



IBM Cloud & Watson Labs

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Content

Lab Guides available on this Web page: <http://ibmcloud-watson-day.mybluemix.net/>

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Labs – Before Starting

- ❑ Access to IBM Cloud (requires a valid IBM Cloud Account)

<https://console.ng.bluemix.net>

Ensure you have enough free resources (GB / #Services) in your IBM Cloud Organization / Spaces to run the lab exercises. *If you encounter a resource contention (Error Message saying you are out of resources), clean up your Spaces by deleting existing Apps or Services.*

- ❑ If you have a problem with an existing IBM Cloud Account (Corporate or student account etc.)

→ a workaround for this session is to create a new Account using another valid email address:
<https://console.bluemix.net/registration>



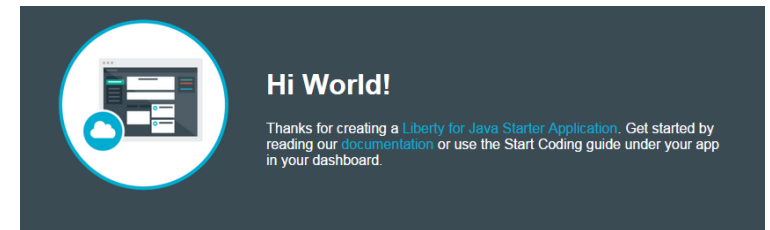
Lab 1 – Create & Deploy a Simple Application

IBM Cloud Console – Dashboard - Service Catalog – Binding – Logs – Service Status

Lab 1 – Objective

- Connect to IBM Cloud, browse the Service Catalog
- Create your first Web Application in IBM Cloud
- Get familiar with IBM Cloud Graphical Interface & your App. dashboard
- Expected Result: your Web App is operational
- Lab Guide & Instructions here:

<https://ibmcloud-watson-day.mybluemix.net/files/Lab1-Liberty-HelloWorld.pdf>





Lab 2 – Get Started with IBM Cloud DevOps

Cloud Foundry – IBM Cloud DevOps – Application Coding, Sharing & Deployment

Lab 2 – DevOps basics

1. Go to the following IBM Cloud Garage Method Tutorial Web Page

https://www.ibm.com/devops/method/tutorials/tutorial_toolchain_flow

Within a few minutes, you can create an open toolchain and start using it to continuously deliver a "Hello World" app in an IBM® Cloud® environment.

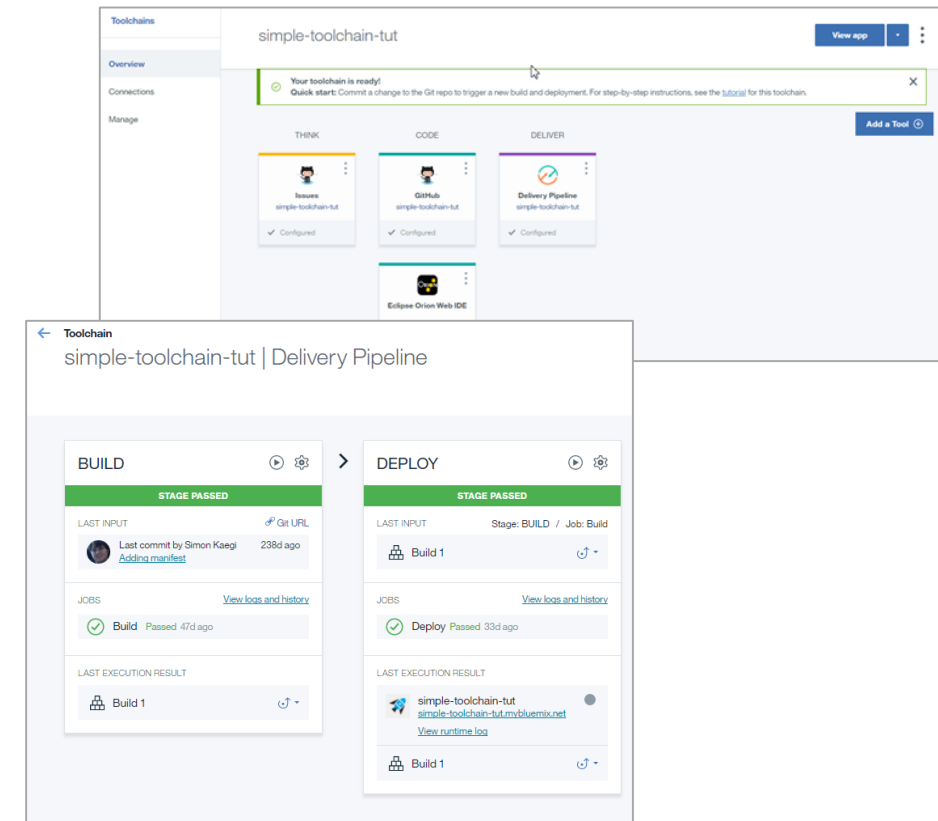
In this tutorial, you create a toolchain from a template that contains a specific set of tool integrations and code to develop and deploy a sample Cloud Foundry app that is written in Node.js.

