

BUILD A WEB APPLICATION USING NODE-RED SERVICES

TITLE	Smart Farmer-IOT Enabled Smart Farming Application
DOMAIN NAME	INTERNET OF THINGS
TEAM ID	PNT2022TMID23830
Project Name	Smart Farmer - IoT Enabled Smart Farming Application
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MENTOR NAME	THIRUPPATHI M

Step 1:

The screenshot displays the IBM Watson IoT Platform interface. The browser tabs at the top include MIT App Inventor, Fast2sms - Google Search, IBM Watson IoT Platform, and Node-RED. The address bar shows the URL: kua3hx.internetofthings.ibmcloud.com/dashboard/devices/drilldown/NodeMcu123:12345?returnTo=/devices/browse. The page title is "Device Drilldown - 12345". On the left, a sidebar menu lists options: Device Credentials (selected), Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, and Connection Logs. The main content area, titled "Device Credentials", contains a table with the following information:

Organization ID	kua3hx
Device Type	NodeMcu123
Device ID	12345
Authentication Method	use-token-auth
Authentication Token	1234567890

Below the table, a warning icon and text state: "Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token."

The bottom of the screen shows a Windows taskbar with the date and time as 12:23 AM on 14-Nov-2022.

Step 2:

IBM Watson IoT Platform

logugowski2001@gmail.com
ID: kua3hx

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
>	123	Disconnected	Arduino	Device	13 Nov 2022 21:49
>	123	Disconnected	NodeMcu	Device	13 Nov 2022 20:13
>	12345	Disconnected	NodeMcu123	Device	14 Nov 2022 00:23

24°C Partly cloudy

12:26 AM 14-Nov-2022

Step 3:

IBM Watson IoT Platform

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ID: kua3hx

Browse Action Device Types Interfaces

Add Device

12345 Disconnected NodeMcu123 Device 14 Nov 2022 00:23

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
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Waiting for device events...

24°C Partly cloudy

12:27 AM 14-Nov-2022

Step 4:

The screenshot shows the IBM Watson IoT Platform interface. The main panel displays the 'Recent Events' for device '12345' (NodeMcu123). The events are listed in a table with columns 'Event' and 'Value'. The values are JSON objects containing temperature, humidity, and moisture data.

Event	Value
event_1	{"Temperature":96,"Humidity":67,"Moisture":100}
event_1	{"Temperature":101,"Humidity":69,"Moisture":100}
event_1	{"Temperature":91,"Humidity":91,"Moisture":100}
event_1	{"Temperature":102,"Humidity":63,"Moisture":100}
event_1	{"Temperature":99,"Humidity":91,"Moisture":100}

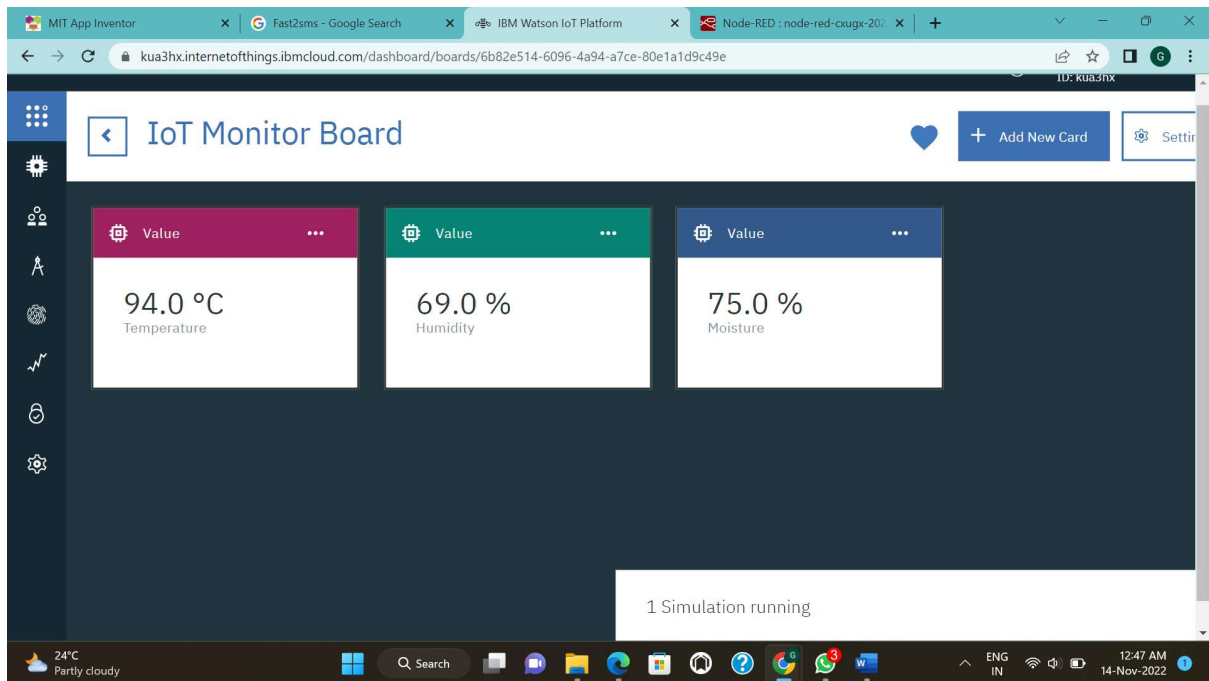
An overlay window titled 'Device Type: NodeMcu123' is open, showing the configuration for a new event type 'event_1'. The configuration includes a schedule of '20' minutes 'Every Minute' and a payload defined as a JSON object with random values for temperature, humidity, and moisture.

```
0 {  
1   "Temperature": random(90, 110),  
2   "Humidity": random(60, 100),  
3   "Moisture": random(0, 100)  
4 }  
5
```

