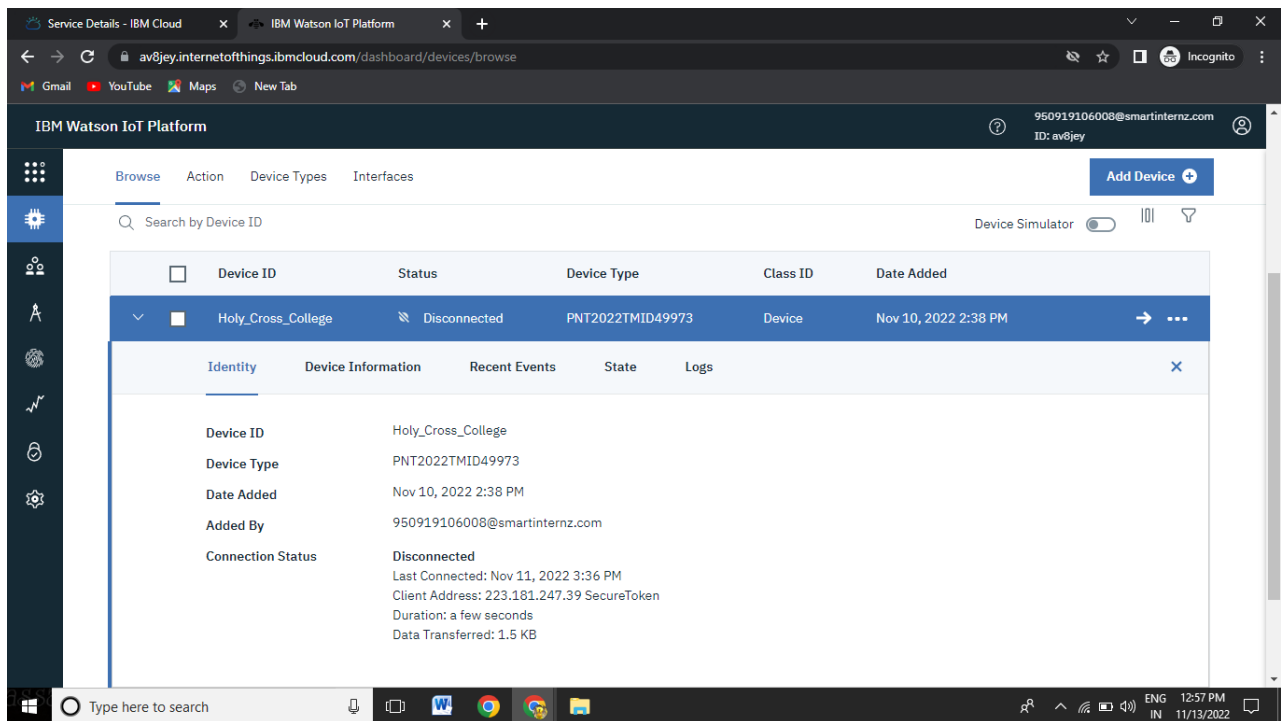


SPRINT 3 - DEVELOPMENT OF WEB APPLICATION USING NODE RED

TEAM ID	PNT2022TMID49973
PROJECT NAME	Smartfarmer – IoT Enabled Smart Farming Application
TEAM MEMBERS	Jenitaa Sharon (TL), Jency, Jeya, Josephine Florence

To create web application using node-red consider the following steps

1. CREATE NEW DEVICE ON IBM IoT PLATFORM



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SPRINT 3 - DEVELOPMENT OF WEB APPLICATION USING NODE RED

2. CREATE NEW SIMULATION

The screenshot shows the IBM Watson IoT Platform interface. The main panel displays a list of devices, with 'Holy_Cross_College' (PNT2022TMID49973) selected. The 'Recent Events' tab is active, showing a stream of events. A 'Simulations' panel is open on the right, showing '1/50 Simulations Running'. The 'Device Type' is 'PNT2022TMID49973'. The '1 Device' section lists 'Holy_Cross_College'. The 'Simulations' panel has buttons for 'Create Simulated Device' and 'Use Registered Device'.

Event	Value
event_1	{"temperature":86,"humidity":53,"soilmoisture":...
event_1	{"temperature":54,"humidity":38,"soilmoisture":...
event_1	{"temperature":12,"humidity":7,"soilmoisture":3}
event_1	{"temperature":10,"humidity":86,"soilmoisture":...
event_1	{"temperature":32,"humidity":7,"soilmoisture":53}

3. CREATE NEW EVENT TYPE BY SPECIFYING THE EVENT PAYLOAD

The screenshot shows the IBM Watson IoT Platform interface. The main panel displays a list of devices, with 'Holy_Cross_College' (PNT2022TMID49973) selected. The 'Recent Events' tab is active, showing a stream of events. A configuration panel for 'Device Type: PNT2022TMID49973' is open on the right. The 'Events' section shows 'event_1' with a 'Send' button. The 'Schedule' section shows '20' and 'Every Minute'. The 'Payload' section shows a JSON payload:

```
{
  "temperature": random(0, 100),
  "humidity": random(0, 100),
  "soilmoisture": random(0, 100)
}
```