The toolchain is preconfigured for continuous delivery, source control, issue tracking, and online editing.

After you create the toolchain, you change the app's code and push the change to the GitHub repository (repo).

When you push changes to your repo, the delivery pipeline automatically builds and deploys the code that is in the repo.

Instructions & Lab Guide provided on the web site: Lab Materials - Lab 2



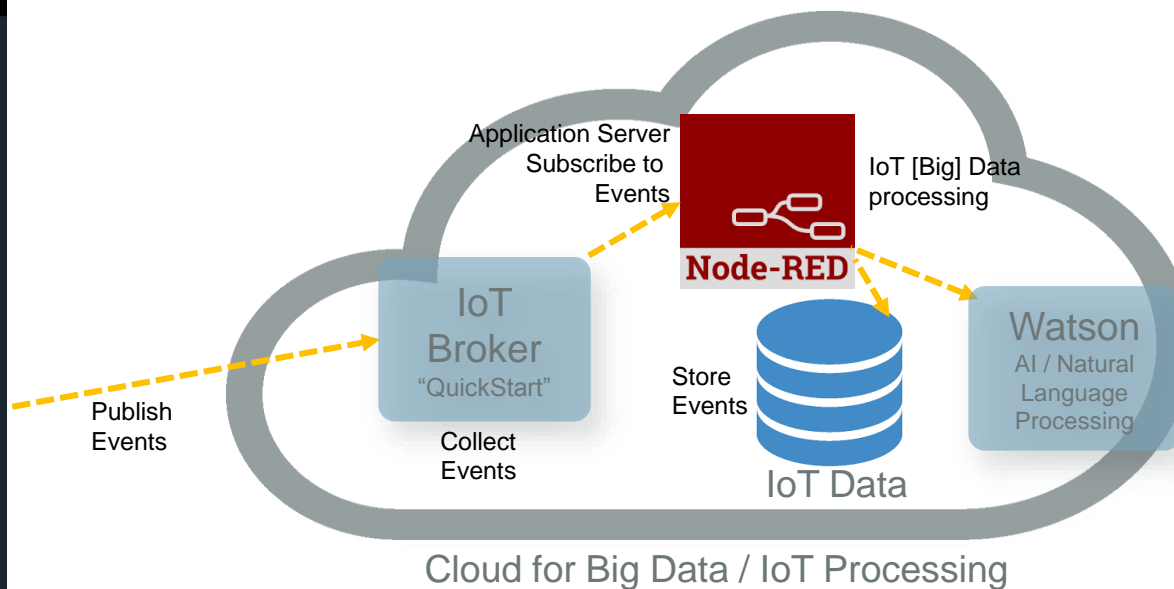
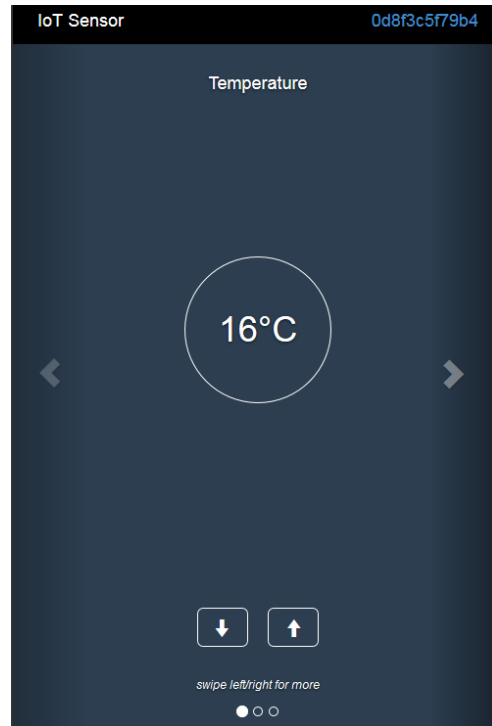


