ISTQB® Advanced Test Automation Engineer

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Definitions

- a Test Automation Engineer is one who:
  - has broad knowledge of testing in general, and
  - an in-depth understanding in the special area of test automation
- an in-depth understanding is defined as having:
  - sufficient knowledge of test automation theory and practice
  - to be able to influence the direction that an organization and/or project takes
  - when designing, developing and maintaining test automation solutions for functional tests.

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What is in scope

- The tasks of a test automation engineer (TAE) in designing, developing, and maintaining test automation solutions.
- Focused 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 a 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).

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What is not in scope

- Test management, automated creation of test specifications and automated test generation.
- Tasks of test automation manager (TAM) in planning, supervising and adjusting the development and evolution of test automation solutions.
- Specifics of automating non-functional tests.
- Automation of static analysis.
- Teaching of software engineering methods and programming.
- Teaching of software technologies.
- Selection of software testing products and services.

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Business Outcomes

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

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Learning objectives (LO)

- the syllabus requires three levels of knowledge:
  - K1: remember, recall (e.g. recognise a definition)
  - K2: understand, give reasons for (e.g. why should testing start early in the life cycle)
  - K3: apply, do, perform (e.g. apply boundary value analysis technique to identify valid boundaries)
  - K4: analyse, separate information into its parts for better understanding, distinguish facts and inferences

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Test Automation Engineer course content

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

   ISTQB Exam

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Course notes

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
9. References
10. Glossary
11. Syllabus

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About you …

- name / company / job / what you do
- how did you get into test automation?
- background / experience
  - programming / testing
  - test automation experience
- why are you here?
  - your objectives (besides passing the exam!)
  - questions / problems in testing

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