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# Lab Setup Guide

Software Installation and Setup for the labs

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## 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 Capitan 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

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## 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.

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## 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 specific 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

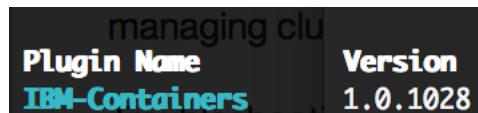
GLOBAL OPTIONS:
  --version, -v      Print the version
  --help, -h        Show help
```

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## 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:



```
managing clu
Plugin Name    Version
IBM-Containers 1.0.1028
```

Plugin Name	Version
IBM-Containers	1.0.1028

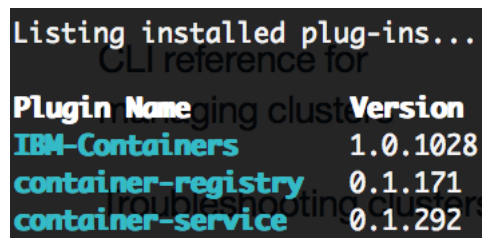
## Installing Container Services and Container Registry Plugins

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](https://console.bluemix.net/docs/containers/cs_cli_install.html#cs_cli_install) and follow the steps in the first session ([Installing the CLIs to create and manage Kubernetes clusters and container deployments in IBM Bluemix Container Service](#)). You can skip step 1 and 5 since we already installed the Bluemix CLI and Docker. make sure you go through all the other steps 2, 3 and 4.

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:



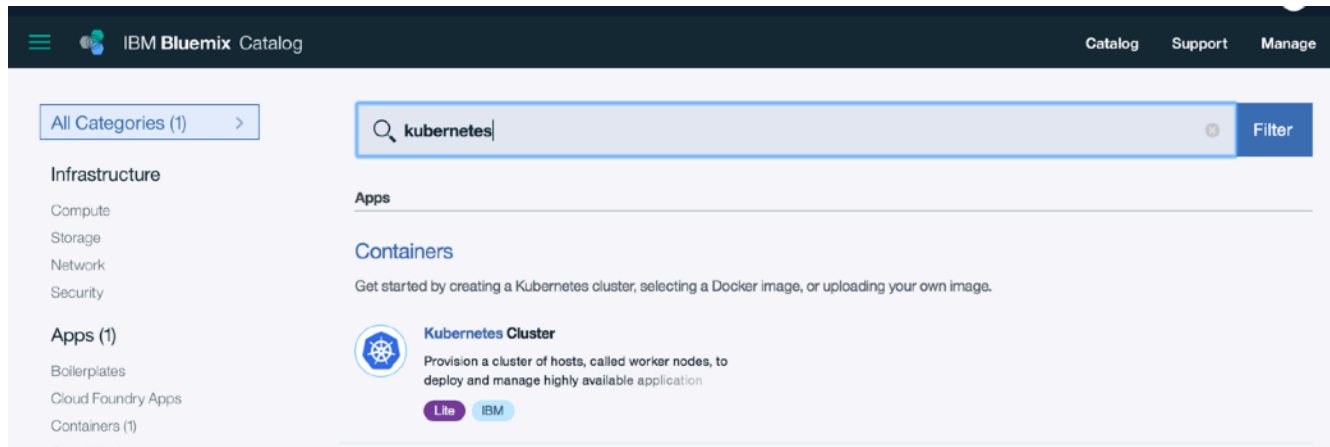
```
Listing installed plug-ins...
CLI reference for
managing cluster
troubleshooting clusters
Plugin Name    Version
IBM-Containers 1.0.1028
container-registry 0.1.171
container-service 0.1.292
```

Plugin Name	Version
IBM-Containers	1.0.1028
