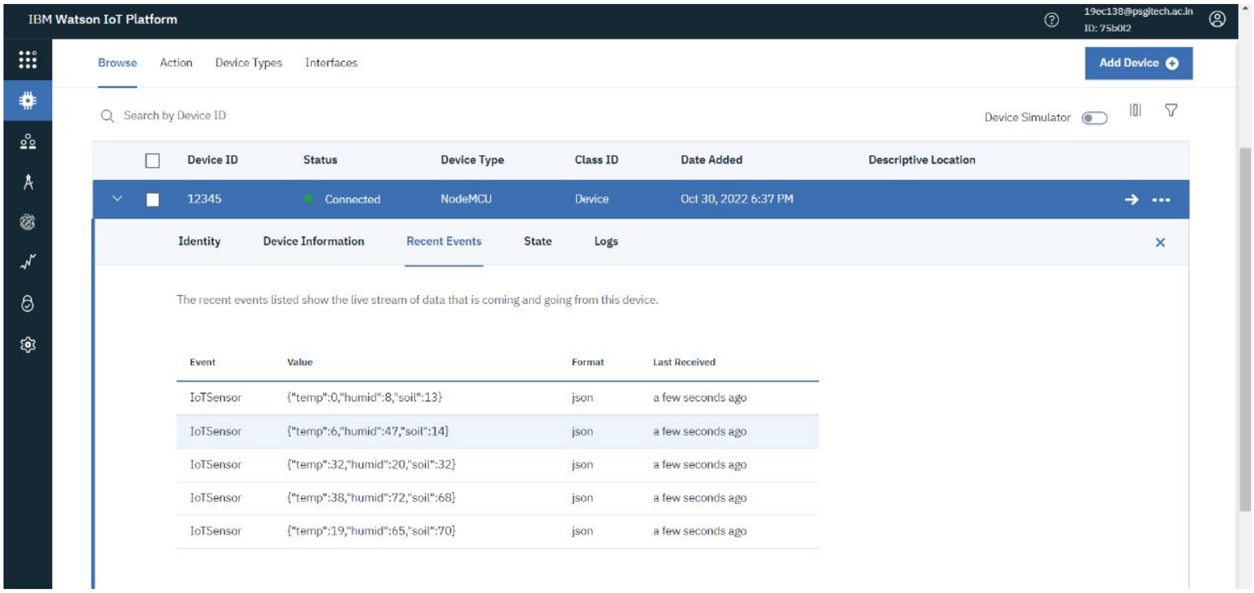
Sprint Delivery – 2

Project	IoT Enabled Smart Farming Application
Team ID	PNT2022TMID43402
Date	09 November 2022

Connecting IOT Simulator to IBM Watson IOTPlatform:

Give the credentials of your device in IBM Watson IOTPlatformClick on connect My credentials given to simulator are:

OrgID: 75b012
Device type : NodeMCU
Authentication method : use-token-auth
Device ID : 12345
Authentication Token : 12345678

