

Spring Boot

AP hogeschool Philippe Possemiers

What is Spring Boot?

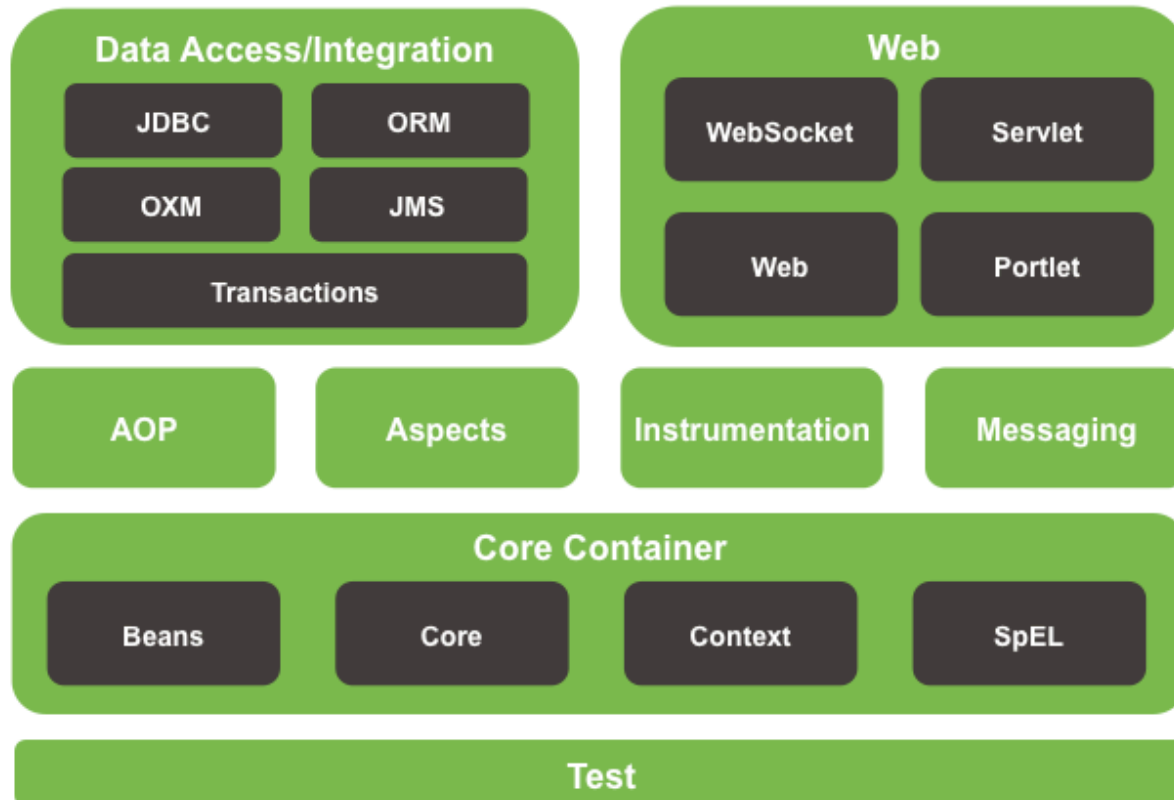
- Started in 2003
- Integrates with JEE
- Organized in modules (+/- 20)
- Provides services so developer can concentrate on business logic



Spring modules



Spring Framework Runtime



Inversion of control

- IoC is fundamental to Spring. The container is responsible for managing specific objects: creating these objects, calling their initialisation methods, and configuring these objects by wiring them together
- AKA as dependency injection
- These objects are called beans
- Configuration is XML or annotation based



Bean creation

- Classes can be annotated by `@Component`, this provides a one-to-one mapping between the annotated class and the bean (i.e. one bean per class)
- `@Bean` is used to explicitly declare a single bean. Decouples the declaration of the bean from the class definition and lets you create and configure beans exactly how you choose



Bean declaration

- Three ways of declaring and creating beans :
 - XML bean configuration file
 - AppConfig bean creation
 - @ComponentScan with @Autowire

