

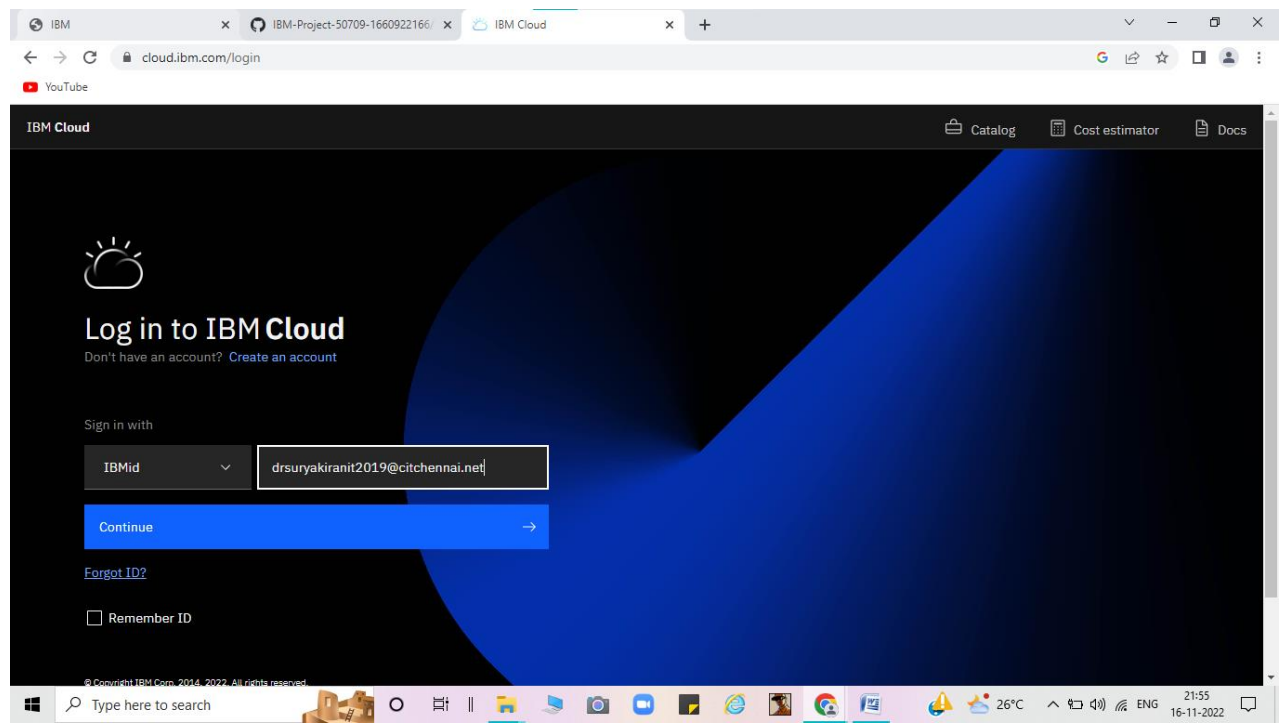
# IOT ENABLED SMART FARMING APPLICATION

## SPRINT DELIVERY – 2

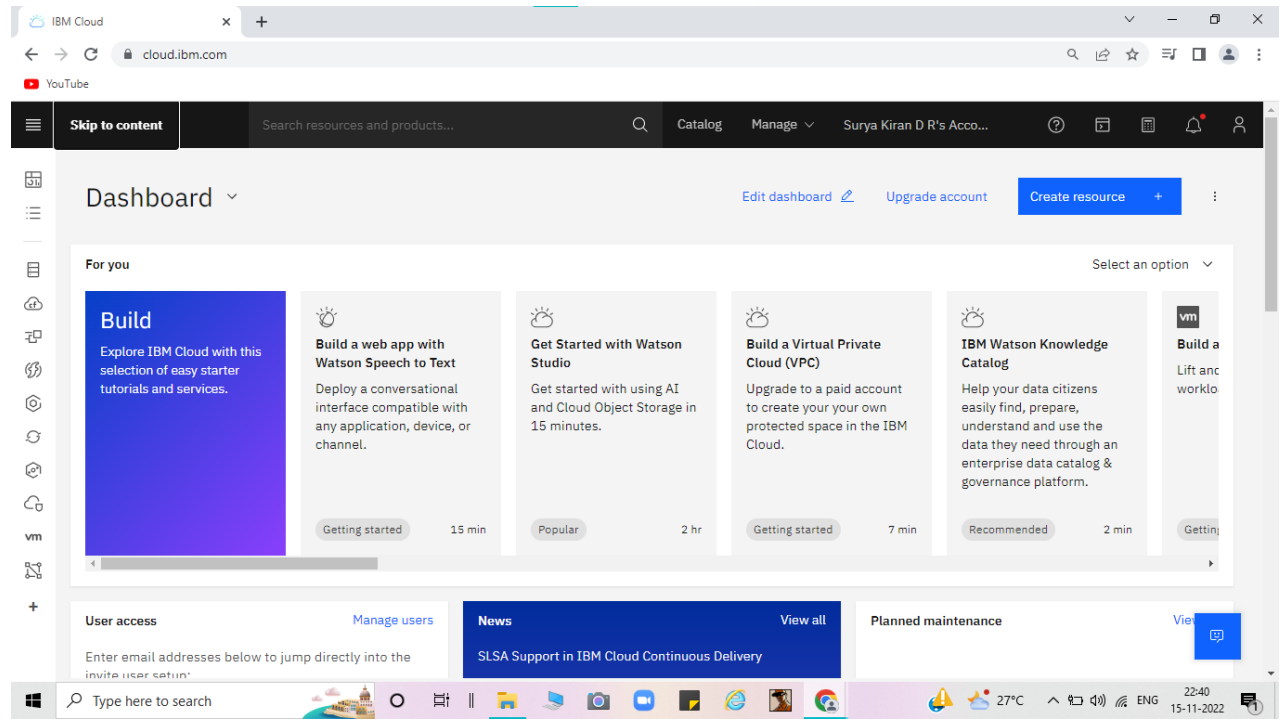
Date	14 November 2022
Team ID	PNT2022TMID24904
