

Course code: **JMETER**

Course title: **Performance tests for Web applications using Apache JMeter**

Days: 3

## Description:

### Course intended for:

The training is intended for testers and programmers.

### Course objective:

The training presents issues associated with designing, performance and analysis of performance tests using Tools Apache JMeter for Web applications using HTML and WebServices. The training objective is to acquire skills in design, defining of strategy, creation and launching of scripts and analyzing of results of performance tests.

### Requirements:

Experience in work with Web applications is required, as well as familiarity with issues associated with the Web application architecture and basic features of the HTTP protocol, as well as application building in HTML and JavaScript language at the basic or moderately advanced level.

### Course parameters:

3\*8 hours (3\*7 net hours) of lectures and workshops (with a visible emphasis on workshops).

Group size: no more than 8-10 participants.

## Course curriculum:

1. Web applications
  - HTTP communication
  - Basic architecture of Web applications
2. Introduction to JMeter



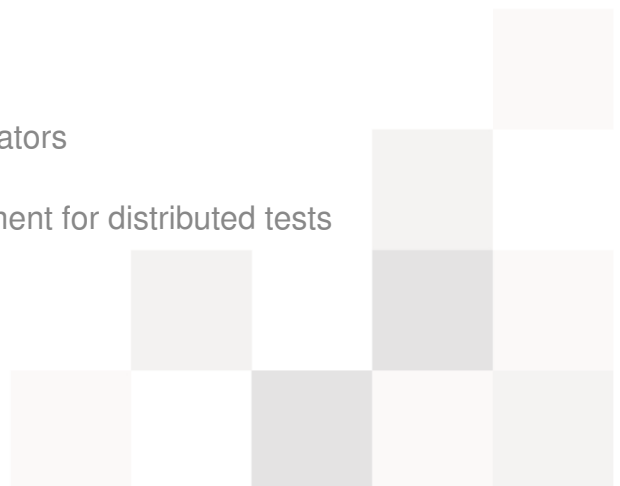
- The principles of operation of JMeter
- Application components: Workbench, test plan, interface
- Issues: test plan, thread group, test plan components
- Tool documentation, how to effectively use the Component reference, function reference
- Limitations of the Tools JMeter

### 3. Working with the JMeter

- User movement recording
  - HTTP Proxy
  - Scenario building on the basis of recording
- Configuration of the test plan
  - HTTP Request Defaults
- Test parameterization
  - CSV files
  - Generating of random data
  - Data acquisition using JDBC
- Correct performance verification
  - Assertions
- Correlation
  - Acquisition of tokens from HTTP requests (Regular expression extractor)
  - Use of JMeter for script performance simulation (Beanshell pre/post processor)
- Script performance control



- Controllers
- Load management
  - User session configuration
  - Delays and load controllers
  - Test launching using a scheduler
  - Load control using JMeter Plugins
- Reporting and analysis of performance parameters
  - Graphs and tables
  - Tree of results
  - JTL files
  - Conversion of results
- Analysis of reports
  - JTL files analysis
  - What we are told by performance parameters
  - Analysis of results using a spreadsheet
  - Estimation of traffic and requirements for the infrastructure
- Monitoring of the system tested
  - Identification of bottlenecks
  - Integration of monitoring tools with JMeter
- Distributed testing
  - Load generation using generators
  - Configuration of the environment for distributed tests
- Test automation



- Test launching from the command line level
- Integration with Ant
- Integration of JMeter with the continuous integration system – the example of Jenkins
- Testing in cloud
- Test performance using Blazemeter

