

Web Test Automation

Course length: **2 Days**

Introduction

Testing Web Apps & Web Services

The goal of this section is introduce test automation strategies and introduce specific tools.

- Day 1: Testing Web Services
 - Differences between testing web sites and web services
 - Differences between SOAP and REST
 - Core testing techniques for web services
 - Web service technologies (HTTP, XML, JSON, etc.)
 - Gotchas (caching, proxies, etc.)
 - Testing tools
 - SOAPUI
 - Fiddler
 - Writing automated API tests
 - Intereface / Integration testing – greybox techniques
- Day 2: Testing Web Apps
 - How web application testing is different from traditional testing
 - Core testing techniques using the browser
 - Browser technologies (HTTP, HTML, CSS, Javascript, Cookies,
 - Manual vs Automated testing
 - GUI Driven test automation
 - Selenium
 - HTTP Driven test automation
 - JMeter
 - HTMLUnit

Web test automation using Selenium - part 1

Introduction to Selenium

The goal of this section is to introduce Selenium and its basic capabilities, starting with Selenium IDE and moving on to more complex and dynamic tests.

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- Selenium IDE
- Selenium Remote Control
- Selenium Server
- Locators
 - XPath & CSS Selectors
- Selenium Tests with Unit Test Frameworks

Web test automation using Selenium – part 2

Advanced Selenium

The goal of this section is to explore in depth the features of Selenium. Compare Selenium and WebDriver syntax. Demonstrate strategies for writing maintainable tests. Introduce challenges with UI automation and potential solutions.

- Refactoring Selenium Tests
- Page Objects
- WebDriver
- Requirements Coverage
- Selenium Grid

Testing With Selenium - exercise

Writing Selenium Tests

The goal of this section is to put to use the material learned. Have the class work in teams to implement automated UI tests with Selenium.

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Testing Web Services – part 1

Introduction to Web Service Testing

The goal of this section is to introduce web service testing and explore different tools. Contrast the difference between testing SOAP & REST services.

- HTTP and web technologies
- Using Fiddler
- Using SOAP UI
- Differences between SOAP & REST
- Writing test cases for REST web services

Testing Web Services – part 2

Automating Web Service tests

The goal of this section is to explore in depth, web service automation tools and strategies. Explore SOAP UI automation.

- With SOAPUI
- With a unit test framework
- Parameterization
- Mocking Web Services
- Proxies
- Implement Selenium tests for web site
- Refactor tests
- Data Driven tests
- Testing Web Services - Exercise

Writing test automation for a RESTful API

The goal of this section is to put to use the material learned. Have the class work in teams to implement automated API tests.

- Implement API tests for web web service
- Refactor tests
- Data driven tests

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Conclusion

Q&A

The goal of this section is to answer additional questions from the lessons and exercise.

- Discuss the exercise
- Goals of automation
- Developing a test strategy
- Test automation challenges
 - RIA platforms: Mobile, HTML5, Flash
 - External dependencies
- What can't be automated
- What's worth automating
- Testing below the web layer
- The internet infrastructure impact on testing – Testing in the Cloud

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