

# PROJECT DEVELOPMENT PHASE

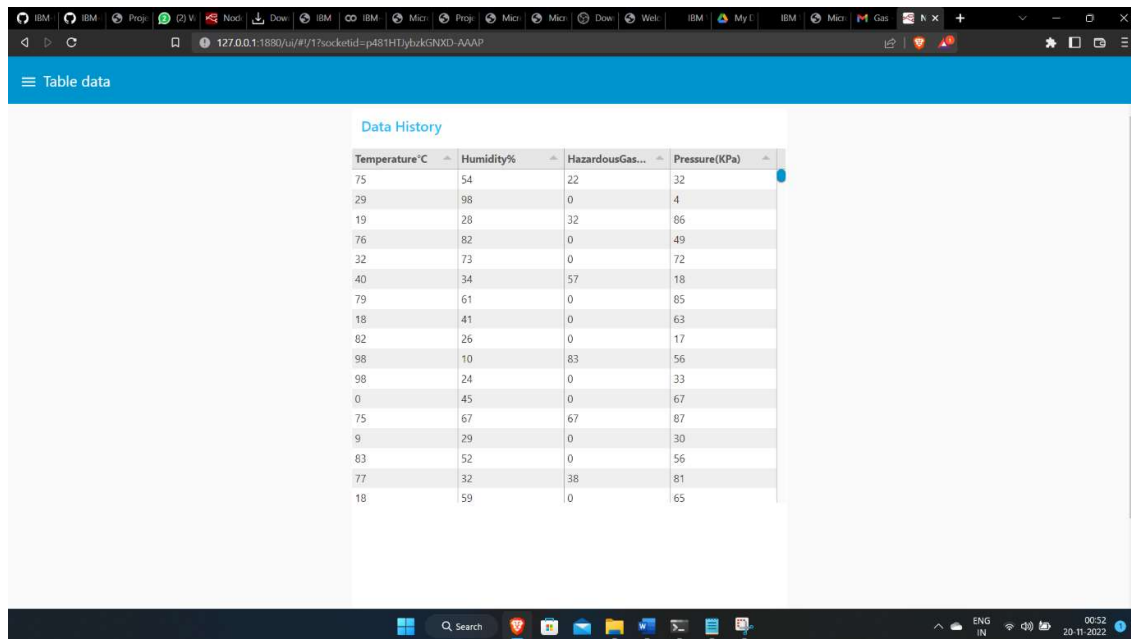
## SPRINT – 4

Date	19 November 2022
Team ID	PNT2022TMID21520
Project Name	Project - Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	20 Marks

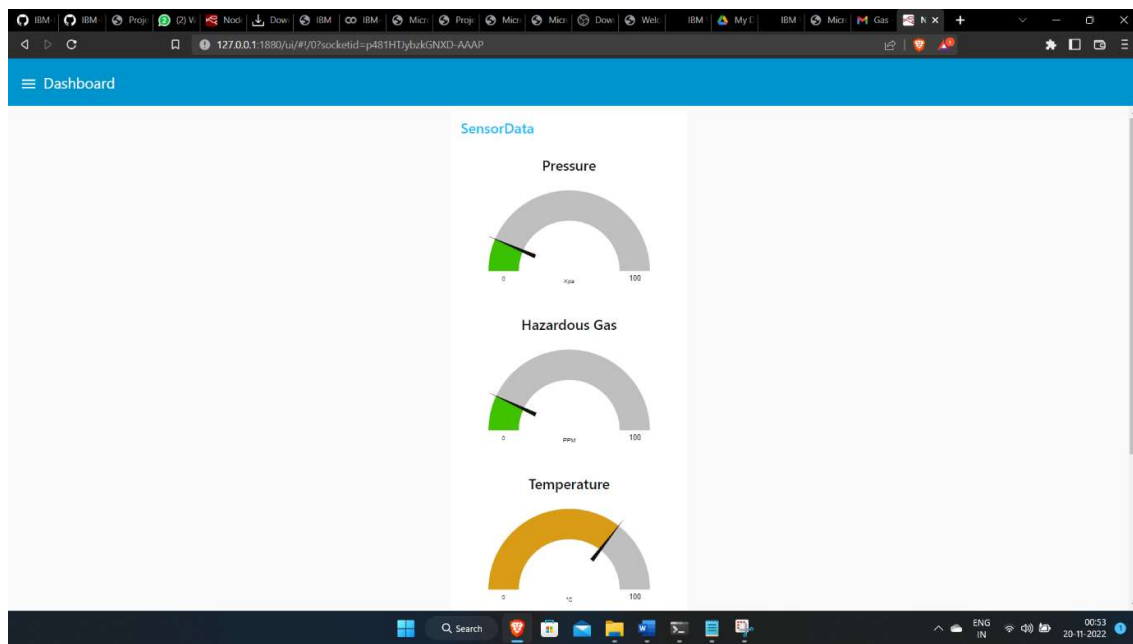
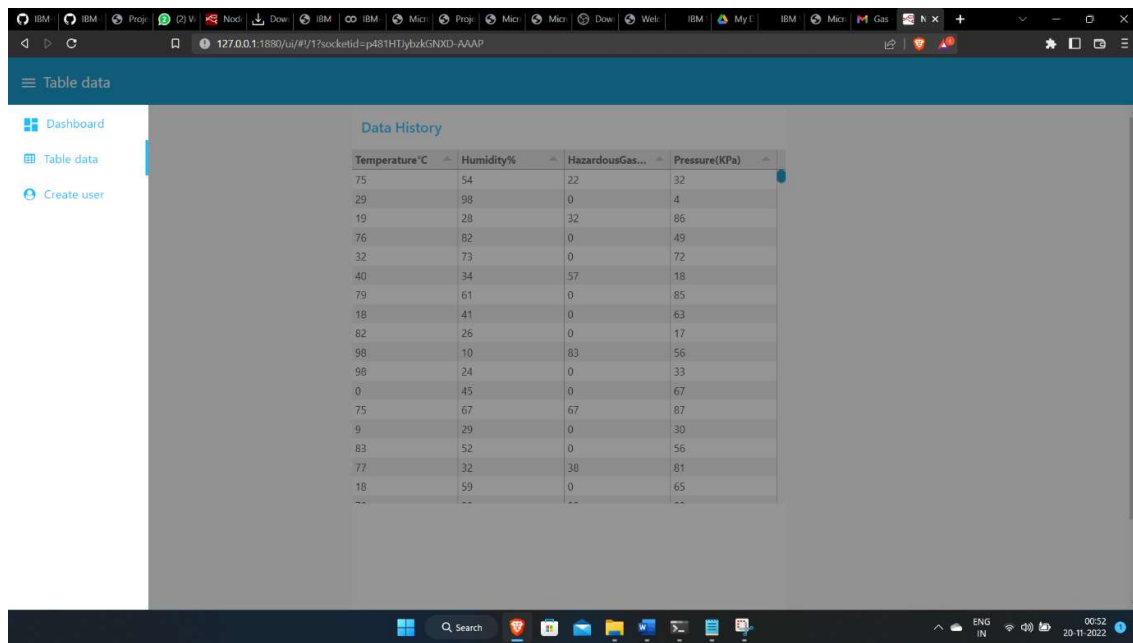
### Functional Requirements to be completed :

