PROJECT DEVELOPMENT PHASE

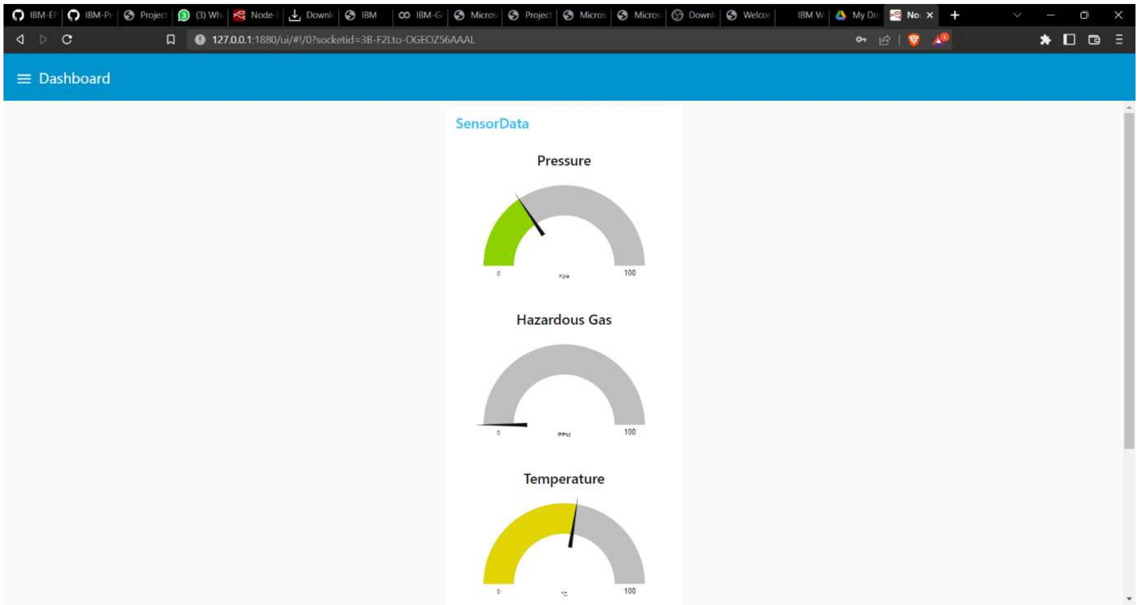
SPRINT – 3

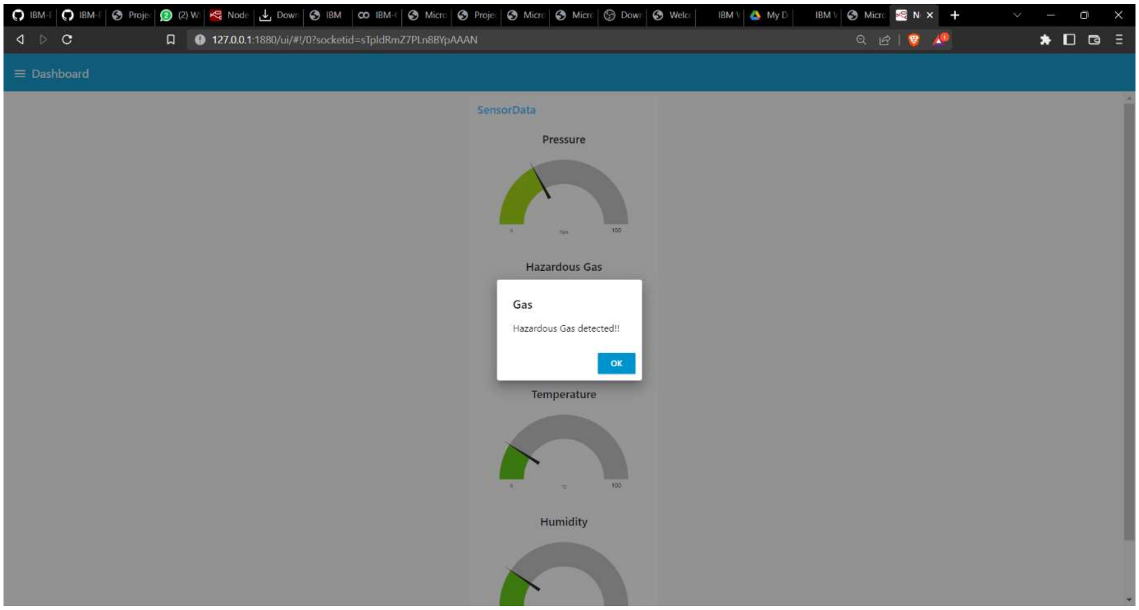
Date	13 November 2022
Team ID	PNT2022TMID21520
Project Name	Project - Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	20 Marks

Functional Requirements to be completed :