Project Name	Project – Smart Farmer-IoT Enabled Smart Farming Application

In Sprint-2 we are going to develop the IBM Watson and making the connection to the node-red.

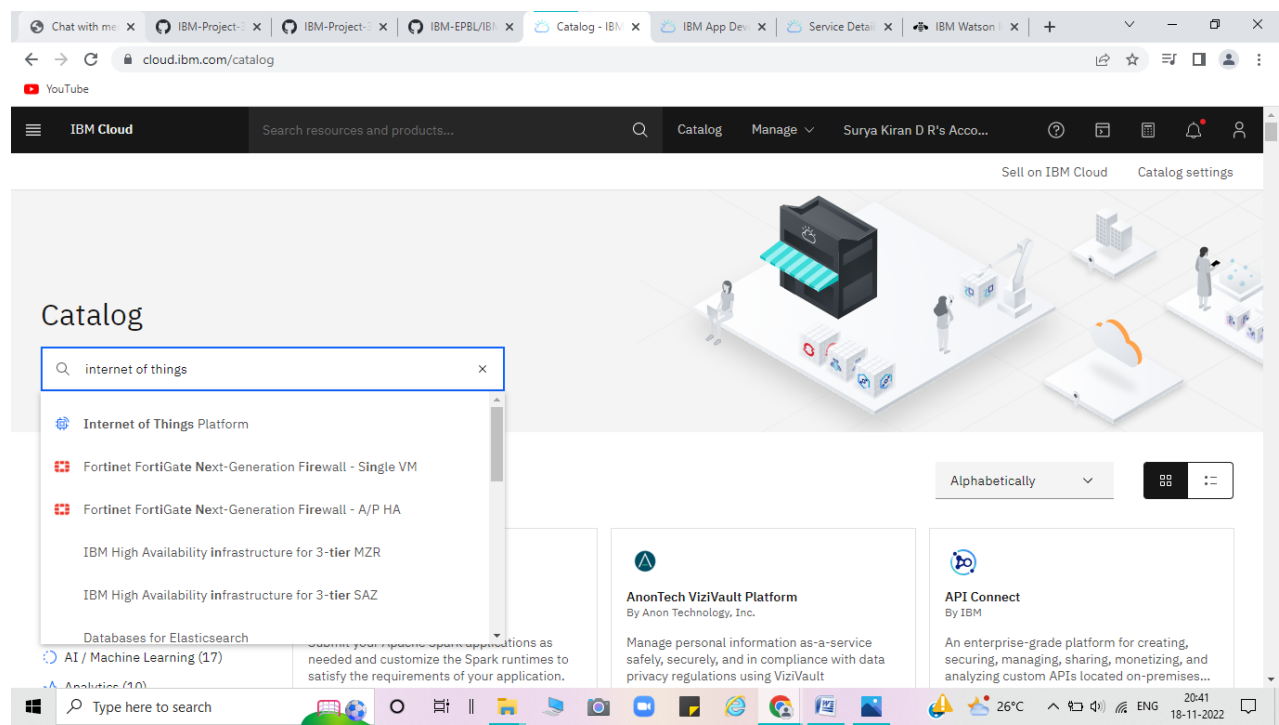
### Login into IBM cloud:



## Click the Catalog button:



## After clicking the catalog .Select the Internet of Things and then click:



**If you have already existing plan we can continue or we have to create new one:**

Chat with me x IBM-Project- x IBM-Project- x IBM-EPBL/IB x Internet of Th x IBM App Dev x Service Detail x IBM Watson x +

cloud.ibm.com/catalog/services/internet-of-things-platform

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Internet of Things Platform

This service is the hub of all things IBM IoT, it is where you can set up and manage your connected devices so that your apps can access their live and historical data.

Create About

Type Service Select a location

Provider IBM Frankfurt (eu-de)

Last updated 08/15/2022

Category Internet of Things

Compliance IAM-enabled

Location Frankfurt

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [United States](#)

Plan	Features	Pricing
Lite	Includes up to 500 registered devices, and a maximum of 200 MB of each data metric Maximum of 500 registered devices on bindings	Free

Summary

Internet of Things Platform Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-d4

Resource group: Default

Existing Lite plan instance

You can have only 1 Lite plan instance of this service per resource group. [Delete](#) your current Lite plan instance in Default resource group to create a new one, or [view the existing instance](#).

☐ I have read and agree to the following license agreements: [Terms](#)

**Next window will be appear after clicking the exiting plan and click the launchbutton:**

Chat with me x IBM-Project- x IBM-Project- x IBM-EPBL/IB x Service Detail x IBM App Dev x Service Detail x IBM Watson x +

cloud.ibm.com/services/iotf-service/crn%3Av1%3Abluemix%3Apublic%3Aaiotf-service%3Aeu-de%3Aa%2F75becc6d682443ebb9b278b411d18a7b%3Ace647b7e-1e...

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Resource list / Internet of Things Platform-4d Active Add tags

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 Non-Production Production

**Now we have to Register Device in the Watson platform. click register devicebutton:**

IBM Watson IoT Platform

Browse Action Device Types Interfaces

**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
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You don't have any devices.

Create a device.

**Type the device type and device id and then click the next button:**

IBM Watson IoT Platform

Browse Action Device Types Interfaces

**Device Types**

This table lists all device types that are defined. You can filter the list and search for the name and description. You can modify and configure existing device types and add new device types.

Type the name to search f...

