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[Debugging](#) › [07: Debugging Spring Transaction Management](#)

07: Debugging Spring Transaction Management

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Never just trust that adding `@Transactional` annotation is going to create a transactional boundary for your service layer.

EventRestController → EventMergeProcesorImpl → EventControlDAOImpl

The `@Transactional` annotations added to “public” methods of the `EventMergeProcesorImpl`. Spring creates a proxy around the “`EventMergeProcesorImpl`”. So, here are a few tips to debug

#1. Run your application in Debug mode with breakpoints in your IDE, and check if a proxy is wrapped around the “`EventMergeProcesorImpl`”.

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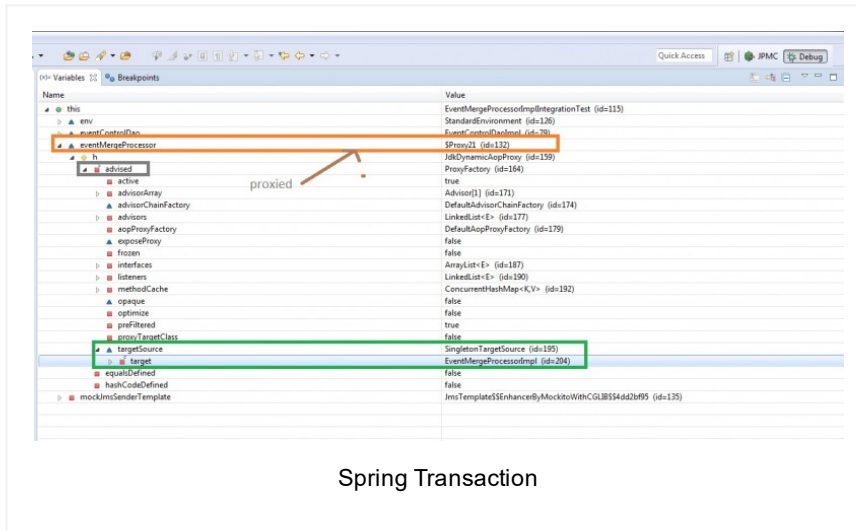
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If it is not **proxied**, then it will be a good chance that EventMergeProcessor is not annotated with “@Autowired” or “@Inject”.

Wrong

```

1 //.....
2 @Component
3 public class EventRestController {
4
5     private EventMergeProcessor eventMergeProces
6
7     public EventRestController(EventMergeProcess
8         eventMergeProcessor = new EventMergeProc
9     }
10
11 //.....
12 }

```

FIX

```

1 //.....
2 @Component
3 public class EventRestController {
4
5     @Autowired
6     private EventMergeProcessor eventMergeProces
7
8     @Autowired
9     public EventRestController(EventMergeProcess
10         eventMergeProcessor = new EventMergeProc
11     }
12
13 //.....
14 }

```

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#2. Enable debugging with the following lines to the “logback.xml”

```

1
2     <root level="TRACE">
3         <appender-ref ref="CONSOLE"/>
4         <appender-ref ref="FILE"/>
5     </root>
6
7     <logger name="org.springframework.transaction
8
```

This will output transactional info as shown below to the logs

```

1
2
3 13:31:18.071 TRACE [main] o.s.t.i.TransactionInt
4 13:31:18.071 TRACE [main] o.s.t.i.TransactionInt
5 13:31:18.071 TRACE [main] o.s.t.s.TransactionSyn
6 13:31:18.071 TRACE [main] o.s.t.s.TransactionSyn
7 13:31:18.149 DEBUG [main] o.s.t.a.AnnotationTran
8 //.....
9 //.....
10
```

#3. Key points to remember are

1) @Transactional, @Autowired, and @EnableTransactionManagement annotations need to be present.

```

1
2 @Configuration
3 @EnableTransactionManagement
4 public class AppConfig {
5
6     @Bean
7     public JdbcTemplate jdbcTemplate() {
8         return new JdbcTemplate(datasource());
9     }
10
11     //.....
12 }
```

```

1 //.....
2 @Component
3 public class EventRestController {
4
5     @Autowired
6     private EventMergeProcessor eventMergeProces
7
```

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```

8      public EventRestController(EventMergeProcess
9          eventMergeProcessor = new EventMergeProc
10     }
11
12     //.....
13 }

```

```

1 //.....
2 @Component
3 public class EventMergeProcessorImpl implements
4
5     @Autowired
6     public EventMergeProcessorImpl(EventControld
7         eventMergeProcessor = new EventMergeProc
8     }
9
10    @Transactional
11    public void processRequest(){
12        //.....
13    }
14
15    //.....
16 }

```

2) Write integration tests to test commit & roll-back scenarios.

3) Ensure that the “EventMergeProcessorImpl” is proxied by Spring.

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