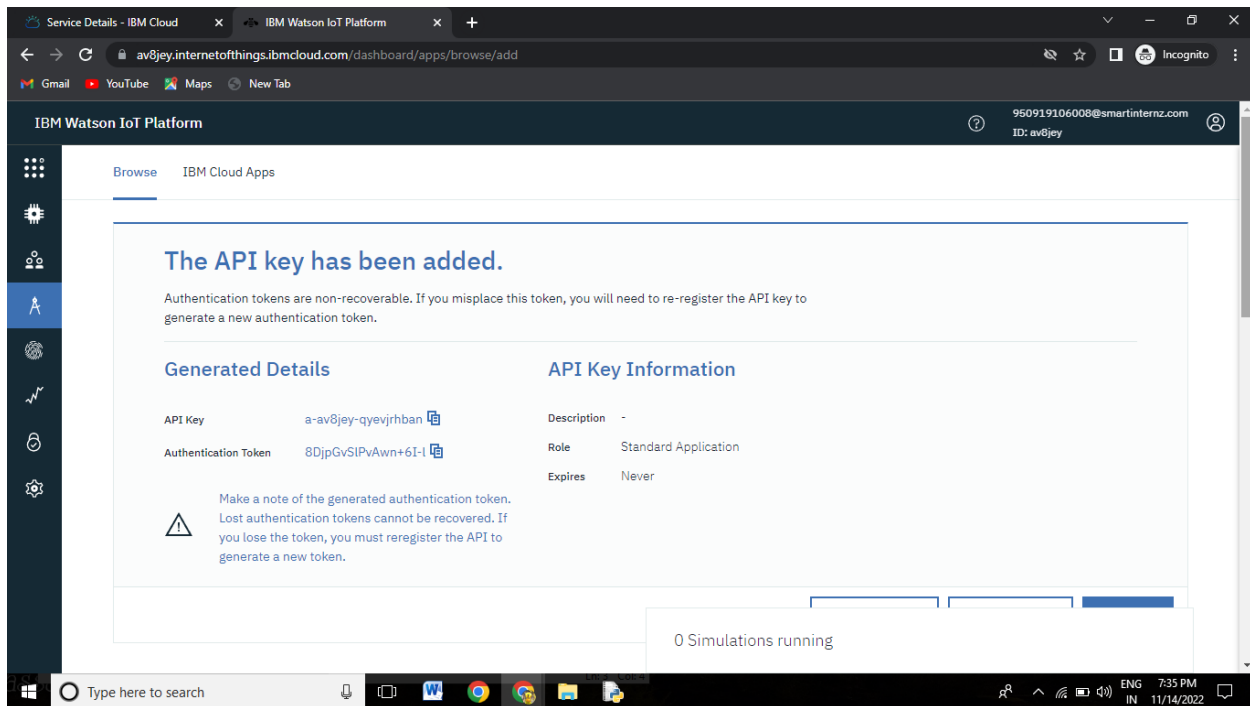
. There is an 'Upload a CSV file' button.

Event	Value
event_1	{"temperature":70,"humidity":73,"soilmoisture":...
event_1	{"temperature":98,"humidity":92,"soilmoisture":...
event_1	{"temperature":26,"humidity":48,"soilmoisture":...
event_1	{"temperature":77,"humidity":63,"soilmoisture":9}
event_1	{"temperature":86,"humidity":53,"soilmoisture":...

