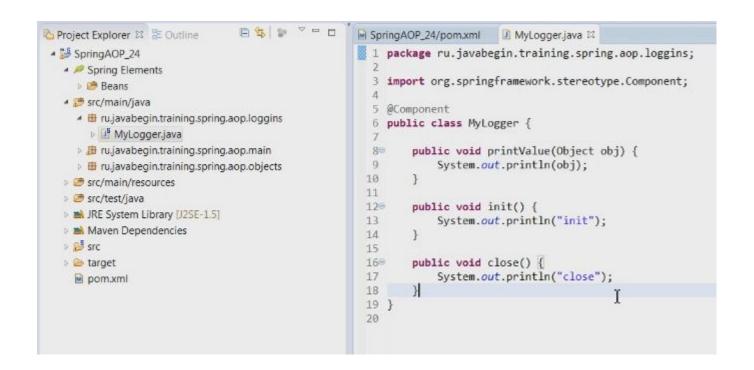
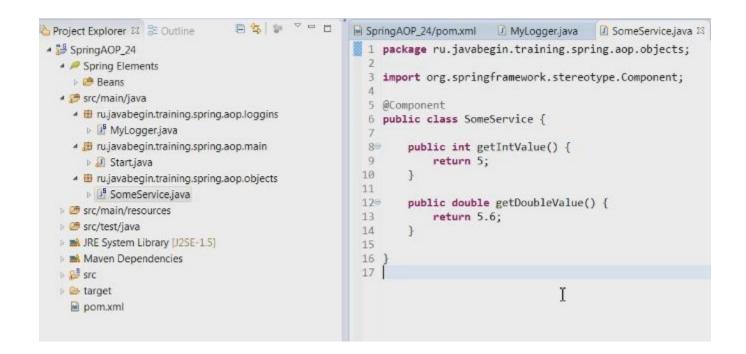
Аспектно ориентированное программирование

Добавление зависимостей в проект

```
SpringAOP_24/pom.xml 🖾
  1@<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://maven.apache.ora/POM/4.0.0 http://maven.apache.ora/xsd/maven-4.0.0.xsd">
        <modelVersion>4.0.0</modelVersion>
  3
        <groupId>org.springframework.samples
  4
  5
        <artifactId>SpringAOP 24</artifactId>
        <version>0.0.1-SNAPSHOT</version>
  8
  9
 100
        <dependencies>
 110
            <dependency>
 12
                <groupId>org.springframework
                <artifactId>spring-context</artifactId>
 13
 14
                <version>4.0.3.RELEASE/version>
 15
            </dependency>
 16
 179
            <dependency>
                <groupId>cglib</groupId>
 18
 19
                <artifactId>cglib</artifactId>
 20
                <version>3.1</version>
 21
            </dependency>
 22
 23
 24=
            <dependency>
                <groupId>org.springframework</groupId>
 25
                <artifactId>spring-aspects</artifactId>
 26
                <version>4.0.3.RELEASE
 27
28
            </dependency>
29
 30
31
        </dependencies>
 32 </project>
 33
```





```
B 5 2
Project Explorer 23 🚡 Outline
                                                                                                                                                                                    MyLogger.java
                                                                                                                                                                                                                                               ☑ SomeService.java
                                                                                                                                                                                                                                                                                                                 ☑ context.xml □
                                                                                                                                                                                            1 <?xml version="1.0" encoding="UTF-8"?>
  SpringAOP_24
                                                                                                                                                                                             2 <beans xmlns="http://www.springframework.org/schema/beans"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

■ Beans

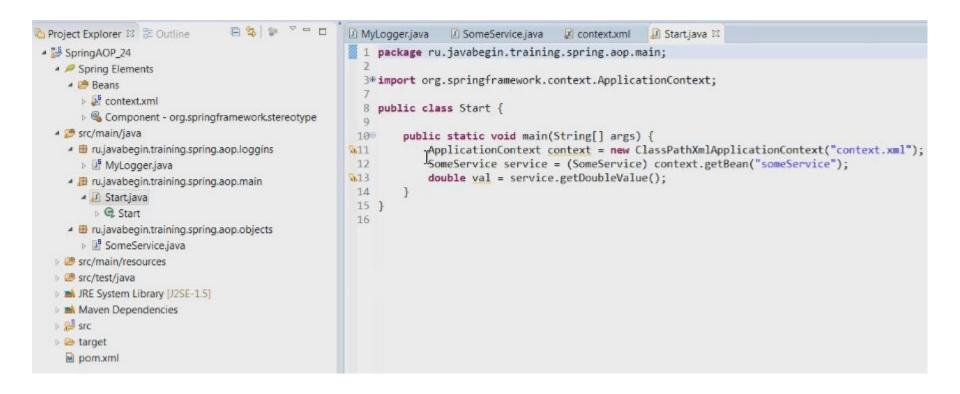
                                                                                                                                                                                                                    xmlns:aop="http://www.springframework.org/schema/aop"
                                                                                                                                                                                            4
                         ontext.xml
                                                                                                                                                                                            5
                                                                                                                                                                                                                    xmlns:context="http://www.springframework.org/schema/context"
                         6
                                                                                                                                                                                                                    xsi:schemaLocation="http://www.springframework.org/schema/aop http://www.springframework.org/schema/aop http://www

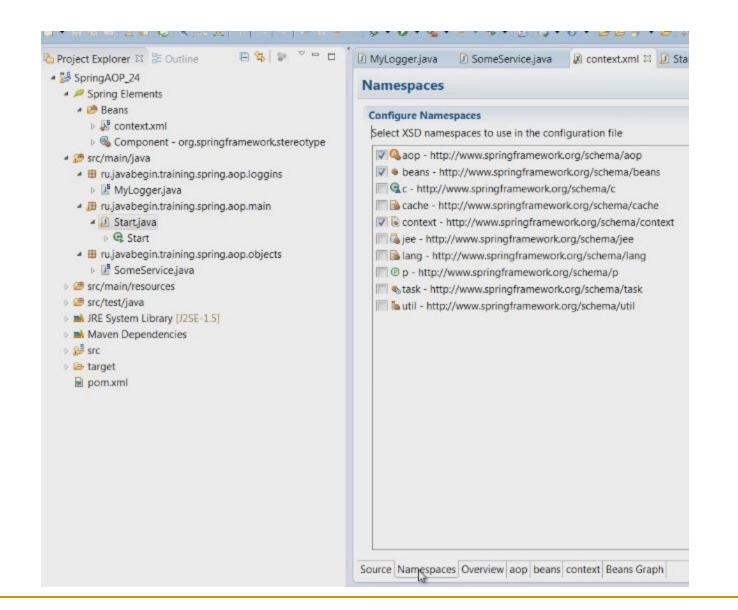
♣ # src/main/java

                                                                                                                                                                                             7
                                                                                                                                                                                                                                  http://www.springframework.org/schema/beans/http://www.springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/springframework.org/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/schema/beans/sche
                 ru.javabegin.training.spring.aop.loggins
                                                                                                                                                                                            8
                                                                                                                                                                                                                                  http://www.springfilamework.org/schema/context/ http://www.springfilamework.org/schema/context/