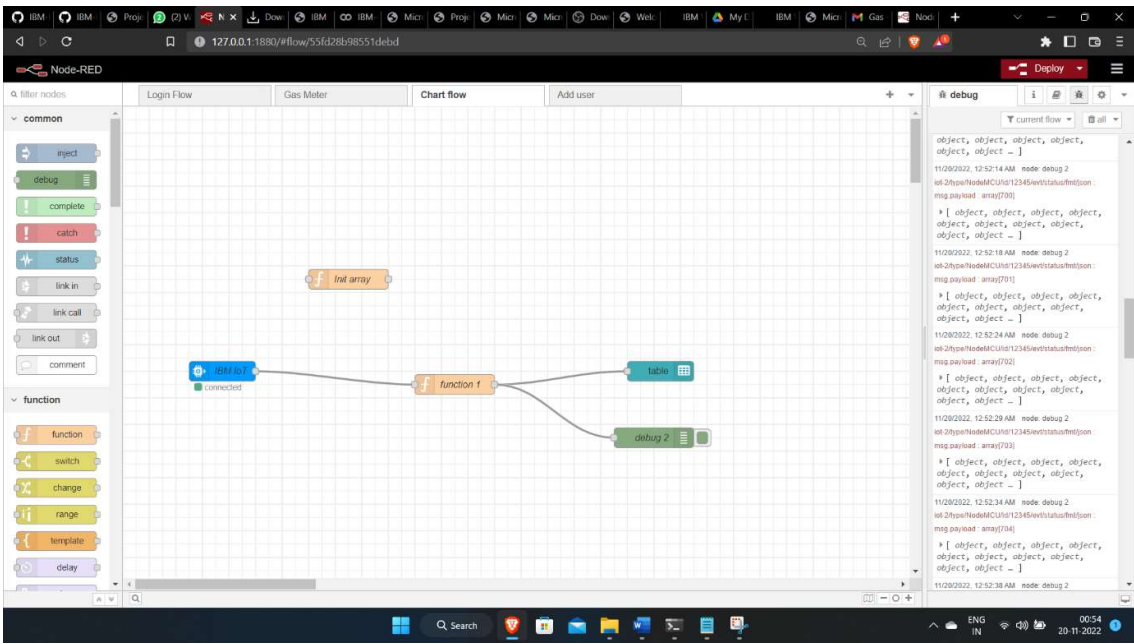
Sprint 4	Administrator	USN-11	As an administrator , I should be able to monitor the gas sensor data in dashboard and receive notification.	2	High	MITHUL KANNAN K R PALANI KUMAR S
			As an admin, I can provide or revoke login credentials	2	Medium	MITHUL KANNAN K R

### SCREENSHOTS :



Temperature°C	Humidity%	HazardousGas...	Pressure(KPa)
75	54	22	32
29	98	0	4
19	28	32	86
76	82	0	49
32	73	0	72
40	34	57	18
79	61	0	85
18	41	0	63
82	26	0	17
98	10	83	56
98	24	0	33
0	45	0	67
75	67	67	87
9	29	0	30
83	52	0	56
77	32	38	81
18	59	0	65









Node-RED interface showing a flow diagram and the 'Edit gauge node' configuration panel.

