SPRING 5

Bastien Ladron

github.com/Bastien7

bastien.ladron@gmail.com

Summary

- Spring Framework
- Reactive programming
- Servlet 4 support
- Functional web framework
- Demo
- Think API or die

Spring Framework

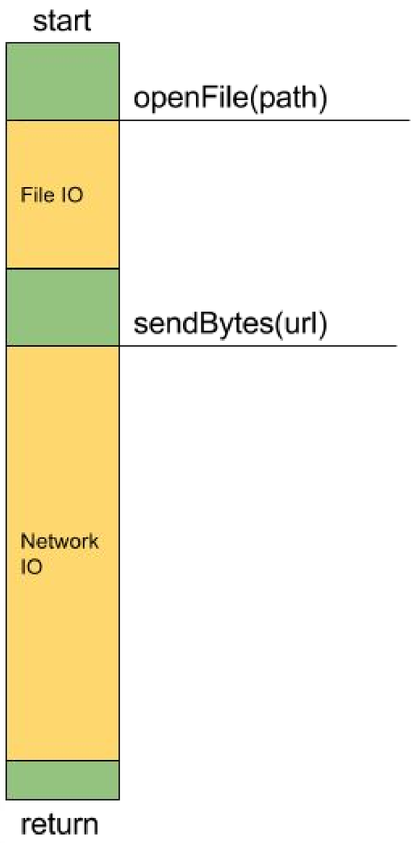
- Light **container**, dependency injection, …
- Running on **JVM**
- Developed by **Pivotal** since 2003
- Previous version: **4.3.12**
- Current version: **5.0.1** (24 October 2017)

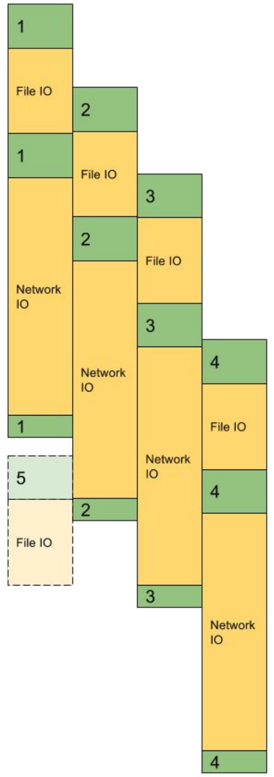
Synchronous code

- Blocking code
- Limited number of thread
- Example: RestTemplate, database query, …

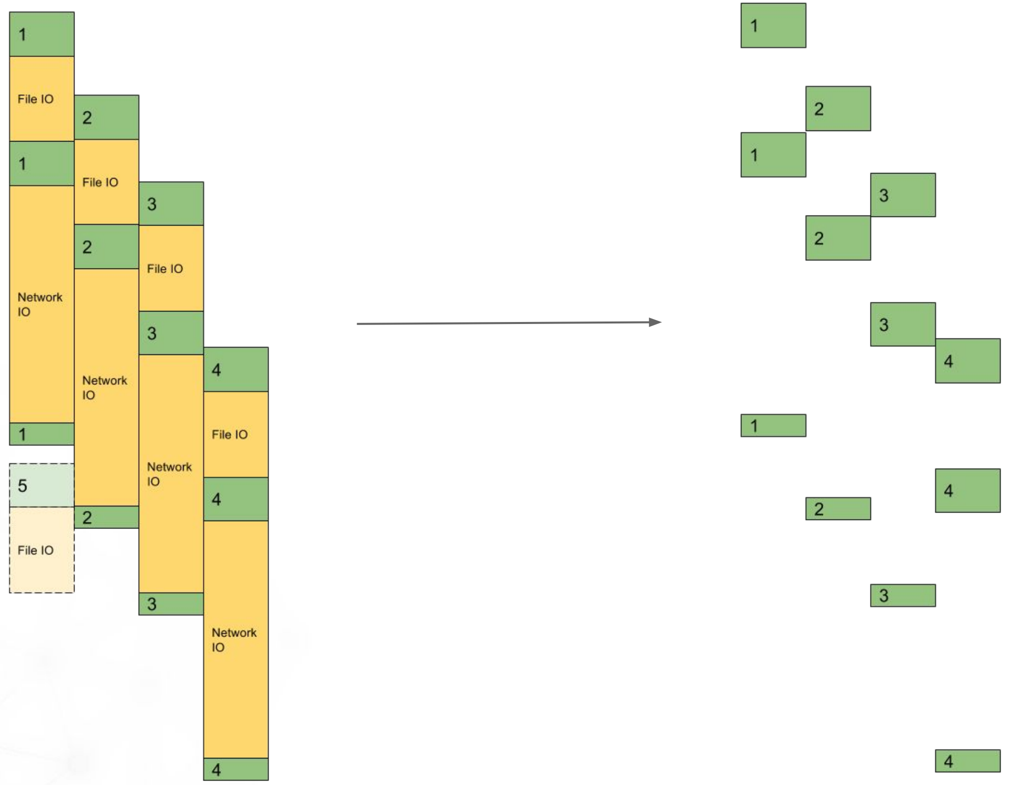
Why block the entire service?