PNT2022TMID49973

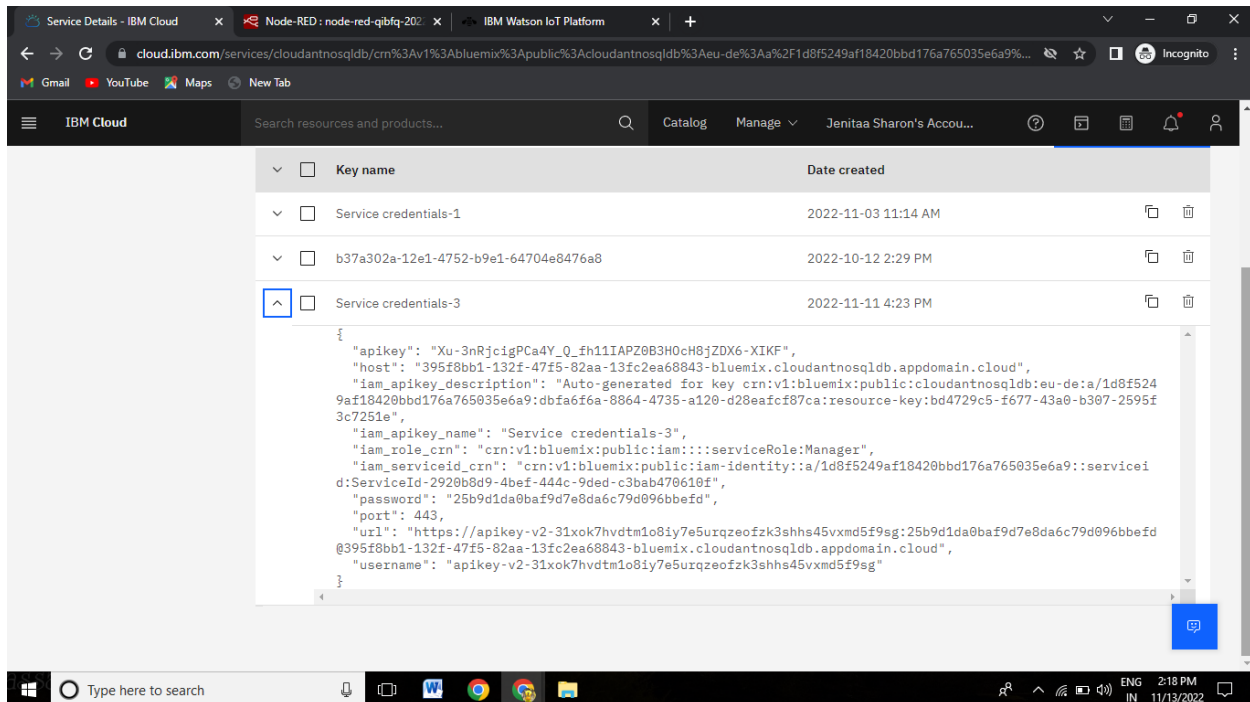
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4. GENERATE NEW API KEY



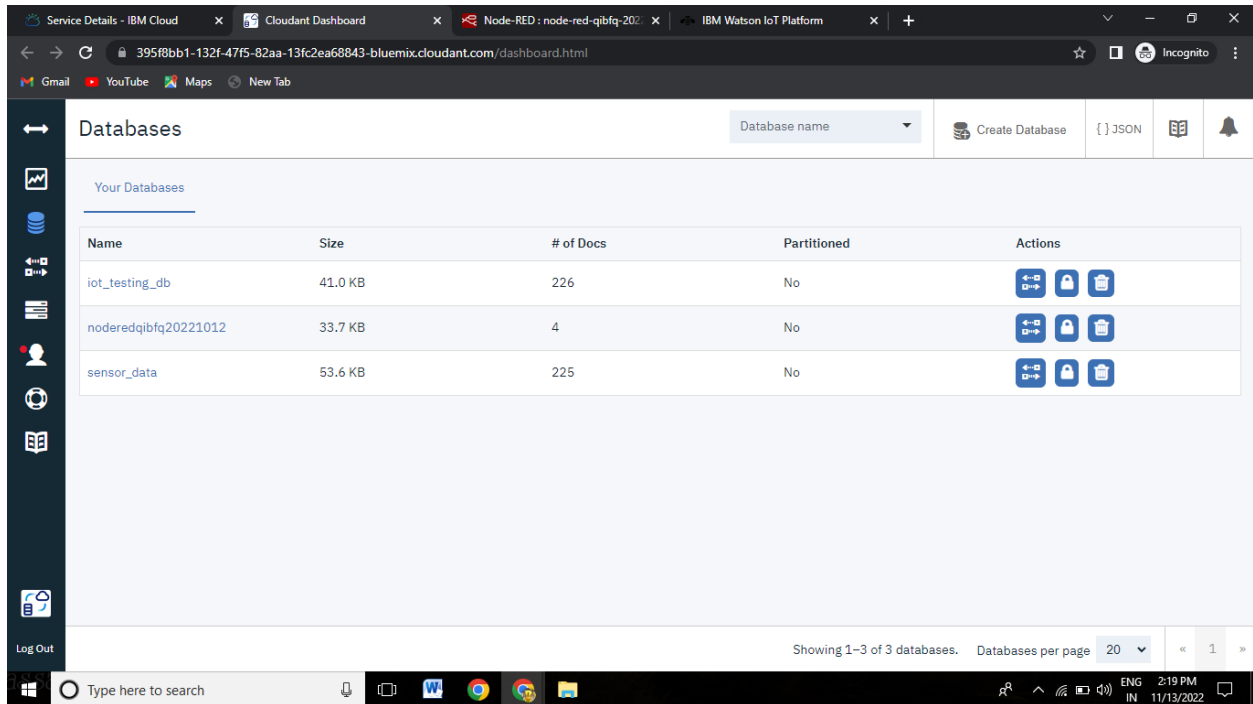
Here note down the API Key and Authentication token for future reference.

5. CREATE NEW SERVICE CREDENTIALS ON CLOUDANT



Note down URL, username and password.