Sprint-3	Notification	USN-9	As a user, I can receive notification when there is a hazardous gas detected	2	High	MITHUL KANNAN K R SURYA KUMAR K
Sprint 3	Network connection	USN-10	The device should be connected to internet always	1	Medium	PALANI KUMAR S SURYA KUMAR K

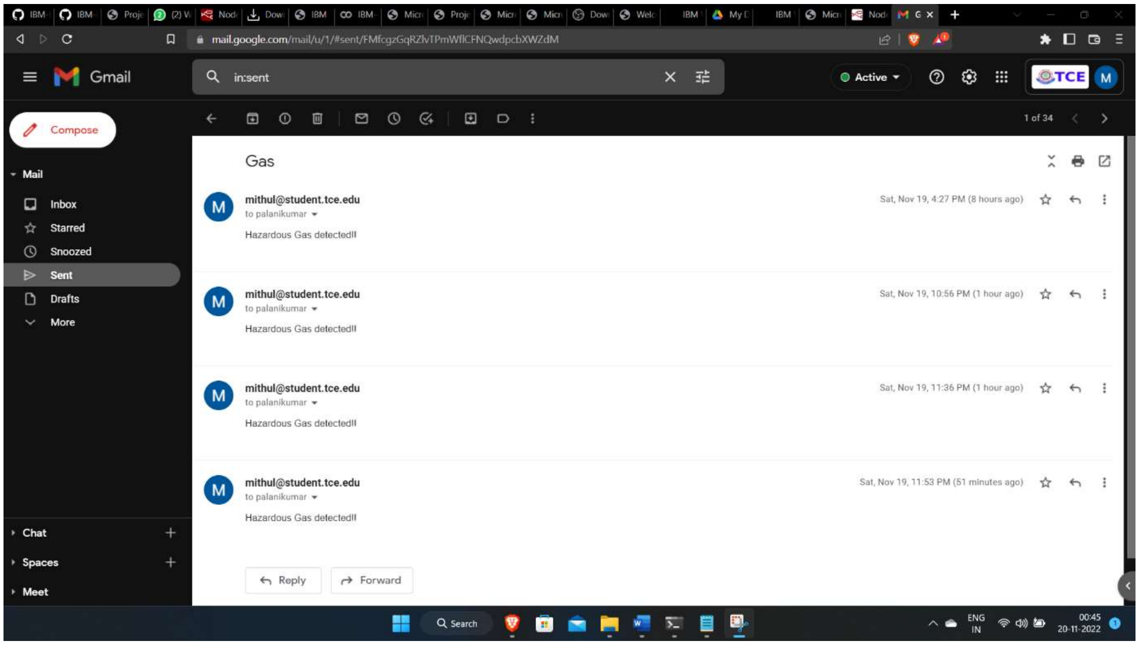
SCREENSHOTS :





Gas

Hazardous Gas detected!!



in:sent

Gas

mithul@student.tce.edu
to palanikumar
Sat, Nov 19, 4:27 PM (8 hours ago)

Hazardous Gas detected!!

mithul@student.tce.edu
to palanikumar
Sat, Nov 19, 10:56 PM (1 hour ago)

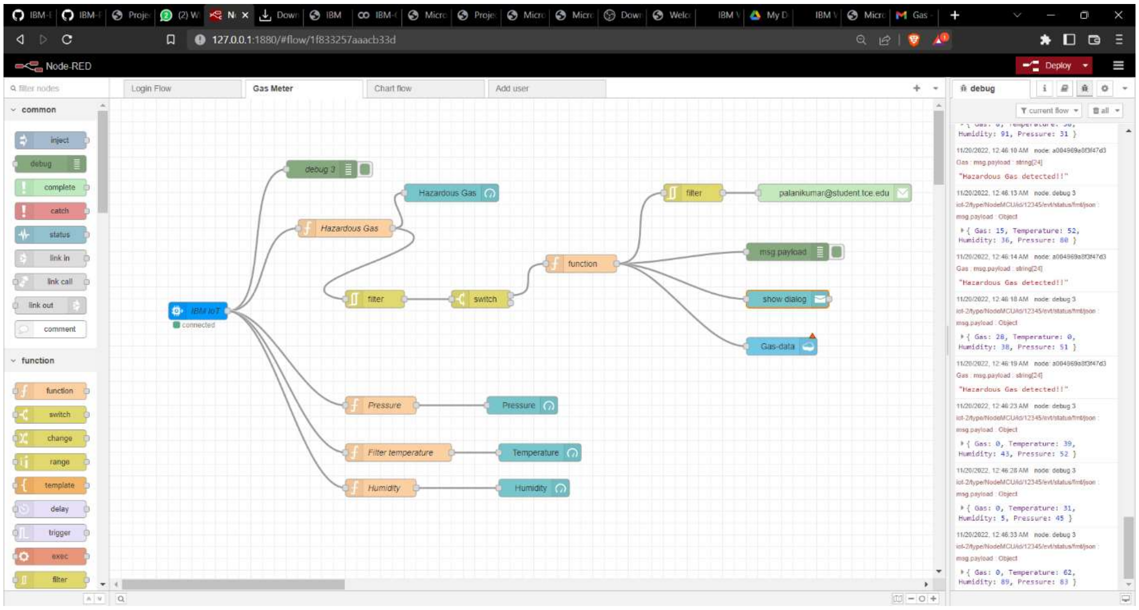
Hazardous Gas detected!!

