

IBM Bluemix and Watson



Bluemix

- * A cloud platform as a service (PaaS)
- * Based on **Cloud Foundry** – a cloud computing platform
- * Linux based environment
- * App development, deployment and delivery (DevOps)



Bluemix

Organization

The screenshot shows the IBM Bluemix dashboard for the organization 'BLUETRADE'. The top navigation bar includes links for DASHBOARD, SOLUTIONS, CATALOG, PRICING, DOCS, and COMMUNITY. The left sidebar lists the organization's resources: CF APPS, SERVICES (8), CONTAINERS (0), and VIRTUAL SERVERS (0). The main content area displays five service tiles: Cloud Foundry Apps (3.750 GB/512 GB Used), Containers (0 B/2 GB, 0/0 Public IPs Requested | 0 Used), Virtual Servers (0 B/8 GB | 0/5 Public IPs), Data & Analytics, and Services & APIs (8/1500 Used). Each tile has a corresponding action button: CREATE APP, START CONTAINERS, RUN VIRTUAL SERVERS, WORK WITH DATA, and USE SERVICES OR APIS. A search bar is located in the top right corner.

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DASHBOARD SOLUTIONS CATALOG PRICING DOCS COMMUNITY

ORG: **BLUETRADE**

Head

- CF APPS
- SERVICES (8)
- CONTAINERS (0)
- VIRTUAL SERVERS (0)

