Chapter B

Errata

Hi guys, I am really thankful to all of you that have bought the book and have contributed to finding mistakes in it and in the code. Because of you, I have taken another careful look at the book and decided this errata was needed. A special thank you to Koray Tugay (`http://www.tugay.biz/`), as this errata was started because of his observations.

B.1 Book corrections

Chapter 3: Introducing IOC and DI in Spring

Small typos and mishaps.

Page	Original	Correction
24	... for version `1.2.12`, the artifact's file name becomes `log4j-1.2.17.jar` ...	... for version `1.2.17`, the artifact's file name becomes `log4j-1.2.17.jar` ...
24	`om.xml`	`pom.xml`
41	`@Resource(name="messageProvider")`	`@Resource(name="provider")`
58	`@Autowire` (middle of the page, observation section)	`@Autowired`
87	For `abstract-LookupBean,`	For `abstractLookupBean,`
92	`String msg = (String) args0;`	`String msg = (String) args[0];`
97	`<bean id="john" name="john johnny,jonathan;jim">`	`<bean id="john" name="jon johnny,jonathan;jim">`
114	... the only property that is set is `foo` because ...	... the only property that is set is `fooOne` because ...
114	`public class FooImplOne implements Foo`	`public class FooImpl1 implements Foo`
114	`public class FooImplOne implements Foo`	`public class FooImpl2 implements Foo`

Table B.1: Corrections Table (part 1)

In **page 61**,`ConfigurableMessageProvider` class constructor annotated with `@Autowired` retrieves a String parameter, and Spring IoC injects the *message* bean into to the constructor during its construction. In the book it is stated that *Since we declare that the message bean and its ID are the same as the name of the argument specified in the constructor, Spring will detect the annotation and inject the value into the constructor method*. This affirmation is true for situations when more than one bean of the same type has been declared. In which case Spring IoC will use the name the parameter to select the bean to inject. So this affirmation is valid for the configuration depicted below:

```
<beans ...>

    <context:component-scan
          base-package="com.apress.prospring5.ch3.annotated"/>

    <bean id="message" class="java.lang.String"
```

```
          c:_0="I hope that someone gets my message in a bottle"/>

    <bean id="message2" class="java.lang.String"
          c:_0="I know I won't be injected :("/>
</beans>
```

Notice the second bean with id `message2`. This bean, even if it has the same type as ban `message`, won't confuse the Spring IoC in regards to what the bean must be injected into the `ConfigurableMessageProvider` constructor as argument.
As the initial intention was to underline the importance of the name of the parameter, thus the second configuration introduced here is more suitable for the book.
Without the declaration of the bean with id `message2`, Spring IoC injects the *message* bean into to the constructor during its construction because the *message* bean is String which is sole candidate in that case, not because its id or name is *message*. (*Observation submitted by Süleyman Onur*)

In **page 105**, the depiction of class `Singleton` is missing the private default constructor. As Java provides a no-arg default constructor if a class does not extend other class than `java.lang.Object` class and dos not declare other constructors itself, with the current implementation anybody could just instantiate the class by calling:

```
Singleton s = new Singleton();
```

And thus, undermine the basic idea of singleton behavior. To correct the `Singleton` class, a private no-arg constructor should be added to the existing declaration.

```
package com.apress.prospring5.ch3;

public class Singleton {
    private static Singleton instance;

    static {
        instance = new Singleton();
    }

    public static Singleton getInstance() {
        return instance;
    }

    private Singleton(){
        // needed so developers cannot instantiate this class directly
    }
}
```

Chapter 4: Spring Configuration in Detail and Spring Boot

Image 4.1 in **page 128** has two small typos. In Figure B.1 those two typos are corrected and highlighted with yellow.

