

The Java Power Tools Bootcamp

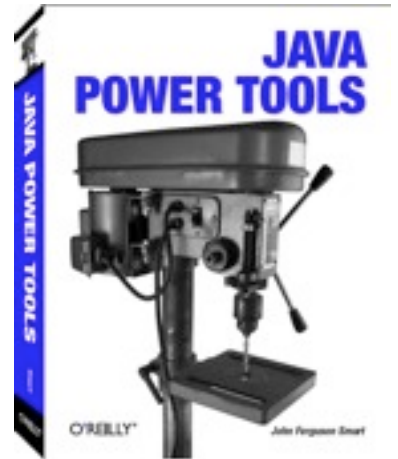
Code better - Code faster - Code smarter

The Java Power Tools Bootcamp is a comprehensive, innovative and hands-on workshop covering best-of-breed open source tools and techniques for Agile Development in Java. Learn how to optimise your development process, hone your programming skills and know-how, and ultimately produce better software. And have fun while you're doing it!

Course Objectives

Students will come away from this workshop with a solid understanding of ways to improve their development practices back in the real world, as well as an abundance of practical tips and tricks that they can use in their day-to-day work. Notably, after the course, students will:

- ✓ Understand how to use **Maven** effectively to improve your **development productivity** and **code quality**, promote **better software architecture**, and **improve team communication**.
- ✓ Understand the issues around **dependency management** in Java development, and be able to implement declarative dependency management in a corporate environment.
- ✓ Know how to write effective **unit tests**, and understand how to use **unit testing practices** to write more reliable code faster.
- ✓ Understand how to use **Test-Driven Development** and **Behaviour-Driven Development** to write better designed, more maintainable and more reliable code.
- ✓ Be able to write **automated database and web interface tests**.
- ✓ Understand how to use **code quality** and **test coverage** metrics to improve your code, and understand what the various metrics can tell you, and also what they can't.
- ✓ Have a solid working knowledge of **Subversion** in the real world, and how to best use it in a Continuous Integration environment.
- ✓ Know how to set up a working **Continuous Integration** server using **Hudson**, complete with automated builds, tests, code quality audits and reports, and automatic deployment to an integration server.



Outline

The course is an intensive 5-day workshop, with a mixture of teaching and lab exercises. You will learn how to implement modern Agile best practices for Java development within your own organisation. Each day starts with a discussion of Agile development practices and covers what tools and techniques you can use to support these practices. The basic course program is outlined here:

Days 1 and 2 - Agile Development Principles and Practices and Maven 2

- Agile Development principles and practices - how to improve your development process in the real world.
- Introduction to **Maven 2** - what is it, how can it help you, is it suitable for your project?
- Creating a new project with Maven 2
- The Maven development lifecycle - compiling, testing and building your application
- Dependency management with Maven 2
- Using Maven dependency management in Ant
- Using Maven 2 in Eclipse
- Using plugins to customise the build process
- Setting up a local Maven Repository Manager with **Nexus**
- Integrating Ant and Maven
- Using Groovy scripting in Maven
- Automating your deployment process with Maven
- Deploying to a web application server
- Automating the release process
- **Automated deployments** with **Cargo**
- Using Maven on legacy applications

Day 3 - Unit and Integration testing with JUnit 4, Selenium and EasyB

- Principles of Test-driven development
- Continuous Testing with **Infinitest**
- Writing clearer tests with the **Hamcrest** assertions

- Using annotations, parameterized tests and JUnit Theories to simplify your tests
- Refactoring principles and best practices
- Using test coverage metrics to improve your testing process
- Testing a web interface with **Selenium**
- Behaviour-Driven Development and Acceptance Tests with **EasyB**

Day 4 - Code quality and documentation

- Agile best practices to improve code quality - pair programming, collective code reviews,...
- Enforcing coding standards with **Checkstyle**
- Enforcing best practices with **PMD**
- Detecting potential defects with **FindBugs**
- What is cyclometric complexity and how can it help you write better code?
- Generating useful reports with a Maven site
- Generate UML-based documentation with **UMLGraph**
- Centralized code quality management with **Sonar**

Day 4 - SCM and Continuous Integration

- Modern SCM best practices
 - *Introduction to **Subversion***
 - *Using Subversion from day to day*
 - *Using Subversion with Eclipse*
 - *Branching, merging and tagging*
 - *Setting up Subversion hooks to customise your repository*
 - *Using Trac to browse your source code and keep track of issues*
 - *Integrating Subversion with your issue tracking system*
- Automating your build process with **Continuous Integration**
 - *An introduction to Continuous Integration principles*
 - *Setting up a CI server with **Hudson***
 - *Continuous Integration build strategies and best practices*
 - **Automated testing**
 - **Automated code quality audits**
 - **Automated reporting on project status and statistics**
 - **Automated deployment**
 - **Distributed builds**

What students are saying about the course

- *"Best development course I have been on in a very long time. Will seriously improve our development/build/test lifecycle." - Neil, Software Developer*
- *"One of the best and most useful courses I have attended. And they didn't even try to sell me anything!" - Jonathan, Developer*
- *"Extremely beneficial for any Java developer - even the ones that know it all!" - Elsa, Technical Team Leader*
- *"A well organised course. A 'must' course for serious Java developers. It's not only about the tools to be used in day-to-day development, but also about best methodologies and practices." - Apparao, Software Developer*
- *"Gives a very good overall view of the Java development environment. Not just how to write Java code but the 'business end' - how to build, test, deploy, manage and monitor." - Tom, Software Developer*

Schedule and Price

The Java Power Tools Bootcamp is offered at a price of **\$3850** AUD. Please check online for the next scheduled course dates

Every student will receive a copy of the course material and labs, a certificate of completion, and a CD containing all the tools covered in the course.

For more information...

For more information, you can:

- Visit our web site on <http://www.wakaleo.com/training>
- Contact John Smart directly on 021 032 2797 or at john.smart@wakaleo.com