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Load Testing Training with Gatling

2 days (14 hours)

Overview

Gatling is a load testing solution that allows you to simulate virtual users, measure response times, and identify the performance limits of web applications and APIs.

Our Load Testing with Gatling training course will help you master the essential practices of performance testing, from designing realistic scenarios to interpreting the results obtained during load testing campaigns.

You'll learn how to create and organize simulations using the Gatling SDK, configure the HTTP protocol, build user flows, populate tests with datasets, and manage dynamic data using correlation mechanisms.

The training will equip you with the methods needed to define consistent load profiles, distinguish between open and closed models, configure load ramp-ups, and implement assertions tailored to service quality objectives.

By the end of the training, you will be able to produce maintainable tests, analyze Gatling reports, detect performance regressions, and integrate automated checks into your software quality assurance process.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the principles and metrics of load testing.
- Build HTTP simulations using the Gatling SDK.

- Model realistic user flows with data and correlation.
- Define injection profiles tailored to performance objectives.
- Configure assertions and interpret execution reports.
- Structure maintainable and automatable performance tests.

Target Audience

- Java Developer
- QA Engineer
- Test automation engineer
- Performance Engineer
- DevOps

Requirements

- Knowledge of object-oriented development principles using Java.
- Proficiency with HTTP requests, methods, status codes, and headers.
- Experience using a build tool such as Maven or Gradle.
- Knowledge of JSON and CSV data formats.

Technical Requirements

- Computer running Windows 10 or 11, macOS, or Linux, with installation privileges if necessary.
- A machine with at least 8 GB of RAM and a recent quad-core processor.
- OpenJDK 17 or a compatible LTS version, configured with the JAVA_HOME variable.
- IntelliJ IDEA Community Edition or Visual Studio Code, with a Maven or Gradle project.
- Stable internet connection and authorized access to a non-production test environment.

Agenda for our Load Testing with Gatling Training

[Day 1 - Morning]

Load Testing Fundamentals and Getting Started

- The role of performance testing in the software quality cycle.
- Key terminology: virtual users, throughput, latency, response time, errors, and capacity.
- Differences between load testing, stress testing, capacity testing, ramp-up testing, and endurance testing.
- Gatling architecture and principles of test-as-code.
- Setting up the starter project, organizing directories, and running an initial simulation.
- Hands-on workshop: setting up the Gatling environment, running a provided simulation, and reviewing the initial metrics from the report.

[Day 1 – Afternoon]

Building Realistic HTTP Scenarios

- Structure of a simulation: HTTP protocol, scenario, requests, and execution configuration.
- Creating GET and POST requests, parameters, headers, JSON bodies, and authentication.
- Validating responses with status, content, and extraction checks.
- Session management, pauses, groups, and request naming for actionable reports.
- Using CSV and JSON feeders to vary test data.
- Hands-on workshop: developing an API scenario that includes authentication, external data, response checks, and extraction of a dynamic value.

[Day 2 - Morning]

Modeling the test load and securing the results

- Principles of modeling a business workflow and identifying priority scenarios.
- Differences between open and closed load testing models.
- Configuring load injection profiles: immediate start, ramp-up, constant rate, steps, and sustained load.
- Designing realistic load sets with multiple populations of virtual users.
- Defining assertions for error rates, percentiles, and response times.
- Hands-on workshop: Design a progressive load test across multiple scenarios and define the associated validation thresholds.

[Day 2 - Afternoon]

Analyzing, validating, and scaling up tests

- Reviewing Gatling reports: requests, groups, percentiles, time distributions, and errors.
- Identifying anomalies: saturation, gradual degradation, application errors, and capacity limits.
- Best practices for structuring tests: reusable components, external configuration, data, and execution parameters.
- Preparing test campaigns: test environment, monitoring, controlled load scaling, and production protection.
- Integrating tests into a CI/CD pipeline and using the results to prevent regressions.
- Hands-on workshop: finalize a complete simulation, run a campaign, analyze the report, and formulate performance recommendations.

Target Audience

This training is intended for both individuals and companies—large or small—that wish to train their teams in new, advanced IT technology or to acquire specific industry knowledge or modern methods.

Entry-Level Assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency with various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth operation of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.