Selenium Tutorial for Beginners

Published On: October 5, 2024

Selenium Tutorial for Beginners

A well-liked open-source testing tool for web applications is called Selenium Testing. It allows testers to construct automated tests for web applications using a range of programming languages to test their functioning. Understand the fundamentals with this Selenium tutorial and begin your learning journey in the automation testing industry.

Download Selenium Tutorial PDF

Introduction to Selenium

Selenium automation testing enables QA testers to automate each test script at every stage of the testing procedure. We cover the following in this Selenium tutorial designed for beginners to become testers:

- Overview of Selenium
- Selenium Components
- Different Types of Selenium Tests
- Selenium Automation Testing Tools
- Advantages of Selenium

Overview of Selenium

Web applications are validated using Selenium, an open-source automated testing tool that works with a range of platforms and browsers. Selenium is a collection of tools, not just one, that makes it easier for testers to automate web-based applications. Learn from scratch with our **software testing training courses in Chennai**.

Features of Selenium

There are many features in the Selenium Integrated Development Environment:

- **Record and Playback:** Selenium Integrated Development Environment offers the capability that permits recording of the user activities made on the application under test.
- **Validations:** By including more assert and verify commands, the Selenium Integrated Development Environment test may be used more efficiently.
- **Selenese Commands:** The Selenese commands are all of the commands used in the Selenium Integrated Development Environment. There are three categories of Selenese commands:
    - **Actions:** The application being tested can be changed in status using the action instructions.
        - Click, type, open, close, and so on are a few examples.
    - **Accessors:** The commands used to evaluate and save the state of the program being tested are called accessors.
        - Store value, store text, and store title are a few examples.
    - **Assertions:** The purpose of the assertion commands is to verify the current status of the program being tested.
        - There are three subtypes of it: waitfor, verify, and assert.
- **Third-Party Plugins:** To accomplish extra tasks, a variety of third-party plugins can be

Selenium Project Ideas
Published On: October 28, 2024

Introduction A Selenium professional focuses on automating web application testing using the Selenium framework. Their...

MERN Stack Tutorial for Web Development Aspirants
Published On: October 14, 2024

MERN Stack Tutorial for Web Development Aspirants There is a growing need for competent MERN...

Tableau Developer Salary in Chennai
Published On: October 12, 2024

Introduction A Tableau Developer designs, develops, and maintains dashboards and visualizations using Tableau software. Key...

VMware Tutorial for Cloud Computing Aspirants
Published On: October 12, 2024

added within the Selenium Integrated Development Environment.

- **CI/CD Support:** By using the.side file of the Selenium Integrated Development Environment test, the tests can be executed from the siderunner or the command line.
- **Cross Browser Testing:** The Selenium Integrated Development Environment tests can be run in a variety of browsers, including Chrome, Firefox, Safari, Edge, and more, to verify that the program being tested is browser-compatible.
- **Responsiveness:** The Visual Grid, which includes a variety of device, viewport, and browser variations, can be used to run tests created using the Selenium Integrated Development Environment. Fine tune your skills with our **DevOps course in Chennai**.

VMware Tutorial for Cloud Computing Aspirants VMware software allows you to run a virtual machine...

Selenium Interview Questions and Answers

Selenium Components

The major components of selenium are as follows:

Menu Bar: The project name, the ability to start a new project or open an existing one, the ability to save a project, and three dots to modify certain Selenium Integrated Development Environment parameters are all included in the menu bar.

Tool Bar: The Tool Bar includes four options:

- Run a current test to run the test that is currently selected.
- Step over the current command to step through the tests.
- Run all tests to run all of the tests in the test suite.

Address Bar: A dropdown menu in the address bar stores all previous values for the base URL.

Test Case Pane: All of the tests that the Selenium IDE has recorded are contained in the Test Case Pane.

Test Script Editor Box: The real test steps, user actions, validations, and other elements that are either captured or created in the Selenium Integrated Development Environment are contained in the Test Script Editor Box.

Recording Button: In the Selenium Integrated Development Environment, the Recording button is used to begin and stop test recording.

