BEST RESOURCES TO LEARN SELENIUM WEBDRIVER

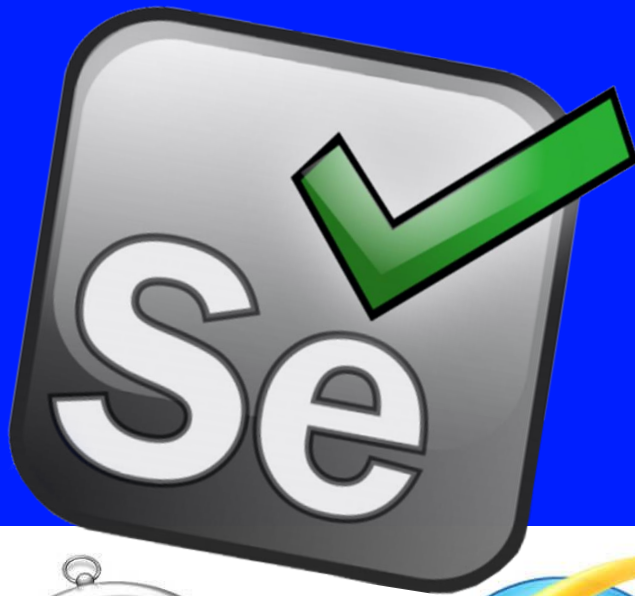# Table of Contents

Introduction

I think you will agree with me when I say:

It's REALLY hard to find good resources to teach you Selenium WebDriver.

Or is it?

When I first started doing test automation with Selenium many years ago, I had a tough time finding good resources to help me improve my skills. There were many bad resources, even more mediocre ones, and overall very few that were actually helpful.

So I took action…

When I found good resources, I saved them. I've been doing this since 2012…

And I still do this today. Regularly revisit and refactor my lists.

Here's the kicker:

The result is a fantastic list of the most influential Selenium WebDriver resources that you will ever find.

There are certain resources will skyrocket your test automation with Selenium.

In this post, I will outline a list of the most influential resources to help you improve your test automation using Selenium WebDriver.

Some of the best resources include:

▪ Best Online Video Courses

▪ Greatest Test Automation Frameworks

▪ Amazing Books

▪ Websites for Selenium practice

▪ and so much more…

Online Video Courses

1) Selenium 2 WebDriver Basics with Java

Price: $229

Author: Alan Richardson

Topics Learned: Selenium WebDriver, Java

There are a ton of courses out there to learn Selenium WebDriver. Most of them are complete garbage, but Alan's course is just awesome. He will teach you many different aspects to learn Selenium Webdriver such as how to:

- Handle iFrames
- Write tests
- Perform user interactions
- Invoke JavaScript
- Work with tabs
- And so much more, from basic to advanced

2) [Complete Selenium Webdriver with C# – Build a Framework](#)

Price: ~~$349~~ $129

Author: Nikolay Advolodkin

Topics Learned: Selenium Webdriver Framework Development, C#, Visual Studio

Yes, this is a shameless plug for my course, but in all honesty, this is a wonderful course. It is the #1 rated Selenium course in the world and has over four thousand students.

Furthermore, this course is the only course in the world that will teach you how to build your own automation framework from scratch.

No other course in the world does this... Please Google and find another similar course... I've tried

Here's the best part:
At the end of the course, you will be self-sufficient and capable of creating an automation framework from scratch.
Regardless of the technology you use...
Some of the topics that you will learn are:
- Selenium WebDriver basic and advanced topics
- The Page Object Model, the most effective way to create automation testing frameworks
- C# for beginners to make you efficient at coding frameworks
- TDD for test automation – an advanced technique that I created and teach only in this course
- Much more...

3) Clean Coders

Price: $14

Author: Robert C. Martin

Topics Learned: Development, Best Practices

This is my new favorite website to go to for learning development best practices. If you want to truly shine and be a Test Automation superstar, you need to be a good Developer. This website will give you all of the fundamental skills. Some things you will learn in the most entertaining videos are:

- Foundations of SOLID principles
- Factories
- SOLID Components
- Component Cohesion

4) Selenium Guidebook

Price: $249

Author: Dave Haeffner

Topics Learned: Selenium Webdriver, C#, Java, Ruby, Python, JavaScript

This isn't purely just a video course to learn Selenium WebDriver. This is actually a collection of a bunch of great resources from Dave. You get video tutorials, an e-book, and cheat sheets. I bought it myself and am definitely satisfied. Here you can learn:

- Local configurations
- Cloud configurations
- Write maintainable tests
- Much more

5) Selenium WebDriver, SpecFlow, and BDD

Price: $29/month

Author: Pluralsight

Topics Learned: Selenium Webdriver, C#, BDD

This is an excellent course on PluralSight that will teach you how to do Behavior Driven Development using SpecFlow framework. Jason does an excellent job teaching the relevant topics for BDD. It's actually the only BDD course that I have seen for the SpecFlow framework. Some things that you can learn are:

- SpecFlow
- Page Objects in Selenium
- Behavior Driven Development concepts

6) Selenium Webdriver Implicit and Explicit Waits

Price: Free

Author: Nikolay Advolodkin

Topics Learned: Selenium Webdriver, C#, Visual Studio

Struggling with flaky tests? This is a free course to learn Selenium Webdriver that you can use to seriously improve the stability of your automated functional tests. Here are some topics that you will learn:

- Learn the problems that can occur as a result of improper synchronization
- Learn how to use Selenium Webdriver explicit waits
- Master Selenium Webdriver implicit waits
- Comprehend the appropriate situations in which to use all of the different types of waits.

