Course : Test automation for Web applications

Practical course - 3d - 21h00 - Ref. ATO
Price : 2260 CHF E.T.

The diversity of technologies, browsers and servers complicates Web application testing. This course presents best practices for organizing the automation of this type of testing. Different types of proprietary and Open Source tools are presented and handled.

Teaching objectives

At the end of the training, the participant will be able to:

- Know the different phases and tools for implementing a test automation chain
- Discover and apply Web server automation tools
- Know and use different tools for testing Web GUIs on multiple browsers
- Organize and manage an automated test database for the Web over the long term

Intended audience

Development engineers, certifiers, testers, wishing to improve or acquire technical knowledge specific to Web application test automation.

Prerequisites

Good knowledge of a procedural or object-oriented language.

Course schedule

1 Introduction

- Review of test types (unit, integration, functional, stress, load, etc.).
- Server-side testing (business component unit, performance, stress).
- Client-side testing (GUI, robustness).

PARTICIPANTS
Development engineers, certifiers, testers, wishing to improve or acquire technical knowledge specific to Web application test automation.

PREREQUISITES
Good knowledge of a procedural or object-oriented language.

TRAINER QUALIFICATIONS
The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS
The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

2 Automation phases and tools

- Preparation of test data and oracles.
- Test execution and evaluation.
- Production of test reports.
- Test automation chain.
- Continuous integration server.

Hands-on work
Automatic test chain integrated into a continuous integration server.

3 Automate server-side testing

- Tools available for different platforms: Java EE, .Net, PHP.
- Unit testing of business components with and without containers.
- Integration tests with and without dummy objects (Mocks).
- Web services testing.
- Server stress tests. Deployment tests.

Hands-on work
Implementation with EJB3Unit, PHPUnit, DBUnit ,WSUnit, TestNG and DBUnit. Comparison with tools dedicated to the .NET platform. Stress testing with JMeter or Gatling.

4 Automate client-side testing

- Client-side testing and tuning tools.
- Test robots for functional user testing.
- Development libraries dedicated to automation.
- Locate GUI components (position, Id, Css, xPath...).
- Manage message boxes and alerts.
- Unit testing and Javascript.
- HTML page testing, cross-browser testing.
- Automatic tests and Rich InternetApplication (Flex,JavaFX, ...)

Hands-on work
Automate tests on HTML pages of increasing difficulty. JsUnit, HTMLUnit, Ranorex or testComplete. Test programming with Selenium IDE and Selenium Server with Katalon Studio.

5 Organizing and maintaining automated tests

- Tools for test management and upstream traceability to requirements.
- Coping with functional and technical changes.
- Web component repository.
- Notion of layers and functional abstraction.
- Parallelize tests on a network of machines.

Hands-on work
Implement a complete test cycle with TestLink, Mantis, Selenium: manage requirements, tests, anomalies, robot and results. Demonstration of Selenium GRID.

Dates and locations

REMOTE CLASS
2026 : 3 June, 9 Dec.