

CREATE IBM WATSON IOT PLATFORM AND DEVICE CREATE IBM WATSON IOT PLATFORM AND DEVICE

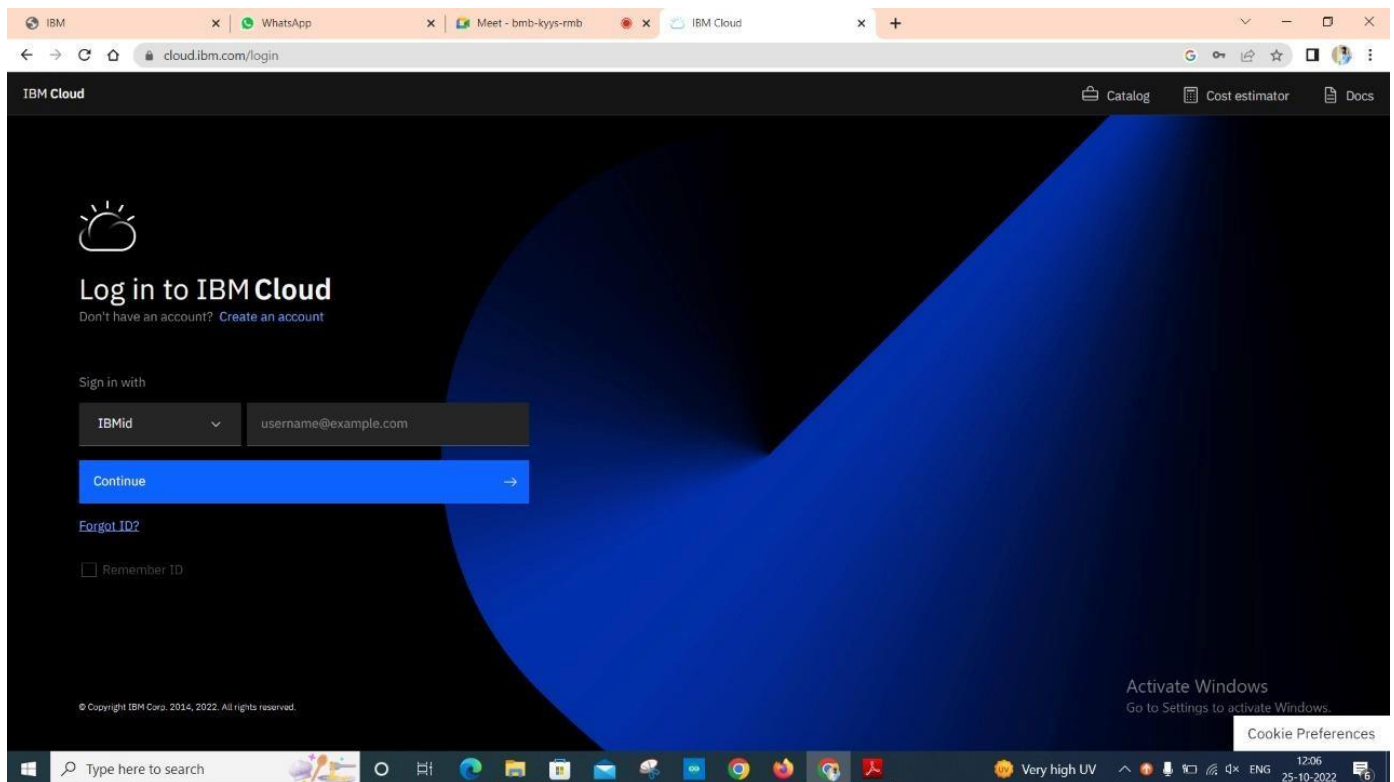
Team ID	PNT2022TMID28961
Project Name	Gas leakage monitoring and alerting system for industries

AIM:

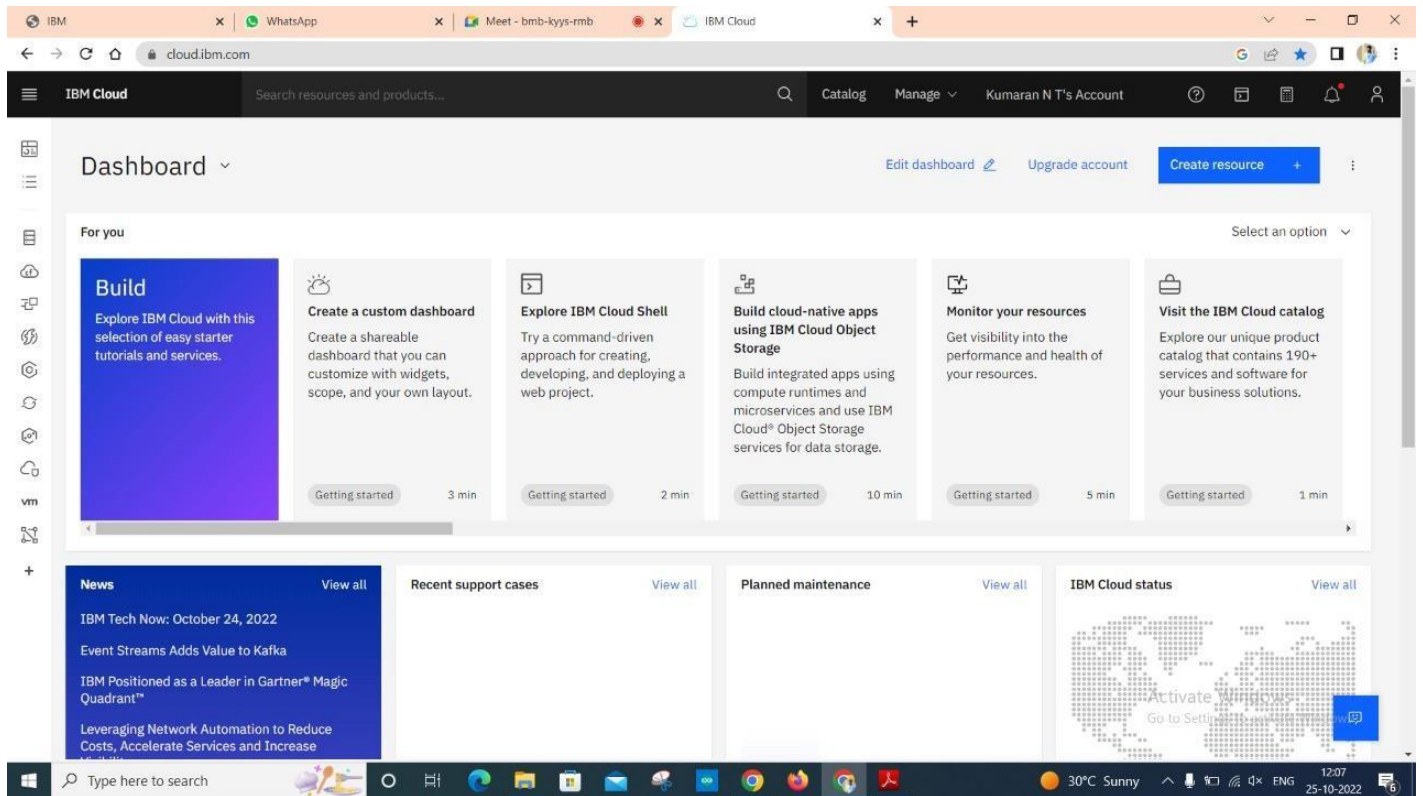
To create the IBM Watson IOT platform and device.

Steps to be followed

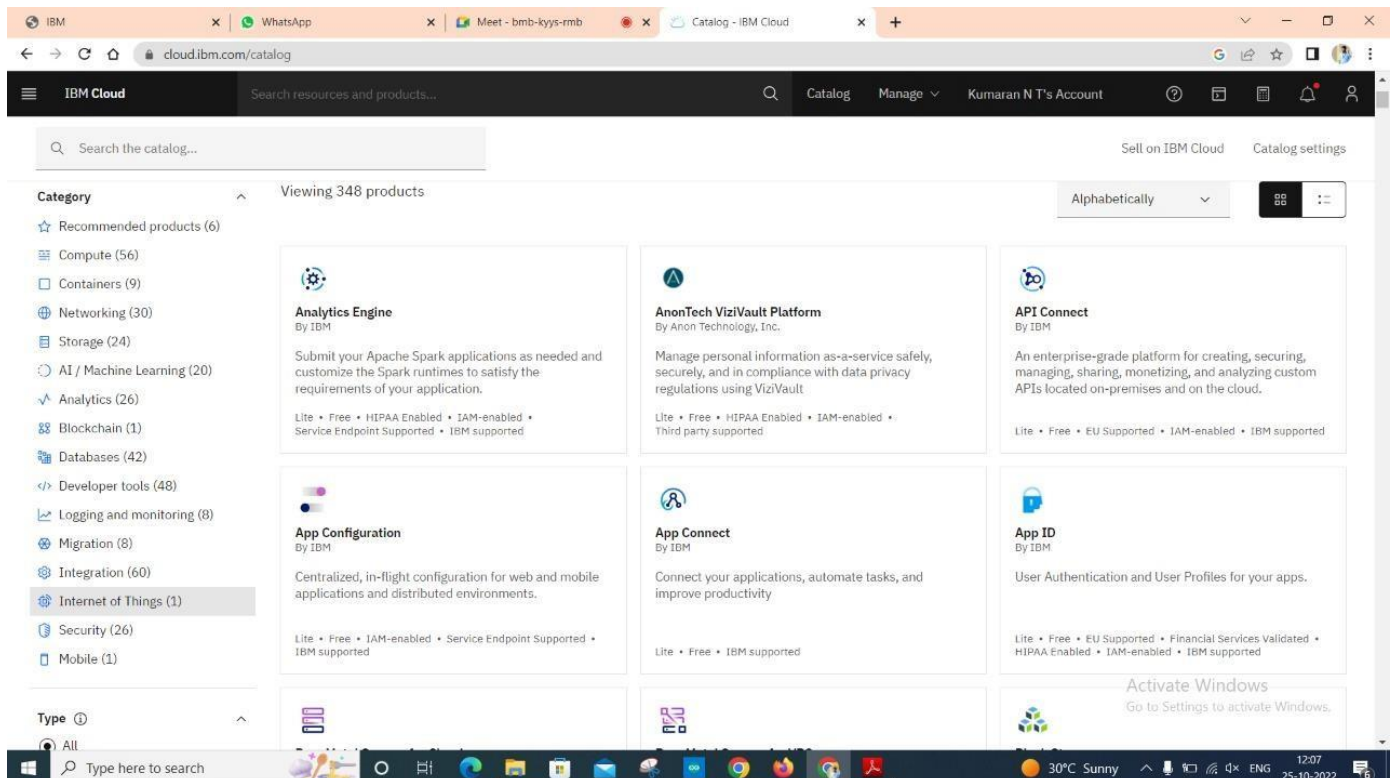
Step 1: Firstly, create an IBM cloud account with IBM id and password.



