

PROJECT DEVELOPMENT – DELIVERY OF SPRINT – 1

Date	25 October 2022
Team ID	PNT2022TMID46406
Project Title	Signs With Smart Connectivity for Better Road Safety

SPRINT-1 (USN - 2)

CREATE IBM WATSON IOT PLATFORM AND NODE-RED SERVICES IN IBM CLOUD

STEP 1 : Login to the IBM Cloud Services & Launch the IBM Watson IOT Platform to connect the devices.

Service Details - IBM Cloud

https://cloud.ibm.com/services/iotf-service/crn%3Av1%3Abluemix%3Apublic%3Aiotf-service%3Aeu-de%3Aa%2F28fa162def2249c

IBM Cloud

Search resources and products...

Catalog

Manage

Gobika S's Account

Resource list /

Internet of Things Platform-m9

Active

Add tags

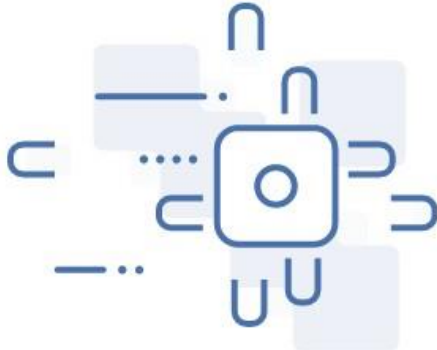
Details

Actions...

Manage

Plan

Connections



Let's get started with IBM Watson IoT Platform

Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.

Launch

Docs

Ready for the next level?

IBM Watson IoT Platform Journey

✓

Lite

The Lite service plan provides a lightweight


Non-Production

The Non-Production service plan is a full-

Production

The Production service is a fully managed SaaS

Type here to search



26°C Partly cloudy

ENG IN

10:10 AM 11/16/2022

STEP 2 : In order to connect the IOT device to the IBM Cloud , give the device credentials and the live stream of weather data coming from the device will be received in the IBM Watson IOT platform.

New Tab

Service Details - IBM Cloud

IBM Watson IoT Platform

← → ↻ https://uaortj.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

s.gobika820319106007@gmail.com ID: uaortj

Browse

Action

Device Types

Interfaces

Add Device +

Browse Devices

All Devices Diagnose

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.

Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID	Date Added
>	b5device	Disconnected	b5ibm	Device	Nov 15, 2022 6:52 PM
>	weather_today	Disconnected	weather_device	Device	Nov 14, 2022 12:42 PM

Items per page 50 | 1–2 of 2 items

1 of 1 page

1

Windows

Type here to search

26°C Partly cloudy

ENG IN

10:11 AM 11/16/2022

STEP 3: Creating Node - RED Services using IBM Cloud.

Application Details - IBM Cloud

cloud.ibm.com/apps/bacc1483-0f83-4d83-a934-ee4737885f0b?ace_config=%7B"region"%3A"eu-gb"%2C"crn"%3A"crn%3Av1%3Abluemix%3Apublic%3Acf%3Aeu...

IBM Cloud

IBM Cloud

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Gobika S's Account

Resource list /

Node RED NCVOJ 2022-11-14

Running

Visit App URL

Add tags

Details

Actions...

Getting started

Overview

Runtime

Connections

Logs

API Management

Autoscaling

IBM Cloud Foundry Public is being deprecated. Please see [full details](#).