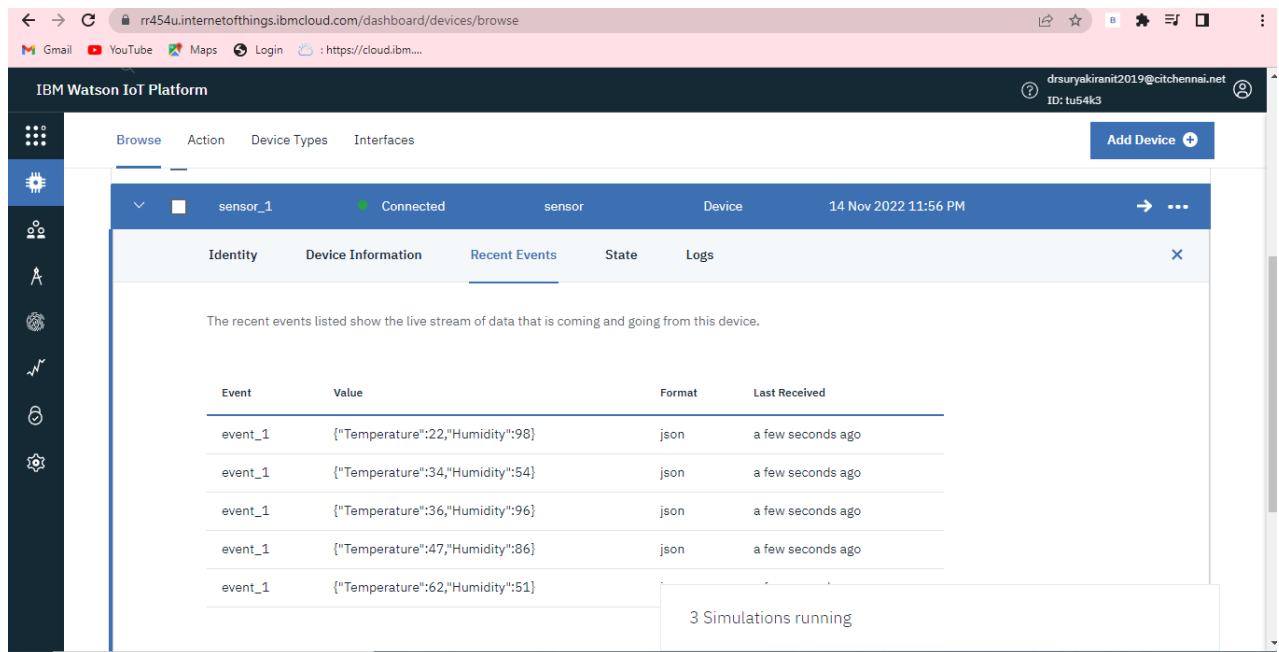
Name	Description	Number of Devices	Class ID	Date Added
sensor-1		2	Device	Nov 17, 2022 11:30 PM

Identity Device Information Interface

These attributes will be used as a template for new devices that are assigned this device type

