

Spring Boot CLI - Quick Guide

Advertisements



[Previous Page](#)

[Next Page](#)

Spring Boot CLI - Overview

The Spring Boot CLI is a Command Line Interface for Spring Boot. It can be used for a quick start with Spring. It can run Groovy scripts which means that a developer need not write boilerplate code; all that is needed is focus on business logic. Spring Boot CLI is the fastest way to create a Spring-based application.

Features

In this section, we will look at the different features of Spring Boot CL –

- It provides an interface to run and test Spring Boot Application from command prompt.

- It internally use Spring Boot Starter and Spring Boot AutoConfigure components in order to resolve all dependencies and executes the application.

- It contains Groovy compiler and Grape Dependency Manager.

- It supports Groovy Scripts without external Groovy installation.

- It adds Spring Boot defaults and resolve all dependencies automatically.

Spring Boot CLI - Environment Setup

Spring is a Java-based framework; hence, we need to set up JDK first. Following are the steps needed to setup Spring Boot CLI along with JDK installation.

Step 1 - Setup Java Development Kit (JDK)

You can download the latest version of SDK from Oracle's Java site – Java SE Downloads. You will find instructions for installing JDK in downloaded files, follow the

given instructions to install and configure the setup. Finally set PATH and JAVA_HOME environment variables to refer to the directory that contains java and javac, typically **java_install_dir/bin** and **java_install_dir** respectively.

If you are running Windows and have installed the JDK in **C:\jdk1.6.0_15**, you would have to put the following line in your **C:\autoexec.bat** file –

```
set PATH=C:\jdk1.6.0_15\bin;%PATH%
set JAVA_HOME=C:\jdk1.6.0_15
```

Alternatively, on **Windows NT/2000/XP**, you will have to right-click on My Computer, select Properties → Advanced → Environment Variables. Then, you will have to update the PATH value and click the OK button.

On Unix (Solaris, Linux, etc.), if the SDK is installed in **/usr/local/jdk1.6.0_15** and you use the C shell, you will have to put the following into your **.cshrc** file –

```
setenv PATH /usr/local/jdk1.6.0_15/bin:$PATH
setenv JAVA_HOME /usr/local/jdk1.6.0_15
```

Step 2 - Install Spring Boot CLI

You can download the latest version of Spring Boot CLI API as ZIP archive from <https://repo.spring.io/release/org/springframework/boot/spring-boot-cli/> . Once you download the installation, unpack the zip distribution into a convenient location. For example, in **E:\Test\spring-1.5.8.RELEASE on Windows**, or **/usr/local/spring-1.5.8.RELEASE on Linux/Unix**.

Make sure you set your CLASSPATH variable on this directory properly otherwise you will face a problem while running your application.

Or set the path in command prompt temporarily to run the spring boot application as shown below –

```
E:/Test/> set path=E:\Test\spring-1.5.8.RELEASE\bin;%PATH%
```

Step 3 - Verify installation

Run the following command on command prompt to verify the installation –

```
E:/Test/> spring --version
```

It should print the following output confirming the successful installation –

```
Spring CLI v1.5.8.RELEASE
```

Spring Boot CLI - Hello World Example

In this example, we'll create a Spring Boot + MVC + Rest based Web application.

Step 1: Create source Folder

Create a folder FirstApplication in **E:\Test** folder.

Step 2: Create Source File

Create FirstApplication.groovy file in **E:\Test folder** with following source code –

```
@RestController
class FirstApplication {
    @RequestMapping("/")

    String welcome() {
        "Welcome to TutorialsPoint.Com"
    }
}
```

Step 3: Run the application

Type the following command –

```
E:/Test/> spring run FirstApplication.groovy
```

Now Spring Boot CLI will come into action, download required dependencies, run the embedded tomcat, deploy the application and start it. You can see the following output on console –

```
Resolving dependencies.....
.....
.....

      _   _          _    _ 
     / \   \__'___ _ _(_)_ _   \ \ \ \ 
( ( )\___| '_ |'_|| |'_ \|_> | \ \ \ \ 
 \/\ ___)|_| |_| || | || (|_|) )) ) 
  ' |___| ._|_| |_|_| |_ \|_ , | / / / / 
=====|_|=====|_|/_/_/_/_/ 

:: Spring Boot ::                (v1.5.8.RELEASE)


2017-11-07 17:36:55.703 INFO 5528 --- [runner-0] o.s.boot.SpringApplication:
Starting application on ...

2017-11-07 17:36:55.707 INFO 5528 --- [runner-0] o.s.boot.SpringApplication:
No active profile set, falling back to default profiles: default

2017-11-07 17:36:56.067 INFO 5528 --- [runner-0] ationConfigEmbeddedWebApplicationContext : Refre
56 IST 2017]; root of context hierarchy
```

```

2017-11-07 17:36:57.327 INFO 5528 --- [runner-0] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat
2017-11-07 17:36:57.346 INFO 5528 --- [runner-0] o.apache.catalina.core.StandardService : Start
2017-11-07 17:36:57.354 INFO 5528 --- [runner-0] org.apache.catalina.core.StandardEngine : Start
2017-11-07 17:36:57.537 INFO 5528 --- [ost-startStop-1] org.apache.catalina.loader.WebappLoader : Unkno
ork.boot.cli.compiler.ExtendedGroovyClassLoader$DefaultScopeParentClassLoader
2017-11-07 17:36:57.567 INFO 5528 --- [ost-startStop-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initi
2017-11-07 17:36:57.567 INFO 5528 --- [ost-startStop-1] o.s.web.context.ContextLoader : Root
2017-11-07 17:36:57.725 INFO 5528 --- [ost-startStop-1] o.s.b.w.servlet.ServletRegistrationBean : Mappi
2017-11-07 17:36:57.730 INFO 5528 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mappi
2017-11-07 17:36:57.730 INFO 5528 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mappi
2017-11-07 17:36:57.730 INFO 5528 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mappi
2017-11-07 17:36:57.730 INFO 5528 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean : Mappi
2017-11-07 17:36:58.012 INFO 5528 --- [runner-0] s.w.s.m.m.a.RequestMappingHandlerAdapter : Looki
2017-11-07 17:36:58.066 INFO 5528 --- [runner-0] s.w.s.m.m.a.RequestMappingHandlerMapping : Mappe
2017-11-07 17:36:58.070 INFO 5528 --- [runner-0] s.w.s.m.m.a.RequestMappingHandlerMapping : Mappe
2017-11-07 17:36:58.071 INFO 5528 --- [runner-0] s.w.s.m.m.a.RequestMappingHandlerMapping : Mappe
.BasicErrorController.errorHtml(javax.servlet.http.HttpServletRequest,javax.servlet.http.HttpServletRespo
2017-11-07 17:36:58.096 INFO 5528 --- [runner-0] o.s.w.s.handler.SimpleUrlHandlerMapping : Mappe
2017-11-07 17:36:58.096 INFO 5528 --- [runner-0] o.s.w.s.handler.SimpleUrlHandlerMapping : Mappe
2017-11-07 17:36:58.129 INFO 5528 --- [runner-0] o.s.w.s.handler.SimpleUrlHandlerMapping : Mappe
2017-11-07 17:36:58.626 INFO 5528 --- [runner-0] o.s.j.e.a.AnnotationMBeanExporter : Regis
2017-11-07 17:36:58.696 INFO 5528 --- [runner-0] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat
2017-11-07 17:36:58.699 INFO 5528 --- [runner-0] o.s.boot.SpringApplication : Start
2017-11-07 17:37:20.217 INFO 5528 --- [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initi
2017-11-07 17:37:20.218 INFO 5528 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Frame
2017-11-07 17:37:20.238 INFO 5528 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Frame

```

Step 4: Browse the application in Browser

Our spring based rest application is now ready. Open url as "**http://localhost:8080/**" and you will see the following output –

```
Hello World
```

Important points

Consider the following points to understand how Spring CLI works. –

All dependency JARs are downloaded for the first time only.