mithul@student.tce.edu
to palanikumar
Sat, Nov 19, 11:36 PM (1 hour ago)

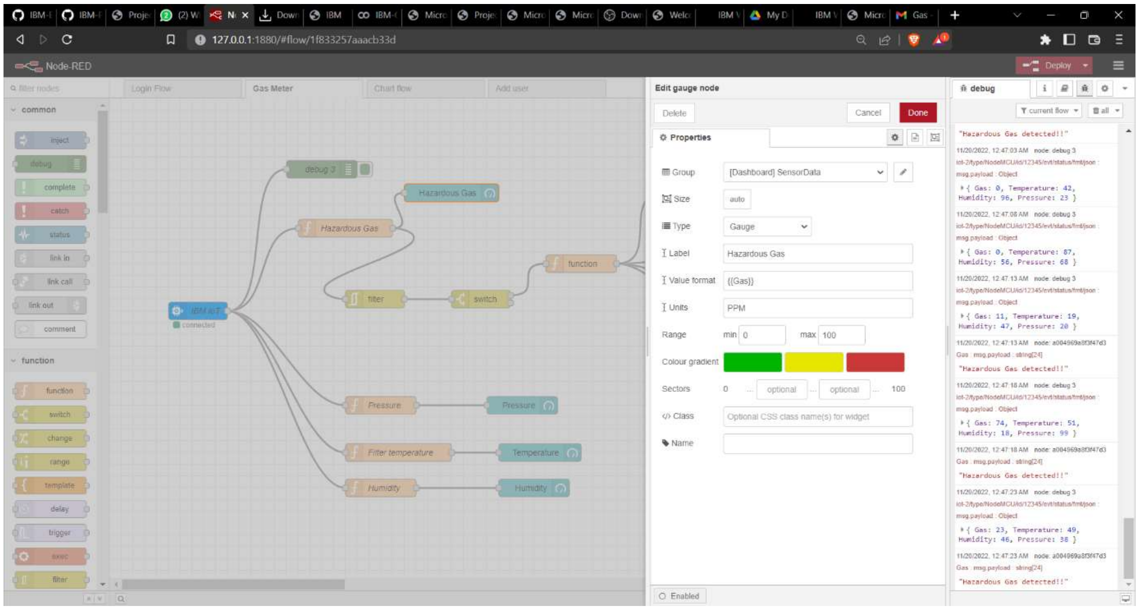
Hazardous Gas detected!!

mithul@student.tce.edu
to palanikumar
Sat, Nov 19, 11:53 PM (51 minutes ago)

Hazardous Gas detected!!



```
▸{ Gas: 0, Temperature: 50,
Humidity: 91, Pressure: 31 }
11/20/2022, 12:46:10 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:46:13 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 15, Temperature: 52,
Humidity: 36, Pressure: 80 }
11/20/2022, 12:46:14 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:46:18 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 28, Temperature: 0,
Humidity: 38, Pressure: 51 }
11/20/2022, 12:46:19 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:46:23 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 39,
Humidity: 43, Pressure: 52 }
11/20/2022, 12:46:28 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 31,
Humidity: 5, Pressure: 45 }
11/20/2022, 12:46:33 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 62,
Humidity: 89, Pressure: 83 }
```



