

SPRING BOOT

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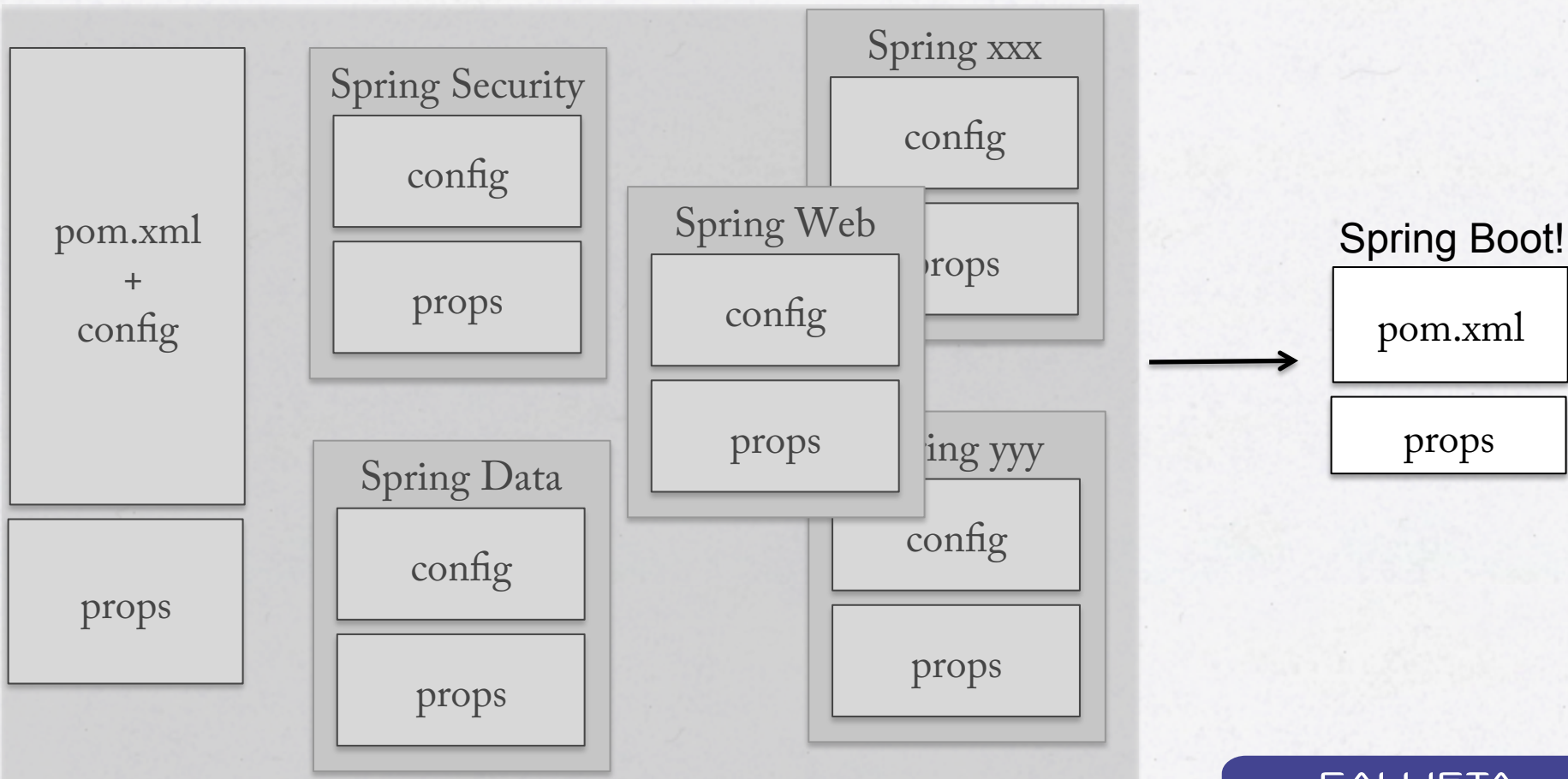
AGENDA

- Simple example
- What is Spring Boot?
- Demo application
- Jarfiles
- Developer Tools
- Configuration from config server
- Actuator
- Wrap up

INTRODUCING SPRING BOOT

- Simple example
 - REST service
- Spring Boot CLI (Command Line Interface)
 - Groovy files