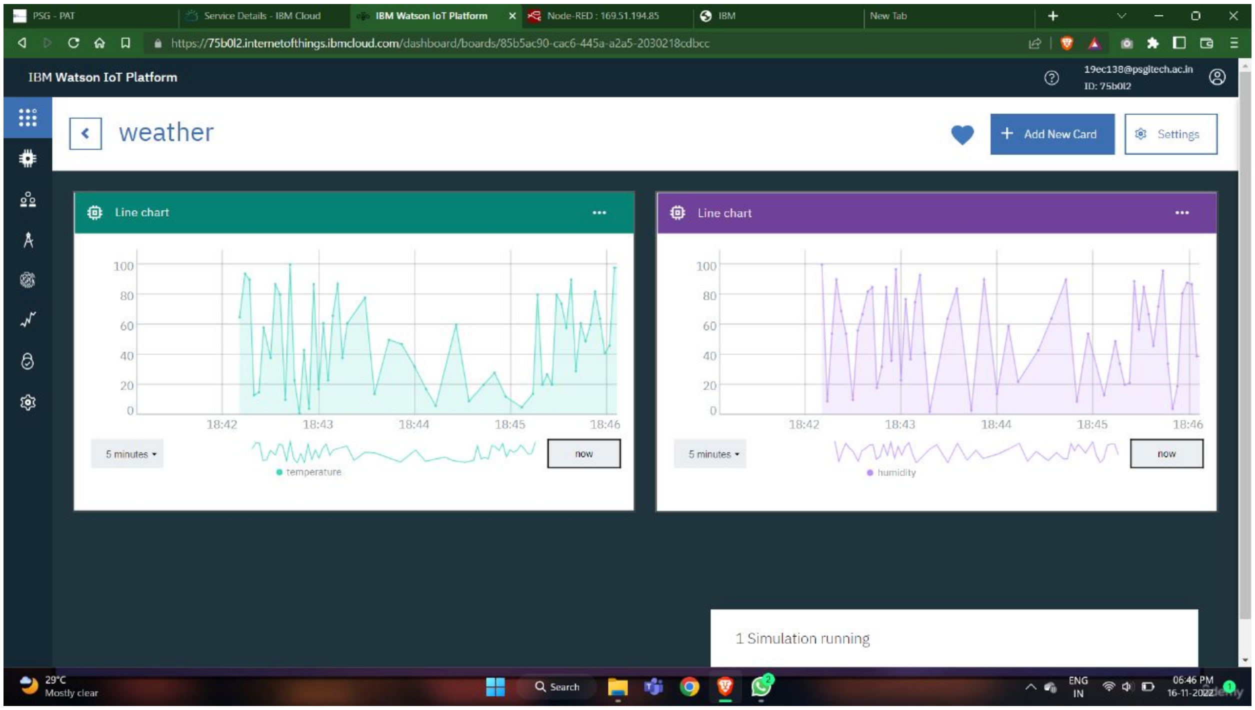


□	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
□	12345	● Connected	NodeMCU	Device	Oct 30, 2022 6:37 PM	

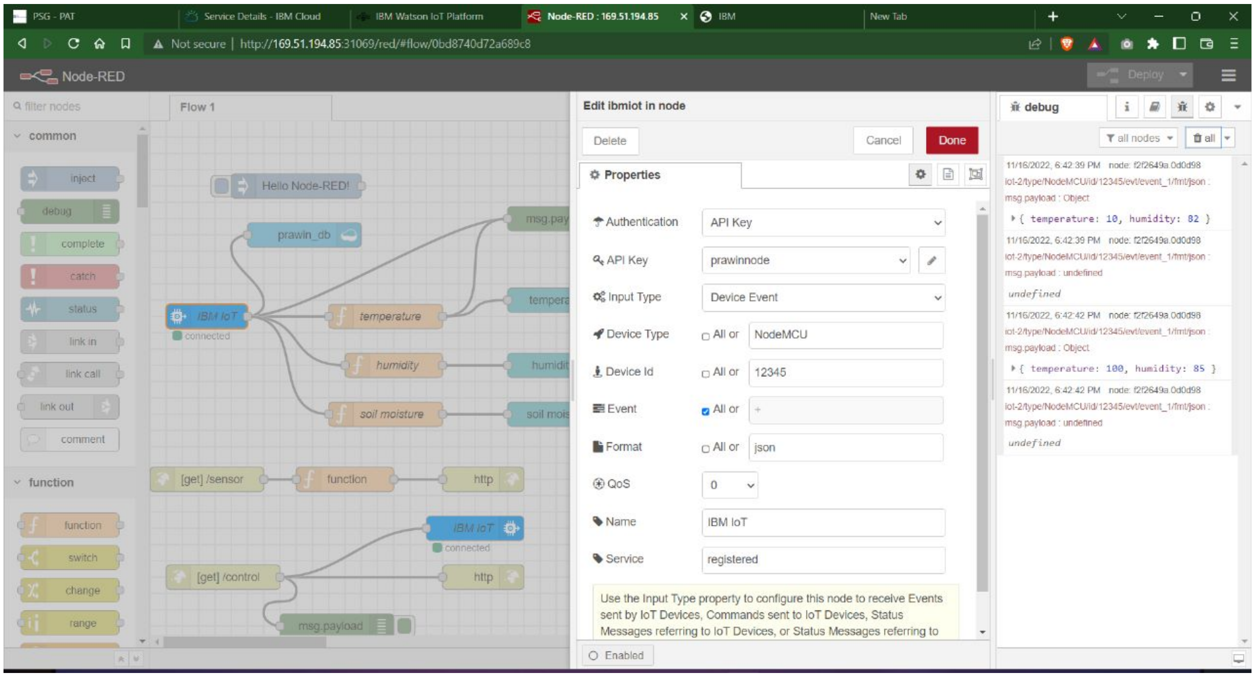
The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoTSensor	{"temp":0,"humid":8,"soil":13}	json	a few seconds ago
IoTSensor	{"temp":6,"humid":47,"soil":14}	json	a few seconds ago
IoTSensor	{"temp":32,"humid":20,"soil":32}	json	a few seconds ago
IoTSensor	{"temp":38,"humid":72,"soil":68}	json	a few seconds ago
IoTSensor	{"temp":19,"humid":65,"soil":70}	json	a few seconds ago

