MFE-IT

Reference: TDC/EN

# Load Testing Training Course

## Simulate Real User Behaviour to Assess the Limits of Your Applications

*Duration: 2 Days | Hours: 14 h*

*Remote · Sessions guaranteed from 1 registrant · 60% hands-on practice*

## DESCRIPTION

Few applications fail because of bugs. Many fail because they cannot handle real-world load. Load testing allows you to simulate hundreds or even thousands of users in parallel to observe how your systems behave under stress, anticipate failures and validate actual scalability.

This training course introduces you to the methodologies, tools and best practices for performing effective load tests, interpreting the results and proposing concrete optimisation actions. The approach is deliberately tool-agnostic: you learn how to test, not how to depend on a single product.

## LEARNING OBJECTIVES

By the end of this training course, participants will be able to:

- Understand the differences between load, stress, endurance and scalability testing
- Choose the right testing tools for your needs (JMeter, k6, Gatling, Artillery)
- Build realistic scenarios that represent actual user usage
- Run tests at different intensities and durations
- Analyse results: latency, errors, saturation, throughput
- Formulate concrete technical recommendations for optimisation

## PREREQUISITES

- Basic knowledge of HTTP, APIs or web development
- Proficiency with files, environment variables and command lines
- Previous experience in functional testing is a plus

> *Because each participant is unique, a personalised interview is systematically organised in advance with our expert to design a training programme perfectly aligned with their objectives, level and professional challenges.*

## TARGET AUDIENCE

QA engineers, developers, DevOps, technical project managers and any team responsible for user experience under load constraints.

# DETAILED PROGRAMME

> The training alternates between theoretical input and hands-on practice (approximately 60% of the time). Modules are built around practical exercises based on real-world business use cases.

## Module 1 – Fundamentals of Load Testing

- Types of tests: load, stress, endurance, scalability
- Why and when to use each test type
- Place of load testing in the quality lifecycle

## Module 2 – Defining a Representative User Scenario

- Target throughput and frequency of actions
- Behaviour during peak load and realistic objectives
- Deriving load profiles from production analytics

## Module 3 – Market Tools: Overview and Selection

- Comparison of JMeter, k6, Gatling and Artillery
- Choosing tools by use case (web, API, CLI, CI/CD)
- Tool-agnostic principles vs vendor-specific features

## Module 4 – Test Design and Execution

- Basic test scripts and user simulation
- Ramp-up patterns and random variations
- Assertions and result validation

## Module 5 – Metrics Interpretation

- Latency, error rate and 95th/99th percentiles
- Memory and CPU saturation analysis
- Reading server logs and correlating with load

## Module 6 – Optimisation Strategies

- Caching, CDN and HTTP optimisation
- Session management and database tuning
- Parallelisation and asynchronous patterns

### Module 7 – Continuous Integration and Supervision

- Running tests in CI (GitLab, Jenkins, GitHub Actions)
- Automatic alerting on regressions
- Integration into the continuous quality loop

## TEACHING METHODS

### Format and Delivery

The training is delivered remotely via an interactive virtual classroom. It can also be delivered on-site, with content customised to match the needs of your professional project. The theory/practice split is approximately 40%/60%.

### MFE-IT Ultra-Personalised Format

Each session accommodates between 1 and 3 participants, ensuring highly individualised support. A preliminary interview allows us to tailor the content to each participant's profile. Inter-company sessions are guaranteed from just 1 registrant (except in cases of force majeure).

### Skills Assessment

Throughout the training, the trainer assesses participant progress through multiple-choice questions, role-playing exercises and hands-on work. At the end, a certificate of achievement is issued to each participant.

### Post-Training Support

For one month following the training, each participant can contact MFE-IT trainers with questions about implementing acquired knowledge. A response is provided by email or telephone within 48 working hours.

### Accessibility

MFE-IT is committed to welcoming people with disabilities. Contact: contact@mfe-it.com.

## PRACTICAL INFORMATION

### Trainer Resources

- Structured demonstrations aligned with the detailed programme
- Exercise briefs and solutions throughout the training
- A ready-to-use technical environment for practical workshops
- Trainer validation of acquired knowledge at the end of each workshop
- Digital reference documents

### Certification and Validation

At the end of the training, a certificate is sent by email specifying the objectives, nature, duration and assessment results. A completion certificate can also be provided on request.

### Benefits for Participants

- Train from your workplace or home, with no travel required
- Benefit from an expert trainer-consultant on the subject
- Enjoy an ultra-personalised format (1 to 3 participants)
- Continue training even in the event of unforeseen circumstances

### Benefits for the Organisation

- Optimise the training budget by reducing travel and accommodation costs
- Offer quality training to all employees, regardless of location
- Reduce absence time linked to travel
- Support team upskilling in all contexts