

Create IBM Watson IOT Platform And Device

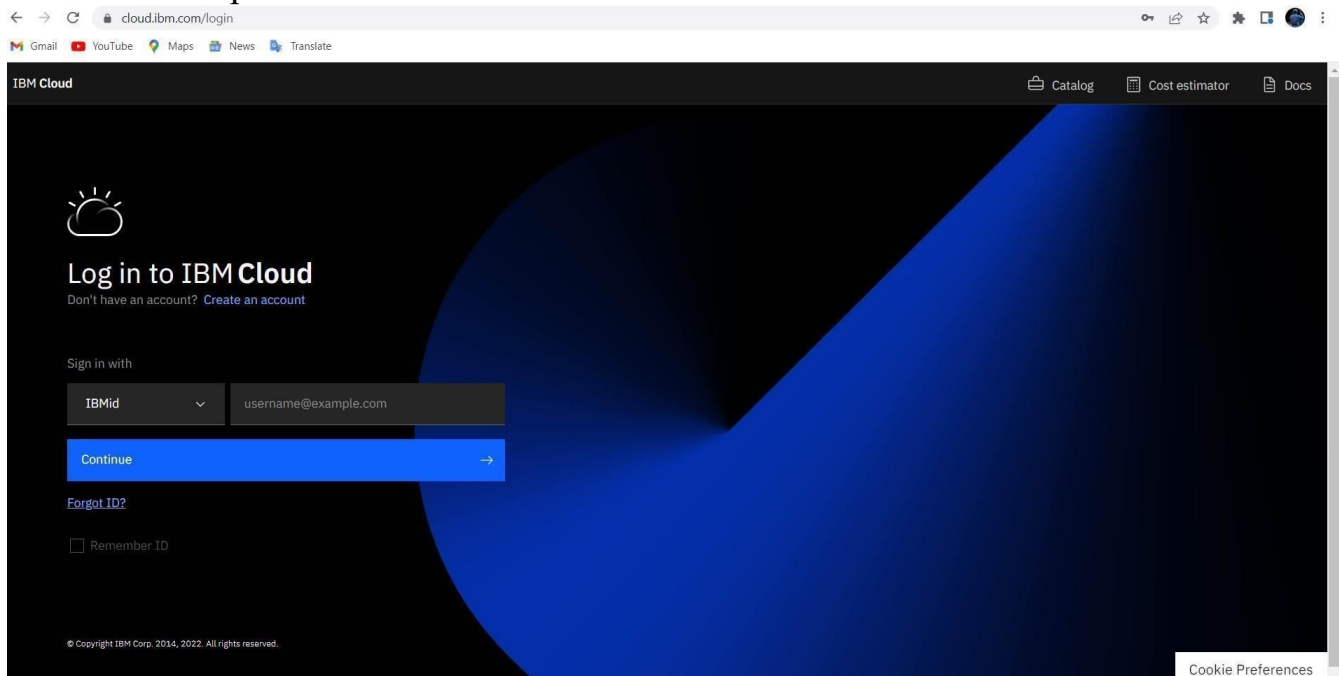
Team ID	PNT2022TMID13646
Project Name	Project - Industry – Specific Intelligent Fire Management System

AIM:

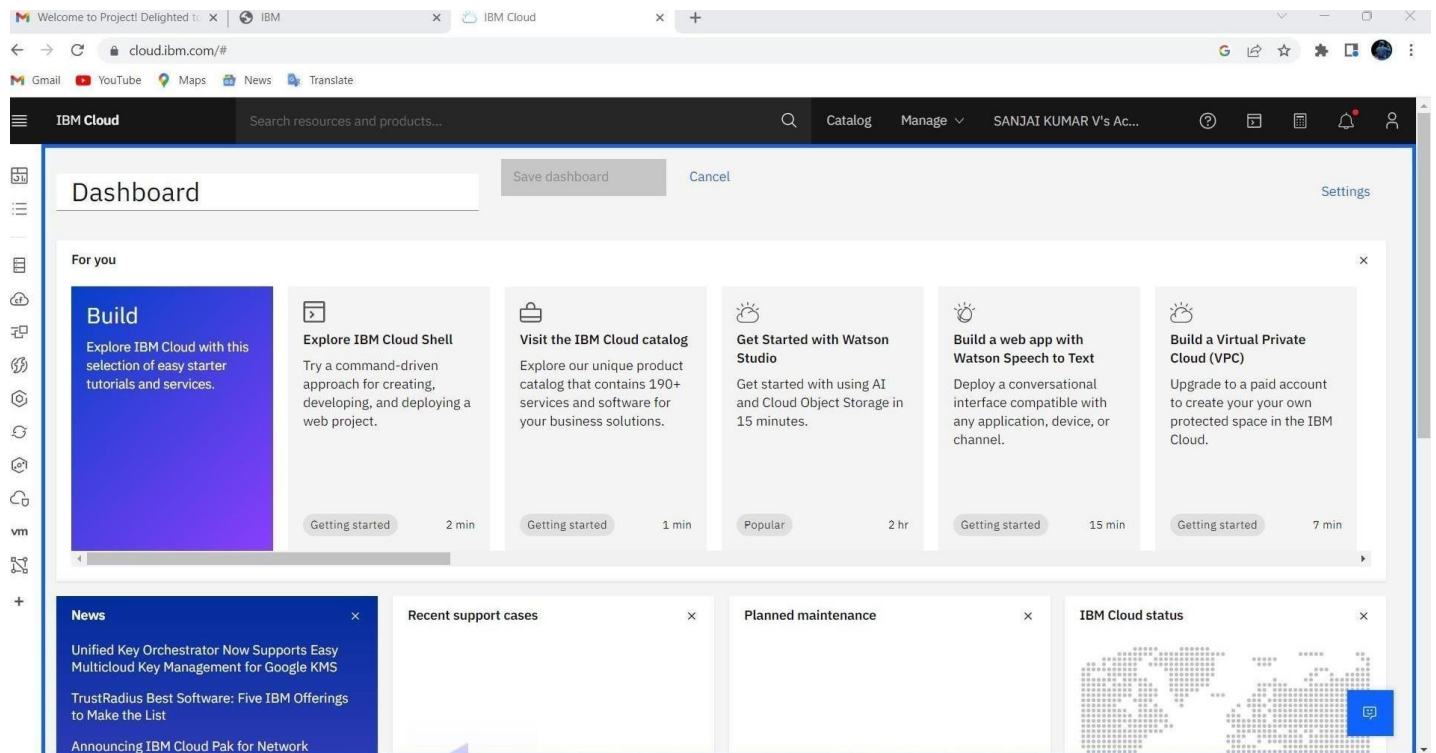
To create the IBM Watson IOT platform and device.

Steps to be followed

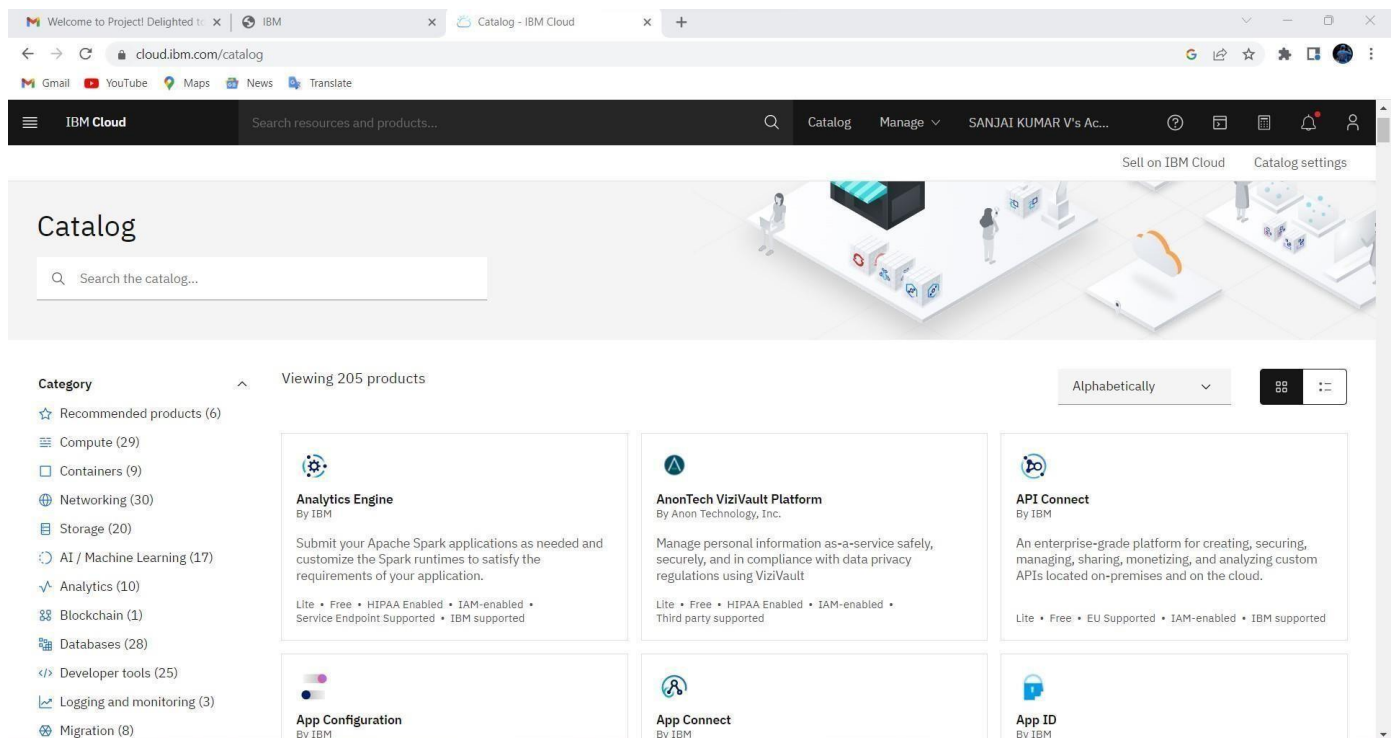
Step 1: Firstly, create an IBM cloud account with IBM and password.



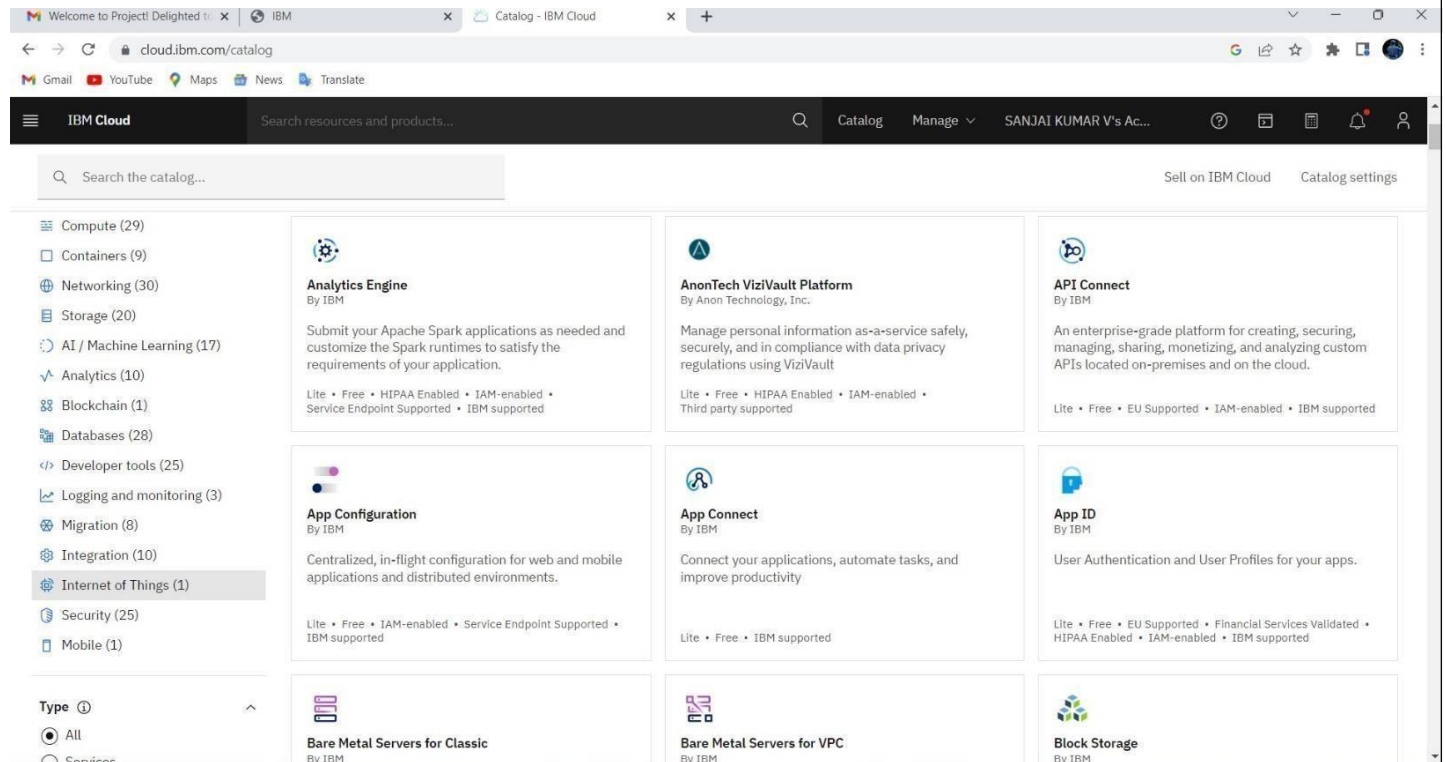
Step 2: Home page of IBM cloud.



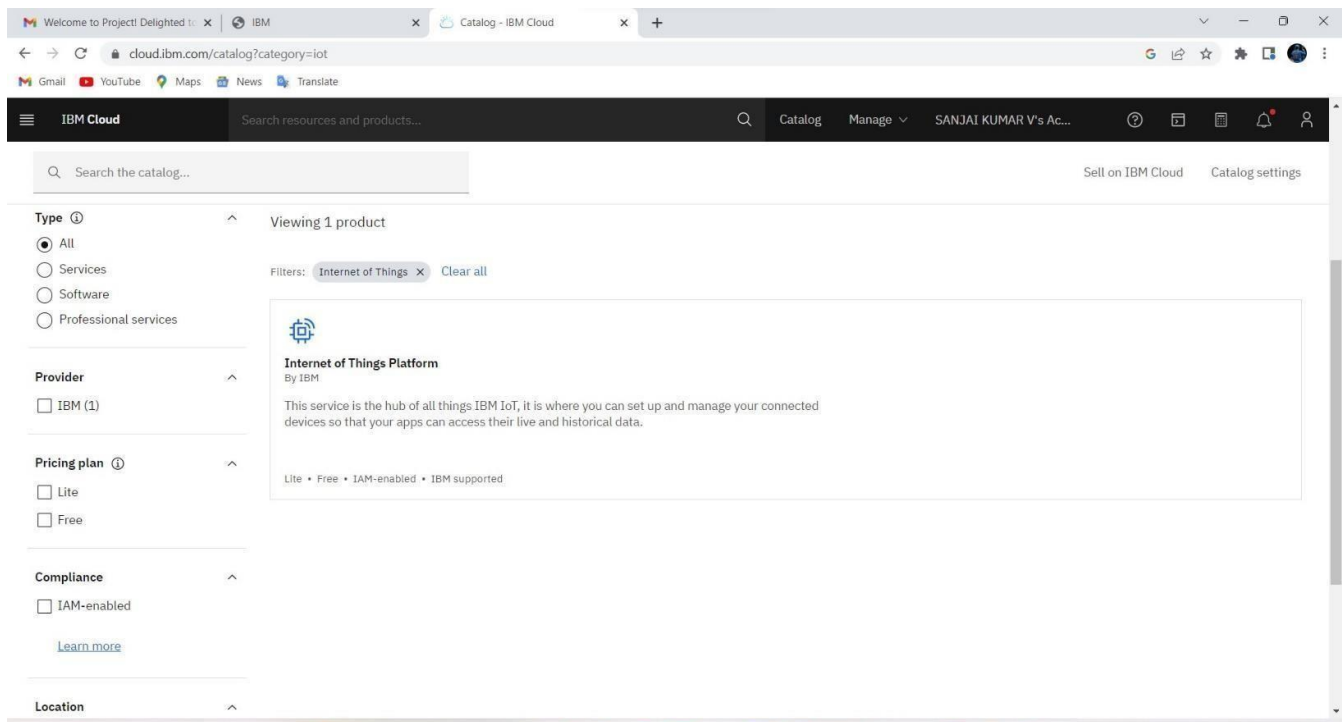
Step 3: Click on the catalog on the top.



Step 4: Click on IoT in the category mentioned.



Step 5: Click on Internet of Things Platform.



Step 6: If already a lite is present delete it else u can't create another.

The screenshot shows the IBM Cloud catalog page for the Internet of Things Platform. The 'Lite' plan is selected, which is free and includes up to 500 registered devices and 200 MB of data. A warning message states: 'Existing Lite plan instance. You can have only 1 Lite plan instance of this service per resource group. Delete your current Lite plan instance in Default resource group to create a new one, or view the existing instance.' The 'Configure your resource' section shows the service name 'Internet of Things Platform-gm' and the resource group 'Default'. The 'Summary' panel on the right confirms the plan details and provides a 'Create' button.

Step 6: If already a lite is present delete it else u can't create another.

Step 7: Tick agreements and then click on create.

This screenshot is identical to the previous one, but the checkbox 'I have read and agree to the following license agreements' is now checked. The 'Create' button is visible at the bottom of the 'Summary' panel.

Step 7: Tick agreements and then click on create.

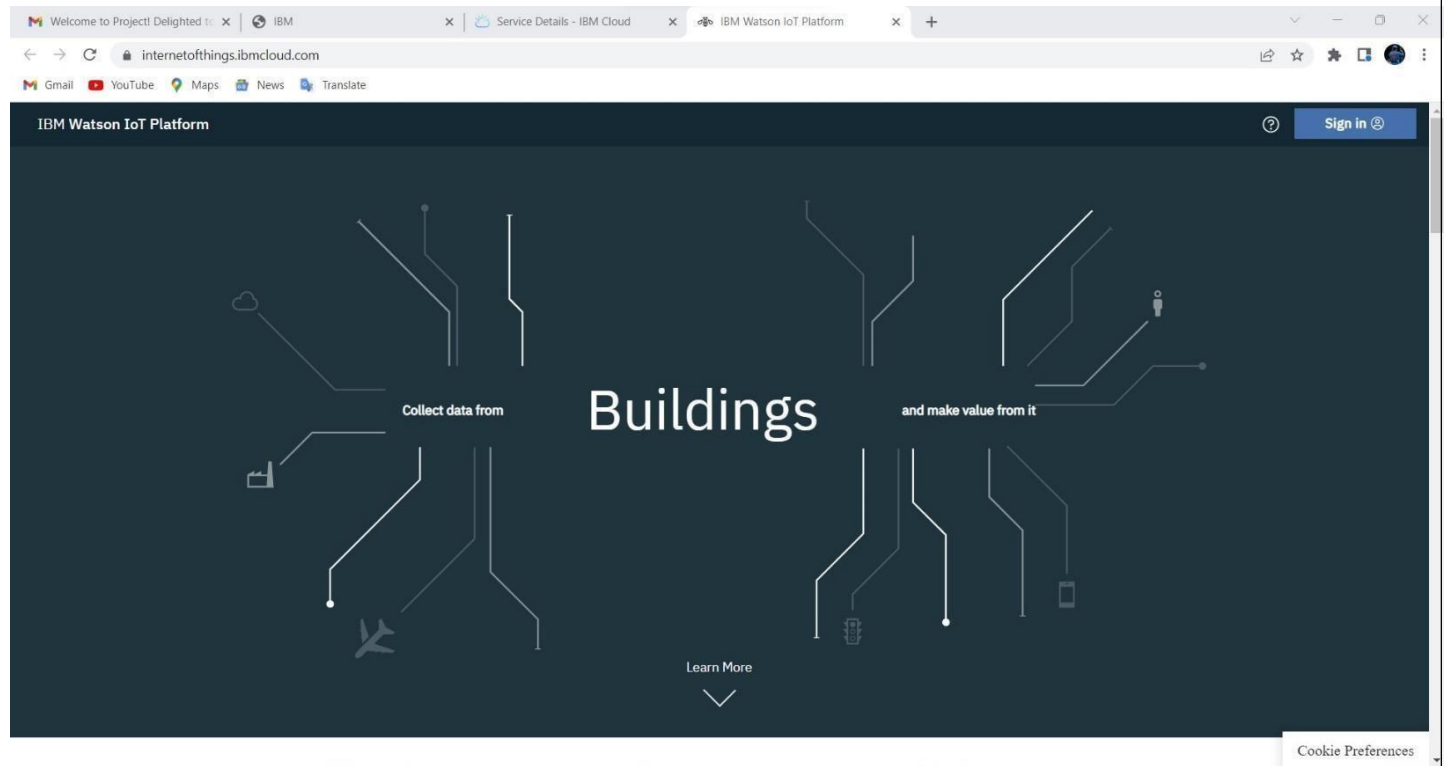
Step 8: Click on the launch button.

The screenshot shows the IBM Cloud 'Service Details' page for the 'Internet of Things Platform-gb'. The page has a dark header with the IBM Cloud logo and a search bar. Below the header, the service name 'Internet of Things Platform-gb' is displayed with a green 'Active' status and an 'Add tags' link. A left sidebar contains a 'Manage' section with links to 'Plan' and 'Connections'. The main content area features a large blue icon representing the IoT platform, followed by the heading 'Let's get started with IBM Watson IoT Platform'. Below this heading is a paragraph: 'Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.' and two buttons: 'Launch' (in blue) and 'Docs' (in grey). Further down, a section titled 'Ready for the next level?' introduces the 'IBM Watson IoT Platform Journey'. This journey is depicted as a horizontal timeline with three stages: 'Lite' (marked with a checkmark), 'Non-Production', and 'Production'. Each stage has a brief description of the service plan. The 'Lite' plan is described as a lightweight development environment. The 'Non-Production' plan is a full-featured, fully-integrated offering for exploration. The 'Production' plan is a fully managed SaaS offering for managing and analyzing enterprise IoT data. A blue chat button is visible in the bottom right corner of the main content area.

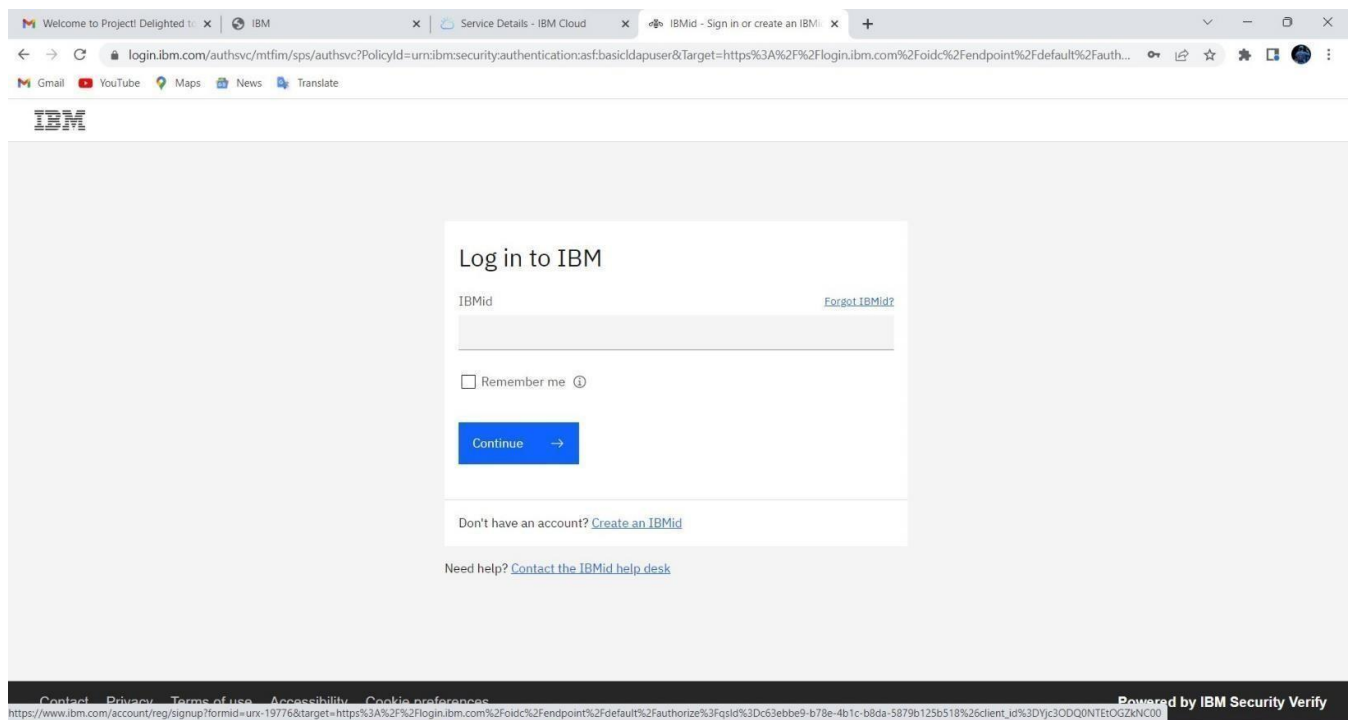
Step 9: After clicking on the launch button this tab will open.

The screenshot shows the IBM Watson IoT Platform landing page. The browser's address bar displays 'internetofthings.ibmcloud.com'. The page has a dark blue background with a stylized circuit-like graphic. The central text reads 'Buildings' in a large, white font. To the left of 'Buildings' is the text 'Collect data from' with an icon of a building. To the right is 'and make value from it' with an icon of a person. Below the central text is a 'Learn More' link with a downward-pointing arrow. In the top right corner, there is a 'Sign in' button. A 'Cookie Preferences' link is visible in the bottom right corner.

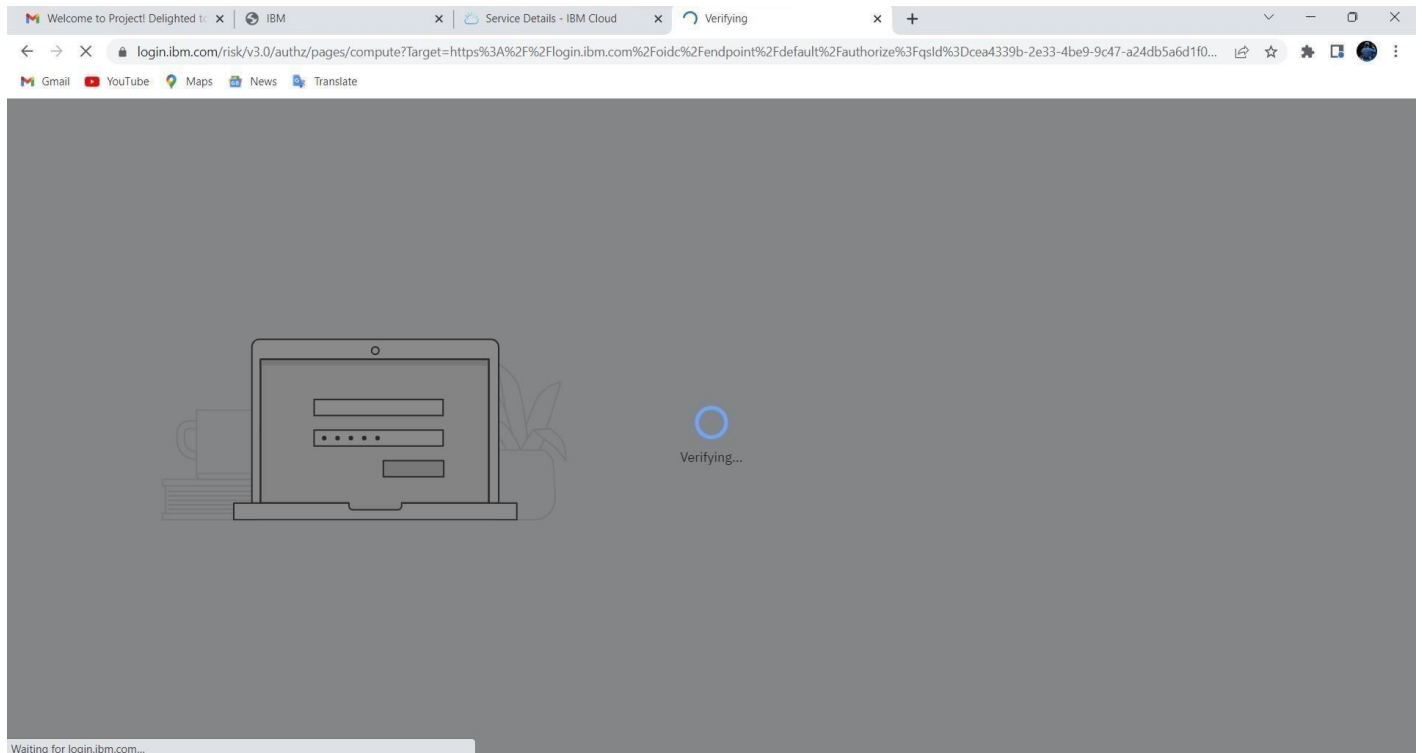
Step 10: Click on Sign in.



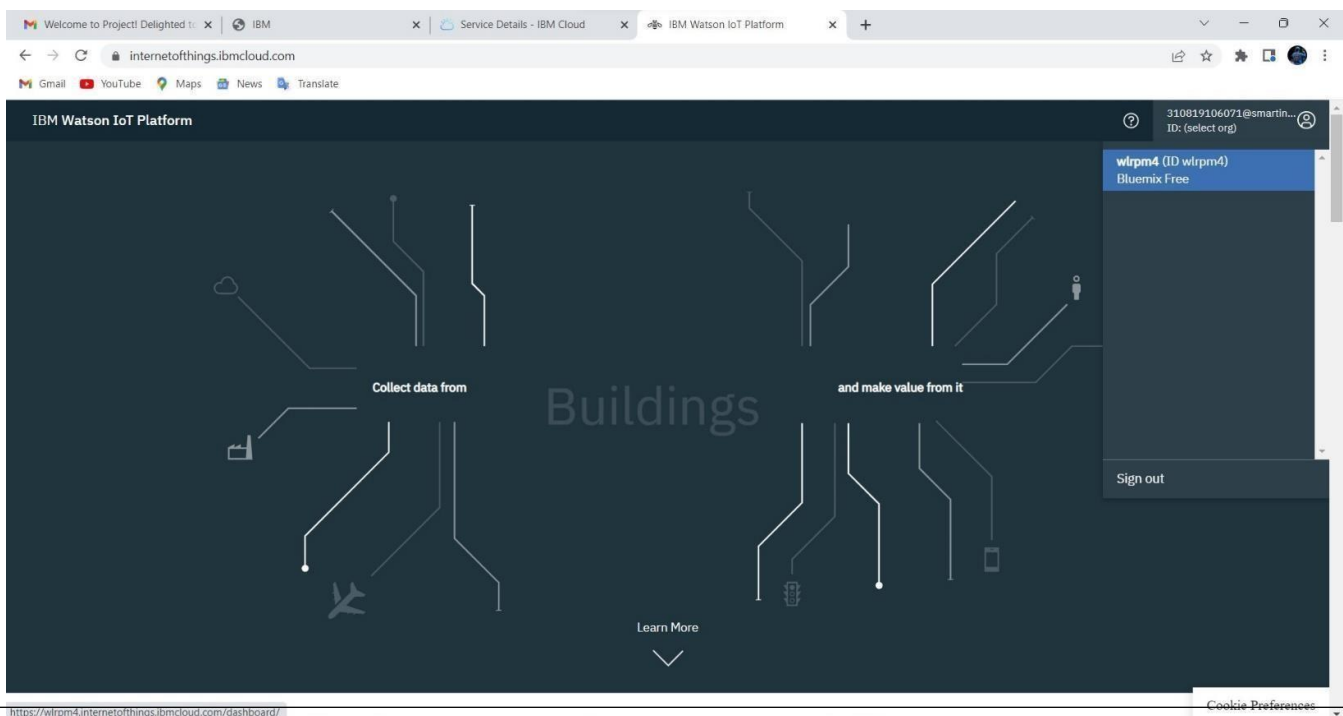
Step 11: Fill the login details.



Step 12: Sign in on progress.



Step 13: Once it is logged in, the name will be displayed click on it and then click on Bluemix Free.



Step 14: This is the IBM Watson platform.

Welcome to Project! Delighted to... x IBM x Service Details - IBM Cloud x IBM Watson IoT Platform x +

wlrpm4.internetofthings.ibmcloud.com/dashboard/devices/browse

Gmail YouTube Maps News Translate

IBM Watson IoT Platform 310819106071@smartinternz.com ID: wlrpm4

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 101

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
14325	Disconnected	Testdevicetype	Device	Nov 5, 2022 5:33 AM	

Items per page 50 | 1-1 of 1 item 1 of 1 page < 1 >

Microsoft Store 0 Simulations running

Step 15: Click on Add Device.

Welcome to Project! Delighted to... x IBM x Service Details - IBM Cloud x IBM Watson IoT Platform x +

wlrpm4.internetofthings.ibmcloud.com/dashboard/devices/browse

Gmail YouTube Maps News Translate

IBM Watson IoT Platform 310819106071@smartinternz.com ID: wlrpm4

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14325	Disconnected	Testdevicetype	Device	Nov 5, 2022 5:33 AM	

Items per page 50 | 1-1 of 1 item 1 of 1 page < 1 >

0 Simulations running

Step 16: Click on Device Type.

The screenshot shows the 'Add Device' form in the IBM Watson IoT Platform. The form is titled 'Add Device' and has a progress bar with four steps: Identity, Device Information, Security, and Summary. The 'Identity' step is currently active. Below the progress bar, there is a text input field for 'Device Type' with the placeholder text 'Select or create a device type...'. Below that is a text input field for 'Device ID' with the placeholder text 'Enter Device ID'. At the bottom right of the form, there are two buttons: 'Cancel' and 'Next'. The background shows the 'Browse Devices' section with a status '0 Simulations running' and 'Adobe Express'.

IBM Watson IoT Platform

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Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

Select a device type for the device that you are adding and give the device a unique ID.

Device Type

Device ID

Cancel Next

Browse Devices

0 Simulations running
Adobe Express

Step 17: Fill the details.

The screenshot shows the 'Add Type' form in the IBM Watson IoT Platform. The form is titled 'Add Type' and has a progress bar with two steps: Identity and Device Information. The 'Identity' step is currently active. Below the progress bar, there is a text input field for 'Type' with the placeholder text 'Device' and 'Gateway'. Below that is a text input field for 'Name' with the placeholder text '12345'. Below that is a text input field for 'Description'. At the bottom right of the form, there are two buttons: 'Cancel' and 'Next'. The background shows the 'Browse Devices' section with a status '0 Simulations running' and 'Adobe Express'.

IBM Watson IoT Platform

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ID: wlrpm4

Browse Action Device Types Interfaces

Add Type

Identity Device Information

Device types group devices that have similar characteristics, such as model number, firmware version, or location. Give the device type a unique name and a description that identifies characteristics that are shared by devices of this type.

Type Or

Name

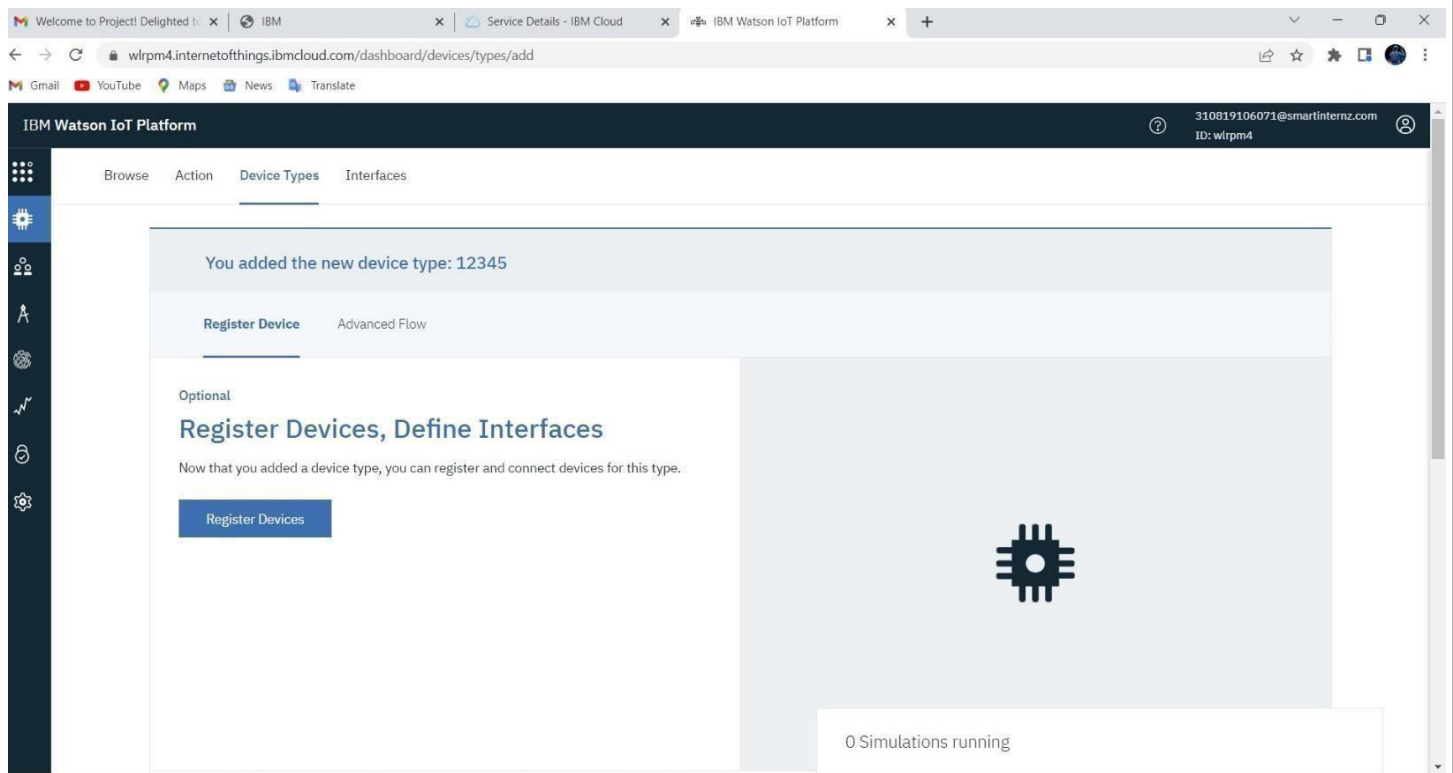
Description

Cancel Next

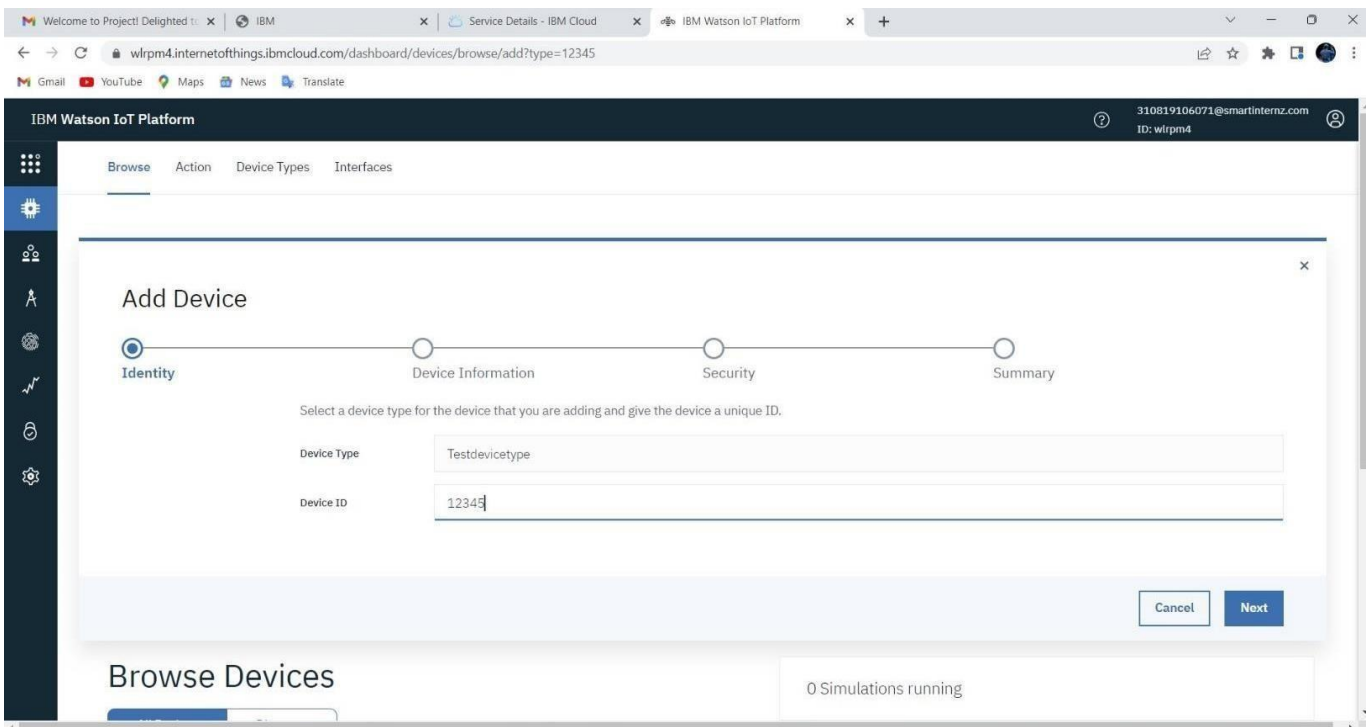
Browse Devices

0 Simulations running
Adobe Express

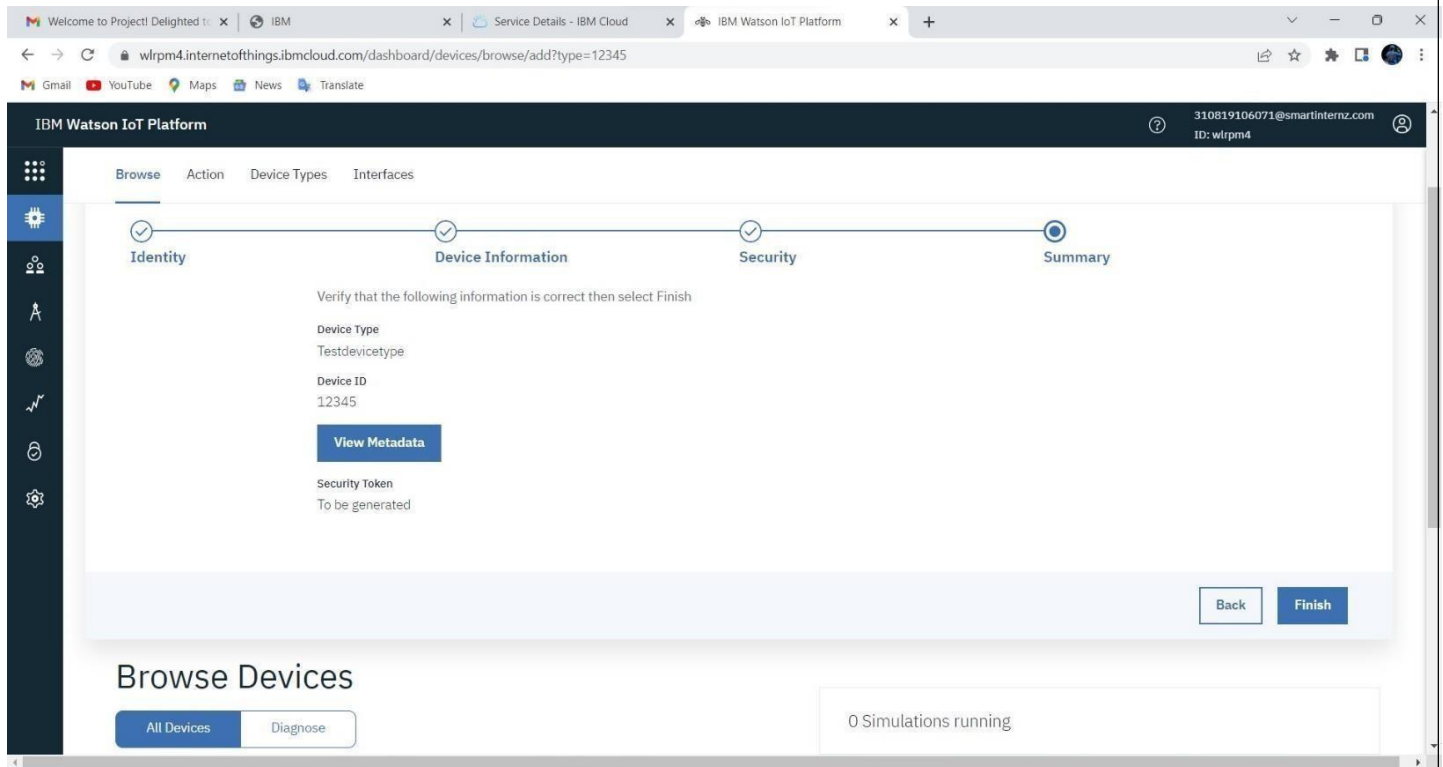
Step 18: Click on Register Devices.



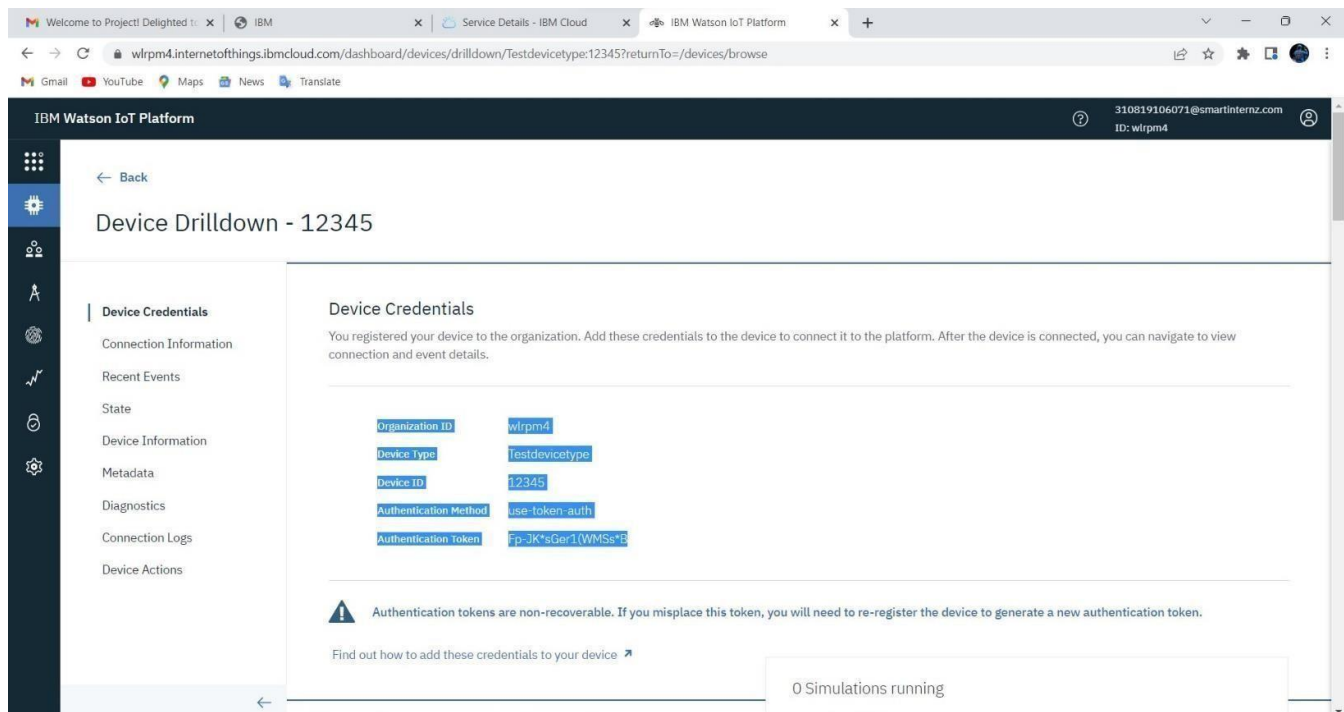
Step 19: Give the device name which you have created and give Device ID.



Step 20: After giving all the data, Click on Finish.



Step 21: After creating the device, Copy the Device Credentials.



Step 22: Go to Setting, click on Data and Devices.

The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains a navigation menu with icons for various settings. The main content area is titled 'General Settings' and includes a description: 'Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.' Below this, there are several sections: 'Device Simulator' with a toggle switch labeled 'Activate Device Simulator' that is turned on; 'Connection Security' with a button 'Open Connection Security Policy'; and 'CA Certificates' with a description and a button 'Open Connection Security policy'. At the bottom right, it says '0 Simulations running'.

Step 23: Then click on Device Simulator and Activate Device Simulator.

This screenshot is identical to the one above, showing the IBM Watson IoT Platform dashboard. The left sidebar contains a navigation menu with icons for various settings. The main content area is titled 'General Settings' and includes a description: 'Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.' Below this, there are several sections: 'Device Simulator' with a toggle switch labeled 'Activate Device Simulator' that is turned on; 'Connection Security' with a button 'Open Connection Security Policy'; and 'CA Certificates' with a description and a button 'Open Connection Security policy'. At the bottom right, it says '0 Simulations running'.

Step 24: Click on the pop-up screen on the right side.

IBM Watson IoT Platform

General Settings

Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.

Client Connection
State API

DATA AND DEVICES

Custom Device Management Packages

Device Simulator

Activate Device Simulator ☒

Connection Security

You can use the Connection Security Policy to configure the security level for device connection.

Open Connection Security Policy

CA Certificates

Upload a CA certificate which is used to authenticate the signature of client-side Connection Security policy

0 Simulations running

Step 25: Click on Create Simulation.

IBM Watson IoT Platform

General Settings

Here you can see and modify global organization information and locally enable experimental Watson IoT Platform features.

Client Connection
State API

DATA AND DEVICES

Custom Device Management Packages

Device Simulator

Activate Device Simulator ☒

Connection Security

You can use the Connection Security Policy to configure the security level for device connection.

Open Connection Security Policy

CA Certificates

Upload a CA certificate which is used to authenticate the signature of client-side Connection Security policy

+ Add Certificate

Common Name Issued By

Simulations

Import/Export simulation

You can use the simulated event data to learn about, test, and demonstrate fully functioning Watson IoT Platform features. You can simulate a device and its data or simulate only data for a device that is already registered.

To create a device simulation:

1. Select a device type.
2. Configure the event and payload.
3. Add devices.

+ Create simulation

Step 26: Choose the Device.

The screenshot shows the 'General Settings' page of the IBM Watson IoT Platform. The left sidebar contains navigation links for 'General Settings', 'DATA AND DEVICES', and 'SECURITY'. The 'General Settings' section includes 'Client Connection State API' and 'Open Connection Security Policy'. The 'DATA AND DEVICES' section includes 'Custom Device Management Packages' and 'Device Simulator'. The 'SECURITY' section includes 'Connection Security', 'CA Certificates', 'Messaging Server Certificates', and 'Group Access'. The 'Simulations' modal is open, displaying instructions on how to use simulated event data and a list of steps to create a device simulation: 1. Select a device type, 2. Configure the event and payload, 3. Add devices. A text input field labeled 'Select or create a device type...' is visible.

Step 27: Type the code.

The screenshot shows the 'Browse Devices' page of the IBM Watson IoT Platform. The left sidebar contains navigation links for 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Browse Devices' section includes 'All Devices' and 'Diagnose' buttons. Below the buttons is a table showing a summary of all devices that have been added. The table has columns for 'Device ID', 'Status', 'Device Type', 'Class ID', and 'Data'. Two devices are listed: '12345' and '14325', both with a status of 'Disconnected' and a device type of 'TestDeviceType'. The 'TestDeviceType' modal is open, displaying the 'Events' section with 'event_1' and a frequency of '20 x Every Minute'. The 'Payload' section shows a JSON object with 'temperature' and 'humidity' fields, both set to 'random(0, 100)'. The modal also includes a 'Send' button and a 'What functions can I apply?' link.

Device ID	Status	Device Type	Class ID	Data
12345	Disconnected	TestDeviceType	Device	No
14325	Disconnected	TestDeviceType	Device	No

Step 28: Click on Use Registered Device and choose the device and run it.

The screenshot shows the IBM Watson IoT Platform 'General Settings' page. The left sidebar contains navigation links for 'Client Connection', 'State API', 'DATA AND DEVICES', 'Custom Device', 'Management Packages', 'Device Simulator', 'SECURITY', 'Connection Security', 'CA Certificates', 'Messaging Server', 'Certificates', and 'Group Access'. The main content area includes sections for 'Connection Security Policy', 'CA Certificates', and 'Add Certificate'. An overlay window titled 'Simulations' is open on the right, showing '1/50 Simulations Running' and a 'Device Type' dropdown set to 'Testdevicetype'. Below this, a list of devices shows '1 Device' with ID '12345'. At the bottom of the overlay are buttons for '1 x Create Simulated Device' and 'Use Registered Device'. The bottom status bar of the overlay indicates '2 events sent' and '76 bytes sent'.

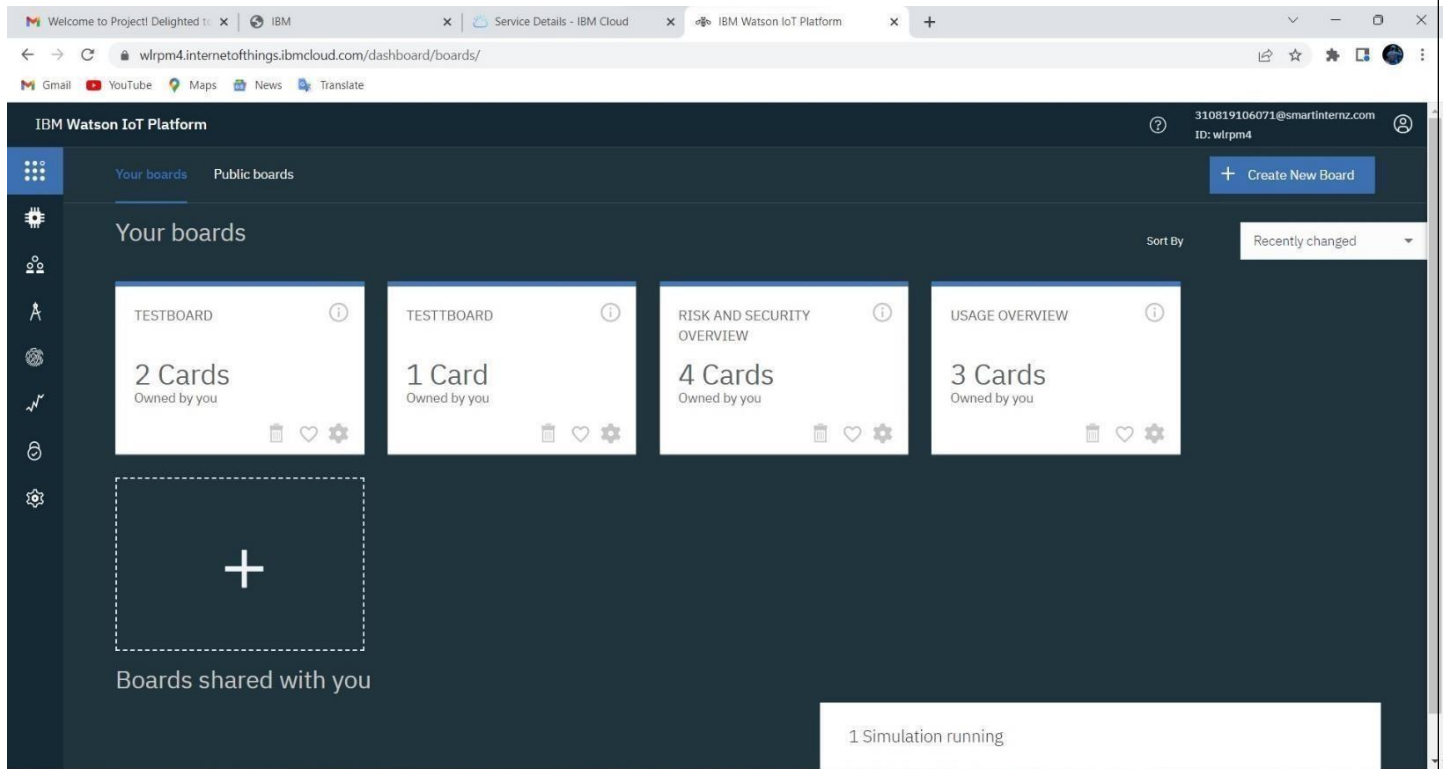
Step 29: Go to devices then click on devices and check the recent events whether the code is running or not.

The screenshot shows the IBM Watson IoT Platform 'Devices' page. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. Below the navigation bar is a table of devices. The first device listed has ID '12345', status 'Disconnected', device type 'Testdevicetype', class ID 'Device', and date added 'Nov 5, 2022 1:04 PM'. Below the table, a section titled 'Recent Events' shows a live stream of data. The events are listed in a table with columns: Event, Value, Format, and Last Received. The events are as follows:

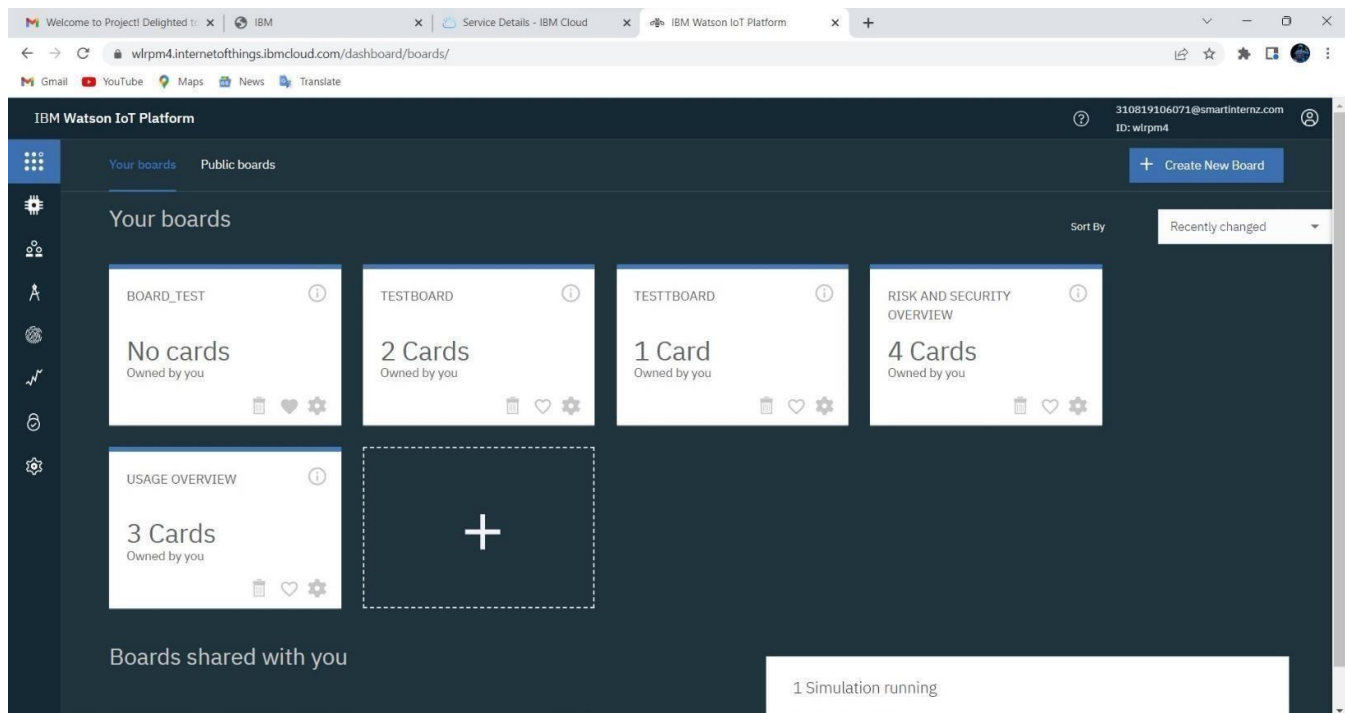
Event	Value	Format	Last Received
event_1	{"temperature":63,"humidity":8}	json	a few seconds ago
event_1	{"temperature":56,"humidity":9}	json	a few seconds ago
event_1	{"temperature":40,"humidity":76}	json	a few seconds ago
event_1	{"temperature":61,"humidity":36}	json	a few seconds ago

At the bottom right of the page, a status bar indicates '1 Simulation running'.

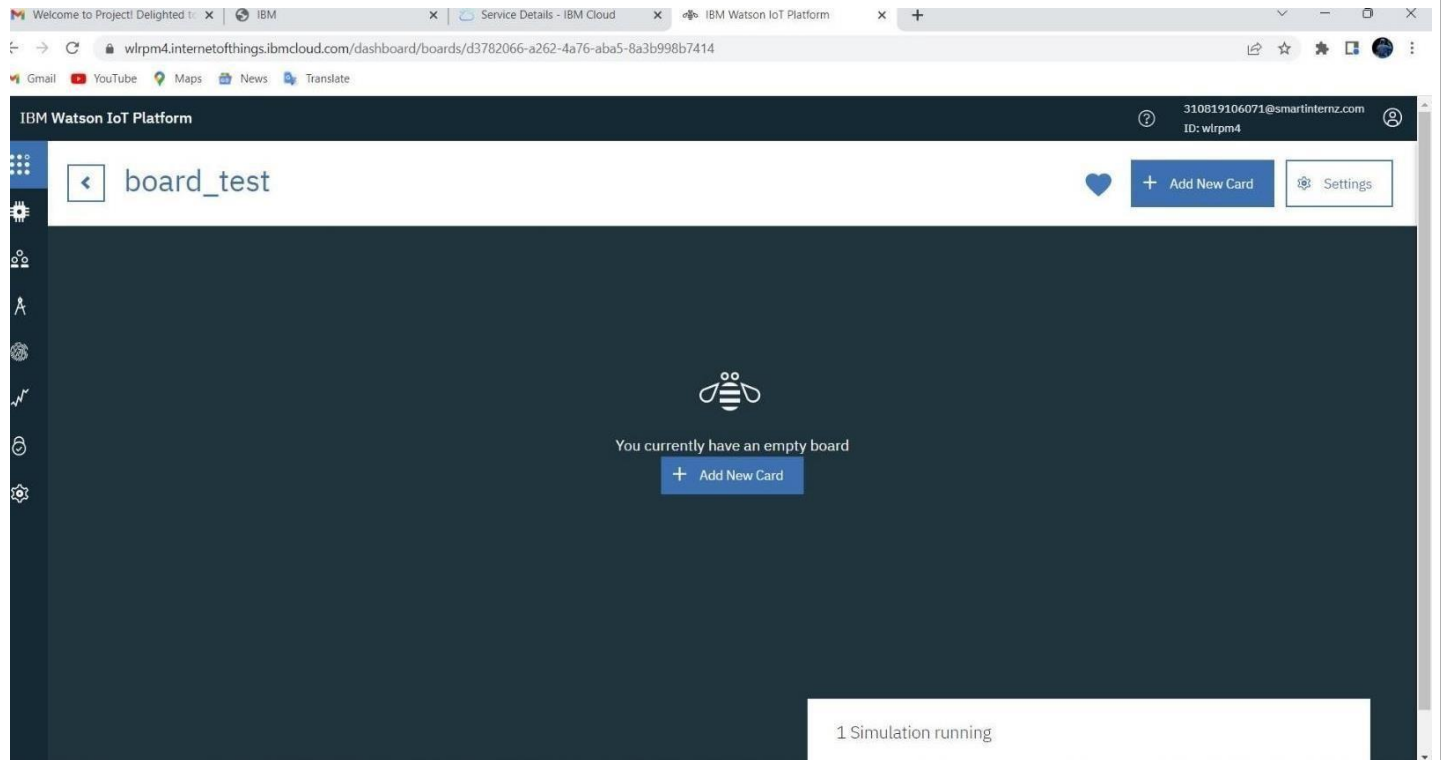
Step 30: Go to Board and click on + Create New Board, fill the details and create a board.



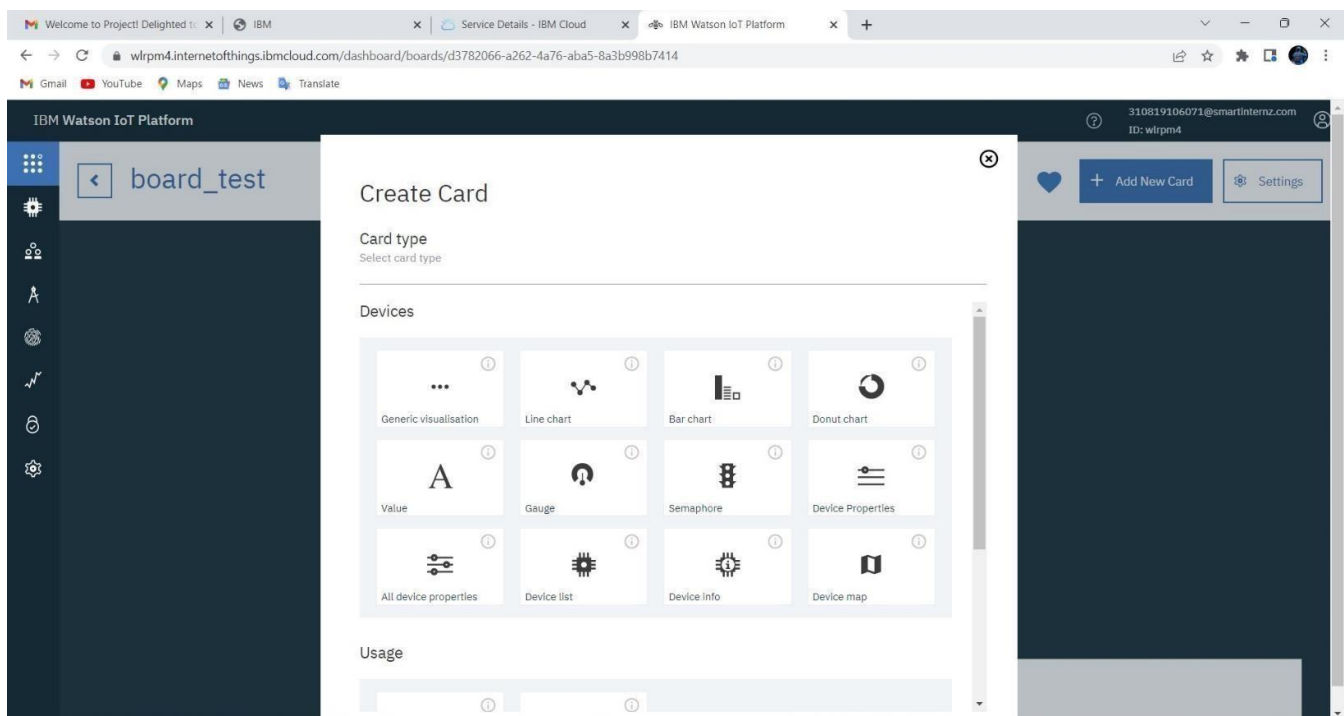
Step 31: Click on the board which is created.



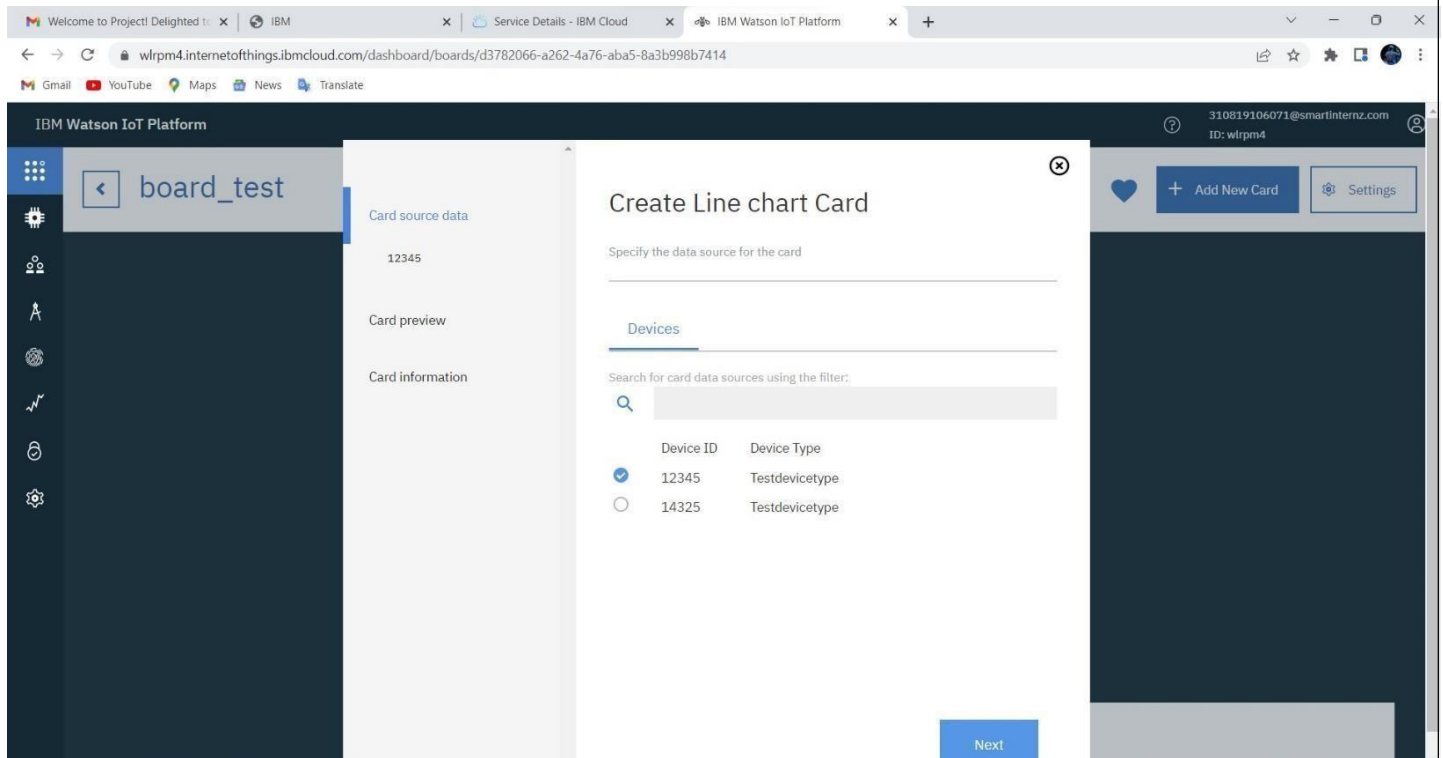
Step 32: Go Add New Card.



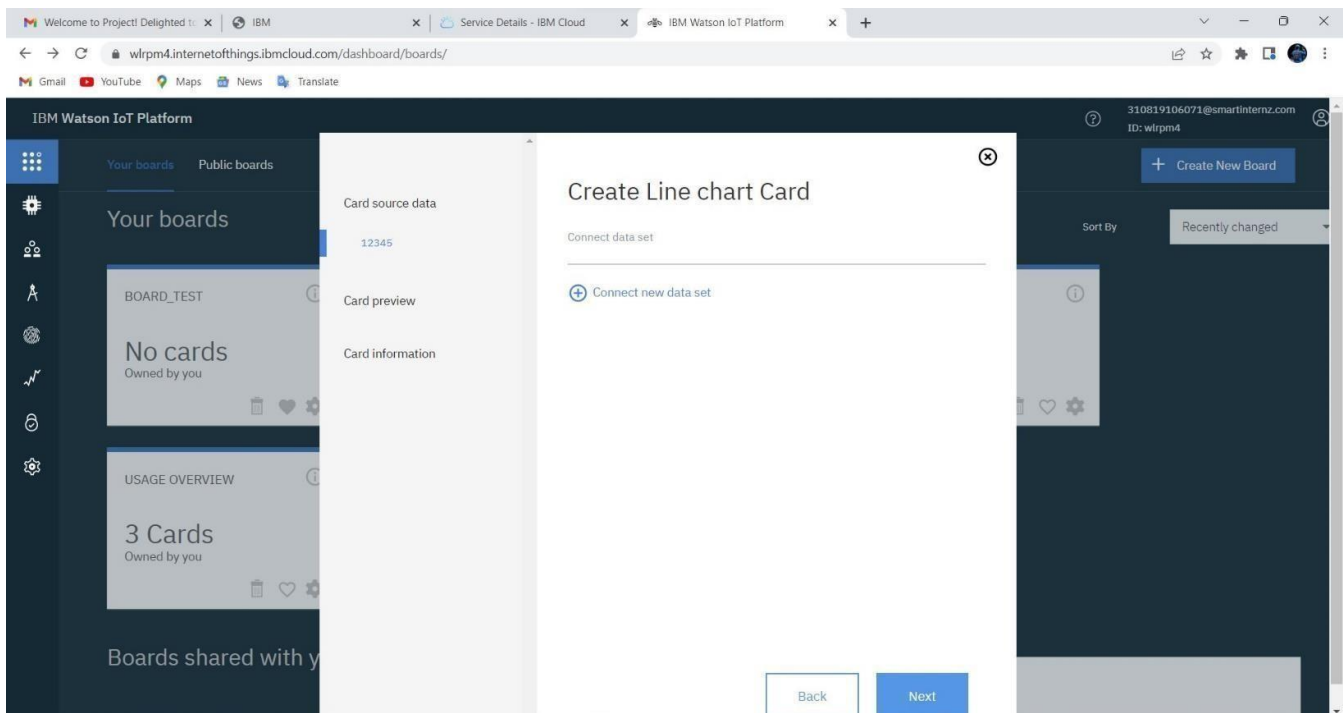
Step 33: Choose the Card Type.



Step 34: Choose the device.



Step 35: Click on Connect new data set.



Step 36: Fill the details to get Temperature graph.

The screenshot shows the IBM Watson IoT Platform interface. A modal dialog titled "Create Line chart Card" is open. The left sidebar shows a navigation menu with icons for various functions. The main content area of the dialog is titled "Connect data set" and contains the following fields:

- Event:** event_1
- Property:** temperature
- Name:** temperature
- Type:** Number (dropdown menu)
- Unit:** °C
- Min:** 0
- Max:** 100

At the bottom of the dialog are "Back" and "Next" buttons. The background shows a dashboard with a "board_test" card and a "Card source data" section.

Step 37: Choose the Colour.

The screenshot shows the IBM Watson IoT Platform interface. A modal dialog titled "Create Line chart Card" is open. The left sidebar shows a navigation menu with icons for various functions. The main content area of the dialog is titled "Enter title and description of the card" and contains the following fields:

- Title:** Line chart
- Color scheme:** A selection of five color swatches (purple, red, green, blue, and teal).

Below the color scheme, there is a description: "A line chart to display time series information with historic and live data". At the bottom of the dialog are "Back" and "Submit" buttons. The background shows a dashboard with a "Your boards" section and a "BOARD_TEST" card.

Step 38: Repeat the same process again to get the Humidity graph.

The screenshot shows the IBM Watson IoT Platform interface. On the left, a sidebar contains icons for various dashboard components. The main area displays a 'board_test' dashboard with a 'Line chart' card. A 'Create Gauge Card' dialog is open, prompting the user to 'Specify the data source for the card'. The dialog has a 'Devices' tab selected, showing a search bar and a table of available devices. The table lists two devices: '12345' and '14325', both of type 'Testdevicetype'. The '12345' device is selected with a blue checkmark. A 'Next' button is at the bottom right of the dialog.

Device ID	Device Type
<input checked="" type="radio"/> 12345	Testdevicetype
<input type="radio"/> 14325	Testdevicetype

Step 39: Here is the Final graph.

The screenshot shows the final dashboard configuration. The 'board_test' dashboard now features two cards: a 'Gauge' card on the left and a 'Line chart' card on the right. The 'Gauge' card displays a value of '80.0 %'. The 'Line chart' card shows a line graph for 'temperature' data, with a time range from 13:21 to 13:25. The graph shows a fluctuating line. A '5 minutes' dropdown is visible below the chart. At the bottom right, a status bar indicates '1 Simulation running'.

Result:

An IBM Watson cloud for IOT and a device is created successfully.