

# GEP 6 - NIO2 Support for Groovy

## Metadata

Number:	GEP-6
Title:	NIO2 Support for Groovy
Version:	initial
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Status:	Draft
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## Abstract

Need to support NIO2.

### Approach

I propose:

- Create an openjdk7 build of Groovy
- Move NIO2 support to a Groovy Module for now
- Move NIO2 Groovy Module to Groovy-core when JDK7 is officially released

JDK7 is still in beta. It is subject to change. If we build NIO2 support into Groovy today and make a release, then we risk having JDK7 make an API change, which would force us to support 2 different APIs. That would be bad.

### Todo in Groovy NIO Module:

- Support new Path object
- All of the GDK File API needs to be on Path
- NIO2 contains a new WatchService API. We need to probably provide a GDK on WatchService to make it easy to work with using closures, etc. This is the most interesting piece of work IMO.

### Todo in Groovy Core:

- Groovy has a FileNameFinder and FileNameRegExFinder. This stuff needs to work with Paths as well: <http://mrhaki.blogspot.com/2009/11/groovy-goodness-finding-files-with.html>
- I haven't looked at each file in this list yet, but we need to analyze these Groovy source files and see if any parallel Path implementations are needed. The first 3 files look like the most important:

- `./groovy/util/IFilenameFinder.java`
- `./groovy/io/FileType.java`
- `./groovy/io/FileVisitResult.java`
- `./org/codehaus/groovy/runtime/WritableFile.java`
- `./org/codehaus/groovy/ant/FileIterator.java`
- `./org/codehaus/groovy/ant/FileScanner.java`
- `./org/codehaus/groovy/control/io/FileReaderSource.java`
- I couldn't find any instances of this in Groovy-core, but any "asType(File)" methods need a parallel "asType(Path)" - I believe "asWritable(Path)" is the only change required.
- In NIO2, I believe File.list and another method now return an iterator, which enables this method to work better over networks. We need to update the File GDK to use this approach by default to also support network dir or ls style listings.
- NIO2 has a new FileVisitor class. We need to unify this new FileVisitor JDK method with what Groovy does today in with GDK with the .eachFile method.
- As well as the .eachFileXXX methods and the .eachDirXXX methods we should include the .traverse method when looking through potential places for unification. The .traverse method's primary role was to make some FileVisitor like functionality available in the pre-JDK 7 world but having NIO2 there might open up some more possibilities. There was also some thought at the time of having additional overloaded traverse methods with a more statically typed flavor rather than just the current Map solution. I guess now is a good time to also look at that option.

## Alternatives

## References

## Mailing-list discussions

- [Nabble: Are there plans to support Java 7 features in Groovy 1.8?](#)
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## JIRA issues

- [4391 - Groovy build fails test target using Java 1.7.0](#)
- [4390 - Add GDK File methods to the NIO2 API](#)

## Useful links

- NIO2 home page - <http://java.sun.com/developer/technicalArticles/javase/nio/>

## Reference Implementation