PROJECT DEVELOPMENT PHASE

SPRINT-4

Date	19th November 2022
Team ID	PNT2022TMID35857
Project Name	Real-Time River Water Quality Monitoring and Control System

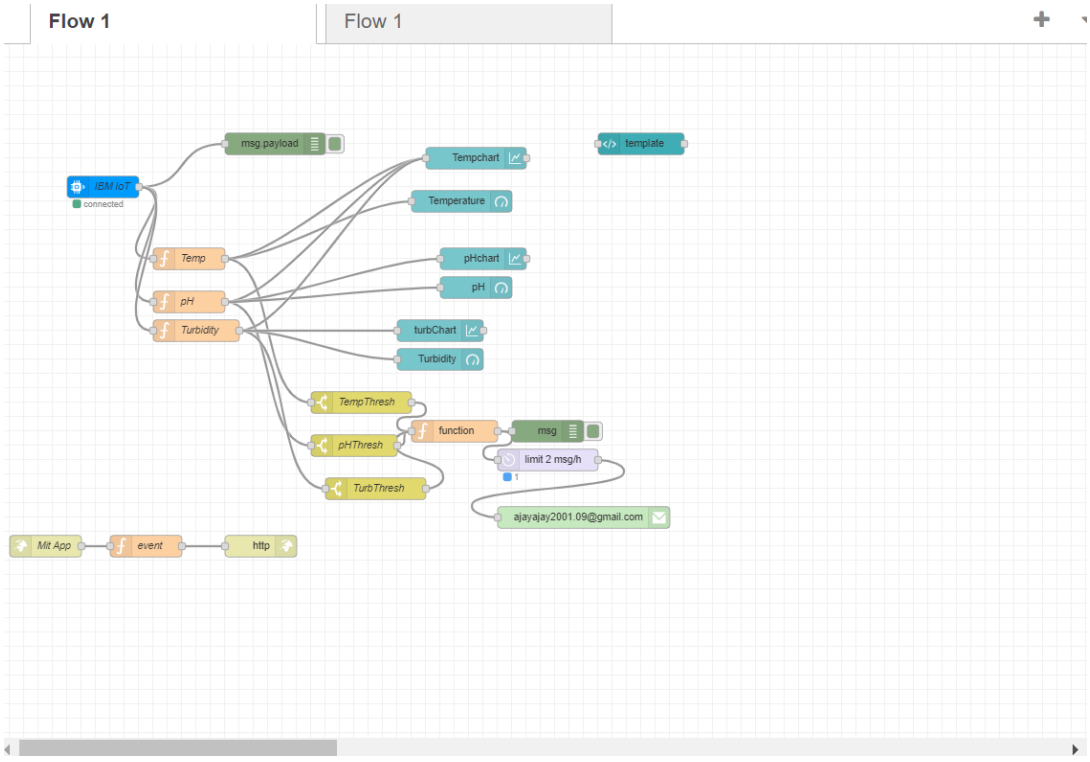
1.SMS module in python using twilio

```
import os
from twilio.rest import Client

account_sid = 'ACb4d033465895822c34e656bf6be69384'
auth_token = '6916b3bf66a451937068378db5a9692a'
client = Client(account_sid, auth_token)
def send_sms():
    message = client.messages.create(
                              messaging_service_sid='MG3d02a8b50e684c345993182
610957703',
                              body='Alert the water is not in good quality
!',
                              from_='+16294006922',
                              to='+919442130329'
                          )

    print(message.sid)
```

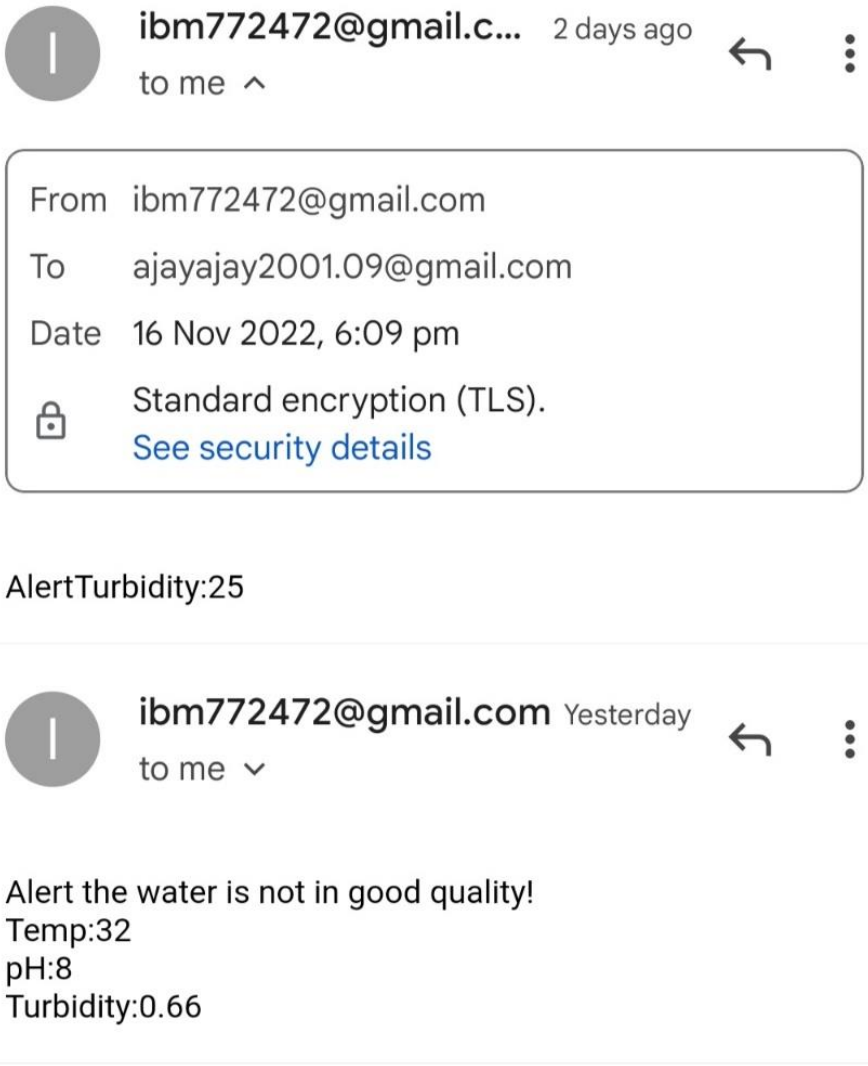
2.Python code execution output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    JUPYTER

WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
Published
Temp: 98.60 F / 37.0 C    pH: 8.0  Turbidity:0.08NTU
SMa2772d50b2e020d4d5c1f1a89c812380
WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
Published
Temp: 93.20 F / 34.0 C    pH: 2.0  Turbidity:0.96NTU
SMc6b58ac3d74880c0a77b975b7be4caee
WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
Published
Temp: 102.20 F / 39.0 C    pH: 8.0  Turbidity:1.98NTU
SMc87f70debf7c6de5a9ef5f54b318a20e
WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
Published
Temp: 93.20 F / 34.0 C    pH: 8.0  Turbidity:0.67NTU
Published
Temp: 87.80 F / 31.0 C    pH: 10.0  Turbidity:0.70NTU
SMa58e129329ef9851c9b40b4f3086a266
WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
Published
Temp: 104.00 F / 40.0 C    pH: 12.0  Turbidity:0.86NTU
SMfac4d8a9169895e99a219dcb93234bbb
WATER IN BAD QUALITY,SMS SEND SUCCESSFULLY!
```

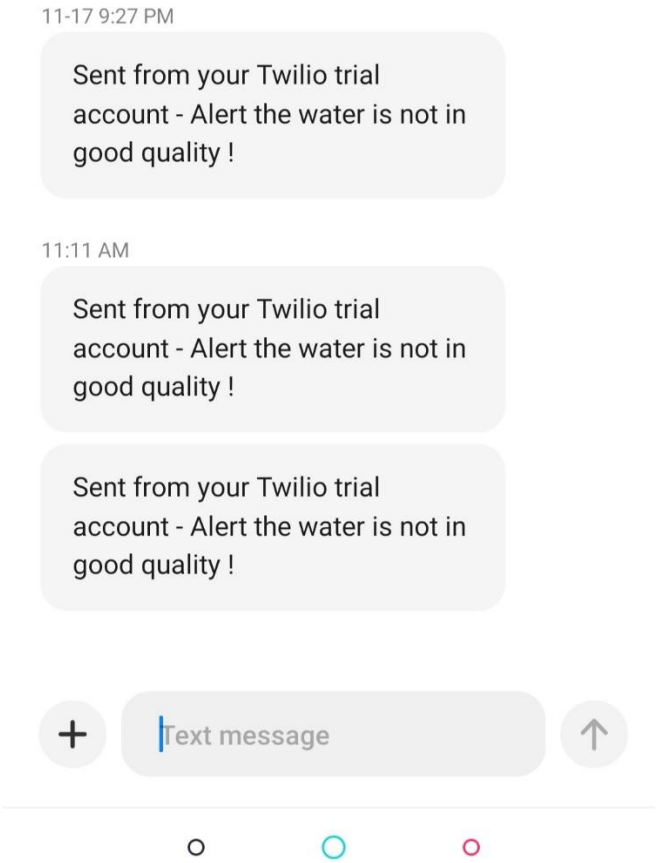
3.Node-Red implementation for alert:



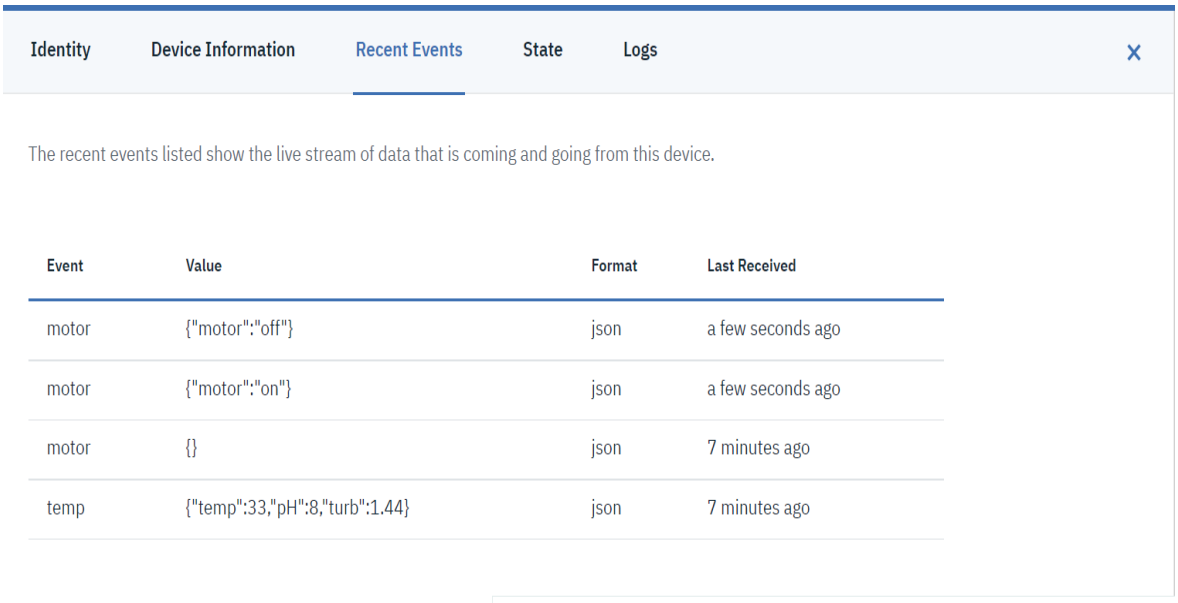
4.Mail send to notify the authorities:



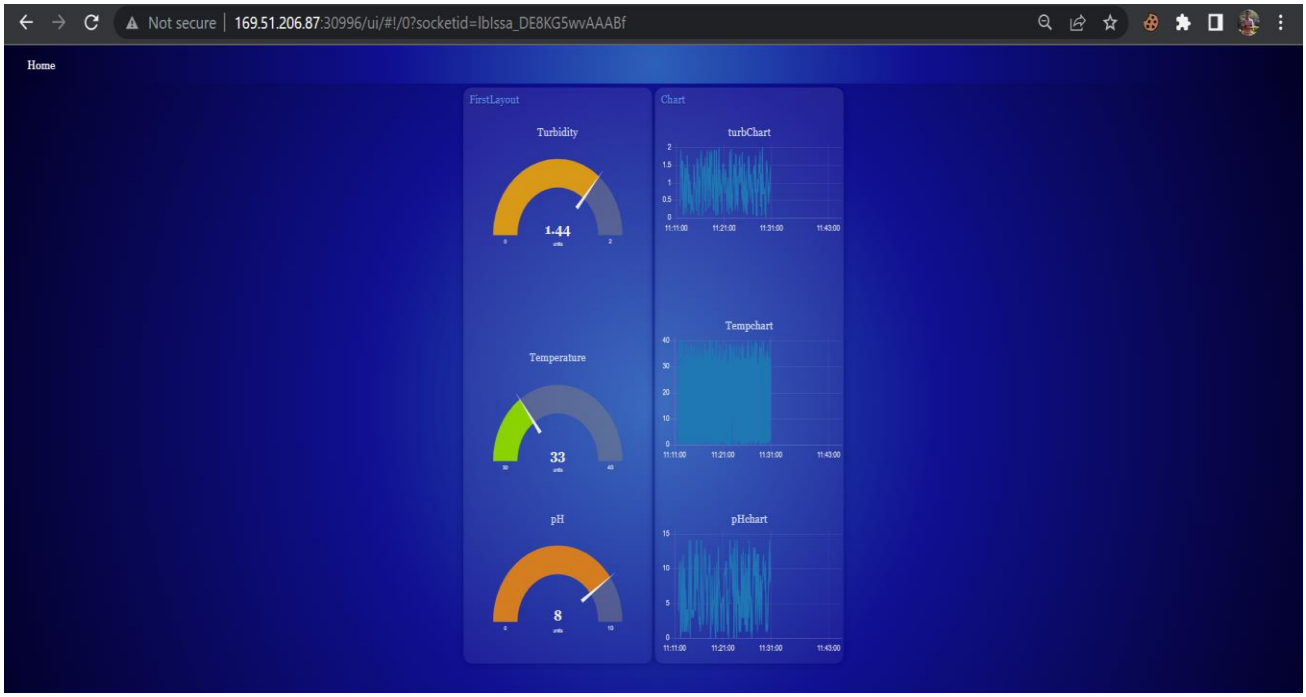
5.SMS send using SMS module in python when water parameters cross the threshold:



6.Data received in IBM Watson cloud platform:



7.Web UI dashboard:



8.Mobile-UI to receive the water parameters: