

CREATE IBM WATSON IOT PLATFORM AND DEVICE

Date	2 November 2022
Team ID	PNT2022TMID21050
Project Name	Gas leakage monitoring and alerting system for industries

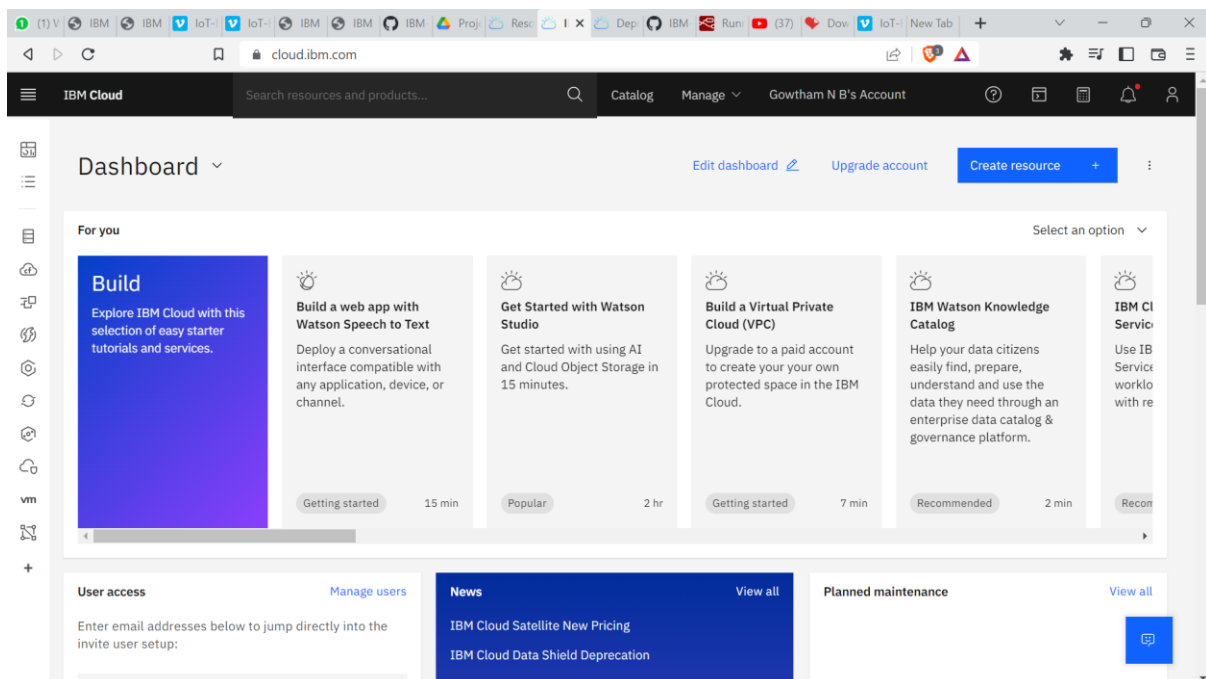
AIM:

To create the IBM Watson IoT platform and device.

