

# ISTQB Advanced Test Automation Engineer - 3 Days includes exam

## Introduction

The ISTQB Advanced Test Automation Engineer Certificate Course is a three-day course explaining the tasks of a test automation engineer (AE) in designing, developing, and maintaining test automation solutions.

The course includes exercises and practice exams to highlight key aspects of the syllabus and to help participants understand and practice the concepts and methods presented.

## Course Objectives

Provides participants with the knowledge and skills necessary to guide a test automation project. The course focuses on the concepts, methods, tools, and processes for automating dynamic functional tests and the relationship of those tests to test management, configuration management, defect management, software development processes and quality assurance.

Methods described are generally applicable across variety of software lifecycle approaches (e.g., agile, sequential, incremental, iterative), types of software systems (e.g., embedded, distributed, mobile) and test types (functional and non-functional testing).

## Who will benefit?

This 3-day course is appropriate for professionals in roles such as testers, test analysts, test engineers, test consultants, test managers, software developers, and anyone wishing to gain the ISTQB Advanced Test Automation Engineer certificate. This course may also be appropriate for anyone who wants a deeper understanding of software test automation, such as project managers, quality managers, software development managers, business analysts, IT directors, and management consultants.

The certification is aimed at professionals who are working within a tool supported software testing environment. It is also for professionals who are planning to start working within a tool supported software testing environment in the future, or are working within companies that plan to do so.

People possessing an ISTQB Advanced Test Automation Engineer certificate may use the Certified Tester Advanced Level acronym: CTAL-TAE.

## Pre-requisites

Candidates for the ISTQB Advanced Test Automation Engineer certificate must hold the ISTQB Certified Tester Foundation Level certificate (CTFL).

## Skills Gained

Advanced Level testers who have passed the “Advanced Test Automation Engineer” module exam, can be expected to:

- Contribute to the development of a plan to integrate automated testing within the testing process.
- Evaluate tools and technology for automation best fit to each project and organization.
- Create an approach and methodology for building a test automation architecture (TAA).
- Design and develop (new or modified) test automation solutions that meet the business needs.
- Enable the transition of testing from a manual to an automated approach.

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- Create automated test reporting and metrics collection.
- Manage and optimize testing assets to facilitate maintainability and address evolving (test) systems.

Certified Advanced Test Automation Engineers should be able to demonstrate their skills in the following areas:

- Explain the objectives, advantages, disadvantages, and limitations of test automation.
- Identify technical success factors of a test automation project.
- Analyse a system under test to determine the appropriate automation solution.
- Analyse test automation tools for a given project and report technical findings and recommendations.
- Understand "design for testability" and "design for test automation" methods applicable to the SUT.
- Explain the structure of the Generic Test Automation Architecture.
- Analyse factors of implementation, use, and maintenance requirements for a given Test Automation Solution.
- Explain the factors to be considered when identifying reusability of components.
- Apply guidelines that support effective test tool pilot and deployment activities.
- Analyse deployment risks and identify technical issues that could lead to failure of the test automation project, and plan mitigation strategies.
- Understand which factors support and affect maintainability.
- Classify metrics that can be used to monitor the test automation strategy and effectiveness.
- Explain how a test execution report is constructed and published.
- Apply criteria for determining the suitability of tests for automation.
- Understand the factors in transitioning from manual to automation testing.
- Explain the factors to consider in implementing automated regression testing, new feature testing, and confirmation testing.
- Verify the correctness of an automated test environment including test tool setup.
- Verify the correct behaviour for a given automated test script and/or test suite.
- Analyse the technical aspects of a deployed test automation solution and provide recommendations for improvement.

## The Exam

The Advanced Level Test Automation Engineer exam comprises 40 multiple choice questions, with a pass mark grade of 65% to be completed within 90 minutes. Participants that take the exam not in their spoken language, will receive additional 25% more time (an additional 23 minutes) so a total of 113 minutes.

## Course Content (Overview)

1. Introduction and Objectives for Test Automation
2. Preparing for Test Automation
3. The Generic Test Automation Architecture
4. Deployment Risks and Contingencies
5. Test Automation Reporting and Metrics
6. Transitioning Manual Testing to an Automated Environment
7. Verifying the TAS
8. Continuous Improvement

## Course Content

- 1. Introduction and Objectives for Test Automation - 30 mins.**
  - 1.1 Purpose of Test Automation
  - 1.2 Success Factors in Test Automation
- 2. Preparing for Test Automation - 165 mins.**
  - 2.1 SUT Factors Influencing Test Automation
  - 2.2 Tool Evaluation and Selection
  - 2.3 Design for Testability and Automation
- 3. The Generic Test Automation Architecture - 270 mins.**
  - 3.1 Introduction to gTAA
  - 3.2 TAA Design
  - 3.3 TAS Development
- 4. Deployment Risks and Contingencies - 150 mins.**
  - 4.1 Selection of Test Automation Approach and Planning of Deployment/Rollout
  - 4.2 Risk Assessment and Mitigation Strategies
  - 4.3 Test Automation Maintenance
- 5. Test Automation Reporting and Metrics - 165 mins.**
  - 5.1 Selection of TAS Metrics
  - 5.2 Implementation of Measurement
  - 5.3 Logging of the TAS and the SUT
  - 5.4 Test Automation Reporting
- 6. Transitioning Manual Testing to an Automated Environment - 120 mins.**
  - 6.1 Criteria for Automation
  - 6.2 Identify Steps Needed to Implement Automation within Regression Testing
  - 6.3 Factors to Consider when Implementing Automation within New Feature Testing
  - 6.4 Factors to Consider when Implementing Automation of Confirmation Testing
- 7. Verifying the TAS - 120 mins.**
  - 7.1 Verifying Automated Test Environment Components
  - 7.2 Verifying the Automated Test Suite
- 8. Continuous Improvement - 150 mins.**
  - 8.1 Options for Improving Test Automation
  - 8.2 Planning the Implementation of Test Automation Improvement

## How to buy

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