

# ISTQB Advanced Technical Test Analyst

## Overview

This course will provide an understanding of technical testing issues that goes beyond the ISTQB Foundation level giving participants the knowledge and skills required to become an Advanced Technical Test Analyst. This three day course leads to the ISTQB Advanced Technical Test Analyst Certificate. The course focuses specifically on technical testing issues such as recognising and mitigating risks associated with the performance, security, reliability, portability and maintainability of software systems, structure-based and analytical test techniques, technical reviews and concepts of test tools and test automation.

## Duration

3 days

## Learning Method

Candidates will be given exercises, practice exams and learning aids for the ISTQB Advanced Technical Test Analyst certificate exam. This can be taken stand-alone if the ISTQB Advanced Level Technical Test Analyst qualification is not required. Scenario based exercises of various situations and topics are covered in order to present practical solutions.

## Who will benefit from this course?

This three day course is appropriate for testers, developers, specialist testers, quality assurance and anyone wishing to gain the ISTQB Advanced Level Technical Test Analyst Qualification.

The Advanced Level certificates are also appropriate for anyone who wants a deeper understanding of software testing, such as Project Managers, Quality Managers, Software Development Managers, Business Analysts, IT Directors and Management Consultants.

## Prerequisites for this course

Delegates wishing to take the ISTQB Advanced Test Analyst Certificate must hold the ISTQB/ISEB Foundation Certificate. If you wish to sit the course without taking the exam, there are no prerequisites.

## What can you expect to gain from this course?

At the end of the course, you will be able to:

- Recognize and classify the typical risks associated with the performance, security, reliability, portability and maintainability of software systems.
- Create test plans that detail the planning, design and execution of tests for mitigating performance, security, reliability, portability and maintainability risks.
- Select and apply appropriate structural design techniques to ensure that tests provide an adequate level of confidence, based on code coverage and design coverage.
- Effectively participate in technical reviews with developers and software architects applying knowledge of typical mistakes made in code and architecture.
- Recognize risks in code and software architecture and create test plan elements to mitigate those risks through dynamic analysis.
- Propose improvements to the security, maintainability and testability of code by applying static analysis.

- Outline the costs and benefits to be expected from introducing particular types of test automation.
- Select appropriate tools to automate technical testing tasks.
- Understand the technical issues and concepts in applying test automation.

## Course Content

### The Technical Test Analyst's Tasks in Risk-Based Testing

A Technical Test Analyst should understand how to identify, assess and mitigate technical risks.

### Structure-Based Testing

Structural testing techniques belong to the core competencies of the Technical Test Analyst. This section builds on the Foundation techniques of statement and decision coverage. The structure-based techniques covered are condition testing, decision/condition testing, modified condition/decision coverage (MC/DC), multiple condition testing, basis path testing and API coverage. In general, Technical Test Analysts should understand how to choose appropriate structural test technique(s).

### Analytical Techniques

Technical Test Analysts should understand how to apply static analysis to detect potential security, maintainability and testability defects in code. The planning of dynamic analysis to mitigate risks in code and software architecture is covered.

### Quality Characteristics for Technical Testing

A Technical Test Analyst should understand how to design high-level test cases for security, performance and reliability quality attributes and to support the Test Manager in creating test strategies to mitigate the identified risks. A Technical Test Analyst should understand how to include coverage of maintainability, portability and resource utilization quality attributes in a testing strategy.

### Reviews

The activities of the Technical Test Analyst focus on using checklists to identify defects in code and architecture.

### Test Tools and Automation

This major chapter focuses on the tools and automation issues which are relevant to Technical Test Analysts. Several tools are covered, including those used for web-based testing, for supporting model-based testing, for fault seeding and fault injection, for unit testing and the build process and for performance testing. A Technical Test Analyst should be able to recognize common technical issues that cause high failure rates in automation projects and to appreciate different automation techniques. Specific issues resulting from the use of open-source and custom-built tools are covered.

## Related Courses

ISTQB Foundation Certificate in Software Testing