Edit gauge node

Group: [Dashboard] SensorData

Size: auto

Type: Gauge

Label: Hazardous Gas

Value format: {{Gas}}

Units: PPM

Range: min 0 max 100

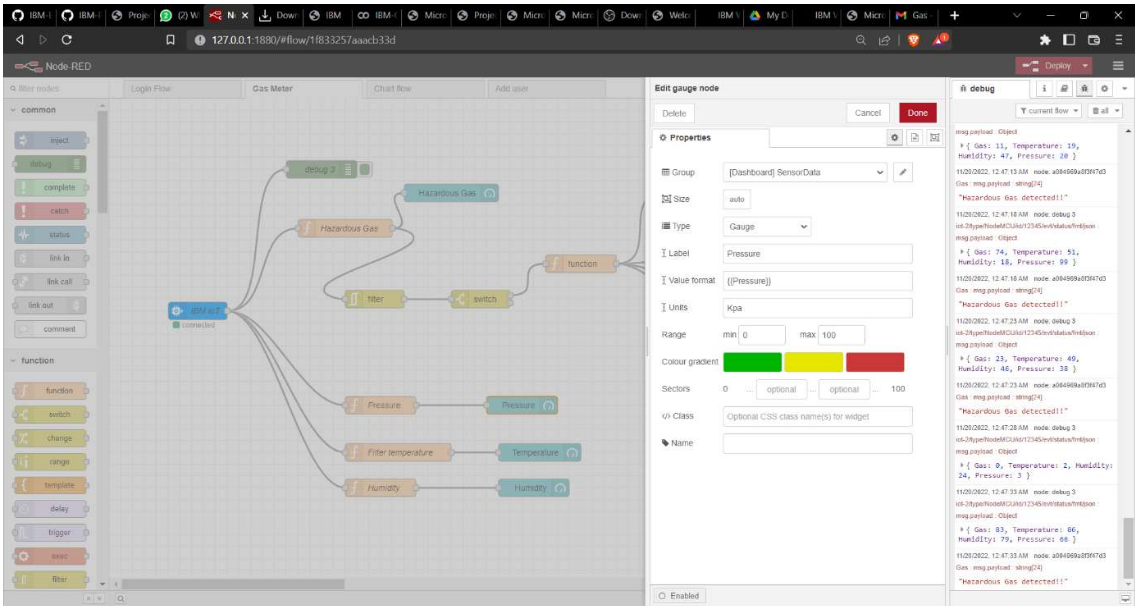
Colour gradient: 🟩 🟨 🟥

Sectors: 0 ... optional ... optional ... 100

Class: Optional CSS class name(s) for widget

Name:

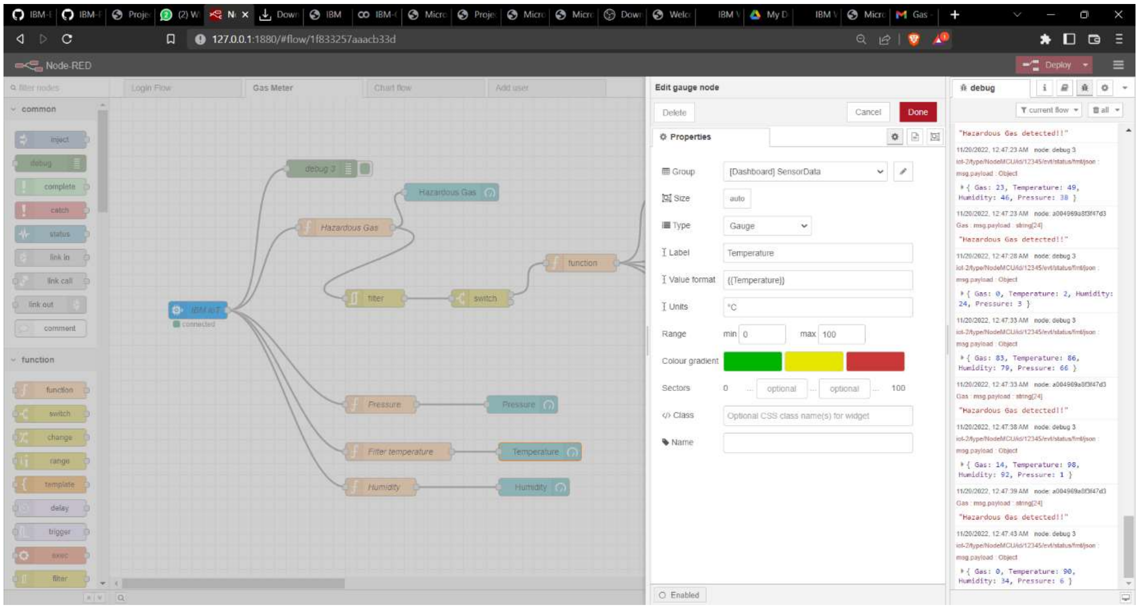
```
"Hazardous Gas detected!!"
11/20/2022, 12:47:03 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 42,
Humidity: 96, Pressure: 23 }
11/20/2022, 12:47:08 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 87,
Humidity: 56, Pressure: 68 }
11/20/2022, 12:47:13 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 11, Temperature: 19,
Humidity: 47, Pressure: 20 }
11/20/2022, 12:47:13 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:18 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 74, Temperature: 51,
Humidity: 18, Pressure: 99 }
11/20/2022, 12:47:18 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:23 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 23, Temperature: 49,
Humidity: 46, Pressure: 38 }
11/20/2022, 12:47:23 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
```



Edit gauge node

Group: [Dashboard] SensorData
Size: auto
Type: Gauge
Label: Pressure
Value format: {{Pressure}}
Units: Kpa
Range: min 0 max 100
Colour gradient: 🟩 🟨 🟥
Sectors: 0 ... optional ... optional ... 100
Class: Optional CSS class name(s) for widget
Name:

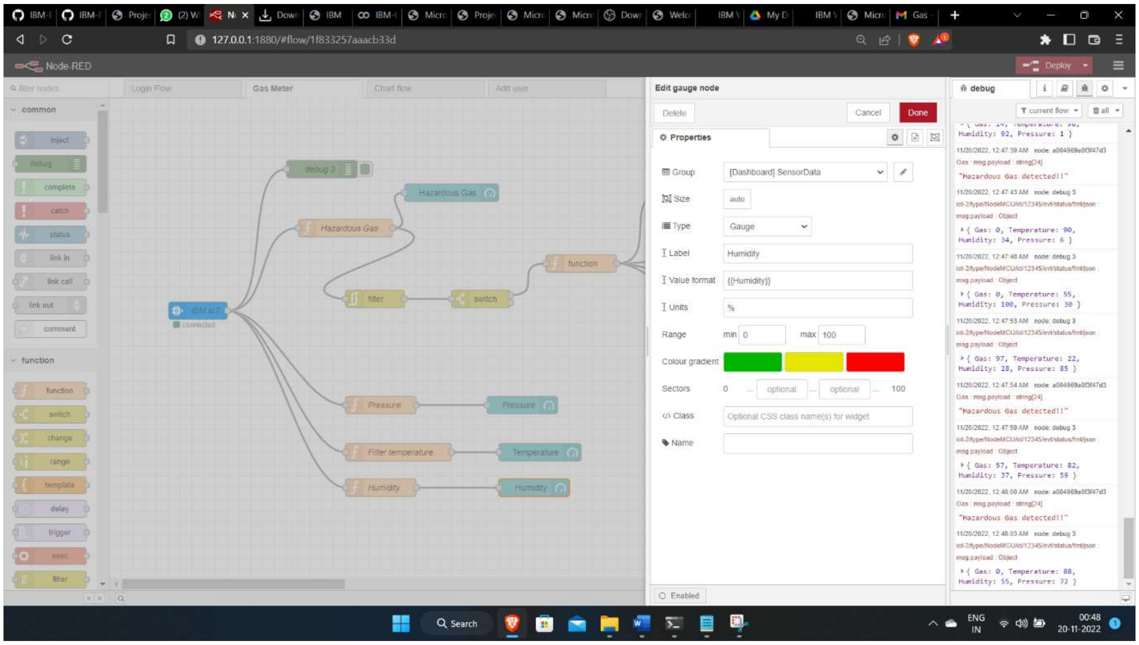
```
msg.payload : Object
▸{ Gas: 11, Temperature: 19,
Humidity: 47, Pressure: 20 }
11/20/2022, 12:47:13 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:18 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 74, Temperature: 51,
Humidity: 18, Pressure: 99 }
11/20/2022, 12:47:18 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:23 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 23, Temperature: 49,
Humidity: 46, Pressure: 38 }
11/20/2022, 12:47:23 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:28 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 2, Humidity:
24, Pressure: 3 }
11/20/2022, 12:47:33 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 83, Temperature: 86,
Humidity: 79, Pressure: 66 }
11/20/2022, 12:47:33 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
```



Edit gauge node

Group: [Dashboard] SensorData
Size: auto
Type: Gauge
Label: Temperature
Value format: {{Temperature}}
Units: °C
Range: min 0 max 100
Colour gradient: 🟩 🟨 🟥
Sectors: 0 ... optional ... optional ... 100
Class: Optional CSS class name(s) for widget
Name:

```
"Hazardous Gas detected!!"
11/20/2022, 12:47:23 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 23, Temperature: 49,
Humidity: 46, Pressure: 38 }
11/20/2022, 12:47:23 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:28 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 2, Humidity:
24, Pressure: 3 }
11/20/2022, 12:47:33 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 83, Temperature: 86,
Humidity: 79, Pressure: 66 }
11/20/2022, 12:47:33 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:38 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 14, Temperature: 98,
Humidity: 92, Pressure: 1 }
11/20/2022, 12:47:39 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:43 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 90,
Humidity: 34, Pressure: 6 }
```



