

## Clean Code, TDD, BDD Crash Course (JavaScript)

 Duration: 2 Days

 Available Languages: English German

### Audience

Software Crafters: Software Developers, Architects.

### Precondition

Good knowledge of JavaScript.

### Goals

Learn how to develop software better using Clean Code, TDD, and BDD.

### Contents

- Clean Code Introduction
  - # Clean Code and Scrum/XP
  - # The Two Values of Software
  - # The 5 Design Smells
- Clean Code Basics
  - # Form and Names
  - # Functions and Function Structure
  - # Programming Paradigms Revisited
- Clean Architecture: Principles of Object-Oriented Class Design
  - # Coupling and Cohesion
  - # SOLID Principles
  - # Package Principles
  - # The 4 Rules of Simple Design
- Refactoring
  - # Goals
  - # Techniques (rename, move, extract, convert, etc)
  - # Protect against regression
  - # Legacy code: Characterization testing, seams, sprouts, etc
- Test Basics
  - # Testing and Scrum/XP
  - # The Test Automation Pyramid
  - # Test Automation, Testing, and CI/CD
- Test-Driven Design
  - # Anatomy of xUnit Frameworks; Mocha
  - # Definition of Testable
  - # The Three Laws of TDD

- # The Red-Green-Refactor Cycle
- # The Red-Green-Refactor-Commit Cycle
- # The Test-Commit-Revert Cycle (TCR)
- # Principles of TDD
- Advanced TDD
  - # The Transformation Priority Premise, Test Sequence
  - # Test-Doubles, Mocking
  - # Stateism vs Mockism
  - # How TDD drives an emergent design
- Behavior-Driven Development
  - # The Gherkin Language, Feature Files
  - # Integrating and Mapping BDD in Scrum/XP - Acceptance Test-Driven Development
- Cucumber
  - # Step Definitions
  - # Assertions
  - # Reusing Feature Files on different levels of the test pyramid
  - # Managing Cucumber in large projects

In open classroom training, we use a specific set of tools listed below. In brackets are alternatives to which we can tailor the training in case of in-house training.

## Language

JavaScript (also available in C#, C++, Golang, Java, Kotlin, and Scala)

## IDE

WebStorm (Atom, Visual Studio Code)

## Unit Test Framework

Mocha

## BDD Framework

Cucumber

## Booking

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