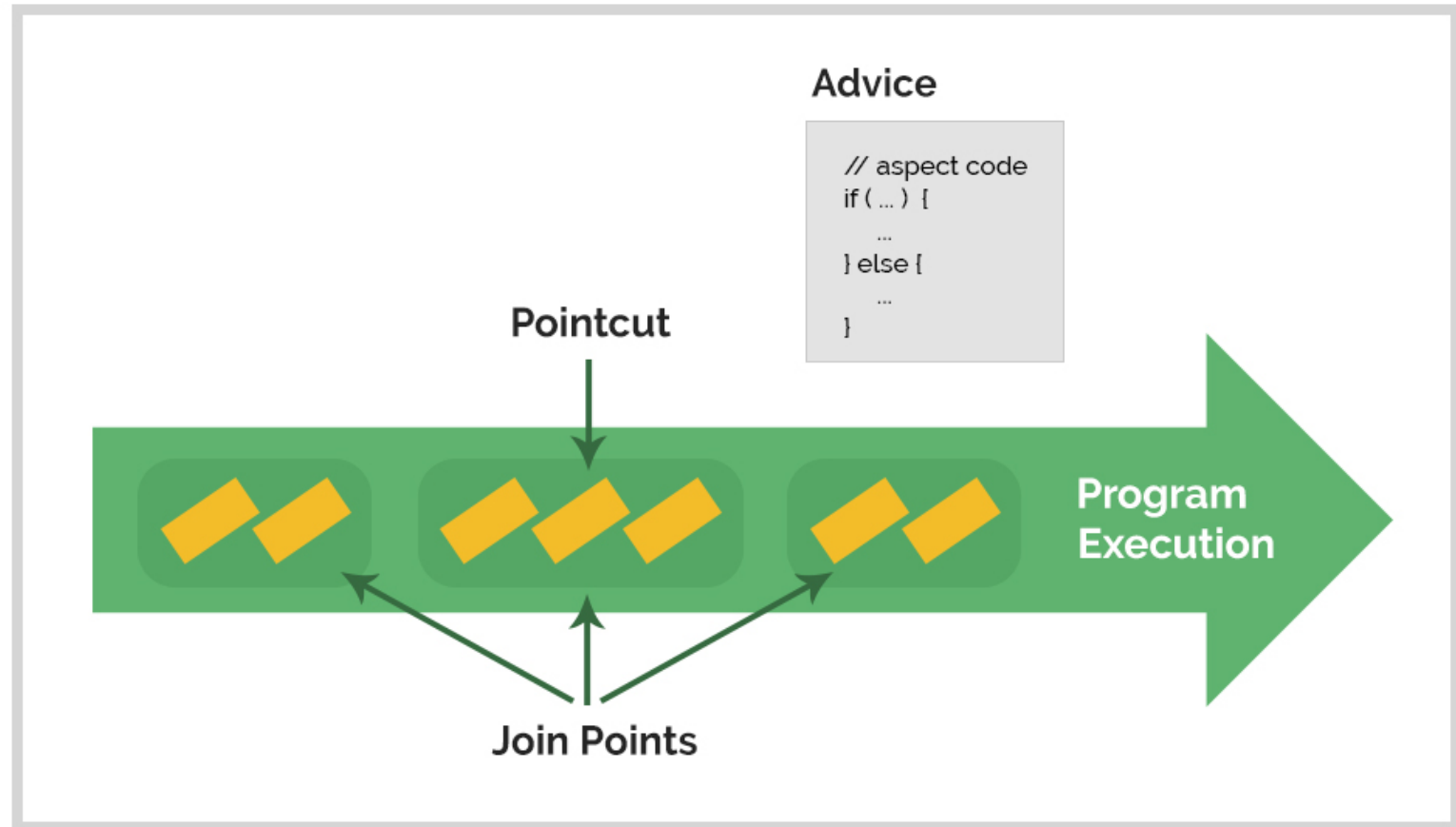


Aspect Oriented Programming

- AOP modularizes cross-cutting concerns in aspects
- Typical cross-cutting concerns : logging, security, ...
- Proxy pattern-based

