

# Ross Collard's Automated Software Testing

## **Duration**

1 day

## **Instructor**

Roland Stens

## **Class Limit**

20 students

## **Prerequisite**

None

## **Price**

On-site

Please contact SPC for pricing (contact information on page 2)

Public Training

\$595 (1 day)

\*Discount available for early registration

## **Materials Provided**

- Student manual containing the course slides
- Student handouts with class exercises

This seminar is for you if you want to improve the effectiveness of your test automation. Its objective is to help you make informed decisions about where and how to best utilize testing tools. You will acquire sufficient understanding and information about automation to develop an effective strategy for automated testing in your own situation.

Automated testing can deliver dramatic results. According to Charles Schwab & Co., a major U.S. stockbroker, a typical system test required 52 hours of effort manually, but only 3 hours after automation. Automated Data Processing (ADP) reports that their elapsed time for testing has been reduced by 60% through automation. Studies indicate that the number of defects discovered by tool users increase by 10% to 50%. Many organizations believe they would no longer be in business without the competitive edge of automated testing tools.

On the other hand, these same tools also can be frustrating and quirky. A survey of automated testing in 250 organizations found that only 35% of testers were still using automated tools, one year or more after their installation. For every automation success story, there seems to be another two stories where the tools were a waste of time and money.

There is also a bewildering proliferation of vendors and tools. Some organizations have unrealistic expectations and have not performed their own due diligence on vendor claims. Some find the overhead to maintain the automated test cases is unsustainable. This seminar helps you realize the benefits and avoid the pitfalls.

## **Instructor**

**Ross Collard** is president of Collard & Company, and specializes in software testing and quality assurance. His consulting assignments have included strategic planning for technology, managing large software development projects, and development of software engineering practices. His clients have included Amazon.com, American Express, Boeing, General Electric, Hewlett Packard, IBM and NASA. Ross has an MS in Computer Science from the California Institute of Technology and an MBA from Stanford University.

**Roland Stens** is an independent consultant based in Vancouver who specializes in QA and testing - particularly performance and robustness testing. His broad background in programming, system analysis, database and network management, testing and project/ test management enables him to relate to all the issues that play during the software development lifecycle.

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# Ross Collard's Automated Software Testing

## Intended Audience

This course is ideally suited to System testers & QA engineers, Web developers and Web site administrators, software engineers, project leaders, systems analysts and designers, database administrators, and users who are involved in testing software systems.

## Outline

### Overview of Automated Software Testing

- Comparison of Automated & Manual Testing
- Why Automate Testing?
- What's the Bad News???
- The Three Worlds of Test Automation
- Capture/Replay vs. Test Languages
- Relative Strengths and Weaknesses
- Extending Capture/Replay
- The Job of the Oracle
- The Growth of Test Automation
- Why Most Test Automation Fails
- Automated Tool Test Tool Disadvantages
- Automated Testing Issues
- Unsuccessful Case Histories

### Setting Up for Test Automation

- Obtaining Management Commitment
- Assessing Readiness for Test Automation
- Choosing the Pilot Project
- The Automation Framework
- Integration of the Test Tool Suite
- Automation Start-Up Decisions
- Guidelines for What to Automate
- Early vs. Late Test Automation
- Resource Impact of Automation

For more information on this or other SPC Springboard courses, please visit [www.spcspringboard.com](http://www.spcspringboard.com) or e-mail SPC at [info@spc.ca](mailto:info@spc.ca)

Software Productivity Center Inc.  
Suite 460 - 1122 Mainland Street  
Vancouver, BC V6B 5L1

Vancouver: 604.662.8181 Toll Free: 1.877.548.1948

Fax: 604.689.0141

## Outline Continued

- Estimating the Automation Effort
- The Automation Work Plan
- Automation Roles & Responsibilities
- Centralized vs. Decentralized Automation
- Establishing Standards & Processes

### Writing Effective Automated Test Cases

- Test Cases vs. Test Steps
- Characteristics of Effective Automated Tests
- Test Library Components
- Test Library Architecture
- Test Library Limitations
- GUI Test Case Design Issues
- Designing for Testability
- False Test Results
- Automated Test Tool Selection

### Automated Test Tool Selection & Evaluation

- Selecting the Automated Testing Platform
- The Tool Build vs. Buy Decision
- Tool Evaluation Criteria
- Product Examples
- Automated Tool Selector
- Tool Reference Checking
- Vendor Questions
- Snake Oil and Red Flags
- Trial Installation

### Build Your Own Automated Testing

- The Testing Framework
- Test Automation for Embedded Systems
- Programming Automated Test Cases
- Scripting Languages
- Writing Test Drivers
- The Use of Simulators

### Specialized Types Of Testing

- Automated Load Testing
- Performance & Stress Testing
- Building the Operational Profile
- Load or Stress Testing Tools
- Dangers in Automated Load Testing
- Automated Robustness Testing
- Automated Configuration Testing

### Managing the Test Environment

- The Automated Test Lab
- Maintaining Test Productivity
- Testware
- Test Case Repository Design
- Test Case Repository Maintenance
- Test Beds (Data Bases)
- Using Live Data in Testing
- Test Data Security & Confidentiality
- Building the Test Data Baseline



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