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Rex Black about Selenium Tester Foundation

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Automated testing continues to be a major transformational factor in software development and there is no doubt that there is an urgent, and rising, requirement for QA and test professionals with automation skills. In particular, Selenium is globally rated as a top priority in the test automation field.

iSQI has introduced the Selenium Tester Foundation certificate into its portfolio in response to significant market demand for Selenium WebDriver skills. The certification is based on a highly practical hands-on training course that will give an immediate return on investment back in the workplace.

Rex Black, President of RBCS and past President of the ISTQB®, supported the development. The SQ mag asked him about the new course and the certification:

1. Rex, a new star is born: the A4Q Selenium Tester Foundation. Tell us more!

The A4Q Selenium Tester Foundation is an entry-level training and certification program for people who want to learn and use the very popular test automation tool Selenium. The Selenium Tester Foundation syllabus addresses the key fundamental concepts of application GUI test automation using Selenium WebDriver, which in itself is a really valuable resource for the Selenium community. The three-day training course is exceptionally hands-on, which is critical for test automation, since you can really only learn how to do test automation by doing test automation. The exam for the certification allows people to demonstrate mastery of the concepts in the syllabus, thus providing a way for people to prove their mastery of the fundamentals of Selenium test automation. We think this new star is quite a nice star indeed!

2. What is special about Selenium WebDriver? Why do so many testers work with it?

Selenium has become very popular for a number of reasons. For one thing, it's an open-source tool, so it doesn't require a huge tool budget for a company to use, unlike a number of other commercial GUI test automation tools. It has a very large user base and community built around it, so it's a safe choice for

automation as it's unlikely to disappear due to a collapse of interest, as can happen with open-source projects.

It's also closely associated with behavior-driven development or BDD, an increasingly popular technique in agile development. BDD allows automated tests to be built in parallel to the development of the software to be tested, using a syntax called Gherkins to express feature acceptance criteria in a human-readable yet automatable form. There is a whole family of open-source test automation tools that have grown up around BDD, and Selenium is part of that family.

Of course, Selenium is a GUI test automation tool that works through a browser. It supports the most popular browsers, and many applications are browser-based now, so Selenium can be used to test through the user interface for a large number of applications. Thus it complements other tools that allow automation via APIs, data layers, and at the unit level.

So, testers have a number of compelling reasons to learn and use Selenium. However, until now, testers faced a situation where no internationally recognized certification existed for Selenium, and training options were limited. Hence there was a real demand for something like the A4Q Selenium Tester Foundation, and we feel the training and certification we've developed perfectly fills that niche.

3. What do participants learn during the training provided by RBCS? What is the main focus of the new course and certification and why do we need it?

Participants in our RBCS Selenium Tester Foundation course get a really practical, hands-on experience. In three intensive days of training, they learn the factors to consider when deciding to automate testing as well as specific techniques for navigation, interacting with GUI elements, logging, reporting, and more. When I say the training is practical and hands-on, that means that there's as much hands-on content as a lecture. Participants will spend most of their time seeing Selenium demonstrated by the instructor and then applying the concepts just explained in realistic test automation exercises. There are even solutions to the exercises provided, so participants can check their work immediately.

To do these exercises, the participants use the popular Oracle Virtual Box platform, with a pre-configured virtual machine that they download and install before the course. This virtual machine includes all the tools needed for the course and is 100% consistent from one participant to the next. So, attendees can be confident that they will be able to follow along with the instructor's demonstrations, since they have the exact same environment as the instructor.

They can be confident that the exercise solutions will work in their environment, and they can compare their solutions to other attendees, too.

This standardized environment allows classes to be hands-on and productive immediately, with none of the time-wasting, frustrating experiences associated with other hands-on classes where students must configure their own environments, which inevitably results in problems for many students and wasted classroom time to debug screwed-up attendee configurations. None of that nonsense in this class. Participants will fire up their Windows, Mac, or Linux PCs, load Oracle VirtualBox, start the pre-installed virtual machine, and be busy writing Selenium code within the first couple hours of the course. How great is that?

This immersive, 100% practical approach means that, by the end of the course, attendees can:

- Apply correct test automation principles to build a maintainable test automation solution
- Choose and implement the right test automation tools
- Implement maintainable Selenium WebDriver scripts that execute functional web application tests
- Create and run Selenium WebDriver tests without supervision

Furthermore, the training is not about throwing together a big heap of automated tests, because that unstructured approach to test automation just yields a lot of disorganized test automation assets that don't deliver value over time. Instead, as part of this course, participants learn how to fit Selenium test automation into the context of a maintainable test automation architecture, consistent with what's explained in the ISTQB's Advanced Test Automation Engineering (TAE) syllabus. Since we also offer the TAE training and certification, the Selenium Tester Foundation training and certification is a perfect match.

We designed the training to be as accessible as possible, in order to reach the broadest possible audience. The main people we had in mind while developing the course were:

- People with no test automation experience who are starting to automate in Selenium (or who want to get a job doing that).
- People with some GUI test automation experience who are new to Selenium or starting to automate in Selenium (or who want to get a job doing that).
- People with some non-GUI test automation experience who are new to Selenium and starting to automate in Selenium (or who want to get a job doing that)

Really, anyone wanting to acquire a basic, hands-on knowledge of Selenium can attend, provided they have a basic level of technical knowledge, and general familiarity with programming languages such as Java and scripting languages such as Python.

Speaking of Java and Python, we are using the Python technology stack with Selenium in the virtual machine. Python is a very popular scripting language, and lots of people are using Selenium with it. Further, as a scripting language, it is easier to understand and use than a complex, sophisticated object-oriented language such as Java. If we had used Java, that would have created a significant obstacle for people who don't know how to write object-oriented code, which is a significant proportion of our target audience. By using the simpler, more accessible Python scripting language, we open the course up to more people.

Now, some people might ask, "Well, if I'm using Java instead of Python with Selenium, does this mean that I'm going to waste a lot of time learning Python?" Absolutely not! The course only uses Python as a vehicle to teach Selenium, not vice versa, so the focus is on Selenium. The concepts attendees learn will transfer over easily to Java environments. Further, Python, as a procedural scripting language, is something that anyone who can program in Java should be able to read and understand.

4. How does the certification improve the personal career of a software tester?

As I discussed above, test automation with Selenium is a really big trend now, fueled by all the factors I cited. Agile is an especially big factor. More and more organizations are using agile methods. The increased regression risk associated with frequent software change means that automated regression tests – such as those you can build using Selenium – are critically important in agile. Furthermore, the trend in hiring testers in agile software shops is to require technical skills, especially test automation. So, this certification future-proofs the software tester's career, positioning them to succeed in the current job environment and in the future. The fact that there is a certification that goes with the hands-on training means that course attendees can prove their mastery of the topics.

Rex Black is President of RBCS, a worldwide testing and quality assurance firm serving clients ranging from small start-ups to Fortune 20 global enterprises since 1994. Rex has been involved in software engineering since 1983 and has been doing software testing, starting with test automation, since 1987. He is past President of the ISTQB, current chair of the Agile Working Group, author, lead, or contributor to over a dozen ISTQB syllabi, and author of 14 books on software testing.