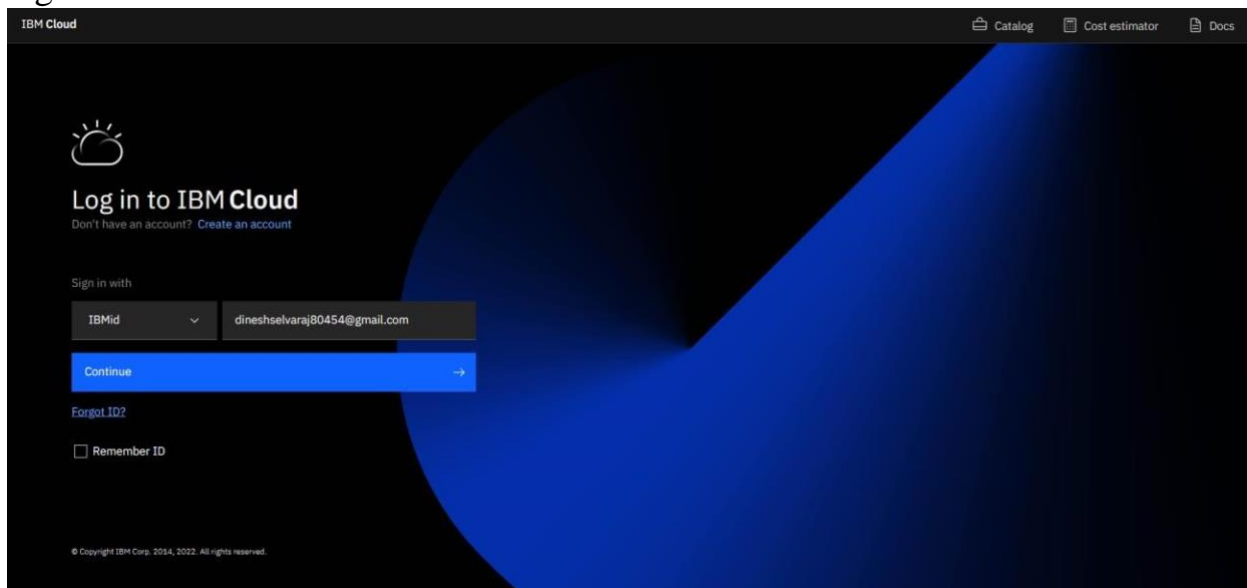


## Project Development Phase Delivery of Sprint -2

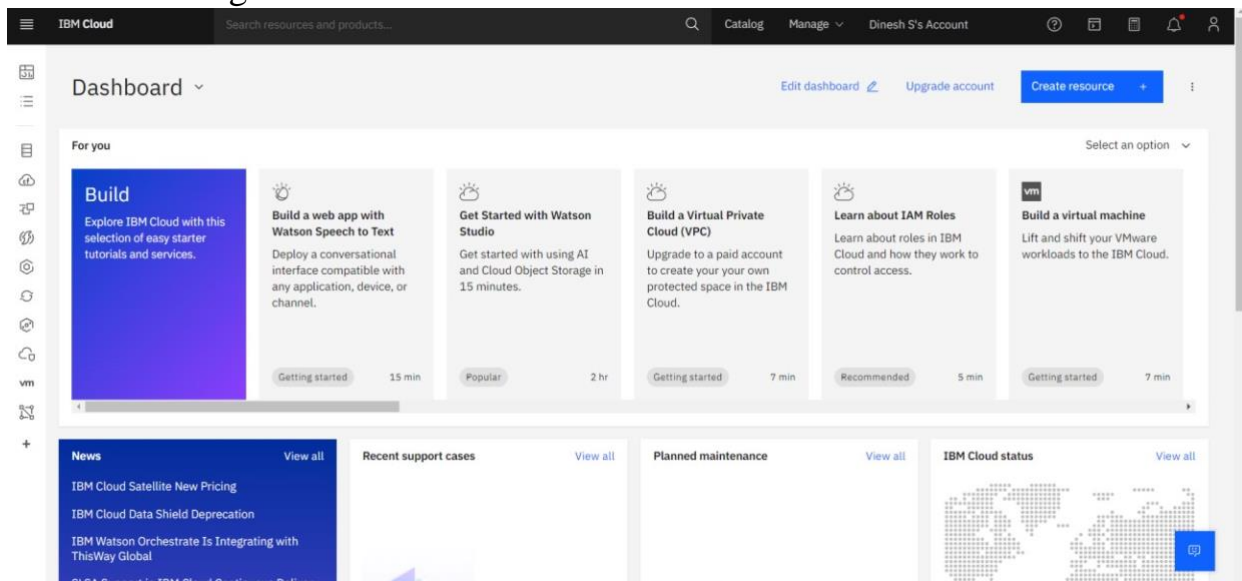
Team ID	PNT2022TMID17466
Project Name	Smart Farmer-IOT Enabled Smart FarmingApplication