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.

The screenshot shows the IBM Cloud Catalog interface. The top navigation bar includes the IBM logo, a search bar, and links to 'Catalog', 'Manage', and 'Kumaran N T's Account'. Below the navigation bar, there's a search bar and a 'Viewing 348 products' indicator. On the left, a 'Category' sidebar lists various product categories: Recommended products (6), Compute (56), Containers (9), Networking (30), Storage (24), AI / Machine Learning (20), Analytics (26), Blockchain (1), Databases (42), Developer tools (48), Logging and monitoring (8), Migration (8), Integration (60), Internet of Things (1), Security (26), and Mobile (1). The 'Internet of Things' category is highlighted. The main content area displays a grid of product cards, including 'Analytics Engine', 'AnonTech ViziVault Platform', 'API Connect', 'App Configuration', 'App Connect', and 'App ID'. Each card provides a brief description and a list of features or supported environments. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying the date and time.

Step 5: Click on Internet of Things Platform.

The screenshot shows the IBM Cloud Catalog interface with the 'Internet of Things' category selected. The top navigation bar is the same as in the previous screenshot. Below the navigation bar, there's a search bar and a 'Viewing 1 product' indicator. On the left, a 'Type' sidebar lists various product types: All, Services, Software, and Professional services. The 'All' type is selected. The main content area displays a grid of product cards, including 'Internet of Things Platform'. The card for 'Internet of Things Platform' is highlighted, showing its description: 'This service is the hub of all things IBM IoT, it is where you can set up and manage your connected devices so that your apps can access their live and historical data.' and a list of features: 'Lite • Free • IAM-enabled • IBM supported'. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying the date and time.

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

IBM Cloud

Search resources and products...

IBM

Updated on 08/15/2022

Category: Internet of Things

Compliance: IAM-enabled

Location: Frankfurt, London, Dallas, Washington DC

Related links: Docs, Terms

Select a pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or location: [United States](#)

Plan	Features	Pricing
Lite	<p>Includes up to 500 registered devices, and a maximum of 200 MB of each data metric</p> <ul style="list-style-type: none">Maximum of 500 registered devicesMaximum of 500 application bindingsMaximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed <p>The Lite service plan for Internet of Things Platform includes up to 500 registered devices, and a maximum of 200 MB each of data exchanged, data analyzed, and edge data analyzed per month.</p> <p>Lite plan services are deleted after 30 days of inactivity.</p>	Free

Configure your resource

Service name: Internet of Things Platform-9j

Select a resource group: Default

Tags: Examples: env:dev, version:1

Access management tags: Examples: access:dev, env:dev:version:1

Summary

Internet of Things Platform Free

Location: Frankfurt

Plan: Lite

Service name: Internet of Things Platform-9j

Resource group: Default

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](#).

☐ I have read and agree to the following license agreements: [Terms](#)

Create

Activate Windows

Go to Settings to activate Windows. Add to estimate

Step 7: Tick agreements and then click on create.

IBM Cloud

Search resources and products...

IBM

Updated on 08/15/2022

Category: Internet of Things

Compliance: IAM-enabled

Location: Frankfurt, London, Dallas, Washington DC

Related links: Docs, Terms

Select a pricing plan

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Activate Windows

Go to Settings to activate Windows. Add to estimate

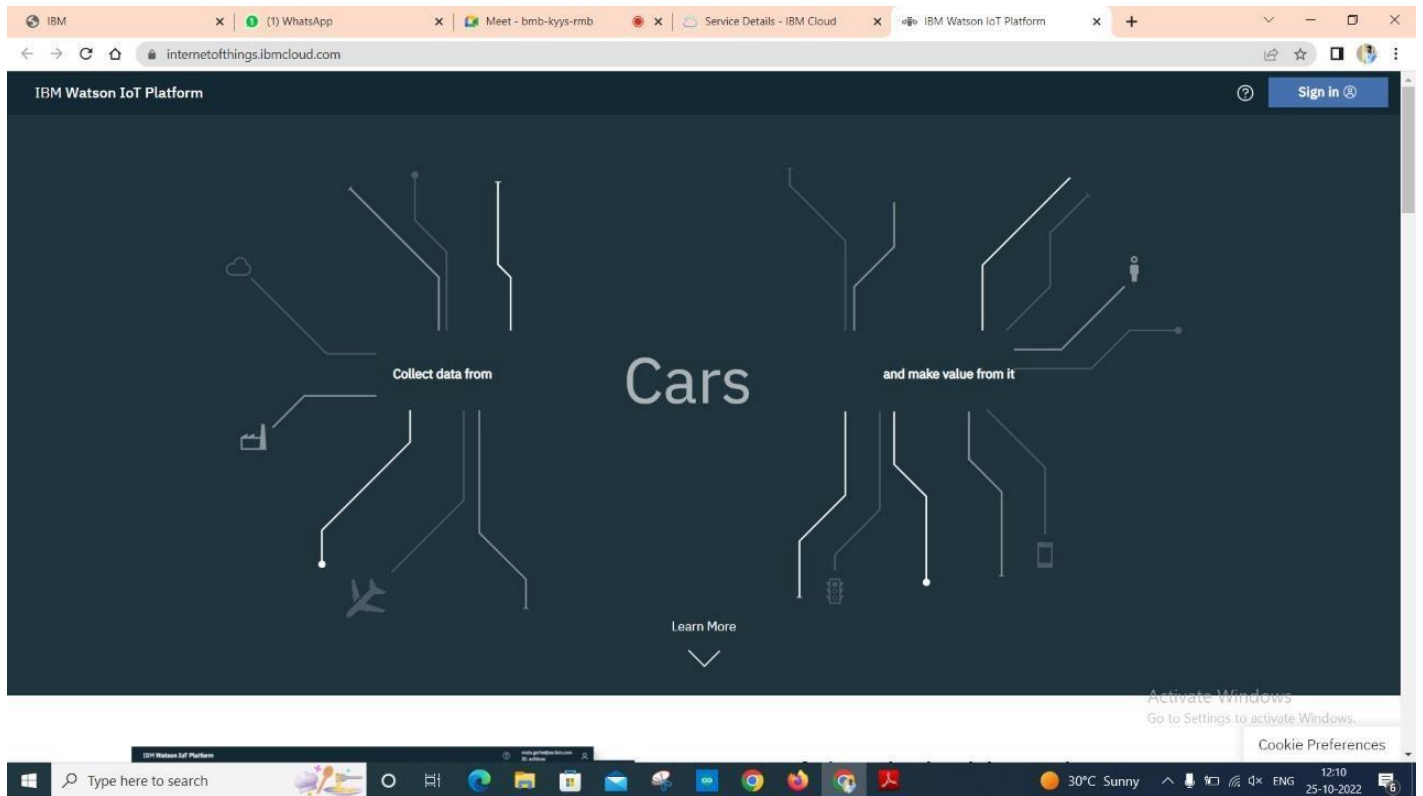
Step 8: Click on the launch button.

The screenshot shows the IBM Cloud IoT Platform service page. The browser tabs include IBM, WhatsApp, a meeting link, and the current page 'Service Details - IBM Cloud'. The URL is a long alphanumeric string. The page header shows 'IBM Cloud' and a search bar. The main content area is titled 'Internet of Things Platform-hg' and is marked as 'Active'. A sidebar on the left has 'Manage' selected, with 'Plan' and 'Connections' below it. The main content features a large graphic of a central square with four lines extending outwards, each ending in a small circle. To the right of this graphic is the text 'Let's get started with IBM Watson IoT Platform' followed by a description: 'Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.' Below this is a 'Launch' button and a 'Docs' button. Further down, there is a section titled 'Ready for the next level?' and 'IBM Watson IoT Platform Journey'. This section contains three cards: 'Lite', 'Non-Production', and 'Production'. The 'Lite' card is highlighted with a checkmark and lists 'Free' and '200 MB data-transfer limit'. The 'Non-Production' card lists 'Starts at \$500 per month' and 'Capacity limit based on device type'. The 'Production' card lists 'Includes IBM Service & Support' and 'Pricing based on number of devices per'. At the bottom right, there is an 'Activate Windows' watermark and a 'Sign in' button.

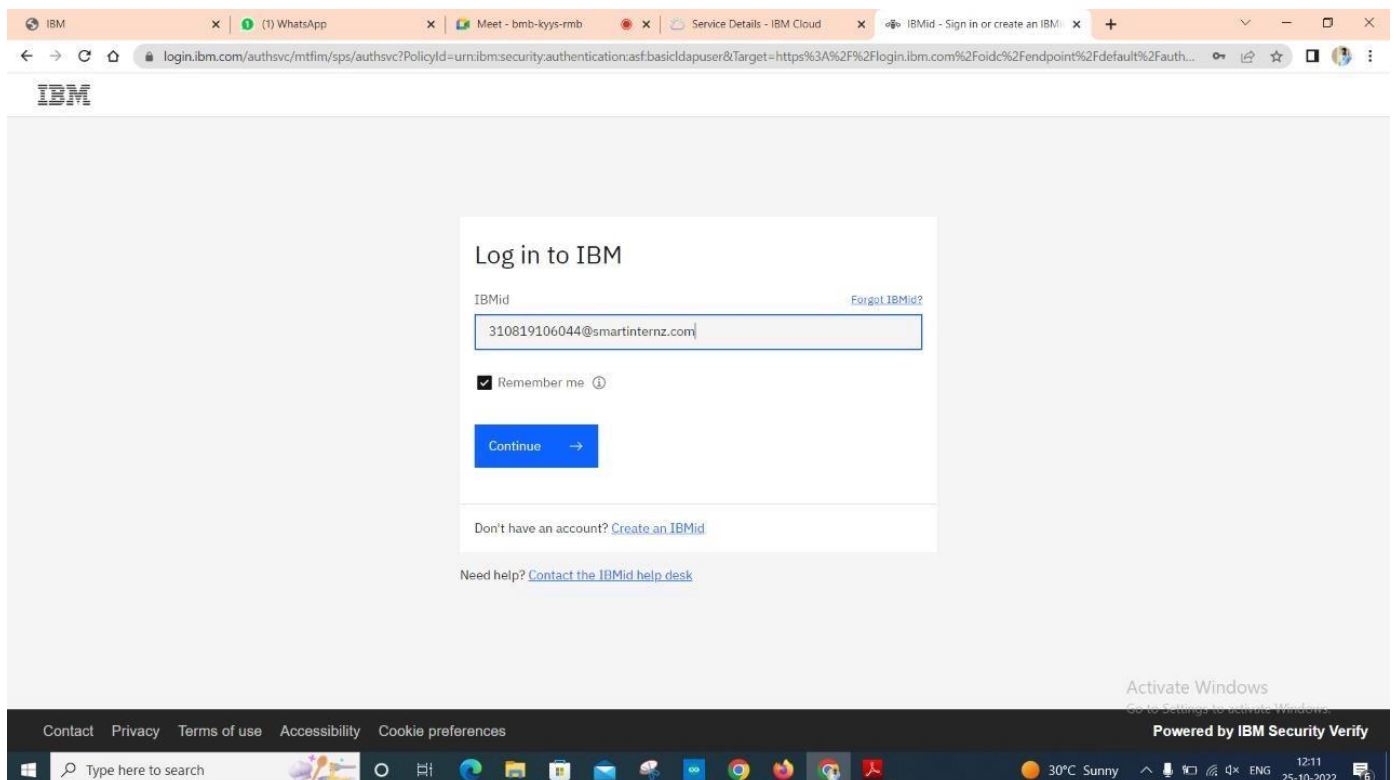
Step 9: After clicking on the launch button this tab will open.

The screenshot shows the IBM Watson IoT Platform dashboard. The browser tabs include IBM, WhatsApp, a meeting link, 'Service Details - IBM Cloud', and the current page 'IBM Watson IoT Platform'. The URL is 'internetofthings.ibmcloud.com'. The page header shows 'IBM Watson IoT Platform' and a 'Sign in' button. The main content area features a large graphic with the word 'Cars' in the center. To the left of 'Cars' is the text 'Collect data from' and to the right is 'and make value from it'. Below the word 'Cars' is a 'Learn More' button. The background of the main content area is dark blue with white lines and icons representing various IoT devices and data flows. At the bottom right, there is an 'Activate Windows' watermark and a 'Cookie Preferences' button.

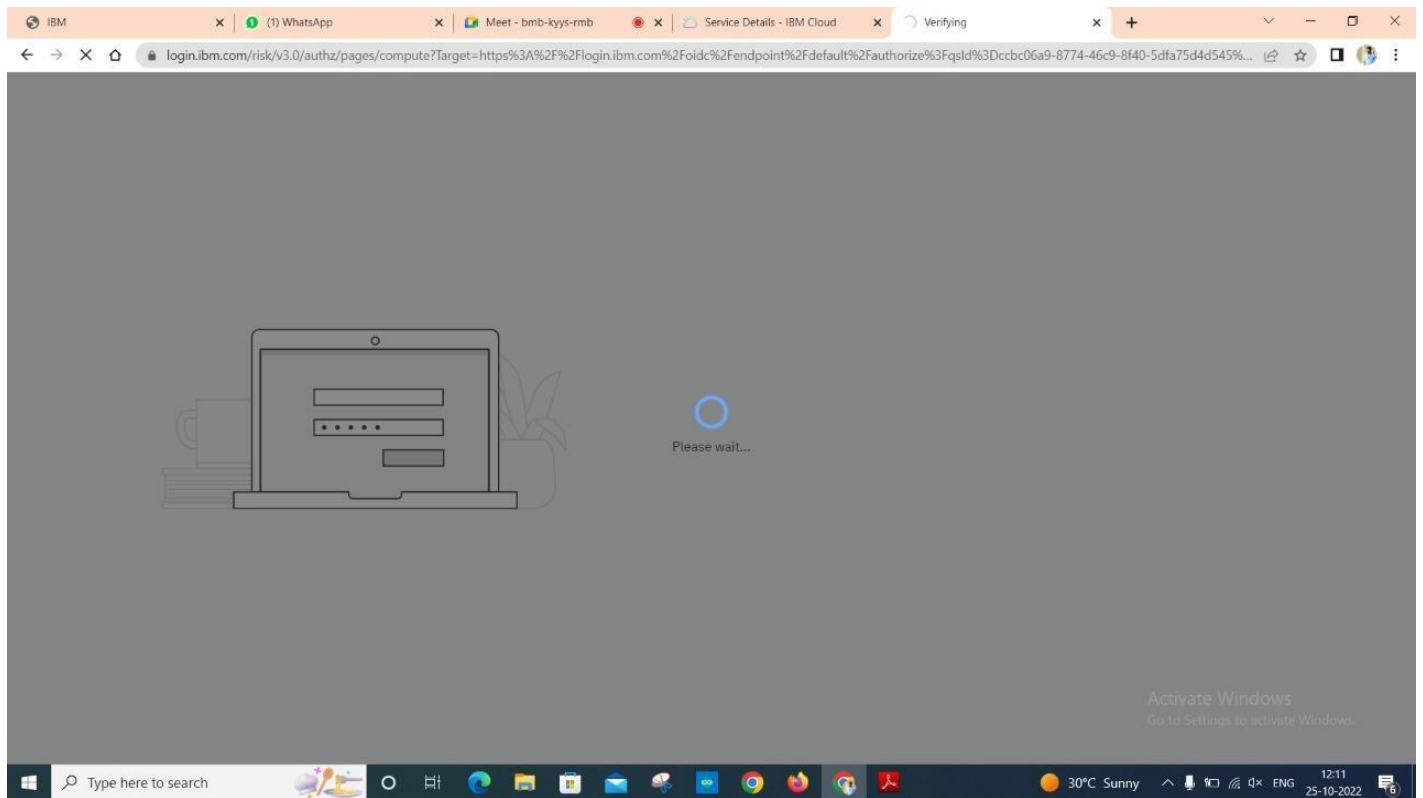
Step 10: Click on Sign in.



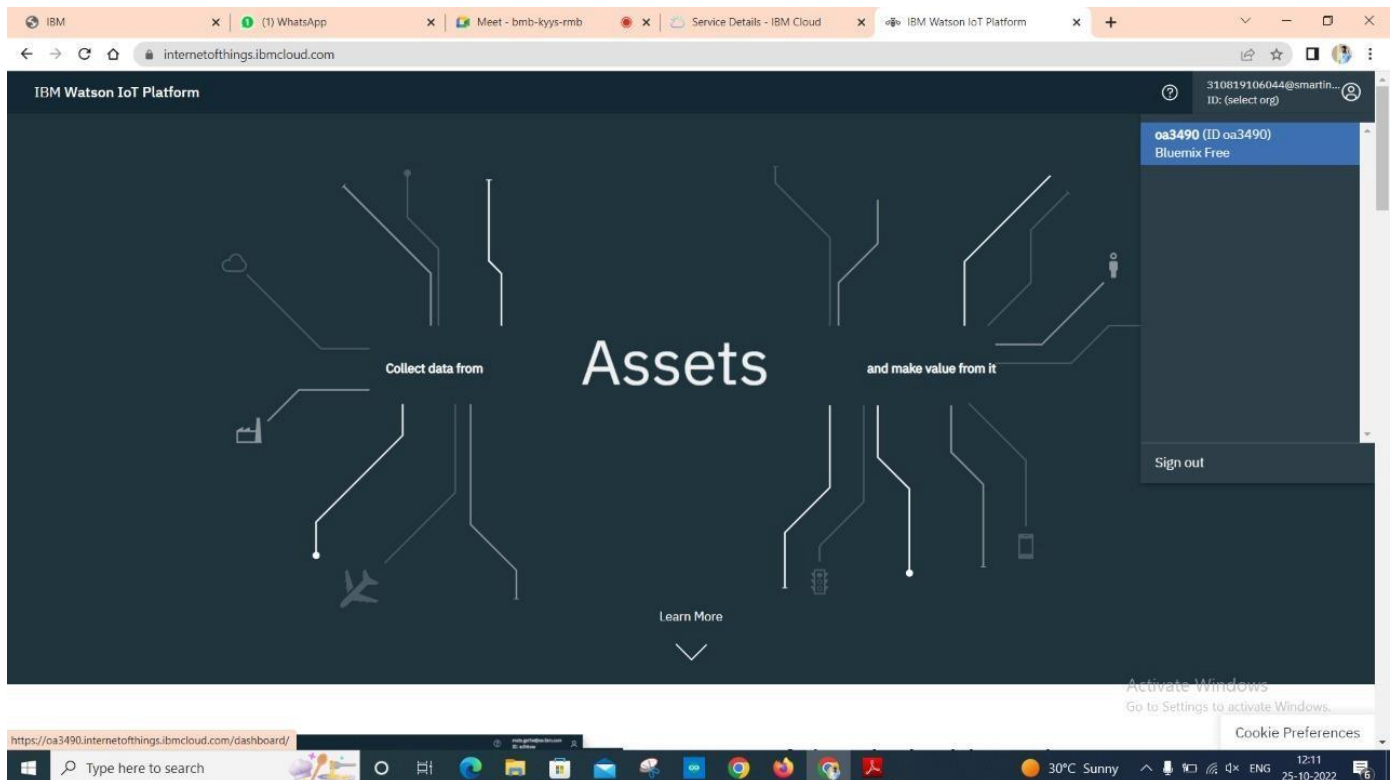
Step 11: Fill the login details.



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.

IBM Watson IoT Platform

310819106044@smartinternz.com
ID: oa3490

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
12345	Disconnected	TestDeviceType	Device	Oct 23, 2022 1:42 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page

1 Simulation running

Activate Windows
Go to Settings to activate Windows.

Step 15: Click on Add Device.

IBM Watson IoT Platform

310819106044@smartinternz.com
ID: oa3490

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.

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Items per page 50 | 1-1 of 1 item

1 of 1 page

1 Simulation running

Activate Windows
Go to Settings to activate Windows.

Step 16: Click on Device Type.

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Add Device' wizard is open, showing a progress bar with four steps: Identity, Device Information, Security, and Summary. The 'Identity' step is active. Below the progress bar, there is a text prompt: 'Select a device type for the device that you are adding and give the device a unique ID.' There are two input fields: 'Device Type' with a dropdown menu showing 'Select or create a device type...' and 'Device ID' with a text input field 'Enter Device ID'. At the bottom right of the wizard, there are 'Cancel' and 'Next' buttons. Below the wizard, the 'Browse Devices' section is visible, showing 'All Devices' and 'Diagnose' buttons. The bottom status bar indicates '0 Simulations running' and 'Activate Windows'.

Step 17: Fill the details.

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Add Type' wizard is open, showing a progress bar with two steps: Identity and Device Information. The 'Identity' step is active. Below the progress bar, there is a text prompt: '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.' There are three input fields: 'Type' with a dropdown menu showing 'Device' and 'Gateway', 'Name' with a text input field 'TestDeviceType', and 'Description' with a text input field. Below the wizard, the 'Device Types' section is visible, showing '0 Simulations running' and 'Activate Windows'.

Step 18: Click on Register Devices.

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area displays a message: 'You added the new device type: TestDeviceType'. Below this, there are two tabs: 'Register Device' (selected) and 'Advanced Flow'. Under the 'Register Device' tab, the heading is 'Optional Register Devices, Define Interfaces'. A message states: 'Now that you added a device type, you can register and connect devices for this type.' Below this message is a blue button labeled 'Register Devices'. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying '30°C Sunny' and '12:16 25-10-2022'.

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

The screenshot shows the 'Add Device' dialog box in the IBM Watson IoT Platform. The dialog has a progress bar with four steps: 'Identity' (selected), 'Device Information', 'Security', and 'Summary'. Below the progress bar, there is a message: 'Select a device type for the device that you are adding and give the device a unique ID.' There are two input fields: 'Device Type' with the value 'TestDeviceType' and 'Device ID' with the value '12345'. At the bottom right of the dialog are 'Cancel' and 'Next' buttons. Below the dialog, the 'Browse Devices' section is visible, showing 'All Devices' and 'Diagnose' buttons. The bottom of the screen shows a Windows taskbar with various application icons and a system tray displaying '30°C Sunny' and '12:17 25-10-2022'.

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

IBM Watson IoT Platform

310819106044@smartinternz.com
ID: oa3490

Browse Action Device Types Interfaces

Identity Device Information Security Summary

Verify that the following information is correct then select Finish

Device Type
TestDeviceType

Device ID
12345

View Metadata

Security Token
To be generated

Back Finish

Browse Devices

All Devices Diagnose

0 Simulations running

Activate Windows
Go to Settings to activate Windows.

Type here to search

30°C Sunny 12:17 25-10-2022

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

IBM Watson IoT Platform

310819106044@smartinternz.com
ID: oa3490

← Back

Device Drilldown - 12345

Device Credentials

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Device Credentials

You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.

Organization ID	oa3490
Device Type	TestDeviceType
Device ID	12345
Authentication Method	use-token-auth
Authentication Token	qvUymv*BGwD&jLz9C3

⚠ Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.

[Find out how to add these credentials to your device](#)

Connection Information

0 Simulations running

Activate Windows
Go to Settings to activate Windows.

Type here to search

30°C Sunny 12:17 25-10-2022

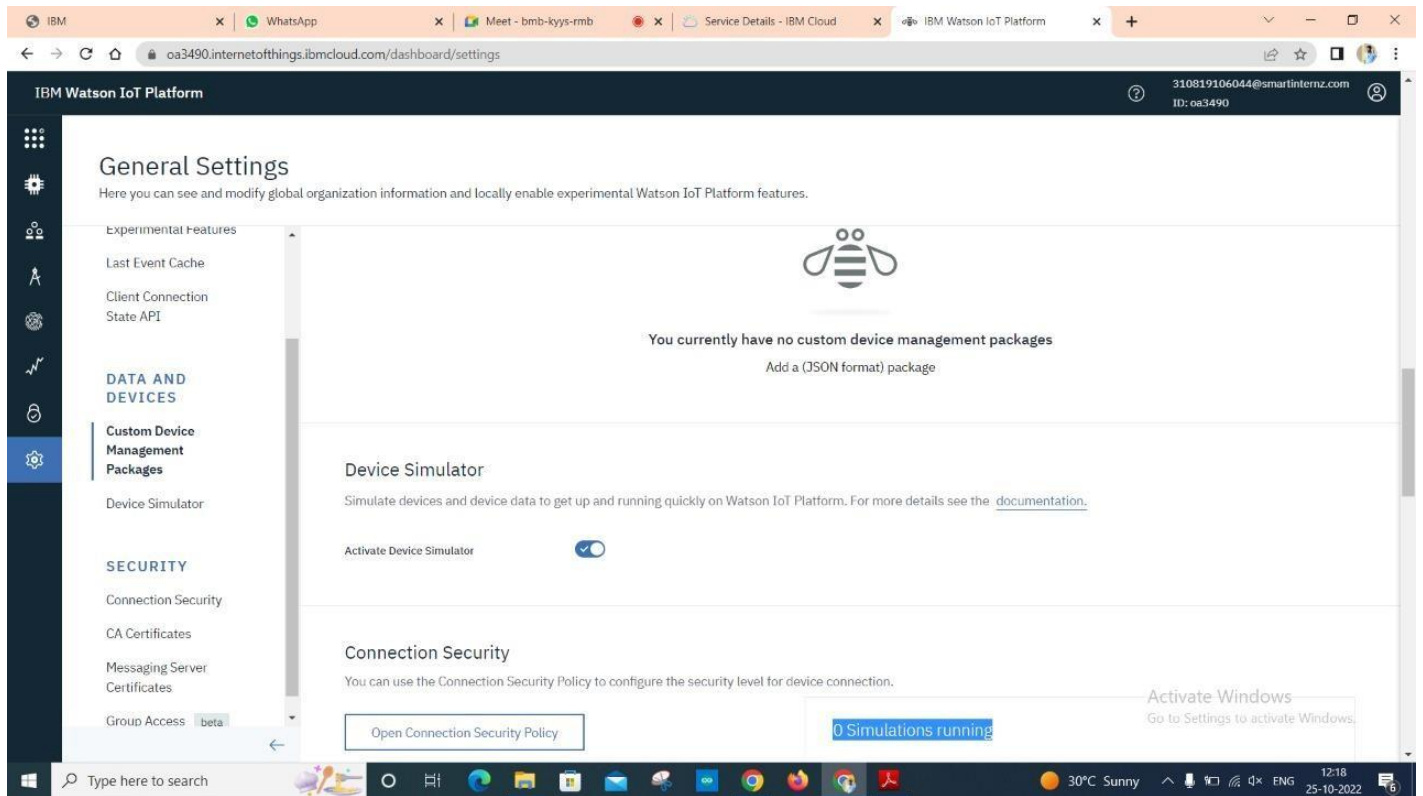
Step 22: Go to Setting, click on Data and Devices.

The screenshot shows the IBM Watson IoT Platform Settings page. The left sidebar contains a navigation menu with options: Boards, Devices, Members, Apps, Access Management, Usage, Security, and Settings (highlighted). The main content area is titled 'Settings' and includes sections for 'About', 'Identity', and 'Experimental Features'. The 'About' section shows 'Date Created' as 10/23/2022, 'Organization Type' as Bluemix Free, and 'Geographic Location' as eu-de. The 'Identity' section shows 'Organization ID' as oa3490 and 'Friendly Name' as oa3490. The 'Experimental Features' section shows '0 Simulations running'. A Windows taskbar is visible at the bottom with the date 25-10-2022 and time 12:18.

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

The screenshot shows the IBM Watson IoT Platform General Settings page. The left sidebar contains a navigation menu with options: Boards, Devices, Members, Apps, Access Management, Usage, Security, and Settings (highlighted). The main content area is titled 'General Settings' and includes sections for 'Experimental Features', 'Device Simulator', 'Connection Security', and 'CA Certificates'. The 'Device Simulator' section shows 'Activate Device Simulator' as a toggle switch that is turned on. The 'Connection Security' section shows 'Open Connection Security Policy'. The 'CA Certificates' section shows 'Add Certificate'. A Windows taskbar is visible at the bottom with the date 25-10-2022 and time 12:18.

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.

Experimental Features

- Last Event Cache
- Client Connection State API

DATA AND DEVICES

- Custom Device Management Packages**
- Device Simulator

SECURITY

- Connection Security
- CA Certificates
- Messaging Server Certificates
- Group Access beta

You currently have no custom device management packages

Add a (JSON format) package

Device Simulator

Simulate devices and device data to get up and running quickly on Watson IoT Platform. For more details see the [documentation](#).

Activate Device Simulator ☒

Connection Security

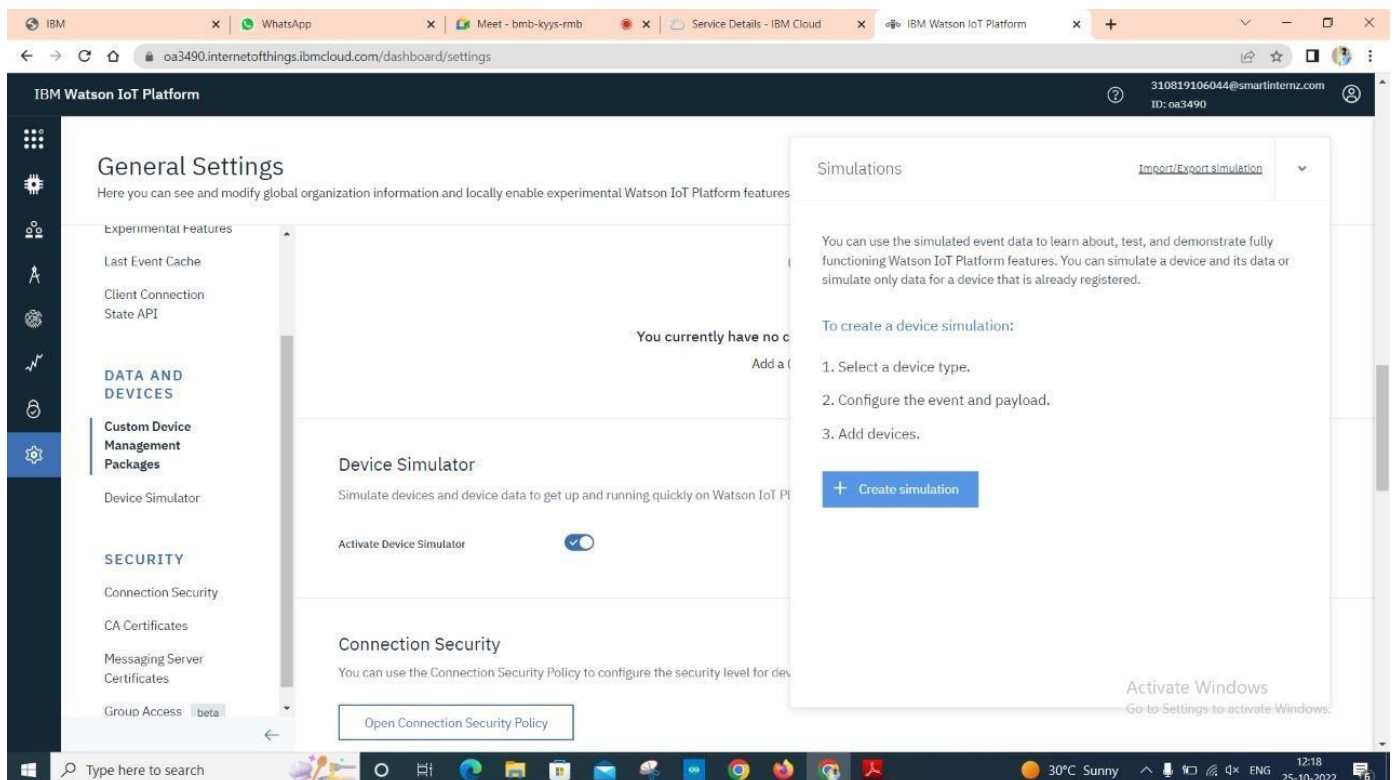
You can use the Connection Security Policy to configure the security level for device connection.

[Open Connection Security Policy](#)

0 Simulations running

Activate Windows
Go to Settings to activate Windows.

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.

Experimental Features

- Last Event Cache
- Client Connection State API

DATA AND DEVICES

- Custom Device Management Packages**
- Device Simulator

SECURITY

- Connection Security
- CA Certificates
- Messaging Server Certificates
- Group Access beta

You currently have no c

Add a c

Device Simulator

Simulate devices and device data to get up and running quickly on Watson IoT Platform.

Activate Device Simulator ☒

Connection Security

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

[Open Connection Security Policy](#)

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](#)

Activate Windows
Go to Settings to activate Windows.

Step 26: Choose the Device.

The screenshot shows the IBM Watson IoT Platform General Settings page. The left sidebar contains navigation links for Experimental Features, Last Event Cache, Client Connection State API, DATA AND DEVICES, Custom Device Management Packages, Device Simulator, SECURITY, Connection Security, CA Certificates, Messaging Server Certificates, and Group Access (beta). The main content area displays the Device Simulator section, which includes a toggle to 'Activate Device Simulator' and a 'Connection Security' section. A 'Simulations' modal is open, showing instructions on how to create a device simulation. The modal lists three steps: 1. Select a device type, 2. Configure the event and payload, and 3. Add devices. Below these steps is a dropdown menu labeled 'Select or create a device type...' with 'TestDeviceType' selected. The modal also includes an 'Import/Export simulation' button and an 'Activate Windows' watermark.

IBM Watson IoT Platform

General Settings

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

Experimental Features

Last Event Cache

Client Connection State API

DATA AND DEVICES

Custom Device Management Packages

Device Simulator

SECURITY

Connection Security

CA Certificates

Messaging Server Certificates

Group Access | beta

You currently have no c

Add a

Device Simulator

Simulate devices and device data to get up and running quickly on Watson IoT P

Activate Device Simulator

Connection Security

You can use the Connection Security Policy to configure the security level for dev

Open Connection Security Policy

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.

Select or create a device type...

TestDeviceType

Activate Windows

Go to Settings to activate Windows.

Step 27: Type the code.

The screenshot shows the IBM Watson IoT Platform General Settings page with the 'Device Type: TestDeviceType' modal open. The modal displays the configuration for a new event type. It includes a 'New event type' button, a 'Send' button, and a 'Cancel' button. The 'Event type name' is set to 'event_1'. The 'Schedule' is set to 'Every Minute' with a value of '20'. The 'Payload' section shows a JSON object with 'Temperature' and 'Humidity' fields, both set to 'random(0, 100)'. There is an 'Upload a CSV file' button and a 'Save' button. The modal also includes an 'Activate Windows' watermark.

IBM Watson IoT Platform

General Settings

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

Experimental Features

Last Event Cache

Client Connection State API

DATA AND DEVICES

Custom Device Management Packages

Device Simulator

SECURITY

Connection Security

CA Certificates

Messaging Server Certificates

Group Access | beta

You currently have no c

Add a

Device Simulator

Simulate devices and device data to get up and running quickly on Watson IoT P

Activate Device Simulator

Connection Security

You can use the Connection Security Policy to configure the security level for dev

Open Connection Security Policy

Device Type: TestDeviceType

Events 1

New event type +

Event type name event_1

Send

Schedule

20 Every Minute

Payload

Specify the event payload in the editor window or by uploading a CSV file.

```
{
  1 "Temperature": random(0, 100),
  2 "Humidity": random(0, 100),
  3 }
  4
```

Upload a CSV file

Cancel

Save

Activate Windows

Go to Settings to activate Windows.

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

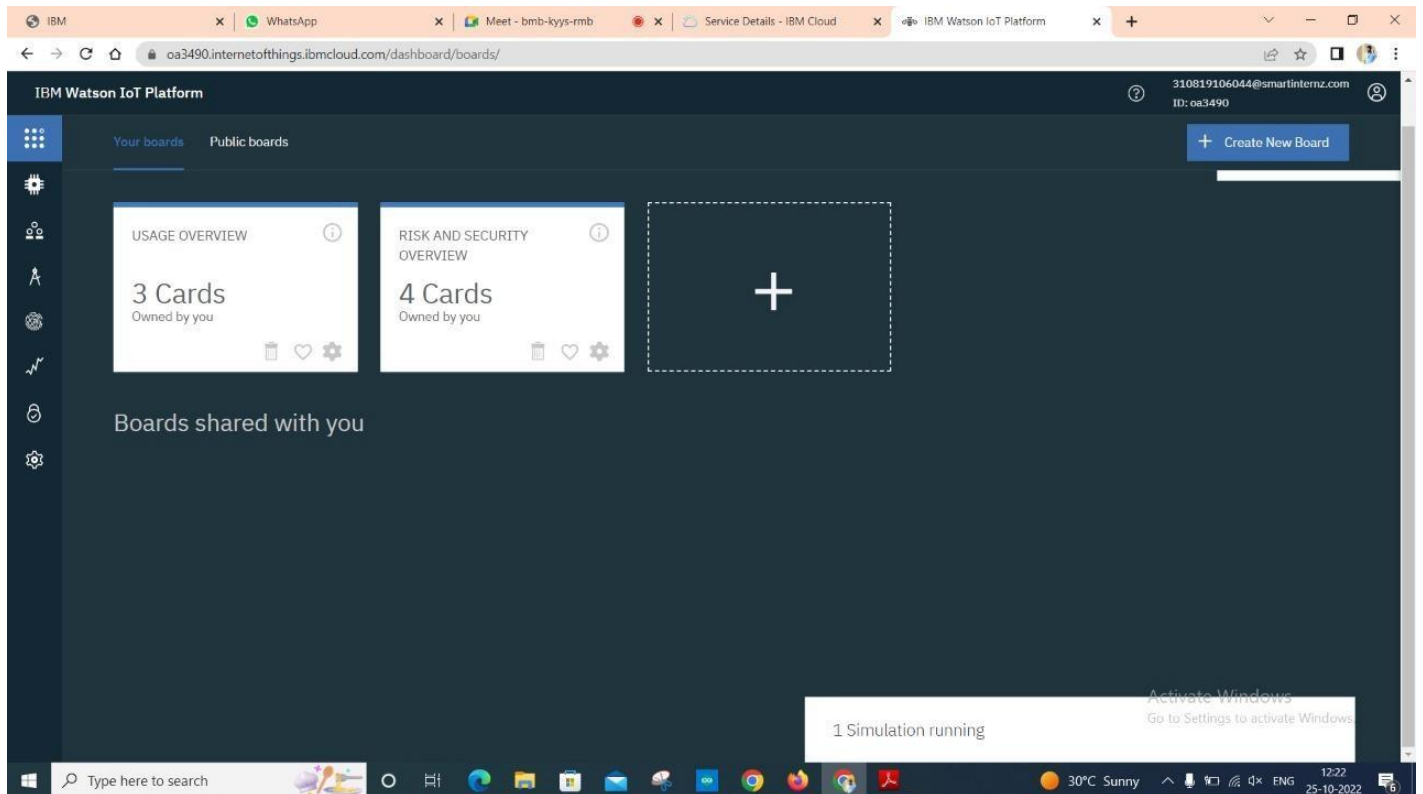
The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains navigation links for Experimental Features, Last Event Cache, Client Connection State API, DATA AND DEVICES, Custom Device Management Packages, Device Simulator, SECURITY, Connection Security, CA Certificates, Messaging Server Certificates, and Group Access (beta). The main content area displays the 'General Settings' page. The 'Simulations' section shows '1/50 Simulations Running' and a '+ New Simulation' button. A modal window is open for device selection, showing a list of devices with ID 12345 and a 'Use Registered Device' button. The 'Device Simulator' section shows the 'Activate Device Simulator' toggle. The 'Connection Security' section shows the 'Open Connection Security Policy' button. The bottom status bar shows '41 events sent' and 'Activate Windows'.

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

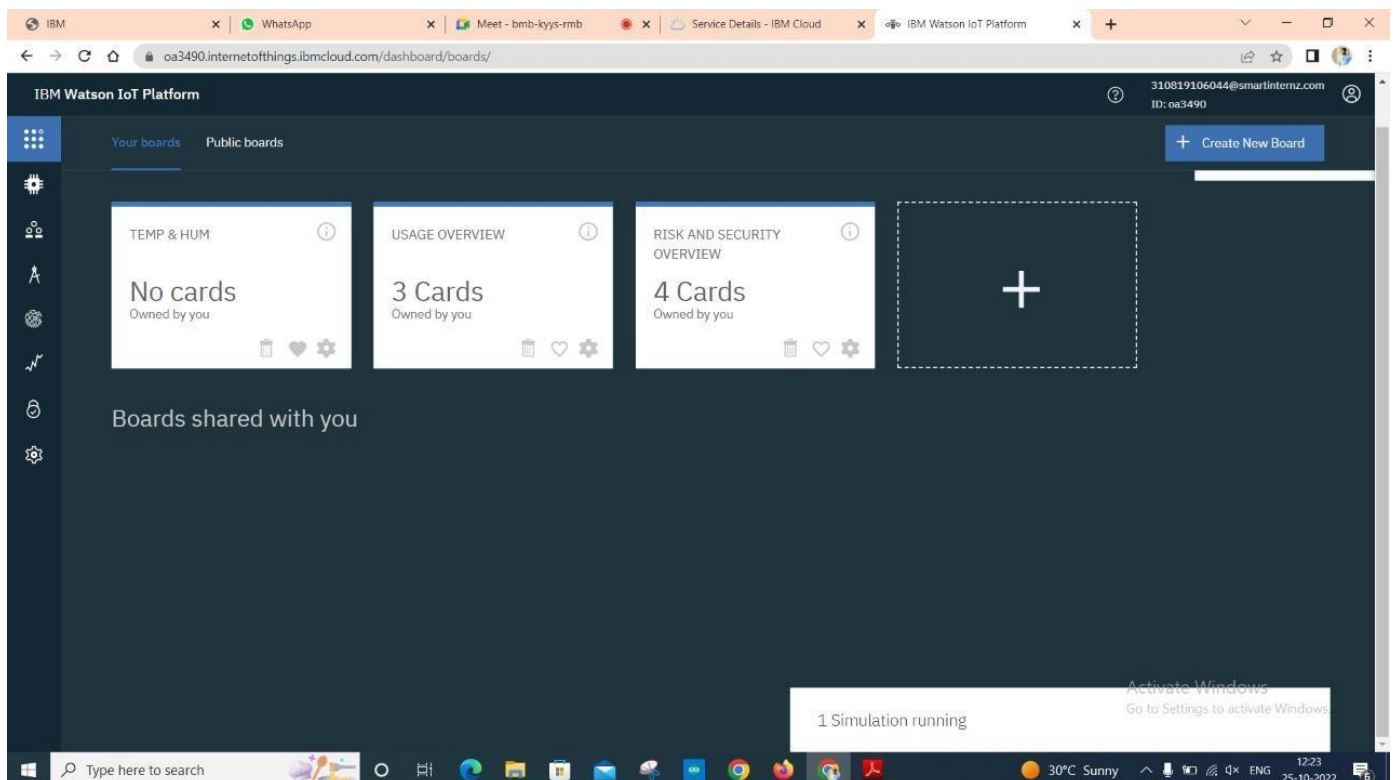
The screenshot shows the IBM Watson IoT Platform dashboard. The left sidebar contains navigation links for Browse, Action, Device Types, Interfaces, and Add Device. The main content area displays the 'Browse' page for devices. The 'Recent Events' tab is selected for device 12345, showing a table of events with columns: Event, Value, Format, and Last Received. The table contains three rows of event data.

Event	Value	Format	Last Received
event_1	{"Temperature":42,"Humidity":88}	json	a few seconds ago
event_1	{"Temperature":71,"Humidity":36}	json	a few seconds ago
event_1	{"Temperature":3,"Humidity":53}	json	a few seconds ago

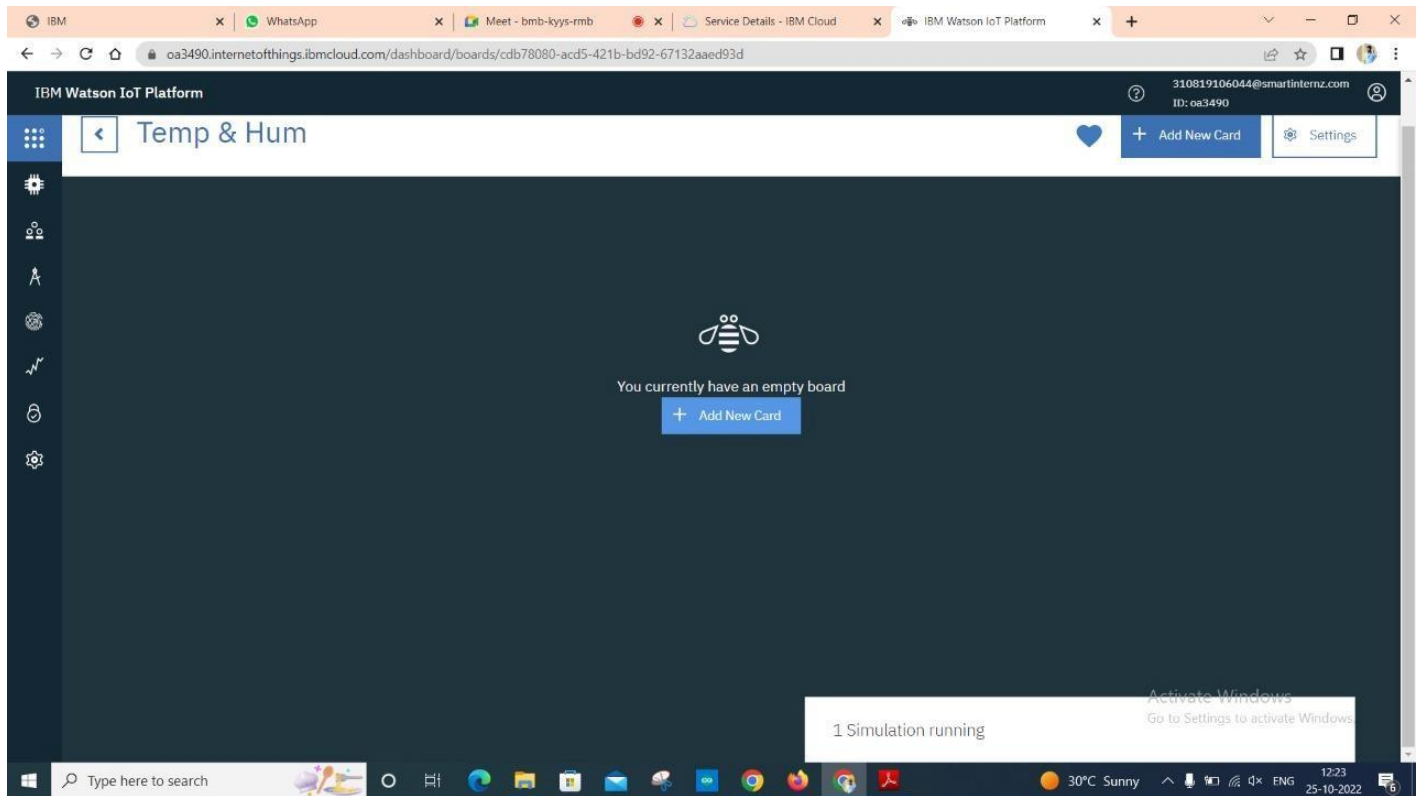
Step 30: Go to Board and click on + Create New Board, fill the details and create a board.



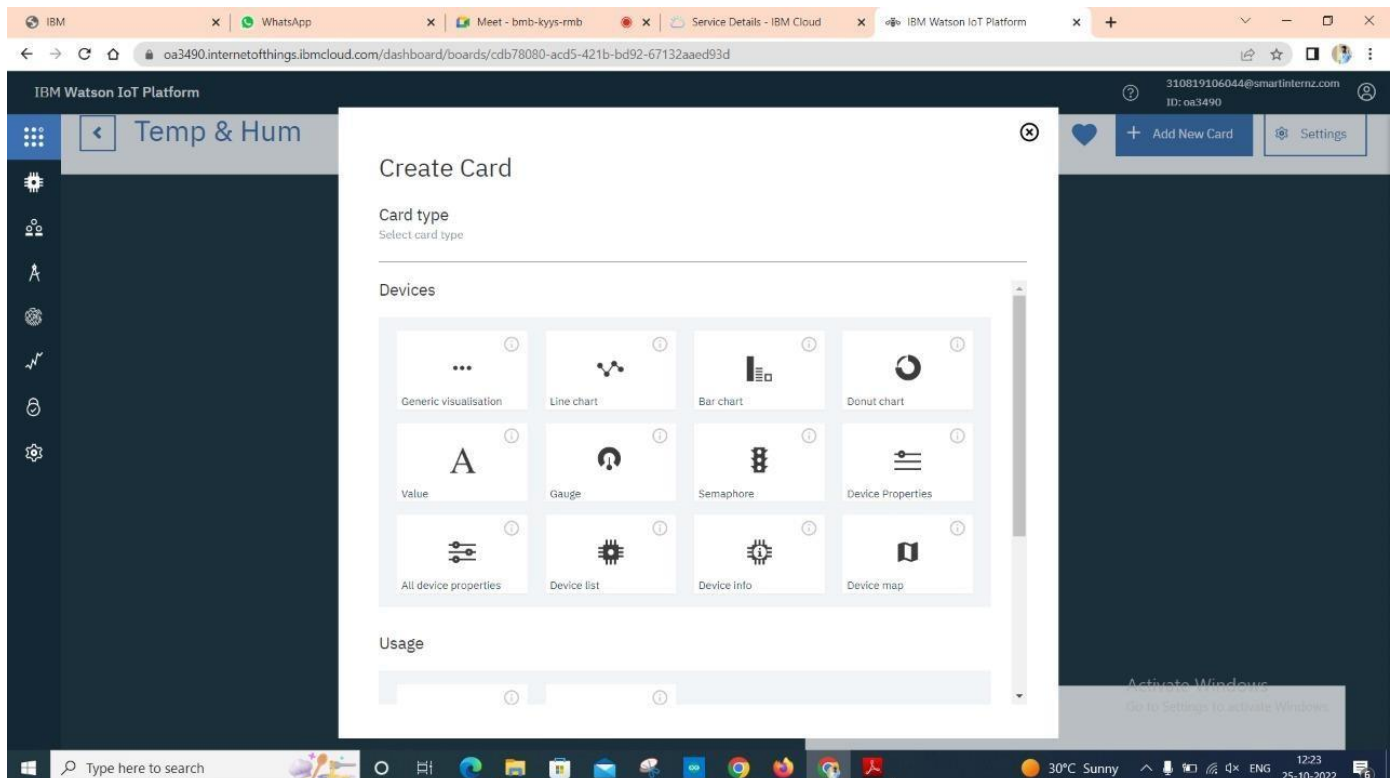
Step 31: Click on the board which is created.



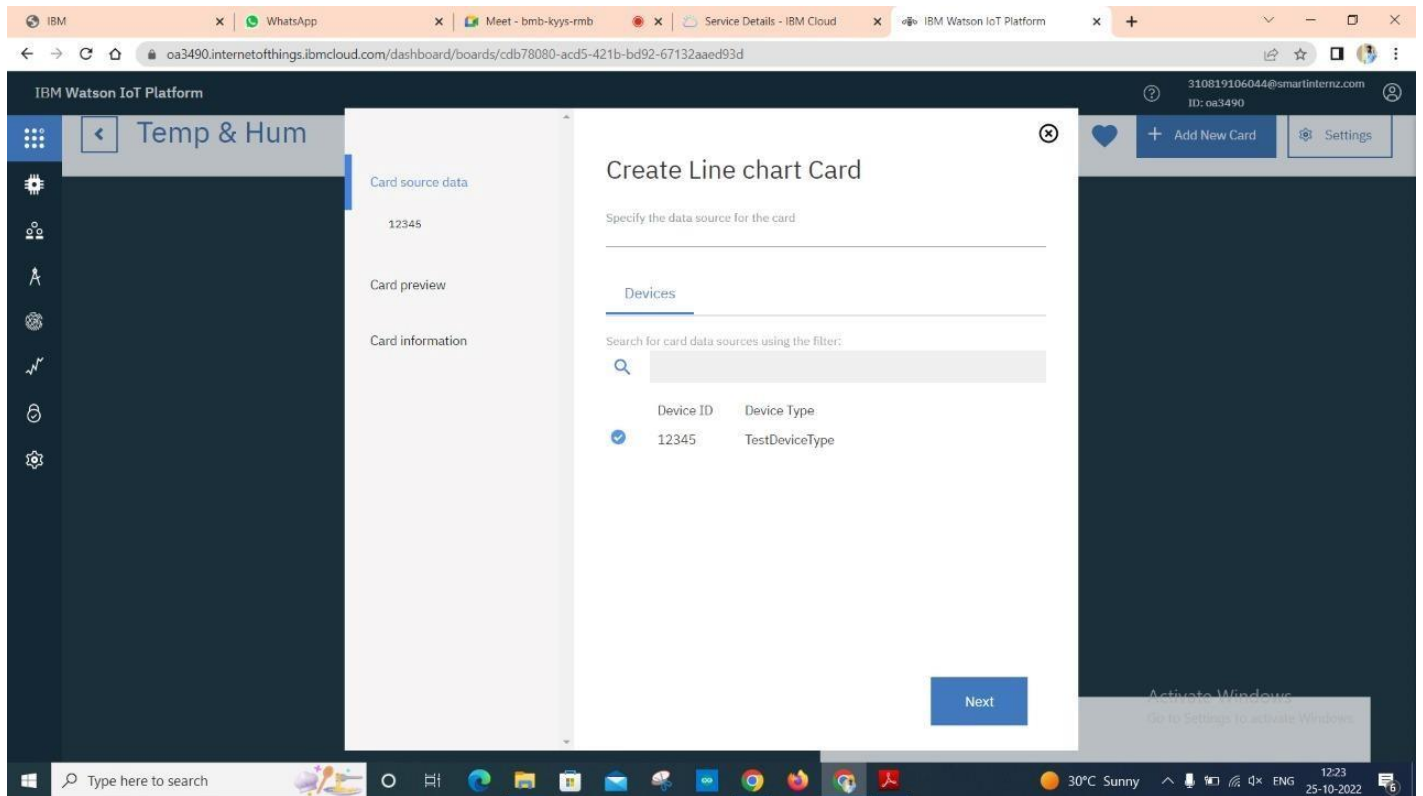
Step 32: Go Add New Card.



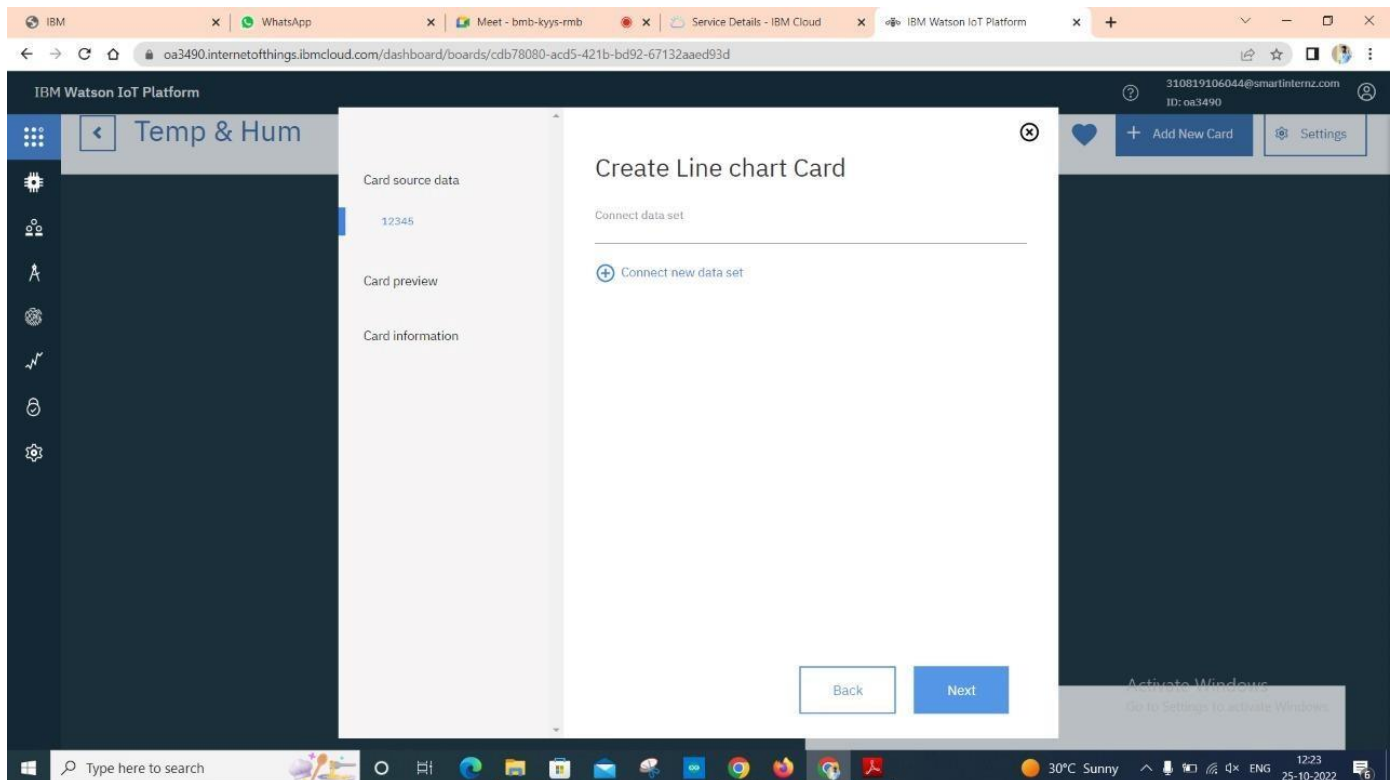
Step 33: Choose the Card Type.



Step 34: Choose the device.



Step 35: Click on Connect new data set.



Step 36: Fill the details to get Temperature graph.

IBM Watson IoT Platform

Temp & Hum

Card source data

12345

Card preview

Card information

Create Line chart Card

Connect data set

Event: **event_1**

Property: **Temperature**

Name: **Temperature**

Type: **Number**

Unit: **Max**

Max: **100**

Back Next

Step 37: Choose the Colour.

IBM Watson IoT Platform

Temp & Hum

Card source data

12345

Card preview

Card information

Create Line chart Card

Enter title and description of the card

Title: **Line chart**

Color scheme

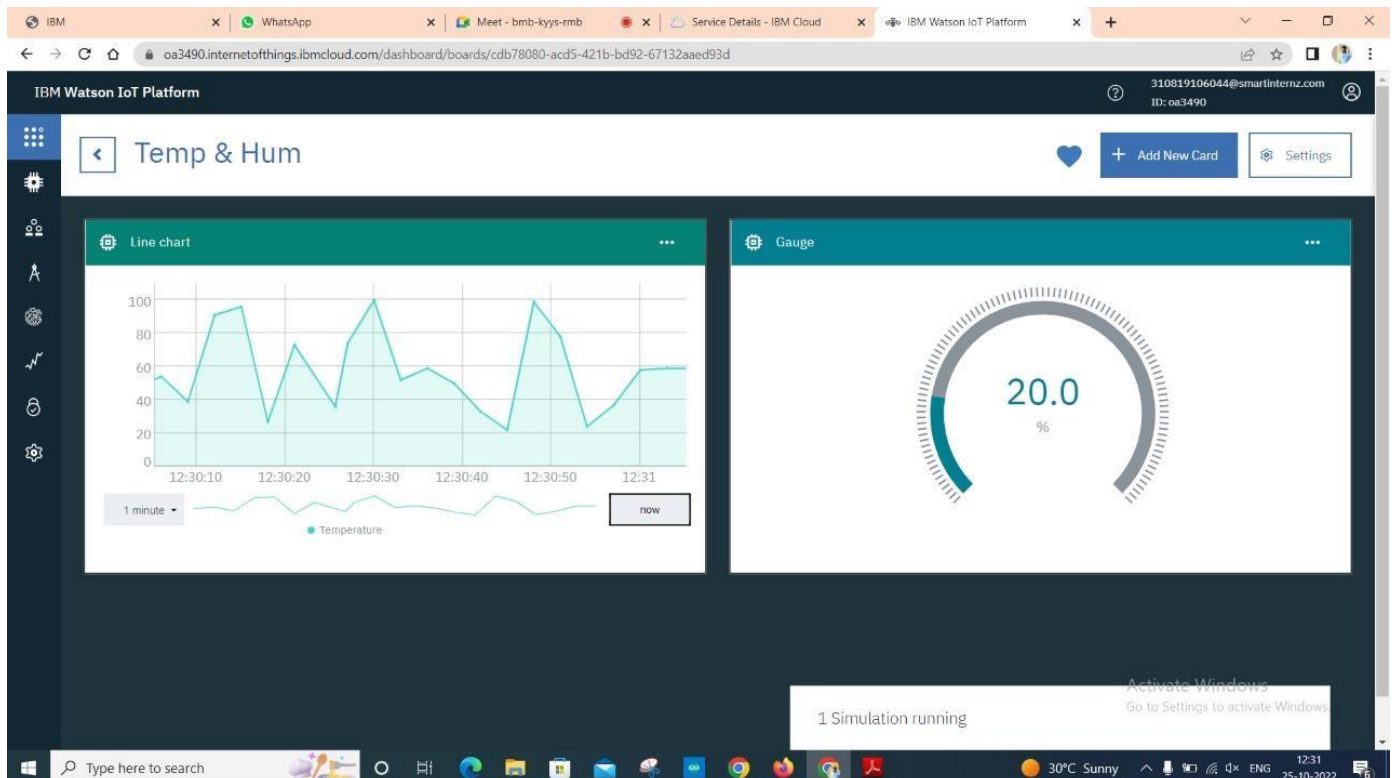
A line chart to display time series information with historic and live data

Back Submit

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

The screenshot shows the 'Create Line chart Card' dialog in the IBM Watson IoT Platform. The dialog is titled 'Create Line chart Card' and has a 'Connect data set' section. Under 'New data set', there is a list of data sets with 'event_1' selected. Below this, there are fields for 'Name' (set to 'New data set'), 'Type' (set to 'Text'), and 'Unit'. At the bottom, there are 'Back' and 'Next' buttons. The background shows a dashboard titled 'Temp & Hum' with a sidebar containing various icons and a top bar with user information and navigation buttons.

Step 39: Here is the Final graph.



Result:

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