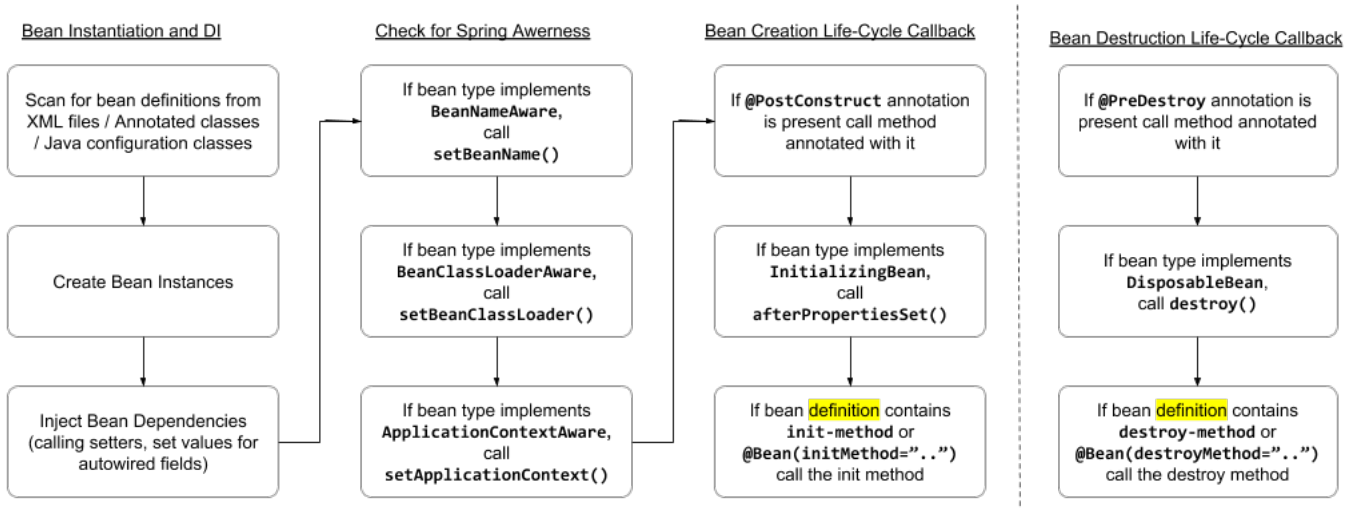

Figure B.1: Spring beans life cycle

Small typos and mishaps.

Page	Original	Correction
130	The `main()` method of the `SimpleBean`...	The `main()` method of the `Singer`...
135	...we need to add the `<context:annotation-driven>` tag	...we need to add the `<context:annotation-config>` tag ...
170	Provides a wide array of convenient methods for working with MessageSource instances.	Statement is misplaced. Should be removed.

Table B.2: Corrections Table (part 2)

In **page 194** the`EnvironmentSample.main()` method is missing its last statement.

```
package com.apress.prospring5.ch4;
...
public class EnvironmentSample {
    public static void main(String... args) {
        GenericXmlApplicationContext ctx =
            new GenericXmlApplicationContext();
        ctx.refresh();

        ConfigurableEnvironment env = ctx.getEnvironment();
        MutablePropertySources propertySources = env.getPropertySources();

        Map<String,Object> appMap = new HashMap<>();
        appMap.put("application.home", "application_home");

        propertySources.addLast(new MapPropertySource("prospring5_MAP", appMap));

        System.out.println("user.home: " + System.getProperty("user.home"));
        System.out.println("JAVA_HOME: " + System.getenv("JAVA_HOME"));

        System.out.println("user.home: " + env.getProperty("user.home")); \\ (1)
        System.out.println("JAVA_HOME: " + env.getProperty("JAVA_HOME")); \\ (2)
```

```
        System.out.println("application.home: " + env.getProperty("application.home")); \\(3)
        ctx.close();
    }
}
```

For the last three lines, you can see that all the system properties (1), environment variables (2), and application properties (3) can be accessed via the Environment interface. So the code on line is not really focused on the order, but on what type of properties can be accessed from the Environment interface as well. That is why the property that is added in the `appMap` the property was named `"application.home"`, to underline the fact that is an application-defined property.
Statement (3) will produce the last line in the output.

```
user.home: /home/jules
JAVA_HOME: /home/jules/bin/java
user.home: /home/chris
JAVA_HOME: /home/jules/bin/java
application.home: application_home
```

To make the order of the location where the properties are read from, what can we do is stop the code in mid execution and expand the `propertySourceList` field, like depicted in Figure B.2 The class has been renamed in the source

