

10 Cool Facts about Gradle

Evgeny Goldin, @evgeny_goldin

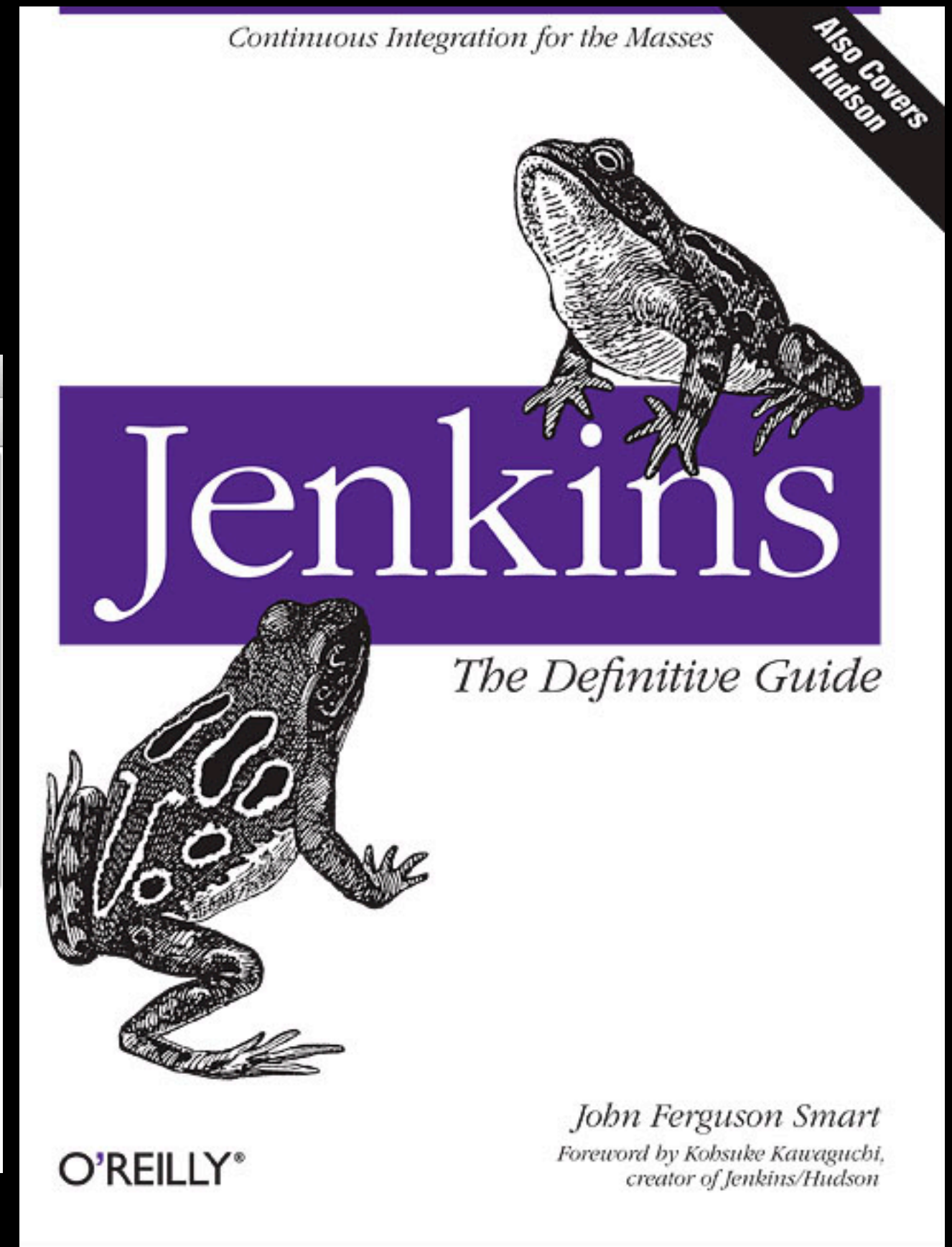
Who am I?

- 12 years in the industry
- Mostly JS and JVM-related experience: Java, Groovy, Scala
- Ant, Maven, Gradle, Artifactory, TeamCity, Jenkins
- <https://github.com/evgeny-goldin/>
- Write for [blog](#), [wiki](#), [GroovyMag](#) and [“Methods & Tools”](#)
- Groovy conference speaker: G8Conf, Gr8US

<http://evgeny-goldin.com/wiki/Maven-jenkins-plugin>

The screenshot shows the Jenkins web interface for a job named 'github-maven-plugins-master'. The page includes a navigation sidebar with links for 'Back to Dashboard', 'Status', 'Changes', and 'Modules'. A 'Build History' section shows four recent builds from May 15, 2011, and March 11, 2011. The main content area displays job configuration details in a table format.