                                                                                                                                                                                            9
                          MyLogger.java
                                                                                                                                                                                          10
                                                                                                                                                                                                                    <context:component-scan base-package="ru.javabegin.training.*"/>

▲ B ru.javabegin.training.spring.aop.main

                                                                                                                                                                                         11
                         12
                                                                                                                                                                                                                    <aop:config>
                 ru.javabegin.training.spring.aop.objects
                                                                                                                                                                                         13
                                                                                                                                                                                                                                   <aop:aspect id="log" ref="myLogger">
                          ▶ Is SomeService.iava
                                                                                                                                                                                         14
                                                                                                                                                                                                                                                 <aop:pointcut id="getValue" expression="execution(* ru.javabegin.training.spring.aop.obj</pre>
          src/main/resources
                                                                                                                                                                                         15
                                                                                                                                                                                                                                                  <aop:before pointcut-ref="getValue" method="init" />
                                                                                                                                                                                                                                                 <aop:after pointcut-ref="getValue" method="close" />
          # src/test/java
                                                                                                                                                                                         16
                                                                                                                                                                                         17
                                                                                                                                                                                                                                                 <aop:after-returning pointcut-ref="getValue" returning="obj" method="printValue" />
          18
                                                                                                                                                                                                                                   </aop:aspect>
          Maven Dependencies
                                                                                                                                                                                                                    </aop:config>
                                                                                                                                                                                        19
          ₩ 8 src
                                                                                                                                                                                         20
          b 🗁 target
                                                                                                                                                                                         21
                 Imx.moq M
                                                                                                                                                                                         22 </beans>