7) [Selenium WebDriver With Python 3.x – Novice To Ninja](#)

Price: $199.99

Author: Lets Kode It

Topics Learned: Python, Selenium Webdriver

This is another great course on how to implement an automation framework from scratch using real web application. At the end of this course, you will have a detailed understanding of the following:

- Web automation frameworks
- Design and implementation of structured automation frameworks.
- How to lead any Selenium automation project on your own.
- The required skills to automate any web application.
- Python Programming Language
- How to write efficient testing code
- How to perform cross-browser testing
- Unittest and Pytest Frameworks
- How to easily clear Selenium Automation interviews if you are searching for jobs

8) Selenium WebDriver with Java & Cucumber BDD

Price: $9.99

Author: Tim Short

Topics Learned: Selenium, Java, Cucumber BDD

In this course, you will learn how to build a start to finish web automation testing framework and simulate user behavior on a web application. Here are things you expect to learn from this course:

- Write realistic automated test scripts for web applications
- Build robust test frameworks and custom libraries
- Integrate Java with Selenium
- Design a data-driven test framework
- Find elements on a web page and simulate user behavior
- Automate user actions across multiple browser platforms
- Develop Cucumber / BDD test plans with feature files using Gherkin

9) [BDD with Selenium Webdriver and Specflow using C#](#)

Price: $9.99

Author: Rahul Singh Rathore

Topics Learned: Selenium Webdriver, SpecFlow, C#

By the end of this course, you will have a great understanding of the following:

- Selenium Webdriver using C#
- How to use Selenium Webdriver to test web-based application
- Advantages of Selenium Webdriver over Selenium RC
- How to use C#

10) [Automation Architect – Selenium WebDriver – 7 Live Projects](#)

Price: $94.99

Author: Rahul Arora (Raman)

Topics Learned: Selenium Webdriver

In this course, you will learn the following:

- How to master the framework designing part
- How to crack automation interviews easily

11) [Robot Framework Test Automation – Level 1 (Selenium)](#)

Price: $9.99

Author: Bryan Lamb

Topics Learned: Selenium Webdriver

This is another great course to learn the following:

- How to install and configure Robot Framework test automation tool plus libraries like Selenium, API, database, and more

- Create & run your first Robot Framework test automation script (Selenium Webdriver example)

- Understand the basics of many Robot Framework test automation libraries (Selenium Webdriver, API, Database, XML, Files, etc.)

- Use the page object pattern to create more reusable, easier to interpret test automation scripts

- Run/execute Robot Framework automated tests in many different ways, including from a command window, batch files, Jenkins, and Windows task scheduler

- Create user-defined keywords to express your tests in business domain terms instead of cryptic Selenium Webdriver code
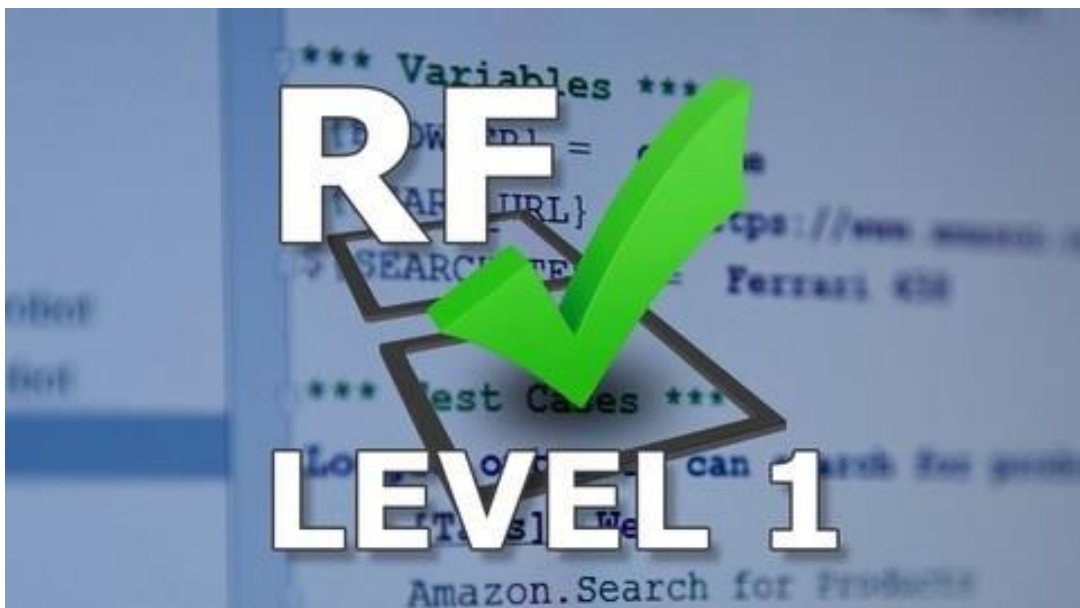
12) Mobile Test Automation: Appium (Latest), Cucumber and Ruby

Price: $9.99

Author: Aleksie Petrovski

Topics Learned: Appium, Cucumber, Ruby

This is a great place to learn mobile test automation. At the end fo this course, you will be able to learn the following:

- How to use Appium framework with Android OS
- How to automate any Android application using Appium
- How to use aleCucumber framework for any testing project including Selenium
- How to work with Android real devices and emulators
- How to use Appium inspector and Uiautomatorviewer to identify elements in an application
- How to install all required tools to begin test automation
- Implement scalable framework using Cucumber and Ruby
- How to use Appium gestures: swipe, scroll, tap
- Bonus: Setup project for iOS app with basic elements

Websites to Practice Test Automation
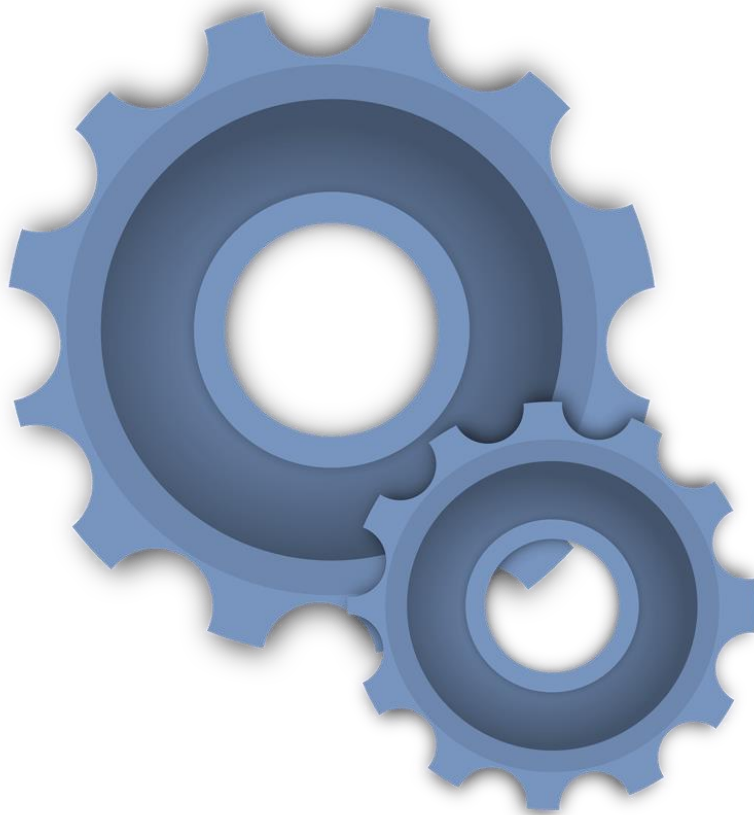
1. Ultimate QA Practice Site

Author: Nikolay Advolodkin

Topics Learned: Test Automation

A free place to practice some scenarios like:

- Testing a large complicated page
- Work with simple HTML elements like buttons
- Fill out forms
- Automate an application that evolves over time

2) Awful Valentine

Author: Awful Valentine

Topics Learned: Test Automation, Slow Ajax

Another free website that I got from a book I read called Selenium Design Patterns. This website is a simulator of an online store where you can purchase different kinds of items. You can try to automate items such as:

- Slow AJAX
- Slow animation
- Third party links
- Credit card transactions
- Online store checkout scenarios

3) Dave Haeffner's Practice Site

Author: Dave Haeffner

Topics Learned: Test Automation

Dave designed an excellent place to practice different kinds of test automation scenarios. Some of the scenarios that you can try to automate include:

- A/B Testing
- Basic Auth
- File Upload
- Challenging DOM
- iFrames
- Slow connections
- Dynamic content
- Hovers
- Redirect links

4)   PHP Travels

Author: PHP Travels

Topics Learned: Test Automation

This is an excellent demo travel site that you can use to practice your test automation. They have a front end and a back end for you to automate.

5) Mercury Tours

Author: Mercury Tours

Topics Learned: Test Automation

This is an excellent demo travel site that you can use to practice your test automation. They have a front end and a back end for you to automate.

6)   6) Sample E-Commerce Site

Author: Selenium Framework

Topics Learned: Test Automation

This is really a nice fake e-commerce site to practice test automation. If you have a project where you need to practice different flows for online stores, this is the website you want. You can practice

- Adding items to the cart
- Checking out
- Validating that items have been added

7) Demoqa

Author: Tools QA

Topics Learned: Test Automation

This is a neat little website with simple elements to practice test automation with. It has:

- Draggable elements
- Droppable elements
- Selectable elements
- Sortable elements
- Much more

8) Compendiumdev.co.uk

Author: Alan Richardson

Topics Learned: Test Automation, Drag and Drop Elements

- Drag and drop elements
- Draw on a canvas

9) Fake Online Clothing Store

Author: Software Testing Board

Topics Learned: Test automation

This is a neat online clothing store for performance apparel called Luma. Here you can practice the following skills:

- Adding items to a cart
- Searching for items in the store
- Performing the checkout process

Books

Many years ago someone called me a guru at using QuickTest Pro for functional test automation since I knew how to do everything with that tool. Which was ironic, because as a "guru" of QTP, I was only able to maintain about 10 functional tests with any kind of reliability.

Today, I am capable of coding a functional Graphical User Interface test in under 30 minutes with a guarantee of 99 percent reliability. I can also execute hundreds of functional tests every single day. I'm not saying this to brag; I'm stating it to convey that there is a secret to such a transformation.

That secret was reading books.

If you want to truly master test automation and put a smile on the face of your managers, you must read. Every book you read will be an extra weapon enhancing your test automation arsenal.

