Selenium 3.0

Duration: 5 Days

Prerequisites:

- Basic understanding of programming concepts (variables, operators, control flow)
- Fundamental knowledge of Java, including:
- Syntax and basic constructs of Java programming
- Concepts of Object-Oriented Programming (OOPs)
- Exception handling in Java
- Basic file and database operations in Java
- Familiarity with Java Collections Framework
- Familiarity with HTML and web page structures (tags, attributes)
- Understanding of the concept of test automation and its importance in software development
- An analytical mindset with problem-solving skills
- Willingness to learn new tools and technologies related to software testing

These prerequisites are intended to provide a foundation upon which the Selenium 3.0 course will build. The course is designed to be approachable for those with a basic understanding of the above concepts, and it will guide you through more advanced topics as you progress.

Course Description:

The Selenium 3.0 course is a comprehensive program designed to equip learners with essential skills for automated web testing using the Selenium WebDriver. Starting with a Core Java Refresher, the course ensures a solid foundation in Java, which is crucial for understanding and implementing Selenium tests. The course then progresses to Automation Basics, where learners understand why automation is a key skill in the industry, and the return on investment it offers.With a thorough Introduction to Selenium WebDriver, participants learn about its features and installation. Practical skills are honed through lessons on Locating Techniques and WebDriver Basics, providing hands-on experience with browser automation and element interaction. The course covers advanced topics like frameworks in WebDriver - Framework, and parallel test execution in TestNG.Learners seeking the best online Selenium course will find this program particularly beneficial, as it includes real-world scenarios, such as automating an eCommerce application, and introduces Mobile App Test Automation Using Appium. Graduates of the course will be prepared for the Selenium automation certification, demonstrating their expertise to employers. The curriculum concludes by exploring Selenium Grid for distributed testing, ensuring a well-rounded skill set in Selenium automation.

Target Audience:

- Quality Assurance Engineers
- Test Automation Engineers
- Software Testers transitioning from manual to automated testing
- QA leads and managers looking to implement automation in their testing processes
- Developers interested in learning test automation to enhance their testing strategies
- New entrants into the field of Quality Assurance and Testing
- Professionals seeking to learn Java for automation purposes
- Technical Project Managers overseeing QA teams and automation projects
- QA Consultants who advise clients on test automation strategies
- DevOps Professionals looking to integrate testing into continuous integration and deployment pipelines
- Technical Analysts involved in the software development lifecycle wanting to understand Automation Testing

Course Outlines:

Lesson 01 - Core Java Refresher
- Keywords and Syntax
- variables, operators, and control flows
- OOPs overview from Java context
- Exception Handling, File and DB handling
- Collections overview, and ArrayList example

Lesson 02 - Automation Basics
- 2.1 Fundamentals of test automation
- 2.2 ROI in Automation
- 2.3 Automation framework
- 2.4 Various tools and comparison with Selenium

Lesson 03 - Introduction to Selenium WebDriver
- 3.1 What Selenium is and how it is used in the industry
- 3.2 Features of Selenium
- 3.3 Selenium IDE - Overview with a couple of examples
- 3.4 WebDriver Architecture
- 3.5 Installation of Selenium and supporting tools/Frameworks

Lesson 04 - Locating Techniques
- 4.1 Simple WebDriver Program Demonstration
- 4.2 Basics of HTML page, tags, attributes, and visible texts
- 4.3 Importance of attributes in locating elements
- 4.4 Installation of Firebug and Firepath in Firefox browser
- 4.5 Locators and Eight Locating Techniques
- 4.6 Creating robust locators using CSS and XPath

Lesson 05 - WebDriver Basics - I
- 5.1 Execute Tests in Firefox, Chrome, and Internet Explorer
- 5.2 WebDriver Commands: Driving Browsers and Handling Cookies
- 5.3 WebElement Commands
- 5.4 Handling Various WebElements
- 5.5 WebDriver Timeout Methods

Lesson 06 - WebDriver Basics - II
- 6.1 Handling Multiple elements using find Elements () method
- 6.2 Handling Alerts, Pop-ups, and Frames
- 6.3 Limitation of Implicit Wait and how Explicit Wait helps
- 6.4 Advanced User Interactions
- 6.5 Taking Screenshots
- 6.6 Working with Firefox profiles
- 6.7 Handling File Uploads Using AutoIT
- 6.8 Introduction to Flash Application Testing using Selenium WebDriver

Lesson 07 - TestNG
- 7.1 Arranging Tests in 3-As format
- 7.2 F.I.R.S.T Principles and SRP
- 7.3 Various Annotations in TestNG
- 7.4 TestNG configuration file
- 7.5 Configuration Annotations
- 7.6 Attributes of @Test
- 7.7 Parallel Test Execution Capability
- 7.8 Assertion APIs
- 7.9 Passing Parameters to Tests
- 7.10 Configuring Test Suites
- 7.11 Reports using TestNG
- 7.12 Reports using ReportNG

Lesson 08 - WebDriver - Framework
- 8.1 Introduction to various frameworks
- 8.2 Page Object Design Pattern
- 8.3 Data Driven Tests using TestNG and POI
- 8.4 Introduction to Maven and ANT
- 8.5 Use of Log4j
- 8.6 Use of Listeners
- 8.7 Typical components of a framework
- 8.8 Overview of BDD, TDD
- 8.9 Code Coverage in Java
- 8.10 Overview of Sikuli tool for UI testing
- 8.11 Introduction to Jenkins
- 8.12 Configuring Jenkins to invoke Selenium Tests

Lesson 09 - Selenium Grid
- 9.1 What is Selenium Grid?
- 9.2 When to Use Selenium Grid
- 9.3 Setting up Grid - Hub and Nodes?
- 9.4 Configuring TestNG.xml to run tests on Grid

Lesson 10 - Project Execution
- 10.1 Automate an eCommerce Application
- 10.2 Test Automation Requirements Description
- 10.3 What Next? How to Start?
- 10.4 High Level Framework
- 10.5 Configurability—No to Hard-Coding
- 10.6 Modularity—Re-Use And DRY
- 10.7 Test Data Management
- 10.8 Logging and Reporting

Lesson 11 - Mobile App Test Automation Using Appium
- 11.1 Introduction Mobile App Test Automation
- 11.2 Introduction to Appium
- 11.3 UIAutomator with Appium
- 11.4 Locating Elements - UIAutomator framework
- 11.5 Desired Capabilities for Android