Spring CLI automatically detects which dependency JARs are to be downloaded based on the classes and annotations used in code.

Finally after the compilation of the code, deploy the war file on an embedded tomcat and start embedded tomcat server on the default port 8080.

"grab" Dependency Deduction

Standard Groovy codebase contains a **@Grab** annotation so that dependencies on third-party libraries can be declared. Using @Grab annotation, Grape Dependency Manager downloads jar in similar fashion as that of Maven/Gradle without any build tool. Spring Boot attempts to deduce the required libraries based on code. For example, use of @RestController tells that "Tomcat" and "Spring MVC" libraries are to be grabbed.

Grab Hints

Following table details the hints that Spring Boot uses to download third party libraries –

| Sr.No. | Hint & Dependency to Download/Link |
|--------|---|
| 1 | JdbcTemplate, NamedParameterJdbcTemplate, DataSource JDBC Application |
| 2 | @EnableJms JMS Application |
| 3 | @EnableCaching Caching abstraction |
| 4 | @Test JUnit |
| 5 | @EnableRabbit RabbitMQ |
| 6 | @EnableReactor Project Reactor |
| 7 | extends Specification Spock test |
| 8 | @EnableBatchProcessing |

| | |
|----|--|
| | Spring Batch |
| 9 | @MessageEndpoint, @EnableIntegrationPatterns Spring Integration |
| 10 | @EnableDeviceResolver Spring Mobile |
| 11 | @Controller, @RestController, @EnableWebMvc Spring MVC + Embedded Tomcat |
| 12 | @EnableWebSecurity Spring Security |
| 13 | @EnableTransactionManagement Spring Transaction Management |

"grab" Co-ordinates Deduction

We can specify a dependency using @Grab annotation even without specifying group or version. For example,

```
@Grab('antlr')
```

Now Spring Boot CLI will download 2.7.7 version of **antlr** as it is present in Spring Boot's default dependency metadata for 1.5.8 version. Spring Boot maintains all dependency versions by default which are provided in its CLI, Maven dependency management and Gradle plugin. Whenever we declare a dependency of any of those artifacts present in default dependency metadata without declaring a version, the version listed in its table will be used.

The following table shows all the dependencies and their versions included in the default metadata for Spring Boot CLI 1.5.8 version.

| Group Id | Artifact Id | Version |
|----------------|-----------------|---------|
| antlr | antlr | 2.7.7 |
| ch.qos.logback | logback-access | 1.1.11 |
| ch.qos.logback | logback-classic | 1.1.11 |

| | | |
|----------------------------------|-------------------------------|--------|
| ch.qos.logback | logback-core | 1.1.11 |
| com.atomikos | transactions-jdbc | 3.9.3 |
| com.atomikos | transactions-jms | 3.9.3 |
| com.atomikos | transactions-jta | 3.9.3 |
| com.couchbase.client | couchbase-spring-cache | 2.1.0 |
| com.couchbase.client | java-client | 2.3.7 |
| com.datastax.cassandra | cassandra-driver-core | 3.1.4 |
| com.datastax.cassandra | cassandra-driver-mapping | 3.1.4 |
| com.fasterxml | classmate | 1.3.4 |
| com.fasterxml.jackson.core | jackson-annotations | 2.8.0 |
| com.fasterxml.jackson.core | jackson-core | 2.8.10 |
| com.fasterxml.jackson.core | jackson-databind | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-avro | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-cbor | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-csv | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-ion | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-properties | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-protobuf | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-smile | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-xml | 2.8.10 |
| com.fasterxml.jackson.dataformat | jackson-dataformat-yaml | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-guava | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-hibernate3 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-hibernate4 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-hibernate5 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-hppc | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-jaxrs | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-jdk8 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-joda | 2.8.10 |

| | | |
|----------------------------------|---------------------------------|--------|
| com.fasterxml.jackson.datatype | jackson-datatype-json-org | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-jsr310 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-jsr353 | 2.8.10 |
| com.fasterxml.jackson.datatype | jackson-datatype-pcollections | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-base | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-cbor-provider | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-json-provider | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-smile-provider | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-xml-provider | 2.8.10 |
| com.fasterxml.jackson.jaxrs | jackson-jaxrs-yaml-provider | 2.8.10 |
| com.fasterxml.jackson.jr | jackson-jr-all | 2.8.10 |
| com.fasterxml.jackson.jr | jackson-jr-objects | 2.8.10 |
| com.fasterxml.jackson.jr | jackson-jr-retrofit2 | 2.8.10 |
| com.fasterxml.jackson.jr | jackson-jr-stree | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-afterburner | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-guice | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-jaxb-annotations | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-jsonSchema | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-kotlin | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-mrbean | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-osgi | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-parameter-names | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-paranamer | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-scala_2.10 | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-scala_2.11 | 2.8.10 |
| com.fasterxml.jackson.module | jackson-module-scala_2.12 | 2.8.10 |
| com.gemstone.gemfire | gemfire | 8.2.7 |
| com.github.ben-manes.caffeine | caffeine | 2.3.5 |
| com.github.mxab.thymeleaf.extras | thymeleaf-extras-data-attribute | 1.3 |

| | | |
|----------------------------|-----------------------|------------|
| com.google.appengine | appengine-api-1.0-sdk | 1.9.58 |
| com.google.code.gson | gson | 2.8.2 |
| com.googlecode.json-simple | json-simple | 1.1.1 |
| com.h2database | h2 | 1.4.196 |
| com.hazelcast | hazelcast | 3.7.8 |
| com.hazelcast | hazelcast-client | 3.7.8 |
| com.hazelcast | hazelcast-hibernate4 | 3.7.1 |
| com.hazelcast | hazelcast-hibernate5 | 1.1.3 |
| com.hazelcast | hazelcast-spring | 3.7.8 |
| com.jayway.jsonpath | json-path | 2.2.0 |
| com.jayway.jsonpath | json-path-assert | 2.2.0 |
| com.microsoft.sqlserver | mssql-jdbc | 6.1.0.jre7 |
| com.querydsl | querydsl-apt | 4.1.4 |
| com.querydsl | querydsl-collections | 4.1.4 |
| com.querydsl | querydsl-core | 4.1.4 |
| com.querydsl | querydsl-jpa | 4.1.4 |
| com.querydsl | querydsl-mongodb | 4.1.4 |
| com.samskivert | jmustache | 1.13 |
| com.sendgrid | sendgrid-java | 2.2.2 |
| com.sun.mail | javax.mail | 1.5.6 |
| com.timgroup | java-statsd-client | 3.1.0 |
| com.unboundid | unboundid-ldapsdk | 3.2.1 |
| com.zaxxer | HikariCP | 2.5.1 |
| com.zaxxer | HikariCP-java6 | 2.3.13 |
| com.zaxxer | HikariCP-java7 | 2.4.13 |
| commons-beanutils | commons-beanutils | 1.9.3 |
| commons-codec | commons-codec | 1.10 |
| commons-collections | commons-collections | 3.2.2 |
| | | |

