



# Proof Of Technology

## IBM Watson Internet of Things

### IBM IoT Platform

### Initialization for IBM Cloud free account

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# Architecture de l'environnement du workshop en binômes



## IBM Cloud user 1

Continuous  
Delivery

Git

IoT phone  
application

Cloudant

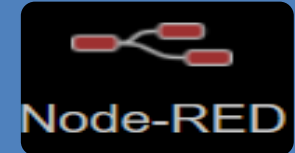


IoT  
Platform

## IBM Cloud user 2

Step 2 & 3 bis

Node-RED  
Starter



Cloudant

Watson  
services



## IBM Cloud account access

Create an IBM Cloud account: <https://cloud.ibm.com/>

(or use your existing one or company account)

This is free: for an unlimited period but for limited number of services

# IBM Cloud account configuration

Check your account: create space and resource group if necessary

The image shows two screenshots of the IBM Cloud interface. The top screenshot shows the 'Manage' menu with 'Account', 'Billing and usage', and 'Security' options. The bottom screenshot shows the 'Cloud Foundry Orgs' page with a table of organizations.

**Top Screenshot: IBM Cloud Manage Menu**

- Menu items: IBM Cloud, Catalog, Docs, Support, Manage
- Search bar: Search for resources
- Dashboard section: RESOURCE GROUP (All Resources), CLOUD FOUNDRY ORG (All Organizations), CLOUD FOUNDRY SPACE (All Spaces)
- Manage dropdown menu:
  - Account > Users
  - Billing and usage > Cloud Foundry orgs
  - Security > Resource groups

**Bottom Screenshot: Cloud Foundry Organizations**

Cloud Foundry Organizations / corinne.bacle@fr.ibm.com

Spaces Users Domains Quotas

Search

Name	Region	Manager
<a href="#">Base</a>	Germany	✓
<a href="#">Dev</a>	Germany	✓



# IBM Cloud account configuration

Go to Cloud Foundry Orgs

Click on your name/email

Check if you have a Space in UK/Germany

Click on « Add a Space », Select a “region” : UK/Germany, add a “Name” : PoT-IoT-Date for example, then “save”

Create a new space

Region

United Kingdom

Name

PoT-IoT-Sep-2020

Cancel

Save

# IBM Cloud account configuration

Go to Resource Groups

Check if you have one

If not, create one



IBM Cloud

Account

Account resources

Best practices

Resource groups

Cloud Foundry orgs

Licenses and entitlements

Tags

Dashboards

Account settings

Search resources and offerings...

Catalog Docs Support Manage

Corinne Baile's Account

## Resource groups

Group resources to organize and assign access to the group. Available for all resources managed by IBM Cloud Identity and Access Management. [Learn more about resource groups.](#)

Name	ID	Date Created	Actions
Default	ec25877185ee4fc3822fadb491867f0a	05/12/2019 à 12:03:16	:

# IoTPhone Application User 1

IBM Cloud user 1

Continuous  
Delivery

Git

IoT phone  
application

Cloudant



IoT  
Platform

# Go to github

<https://github.com/CorinneBacle/html5-phone>

Download this documentation in Documentation





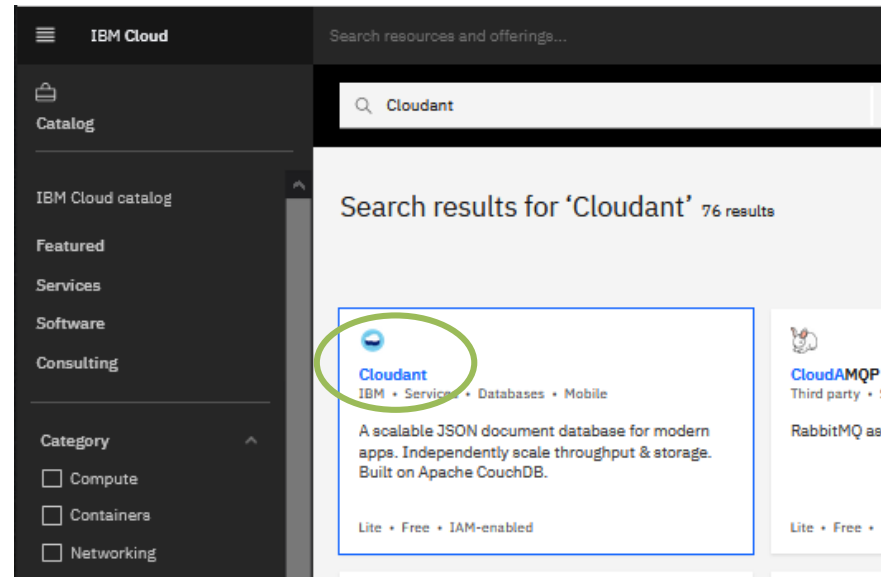
# Cloudant service creation



Click on IBM Cloud Catalog



Search and select “Cloudant”




# Cloudant service creation



Select your region

Catalog / Services /

 **Cloudant**  
Author: IBM

Create About

Select an offering

**Cloudant**

IBM Cloudant is a fully managed JSON document database that offers independent serverless scaling of throughput capacity and storage.

Lite plan available

Select an environment

Multitenant Dedicated

Your instance will be running securely on environments with shared resources.

Available regions

London

Configure Cloudant instance

Instance name

iot-phone-cloudant-cloudantNoSQLDB

Tags

Examples: env:dev, version-1

Authentication method ⓘ

IAM

Plan

**Lite**

Full functionality for development and evaluation with a set capacity. Only one Lite plan instance per account.

Free - Only in multi-tenant

**Standard**

Granular control over provisioned capacity allocated. Billing prorated per account.

Starting at \$75.00/month

Enter the instance name :  
iot-phone-cloudant-cloudantNoSQLDB

Then click "Create"

Total monthly cost\* Free estimated

Create

Add to estimate

# Cloudant service configuration



Resource list /  
iot-phone-cloudant-cloudantNoSQLDB Active [Add tags](#)

Details [Actions...](#)

[Manage](#) [Overview](#) [Dashboard](#) [Capacity](#) [Docs](#)

Service credentials

[Launch Dashboard](#)

Click on Launch Dashboard

Then Create Database

[←](#) **Databases**

Database name [Create Database](#)

Database name : device\_credentials

Select: "Non-partitioned"

## Create Database

Database name

device\_credentials

Partitioning

☐ Partitioned ☒ Non-partitioned

[What is a Partitioned Database?](#)

Then "Create"

Cancel

Create

IBM Internet of Things

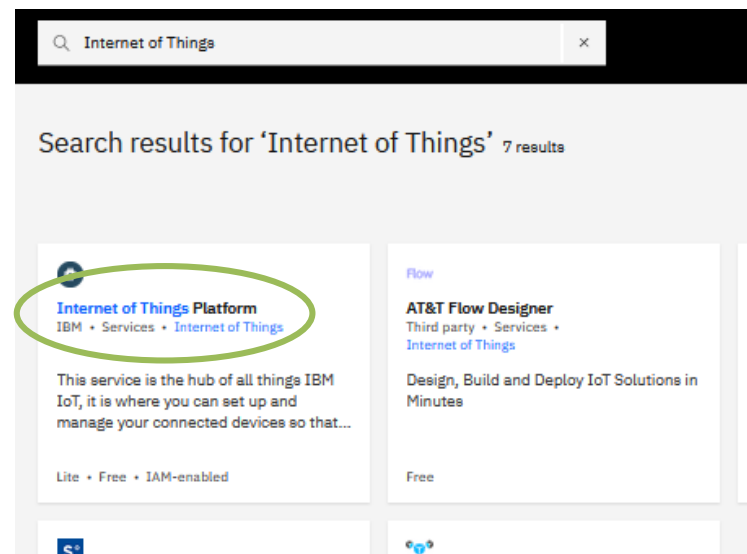
# IoT service creation



Click on IBM Cloud Catalog



Search and select “Internet of Things”



# IoT service creation



Select your region

Catalog / Services /

## Internet of Things Platform

Author: IBM • Date of last update: 09/03/2019 • Docs

Create About

Select a region

Select a region

London

Configure your resource

Service name

iot-phone-iotf-service

Tags ⓘ

Enter the Service name :  
iot-phone-iotf-service

Then click "Create"

Total monthly cost\* Free estimated

Create

Add to estimate

# IoT service configuration



In the new window, click “Launch”

A screenshot of the IBM Cloud user interface. The top navigation bar is dark grey with the 'IBM Cloud' logo, a search bar, and links for 'Catalog', 'Docs', 'Support', 'Manage', and 'Corinne'. Below the navigation bar, the main content area has a light grey header with the text 'Resource list /' and 'iot-phone-iotf-service' followed by a green checkmark and 'Active' and a link 'Add tags'. On the left, a sidebar menu is visible with the heading 'Manage' and sub-items 'Plan' and 'Connections'. The main content area features a large blue line-art icon of a central square with a circle inside, connected to various other shapes. To the right of the icon, the text 'Let's get started with IBM Watson IoT Platform' is displayed, followed by a description: 'Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.' Below this text, there are two buttons: a blue 'Launch' button and a grey 'Docs' button. The 'Launch' button is circled with a green oval.

# IoT service configuration



Select menu “Security” then “Connection Security” then “TLS Optional” then Save

The screenshot shows the IBM Watson IoT Platform interface. On the left is a dark navigation sidebar with the title "IBM Watson IoT Platform". It contains several menu items: "Boards", "Devices", "Members", "Apps", "Access Management", "Usage", "Security", and "Settings". The "Security" item is highlighted with a green oval. To the right of the sidebar, the main content area is titled "Policies" and includes a sub-section "Connection Security" with a description and a green edit icon (a square with a pencil) circled in green. Below this is the "Default Rule" section, which has a "Scope" dropdown set to "Default" and a "Security Level" dropdown set to "TLS Optional", both of which are circled in green. At the bottom of the configuration area are "Cancel" and "Save" buttons, with the "Save" button circled in green.

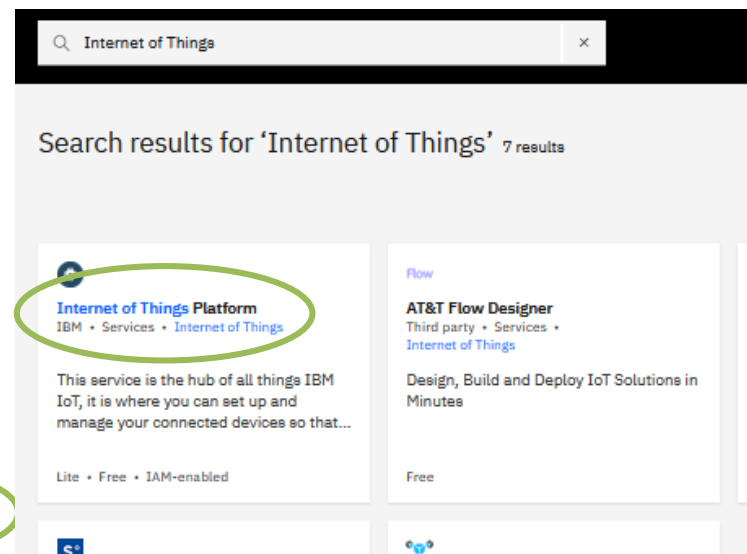
# Sample application creation



Click on IBM Cloud Catalog



Search and select "Internet of Things"





# Sample application connection creation



Click



# Create your own IoT Html 5 Phone application as user 1



See next slides to create your own application

A screenshot of a web application interface with a dark theme. At the top, it says "Your device ID:" followed by a "Disconnected" status with a red X icon. Below this is a "Published Messages:" section. A modal dialog is open in the center, titled "Enter a unique ID of at least 8 characters containing only letters and numbers:". The dialog has a text input field and "OK" and "Cancel" buttons. In the background, there is a table with columns for "Movement" and "Location". The "Movement" section has rows labeled "Alpha", "X", and "Gamma", each with a value of "0". The "Location" section has columns for "Latitude" and "Longitude", each with a value of "0".

Log in <https://cloud.ibm.com> as **USER 1**

# Go to github

<https://github.com/CorinneBacle/html5-phone>



Search or jump to... Pull requests Issues Marketplace Explore

CorinneBacle / html5-phone  
forked from ibm-watson-iot/html5-phone

Watch 0 Star 0 Fork 54

Code Pull requests 0 Projects 0 Wiki Security Insights Settings

Branch: master html5-phone / README.md Find file Copy path

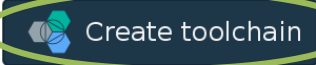
CorinneBacle Update README.md c4bc67d now

5 contributors

6 lines (3 sloc) | 437 Bytes Raw Blame History

**iot-html5-phone**

This application allows you to use your mobile phone as a test device with IBM Watson IoT Platform. Click the following button to deploy the application to your IBM Cloud environment and provision the appropriate services.

 Create toolchain

Go to the bottom and click Create toolchain

Select Region **Frankfurt** or **London** depending on where you have created your space in the previous steps

Change the application name with a shorter one



IBM Cloud Search resources and offerings... Catalog Docs Support Manage CORINNE BACLE's Account

Toolchains / Create a toolchain /

### Déployer vers IBM Cloud : application iot-html5-phone

Une fois que vous avez cliqué sur **Déployer**, votre application est déployée dans IBM Cloud.

Le code de votre application est automatiquement chargé dans un référentiel Git. Chaque fois que vous validez des modifications dans le référentiel, elles sont automatiquement déployées à l'aide d'une chaîne d'outils qui est associée à votre application. Vous pouvez ajouter davantage d'outils à la chaîne d'outils et la partager avec votre équipe. [En savoir plus.](#)

La chaîne d'outils utilise des outils qui font partie du service Continuous Delivery. Si aucune instance de ce service n'existe dans l'organisation sélectionnée, elle est automatiquement ajoutée.

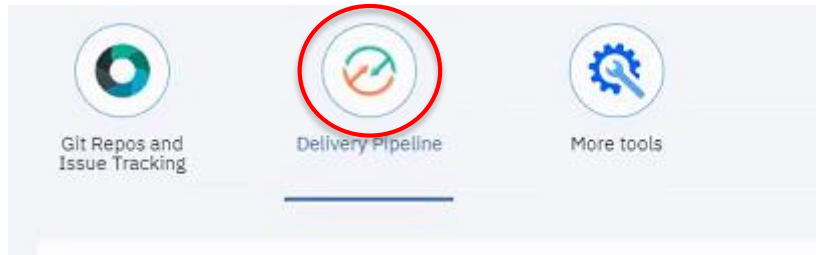
Toolchain Name:  
POT-Mai-2019-iot-html5-phone

Select Region:  
Frankfurt

Select a resource group:  
Globale

Toolchain - CE Automation (deprecated)

Select Region:  
London





Clé d'API IBM Cloud: ⓘ

Clé d'API IBM Cloud

New +

Create the API Key

The value is required.

Create a new API key with full access

**Warning:** This will create a new API key that allows anyone who has it the ability to do anything you could do. You can improve your security posture by using the [IAM UI to create a service ID API key](#) that limits access to only what your pipeline requires, and then pasting that into the template UI instead. For more information on API keys and access see the [IAM documentation](#).

Name	Description
API Key for html5-phone-20200911P-TECH	

☐ Save this key in a secrets store for reuse

Cancel

OK

**Wait a little** to automatically get “Region” filled  
Then Select your space  
Then Deploy

IBM Cloud API key:

.....



Create +

Region

Organization

Space

Frankfurt

pierre\_milcent@fr.ibm.

demoIOT

Toolchains / Create a toolchain /

## Déploier vers IBM Cloud : application html5-phone

Create

About

Toolchain Name:

html5-phone-20200911P-TECH

Select Region:

London

Select a resource group:

Default

[Select a CF Organization \(deprecated\)](#)

### Tool Integrations



Outils Git Repos and  
Issue Tracking



Delivery Pipeline



More tools

Delivery Pipeline automatise le déploiement continu.

Nom de l'application: ⓘ

html5-phone-20200911P-TECH

Clé d'API IBM Cloud: ⓘ

.....



New +

ⓘ

Région

London

Organisation

cocobacl@yaho...

Espace

dev

Cancel

Create

Then click “create”



# iot-html5-phone-CorinneBacleGermany



**Your app is being created!** Quick start: To watch the pipeline deploy your app, click **Delivery Pipeline**. After the app is de

## THINK



Issues

iot-html5-phone-Cori...

✓ Configured

## CODE



Git

iot-html5-phone-Cori...

✓ Configured

## DELIVER



Delivery Pipeline

iot-html5-phone-Cori...



Eclipse Orion Web IDE

✓ Configured

Open Link in New Tab

Open Link in New Window

Open Link in New Private Window

# Go to Repository / Files, It's your own code, you can modify it



IBM Cloud

Projects

Groups

Activity

Milestones

Snippets

+

Search or jump to...

Q

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H

html5-phone-2019H2POTIoT

Project

Repository

Files

Commits

Branches

Tags

Contributors

Graph

Compare

Charts

Issues

Merge Requests

Wiki

Snippets

Settings

CORINNE BACLE > html5-phone-2019H2POTIoT > Repository

master

html5-phone-2019H2POTIoT / public / js / device.js

🔍 Find file

Blame

History

Permalink

Update device.js with warning message on device id  
CORINNE BACLE authored 2 days ago

Unverified

ef7e9c2c

🔗

📄 device.js 5.78 KB

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Edit

Replace

Delete

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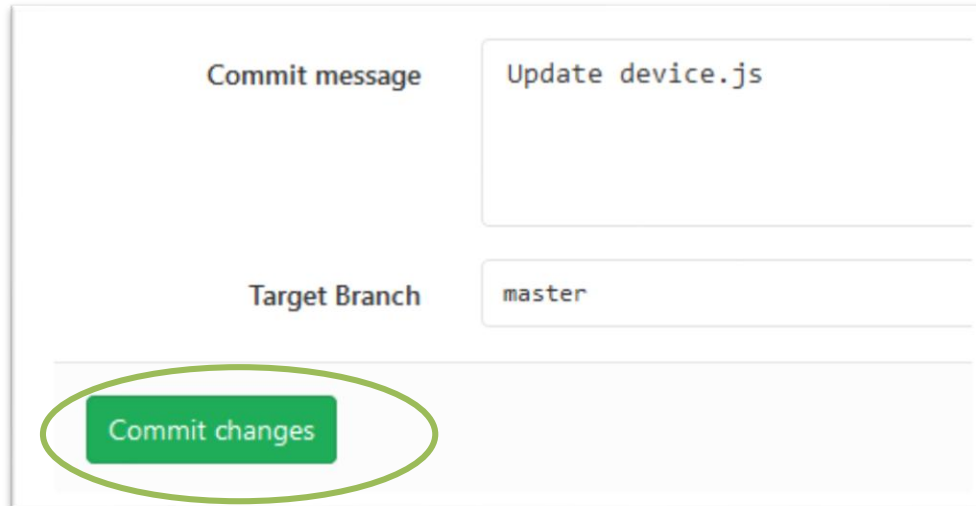


For example change  
the prompt message:



```
Write Preview changes
Y master public/js/device.js
57 document.getElementById("gamma").innerHTML = og.toFixed(2);
58 }
59
60 window.msgCount = 0;
61
62 var updatePersonalAllocation = function(position) {
63     window.lat = position.coords.latitude;
64     window.lng = position.coords.longitude;
65     $("#lat").html(window.lat.toFixed(6));
66     $("#lng").html(window.lng.toFixed(6));
67 }
68
69 if (navigator.geolocation) {
70     navigator.geolocation.watchPosition(updatePersonalAllocation);
71 }
72
73 function getId() {
74     window.deviceId = prompt("Enter a unique ID for CBA appli If at least 8 characters containing only letters and numbers (Warning : it will be
75     if (deviceIdRegex.test(window.deviceId) === true) {
76         console.log("Connecting with device id: " + window.deviceId);
77         $("#deviceId").html(window.deviceId);
78         getDeviceCredentials();
79     }
80 }
```

then in the bottom :



Commit message Update device.js

Target Branch master

Commit changes

# Option : changer l'image de fond



Modifier le fichier public/stylesheets/device.css partie body puis background-image

Voir une explication ici:

<http://css.mammothland.net/image-de-fond-background-css.php>

## Remplacer

```
body {  
  background-image: linear-gradient(to bottom right, #2d3f4a, #1d3649);  
  margin: 0;  
  padding: 0;  
}
```

## Par

```
body {  
  color:black; background-color:white;  
  background-image:url(images/image_de_fond.png);  
}
```


Et ajouter votre image dans un repertoire images à la racine avec le bon nom.

Toolchains / [iot-html5-phone-CorinneBacleGermany](#)

## iot-html5-phone-CorinneBacleGermany

✓ Your app is being created! **Quick start:** To watch the pipeline deploy your app, click **Delivery Pipeline**. After the app is de


THINK



**Issues**  
iot-html5-phone-Cori...

✓ Configured


CODE



**Git**  
iot-html5-phone-Cori...


✓ Configured

DELIVER



**Delivery Pipeline**  
iot-html5-phone-Cori...

✓ Configured



**Eclipse Orion Web IDE**

✓ Configured



Lost ?

See next slide

See next slide if you have  
close the toolchain tab



# How to find the toolchain if you have closed the tab:



IBM Cloud

- Cloud Foundry
- Containers
- Infrastructure
- VMware
- Dashboard
- APIs
- Apple Development New
- Blockchain
- DevOps**
- Finance
- Functions
- Integrate
- Mobile
- Security
- Watson
- Web Apps

## Toolchains

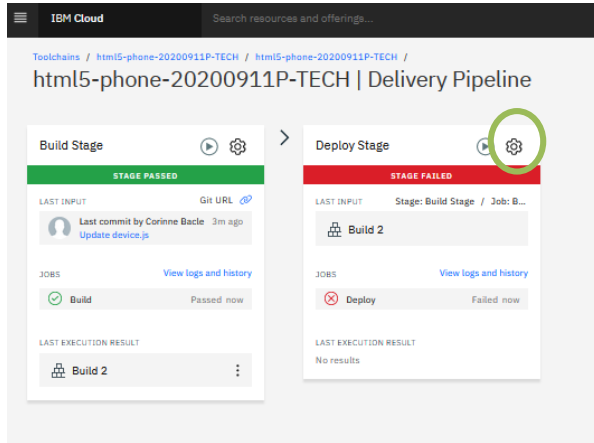
Resource Group: Default | Cloud Foundry Org: - | Location: London

Filter table...

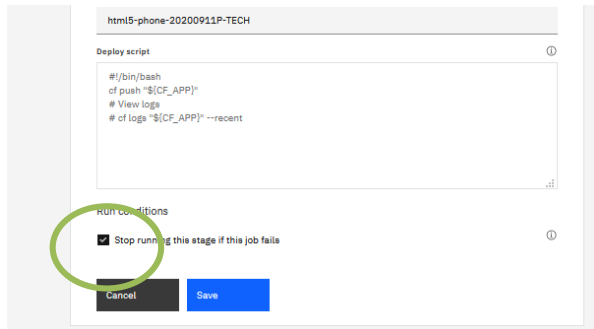
Name	Tool Integrations
html5-phone-20200911P-TECH	

Items per page: 10 | 1-1 of 1 items

# Deploy :



Deployment status is FAILED  
Click on “stage configuration”  
=> “Configure stage”

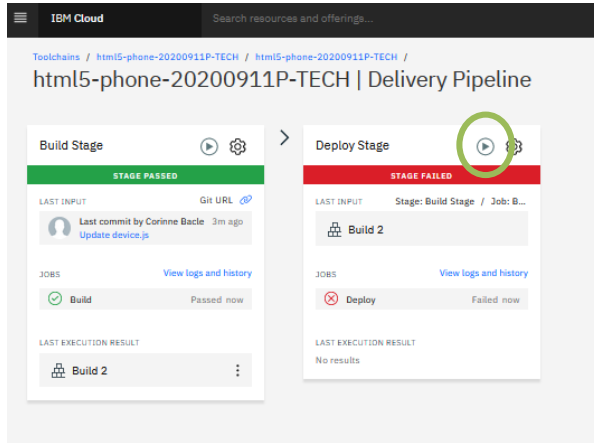


Deselect “Stop running this stage if this job fails”  
Then “Save”

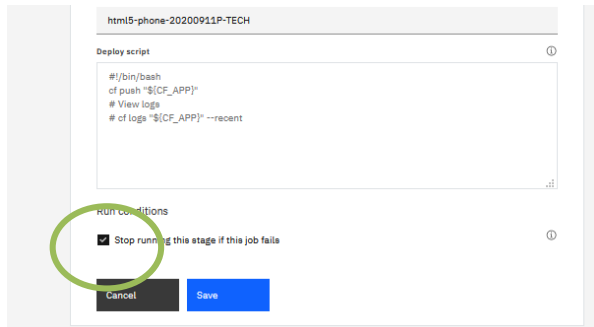
# Deploy :



Click on “run stage”



Deselect “Stop running this stage if this job fails”  
Then “Save”



# Deployment status is FAILED



**IBM Cloud**

[Toolchains](#) / [html5-phone-20200911P-TECH](#) / [html5-phone-20200911P-TECH](#) /  
**html5-phone-20200911P-TECH | Delivery Pipeline**

**Build Stage**

**STAGE PASSED**

LAST INPUT

Git URL

Last commit by Corinne Bacle 3m ago  
[Update device.js](#)

JOBS

[View logs and history](#)

Build Passed now

LAST EXECUTION RESULT

Build 2

**Deploy Stage**

**STAGE FAILED**

LAST INPUT

Stage: Build Stage / Job: B...

Build 2

JOBS

[View logs and history](#)

Deploy Failed now



LAST EXECUTION RESULT

No results

# Check deployment status :


Toolchains / [iot-html5-phone-Cori...](#) / [iot-html5-phone-CorinneBacleGermany](#)

## iot-html5-phone-CorinneBacleGermany | Delivery Pipeline


**Build Stage**  

STAGE PASSED



LAST INPUT [Git URL](#)

 Last commit by CORINNE BA... 2d ago  
[Update @cloudant/cloudant app.js](#)



JOB [View logs and history](#)

 Build Passed 2d ago

LAST EXECUTION RESULT



 Build 3 




**Deploy Stage**  

STAGE PASSED



LAST INPUT Stage: Build Stage / Job: ...



 Build 3 


JOB [View logs and history](#)

 Deploy Passed 2d ago

LAST EXECUTION RESULT

  iot-html5-phone-CorinneBacl...  
[View console](#)






 Build 3 

Add Stage 



If the status is wrong, check Cloud Foundry Services :



Cloud Foundry Apps (1 / 25)					
 html5-phone-2019H2POTIoT	corinne.bacle@fr.ibm.com / POTIoTH22019	Frankfurt	Cloud Foundry Applications	● Running	
Cloud Foundry Services (2 / 46)					
 iot-phone-cloudant-cloudantNoSQLDB 	corinne.bacle@fr.ibm.com / POTIoTH22019	Frankfurt	Cloudant	Provisioned	
 iot-phone-iotf-service 	corinne.bacle@fr.ibm.com / POTIoTH22019	Frankfurt	Internet of Things Platform	Provisioned	

Wait until it's ok, then run the Deploy stage again :

IBM Cloud

Catalog   Docs   Support   Manage

Toolchains / [iot-html5-phone-Cori...](#) / [iot-html5-phone-CorinneBacleGermany](#)

iot-html5-phone-CorinneBacleGermany | Delivery Pipeline

Build Stage

>

Deploy Stage

Add Stage +

# Find the application:

<https://cloud.ibm.com/resources>



## Dashboard

### Récapitulatif des ressources

Cloud Foundry Apps

Cloud Foundry Services

Services

## Resource list

Create resource

Collapse all | Expand all

Name ▲	Group	Location	Offering	Status	Tags
<input type="text" value="POT-mai"/>	<input type="text" value="Filter by group or org..."/>	<input type="text" value="Filter"/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>
> Devices (0 / 0)					
> Kubernetes Clusters (0 / 0)					
✓ Cloud Foundry Apps (1 / 20)					
POT-Mai-2019-iot-html5-phone	<input checked="" type="checkbox"/> NodeRedTestCopyCloud... <input checked="" type="checkbox"/> POT IOT Mai 2019 DE <input checked="" type="checkbox"/> POT IOT Mai 2019 UK <input type="checkbox"/> Prototyping	Frankfurt	Cloud Foundry Applications	● Running	--

IBM Cloud

Catalog Docs Support Manage

Search for resource...

CORINNE

Getting started

Overview

Runtime

Connections

Logs

API Management

Cloud Foundry apps /

iot-html5-phone-CorinneBacle... Running Visit App URL


Org: corinne.bacle@fr.ibm.com Location: Germany Space: Base

Runtime

BUILDPACK  
SDK for Node.js™

INSTANCES  
All instances are running  
Health is 100%

Use the link to view your app on your phone  
You can create your own QR Code  
If you enter a unique ID, don't let it open !!  
Click Refresh to stop data transfert...



Sur votre téléphone : La version IOS 12.2 Apple propose un nouveau réglage qui permet d'activer/désactiver l'accès à l'accéléromètre et au gyroscope depuis Safari.... Aller dans réglages => Safari => Confidentialité et sécurité

<https://www.macrumors.com/2019/02/04/ios-12-2-safari-motion-orientation-access-toggle/>

Par défaut l'option est désactivée (off) lors d'une montée de version d'iOS. En l'activant de nouveau l'appli Web IOT fonctionne de nouveau très bien.

Sur la version 13, utiliser Chrome ou Firefox.

# Open the appli on your phone



Your device ID:

⊗ Disconnected

Published Messages:

Movement		
Alpha	Beta	Gamma
Enter a unique ID for CBA appli of at least 8 characters containing only letters and numbers (Warning : it will be displayed on the dashboard!):		
<input type="text"/>		
OK		Annuler

Location	
Latitude	Longitude
48.784955	2.309515

You can create your own QR Code  
Using a free QR Code generator  
If you enter a unique ID, don't let  
it open !!  
Click Refresh to stop data  
transfert...



Getting started

Overview

Runtime

Connections

Logs

API Management

Cloud Foundry apps /

iot-html5-phone-CorinneBacle... ● Running [Visit App URL](#)

Routes ▾

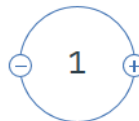


Org: corinne.bacle@fr.ibm.com

Location: Germany

Space: Base

## Runtime

BUILDPACK  
SDK for Node.js™INSTANCES  
All instances are running  
Health is 100%

MB MEMORY PER INSTANCE

TOTAL MB ALLOCATION  
7.876 GB still available

## Connections (2)



iot-phone-cloudant-cloudantNoSQLDB



iot-phone-iotf-service

[Create connection](#)

## Activity feed

...

## Runtime cost

€0.00

Current charges for billing period

€0.00

Estimated total for billing period  
(Oct 1, 2018 - Oct 31, 2018)Current and estimated cost excludes connected services.[View full usage details](#)

## Continuous delivery

To access your IoTPlatform  
Click on the connection  
Then See next slide

Connections

Resource list /

iot-phone-iotf-service Alias of [Internet of Things Platform-no](#)

Location: Frankfurt Org: corinne.bacle@fr.ibm.com Space: POTIoTH22019



Click on the Alias to access the ressource in the ressource group

Manage

Plan

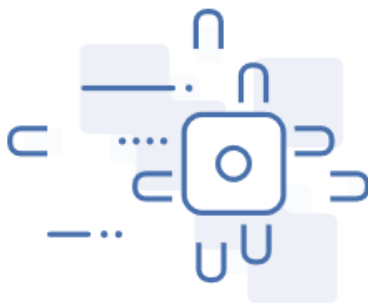
Connections

Resource list /

Internet of Things Platform-no

Resource group: Globale Location: Frankfurt [Add Tags](#)

Click on Manage  
then on Launch



Let's get started with IBM Watson IoT Platform

Securely connect, control, and manage devices. Quickly build IoT applications that analyze data from the physical world.

Launch

Docs



Browse   Action   Device Types

# Browse Devices

Type the Device I

👁 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.

<input type="checkbox"/>	Device ID ▾	Device Type ▾	Class ID ▾	Date Added
5 results				
// <input type="checkbox"/>	CorinneBacle123	iotphone	Device	Oct 9, 2018 6:03 PM
// <input type="checkbox"/>	Telephone1	iotphone	Device	Oct 9, 2018 6:30 PM

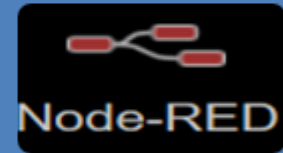
Node-RED

User 2

IBM Cloud user 2

Step 2 & 3 bis

Node-RED  
Starter

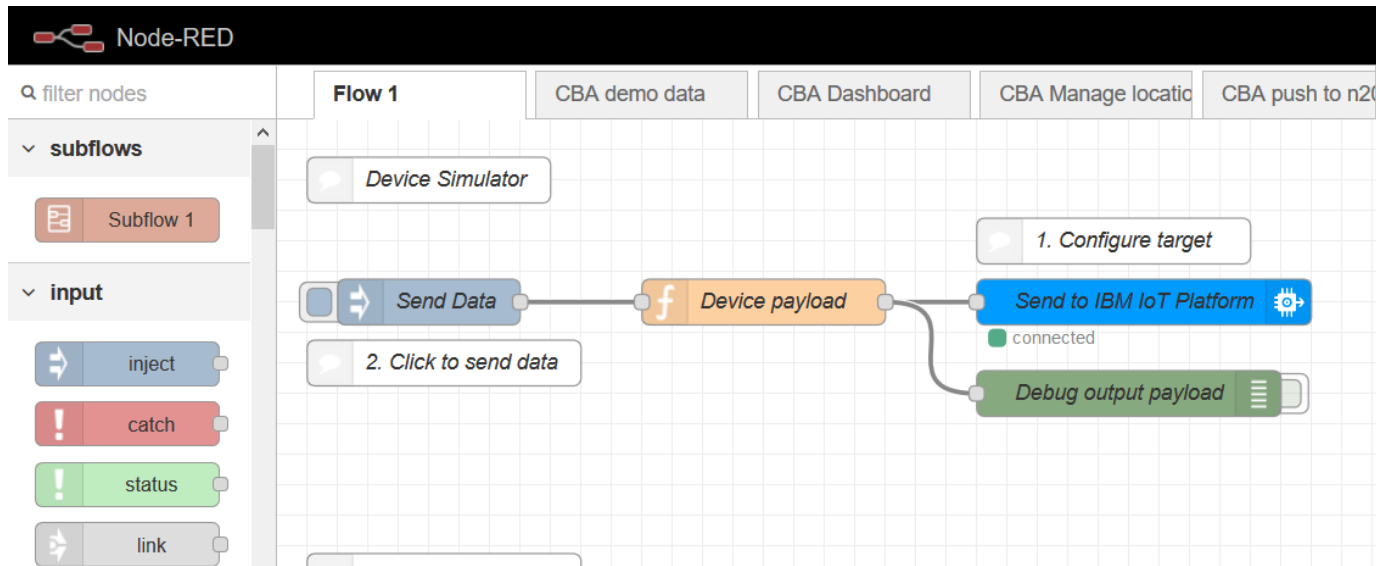


Cloudfant

Watson  
services




# Create a NodeRed and link it to your application as user 2



Log in <https://cloud.ibm.com> as **USER 2**



Catalog

 label:starter-kits

All Categories (17) >

- VPC Infrastructure
- Compute
- Containers
- Networking
- Storage
- AI
- Analytics
- Databases
- Developer Tools
- Integration
- Internet of Things
- Security and Identity
- Starter Kits (17)
- Web and Mobile
- Web and Application

Offering type

- ☐ APIs and services
- ☐ Cloud Foundry apps
- ☐ Cloud Paks
- ☐ Infrastructure
- ☒ Starter kits
- ☐ Terraform

services.

Starter kits

IBM Cloud.

Starter kits



**Node.js Web App with Express.js**  
IBM

A starter that provides a basic web serving application in Node.js, using the Express.js framework.

Starter kits



**Python Microservice with Flask**  
IBM

A starter for building a microservice backend, using the Flask framework.

Starter kits



**Python Web App with Flask**  
IBM

A starter that provides a basic web serving application using the Flask framework.

Starter kits



**Watson Assistant Basic**  
IBM

Simple application that demonstrates the Watson Assistant service in a chat interface simulating banking tasks.

Starter kits



**Watson Visual Recognition Basic**  
IBM

Use deep learning algorithms to analyze images that can give you insights into your visual content.

Starter kits



**Node-RED Starter**  
Community

This application demonstrates how to run the Node-RED open-source project within IBM Cloud.

Starter kits



# Create a Cloud Foundry App

Lite

Community

Boilerplate

Version: 0.8.3 - Location: Sydney, Frankfurt, London, Washington DC, Dallas

Need Help?  
[Contact Support](#)  
[View docs](#)

Create

About

Select a region

Frankfurt

Do it in the same location as step 1

Create

Select a pricing plan

Configure your resource

App name:

IoTPhoneHTML5NodeRed



Choose a unique name

Host name:

IoTPhoneHTML5NodeRed

Domain:

eu-de.cf.appdomain.cloud

Choose an organization:

corinne.bacle@fr.ibm.com

Choose a space:

POTIoTH22019

IBM Cloud

Search resources and offerings...

Q

Catalog

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IoTPhoneHTML5NodeRed

● Running

[Visit App URL](#)

Org: corinne.bacle@fr.ibm.com

Location: Frankfurt

Space: POTIoTH22019

[Add Tags](#)

Start coding with Node-RED

Click Visit App URL to test if you can see the NodeRed, create a password and take a note of it or select the second option:

Secure your Node-RED editor

☐ Secure your editor so only authorised users can access it

☒ *Not recommended:* Allow anyone to access the editor and make changes

Your editor will not be secured. Anyone with the URL will be able to access your flows, data and bound services.

☒ Tick this box to confirm you want your editor to be insecure

Previous

Next

IBM Internet of Things

## Browse available IBM Cloud nodes

There are lots of nodes available from the community that can be used to add more capabilities to your application. The list below is just a small selection.

You can find many more nodes on the [Flow Library](#).

You can use the Palette Manager built into editor to search for and install nodes. Alternatively, you can also edit your application's `package.json` file and adding them to the `dependencies` section.



**node-red-dashboard**

Quickly create dashboards driven by Node-RED

**node-red-contrib-ibm-wiotp-device-ops**

Perform device and gateway operations using the Watson IoT Platform

**node-red-contrib-iot-virtual-device**

Simulate device behavior and use it to run many device instances

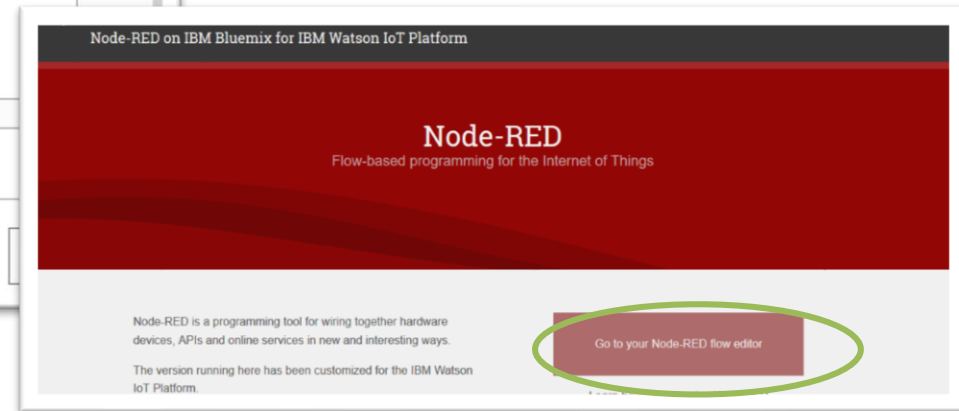
**node-red-contrib-objectstore**

Store, delete and restore objects in the ObjectStore service

**node-red-contrib-bluemix-hdfs**

**node-red-contrib-ibmpush**

Store the link !!



