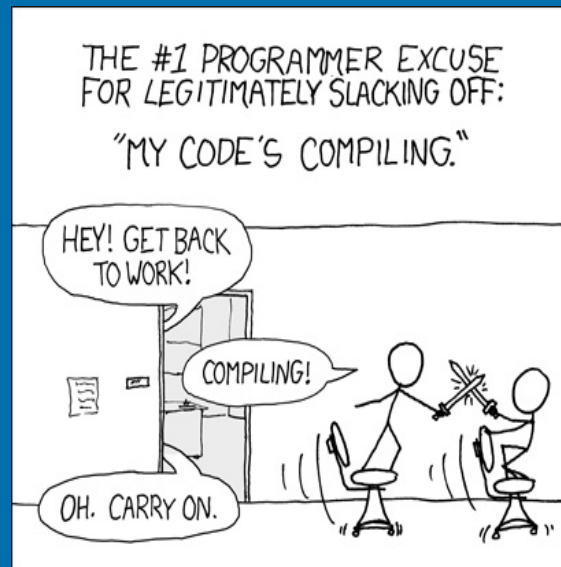


Workshop

Let Gradle build your Java apps

github.com/weel/gradle-java-workshop



Expected outcome?

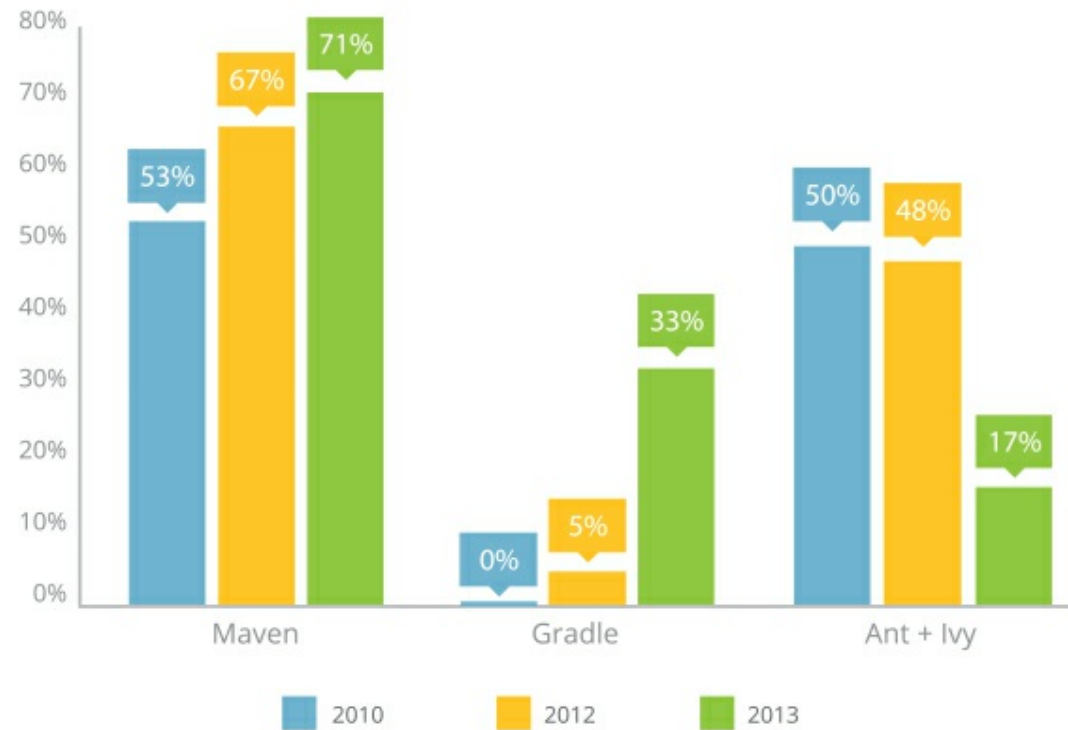
Be able to ...

- Build java applications with Gradle
- Migrate from Maven to Gradle

Agenda

- Motivation & Background
- Maven vs Gradle vs Ant
- Gradle Intro
- Build Java Webapps with Gradle
- Break
- Migrating from Maven to Gradle
- Gradle tips & Tricks
- Bonus

Build Tools Popularity - Late 2010 to Mid 2013



Why choose Gradle over Maven

- DSL instead of XML
- Gradle Wrapper
- Documentation is awesome
- Both uses maven repository
- No boilerplate
- Convention over configuration
- Gradle Daemon for faster builds

Getting started:

```
git clone git@github.com:weel/gradle-java-  
workshop.git
```

Task 1 - Getting started

1. Download from <http://www.gradle.org/>
2. Install gradle/Add to path
3. Run 'gradle init' in an empty folder
4. Run 'gradle tasks' to get a list of all tasks available

Projects and tasks

Everything in Gradle sits on top of two basic concepts: projects and tasks

Gradle Tasks

Documentation

```
task copyPoems(type: Copy) {  
  from 'text-files'  
  into 'build/poems'  
}
```

Gradle Plugins

Documentation

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

```
#Other common plugins: android, jetty, maven +++
```

The Java plugin

Documentation

apply plugin: 'java'