Job	github-maven-plugins-master
Job type	Maven
Java	jdk1.6.0
Maven	apache-maven-2
Maven goals	-e clean install
Maven repository	"<user-home>/m2/repository"
Node	master
Repositories	<ul style="list-style-type: none">• git@github.com:evgeny-goldin/maven-plugins.git : master
POM	<ul style="list-style-type: none">• http://github.com/evgeny-goldin/maven-plugins/blob/master/pom.xml
Invoked by	<ul style="list-style-type: none">• googlecode-facebook-java-api-fbapi-2.0.0 when it is unstable



Gradle is ..

I. Gradle is .. Fast

- Not verbose by default
 - `gradle -q clean build`
 - `gradle -i clean build`
- Checksum-based incremental builds (tasks)
 - `gradle build`
 - `gradle build`

2. Gradle is .. Concise

```
apply plugin: 'java'
```

3. Gradle is .. Groovy DSL

```
subprojects {  
    dependencies {  
        compile      'org.twitter4j:twitter4j-core:2.2.4'  
        runtime      'ch.qos.logback:logback-classic:0.9.29'  
        testCompile  'org.spockframework:spock-core:0.6-groovy-1.8-SNAPSHOT'  
    }  
  
    task copyCommonResources( type: Copy ) {  
        from project( ':twitter4j' ).file( 'common-resources' )  
        into compileJava.destinationDir  
    }  
  
    jar.dependsOn copyCommonResources  
}
```

3. Gradle is .. Groovy DSL

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        compile      'org.twitter4j:twitter4j-core:2.2.4'  
        runtime      'ch.qos.logback:logback-classic:0.9.29'  
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        testCompile  'org.spockframework:spock-core:0.6-groovy-1.8-SNAPSHOT'  
    }  
  
    jar.doFirst {  
        copy {  
            from project( ':twitter4j' ).file( 'common-resources' )  
            into compileJava.destinationDir  
        }  
    }  
}
```

4. Gradle is .. Groovy

```
task assemblePlugin << {  
    File tempFile = File.createTempFile( project.name, null )  
    tempFile.write( file( 'src/main/resources/teamcity-plugin.xml' ).text.  
                    replaceAll( '@version@', project.version ) )  
  
    File compileLibs = new File( project.buildDir, 'compile-libs' )  
  
    ( configurations.compile.files - configurations.provided.files ).each {  
        File file -> ant.copy( file: file, todir: compileLibs )  
    }  
  
    ant.zip( destfile: destinationZip ) {  
        zipfileset( file: tempFile,      fullpath: 'teamcity-plugin.xml' )  
        zipfileset( dir : compileLibs, prefix : 'server' )  
    }  
}
```

4. Gradle is .. Groovy

```
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    tempFile.write( file( 'src/main/resources/teamcity-plugin.xml' ).text.  
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    }  
  
    ant.zip( destfile: destinationZip ) {  
        zipfileset( file: tempFile,      fullpath: 'teamcity-plugin.xml' )  
        zipfileset( dir : compileLibs, prefix : 'server' )  
    }  
}
```

4. Gradle is .. Groovy

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    ( configurations.compile.files - configurations.provided.files ).each {  
        File file -> ant.copy( file: file, todir: compileLibs )  
    }  
  
    ant.zip( destfile: destinationZip ) {  
        zipfileset( file: tempFile,      fullpath: 'teamcity-plugin.xml' )  
        zipfileset( dir: compileLibs, prefix : 'server' )  
    }  
}
```

5. Gradle .. knows Groovy

```
apply plugin: 'groovy'

dependencies {
    groovy 'org.codehaus.groovy:groovy-all:1.8.1'
}
```

5. Gradle .. knows Scala

```
apply plugin: 'scala'

dependencies {
    scalaTools 'org.scala-lang:scala-compiler:2.9.1.RC4',
              'org.scala-lang:scala-library:2.9.1.RC4'
    compile   'org.scala-lang:scala-library:2.9.1.RC4'
}
```

6. Gradle .. knows Maven

- Repositories: Maven/Artifactory
- Dependencies: Maven/Ivy
- Artifacts: gradle clean install
- maven2gradle: <https://github.com/jbaruch/maven2gradle>
- Import “pom.xml” - work in progress
- Run Maven plugins or run Gradle from Maven - can be nice

7. Gradle .. knows testing

```
test {
    useJUnit()
    useTestNG()
    jvmArgs ['-Xmx512M']
    include '**/tests/special/**/*Test.class'
    exclude '**/Old*Test.class'
    forkEvery          = 30
    maxParallelForks = Runtime.getRuntime().availableProcessors()
}
```

```
test {
    beforeTest { descr          -> .. }
    afterTest  { descr, result -> .. }
    beforeSuite { descr        -> .. }
    afterSuite { descr, result -> .. }
}
```