Below is a list of the most impactful books that I read to improve my test automation skills.

1) **Clean Code: A Handbook of Agile Software Craftsmanship by Robert C. Martin**
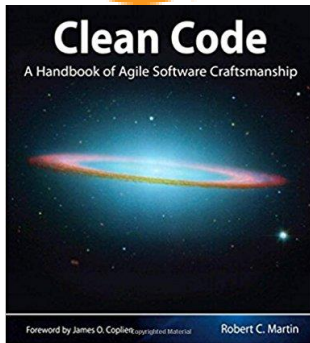
Price: $30.75

Author: Robert C. Martin

Topics Learned: Names and functions, objects, data structures, error handling, unit testing

Although this is not a book specifically for test automation, it's one that every code writer should own. Out of all the books that I have read, this one has caused one of the largest improvements to my functional test automation.

Bob Martin conveys a ton of coding best practices that anyone writing code should implement, even you, Automation Engineers. Furthermore, Uncle Bob tells the best stories. Some of the topics that are covered include how to:

- Write meaningful names
- Write good functions
- Handle comments
- Deal with objects and data structures
- Do proper error handling
- Write unit tests

2) Software Test Automation
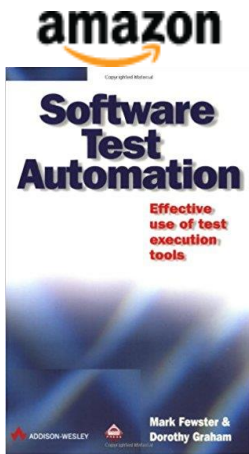
Price: $16.75
Authors: Mark Fewster and Dorothy Graham
Topics Learned: Automation testing principles and techniques, metrics

I recently reopened it to help me with a presentation and then I realized that this book is pure gold. Even though it was written in 1999, so much of it still applies. By reading this book, you will gain 30 years of test automation experience, seriously. To this day, I see people repeating all the mistakes that are listed in *Software Test Automation*. Some things you will learn are:

▪ Capture replay is not test automation

▪ Building maintainable tests

▪ Metrics

3) Head First Design Patterns: A Brain-Friendly Guide

amazon

Price: $36.06
Authors: Eric Freeman and Elisabeth Robson
Topics Learned: Factory pattern, strategy pattern, object-oriented design principles

It's funny how the books that have had the most impact on my automated functional testing were books on software development. At some point, all Automation Engineers reach a place where automation skills are no longer their Achilles heel. Rather, it's a lack of understanding of good Object Oriented design and patterns to deal with common problems faced by all of us.

Yes, I was a QTP guru according to some, but I was not a great Test Automation Engineer. This book helped me to surpass any such impasse by covering fundamental design patterns such as:

▪ Factory Pattern – excellent for WebDriver initializations

▪ Strategy Pattern – excellent for different kinds of behaviors

▪ Other great object-oriented design principles such as "programming to an interface and not an implementation"

4) Selenium Design Patterns by Dima Kovalenko
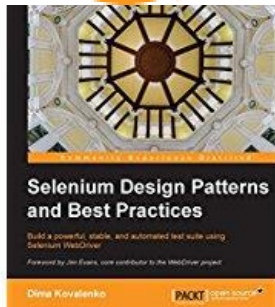
Price: $31.99
Author: Dima Kovalenko
Topics Learned: Automation design patterns

Selenium Design Patterns by Dima is an excellent book that will teach you some very valuable automation design patterns, regardless of the tools that you use. You will learn:

- Hermetic Design Pattern
- Page Object Pattern
- Spaghetti Antipattern
- And much more

5) [Experiences of Test Automation by Dorothy Graham and Mark Fewster](#)

amazon

Price: $39.19
Authors: Dorothy Graham and Mark Fewster
Topics Learned: Test automation techniques and issues, database automation, regression testing

This is an excellent resource for test automation. Dorothy and Mark have a lot of experience and their advice can help you to overcome many hurdles when dealing with test automation. Even today, I still see people making a lot of mistakes that could be overcome by reading this resource.

You will learn some valuable techniques, including:

- How to prioritize automation
- What to automate
- How to automate
- Management issues
- Technical issues
- Database automation
- Regression testing in production
- Automating the testing – of complex government systems.

6) Agile Testing by Lisa Crispin and Janet Gregory

Price: $41.89
Authors: Lisa Crispin and Janet Gregory
Topics Learned: Test automation techniques, agile development

I originally picked up this book to become a better tester in general. Although I am still reading this book, I have learned some valuable information. Some things that you will learn are:

- How to overcome barriers to test automation
- How to get testers engaged in agile development
- Where testers and QA managers fit on an agile team
- What to look for when hiring an agile tester
- How to transition from a traditional cycle to agile development
- Complete testing activities in short iterations
- How to use tests to successfully guide development

7) Refactoring: Improving the Design of Existing Code by Martin Fowler and Kent Beck

Price: $51.29
Authors: Martin Fowler and Kent Beck
Topics Learned: Refactoring, organizing data

I don't care what anyone says. A good Test Automation Engineer is a good programmer.

Now most of us may never work for Google developing Google Chrome, but we should have the capability to understand and write good code good code. More specifically, we should have the capability to design a maintainable, robust, and flexible test automation framework. Refactoring is the key to creating a flexible system.

