

# EL4J

## FrequentlyAskedQuestions

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1.13	02 Oct 2006 – 13:58	Main.MartinZeltner, Main.PhilippHOser, PhilippHOser	

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# 1 Frequently Asked Questions

## 1.1 Purpose

The purpose of this topic is twofold: A) it should serve as a standard FAQ. B) its questions highlight some important points that we assume you should know. So if when you are browsing through the basic questions and are much surprised, we recommend to have a closer look at the EL4J documentation.

## 1.2 EL4J FAQ

### 1.2.1 Questions about this FAQ

- **Q** Certain links do not work for me
- **A** Yes, unfortunately some links only work within ELCA (the main sponsor for EL4J). We are looking into interesting solutions for this. We estimate that there is still interesting content for those external people.

### 1.2.2 EL4J/ Spring core FAQ

- **Q** How to find information about EL4J?
- **A** Please refer to <http://el4j.sourceforge.net/documentation.html> (ELCA–internal persons may also consult our twiki directly under <http://wiki.elca.ch/twiki/el4j/bin/view/EL4J> )
- **Q** I understand that EL4J combines many existing frameworks. What are the unique additions of EL4J?
- **A** Please refer to [FeaturesOfEl4j](#) or <http://el4j.sourceforge.net/docs/pdf/UniqueEl4jFeatures.pdf> .
- **Q** How to get started with EL4J?
- **A** [IntroductoryReadingListForEl4J](#)
- **Q** Why are there modules in EL4J? What features do they provide?
- **A** Please refer to the section (I) of [http://el4j.sourceforge.net/docs/pdf/EL4J\\_IntroductionArticle1.pdf](http://el4j.sourceforge.net/docs/pdf/EL4J_IntroductionArticle1.pdf)
- **Q** How do configuration overrides in Spring and EL4J work? Why are they there?
- **A** Configuration overrides work in the following way:
  - ◆ The content of all the different XML files is combined. Optionally you can specify that when a bean is defined twice, the second one overwrites the first one (this is a parameter of the the `El4j*ApplicationContexts`).
  - ◆ Spring allows extending the definition of a bean (please refer to section 3.5 of the spring reference manual)
  - ◆ There are the overriders of configuration of spring: `PropertyOverrideConfigurer`, `PropertyPlaceholderConfigurer`
  - ◆ There is a merge configurer of EL4J: `ListPropertyMergeConfigurer`. It allows extending existing lists in spring configuration
- **Q** Assume you have a spring bean that is proxied to allow a logging interceptor. What happens if the spring bean has the following method `m` defined: `"void m(int i) { this.n(i); }"` Does the call to `this.n(i)` go through the interceptor?

- **A** No! As the proxy does not replace the spring bean, it only *wraps* the spring bean. The `this` pointer remains on the original (=unproxied) object.
- **Q** What Spring configuration files are used and in what order are they read?
- **A** The easiest way to get the list of configuration files that are read by spring is to look them up in the JMX module under each application context. The EL4J `ModuleApplicationContext` has a complex logic to ensure the correct loading order of resources, even in special contexts that mangle the classpath (such as certain application servers do it).
- **Q** How to see the currently active configuration settings, by taking into account the configuration values overridden in property files?
- **A** `JmxModuleForTheImpatient`. Setting this up for your application by default is actually quite practical: you can rapidly check what spring read and merged of your application configuration file(s).
- **Q** How to enable logging in your application?
- **A** `DebuggingHowTo`
- **Q** How to do debugging? Local/ remotely?
- **A** `DebuggingHowTo`
- **Q** How to start a new project?
- **A** We recommend to start from an existing application template or a demo application. There is a web, swing, and a ULC web application template. There is a demo applications for the daemon manager. Duplicate the chosen existing project and start coding. For more info on this please contact the EL4J team under [el4j\\_team@elca.ch](mailto:el4j_team@elca.ch).
- **Q** What are the features of the EL4J remoting? Why is it there? Why is there implicit context passing? And how does it work?
- **A** Please refer to the section (II) of [http://el4j.sourceforge.net/docs/pdf/EL4J\\_IntroductionArticle1.pdf](http://el4j.sourceforge.net/docs/pdf/EL4J_IntroductionArticle1.pdf). For more details, please refer to `ModuleRemoting`.
- **Q** In what order are spring beans created?
- **A** Please consult <http://static.springframework.org/spring/docs/1.2.x/spring-reference.pdf>, chapter 3. In the JMX module under each application context you can get the list of config files that will be used in your application, together with their order.
- **Q** How do I get the classpath of a running application?
- **A** Please consult the class-path Java system property visible via the EL4J JMX module under the Root MBean.
- **Q** What is the difference between singleton beans and prototype beans?
- **A** Please consult the spring documentation under <http://static.springframework.org/spring/docs/2.0.x/spring-reference.pdf>, section 3.4.
- **Q** How to figure out what interceptors are active on a spring bean?
- **A** There are different ways to figure this out:

- ◆ Have a look at the stack trace when a method on the bean is executed. This can be done via the debugger, via an exception or via a Thread dump.
- ◆ The following blog entry describes simple code to get all interceptors on a spring bean: <http://swik.net/Spring/Ben+Hale's+Blog/Another+Reason+to+Love+Spring+2.0:+Interceptor+Combinin>
- ◆ The new EL4J JMX support allows to see all the interceptors on a spring bean.

*Remark*

It is possible that there are **multiple proxies** around a spring bean! You can detect this e.g. in the stack trace of a call to the bean. Please refer also to the next question.

- **Q** My interceptor is not added to the interceptor chain as I expect it. What shall I do?
- **A** Check the above question to ensure that your interceptor is really not added.
  - ◆ A known issue is that you may have multiple proxies around the spring bean that confuses the code that adds the interceptor. E.g. when configuring the trace-interceptor and the transaction-interceptor (e.g. directly or indirectly via annotations), the transaction-interceptor may not work!  
We plan to provide some improvement for this "feature" (in order not to speak of a bug) of spring. It seems that Spring 2.0 also fixes this issue.
  - ◆ Another issue we have encountered is that due to a circular dependency a spring bean was not proxied (and therefore also had no interceptor around it).
  - ◆ Sometimes the commons attribute files are not generated correctly (there is 1 class file per annotated java class). Try clean/ rebuild, and verify that commons attribute is activated in the build system.
  - ◆ It is also possible that the support to combine JDK 1.5 annotations or commons attributes with interceptors is not turned on. Please check in the documentation of your annotation/ attribute whether the corresponding config file is loaded.
- **Q** I don't like the fact that EL4J loads all configuration files from the mandatory folder automatically. What shall I do?
- **A** You have different options:
  - ◆ You can not put the recommended `classpath*:mandatory/*.xml` (it loads all files in each mandatory directory of the classpath) in the argument of the `el4jModuleApplicationContext`. You then can enlist explicitly the configuration files you want.
  - ◆ You can explicitly exclude configuration files that you don't want Spring to load from a default list via the exclusion list.

## 1.2.3 Maven FAQ

- **Q** How to get more information about Maven?
- **A** Please refer to [MavenBuildSystem](#)
- **Q** What do *transitive dependencies* mean? What dependencies are transitive in EL4J?
- **A** If A transitively depends on B and B transitively depends on C, it means that A also automatically depends on C. The dependencies to modules are transitive in EL4Ant. This means that if you depend on a module X (in other words: you use the module X), you can automatically use all the modules that are used by module X. This works recursively: you can also use the modules used by the modules used by module X, etc.  
Remark: When you use a module, you have access to all its code, jar-files and configuration.
- **Q** Why are there binary modules? How do they work?
- **A** They help to deploy modules without having all source directories. Please refer to the doc of maven for more details.

