BOOTylicious Spring

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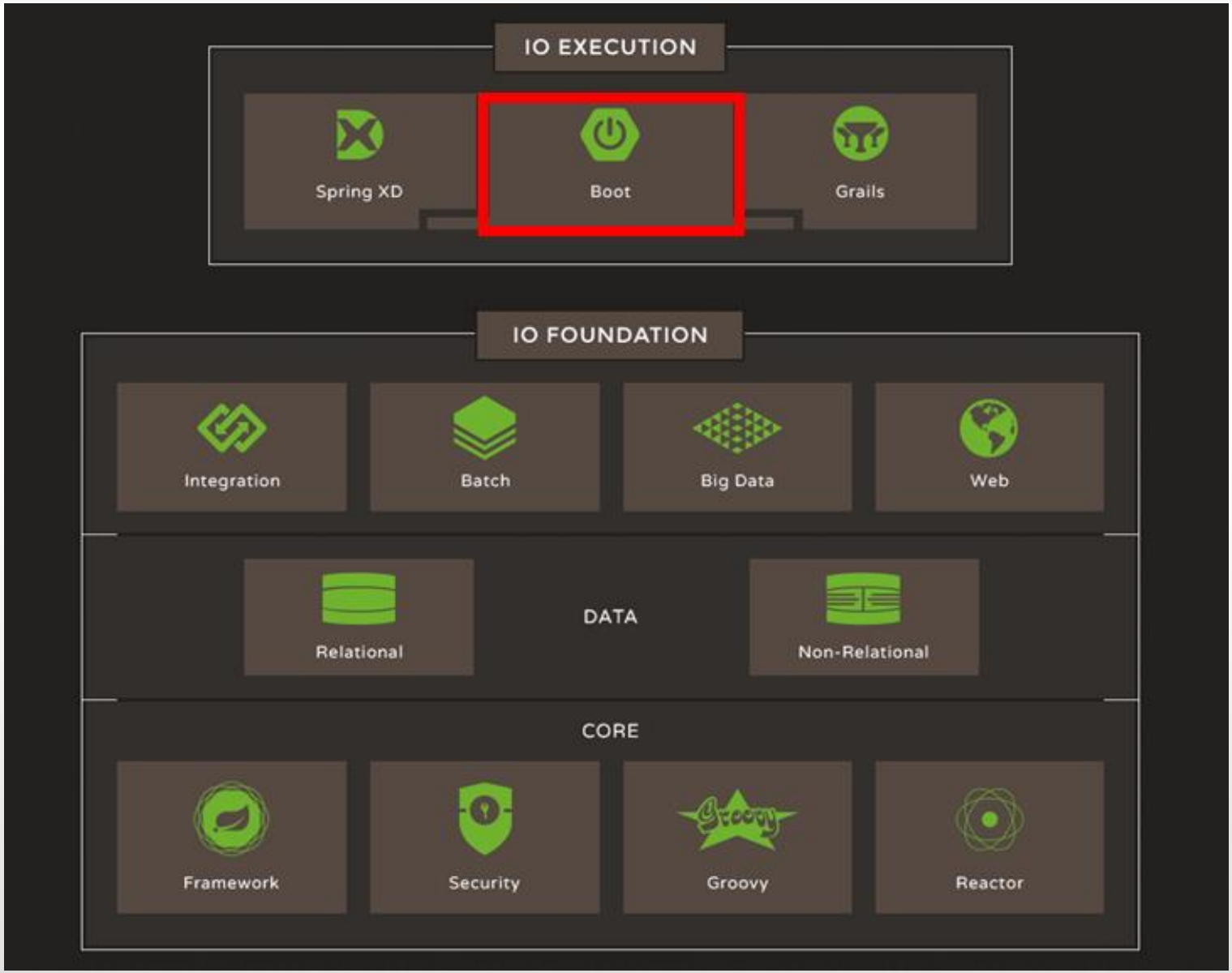
Sadržaj

