

Spring Boot



provided by Ze Avengers

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What is Spring Boot / Ze Avengers

Spring Boot makes it easy to create stand-alone, production-grade **Spring** based Applications that you can "just run".

We take an opinionated view of the **Spring** platform and third-party libraries so you can get started with minimum fuss. Most

Spring Boot applications need very little **Spring** configuration.

Features

- Create stand-alone **Spring** applications:

Spring is a popular Java application framework. It provides various libraries and tools for enterprise application programming. It is also a very good integration system that helps glue together various enterprise components.

- Embed Tomcat*, Jetty* or Undertow* directly (no need to deploy WAR files(**Web Application Resource** or **Web Application Archive**))

** Those are Java Servers*

What is Spring Boot / Ze Avengers

- Provide opinionated 'starter' dependencies to simplify your build configuration

Spring Boot starters can help to reduce the number of manually added dependencies just by adding one dependency. So instead of manually specifying the dependencies just add one starter as in the following example:

```
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-web</artifactId>
</dependency>
```

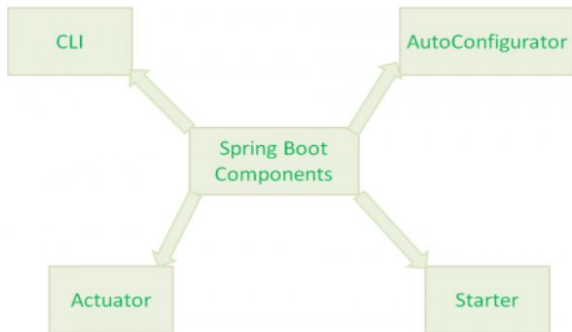
- Automatically configure **Spring** and 3rd party libraries whenever possible
- Provide production-ready features such as metrics, health checks and externalized configuration

Done by: **Spring Boot Actuator module**

- Absolutely no code generation and no requirement for XML configuration

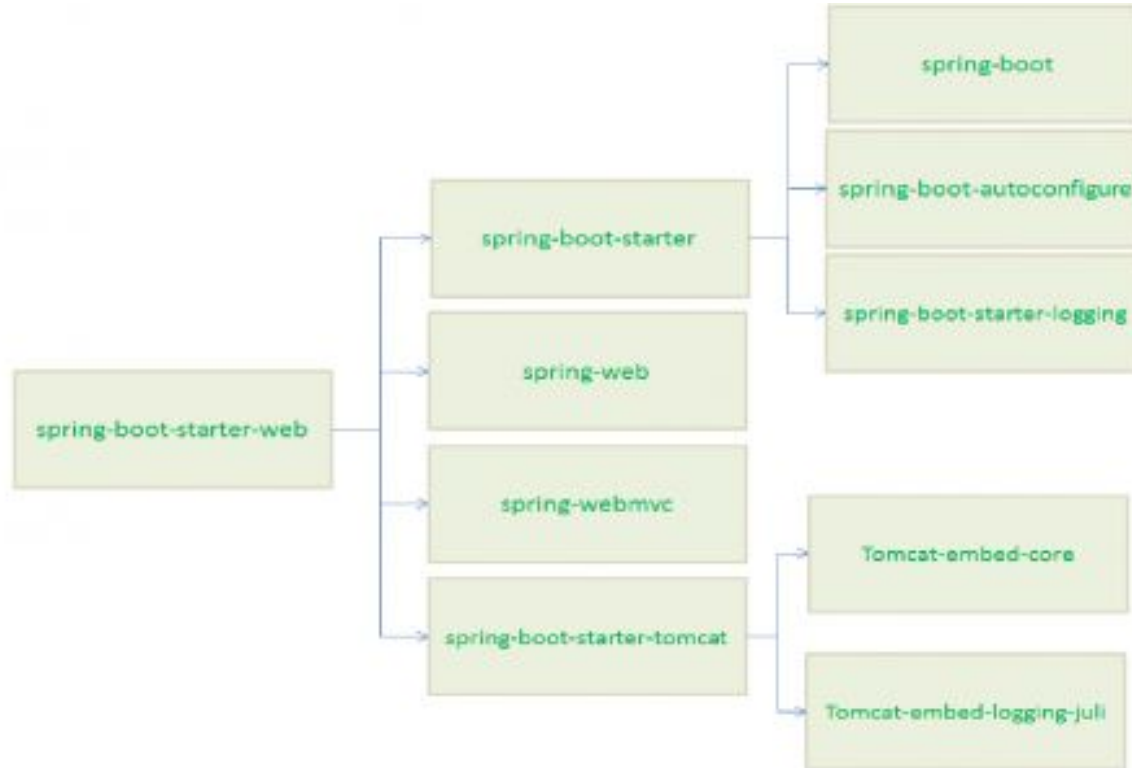
Components of Spring Boot

Spring Boot Framework has mainly four major components.



Spring Boot Starters: The main responsibility of Spring Boot Starter is to combine a **group of common or related dependencies** into single dependencies. Spring Boot starters can help to reduce the number of manually added dependencies just by adding one dependency. So instead of manually specifying the dependencies just add one starter. Examples are **spring-boot-starter-web**, **spring-boot-starter-test**, **spring-boot-starter-data-jpa**, etc.