| | | |
|-----------------------|---------------------------|---------------|
| commons-dbcp | commons-dbcp | 1.4 |
| commons-digester | commons-digester | 2.1 |
| commons-pool | commons-pool | 1.6 |
| de.flapdoodle.embed | de.flapdoodle.embed.mongo | 1.50.5 |
| dom4j | dom4j | 1.6.1 |
| io.dropwizard.metrics | metrics-annotation | 3.1.5 |
| io.dropwizard.metrics | metrics-core | 3.1.5 |
| io.dropwizard.metrics | metrics-ehcache | 3.1.5 |
| io.dropwizard.metrics | metrics-ganglia | 3.1.5 |
| io.dropwizard.metrics | metrics-graphite | 3.1.5 |
| io.dropwizard.metrics | metrics-healthchecks | 3.1.5 |
| io.dropwizard.metrics | metrics-httpasyncclient | 3.1.5 |
| io.dropwizard.metrics | metrics-jdbi | 3.1.5 |
| io.dropwizard.metrics | metrics-jersey | 3.1.5 |
| io.dropwizard.metrics | metrics-jersey2 | 3.1.5 |
| io.dropwizard.metrics | metrics-jetty8 | 3.1.5 |
| io.dropwizard.metrics | metrics-jetty9 | 3.1.5 |
| io.dropwizard.metrics | metrics-jetty9-legacy | 3.1.5 |
| io.dropwizard.metrics | metrics-json | 3.1.5 |
| io.dropwizard.metrics | metrics-jvm | 3.1.5 |
| io.dropwizard.metrics | metrics-log4j | 3.1.5 |
| io.dropwizard.metrics | metrics-log4j2 | 3.1.5 |
| io.dropwizard.metrics | metrics-logback | 3.1.5 |
| io.dropwizard.metrics | metrics-servlet | 3.1.5 |
| io.dropwizard.metrics | metrics-servlets | 3.1.5 |
| io.projectreactor | reactor-bus | 2.0.8.RELEASE |
| io.projectreactor | reactor-core | 2.0.8.RELEASE |
| io.projectreactor | reactor-groovy | 2.0.8.RELEASE |
| io.projectreactor | reactor-groovy-extensions | 2.0.8.RELEASE |

| | | |
|--------------------------|--------------------------|---------------|
| io.projectreactor | reactor-logback | 2.0.8.RELEASE |
| io.projectreactor | reactor-net | 2.0.8.RELEASE |
| io.projectreactor | reactor-stream | 2.0.8.RELEASE |
| io.projectreactor.spring | reactor-spring-context | 2.0.7.RELEASE |
| io.projectreactor.spring | reactor-spring-core | 2.0.7.RELEASE |
| io.projectreactor.spring | reactor-spring-messaging | 2.0.7.RELEASE |
| io.projectreactor.spring | reactor-spring-webmvc | 2.0.7.RELEASE |
| io.searchbox | jest | 2.0.4 |
| io.undertow | undertow-core | 1.4.20.Final |
| io.undertow | undertow-servlet | 1.4.20.Final |
| io.undertow | undertow-websockets-jsr | 1.4.20.Final |
| javax.cache | cache-api | 1.0.0 |
| javax.jms | jms-api | 1.1-rev-1 |
| javax.mail | javax.mail-api | 1.5.6 |
| javax.servlet | javax.servlet-api | 3.1.0 |
| javax.servlet | jstl | 1.2 |
| javax.transaction | javax.transaction-api | 1.2 |
| javax.validation | validation-api | 1.1.0.Final |
| jaxen | jaxen | 1.1.6 |
| joda-time | joda-time | 2.9.9 |
| junit | junit | 4.12 |
| mysql | mysql-connector-java | 5.1.44 |
| net.java.dev.jna | jna | 4.2.2 |
| net.java.dev.jna | jna-platform | 4.2.2 |
| net.sf.ehcache | ehcache | 2.10.4 |
| net.sourceforge.htmlunit | htmlunit | 2.21 |
| net.sourceforge.jtds | jtds | 1.3.1 |
| net.sourceforge.nekohtml | nekohtml | 1.9.22 |
| nz.net.ultraq.thymeleaf | thymeleaf-layout-dialect | 1.4.0 |

| | | |
|---------------------|-----------------------------|--------|
| org.apache.activemq | activemq-amqp | 5.14.5 |
| org.apache.activemq | activemq-blueprint | 5.14.5 |
| org.apache.activemq | activemq-broker | 5.14.5 |
| org.apache.activemq | activemq-camel | 5.14.5 |
| org.apache.activemq | activemq-client | 5.14.5 |
| org.apache.activemq | activemq-console | 5.14.5 |
| org.apache.activemq | activemq-http | 5.14.5 |
| org.apache.activemq | activemq-jaas | 5.14.5 |
| org.apache.activemq | activemq-jdbc-store | 5.14.5 |
| org.apache.activemq | activemq-jms-pool | 5.14.5 |
| org.apache.activemq | activemq-kahadb-store | 5.14.5 |
| org.apache.activemq | activemq-karaf | 5.14.5 |
| org.apache.activemq | activemq-leveldb-store | 5.14.5 |
| org.apache.activemq | activemq-log4j-appender | 5.14.5 |
| org.apache.activemq | activemq-mqtt | 5.14.5 |
| org.apache.activemq | activemq-openwire-generator | 5.14.5 |
| org.apache.activemq | activemq-openwire-legacy | 5.14.5 |
| org.apache.activemq | activemq-osgi | 5.14.5 |
| org.apache.activemq | activemq-partition | 5.14.5 |
| org.apache.activemq | activemq-pool | 5.14.5 |
| org.apache.activemq | activemq-ra | 5.14.5 |
| org.apache.activemq | activemq-run | 5.14.5 |
| org.apache.activemq | activemq-runtime-config | 5.14.5 |
| org.apache.activemq | activemq-shiro | 5.14.5 |
| org.apache.activemq | activemq-spring | 5.14.5 |
| org.apache.activemq | activemq-stomp | 5.14.5 |
| org.apache.activemq | activemq-web | 5.14.5 |
| org.apache.activemq | artemis-amqp-protocol | 1.5.5 |
| | | |

