

SPRINT 2

Team ID	PNT2022TMID14695
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT

1. Device Creation using IoT Watson platform with credentials:

Browse

Action

Device Types

Interfaces

Add Device +

Browse Devices

All DevicesDiagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Q Search by Device ID

Device Simulator ☒

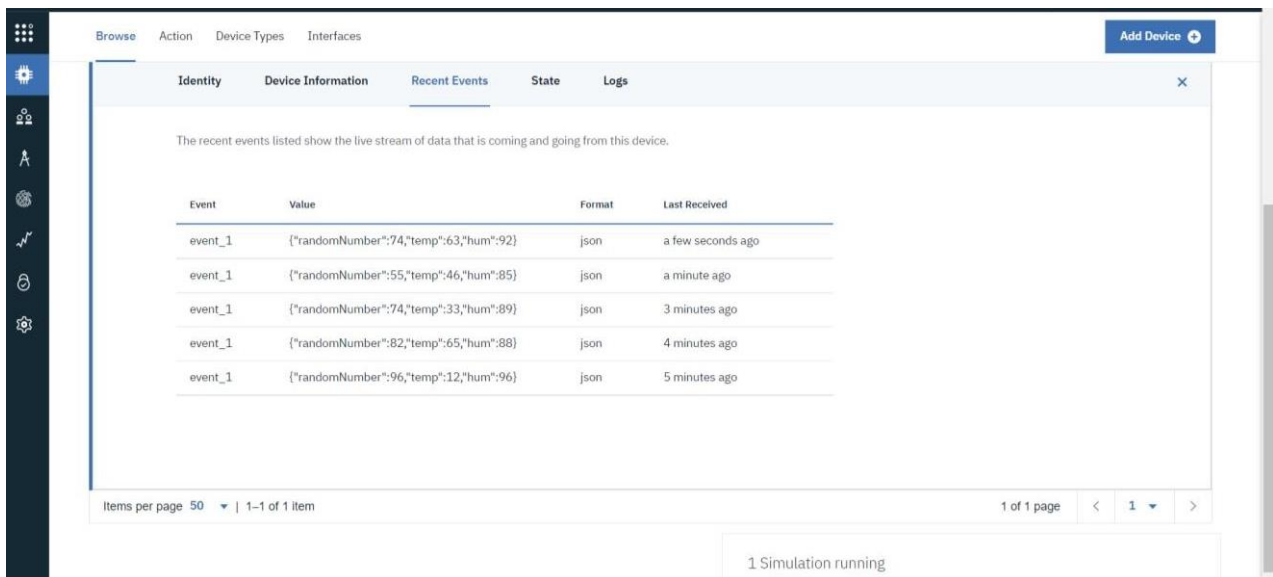
<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
> <input type="checkbox"/>	12345	Connected	abcd	Device	Nov 17, 2022 8:27 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page<1>

1 Simulation running

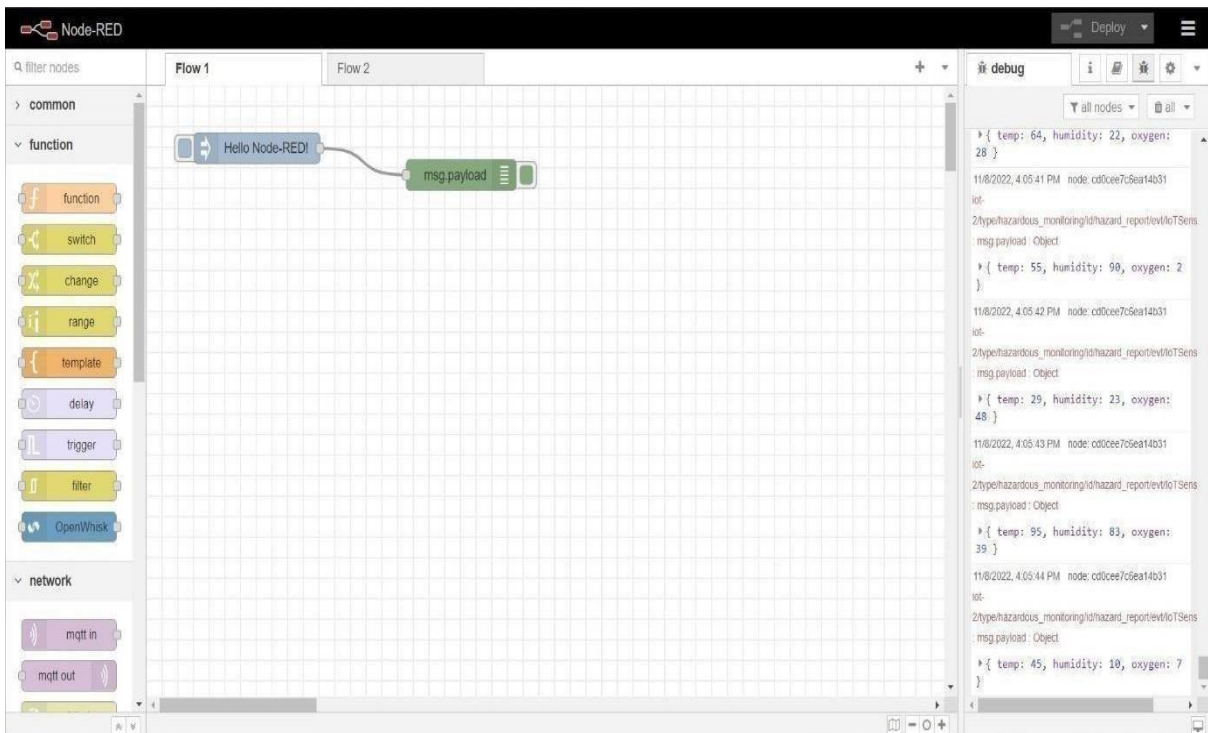
2.Required Performance of device using Local Node-Red Platform:



The screenshot shows the Node-RED interface with the 'Recent Events' tab selected. The table displays the following data:

Event	Value	Format	Last Received
event_1	{ "randomNumber": 74, "temp": 63, "hum": 92 }	json	a few seconds ago
event_1	{ "randomNumber": 55, "temp": 46, "hum": 85 }	json	a minute ago
event_1	{ "randomNumber": 74, "temp": 33, "hum": 89 }	json	3 minutes ago
event_1	{ "randomNumber": 82, "temp": 65, "hum": 88 }	json	4 minutes ago
event_1	{ "randomNumber": 96, "temp": 12, "hum": 96 }	json	5 minutes ago

At the bottom of the interface, it indicates '1 Simulation running'.



The screenshot shows the Node-RED editor with a flow named 'Flow 1'. The flow contains two nodes: 'Hello Node-RED!' and 'msg.payload'. The debug console on the right displays a stream of JSON messages, including:

```
{ temp: 64, humidity: 22, oxygen: 28 }
```

```
{ temp: 55, humidity: 90, oxygen: 2 }
```

```
{ temp: 29, humidity: 23, oxygen: 48 }
```

```
{ temp: 95, humidity: 83, oxygen: 39 }
```

```
{ temp: 45, humidity: 10, oxygen: 7 }
```

Node-RED

Deploy

filter nodes

Flow 1Flow 2

common

inject

debug

complete

catch

status

link in

link call

link out

comment

function

function

switch

change

IBM IoT

connected

temperature

humidity

temperature

humidity

msg.payload

debug

current flow

all

19/11/2022, 13:21:42 node: d5f591a755158270
iot-2/type/efgh/Id/56789/evt/event_1/fmt/json :
msg.payload : number
66
19/11/2022, 13:21:43 node: d5f591a755158270
iot-2/type/efgh/Id/56789/evt/event_1/fmt/json :
msg.payload : number
98
19/11/2022, 13:21:44 node: d5f591a755158270
iot-2/type/abcd/Id/12345/evt/event_1/fmt/json :
msg.payload : number
55
19/11/2022, 13:21:45 node: d5f591a755158270
iot-2/type/abcd/Id/12345/evt/event_1/fmt/json :
msg.payload : number
97
19/11/2022, 13:22:03 node: d5f591a755158270
iot-2/type/efgh/Id/56789/evt/event_1/fmt/json :
msg.payload : number
52
19/11/2022, 13:22:04 node: d5f591a755158270
iot-2/type/efgh/Id/56789/evt/event_1/fmt/json :
msg.payload : number
81

```
graph LR; IoT[IBM IoT] --> temp_f[temperature]; IoT --> hum_f[humidity]; temp_f --> temp_out[temperature]; hum_f --> hum_out[humidity]; temp_f --> payload[msg.payload]; hum_f --> payload;
```

3. Cloudant DB is used to create a database to store the location data.

Database name

Create Database

JSON

Databases

Your Databases

Name	Size	# of Docs	Partitioned	Actions
hazard	14 bytes	1	No	<div></div> <div></div> <div></div>
nodoredmfcnc20221108	25.7 KB	4	No	<div></div> <div></div> <div></div>

Showing 1–2 of 2 databases.

Databases per page

20

1