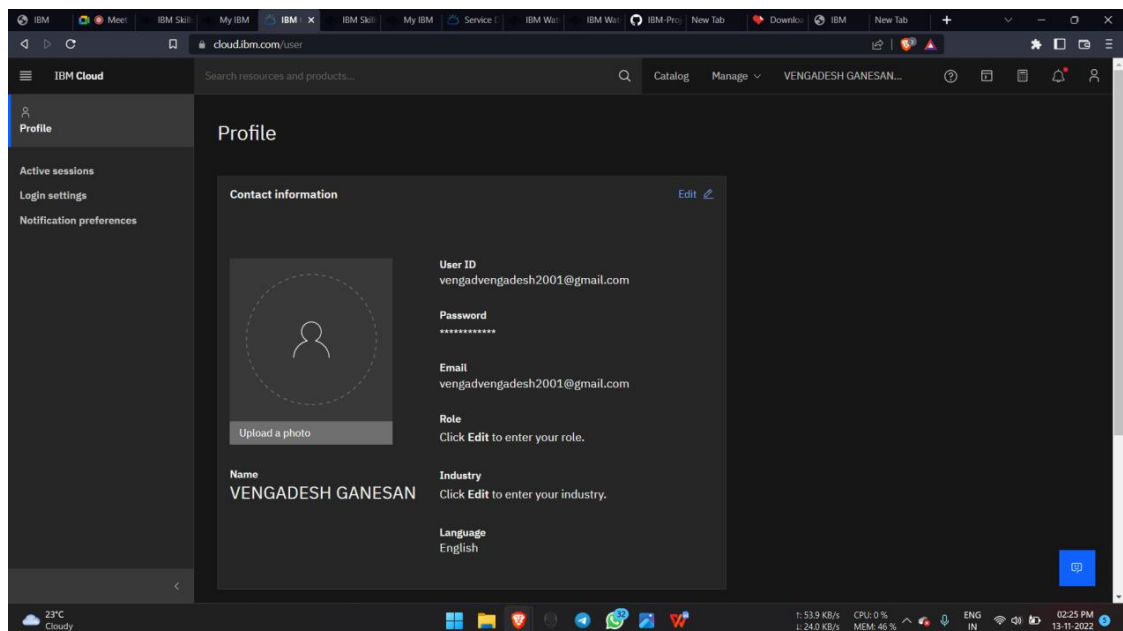
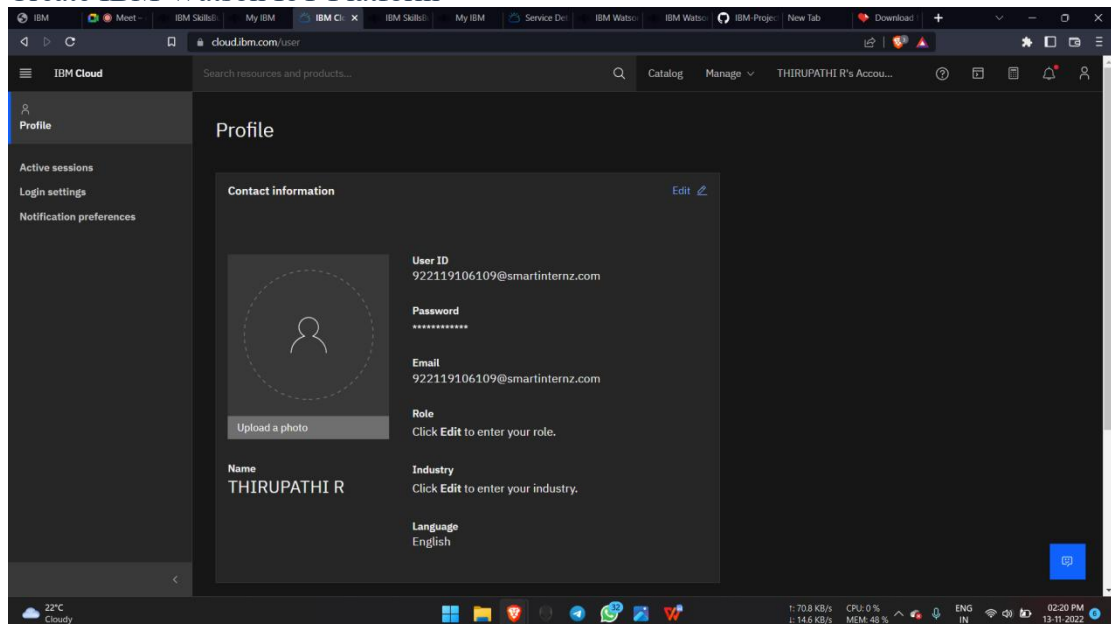