Log: Errors, warnings (if any), and execution messages are all recorded in the Log section. It indicates with a green OK or a red FAIL that a specific step succeeded or failed. Failure signal and test case's ultimate result (passed or failed).

Reference: The Reference section of the Test Script Editor shows all the details of the command that is presently selected in the test phase, including the parameters that need to be passed, the locator, the value, etc. Join our **JMeter training in Chennai** to test applications that are developed in Java programming language.

Different Types of Selenium Tests

The main purpose of Selenium is to automate web application testing. It is free and doesn't require a license. Because selenium-based automation testing offers a higher return on investment than manual labor, it is highly recommended above manual testing.

The following is a list of the various test types that may be created with Selenium:

- **Functional Tests:** They are used to verify new features and functionalities of the application or product being tested.
- **Regression Tests:** These tests assist in determining whether changes to the code

have affected an application's current functionality.

- **Smoke Tests:** These tests serve to confirm whether a fresh build is sufficiently stable to be used for testing purposes.
- **Integration Tests:** They serve to verify whether all of the modules have been integrated and are functioning as a single entity.
- **Unit Tests:** The developers construct these tests to verify their code.

Level up your career with our **LoadRunner training in Chennai**.

Selenium Automation Testing Tools

Selenium tools are collectively referred to as the selenium components. The tools are:

Selenium IDE

The Selenium IDE can be accessed via a Firefox and Chrome browser extension. With the help of the Firefox plugin Selenium Integrated Development Environment (IDE), testers can log their activities while they follow the workflow that has to be tested.

The following is a list of some of Selenium IDE's features:

- The Selenium IDE is used for recording, troubleshooting, running, and editing functional tests.
- Selenese, the Selenium scripting language, is used to create the scripts in the Selenium IDE.
- We can accomplish activities like clicking a button or link, entering data in an edit box, extracting text from a web element, and more with the aid of Selenium IDE commands.
- Tests from the Selenium IDE can be converted to other formats, such as Java, C#, Python, TestNG, and others. It is in.html format by default.
- Selenium Webdriver and Selenium RC may import and utilize exported Selenium IDE tests.

- There is no technical or programming experience needed to use the Selenium IDE.
- The feature of parameterizing tests for data-driven testing is not available in the Selenium IDE.
- When used for intricate testing projects, Selenium IDE might be challenging to maintain objects and other reusable components.

Selenium Course Syllabus PDF

Selenium RC

This Java-developed server enables the creation of automation tests in a variety of languages, including Python, Perl, and Java.

The first testing framework that supported more than just basic browser activities and linear execution was called Selenium Remote Control (RC). To construct more complex tests, it fully utilizes the capabilities of programming languages like Java, C#, PHP, Python, Ruby, and Perl.

Listed below are a few of Selenium RC's features:

- Any programming language, including Java, Python, C#, and others, can be used to create automation tests in Selenium RC.
- Web applications can be tested with automated tests created with Selenium RC.
- With Selenium RC, a proxy server is included that allows the browser to function as though the application being tested is present within the proxy server's domain.
- We must launch an instance of the Selenium RC server before we can begin running tests.

Selenium WebDriver

The replacement for Selenium RC, which sent commands straight to the browser and returned responses, is Selenium WebDriver. Selenium Webdriver is a multi-language programming tool

that can be used with many frameworks, such as JUnit, TestNG, and others.

The helpful features of Selenium RC and Selenium Webdriver were integrated into Selenium Webdriver in Selenium version 2. Additional functionalities were later added to Selenium Webdriver by Selenium 3.

Below is a list of some of the Selenium Web driver's features:

- Numerous programming languages, including Java, C#, Python, JavaScript, and others, can be used to write automation tests.
- Browsers like Chrome, Firefox, Safari, IE, and others are supported by Selenium Webdriver.
- The Selenium webdriver is compatible with multiple operating systems, including Windows, Mac, Linux, Android, and others.
- The HTMLUnit Driver can be used to accomplish headless execution.
- The Selenium web driver interacts with the browser directly and doesn't need a server to start a test.
- The license for Selenium Webdriver is free and open-source.
- As Selenium Webdriver lacks an IDE, writing test scripts is a time-consuming process.
- Only web-based apps are supported by Selenium Webdriver.
- Automating QR, captcha, and barcode scenarios is not supported by Selenium Webdriver.
- A functionality like an object repository or recovery scenario is absent from Selenium Webdriver.
- There is no built-in test report generated in Selenium Webdriver.
- Programming and technical expertise are needed to create automated testing with Selenium Webdriver.
- For Selenium Webdriver to become more stable and compatible with new browsers, time is needed.

