Selenium WebDriver

- QtpSudhakar

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Introduction

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About Trainer

- Sudhakar Kakunuri known as Qtp Sudhakar

- Worked as a Tester, Senior, Lead, Manager, Architect and a Trainer for Test Automation

- Blogs at QtpSudhakar.com on various Test Automation concepts

- Started career on WinRunner -> QTP/UFT -> Selenium

- Authored "Cracking the QTP Interview" book published by TATAMcGraw Hill

- Gives training on Selenium/WebDriver, QTP/UFT, LeanFT

- Agreed to write a book for UFTPro and Selenium for Shroff Publishers

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What will be covered in this Course….

- ❑ Java – To Write Tests Using WebDriver API
- ❑ Selenium WebDriver – To Automate Web Applications
- ❑ IDE – Firefox Recording and Playback
- ❑ Grid – For Remote Execution of Tests
- ❑ POM/POF Framework – Object Repository Based Framework
- ❑ TestNG – A Testing Framework to write Tests based on standards
- ❑ ExtentReports – To Generate Reports for Tests
- ❑ Maven – A Build Automation Tool
- ❑ GIT – Source Code Management Tool
- ❑ Jenkins Integration – A Continues Integration System
- ❑ SIKULI – An Automation API useful in failure of WebDriver locators
- ❑ DataDriven, Hybrid Frameworks – Realtime Implementation
- ❑ Appium – For Mobile Application Testing
- ❑ Cucumber – A tool based on BDD Framework

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What you get from this Training

❑ Real Time Knowledge to manage at least 2 years experience

❑ Confidence to attend Interviews

❑ Good command on writing java programs

❑ Expertise in Automating Web and Mobile Applications

❑ Knowledge on current Test Automation Trends

❑ Installation and configuration of Selenium and Related Software

❑ Notes and Programs that are discussed in class

❑ Video access

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What I need From YOU

❑ Daily minimum one hour Practice

    ❑ Time Slots(Lunch Time/After Office Hours or Dinner)

❑ Don't miss the class

❑ Don't postpone practice

❑ Group Practice at least once per week

❑ Ask me if you don't get the concept

    ❑ I will spend 30 mins in institute after the class

    ❑ I will give my WhatsApp Number

❑ Discussing with your Test Automation Working Friends and Colleagues

❑ Self Motivation

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What level of java required to work with selenium?

❑ This is like "what level of computer knowledge required to do Manual Testing?"

❑ The answer is simple "The more knowledge you get The better results you see"

❑ A basic java knowledge is enough to learn and write automation programs
  ❑ Variables, Datatypes, conditions, loops, Arrays, lists, packages…etc.

❑ Some more knowledge is required to write reusable automation programs
  ❑ Classes, Objects, Methods…etc.

❑ Some more knowledge is required to develop Automation Framework
  ❑ OOPS concepts like Inheritance, encapsulation, polymorphism…etc.

❑ Learning is a never end process.

❑ If you completed the first step successfully… you can easily complete all other steps

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Selenium Introduction

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Test Automation Life Cycle

↓ **Decision to Automate**

- Meetings and Discussions
- Tool Selection

↓ **Planning**

- How to Automate
- What to Automate
- When to Automate
- In Scope & Out Scope

↓ **Design**

- Test Automation Framework
- Environment Setup and Trainings

↓ **Develop**

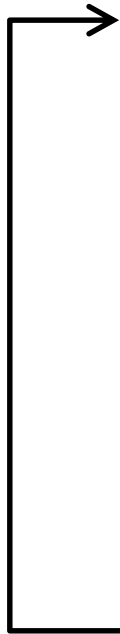- Develop Scripts for Automation
- Review Scripts

↓ **Execute**

- Setup Test Execution Environment
- Execution of Scripts

↓ **Report**

- Analyse Results
- Report Defects

↓ **Maintenance**

- Enhance Scripts as per new CR's

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Different Test Automation Tools

Tool Name	Company
Unified Function Testing UFT Pro (LeanFT)	MicroFocus
Test Complete	SmartBear
Ranorex	Ranorex GmbH
Tosca Suite	Tricentis
SilkTest	Micro Focus
Rational Functional Tester	IBM
OATS	Oracle
CoadedUI	Microsoft
Selenium	Open Source
WatiR, WatiJ, WatiN	Open Source
Sahi	Open Source , Commercial

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What makes Selenium different from Other Tools?

❑ Selenium (WebDriver) is an open source Automation Solution
❑ Developed to Automate Web Applications Functional Testing
❑ You can test Web Applications on Multiple OS
  ❑ Windows
  ❑ Linux
  ❑ OSX
❑ You can write programs in Multiple Languages
  ❑ Java
  ❑ Javascript
  ❑ C#
  ❑ Ruby
  ❑ Python
❑ You can test Web Applications on Multiple Browsers
  ❑ Firefox
  ❑ IE
  ❑ Chrome
  ❑ Safari
  ❑ Opera
  ❑ ….

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Tools and Languages

Tool Name	Language
Unified Function Testing	VBScript
UFTPro (LeanFT)	Java, C#, JavaScript
Test Complete	JavaScript, Python, VBScript, C#
Ranorex	C#, VB.Net
Tosca Suite	Java, Delphi, VB
SilkTest	Java, C#
Rational Functional Tester	Java, VB.Net
OATS	Java, OpenScript
CoadedUI	C#, VB.Net
Selenium	Java, C#, Python, Perl, JavaScript
WatiR, WatiJ, WatiN	Ruby, Java, C#
Sahi	Java, SahiScript

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Selenium Version History

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Selenium Versions

❑ Selenium was originally developed by Jason Huggins in 2004 as an internal tool at ThoughtWorks.

❑ Huggins and Paul Hammant joined the team with other programmers and open sourced "Selenium Remote Control" (RC)

❑ In 2006, Shinya Kasatani donated Selenium-IDE a Firefox Addon to Selenium project.

❑ In 2007 Simon Stewart at ThoughtWorks developed a superior browser automation tool called WebDriver

❑ In 2008, Philippe Hanrigou made "Selenium Grid", which provides a hub allowing the running of multiple Selenium tests concurrently on any number of local or remote systems, thus minimizing test execution time.

❑ In 2009 at the Google Test Automation Conference, it was decided to merge the two projects, and call the new project Selenium WebDriver, or Selenium 2.0.

❑ It was released in 2011. The last version is 2.53.1

❑ In 2016 Selenium 3.0 released and unveiled a roadmap to make it a W3C specification.

❑ The latest version is 3.7.1 (Nov 2017)

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- ❑ Selenium RC has been officially deprecated in favor of Selenium WebDriver.

- ❑ Selenium 1.0 + WebDriver = Selenium 2.0

- ❑ WebDriver is designed in a simpler and more concise programming interface along with addressing some limitations in the Selenium-RC API.

- ❑ Selenium 2.0 supported Selenium core (Used for RC API Execution) deleted from Selenium 3.0

- ❑ They states that *"The needs of modern web testing have grown ever more complicated and Selenium Core is now less capable of meeting these needs than it was before."*

- ❑ Selenium IDE will no longer work from Firefox 55 onwards as there are no people to maintain

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