Instances

Health

100%

1/1 instance(s) are running

MB memory per instance

0 2048 256

Instances

1 - +

Edit

Runtime

Node.js

256

Total MB allocation

1.75 GB still available

Free Used

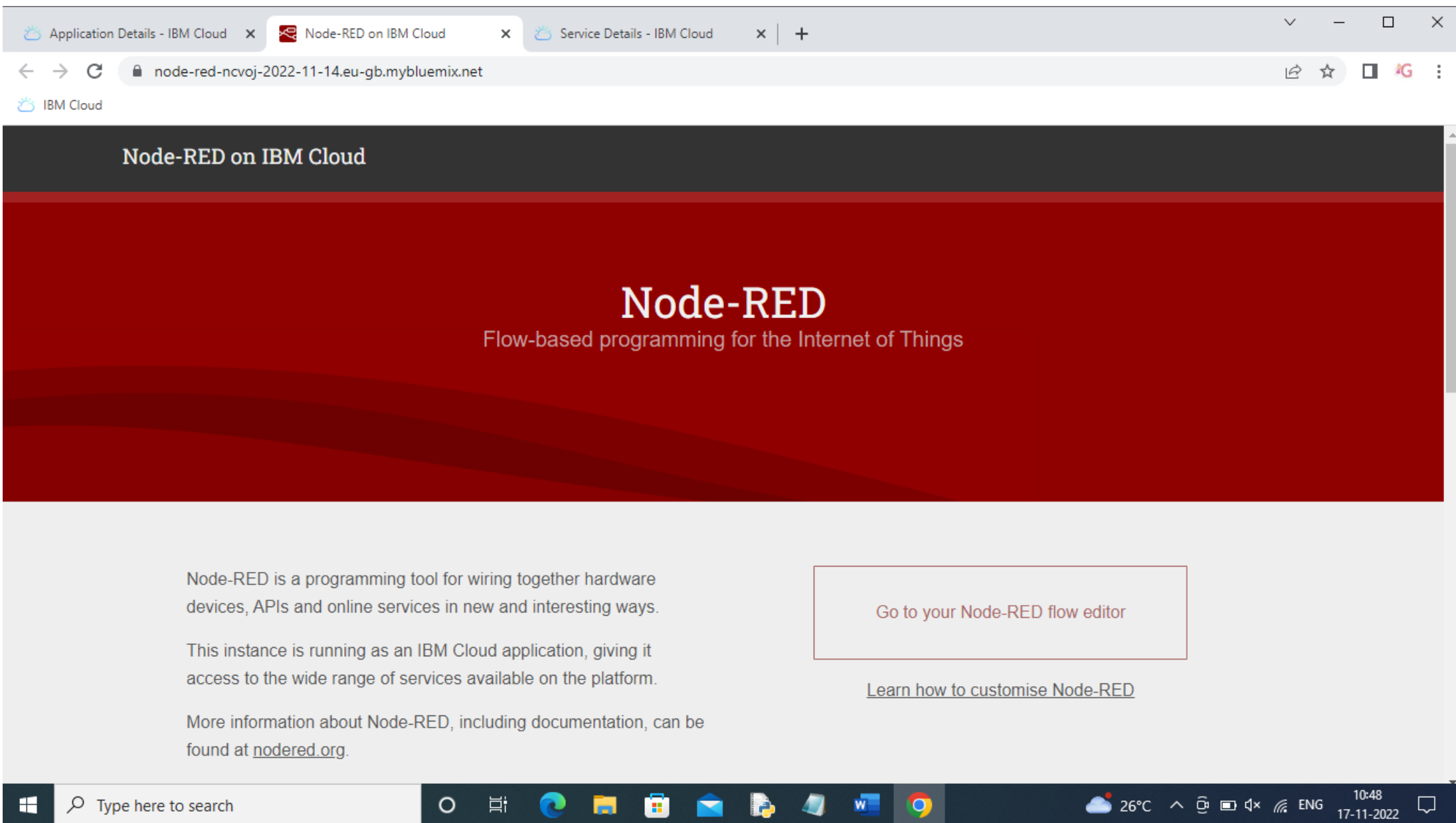
Runtime cost

Connections (1)

Type here to search

26°C 10:47 17-11-2022

STEP 4: Go to the Node – RED Flow Editor



STEP 5: In JSON Format, sample data of current weather using IBM IoT Watson Platform is displayed.

