How to connect your HummBox Device to your IBM Bluemix. A five minutes installation to show your sensing data on real time dashboard

GreenCityZen: who are we:

GreenCityZen is an eco-startup that designs and sells technology solutions for the environmental measurement, addressed to its environmental industrial customers and the smart and sustainable cities. Green CityZen develops the Humm solution " IoT for the environment " an innovative solu-tion for the management and control of environmental sensors fleets, cost effective, scala-ble, and natively interoperable.

What is HummBox device:

The HummBox is a multiple sensor connected device provided by **GreenCityZen.**
HummBox provides advanced IoT monitoring solution of soil moisture and temperature. Its low cost, low power and easy scalability allow to address new fields of applications such as rainwater management performance in smart cities, irrigation precisions and decision for golfs, green areas and agriculture.

Requirements:

An IBM Bluemix Account.

HummBox Device ID

HummBox Device Token (HummboxGCZDevice_ID)

Skill level:

Beginner: This recipe is done for GreenCityZen customers.

Overview:

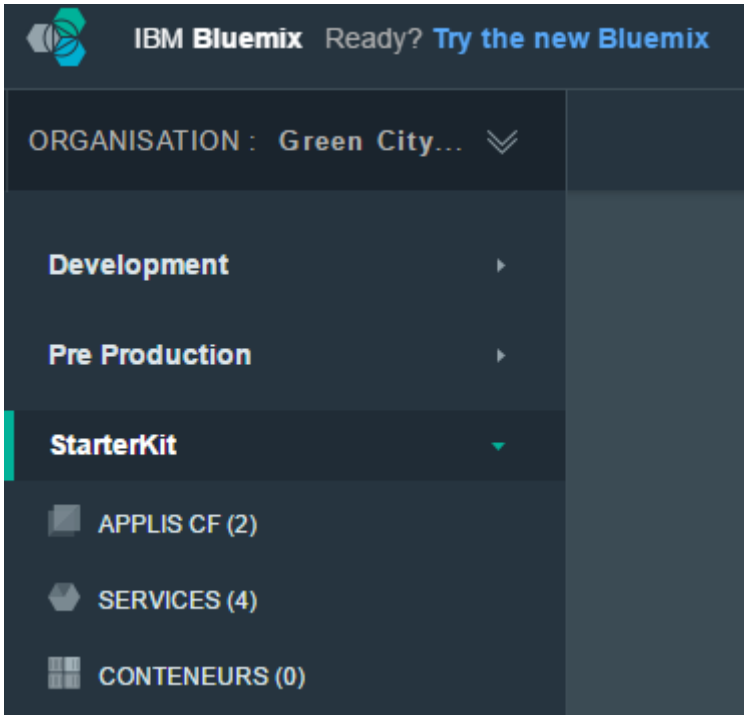
In order to manage and treat efficiently the data sent by your HummBox device, IBM Bluemix offers you a several service that can be used to explore and analyze your results.

This recipe will show how to create your own **boilerplate** « **Kit de démarrage Internet of Things Platform** » application.

Step 1: Create your own application and add the needed services:

1-Login in your Bluemix account.

2-Go to **StarterKit** space, under **GreenCityZen** Organization.



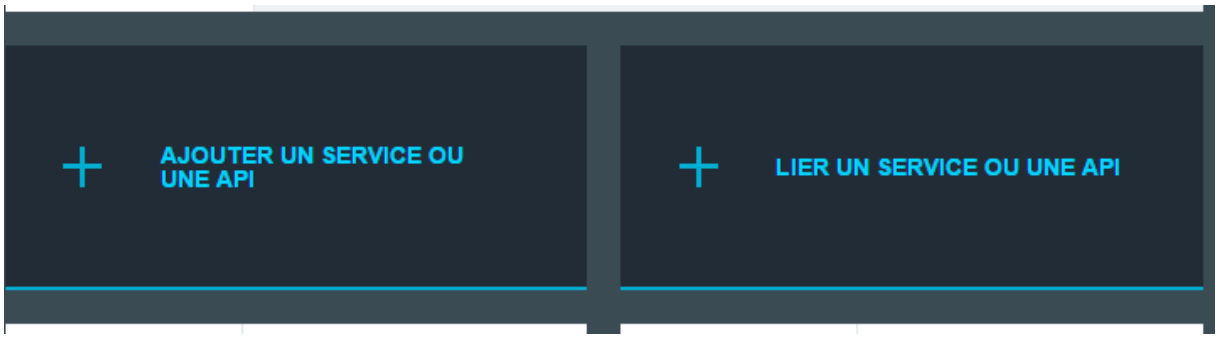
3-From the dashboard, create a new application.

4-Select the **Internet of Things Foundation boilerplate**.

5-The next page shows details for the application. On the right side of the page, provide a name for the application.

After creating the application, the application dashboard will load and your application will be automatically started.

6- Access your application in your Dashboard then click on **« add new service or API**

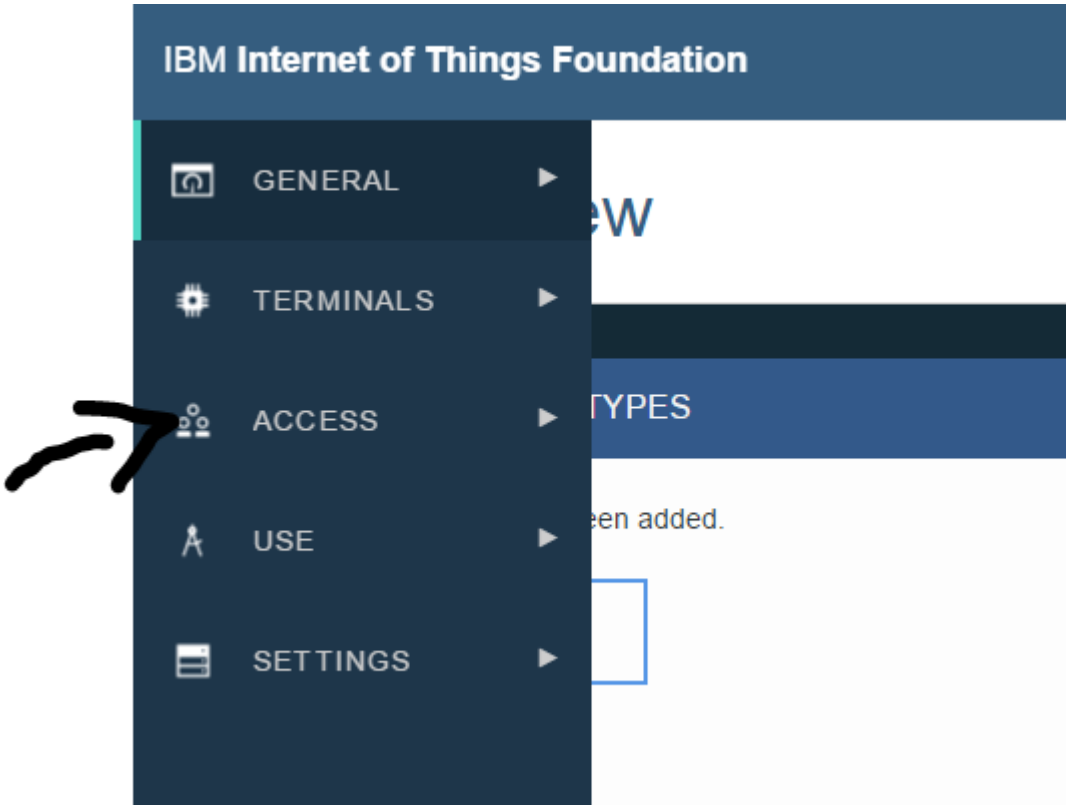


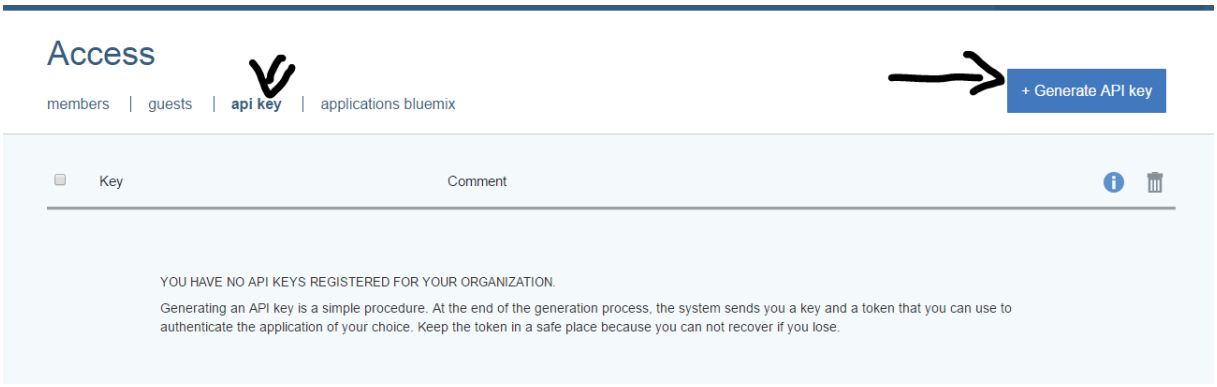
Step 2: Configure IOTF service:

1- Now click on **the Internet of Things** service in the application dashboard. You will get the configuration page for the service.

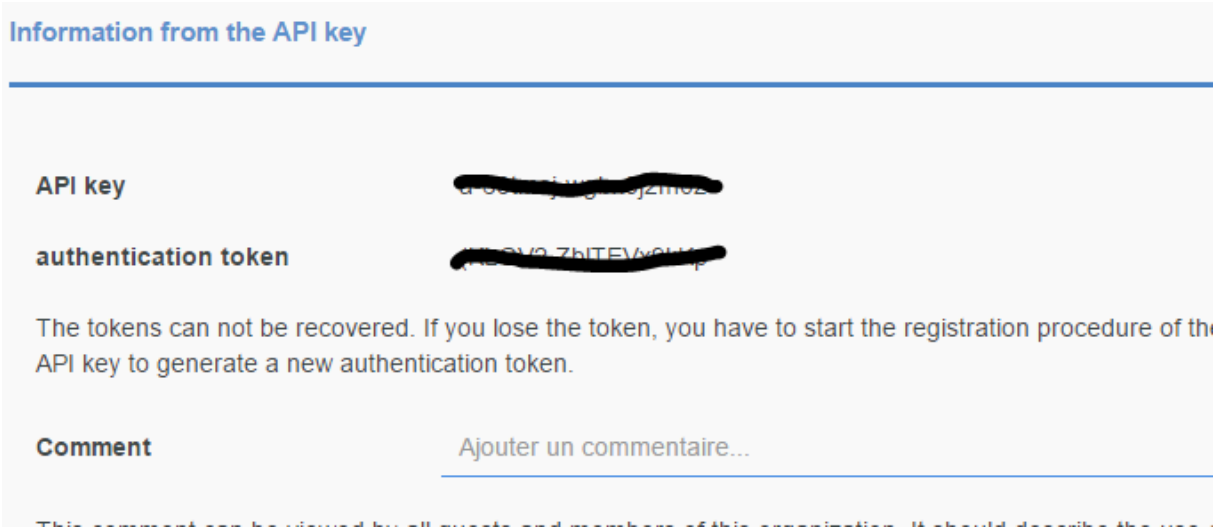
2- Click the '**launch**' button to open the Internet of **Things Foundation dashboard**.

3- Go to **Access** and press **API key**, and generate a new one



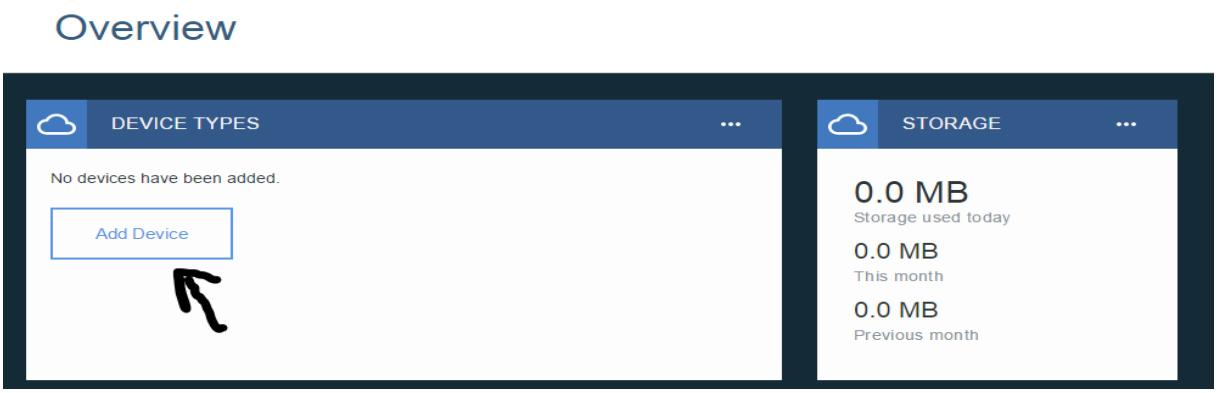


4- Then you will get an **API key** and an **authentication token**

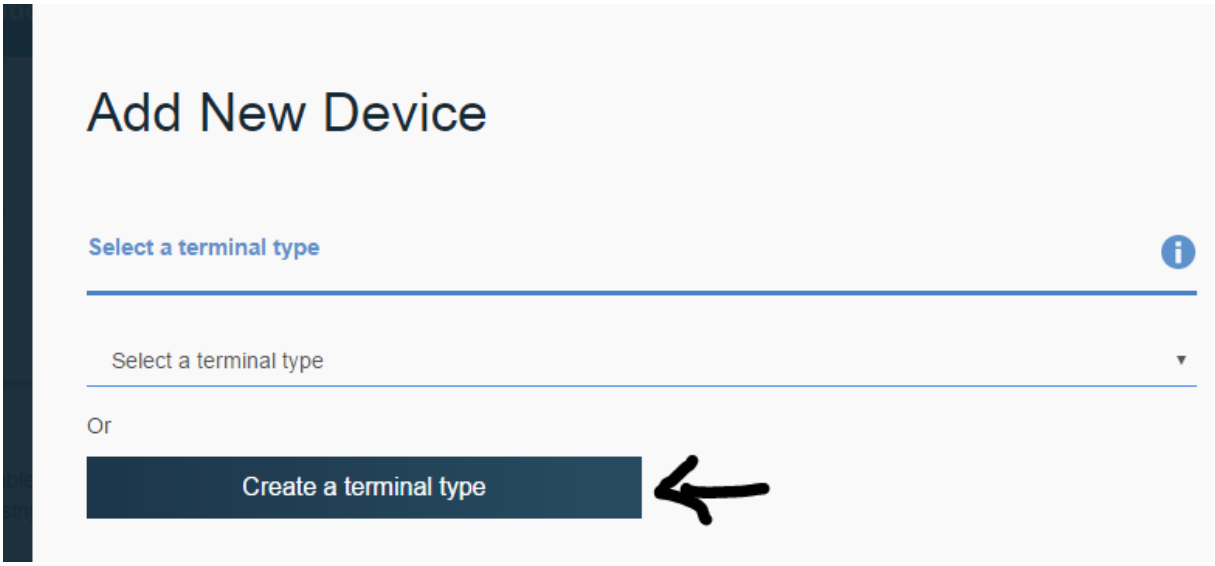


Be careful: you have to save the API Key and the authentication token somewhere because you won't have the access to them again.
Also you have to send to GCZ administers your organization ID.

5- Now you will have to declare a new device type :
5.1 -Go to **General**
5.2 -Click **Add a new Device**

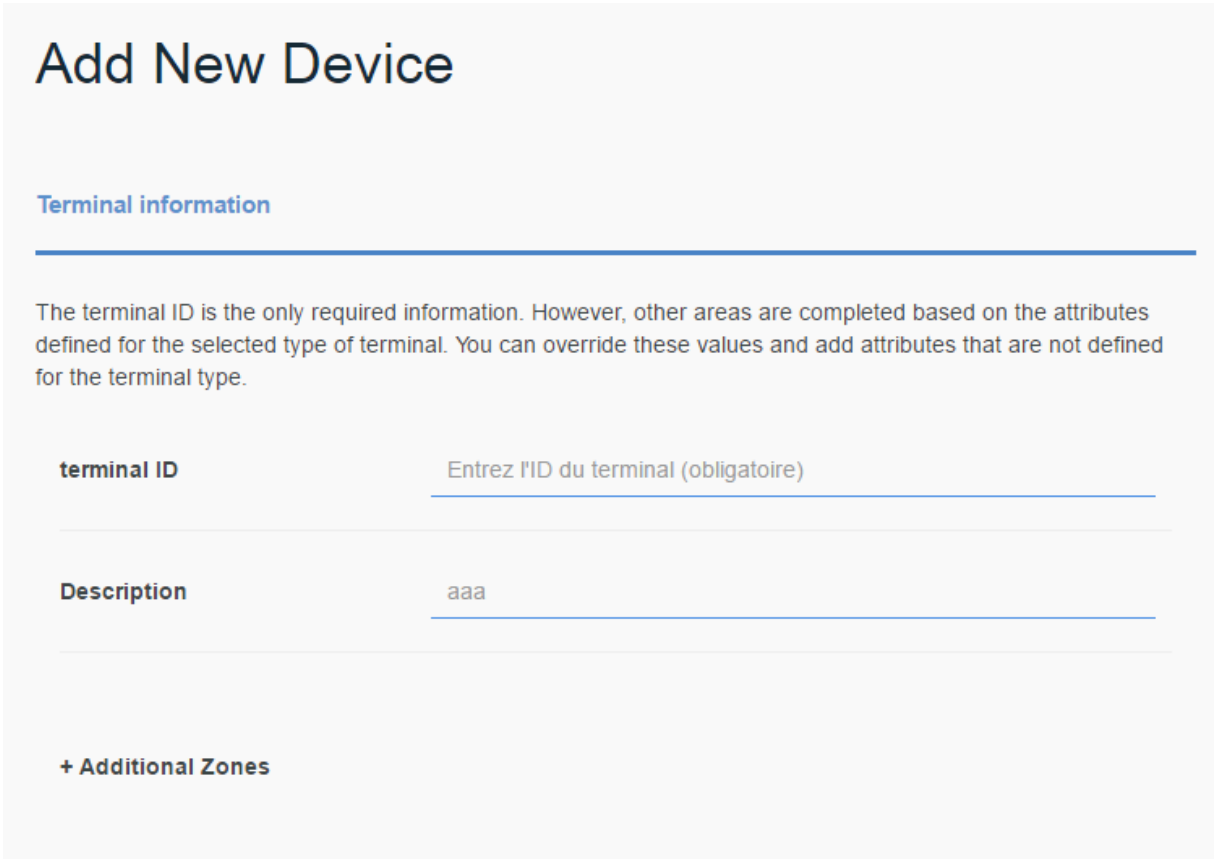


5.3 -Click **Create a Terminal Type**

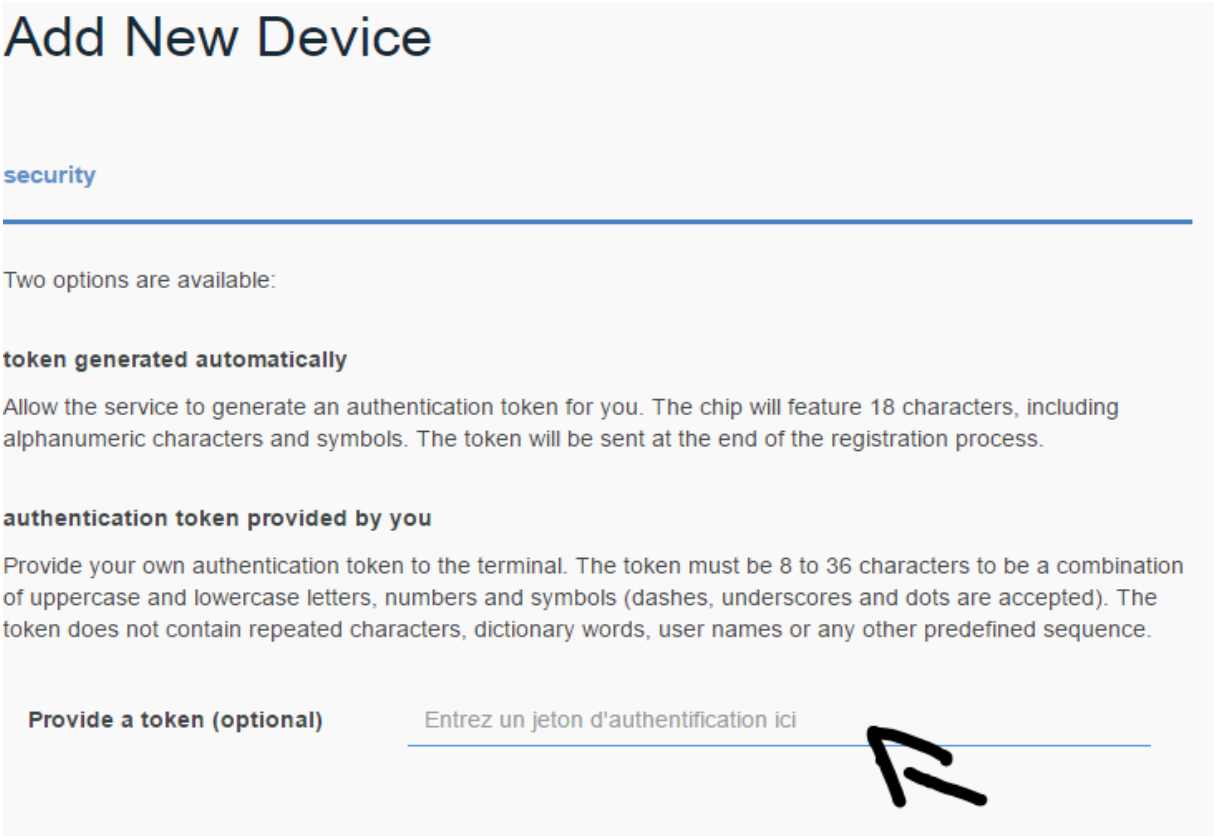


5.4 -Enter the name of the type given by GreenCityZen (SmartSoil)

6- Now let's add your new device:
6.1- Go to **General**
6.2- Click on **Add Device** and press next
6.2- Choose the device type that you created and press next
6.3- Fill the terminal ID (given by GreenCityZen)



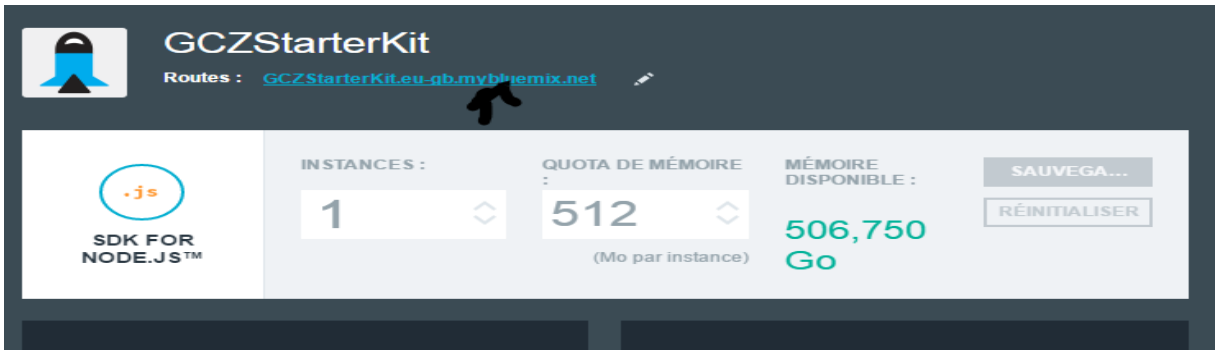
6.4- Fill the device token and continue.



6.6- Finally you will get a summary of your terminal description.

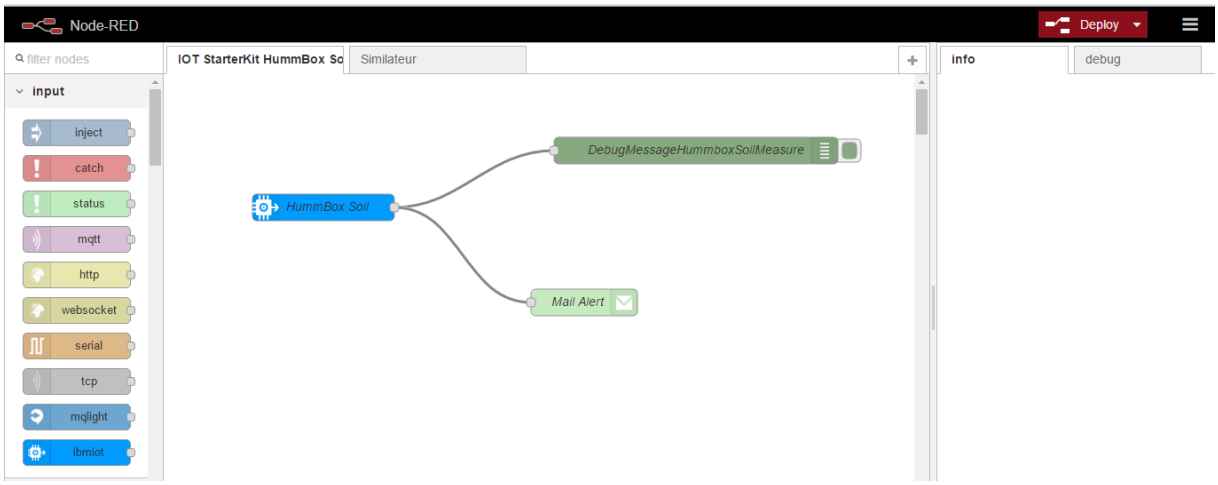
Step 4: Play with Node Red:

1- Click on the link in your Dashboard

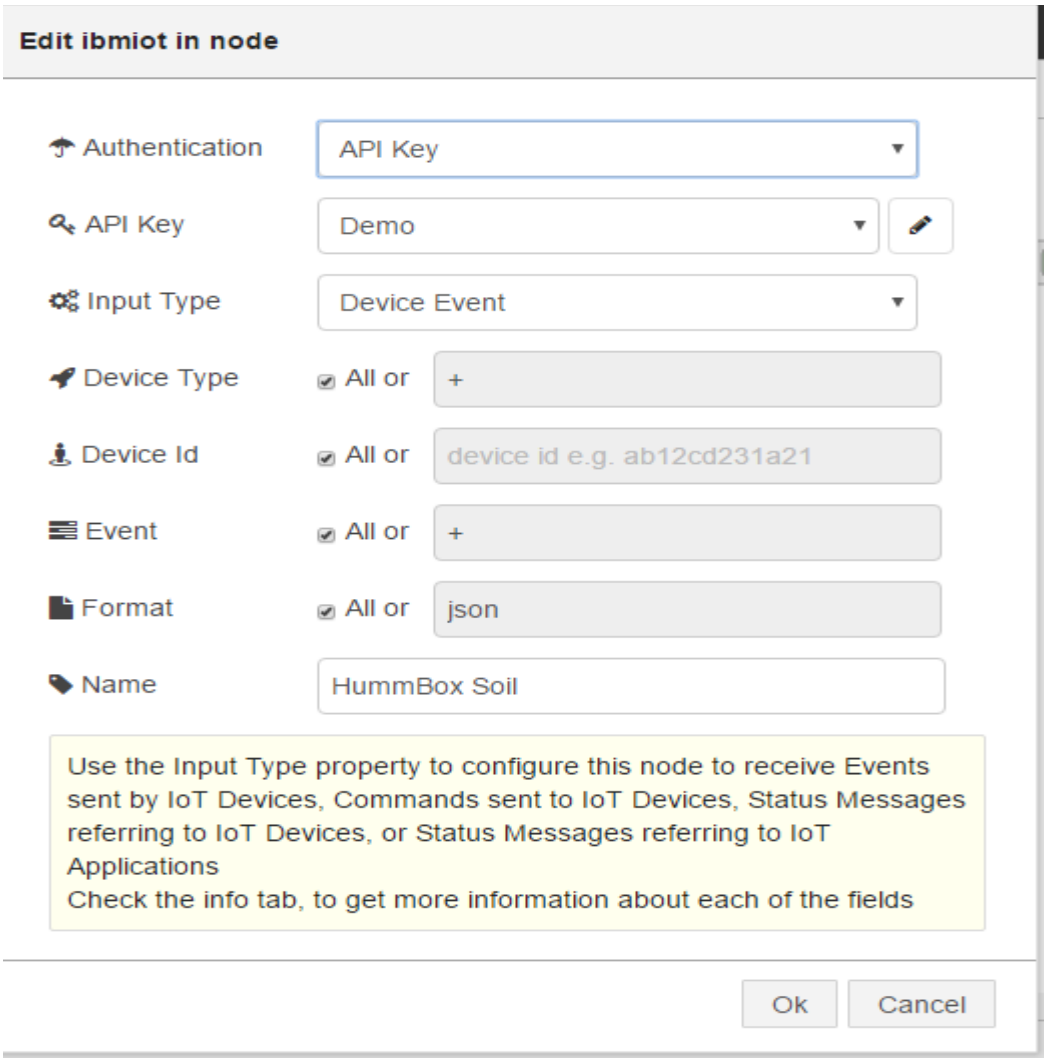


2- Click on ***Go to your Node-Red flow editor,*** and then you will get Node-Red dashboard.

3- We will propose you a basic configuration to edit your device data :



4- First step add an **ibmiot** input node onto the canvas. Double click on the node to edit the configuration. Set the following properties:



Authentication: API Key

Input Type: Device Event

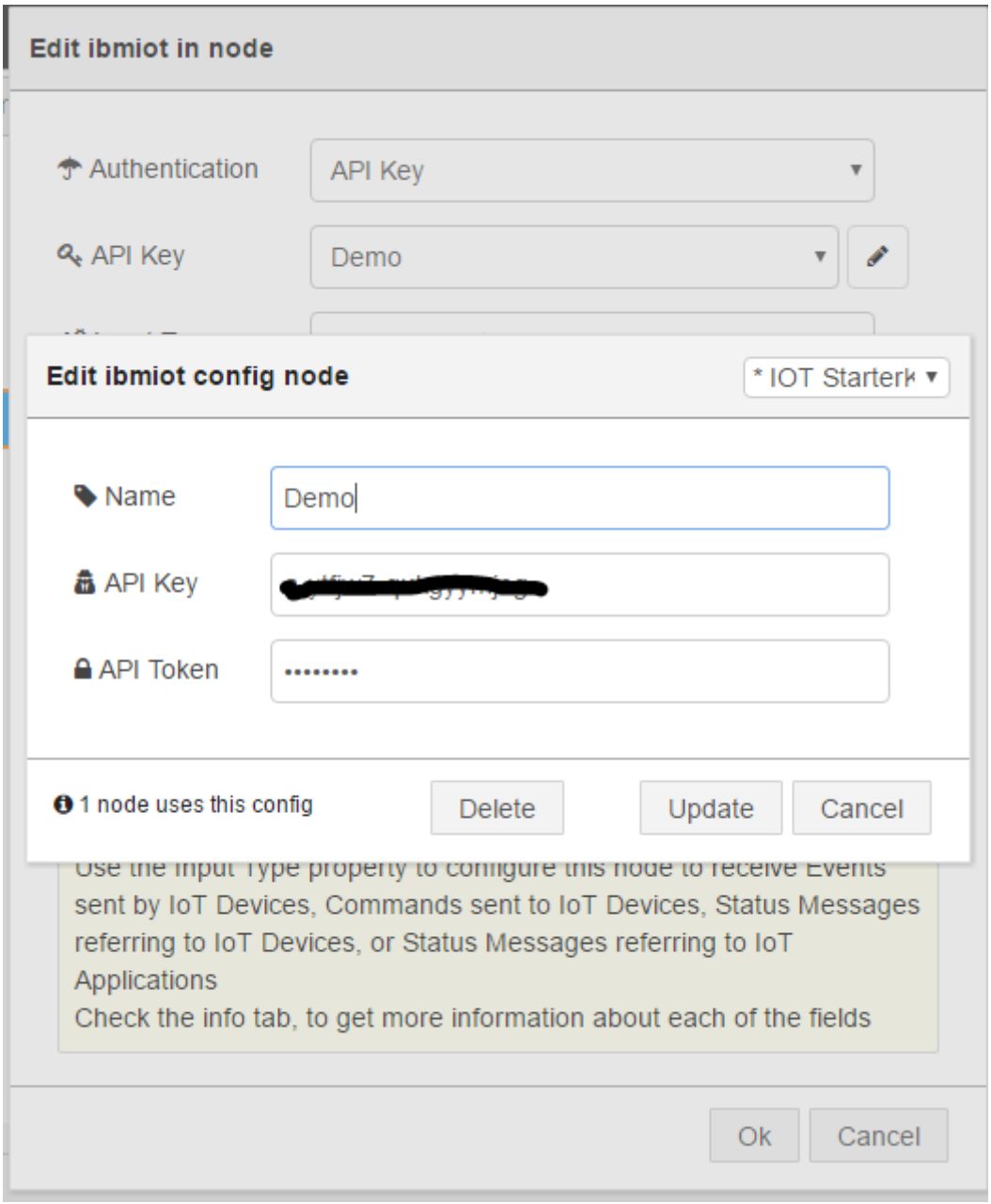
Device Type: All

Device ID: All

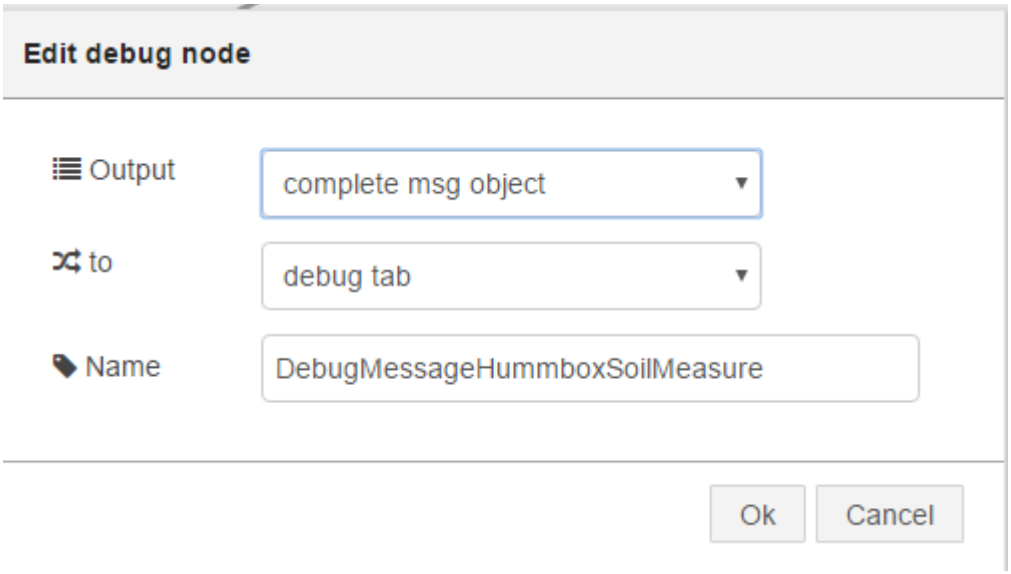
Event: All

Format: All

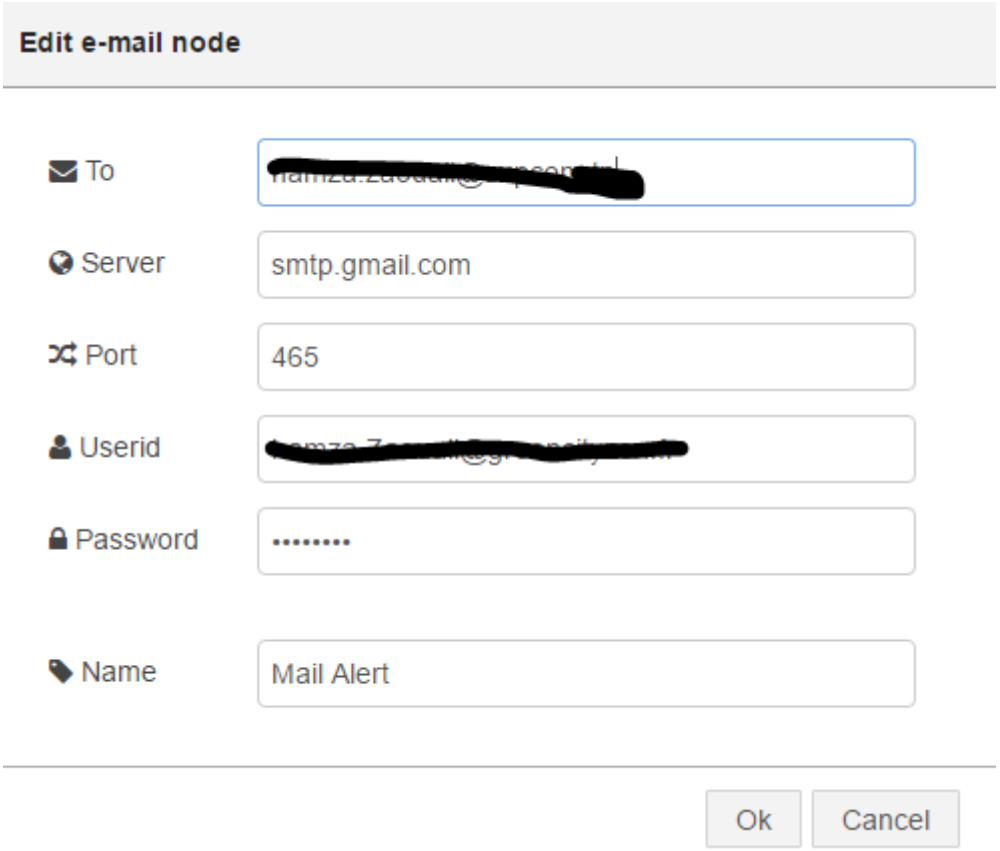
Then Click on the pen to edit the API key and insert the API you get before.



5- Drag a **debug node** and wire it to the ibmiot input node, and configure it like shown below:

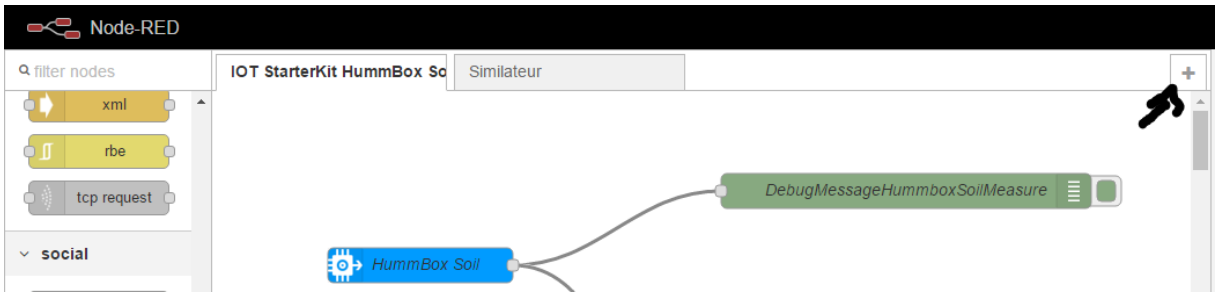


6- In order to get your data by email, Click on **e-mail node** and wire it to the ibmiot input node, and configure it like shown below:

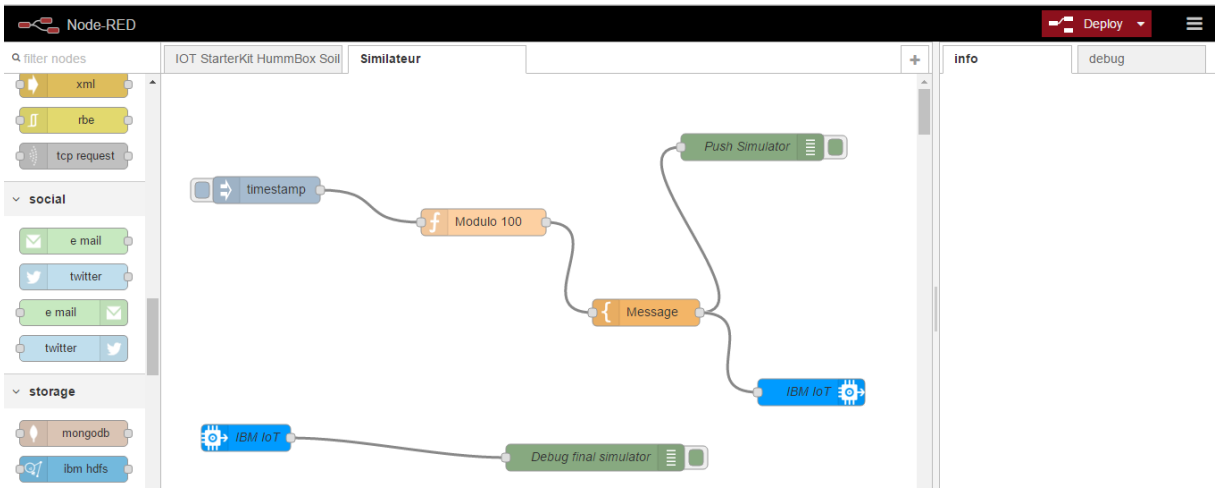


The second part on configuring our Node-Red, we will create a simple simulator

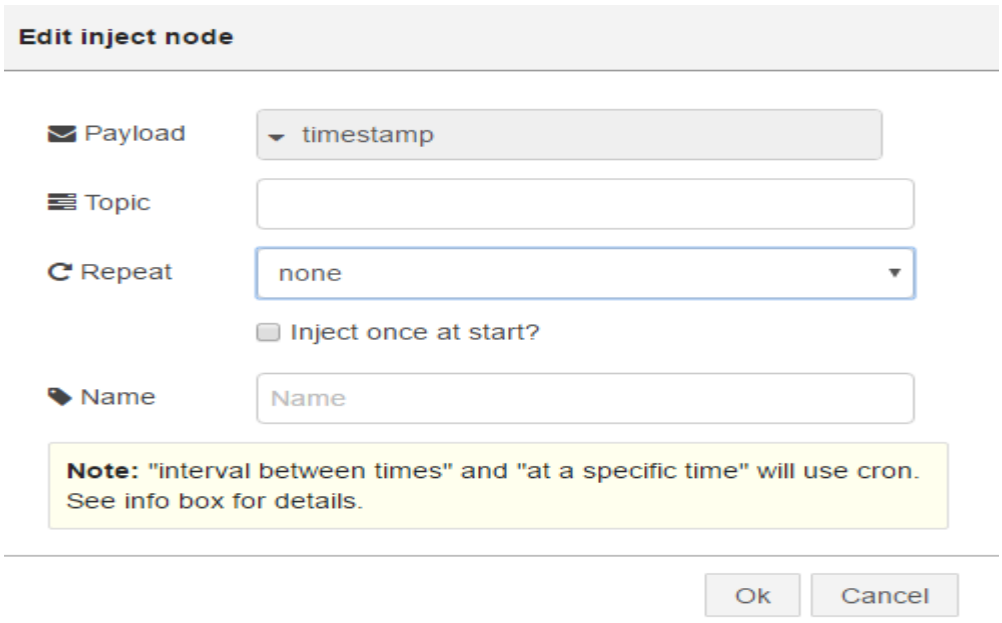
1- Click on « **+** » in your dashboard to add a new flow :



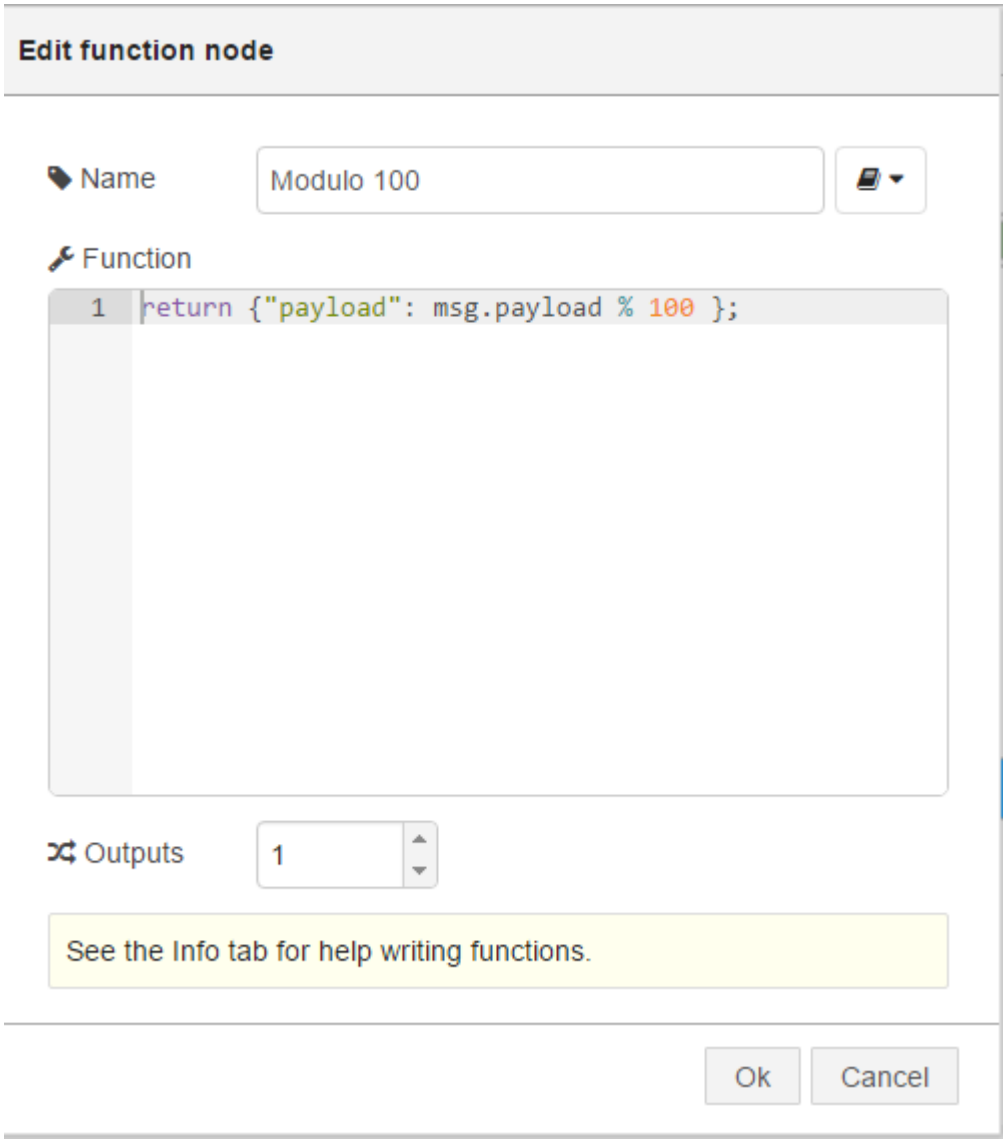
2- We will propose you an example of a simple simulation:



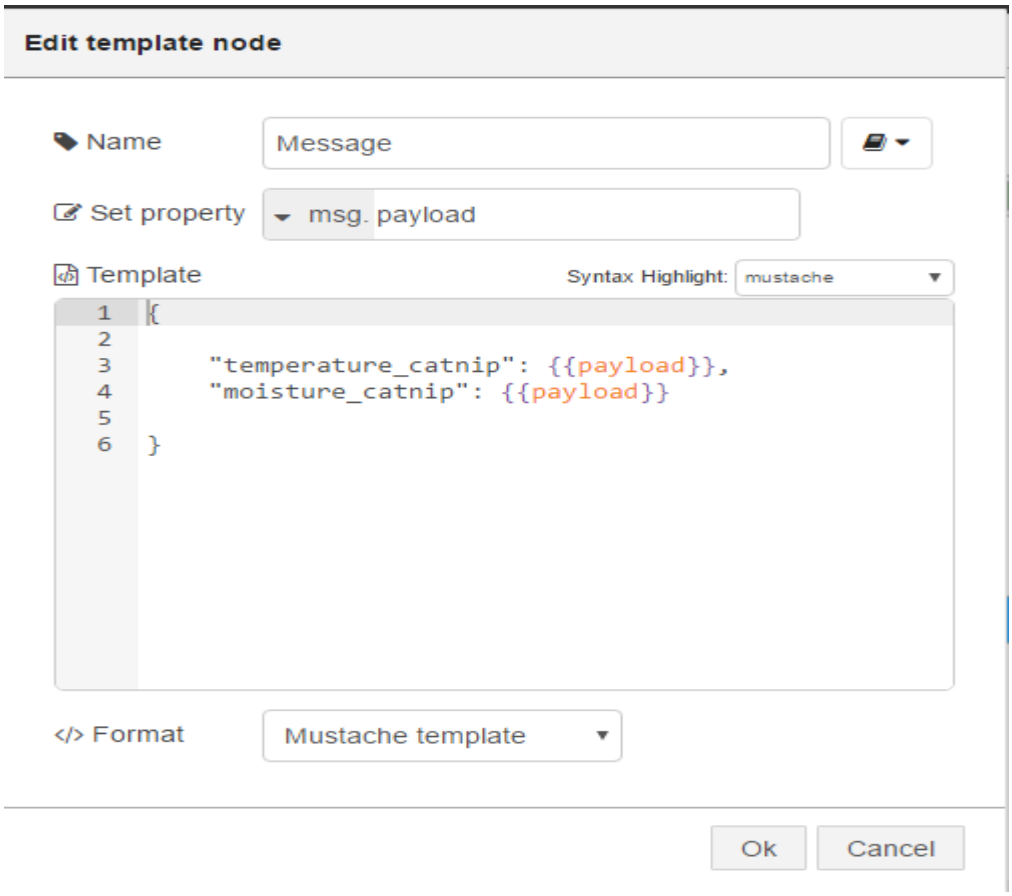
3- First add **an inject node** and double click on it to configure it like shown below :



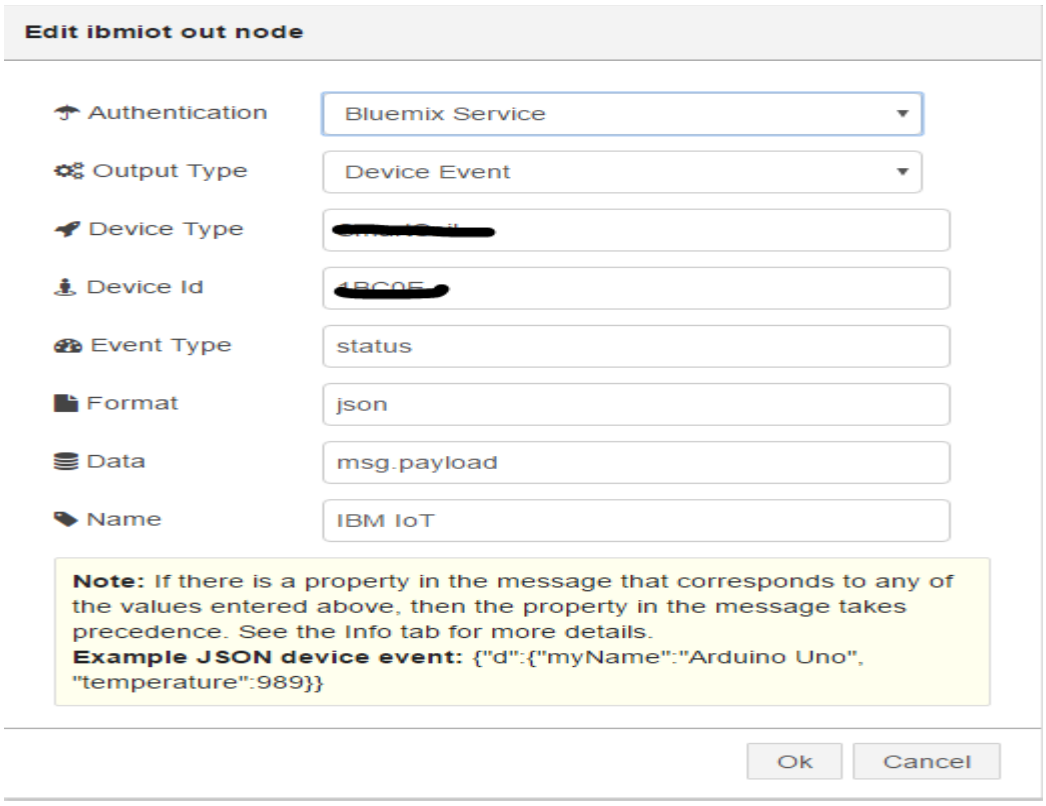
4- Add a **function node,** wire it to the inject node and configure it :



