Lab Setup Guide

Software Installation and Setup for the labs

Introduction

This document will walk you through all the download, installation and setup required to perform the proposed labs. Make sure you have the minimum requirement before start.

- Windows 10 or MacOS X El Captain 10
- At least 4GB of RAM
- Internet Connection

We'll go through the following in this document:

- Install Docker
- Install Bluemix CLI
- Install and setup kubectl
- Install and setup Bluemix plugins
- Create your free Kubernetes cluster
- Do some basic testing

1. Create a Bluemix Account

If you still don't have a Bluemix account go to https://console.bluemix.net/registration/ and create one. If you are an IBMer, use your IBM e-mail so you can have a longer trial period. We'll not cover details on how to merge your IBM ID with your intranet id. If you need help reach out to us.

2. Installing Docker

Docker is required so you can create new images in your local machine. It's also needed by the Bluemix CLI.

1. Go to the following link to download Docker, follow the instructions there. We also suggest you to pick the stable version, the same one used for the labs.

- Mac OS X - https://docs.docker.com/docker-for-mac/install/
- Windows 10 - https://docs.docker.com/docker-for-windows/install/

2. Once installed double check if everything is ok running *docker –version* on your terminal (prompt in Windows). You should get something like this as a result :

```
Docker version 17.06.0-ce, build 02c1d87
```

3. You could run some other commands just to check everything is fine like *docker images* or *docker ps -a*.

3. Installing Bluemix CLI and Bluemix Plugins

You need Bluemix CLI in order to access from your local machine command line the Bluemix container and Kubernetes environments. We'll install some more specifics plugins in the coming steps.

1. Go to https://clis.ng.bluemix.net/ui/home.html, download and run the file for your OS system.

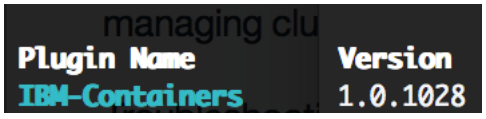
2. To make sure Bluemix CLI has been successfully installed, open your terminal and run *bx* or *bluemix*. You should see the following output:

```
NAME:
   bluemix - A command line tool to interact with Bluemix

USAGE:
   [environment variables] bluemix [global options] command [arguments...] [command options]

VERSION:
   0.5.5+87df0e64-2017-07-03T06:01:06+00:00

COMMANDS:
   api          Set or view target API endpoint
   login        Log user in
   logout       Log user out
   target       Set or view the target org or space
   info         View Bluemix information
   config       Write default values to the config
   update       Update CLI to the latest version
   regions      List all the Bluemix regions
   iam          Manage accounts, orgs, spaces, roles and API keys
   catalog      Manage Bluemix catalog
   app          Manage Cloud Foundry applications and application related domains, routes and certificates
   service      Manage Bluemix services
   billing      Retrieve usage and billing information
   plugin       Manage plug-ins and plug-in repositories
   cf           Run Cloud Foundry CLI with Bluemix context
   sl           Softlayer Infrastructure services
   help

Enter 'bluemix help [command]' for more information about a command.

ENVIRONMENT VARIABLES:
   BLUEMIX_COLOR=false                  Do not colorize output
   BLUEMIX_TRACE=true                   Print API request diagnostics to stdout
   BLUEMIX_TRACE=path/to/trace.log      Append API request diagnostics to a log file
   BLUEMIX_API_KEY=api_key_value        API key to use during login

GLOBAL OPTIONS:
   --version, -v                Print the version
   --help, -h                   Show help
```

Installing IBM Containers Plugin

This plugin is responsible to connect your local machine to Bluemix containers so you can create new Docker images and run container on Bluemix.

Run *bx plugin install IBM-Containers -r Bluemix* it may take a while to find and download it. When done run *bx plugin list*. The following output is expected:



Installing Container Services and Container Registry Plugins

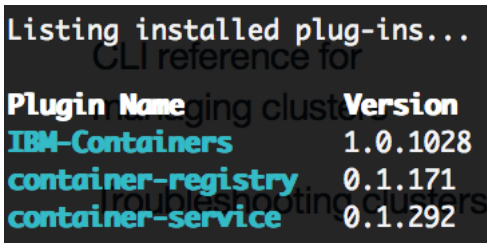
The Container Services plugin is responsible for connecting your local machine to the Bluemix Kubernetes clusters and the Container Registry allows you to store Docker images on Bluemix and make them accessible to Kubernetes.

Go to https://console.bluemix.net/docs/containers/cs_cli_install.html#cs_cli_install and follow the steps:

- In the 'Installing CLI' session perform the second step 1, second step 2 (for some reason there are 2 steps 1 and 2) and step 3.

Obs. You can ignore all the other sessions on the page for now, we'll go through these later.