7. Gradle .. knows testing

```
#[14:30:41] [~/Projects/gcommons]$ gradle clean test
:clean
:compileJava UP-TO-DATE
:compileGroovy
:processResources
:classes
:compileTestJava UP-TO-DATE
:compileTestGroovy
:processTestResources
:testClasses
> Building > :test > 53 tests completed█
```

7. Gradle .. knows testing

```
test {
    useJUnit()
    useTestNG()
    jvmArgs ['-Xmx512M']
    include '**/tests/special/**/*Test.class'
    exclude '**/Old*Test.class'
    forkEvery          = 30
    maxParallelForks = Runtime.runtime.availableProcessors()
}
```

```
test {
    beforeTest { descr          -> .. }
    afterTest  { descr, result -> .. }
    beforeSuite { descr        -> .. }
    afterSuite { descr, result -> .. }
}
```

Test Summary

70 tests	0 failures	13m30.40s duration
--------------------	----------------------	------------------------------

100%
successful

Packages

Classes

Package	Tests	Failures	Duration
com.goldin.gcommons	15	0	2.354s
com.goldin.gcommons.beans	55	0	13m28.0

Package com.goldin.gcommons.beans

[all](#) > com.goldin.gcommons.beans

55

tests

0

failures

13m28.05s

duration

100%

successful

Classes

Class	Tests	Failures	Duration	Success rate
AlgorithmsTest	7	0	1.739s	100%
FileBeanTest	14	0	22.457s	100%
GeneralBeanTest	10	0	0.088s	100%
GroovyBeanTest	2	0	0.497s	100%
IOBeanTest	2	0	0.019s	100%
NetBeanTest	8	0	13m0.93s	100%

8. Gradle is .. Flexible

// Multiple source directories

```
sourceSets.main.java.srcDirs = [ 'src/main/java', 'srcAdditional/main/java' ]  
sourceSets.main.java.srcDirs 'srcAdditionalTwo/main/java'
```

// Multiple test source directories

```
sourceSets.test.java.srcDirs = [ 'src/test/java', 'srcAdditional/test/java' ]  
sourceSets.test.java.srcDirs 'srcAdditionalTwo/test/java'
```

8. Gradle is .. Flexible

// Multiple dependencies groups

```
configurations { myConf.extendsFrom compile }

dependencies {
    compile 'org.twitter4j:twitter4j-core:2.2.4'
    runtime 'ch.qos.logback:logback-classic:0.9.29'
    testCompile 'org.spockframework:spock-core:0.6-groovy-1.8-SNAPSHOT'
    testRuntime ' ... '

    groovy 'org.codehaus.groovy:groovy-all:1.9.0-beta-2'
    scalaTools 'org.scala-lang:scala-compiler:2.9.1.RC4',
               'org.scala-lang:scala-library:2.9.1.RC4'
    myConf 'org.slf4j:slf4j-api:1.6.2'
}
```

8. Gradle is .. Flexible

// Multiple artifacts per project: sources + javadoc jars

```
task packageSources( type: Jar ) {
    from sourceSets.main.allSource
    classifier = 'sources'
}

task packageJavadoc( type: Jar, dependsOn: 'javadoc' ) {
    from javadoc.destinationDir
    classifier = 'javadoc'
}

artifacts {
    archives( packageSources )
    archives( packageJavadoc )
}
```

9. Gradle is .. Programmable

```
task assembleApi( type: Jar, dependsOn: compileGroovyApi ) {  
    appendix      = 'api'  
    includes      = [ '**/api/**' ]  
    from compileGroovyApi.destinationDir  
}
```

```
task copyCommonResources( type: Copy ) {  
    from project( ':twitter4j' ).file( 'common-resources' )  
    into compileJava.destinationDir  
}
```

```
jar.dependsOn copyCommonResources  
jar.doFirst{ .. }  
jar.doLast { .. }
```

V.I.P.

9. Gradle is .. Programmable

```
task assembleApi( type: Jar, dependsOn: compileGroovyApi ) {  
    appendix      = 'api'  
    includes      = [ '**/api/**' ]  
    from compileGroovyApi.destinationDir  
}
```

```
task copyCommonResources( type: Copy ) {  
    from project( ':twitter4j' ).file( 'common-resources' )  
    into compileJava.destinationDir  
}
```

```
jar.dependsOn copyCommonResources  
jar.doFirst{ .. }  
jar.doLast { .. }
```

V.I.P.