Cloud Foundry Apps
3.750 GB/512 GB Used
CREATE APP

Containers
0 B/2 GB
0/0 Public IPs Requested | 0 Used
START CONTAINERS

BETA Virtual Servers
0 B/8 GB | 0/5 Public IPs
RUN VIRTUAL SERVERS

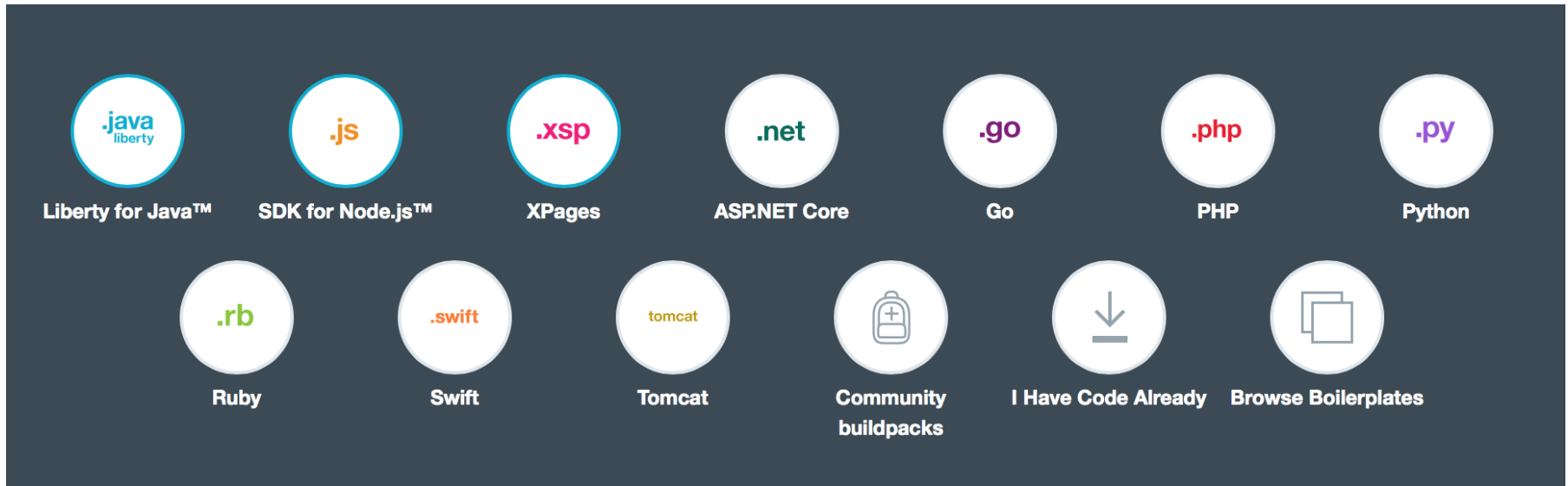
Data & Analytics
WORK WITH DATA

Services & APIs
8/1500 Used
USE SERVICES OR APIS

Type to search

Space

Supported Languages and Buildpacks



* Support for custom buildpacks



Cloud Foundry

- * A **Linux** based cloud environment
- * Provides:
 - * Access to Bluemix server
 - * Command-line interface (CLI)
 - * Eclipse plugin
 - * SSH access

Bluemix DevOps Services

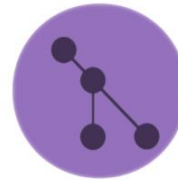
Go from source code to a running app in minutes



Create a Project



Edit Code



Source Control



Build and Deploy

Manage your account, your projects, and your team's work



Manage your
Account



Administer a
Project



Track and Plan

Bluemix DevOps Services

- * Track & Plan service
 - * Planning for project and team-work
- * source control
 - * A Web IDE for managing source control
 - * Source control through Git, Jazz SCM, or GitHub
- * Delivery Pipeline
 - * Automated builds and deployments through the Delivery Pipeline service

Deploying an App with *manifest.yml*

* An example:

```
---
applications:
- name: HogwartsHouses
  memory: 512M
  disk_quota: 512M
  path: .
  buildpack: "http://github.com/virtualstaticvoid/heroku-buildpack-r.git"
  command: R -f "./startApp.R"
  timeout: 180
  env:
    env_type: production
```

