

Report On Selenium Automation Framework

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Introduction to Automation testing:

Testing is an essential part of a software development process. While testing intermediate versions of products/projects being developed, testing team needs to execute a number of test cases. In addition, prior to release every new version, it is mandatory that the version is passed through a set of “regression” and “smoke” tests. Most of all such tests are standard for every new version of product/project, and therefore can be automated in order to save human resources and time for executing them.

Benefits of using automated testing are the following:

- Reduction of tests' time execution and human resources required
- Complete control over the tests' results (“actual results” vs “expected results”)
- Possibility to quickly change test's preconditions and input data, and re-run the tests dynamically with multiple sets of data

Automation workflow for the application can be presented as follows:

- First of all it is required to identify tasks that an application has to accomplish.
- Second, a set of necessary input data has to be created.
- Third, expected results have to be defined in order one can judge that an application (a requested feature) works correspondingly.
- Fourth, Executes a test.
- Finally, Compares expected results with actual results, and decides whether the test has been passed successfully.

Environment Specifications:

1. Selenium Webdriver
2. Eclipse IDE
3. Java
4. TestNG
5. AutoIT Tool
6. JExcel or Apache POI to perform operations with excel like read, write and update the excel sheet

This Framework has the following tools:

- 1.Selenium** - Selenium is a well know open source testing framework, which is widely used for testing Web-based applications.
- 2.Eclipse IDE:** Eclipse is an integrated development environment (IDE) for Java. The Eclipse IDE is the most known product of the Eclipse Open Source project.
- 3.TestNG** - Is a testing framework inspired from JUnit and NUnit. It has extended new functionalities which made it more powerful and easier than the other testing frameworks.
- 4.AutoIT** - Autolt v3 is a freeware BASIC-like scripting language designed for automating the Windows GUI and general scripting. It uses a combination of simulated keystrokes, mouse movement and window/control manipulation in order to automate tasks which is not possible with selenium.