Components of Spring Boot



Components of Spring Boot


Spring Boot AutoConfigurator: One of the common complaint with Spring is, we need to make lot of XML based configurations. Spring Boot AutoConfigurator will simplify all these XML based configurations. It also reduces the number of annotations.



```
@Target(value=TYPE)
@Retention(value=RUNTIME)
@Documented
@Inherited
@Configuration
@EnableAutoConfiguration
@ComponentScan
public @interface SpringBootApplication
```

Components of Spring Boot

Spring Boot CLI: Spring Boot CLI(Command Line Interface) is a Spring Boot software to run and test Spring Boot applications from command prompt. When we run Spring Boot applications using CLI, then it internally uses Spring Boot Starter and Spring Boot AutoConfigure components to resolve all dependencies and execute the application.



```
spring run HelloWorld.groovy
```

Spring Boot Actuator: Spring Boot Actuator is a sub-project of Spring Boot. It adds several production grade services to your application with little effort on your part. Actuators enable production-ready features to a Spring Boot application, without having to actually implement these things yourself. **The Spring Boot Actuator is mainly used to get the internals of running application like health, metrics, info, dump, environment, etc.** which is similar to your production environment monitoring setup.

Development Environment Setup

Step 1: Install Java JDK

- [Download JDK from Oracle](#)
- Double click to install and follow directions
- Add the JDK bin directory to your path
- Set the environment variable JAVA_HOME to point to your JDK installation

Step 2: Install Gradle

- [Download the binary-only Gradle package](#)
- Unzip the file
- Move the gradle folder anywhere to your C: drive (**C:\Program Files** for example)
- Add the Gradle bin directory to your path

Step 3: Use your favorite Editor or IDE

- **VSCode**, Eclipse, IntelliJ

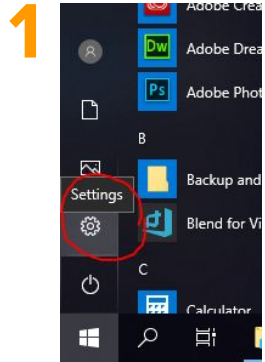
Development Environment Setup

[Download Oracle JDK](#)

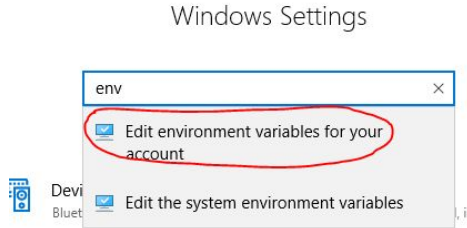
| Java Platform, Standard Edition | |
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| Java SE 12 Java SE 12 is the latest release for the Java SE Platform Learn more ▶ | |
| <ul style="list-style-type: none">▪ Installation Instructions▪ Release Notes▪ Oracle JDK License▪ Java SE Licensing Information User Manual<ul style="list-style-type: none">▪ Includes Third Party Licenses▪ Certified System Configurations▪ Readme | <div>Oracle JDK DOWNLOAD ⬇</div> |

Development Environment Setup

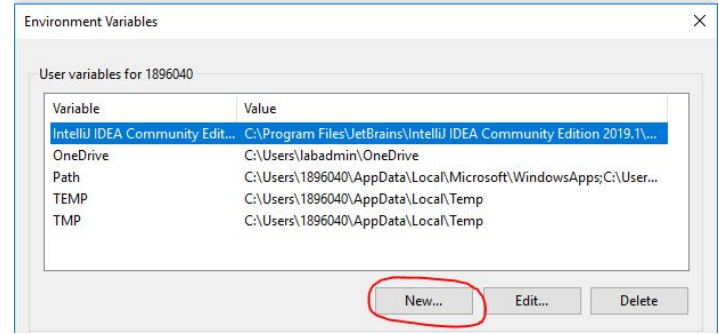
Add the JDK bin directory to your path



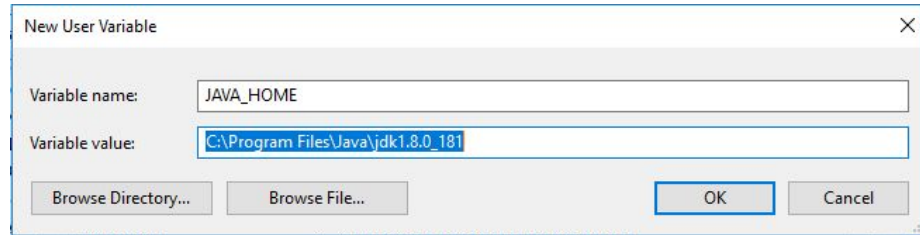
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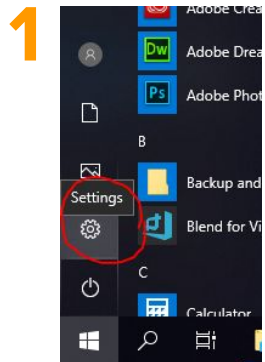