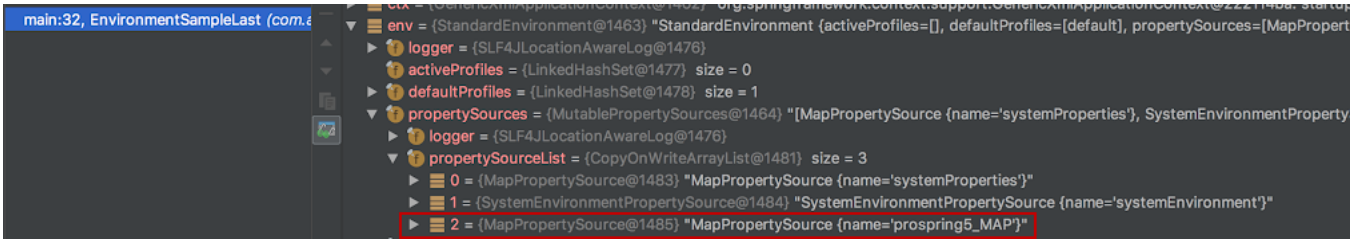

Figure B.2: EnvironmentSampleLast class stopped in mid-execution

code to `EnvironmentSampleLast` to differentiate it from the sample using `propertySources.addfirst(...)`, that has been renamed to `EnvironmentSampleFirst`. The code of the two classes was somehow mixed up during editing, probably because they had the same name. Below you can see the `EnvironmentSampleFirst` class, that should replace the `EnvironmentSample` from **page 195**.

```
package com.apress.prospring5.ch4;
...
public class EnvironmentSampleFirst {
    public static void main(String... args) {
        GenericXmlApplicationContext ctx = new GenericXmlApplicationContext();
        ctx.refresh();

        ConfigurableEnvironment env = ctx.getEnvironment();
        MutablePropertySources propertySources = env.getPropertySources();

        Map<String,Object> appMap = new HashMap<>();
        appMap.put("user.home", "application_home");

        propertySources.addFirst(new MapPropertySource("prospring5_MAP", appMap));

        System.out.println("user.home: " + System.getProperty("user.home"));
        System.out.println("JAVA_HOME: " + System.getenv("JAVA_HOME"));

        System.out.println("user.home: " + env.getProperty("user.home"));
```

```
        System.out.println("JAVA_HOME: " + env.getProperty("JAVA_HOME"));

        ctx.close();
    }
}
```

The lines in red represent the changes required in the code so the rest of the text in the book in that section fits. Sorry for the mixup! (*Observation submitted by Süleyman Onur*)) In the same way, we can see the order of the property sources by stopping the process in mid-execution, and notice that this time the `appMap` is the primary location where the `user.home` variable is looked for. in Figure B.3

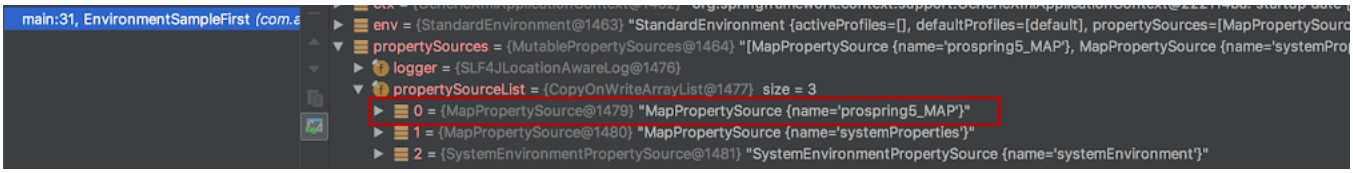

Figure B.3: EnvironmentSampleFirst class stopped in mid-execution

Chapter 5: Introducing Spring AOP

In **page 216** there is a paragraph that can be considered incorrect.
Original:The only restriction, in Spring AOP at least, is that you can't advise final classes, because they cannot be overridden and therefore cannot be proxied.

Correct: The incorrect word there is **overridden**. And should be replaced with **extended**. Also, the context is incomplete. When a class does not implement an interface, the proxy is created by extending the class. Therefore, **a final class that does not implement an interface** cannot be proxied.

In page 248, section **Convenience Advisor Implementations** the sample code was wrongfully copied from the previous section. The correct section of code is:

```
package com.apress.prospring5.ch5;
...
import org.springframework.aop.support.NameMatchMethodPointcutAdvisor;

public class NamePointcutUsingAdvisor {
   public static void main(String... args) {
      GrammyGuitarist johnMayer = new GrammyGuitarist();

      NameMatchMethodPointcutAdvisor advisor =
          new NameMatchMethodPointcutAdvisor(new SimpleAdvice());
      advisor.setMappedNames("sing");
      advisor.setMappedNames("rest");

      ProxyFactory pf = new ProxyFactory();
      pf.setTarget(johnMayer);
      pf.addAdvisor(advisor);

      GrammyGuitarist proxy = (GrammyGuitarist) pf.getProxy();
      proxy.sing();
      proxy.sing(new Guitar());
      proxy.rest();
```

```
        proxy.talk();
    }
}
```

In page 217, section **Creating Advice in Spring** it is said that Spring supports six flavors of advice. Some people say its only four. The reason for that is that most developers exclude `IntroductionInterceptor` and tend to wrap all `After` advice into a family. If we want to keep things simple, we can focus only on method advice and then we could reduce them to three: before, after and around advice, which is also correct. it depends on what you are interested in.