**Flow Diagram:**

- Input: IBM IoT Gateway (connected)
- Function: Filter (filter)
- Function: Switch (switch)
- Function: Hazardous Gas (Hazardous Gas)
- Function: Pressure (Pressure)
- Function: Filter temperature (Filter temperature)
- Function: Humidity (Humidity)

**Edit gauge node configuration:**

- Group: [Dashboard] SensorData
- Size: auto
- Type: Gauge
- Label: Hazardous Gas
- Value format: {{Gas}}
- Units: PPM
- Range: min 0 max 100
- Colour gradient: [Green, Yellow, Red]
- Sectors: 0 optional optional 100
- Class: Optional CSS class name(s) for widget
- Name:

**Debug Console:**

```
11/20/2022, 12:53:14 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 30, Temperature: 6,
Humidity: 6, Pressure: 52 }
11/20/2022, 12:53:15 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:19 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 54, Temperature: 80,
Humidity: 53, Pressure: 67 }
11/20/2022, 12:53:20 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:23 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 0, Temperature: 20,
Humidity: 11, Pressure: 48 }
11/20/2022, 12:53:30 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:33 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 75, Temperature: 85,
Humidity: 73, Pressure: 24 }
11/20/2022, 12:53:33 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 0, Temperature: 9,
Humidity: 99, Pressure: 5 }
```

Node-RED interface showing a flow diagram and the 'Edit gauge node' configuration panel.

**Flow Diagram:**

- Input: IBM IoT Gateway (connected)
- Function: Filter (filter)
- Function: Switch (switch)
- Function: Hazardous Gas (Hazardous Gas)
- Function: Pressure (Pressure)
- Function: Filter temperature (Filter temperature)
- Function: Humidity (Humidity)

**Edit gauge node configuration:**

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

**Debug Console:**

```
11/20/2022, 12:53:30 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:33 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 80, Temperature: 80,
Humidity: 33, Pressure: 27 }
11/20/2022, 12:53:34 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:39 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 67, Temperature: 17,
Humidity: 29, Pressure: 4 }
11/20/2022, 12:53:39 AM node a004989a8014743
Gas - msg.payload - string[24]
"Hazardous Gas detected!!"
11/20/2022, 12:53:43 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 0, Temperature: 75,
Humidity: 80, Pressure: 52 }
11/20/2022, 12:53:48 AM node debug 3
iot-2typeNodeMCUId/1234567890/status/pressure:
msg.payload: Object
{ Gas: 0, Temperature: 9,
Humidity: 99, Pressure: 5 }
```



Node-RED interface showing a flow diagram and the configuration for a 'Gauge' node.

**Flow Diagram:**

- Input:** IBM IoT Gateway (connected)
- Processing:**
  - Filter: `msg.payload.Gas`
  - Function: `Temperature`
  - Function: `Pressure`
  - Function: `Humidity`
- Output:** Hazardous Gas (Trigger)

**Edit gauge node Properties:**

- Group:** [Dashboard] SensorData
- Size:** auto
- Type:** Gauge
- Label:** Temperature
- Value format:** {{Temperature}}
- Units:** °C
- Range:** min 0 max 100
- Colour gradient:** Green, Yellow, Red
- Sectors:** 0 optional optional 100
- Class:** Optional CSS class name(s) for widget
- Name:**

**Debug Console:**

```
11/20/2022, 12:53:48 AM node debug 3
iot-2?type=NodeMCUId/1234567890/status/temperature:
msg.payload: Object
{ Gas: 0, Temperature: 9, Humidity: 99, Pressure: 5 }

11/20/2022, 12:53:53 AM node debug 3
iot-2?type=NodeMCUId/1234567890/status/temperature:
msg.payload: Object
{ Gas: 0, Temperature: 3, Humidity: 14, Pressure: 85 }

11/20/2022, 12:53:58 AM node debug 3
iot-2?type=NodeMCUId/1234567890/status/temperature:
msg.payload: Object
{ Gas: 19, Temperature: 93, Humidity: 59, Pressure: 8 }

11/20/2022, 12:53:58 AM node a004968a05047d03
Gas: msg.payload: string[24]
"Hazardous Gas detected!!!"

11/20/2022, 12:54:03 AM node debug 3
iot-2?type=NodeMCUId/1234567890/status/temperature:
msg.payload: Object
{ Gas: 0, Temperature: 9, Humidity: 19, Pressure: 71 }

11/20/2022, 12:54:08 AM node debug 3
iot-2?type=NodeMCUId/1234567890/status/temperature:
msg.payload: Object
{ Gas: 0, Temperature: 40, Humidity: 94, Pressure: 59 }
```