| | | |
|---------------------------|----------------------------|-----------|
| org.apache.activemq | artemis-commons | 1.5.5 |
| org.apache.activemq | artemis-core-client | 1.5.5 |
| org.apache.activemq | artemis-jms-client | 1.5.5 |
| org.apache.activemq | artemis-jms-server | 1.5.5 |
| org.apache.activemq | artemis-journal | 1.5.5 |
| org.apache.activemq | artemis-native | 1.5.5 |
| org.apache.activemq | artemis-selector | 1.5.5 |
| org.apache.activemq | artemis-server | 1.5.5 |
| org.apache.activemq | artemis-service-extensions | 1.5.5 |
| org.apache.commons | commons-dbcp2 | 2.1.1 |
| org.apache.commons | commons-pool2 | 2.4.2 |
| org.apache.derby | derby | 10.13.1.1 |
| org.apache.httpcomponents | httpasyncclient | 4.1.3 |
| org.apache.httpcomponents | httpclient | 4.5.3 |
| org.apache.httpcomponents | httpcore | 4.4.8 |
| org.apache.httpcomponents | httpmime | 4.5.3 |
| org.apache.logging.log4j | log4j-1.2-api | 2.7 |
| org.apache.logging.log4j | log4j-api | 2.7 |
| org.apache.logging.log4j | log4j-api-scala_2.10 | 2.7 |
| org.apache.logging.log4j | log4j-api-scala_2.11 | 2.7 |
| org.apache.logging.log4j | log4j-core | 2.7 |
| org.apache.logging.log4j | log4j-flume-ng | 2.7 |
| org.apache.logging.log4j | log4j-iostreams | 2.7 |
| org.apache.logging.log4j | log4j-jcl | 2.7 |
| org.apache.logging.log4j | log4j-jmx-gui | 2.7 |
| org.apache.logging.log4j | log4j-jul | 2.7 |
| org.apache.logging.log4j | log4j-liquibase | 2.7 |
| org.apache.logging.log4j | log4j-nosql | 2.7 |
| org.apache.logging.log4j | log4j-slf4j-impl | 2.7 |

| | | |
|--------------------------|-------------------------------|--------|
| org.apache.logging.log4j | log4j-taglib | 2.7 |
| org.apache.logging.log4j | log4j-web | 2.7 |
| org.apache.solr | solr-analysis-extras | 5.5.4 |
| org.apache.solr | solr-analytics | 5.5.4 |
| org.apache.solr | solr-cell | 5.5.4 |
| org.apache.solr | solr-clustering | 5.5.4 |
| org.apache.solr | solr-core | 5.5.4 |
| org.apache.solr | solr-dataimporthandler | 5.5.4 |
| org.apache.solr | solr-dataimporthandler-extras | 5.5.4 |
| org.apache.solr | solr-langid | 5.5.4 |
| org.apache.solr | solr-map-reduce | 5.5.4 |
| org.apache.solr | solr-morphlines-cell | 5.5.4 |
| org.apache.solr | solr-morphlines-core | 5.5.4 |
| org.apache.solr | solr-solrj | 5.5.4 |
| org.apache.solr | solr-test-framework | 5.5.4 |
| org.apache.solr | solr-uima | 5.5.4 |
| org.apache.solr | solr-velocity | 5.5.4 |
| org.apache.tomcat | tomcat-annotations-api | 8.5.23 |
| org.apache.tomcat | tomcat-jdbc | 8.5.23 |
| org.apache.tomcat | tomcat-jsp-api | 8.5.23 |
| org.apache.tomcat.embed | tomcat-embed-core | 8.5.23 |
| org.apache.tomcat.embed | tomcat-embed-el | 8.5.23 |
| org.apache.tomcat.embed | tomcat-embed-jasper | 8.5.23 |
| org.apache.tomcat.embed | tomcat-embed-websocket | 8.5.23 |
| org.aspectj | aspectjrt | 1.8.11 |
| org.aspectj | aspectjtools | 1.8.11 |
| org.aspectj | aspectjweaver | 1.8.11 |
| org.assertj | assertj-core | 2.6.0 |
| org.codehaus.btm | btm | 2.1.4 |

| | | |
|---------------------|-------------------------|-----------------|
| org.codehaus.groovy | groovy | 2.4.12 |
| org.codehaus.groovy | groovy-all | 2.4.12 |
| org.codehaus.groovy | groovy-ant | 2.4.12 |
| org.codehaus.groovy | groovy-bsf | 2.4.12 |
| org.codehaus.groovy | groovy-console | 2.4.12 |
| org.codehaus.groovy | groovy-docgenerator | 2.4.12 |
| org.codehaus.groovy | groovy-groovydoc | 2.4.12 |
| org.codehaus.groovy | groovy-groovysh | 2.4.12 |
| org.codehaus.groovy | groovy-jmx | 2.4.12 |
| org.codehaus.groovy | groovy-json | 2.4.12 |
| org.codehaus.groovy | groovy-jsr223 | 2.4.12 |
| org.codehaus.groovy | groovy-nio | 2.4.12 |
| org.codehaus.groovy | groovy-servlet | 2.4.12 |
| org.codehaus.groovy | groovy-sql | 2.4.12 |
| org.codehaus.groovy | groovy-swing | 2.4.12 |
| org.codehaus.groovy | groovy-templates | 2.4.12 |
| org.codehaus.groovy | groovy-test | 2.4.12 |
| org.codehaus.groovy | groovy-testng | 2.4.12 |
| org.codehaus.groovy | groovy-xml | 2.4.12 |
| org.codehaus.janino | janino | 2.7.8 |
| org.crashub | crash.cli | 1.3.2 |
| org.crashub | crash.connectors.ssh | 1.3.2 |
| org.crashub | crash.connectors.telnet | 1.3.2 |
| org.crashub | crash.embed.spring | 1.3.2 |
| org.crashub | crash.plugins.cron | 1.3.2 |
| org.crashub | crash.plugins.mail | 1.3.2 |
| org.crashub | crash.shell | 1.3.2 |
| org.eclipse.jetty | apache-jsp | 9.4.7.v20170914 |
| | | |

| | | |
|-------------------|------------------------|-----------------|
| org.eclipse.jetty | apache-jstl | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-alpn-client | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-alpn-java-client | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-alpn-java-server | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-alpn-server | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-annotations | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-ant | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-client | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-continuation | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-deploy | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-hazelcast | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-http | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-http-spi | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-infinispan | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-io | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-jaas | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-jaspi | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-jmx | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-jndi | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-nosql | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-plus | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-proxy | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-quickstart | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-rewrite | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-runner | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-security | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-server | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-servlet | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-servlets | 9.4.7.v20170914 |