## 1.2.4 Data access FAQ

- **Q** What is CRUD?
- **A** This stands for the 4 basic operations a database provides: create, read, update, delete.
- **Q** When do we recommend Hibernate, when do we recommend Ibatis?
- **A** In general we recommend Hibernate now, due to the fact that it integrates nicely with our Domain Driven Design ideas (auto-CRUD via generic repository, validation on domain objects, declarative optimistic locking, more flexible mapping to the database, auto-support for the Query Pattern, ...) Please refer to the slides of the J2EE architecture presentation for more information ([http://leaffy.elca.ch/java/el4j/Documentation\\_Mirror/miscellaneous/j2eeCourse/](http://leaffy.elca.ch/java/el4j/Documentation_Mirror/miscellaneous/j2eeCourse/) , the integration tier part)
- **Q** What is the purpose of the generic DAO interface?
- **A** You don't need to hand-code the basic CRUD functionality of your DAO. The idea is discussed under <http://www.hibernate.org/328.html> (we use a slightly different implementation, as the one of hibernate is buggy). Advantages:
  - ◆ you don't need to repeat boring code
  - ◆ you can cleanly extend the generic DAO for your needs (just write a subclass of the generic repository)
  - ◆ data binding to the GUI is simplified (as it can be made more generic)
- **Q** Why does the saveOrUpdate method of the generic repository return the object?
- **A** An insert operation can change the object (e.g. add a db-generated Primary key).
- **Q** Why do we use optimistic locking in the generic repository or DAOs?
- **A** Please refer to the slides of the J2EE architecture presentation ([http://leaffy.elca.ch/java/el4j/Documentation\\_Mirror/miscellaneous/j2eeCourse/](http://leaffy.elca.ch/java/el4j/Documentation_Mirror/miscellaneous/j2eeCourse/) , the integration tier part)
- **Q** What is the purpose of the lazy loading exception of hibernate? How to avoid it?
- **A** Please refer to the documentation of the [HibernateFramework](#).
- **Q** What is the purpose of the Identity Fixer?
- **A** Please refer to the article on this under <http://el4j.sourceforge.net/docs/pdf/IdentityFixerAnnouncement.pdf>
- **Q** I have upgraded to new Hibernate an now I get a NoCachingEnabledException. How can I fix that?
- **A** Since Hibernate 3.2.0-cr3 you have to set the caching provider hibernate property `hibernate.cache.provider_class` in bean sessionFactory. For EhCache, what was the default in < 3.2.0-cr3, set property's value to `org.hibernate.cache.EhCacheProvider`

## 1.2.5 More advanced EL4J FAQ

- **Q** How do you resolve circular dependencies in the spring config file?
- **A** Please refer to [BasicSpringGuidelines#Circular\\_references\\_0](#)

- **Q** With EL4J/ Spring you can easily exchange your remoting protocol. But how to chose a remoting protocol?
- **A** Please consult <http://static.springframework.org/spring/docs/2.0.x/spring-reference.pdf> section 17.7
- **Q** How to quickly setup performance measurements for your project?
- **A** Please consult [the documentation of the light statistic module](#). It should not take you longer than 15 minutes to set this up for your project.
- **Q** How to get traces of the spring transaction management? (I.e. how to know when and how spring gives out a connection, starts/commits/rollbacks a transaction).
- **A** Please ensure first that your transaction interceptor is turned on as you expect it. Then try to set the logging level of the classes in the package "org.springframework.jdbc." to "debug". Then you see in the log what the spring transaction management does.  
BTW: this only works if you have the EL4J–default, non–JTA transaction manager. Otherwise you need to adapt the package above to include your particular transaction manager.

This list of questions will be extended. Please send other questions to add to [PhilippHOser](#)

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## 1.3 Legacy questions

### 1.3.1 EL4Ant FAQ

- **Q** When do you switch your build system from EL4Ant to maven?
- **A** We plan to switch to maven during the summer of 2006. For details, please contact the EL4J team.
- **Q** When do you need to invoke `ant -f bootstrap.xml`?
  - a) after a code change in eclipse/ outside?
  - b) after a change in a spring xml or property configuration file
  - c) after adding a new spring configuration file
  - d) when changing project description files
  - e) when adding a jar file or a module dependency
- **A** Only after d) and e)! The cases a)–c) require a rebuild, e.g. with `ant jars`.
- **Q** Where should you add a jar or a module dependency?
  - a) in eclipse
  - b) in project description files
  - c) in both
- **A** in b), then do a bootstrap and reload the eclipse workspace
- **Q** What plugins are available for EL4Ant?
- **A** Please refer to: [EL4Ant standard plugins](#) [EL4J–specific plugins](#) [PluginIncubator](#)
- **Q** Why are there binary modules? How do they work?
- **A** Refer to the doc of [EL4Ant](#)