Lab3 – IoT Application with Node-RED and IBM Watson Services

IoT – Node-RED – Boilerplates – Watson Services

Lab 3 – Objectives & Architecture

- Create & modify an application using Node-RED
- Discover new services (IoT) & Node-RED, a visual tool (Open source project developed by IBM) to easily develop JavaScript applications, consume or create services (IoT / Watson...)



Virtual Temperature Sensor

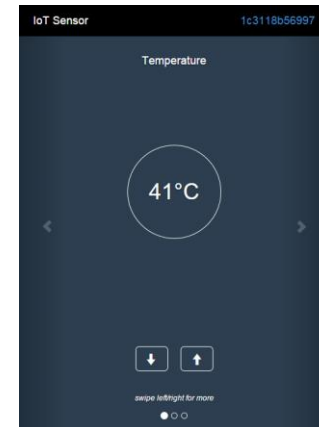
Lab 3 – Expected Results

Your Node-RED application is operational (using Node.js runtime), accessing Cloudant & IoT Foundation Services (QuickStart)

Your App is online (reachable from the Internet), & will be connected to a temperature simulator (sensor)

Lab Guide & Instructions on the Web Site
Direct link :

<https://ibmcloud-watson-day.mybluemix.net/files/Lab3-bluemix-iot.pdf>



```
23/7/2015 18:32:58 [opustatus]
[msg.payload] : string
Temperature (41) critical

23/7/2015 18:32:57 [device data]
iot-2/type/iotqs-
sensor/id/1c3118b56997/evt/iotensorfmt/json :
[msg.payload] : object
{ "d": { "name": "1c3118b56997", "temp":
41, "humidity": 56, "objectTemp": 52 } }

23/7/2015 18:32:57 [opustatus]
[msg.payload] : string
Temperature (41) critical

23/7/2015 18:33:00 [device data]
iot-2/type/iotqs-
sensor/id/1c3118b56997/evt/iotensorfmt/json :
[msg.payload] : object
{ "d": { "name": "1c3118b56997", "temp":
41, "humidity": 56, "objectTemp": 52 } }

23/7/2015 18:33:00 [opustatus]
[msg.payload] : string
Temperature (41) critical

23/7/2015 18:33:02 [device data]
iot-2/type/iotqs-
sensor/id/1c3118b56997/evt/iotensorfmt/json :
[msg.payload] : object
{ "d": { "name": "1c3118b56997", "temp":
41, "humidity": 56, "objectTemp": 52 } }

23/7/2015 18:33:02 [opustatus]
[msg.payload] : string
Temperature (41) critical

23/7/2015 18:33:05 [device data]
iot-2/type/iotqs-
sensor/id/1c3118b56997/evt/iotensorfmt/json :
[msg.payload] : object
{ "d": { "name": "1c3118b56997", "temp":
41, "humidity": 56, "objectTemp": 52 } }

23/7/2015 18:33:05 [opustatus]
[msg.payload] : string
Temperature (41) critical
```



Lab 4 – IBM Watson & Face Recognition

IBM Watson – Face Recognition with Visual Recognition – Node-RED

Lab 4 – Instructions

Build a Face Recognition App Using Visual Recognition and Node-RED

by Armen Pischdotchian – World of Watson 2016

Download the following Lab Guide :

http://ibmcloud-watson-day.mybluemix.net/files/Lab4-Face_Recognition.pdf



Before Starting:

If you successfully executed Lab 3 with Node-RED and if your Node-RED app is still alive, keep it: you have the possibility to start the lab at step 7, page 6/8 , **Populate the Node-RED canvas.** Create a **Visual Recognition** service bound to your existing Node.js application.