6. CREATE NEW DATA BASE ON CLOUDANT DASHBOARD



The screenshot shows the Cloudant Dashboard interface. The top navigation bar includes tabs for 'Service Details - IBM Cloud', 'Cloudant Dashboard', 'Node-RED : node-red-qibfq-202', and 'IBM Watson IoT Platform'. The main content area is titled 'Databases' and features a table with the following data:

Name	Size	# of Docs	Partitioned	Actions
iot_testing_db	41.0 KB	226	No	[Icons for edit, lock, delete]
noderedqibfq20221012	33.7 KB	4	No	[Icons for edit, lock, delete]
sensor_data	53.6 KB	225	No	[Icons for edit, lock, delete]

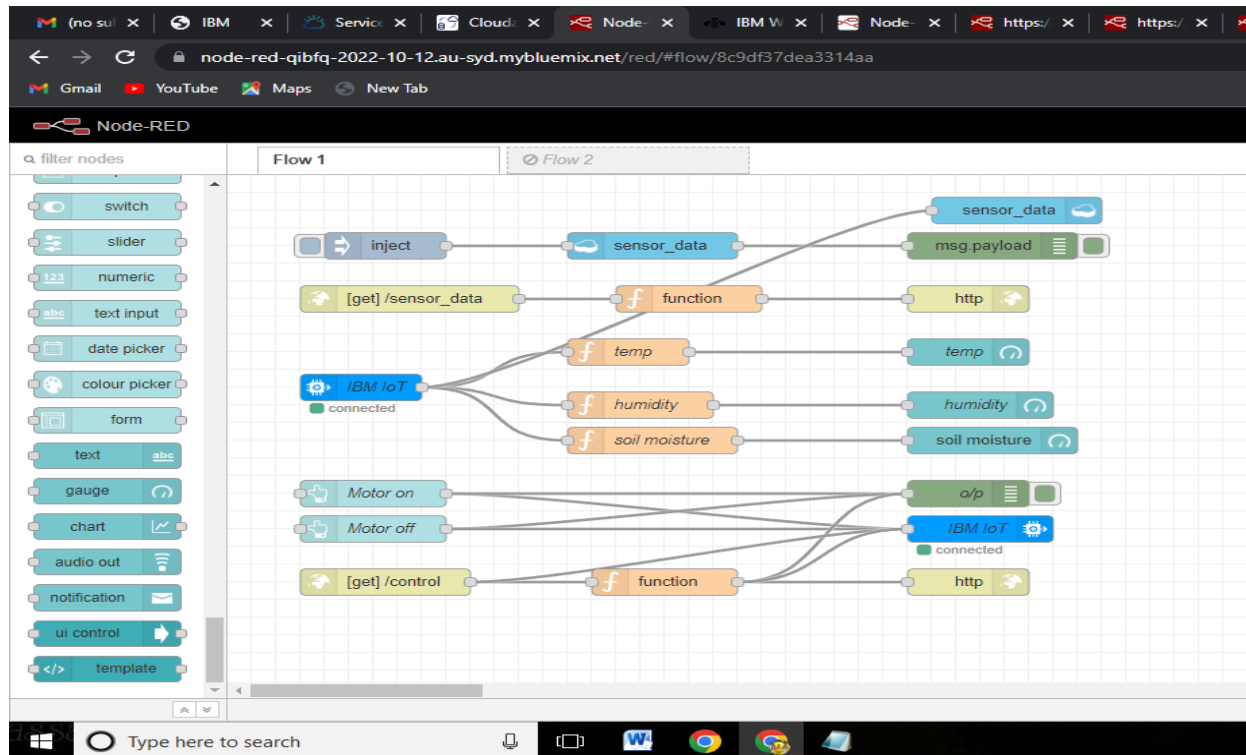
At the bottom of the dashboard, it indicates 'Showing 1-3 of 3 databases. Databases per page 20'. The Windows taskbar at the bottom shows the time as 2:19 PM on 11/13/2022.

