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**Title:** **Unit testing and profiling with Eclipse**

**Target audience:** Programmers, system designers

**Duration:** 3 days, 8 hours/day

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**Description** This course introduces unit testing and profiling with Eclipse. The audience will get an overview of unit testing and test-driven development in general, best practices, and Eclipse's most important (relevant) tools. The course also offers a hands-on lab part that provides ready-to-use working knowledge about unit testing in Eclipse development (plugin testing) and using more advanced profiling tools.

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**Learning objectives** At the end of the course, students will be able to:

- Understand the basic concepts of unit testing and test-driven development in general
- Use and apply various testing strategies to aid high quality software development with Eclipse
- Use Eclipse's tools (JUnit and TPTP) in day-to-day development and optimization tasks

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**Outline**

**Day 1: INTRODUCING test-driven Eclipse development**

1. Introduction, concepts
2. JUnit basics
3. Test design basics
4. Test-driven development

**Day 2: Eclipse and JUnit, TPTP**

1. Eclipse plugin testing with JUnit
2. Eclipse Test and Performance Tools Project
3. Profiling, test suite coverage measurements
4. Reporting

**Day 3: Hands-on-lab: testing and profiling a real-world Eclipse application**

1. Understanding requirement specification
2. Test design and implementation
3. Automated test execution and profiling
4. Creating reports

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**Prerequisites** To complete this course, you need:

- A Pentium IV, 1 GB RAM computer with Java SDK 5.0 or later
- Eclipse 3.4
- Java knowledge