



## Testing and TDD for Java Developers

- ✓ Better-designed code
- ✓ Less bugs
- ✓ Higher code quality
- ✓ Lower maintenance costs
- ✓ Lower overall development costs
- ✓ More satisfied users

### “The single most effective way to improve code quality”

Developer testing practices are a vital, yet often under-used art. Learning how to write more effective tests is an excellent way to write better designed, more maintainable and more reliable code. It also helps keep development focused on the real requirements, resulting in a higher quality product for the end user. This is a skill that every Java developer needs to master.

### Course Outline

- ✓ A gentle Introduction to Test-driven Development and Behaviour-Driven Development
- ✓ Getting started with TDD
- ✓ Continuous Testing in Eclipse with Infinittest
- ✓ JUnit Kung Fu - *Fixtures, Hamcrest asserts, Exception testing, Timeouts, Parameterized tests, Rule annotations*
- ✓ Using Mocks and Stubs for state-based and interaction-based testing with Mockito
- ✓ Refactoring best practices
- ✓ Database testing with DBUnit
- ✓ Testing Spring applications
- ✓ Testing Servlets and Portlets
- ✓ Testing a web interface with Selenium and Selenium 2.0 / WebDriver
- ✓ Test-Driving Legacy Code
- ✓ An Introduction to Acceptance Test Driven Development
- ✓ Writing more expressive unit tests in Groovy
- ✓ Behaviour-Driven Development in Java with easyb
- ✓ Automating the testing process
- ✓ Using test coverage metrics to improve your testing process

### Course Objectives

- ✓ Know how to write good unit and integration tests
- ✓ Effectively practice use Test-Driven Development and Behaviour-Driven Development.
- ✓ Be able to write automated database and web interface tests.
- ✓ Be able to write more concise and more expressive tests using Groovy
- ✓ Be able to write unit tests for legacy applications.
- ✓ Understand the difference between developer tests and Behaviour-Driven Acceptance Tests.
- ✓ Be able to use easyb and JBehave to write BDD-style tests.
- ✓ Be able to use mocks and stubs to write faster, more reliable unit tests, and reduce the need for integration tests
- ✓ Understand how to use code quality and test coverage metrics to improve your code

## Course Schedule and Price

Canberra	19-20 August 2010	\$1850 AUD
Wellington	26-27 August 2010	\$1850 NZD + GST
Sydney	7-8 October 2010	\$1850 AUD

## Course format

All our courses are practical in nature. We believe that the only effective way to learn TDD is by practicing it. So this course contains approximately 70% lab work - students will work in pairs and use the various techniques described in the course to develop a real working web application.

## Course material

Each registrant will receive a copy of the student notes and lab solutions, a certificate of completion, and a CD containing all the tools covered in the course.



## What is Behaviour-Driven Development?

**Behaviour-Driven development** is an elaboration of Test-Driven Development that encourages collaboration between developers, testers, and users. Requirements are expressed in natural language terms that everyone can understand, using words like 'given', 'when' and 'then' to add structure. Developers implement these requirements which act effectively as acceptance tests for the application. At any time, users can see which of the requirements have been implemented.

The same technique can also be used very effectively at the unit test level.



## What is Test-Driven Development?

**Test-Driven development** is an advanced **development and design practice** that involves writing automated tests before writing the code. This promotes **clean design, high code quality**, code that is **easier to maintain**, full **automated regression tests**, and **fewer bugs**. Developers can **prove that their code works** at all times. They can **change their code** (refactor) **without fear of regressions**. And, by writing tests for all of their code, their are effectively **documenting how their code should be used**.

## For more information...

To find out more, you can:

- Visit our web site on <http://www.wakaleo.com/training>
- Contact John Smart directly on +64 21 032 2797 or at [john.smart@wakaleo.com](mailto:john.smart@wakaleo.com)