

SPRINT 3

Framework (Local system deployment)

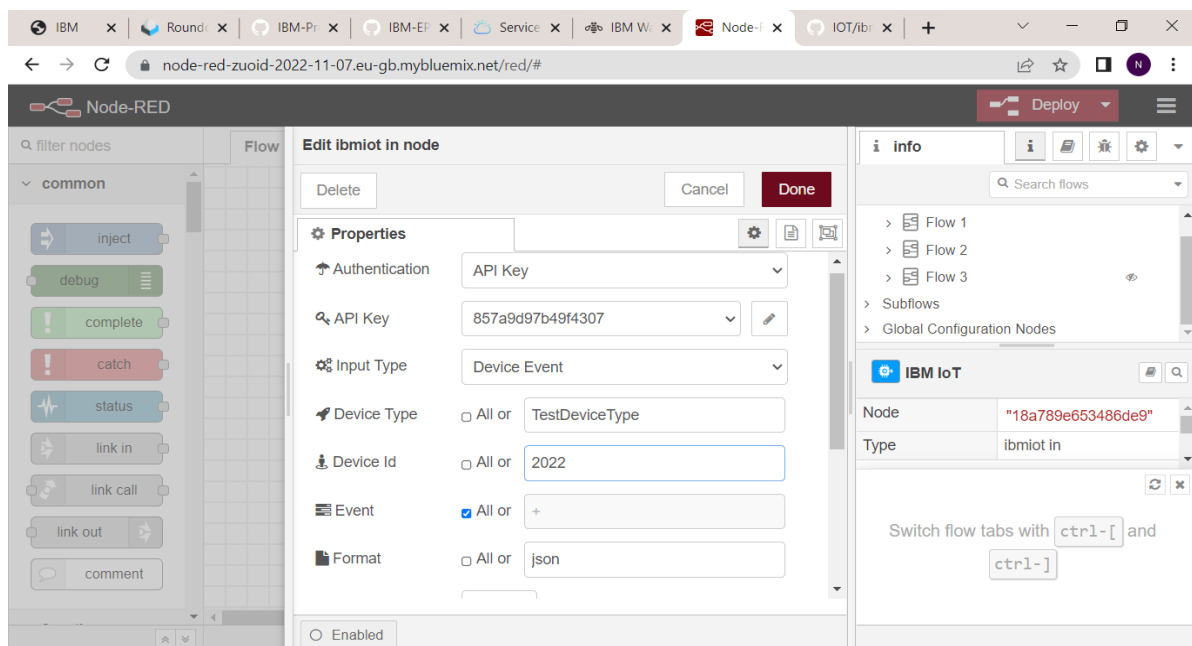
Date	15 November 2022
Team ID	PNT2022TMID27080
Project Name	Project - Gas Leakage Monitoring and Alerting System for Industries.

Local deployment:

- In this case, the entire application is contained within a virtual directory and all the contents and assemblies are contained within it and available to the application.

5.3 Configuration of Node-Red to send commands to IBM cloud:

ibmiot out node I used to send data from Node-Red to IBM Watson device. So, after adding it to the flow we need to configure it with credentials of our Watson device.



5.4 Adjusting User Interface:

In order to display the parsed JSON data a Node-Red dashboard is created Here we are using Gauges, text and button nodes to display in the UI and helps to monitor the parameters. Below images are the Gauge, text and button node configurations.

The screenshot shows the Node-RED web interface in a browser. The 'Edit gauge node' dialog is open, displaying the following properties:

- Group:** [Hazardous gas] Gas leakage
- Size:** auto
- Type:** Compass
- Label:** Pressure
- Value format:** {{value}}
- Units:** %
- Range:** min 0, max 100
- Enabled:** ☐ Enabled

The background shows the Node-RED flow editor with an 'ibmiot in' node in the input section and an 'ibmiot out' node in the output section. The debug console on the right shows incoming messages with a 'number' payload.