For initial testing , a node MCU device is created in IBM Watson IOT platform .Further the simulation is made run and Json data is seen in recent events of the same device. Also the graph has been visualized.



For the next process, the randomly generated values should be displayed in Node Red. So the Node red is configured.



Edit ibmiot in node

Delete Cancel Done

Properties

Authentication: API Key

API Key: prawinnode

Input Type: Device Event

Device Type: □ All or NodeMCU

Device Id: □ All or 12345

Event: ☑ All or +

Format: □ All or json

QoS: 0

Name: IBM IoT

Service: registered

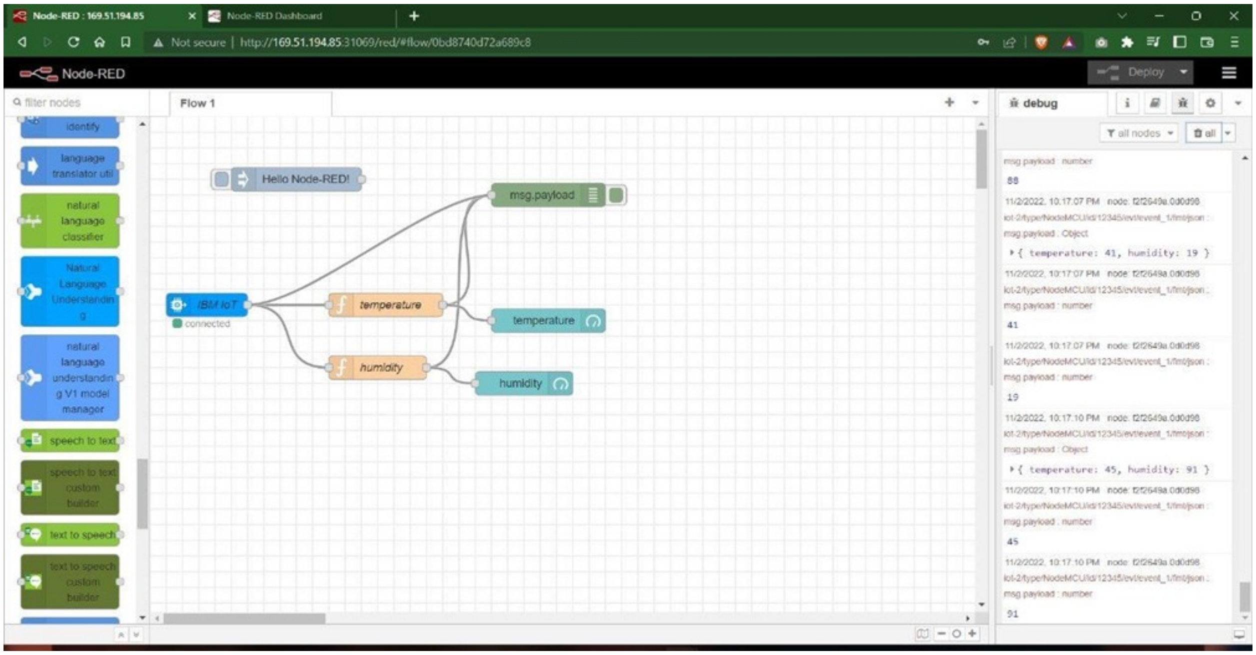
Use the Input Type property to configure this node to receive Events sent by IoT Devices, Commands sent to IoT Devices, Status Messages referring to IoT Devices, or Status Messages referring to