Synchronous code

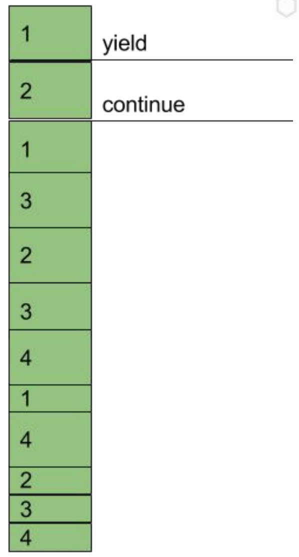


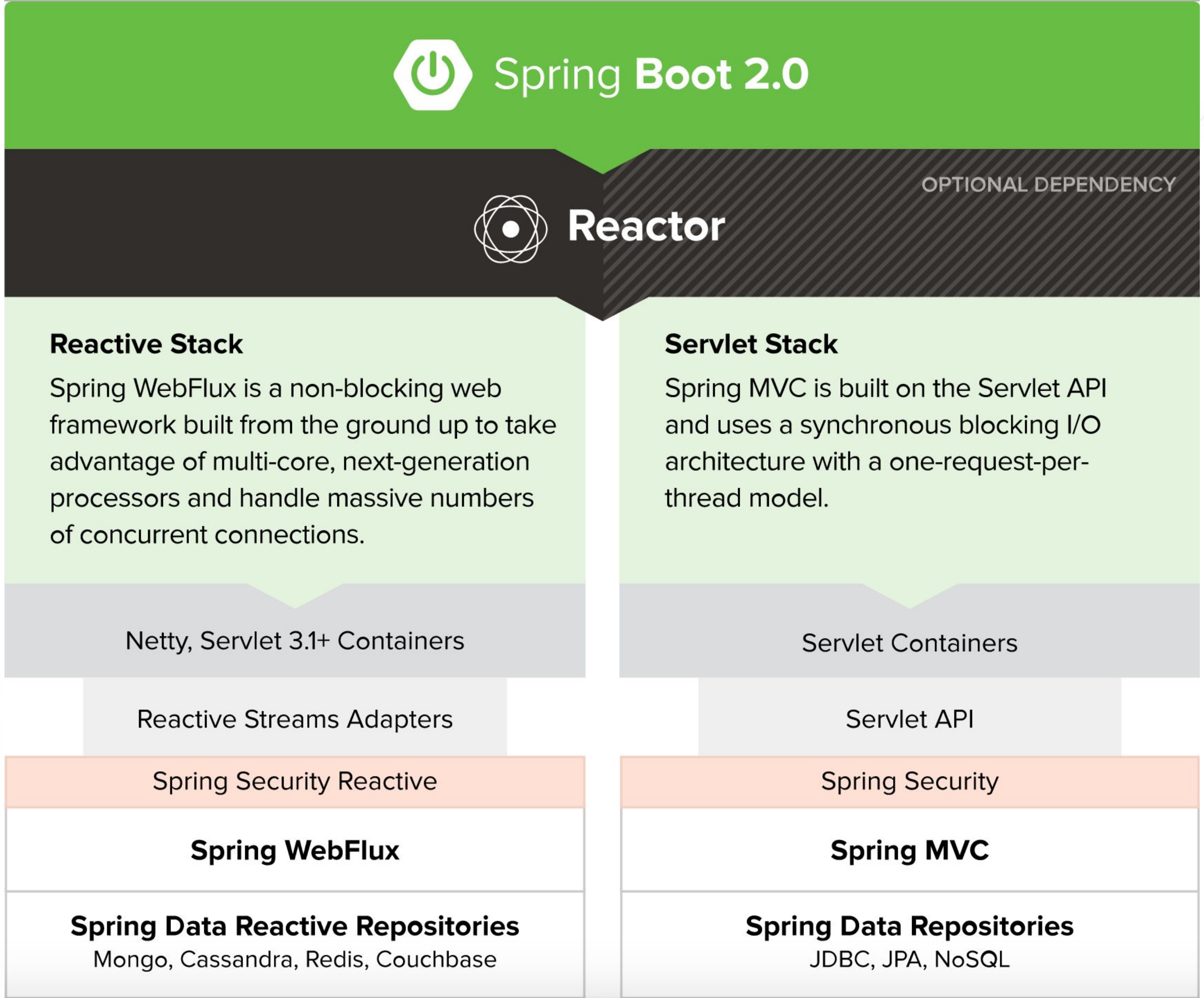


Asynchronous code



Single thread





Reactive Stack

Spring WebFlux is a non-blocking web framework built from the ground up to take advantage of multi-core, next-generation processors and handle massive numbers of concurrent connections.

Servlet Stack

Spring MVC is built on the Servlet API and uses a synchronous blocking I/O architecture with a one-request-per-thread model.

Servlet 4 support

- Integration with **Java EE 8** APIs & **JDK 9**
- **HTTP/2** support
- Performance improvement
- **Encryption** in browsers by default

Functional web framework

- Functional style with **Java 8** & **Kotlin**
- No application context scan ⇒ more efficient
- Official Kotlin support
  - Bean registration DSL
  - Web endpoints DSL

Functional web framework

