



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

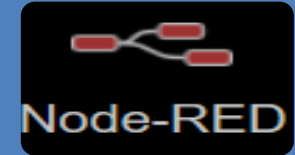


IoT
Platform

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 screenshot displays the IBM Cloud dashboard. The top navigation bar includes 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. The 'Manage' menu is open, showing options like 'Account', 'Billing and usage', and 'Security'. The 'Account' option is highlighted. Below the navigation bar, the 'Dashboard' section shows 'RESOURCE GROUP' (All Resources), 'CLOUD FOUNDRY ORG' (All Organizations), and 'CLOUD FOUNDRY SPACE' (All Spaces). A sidebar on the left lists 'Profile', 'Platform Notifications', 'Usage Dashboard', 'Billing', 'Cloud Foundry Orgs' (highlighted), and 'Resource Groups'. The main content area shows 'Cloud Foundry Organizations' for the user 'corinne.bacle@fr.ibm.com'. It includes tabs for 'Spaces', 'Users', 'Domains', and 'Quotas'. The 'Spaces' tab is active, displaying a table with columns 'Name', 'Region', and 'Manager'.

Name	Region	Manager
Base	Germany	✓
Dev	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 :

“Init binomes PoT IBM Watson IoT CPT IBM Cloud
Free 2020H2.pdf”

in directory Documentation



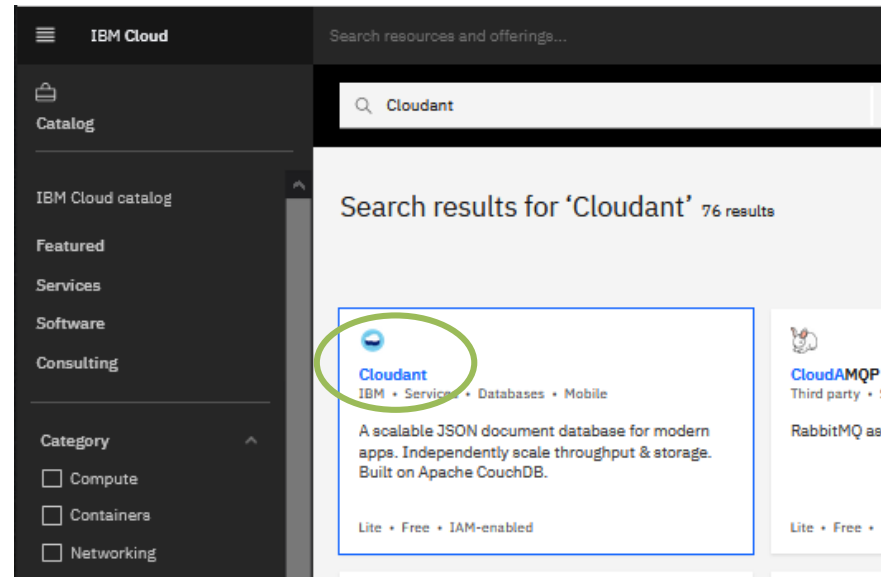
Cloudant service creation



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 Required

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 throughput 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 the iot-phone-cloudant-cloudantNoSQLDB service then 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?

Cancel Create

Then "Create"