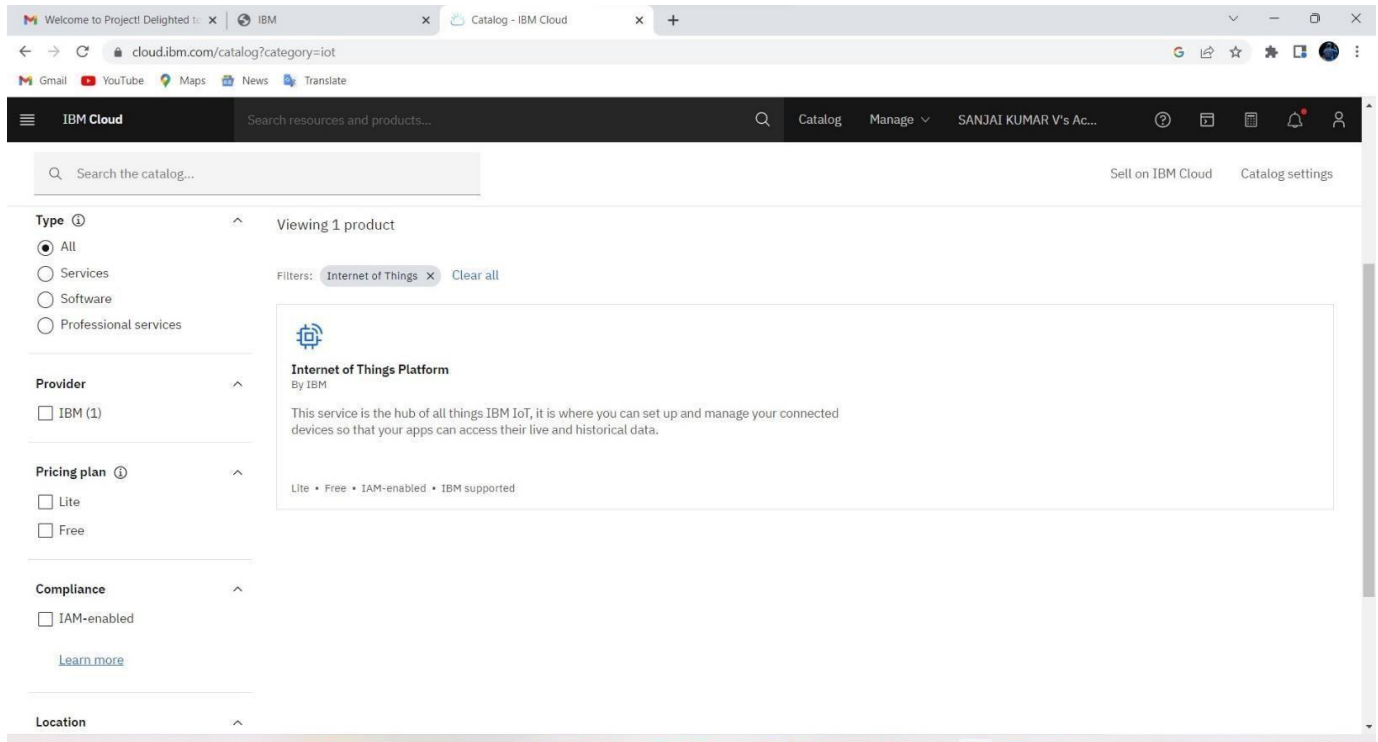
Steps to be followed

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

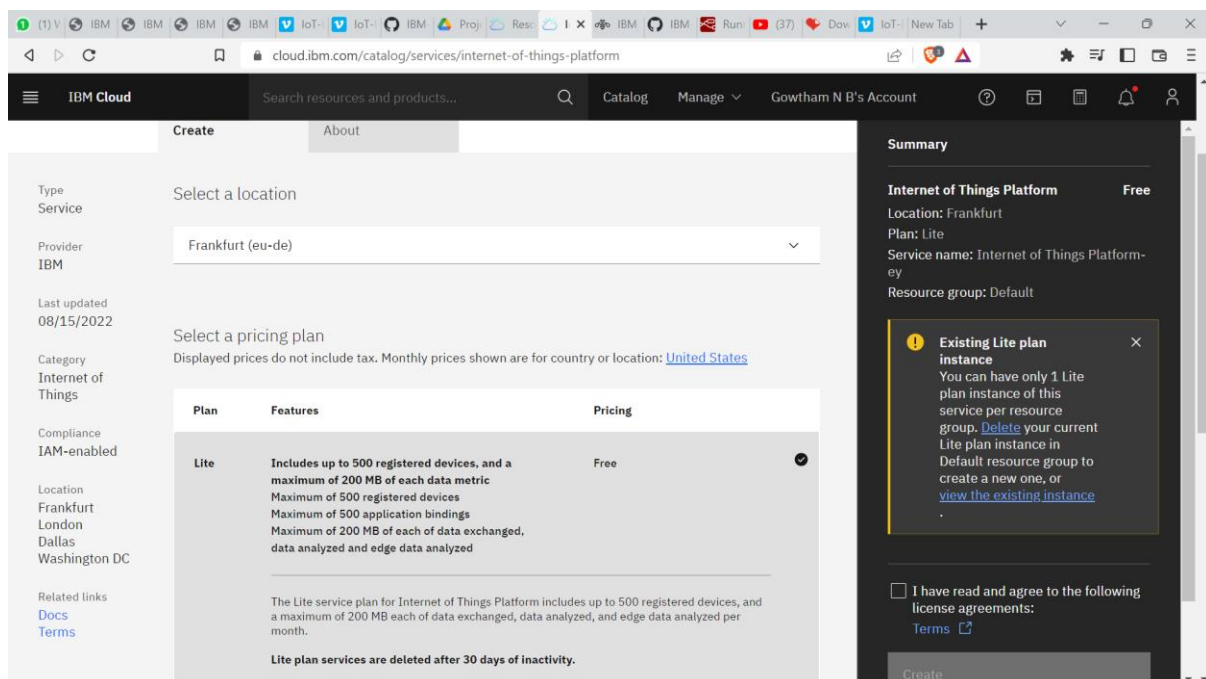
Step 2: Home page of IBM cloud.



Step 3: Click on the catalog on the top and enter into Internet of Things platform.



Step 4: If already a lite is present delete it else u can't create another.



Step 5: Select the agreements and click create.

The screenshot shows the 'Create' page for the IBM Cloud Internet of Things Platform. The 'Type' is 'Service' and the 'Provider' is 'IBM'. The 'Location' is set to 'Frankfurt (eu-de)'. The 'Pricing plan' section shows a table with the following data:

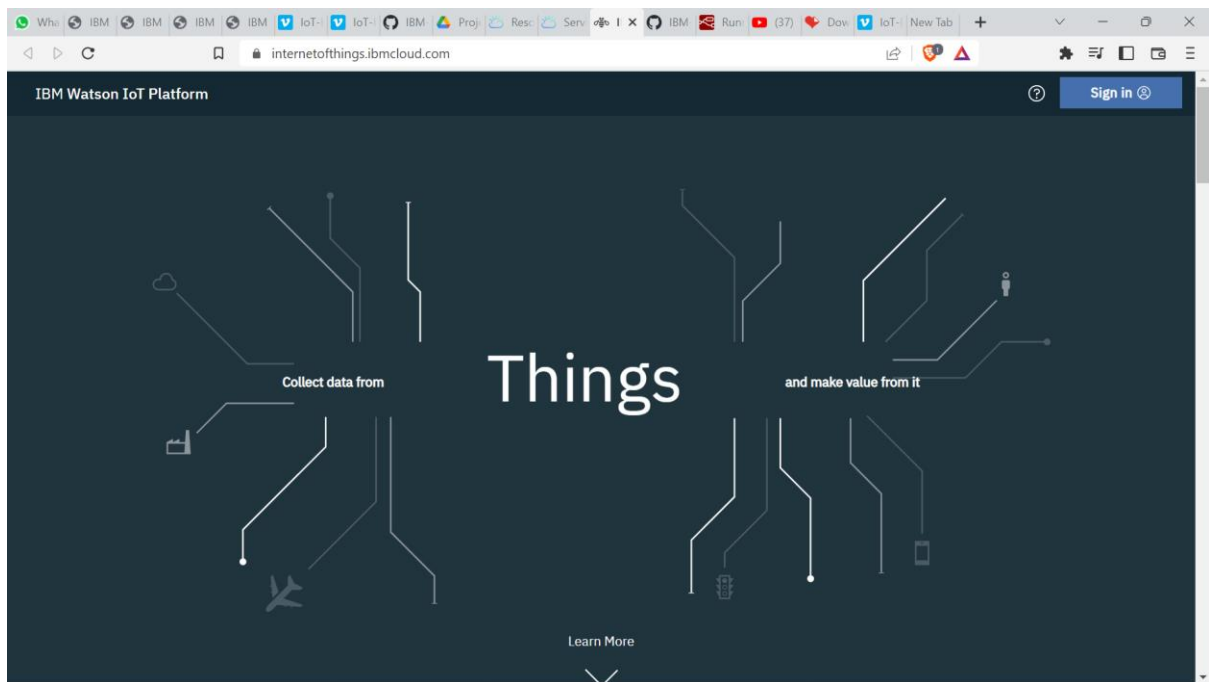
Plan	Features	Pricing
Lite	Includes up to 500 registered devices, and a maximum of 200 MB of each data metric Maximum of 500 registered devices Maximum of 500 application bindings Maximum of 200 MB of each of data exchanged, data analyzed and edge data analyzed	Free

The 'Summary' sidebar on the right shows the 'Internet of Things Platform' is 'Free'. It also includes a warning message: '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.'

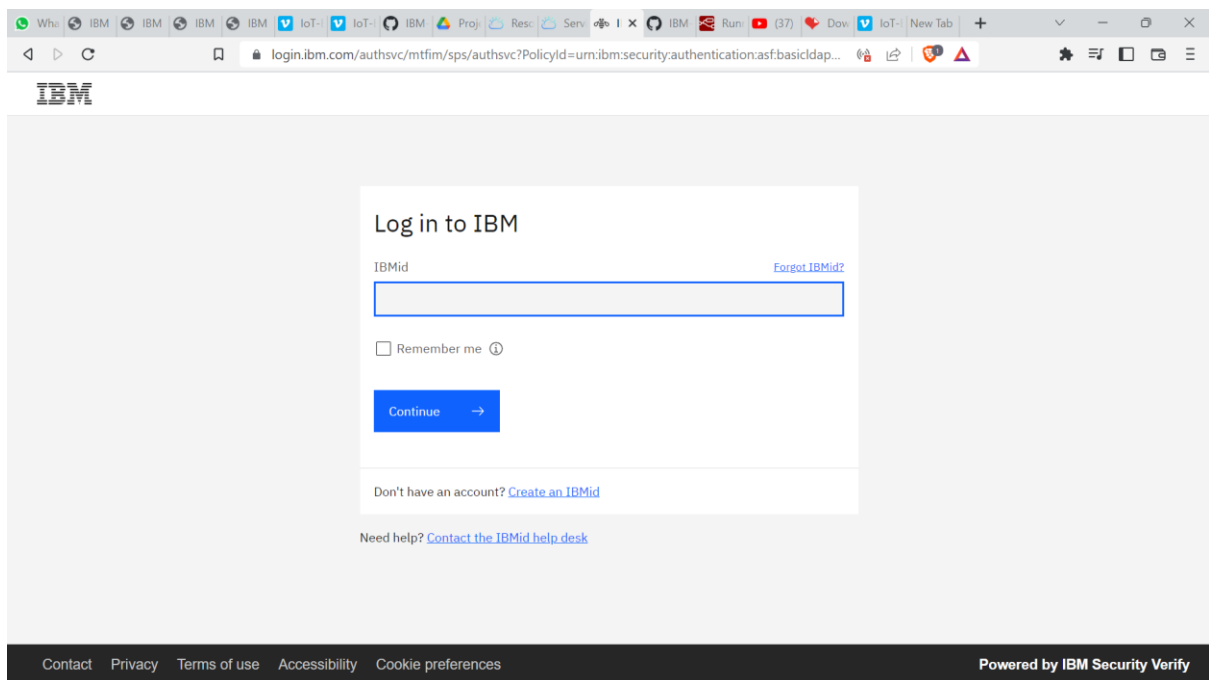
Step 6: Click on launch button.

The screenshot shows the 'Launch' page for the IBM Cloud Internet of Things Platform. The page features a 'Launch' button and a 'Docs' button. Below these, there is a section titled 'Ready for the next level?' with a progress bar showing the 'Lite' plan (checked) and the 'Non-Production' plan (unchecked). The 'Lite' plan is described as 'The Lite service plan provides a lightweight development environment to get you started'. The 'Non-Production' plan is described as 'The Non-Production service plan is a full-featured, fully-integrated offering that enables'.

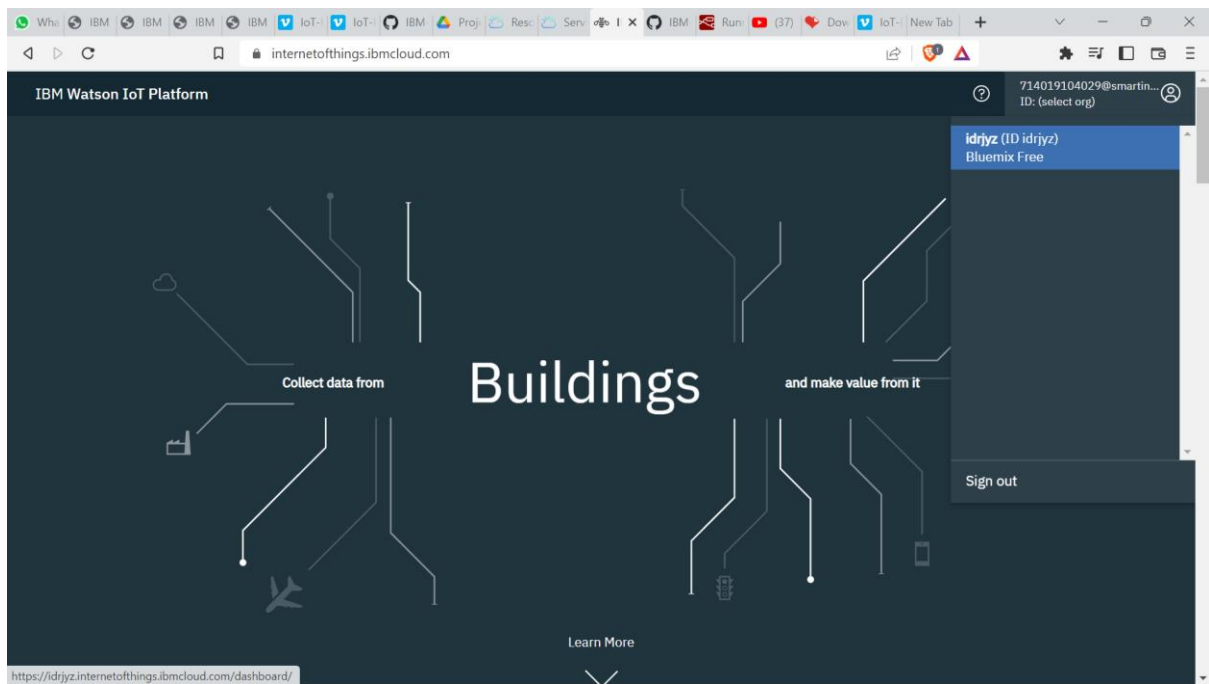
Step 7: Click on Sign in.



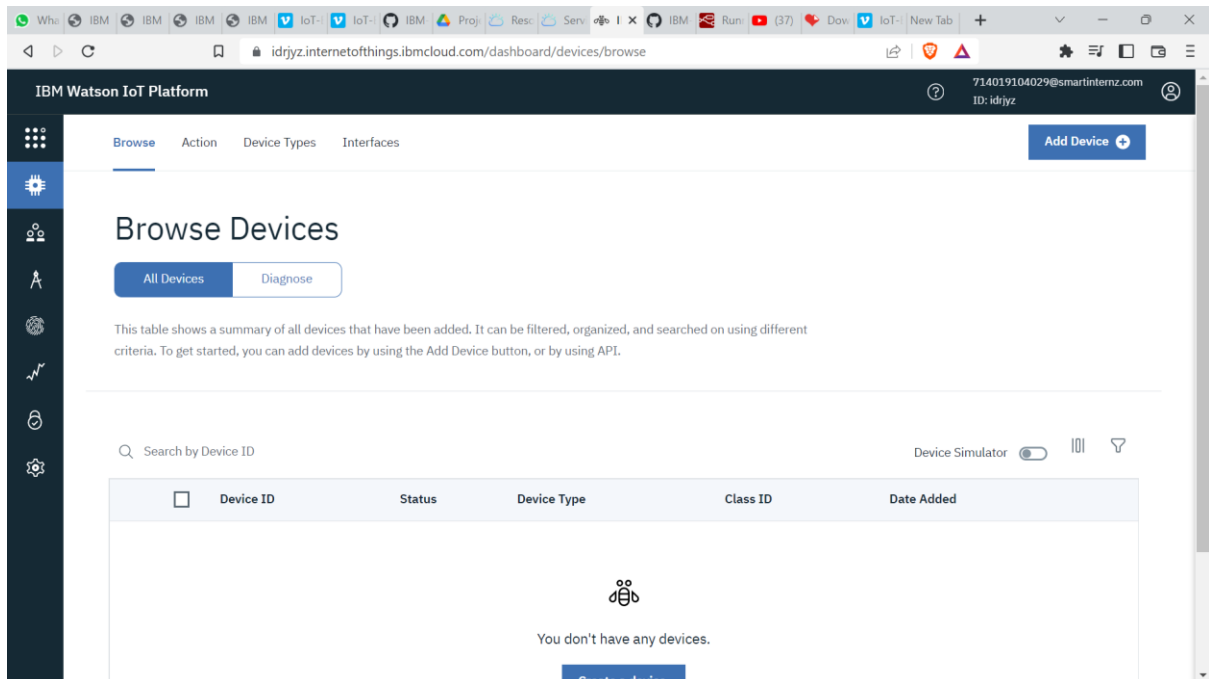
Step 8: Login using IBM cloud credentials



Step 9: Select Bluemix Free option on the right corner



Step 10: Now click on Add Device.



Step 11: Fill the required Details.

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, it says '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' and 'Device ID'. The 'Device Type' field has a dropdown menu open with the option 'Create device type' selected. At the bottom right, there are 'Cancel' and 'Next' buttons.

Step 12: Click Registered Devices

The screenshot shows the 'Device Types' page in the IBM Watson IoT Platform. At the top, it says 'You added the new device type: my-device'. Below this, there is a 'Register Device' button and a link to 'Advanced Flow'. The main content area has the heading 'Optional Register Devices, Define Interfaces' and a subheading 'Now that you added a device type, you can register and connect devices for this type.' There is a 'Register Devices' button and a large gear icon on the right side.

Step 13: Fill the required Details.

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 (selected), Device Information, Security, and Summary. Below the progress bar, there is a text prompt: 'You can modify the default device information and enter more information about the device for identification purposes.' The form contains two columns of input fields. The left column has fields for 'Serial Number', 'Model', 'Description', and 'Hardware Version'. The right column has fields for 'Manufacturer', 'Device Class', 'Firmware Version', and 'Descriptive Location'. Each field has a placeholder text 'Enter [field name]'. At the bottom left of the form, there is a button labeled 'Add Metadata +'. At the bottom right, there are two buttons: 'Back' and 'Next'.

IBM Watson IoT Platform

714019104029@smartinternz.com
ID: idrijz

Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

You can modify the default device information and enter more information about the device for identification purposes.

Serial Number Enter Serial Number

Model Enter Model

Description Enter Description

Hardware Version Enter Hardware Version

Manufacturer Enter Manufacturer

Device Class Enter Device Class

Firmware Version Enter Firmware Version

Descriptive Location Enter Descriptive Location

Add Metadata +

Back Next

The screenshot shows the 'Add Device' form in the IBM Watson IoT Platform, now at the 'Device Information' step. The progress bar shows 'Device Information' as the selected step. 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.' The form contains two input fields: 'Device Type' with the value 'my-device' and 'Device ID' with the placeholder text 'Enter Device ID'. At the bottom right, there are two buttons: 'Cancel' and 'Next'.

IBM Watson IoT Platform

714019104029@smartinternz.com
ID: idrijz

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 my-device

Device ID Enter Device ID

Cancel Next

Step 14: Authentication token will be generated automatically

The screenshot shows the 'Add Device' page in the IBM Watson IoT Platform, specifically the 'Security' tab. The page has a progress bar at the top with four steps: Identity, Device Information, Security (current), and Summary. The 'Security' section offers two options for selecting a device authentication token: 'Auto-generated authentication token (default)' and 'Self-provided authentication token'. The 'Auto-generated' option is selected. Below the options, there is a text input field labeled 'Authentication Token' with the placeholder text 'Enter an optional token'. A note below the field states: 'Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.' and 'Authentication token are encrypted before we store them.'

IBM Watson IoT Platform

714019104029@smartinternz.com
ID: idrijz

Browse Action Device Types Interfaces

Identity Device Information Security Summary

There are two options for selecting a device authentication token.

Auto-generated authentication token (default)

Allow the service to generate an authentication token for you. Tokens are 18 characters and contain a mix of alphanumeric characters and symbols. The token is returned to you at the end of the device registration process.

Self-provided authentication token

Provide your own authentication token for this device. The token must be between 8 and 36 characters and contain a mix lowercase and uppercase letters, numbers, and symbols, which can include hyphens, underscores, and periods. Do not use repeated characters, dictionary words, user names, or other predefined sequences.

Authentication Token

Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.

Authentication token are encrypted before we store them.

Step 15: Copy the Credentials and Save it for future use.

The screenshot shows the 'Device Drilldown' page for device 24294749 in the IBM Watson IoT Platform. The page has a 'Back' button and a title 'Device Drilldown - 24294749'. On the left, there is a sidebar with a list of options: Device Credentials (selected), Connection Information, Recent Events, State, Device Information, Metadata, Diagnostics, Connection Logs, and Device Actions. The main content area is titled 'Device Credentials' and contains a message: '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.' Below this message is a table with the following data:

Organization ID	idrijz
Device Type	my-device
Device ID	24294749
Authentication Method	use-token-auth
Authentication Token	KwRKcK8l4D0w7KV@aU

Below the table, there is a warning icon and a message: 'Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.' and a link: 'Find out how to add these credentials to your device'.

IBM Watson IoT Platform

714019104029@smartinternz.com
ID: idrijz

← Back

Device Drilldown - 24294749

Device Credentials

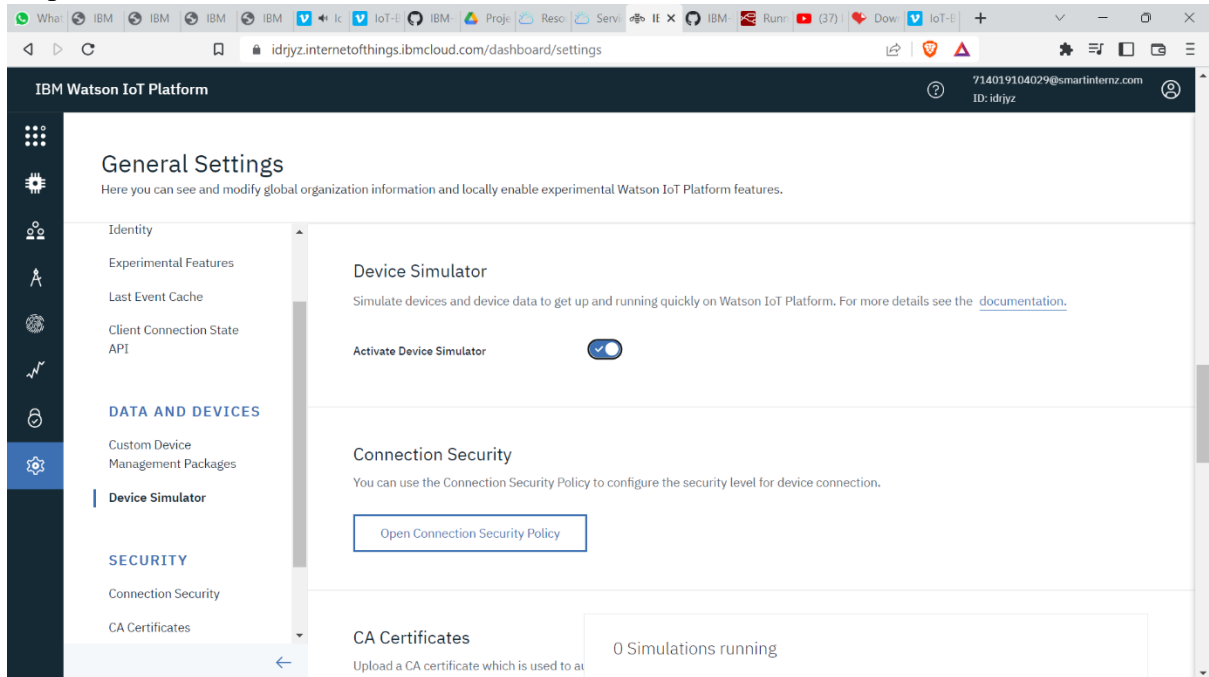
You registered your device to the organization. Add these credentials to the device to connect it to the platform. After the device is connected, you can navigate to view connection and event details.

Organization ID	idrijz
Device Type	my-device
Device ID	24294749
Authentication Method	use-token-auth
Authentication Token	KwRKcK8l4D0w7KV@aU

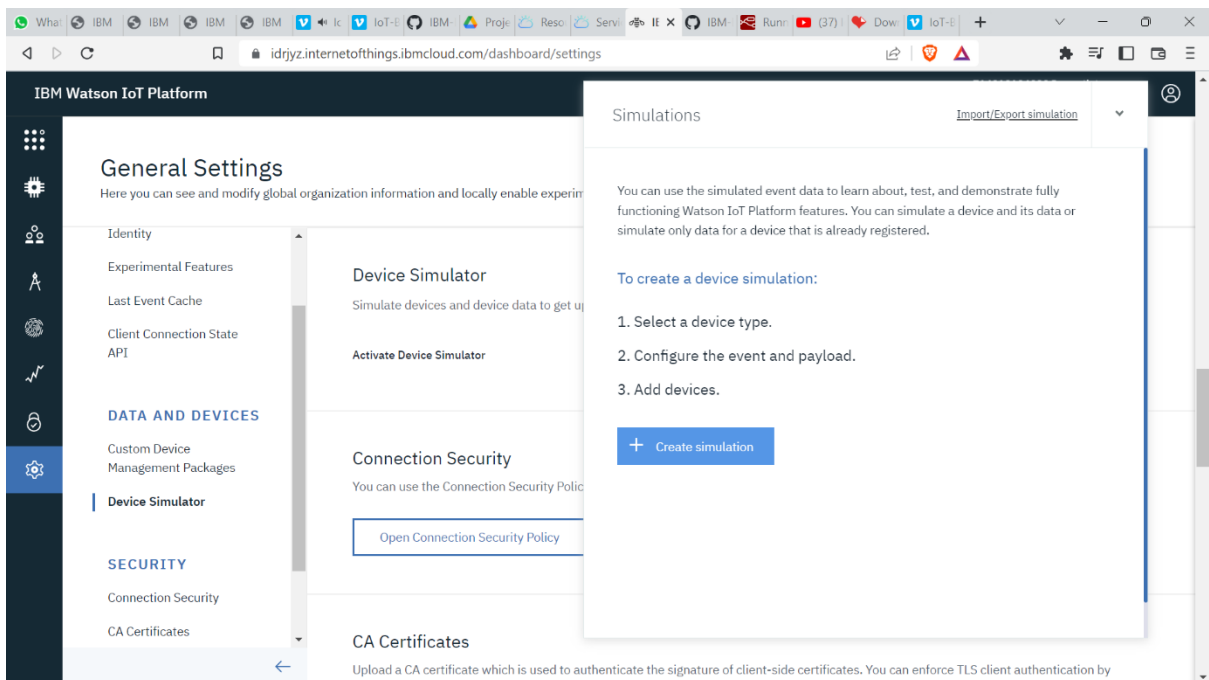
⚠ Authentication tokens are non-recoverable. If you misplace this token, you will need to re-register the device to generate a new authentication token.

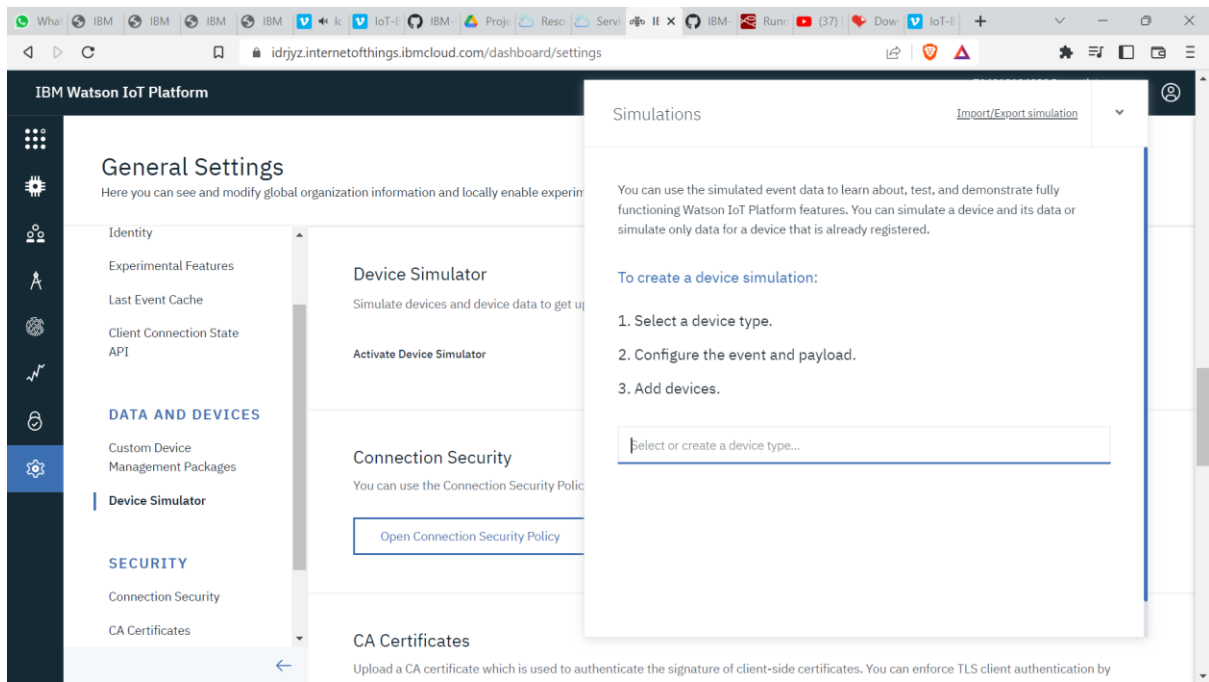
[Find out how to add these credentials to your device](#)

Step 16: Select Device Simulator

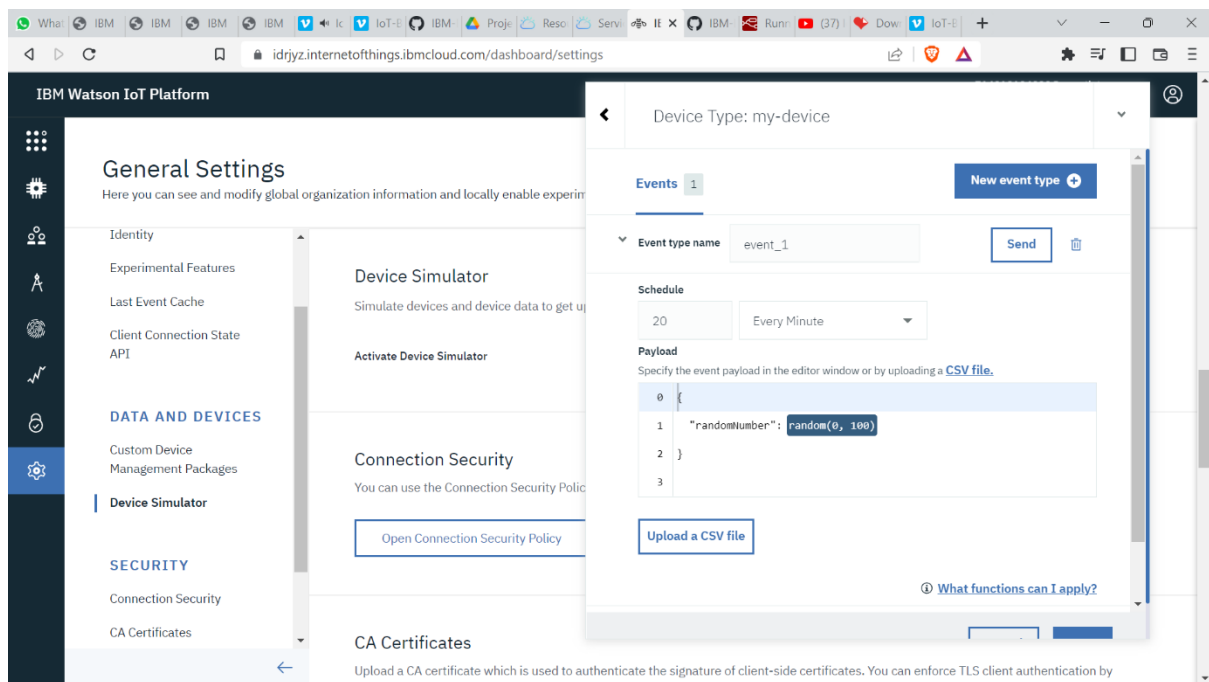


Step 17: Select Create Simulation

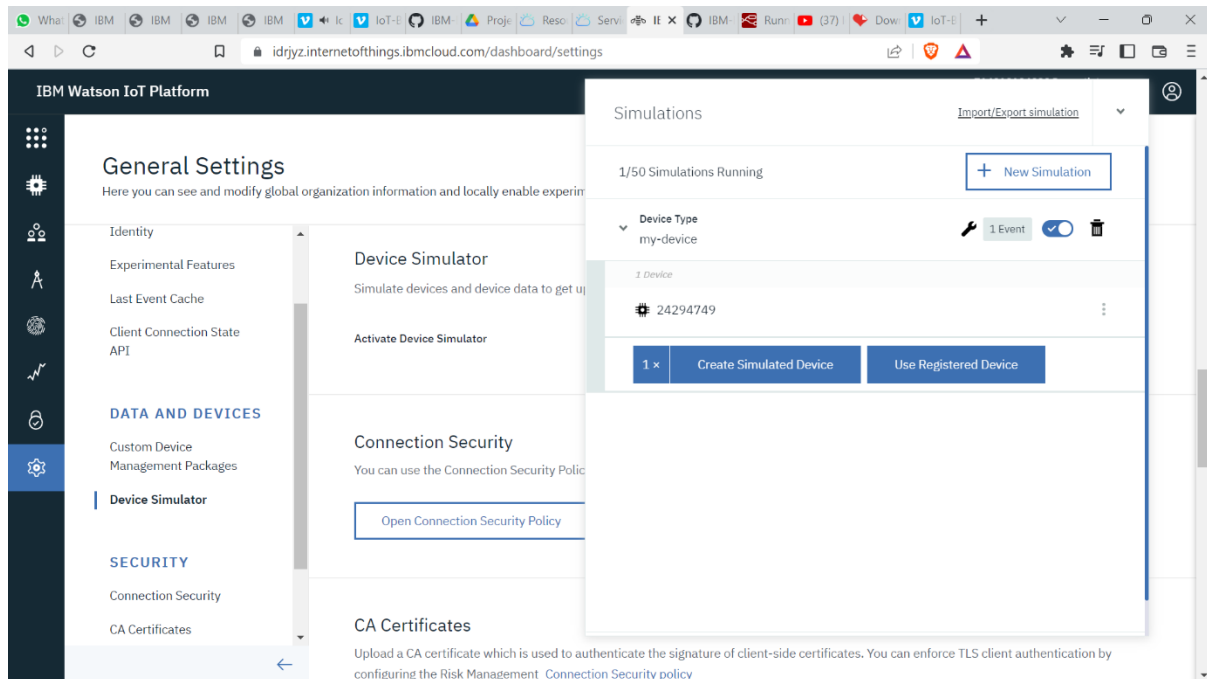




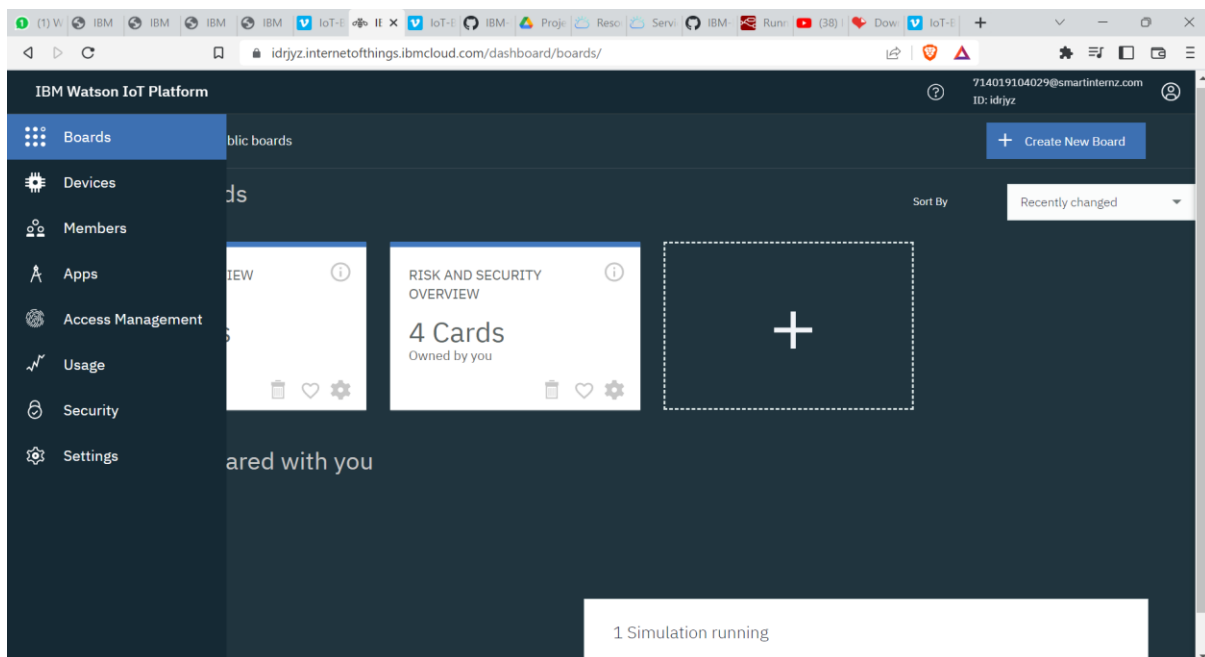
Step 18: Simulate the events.



Step 19: Save the event



Step 20 : Go to cards



Step 21: Create a new board

The screenshot shows the 'Create a new board' form in the IBM Watson IoT Platform. The form is titled 'Create a new board' and has a subtitle 'Provide a name and description for your new board.' The form fields are:

- Board name: **Weather Monitoring**
- Description: (empty)
- Make this board my landing page: ☒
- Favorite (this also adds this board to your navbar): ☒

A 'Next' button is located at the bottom right of the form. The left sidebar shows the 'Your boards' section with a '3 Cards' summary. The right sidebar shows the user profile '714019104029@smartinternz.com' and a 'Create New Board' button.

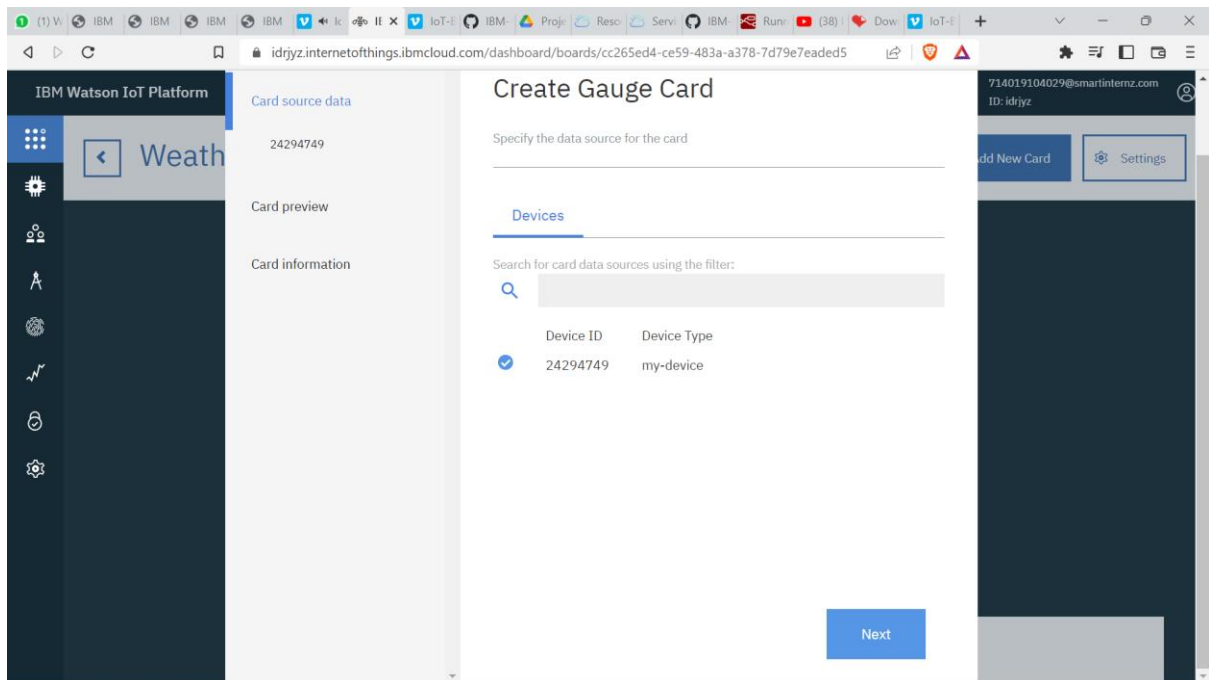
Step 22: Create a card

The screenshot shows the 'Create Card' dialog in the IBM Watson IoT Platform. The dialog is titled 'Create Card' and has a subtitle 'Select card type'. The dialog displays a grid of card types under the 'Devices' section:

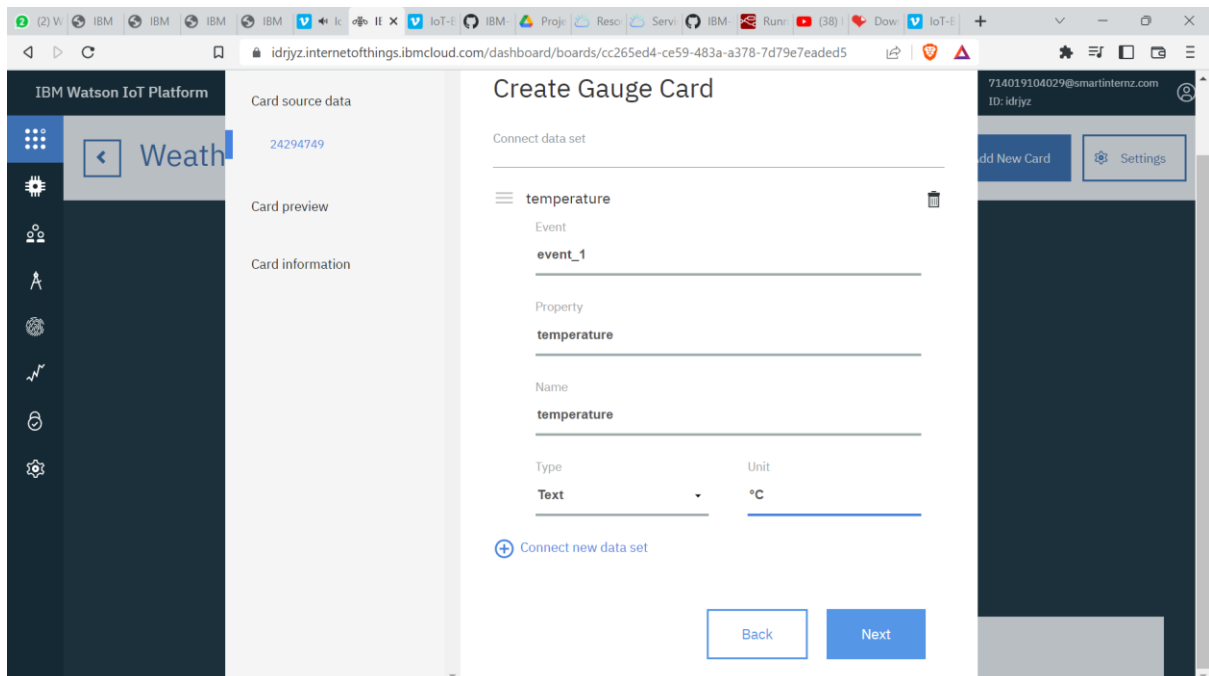
Card type	Icon
Generic visualisation	...
Line chart	Line chart icon
Bar chart	Bar chart icon
Donut chart	Donut chart icon
Value	A
Gauge	Gauge icon
Semaphore	Semaphore icon
Device Properties	Device Properties icon
All device properties	All device properties icon
Device list	Device list icon
Device info	Device info icon
Device map	Device map icon