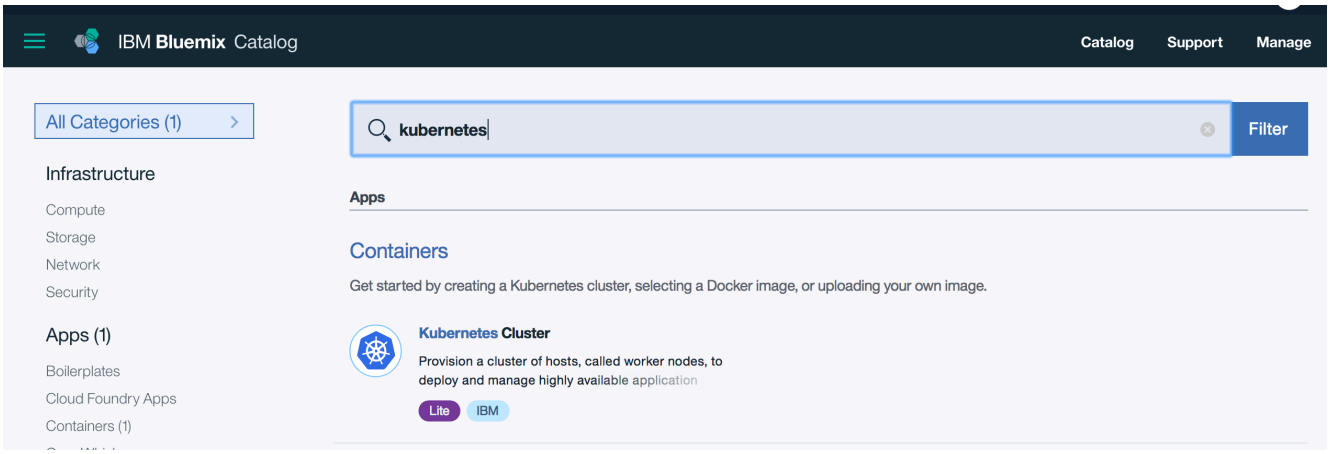
By this time if you run *bx plugin list* you should get the following:



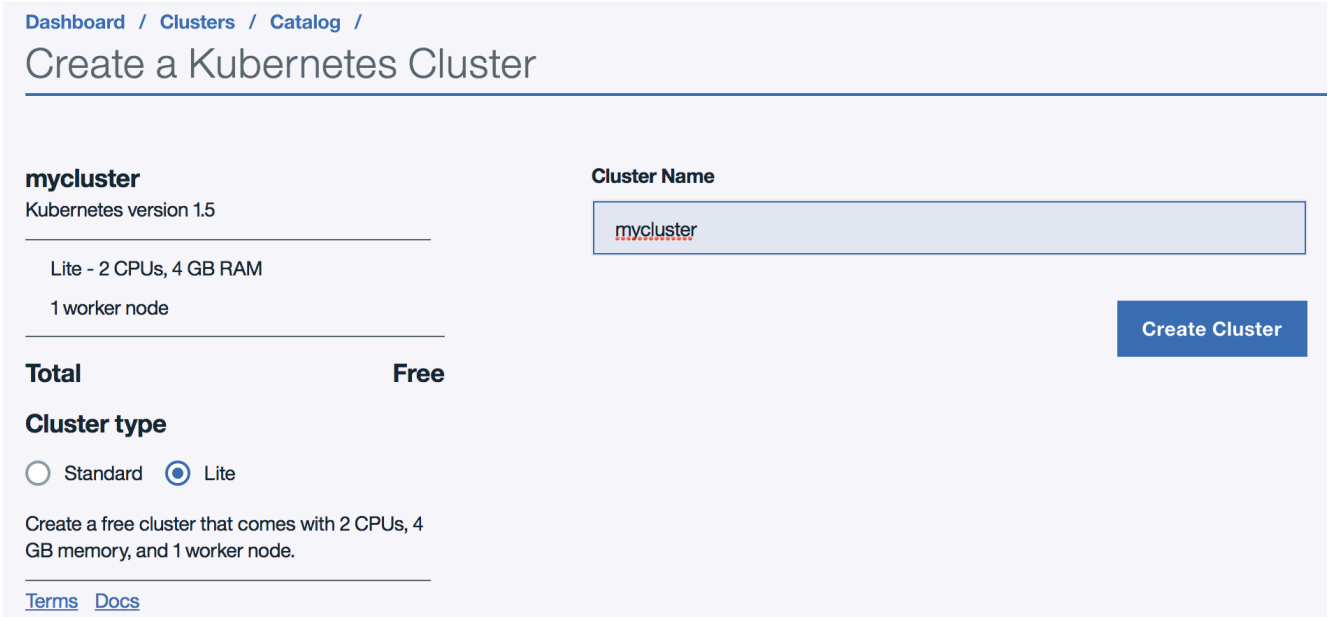
4. Create a Free Kubernetes Cluster on Bluemix

Now that you have all the stuff required let's create a Kubernetes cluster on Bluemix so you are ready to kick off with the labs.