Complete Program Flow:

The screenshot shows the complete Node-RED flow. The flow starts with an 'IBM IoT' node (labeled 'connected') which branches into four parallel processing paths:

- HazardousGas:** The 'HazardousGas' function node is connected to a 'HazardousGas' gauge node.
- Temperature:** The 'Temperature' function node is connected to a 'Temperature' gauge node.
- Humidity:** The 'Humidity' function node is connected to a 'Humidity' gauge node.
- Pressure:** The 'Pressure' function node is connected to a 'Pressure' gauge node.

All four function nodes are also connected to a 'msg.payload' node, which is then connected to a 'msg.payload' text node. The debug console on the right shows the following messages:

- 11/9/2022, 9:18:41 PM node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/2022/evt/status/fmt/json :
msg.payload : number
40
- 11/9/2022, 9:18:42 PM node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/2022/evt/status/fmt/json :
msg.payload : number
41
- 11/9/2022, 9:18:43 PM node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/2022/evt/status/fmt/json :
msg.payload : Object
{ temperature: 93, humidity: 81, Hazardousgas: 96, pressure: 97 }
- 11/9/2022, 9:18:44 PM node: f2f2649a.0d0d98
iot-2/type/TestDeviceType/id/2022/evt/status/fmt/json :
msg.payload : number
96

Fast 2 SMS:

FAST2SMS

How Developer API Works Account Info 07:41:43 PM Nandha kum...

Dev API API Key Security

For OTP Based SMS use 'OTP SMS API' [READ API DOCS](#)

Method: GET

Route: Quick SMS

Message: Enter Entity ID
ALERT GAS HAD BEEN LEAKED IN OUR OFFICE

GET
https://www.fast2sms.com/dev/bulkV2

Query Parameter :

authorization = jlpDiS6sg3aBuQOPokfxXq1NYnbKWwEvztcZCLRT42e7rU8M05HbNCkepySXWBs8o4hVcvuRMj9LI3Z5

route = q

message = ALERT GAS HAD BEEN LEAKED IN OUR OFFICE

language = "english"

numbers = 9442573149

flash = "0"

Overall URL =

FAST2SMS

How Developer API Works Account Info 07:44:28 PM Nandha kum...

Dev API API Key Security

Message: ALERT GAS HAD BEEN LEAKED IN OUR OFFICE

Language: ☒ English ☐ Unicode

Flash Message: ☐ Yes ☒ No

Contact:

Query Parameter :

authorization = jlpDiS6sg3aBuQOPokfxXq1NYnbKWwEvztcZCLRT42e7rU8M05HbNCkepySXWBs8o4hVcvuRMj9LI3Z5

route = q

message = ALERT GAS HAD BEEN LEAKED IN OUR OFFICE

language = "english"

numbers = 9442573149

flash = "0"

Overall URL = https://www.fast2sms.com/dev/bulkV2?authorization=jlpDiS6sg3aBuQOPokfxXq1NYnbKWwEvztcZCLRT42e7rU8M05HbNCkepySXWBs8o4hVcvuRMj9LI3Z5

IBM x IBM x Node x Deve x https x IBM- x IBM- x Node x Reso x +

fast2sms.com/dashboard/dev-api

FAST2SMS

How Developer API Works Account Info 07:44:8 PM Nandha kum...

ADD CREDIT

Address Book Delivery Reports Transactions Dev API Settings Help

English Unicode

Flash Message

Yes No

Contact

9442573149

READ API DOCS

message = ALERT GAS HAD BEEN LEAKED IN OUR OFFICE

language = "english"

numbers = 9442573149

flash = "0"

Overall URL =

<https://www.fast2sms.com/dev/bulkV2?authorization=jlpDiS6sg3aBuQOPokfxXq1NYnbKWwEvztcZCLRT42e7rU8M05HbNCkepySXWbs8o4hVcvuRMj9LI3Z5&route=q&message=ALERT%20GAS%20HAD%20BEEN%20LEAKED%20IN%20OUR%20OFFICE&language=english&flash=0&numbers=9442573149>

