

Pragmatic TDD

A pragmatic introduction to Test-driven development. During this workshop, we focus solely on the process of designing software guided by tests. We assume participants are already familiar with automated tests and the Java ecosystem. The workshop is dedicated to experienced Java developers, who want to learn how to apply TDD in a practical way to produce possibly the best software.

Prerequisites

- 2+ years of practical experience in Java
- Familiarity with unit tests and popular testing libraries

Outcomes

- Understanding how to apply TDD to create software in line with business requirements
- Code examples created during the workshop

Agenda

Day 1

Theoretical introduction to TDD

- Three rules of TDD by Uncle Bob
- Unit testing vs automated testing vs TDD - where are the differences?
- When (not) to apply TDD

TDD katas

- A practical introduction to TDD based on popular TDD kata
- Pair programming exercises: the first programmer writes test specification, then the other one writes implementation to pass the specification, then switch the roles

Business case - a real-world application

- Discuss popular business application to find essential requirements
- Practice implementing core business features following a TDD approach
- Show software design's impact on its testability
- TDD feedback loop - how to understand true business requirements through specification by example and red-green-refactor lifecycle

Day 2

Limitations of TDD

- Why following TDD for infrastructure code doesn't work
- Samples of untestable code
- Improving testability through Hexagonal Architecture
- Working with legacy systems

Complex exercises

- Learning when to (not) follow TDD in a hard way - based on real-world examples
- Refactoring code to achieve a better testability
- Finding the right compromise between strict TDD and development costs
- Adding new complex business features to the example application from day 1

Homework

- Implementing new business features following TDD
- Mastering popular TDD katas