IBM CloudNode-RED : nodeIBM Watson IoT FInbox (245) - s.g.cNode-RED DashbMIT App InventorMIT App Inventor

uaortj.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platforms.gobika820319106007@gmail.comID: uaortj

BrowseActionDevice TypesInterfacesAdd Device

Search by Device IDDevice Simulator

Device ID	Status	Device Type	Class ID	Date Added
b5device	Connected	b5ibm	Device	Nov 15, 2022 6:52 PM

IdentityDevice InformationRecent EventsStateLogs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoTSensor	{"d":{"temp":43,"Humid":25,"pulse":98,"Oxygen"...	json	a few seconds ago
IoTSensor	{"d":{"temp":1,"Humid":3,"pulse":94,"Oxygen":6...	json	a few seconds ago
IoTSensor	{"d":{"temp":11,"Humid":41,"pulse":22,"Oxygen"...	json	a few seconds ago
IoTSensor	{"d":{"temp":20,"Humid":72,"pulse":98,"Oxygen"...	json	a few seconds ago
IoTSensor	{"d":{"temp":72,"Humid":91,"pulse":47,"Oxygen"...	json	a few seconds ago

Type here to search

30°C Cloudy11:1716-11-2022

STEP 6: Connecting the functions related to the weather to the IBM IoT device using Node – RED Flow Editor.

The image shows a screenshot of the Node-RED web interface in a browser. The browser's address bar shows the URL: `node-red-ncvoj-2022-11-14.eu-gb.mybluemix.net/red/#flow/9d0739ae70684866`. The Node-RED interface includes a left sidebar with node categories (common, function), a central workspace for 'Flow 1', and a right sidebar for debugging.

Flow 1 Diagram:

- An **IBM IoT** node (blue) is connected to four function nodes (orange): **humidity**, **Temperature**, **Pulse**, and **Oxygen**.
- Each function node is connected to a corresponding output node (teal): **Humidity**, **Temperature**, **Pulse**, and **Oxygen**.
- A **msg.payload** node (green) is also connected to the **IBM IoT** node.

