FINAL DELIVERABLES

COMPLETE DEMONSTRATION OF OUR PROJECT

Date	09-11-2022
Team ID	PNT2022TMID34532
Project Name	Real-Time River Water Quality Monitoring and Control System
Marks	

ABOUT OUR PROJECT

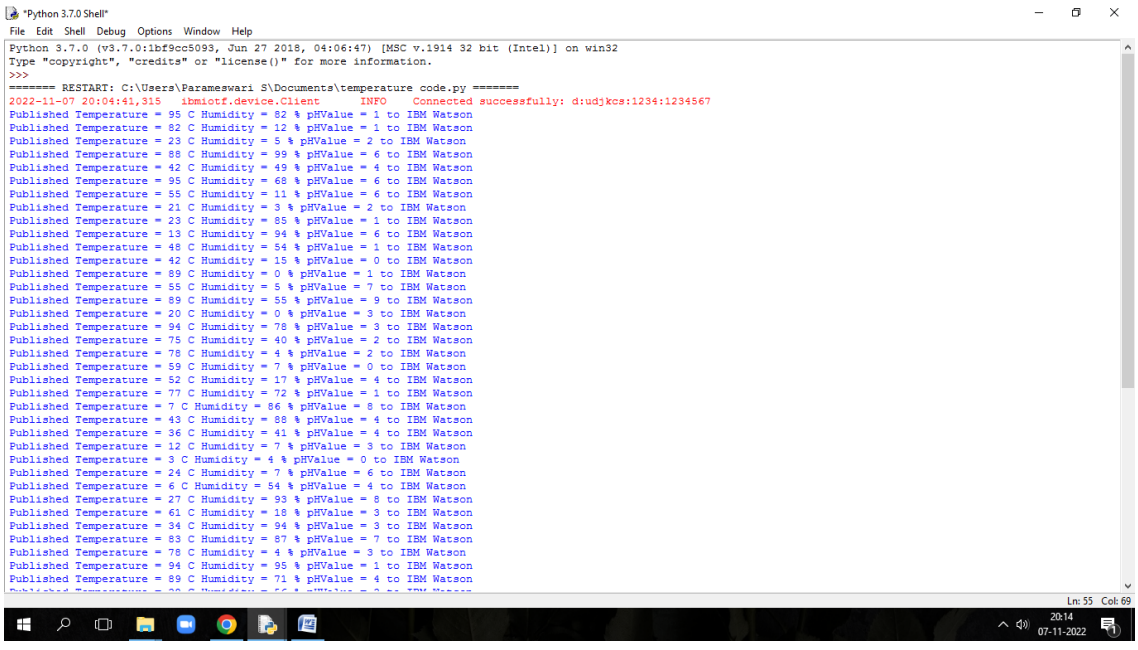
As our Project Titled Real-Time River Water Quality Monitoring and Control System, we have created the respective Code with requirements Temperature, Humidity and pH value. The code runs successfully and the output displays in the IBM Watson IoT Platform.

FINAL CODE

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


#Provide your IBM Watson Device Credentials
organization = "udjkcs"
deviceType = "1234"
deviceId = "1234567"
authMethod = "token"
authToken = "123456789"

# Initialize GPIO


def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led is off")
    else :
        print ("please send proper 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()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type
"greeting" 10 times
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11

    temp=random.randint(0,100)
    Humid=random.randint(0,100)
    pH=random.randint(0,14)

    data = { 'temp' : temp, 'Humid': Humid ,'pH' : pH }
    #print data
    def myOnPublishCallback():
      print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "pHValue =
%s" % pH,  "to IBM Watson")

    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
    if not success:
      print("Not connected to IoTF")
    time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