View Metadata

**Now we have give to give one authentication token that token is more than 8characters and below 36 characters:**



**Then click the finish button**

### **My Device Credentials:**

Organization ID : tu54k3

Device Type : sensor-1

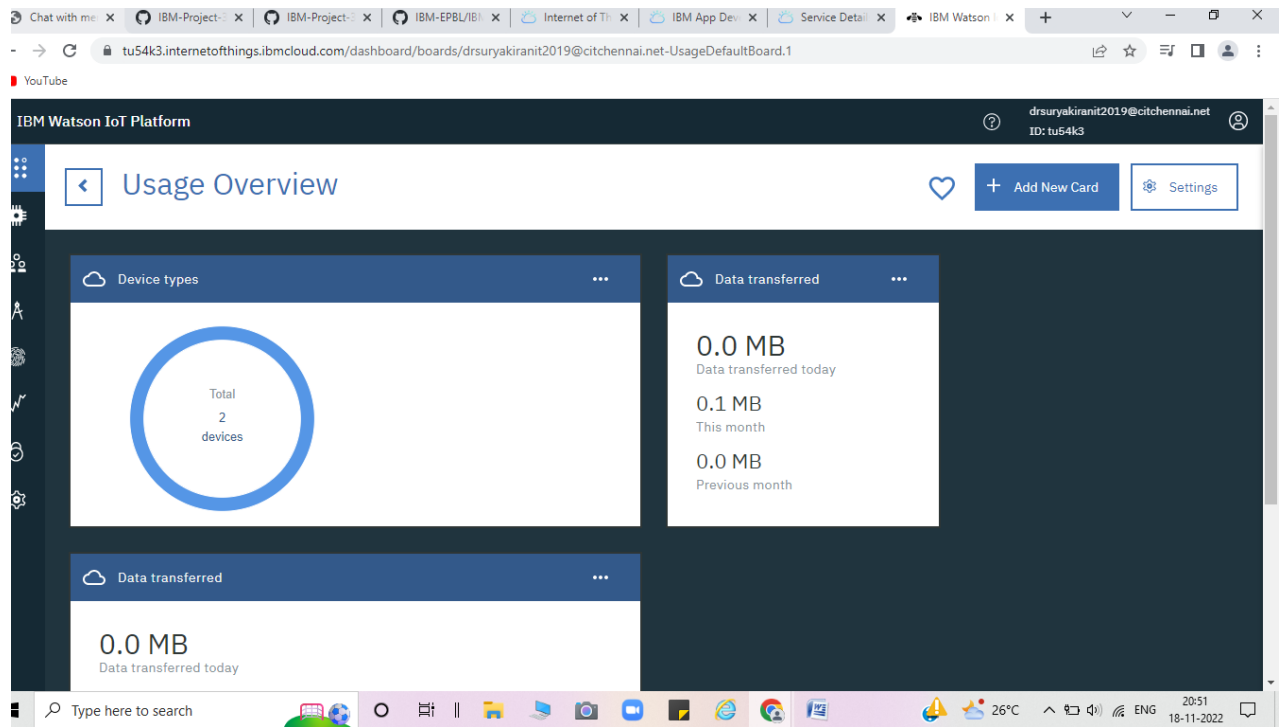
Device ID : sensor

Authentication Method : use-token-aut

Authentication Token : 123456789

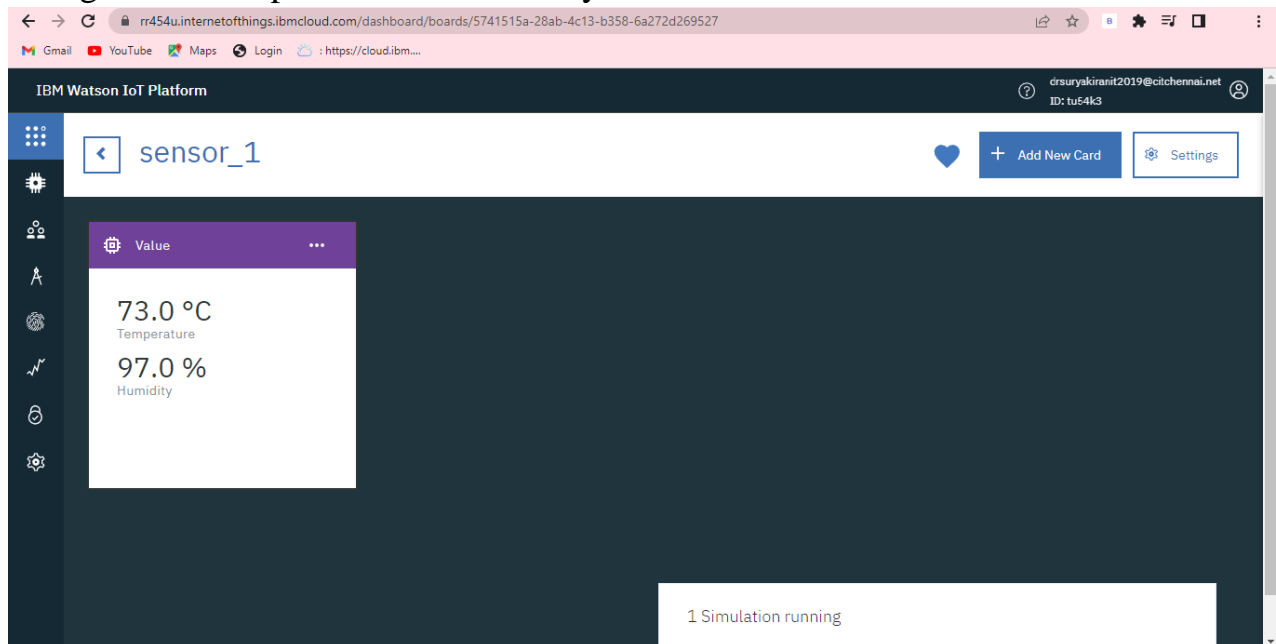
Now we have to add boards. Because we can data as graph model.

