

## Training program:

# Testing Java Applications

### Info:

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|-------------------------|---------------------------------------|
| <b>Name:</b>            | <b>Testing Java Applications</b>      |
| <b>Code:</b>            | <b>Java-test</b>                      |
| <b>Category:</b>        | Java and JVM                          |
| <b>Target audience:</b> | architects<br>developers<br>tech_lead |
| <b>Duration:</b>        | 3 days                                |
| <b>Format:</b>          | 30% lecture / 70% workshop            |

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The training introduces participants to unit testing, discussing its importance and its different types. Students learn how to write well-structured tests, use mocks and stubs, and test multithreaded code.

Participants also learn how to test integration with various components, such as IoC frameworks, HTTP servers, messaging systems and databases.

The training will also include testing application architecture, APIs with contract testing, edge cases, and writing property-based tests.

### Training participants will

- effectively write and structure unit tests
- create integration tests for different types of integration
- apply advanced architecture and API testing techniques

### It's all about the content.

- training conducted by a co-developer of testing tools
- comprehensive discussion of unit testing, integration testing and advanced testing techniques
- current technologies and advanced techniques such as architecture testing, mutation testing and property-based testing

# Training program

## 1. Day 1: Unit testing

- 1.1. Introduction to testing
- 1.2. Writing good unit tests
- 1.3. Working with mocks and stubs
- 1.4. Testing exceptions and multithreaded code

## 2. Day 2: Integration testing

- 2.1. Introduction to integration testing
- 2.2. Testing integration with the IoC framework
- 2.3. HTTP integration testing
- 2.4. Testing message integration
- 2.5. Testing database integration

## 3. Day 3: Advanced testing

- 3.1. Testing the application architecture
- 3.2. Testing APIs using contract testing
- 3.3. Testing edge cases using mutation testing
- 3.4. Property-based testing