The problem is that most Test Automation Engineers spend the majority of their time creating new automated functional tests while their old code rots. After a year of development, their automation grinds to a halt. In this book, you will learn:

- Bad smells in code
- The importance of refactoring
- Organizing data
- Making methods simpler

8) [Selenium Guidebook by Dave Haeffner](#)

Price: $249
Author: Dave Haeffner
Topics Learned: Selenium Webdriver, Page Objects

This is an excellent resource from Dave Haeffner that is purely focused on teaching you Selenium WebDriver. He goes through all of the pain points of working with Selenium and covers them one by one. Some topics that you will learn are:

▪ Getting Started

▪ Finding and Verifying Locators

▪ Your First Test

▪ Writing Maintainable Tests with Page Objects

▪ Writing Really Maintainable Tests with a Base Page Object

E-learning Platforms

These are websites that contain a bunch of very useful courses. Some are paid and some are free. Take a look and search for your desired topic.

1) Udacity

Price: Free and Paid

Author: Udacity

Topics Learned: Software Testing, Programming

This is a great site with very high-quality videos. The videos are recorded so you can take interactive quizzes based on the content that is drawn on the page, during the video. The instructor may ask you to identify the correct solution to a problem, write four answer choices, and then you can interact with the User Interface to select the correct choice. Two of my favorite free courses are Software Testing and How To Use Git and Github.

2) Code School

Price: Free and Paid

Author: Pluralsight

Topics Learned: Development Training, C#, Ruby, Python, Git

This is a really sweet website for learning different kinds of programming languages by actually coding your own games. The video editing of these tutorials is excellent and they are extremely interactive.

Try ASP.NET Course

3) Microsoft Virtual Academy

Price: Free

Author: Microsoft

Topics Learned: Development training, C#, .NET

This is an excellent website from Microsoft. Here you can learn a lot about all of the different Microsoft technologies from excellent and knowledgeable instructors. Some of my favorite courses to improve your automation skills include:

- Rapidly diagnose and solve application problems in Visual Studio
- C# Fundamentals
- Software Development Fundamentals

4) Coursera

Price: Free and Paid

Author: Various

Topics Learned: Test automation, software security, metrics, and many more

Their motto is *"Take free online courses from top universities."* Therefore, you can take real college courses online. Most are completely free. The only catch is you actually have to participate in the course because they have hard start dates, homework, and quizzes. Some courses that you can partake in include:

- Software Security
- Testing With Agile
- Mastering The Software Engineering Interview
- Reviews & Metrics for Software Improvements

5) [Pluralsight](#)

Price: $29/month

Author: Pluralsight

Topics Learned: Test automation, Selenium Webdriver, HPUFT, SpecFlow

This is a top-notch site with some of the best professionals teaching great topics. These professionals include John Sonmez, Aaron Frost, and Scott Allen. You can learn different programming languages like Java, C#, and Python by watching video tutorials. You can also learn automation tools like Selenium WebDriver, Coded UI, NUnit, Visual Studio Test, and much more. All of the video tutorials come with code and notes that you can use in order to enhance your retention rate. Some of my favorite courses include:

- [Automated Business Readable Web Tests with Selenium and SpecFlow](#)
- [Automated Web Testing with Selenium](#)
- [Quick Guide to API Testing with HP's Unified Functional Testing](#)
- [Creating an Automated Testing Framework With Selenium](#)

Blogs / Websites

Selenium is an incredibly useful set of tools used to automate web browsers, and WebDriver is an advanced tool that lets you test your scripts against multiple different browsers. Every web developer needs to know how to use Selenium WebDriver.

If you don't have time to go through a class, or if you know a little bit but want to become an expert, a great way to learn more is by reading relevant blogs.

But there's a problem: It's REALLY hard to find good blogs to teach you Selenium WebDriver.

It's not that they are not out there. They are. However, there are so many of these blogs that it is hard to filter out the bad from the good.

So I've done it for you.

When I first started doing test automation with Selenium many years ago, I had a tough time finding good blog resources to help me improve my skills. So, when I found a good blog with valuable information, I saved it. I still do this today.

The final result is a collection of my top blog resources to help you learn Selenium WebDriver. Listed in no particular order, all of these resources:

- Provide valuable and actionable information

- Are unbiased in their opinions

- Convey excellent knowledge as a result of extended experience

I've included a link to each blog, the main subjects the blog covers, a brief description, and some of the key points you can expect to learn by reading or articles you should take a look at.

1) Selenium HQ Wiki

Author: Simon Stewart

Topics Learned: Selenium Webdriver

You cannot have a resource guide to test automation without including the headquarters of knowledge for Selenium WebDriver. This fantastic wiki covers everything related to Selenium. Some of the topics you can read about from the contributors include:

- Advanced User Interactions

- Building WebDriver

- Developer Tips

- PageFactory

2)   UltimateQA

Author: Nikolay Advolodkin

Topics Learned: Selenium Webdriver, Automation Testing, Quality Assurance, Software Testing

This website covers everything related to QA, with a particular focus on automated software testing using Selenium WebDriver. There are posts and video tutorials that teach you step-by-step how to work with Selenium WebDriver. Here are some posts that you should read through:

- Common Selenium WebDriver Errors and How to Fix Them
- Complete Selenium WebDriver with C# Course
- How to work with iFrames using Selenium WebDriver
- Proper black box testing design
- ChromeDriver and Chrome browser configurations

3)   Google Testing Blog

Author: Google

Topics Learned: Test Automation, Flaky tests

Google is an innovator and the ideas and patterns that they follow should be emulated by the rest of the IT industry. I like to learn from the best.

