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Selenium Certification Training

Course Curriculum : Your 12 module Learning Plan

https://www.edureka.co/selenium-certification-training

About Edureka

Edureka is a leading e-learning platform providing live instructor-led interactive online training. We cater to professionals and students across the globe in categories like Big Data & Hadoop, Business Analytics, NoSQL Databases, Java & Mobile Technologies, System Engineering, Project Management and Programming. We have an easy and affordable learning solution that is accessible to millions of learners. With our students spread across countries like the US, India, UK, Canada, Singapore, Australia, Middle East, Brazil and many others, we have built a community of over 1 million learners across the globe.

About Course

Edureka's Selenium Certification Training Course is curated by Industry Experts and it expansively covers Selenium WebDriver, Selenium Grid, Selenium IDE, handling IFrames, Alerts and Modal Dialog box. With this Automation testing course you will learn to use Selenium supported plugins such as TestNG Framework, Robot Class, Cucumber, and Gherkin to control your automation environment. Get hands-on experience on widely used automation frameworks such as Data-Driven Framework, Keyword-Driven Framework, Hybrid Framework, and Behaviour Driven Development (BDD) Framework. Throughout this online Instructor-led Selenium Certification Training, you will be working on real-life industry use cases.

Selenium Certification Course Curriculum

Java Basics Refresher for Selenium

Learning Objective: Refresh your knowledge of Java required for Selenium.

Topics:

- Features of Java
- Classes, Objects, Methods, and Constructors
- Datatypes in Java
- Types of Variables in Java
- Basic Operators in Java
- Control Flow Statements
- Object-Oriented Programming Concepts
- Exception Handling Mechanisms

Hands-On:

- Methods and Constructors
- Decision-Making Statements
- Looping Statements
- Object-Oriented Programming Concepts
- Exception Handling Mechanisms

Selenium and its Components

Learning Objective: Getting started with Selenium and its components. Also, use Java collection framework.

Topics:

- Collection Framework (ArrayList, LinkedList, HashSet, and LinkedHashSet)
- Map Interface in Java
- Types of Applications (Desktop, Web, Mobile, Hybrid)
- Software Testing Methods (Manual and Test Automation)
- Test Automation Types (Unit Testing, API Testing, GUI Testing)
- Test Automation Frameworks
- Test Automation Tools
- Test Automation Process
- Components of Selenium Suite
- Types of Testing
- Selenium vs. Other Testing Tools
- Integration of Selenium with Other Tools

Hands-On:

- ArrayList and LinkedList
- HashSet and LinkedHashSet
- HashMap

Selenium WebDriver and Locators

Learning Objective: Understand the working and architecture of the Selenium WebDriver and utilize different web element locating strategies to automate your test scripts.

Topics:

- Introduction to Selenium WebDriver
- Evolution of Selenium WebDriver
- Advantages of Selenium WebDriver
- Selenium WebDriver Architecture

- Introduction to Web elements
- Locating Web elements using various Locators (ID, Name, Class Name, Tag Name, Link Text, Partial Link Text, CSS Selector, and XPath)
- Introduction to XPath
- Types of XPath
- XPath Functions and Customisations

Hands-On:

- Locating Web elements using various Locators
- Absolute and Relative XPath
- XPath Functions
- XPath Axes

Interacting with Web Elements and Waits in Selenium

Learning Objective: Locate Web Elements using CSS Selector and implement Synchronization mechanism in test automation scripts.

Topics:

- What are CSS Selectors?
- Locating Web Elements using CSS Selectors
- Selenium Commands in WebDriver
- Interacting with Web Elements
- Performing Actions on Web Elements
- Checking the Web Element state
- Types of Waits in Selenium

Hands-On:

- Locating Web Elements using CSS Selectors

- Selenium Commands in WebDriver
- Types of Waits in Selenium

TestNG Framework

Learning Objective: Implement TestNG Framework in Selenium Scripts and structurize test cases using concepts such as annotations, grouping, sequencing, and parameterization. Perform parallel tests as well as generate test reports of the executed tests.

Topics:

- Introduction to TestNG
- Installing TestNG Plug-in in Eclipse
- Rules to write TestNG
- Annotations
- Grouping
- Sequencing
- Parameterization
- Parallel/Cross Browser Testing
- Introduction to Reports
- Types of Reports

Hands-On:

- Installing TestNG Plugin
- Executing a TestNG Script
- TestNG Assertions
- TestNG Parameters
- Parallel Testing using TestNG
- TestNG Reporting

Handling Web UI Elements-I

Learning Objective: Handle Alerts, Modal Dialog Box, Multiple Windows, Tabs, and scrolling on a web page. Verify Tooltip using Selenium WebDriver.

Topics:

- What are Alerts?
- Types of Alerts
- Alert Interface methods
- Handling Alerts in Selenium WebDriver
- What is a Modal Dialog Box?
- Handling Modal Dialog Box using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs using Selenium WebDriver
- Scrolling on a web page using JavaScriptExecutor
- Verifying Tooltip using Selenium WebDriver

Hands-On:

- Handling different types of Alerts using Selenium WebDriver
- Handling Modal Dialog Box using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs using Selenium WebDriver
- Scrolling on a web page using JavaScriptExecutor
- Verifying a Tooltip using Selenium WebDriver

Handling Web UI Elements-II

Learning Objective: Handle IFrames using Selenium WebDriver. Manage Dropdowns and Multiple Select Operations using Select Class and Keyboard/Mouse-based interactions using Actions Class.