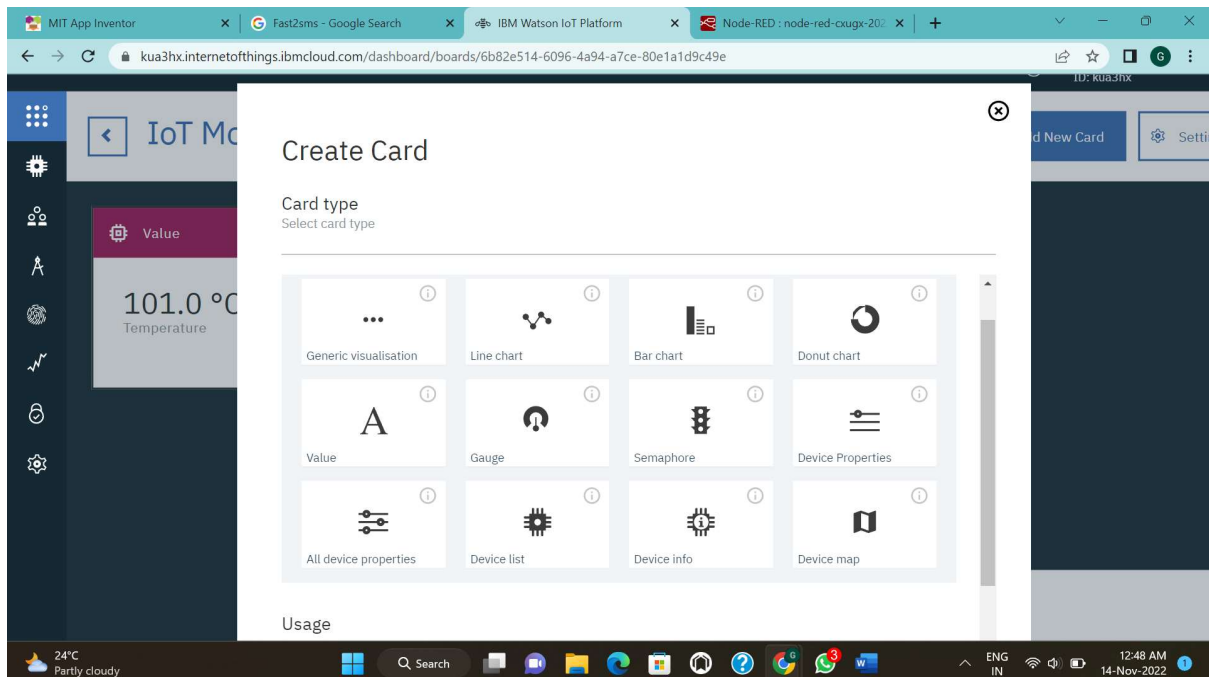
Step 5:

The screenshot shows the IBM Watson IoT Platform interface. The main panel displays a 'Card preview' for a temperature sensor. The card shows a large value of '101.0 °C' and a smaller label 'Temperature'. The card is titled 'IoT Mo' and has a 'Card information' section below it. The card is shown in a preview mode with a 'Back' and 'Next' button at the bottom.