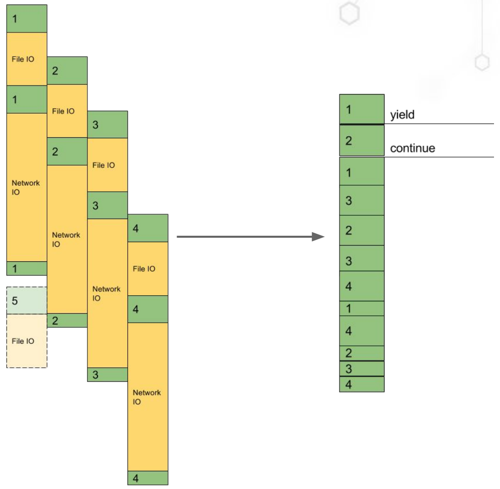
- Compose the beans you want ⇒ **test/mock**
- Configure beans/routes programmatically ⇒ **parameterization**
- No component-scan ⇒ **take only what you want**
- Kotlin ⇒ **null-safety** at compilation, **elegant** code

- More code to write ⇒ reuse it in tests?

Code demo

Think API or die

- Many microservices
  - Scalability
  - Availability
- Be able to make high concurrency apps
- Optimize the thread-pool usage
- Configuration validated at runtime



Think API or die

What about you?

How would you answer to the API strategy?

Conclusion

- Reactive programming
  - Scalable applications
  - Need to learn new stuff
- Kotlin support
  - Very good integration
  - Confident in configuration
- Code over annotation/XML ⇒ no more Spring magic
- Some stuff to improve: WebClient, …

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