SPRING BOOT EMERGING



WHAT IS SPRING BOOT

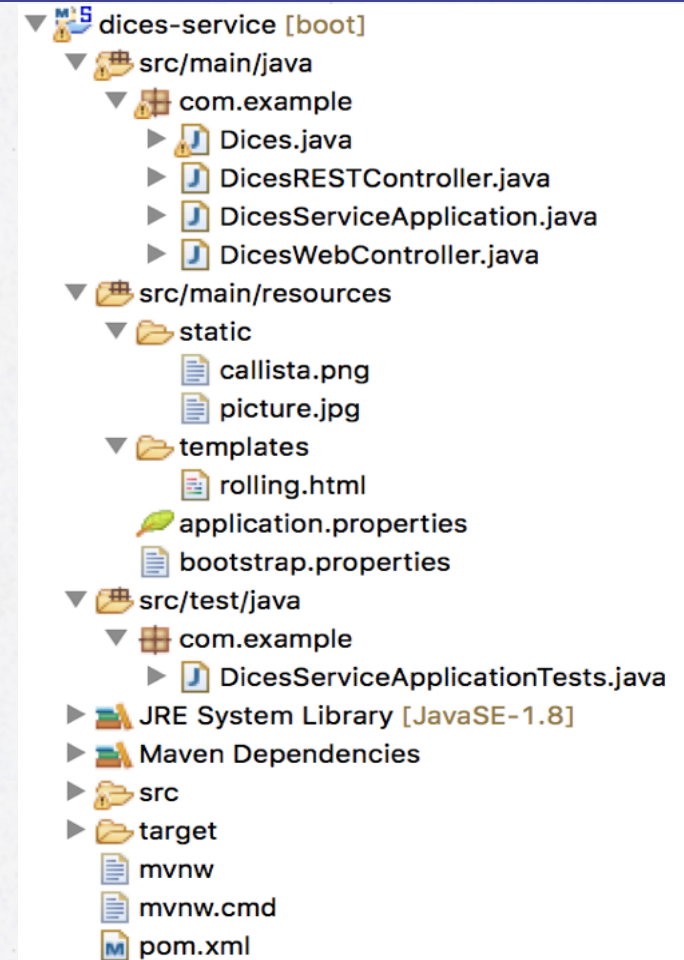
- Helps creating Spring Applications
- Convention over configuration
- Starter POMS
 - Automatic configuration with sensible defaults
 - Example: spring-boot-starter-web
- Features
 - Monitoring
 - Metrics
 - ...

WHY - WHEN

- "Getting started" the easy way quickly
- Check out new features in the Spring stack
- Minimal immediate knowledge of dependencies, configuration, ...
- Need to create small autonomous applications (microservices)
- Distributed system landscape

DEMO APPLICATION

- Rolling two dices
- REST endpoint
 - /roll
- WEB page URL
 - /rolling
- Eclipse STS (Spring Tool Suite)



JAR FILES

- demo-0.0.1-SNAPSHOT.jar
 - big
- über-jar
- MANIFEST.MF
 - Main-Class: org.springframework.boot.loader.JarLauncher

```
META-INF
├── MANIFEST.MF
├── maven
│   ├── com.example
│   │   └── demo
│   │       ├── pom.properties
│   │       └── pom.xml
├── application.properties
├── bootstrap.properties
├── com
│   └── example
│       ├── Dices.class
│       ├── DicesRestController.class
│       ├── DicesServiceApplication.class
│       └── DicesWebController.class
├── lib
├── aopalliance-1.0.jar
├── classmate-1.1.0.jar
├── groovy-2.4.4.jar
├── hibernate-validator-5.2.2.Final.jar
├── jackson-annotations-2.6.5.jar
├── jackson-core-2.6.5.jar
├── jackson-databind-2.6.5.jar
├── javassist-3.18.1-GA.jar
```



```
org
├── springframework
│   └── boot
│       └── loader
│           ├── ExecutableArchiveLauncher$1.class
│           ├── ExecutableArchiveLauncher.class
│           ├── InputArgumentsJavaAgentDetector$1.class
│           ├── InputArgumentsJavaAgentDetector.class
│           ├── JarLauncher.class
│           ├── JavaAgentDetector.class
│           ├── LaunchedURLClassLoader$1.class
│           ├── LaunchedURLClassLoader$Java7LockProvider.class
│           ├── LaunchedURLClassLoader$LockProvider.class
│           ├── LaunchedURLClassLoader$ResourceEnumeration.class
│           ├── LaunchedURLClassLoader.class
│           └── Launcher.class
```