If you did not create a Node-RED application in Lab 3, ignore this message & proceed with the lab.

At the End, Additional step:

Add debug nodes before & after the Watson API calls (nodes): display the input & output objects

Lab 4 – Expected Result with Watson Visual Recognition

Visual Recognition v3 Image Analysis

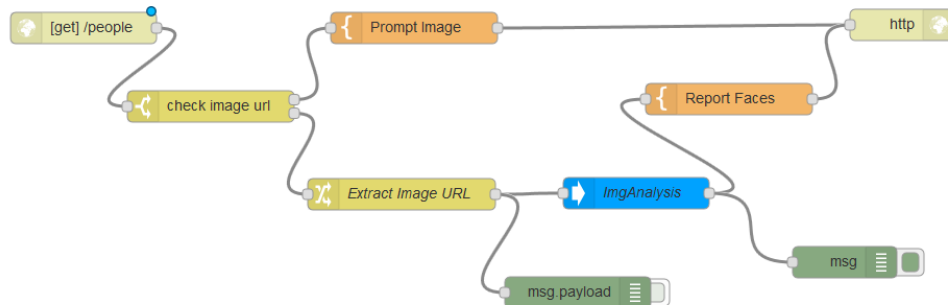
Analyzed image: <http://i.dailymail.co.uk/i/pix/2015/09/21/16/2C96F60E0000057>



Images Processed: 1

Age Range	Confidence	Gender	Confidence	Name
55 - 64	0.418064	MALE	0.924142	Daniel Craig

[Try again or go back to the home page](#)



Visual Recognition v3]

Analyzed image: <https://metrouk2.files.wordpress>



Visual Recognition v3 Image Analysis

Analyzed image: <http://www.007.com/wp-content/uploads/2014/01/Roger-Moore-james-bond-BW.jpg>



Images Processed: 1

Age Range	Confidence	Gender	Confidence	Name
35 - 44	0.403753	MALE	0.952574	Roger Moore (0.622459)

[Try again or go back to the home page](#)

End of Labs

Thank You



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Optional Labs

To go further...



Lab 5 – IBM Watson Conversation

IBM Watson – Natural Language & Conversation – Weather API

****DEPRECATED : use Lab 7 instead**

****DEPRECATED : use Lab 7 instead**

Lab 5 – Instructions

Developing a Chatbot Using the IBM Watson Conversation Service

by Armen Pischdotchian – World of Watson 2016

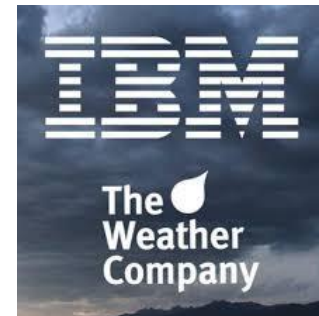
Refer to the following Lab Guide :

https://bluemix-watson-day.mybluemix.net/files/Lab5-conversation_expedited_v4.pdf

Download Lab Materials

https://bluemix-watson-day.mybluemix.net/files/Lab5_ConversationMaster.zip

You will deploy your application on your local desktop, on a node.js runtime. At the end of the lab, you have the possibility to deploy it in IBM Cloud.





Lab 6 – Train Custom Images

IBM Watson – Visual Recognition APIs: `/classify` `/detect_faces` `/recognize_text`

Lab 6 – Visual Recognition Cheat Sheet



You'll find the complete Lab Guide from Armen Pischdotchian on [github](#) or [here](#).

1. Create a Visual Recognition Service & write down the Service Credentials (API Key)



2. Install cURL on your desktop.
3. Download useful files from [here](#) (or bring your own), unzip, and open a terminal in that folder.
4. Classify Exercise with Fruitbowl.jpg (do the same with prez.jpg, sign.jpg)

```
curl -X POST -F "images_file=@fruitbowl.jpg" https://gateway-a.watsonplatform.net/visual-recognition/api/v3/classify?api_key=<API-KEY>&version=2016-05-20
```

5. Detect Faces with prez.jpg

```
curl -X POST -F "images_file=@prez.jpg" https://gateway-a.watsonplatform.net/visual-recognition/api/v3/detect_faces?api_key=<API-KEY> &version=2016-05-20
```