○ Enabled

debug

```
11/16/2022, 6:42:39 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 10, humidity: 82 }
11/16/2022, 6:42:39 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : undefined
undefined
11/16/2022, 6:42:42 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 100, humidity: 85 }
11/16/2022, 6:42:42 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : undefined
undefined
```

Configuring Node-RED:



http://169.51.194.85:31069/red/#flow/0bd8740d72a689c8

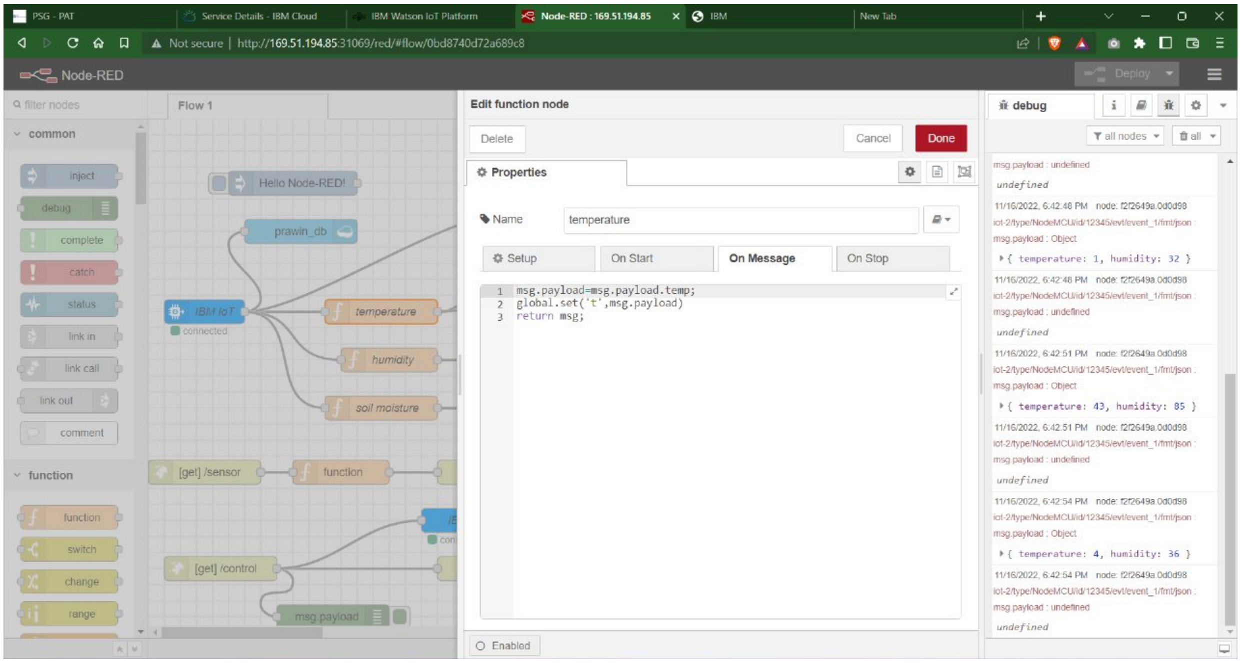
```
msg.payload : number
88
11/2/2022, 10:17:07 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 41, humidity: 19 }
11/2/2022, 10:17:07 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : number
41
11/2/2022, 10:17:07 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : number
19
11/2/2022, 10:17:10 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 45, humidity: 91 }
11/2/2022, 10:17:10 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : number
45
11/2/2022, 10:17:10 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : number
91
```

Once it is connected, Node-Red receives data from the device. Display the data using debug node for verification. Connect the function node and write the Java script code to get each reading separately.

The Java script code for the function node is:

msg.payload = msg.payload.d.temperature return msg;

Finally connect Gauge nodes from dashboard to see the data in UI



http://169.51.194.85:31069/red/#flow/0bd8740d72a689c8

Name: temperature

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

```
msg.payload : undefined
undefined
11/16/2022, 6:42:48 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 1, humidity: 32 }
11/16/2022, 6:42:48 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : undefined
undefined
11/16/2022, 6:42:51 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 43, humidity: 85 }
11/16/2022, 6:42:51 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : undefined
undefined
11/16/2022, 6:42:54 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : Object
▸{ temperature: 4, humidity: 36 }
11/16/2022, 6:42:54 PM   node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/12345/evt/event_1/fmt/json :
msg.payload : undefined
undefined
```