GO TO NODE-RED APP URL

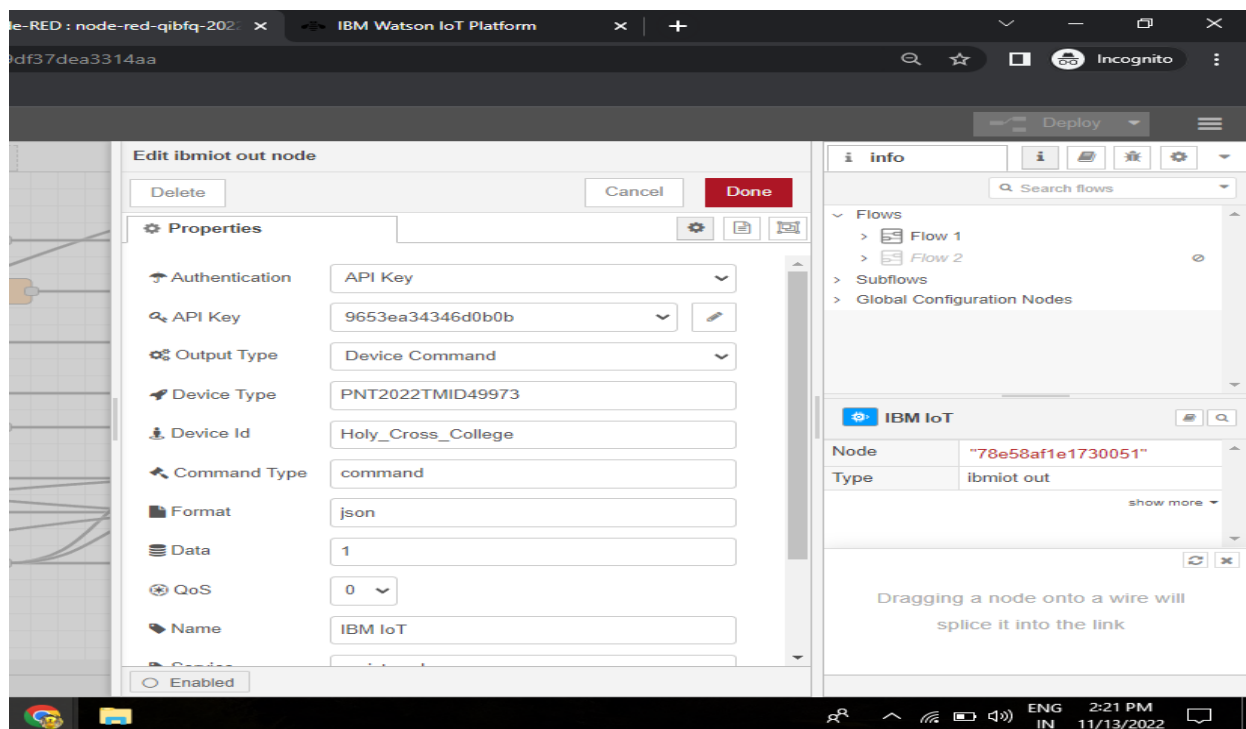
1. MAKE A CORRECT NODE-RED FLOWS FOR ESTABLISHING WEB APPLICATION

Here use the correct IBM Cloud credentials created on the previous steps for linking the IBM IoT platform to Node-Red.

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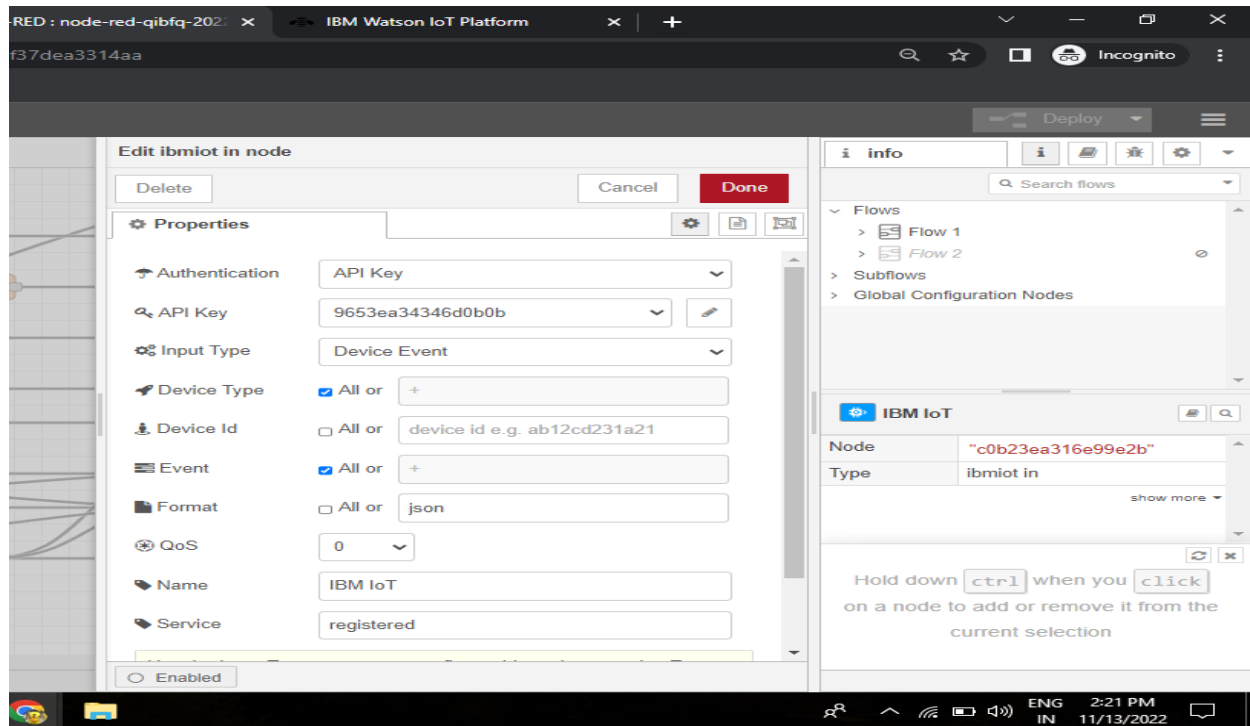
Here give the required details on each nodes used.