6. Recognize Text with sign.jpg

```
curl -X POST -F "images_file=@sign.jpg" https://gateway-a.watsonplatform.net/visual-recognition/api/v3/recognize_text?api_key=<API-KEY>&version=2016-05-20
```

7. Create Classifier: Dogs + Positive Examples Classes (Husky, Beagles, Golden Retrievers) and negative examples (Cats).

```
curl -X POST -F "beagle_positive_examples=@Beagle.zip" -F "husky_positive_examples=@Husky.zip" -F "goldenretriever_positive_examples=@GoldenRetriever.zip" -F "negative_examples=@Cats.zip" -F "name=dogs" https://gateway-a.watsonplatform.net/visual-recognition/api/v3/classifiers?api_key=<API-KEY>&version=2016-05-20
```

8. Test your custom Classifier by Classifying a picture

```
curl -X POST -F "images_file=@dogs.jpg" -F "parameters=@myparams.json" https://gateway-a.watsonplatform.net/visual-recognition/api/v3/classify?api_key=<API-KEY> &version=2016-05-20
```



Lab 7 – Building Advanced Dialog in Watson Conversation Service

IBM Watson – Conversation & Dialog

Watson Assistant - Conversation : A few notions

1. Import or create **Intents** & Examples

#turn_off

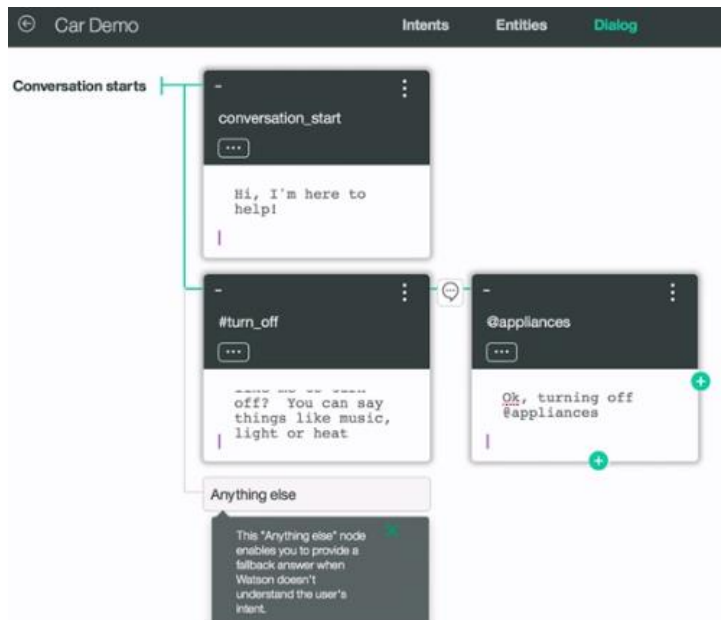
"I want to turn off my headlights."
"I don't want to hear music anymore."
"Cancel cruise control."
"Switch my headlights off."
"I don't need my wipers anymore."

2. Import or create **Entities** & Values

@appliances

"I want to turn off my **headlights**."
"I don't want to hear **music** anymore."
"Cancel **cruise control**."
"Switch my **headlights** off."
"I don't need my **wipers** anymore."

3. Import or Configure **Dialog**



4. Adjust & test Dialog

Hi, I'm here to help!

Turn that off!

#turn_off :

What would you like me to turn off? You can say things like music, light or heat

music

#turn_off : @appliances:music

Ok, turning off music

Lab 7 – Instructions

Building Advanced Dialog in Watson Conversation Service

by Armen Pischdotchian

- ☐ This Lab is based on Lab 5 – “Car bot” , requires you to create a new Conversation Service or workspace.
- ☐ Learn how to build a Dialog with Conversation!
- ☐ Refer to the following Lab Guide:

https://bluemix-watson-day.mybluemix.net/files/Lab7-Conversation_dialog.pdf



To go further...

☐ Reference

- ☐ <https://github.com/apischdo/WOW2016>

- ☐ IBM Watson Visual Recognition APIs

- ☐ Advanced dialog with Conversation....

- ☐ More to come...

☐ Watson Developer Cloud (Docs, Demos, Tutorials...)

- ☐ <http://www.ibm.com/watson/developercloud/>