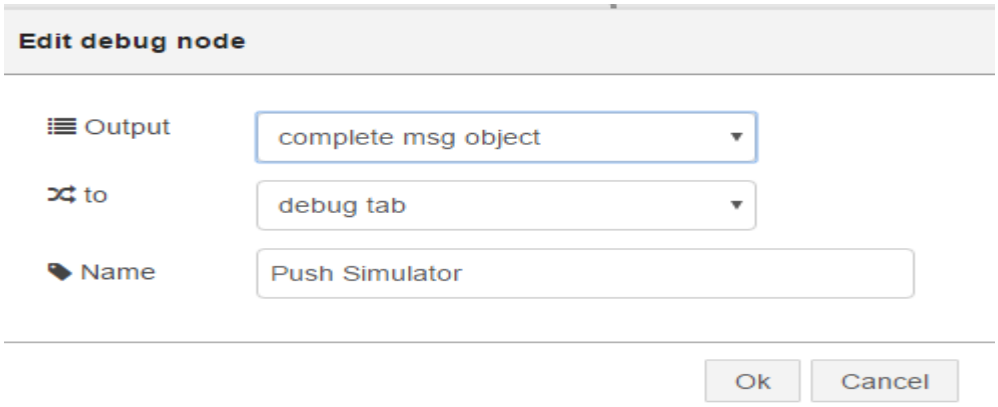
5- Add a **template node,** wire it to the function node and configure it :



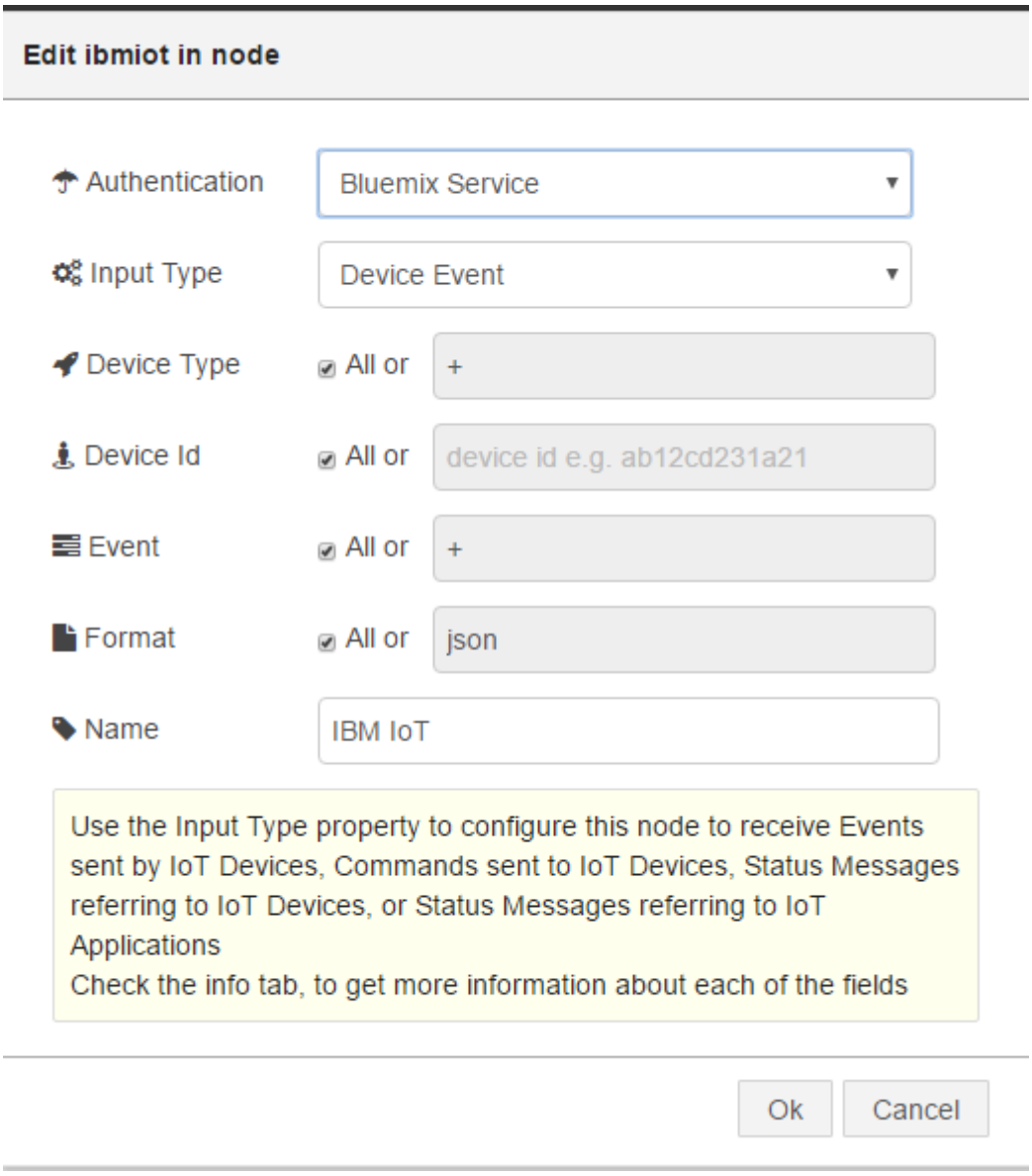
6- Add an **ibmiot output,** wire it to the template node and double click on it to do the configuration :



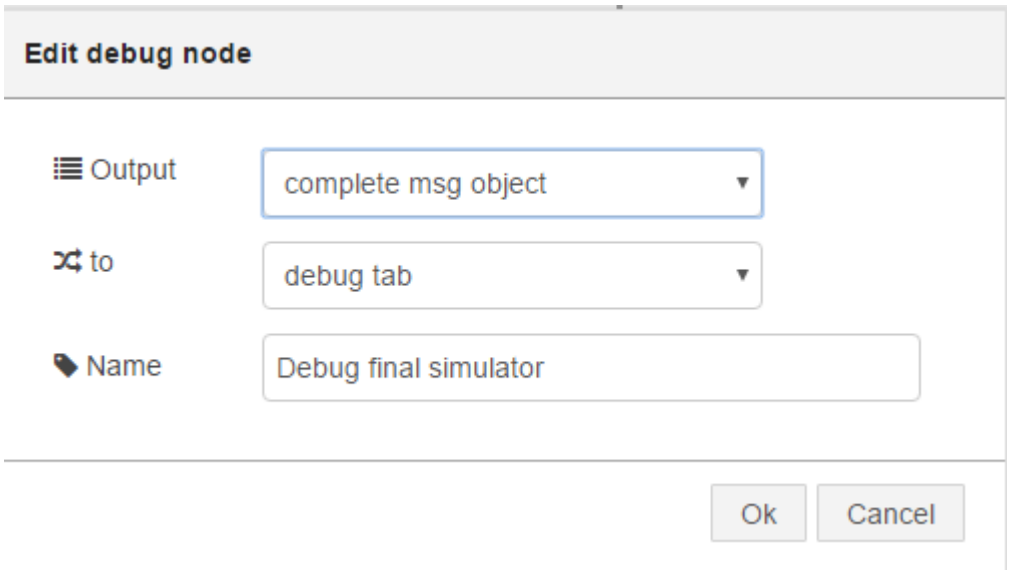
7- Add a **debug node,** wire it to the **template** node and configure it :



8- Add an **ibmiot input node :**



9- Finally add another **debug node :**



And to see your work click on deploy, then debug to see your data.