

Course code: **J/TEST**

Course title: **Testing of Java and Java Enterprise technology based applications**

Days: 2

## Description:

### Course intended for:

The training is intended for Java programmers and Java Enterprise Edition wanting to add testing to their skills.

### Course objective:

The participants will get familiar with the principles of automatic testing of Java applications, in particular, Java Enterprise Edition applications.

The training is focused mainly on unit and integration tests; however, the participants will also get broader knowledge associated with testing, such as load testing. The trainers will also discuss the popular libraries, e.g. JUnit, Mockito, Arquillian etc.

### Requirements:

Java programming skills

### Course parameters:

2\*8 hours (2\*7 net hours) of lectures and workshops (with a visible emphasis on workshops).

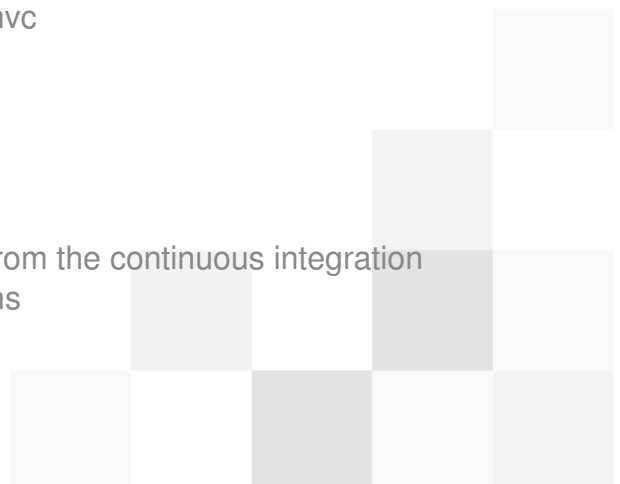
Group size: no more than 8-10 participants.

## Course curriculum:

1. Introduction to testing, the automatic test concept
2. Test types
  - I. Unit



- II. Integration
  - III. acceptance
  - IV. GUI
  - V. performance
3. Agile Testing Quadrants
  4. Idea Test Driven Development (TDD)
  5. Java application tests using
    - I. JUnit
    - II. Mocks/Stubs – Mockito framework
    - III. fest-assert
  6. How to write testable components and good tests
    - I. The Page Object pattern
    - II. The Test Data Builder patter
  7. JEE application testing strategies
    - I. Unit testing using mocks
    - II. Middleware – testing in container using Arquillian
    - III. Web - Selenium WebDriver and Arquillian Drone
  8. Spring application testing
    - I. Spring-test module capabilities
    - II. Controller testing using spring-test-mvc
  9. Performance tests – JMeter
  10. Testing from project approach,
    - I. Launching of various types of tests from the continuous integration environment – the example of Jenkins



II. EclEmma/JaCoCo test coverage verification

11. Other useful tools

I. Test correctness verification – PIT

II. Automatic tests using ScalaCheck

