Course Outline

Foundation Level—ISTQB Software Testing Certification Training

Course Summary

Description

This is an ISTQB certification in software testing for the US. In this course you will study all of the basic aspects of software testing and QA, including a comprehensive overview of tasks, methods, and techniques for effectively testing software. This course prepares you for the ISTQB Foundation Level exam. Passing the exam will grant you an ISTQB CTFL certification.

Objectives

After taking this course, students will be able to:

- Promote efficient and effective communication by using a common vocabulary for software testing.
- Understand fundamental concepts of software testing.
- Demonstrate understanding of how different development and testing practices, and different constraints on testing, may apply in optimizing testing to different contexts.
- Contribute effectively in reviews.
- Use established techniques for designing tests at all test levels.
- Interpret and execute tests from given test specifications. Report on test results.
- Understand test management principles for resources, strategies, planning, project control and risk management.
- Write and communicate clear and understandable defect reports.
- Understand the project factors that drive the test priorities and test approach.
- Understand the value that software testing brings to stakeholders.
- Appreciate how testing activities and work products align with project objectives, measures and targets.
- Assist in the selection and implementation process of testing tools.

Topics

- Fundamentals of Testing
- Testing Throughout the Software Development Lifecycle
- Static Testing
- Test Techniques
- Test Management
- Tool Support for Testing

Audience

The target audience for this course includes:

- Software testers (both technical and user acceptance testers)
- Test analysts
- Test engineers
- Test consultants
- Software developers
- Managers including test managers, project managers, quality managers

Prerequisites

Basic working knowledge of IT is a requirement for this course. Prior to attending class please download and review the following document: Foundation Level Syllabus

Duration

Three Days

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I. *Fundamentals of Testing*

A. What is Testing?
   1. Typical Objectives of Testing
   2. Testing and Debugging

B. Why is Testing Necessary?
   1. Testing's Contributions to Success
   2. Quality Assurance and Testing
   3. Errors, Defects, and Failures
   4. Defects, Root Causes and Effects

C. Seven Testing Principles

D. Test Process
   1. Test Process in Context
   2. Test Activities and Tasks
   3. Test Work Products
   4. Traceability between the Test Basis and Test Work Products

E. The Psychology of Testing
   1. Human Psychology and Testing
   2. Tester's and Developer's Mindsets

II. *Testing Throughout the Software Development Lifecycle*

A. Software Development Lifecycle Models
   1. Software Development and Software Testing
   2. Software Development Lifecycle Models in Context

B. Test Levels
   1. Component Testing
   2. Integration Testing
   3. System Testing
   4. Acceptance Testing

C. Test Types
   1. Functional Testing
   2. Non-functional Testing
   3. White-box Testing
   4. Change-related Testing
   5. Test Types and Test Levels

D. Maintenance Testing
   1. Triggers for Maintenance
   2. Impact Analysis for Maintenance

III. *Static Testing*

A. Static Testing Basics
   1. Work Products that Can Be Examined by Static Testing
   2. Benefits of Static Testing
   3. Differences between Static and Dynamic Testing

B. Review Process
   1. Work Product Review Process
   2. Roles and responsibilities in a formal review
   3. Review Types
   4. Applying Review Techniques
   5. Success Factors for Reviews

IV. *Test Techniques*

A. Categories of Test Techniques
   1. Choosing Test Techniques
   2. Categories of Test Techniques and Their Characteristics

B. Black-box Test Techniques
   1. Equivalence Partitioning
   2. Boundary Value Analysis
   3. Decision Table Testing
   4. State Transition Testing
   5. Use Case Testing

C. White-box Test Techniques
   1. Statement Testing and Coverage
   2. Decision Testing and Coverage
   3. The Value of Statement and Decision Testing

D. Experience-based Test Techniques
   1. Error Guessing
   2. Exploratory Testing
   3. Checklist-based Testing

V. *Test Management*

A. Test Organization
   1. Independent Testing
   2. Tasks of a Test Manager and Tester

B. Test Planning and Estimation
   1. Purpose and Content of a Test Plan
   2. Test Strategy and Test Approach

Course Outline (cont.)

3. Entry Criteria and Exit Criteria (Definition of Ready and Definition of Done)
4. Test Execution Schedule
5. Factors Influencing the Test Effort
6. Test Estimation Techniques

C. Test Monitoring and Control
1. Metrics Used in Testing
2. Purposes, Contents, and Audiences for Test Reports

D. Configuration Management

E. Risks and Testing
1. Definition of Risk
2. Product and Project Risks
3. Risk-based Testing and Product Quality

F. Defect Management

VI. *Tool Support for Testing*

A. Test Tool Considerations
1. Test Tool Classification
2. Benefits and Risks of Test Automation
3. Special Considerations for Test Execution and Test Management Tools

B. Effective Use of Tools
1. Main Principles for Tool Selection
2. Pilot Projects for Introducing a Tool into an Organization
3. Success Factors for Tools