## **Spring Boot**

In this lesson, we'll be starting the discussion about the Spring Boot framework.

#### WE'LL COVER THE FOLLOWING



- The Spring framework and the Java community
  - Java code
- Compiling the Spring Boot project



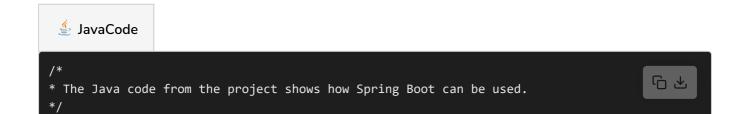
## The Spring framework and the Java community #

The Spring Framework has long been part of the Java community. It has a broad set of features covering most of the technical requirements of typical Java applications. Spring Boot facilitates the use of Spring.

A minimal Spring Boot application can be found in the directory simplest-spring-boot of the project https://github.com/ewolff/spring-boot-demos.

### Java code #

The Java code from the project shows how Spring Boot can be used.



```
@RestController
@SpringBootApplication
public class ControllerAndMain {

@RequestMapping("/") public String hello() {
  return "hello\n";
}

public static void main(String[] args) {
    SpringApplication.run(ControllerAndMain.class, args);
}
```

#### Line 5 and 7:

• The annotation @RestController means that the class ControllerAndMain should process HTTP requests.

#### Line 6:

 @SpringBootApplication triggers the automatic configuration of the environment.

The application thereby starts an environment with a web server and with the parts of the Spring framework that are fitting for a web application.

#### Line 9:

• The method hello(), is annotated with <code>@RequestMapping</code>. Therefore it is called upon an HTTP request to the URL "/". The method's return value is returned in the HTTP response.

#### Lines 13 and 14:

- Finally, the main() method starts the application with the help of the class SpringApplication.
- The application can simply be started as a **Java application** *even though* it processes **HTTP requests**.

**Note**: A **web server** is required for handling HTTP in the Java world. It is included in the application.

#### Compiling the Spring Root project

#### Compling the Spring boot project #

For compiling the project, Spring Boot supports, among others, Maven. Here is a minimal example of a Maven build configuration file:

```
pom.xml
ct>
                                                                                      6
       <modelVersion>4.0.0</modelVersion>
       <groupId>com.ewolff</groupId>
       <artifactId>simplest-spring-boot</artifactId>
       <version>0.0.1-SNAPSHOT</version>
       <parent>
               <groupId>org.springframework.boot
               <artifactId>spring-boot-starter-parent</artifactId>
               <version>2.1.2.RELEASE
       </parent>
       cproperties>
               <java.version>10</java.version>
       </properties>
       <dependencies>
               <dependency>
                       <groupId>org.springframework.boot</groupId>
                       <artifactId>spring-boot-starter-web</artifactId>
               </dependency>
               <dependency>
                       <groupId>org.springframework.boot</groupId>
                       <artifactId>spring-boot-starter-test</artifactId>
                       <scope>test</scope>
               </dependency>
       </dependencies>
       <build>
               <plugins>
                       <plugin>
                               <groupId>org.springframework.boot</groupId>
                               <artifactId>spring-boot-maven-plugin</artifactId>
                       </plugin>
               </plugins>
       </build>
</project>
```

The build configuration *inherits settings* from the parent configuration spring-boot-starter-parent.

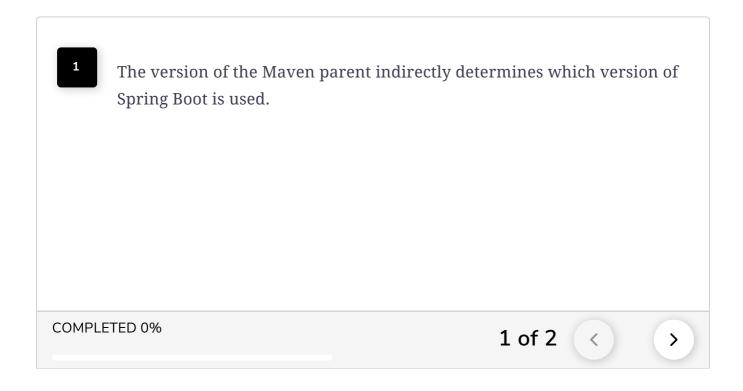
**Maven's parent configuration** makes it easy to reuse settings for the build of multiple projects.

The version of the **Maven parent** determines which version of Spring Boot is used.

The **Spring Boot version** defines the version of the Spring framework and the versions of all other libraries.

Thus, the developer does not have to define a stack with compatible versions of all frameworks, which is otherwise, often a challenge.

# QUIZ



In the *next lesson*, we'll look at how the Spring Boot starter web can serve as a single web dependency.