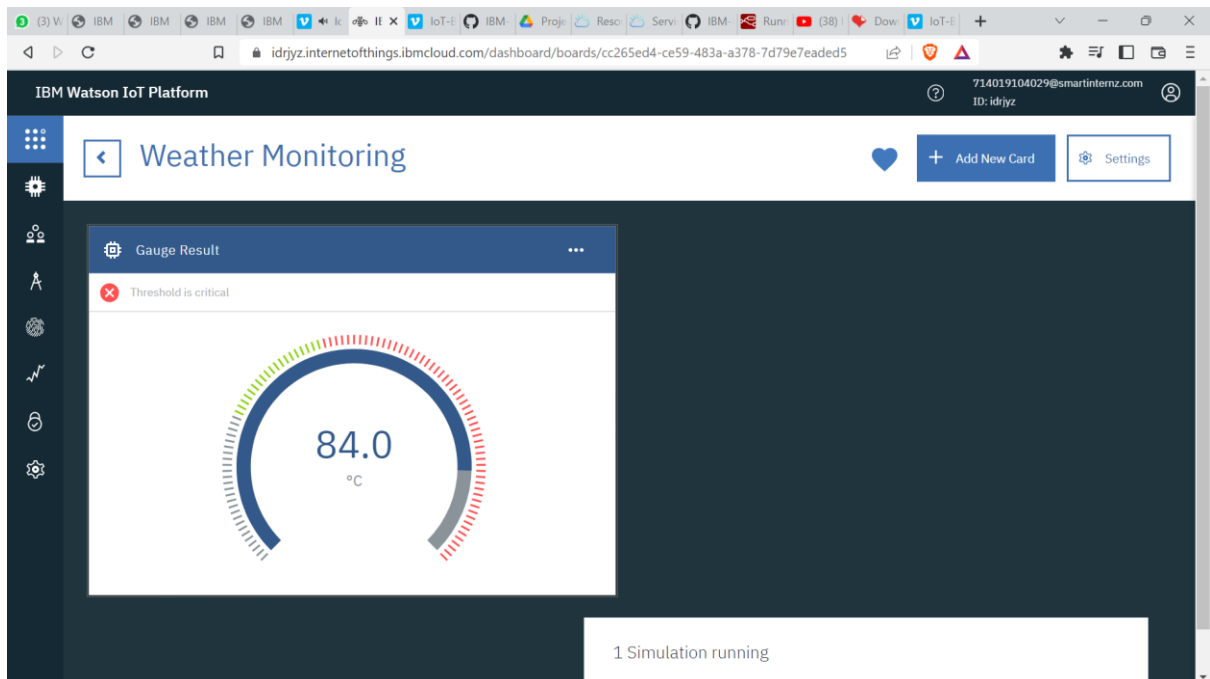
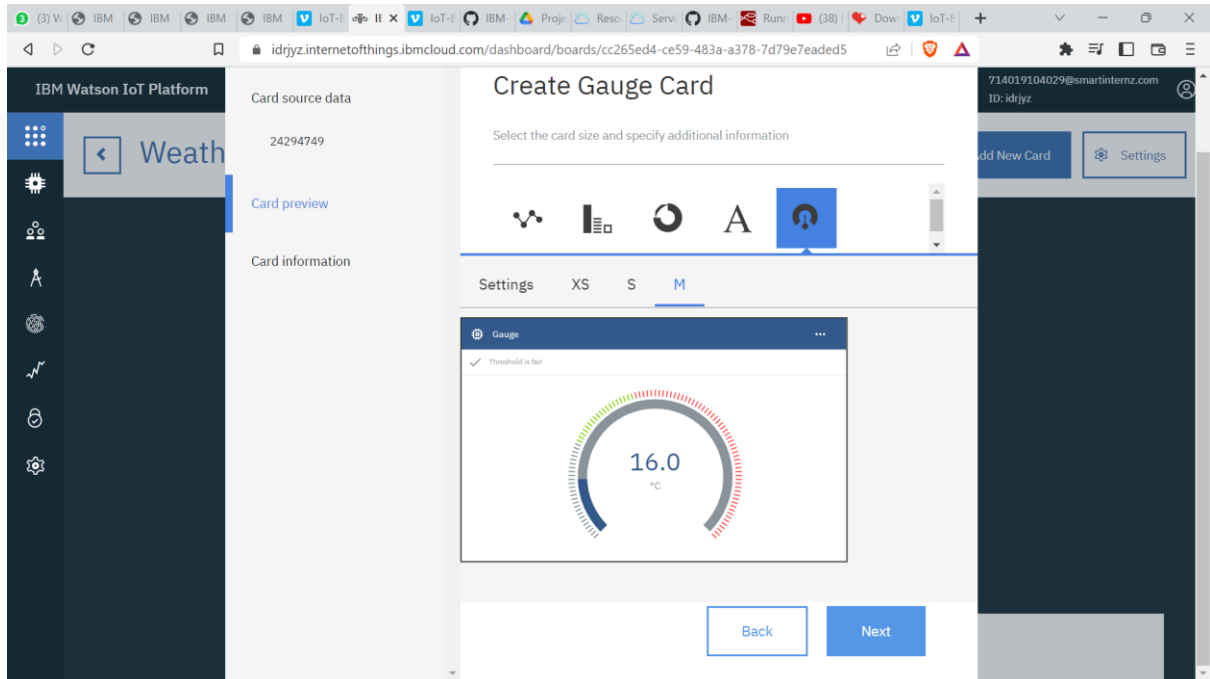
The 'Usage' section is visible at the bottom of the dialog. The background shows the 'Weather Monitoring' board with a 'Add New Card' button and a 'Settings' button.

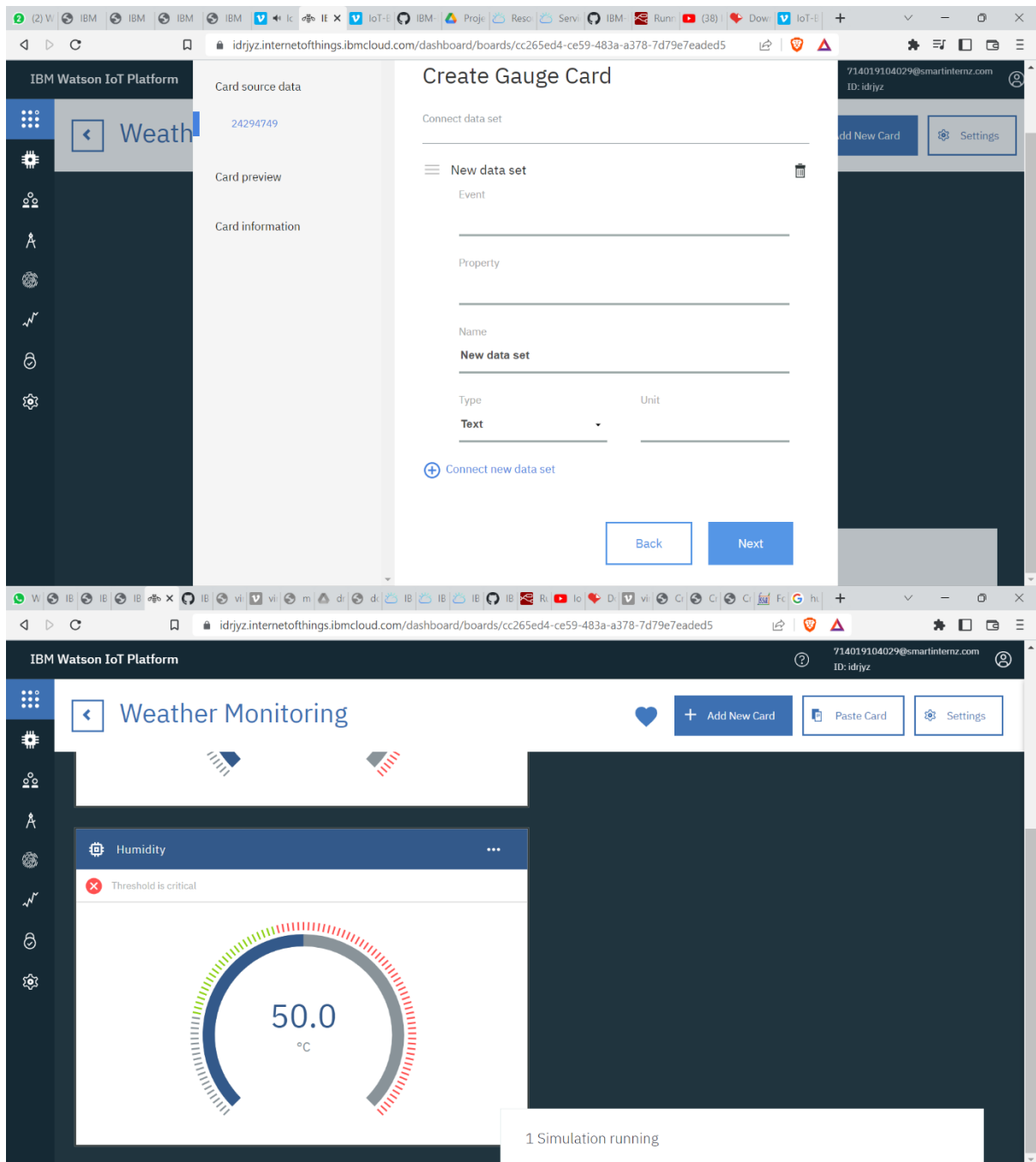
Step 23: Connect to Device and create a gauge



Step 24: Create Gauge for all the event properties







Result:

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