Groovy Scripting for the JVM

Script .groovy source → *compiled* → **Bytecode** in memory → *runs on* → **JVM** needs a JDK → *@Grab* → **Libraries** Maven repos

CONCEPTS

A script needs no class or main method: top-level statements just run, and args holds the arguments.

Groovy is mostly Java-compatible: semicolons, parentheses and return are optional, and public is the default.

RUNNING

`groovy <file>.groovy [args]`
Run a script

`groovy -e '<code>'`
Run an inline script

`groovy -v`
Show Groovy and JVM versions

`groovy -cp <path> <file>`
Set the classpath

`groovy -Dkey=value <file>`
Define a system property

`groovy -d <file>`
Print full stack traces

`groovy -l <port>`
Process each line sent to a port

`groovy --help`
List all options

ONE-LINERS

`groovy -n -e '<code>' <file>`
Run code per line, as line

`groovy -p -e '<code>' <file>`
Run per line and print result

`groovy -a -n -e '<code>' <file>`
Split each line into split

`groovy -i .bak -p -e '<code>' <file>`
Edit files in place with backup

SHELL

`groovysh`
Start the interactive shell

`/help`
List shell commands

`/show`
List shared variables

`/load <file>`
Load a file into the buffer

`/save <file>`
Save the buffer to a file

`/grab <g:m:v>`
Add a dependency to the shell

`/exit`
Leave the shell

DEPENDENCIES

`@Grab('<g>:<m>:<v>')`
Pull in a library

`@GrabResolver(name='<n>', root='<url>')`
Add a repository

SYNTAX

`def x = 1`
Declare a variable

`println "Hi ${name}"`
Interpolate in a GString

`'''line1 line2'''`
Multi-line string

`/a\d+/`
Slashy string for regex

`def f = { a, b → a + b }`
Closure

`list.collect { it * 2 }`
Map over a collection

`a?.b`
Safe navigation

`a ?: b`
Elvis: default if falsy

`list*.name`
Spread: property of each item

`a == b`
Value equality

SYNTAX (cont.)

`class Foo { String name }`
Class with auto getters

COLLECTIONS

`[1, 2, 3]`
List literal

`[a: 1, b: 2]`
Map literal

`[] as Set`
Convert to another type

`(1..5)`
Inclusive range

`list.each { println it }`
Loop over items

`list.findAll { it > 1 }`
Filter

`list.find { it > 1 }`
First match

`list.inject(0) { s, x → s + x }`
Fold to one value

`list.sum()`
Add up elements

`list.groupBy { it.size() }`
Group into a map

`list.sort { it.name }`
Sort by key

COLLECTIONS (cont.)

`map.each { k, v → println "$k=$v" }`
Loop over a map

FILES & TEXT

`new File('<path>').text`
Read a whole file

`new File('<path>').eachLine { }`
Read line by line

`new File('<path>').text = '<data>'`
Write a file

`'echo hi'.execute().text`
Run a shell command

`str =~ /<regex>/`
Find a match

`new groovy.json.JsonSlurper().parseText(s)`
Parse JSON

RECIPES

Script with a dependency

```
@Grab('org.apache.commons:commons-lang3:3.14.0')
import org.apache.commons.lang3.StringUtils
println StringUtils.capitalize('groovy')
```