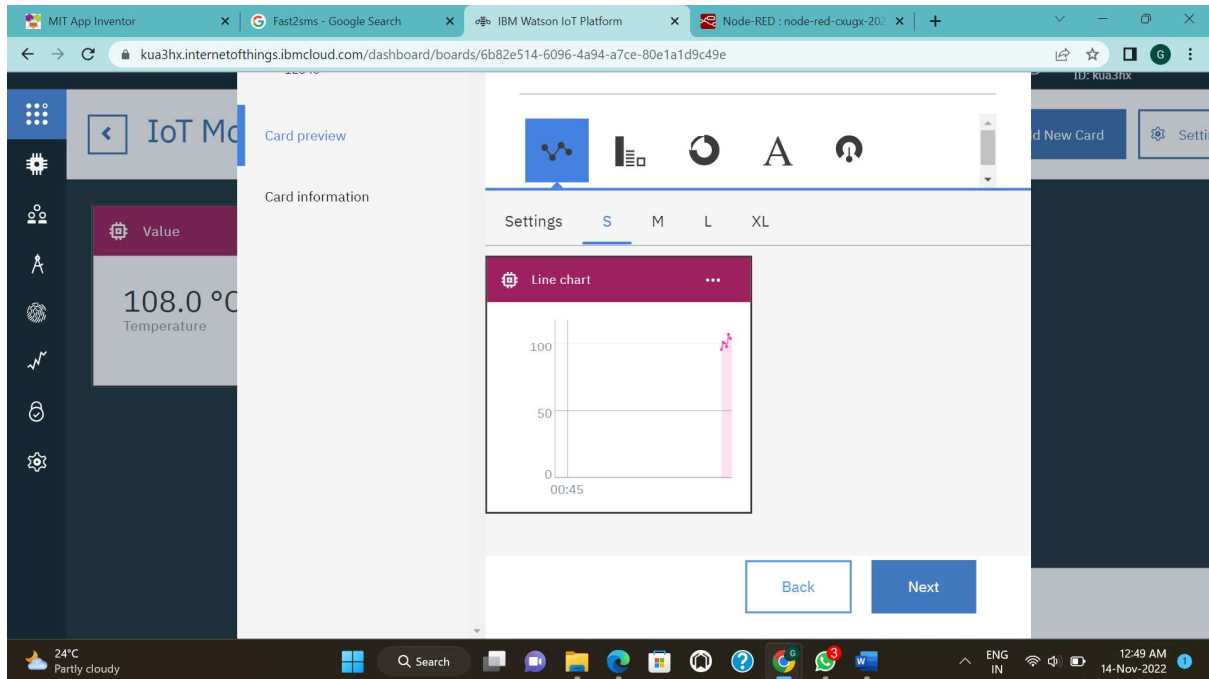
Step 6:



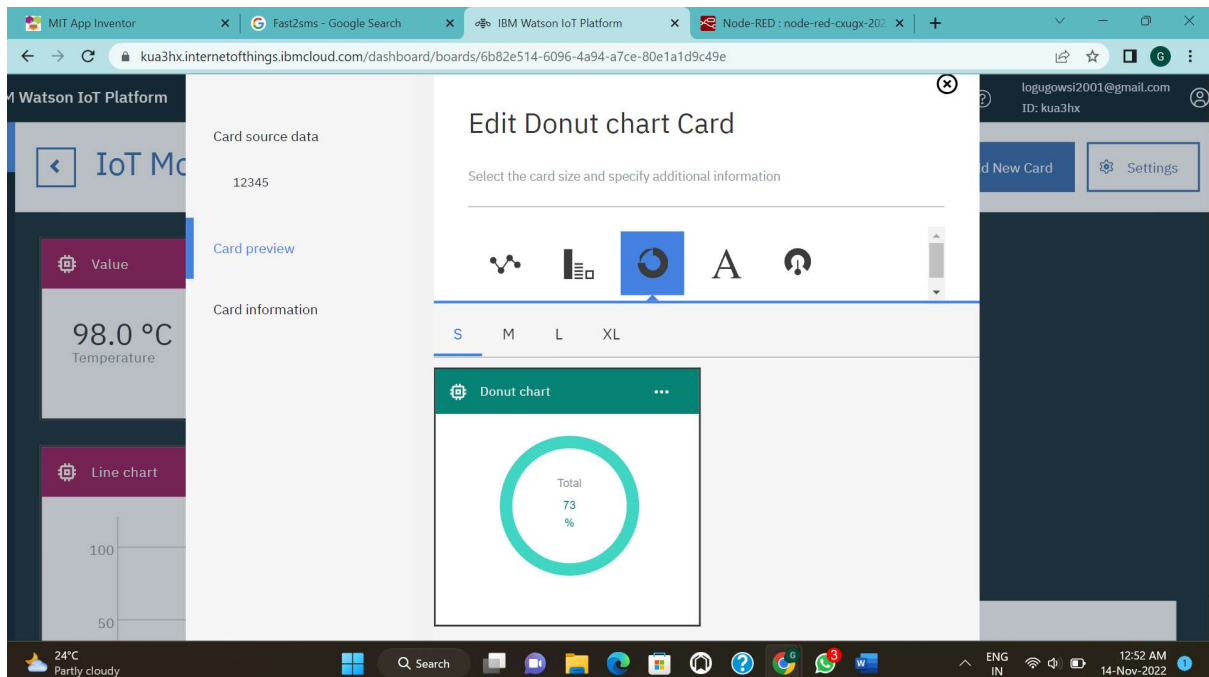
Step 7:



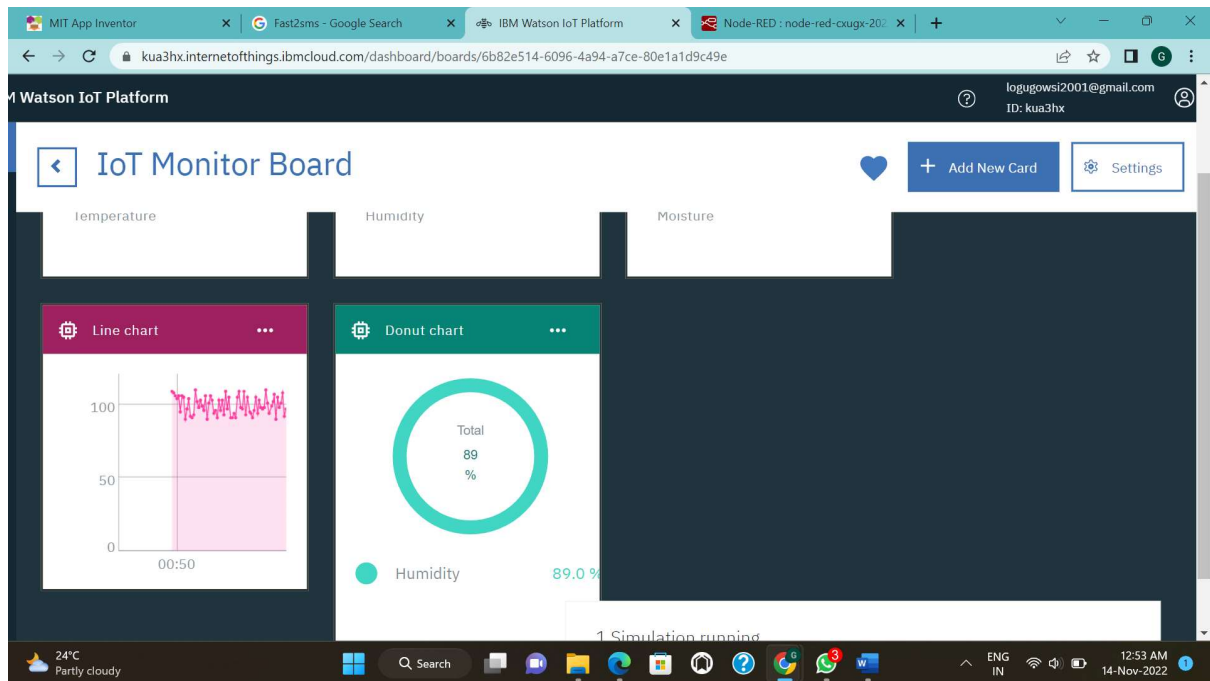
Step 8:



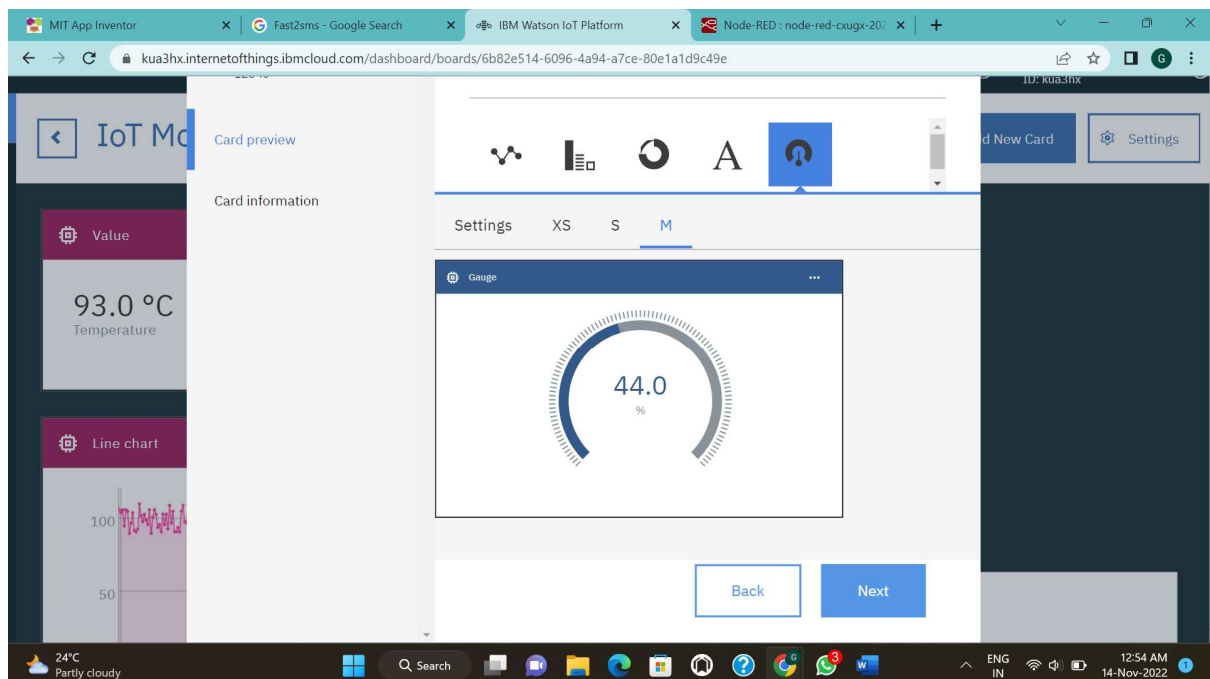
Step 9:



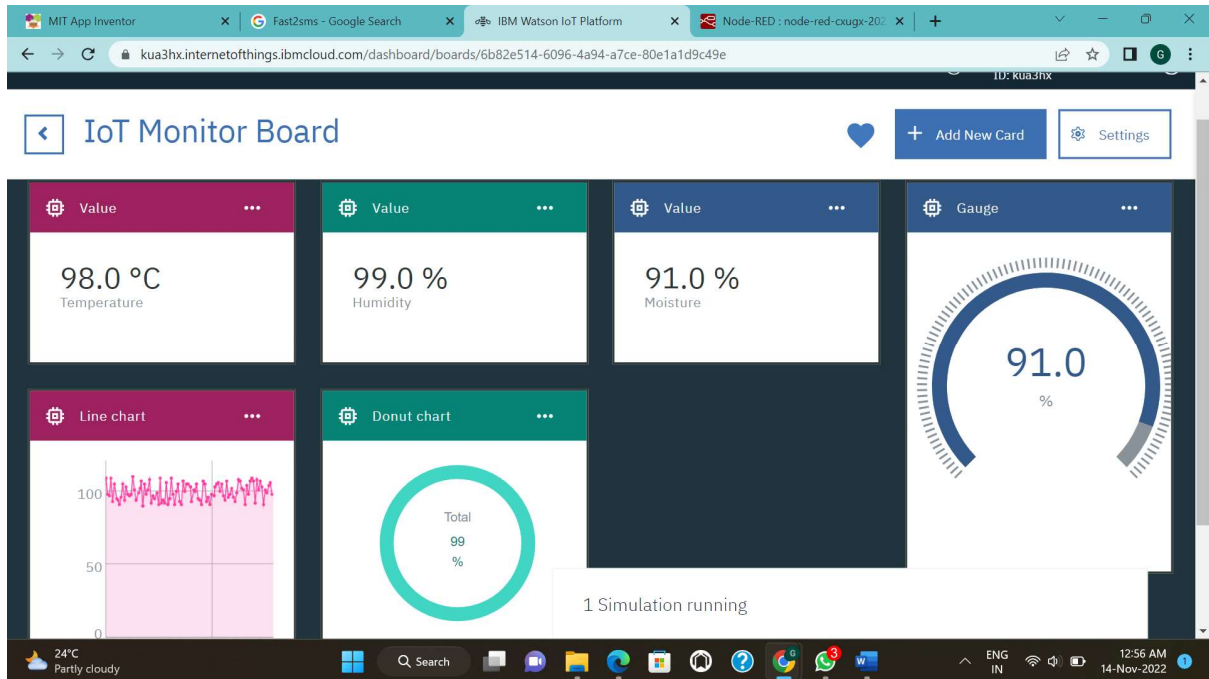
Step 10:



Step 11:



Step 12:



Step 13:

The screenshot shows the 'Resource list' page in the IBM Cloud console. The page displays a table of resources and a sidebar with category filters.

Name	Group	Location	Product	Status	Tags
Filter by name or IP address... Filter by group or org. Filter... Filter... Filter... Filter...					
Compute (1)					
Node RED CXUGX 2022-11-13	IoTSession / IoT	London	Node.js	Started	-
Containers (0)					
Networking (0)					
Storage (0)					
AI / Machine Learning (0)					
Analytics (0)					
Blockchain (0)					
Databases (2+)					
Developer tools (4+)					

The sidebar on the left contains icons for various IBM Cloud services. The top navigation bar includes 'IBM Cloud', 'Search resources and products...', 'Catalog', 'Manage', and 'GOWSALYA L's Account'. The bottom system tray shows '24°C Partly cloudy', 'Search', and the date '14-Nov-2022'.