IBM x IBM x Node x Deve x https x IBM- x IBM- x Node x Reso x +

https://node-red-zuoid-2022-11-07.eu-gb.mybluemix.net/red/#flow/ba844783534d964f

Node-RED Deploy

filter nodes

common

inject debug complete catch status link in link call link out comment

Flow 1

Flow 2

IBM IoT connected

HazardousGas Temperature Humidity Pressure

switch http request msg.payload

debug

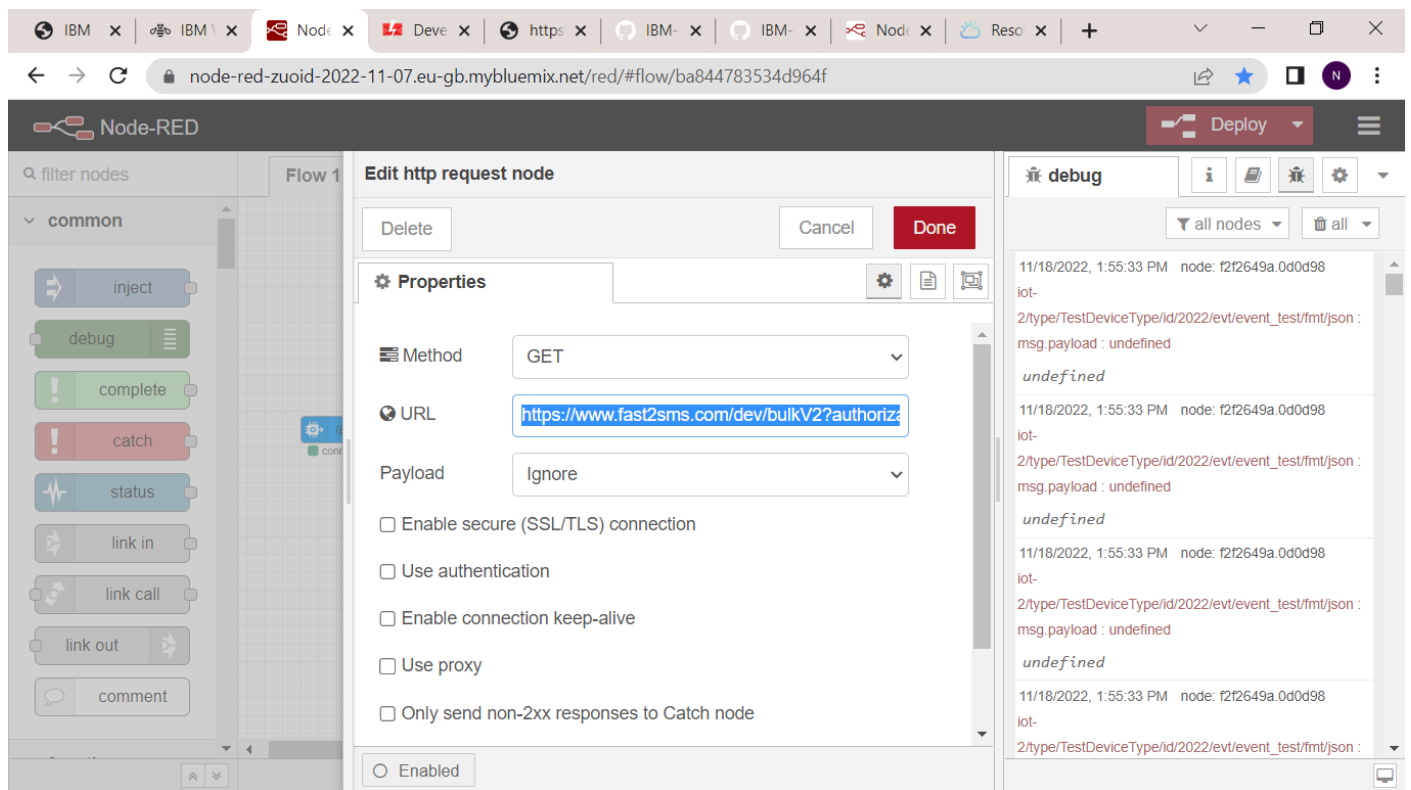
all nodes

11/18/2022, 1:55:32 PM node: f2f2649a.0d0d98
iot-
2/type/TestDeviceType/id/2022/evt/event_test/fmt/json :
msg.payload : undefined
undefined

