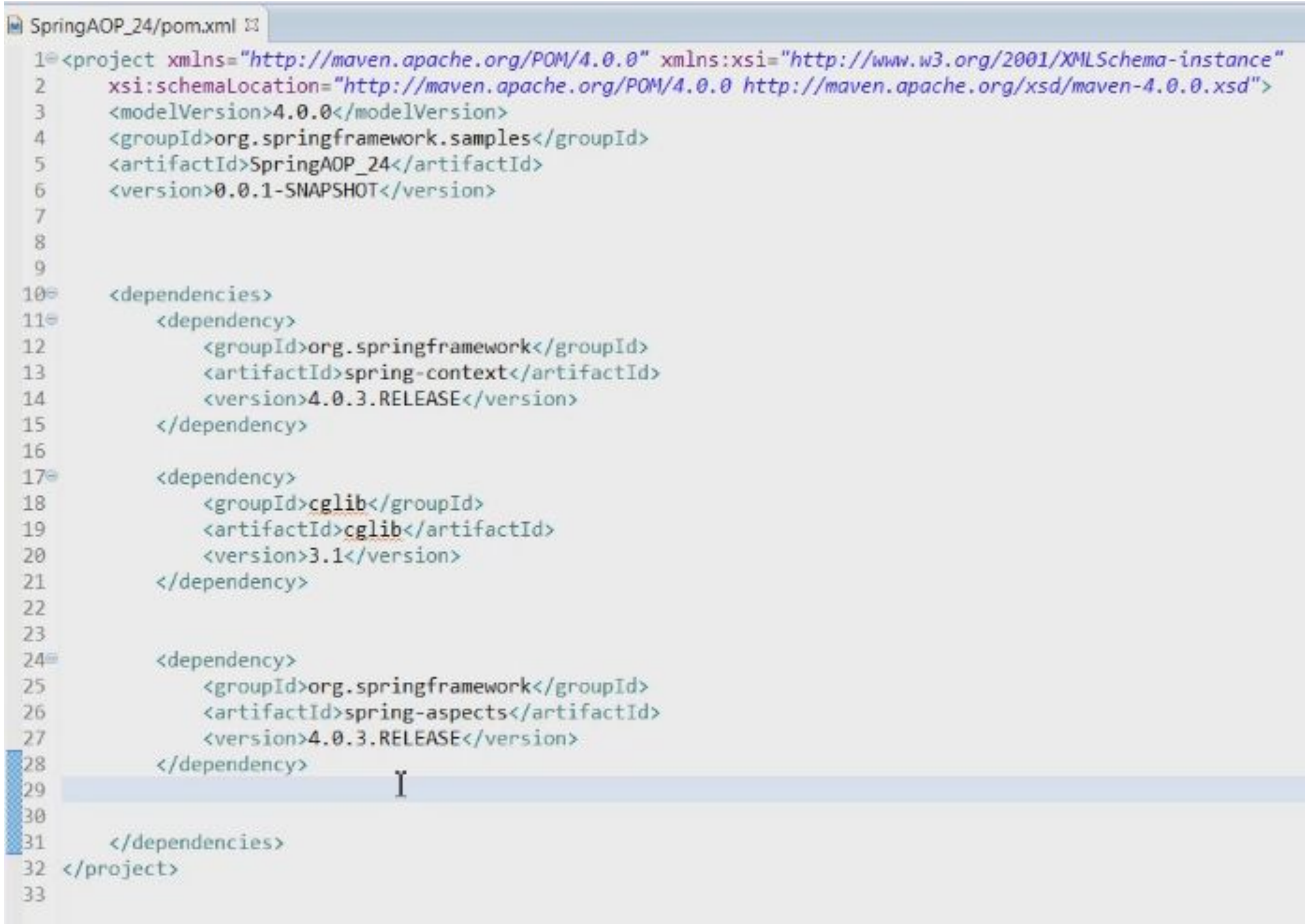
# Аспектно - ориентированное программирование

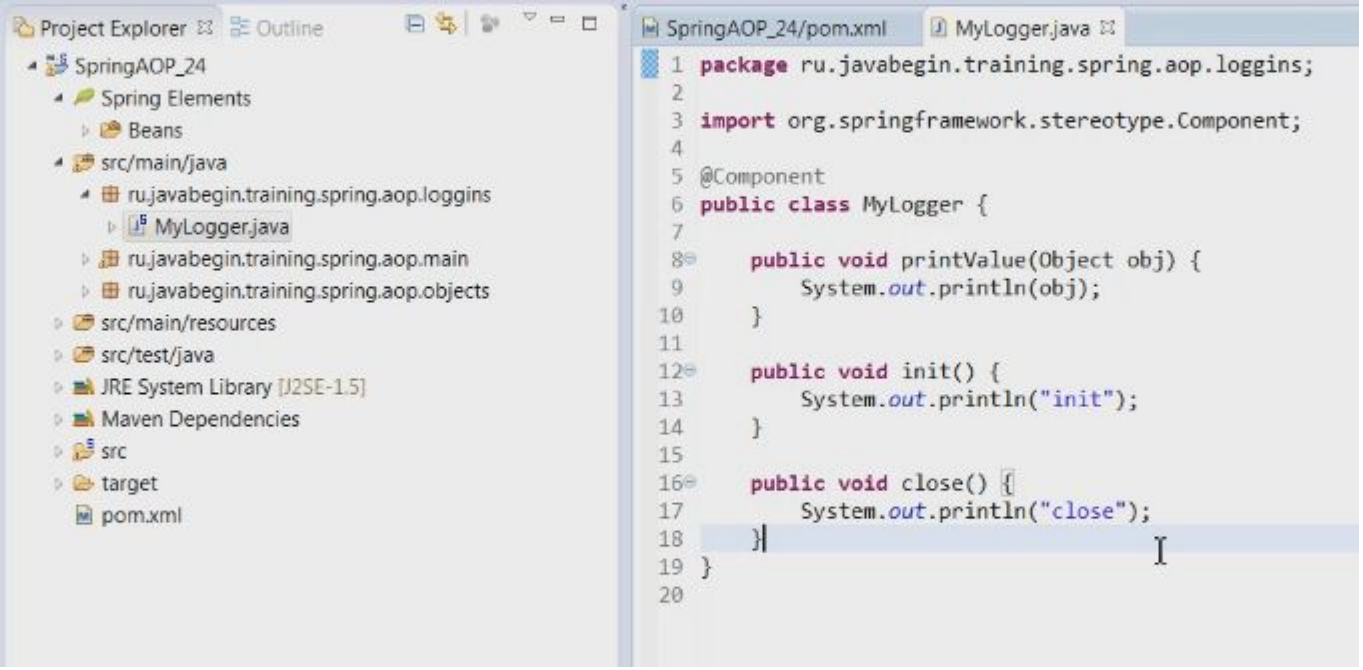
Лекция №5

Антонов В.В.

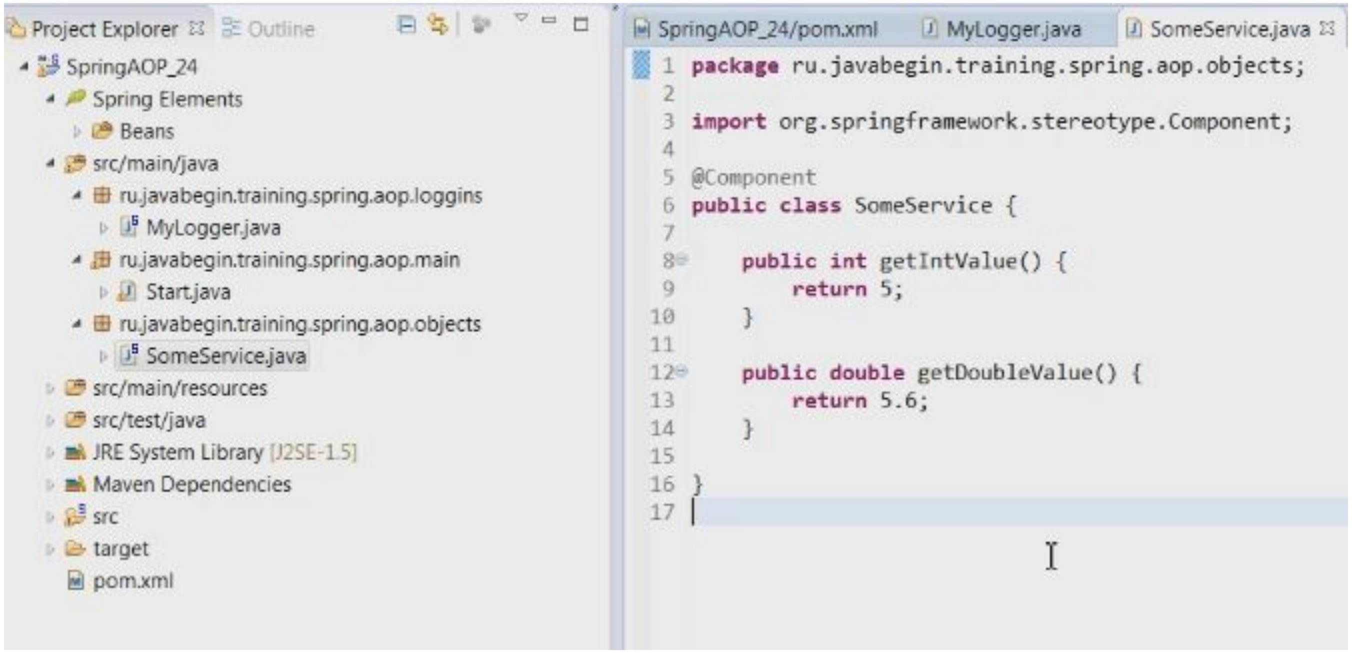
# Добавление зависимостей в проект



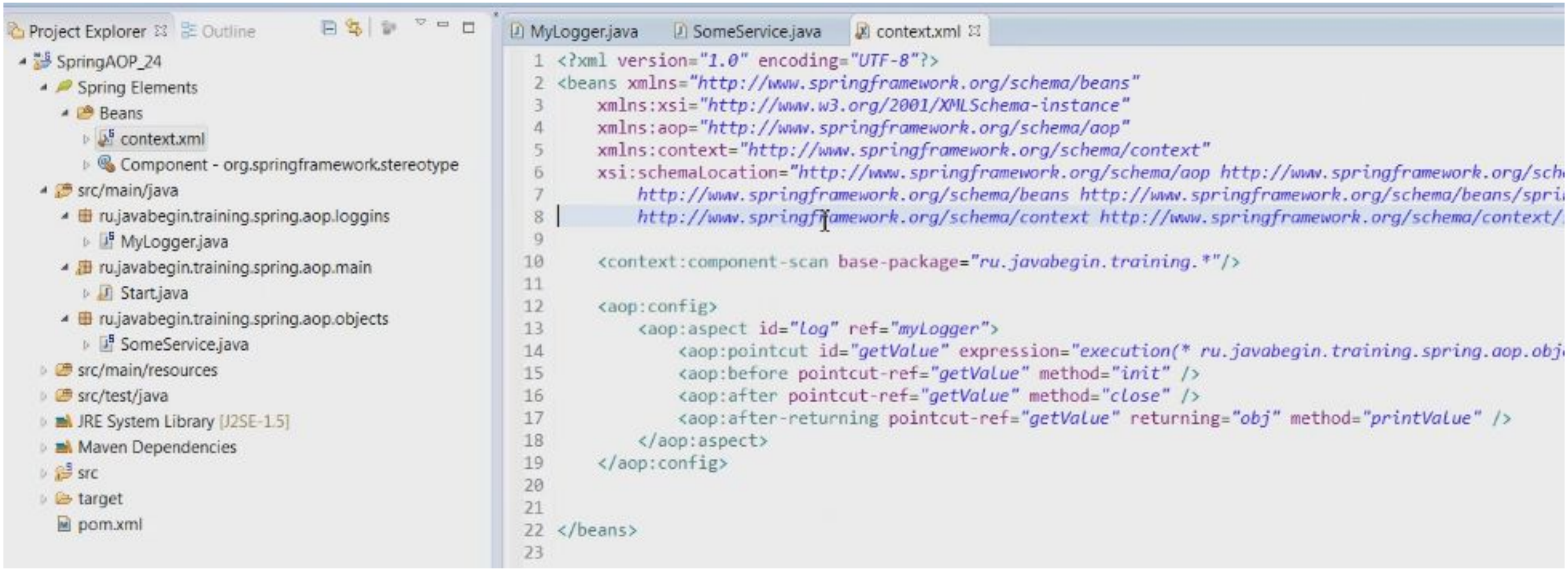
```xml
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>
    <groupId>org.springframework.samples</groupId>
    <artifactId>SpringAOP_24</artifactId>
    <version>0.0.1-SNAPSHOT</version>



    <dependencies>
        <dependency>
            <groupId>org.springframework</groupId>
            <artifactId>spring-context</artifactId>
            <version>4.0.3.RELEASE</version>
        </dependency>

        <dependency>
            <groupId>cglib</groupId>
            <artifactId>cglib</artifactId>
            <version>3.1</version>
        </dependency>


        <dependency>
            <groupId>org.springframework</groupId>
            <artifactId>spring-aspects</artifactId>
            <version>4.0.3.RELEASE</version>
        </dependency>


    </dependencies>
</project>

```


Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
ru.javabegin.training.spring.aop.objects
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
SpringAOP_24/pom.xml
MyLogger.java

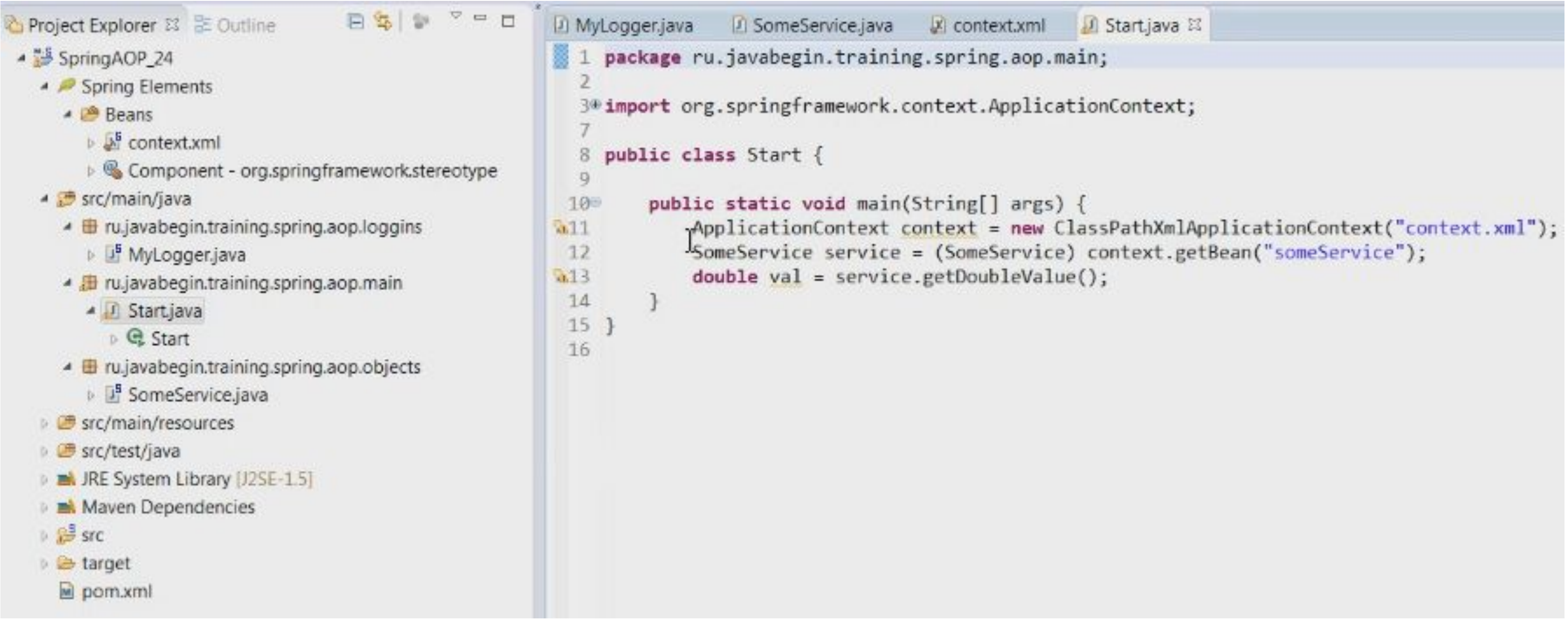
```java
package ru.javabegin.training.spring.aop.loggins;

import org.springframework.stereotype.Component;

@Component
public class MyLogger {

    public void printValue(Object obj) {
        System.out.println(obj);
    }

    public void init() {
        System.out.println("init");
    }

    public void close() {
        System.out.println("close");
    }
}

```


Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
Start.java
ru.javabegin.training.spring.aop.objects
SomeService.java
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
SpringAOP_24/pom.xml
MyLogger.java
SomeService.java

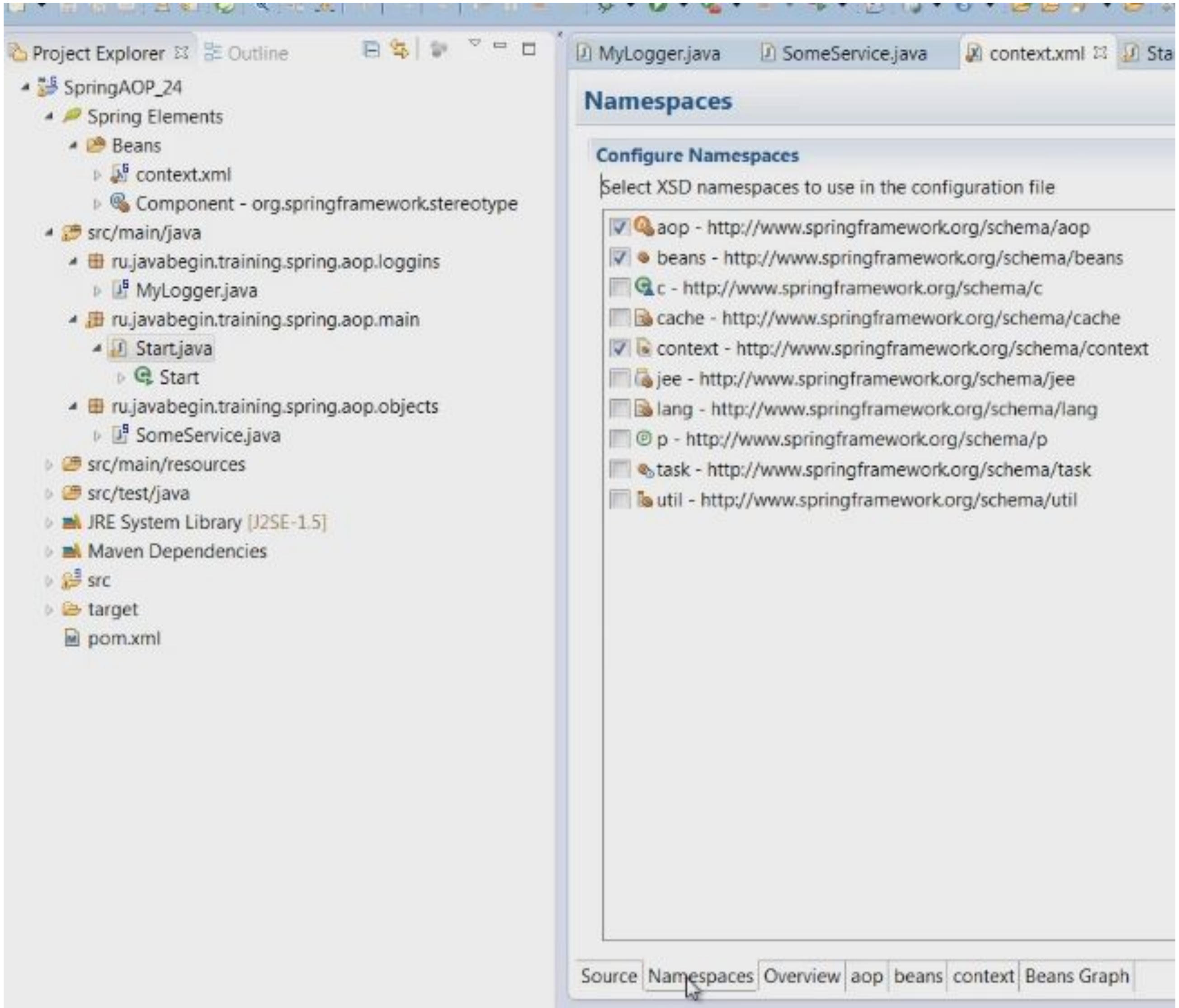
```java
package ru.javabegin.training.spring.aop.objects;

import org.springframework.stereotype.Component;

@Component
public class SomeService {

    public int getIntValue() {
        return 5;
    }

    public double getDoubleValue() {
        return 5.6;
    }

}

```


Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
context.xml
Component - org.springframework.stereotype
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
Start.java
ru.javabegin.training.spring.aop.objects
SomeService.java
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
MyLogger.java
SomeService.java
context.xml

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:aop="http://www.springframework.org/schema/aop"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/aop http://www.springframework.org/sch
        http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spri
        http://www.springframework.org/schema/context http://www.springframework.org/schema/context/

    <context:component-scan base-package="ru.javabegin.training.*"/>

    <aop:config>
        <aop:aspect id="log" ref="myLogger">
            <aop:pointcut id="getValue" expression="execution(* ru.javabegin.training.spring.aop.obj
            <aop:before pointcut-ref="getValue" method="init" />
            <aop:after pointcut-ref="getValue" method="close" />
            <aop:after-returning pointcut-ref="getValue" returning="obj" method="printValue" />
        </aop:aspect>
    </aop:config>


</beans>

```


Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
context.xml
Component - org.springframework.stereotype
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
Start.java
Start
ru.javabegin.training.spring.aop.objects
SomeService.java
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
MyLogger.java
SomeService.java
context.xml
Start.java

```java
package ru.javabegin.training.spring.aop.main;

import org.springframework.context.ApplicationContext;

public class Start {

    public static void main(String[] args) {
        ApplicationContext context = new ClassPathXmlApplicationContext("context.xml");
        SomeService service = (SomeService) context.getBean("someService");
        double val = service.getDoubleValue();
    }
}

```

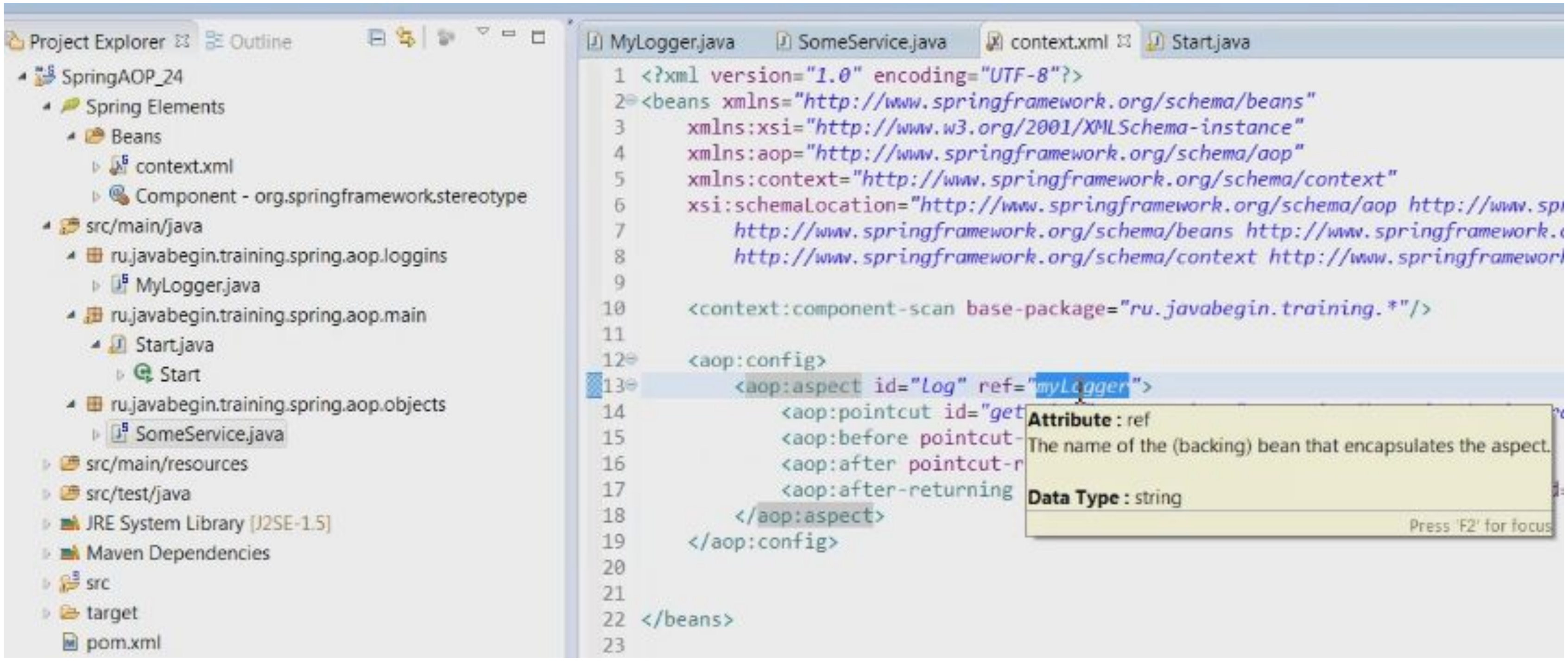

Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
context.xml
Component - org.springframework.stereotype
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
Start.java
Start
ru.javabegin.training.spring.aop.objects
SomeService.java
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
MyLogger.java
SomeService.java
context.xml
Sta
Source
Namespaces
Overview
aop
beans
context
Beans Graph

**Namespaces**

**Configure Namespaces**

Select XSD namespaces to use in the configuration file

☑ aop - http://www.springframework.org/schema/aop
☑ beans - http://www.springframework.org/schema/beans
☐ c - http://www.springframework.org/schema/c
☐ cache - http://www.springframework.org/schema/cache
☑ context - http://www.springframework.org/schema/context
☐ jee - http://www.springframework.org/schema/jee
☐ lang - http://www.springframework.org/schema/lang
☐ p - http://www.springframework.org/schema/p
☐ task - http://www.springframework.org/schema/task
☐ util - http://www.springframework.org/schema/util


Project Explorer
Outline
SpringAOP_24
Spring Elements
Beans
context.xml
Component - org.springframework.stereotype
src/main/java
ru.javabegin.training.spring.aop.loggins
MyLogger.java
ru.javabegin.training.spring.aop.main
Start.java
Start
ru.javabegin.training.spring.aop.objects
SomeService.java
src/main/resources
src/test/java
JRE System Library [J2SE-1.5]
Maven Dependencies
src
target
pom.xml
MyLogger.java
SomeService.java
context.xml
Start.java

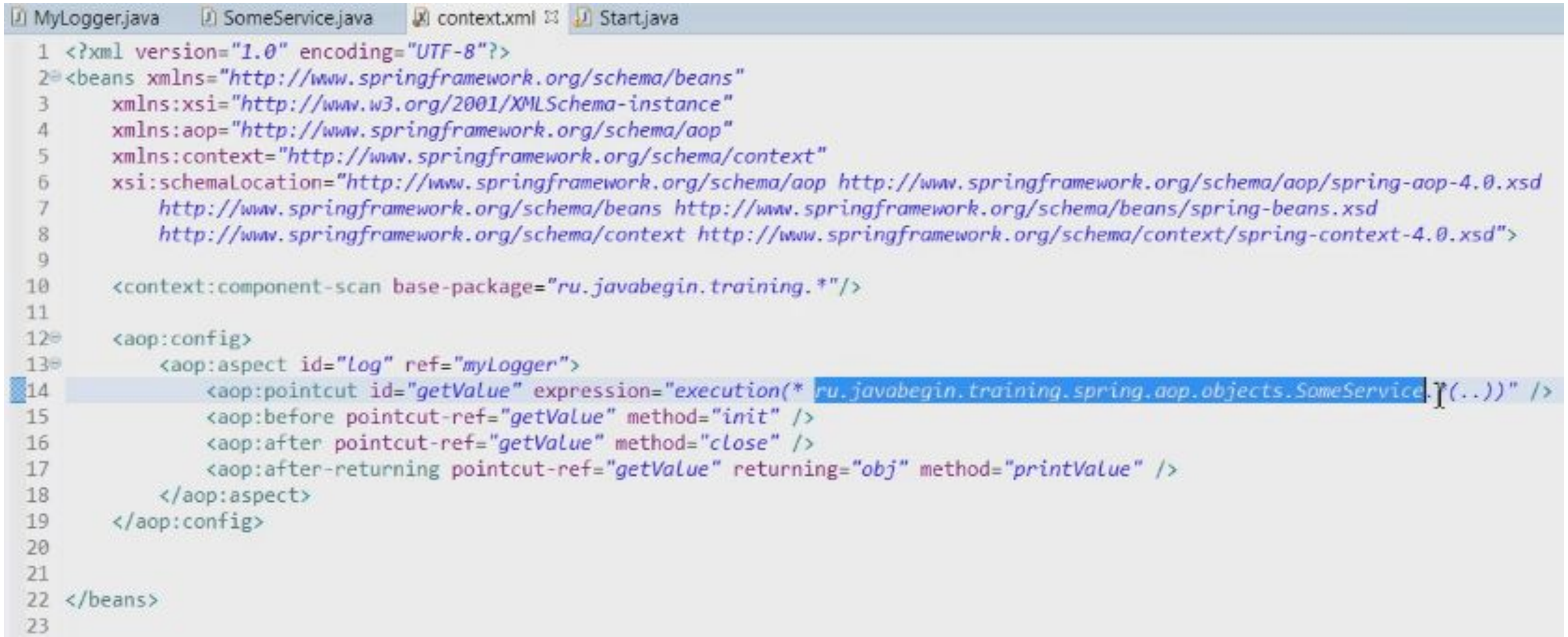
```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:aop="http://www.springframework.org/schema/aop"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/aop http://www.spr
        http://www.springframework.org/schema/beans http://www.springframework.
        http://www.springframework.org/schema/context http://www.springframewor

