



# ISTQB® Certified Tester Advanced Level – Technical Test Analyst

## COURSE INFORMATION

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## Summary

*This 3-day course focuses on technical testing issues associated with the performance, security, reliability, portability and maintainability of software systems. It covers structure-based and analytical test techniques, technical reviews and concepts of test tools and test automation. The course is accredited by the ISTQB® and leads to the ISTQB Advanced Technical Test Analyst Certificate.*

*Our training includes exercises and practice exam questions to highlight key aspects of the syllabus, to help participants understand and practice the concepts and methods presented and to prepare them for the certification exam.*

## Course Objectives

To provide an understanding of technical testing issues beyond the ISTQB Foundation level, giving participants the knowledge and skills required to become an Advanced Technical Test Analyst.

## Who will benefit?

Advanced level courses are suitable for anyone who is interested in progressing an established career in software testing. This includes people in roles such as testers, test analysts, test engineers, test consultants, test team leads, test managers, user acceptance testers and software developers. They may also be of interest to anyone who wants a deeper than Foundation level understanding of software testing, such as project managers, quality managers, software development managers, business analysts, IT directors and management consultants.

The Advanced Technical Test Analyst course is particularly aimed at testers whose role involves working with code or with the developers who write it, either to assist in the testing of code or to create test automation scripts, or who need to perform the more technical types of testing such as performance, security, reliability, portability and maintainability testing.

## Prerequisites

In order to take an ISTQB Advanced level certification exam, it is necessary to already have the CTFL certificate and to “satisfy the Exam Board which examines them that they have sufficient practical experience to be considered Advanced Level qualified”.

The CTFL certificate is not a pre-requisite for attending this training course. It is, however, essential that attendees have either obtained it or, at least, have undergone an ISTQB-accredited Foundation level training course. It is further recommended that delegates also have:

- at least one year's practical experience of software testing;
- at least a theoretical understanding and preferably some practical experience of basic programming.

## Skills to be Gained

A candidate who achieves ISTQB Advanced Technical Test Analyst certification can be expected to:

- Recognize and classify the typical risks associated with the performance, security, reliability, portability and maintainability of software systems.
- Create test plans detailing the planning, design and execution of tests for mitigating performance, security, reliability, portability and maintainability risks.
- Select and apply appropriate structure-based techniques to achieve defined coverage criteria based on code and design.
- 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 use dynamic analysis to mitigate those risks.
- Use static analysis to suggest improvements to the security, maintainability and testability of code.
- Outline the costs and benefits 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

## The Certification Exam

The Certificate is awarded to those who pass a written two-hour multiple-choice exam of 45 questions that is set, moderated, marked and invigilated by an ISTQB licensed Exam Provider. Candidates whose native language is not English get an extra 25% time allowance.

The exam will be arranged separately on a later date. Tesena, in common with other training providers, recommends that Advanced Level exams be taken approximately 1 – 2 weeks after the course in order to allow adequate preparation time.

## Course Content (Overview)

### Chapter 1: The Technical TA's Tasks in Risk-Based Testing

- How to identify, assess and mitigate technical risks.

## Chapter 2: Structure-Based Testing

- Builds on the Foundation techniques of statement and decision coverage by adding condition testing, decision/condition testing, modified condition/decision coverage, multiple condition testing, basis path testing and API coverage.
- Participants learn how to choose appropriate structural test techniques.

## Chapter 3: Analytical Techniques

- Application of static analysis to detect potential security, maintainability and testability defects in code.
- Use of dynamic analysis to mitigate risks in code and software architecture.

## Chapter 4: Quality Characteristics for Technical Testing

- How to design high-level test cases for the security, performance and reliability quality characteristics.
- How to support the Test Manager in creating test strategies to mitigate the identified risks.

## Chapter 5: Reviews

- Use of checklists to identify defects in code and architecture.

## Chapter 6: Test Tools and Automation

- Focuses on the tools and automation issues that are relevant to Technical Test Analysts.
- Covers several types of tool including those used for web-based testing, model-based testing, fault seeding and fault injection, component testing and the build process, and performance testing.
- Discusses common technical issues that cause high failure rates in automation projects and different automation techniques. Specific issues resulting from the use of open-source and custom-built tools are also covered.

A more detailed list of this course's content can be found in the official ISTQB syllabus which can be viewed on, and downloaded from, [www.istqb.org](http://www.istqb.org) (go to the Downloads section).

*Acknowledgement:- Much of the above content has been taken or adapted from the ISTQB® Advanced Technical Test Analyst overview document.*