                                                                                                                                                                                          23
```





```
Project Explorer 23 2 Outline
                                                   MyLogger.java
                                                                     ☑ SomeService.java
                                                                                        🗷 context.xml 🖾 🔃 Start.java

♣ SpringAOP_24

                                                      1 <?xml version="1.0" encoding="UTF-8"?>
                                                      2@ <beans xmlns="http://www.springframework.org/schema/beans"
   Spring Elements
                                                             xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
     # P Beans
                                                             xmlns:aop="http://www.springframework.org/schema/aop"
       ▶ 🖟 context.xml
                                                      5
                                                             xmlns:context="http://www.springframework.org/schema/context"
       ▶ 

Component - org.springframework.stereotype
                                                             xsi:schemalocation="http://www.springframework.org/schema/aop http://www.spr
                                                      6

♣ # src/main/java
                                                                 http://www.sprinaframework.org/schema/beans http://www.sprinaframework.org/schema/beans
                                                      7

→ 

⊕ ru.javabegin.training.spring.aop.loggins

                                                      8
                                                                 http://www.springframework.org/schema/context http://www.springframeworl
       ▶ If MyLogger.java
                                                      9
                                                     10
                                                             <context:component-scan base-package="ru.javabeqin.training.*"/>

▲ B ru.javabegin.training.spring.aop.main

                                                     11

■ Startjava

                                                     129
                                                             <aop:config>
         □ Q Start
                                                    2139
                                                                 <aop:aspect id="Log" ref="myLogger">
     caop:pointcut id="get|Attribute:ref
                                                     14
       ▶ If SomeService.iava
                                                                     <aop:before pointcut-The name of the (backing) bean that encapsulates the aspect.</p>
                                                     15
                                                                     <aop:after pointcut-r

    src/main/resources

                                                     16
                                                                     <aop:after-returning Data Type:string</pre>
                                                     17
  # src/test/java
                                                     18
                                                                 </aop:aspect>
  Press 'F2' for focus
                                                             </aop:config>
                                                     19
  20
  ₽ STC
                                                     21
  b 🗁 target
                                                     22 </beans>
    mx.moq M
```

Маска аспекта

```
MyLogger.java
                D SomeService.java
                                  🗷 context.xml 🖾 🕖 Start.java
  1 <?xml version="1.0" encoding="UTF-8"?>
  20 <beans xmlns="http://www.springframework.org/schema/beans"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  4
        xmlns:aop="http://www.springframework.org/schema/aop"
  5
        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
  6
            http://www.springframework.org/schema/beans http://www.springframework.org/schema/beans/spring-beans.xsd
  8
            http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-context-4.0.xsd">
  9
        <context:component-scan base-package="ru.javabeqin.training.*"/>
 10
 11
 129
        <aop:config>
 139
            <aop:aspect id="Log" ref="myLogger">
                <aop:pointcut id="getValue" expression="execution(* ru.javabegin.training.spring.aop.objects.SomeService." (...))" />
814
 15
                 <aop:before pointcut-ref="getValue" method="init" />
 16
                 <aop:after pointcut-ref="getValue" method="close" />
 17
                 <aop:after-returning pointcut-ref="getValue" returning="obj" method="printValue" />
 18
            </aop:aspect>
        </aop:config>
 19
 20
 21
 22 </beans>
 23
```

Вывод результатов

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