In page 232, section **Creating Throws Advice** it is said that *In the situation where your after-throwing advice has two* `afterThrowing()` *methods, both declared with the same exception type, but one with a single argument and the other with four arguments, Spring invokes the four-argument* `afterThrowing()` *method.* This is incorrect, actually Spring uses the method whose signature contains the best match for the Exception type. The number of parameters is not relevant to this selection, and the intercepting method is chosen absolutely random. (*Observation submitted by Rafal Nowicki*)

In this book, those six types of advice are considered important. In Figure B.4 you can see the relationships between these types of objects. All interfaces extend `Advice`. Except for `IntroductionInterceptor`, all are

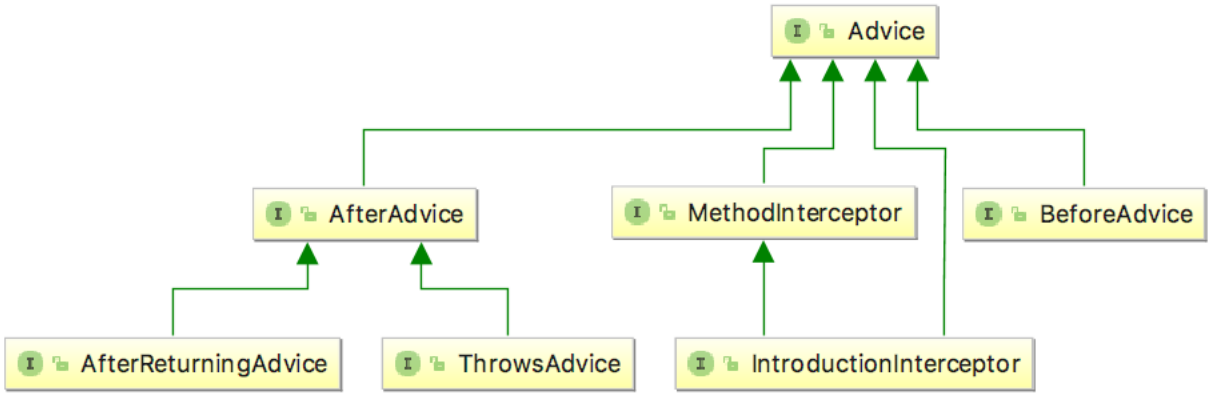

Figure B.4: Partial Spring advice hierarchy

method specific advice. The `IntroductionInterceptor` interface extends not only the `MethodInterceptor`(use for around advice), but also extends `DynamicIntroductionAdvice` that is a special type of advice, that allows additional interfaces that are not known in advance to be implemented by an advice, making this a type specific advice.

We could mention here also `ConstructorInterceptor`, but as constructors are a special type of methods, covering it did not seem necessary.

In the table 5-1, the row corresponding to the `After(finally)` advice contains an incorrect explanation.

Original:

Advice Name	Interface	Description
`After(finally)`	`org.springframework.aop .AfterAdvice`	After-returning advice is executed only when the advised method completes normally. However, the after (finally) advice will be executed no matter the result of the advised method. The advice is executed even when the advised method fails and an exception is thrown.

Table B.3: Advice Types in Spring (1)

The corrected version is depicted in the table snipped below.

Advice Name	Interface	Description
`After(finally)`	`org.springframework.aop .AfterAdvice`	An after-returning advice is executed only when the advised method completes normally. However, the after (finally) advice will be executed no matter the result of the advised method. The advice is executed even when the advised method fails and an exception is thrown. This interface type is only a marker interface for both after advice types supported by Spring. The After(finally) advice is not supported by Spring natively, the implementation has to be provided by an external library like AspectJ.

Table B.4: Advice Types in Spring (1)

In page 271, section **Configuring AOP Declaratively** the three options for using declarative configuration of Spring AOP are listed. It is mentioned that for `@AspectJ`-style annotations you need to include some AspectJ libraries in the classpath. The same applies for the second option in the list: using the Spring `aop namespace`, because the XML configuration is the precursor of the annotation style configuration. And some type of advice, like the after (finally) advice is needed to be used, an implementation needs to be provided via an external dependency such as AspectJ, as it is not supported natively by Spring.