After adding boards we can run simulation and see the simulation as shown below. You will receive the simulator data in cloud .



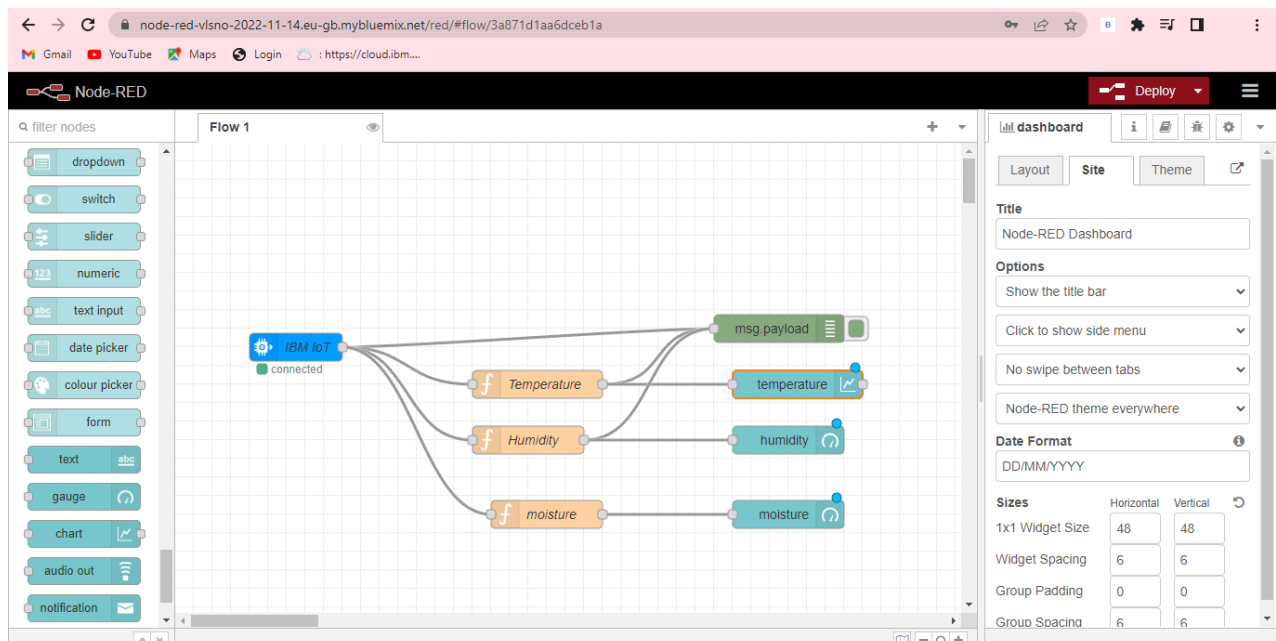
Now getting the random temperature and humidity values in the IBM Watson.

You can see the received data in Recent Events under your device. So finally we can generate temperature and humidity values as like real sensors.

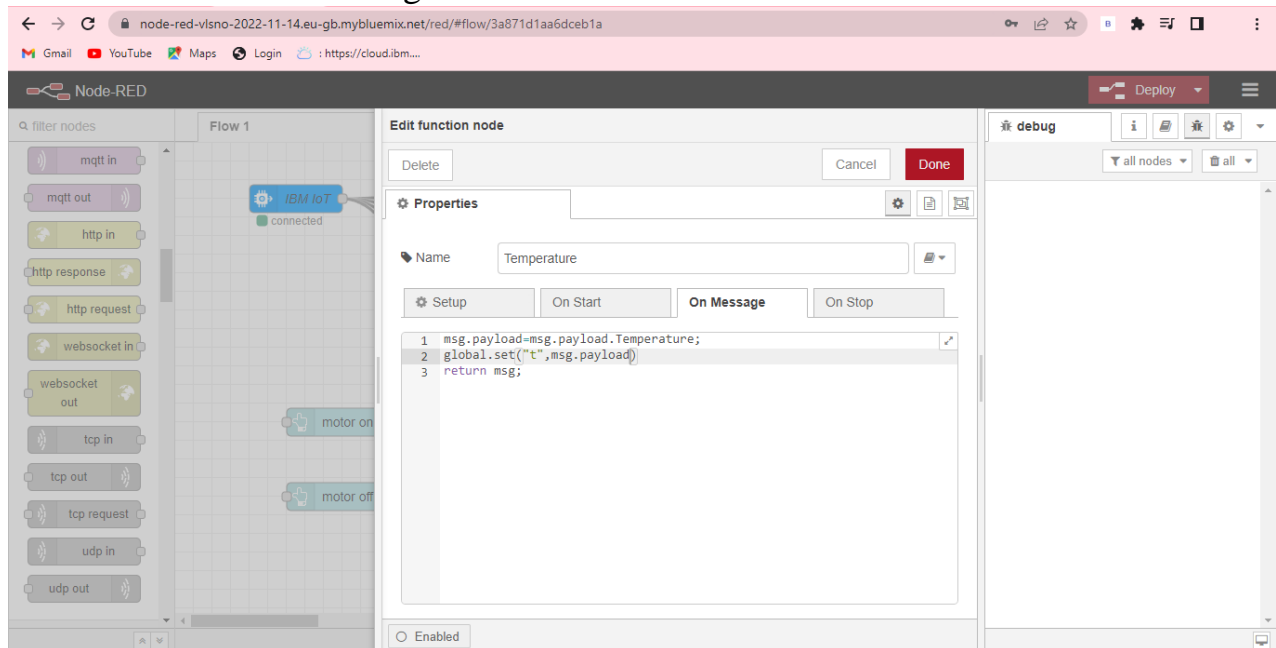


## Now Configuration the Node-Red with IBM Watson Platform to collect the IBM cloud data:

The IBM Watson is added to Node-Red workflow. Then the appropriate device credentials obtained earlier are entered into the node to connect and fetch device telemetry to Node-Red.



Once it is connected to the Node-Red it receives the data from the Watson. Displaying the data using debug node in the left side of the workspace. And also see the results in the debug node



Connect function node and write the Java script code to get each reading separately.

Function node is rename as the temperature and humidity. And write json code on message.

### **Json code for Temperature:**

```
msg.payload= msg.payload.temperature
global.set('t',msg.payload) return msg.
```

### **Json code for Humidity:**

```
msg.payload= msg.payload.humidity
global.set('h',msg.payload) return
msg.
```

Finally connect the Gauge nodes from node-red to see the data in the node-red dashboard UI:

Now we can see the output in the node-red dashboard.



node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/red/#flow/3a871d1aa6dceb1a

Node-RED

Flow 1

ibm IoT

connected

button

motor of

Properties

Authentication API Key

API Key d4f3697a3bbc7870

Output Type Device Command

Device Type sensor\_1

Device Id sensor1

Command Type cmd

Format json

Data data

QoS 0

Enabled

dashboard

Layout Site Theme

Home

ibm

motor

node-red-vlsno-2022-11-14.eu-gb.mybluemix.net/ui/#/0?socketid=mUFJ9LcOCr-eY-NCAAAP

Home

ibm

humidity

48

moisture

48

temperature

100

motor

MOTOR OFF

MOTOR ON