| | | |
|-----------------------------|------------------------------|---------------------|
| org.eclipse.jetty | jetty-spring | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-start | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-unixsocket | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-util | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-util-ajax | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-webapp | 9.4.7.v20170914 |
| org.eclipse.jetty | jetty-xml | 9.4.7.v20170914 |
| org.eclipse.jetty.cdi | cdi-core | 9.4.7.v20170914 |
| org.eclipse.jetty.cdi | cdi-servlet | 9.4.7.v20170914 |
| org.eclipse.jetty.fcgi | fcgi-client | 9.4.7.v20170914 |
| org.eclipse.jetty.fcgi | fcgi-server | 9.4.7.v20170914 |
| org.eclipse.jetty.gcloud | jetty-gcloud-session-manager | 9.4.7.v20170914 |
| org.eclipse.jetty.http2 | http2-client | 9.4.7.v20170914 |
| org.eclipse.jetty.http2 | http2-common | 9.4.7.v20170914 |
| org.eclipse.jetty.http2 | http2-hpack | 9.4.7.v20170914 |
| org.eclipse.jetty.http2 | http2-http-client-transport | 9.4.7.v20170914 |
| org.eclipse.jetty.http2 | http2-server | 9.4.7.v20170914 |
| org.eclipse.jetty.memcached | jetty-memcached-sessions | 9.4.7.v20170914 |
| org.eclipse.jetty.orbit | javax.servlet.jsp | 2.2.0.v201112011158 |
| org.eclipse.jetty.osgi | jetty-httpservice | 9.4.7.v20170914 |
| org.eclipse.jetty.osgi | jetty-osgi-boot | 9.4.7.v20170914 |
| org.eclipse.jetty.osgi | jetty-osgi-boot-jsp | 9.4.7.v20170914 |
| org.eclipse.jetty.osgi | jetty-osgi-boot-warurl | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | javax-websocket-client-impl | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | javax-websocket-server-impl | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | websocket-api | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | websocket-client | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | websocket-common | 9.4.7.v20170914 |
| org.eclipse.jetty.websocket | websocket-server | 9.4.7.v20170914 |

| | | |
|---|-------------------------------|-------------------|
| org.eclipse.jetty.websocket | websocket-servlet | 9.4.7.v20170914 |
| org.ehcache | ehcache | 3.2.3 |
| org.ehcache | ehcache-clustered | 3.2.3 |
| org.ehcache | ehcache-transactions | 3.2.3 |
| org.elasticsearch | elasticsearch | 2.4.6 |
| org.firebirdsql.jdbc | jaybird-jdk16 | 2.2.13 |
| org.firebirdsql.jdbc | jaybird-jdk17 | 2.2.13 |
| org.firebirdsql.jdbc | jaybird-jdk18 | 2.2.13 |
| org.flywaydb | flyway-core | 3.2.1 |
| org.freemarker | freemarker | 2.3.26-incubating |
| org.glassfish | javax.el | 3.0.0 |
| org.glassfish.jersey.bundles.repackaged | jersey-guava | 2.25.1 |
| org.glassfish.jersey.containers | jersey-container-servlet | 2.25.1 |
| org.glassfish.jersey.containers | jersey-container-servlet-core | 2.25.1 |
| org.glassfish.jersey.core | jersey-client | 2.25.1 |
| org.glassfish.jersey.core | jersey-common | 2.25.1 |
| org.glassfish.jersey.core | jersey-server | 2.25.1 |
| org.glassfish.jersey.ext | jersey-bean-validation | 2.25.1 |
| org.glassfish.jersey.ext | jersey-entity-filtering | 2.25.1 |
| org.glassfish.jersey.ext | jersey-spring3 | 2.25.1 |
| org.glassfish.jersey.media | jersey-media-jaxb | 2.25.1 |
| org.glassfish.jersey.media | jersey-media-json-jackson | 2.25.1 |
| org.glassfish.jersey.media | jersey-media-multipart | 2.25.1 |
| org.hamcrest | hamcrest-core | 1.3 |
| org.hamcrest | hamcrest-library | 1.3 |
| org.hibernate | hibernate-core | 5.0.12.Final |
| org.hibernate | hibernate-ehcache | 5.0.12.Final |
| org.hibernate | hibernate-entitymanager | 5.0.12.Final |
| | | |

| | | |
|------------------------|--|--------------|
| org.hibernate | hibernate-envers | 5.0.12.Final |
| org.hibernate | hibernate-java8 | 5.0.12.Final |
| org.hibernate | hibernate-jpamodelgen | 5.0.12.Final |
| org.hibernate | hibernate-validator | 5.3.5.Final |
| org.hibernate | hibernate-validator-annotation-processor | 5.3.5.Final |
| org.hsqldb | hsqldb | 2.3.5 |
| org.infinispan | infinispan-jcache | 8.2.8.Final |
| org.infinispan | infinispan-spring4-common | 8.2.8.Final |
| org.infinispan | infinispan-spring4-embedded | 8.2.8.Final |
| org.javassist | javassist | 3.21.0-GA |
| org.jboss | jboss-transaction-spi | 7.6.0.Final |
| org.jboss.logging | jboss-logging | 3.3.1.Final |
| org.jboss.narayana.jta | jdbc | 5.5.30.Final |
| org.jboss.narayana.jta | jms | 5.5.30.Final |
| org.jboss.narayana.jta | jta | 5.5.30.Final |
| org.jboss.narayana.jts | narayana-jts-integration | 5.5.30.Final |
| org.jdom | jdom2 | 2.0.6 |
| org.jolokia | jolokia-core | 1.3.7 |
| org.jooq | jooq | 3.9.6 |
| org.jooq | jooq-codegen | 3.9.6 |
| org.jooq | jooq-meta | 3.9.6 |
| org.json | json | 20140107 |
| org.liquibase | liquibase-core | 3.5.3 |
| org.mariadb.jdbc | mariadb-java-client | 1.5.9 |
| org.mockito | mockito-core | 1.10.19 |
| org.mongodb | mongodb-driver | 3.4.3 |
| org.mongodb | mongo-java-driver | 3.4.3 |
| org.mortbay.jasper | apache-el | 8.0.33 |
| org.neo4j | neo4j-ogm-api | 2.1.5 |

| | | |
|-------------------------|-------------------------|----------------|
| org.neo4j | neo4j-ogm-compiler | 2.1.5 |
| org.neo4j | neo4j-ogm-core | 2.1.5 |
| org.neo4j | neo4j-ogm-http-driver | 2.1.5 |
| org.postgresql | postgresql | 9.4.1212.jre7 |
| org.projectlombok | lombok | 1.16.18 |
| org.seleniumhq.selenium | htmlunit-driver | 2.21 |
| org.seleniumhq.selenium | selenium-api | 2.53.1 |
| org.seleniumhq.selenium | selenium-chrome-driver | 2.53.1 |
| org.seleniumhq.selenium | selenium-firefox-driver | 2.53.1 |
| org.seleniumhq.selenium | selenium-ie-driver | 2.53.1 |
| org.seleniumhq.selenium | selenium-java | 2.53.1 |
| org.seleniumhq.selenium | selenium-remote-driver | 2.53.1 |
| org.seleniumhq.selenium | selenium-safari-driver | 2.53.1 |
| org.seleniumhq.selenium | selenium-support | 2.53.1 |
| org.skyscreamer | jsonassert | 1.4.0 |
| org.slf4j | jcl-over-slf4j | 1.7.25 |
| org.slf4j | jul-to-slf4j | 1.7.25 |
| org.slf4j | log4j-over-slf4j | 1.7.25 |
| org.slf4j | slf4j-api | 1.7.25 |
| org.slf4j | slf4j-ext | 1.7.25 |
| org.slf4j | slf4j-jcl | 1.7.25 |
| org.slf4j | slf4j-jdk14 | 1.7.25 |
| org.slf4j | slf4j-log4j12 | 1.7.25 |
| org.slf4j | slf4j-nop | 1.7.25 |
| org.slf4j | slf4j-simple | 1.7.25 |
| org.spockframework | spock-core | 1.0-groovy-2.4 |
| org.spockframework | spock-spring | 1.0-groovy-2.4 |
| org.springframework | spring-aop | 4.3.12.RELEASE |
| org.springframework | spring-aspects | 4.3.12.RELEASE |

