



WIRECLASS

KNOWLEDGE IS POWER

Selenium with Java Syllabus

Training Duration: 55-60 hours (3 class in a week – 3 hours per class)

Module 1: Test Automation and Selenium Basics

Session 1: Overview on Test Automation

- Disadvantages of Manual Testing
- Advantages of Test Automation
- Disadvantages of Test Automation
- Types of Test Tool
- Overview on Functional Testing
- Overview on Web testing

Session 2: ATLM (Automated Test Life Cycle Methodology)

- Automation Feasibility Analysis
- Test Tool Selection and Environment Setup
- Test Planning and Test development
- Test Execution
- Test Result Generation and Analysis
- Maintenance of Test Automation Resources

Session 3: Selenium Test Process

- Test Planning
- Generating basic Tests
- Enhancing Tests
- Running and Debugging Tests
- Analyzing Test Results and Reporting Defects

Session 4: Overview on Selenium

- Introducing Selenium
- History of Selenium Project
- Selenium License
- Selenium Supporting Environments / Platforms
- Selenium Suite of Tools

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- Selenium Versus UFT
- Advantages of Selenium
- Disadvantages of Selenium
- Testing Frameworks used in Selenium
- Selenium Certification
- Choosing Selenium Tools 9681021202
- Configure Selenium

Session 5: Selenium Suite of Tools

- Selenium IDE (Integrated Development Environment)
- Selenium RC (Remote Control)
- Selenium Grid
- Selenium WebDriver

Session 6: Java for Selenium (Roadmap)

- Why Java for Selenium?

A) Java Fundamentals

- Overview on Java
- Java Environment Setup
- Java Syntax / Structure of Java Program
- Java Package, Classes and Objects
- Comments in Java
- Java Data Types
- Java Variables
- Java Modifiers
- Java Operators
- Constructor in Java
- Java Condition Statement
- Java Loop statements
- Java Numbers, Characters and Strings
- Java Arrays
- Java Regular Expressions
- Java Methods
- Java I/O and File Operations
- Java Exception Handling

Session 7: Java Object Oriented Programming (Roadmap)

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- Java Inheritance
- Method Overriding in Java
- Polymorphism
- Abstract Class
- Encapsulation
- Interfaces in Java
- Java Packages

Module 2: Java for Selenium

Session 1: Overview on Java Programming

- What is Java?
- History of Java
- Types of Java Applications
- Features of Java
- Java Environment
- Usage of Java in Selenium

Session 2: Java Environment Setup and write 1st Program

- Download and Install Java
- Set path Environment Variable
- Download and extract Eclipse IDE
- Java Syntax
- Write a Sample Program

Session 3: Comments in Java

- Purpose of Comments
- Comments syntax in Java
- Comment a block of Statements
- Usage of Comments in Selenium Test Cases

Session 4: Java Data Types

Types of Data Types in Java

A) Primitive Data Types

- byte
- short
- int
- long

- float
- double
- char
- boolean

B) Non Primitive Data Types

- Objects
- Arrays

Session 5: Java Modifiers

A) Access Modifiers

- private
- public
- default
- protected

B) Non Access Modifiers

- static
- final
- abstract

Session 6: Java Variables

- Declaration of Variables
- Assigning values to Variables
- Types of Variables
- Static Variables
- Instance Variables
- Local variables
- Naming Conventions

Session 7: Java Operators

- Assignment Operators
- Arithmetic Operators
- Relational Operators
- Logical Operators

Session 8: String Handling in Java

- Creating Strings

- Concatenating Strings
- String Comparison
- Operations on Strings

Session 9: Java Conditional Statements

- Types of Conditional Statements in Java
- If Statement
- Switch Statement
- Single, Compound and Nested Conditions

Session 10: Java Loop Statements

- for loop
- while loop
- do while loop
- Enhanced for loop
- Nested loops

Session 11: Arrays in Java

- Declaration of Arrays
- Operations on Arrays
- Advantages of Arrays
- Disadvantages of Arrays
- Types of Arrays

Session 12: Java Built in Methods

- Java Number Methods
- Java Character Methods
- Java String Methods
- Java Array Methods
- Java Date & Time Methods

Session 13: Java User defined Methods

- Creating Methods
- Types of user defined Methods
- Method with return value
- Method without return any Value
- Method Overloading

Session 14: File and IO operations in Java

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- Reading Input using Scanner
- Display Output
- File Operations
- Create a Folder
- Create a Text file
- Delete a Folder
- Delete a Text file

Session 15: Exception Handling in Java

- Common scenarios where exceptions may occur
- try block for exception handling.
- Multiple try blocks for handling multiple exceptions.