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

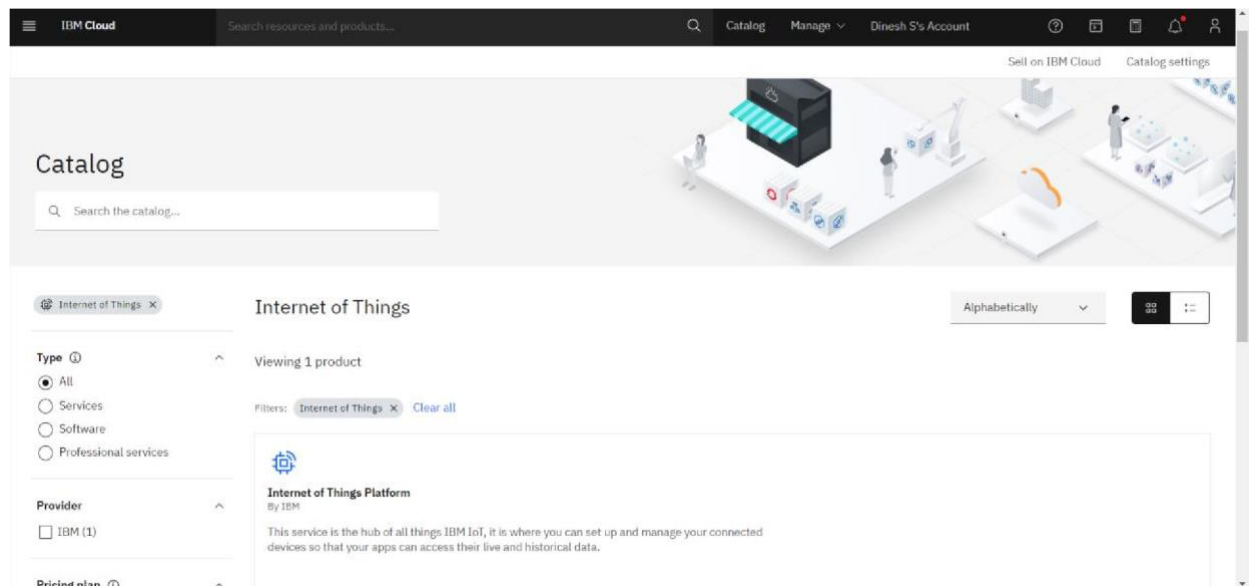
Login into IBM cloud:



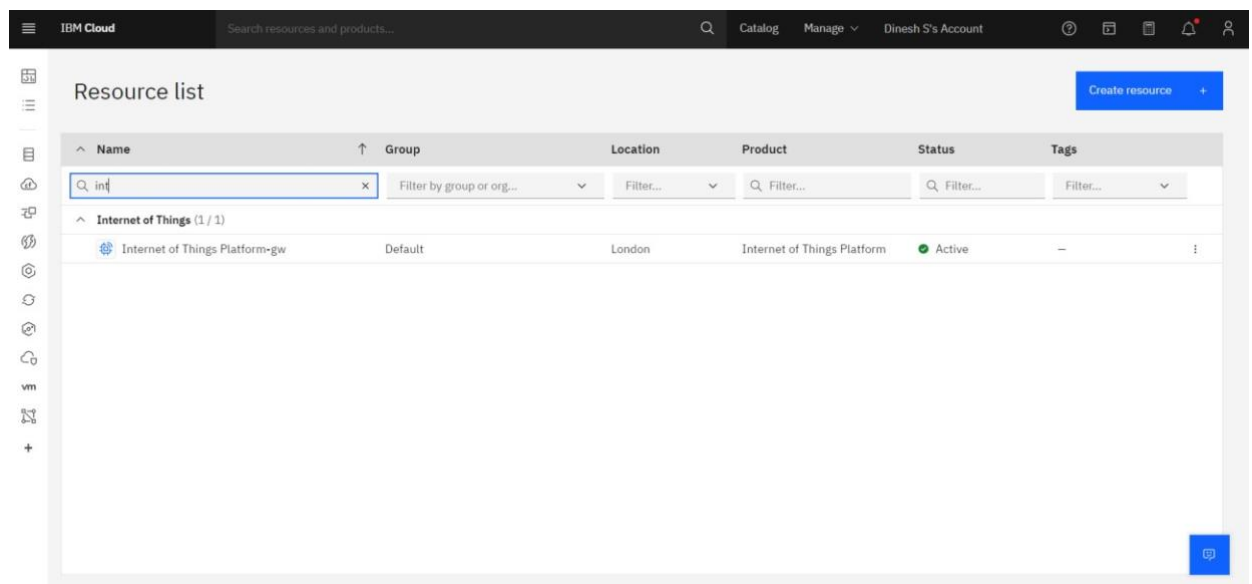
Click the Catlag button



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.



Next window will be appear after clicking the exiting plan and click the launch button.

Now we have to Register Device in the Watson platform. click register device button.

IBM Cloud Search resources and products... Catalog Manage Dinesh S's Account

Resource list / Internet of Things Platform-gw 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 development environment to get you started with the connectivity capabilities of Watson IoT Platform.

Free

Non-Production

The Non-Production service plan is a full-featured, fully-integrated offering that enables you to explore Watson IoT Platform to see how the service can fit into your IoT environment.

Starts at \$500 per month

Production

The Production service is a fully managed SaaS offering that enables you to manage and analyze enterprise IoT data.

Includes IBM Service & Support

IBM Watson IoT Platform

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	Descriptive Location
>	1234567	Disconnected	Arduino	Device	16 Nov 2022 10:11	
>	637929	Disconnected	ESP32_Controller	Device	16 Nov 2022 12:00	

Items per page 50 | 1-2 of 2 items 1 of 1 page < 1 >

Type the device type and device id and then click the next button.

IBM Watson IoT Platform

1234567 Disconnected Arduino Device

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
event_1	{"Temperature":94,"pressure":62}	json	a few seconds ago
event_1	{"Temperature":80,"pressure":75}	json	a few seconds ago
event_1	{"Temperature":68,"pressure":19}	json	a few seconds ago
event_1	{"Temperature":74,"pressure":20}	json	a few seconds ago
event_1	{"Temperature":69,"pressure":13}	json	a few seconds ago

Simulations

1/50 Simulations Running

+ New Simulation

Device Type Arduino

1 Event

1 Device

1234567

1 x Create Simulated Device Use Registered Device

20 events sent 760 bytes sent

637929 Disconnected ESP32\_Controller Device 16 Nov 2022 12:00

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

IBM Watson IoT Platform

1234567 Disconnected Arduino Device 16 Nov 2022 10:11

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
event_1	{"Temperature":35,"pressure":17}	json	a few seconds ago
event_1	{"Temperature":21,"pressure":86}	json	a few seconds ago
event_1	{"Temperature":45,"pressure":4}	json	a few seconds ago
event_1	{"Temperature":26,"pressure":49}	json	a few seconds ago
event_1	{"Temperature":41,"pressure":41}	json	a few seconds ago

1 Simulation running

637929 Disconnected ESP32\_Controller Device

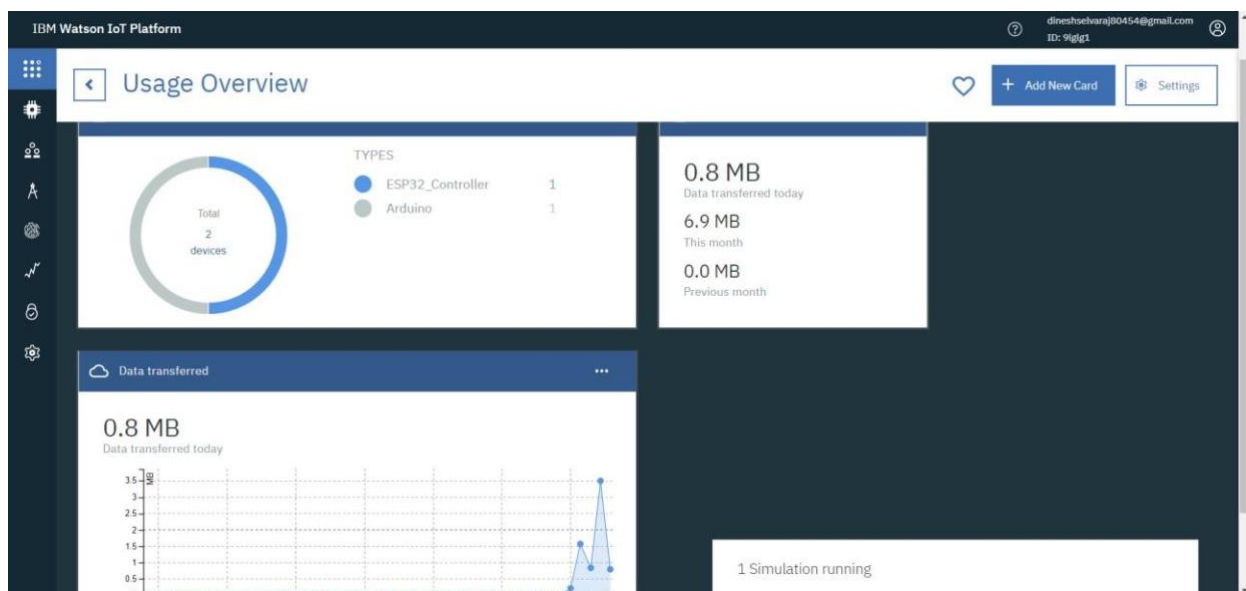
Then click the finish button.

**My Device Credentials:**  
Organization ID : 9lglg1

Device Type : Arduino  
Device ID : 1234567  
Authentication Method : use-token-auth  
Authentication Token : 123456789

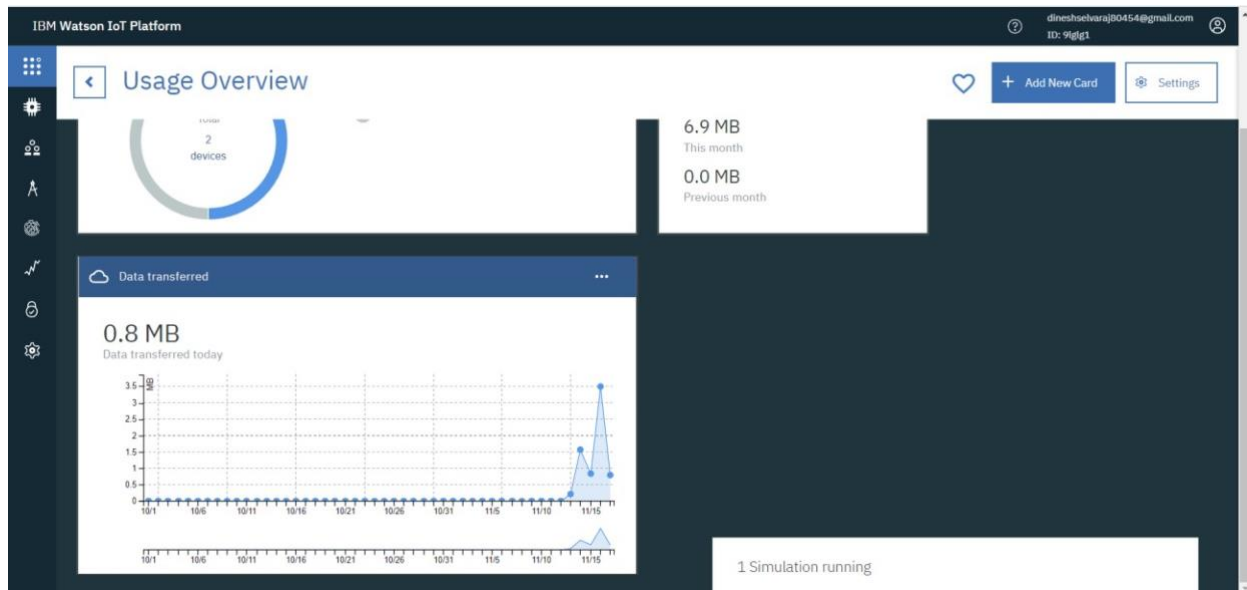
Now we have to add boards. Because we can data as graph model.