CODE OUTPUT



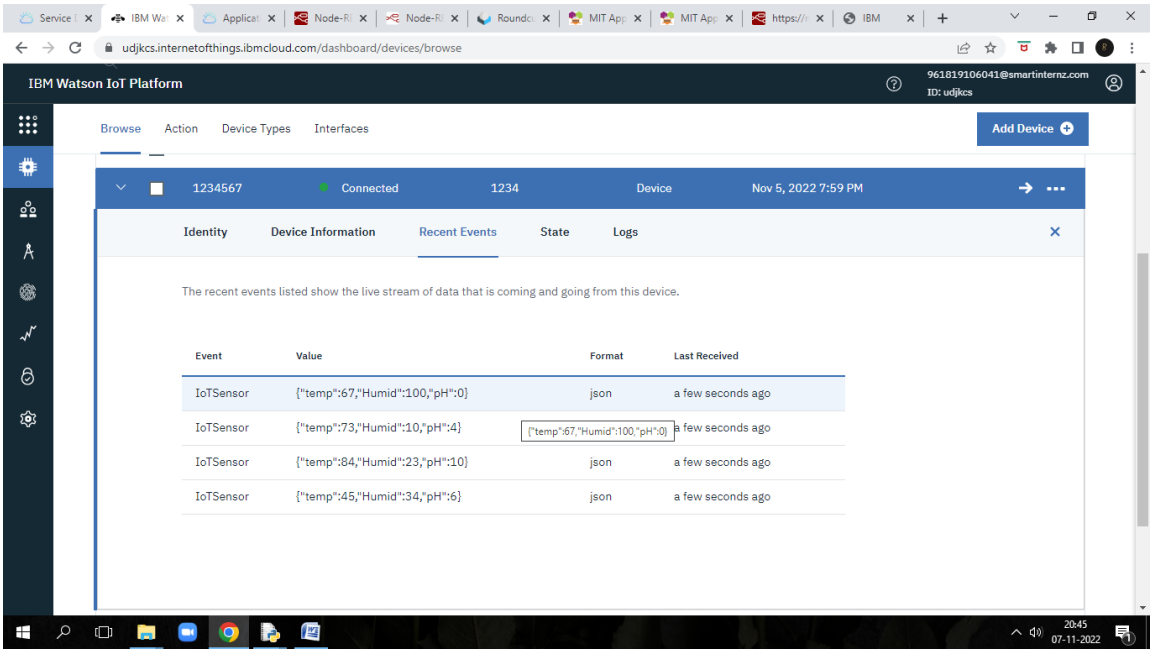


Fig. OUTPUT DISPLAYS IN IBM WATSON IoT PLATFORM

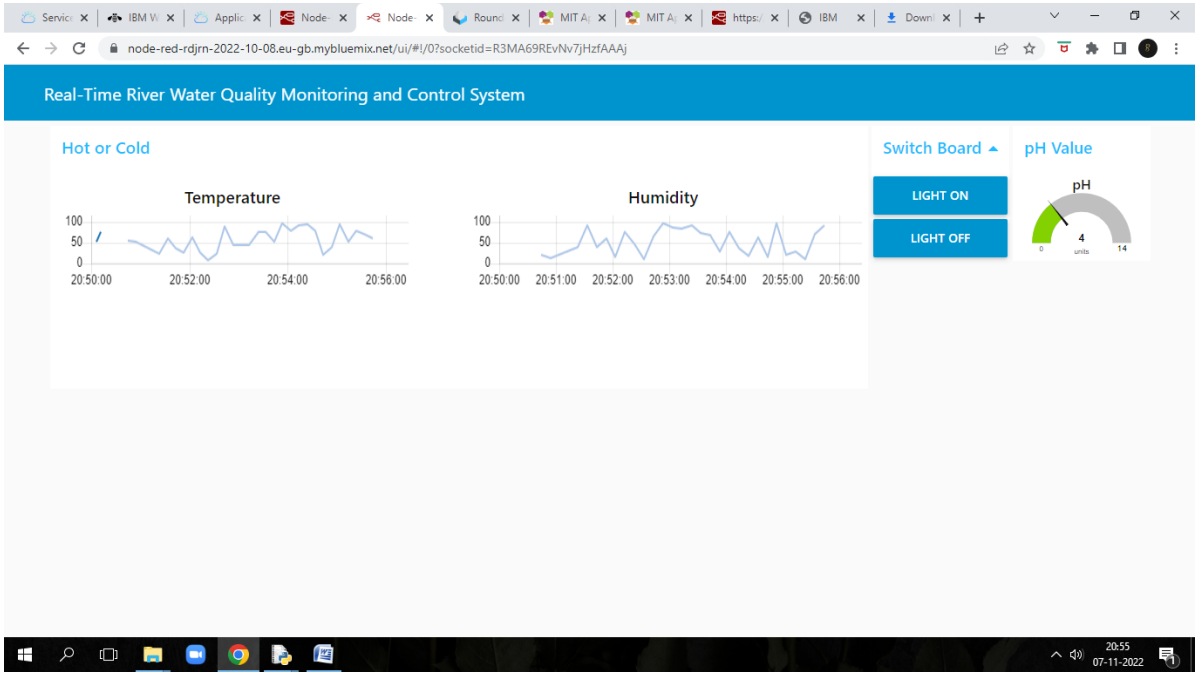
