



Automated Web Testing with Selenium WebDriver (TT3612)

Leverage Selenium WebDriver to Test and Verify Web Applications using Automation

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Course Snapshot

- **Course:** Automated Web Testing with Selenium WebDriver (TT3612)
- **Duration:** 3 days
- **Audience:** Experienced Web Developers or Test Engineers. Prior basic Java syntax knowledge is also required.
- **Language/Tools:** Selenium is the primary focus of this course. Incoming basic Java syntax knowledge is also recommended. Java and either Eclipse or IntelliJ are used to drive the tests and capture testing results.
- **Hands-on Learning:** This course is approximately **50% hands-on**, combining expert lecture, real-world demonstrations and group discussions with machine-based practical programming labs and exercises. Student machines are required.
- **Language:** This course examples are in Java. This course is also available for Node.JS and .Net. Please inquire for details.
- **Delivery Options:** This course is available for **onsite private classroom presentation, live online virtual presentation**, or can be presented in a **flexible blended learning format** for combined onsite and remote attendees. Please also ask about our **Self-Paced / Video** or **QuickSkills / Short Course** options.
- **Public Schedule:** This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable:** This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please inquire for details.



Overview

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.

Learning Objectives

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

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. We offer additional testing, Selenium, Cucumber, Gherkin, Python, TDD, BDD, programming, testing tools, test automation, QA, services, security and other related topics that may be blended with this course for a track that best suits your needs. Our team will collaborate with you to understand your needs and will target the course to focus on your specific learning objectives and goals.

Audience & Pre-Requisites

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.

Take Before: We recommend attendees have the skills in the course listed below, or attend this course as a pre-requisite:

- TT2190 Basic Java Primer for Selenium Users

Related Selenium Courses

- TT2190 Basic Java Syntax Primer for Selenium Users / Non-Developers (QA, Testers,) (2 days)
- TT3610 Introduction to Selenium | Selenium Web Testing (3 days)
- TT3611 Manual Web Testing with Selenium (1 day)
- TT3612 Automated Web Testing with Selenium WebDriver (3 days)
- TT3618 Test Automation Fundamentals: Selenium, Cucumber, Gherkin and Maven (5 days)
- TT3619 Remote Test Automation with Selenium Grid
- TT3620 Parallel Web Testing with Selenium Grid & Docker
- TT3650 Cucumber Essentials – Introduction to Cucumber (2 days)
- TT3654 Test Automation with BDD using Cucumber, Gherkin, Selenium & More (4 days)
- TT3540 Agile Continuous Integration, Testing, and Deployment (CI, Refactoring, GIT, BitBucket & More) (3 days)

Next Steps / Follow-On Training: We offer an extensive list **Web Testing, Test Automation, Selenium, Unit Testing** and other related hands-on, skills-focused courses. Please contact us for recommendations for next steps in your learning journey based on your unique needs and goals.

Enhanced Learning Services: Please also ask about our **Pre-Training Class OnRamp & Prep / Primer offerings, Skills Gap Assessment Services, Case Studies, Knowledge Check Quizzes, Skills Immersion Programs & Camps, Collaborative Mentoring Services and Extended Learning Support & Post Training** services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We'll work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs may adjust during live delivery based on audience skill-level, interests and participation.

Session: Selenium Basics

Lesson: Introduction to Selenium

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

Selenium WebDriver

- [Lab: Running the Web Application](#)
- [Lab: Analyzing the Web Application](#)

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
- [Demo: JUnit](#)

- [Lab: Reapply JUnit](#)
- [Walkthrough: Using JUnit with Selenium](#)

Lesson: Selenium WebDriver

- Working with WebDriver in Java
- Finding Spots on Web Pages
- Working with different browsers
- Built-In Locators
- [Lab: Creating and Running a WebDriver Test](#)
- [Lab: Testing with Other Browsers](#)
- [Lab: Working with WebDriver Locators](#)
- [Lab: Adding WebDriver Tests](#)

Lesson: WebDriver Deep Dive

- WebDriver Commands for working with forms
- Working with complex form components
- Taking screenshots
- Working with alerts
- [Lab: Testing Forms using WebDriver](#)
- [Lab: Screenshots](#)

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
- [Lab: Testing Wait Styles](#)

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
- [Lab: Using Delayed Exceptions](#)
- [Lab: Automated Running of Multiple Test Cases](#)

Session: Next Steps with Selenium**Lesson: Page Object Model (POM)**

- Need for POM
- What is POM
- Implementing POM
- Using Object Repositories
- Page Factory
- [Lab: Building Page Object Models](#)
- [Lab: Build an Object Repository](#)
- [Lab: Using the Page Factory](#)
- [Lab: Testing the Bank Web Application](#)

Lesson: Introduction to Selenium Grid

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

Lesson: Introduction to Selenium Frameworks

- Automation Framework Basics
- Data Driven Framework
- Keyword Driven Framework
- Hybrid Framework

Course Materials: Each student will receive a **Student Guide** with course notes, code samples, software tutorials, step-by-step written lab instructions, diagrams and related reference materials and links (as applicable). Students will also receive the project files (or code, if applicable) and solutions required for the hands-on work.

Hands-on Setup Made Simple! Our dedicated tech team will work with you to **ensure your student machines and learning environment is setup, tested and ready to go** well in advance of the course delivery date, ensuring a smooth start to class and seamless hands-on experience for your students. We offer several flexible student machine setup options including **guided manual set up** for simple installation directly on student machines, or **cloud based / remote hosted lab solutions** where students can log in to a complete separate lab environment minus any installations, or we can supply **complete turn-key, pre-loaded equipment** to bring ready-to-go student machines to your students or in-person facility. Please inquire for details.

For More Information

For more information about our dedicated training services, collaborative mentoring services, courseware licensing options, courseware development services, public course schedule, training management services, partner and reseller programs, or to see our complete list of course offerings and special offers please visit us at www.triveratech.com, email Info@triveratech.com or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.