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



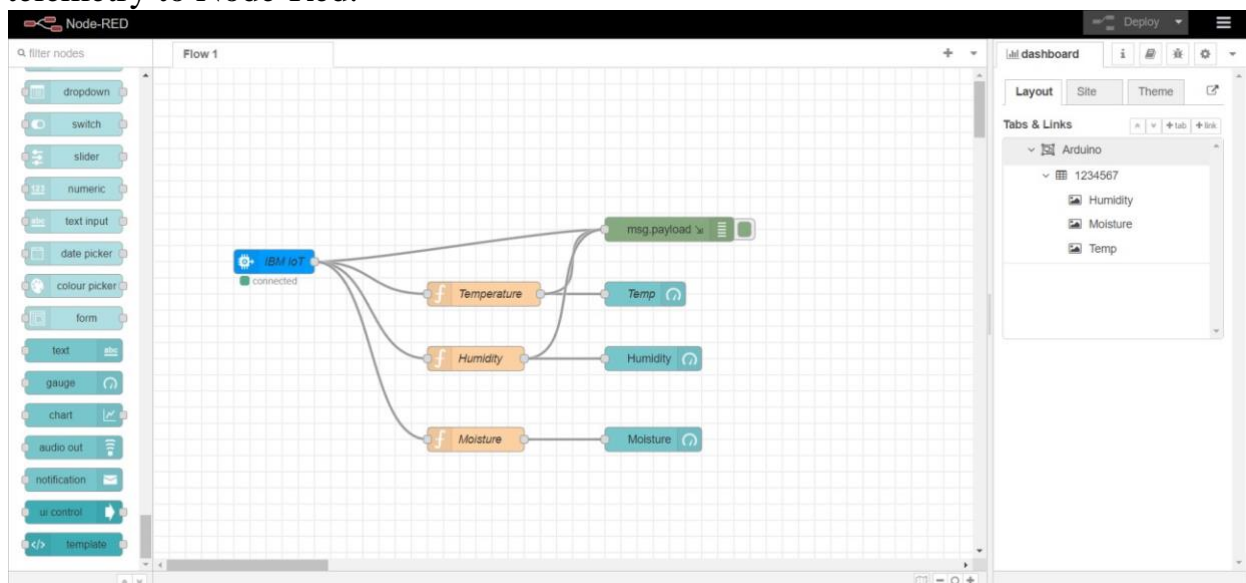
Now getting the random temperature and humidity values in the IBM Watson.

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.

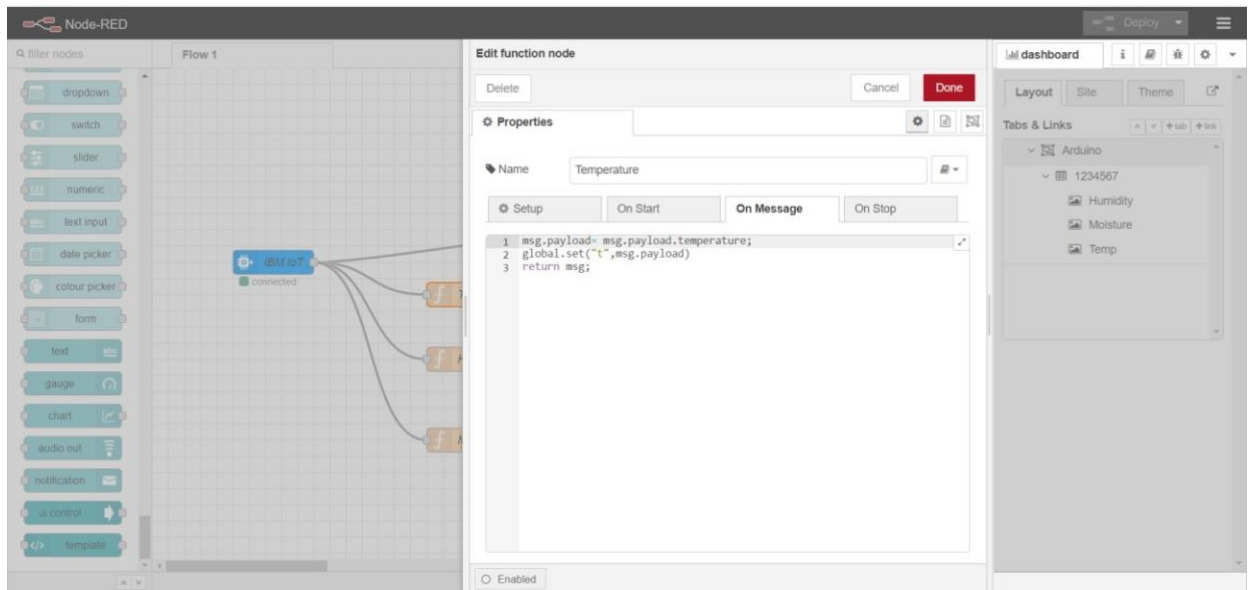


## Now Configuration the Node-Red with IBM Watson Platform to collect the IBM cloud data:

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.