This isn't exactly a Selenium WebDriver blog, I know. However, this blog offers excellent information in general and it does cover topics related to test automation techniques. It also includes information on how to write great code. Here are some of my favorite articles:

- Where do our flaky tests come from?
- Too Many Comments on Your Code Review?
- Reduce Nesting, Reduce Complexity
- Providing Context With Commit Messages

4) Elemental Selenium

Author: Dave Haeffner

Topics Learned: Selenium Webdriver, Ruby

Dave Haeffner is a great resource when it comes to test automation. He has been around for years sharing WebDriver knowledge and his website is a serious gold mine of information. If you want to learn how to resolve standard issues with Selenium WebDriver, go through the archives and work through the code samples. Here are a few examples of what you can learn how to do using Selenium:

- How to work with Selenium Grid
- How to use Safari
- How to do load testing with JMeter and Selenium
- How to test for broken images

5) JoeColantonio.com

Author: Joe Colantonio

Topics Learned: Automation Testing, Quality Assurance, Development

Without a doubt, Joe Colantonio is one of my favorite thought leaders in test automation. Colantonio constantly provides quality content on all kinds of different subjects. His podcast, **TestTalks**, has many excellent interviews and he publishes the transcript of the interviews on his blog as well. By reading through these interviews, you have the opportunity to learn from a variety of experts with loads of experience, all in one place. The subjects include:

- Test automation
- Pair testing
- Security testing
- Quick Test Professional/Unified Functional Testing
- Mobile test automation

6) W3C Schools

Author: Refsnes Data

Topics Learned: HTML, XPath, CSS Web

Having a strong coding foundation is just as important as knowing specific tools like Selenium Webdriver. W3C Schools isn't directly related to Selenium WebDriver, but it is a great resource to learn or brush up on the basics of the skills you need before you get ready to perform test automation with Selenium. If you don't have these foundational skills, you won't be able to work with Selenium WebDriver.

I refer back to this blog as needed, especially for these two areas:

- HTML
- XPath

7) Automate The Planet

Author: Anton Angelov

Topics Learned: Test Automation, C#, Jenkins, Visual Studio, Team Foundation Server (TFS), Telerik Studio

I have followed Anton Angelov for a number of years because he knows automation. Angelov regularly shows different code solutions to the same problem. For example, coding a page object with a data map and without a data map. He consistently delivers high-quality content which I have used to improve my skills as a Test Automation Specialist. He writes blog posts that cover a bunch of useful topics related to Selenium WebDriver. For example:

- Most Exhaustive WebDriver Locators Cheat Sheet
- A blog series on development design patterns
- Fluent API in Selenium tests
- Deep coverage of a variety of topics related to Selenium WebDriver
- Compelling Sundays is a collection of his favorite posts

8) Beaufort Fairmont

Author: Beaufort Fairmont

Topics Learned: Test Automation

I first saw Paul Merrill through a presentation at Automation Guild 2017. The information that he presented was relevant and insightful. Since then, I have been reading his blog.

His work has a deep focus on how to do test automation well. Merrill provides excellent strategies to speed up test automation and deliver higher quality results, which is something we all want when using Selenium. He also regularly provides high-quality webinars that are full of excellent information. Some of my favorite posts include:

- 5 Ways to Simplify Your Automated Test Cases
- Test Automation ROI: 5 Ways to Show the Business Benefits
- What's an API and How Do I Test It?

9) Eviltester.com

Author: Alan Richardson

Topics Learned: Testing, automation, Java

I've known about Alan Richardson for at least five years now. He is a phenomenal resource when it comes to test automation. For example, he wrote the book Java For Testers: Learn the Fundamentals Fast and the book Selenium Simplified.

As with most excellent resources, this blog doesn't only focus on a single tool. He covers a broad range of topics related to test automation. However, there is no doubt that his resources will help you to drastically improve your WebDriver skills. Here are a couple of my favorite resources:

- A diagram that helps you to understand how to abstract out your test automation classes to make them easier to use and navigate.
- A post all about Javascript and where to learn it for test automation.
- Where to learn Selenium from Alan's point of view.

Virtual Conferences

1) Automation Guild

Price: $197
Author: Joe Colantonio
Topics Learned: Test Automation
This is by far the best online conference I have ever attended. All other online conferences are deeply disappointing when compared to the Automation Guild. It is extremely focused and convenient. A small sample of all the talks there include:

- If You Want To Automation, You Learn to Code
- Using Page Object Pattern to Dramatically Stabilize Your Automation
- How to Grade Your Selenium Tests
- Screenplay Pattern with Serenity BDD

2) StarWest Virtual Conference

Price: Free
Author: Techwell Company
Topics Learned: Test Automation, Software testing
This is another option for an online conference that can have some benefit for you. Honestly, a lot of the talks are just self-promotion and useless information about a specific tool. However, there might be a few talks here that pique your interest. And it is free.