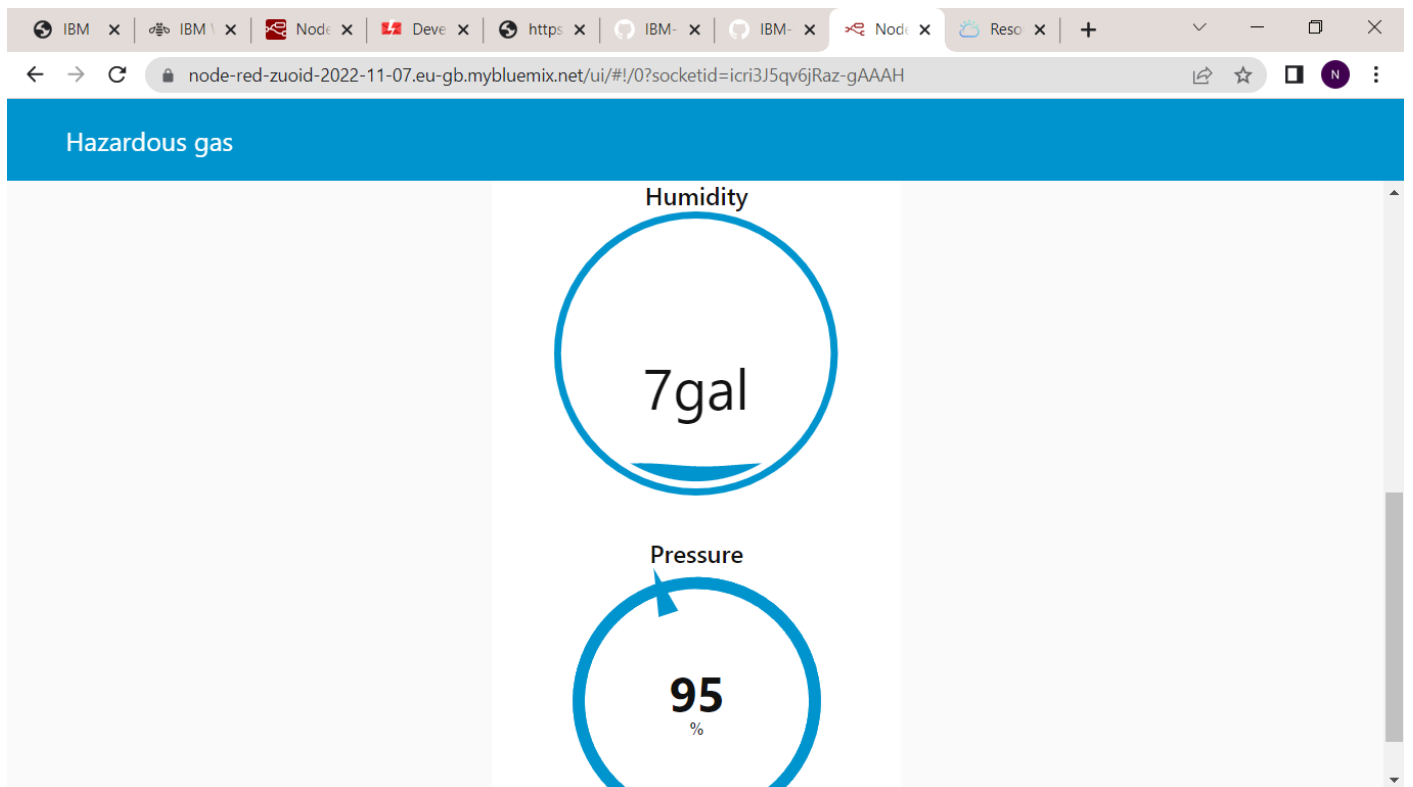
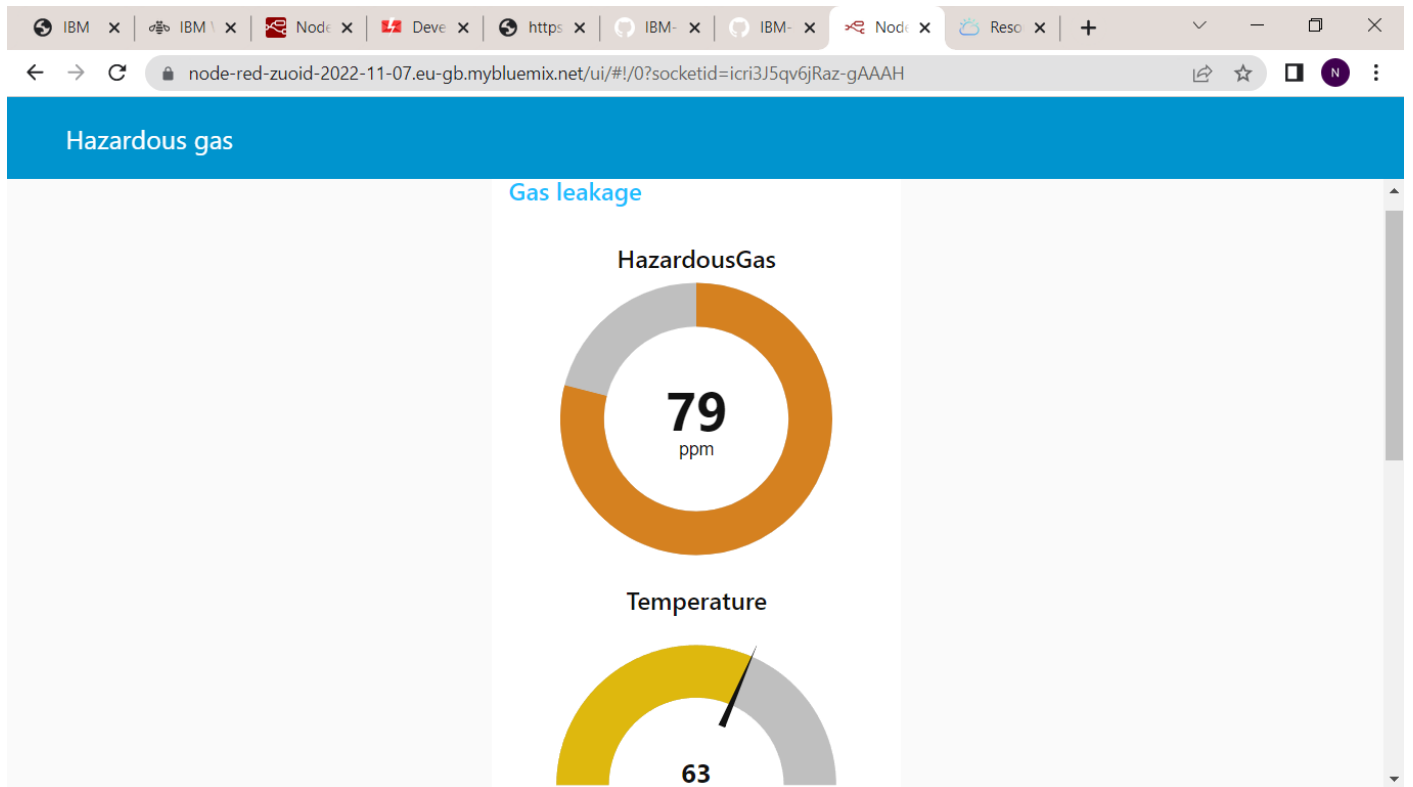
11/18/2022, 1:55:32 PM node: f2f2649a.0d0d98
iot-
2/type/TestDeviceType/id/2022/evt/event_test/fmt/json :
msg.payload : undefined
undefined

11/18/2022, 1:55:32 PM node: f2f2649a.0d0d98
iot-
2/type/TestDeviceType/id/2022/evt/event_test/fmt/json :
msg.payload : undefined
undefined

11/18/2022, 1:55:32 PM node: f2f2649a.0d0d98
iot-
2/type/TestDeviceType/id/2022/evt/event_test/fmt/json :
msg.payload : undefined
undefined



Web APP UI Home Tab:



Final Output:

