

"Hello World" in Spring Boot

In order to run a simple web application in Spring Boot, the following tools and minimal knowledge about them are recommended:

Prerequisites

- IDE (Integrated Development Environment). I will use JetBrains IntelliJ for this demo.
- JDK (Java Development Kit), which includes JRE (java runtime environment). It is the tool to run and compile and run java applications. You need to download that and let your IDE have an access to it or, you'd better use "choose runtime" plugin.
- AsciiDoc, to do the documentations.
- git tool to be able to pull this project.

IntelliJ

You need to [download](#) IntelliJ Community Edition if you don't already have it.

JDK

Java Development Kit consists of tools to implement, test, run and package your java program. In IntelliJ, you can download plugins. Press **ctrl + shift + a** and type "plugins". Please install "choose runtime" from the "marketplace".

After that, again press **ctrl + shift + a** and type "choose runtime" to download JDK.

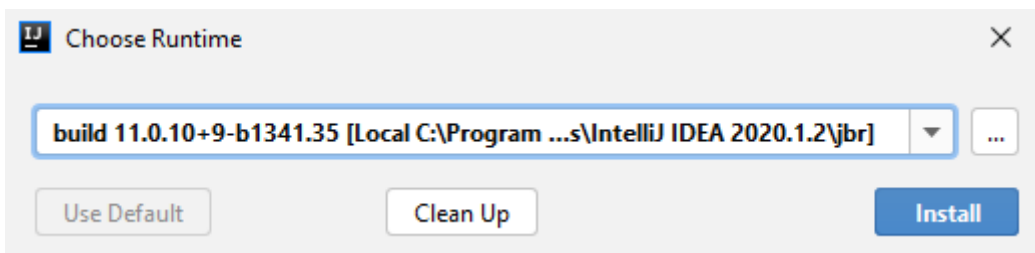


Figure 1. choose the shown item in the list and download it

git

Download from IntelliJ Plugins the "git" tool. Make sure the plugin is installed by writing this in the Terminal: **git version**. This should show you the version of the git which is downloaded in your computer. After that, you can clone (download) this project in your computer using this command:

```
git clone https://github.com/FarsheedM/spring-boot-demo.git
```

This command make a copy of the project in your local computer. Now you can run this project by yourself locally.

AsciiDoc

This tool is used to do the documentations for the different parts of your application. You can commit your documentations along side with your code. Just install the "AsciiDoc" plugin from IntelliJ plugin marketplace. (**ctrl + shift + a** and then type plugins to download a plugin)

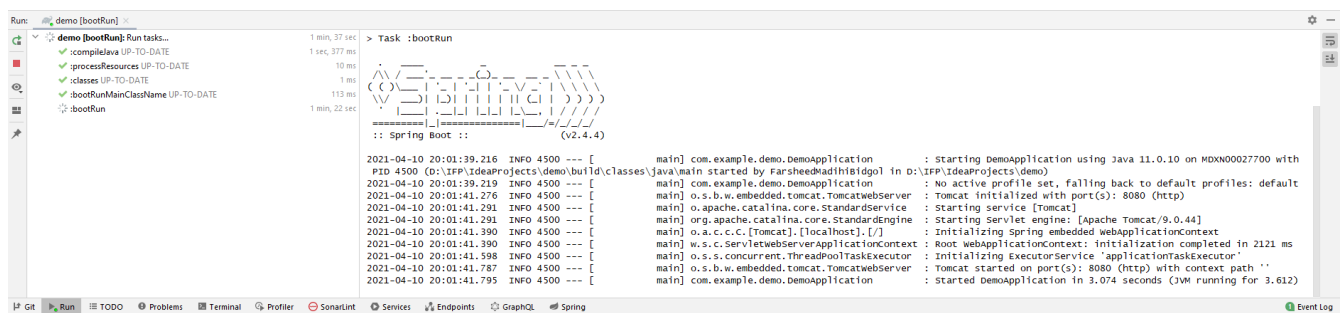
Run the program

We use Gradle in order to build this project. Gradle is responsible to get the dependencies needed to run this project e.g.

- spring-boot-starter-web
- spring-boot-starter-test

In order to run this program just press **shift + F10**. (There are many ways of running a program in IntelliJ)

You should see that the program runs in the run tab with the similar logs:



The screenshot shows the IntelliJ IDEA interface with the Run tab selected. The Run configuration is named 'demo [bootRun]'. The logs show the application starting successfully. The logs are as follows:

```
2021-04-10 20:01:39.216 INFO 4500 --- [main] com.example.demo.DemoApplication : Starting DemoApplication using Java 11.0.10 on MDXN0027700 with PID 4500 (D:\JFP\IdeaProjects\demo\build\classes\java\main started by FarsheedKadhiBidoj in D:\JFP\IdeaProjects\demo)
2021-04-10 20:01:39.219 INFO 4500 --- [main] com.example.demo.DemoApplication : No active profile set, falling back to default profiles: default
2021-04-10 20:01:41.276 INFO 4500 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2021-04-10 20:01:41.291 INFO 4500 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-04-10 20:01:41.291 INFO 4500 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.44]
2021-04-10 20:01:41.390 INFO 4500 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded webApplicationContext
2021-04-10 20:01:41.390 INFO 4500 --- [main] w.s.c.ServletWebServerApplicationContext : Root webApplicationContext: initialization completed in 2121 ms
2021-04-10 20:01:41.598 INFO 4500 --- [main] o.s.s.concurrent.ThreadPoolTaskExecutor : Initializing ExecutorService 'applicationTaskExecutor'
2021-04-10 20:01:41.787 INFO 4500 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2021-04-10 20:01:41.795 INFO 4500 --- [main] com.example.demo.DemoApplication : Started DemoApplication in 3.074 seconds (JVM running for 3.612)
```

Now if you send a request from your browser to this app, you should see the "Hallo Welt" response.

Just type **localhost:8080/greeting** in your browser to see the response.

Program's workflow

But how this really works under the hood?



References

1. IntelliJ: <https://www.jetbrains.com/idea/download/#section=windows>
2. Git: <https://git-scm.com/>
3. Learn Spring Boot: <https://www.baeldung.com/spring-boot>
4. AsciiDoc: <https://docs.asciidoctor.org/asciidoc/latest/syntax-quick-reference/>