Webinars / Videos

1) Selenium Conf

Author: Simon Stewart

Topics Learned: Selenium Webdriver

This playlist is pure joy. It has over 30 videos about test automation and Selenium. All free. You need to watch all of these and learn:

- Building Trust in Your Continuous Integration Tests
- Docker Selenium – Getting Started

2) Page Objects in Test Automation

Author: Nikolay Advolodkin

Topics Learned: Test Automation, Selenium Webdriver, Page Object Pattern

This is a free course on Youtube that will give you a complete understanding of the Page Object Pattern when it comes to test automation. Using Selenium WebDriver, I show you how to create readable functional tests, how to create Page Objects, and how to scale your Page Objects when your automation is beginning to take shape.

3) Selenium Webdriver Keyboard + Mouse Actions

Author: Nikolay Advolodkin

Topics Learned: Test Automation, Selenium Webdriver, User Interactions

This is a free course on Youtube that will give you a complete understanding of how to perform keyboard and mouse interactions using Selenium WebDriver. These skills are useful in order to be able to do things like drag n' drop, resize, draw, hover, and much more.

4) Flaky Tests in Continuous Integration

Authors: John Micco and Atif Memon

Topics Learned: Test Automation, Flaky Test

Do you know how to determine flaky tests? What makes a test flaky? In this GTAC video, Google reveals how they analyzed hundreds of thousands of tests to determine flakiness. They discovered that the more edges a test has, the more likely it is to be a flake. And so much more. A must watch.

5) Grading the Quality of Selenium Tests

Author: Dave Haeffner

Topics Learned: Test automation grading rubric, Selenium Webdriver, automation best practices

This source is a fantastic webinar by Dave Haeffner that I highly recommend. He tackles a really interesting topic of grading your automation tests based on a rubric he devised that actually helps you to analyze how good your automated tests are. This is one online video you should make sure to watch to seriously improve your automated software testing.

6) "Building an Automation Framework That Scales"

Author: Peter Kim

Topics Learned: Test automation, scalability

This is a great webinar from Telerik by **Peter Kim** that goes into depth about how to build a test automation framework that scales. He teaches a really interesting technique where he controls all of his objects through an XML file, therefore, making his tests externally configurable without the need to modify code.

Slides / Presentations

1) Page Objects in Test Automation

Author: Nikolay Advolodkin

Topics Learned: Test automation, page objects, Selenium Webriver**, best practices**

This is my presentation from the Page Objects in Test Automation course. The goal of this presentation is to help you understand how to drastically improve the stability of your automated functional tests.

You will learn:

▪ Why functional test automation can create flaky tests

▪ Why the Page Object Pattern is the best approach to test automation design

▪ How to design a good Page Object Pattern

▪ How to work with large page objects

▪ And much more…

2) [Key Test Automation Skills and Best Practices – Recap of Top Sessions from Automation Guild Conf 2017](#)

Author: Joe Colantonio

Topics Learned: Test automation, functional testing, frameworks, visual validation

Joe Colantonio goes over some general ideas for test automation including:

- How testing vendors are embracing open source
- How to grade your Selenium tests
- PageObjects vs Screenplay pattern
- Is BDD just for collaboration?
- TestOps – how automation fits into CI

3) [Test Automation Trends for 2016 and Beyond](#)

Author: Joe Colantonio

Topics Learned: Test automation, trends, frameworks, languages

Joe Colantonio talks about the latest trends in the IT industry so that you can make better decisions for your career. Topics include which test automation tools are growing, what programming languages you should learn, what development methodologies will dominate the future, and the future of Test Driver Development, and these are just a few of the insights provided by this excellent SlideShare.

4) Managing Continuous Delivery of Mobile Apps for the Enterprise

Author: Infostretch Corporation

Topics Learned: Continuous integration, automated testing

What we have here is an excellent SlideShare presentation regarding Continuous Integration and a good approach to implementing it. Sauce Labs talks about source control, build tools, CI tools, self-testing builds, and much more.

5) Three Approaches to Optimizing your Selenium Test Designs

Authors: Brian Van Stone and Neil Manvar

Topics Learned: Test design, Selenium Webdriver

This is a great SlideShare that describes the positives and negatives of the Page Object model, Keyword Driven Frameworks, and Behavior Driven Development.

Selenium WebDriver Framework Code

Did you know that there is an abundance of incredible code out in the world that has already been developed? You are not the first person to try and build an Enterprise level test automation framework. People have been doing this for decades.

This is going to be a list of all Selenium Webdriver frameworks that I have found through my years of development. Take a look at everything to gather some ideas for your efforts.

1) [Golem Automated Testing Framework](#)

Author: Brian Kitchener

Topics Learned: Selenium Webdriver, GUI Testing, RESTful Testing, Sauce Labs

This framework is one of the most feature-rich frameworks that I have ever seen in the industry. It helps you to build GUI tests, RESTful tests, and tests against Windows applications and runs all of these things locally or in the cloud. I spent many hours looking at this code and learned a lot.

The creator has some excellent strategies for making very readable tests. Furthermore, he creates great logs, screenshots, and video recordings to help debug the failed tests. Sadly, I cannot get it to run consistently, but it's a great place to start building from. Also, it hasn't been updated in awhile. I did [fork my own copy](#) and cleaned up all the compilation issues if you want to take it for a spin.

2) [Page Object Model Framework](#)

Author: Nikolay Advolodkin of [Ultimate QA](#)

Topics Learned: Selenium Webdriver, C#, Page Object Model

This is a robust Selenium automation framework that will help you to get started with the Page Object Model and GUI automation. Furthermore, this framework contains many advanced techniques to help you manage large page objects, good solution architecture, and creating HTML reports.