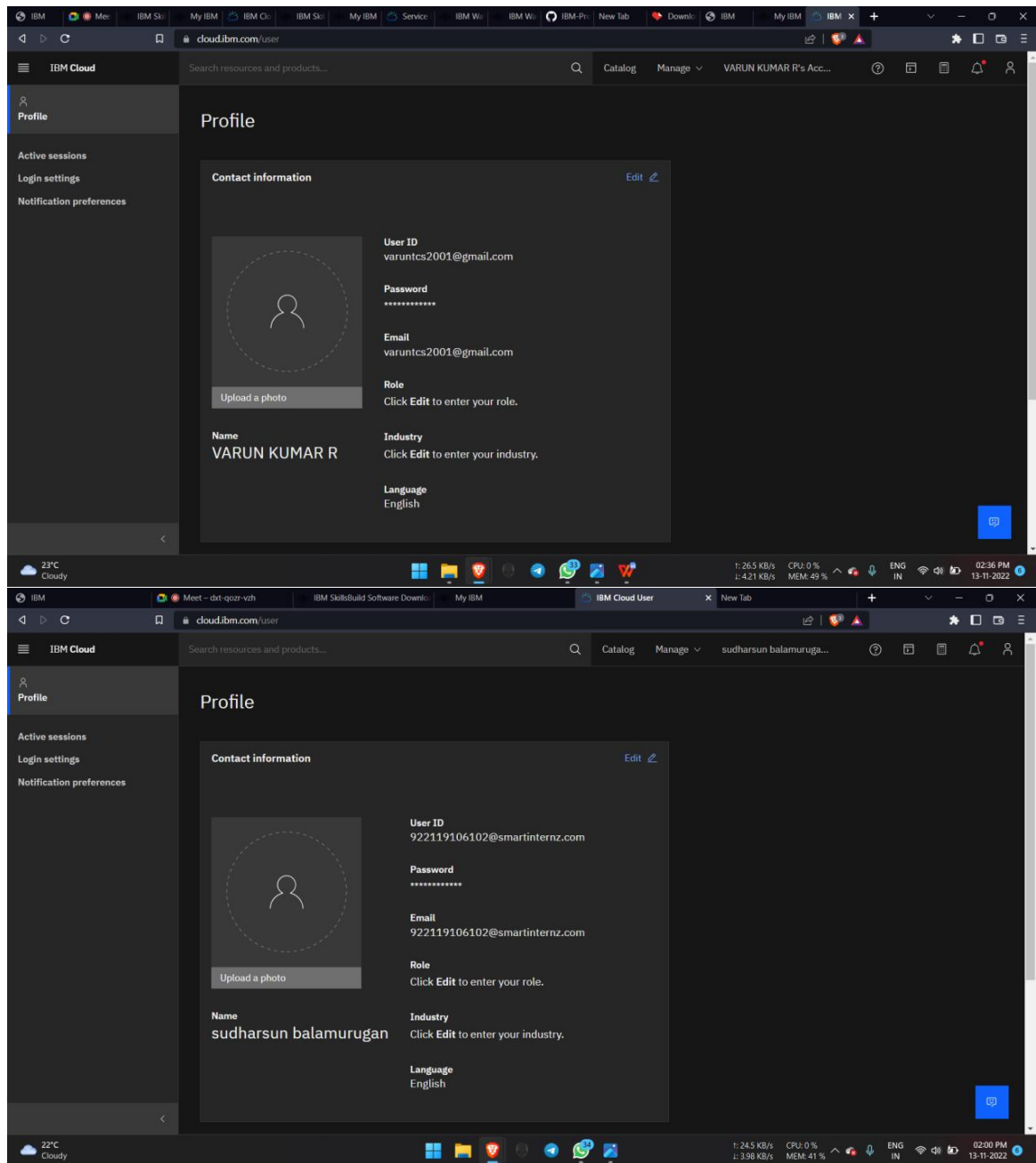


PROJECT OBJECTIVES

To accomplish this, we have to complete all the activities and tasks listed below:

- ❖ Create and configure IBM Cloud Services
- Create IBM Watson IoT Platform





- Create a device & configure the IBM IoT Platform

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
ssvt369	Disconnected	Nalaiyathiran	Device	Oct 22, 2022 12:37 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page

1 Simulation running

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.

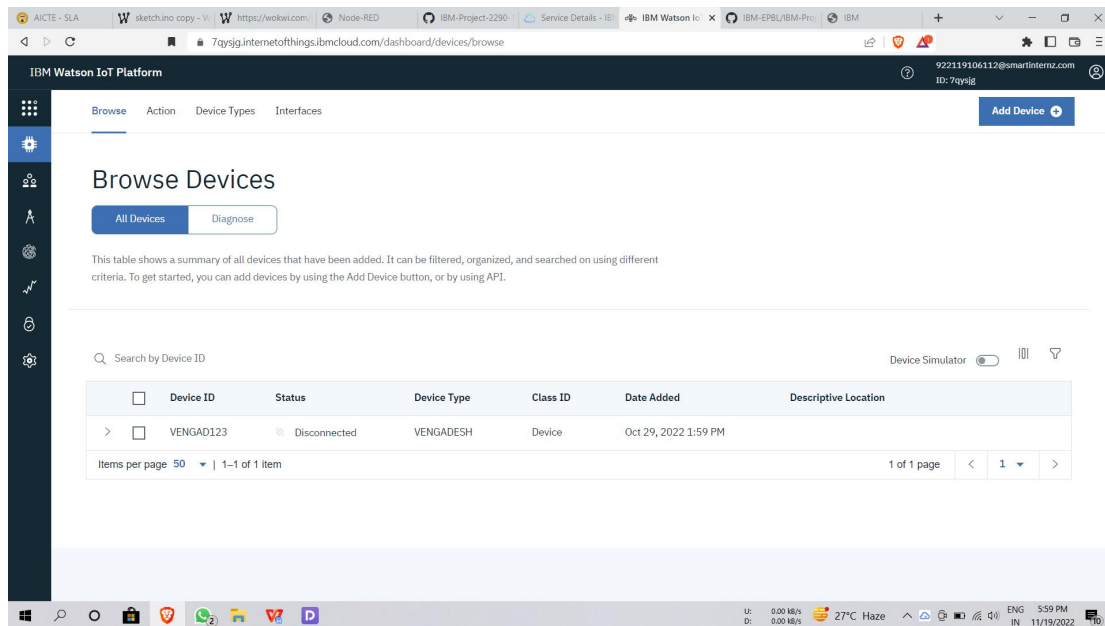
Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
sudharsun007	Disconnected	sudharsun	Device	Oct 31, 2022 12:10 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page