| | | |
|---------------------------|-----------------------------|----------------|
| org.springframework | spring-beans | 4.3.12.RELEASE |
| org.springframework | spring-context | 4.3.12.RELEASE |
| org.springframework | spring-context-support | 4.3.12.RELEASE |
| org.springframework | spring-core | 4.3.12.RELEASE |
| org.springframework | spring-expression | 4.3.12.RELEASE |
| org.springframework | spring-instrument | 4.3.12.RELEASE |
| org.springframework | spring-instrument-tomcat | 4.3.12.RELEASE |
| org.springframework | spring-jdbc | 4.3.12.RELEASE |
| org.springframework | spring-jms | 4.3.12.RELEASE |
| org.springframework | springloaded | 1.2.8.RELEASE |
| org.springframework | spring-messaging | 4.3.12.RELEASE |
| org.springframework | spring-orm | 4.3.12.RELEASE |
| org.springframework | spring-oxm | 4.3.12.RELEASE |
| org.springframework | spring-test | 4.3.12.RELEASE |
| org.springframework | spring-tx | 4.3.12.RELEASE |
| org.springframework | spring-web | 4.3.12.RELEASE |
| org.springframework | spring-webmvc | 4.3.12.RELEASE |
| org.springframework | spring-webmvc-portlet | 4.3.12.RELEASE |
| org.springframework | spring-websocket | 4.3.12.RELEASE |
| org.springframework.amqp | spring-amqp | 1.7.4.RELEASE |
| org.springframework.amqp | spring-rabbit | 1.7.4.RELEASE |
| org.springframework.batch | spring-batch-core | 3.0.8.RELEASE |
| org.springframework.batch | spring-batch-infrastructure | 3.0.8.RELEASE |
| org.springframework.batch | spring-batch-integration | 3.0.8.RELEASE |
| org.springframework.batch | spring-batch-test | 3.0.8.RELEASE |
| org.springframework.boot | spring-boot | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-actuator | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-actuator-docs | 1.5.8.RELEASE |
| | | |

| | | |
|--------------------------|--|---------------|
| org.springframework.boot | spring-boot-autoconfigure | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-autoconfigure-processor | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-configuration-metadata | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-configuration-processor | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-devtools | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-loader | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-loader-tools | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-activemq | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-actuator | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-amqp | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-aop | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-artemis | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-batch | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-cache | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-cloud-connectors | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-cassandra | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-couchbase | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-elasticsearch | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-gemfire | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-jpa | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-ldap | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-mongodb | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-neo4j | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-redis | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-rest | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-data-solr | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-freemarker | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-groovy-templates | 1.5.8.RELEASE |

| | | |
|--------------------------|-------------------------------------|---------------|
| org.springframework.boot | spring-boot-starter-hateoas | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-integration | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jdbc | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jersey | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jetty | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jooq | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jta-atomikos | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jta-bitronix | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-jta-narayana | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-log4j2 | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-logging | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-mail | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-mobile | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-mustache | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-remote-shell | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-security | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-social-facebook | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-social-linkedin | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-social-twitter | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-test | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-thymeleaf | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-tomcat | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-undertow | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-validation | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-web | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-web-services | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-starter-websocket | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-test | 1.5.8.RELEASE |
| org.springframework.boot | spring-boot-test-autoconfigure | 1.5.8.RELEASE |

| | | |
|---------------------------------|---------------------------------------|----------------|
| org.springframework.cloud | spring-cloud-cloudfoundry-connector | 1.2.4.RELEASE |
| org.springframework.cloud | spring-cloud-core | 1.2.4.RELEASE |
| org.springframework.cloud | spring-cloud-heroku-connector | 1.2.4.RELEASE |
| org.springframework.cloud | spring-cloud-localconfig-connector | 1.2.4.RELEASE |
| org.springframework.cloud | spring-cloud-spring-service-connector | 1.2.4.RELEASE |
| org.springframework.data | spring-cql | 1.5.8.RELEASE |
| org.springframework.data | spring-data-cassandra | 1.5.8.RELEASE |
| org.springframework.data | spring-data-commons | 1.13.8.RELEASE |
| org.springframework.data | spring-data-couchbase | 2.2.8.RELEASE |
| org.springframework.data | spring-data-elasticsearch | 2.1.8.RELEASE |
| org.springframework.data | spring-data-envers | 1.1.8.RELEASE |
| org.springframework.data | spring-data-gemfire | 1.9.8.RELEASE |
| org.springframework.data | spring-data-jpa | 1.11.8.RELEASE |
| org.springframework.data | spring-data-keyvalue | 1.2.8.RELEASE |
| org.springframework.data | spring-data-ldap | 1.0.8.RELEASE |
| org.springframework.data | spring-data-mongodb | 1.10.8.RELEASE |
| org.springframework.data | spring-data-mongodb-cross-store | 1.10.8.RELEASE |
| org.springframework.data | spring-data-mongodb-log4j | 1.10.8.RELEASE |
| org.springframework.data | spring-data-neo4j | 4.2.8.RELEASE |
| org.springframework.data | spring-data-redis | 1.8.8.RELEASE |
| org.springframework.data | spring-data-rest-core | 2.6.8.RELEASE |
| org.springframework.data | spring-data-rest-hal-browser | 2.6.8.RELEASE |
| org.springframework.data | spring-data-rest-webmvc | 2.6.8.RELEASE |
| org.springframework.data | spring-data-solr | 2.1.8.RELEASE |
| org.springframework.hateoas | spring-hateoas | 0.23.0.RELEASE |
| org.springframework.integration | spring-integration-amqp | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-core | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-event | 4.3.12.RELEASE |
| | | |

| | | |
|---------------------------------|------------------------------|----------------|
| org.springframework.integration | spring-integration-feed | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-file | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-ftp | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-gemfire | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-groovy | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-http | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-ip | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-java-dsl | 1.2.3.RELEASE |
| org.springframework.integration | spring-integration-jdbc | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-jms | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-jmx | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-jpa | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-mail | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-mongodb | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-mqtt | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-redis | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-rmi | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-scripting | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-security | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-sftp | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-stomp | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-stream | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-syslog | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-test | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-twitter | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-websocket | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-ws | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-xml | 4.3.12.RELEASE |
| org.springframework.integration | spring-integration-xmpp | 4.3.12.RELEASE |