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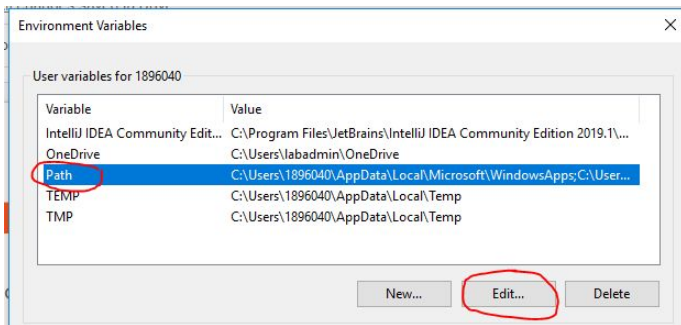


Development Environment Setup

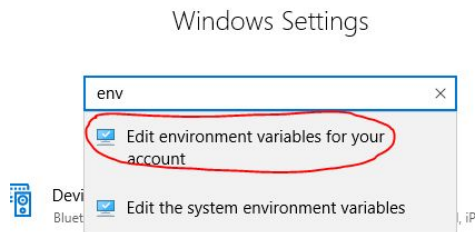
Set JAVA_HOME to point to your JDK installation



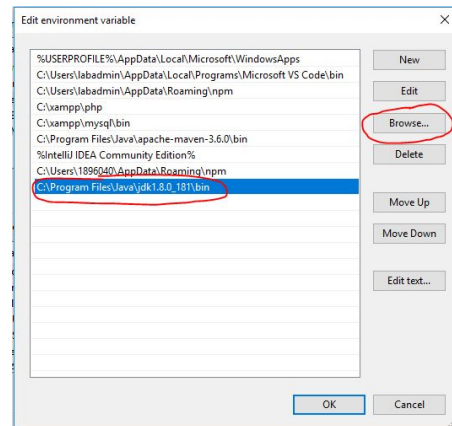
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What is Gradle

Gradle is an open-source [build automation](#) tool that is designed to be flexible enough to build almost any type of software.

What is Gradle?



- Gradle is a general purpose **build system**
- It comes with a rich build description language (DSL) based on **Groovy**
- It supports "**build-by-convention**" principle
- But it is very **flexible** and **extensible**
- It has **built-in plug-ins** for Java, Groovy, Scala, Web, OSGi
- It derives all the best and integrates well with **Ivy, Ant and Maven**

For more detailed explanation, please read the documentation at:

https://docs.gradle.org/current/userguide/what_is_gradle.html

Development Environment Setup

Install Gradle

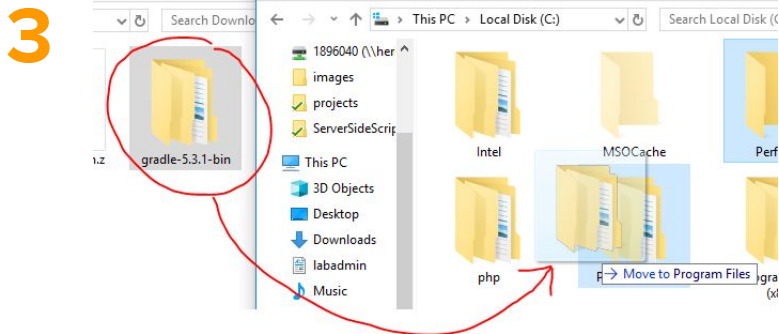
1 Installing manually

Step 1. Download the latest Gradle distribution

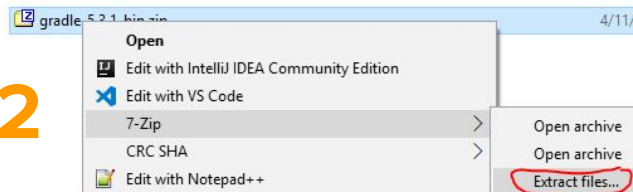
The current Gradle release is version 5.3.1, released on 2019-04-11, and comes in two flavors:

- Binary-only
- Complete, with docs and sources

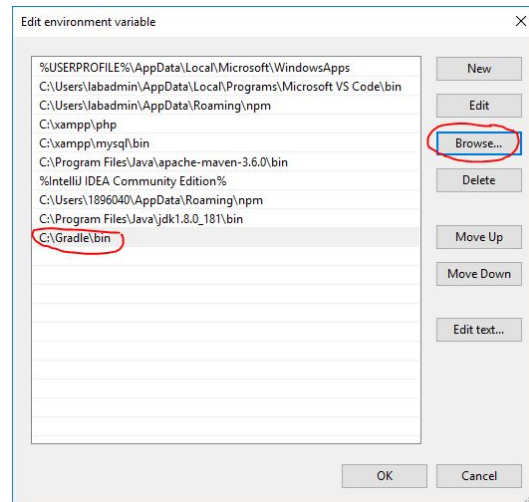
If in doubt, choose the binary-only version and browse



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Hello world app / Ze Avengers

Creating the Hello World app is fairly easy following all the steps and available documentation at:

<https://spring.io/guides/gs/spring-boot/>



Ze Avengers wish you happy programming with **Spring Boot** and **Java!!!**

Did you like the framework?

