**38.2 Combining Pointcuts**

**Problems**:

1. How to apply multiple pointcut expressions to single advice?
2. Execute an advice only if certain conditions are met
3. For example, all methods in a package EXCEPT getter/setter methods

**Combining Pointcut Expressions**:

1. Combining pointcut expression using logical operators.
   1. AND (&&)
   2. OR (||)
   3. NOT (!)
2. Works like an "if" statement
3. Execution happens only if it evaluates to true

@Before(“expressionOne() && expressionTwo()”)@Before(“expressionOne() || expressionTwo()”)@Before(“expressionOne() && !expressionTwo()”)

**Example**:

All methods in a package EXCEPT getter/setter methods.

**Development Process (Step-by-Step)**:

1. Create a pointcut declarations
2. Combine pointcut declarations
3. Apply pointcut declaration to advice(s)

**Step 1- Create Pointcut Declaration**:

@Aspect

@Component

**public** **class** MyDemoLoggingAspect {

// create pointcut declaration

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.\*(..))")

**private** **void** forDaoPackage() {

}

// create pointcut for getter method

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.get\*(..))")

**private** **void** getter() {

}

// create pointcut for setter method

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.set\*(..))")

**private** **void** setter() {

}

}

**Step 2 - Combine Pointcut Declarations**:

@Aspect

@Component

**public** **class** MyDemoLoggingAspect {

// create pointcut declaration

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.\*(..))")

**private** **void** forDaoPackage() {

}

// create pointcut for getter method

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.get\*(..))")

**private** **void** getter() {

}

// create pointcut for setter method

@Pointcut("execution(\* com.ruhul.aopdemo.dao.\*.set\*(..))")

**private** **void** setter() {

}

// cobbine pointcut: include package ... exclude getter/setter

@Pointcut("forDaoPackage() && !(getter() || setter())")

**private** **void** forDaoPackageNoGetterSetter() {

}

}

**Step 3 - Apply Pointcut Declaration to Advice(s)**:

@Aspect

@Component

**public** **class** MyDemoLoggingAspect {

............

// combine pointcut: include package ... exclude getter/setter

@Pointcut("forDaoPackage() && !(getter() || setter())")

**private** **void** forDaoPackageNoGetterSetter() {

}

// apply pointcut declaration to advice

@Before("forDaoPackageNoGetterSetter()")

**public** **void** beforeAddAccountAdvice() {

System.***out***.println("\n====>>> Executing @Before advice on method");

}

}

Combining Pointcut Expressions:

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