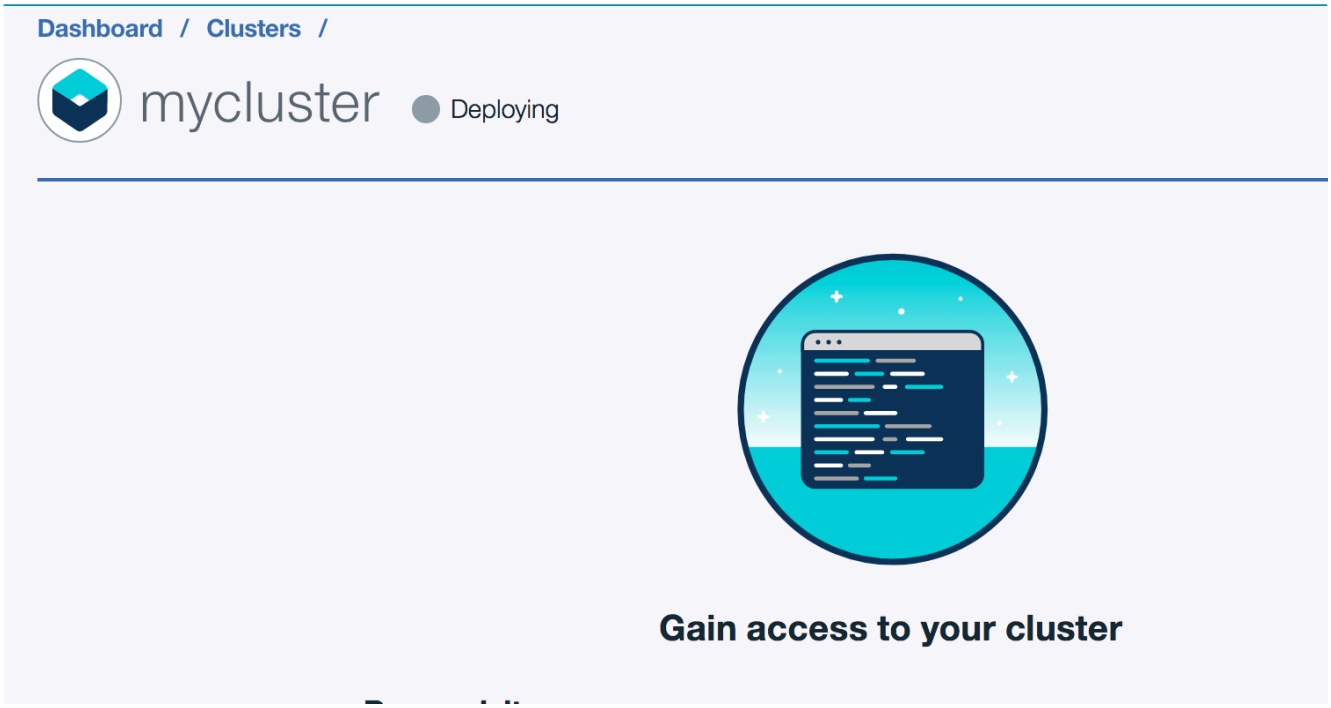
1. On your Bluemix main page, go to 'Catalog' and search for 'Kubernetes' and click on 'Kubernetes Cluster'.



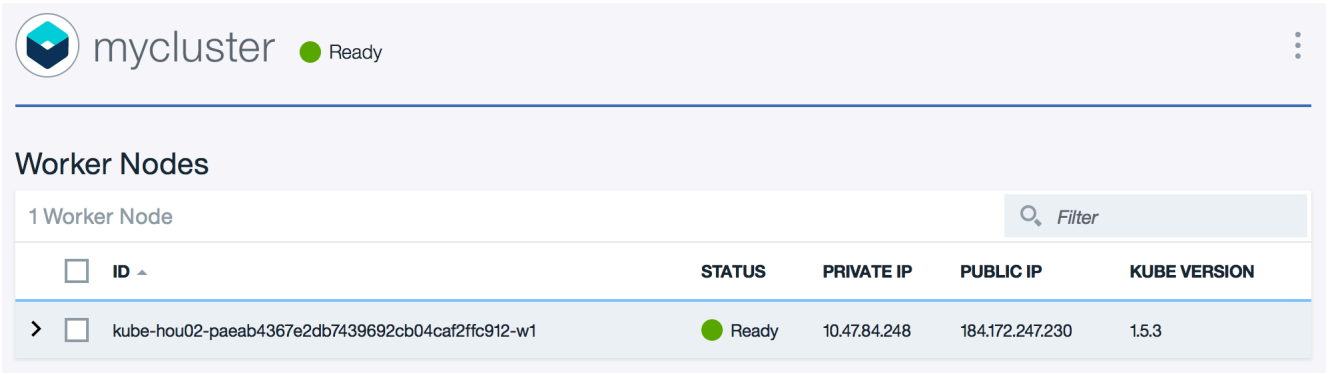
2. Give a name to your cluster and click 'Create Cluster'