Edit gauge node

Delete | Cancel | Done

Properties

Group: [Dashboard] SensorData

Size: auto

Type: Gauge

Label: Humidity

Value format: {{Humidity}}

Units: %

Range: min 0 max 100

Colour gradient: 🟩 🟨 🟥

Sectors: 0 ... optional ... optional ... 100

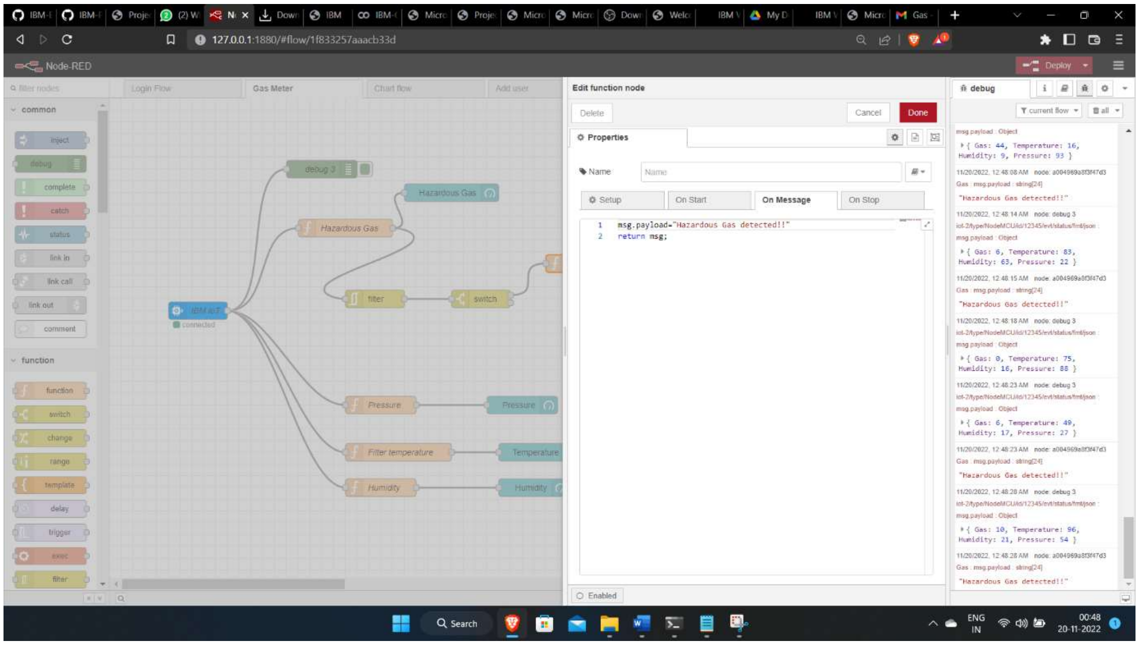
Class: Optional CSS class name(s) for widget

Name:

○ Enabled

debug — current flow — all

```
Humidity: 92, Pressure: 1 }
11/20/2022, 12:47:39 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:43 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 0, Temperature: 90, Humidity: 34, Pressure: 6 }
11/20/2022, 12:47:48 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 0, Temperature: 55, Humidity: 100, Pressure: 30 }
11/20/2022, 12:47:53 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 97, Temperature: 22, Humidity: 28, Pressure: 85 }
11/20/2022, 12:47:54 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:47:59 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 57, Temperature: 82, Humidity: 37, Pressure: 59 }
11/20/2022, 12:48:00 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:48:03 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 0, Temperature: 88, Humidity: 55, Pressure: 72 }
```



Edit function node

Delete | Cancel | Done

Properties

Name: Name

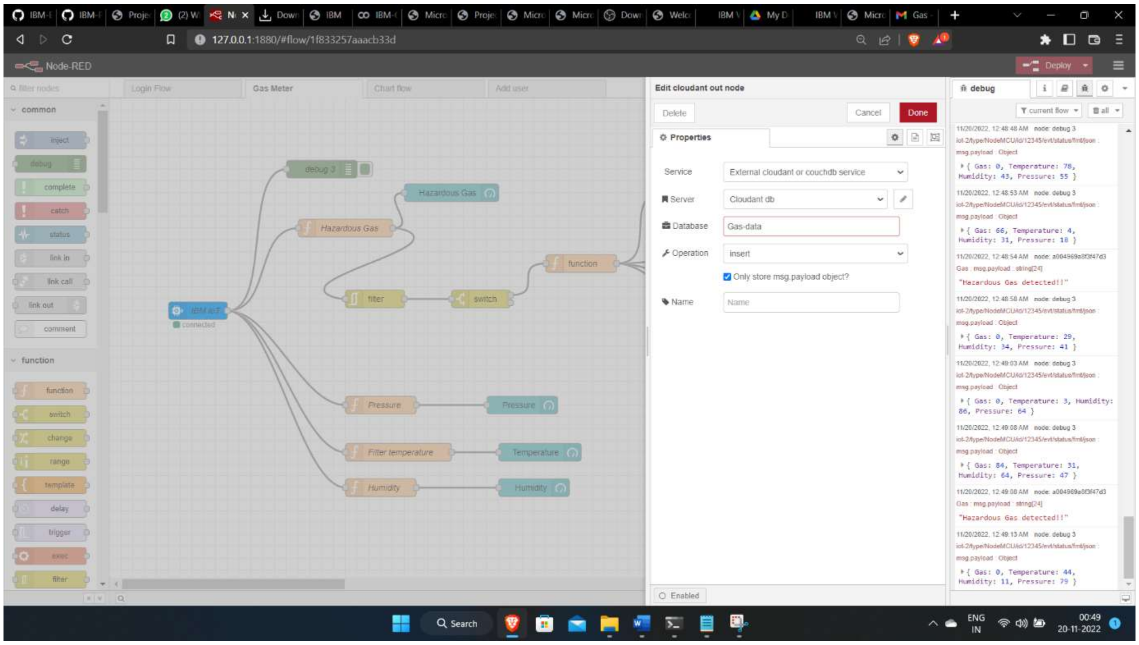
Setup | On Start | On Message | On Stop

```
msg.payload="Hazardous Gas detected!!"
return msg;
```