● Create Node-RED service

```
node-red
13 Nov 15:16:17 - [info] Node-RED version: v3.0.2
13 Nov 15:16:17 - [info] Node.js version: v18.12.1
13 Nov 15:16:17 - [info] Windows_NT 10.0.22621 x64 LE
13 Nov 15:16:17 - [info] Loading palette nodes
13 Nov 15:16:18 - [info] Dashboard version 3.2.0 started at /ui
13 Nov 15:16:18 - [info] Settings file : C:\Users\sudha\.node-red\settings.js
13 Nov 15:16:18 - [info] Context store : 'default' [module=memory]
13 Nov 15:16:18 - [info] User directory : C:\Users\sudha\.node-red
13 Nov 15:16:18 - [warn] Projects disabled : editorTheme.projects.enabled=false
13 Nov 15:16:18 - [info] Flows file : C:\Users\sudha\.node-red\flows.json
13 Nov 15:16:18 - [info] Creating new flow file
13 Nov 15:16:18 - [warn]

-----
Your flow credentials file is encrypted using a system-generated key.

If the system-generated key is lost for any reason, your credentials
file will not be recoverable, you will have to delete it and re-enter
your credentials.

You should set your own key using the 'credentialSecret' option in
your settings file. Node-RED will then re-encrypt your credentials
file using your chosen key the next time you deploy a change.
-----

13 Nov 15:16:18 - [info] Server now running at http://127.0.0.1:1880/
13 Nov 15:16:18 - [warn] Encrypted credentials not found
13 Nov 15:16:18 - [info] Starting flows
13 Nov 15:16:18 - [info] Started flows
```

● Create a database in Cloudant DB to store location data

The screenshot shows the IBM Cloud console interface for a service named 'node-red-enmzo-2022--cloudant-1667039212674'. The 'Overview' tab is selected, displaying deployment details. The 'Deployment details' section includes the following information:

- CRN:** crn:v1:bluemix:public:cloudantnosqlib:eu-de:a/e9d7d0b6a78e4a8d8a9441273e35ade4:c6dec510-bcd5-44c6-9815-11f070c9e73b::
- Location:** Frankfurt
- External endpoint:** <https://8b4a9922-ed92-4ac5-8cfa-30a4c78456ef-bluemix.cloudant.com>
- External endpoint (preferred):** <https://8b4a9922-ed92-4ac5-8cfa-30a4c78456ef-bluemix.cloudantnosqlib.appdomain.cloud>
- Authentication methods:** IBM Cloud IAM and Cloudant credentials. A button labeled 'Migrate to IAM Only' is present.
- Activity Tracker event types:** Management (selected). A 'Save' button is available.
- Disk encryption:** Yes, Automatically generated disk encryption key.

The left sidebar shows navigation options: Manage, Service credentials, Plan, and Connections. The top navigation bar includes 'Catalog', 'Manage', and the user's name 'VENGADESH GANESAN...'. The bottom status bar shows system information like CPU usage, memory, and network status.

Develop a web Application using Node-RED Service.

❖ Develop the web application using Node-RED

The screenshot shows the Node-RED web interface running in a browser. The main workspace displays a flow named 'Flow 1' with the following components and connections:

- Inputs:** Two 'inject' nodes (one blue, one green) are connected to the start of the flow.
- Processing:** The flow splits into two parallel paths. The top path contains a 'Temperature Node' (orange) and a 'Humidity Node' (orange). The bottom path contains an 'httpfunctionnode' (orange) and a 'command function node' (orange).
- Outputs:** The 'Temperature Node' and 'Humidity Node' are connected to 'Temperature' and 'Humidity' output nodes (blue). The 'httpfunctionnode' is connected to an 'http' output node (blue). The 'command function node' is connected to an 'http' output node (blue).
- Debug Console:** The right sidebar shows the 'debug' console with a list of messages. The messages are objects containing temperature and humidity data, such as:

```
{ Temperature: 5, Humidity: 92 }
```

 and

```
{ Temperature: 72, Humidity: 62 }
```

.

The left sidebar shows the 'common' and 'function' node palettes. The bottom status bar shows system information like CPU usage, memory, and network status.