# Buildpack

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Estimated Time: 25 minutes

## Requirements

Lab Requirements (/pivotal-cloud-foundry-developer/requirements/lab)

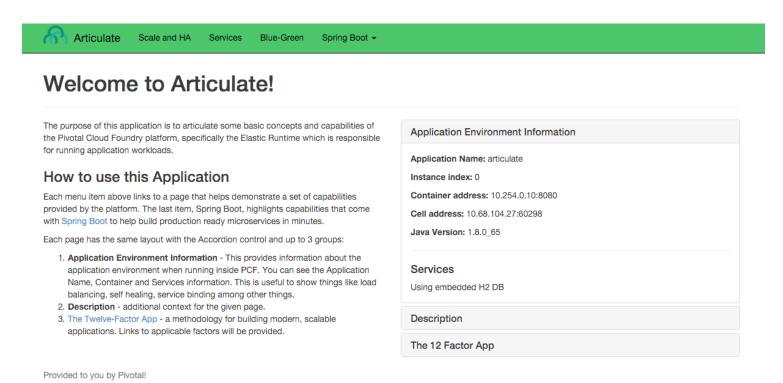
## What you will learn

- How to use a custom buildpack
- How to configure the Java Buildpack

### **Exercises**

#### **Use a Custom Buildpack**

- 1) Review the documentation on deploying with custom buildpacks (http://docs.pivotal.io/pivotalcf/buildpacks/custom.html#deploying-with-custom-buildpacks) and how dependencies are handled with the Java Buildpack online package (https://github.com/cloudfoundry/java-buildpack#online-package) and the offline package (https://github.com/cloudfoundry/java-buildpack#offline-package).
- 2) Review the Java Version reported by articulate.



3) Review which buildpack is in use.

\$ cf app articulate

4) Push articulate again, but this time specify a custom buildpack. In this case, we will use the latest version of the Java Buildpack (https://github.com/cloudfoundry/java-buildpack) on GitHub.

```
$ cd ~/pcf-developer-workshop/articulate/
$ cf push articulate -p ./articulate-0.0.1-SNAPSHOT.jar -b https://githu
b.com/cloudfoundry/java-buildpack.git
```

5) Using your browser, refresh the articulate application.

It's likely (but not required) that the Java Version changed.

#### What Just Happened?

We instructed our application to use a custom buildpack (as opposed to a system provided one).

In this case, we used the Java Buildpack source on Github as our custom buildpack. The Java Buildpack source is continuously updated and it is an online (https://github.com/cloudfoundry/java-buildpack#online-package) package of the buildpack. Meaning it has access to all dependencies via the network (it has access to all JRE versions, etc). Whereas, the system provided Java buildpack is offline (https://github.com/cloudfoundry/java-buildpack#offline-package), with a limited set of dependencies. For both the online and offline pacakges, unless the Java version is specified the application is run with the latest version of Java available to the buildpack.

### **Change the Java version**

- 1) Review the Java Buildpack configuration and extension documentation (https://github.com/cloudfoundry/java-buildpack#configuration-and-extension).
- 2) Let's assume that we want to run articulate on a specific version Java.

```
$ cf set-env articulate JBP_CONFIG_OPEN_JDK_JRE "{jre: { version: 1.8.0_4
5 }}"
```

3) Using your browser, refresh the articulate application.

QUESTION: Is the articulate running with 1.8.0\_45? Why not?

4) Restage articulate.

```
$ cf restage articulate
```

QUESTION: Would cf restart be sufficient instead of cf restage? Why not?

5) Using your browser, refresh the articulate application.

#### **Questions**

- What other other items are easily customized with the Java Buildpack?
- If you use Java, what items do you think would need customization in your environment?

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