3. After creating the cluster it will be in 'deploying' status for a while (from 5 to 30 minutes) so you have to wait.



4. When finished, you should see something like this.



Make sure you are able to view your cluster from the command line.

- Run *bx login –sso* to access the Bluemix environment from the command line, select your organization and space.
- Run run *bx cs init –host https://us-south.containers.bluemix.net* to login to your kubernetes in Bluemix, run *bx target –cf* to select your space and then *bx cs clusters* to get your cluster name.

5. Create your container namespace so you can store your Docker images on Bluemix

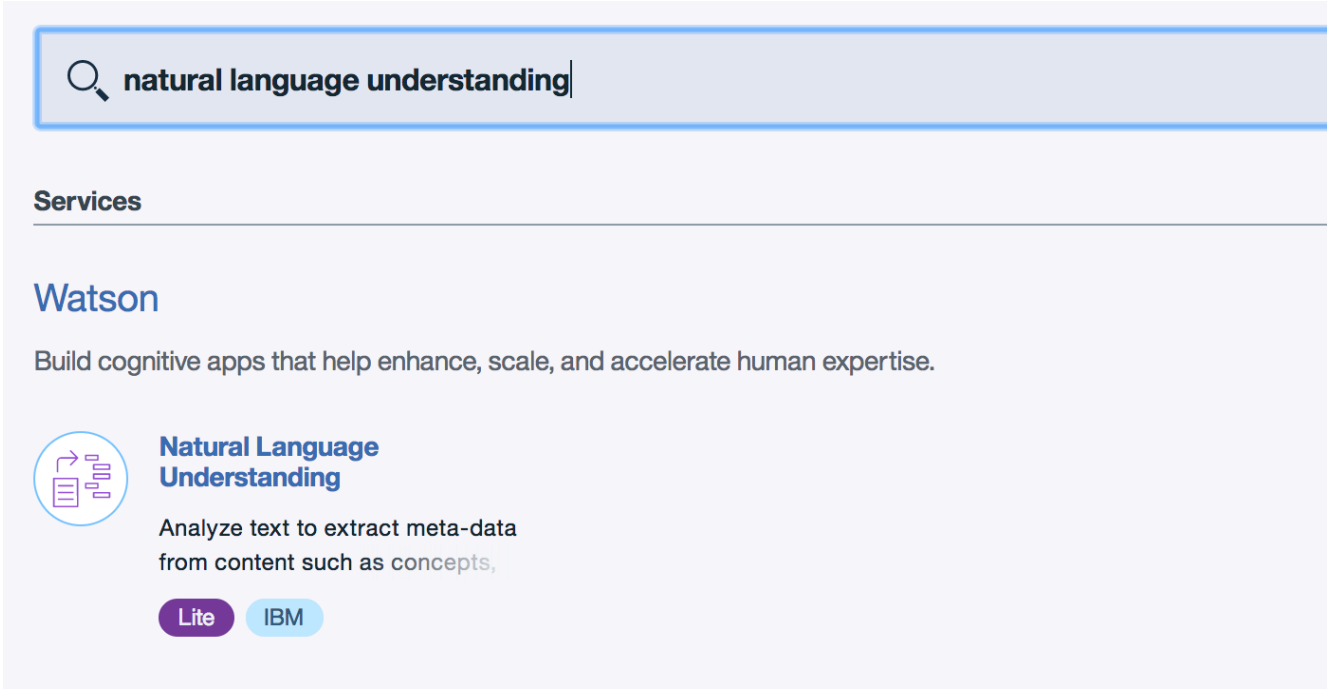
- Run *bx cr namespace-add <my_namespace>* (use the name you want to)and then check if it was created successfully running *bx cr namespaces*.You should see your namespace listed in the prompt.

Congratulations! You've made it! Now you are ready to start working on the labs. Don't worry about all these tools, they'll be explained during the workshop.

5. Creating the Watson NLU Service

You need to create a new instance of the Watson Natural Language Understand since it will be used in Lab 6.

1. On your Bluemix main page, go to 'Catalog' and search for 'natural language understanding' and click on it.



2. Name your service 'nlu' (exactly like that) and click create.

3. If you go back to your Bluemix Dashboard, under the 'Services' tab, you should be able to view it.