Using Spring Initializr for Spring Boot

Estimated time needed: 4 minutes

Learning objectives:

- Define Spring Initializr
- Explain how to use Spring Initializr to create a Spring Boot project

Introduction

Spring Boot has become a popular choice for developers looking to build modern, versatile Java applications quickly and efficiently. It offers a robust ecosystem with a vast array of libraries and tools. One of the best tools to kickstart your Spring Boot project is start.spring.io or Spring Initializr.

Let's begin by understanding the key aspects of Spring Initializr.

What is Spring Initializr?

Spring Initializr is a web-based platform that offers the quickest way to generate Spring Boot projects by selecting the Spring Boot version, the dependencies to add to the application, and the configuration details. Simply put, it allows you to generate a ready-to-use project structure with just a few clicks. Once configured, it generates a ZIP file containing a Maven or Gradle project that you can import into your favorite IDE.

Using Spring Initializr to create a Spring Boot project

Let's review the steps to create a Spring Boot project using Spring Initializr.

1. **Accessing Spring Initializr**: To begin, open your web browser and navigate to start.spring.io. The Spring Initializr interface is displayed and this is where you can customize your project.

2. **Finding project metadata**: Let's go over the project metadata to understand how you can find and manage data:

    - **Group**: This is a reversed domain name that you can control. For example, com.example.
    - **Artifact**: This refers to the name of your project, for example, demo.
    - **Name**: This is the display name for your project.
    - **Description**: This field includes a brief description of your project.
    - **Package name**: The base package for your Java classes is usually derived from the group and artifact.

3. **Understanding project options**: Next, let's look at project options. The options include information on the project, language, and the Spring Boot version.
    - **Project**: In this field, you choose between Maven and Gradle, the two most popular build systems for Java projects.
    - **Language**: In this field, you need to select Java, Kotlin, or Groovy based on your preference.
    - **Spring Boot version**: In this field, you select the version of Spring Boot you want to use. It's usually best to select the latest stable release.
4. **Selecting dependencies**: To choose the dependencies for your Spring Boot project, press the **Add Dependencies** button. Select the libraries and frameworks you want to include in your project. Let's look at a few examples:
    - **Spring Web** is used when you are building web applications, including RESTful services.
    - **Spring Security** is used to add security features such as authentication and authorization.
    - **Thymeleaf** is a popular template engine for rendering HTML views.
5. **Generating the project**: After you have configured project settings and selected dependencies, press the **Generate** button. It will download a ZIP file containing your new Spring Boot project.
6. **Importing into an IDE**: After downloading the ZIP file, extract its contents. You can then import the project into an IDE such as IntelliJ IDEA.
    1. Run **IntelliJ**
    2. Select **File** and then select **Open**
    3. Select the folder containing your project
7. **Running the project**: After you have imported the project into an IDE, you can run your Spring Boot project.
    - Open IntelliJ IDEA and locate the DemoApplication class (or similar) with a main method and then press the **Run** button.
    - In VS Code or terminal, navigate to your project directory and execute ./mvnw spring-boot:run or ./gradlew bootRun, depending on your chosen build tool.

Summary

In this reading, you've learned how to use Spring Initializr to create Spring Boot projects.

- Spring Boot has gained popularity and has been widely adopted as the choice of framework to build modern, complex Java applications.
- It has a robust ecosystem with a vast array of libraries and tools.
- start.spring.io or Spring Initializr is a web-based platform that enables you to generate Spring Boot projects.
- To create a Spring Boot project, access Spring Initializr, find - project metadata, review project options, select dependencies, generate the project, import the project into an IDE, and run the application.