Small typos and mishaps.

Page	Original	Correction
222	`Secure-Bean`	`SecureBean`
222	`Security-Manager`	`SecurityManager`
239	`EricClapton`	`GreatGuitarist`
239	`DyanmicMethod`	`DynamicMethod`
240	"is greater or less than 100"	"is not equal to 100"
240	`public boolean matches (Method method, Class<?> cls, Object args)`	`public boolean matches (Method method, Class<?> cls, Object[] args)`
242	"want to match" is written twice in the paragraph just below "Using Simple Name Matching" Header	"want to match" should be written once
244	`sing2` method prints "Just keep me where the light is"	`sing2` method should print "Oh gravity, stay the hell away from me" to make it be in compliance with the output on page 245
253	`pf.setInterfaces( new Class{SimpleBean.class});`	`pf.setInterfaces( new Class[]{SimpleBean.class});`
257	`ControlFlowExample`	`ControlFlowDemo`
258	`sing()`	`foo()`
267	`invocation.getArguments()0`	`invocation.getArguments()[0]`
273	2 instances of `GrammySinger`	2 instances of `GrammyGuitarist`
285	`GrammyGuitarist`	`NewDocumentarist`

Table B.5: Corrections Table (part 3)

In **page 273** the `AuditAdvice` class contents are wrong. the correct version is depicted in the code snippet below:

```
package com.apress.prospring5.ch5;

import org.springframework.aop.MethodBeforeAdvice;
import java.lang.reflect.Method;

public class AuditAdvice implements MethodBeforeAdvice {

    @Override
    public void before(Method method, Object[] args, Object target) {
        System.out.println("Executing: " + method);
    }
}
```

(*Observations submitted by Süleyman Onur*))

Chapter 7: Using Hibernate in Spring

Small typos and mishaps. (*Submitted by Ivan Ponomarev*)

Page	Original	Correction
373	The statement `from Singer s` simply retrieves all contacts from the database.	The statement `from Singer s` simply retrieves all singers from the database.
135	...we need to add the `<context:annotation-driven>` tag	...we need to add the `<context:annotation-config>` tag ...
375	...`findAllWithAlbum()` method, which will retrieve all contact information together with their albums and instruments.	...`findAllWithAlbum()` method, which will retrieve all singer information together with their telephone details and hobbies.

Table B.6: Corrections Table (part 4)

Chapter 16: Web Applications

Because the book was written when Spring 5 was still under construction, Spring Boot 2 as well, when libraries upgrades happen code samples might stop working as intended. When it comes to applications secured with Spring Security, Spring Security 5.0.0.RC1 came with fixes for 150+ issues, and quite a few of them were related to password security. And thus `PasswordEncoder` implementations are now required. When configuring in memory authentication, passwords were until this version stored in the compiled code in their original form, no encoding whatsoever. This behaviour can still be kept, especially for educational applications that focus on other details. Below you can see two samples of code on how to do this:

```
 @Autowired
public void configureGlobal(AuthenticationManagerBuilder auth) throws Exception {
   auth
     .inMemoryAuthentication()
     .withUser("user").password("{noop}user").roles("USER");
}

// or
import org.springframework.security.crypto.password.NoOpPasswordEncoder;
...
 @Autowired
public void configureGlobal(AuthenticationManagerBuilder auth) throws Exception {
  auth
     .inMemoryAuthentication()
     .passwordEncoder(NoOpPasswordEncoder.getInstance())
     .withUser("user").password("user").roles("USER");
 }
```

But who knows, maybe you will need to build an application that makes use of an in memory authentication style (usually used only for test environments and educational applications) and stores the passwords in the code. Thus, you will need for your passwords to be encrypted, so they won't be visible in the decompiled jar. Spring Security supports quite a few password encoder implementation out of the box, and you can even implement your own. In the following example, a simple Spring implementation
`org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder` was used.

```
@Autowired
public void configureGlobal(AuthenticationManagerBuilder auth) throws Exception {
  PasswordEncoder passwordEncoder = new BCryptPasswordEncoder();
```

```
  auth
      .inMemoryAuthentication()
      .passwordEncoder(passwordEncoder)
      .withUser("user").password(passwordEncoder.encode("user")).roles("USER");
     }
```