

ISTQB Advanced Level Certificate in Software Testing

– Advanced Technical Test Analyst Module

Course Introduction

This three day course follows on from the ISTQB Advanced Core Module and leads on to the Advanced Technical Test Analyst Certification. The course focuses specifically on technical test analyst issues such as producing test documentation in relation to technical testing, choosing and applying appropriate specification-based, structure-based, defect-based and experience-based test design techniques, and specifying test cases to evaluate software characteristics.

Candidates will be given exercises, practice exams and learning aids to help them attain the ISTQB Advanced Technical Test Analyst qualification. This can be taken stand-alone if the ISTQB Advanced Technical Test Analyst qualification is not required.

The material used in the course is used under licence from Grove Consultants and is already accredited. Sopra Group is accredited as a training provider for the Test Analyst and Test Manager certificates and have submitted for accreditation as a provider for this course - our accreditation is pending.

Course Objectives

To provide an understanding of technical testing issues that goes beyond the ISTQB Foundation level. It will provide the necessary skill set required for the tester to conduct technical testing activities and analyse the internal structure of the system in sufficient detail to meet the expected quality level. The various different types of test techniques that are applicable for this qualification will also be explained.

Emphasis will be made on technical testers and spreadsheets, templates and utilities will be provided to help students to devise tests that are both effective and efficient, giving best value for the testing being done in the time that is given.

Who Will Benefit?

This 3-day course is appropriate for testers, developers, specialist testers, quality assurance and anyone wishing to gain the ISTQB Advanced Level Technical Test Analyst Qualification.

Prerequisites

Delegates wishing to take the ISTQB Advanced Technical Test Analyst Certificate must hold the ISTQB/ISEB Foundation Certificate and have completed the ISTQB Advanced Level Core Module with either Sopra Group or Grove Consultants. If you wish to sit the course without taking the exam, there are no prerequisites.

Skills gained

- Identify and choose appropriate test design techniques for different applications
- Ability to analyse internal systems structure in sufficient detail to meet expected quality levels
- Understand the differences between test conditions, test cases, test procedures and test scripts and identify when and when not to produce them
- Understand and use appropriate functional-based, structural based, defect-based and experienced-based test design techniques
- Evaluate and apply suitable techniques to test quality characteristics such as performance, reliability, accessibility and usability
- Gaining knowledge of static and dynamic analysis and the tools that support them
- Application and use of keyword driven scripting techniques for automated testing.

Course Content

Test Techniques – Specification Based

This section will explain and demonstrate how to use and apply the following test design techniques:

- Equivalence Partitioning
- Boundary Value Analysis
- Decision Tables
- State Transition Testing

- Structure/ Code based

This section will explain and demonstrate how to use and apply the following test design techniques:

- Statement Testing
- Decision Testing
- Condition Determination Testing
- Multiple Condition Testing.

– Defect and Experience Based

This section describes the principles and reasons for defect-based techniques and differentiates their use from specification-

based and structure-based techniques. This section also explains using examples the importance of defect taxonomies and their uses. The following defect and experience-based techniques will be described and used to generate tests:

- Error Guessing
- Checklist-based
- Exploratory Testing
- Attacks

Candidates will analyse various systems in order to determine which specification-based and defect-based techniques best fit the application being tested.

Static Analysis

Candidates will be able to understand and differentiate between control flow and data flow defects and how static analysis tools can assist the tester in this task.

Dynamic Analysis

This explains what dynamic analysis is and the importance of this in determining various memory related defects.

Test of Software Characteristics

Testing the system's functionality is an important aspect for every tester, focussing on what the system does. Another vital area for every tester is to test the software's characteristics – how well it behaves. Analysis of suitable techniques is provided to ascertain what characteristics are tested by technical testers.

Quality characteristics for technical testers include:

- Technical Security
- Reliability
- Efficiency
- Performance, load, stress and scalability
- Maintainability
- Portability

Test Automation

Specific tools will be described that will assist the technical tester. This section provides valuable insight into the production of keyword-driven scripting for use in test execution tools and how performance tools work providing the tester with information about efficiency characteristics of the application.

The Exam

This course will provide the delegate with the necessary knowledge and skills to sit the ISTQB Advanced Technical Test Analyst Certificate multiple choice exam. Delegates will be given the opportunity to sit the examination on the morning after the course.

Course Structure

The ISTQB Advanced Level Qualification is divided into three streams: Test Manager, Test Analyst and Technical Test Analyst. We have taken out the concepts that relate to all three streams into a two day "Core" module. The Core module must be completed by anyone wanting to attain the ISTQB Advanced Level Technical Test Analyst Certificate.