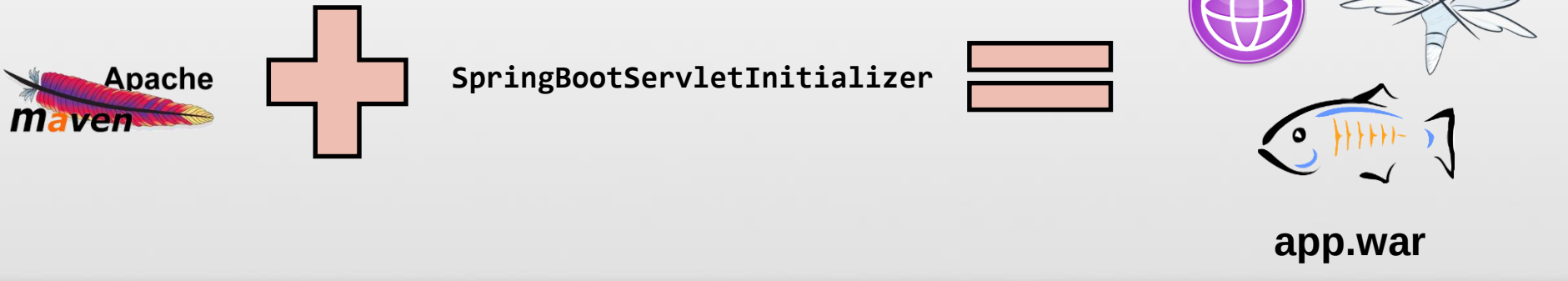
- Zašto Spring Boot?
- Standalone Spring aplikacije
- Konfiguracija
- Kako radi Spring Boot?
- Primjer REST servisa
- Spring Boot Actuator
- Testiranje
- Perspektiva


IO EXECUTION
Spring XD
Boot
Grails
IO FOUNDATION
Integration
Batch
Big Data
Web
Relational
DATA
Non-Relational
CORE
Framework
Security
Groovy
Reactor

Zašto Spring Boot?

- Standalone aplikacije s ugrađenim serverom spremne za produkciju:
  - Metrike, health checkovi, remote spajanje na server (SSH, Telnet) itd.
  - Mikroservisi
- Konfiguracija bez XML-a
- Starter POM-ovi, lakši dependency management
- **Rješava Spring boilerplate**

Standalone Spring aplikacije

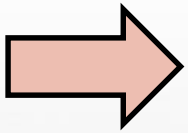


Konfiguracija (1/5)

- Maven starter POM-ovi, dependecy management
- Autokonfiguracija bez XML-a
  - Opinionated
- Jednostavan override auto konfiguracije
- Eksterna konfiguracija

Konfiguracija (2/5)

```
<dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter</artifactId>
</dependency>
<dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-tomcat</artifactId>
</dependency>
<dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-validation</artifactId>
</dependency>
<dependency>
        <groupId>com.fasterxml.jackson.core</groupId>
        <artifactId>jackson-databind</artifactId>
</dependency>
<dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-web</artifactId>
</dependency>
<dependency>
        <groupId>org.springframework</groupId>
        <artifactId>spring-webmvc</artifactId>
</dependency>
```



