Test Automation, Web Performance And Load Testing with Visual Studio 2017

Duration	2 days	Version	2017.2
Skill level	Intermediate		
Audience	Testers, QA Engineers, Developers		
Products and technologies	The following products and technologies will be covered in this course: • Visual Studio 2017 Enterprise Edition • Visual Studio Team Services or Team Foundation Server 2017		

Course Description

This two-day course is designed for automation and performance testers who have basic .NET coding skills. The course is divided into two main parts: the first part focuses on creating, executing, and maintaining coded UI tests for a variety of application types, while the second part looks at web performance and load testing using Visual Studio 2017 and includes coverage of executing load tests both on-premises and in the cloud using Azure.

The course covers not only how to use the Microsoft tools, but also looks at testing processes and best practices for test automation and web performance testing.

This course includes hands-on labs to reinforce practical skills and ensure you're ready to use the tools upon your return to the workplace.

Course Objectives

At the completion of this course, attendees will be able to:

- Describe the testing capabilities of the Visual Studio ALM product suite
- Create Coded UI tests from action recordings and using the Coded UI Test Builder
- Understand the structure of coded UI tests and edit the generated code
- Understand how objects are found and modify this behavior
- Extend your coded UI tests through code
- Bind coded UI tests to a variety of different data sources
- Run automated tests in a number of environments
- Understand the role of web performance and load tests
- Create and edit web performance tests and analyze test results
- Create and edit load tests and analyze test results
- Execute load tests using the Load Test Service (Cloud-based load testing)
- Configure an on-premises environment for executing web performance and load tests
- Use the load testing features in Visual Studio Team Services
- Integrate load testing into your release pipeline

Audience

This event is designed for Automation Testers, Performance and Load Testers, Developers and QA Engineers.

Prerequisites

NOTE CAREFULLY: Attendees are required to be reasonably proficient with coding in Visual Studio to get the most out of this course.

Modules

Module 1: A Lap Around the Testing Tools in Visual Studio 2017

- A look at the Visual Studio product family
- Introducing Microsoft Test Manager 2017
- The role of Visual Studio Team Services/Team Foundation Server 2017

Module 2: Introduction to Coded UI Testing

- Creating a coded UI test
- Creating coded UI tests from action recordings
- Using the Coded UI Test Builder

Module 3: Exploring Coded UI Test Code

- Assigning a test case to a tester
- Navigating the Microsoft Test Runner
- Recording reliable action recordings
- Test Case Fast Forward

Module 4: Data Driving Your Coded UI Tests

- Specifying a data source
- Data source options
- Modifying your code to bind data fields

Module 5: Enhancing Your Coded UI Tests

- Modifying coded UI tests
- Working with multiple UIMaps
- Helpful code snippets

Module 6: Running Automated Tests

- Running build verification tests
- Running automated tests in a lab environment
- Running automated tests in a build-deploy-test workflow

Module 7: Introduction to Web Performance and Load Testing

- Overview of web performance and load testing
- Web performance and load testing usage scenarios
- Using load tests for different types of testing, including smoke, stress, and performance

Module 8: Creating and Executing Web Performance Tests

- Creating and running a web performance test
- Using the Web Performance Test Results Viewer
- Editing web performance tests
- Resolving playback issues

Module 9: Creating and Executing Load Tests

- Creating and running a load test
- Analyzing load test results
- Editing load tests using the Load Test Editor
- Using coded UI tests in load tests
- Executing load tests using the Load Test Service (cloud-based load testing)

Module 10: Setting Up an On-Premises Environment for Web Performance and Load Testing

- Installing and configuring test agents and controllers
- Setting up test machines
- Tips for a good testing environment

Module 11: Load Testing Using Visual Studio Team Services

- Authoring a simple load test using web-based authoring
- Analyzing your application's performance data
- Understanding threshold violations
- Sharing load test results
- Overview of integrating load testing into your release pipeline