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# Test-Driven Development using Cucumber

(3 days)

#### Course overview

Cucumber is the leading framework for TDD and BDD in Java, and it ties in well with a host of application types and Java technology APIs. You'll learn all about these integrations during the course.

## What you'll learn

- TDD and BDD essentials
- Achieving BDD using Cucumber
- Understanding Cucumber API and features
- Using Cucumber with databases, DI containers, and Web/REST applications
- Testing legacy code

### Prerequisites

• Familiarity coding and/or testing Java applications

#### Course details

- Introduction to TDD/BDD and Cucumber: Getting started with behaviour-driven development; BDD vs TDD; Overview of Cucumber; How Cucumber works; Tooling up
- Getting Started with Cucumber: Creating features; Creating step definitions;
  Implementing step definitions; Testing our classes; Making assertions; Making the tests work
- Getting Started with Gherkin: Overview of Gerkhin; Features; Scenarios; Comments; Spoken languages
- Step Definitions External Perspective: Steps and step definitions; Capturing arguments;
  Multiple captures; Achieving more flexibility; Returning results
- Cucumber Best Practices: Issues; Collaboration; Writing maintainable tests; Guidelines for preventing defects
- Step Definitions Internal Perspective: Domain model; Transforms; Custom helper methods; Dependency injection
- Enterprise Development: Asynchronous architecture; Message queues; Asynchronous components
- Databases: Interactive database development; Refactoring to use a database; Writing and writing to the database; Cleaning the database;
- Dependency Injection: Overview of DI; DI in Cucumber; PicoContainer; Guice; Weld CDI

- Web Applications: Overview of Selenium WebDriver; Interacting with the DOM; Handling failures; Ajax
- REST Web Services: Overview of REST; REST and Cucumber; Guidelines and best practices
- Testing Legacy Code: The challenge of legacy code; Refactoring techniques; Mocking techniques; Additional useful guidelines and techniques