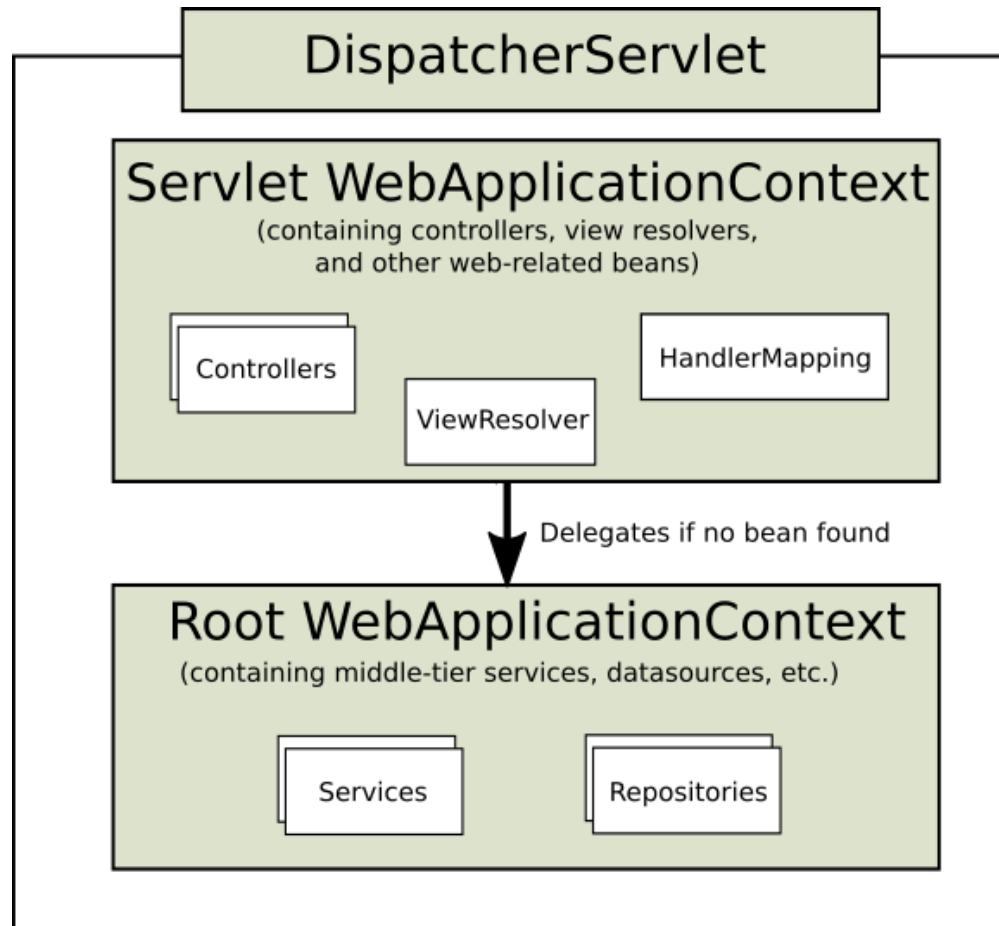


Aspect Oriented Programming



Spring MVC

- Web framework, based on Servlet API



Spring Boot

- Spring Boot produces standalone applications (even web applications)
- Tomcat can be deployed directly
- Convention over configuration POM
- Metrics, health checks, tests, config provided
- Runnable jar is produced with auto-detection of main method



Spring Boot

@SpringBootApplication

- @Configuration
- @EnableAutoConfiguration
- @ComponentScan



POM.xml

- Project Object Model
- Used by Maven for build and dependency management
- Maven dynamically downloads libraries from repositories
- Maven is not just for Java (Ruby, C#, Scala, C, C++, ...)
- Configure individual phases of build process as plugins