Session 16: Inheritance

- Inheriting Classes
- Single Inheritance
- Multi level Inheritance
- Hierarchical Inheritance

Session 17: Abstraction

Session 18: Polymorphism

- Compile time Polymorphism / Method Overloading
- Runtime Polymorphism / Method Overriding

Session 19: Encapsulation

Module 3: Selenium WebDriver

Session 1: Selenium WebDriver Introduction

- What is Selenium WebDriver?
- WebDriver Features
- Selenium IDE Vs Selenium WebDriver
- Selenium RC Vs Selenium WebDriver
- Advantages of WebDriver
- Limitations of WebDriver

Session 2: WebDriver Environment Setup and Write 1st Test Case

- Download and Install Java (JDK) Software
- Download Eclipse IDE and Extract.
- Download Selenium WebDriver Java Language Binding
- Add WebDriver jar files in Eclipse
- Download and install Firebug and Firepath Add ons
- Write Test Case using Element locators and WebDriver Methods

Session 3: Element Locators in Selenium

- Inspect Elements using Firebug and Firepath in Firefox Browser
- Inspect Elements using Developer Tools(built-in) in IE Browser
- Inspect Elements using Developer Tools(built-in) in Chrome Browser
- id
- name
- className
- tagName
- linkText
- partialLinkText
- cssSelector
- xpath

Session 4: WebDriver Methods Part-1

- Browser Methods
- get()
- getTitle()
- getCurrentUrl()
- getPageSource()
- getWindowHandle()
- close()
- quit()
- Browser Navigation Methods navigate().To() Method:
- navigate().back() Method
- navigate().forward() Method
- navigate().refresh() Method
- Methods to handle mutiple Browsers

Session 5: WebDriver Methods Part-2

- Methods on Elements
- findElement()
- findElements()
- sendKeys()
- clear()
- Click()
- isEnabled()
- isDisplayed()
- isSelected()
- getText()
- selectByVisibleText()
- selectByIndex()
- Other Methods

Session 6: Handle Elements in WebDriver Part-1

- Handle Browser
- Handle Edit box / Text Box
- Handle Link Element
- Handle Button
- Handle Text Area / Message
- Handle Dropdown box /List box
- Handle Radio Button
- Handle Check Box

Session 7: Handle Elements in WebDriver Part-2

- Handle Image / Image Button / Image Link
- Handle Web Table / html Table
- Handle Frames
- Handle Multiple Browsers
- Handle Mouse hover
- Handle Span
- Handle Duplicate elements

Session 8: WebDriver Test Case Examples Part-1

- Write a Test case for Gmail Login Functionality
- Customer Registration in Online shopping portal
- Customer Login in Online shopping portal
- Check Object existence

- Verify Object states(Selected, Enabled, Displayed...)

Session 9: WebDriver Test Case Examples Part-2

Session 10: Cross Browser Testing

- Browser Drivers (Firefox, IE and Chrome)
- Executing Selenium Test cases using Firefox
- Executing Selenium Test cases using Internet Explorer
- Executing Selenium Test cases using Google Chrome

Session 11: Enhancing WebDriver Test Cases

- Insert Verification Points
- Add Comments
- Synchronization
- Parametrization
- Exception Handling

Module 4: Selenium IDE

- Selenium IDE Introduction
- Download & Install Selenium IDE
- Selenium IDE Features
- Record and Run Tests
- Generate Tests Manually
- Selenese Commands
- Debug Selenium IDE Tests
- Enhancing Selenium IDE Tests

Module 5: Framework Implementation

- TestNG in Selenium
- TestNG Automation Framework
- Introduction to TestNG Testing Framework
- Install TestNG and write First TestNG Test Case
- Create multiple Test Cases and Execute Test Suite
- Prioritizing Test Cases
- Executing multiple Programs / Classes using XML file
- Grouping Test Cases

- Parallel Test Execution
- Data Driven Testing using DataProvider

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