If you are interested in learning more, I actually have an [entire video course](#) where I teach how to develop such an automation framework. [Fork it or download it](#) to get some new ideas for your future framework.

3) [Automate The Planet Frameworks](#)

Author: Anton Angelov

Topics Learned: Selenium Webdriver, Test Studio, C#

Angelov has a ton of useful code that you can look at. He applies different design patterns to his code to show you how it would look. For example, you can see how to use the Strategy Design Pattern, the Facade Design Pattern, Page Object Model, and Advanced Page Object Model. You can cycle through it and decide which code you want to reuse. The code will help you to get started on your own test automation.

BDD Frameworks

1) SpecFlow BDD Automation

Author: SpecFlow
Topics Learned: C#, Selenium Webdriver, BDD
SpecFlow is one of the few C# BDD frameworks out there, which automatically makes it a highly desirable automation tool for you to use in your development projects. This framework helps you to build acceptance tests using business readable specifications. You use the Gherkin syntax to build tests that read close to plain English. Therefore, these tests are readable by the developers, testers, and business personnel, and in theory, serve as living documentation that can replace requirements.

2) [Serenity](#)

Authors: John Ferguson Smart and others
Topics Learned: Java, Selenium, BDD
Serenity is a BDD framework that works with Java and Selenium WebDriver. Serenity also offers functionality such as:

- Providing webdriver management
- Taking screenshots
- Running tests in parallel
- Facilitating Jira integration

I have not used it, but I know some people who do and they all say fantastic things about Serenity. It makes me a bit jealous that it doesn't integrate with my Visual Studio.

3) [Gauge](#)

Author: ThoughtWorks
Topics Learned: Test automation
Gauge is a test automation framework designed by the team that created Selenium WebDriver. In their words, "Gauge is a light-weight cross-platform test automation tool with the ability to author test cases in the business language."
Although I haven't explored the framework myself, it does strike me as interesting since it was created by the Selenium guys. They do seem to create resources that change the world. It's a program I will look at in the future, and you should as well.
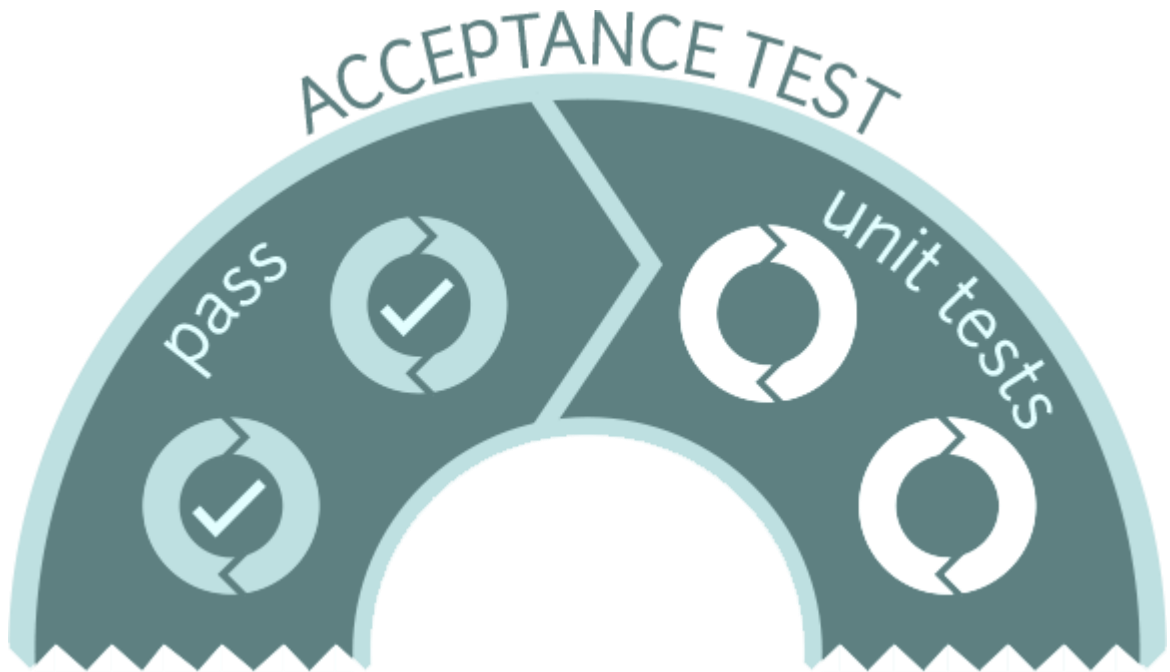
Unit Testing Frameworks

1) NUnit

Authors: Charlie Poole, Rob Prouse, and others

Topics Learned: C#, Unit testing

NUnit is definitely the most popular C# unit testing framework. It's extremely active on Github with tons of contributors and commits. You can use this framework to do unit testing and also acceptance testing with a tool like Selenium WebDriver. It's pretty easy to use as well as being robust. The documentation is also good and there are tons of online resources to help.

Acceptance Testing

1) Fitnesse

Author: Various

Topics Learned: Selenium Webdriver, C#, Page Object Model

FitNesse is an acceptance testing framework that is language agnostic. One great thing about the program is that you can create and edit requirements through the web browser, which makes it simple for everyone involved with the project to interact with this tool. "Using acceptance tests allows for better collaboration because now the stakeholders can design the documentation that becomes testable". This program is a good way to improve communication between business personnel and programmers.