

Software Test Automation Architecture

Course Description

This course explains software test automation throughout the software development life cycle (SDLC). It provides a theoretical framework for selecting, motivating, implementing and maintaining test automation tools within your organisation.

Intended Audience

The course is relevant to both manual testers and test automators of all experience levels, and to business analysts, developers and their managers.

Course Content

The course covers the following areas:

- **Context of Test Automation**
In the context of software testing in general, there are many computer-aided software testing tools. Using manual testing as a reference point, candidates will be shown where and how much test automation is appropriate within their organisation. Candidates will be given a detailed method of calculating whether tool usage will add economic benefit to their organisation.
- **Automation Low and High Roads**
Test execution offers many potential benefits and yet a high percentage of automation projects fail. This 40 to 50 percent failure rate may be attributed to a lack of management understanding, lack of development skills amongst testers, etc. Candidates will be introduced to the different script maturity levels and the related increase in success with higher script maturity.
- **Test Result Comparison**
To analyse and determine if the software produced the desired results we need to verify the outcome of tests. This is done by comparing actual outcome of the test with the expected outcome for that test. The main types of comparison, namely dynamic and post-execution comparisons will be reviewed in detail.
- **Architectural Considerations for Test Execution Tools**
Testware architecture and testware maintainability are discussed in detail. Testware is the term used for all components required for testing as well as all products of the testing process. Scale, reuse, multiple versions, and platform and environment independence will be discussed in terms of a best-practice testware repository and planning for maintainable scripts.
- **Measuring Test Automation**
As we measure our processes and products, we gain more understanding about them. This allows us to base decision-making on better information and ultimately allows us to effectively manage and improve the test automation effort.
- **Miscellaneous Test Automation Issues**
Miscellaneous issues, such as the ones listed below, impacting on test automation will be discussed:
 - Which tests should be automated (first)
 - Order of test execution
 - Test selector
 - Monitoring progress of automated tests
 - Tailoring the test regime around the available tools

- **Automation Tool Rollout Overview**

Assuming you have made your tool selection and have purchased the tool, you will now need to finalise your tool rollout plan for the company. The tool rollout should be thoroughly planned and executed for maximum benefit. Clear measurable checkpoints should be used to evaluate success or problems along the way.

Course Details

- **Prerequisites**

Previous experience in software testing is not necessary; however, general knowledge of the information technology industry is an advantage.

- **Course presentation and duration**

An experienced software-testing practitioner will present the course. The course duration is two days. It runs from 8:00 to 16:30. This includes a lunch and two tea breaks daily.

- **Training style**

The course is conducted in a classroom style. Candidates use practical tasks to consolidate theoretical concepts. Any testing-related problems encountered in the workplace can be discussed in the course.

- **Course materials, certification and assessment**

Comprehensive course notes are provided. Practical exercises, which are completed during the course, are handed in for evaluation. On successful completion of this course, the Test and Data Services' *Certificate in Software Test Automation Architecture* is awarded. The candidate's result will be displayed on their certificate.

- **Training Venues**

Test and Data Services presents courses at several well-established training facilities in Midrand (near Johannesburg and Pretoria), Cape Town and Durban. Training can be arranged at the client's premises depending on adequate facilities and candidate numbers.

Contact

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