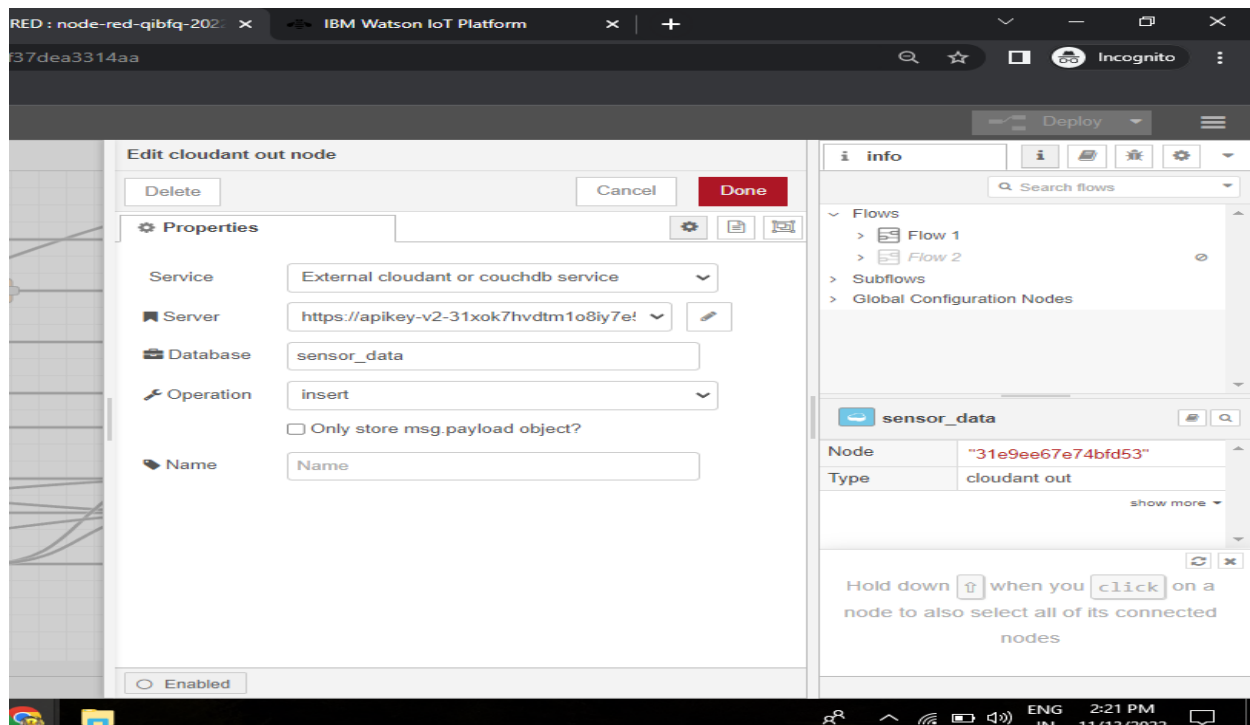
IBMIOT OUT NODE (OUTPUT)

PNT2022TMID49973

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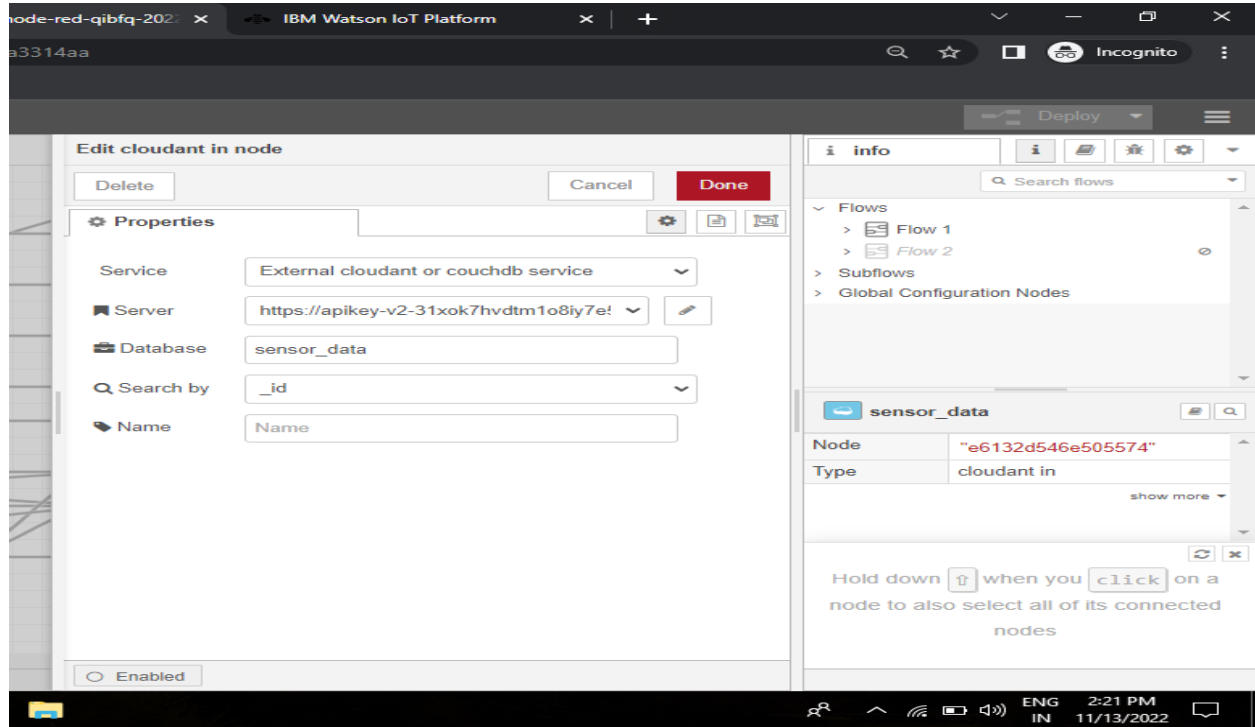