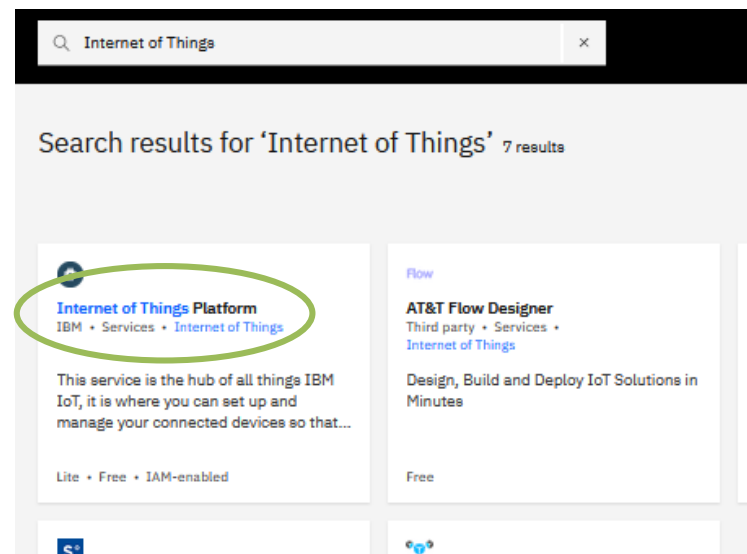
IoT service creation



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. At the top is a dark navigation bar with the 'IBM Cloud' logo, a search bar, and links for 'Catalog', 'Docs', 'Support', 'Manage', and 'Corinne'. Below this is a light gray header area showing the breadcrumb 'Resource list /' and the service name 'iot-phone-iotf-service' with a green 'Active' status and an 'Add tags' link. On the left is a sidebar with a 'Manage' section containing 'Plan' and 'Connections'. The main content area features a large blue icon of a central square with a circle and lines connecting to various 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 are two buttons: a blue 'Launch' button, which is circled in green, and a light gray 'Docs' button.

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. The main content area on the right is titled "Policies" and includes a sub-section "Connection Security" with a description and a green edit icon 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 "Default Rule" section are "Cancel" and "Save" buttons, with the "Save" button circled in green.

Sample application creation



Click on IBM Cloud Catalog

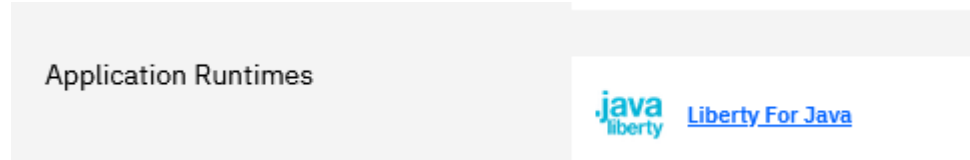
The screenshot displays the IBM Cloud Catalog interface. At the top, a dark navigation bar contains the 'IBM Cloud' logo, a search bar with the placeholder text 'Search resources and offerings...', and links for 'Catalog', 'Docs', and 'Support'. The 'Catalog' link is circled in green. Below this, the main content area is divided into a left sidebar and a right main panel. The sidebar, also with a dark background, lists navigation options: 'Catalog' (with a shopping bag icon), 'IBM Cloud catalog', 'Featured', 'Services', 'Software', and 'Consulting'. At the bottom of the sidebar is a 'Category' section with checkboxes for 'Compute', 'Networking', and 'Storage'. The main panel on the right has a light background and features a search bar with the text 'cloud foundry' entered, which is circled in green. Below the search bar, the heading 'Search results for 'cloud foundry'' is followed by a list of results. The first result, 'Cloud Foundry', is circled in green and includes a small icon, the text 'IBM • Services • Compute', and a description: 'Create and deploy applications on a managed multi-tenant Cloud Foundry environment'. A 'Lite' label is visible at the bottom of this result card.

Search and select “cloud foundry”

Sample application connection creation









Click “Liberty For Java”



Select the region
Enter a unique name

Configure your resource

Select a runtime

 Liberty for Java™ <input checked="" type="checkbox"/>	 SDK for Node.js™	 ASP.NET Core
 Python Community	 Ruby Community	 Runtime for Swift

App name

CorinneBacleEssai

Host name

Then “Create”



Sample application connection creation

Go to “Connections”



IBM Cloud Search resources and offerings... Catalog Docs Support Manage Corinne Bacle's Account

Resource list / CorinneBacleEssai Starting Visit App URL Add tags

Getting started Overview Runtime **Connections** Logs API Management

Create connection +

Name	Type
------	------

Select “Create connexion”
Select the IoT service
Select “Next”
Select “Writer” if requested
Then “Connect”
Then “Restage”

Create connection


Search resources...