#Other common plugins: android, jetty, maven +++

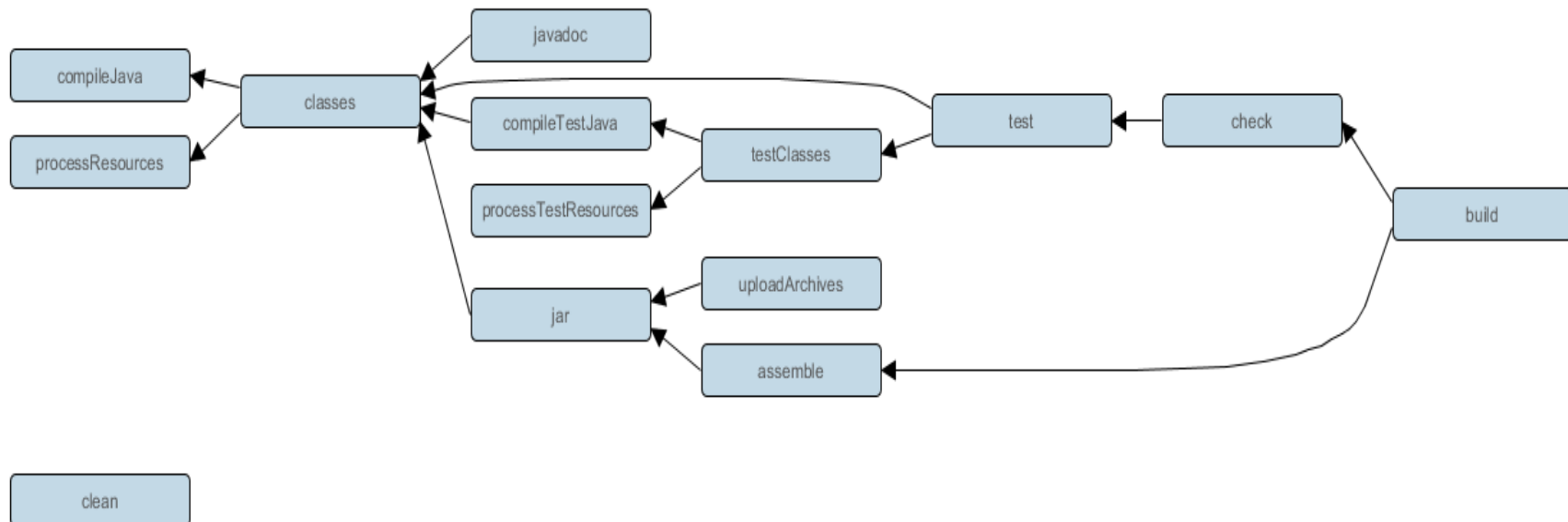


Table 23.4. Java plugin - default project layout

Directory	Meaning
src/main/java	Production Java source
src/main/resources	Production resources
src/test/java	Test Java source
src/test/resources	Test resources
src/ <i>sourceSet</i> /java	Java source for the given source set
src/ <i>sourceSet</i> /resources	Resources for the given source set

Maven vs Gradle dependencies

```
<dependency>  
  <groupId>com.google.guava</groupId>  
  <artifactId>guava</artifactId>  
  <version>16.0.1</version>  
</dependency>
```

```
compile 'com.google.guava:guava:16.0.1'
```

```
# Or
```

```
compile group:'com.google.guava' name: 'guava' version: '16.0.1'
```

Gradle ShadowJar plugin

Gradle structure

```
application/  
├── build.gradle    # Contains build script  
├── gradlew        # Downloads gradle  
├── wrapper  
│   ├── gradle-wrapper.jar  
│   └── gradle-wrapper.properties
```

Minimal Gradle #1

```
# empty build.gradle
```


Minimal Gradle #2

```
# build.gradle
```

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

```
apply plugin: 'jetty'
```

```
group = 'org.springframework.samples'
```

```
version = '1.0.0-SNAPSHOT'
```

```
description = "petclinic"
```

```
sourceCompatibility = 1.8
```

```
targetCompatibility = 1.8
```

```
repositories {
```

```
    maven { url "http://repo.maven.apache.org/maven2" }
```

```
}
```

Gradle Wrapper

Minimal wrapper to download and use specified Gradle version.

```
./gradlew tasks # Downloads gradle and runs command to show tasks
```

Custom Gradle tasks

Get started from terminal

```
$ ./gradlew tasks # Lists all tasks available
```

```
$ ./gradlew jettyRun # Builds and run on jetty
```

```
$ ./gradlew jettyRunWar # Builds and run war on jetty
```

```
$ ./gradlew build
```

Bonus

Gradle Goodness

Handy trick

Add to gradle.properties in folder ~/.gradle

```
org.gradle.daemon=true
```

Encoding UTF-8

#For specific task compileJava

```
compileJava.options.encoding = 'UTF-8'
```

or for all compile tasks

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

```
tasks.withType(Compile) {  
    options.encoding = 'UTF-8'  
}
```

Profiling

```
$ gradle --profile build
```

Profiled with tasks: build

Run on: 2010/11/18 - 22:18:45

Summary

Total Build Time	14.421
Startup	5.749
Settings and BuildSrc	0.856
Loading Projects	0.196
Configuring Projects	4.480
Total Task Execution	2.988

Configuration

: 4.309

Task Execution

:	2.988	(total)
:test	2.642	
:jar	0.213	
:compileJava	0.099	
:compileTestJava	0.008	
:compileTestGroovy	0.007	
:compileGroovy	0.005	
:processTestResources	0.004	
:classes	0.002	Did No Work
:testClasses	0.002	Did No Work
:assemble	0.002	Did No Work
:processResources	0.002	
:build	0.001	Did No Work
:check	0.001	Did No Work

Master your tool

“I’ve known people who have not mastered their tools who are good programmers, but not a tool master who remained a mediocre programmer.” – Kent Beck

Questions?