container-registry	0.1.171
container-service	0.1.292

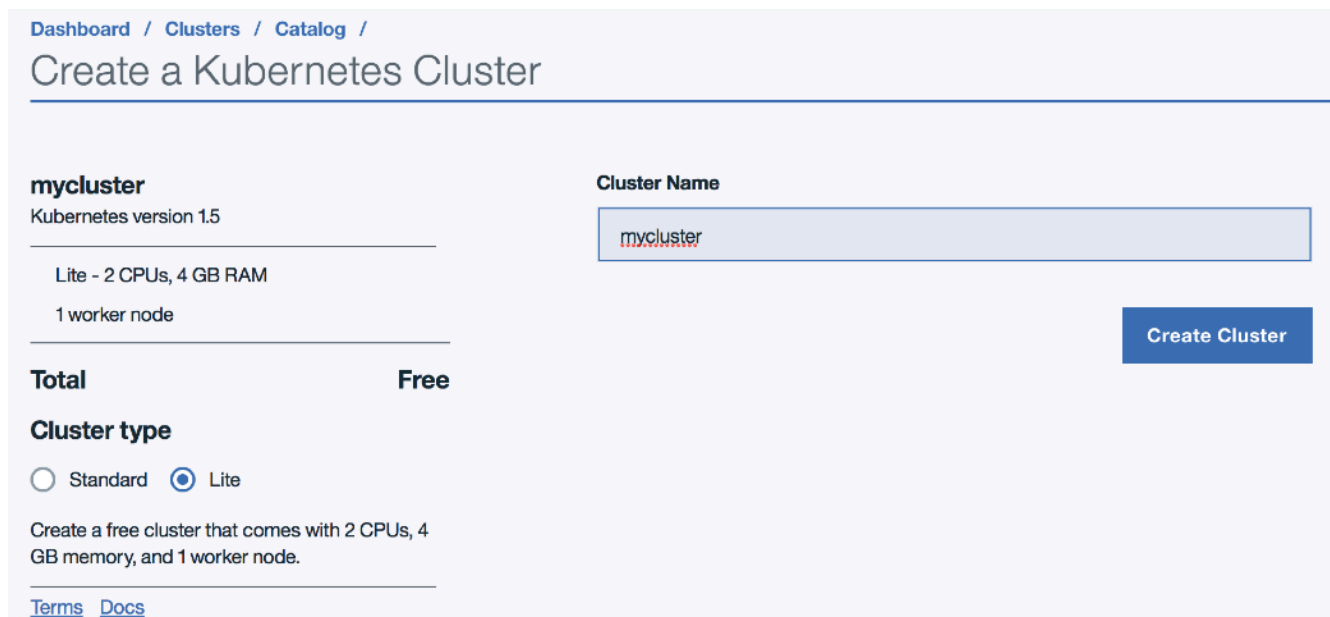
## 4. Create a Free Kubernetes Cluster on Bluemix

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.

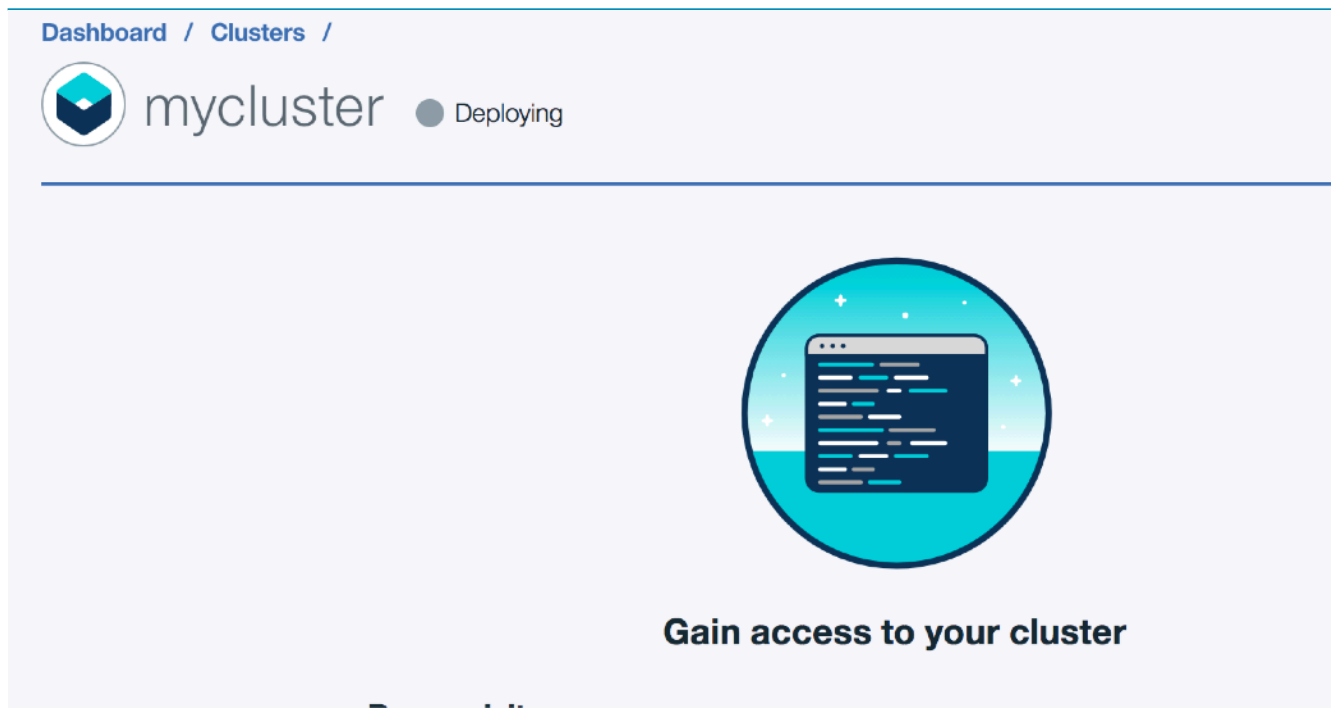
1. On your Bluemix main page, go to 'Catalog' and search for 'Kubernetes' and click on 'Kubernetes Cluster'.



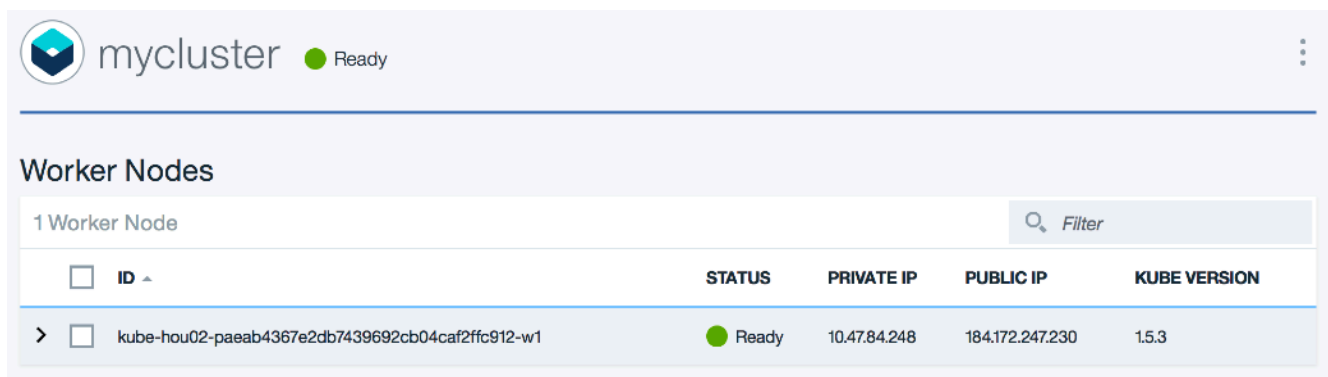
2. Give a name to your cluster and click 'Create Cluster'



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

Name	ID	State	Created	Workers	Datacenter
mycluster	eab4367e2db7439692cb04caf2ffc912	normal	2017-07-27T16:03:25+0000	1	hou02

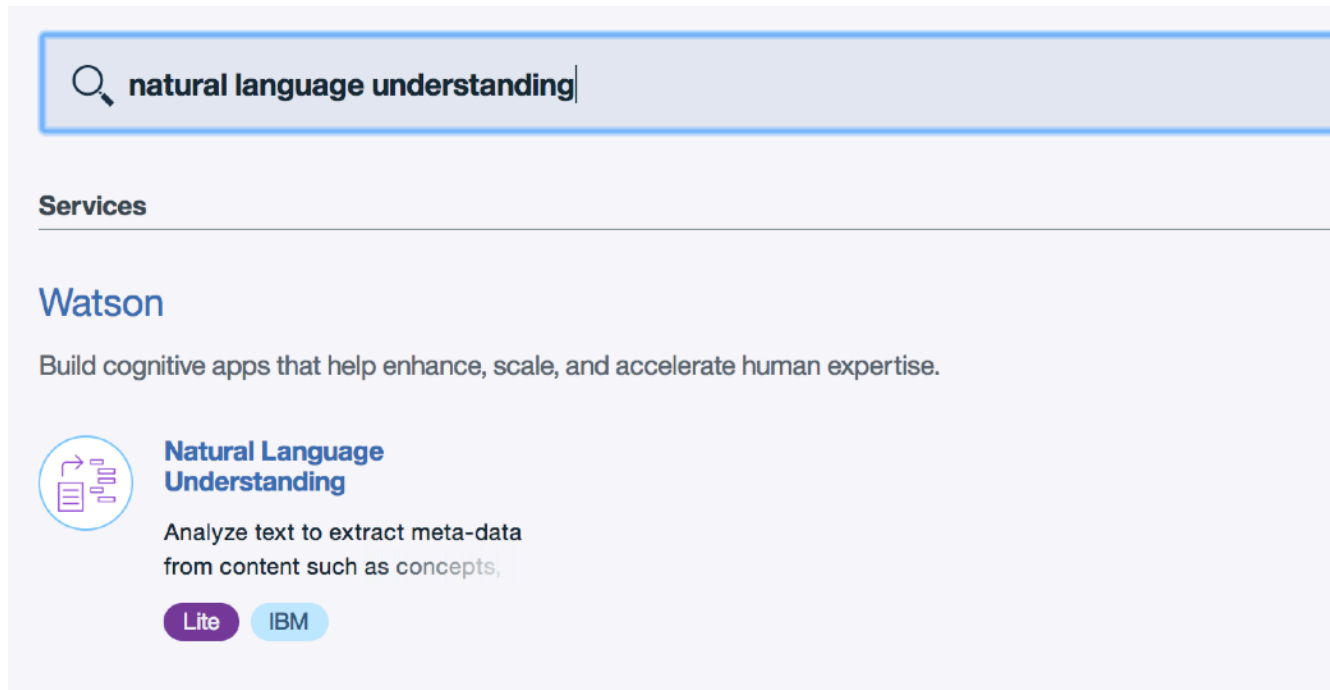
Congratulations! You've made it! Now you are ready to start working on the labs. Don't worry about all these tools, they'll be explained during the workshop.



## 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.

