

multiverse

Contents

Selenium Learning Plan	2
Learning Plan Tasks	2
#checkoutTheDocs	2
1. Introduction to Selenium	2
2. Setting Up Selenium	2
3. Basic Selenium Scripting	2
4. Locators in Selenium	3
5. Handling Different Web Elements	3
6. Selenium WebDriver Commands	3
7. Working with Frames and Alerts	3
8. Synchronization in Selenium	3
9. Handling Dropdowns and Multiple Windows	3
10. Testing with TestNG	3
11. Page Object Model (POM)	4
12. Advanced Selenium Techniques	4
13. Build Something Using Selenium!	4
Next Steps	4

Name:
Date:



Selenium Learning Plan

Selenium is a powerful open-source framework for automating web browsers. It is widely used for testing web applications but can also be utilized for web scraping and other automation tasks. This learning plan is designed to guide you through the fundamental concepts and skills needed to become proficient in Selenium.

Learning Plan Tasks

1. Introduction to Selenium
2. Setting Up Selenium
3. Basic Selenium Scripting
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5. Handling Different Web Elements
6. Selenium WebDriver Commands
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12. Advanced Selenium Techniques
13. Build Something Using Selenium!

#checkoutTheDocs

- **Selenium Documentation:** [Official Documentation](#)

1. Introduction to Selenium

- **What is Selenium?:** Understand the basics of Selenium and its role in web automation.
- **Selenium Components:** Learn about Selenium WebDriver, Selenium Grid, and Selenium IDE.

2. Setting Up Selenium

- **Setting Up WebDriver:** Install and configure Selenium WebDriver for your preferred programming language (e.g., Java, Python).
- **IDE Setup:** Set up an Integrated Development Environment (IDE) for Selenium scripting.

3. Basic Selenium Scripting

- **First Selenium Script:** Write a basic Selenium script to open a browser and navigate to a website.
- **Understanding WebDriver Commands:** Learn common WebDriver commands (e.g., get, findElement, click).

Name:
Date:



4. Locators in Selenium

- **Introduction to Locators:** Understand different types of locators (e.g., ID, Name, XPath, CSS Selector) used to identify web elements.
- **Choosing the Right Locator:** Learn how to select the most appropriate locator for a given scenario.

5. Handling Different Web Elements

- **Working with Textboxes and Buttons:** Learn how to interact with textboxes and buttons using Selenium.
- **Checkbox and Radio Button Handling:** Understand techniques for handling checkboxes and radio buttons.

6. Selenium WebDriver Commands

- **Navigation Commands:** Explore navigation commands like `navigate().to()`, `navigate().back()`, and `navigate().forward()`.
- **Window Handling:** Learn how to handle browser windows using Selenium WebDriver.

7. Working with Frames and Alerts

- **Handling Frames:** Understand how to switch between frames in a web page.
- **Working with Alerts:** Learn to handle different types of alerts using Selenium.

8. Synchronization in Selenium

- **Introduction to Synchronization:** Understand the need for synchronization in Selenium.
- **Implicit and Explicit Waits:** Implement implicit and explicit waits for better synchronization.

9. Handling Dropdowns and Multiple Windows

- **Dropdown Handling:** Learn techniques for handling dropdowns in web applications.
- **Working with Multiple Windows:** Understand how to work with multiple browser windows.

10. Testing with TestNG

- **Introduction to TestNG:** Learn the basics of TestNG, a testing framework for Java.
- **Test Annotations:** Understand TestNG annotations such as `@Test`, `@BeforeTest`, and `@AfterTest`.

Name:

Date:



11. Page Object Model (POM)

- **Understanding POM:** Learn the concept of the Page Object Model for better code organization.
- **Implementing POM:** Create a basic Page Object Model for a web application.

12. Advanced Selenium Techniques

- **Handling Cookies:** Understand how to handle cookies using Selenium.
- **Capturing Screenshots:** Learn to capture screenshots during test execution.

13. Build Something Using Selenium!

- **Automation Project:** Choose a simple web application and automate its functionality using Selenium. This could include login scenarios, form submissions, and data validations.

Next Steps

- **Advanced Selenium Topics:** Explore advanced topics such as Selenium Grid, headless browser testing, and mobile automation.
- **Parallel Execution:** Learn how to execute Selenium tests in parallel for faster test execution.
- **Integration with CI/CD:** Integrate Selenium tests with Continuous Integration/Continuous Deployment (CI/CD) pipelines.
- **Real-world Testing Scenarios:** Apply your Selenium skills by testing real-world web applications.