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AUTOMATION TESTING USING FRAMEWORK

# What is testing?

**Definition:** Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not.

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**Types of testing:** Basically there are two types of testing that may be used to test a software during SDLC. They are: I. Manual Testing And II. Automation Testing

**Necessity of testing:** In the IT industry, large companies have a team with responsibilities to evaluate the developed software in context of the given requirements. Moreover, developers also conduct testing which is called **Unit Testing**. In most cases, the following professionals are involved in testing a system within their respective capacities –

- Software Tester
- Software Developer
- Project Lead/Manager
- End User

Different companies have different designations for people who test the software on the basis of their experience and knowledge such as Software Tester, Software Quality Assurance Engineer, QA Analyst, etc.

# What is automation testing?

**Definition:** Automation testing, which is also known as Test Automation, is when the tester writes scripts and uses another software to test the product. This process involves automation of a manual process. Automation Testing is used to re-run the test scenarios that were performed manually, quickly, and repeatedly.

**Difference between manual and automation testing:** The difference between manual and automation testing is that manual testing includes testing a software manually, i.e., without using any automated tool or any script on the other hand automation testing is used when the tester writes scripts and uses another software to test the product.

**Tools of automation testing:** The following tools can be used for automation testing –

- HP Quick Test Professional
- Selenium
- IBM Rational Functional Tester
- Silk Test
- Test Complete
- Testing Anywhere
- Visual Studio Test Professional

# Why we chose selenium tools?

Table of comparing tools:

	Price	Platform	Supported languages	Tested apps	Coding skills required	Learning curve
Selenium	Free	Windows/Mac/Linux	Java, Python, C#, PHP, JavaScript, Ruby, Perl	Web, mobile (with Appium)	Advanced skills	Steep
TestComplete	\$4600/\$9000	Windows	VB, JavaScript, Jscript, C++, C#, Delphi, Angular, Ruby on Rails, PHP	Web, mobile, desktop	Minimum skills/Advanced skills for pro scripting	Mild
Tricentis Tosca	Custom, high (according to online discussions)	Windows	JavaScript	Web, mobile, desktop	Minimum skills/Advanced skills for pro scripting	Mild
Katalon Studio	Free	Windows/Mac	Java/Groovy	Web, mobile	Minimum skills/Advanced skills for pro scripting	Mild

# Advantages of selenium tools?

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## **Bullate point:**

- Selenium is an open-source tool.
- Can be extended for various technologies that expose DOM.
- Has capabilities to execute scripts across different browsers.
- Can execute scripts on various operating systems.
- Supports mobile devices.
- Executes tests within the browser, so focus is NOT required while script execution is in progress.
- Can execute tests in parallel with the use of Selenium Grids.

# Tools for testing?

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**Programming language** : For testing we are using C# programming language.

**Ide** : Visual studio 2019.

**Software**: Installing selenium web driver software in visual studio 2019.

# How to use selenium tools?

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In order to develop Selenium RC or WebDriver scripts, users have to ensure that they have the initial configuration done. Setting up the environment involves the following steps.

- Download and Install Java
- Download and Configure Visual studio
- Configure FireBug and FirePath
- Configure Selenium RC
- Configure Selenium WebDriver

# Installation of selenium framework?

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Some important notes for installation is given below:

- Install visual studio 2019 from <https://visualstudio.microsoft.com/downloads/>
- In vs 2019 : Tools-> NuGet Package manager-> manage nuget packages find selenium. Webdriver and install it.
- Write a test code for testing the set up.



```
using System;
using OpenQA.Selenium;
using OpenQA.Selenium.Firefox;

namespace facebook
{
    0 references
    class Program
    {
        0 references
        static void Main(string[] args)
        {
            IWebDriver driver = new FirefoxDriver();

            //navigate to page
            driver.Navigate().GoToUrl("http://www.facebook.com");

            //insert firstname
            driver.FindElement(By.Id("u_0_t")).SendKeys("Faisal");

            //insert lastname
            driver.FindElement(By.Id("u_0_t")).SendKeys("Sabbir");

            //select month as date
            driver.FindElement(By.Id("day")).SendKeys("13");

            //select month as december
            driver.FindElement(By.Id("month")).SendKeys("Apr");

            //select month as year
            driver.FindElement(By.Id("year")).SendKeys("1993");

            //select gender
            driver.FindElement(By.Id("u_0_7")).Click();
        }
    }
}
```

# Example of using selenium framework?

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# Output of testing

**facebook**


Email or Phone


Password


Log In

Forgot account?

## Connect with friends and the world around you on Facebook.

**See photos and updates** from friends in News Feed.

**Share what's new** in your life on your Timeline.

**Find more** of what you're looking for with Facebook Search.

## Sign Up

It's quick and easy.

First name

Last name

FaisalSabbir

New password

**Birthday**

Apr

3

1994

?

**Gender**

☐ Female

☒ Male

☐ Custom

?

By clicking Sign Up, you agree to our [Terms](#). Learn how we collect, use and share your data in our [Data Policy](#) and how we use cookies and similar technology in our [Cookies Policy](#). You may receive SMS Notifications from us and can opt out any time.

# Disadvantages of selenium framework

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Bullate Point:

- Supports only web based applications.
- No feature such as Object Repository/Recovery Scenario
- No IDE, so the script development won't be as fast as QTP.
- Cannot access controls within the browser.
- No default test report generation.
- For parameterization, users has to rely on the programming language.

# Questions & Answers

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