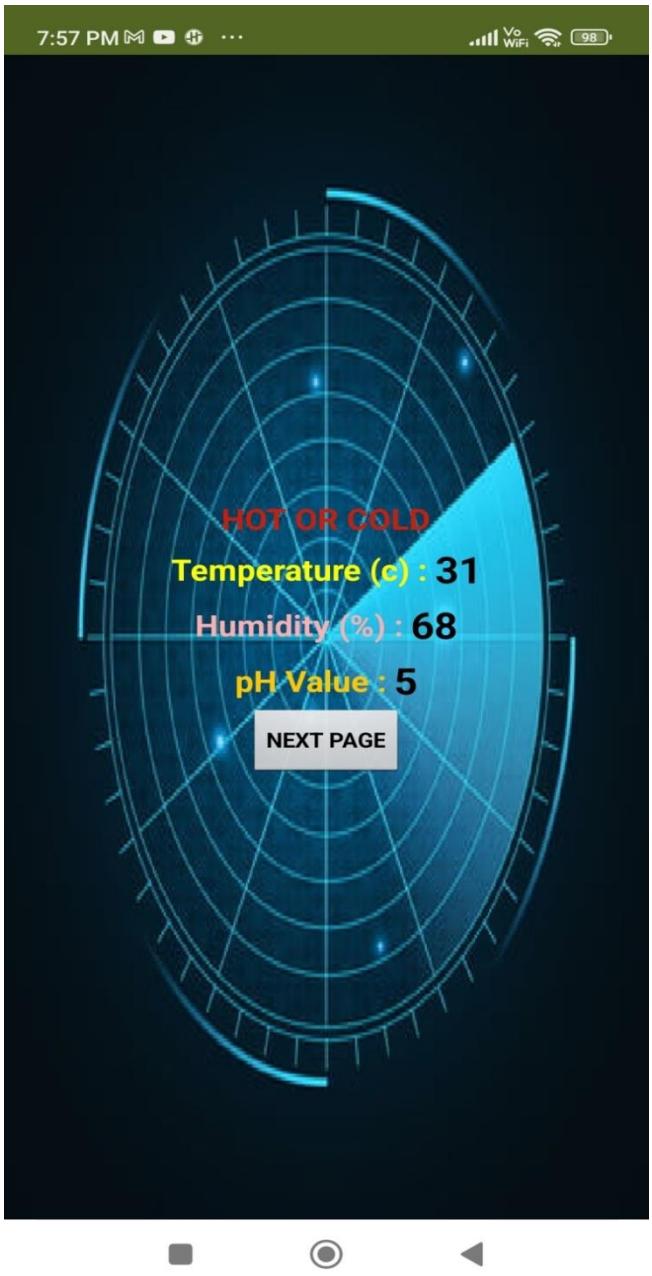


Fig. OUTPUT DISPLAYS IN NODE-RED PLATFORM

APPLICATION OUTPUT



CONCLUSION

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