	Name
<input checked="" type="radio"/>	iot-phone-cloudant-cloudantNoSQLDB
<input type="radio"/>	iot-phone-iotf-service

Do the same for the Cloudant service.

Result



 **IBM Cloud**

Rechercher des ressources et des offres...












Tableau de bord ▾

Récapitulatif des ressources

Tout afficher

5

Resources

Cloud Foundry apps

Cloud Foundry services

Services

✓ 1

2

✓ 2

IoTPhone Application User 1

IBM Cloud user 1

Continuous
Delivery

Git

IoT phone
application

Cloudant



IoT
Platform

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", "Location", "Latitude", and "Longitude". The "Movement" section shows a table with headers "Alpha", "Gamma", "X", and "Z", each with a value of "0". The "Location" section shows "Latitude" and "Longitude" with values 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

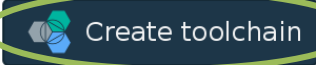
CorinneBacle Update README.md c4bc67d now

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.

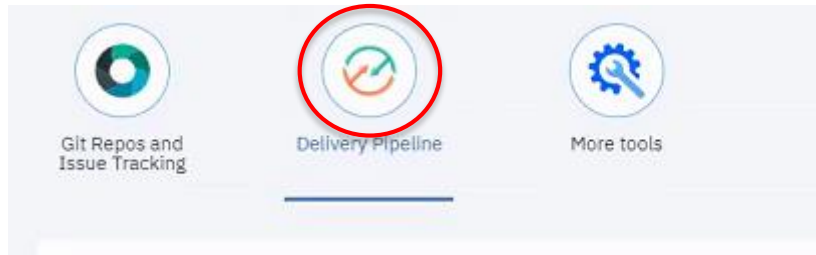
Toolchain Name:
POT-Mai-2019-iot-html5-phone

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@yahoo...

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

Repository

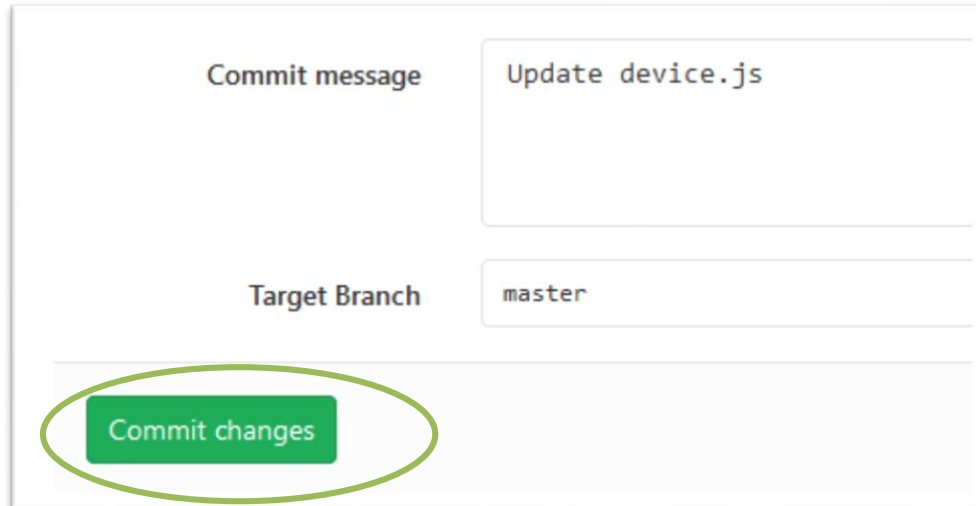
Files

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 hf 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

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 

Find the application:

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




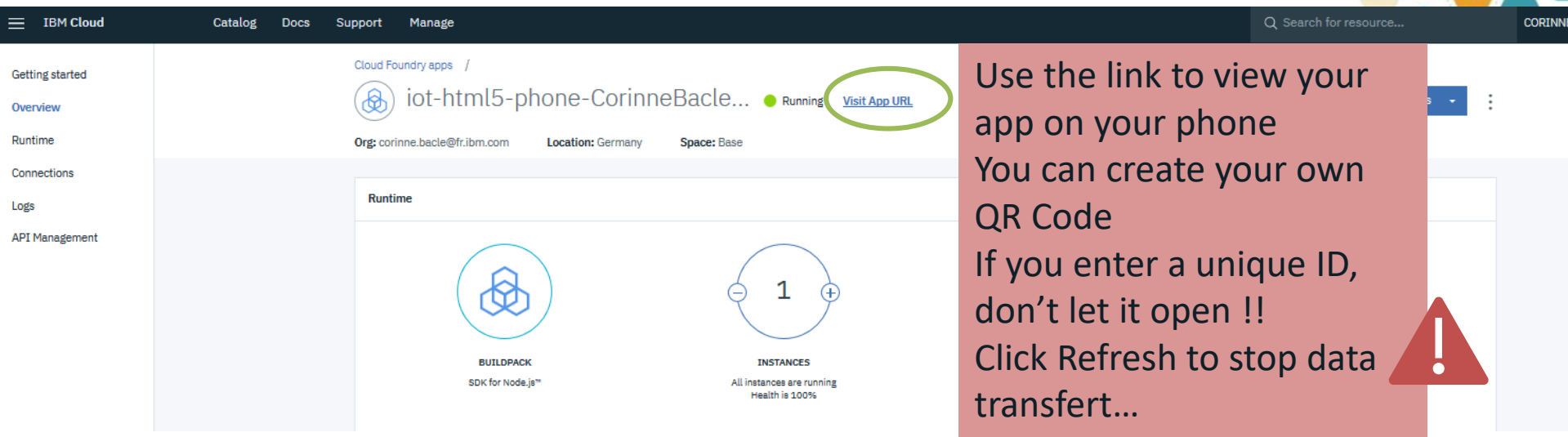
IBM Cloud Rechercher des ressources

Dashboard

Récapitulatif des ressources

- Cloud Foundry Apps
- Cloud Foundry Services
- Services

Cloud Foundry apps (2)					
	CorinneBacleEssai	cocobacle@yahoo.fr / dev	London	Liberty for Java™	Started
	html5-phone-20200911124338895	cocobacle@yahoo.fr / dev	London	Cloud Foundry applications	Started
Cloud Foundry services (2)					



IBM Cloud

Catalog Docs Support Manage

Search for resource...

CORINNE

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...



Si vous avez un iPhone : La version IOS ne permet pas d'accéder à l'accéléromètre et au gyroscope depuis Safari de façon simple.

Open the appli on your phone/tablet



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...



IBM Cloud

Search resources and offerings...

Catalog Docs Support Manage Corinne Bacle's Account

Resource list /

html5-phone-20200911124338895 Running [Visit App URL](#) [Add tags](#)

Details [Actions...](#)

Getting started

Overview

Runtime

Connections

Logs

API Management

Autoscaling

Availability Monitoring

Instances [Edit](#)

Health

100%

1/1 instance(s) are running

MB memory per instance

0 192 128

Runtime

SDK for Node.js™

128

Total MB allocation

64 MB still available

Used Free

Runtime cost

Current and estimated cost excludes connected services.

0,00 \$US 0.00

0,00 \$US 0,00

Estimated total for billing period

Connections (2)

- iot-phone-cloudant-cloudantNoSQLDB
- iot-phone-iotf-service

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

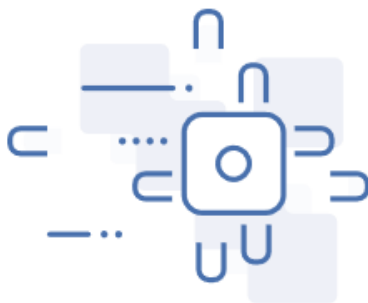
Connections

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



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](#)