| | | |
|---------------------------------|------------------------------|----------------|
| org.springframework.integration | spring-integration-zookeeper | 4.3.12.RELEASE |
| org.springframework.kafka | spring-kafka | 1.1.7.RELEASE |
| org.springframework.kafka | spring-kafka-test | 1.1.7.RELEASE |
| org.springframework.ldap | spring-ldap-core | 2.3.2.RELEASE |
| org.springframework.ldap | spring-ldap-core-tiger | 2.3.2.RELEASE |
| org.springframework.ldap | spring-ldap-ldif-batch | 2.3.2.RELEASE |
| org.springframework.ldap | spring-ldap-ldif-core | 2.3.2.RELEASE |
| org.springframework.ldap | spring-ldap-odm | 2.3.2.RELEASE |
| org.springframework.ldap | spring-ldap-test | 2.3.2.RELEASE |
| org.springframework.mobile | spring-mobile-device | 1.1.5.RELEASE |
| org.springframework.plugin | spring-plugin-core | 1.2.0.RELEASE |
| org.springframework.plugin | spring-plugin-metadata | 1.2.0.RELEASE |
| org.springframework.restdocs | spring-restdocs-core | 1.1.3.RELEASE |
| org.springframework.restdocs | spring-restdocs-mockmvc | 1.1.3.RELEASE |
| org.springframework.restdocs | spring-restdocs-restassured | 1.1.3.RELEASE |
| org.springframework.retry | spring-retry | 1.2.1.RELEASE |
| org.springframework.security | spring-security-acl | 4.2.3.RELEASE |
| org.springframework.security | spring-security-aspects | 4.2.3.RELEASE |
| org.springframework.security | spring-security-cas | 4.2.3.RELEASE |
| org.springframework.security | spring-security-config | 4.2.3.RELEASE |
| org.springframework.security | spring-security-core | 4.2.3.RELEASE |
| org.springframework.security | spring-security-crypto | 4.2.3.RELEASE |
| org.springframework.security | spring-security-data | 4.2.3.RELEASE |
| org.springframework.security | spring-security-jwt | 1.0.8.RELEASE |
| org.springframework.security | spring-security-ldap | 4.2.3.RELEASE |
| org.springframework.security | spring-security-messaging | 4.2.3.RELEASE |
| org.springframework.security | spring-security-openid | 4.2.3.RELEASE |
| org.springframework.security | spring-security-remoting | 4.2.3.RELEASE |
| org.springframework.security | spring-security-taglibs | 4.2.3.RELEASE |

| | | |
|------------------------------------|--------------------------------------|----------------|
| org.springframework.security | spring-security-test | 4.2.3.RELEASE |
| org.springframework.security | spring-security-web | 4.2.3.RELEASE |
| org.springframework.security.oauth | spring-security-oauth | 2.0.14.RELEASE |
| org.springframework.security.oauth | spring-security-oauth2 | 2.0.14.RELEASE |
| org.springframework.session | spring-session | 1.3.1.RELEASE |
| org.springframework.session | spring-session-data-gemfire | 1.3.1.RELEASE |
| org.springframework.session | spring-session-data-mongo | 1.3.1.RELEASE |
| org.springframework.session | spring-session-data-redis | 1.3.1.RELEASE |
| org.springframework.session | spring-session-hazelcast | 1.3.1.RELEASE |
| org.springframework.session | spring-session-jdbc | 1.3.1.RELEASE |
| org.springframework.social | spring-social-config | 1.1.4.RELEASE |
| org.springframework.social | spring-social-core | 1.1.4.RELEASE |
| org.springframework.social | spring-social-facebook | 2.0.3.RELEASE |
| org.springframework.social | spring-social-facebook-web | 2.0.3.RELEASE |
| org.springframework.social | spring-social-linkedin | 1.0.2.RELEASE |
| org.springframework.social | spring-social-security | 1.1.4.RELEASE |
| org.springframework.social | spring-social-twitter | 1.1.2.RELEASE |
| org.springframework.social | spring-social-web | 1.1.4.RELEASE |
| org.springframework.ws | spring-ws-core | 2.4.0.RELEASE |
| org.springframework.ws | spring-ws-security | 2.4.0.RELEASE |
| org.springframework.ws | spring-ws-support | 2.4.0.RELEASE |
| org.springframework.ws | spring-ws-test | 2.4.0.RELEASE |
| org.thymeleaf | thymeleaf | 2.1.5.RELEASE |
| org.thymeleaf | thymeleaf-spring4 | 2.1.5.RELEASE |
| org.thymeleaf.extras | thymeleaf-extras-conditionalcomments | 2.1.2.RELEASE |
| org.thymeleaf.extras | thymeleaf-extras-java8time | 2.1.0.RELEASE |
| org.thymeleaf.extras | thymeleaf-extras-springsecurity4 | 2.1.3.RELEASE |
| org.webjars | hal-browser | 9f96c74 |
| | | |


```
2017-11-07 19:22:17.310 INFO 4824 --- [runner-0] o.s.boot.SpringApplication
: Started application in 3.405 seconds (JVM running for 7.021)
```

Automatic Main Method

We are not required to create standard main method for groovy script to initialize a spring application. It is automatically created for spring boot application.

Spring Boot CLI - Starter Thymeleaf Project

In this chapter, we will learn how to create a sample Thymeleaf-based project to demonstrate the capabilities of Spring CLI. Follow the below mentioned step to create a sample project –

| Sr.No | Step & Description |
|-------|--|
| 1 | Create a Folder with a name <i>TestApplication</i> with subfolders <i>templates</i> and <i>static</i> . |
| 2 | Create <i>message.groovy</i> in <i>TestApplication</i> folder, <i>message.html</i> in <i>templates</i> folder, <i>index.html</i> in <i>static</i> folder as explained below. |
| 3 | Compile and run the application to verify the result of the implemented logic. |

TestApplication/message.groovy

```
@Controller
@Grab('spring-boot-starter-thymeleaf')

class MessageController {
    @RequestMapping("/message")

    String getMessage(Model model) {
        String message = "Welcome to Tutorialspoint.Com!";
        model.addAttribute("message", message);
        return "message";
    }
}
```

TestApplication/templates/message.html

```
<!DOCTYPE HTML>
<html xmlns:th = "http://www.thymeleaf.org">
    <head>
        <title>Spring Boot CLI Example</title>
        <meta http-equiv = "Content-Type" content = "text/html; charset = UTF-8" />
    </head>

    <body>
        <p th:text = "'Message: ' + ${message}" />
    </body>
</html>
```

TestApplication/static/index.html

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Spring Boot CLI Example</title>
    <meta http-equiv = "Content-Type" content = "text/html; charset = UTF-8" />
  </head>

  <body>
    <p>Go to <a href = "/msg">Message</a></p>
  </body>
</html>
```

Run the application

To run the application, type the following command –

```
E:/Test/TestApplication/> spring run *.groovy
```

Now Spring Boot CLI will come into action, download required dependencies, run the embedded tomcat, deploy the application and start it. You can see the following output on console –

