

Performance Testing – ISTQB Software Testing Certification Training

Course Summary

Description

Performance Testing is an important part of the software lifecycle and unlike other testing efforts it must be executed with software testing tools. This course explains how to define performance tests, how to execute them, and how to analyze them. The course is tool-agnostic and therefore concepts learned here can be applied to a variety of commercial and open source performance test tools.

This foundation course is designed to teach participants the essentials of performance testing techniques and how to effectively develop execution scenarios. We suggest that attendees hold the ISTQB Foundation Level certificate, especially if they intend to take the ISTQB Performance Testing exam, but non-certificate holders can also benefit from this course.

Objectives

At the end of this course, students will be able to:

- Understand the basic concepts of performance efficiency and performance testing
- Define performance risks, goals, and requirements to meet stakeholder needs and expectations
- Understand performance metrics and how to collect them
- Develop a performance test plan for achieving stated goals and requirements
- Conceptually design, implement, and execute basic performance tests
- Analyze the results of a performance test and state implications to various stakeholders
- Explain the process, rationale, results, and implications of performance testing to various stakeholders
- Understand categories and uses for performance tools and criteria for their selection
- Determine how performance testing activities align with the software lifecycle

Topics

- Basic Concepts
- Performance Measurement Fundamentals
- Performance Testing in the Software Lifecycle
- Performance Testing Tasks
- Tools

Audience

This course is targeted towards test automation engineers, performance testers, performance test engineers, systems engineers, and software developers.

Prerequisites

You must have obtained an ISTQB Foundation Level Certification (CTFL) to be eligible for the Performance Testing Certification.

Duration

Two days

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Course Outline

- I. *Basic Concepts*
 - a. Principles of Performance Testing
 - b. Types of Performance Testing
 - c. Testing Types in Performance Testing (Static and Dynamic)
 - d. The Concept of Load Generation
 - e. Common Performance Efficiency Failure Modes and Their Causes
- II. *Performance Measurement Fundamentals*
 - a. Typical Metrics Collected in Performance Testing
 - Why Performance Metrics are Needed
 - Collecting Performance Measurements and Metrics
 - Selecting Performance Metrics
 - b. Aggregating Results from Performance Testing
 - c. Key Sources of Performance Metrics
 - d. Typical Results of a Performance Test
- III. *Performance Testing in the Software Lifecycle*
 - a. Principal Performance Testing Activities
 - b. Categories of Performance Risks for Different Architectures
 - c. Performance Risks Across the Software Development Lifecycle
 - d. Performance Testing Activities
- IV. *Performance Testing Tasks*
 - a. Planning
 - Deriving Performance Test Objectives
 - The Performance Test Plan
 - Communicating about Performance Testing
 - b. Analysis, Design, and Implementation
 - Typical Communication Protocols
 - Transactions
 - Identifying Operational Profiles
 - Creating Load Profiles
 - Analyzing Throughput and Concurrency
 - Basic Structure of a Performance Test Script
 - Implementing Performance Test Scripts
 - Preparing for Performance Test Execution
 - c. Execution
 - d. Analyzing Results and Reporting
- V. *Tools*
 - a. Tool Support
 - b. Tool Suitability