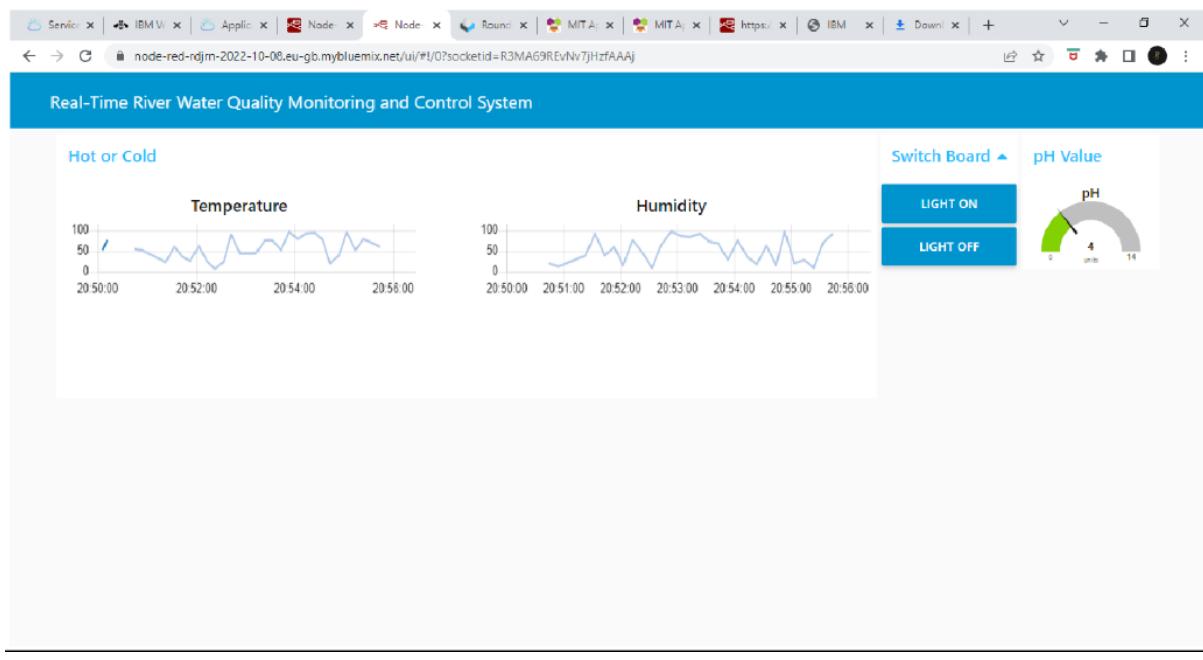
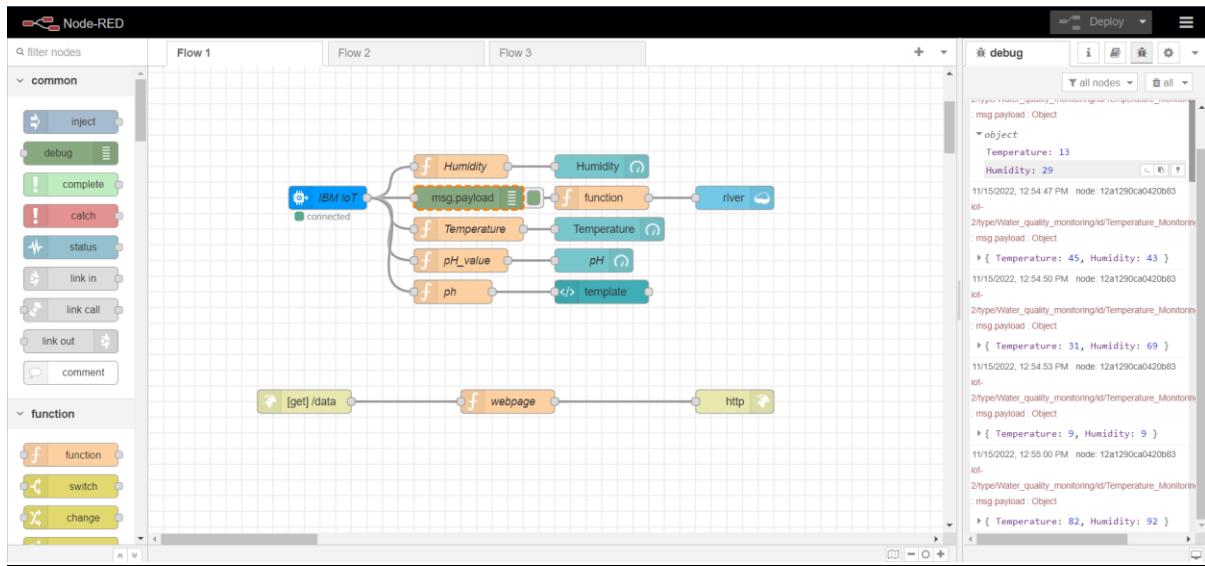


Fig. OUTPUT DISPLAYS IN NODE-RED PLATFORM



APPLICATION OUTPUT

Temperature (c) : 30

Humidity (%) : 68

pH Value : 6

CONCLUSION

In this document we have provided all the outputs which we got executed using the Python code.