Starter POM

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

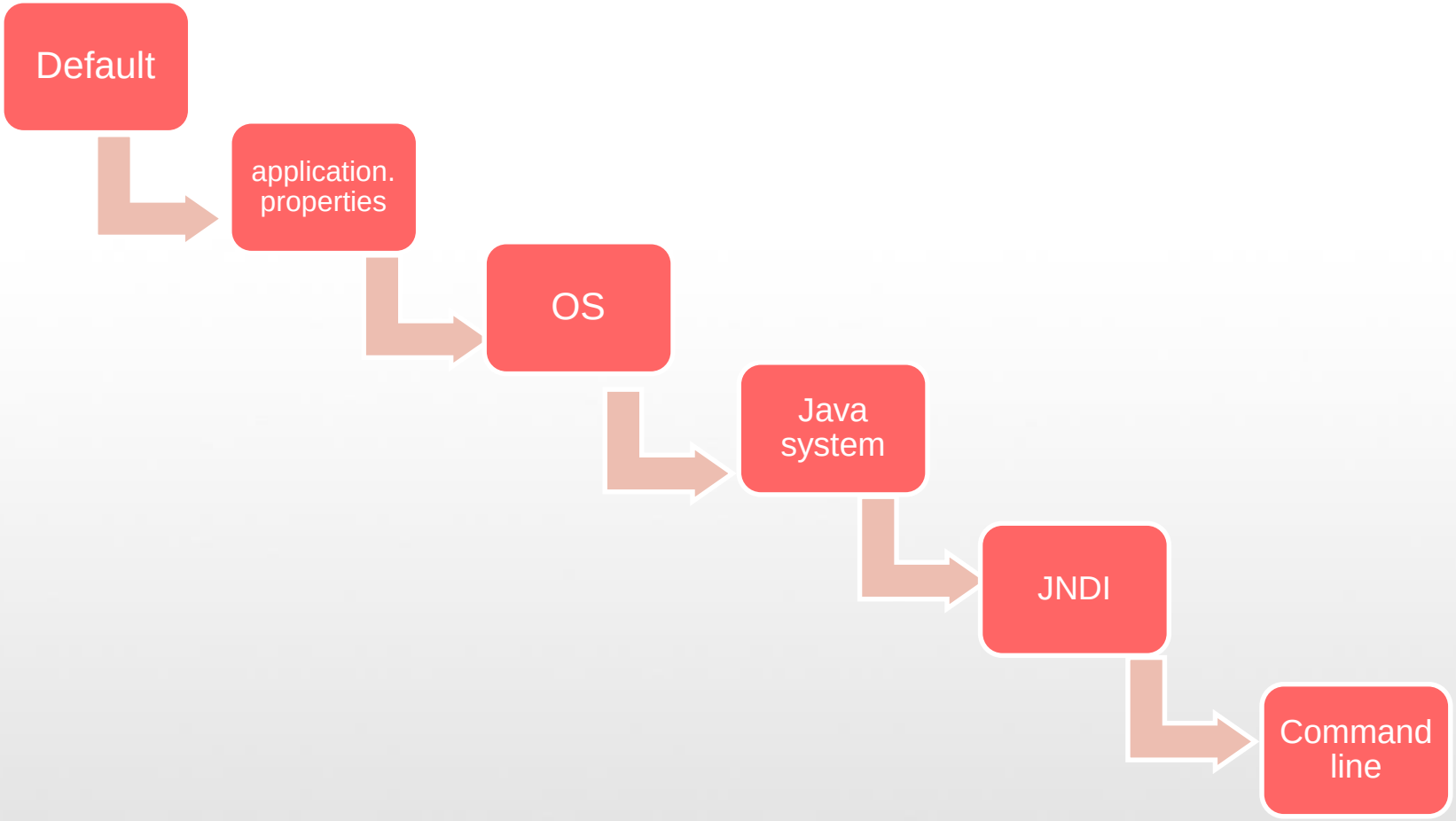
Konfiguracija (3/5)

- Starter POM-ovi pokrivaju većinu ovisnosti:
  - spring-boot-starter
  - spring-boot-starter-web
  - spring-boot-starter-thymeleaf
  - spring-boot-starter-data-jpa
  - spring-boot-starter-redis
  - spring-boot-starter-social-facebook

Konfiguracija (4/5)