- Since there is no vendor support for Selenium Webdriver, setup can be challenging.
- Numerous technologies that expose DOM can be added to Selenium Webdriver.
- There is a sizable community supporting Selenium Webdriver that can assist with problems.

Selenium Grid

Selenium Grid is a technology that facilitates parallel execution on several browsers and platforms. It is used to conduct parallel tests across several workstations and different browsers simultaneously, which results in decreased execution time.

Parallel testing is the primary application for Selenium Grid. It adheres to node architecture and a hub, which is the center portion, and the remaining parts are regarded as nodes.

We can run a variety of tests on numerous machines at once due to Selenium Grid. Test execution is the primary purpose of Selenium Grid, as opposed to design.

The following is a list of some of Selenium Grid's features:

- Existence of a hub machine that uses the Selenium Grid to control execution across several machines. Additionally, the real execution occurs on multiple node machines.
- Selenium Grid allows for cross-platform and cross-browser testing. It allows tests to be run in parallel, cutting down on execution time. Learn **QTP testing course** for your career.

Selenium Online Training

Advantages of Selenium

Selenium is a well-liked automated testing tool with

a host of benefits, such as

- **Open source:** There are no license fees because Selenium is an open-source project.
- **Programming languages** supported by Selenium include Java, Python, C#, Ruby, Groovy, and JavaScript. Testing teams can now utilize the languages they are most familiar with.
- **Cross-browser compatibility:** Selenium is compatible with a wide range of browsers, such as Opera, Firefox, Safari, Chrome, and Edge. As a result, tests can be executed in several browsers without requiring the creation of a script for each one.
- **Cross-platform compatibility:** Selenium is compatible with many Linux distributions as well as Windows and Mac OS.
- **Early flaw detection:** During the development process, selenium assists in identifying defects.
- **Simple implementation:** Selenium is easy to use and provides a versatile interface.
- **Connects with other tools:** Selenium integrates with well-known products such as cloud-grids, continuous integration systems, and SC compilers.
- **Reusable test suites:** Automation test suites can be reused with Selenium.
- **Selenium Grid** facilitates the execution of tests in parallel on several machines.

Conclusion

Selenium Automation makes it possible to run tests fast and precisely, which lowers the possibility of human error and guarantees reliable test results. We hope this Selenium tutorial will be useful for you. Kickstart your career in the automation testing field with our **Selenium training in Chennai**.

Softlogic Academy

Softlogic Systems

KK Nagar [Corporate Office]

No.10, PT Rajan Salai, K.K. Nagar, Chennai – 600 078.
Landmark: Karnataka Bank Building
Phone: +91 86818 84318
Email: enquiry@softlogicsys.in
Map: Google Maps Link

OMR

No. E1-A10, RTS Food Street
92, Rajiv Gandhi Salai (OMR),
Navalur, Chennai - 600 130.
Landmark: Adj. to AGS Cinemas
Phone: +91 89256 88858
Email: info@softlogicsys.in
Map: Google Maps Link

Courses

- Python
- Software Testing
- Full Stack Developer
- Java
- Power BI
- Clinical SAS
- Data Science
- Embedded
- Cloud Computing

Navigation

- About Us
- Blog Posts
- Careers
- Contact
- Placement Training
- Corporate Training
- Hire With Us
- Job Seekers
- SLA's Recently Placed Students
- Reviews
- Sitemap

Important Links

- Disclaimer
- Privacy Policy
- Terms and Conditions

Social Media Links

Review Sources

- Google
- Trustpilot
- Glassdoor
- Mouthshut
- Sulekha

Hardware and Networking

VBA Macros

Mobile App Development

DevOps

Justdial

Ambitionbox

Indeed

Software Suggest

Sitejabber