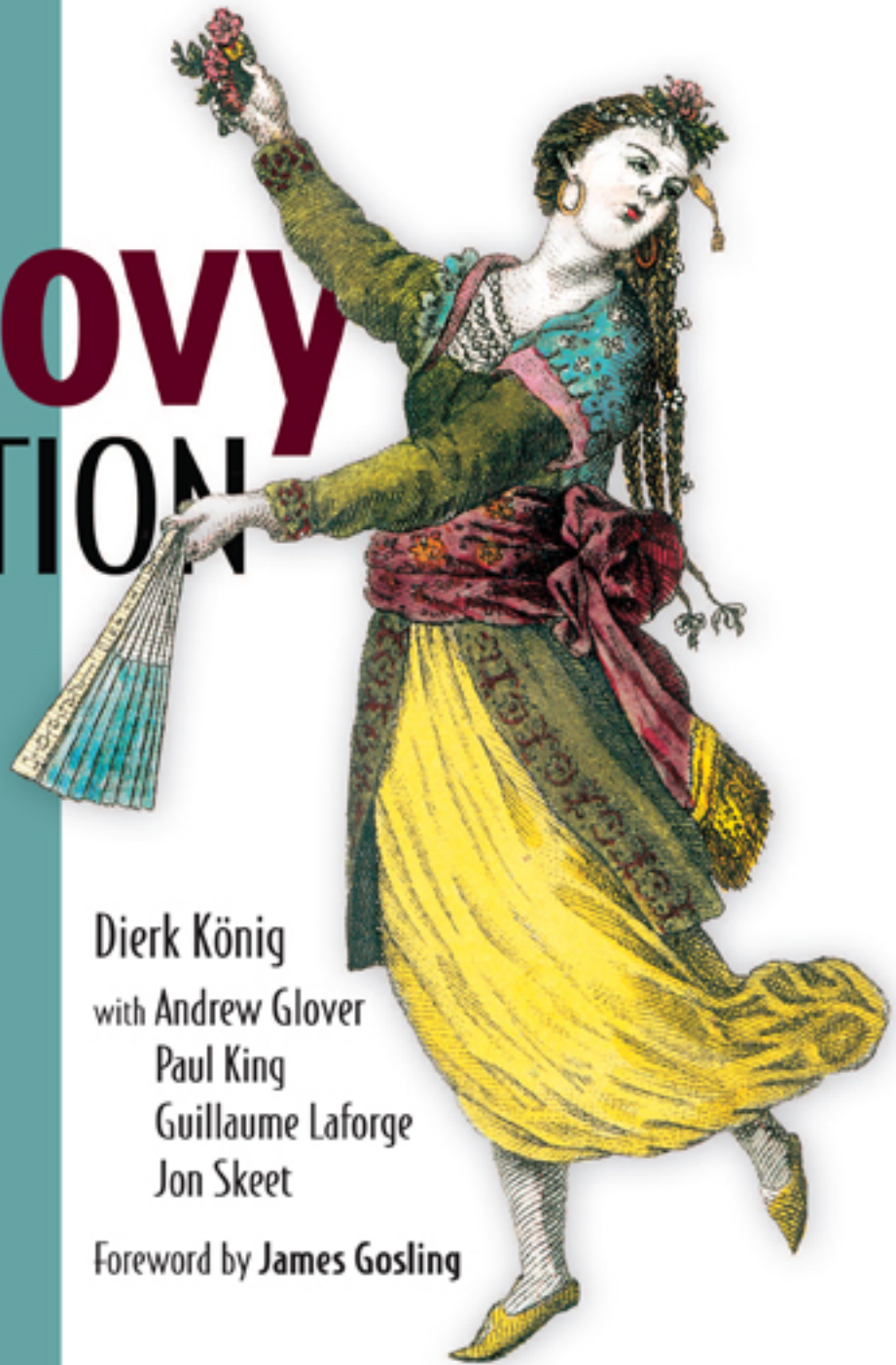


Groovy IN ACTION



Dierk König

with Andrew Glover

Paul King

Guillaume Laforge

Jon Skeet

Foreword by James Gosling



Groovy in Action

by Dierk König
with Andrew Glover, Paul King
Guillaume Laforge, and Jon Skeet
Sample Appendix C

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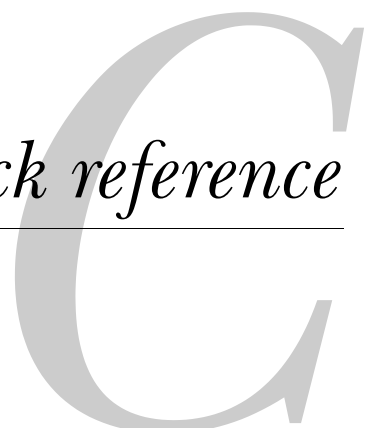
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GDK API quick reference



C.1 Arrays and primitives

| Method name | Parameter types | Return type |
|------------------------------|-----------------|--|
| Array of byte or Byte | | |
| encodeBase64 | | Writable |
| Array of primitives | | |
| getAt | int | Object |
| getAt | Range | Object Returned object is a list of autoboxed items |
| getAt | Collection | Object Returned object is a list of autoboxed items |
| putAt | int, Object | void |
| size | | int |
| toList | | List |
| Array of Object | | |
| getAt | int | Object |
| getAt | Range | List |
| getAt | Collection | List |
| inject | Object, Closure | Object |
| join | String | String |
| putAt | int, Object | void |
| size | | int |
| spread | | SpreadList |
| toArrayString | | String |
| toList | | List |
| toSpreadList | | SpreadList |
| toSpreadMap | | SpreadMap |
| toString | | String |
| Array of String | | |
| execute | | Process |

continued on next page

| Method name | Parameter types | Return type |
|----------------------------|-----------------|-------------|
| double, float, long | | |
| downto | Number, Closure | void |
| upto | Number, Closure | void |

C.2 The java.lang package

| Method name | Parameter types | Return type |
|---------------------|-----------------|--|
| Boolean | | |
| and | Boolean | Boolean |
| or | Boolean | Boolean |
| xor | Boolean | Boolean |
| CharSequence | | |
| getAt | int | CharSequence |
| getAt | Range | CharSequence Argument may also be an IntRange |
| getAt | Collection | CharSequence |
| Character | | |
| compareTo | Character | int Argument may also be a Number |
| div | Character | Number Argument may also be a Number |
| intdiv | Character | Number Argument may also be a Number |
| minus | Character | Number Argument may also be a Number |
| multiply | Character | Number Argument may also be a Number |
| next | | Number |
| plus | Character | Number Argument may also be a Number |
| previous | | Number |

continued on next page

| Method name | Parameter types | Return type |
|----------------------------|-----------------|---|
| Class | | |
| isCase | Object | boolean |
| ClassLoader | | |
| getRootLoader | | ClassLoader |
| double, float, long | | |
| abs | | double Returns float or long, respectively |
| downto | Number, Closure | void |
| round | | long |
| upto | Number, Closure | void |
| Number | | |
| abs | | int |
| and | Number | Number |
| compareTo | Number | int Argument may also be a Character |
| div | Number | Number Argument may also be a Character |
| downto | Number, Closure | void |
| intdiv | Number | Number Argument may also be a Character |
| leftShift | Number | Number |
| minus | Number | Number Argument may also be a Character |
| mod | Number | Number |
| multiply | Number | Number Argument may also be a Character |
| negate | | Number |
| next | | Number |
| or | Number | Number |

continued on next page

| Method name | Parameter types | Return type |
|---------------------------|----------------------------|--|
| Number (continued) | | |
| plus | Number | Number Argument may also be a Character |
| plus | String | String |
| power | Number | Number |
| previous | | Number |
| rightShift | Number | Number |
| rightShiftUnsigned | Number | Number |
| step | Number, Number, Closure | void |
| times | Closure | void |
| toBigDecimal | | java.math.BigDecimal |
| toBigInteger | | java.math.BigInteger |
| toDouble | | Double |
| toFloat | | Float |
| toInteger | | Integer |
| toLong | | Long |
| upto | Number, Closure | void |
| xor | Number | Number |
| Object | | |
| any | Closure | boolean |
| collect | Closure | List |
| collect | Collection, Closure | Collection |
| dump | | String |
| each | Closure | void |
| eachWithIndex | Closure | void {item, counter -> ...} |
| every | Closure | boolean |
| find | Closure | Object |

continued on next page

| Method name | Parameter types | Return type |
|---------------------------|-------------------|---|
| Object (continued) | | |
| findAll | Closure | List |
| findIndexOf | Closure | int |
| getAt | String | Object Dynamic property access |
| getMetaPropertyValues | | List |
| getProperties | | Map |
| grep | Object | List |
| identity | Closure | Object |
| inspect | | String |
| invokeMethod | String, Object | Object |
| is | Object | boolean |
| isCase | Object | boolean |
| iterator | | Iterator |
| print | PrintWriter | void |
| print | Object | void |
| printf | String, Object | void JDK 1.5+ |
| printf | String, [Object] | void JDK 1.5+: varargs version |
| println | PrintWriter | void |
| println | Object | void |
| println | | void |
| putAt | String, Object | void |
| use | Class, Closure | void |
| use | List, Closure | void List of classes |
| use | [Object], Closure | void Variable argument list of classes |

continued on next page

| Method name | Parameter types | Return type |
|----------------------|-----------------|---------------|
| Process | | |
| consumeProcessOutput | | void |
| getErr | | InputStream |
| getIn | | InputStream |
| getOut | | OutputStream |
| getText | | String |
| leftShift | [byte] | OutputStream |
| leftShift | Object | Writer |
| waitForOrKill | long | void |
| String | | |
| center | Number | String |
| center | Number, String | String |
| contains | String | boolean |
| count | String | int |
| decodeBase64 | | [byte] |
| eachMatch | String, Closure | void |
| execute | | Process |
| execute | List, File | Process |
| execute | [String], File | Process |
| getAt | int | String |
| getAt | Range | String |
| getAt | Collection | String |
| isCase | Object | boolean |
| leftShift | Object | StringBuffer |
| minus | Object | String |
| multiply | Number | String |
| negate | | regex.Pattern |
| next | | String |

continued on next page

| Method name | Parameter types | Return type |
|---------------------------|------------------|--------------|
| String (continued) | | |
| padLeft | Number | String |
| padLeft | Number, String | String |
| padRight | Number | String |
| padRight | Number, String | String |
| plus | Object | String |
| previous | | String |
| replaceAll | String, Closure | String |
| reverse | | String |
| size | | int |
| toBigDecimal | | BigDecimal |
| toBigInteger | | BigInteger |
| toBoolean | | Boolean |
| toCharacter | | Character |
| toDouble | | Double |
| toFloat | | Float |
| toInteger | | Integer |
| toList | | List |
| toLong | | Long |
| toURI | | java.net.URI |
| toURL | | java.net.URL |
| tokenize | String | List |
| tokenize | | List |
| StringBuffer | | |
| leftShift | Object | StringBuffer |
| plus | String | String |
| putAt | IntRange, Object | void |
| size | | int |

C.3 The java.math package

| Method name | Parameter types | Return type |
|-------------------|-----------------|-------------|
| BigDecimal | | |
| downto | Number, Closure | void |
| upto | Number, Closure | void |
| BigInteger | | |
| downto | Number, Closure | void |
| upto | Number, Closure | void |

C.4 The java.util and java.sql packages

| Method name | Parameter types | Return type |
|-------------------|---------------------|---|
| Collection | | |
| asImmutable | | Collection |
| asList | | List |
| asSynchronized | | Collection |
| collect | Closure | List |
| collect | Collection, Closure | Collection Add to the given Collection |
| count | Object | int |
| disjoint | Collection | boolean |
| each | Closure | void |
| find | Closure | Object |
| findAll | Closure | List |
| getAt | String | List |
| groupBy | Closure | Map |
| inject | Object, Closure | Object |

continued on next page

| Method name | Parameter types | Return type |
|-------------------------------|-----------------|-------------|
| Collection (continued) | | |
| isCase | Object | boolean |
| join | String | String |
| leftShift | Object | Collection |
| max | | Object |
| max | Closure | Object |
| max | Comparator | Object |
| min | | Object |
| min | Closure | Object |
| min | Comparator | Object |
| multiply | Number | List |
| plus | Collection | List |
| plus | Object | List |
| sort | | List |
| sort | Closure | List |
| sort | Comparator | List |
| sum | | Object |
| sum | Closure | Object |
| toList | | List |
| toListString | | String |
| toString | | String |
| unique | | Collection |
| unique | Closure | Collection |
| unique | Comparator | Collection |

continued on next page

| Method name | Parameter types | Return type |
|--------------------------------------|------------------|--|
| Date (java.util and java.sql) | | |
| minus | int | Date Returns util or sql versions of Date, respectively |
| next | | Date Returns util or sql versions of Date, respectively |
| plus | int | Date Returns util or sql versions of Date, respectively |
| previous | | Date Returns util or sql versions of Date, respectively |
| Enumeration | | |
| iterator | | Iterator |
| List | | |
| asImmutable | | List |
| asSynchronized | | List |
| equals | List | boolean |
| execute | | Process |
| flatten | | List |
| getAt | int | Object |
| getAt | Collection | List |
| getAt | IntRange | List |
| intersect | Collection | List |
| minus | Collection | List |
| minus | Object | List |
| pop | | Object |
| putAt | int, Object | void |
| putAt | IntRange, Object | void |
| putAt | List, List | void |

continued on next page

| Method name | Parameter types | Return type |
|-------------------------|---------------------|---|
| List (continued) | | |
| putAt | List, Object | void |
| reverse | | List |
| reverseEach | Closure | void |
| sort | | List |
| sort | Closure | List |
| sort | Comparator | List |
| spread | | SpreadList |
| toSpreadList | | SpreadList |
| Map | | |
| asImmutable | | Map |
| asSynchronized | | Map |
| collect | Closure | List |
| collect | Collection, Closure | Collection Add to the given Collection |
| each | Closure | void |
| find | Closure | Object |
| findAll | Closure | Map |
| get | Object, Object | Object key, default |
| getAt | Object | Object |
| putAt | Object, Object | Object |
| spread | | SpreadMap |
| subMap | Collection | Map |
| toMapString | | String |
| toSpreadMap | | SpreadMap |
| toString | | String |

continued on next page

| Method name | Parameter types | Return type |
|------------------|-----------------|-------------|
| Set | | |
| asImmutable | | Set |
| asSynchronized | | Set |
| SortedMap | | |
| asImmutable | | SortedMap |
| asSynchronized | | SortedMap |
| SortedSet | | |
| asImmutable | | SortedSet |
| asSynchronized | | SortedSet |
| sort | | SortedSet |
| Timer | | |
| runAfter | int, Closure | void |

C.5 The java.util.regex package

| Method name | Parameter types | Return type |
|----------------|-----------------|-------------|
| Matcher | | |
| each | Closure | void |
| getAt | int | Object |
| getAt | Collection | String |
| getCount | | int |
| hasGroup | | boolean |
| iterator | | Iterator |
| setIndex | int | void |
| size | | long |
| Pattern | | |
| isCase | Object | boolean |

C.6 The java.io package

| Method name | Parameter types | Return type |
|------------------------|-----------------|--|
| BufferedReader | | |
| getText | | String |
| BufferedWriter | | |
| writeLine | String | void |
| DataInputStream | | |
| iterator | | Iterator Byte-based |
| File | | |
| append | String | void |
| append | String, String | void With encoding |
| asWritable | | File |
| asWritable | String | File With encoding |
| eachByte | Closure | void |
| eachDir | Closure | void |
| eachFile | Closure | void |
| eachFileMatch | Object, Closure | void isCase() applied to the first argument |
| eachFileRecurse | Closure | void |
| eachLine | Closure | void |
| eachObject | Closure | void |
| filterLine | Writer, Closure | void |
| filterLine | Closure | Writable |
| getText | String | String With encoding |

continued on next page

| Method name | Parameter types | Return type |
|-------------------------|-----------------|--|
| File (continued) | | |
| getText | | String |
| iterator | | Iterator Line-based |
| leftShift | String | File |
| newInputStream | | BufferedInputStream |
| newObjectInputStream | | ObjectInputStream |
| newOutputStream | | BufferedOutputStream |
| newPrintWriter | | PrintWriter |
| newPrintWriter | String | PrintWriter With encoding |
| newReader | String | BufferedReader With encoding |
| newReader | | BufferedReader |
| newWriter | | BufferedWriter |
| newWriter | boolean | BufferedWriter Append |
| newWriter | String | BufferedWriter With encoding |
| newWriter | String, boolean | BufferedWriter With encoding, append |
| readBytes | | [byte] |
| readLines | | List |
| size | | long |
| splitEachLine | String, Closure | void First argument is the separator to use |
| withInputStream | Closure | void |
| withOutputStream | Closure | void |
| withPrintWriter | Closure | void |