```
Resolving dependencies.....
```

```

.  _ _ _ _ _
/\ / _ _ ' _ _ ( _ ) _ _ _ \ \ \ \
( ( ) \ _ | ' _ | ' _ | ' _ \ _ > | \ \ \ \
\ \ _ _ | | _ | | | | | | ( _ | ) ) )
'  | _ _ | . _ | | _ | | _ \ , | / / / /
=====|_|=====|_|/=//_/_/_/
:: Spring Boot ::      (v1.5.8.RELEASE)
```

```
...
```

```
2017-11-08 16:27:28.300 INFO 8360 --- [runner-0] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat
2017-11-08 16:27:28.305 INFO 8360 --- [runner-0] o.s.boot.SpringApplication : Start
```

Browse the application in Browser

Our spring based rest application is now ready. Open url as "**http://localhost:8080/**" and you will see the following output –

```
Go to Message
```

Click on the Message link and you will see the following output –

```
Message - Welcome to TutorialsPoint.Com!
```

Important points

Consider the following points to understand the actions taken by Spring CLI –

The `@Grab('spring-boot-starter-thymeleaf')` annotation directs CLI to download spring-boot-starter-thymeleaf 1.5.8.RELEASE version.

Spring CLI automatically detects the version using its metadata, as we have not specified any group id or version id here.

Finally after code compilation, deploy the war on a embedded tomcat, start embedded tomcat server on the default port 8080.

Spring Boot CLI - Testing Application

In this chapter, we will test the sample project created in Hello World Example Chapter to demonstrate the testing capabilities of Spring CLI. Follow the steps listed in the table below to test the sample project –

| Sr.No | Step & Description |
|-------|--|
| 1 | Create <i>FirstApplication.groovy</i> and <i>TestFirstApplication.groovy</i> in <i>Test</i> folder as explained below. |
| 2 | Compile and run the application to verify the result of the implemented logic. |

FirstApplication/FirstApplication.groovy

```
@RestController
class FirstApplication {
    @RequestMapping("/")

    String welcome() {
        "Welcome to TutorialsPoint.Com"
    }
}
```

FirstApplication/TestFirstApplication.groovy

```
class TestFirstApplication {
    @Test
    void welcomeTest() {
        assertEquals("Welcome to TutorialsPoint.Com", new FirstApplication().welcome())
    }
}
```

Run the application

To run the application, type the following command –

```
E:/Test/FirstApplication/> spring test FirstApplication.groovy TestFirstApplication.groovy
```

Now Spring Boot CLI will come into action, download the required dependencies, compile the source and test file and unit test the code. The following output will be generated on console –

```
Resolving dependencies.....  
.  
Time: 0.457  
  
OK (1 test)
```

Important points

Consider the following points to understand the actions taken by Spring CLI –

The @Test annotation directs CLI to download JUnit 4.12 version.

Spring CLI automatically detects the version using its metadata, as we have not specified any dependency.

Finally, after code compilation, test the application.

Spring Boot CLI - Packaging Application

Spring boot CLI provides jar command in order to package a application as jar file. Let us test the sample project created in Starter Thymeleaf Project Chapter to demonstrate the packaging capabilities of Spring CLI.

Follow the steps describe below to package the sample project –

Package the application

To package the application, begin by typing the following command –

```
E:/Test/TestApplication/> spring jar TestApplication.jar *.groovy
```

Output

The command will print the following output –

```
E:/Test/TestApplication/> spring jar TestApplication.jar *.groovy
```

Output

Now you can see two new files created in TestApplication folder.

TestApplication.jar.original – Original jar file.

By default following directories are included along with their contents –

By default, following directories are excluded along with their contents –

Using **--include**, we can include directories excluded otherwise. Using **--exclude**, we can exclude directories included otherwise.

To run the executable Jar, type the following command –

The above command will generate the following output on console –

```

.      _ _ _ _ _
/\ /  _' _ _ _ _ ( _ ) _ _ _ \ \ \ \
( ( ) \ _ _ | ' _ | ' _ | | ' _ \ / _ > | \ \ \ \
\ \ / _ _ ) | _ _ | | | | | | ( _ | | ) ) ) )
'   | _ _ | . _ | _ | _ _ | _ \ _ , | / / / /
=====| _ |=====| _ _ / = / _ / _ /
:: Spring Boot ::                (v1.5.8.RELEASE)

...

2017-11-08 16:27:28.300 INFO 8360 --- [runner-0] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat
2017-11-08 16:27:28.305 INFO 8360 --- [runner-0] o.s.boot.SpringApplication : Start

```

Browse the application in Browser

Our spring-based rest application is now ready. Open url as "**http://localhost:8080/**" and you will see the following output –

```
Go to Message
```

Click on Message link and you will see the following output –

```
Message: Welcome to Tutorialspoint.Com!
```

Spring Boot CLI - Creating Project

Spring Boot CLI can be used to create a new project with maven as default build tool using init command. Maven will use <https://start.spring.io> service. In following example we'll create a web application using thymeleaf. Go to **E:\Test** folder and type the following command –

```
E:/Test> spring init --dependencies = web,thymeleaf MavenApplication.zip
```

The above command will generate the following output –

```
Using service at https://start.spring.io  
Content saved to MavenApplication.zip
```

Create Gradle project

We can create a Gradle based project as well by setting **--build** as gradle. To understand this in a better way, consider the example given below. Go to **E:\Test** folder and type the following command –

```
E:/Test> spring init --build = gradle --java-version = 1.8 --dependencies = web,thymeleaf --packaging = w
```

The above command will generate the following output –

```
Using service at https://start.spring.io  
Content saved to GradleApplication.zip
```

Spring Boot CLI - Using Shell

Spring Boot CLI provides a Shell interface to run the commands in which we can directly run the commands as shown below. Go to **E:\Test** folder and type the following command –

```
E:/Test> spring shell
```

The above command will generate the following output –

```
?[1mSpring Boot?[m?[2m (v1.5.8.RELEASE)?[m
```

Hit TAB to complete. Type 'help' and hit RETURN for help, and 'exit' to quit.

Running commands in Shell

In this section, we will learn how to run commands in Shell. Type the following and see the output –

```
version
```

```
Spring CLI v1.5.8.RELEASE
```

You can press tab to auto complete the commands and type exit to finish the shell console.

Testing the application in shell

Let us now learn how to test the application in shell. Type the following line of code and see the output –

```
E:\Test\FirstApplication>spring shell
```

```
?[1mSpring Boot?[m?[2m (v1.5.8.RELEASE)?[m
```

Hit TAB to complete. Type 'help' and hit RETURN for help, and 'exit' to quit.

```
$ test FirstApplication.groovy TestFirstApplication.groovy
```

```
.
```

```
Time: 0.347
```

```
OK (1 test)
```

```
$ exit
```

```
E:\Test\FirstApplication>
```

[< Previous Page](#)

[Next Page >](#)

Advertisements



[FAQ's](#) [Cookies Policy](#) [Contact](#)

© Copyright 2018. All Rights Reserved.