Automated Web Testing with Selenium WebDriver (TT3612) Training

Duration: **3 Day**

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Overview

Leverage Selenium WebDriver to Test and Verify Web Applications using Automation.

Automated Web Testing with Selenium WebDriver is a hands-on web testing course, essential for experienced web developers and test engineers who need to verify web applications using automation. This course introduces the student to the concepts and techniques of testing Web Application with the Selenium, Java and JUnit. This hands-on class focuses on practical skills and best practices to ensure the student learns the ins and outs of Web Application testing with Selenium WebDriver.

Selenium provides mechanisms for interacting with web pages through browsers, including locating and interacting with specific features within a web interface. A tool such as Selenium IDE or Katalon can be used to perform the testing in a relatively manual fashion. Selenium also comes with WebDriver, which provides a programmatic interface (API) for controlling and managing Selenium tests and interactions.

WebDriver provides a mechanism for capturing and repeating tests with a web interface. To use WebDriver, developers must work with a programming language such as Java to control and manage the testing. This course focuses on using WebDriver and Java to control and manage the Selenium tests. To participate in the hands-on labs, incoming students should have familiarity with basic Java syntax. Students without basic Java background are welcome to follow along with the labs and cut and paste code or lab solutions as needed.

Prerequisites

This is an introductory -level Selenium course, designed for experienced web developers that are familiar with Java, who wish to get up and running on testing web applications. Ideally students should have approximately 6 months to a year of web development working knowledge.

Who Should Attend

Developers, Web Developers, Testers.

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What You Will Learn

Students who attend Automated Web Testing with Selenium Driver will leave the course armed with the skills required to recognize how to test web applications for sufficiency. This course uses Selenium and the WebDriver interface to design and implement tests. The student will work with a sample Web Application that requires several testing scenarios.

This “skills-centric” course is about 50% hands-on lab and 50% lecture, designed to train attendees in core Selenium and web testing skills, coupling the most current, effective techniques with the soundest industry practices. Working in a hands-on environment led by our expert practitioner students will:

- Understand web page testing needs and how Selenium meets those needs
- Analyze a web application from a functional and testing perspective
- Use Selenium constructs to locate elements on a web page
- Test web page forms and the elements in those forms
- Use test suites to organize and manage tests
- Review Java constructs needed to by testers in working with WebDriver
- Design code and run automated Selenium tests using the Java WebDriver API
- Use the WebDriver API to test advanced web features such as delayed responses and Ajax
- Using a combination of JUnit 5 features and WebDriver to consume streams of data for testing
- Focus on Best Practices for Selenium testing using the Java WebDriver API

Outline

Session: Selenium Basics

Lesson: Introduction to Selenium

- Selenium Concepts and Terminology
- Manual Testing using Selenium and the Katalon Recorder
- Automated Testing using Selenium WebDriver

Session: Testing with Java and Selenium WebDriver

Lesson: JUnit 5 for Selenium

- Aspects of JUnit that are relevant for Selenium testing
- Understand the basics of testing with JUnit constructs
- Working with Java and JUnit for managing and running tests

Lesson: Selenium WebDriver

- Working with WebDriver in Java
- Finding Spots on Web Pages
- Working with different browsers
- Built-In Locators

Lesson: WebDriver Deep Dive

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- WebDriver Commands for working with forms
- Working with complex form components
- Taking screenshots
- Working with alerts

Lesson: Advanced WebDriver

- Use WebDriver to work with windows, tabs and iframes
- Utilize Actions class for mouse and keyboard actions
- Testing file uploads and downloads
- Testing AJAX elements
- Waiting for events to happen
- Feeding data sets into a testing sequence

Session: Selenium Practices and Processes

Lesson: Selenium Best Practices

- Preparation
- Managing Names
- Multiple Browser Testing
- High Quality Tests and Test Plans
- Using Whitespace
- Efficient Operations
- Establish Selenium Standards

Lesson: Testing Strategies and Patterns

- Types of web application tests
- Strategies for locating elements
- Wrapping Selenium calls
- User interface maps

Session: Next Steps with Selenium

Lesson: Page Object Model (POM)

- Need for POM
- What is POM
- Implementing POM
- Using Object Repositories
- Page Factory

Lesson: Introduction to Selenium Grid

- Need for Selenium Grid
- Architecture of Selenium Grid
- Remote WebDriver Workflow; Hub, Node
- Setting up Selenium Grid
- Using Desired Capabilities Object

Lesson: Introduction to Selenium Frameworks

- Automation Framework Basics

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- Data Driven Framework
- Keyword Driven Framework
- Hybrid Framework