

# **Selenium Testing with Python**

## **Module 1: Introduction to Selenium**

- What is Selenium?
- Importance and benefits of Selenium.
- Brief history and evolution of Selenium.
- Understanding Web Elements

## **Module 2: Basic HTML concepts.**

- Different types of web elements (e.g., text boxes, buttons, links).
- Introduction to locators (ID, name, class name, XPath, CSS selector).

## **Module 3: Setting Up Selenium Environment**

- Installing Python and pip.
- Installing Selenium WebDriver.
- Setting up a development environment (e.g., IDEs like PyCharm, VS Code).
- Your First Selenium Script
- Writing a basic Selenium script to open a browser and navigate to a webpage.
- Understanding WebDriver commands (e.g., get, find\_element, click).

## **Module 4: Advanced Selenium Concepts**

- Handling Different Web Elements
- Interacting with text boxes, buttons, checkboxes, radio buttons.
- Handling dropdowns and selecting options.
- Uploading files and handling alerts.
- Working with Frames and Windows
- Switching between frames and windows.
- Handling multiple windows and pop-ups.

## **Module 5: Selenium Waits**

- Introduction to implicit and explicit waits.
- Handling dynamic elements and page loading.
- Advanced Locator Strategies
- Writing effective XPath and CSS selectors.
- Using techniques like parent-child relationships, sibling locators.

## **Module 6: Test Automation Frameworks and Best Practices**

- Introduction to Test Automation Frameworks

- Overview of test automation frameworks (e.g., Page Object Model, Data-Driven Testing, Keyword-Driven Testing).
- Pros and cons of using frameworks.
- Building a Basic Test Automation Framework
- Implementing the Page Object Model (POM).
- Organizing test scripts and page classes.