Debug Console Output:

```
msg.payload : Object
  { d: object }

11/16/2022, 11:06:12 AM node: 5e0c42ba197738fb
iot-2/type/b5ibm/id/b5device/evt/iotSensor/fmt/json :
msg.payload : Object
  { d: object }

11/16/2022, 11:06:13 AM node: 5e0c42ba197738fb
iot-2/type/b5ibm/id/b5device/evt/iotSensor/fmt/json :
msg.payload : Object
  { d: object }

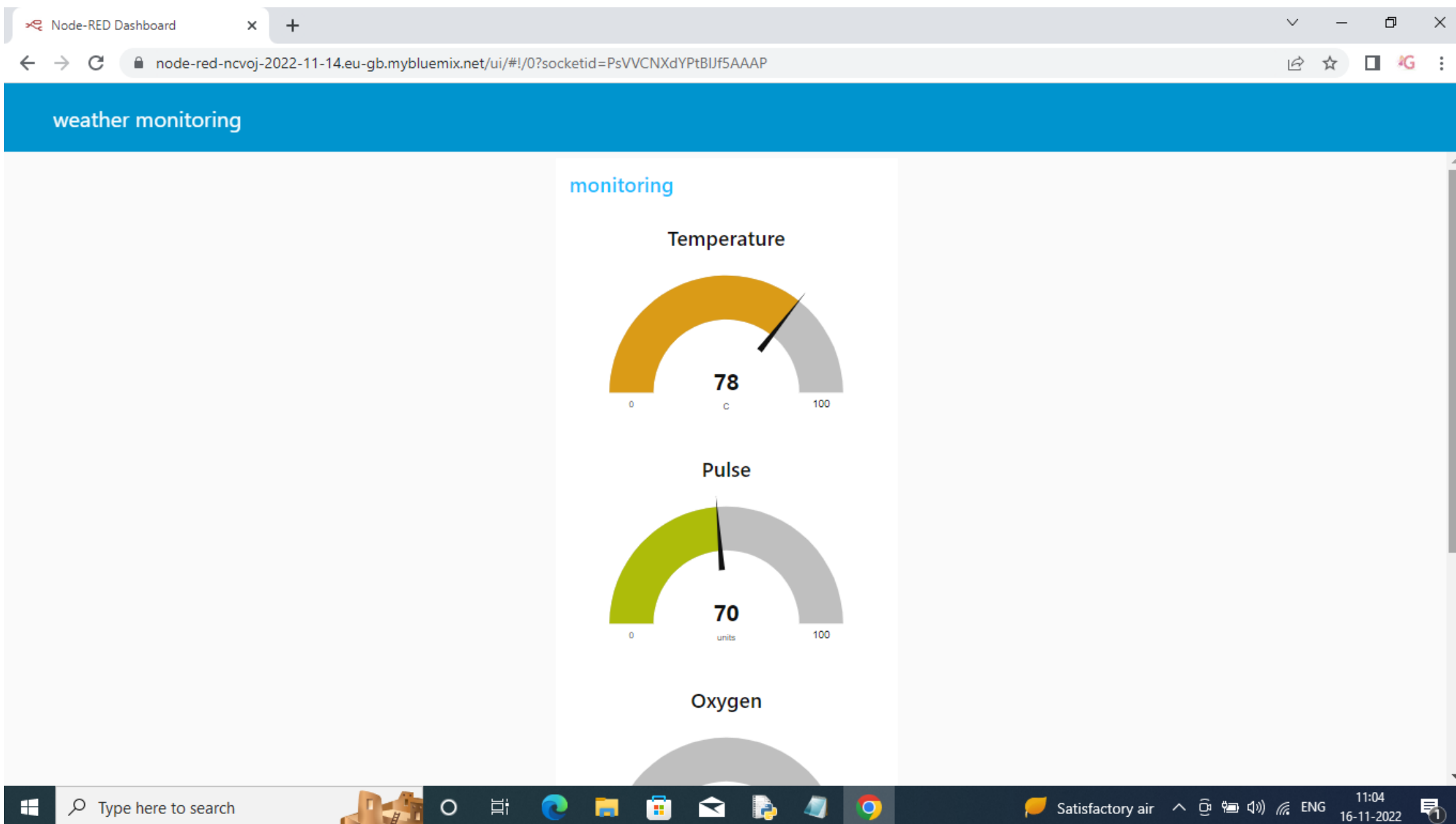
11/16/2022, 11:06:14 AM node: 5e0c42ba197738fb
iot-2/type/b5ibm/id/b5device/evt/iotSensor/fmt/json :
msg.payload : Object
  { d: object }

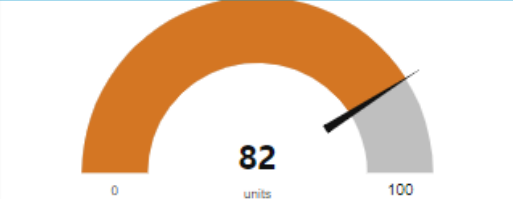
11/16/2022, 11:06:15 AM node: 5e0c42ba197738fb
iot-2/type/b5ibm/id/b5device/evt/iotSensor/fmt/json :
msg.payload : Object
  { d: object }

11/16/2022, 11:06:16 AM node: 5e0c42ba197738fb
iot-2/type/b5ibm/id/b5device/evt/iotSensor/fmt/json :
msg.payload : Object
  { d: object }
```

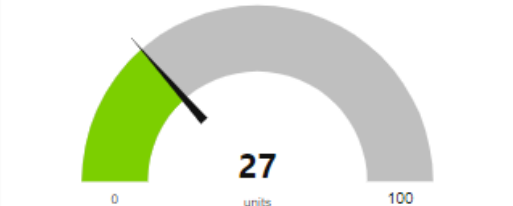
The Windows taskbar at the bottom shows the time as 11:06 on 16-11-2022, with system icons for AQI 90, network, and volume.

STEP 7: We can see the output for the above flow using Node – RED Dashboard.





Oxygen



Humidity