10. Gradle is .. Fun and Open!

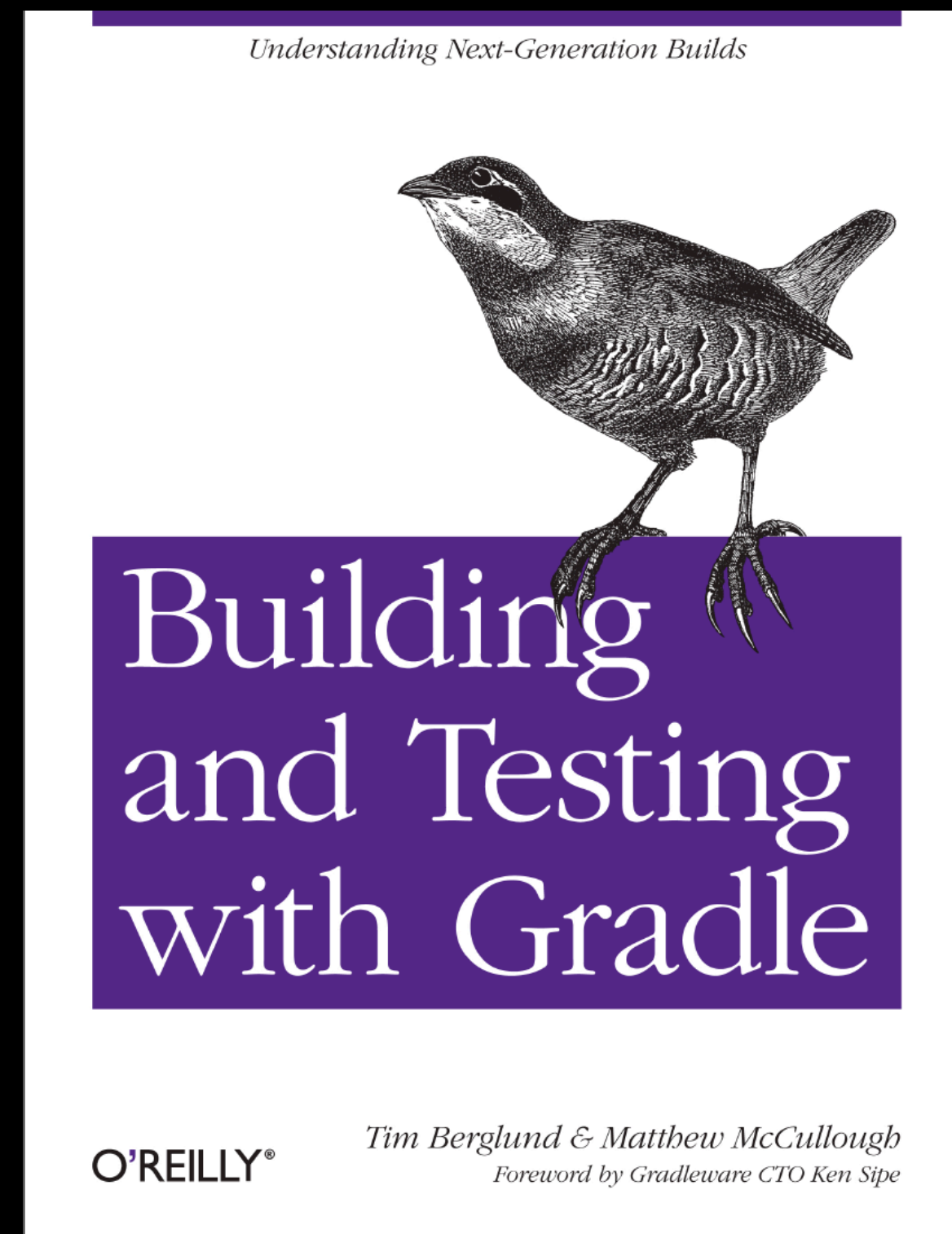
- gradle-user: <http://gradle.1045684.n5.nabble.com/gradle-user-f1431424.html>
- gradle-dev: <http://gradle.1045684.n5.nabble.com/gradle-dev-f1436218.html>

More Examples

- Multi-Project (Groovy + Scala):
<https://github.com/evgeny-goldin/gradle-examples>
- Groovy Project:
<https://github.com/evgeny-goldin/gcommons/blob/master/build.gradle>
- TeamCity Plugins:
<https://github.com/evgeny-goldin/teamcity-plugins/blob/master/build.gradle>
- Gradle Plugins:
<https://github.com/evgeny-goldin/gradle-plugins/blob/master/build.gradle>

Resources

- <http://gradle.org/>
- <http://evgeny-goldin.com/wiki/Gradle>
- <https://github.com/gradle>
- <https://github.com/gradleware>
- <http://gradleware.com/>



Feel free to contact:

- Groovy, Gradle, Builds
- [@evgeny_goldin](#)
- evgenyg@gmail.com
- <http://evgeny-goldin.com/blog/>
- <http://evgeny-goldin.com/wiki/>