    <context:component-scan base-package="ru.javabegin.training.*"/>

    <aop:config>
        <aop:aspect id="log" ref="myLogger">
            <aop:pointcut id="get
            <aop:before pointcut-
            <aop:after pointcut-r
            <aop:after-returning
        </aop:aspect>
    </aop:config>


</beans>

```

**Attribute :** ref
The name of the (backing) bean that encapsulates the aspect.

**Data Type :** string

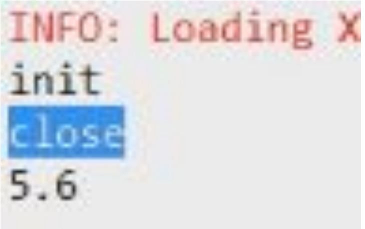
Press 'F2' for focus

# Маска аспекта


MyLogger.java
SomeService.java
context.xml
Start.java

```xml
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:aop="http://www.springframework.org/schema/aop"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/aop http://www.springframework.org/schema/aop/spring-aop-4.0.xsd
        http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans.xsd
        http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-4.0.xsd">

    <context:component-scan base-package="ru.javabegin.training.*"/>

    <aop:config>
        <aop:aspect id="log" ref="myLogger">
            <aop:pointcut id="getValue" expression="execution(* ru.javabegin.training.spring.aop.objects.SomeService.*(..))" />
            <aop:before pointcut-ref="getValue" method="init" />
            <aop:after pointcut-ref="getValue" method="close" />
            <aop:after-returning pointcut-ref="getValue" returning="obj" method="printValue" />
        </aop:aspect>
    </aop:config>


</beans>

```

# Вывод результатов



```
INFO: Loading X
init
close
5.6
```