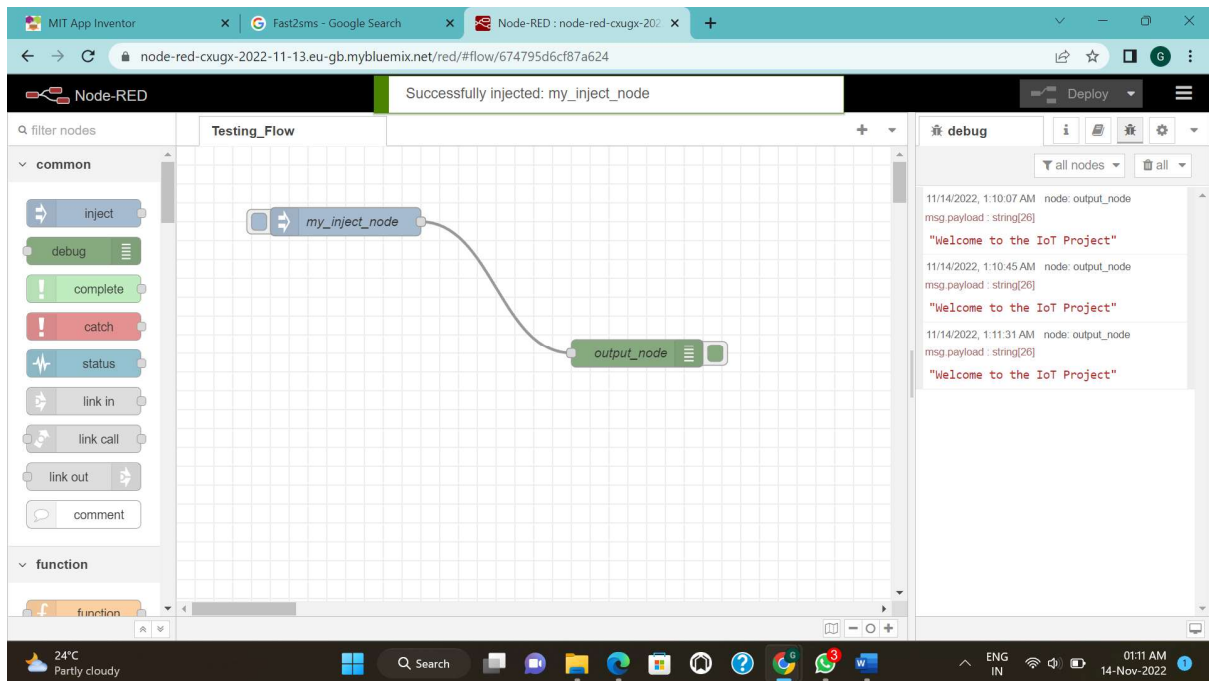
Step 14:

The screenshot shows the IBM Cloud Application Details page for an application named "Node RED CXUGX 2022-11-13". The application is in a "Running" state. The page includes a sidebar with navigation options: Getting started, Overview (selected), Runtime, Connections, Logs, API Management, and Autoscaling. A notification banner at the top states: "IBM Cloud Foundry Public is being deprecated. Please see full details." The main content area displays the "Instances" section, showing a health status of 100% and 1/1 instance(s) running. A slider for "MB memory per instance" is set to 256. The "Runtime" section shows a Node.js runtime with a circular progress indicator for memory usage, currently at 256 MB out of a total allocation of 256 MB. The "Runtime cost" and "Connections (1)" sections are also visible. The bottom of the screen shows a Windows taskbar with the date 14-Nov-2022 and time 12:59 AM.

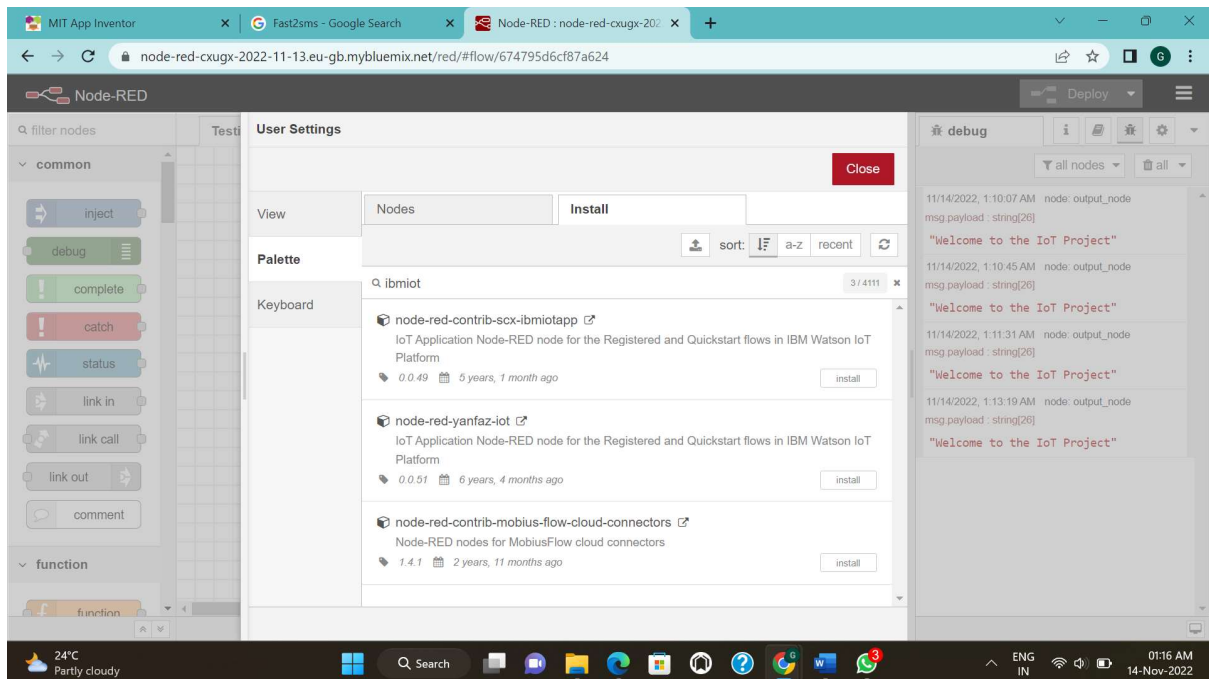
Step 15:

The screenshot shows the Node-RED web interface. The main workspace displays a flow named "Testing_Flow" with two nodes: "my_inject_node" and "output_node". The "my_inject_node" is connected to the "output_node". The left sidebar shows the "filter nodes" section with a list of common nodes (inject, debug, complete, catch, status, link in, link call, link out, comment) and a function node. The right sidebar shows the "info" section with a search bar and a list of flows, including "Testing_Flow". The "Testing_Flow" section shows the flow ID "674795d6cf87a624" and a note about switching flow tabs with "ctrl-[and ctrl-]". The bottom of the screen shows a Windows taskbar with the date 14-Nov-2022 and time 01:05 AM.

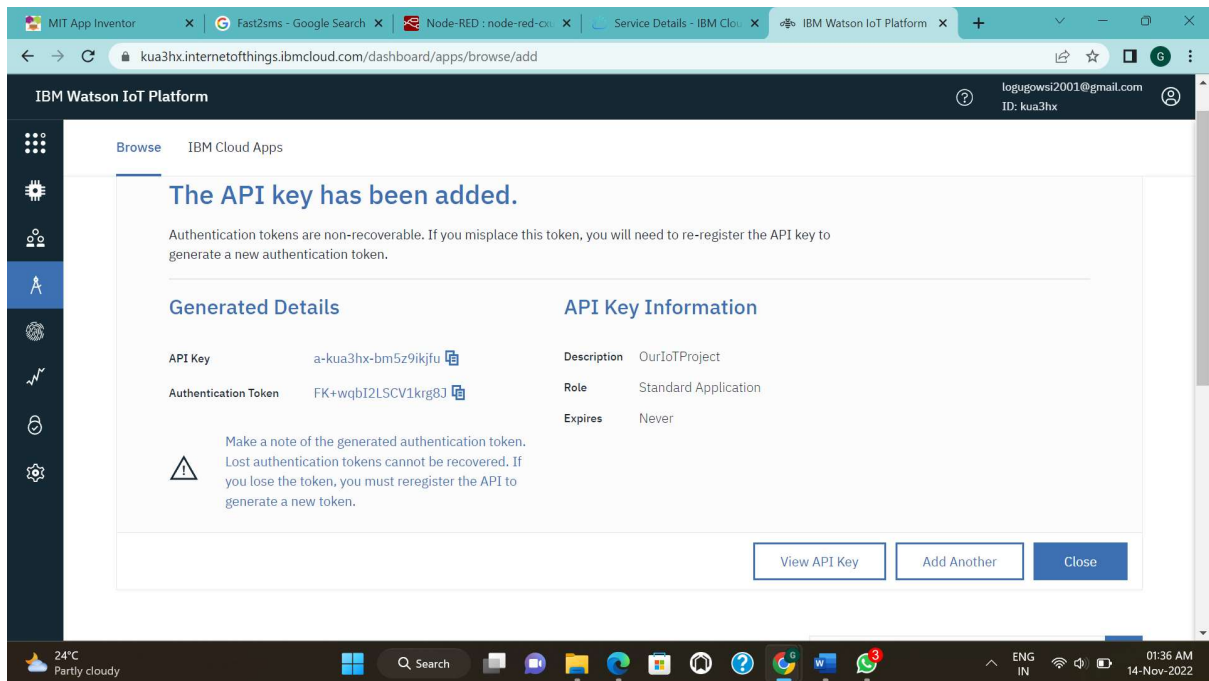
Step 16:



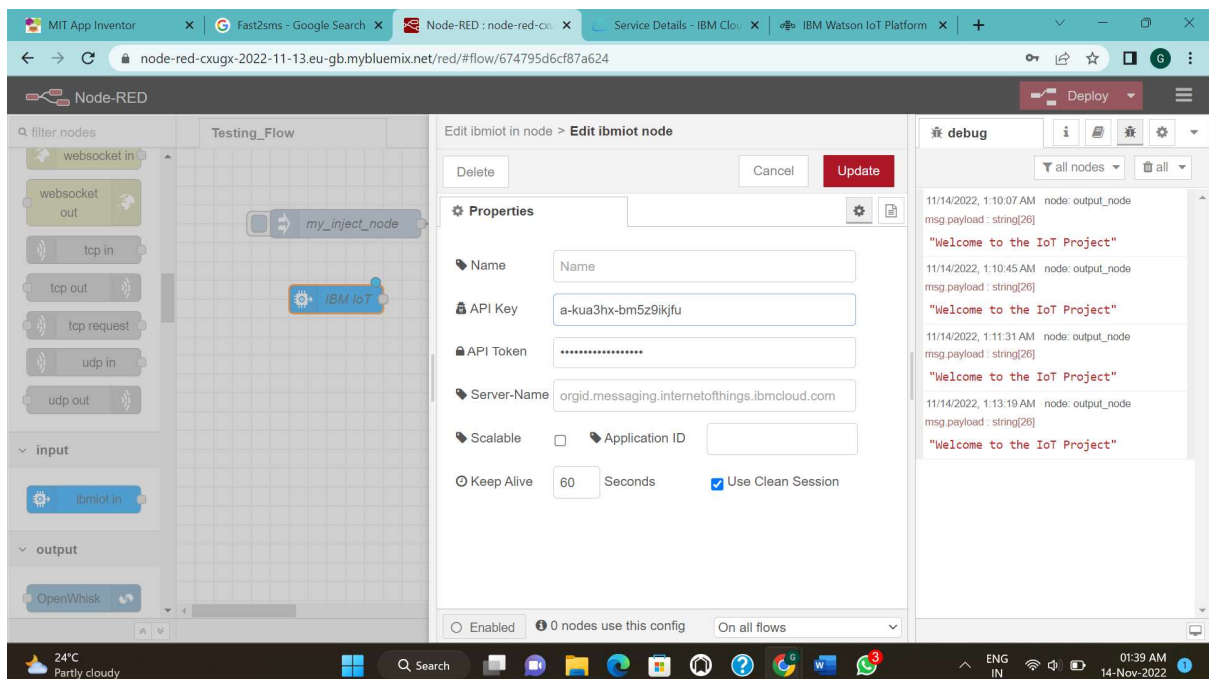
Step 17:



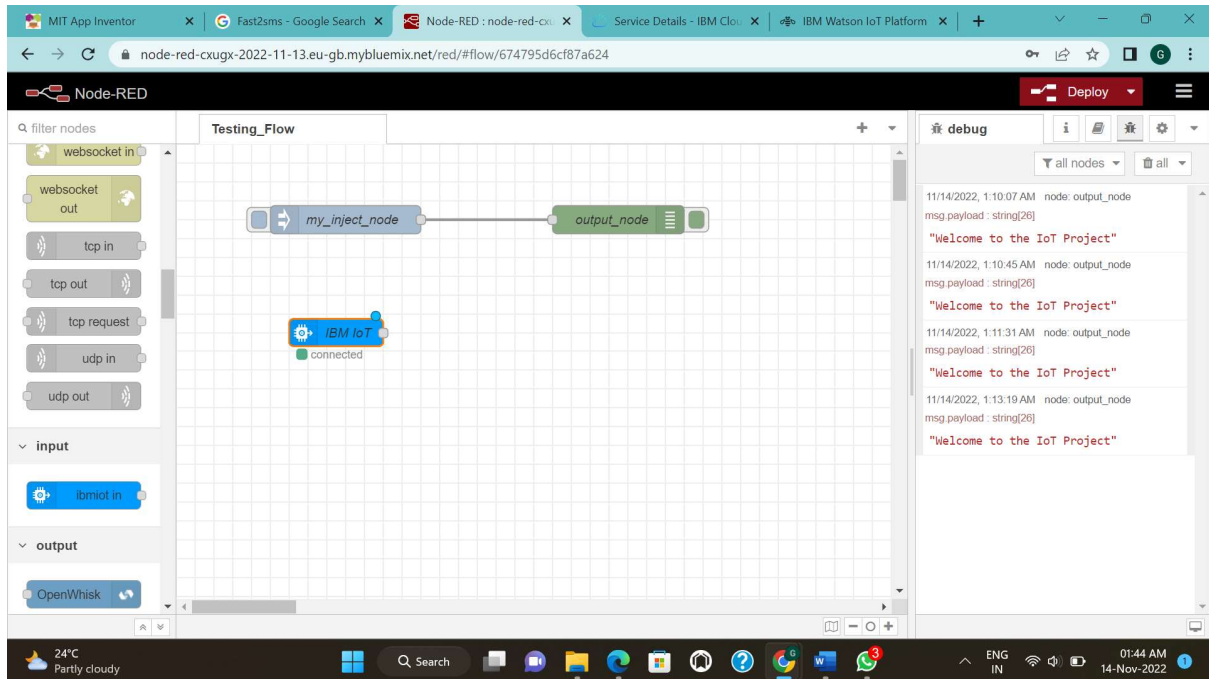
Step 18:



Step 19:



Step 20:



Finally, We built a Web-Application using Node-Red Services