MAIN APPLICATION CLASS

```
@SpringBootApplication
public class DicesServiceApplication {

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

| @SPRINGBOOTAPPLICATION

- @Configuration
- @ComponentScan
- @EnableAutoConfiguration

■ POM.XML

- Parent
 - version 1.3.2.RELEASE
- Dependencies
 - org.springframework.boot
 - » spring-boot-starter-web
 - » spring-boot-starter-thymeleaf
 - » spring-boot-starter-test

SPRING-BOOT-STARTER-WEB

- Dependencies
 - org.springframework.boot
 - » spring-boot-starter
 - » spring-boot-starter-tomcat
 - » spring-boot-starter-validation
 - com.fasterxml.jackson.core
 - » jackson-databind
 - org.springframework
 - » spring-web
 - » spring-webmvc

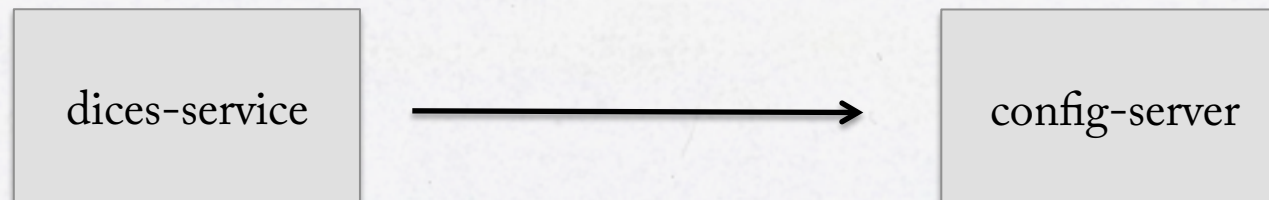
TURN ON DEPENDENCIES

- Dependencies to turn on
 - DevTools
 - Config
 - Actuator

DEVELOPER TOOLS

- Automatic restart
 - Code changes require restart of application
- LiveReload
 - html, javascript, templates, images, stylesheets, ...

CONFIGURATION FROM EXTERNAL APPLICATION



- Configuration server
 - Holds configurations for different applications

ACTUATOR

- REST Endpoints
 - /beans
 - /autoconfig
 - /env
 - /mappings
 - ...
 - **/health**
 - **/metrics**
 - ...

ACTUATOR - ADD METRICS

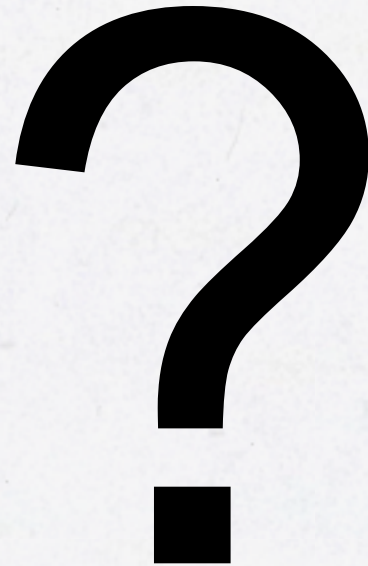
- Count dice rolls outcome
- CounterService
 - Increment
 - Decrement
 - Reset

WRAP UP

- Start using Spring Boot today for you Spring Applications!
- Reduce configuration "noise" dramatically
- Think about what you don't need to write!
- Enter the microservice arena the "easy" way

LINKS

- Spring Boot - <http://projects.spring.io/spring-boot>
- Initializr - <http://start.spring.io>
- GitHub - <https://github.com/spring-projects/spring-boot>
 - <https://github.com/spring-projects/spring-boot/tree/master/spring-boot-starters>
- Callista blogs
 - <http://callistaenterprise.se/blogg/teknik/2014/04/15/a-first-look-at-spring-boot/>
 - <http://callistaenterprise.se/blogg/teknik/2015/10/09/spring-boot-app-as-a-windows-service/>



PETERS PRESENTATION

- QUIZ !!