Topics:

- What is an IFrame?
- Identifying an IFrame
- Switching to IFrames using Selenium WebDriver
- Select Class in Selenium WebDriver
- Methods under Select Class
- Handling Dropdowns and Multiple Select Operations using Select Class
- Actions Class and Action Interface
- Methods for handling Keyboard and Mouse based interactions
- Testing Drag and Drop and Mouse Hover functionality using Actions Class

Hands-On:

- Handling IFrames using Selenium WebDriver
- Handling Dropdowns and Multiple Select Operations
- Handling Keyboard and Mouse-based Interactions using Actions Class

Selenium Grid and Robot Class

Learning Objective: Deploy a Grid of multiple nodes and browsers. Automate Keyboard and Mouse events using the Robot Class.

Topics:

- Introduction to Selenium Grid
- Selenium Grid Architecture
- Deploy a Grid
- Introduction to Robot class
- Methods under Robot class (KeyPress, Key Release, Mouse Press, Mouse Release, Mouse Move)
- Implementation of the Robot class
- Advantages and disadvantages of the Robot class

- Limitations of the Robot class

Hands-On:

- Running Test Scripts on Selenium Grid
- Robot Class methods

Selenium IDE and Page Object Model

Learning Objective: Use Selenium IDE and implement the Page Object Model (POM) using Selenium WebDriver and Page Factory.

Topics:

- What is Selenium IDE?
- Features of Selenium IDE
- Selenium IDE Interface
- Selenese in Selenium IDE
- Why Page Object Model?
- What is Page Object Model?
- What is Page Factory?
- Advantages of POM
- Implementing POM using Selenium WebDriver
- Implementing POM with Page Factory

Hands-On:

- Test Case in Selenium IDE
- Page Object Model using Selenium WebDriver
- Page Object Model with Page Factory

Automation Frameworks-I

Learning Objective: Understand the key Test Automation Frameworks. Utilize Apache POI as well as Data Provider annotation to implement Data-Driven Framework.

Topics:

- Introduction to Selenium Frameworks
- Types of Selenium Frameworks
- Introduction to Data-Driven Test Framework
- Advantages and Disadvantages of Data-Driven Test Framework
- Best practices of Data-Driven Testing
- Apache POI
- Data Providers

Hands-On:

- Data-Driven Test Framework using POI and Data Providers

Automation Frameworks-II

Learning Objective: Implement Keyword-Driven and Hybrid Frameworks. Maintain keyword function library and use the Page Object Model with Hybrid Framework.

Topics:

- Introduction to Keyword-Driven Test Framework
- Uses of Keyword-Driven Test Framework
- Keyword-Driven Framework Components
- Advantages and Limitations of Keyword-Driven Testing
- Implement Keyword-Driven Framework

- Introduction to Hybrid Driven Test Framework
- Advantages and Limitations of Hybrid Test Framework
- Utilize the Page Object Model with Hybrid Framework
- Implementing Hybrid Test Framework

Hands-On:

- Keyword-Driven Test Framework
- Hybrid Driven Test Framework with Page Object Model

BDD Framework with Cucumber

Learning Objective: Understand Agile Testing concepts and the benefits of the BDD framework in an Agile environment. Use Cucumber and Gherkin to write BDD Acceptance Tests in Selenium.

Topics:

- Agile Testing
- Behaviour Driven Development (BDD)
- Advantages and Limitations of BDD
- Cucumber Fundamentals
- Gherkin Syntax in Cucumber
- Step Definition for Cucumber Feature File
- Advantages of Cucumber
- Implementing BDD Framework using Cucumber

Hands-On:

- BDD with Cucumber

Selenium Training Project

What are the system requirements for this Selenium Certification Training course?

Windows/Mac/Linux system, with minimum 4GB RAM (8GB recommended), 20 GB HDD Storage, and processor i3 or later.

How will I execute the Practical?

Practical for this course will be implemented using Java, Eclipse, Selenium IDE, Selenium WebDriver, and Browsers (Chrome, Firefox, and Internet Explorer).

Which case-studies and projects will be a part of this Edureka's Selenium Certification Training Course?

Case Study #1:

Domain: Tours and Travel

Problem Statement: Umbrella Corp. recently acquired a new travel website company and have assembled a small team of developers and testers to overlook the project. You are leading the Testing team and have decided to take the automation testing route using Selenium to rapidly conduct functional tests on the web application. Your goal is to create test automation scripts to verify general functionality of the given scenarios.

Case Study #2:

Domain: E-commerce

Problem Statement: The rapid growth of Abstergo Inc.'s E-commerce website has laid a lot of pressure on the respective teams involved in the web application's development. You have been hired to scale and automate their testing needs with respect to the rapid frequency of releases from the development team. You have decided the best way to go about this would be to use Selenium Grid to handle the scaling aspect and TestNG to reduce scripting time. Your goal is to create a Grid of nodes

and automate test cases using the TestNG framework.

Certification Project:

Problem Statement: Aperture Enterprises is a Testing Solutions Company, providing various solutions for the testing needs of their client's products. Being a part of their Automation Testing Division, you have been tasked to create Test Automation Frameworks that are best suited to test the various scenarios for their client's products.

Client A: A Travel website provides personalized services to the customers. Create a Hybrid Test Automation Framework using Page Object Model and automate the test cases for various scenarios using TestNG Framework.

Client B: An E-commerce website hosts a range of products from various manufacturers. Create a Data-Driven Test Automation Framework using Page Object Model and automate the test cases for various scenarios using TestNG Framework.