Test-Driven Development with JUnit

Course Summary

Description

In this course, students learn how to use Test-Driven Development (TDD) techniques and the JUnit testing framework to produce high quality software through this hands-on course. This course focuses on TDD with Java and JUnit 4.5.

Objectives

At the end of this course, students will be able to:

- Explain what TDD is and it's advantages
- Develop various component using TDD
- Write test cases using JUnit
- Use assertions to test conditions in test cases
- Write test suites using JUnit
- Run tests cases and test suites
- Use Cactus to test web components

Topics

- Introduction to Test-Drive Development
- A JUnit Primer
- Running JUnit
- TDD Workshop
- Using Cactus for Web-based Testing

Audience

This course is designed for developers and architects that develop in Java using TDD.

Prerequisites

Students must be proficient in Java.

Duration

Two days

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Course Outline

I. Introduction to Test-Drive Development

A. What it is
B. What it isn't
C. Advantages
D. Disadvantages

II. A JUnit Primer

A. JUnit Quick Start
B. JUnit Core Concepts
C. Test cases
D. Writing assertions
E. Handling expected exceptions
F. Using SetUp/TearDown Methods and annotations
G. Test suites

III. Running JUnit

A. Running JUnit tests from a command-line
B. Running tests from Eclipse
C. Running tests from Ant
D. Running tests from Maven

IV. TDD Workshop

A. Complete a simple DAO class
B. Discuss database unit-testing strategy
C. Write test cases for the DAO class

V. Using Cactus for Web-based Testing

A. Introduction to Cactus
B. Testing components using Cactus
C. Using mock objects
D. Writing servlet tests with Cactus
E. Unit-testing a JSP with Cactus
F. Unit-testing taglibs with Cactus

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