○ Enabled

debug — current flow — all

```
msg.payload : Object
▸{ Gas: 44, Temperature: 16, Humidity: 9, Pressure: 93 }
11/20/2022, 12:48:08 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:48:14 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 6, Temperature: 83, Humidity: 63, Pressure: 22 }
11/20/2022, 12:48:15 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:48:18 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 0, Temperature: 75, Humidity: 16, Pressure: 88 }
11/20/2022, 12:48:23 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 6, Temperature: 49, Humidity: 17, Pressure: 27 }
11/20/2022, 12:48:23 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:48:28 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json : msg.payload : Object
▸{ Gas: 10, Temperature: 96, Humidity: 21, Pressure: 54 }
11/20/2022, 12:48:28 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
```



Edit cloudant out node

Delete | Cancel | Done

Properties

Service: External cloudant or couchdb service

Server: Cloudant db

Database: Gas-data

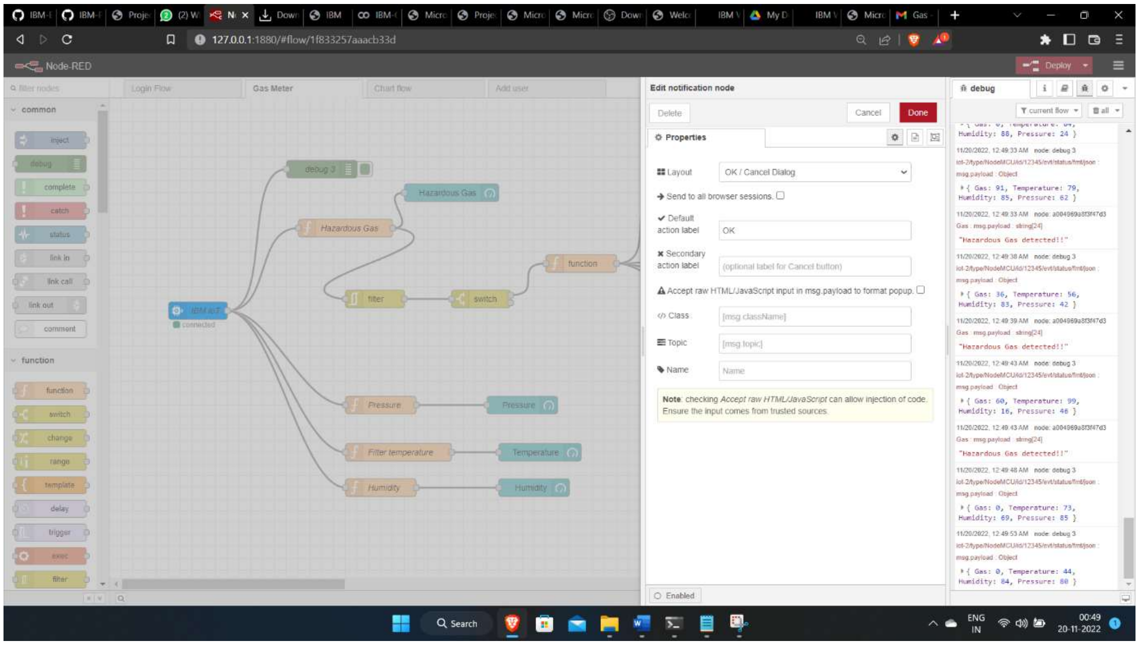
Operation: insert

☑ Only store msg.payload object?

Name: Name

debug — current flow — all

```
11/20/2022, 12:48:48 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 78,
 Humidity: 43, Pressure: 55 }
11/20/2022, 12:48:53 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 66, Temperature: 4,
 Humidity: 31, Pressure: 18 }
11/20/2022, 12:48:54 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
 "Hazardous Gas detected!!"
11/20/2022, 12:48:58 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 29,
 Humidity: 34, Pressure: 41 }
11/20/2022, 12:49:03 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 3, Humidity:
 86, Pressure: 64 }
11/20/2022, 12:49:08 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 84, Temperature: 31,
 Humidity: 64, Pressure: 47 }
11/20/2022, 12:49:08 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
 "Hazardous Gas detected!!"
11/20/2022, 12:49:13 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 44,
 Humidity: 11, Pressure: 79 }
```



Edit notification node

Delete | Cancel | Done

Properties

Layout: OK / Cancel Dialog

Send to all browser sessions. □

Default action label: OK

Secondary action label: (optional label for Cancel button)