continued on next page

| Method name | Parameter types | Return type |
|--------------------------|-----------------|-------------------------|
| File (continued) | | |
| withReader | Closure | void |
| withWriter | Closure | void |
| withWriter | String, Closure | void With encoding |
| withWriterAppend | String, Closure | Void With encoding |
| write | String | Void |
| write | String, String | Void With encoding |
| InputStream | | |
| eachByte | Closure | Void |
| eachLine | Closure | Void |
| filterLine | Writer, Closure | Void |
| filterLine | Closure | Writable |
| getText | | String |
| getText | String | String With encoding |
| iterator | | Iterator Byte-based |
| newReader | | BufferedReader |
| readLine | | String |
| readLines | | List |
| withReader | Closure | void |
| withStream | Closure | void |
| ObjectInputStream | | |
| eachObject | Closure | void |

continued on next page

| Method name | Parameter types | Return type |
|---------------------|-----------------|--|
| OutputStream | | |
| leftShift | Object | Writer |
| leftShift | InputStream | OutputStream |
| leftShift | [byte] | OutputStream Argument is a byte array |
| withStream | Closure | void |
| withWriter | Closure | void |
| withWriter | String, Closure | void With encoding |
| Reader | | |
| eachLine | Closure | void |
| filterLine | Writer, Closure | void |
| filterLine | Closure | Writable |
| getText | | String |
| iterator | | Iterator Line-based |
| readLine | | String |
| readLines | | List |
| splitEachLine | String, Closure | void |
| transformChar | Writer, Closure | void |
| transformLine | Writer, Closure | void |
| withReader | Closure | void |
| Writer | | |
| leftShift | Object | Writer |
| withWriter | Closure | void |
| write | Writable | void |

C.7 The java.net package

| Method name | Parameter types | Return type |
|---------------------|-----------------|-------------------------|
| ServerSocket | | |
| accept | Closure | Socket |
| Socket | | |
| leftShift | [byte] | OutputStream |
| leftShift | Object | Writer |
| withStreams | Closure | void |
| URL | | |
| eachByte | Closure | void |
| eachLine | Closure | void |
| getText | | String |
| getText | String | String With encoding |
| withReader | Closure | void |

“... a clear and detailed exposition of what is groovy about Groovy. I’m glad to have it on my bookshelf.”
 —from the *Foreword* by James Gosling

Groovy IN ACTION

Dierk König, Andrew Glover, Paul King, Guillaume Laforge, and Jon Skeet

Combine the easy-to-use dynamic features of Ruby or Python with the power and stability of the Java platform and the result is, well, Groovy. Groovy is a dynamic language that looks like Java down to its curly brackets. It compiles straight to bytecode, and works seamlessly with existing Java objects and libraries. With this single tool developers can both execute command-line scripts and build commercial-grade applications.

Groovy in Action is a fast-paced tutorial covering the Groovy language and how and when to apply it. Java developers will master Groovy’s enhancements to Java such as builders, template engines, and support for regular expressions and database programming. The book includes dozens of practical examples. It provides tips & tricks for daily work, unit testing, build support, and even scripting Windows.

What’s Inside

- A comprehensive Groovy language tutorial
- Explore the benefits of dynamic programming
- Tackle day-to-day tasks like shell scripting and build support
- Grails, the Groovy Web Development framework
- Dozens of reusable examples

Dierk König has been a committer on the Groovy project since 2004. **Guillaume Laforge** is the official Groovy project manager and leader of the Expert Group standardizing Groovy. Technology strategist **Andrew Glover**, speaker and consultant **Dr. Paul King**, and **Jon Skeet**, a Java and C# expert, round out the authoring team.

“Excellent code samples ... very readable.”
 —Scott Shaw, ThoughtWorks

“Top of my list.”
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“Collects in one place details of the language and its libraries—a valuable resource.”
 —John Wilson
 The Wilson Partnership

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 —Norman Richards
 JBoss Developer, author of *XDoclet in Action*

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 —Glen Smith, Bytecode Pty Ltd

“You want to learn Groovy? This book has all you need.”
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