* To be used with CLI

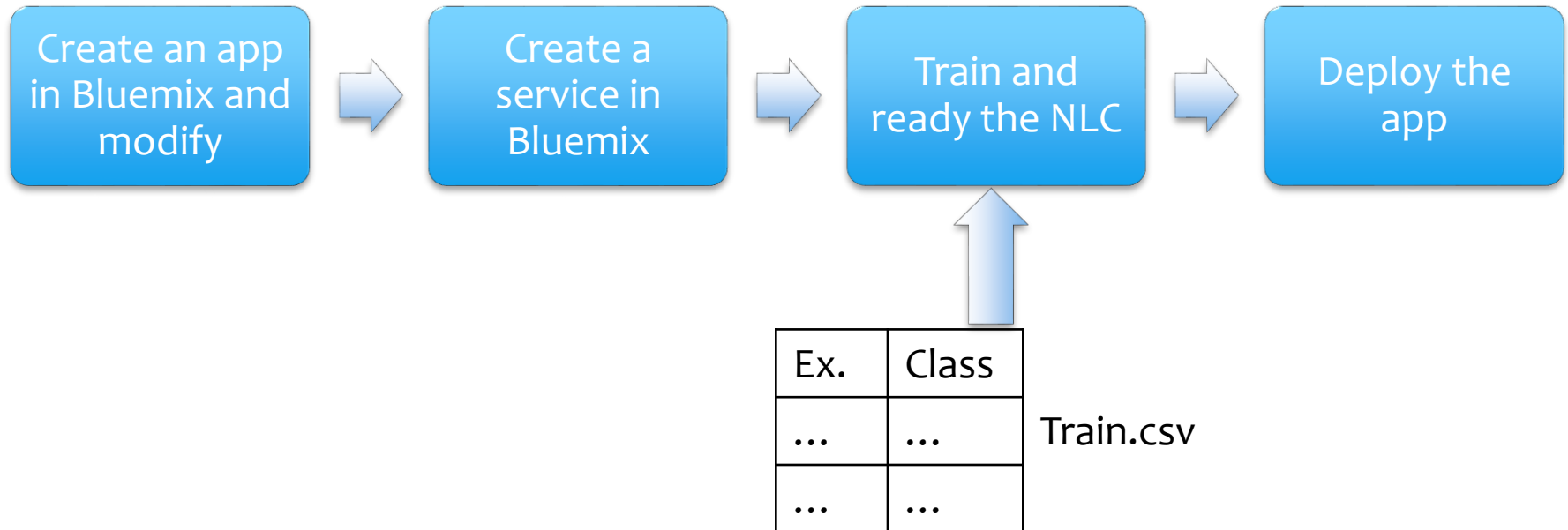


Watson Services

- * 100+ services
- * RESTful API for each of them
- * Documentation and support




Use Case – App with Watson Service





Create an NLC Service



- * Services & APIs >> Natural Language Classifier >> (Assign a service name) >> Create
- * Go to the service credentials page and copy them


Watson Service Credentials

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DASHBOARD SOLUTIONS CATALOG PRICING DOCS COMMUNITY

 Back to Dashboard... 

 **Natural Language Classifier-DemoPPT** 



Natural Language Classifier-D...

Manage

Service Credentials >

Service Access Authorization

APPS USING SERVICE

Service Credentials

Cloud Foundry provides your credentials in JSON format. The JSON snippet lists credentials, such as the API key and secret, as well as connection information for the service.

[ADD CREDENTIALS](#)

NAME	Credentials-DemoPPT	DELETE
SERVICE CREDENTIALS		
<pre>{ "credentials": { "url": "https://gateway.watsonplatform.net/natural-language-classifier/api", "password": "WiHG3dwmzbzz", "username": "b1dc6bcf-6a9a-42bf-abef-3a93c112d5d4" } }</pre>		

Use Case – Hogwarts' Houses Classification

Query	Class
I have courage	Gryffindor
I am brave	Gryffindor
I am a good friend	Hufflepuff
Hard working	Hufflepuff
Smart and intelligent	Ravenclaw
Artistic interests	Ravenclaw
I am hungry for power	Slytherin
I enjoy killing people	Slytherin
...	...

Create and Train a Language Classifier

- * Create and train with the curl command:

```
curl -u "{username}":"{password}" -F training_data=@train.csv -F training_metadata="{\"language\":\"en\", \"name\":\"My Classifier\"}" "https://gateway.watsonplatform.net/natural-language-classifier/api/v1/classifiers"
```

- * Replace the 'username' and 'password' with the service credentials and give the classifier a name at 'My Classifier'

Create and Train a Language Classifier

* Response when training:

```
{
  "classifier_id" : "e295e0x75-nlc-190",
  "name" : "My Classifier",
  "language" : "en",
  "created" : "2016-07-14T06:33:25.655Z",
  "url" : "https://gateway.watsonplatform.net/natural-language-
classifier/api/v1/classifiers/e295e0x75-nlc-190",
  "status" : "Training",
  "status_description" : "The classifier instance is in its training
phase, not yet ready to accept classify requests"
}
```

Create and Train a Language Classifier

- * Status check:

```
curl -u "{username}":"{password}"  
"https://gateway.watsonplatform.net/natural-language-  
classifier/api/v1/classifiers/{classifier_id}"
```

- * Replace the 'username' and 'password' with the service credentials and 'classifier_id' with your classifier ID

Create and Train a Language Classifier

* Response when ready:

```
{
  "classifier_id" : " e295e0x75-nlc-190",
  "name" : "My Classifier",
  "language" : "en",
  "created" : "2016-07-06T12:37:39.339Z",
  "url" : "https://gateway.watsonplatform.net/natural-language-
classifier/api/v1/classifiers/e295e0x75-nlc-190",
  "status" : "Available",
  "status_description" : "The classifier instance is now available and is
ready to take classifier requests."
}
```

Use Case – App Usage

User characteristics
e.g. **I am brave.**



Project Link

- * App is running at:
 - * <https://hogwartshouses.eu-gb.mybluemix.net/>
- * Git repo for the project:
 - * <https://github.com/RAW21/HogwartsHouses.git>

Thank you!