IBMIOT IN NODE (INPUT)



CLOUDANT OUT NODE

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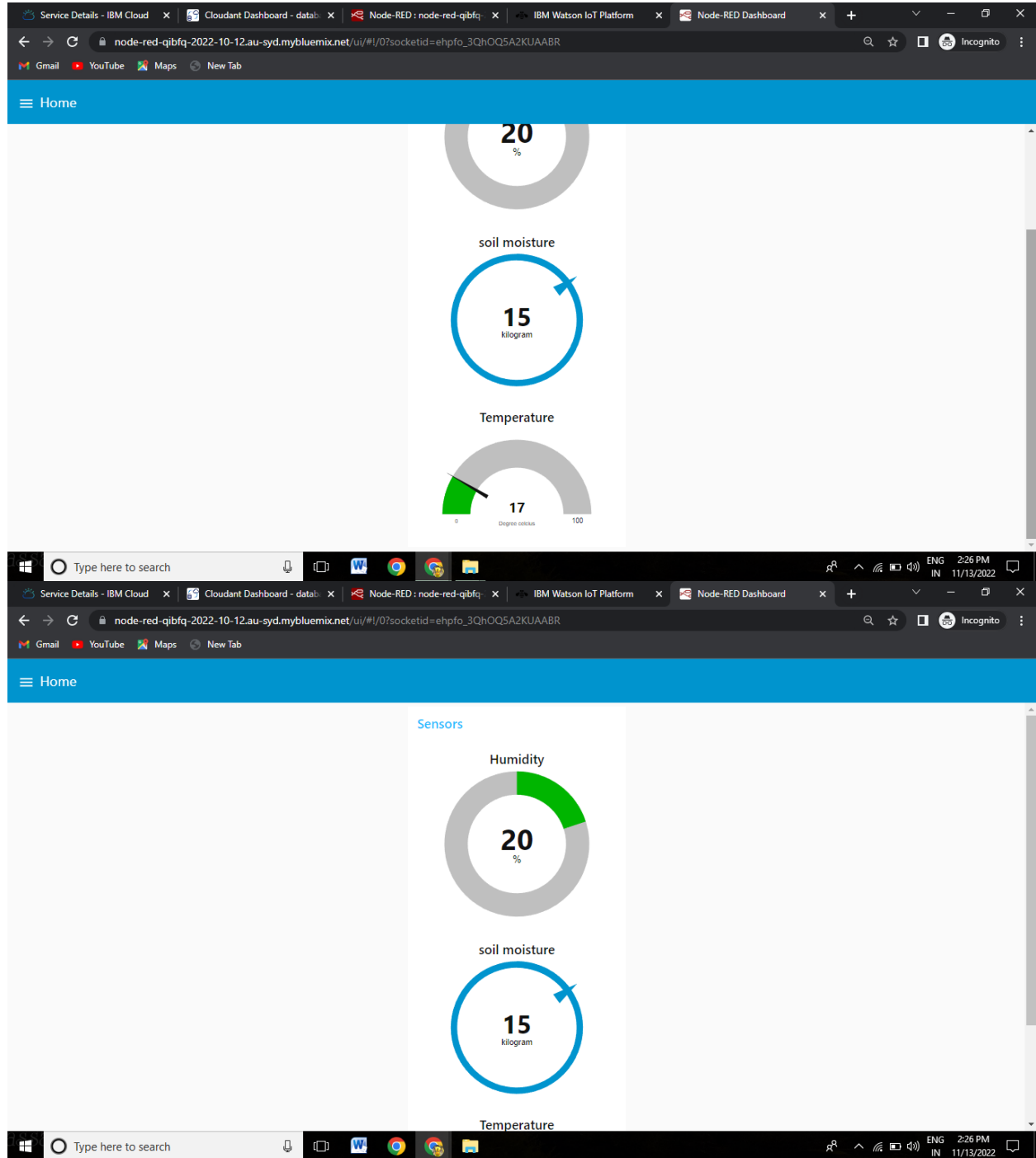
CLOUDANT IN NODE

Use http in node and response node to see the publishing result in the UI.

