CS544 EA
Integration

Spring Boot: Dependency Management

Typical Spring Boot POM

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
      <modelVersion>4.0.0</modelVersion>

      <groupId>edu.mum.cs544</groupId>
      <artifactId>demo</artifactId>
      <version>0.0.1-SNAPSHOT</version>

      <parent>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-parent</artifactId>
            <version>2.1.5.RELEASE</version>
      </parent>
      <dependencies>
            <dependency>
                  <groupId>org.springframework.boot</groupId>
                  <artifactId>spring-boot-starter-web</artifactId>
            </dependency>
      </dependencies>
      <build>
            <plugins>
                  <plugin>
                        <groupId>org.springframework.boot</groupId>
                        <artifactId>spring-boot-maven-plugin</artifactId>
                  </plugin>
            </plugins>
      </build>
</project>
```

Inherit POM config from Spring Boot

Typical dependencies for a web application

Package as an executable jar file

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Spring Boot Starters

Table 13.1. Spring Boot application starters

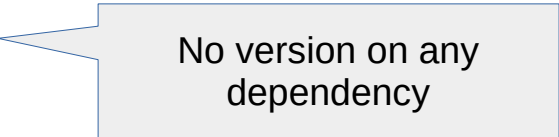| Name	Description	Pom
`spring-boot-starter`	Core starter, including auto-configuration support, logging and YAML	Pom
`spring-boot-starter-activemq`	Starter for JMS messaging using Apache ActiveMQ	Pom
`spring-boot-starter-amqp`	Starter for using Spring AMQP and Rabbit MQ	Pom
`spring-boot-starter-aop`	Starter for aspect-oriented programming with Spring AOP and AspectJ	Pom
`spring-boot-starter-artemis`	Starter for JMS messaging using Apache Artemis	Pom
`spring-boot-starter-batch`	Starter for using Spring Batch	Pom
`spring-boot-starter-cache`	Starter for using Spring Framework's caching support	Pom
`spring-boot-starter-cloud-connectors`	Starter for using Spring Cloud Connectors which simplifies connecting to services in cloud platforms like Cloud Foundry and Heroku	Pom
`spring-boot-starter-data-cassandra`	Starter for using Cassandra distributed database and Spring Data Cassandra	Pom
`spring-boot-starter-data-cassandra-reactive`	Starter for using Cassandra distributed database and Spring Data Cassandra Reactive	Pom
`spring-boot-starter-data-couchbase`	Starter for using Couchbase document-oriented database and Spring Data Couchbase	Pom
`spring-boot-starter-data-couchbase-reactive`	Starter for using Couchbase document-oriented database and Spring Data Couchbase Reactive	Pom
`spring-boot-starter-data-elasticsearch`	Starter for using Elasticsearch search and analytics engine and Spring Data Elasticsearch	Pom
`spring-boot-starter-data-jpa`	Starter for using Spring Data JPA with Hibernate	Pom
`spring-boot-starter-data-ldap`	Starter for using Spring Data LDAP	Pom
`spring-boot-starter-data-mongodb`	Starter for using MongoDB document-oriented database and Spring Data MongoDB	Pom
`spring-boot-starter-data-mongodb-reactive`	Starter for using MongoDB document-oriented database and Spring Data MongoDB Reactive	Pom
`spring-boot-starter-data-neo4j`	Starter for using Neo4j graph database and Spring Data Neo4j	Pom
`spring-boot-starter-data-redis`	Starter for using Redis key-value data store with Spring Data Redis and the Lettuce	Pom

- There are many starters to choose

- You can also combine starters

- And add your own additional deps

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See: https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle/#getting-started-first-application-code

Version Numbers

- Best **not to give a version** to dependencies

- Spring Boot has will automatically select the best version to work with (based on parent)

```xml
<!-- needed for Spring MVC -->
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-web</artifactId>
</dependency>
<!-- needed for JSP -->
<dependency>
    <groupId>org.apache.tomcat.embed</groupId>
    <artifactId>tomcat-embed-jasper</artifactId>
</dependency>
<dependency>
    <groupId>javax.servlet</groupId>
    <artifactId>jstl</artifactId>
</dependency>
```

No version on any dependency

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