



Load Testing Essentials

# Load Testing Essentials

The main purpose of this workshop is to give you full understanding of load testing discipline and graft all the required skills for managing it independently. In addition to mastering the functionality of the main and auxiliary load testing tools, emphasis is made on resolution of the most common practical tasks and typical load testing issues. By the way, to comply with modern realities, workshop employs such interesting things like load testing mobile applications, web-services, and ajax-applications.

## **Q Workshop format:**

- 2 trainers
- 16 or less participants
- 2 days (16+ hours)

## **☰ Requirements:**

- Professional level: Junior Manual QA and higher
- Laptop: Wifi, Windows OS

# QAEXPERTS

## Load Testing Essentials

### DAY 1

🕒 10:00

## Kick-Off and Intro into client-server communication

- Introducing the speakers and describing the workshop goals.
- Typical client-server architecture and communication.
- Web-browsers behavior.
- HTTP requests/responses nature.
- Tools emulating http requests: curl, Apache bench.

⚙️ Practice: Generating http requests

🕒 11:25

## Performance testing theory

- Performance testing types.
- Performance testing process.
- Performance testing in SDLC and specifically in Agile.

⚙️ Practice: QUIZE

----- ☕ Coffee break (15 min) -----

🕒 12:20

## Light performance testing plan

- Planning Performance/Load testing activities.
- Solving Performance/Load testing prerequisites.

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## Load Testing Essentials

⚙️ Practice: Solving 2-3 typical real-life cases of performance testing planning

🕒 13:25

## Traffic Recording tools

- Introduction to performance testing tools: main and facilitating tools.
- Firebug/Chrome developers tools + how to get started with jmeter.

⚙️ Practice

- Jmeter: 'HTTP(S) Test Script Recorder'.

⚙️ Practice

----- 📺 LAUNCH (1 hour) -----

- Fiddler

⚙️ Practice

- Fiddler to Jmeter convertor.

⚙️ Practice

- Recording mobile traffic from iOS, Android.

⚙️ Practice

----- ☕ Coffee Break (15 min) -----

🕒 16:35

## Jmeter main functionality

- Jmeter (bare) and plugins.

[www.qaexperts.pro](http://www.qaexperts.pro)

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## Load Testing Essentials

- Elements of Jmeter Test Plan.

⚙ Practice

🕒 17:00 - 19:00

## Emulating http(s) traffic

- HTTP(s) Sampler and its Parameters. Demo of Emulating Http traffic.
- Debugging traffic in Jmeter by setting Fiddler as proxy.

⚙ Practice

- Verifying Responses - working with Assertions.

⚙ Practice

- Making Your flow more Real-life - Adding Think times.

⚙ Practice

- Emulating logged-in flows.

⚙ Practice

- Multi-users load.

⚙ Practice

📖 Homework

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## Load Testing Essentials

### DAY 2

🕒 10:00

## Step back and Q/A

- Home work discussion and Questions/Answers.
- Reminder of the things learned previous day.

🕒 10:35

## Correlating and Parameterizing Requests

- Grouping Requests.
- Working with Variables.

⚙️ Practice

- Working with Functions.

⚙️ Practice

- Extracting and Reusing information from requests applying Regular Expressions.
- Debugging Variables usage.

⚙️ Practice: Emulating payment and search flows

- Headers manipulation, Cookies manipulation, Redirect logic manipulation.

⚙️ Practice

----- ☕ Coffee break (15 min) -----

🕒 12:30

### Adding advanced logic to flows. Working with test data

- Reading test data from file.

⚙️ Practice

- Reusing code.

⚙️ Practice

- Looping Requests.
- Using IF controller. ForEach controller.
- Stopping Test when needed.

🕒 13-20

### Emulating AJAX Repetitive calls

- ⚙️ Practice: Emulating AJAX Repetitive calls

----- 🚀 LAUNCH (1 hour) -----

🕒 14:20

### Practice: Working with Files

- ⚙️ Practice: Uploading file to server
- ⚙️ Practice: Downloading file from server

🕒 14:50

## Testing Web-services (Rest, SOAP)

- Soap and REST services (theory).
- Emulating SOAP Requests, Soap UI and Jmeter.

⚙️ Practice

- Emulating REST request.

⚙️ Practice

🕒 15:25

## Applying Jmeter for special needs: Working with Emails and Database testing

- ⚙️ Practice: Reading Emails.
- ⚙️ Practice: Load testing Relative Databases (SQL)

----- ☕ Coffee Break (15 min) -----

🕒 16:20

## Test Execution

- Test execution. Multi-Load Injectors runs. Console-based runs.
- CI Integration bases.

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### ⚙️ Practice

- Test users and connected data: Preparing tested app, filling it in with data.

🕒 17:00

## Test results analysis and reporting

- Server side metrics.
- Server-side performance measuring tools.

### ⚙️ Practice

- Client Side Metrics and Graphs + Plugins.

### ⚙️ Practice

- Errors classifications.
- Release Readiness Concussions.

### 🎥 Reviewing 3 Case Studies

🕒 18:30

## Jmeter settings, bugs, and limitations. Lessons learned

- Jmeter Settings.
- Jmeter bugs and Limitations.
- Tips and Tricks.

🕒 18:50

### Closing-Up

- Overview of Advanced jmeter functionality.
- Recommendations on further steps.
- Certificates Awarding ceremony.