Accept raw HTML/JavaScript input in msg.payload to format popup. □

Class: [msg.className]

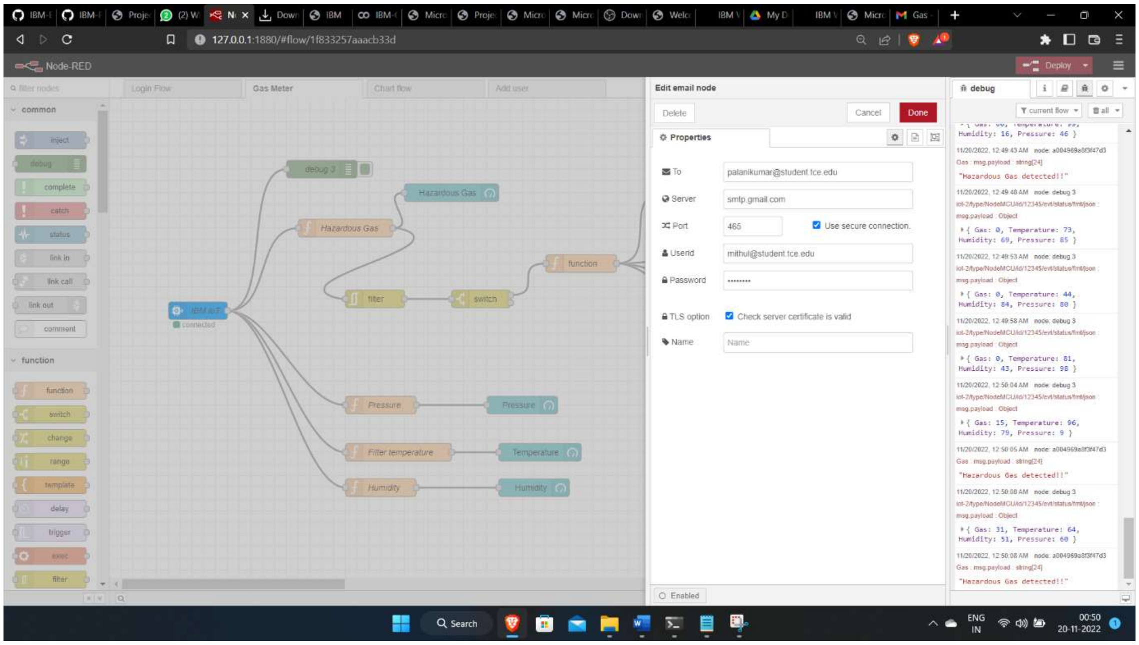
Topic: [msg.topic]

Name: Name

Note: checking *Accept raw HTML/JavaScript* can allow injection of code. Ensure the input comes from trusted sources.

debug — current flow — all

```
 Humidity: 88, Pressure: 24 }
11/20/2022, 12:49:33 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 91, Temperature: 79,
 Humidity: 85, Pressure: 62 }
11/20/2022, 12:49:33 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
 "Hazardous Gas detected!!"
11/20/2022, 12:49:38 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 36, Temperature: 56,
 Humidity: 83, Pressure: 42 }
11/20/2022, 12:49:39 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
 "Hazardous Gas detected!!"
11/20/2022, 12:49:43 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 60, Temperature: 99,
 Humidity: 16, Pressure: 46 }
11/20/2022, 12:49:43 AM   node: a004969a8f3f47d3
Gas : msg.payload : string[24]
 "Hazardous Gas detected!!"
11/20/2022, 12:49:48 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 73,
 Humidity: 69, Pressure: 85 }
11/20/2022, 12:49:53 AM   node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
 ▸{ Gas: 0, Temperature: 44,
 Humidity: 84, Pressure: 80 }
```



Edit email node

- To: palanikumar@student.tce.edu
- Server: smtp.gmail.com
- Port: 465 ☑ Use secure connection.
- Userid: mithul@student.tce.edu
- Password: ••••••••
- TLS option: ☑ Check server certificate is valid
- Name: Name

```
Humidity: 16, Pressure: 46 }
11/20/2022, 12:49:43 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:49:48 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 73,
Humidity: 69, Pressure: 85 }
11/20/2022, 12:49:53 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 44,
Humidity: 84, Pressure: 80 }
11/20/2022, 12:49:58 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 0, Temperature: 81,
Humidity: 43, Pressure: 98 }
11/20/2022, 12:50:04 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 15, Temperature: 96,
Humidity: 79, Pressure: 9 }
11/20/2022, 12:50:05 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:50:08 AM  node: debug 3
iot-2/type/NodeMCU/id/12345/evt/status/fmt/json :
msg.payload : Object
▸{ Gas: 31, Temperature: 64,
Humidity: 51, Pressure: 60 }
11/20/2022, 12:50:08 AM  node: a004969a8f3f47d3
Gas : msg.payload : string[24]
"Hazardous Gas detected!!"
```