

## Internes Memo

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Datum: 15.08.2008  
An: ORMF dev  
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Betreff: Replacing Jaxen in dom4j

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### 1 Goal

The current ORMF implementation makes heavy use of the dom4j (<http://www.dom4j.org/>) library for XML processing. Dom4j itself uses Jaxen (<http://jaxen.codehaus.org/>) for XPath support.

Since Jaxen is not available to be used in Eclipse project ([see IPZilla](#)). There seems no chance that this will change in the foreseeable future.

At least one Eclipse project has replaced Jaxen in another library by it's own implementation. The goal of this investigation is to check if this is doable with dom4j.

### 2 Approach

I have installed the sources for dom4j and did some cleanup (removed examples and junit test for an easier overview). By searching for "jaxen" in the Java files I've found 9 files:

- DefaultNamespaceContext.java - /org/dom4j/xpath
- DefaultXPath.java - /org/dom4j/xpath (8 matches)
- DocumentFactory.java - /org/dom4j
- DocumentHelper.java - /org/dom4j
- ProxyDocumentFactory.java - /org/dom4j/util
- Stylesheet.java - /dom4j/rule (2 matches)
- XMLTableDefinition.java - /org/dom4j/swing
- XPath.java - /org/dom4j (3 matches)
- XPathPattern.java - /org/dom4j/xpath (11 matches)

By removing the Jaxen jar from the build path I've got 115 errors in the same files and some more in junit test.

### 3 Findings

Having dependencies in only 9 files and getting (few) errors in exactly this files let me first think that it would be easy to replace Jaxen with another Xpath provider. On closer inspection a few problems emerged:

1. dom4j didn't just delegate the Xpath funtions to Jaxen. Some of the classes implement interfaces from Jaxen.
2. Some classes have public methods which use a Jaxen class VariableContext as a parameter. Luckily some of these methods are deprecated.

A lot of the errors mentioned above would go away as soon as some of the classes implementing Jaxen support would be removed from source. These classes must be replaced by implementation from another Xpath provider.

I've checked the ORMF sources and found no direct references to Jaxen classes. So we might get away with removing all methods in dom4j which have Jaxen classes as parameters.

### 4 Open questions

I haven't looked into replacement Xpath providers, especially if these would pass a CQ. Without this, all guesses about the resources needed to replace Jaxen may be off by a factor of two (from my experience).

### 5 Conclusion

I would suggest spending up to 3 days trying to remove the Jaxen dependencies from dom4j. The resulting version of dom4j will not be generally usefull but only for ORMF. I'm quite sure that after this 3 days the task will be done or the remaining time can be quantified.

If the conversion is not done after the 3 days and we came to the conclusion that it is not doable in a reasonable time we have wasted only a limited amount of resources.