# Install IoT nodes

The screenshot shows the Node-RED web interface. On the left, the 'Deploy' menu is open, with 'Manage palette' highlighted. The main area shows the 'Nodes' tab, which is also highlighted. The search bar contains 'wiot', and the results list several IoT-related Node-RED nodes. The 'install' button in the top right of the 'Nodes' tab is circled in orange. The 'install' buttons for the search results are circled in green.

**Nodes** **Install**

sort: [icon] a-z recent [icon]

Q wiot 2 / 2262

- node-red-contrib-ibm-wiotp-device-ops**  
A collection of Node-RED nodes that can perform a wide range of device and gateway operations on the Watson IoT platform  
0.1.3 2 years ago **install**
- node-red-contrib-ibm-watson-iot**  
Connect to IBM Watson Internet of Things Platform as a Device or Gateway  
0.2.8 2 years, 9 months ago **install**
- node-red-dashboard**  
A set of dashboard nodes for Node-RED  
2.17.1 1 week ago **install**
- node-red-contrib-scx-ibmiotapp**  
IoT Application Node-RED node for the Registered and Quickstart flows in IBM Watson IoT Platform  
0.0.49 1 year, 9 months ago **install**

# Result

▼ input

 Watson IoT

 ibmiot in

▼ output

OpenWhisk




Watson IoT




ibmiot out





▼ Watson IoT


 device manager

 device type manager

▼ dashboard

 button

 dropdown


 slider


abc


text input


123

numeric


 colour picker

 switch


 date picker

 form


notification



gauge




chart



text

abc


audio out



</>

template

ui control





# Create a first flow then deploy



Node-RED

filter nodes

common

inject

debug

complete

Flow 1

timestamp

msg.payload

Deploy

info

Information

Flow	"400886c4.9ae3f"
Name	Flow 1
Status	Enabled

Description

The image shows the Node-RED web interface. On the left, a palette of nodes is visible under the 'common' tab, including 'inject', 'debug', and 'complete'. The main workspace, titled 'Flow 1', contains a flow with three nodes: 'inject', 'timestamp', and 'msg.payload'. The 'inject' node is connected to the 'timestamp' node, which is then connected to the 'msg.payload' node. A blue line also connects the 'complete' node to the 'msg.payload' node. On the right, a sidebar shows the 'info' tab with a table of flow information. The 'Deploy' button in the top right corner is highlighted with a green circle.



# Connect the Node-RED to the IoT platform service of the user 1 html 5 application



## IBM Cloud user 1

Continuous  
Delivery

Git

IoT phone  
application

Cloudant

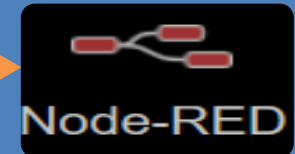
Your device ID: TestPhone		
Connected		
Published Messages: 278		
Movement		
Alpha	Beta	Gamma
0	0	0
Acceleration		
X	Y	Z
0	0	0
Location		
Latitude	Longitude	
0	0	

IoT  
Platform

## IBM Cloud user 2

Step 2 & 3 bis

Node-RED  
Starter



Cloudant

Watson  
services



# As a User 1 : create API key

## Go to the IoT platform service





IBM Cloud Catalog Docs Support Manage CORINNE BACLE's Acc...

Getting started Overview Runtime

Cloud Foundry apps / IoTStarterIoTPhone Running [Visit App URL](#)

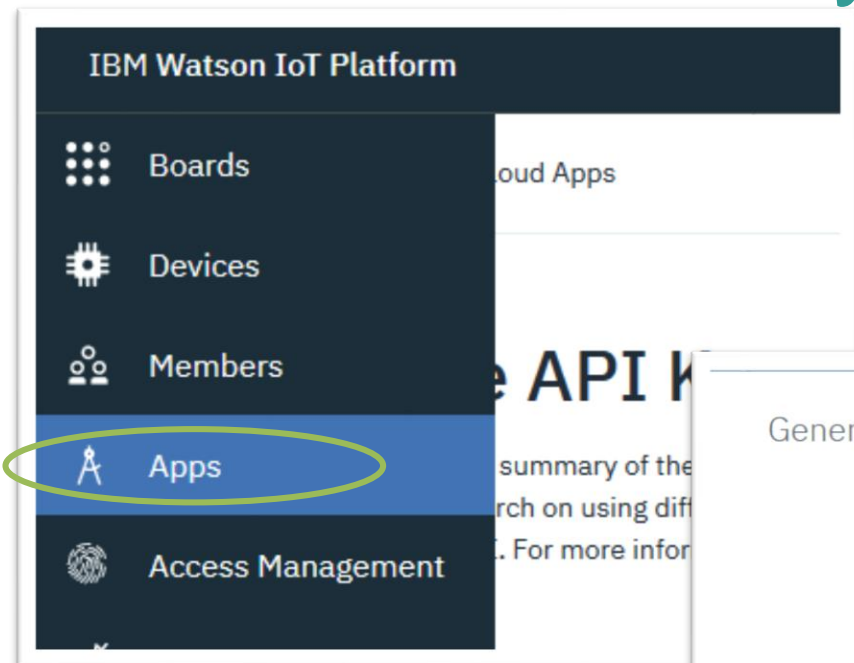
Org: corinne.bacle@fr.ibm.com Location: Germany Space: Base

10 Items per page | 1-2 of 2 items

CONNECTION NAME	TYPE
 IoTStarterIoTPhone-cloudantNoSQLDB	Cloudant NoSQL DB
 IoTStarterIoTPhone-iotf-service	Internet of Things Platform

Go to your IoT Platform service

# Create an API Key



Generate API Key

Information ☒ Permissions ☐

The application will have access for the following role:

Role

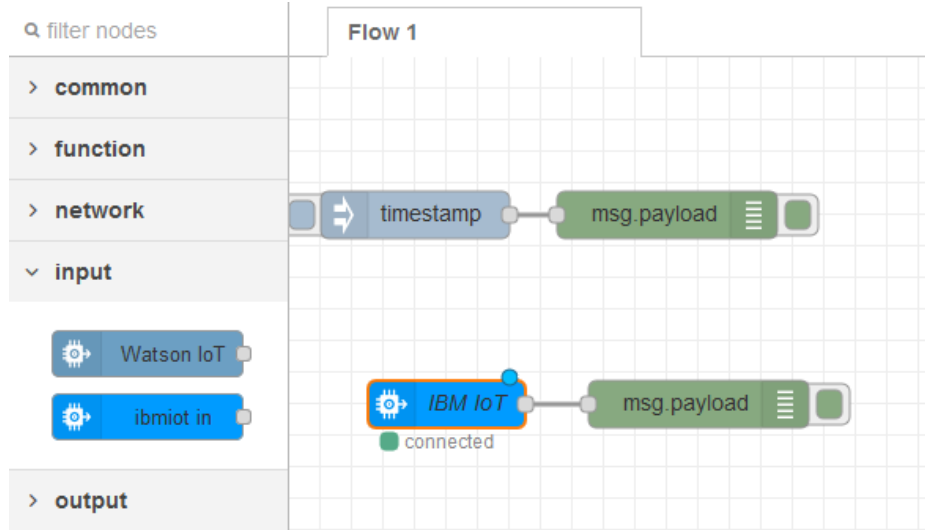
For more information about roles, see [User, application, and gateway roles](#).

[Back](#) [Generate Key](#)



Save the API Key, Authentication Token in a file

# As a User 2: connect Node-RED



Create an IBM IoT node linked to a debug node

Open the IBM IoT node

Create the API key (pencil on the right of the API Key attribute) to define the configuration:

Edit ibmiot in node > Add new ibmiot config node

Cancel Add

**Properties**

Name User1IoTPhone

API Key a-eqbwt6-ysbfjqdgt

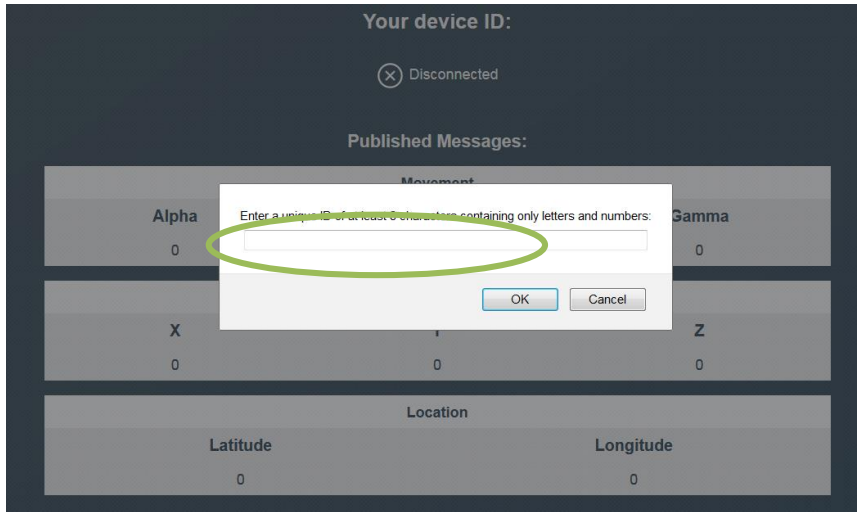
API Token .....

Server-Name eqbwt6.messaging.internetofthings.ibmcloud.com

Scalable ☐ Application ID

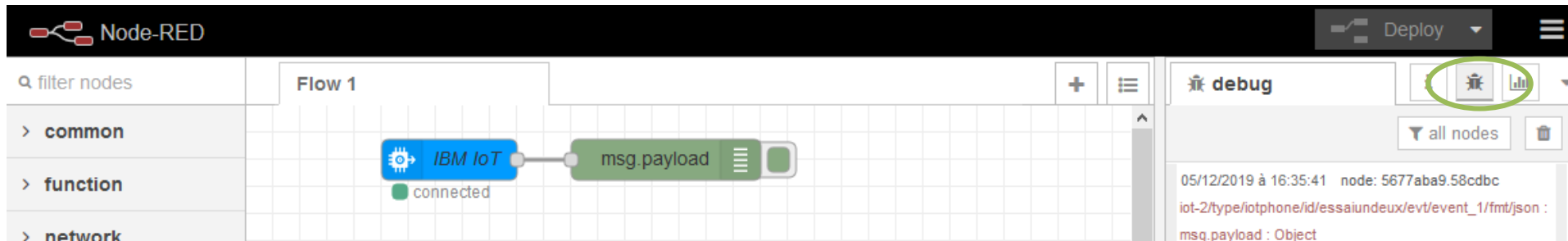
Keep Alive 60 Seconds ☒ Use Clean Session

# Check the configuration with the IoT Phone app:



<= Open the phone app  
Enter a unique ID

Check the debug tab of the Node-RED to see messages:





# Configure last event cache feature in the IoT Platform (for all)



## PLATFORM

About

Identity

Experimental Features

**Last Event Cache**

## DATA AND DEVICES

Custom Device

Management Packages

Device Simulator

## SECURITY

Connection Security

CA Certificates

# Last Event Cache

The last event cache (LEC) stores information about the last event a connection sends to the platform. For more information, see the last event cache [documentation](#)

Activate Last Event Cache



Events stored in cache

1 day

7 days

# Custom Device Management Packages

Custom device management packages can be uploaded to add new device management packages. Custom device management packages must consist of valid JSON in order to be added. For more details see the custom device management package [documentation](#)

# POT IBM Watson IoT Platform lab



- I. Prerequisites**
- II. Explore data coming from the IoTPhone application**
- III. Use data coming from your IoT SmartPhone**
- IV. Use your NodeRed application to create and generate an alert**
- V. Directly in IoT Platform : Create an alert when your smartphone falls down**
- VI. Store your data in a Cloudant NoSQL DB (TBU)**
- VII. Create a dashboard application in Node-RED**
- VIII. Annex 1 : Secure your Node-RED workspace**
- IX. Annex 2 : Defining a simulated device using Node-RED and Watson IoT Platform**
- X. Annex 3: sample API usage : device management automation using Node-RED**
- XI. Annex 4 : RLAC usage (Ressource-Level Access Control)**





# Ressources

Découvrez comment Watson IoT peut vous aider à exploiter le potentiel de vos objets connectés.

[ibm.com/iot](https://ibm.com/iot)

Tester

[https://ibm.biz/try\\_iot](https://ibm.biz/try_iot)

DeveloperWorks

<https://www.ibm.com/developerworks/learn/iot/>

<https://developer.ibm.com/recipes/>

<https://developer.ibm.com/iotfoundation/>

Watson IoT Academy

<https://www.iot-academy.info/>