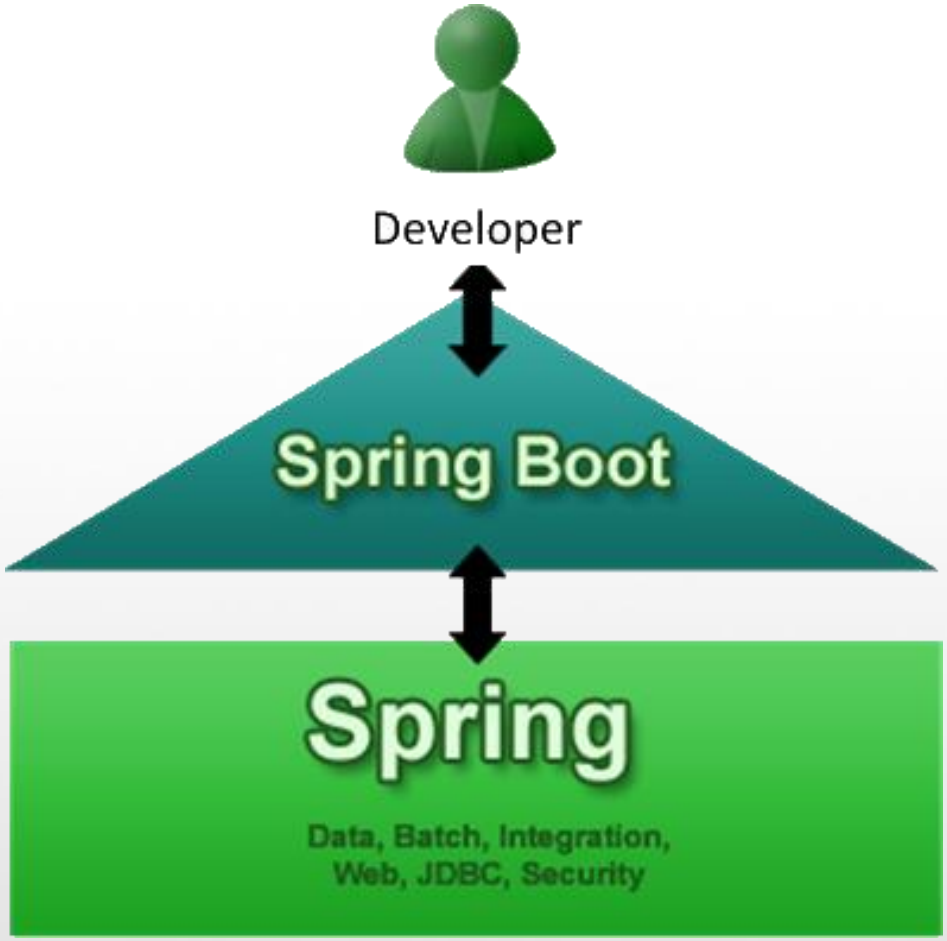
- application.properties ili application.yml
  - spring.profiles.active
  - logging.path
  - server.port
  - server.context-path
  - spring.datasource.url=jdbc:mysql://localhost/test
- @Value("${server.port}")

Konfiguracija (5/5)



Kako radi Spring Boot?

- @EnableAutoConfiguration
  - Skeniranje classpatha, zaključivanje, instanciranje objekata
  - Npr. ako na classpathu pronađe Thymeleaf automatski će kreirati view i view resolver, te Spring template engine
  - Daje prednost user beanovima
- NE GENERIRA KOD


Developer
Spring Boot
Spring
Data, Batch, Integration,
Web, JDBC, Security

Primjer REST servisa

```
@SpringBootApplication
@RestController
public class JavaCro {

    @RequestMapping("/")
    public String hello() {
        return "Hello JavaCro!";
    }

    public static void main(String[] args) throws Exception {
        SpringApplication.run(JavaCro.class, args);
    }
}
```

```
@Configuration
@EnableAutoConfiguration
@ComponentScan
```

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

Spring Boot Actuator

- Nefunkcionalne pogodnosti za produkciju
- Dodaje HTTP endpointove:
  - /beans
  - /dump
  - /health
  - /info
  - /metrics
  - /trace
  - /shutdown ...


```
{
  "mem" : 190976,
  "mem.free" : 163288,
  "processors" : 4,
  "instance.uptime" : 8128,
  "uptime" : 12793,
  "systemload.average" : -1.0,
  "heap.committed" : 190976,
  "heap.init" : 126976,
  "heap.used" : 27687,
  "heap" : 1793536,
  "threads.peak" : 22,
  "threads.daemon" : 19,
  "threads" : 22,
  "classes" : 5340,
  "classes.loaded" : 5340,
  "classes.unloaded" : 0,
  "gc.ps_scavenge.count" : 7,
  "gc.ps_scavenge.time" : 75,
  "gc.ps_marksweep.count" : 1,
  "gc.ps_marksweep.time" : 56,
  "httpsessions.max" : -1,
  "httpsessions.active" : 0
}
```

Testiranje

- spring-boot-starter-test
- Spring Test, JUnit, Hamcrest, Mockito
- @SpringApplicationConfiguration
  - Spring Boot konfiguracija ApplicationContext-a
- @IntegrationTest
  - Za testiranje koristi embeddani server