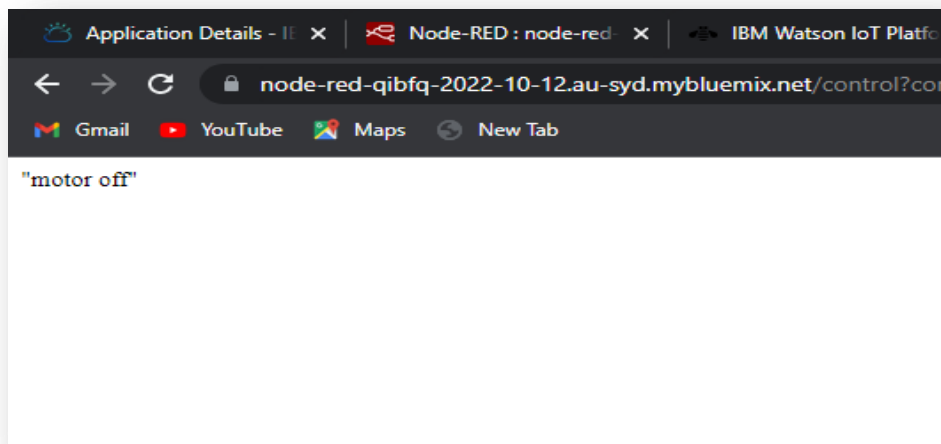
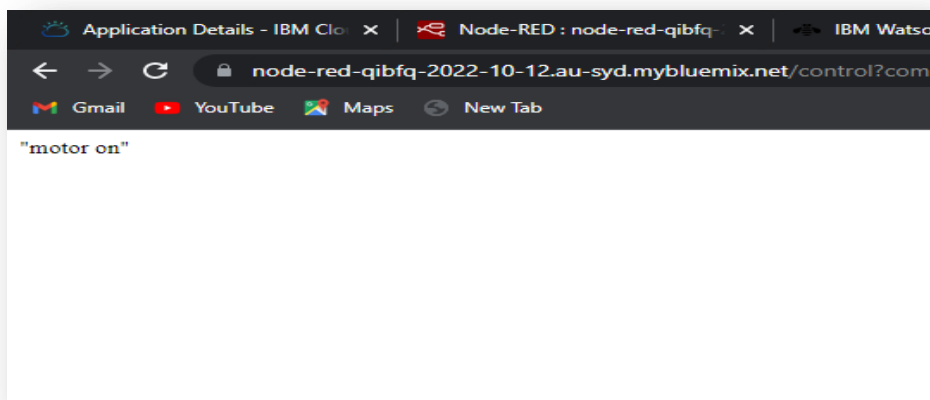
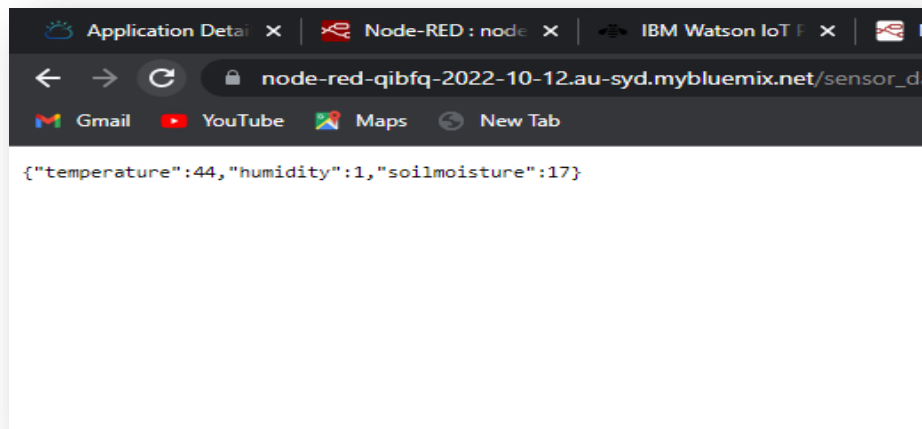
Links to see the publishing results:

- ✓ https://node-red-qibfq-2022-10-12.au-syd.mybluemix.net/ui/#!/0?socketid=A_WS5bp_ifHANLzEAAA3
- ✓ <https://node-red-qibfq-2022-10-12.au-syd.mybluemix.net/control?command=%22motor%20on%22>
- ✓ <https://node-red-qibfq-2022-10-12.au-syd.mybluemix.net/control?command=%22motor%20off%22>
- ✓ https://node-red-qibfq-2022-10-12.au-syd.mybluemix.net/sensor_data

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Thus the web application is created using node-red

