PRG381 Project

Moagi Boikanyo

Table of Contents

[Introduction 1](#_Toc113483544)

[Spring Boot Capabilities 2](#_Toc113483545)

[Autoconfiguration 2](#_Toc113483546)

[Opinionated Approach 2](#_Toc113483547)

[Standalone applications 2](#_Toc113483548)

[Spring Boot or Spring Framework 2](#_Toc113483549)

[Aspect-Oriented Programming in Spring Boot 2](#_Toc113483550)

[Conclusion 3](#_Toc113483551)

[References 3](#_Toc113483552)

# Introduction

When asked what Spring Boot is and what it does, first it is important to know what the Spring framework is and how they relate.

The Java Spring Framework, also simply known as Spring Framework, is a framework that’s used for creating applications that run on the Java Virtual Machine. These applications are mainly standalone, production grade applications and Spring itself is a pretty popular and open-source framework. Spring Framework is considered popular because it provides users with features and tools they may need to when making use of Java related application, especially Java EE

Spring Boot is in essence a tool used to make developing microservices and web applications using the Spring Framework in a faster and easier way. Configuring, setting up and running Spring Framework applications is something that takes quite the amount of time to do, but thankfully Spring Boot quickens the process with 3 capabilities: Autoconfiguration, Opinionated approach and making Standalone applications.

# Spring Boot Capabilities

As mentioned before, Spring boot makes the use of Spring Framework a faster and easier process with the use of 3 capabilities. Let’s expand on them

## Autoconfiguration

As the name suggest, Spring Boot comes with built-in capabilities that automatically configures not only the Spring Framework but also any outside packages that are based on your setting. The benefit of this helps speed up the need to configure everything you need while also lowering the chances of making errors compared to if you tried to configure everything yourself

## Opinionated Approach

The Spring Boot adds and configures the dependencies based on the needs of your project. Meaning that it will determine for you which packages to install and what default values you will have rather than you doing all of this yourself. Spring Boot will also provide a web form by running Spring Boot Initializer that helps you define the needs of your project in a simpler way

## Standalone applications

Spring Boot also allows to make application that can just run without needing to rely on some external web server. This means you can launch on any platform you want.

# Spring Boot or Spring Framework

As stated, using Spring Boot makes developing Spring applications a faster and easier thing to do but this does come with a drawback that you can be as flexible with the application. The drawback is not big since you can still include very unique configuration (if needed) through the spring boot so the development will still be quickened.

# Aspect-Oriented Programming in Spring Boot

When developing java applications, we come across a term known as cross-cutting concerns. Cross-cutting concerns are aspects of the application, such as Security, Validation etc, we wish to use in our application layers (Web, Business and Data) but if we do so separately then the code becomes harder to manage later. Using Aspect-Oriented Programming actually solves the issue by using the cross-cutting concerns as an aspect and shows where the aspect was used. Basically, it makes the aspects work in 1 code component

The use of AOP in spring also allows us to modify the aspects without having to modify the class that has the aspects used. Other benefits are it implemented in pure java and you don’t need some special compilation process for it.

# Conclusion

There is more to Spring Framework and Spring Boot but some things are certain. Using Spring and Spring Boot when developing your java applications is more than good idea since they provide tools, dependencies and such to make your development a less stressful endeavour compared to others or when making it all from scratch and it allows for cross-platform development so do give it a try and see for yourself the beneficial difference it provides.

# References

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