

Selenium Course Topics

Introduction

- What is Testing
- Ways of Testing
- Drawbacks of Manual Testing
- Automation Testing
- Web Testing Automation tools
- QTP vs Selenium

Java

Getting Started with Java

- Where to download Java
- How to install Java
- Setting up the Environment Variables
- First Java Program
- How to compile & run a Java application

Java Basics

- Variables and Data Types
- Variable data conversion and Type casting
- Operators
- Conditional Statements - If - else
- Loops - while loops
- Loops - for loops
- Array – Single and Multidimensional arrays

Object Oriented Programming - 1

- OOPs Concept Overview
- Static Vs Non-Static
- Introduction to Classes and Objects
- Constructor
- Inheritance
- Interface
- Overloading
- Overriding
- Access Modifiers

- this, super keywords
- ## **Object Oriented Programming - 2**

- Collections
- Strings
- Regular Expressions
- Exceptions
- Working with Excel files
- Working with Text file
- Working with Properties file
- Working with json file

Working with Database

- Java.sql package
- JDBC Drivers
- Connection Interface
- Statement and PreparedStatement Interfaces
- ResultSet Interface
- Firing select, insert, update and delete queries with database using Java JDBC

Eclipse

- Installing Eclipse
- Creating Simple Java Project in eclipse
- Importing and Exporting
- Debugging using Eclipse
- Exploring Eclipse – Basic
- Exploring Eclipse – Advanced

Selenium

Introduction to Selenium

- Test Automation for Web Applications
- To Automate or Not to Automate?
- Introducing Selenium
- Brief History of The Selenium Project
- Selenium's Tool Suite
- Choosing Your Selenium Tool
- Supported Browsers and Platforms

Element Locators

- Inspect Elements in Mozilla, Chrome and IE
- HTML Language tags and Attributes
- Various locator strategies
- Identifying WebElements using id, name, class
- Basic Xpath Identification
- Xpath functions
- Generating own Xpath
- CSS Selector
- Generating own CSS Selector
- Performance of CSS Selector as compared to Xpath

Selenium WebDriver

- Why WebDriver?
- Downloading WebDriver Jars and configuring in eclipse
- Architecture of Selenium WebDriver
- Drivers for Firefox, IE, chrome, Opera, Iphone, Android etc
- First Selenium Code
- Working with Chrome and IE
- Concept of Firefox profile
- Close and Quit
- Importing WebDriver Documentation in Eclipse
- WebDriver DesiredCapabilities Class
- Proxy settings with WebDriver/Working with proxy Servers
- HTMLUnit driver and Desired Capabilities

Working with WebDriver API--Basic

- Working with WebElements
- Input Fields, Buttons
- Identifying Links
- Finding WebElement
- Getting multiple Elements from a page
- Verifying Element's text
- Getting Element Attribute values

- Checking an Element's CSS values
- Handling Drop down list - Select
- Working with Radio Button
- Working with Check Boxes
- Synchronizing a test with an Implicit wait
- Synchronizing a test with an Explicit wait
- Synchronizing a test with Custom- Expected Conditions
- Checking an Element's Presence
- Checking an Element's Status

Working with WebDriver API--Basic

- Javascript Executor
- Actions
- AutoIT
- Robot keys
- Weptable handling
- Autosuggetions handling
- Switch to Window
- Switch to Frame
- Switch to Alerts
- Switch to Active Element

Selenium Grid

- Introduction to Grid
- Creating Nodes and Hubs
- Configuring Browsers on a Node
- Limiting number of concurrent browsers on Node
- Difference between maxSession and maxInstance
- Configuring Chromedriver and IEdriver exe files on Grid
- Running single test on Single Node - Serially in Multiple Browsers
- Running single test on Single Node – Parallely on Multiple Browsers
- Running single test on Multiple Nodes – each node having different browser
- Prioritizing the Test Cases

TestNG Framework

- What is TestNG
- Installing TestNG in Eclipse
- TestNG Annotations
- TestNG Listeners
- Understanding usage of Annotations
- Running a Test in TestNG
- Batch Running of tests in TestNG
- Skipping Tests
- parameterizing Tests - DataProvider
- Assertions/Reporting Errors
- TestNG Reports
- Grouping Test Cases
- Setting priority of Execution for Test Cases

POM Framework

- What is Page Object Model
- Why Page Object Model
- Advantages of Page Object Model
- How to implement Page Object Model
- What is Page Factory
- How to run Test Cases using Page Object Model

Maven

- What is Maven ?
- Installing/Configuring Maven
- Archetypes in Maven
- Creating Maven Project through Command Line
- POM.xml
- Importing Archetypes
- Maven Repositories
- Importing the Maven Project into Eclipse
- Building a Selenium project and running it through Maven

- Eclipse plugin for Maven
- Using the Maven plugin to Execute phases - Compile, Clean, Package etc

Log 4j

- Log 4j Introduction
- Download Log4j
- Add Log4j Jars
- Test Case with Log 4j logging
- Log 4j Properties file
- Loggers

Extent Reports

- Extent Reports Introduction
- Download and Configure Extent Reports to Project
- Extent Reports Hierarchy
- Basic Extent Reports
- Advanced extent reports with screen shots

JENKINS

- Introduction about Continuous Integration
- Role of Jenkins in Application Development process
- Configuration of Jenkins, Manage Plug-ins, Admin Security System
- Walkthrough of Jenkins UI
- Creation of Jobs, Scheduling jobs
- Configure Email notifications for Automation Reports and Build status
- Creation and Running Selenium Maven Projects from Local Machine
- Creation and Running Selenium Projects from Source Code Management (SCM)

Git hub

- What is Git?
- Downloading and Installing Git
- Integration with Eclipse, Jenkins
- Importing Project to Eclipse from Git
- Using Git Commands
- Uploading Project to Git
- Revisions in Repository

Automation Frameworks

- What is a Framework
- Advantages of Test Automation Frameworks
- Types of Framework
- Keyword Driven Framework
- Data Driven Framework