Perspektiva

JHipster
Angular
Spring Boot

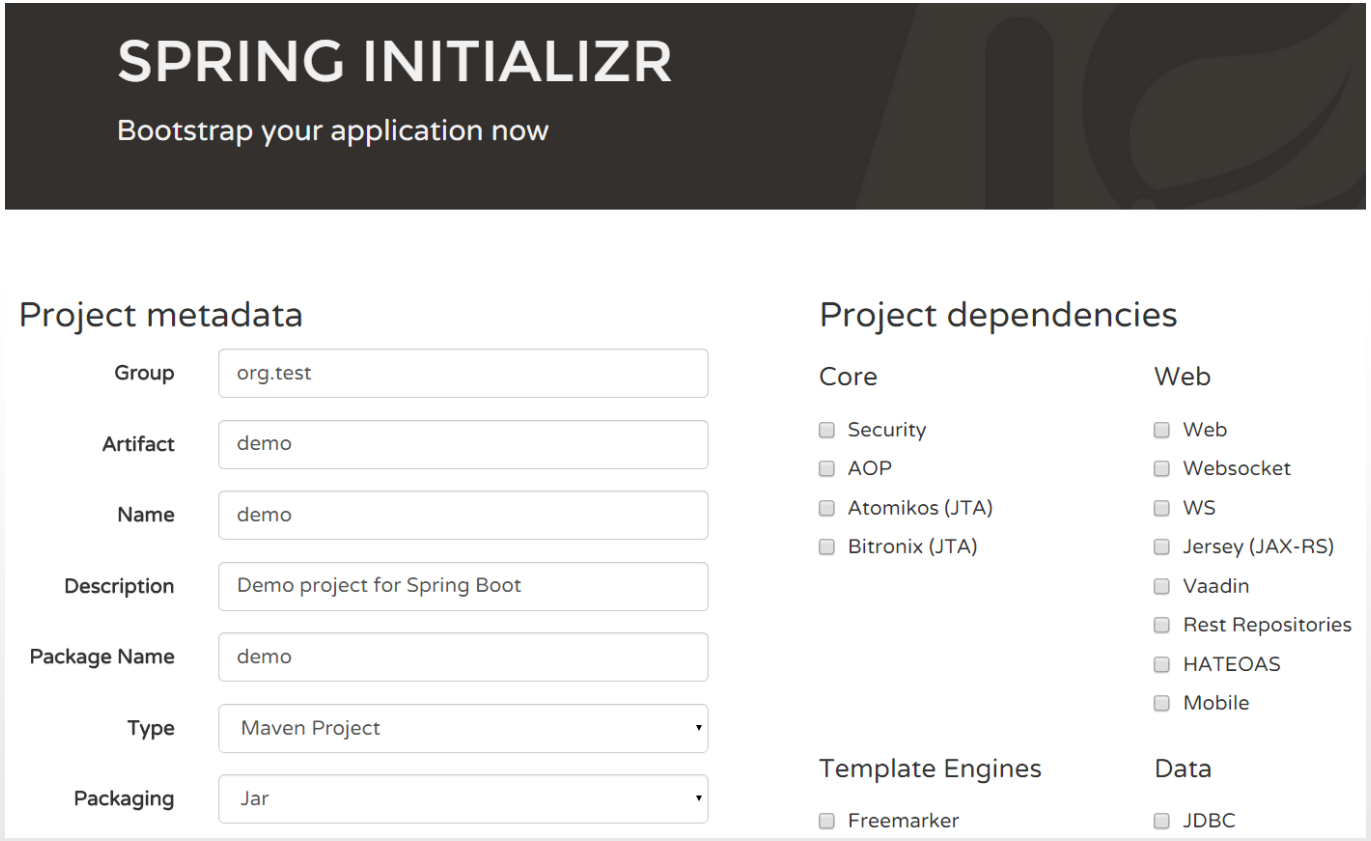
NETFLIX

Netflix aktivno i intenzivno koristi Spring Boot, uglavnom za razvoj mikroservisa

SV GROUP

I mi ga koristimo ☺

Nije mi to dosta



https://start.spring.io

Nije mi ni to dosta

- Spring Loaded
  - Omogućuje hot reload aplikacije
  - Prati promjene nad klasama, automatski ih kompajlira i izmjenjuje

```
<plugin>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-maven-plugin</artifactId>
    <dependencies>
        <dependency>
            <groupId>org.springframework</groupId>
            <artifactId>springloaded</artifactId>
            <version>1.2.0.RELEASE</version>
        </dependency>
    </dependencies>
</plugin>
```

Dosta mi je..

https://github.com/spring-io/sagan

Zaključak

- Pojednostavljen razvoj
- Konfiguracija
- Fokus na aplikaciji
- Puštanje u produkciju

- Opinionated
- Deploy na aplikacijske servere?

Spring Boot je i dalje Spring!

A sad vi...