EXPERT LEVEL SELENIUM WITH CORE JAVA
(BASICS TILL ADVANCE LEVEL)

Course Duration :
6 Weekends, 3 hour session each day Saturday & Sunday (1.5 hr Java & 1.5 hr Selenium)

(Courses are held during weekends since the lectures are provided by professionals who are already working with CMM Level MNCs on same domain & Courses content is designed based on the latest market requirements and will help a lot during interviews and building up automation frameworks in Java)
Java Course Content

1. Introduction to java
   • What is java
   • Programming language hierarchy
   • Java files
   • Camel casing
   • Identifiers
   • Java Components naming standards
   • Java source file declaration rules
   • First Java program

2. Classes and Objects
   • Introduction to Classes and objects
   • Understanding Java Heap
   • Creating first Class and Object
3. Variables and Operators
   • Introduction to Variables and their data types
   • Primitive and Non-primitive variables
   • Variable Casting
   • Object references
   • Java Operators

4. Java Methods and their communication
   • Introduction to methods
   • Method arguments and return types
   • Pass by Value
   • Encapsulation
   • Getters and Setters

5. Loops and Arrays
   • If-else statement
   • While loop
• Do-while loop
• For loop
• Enhanced for loop
• Arrays – 1D and 2D
• Reference in an array

6. Understanding Java-API
• Understanding API using ArrayList
• ArrayList fundamentals
• Using Java Library
• Using Packages
• Using HTML- API docs

7. Inheritance and Polymorphism
• Understanding inheritance and inheritance tree
• Methods overriding and the rules
• IS-A and HAS-A relationship
• Super class Vs Subclass
• Method Overloading
• Access Modifiers

8. Abstract Classes and Interfaces
• Abstract classes and methods
• Mother of all classes – “Object class”
• Polymorphic reference
• Object reference casting
• Deadly Diamond of Death
• Interfaces and it’s implementation

9. Garbage Collection and Constructors
• Concept of Stack and Heap
• Methods and classes on Stack and Heap
• Constructors
• Constructor Overloading
• Constructor chaining and this() keyword
• Garbage collection eligibility
10. Statics and data formatting
• Static methods, variables and constants
• Math class and methods
• Wrapper classes
• Auto boxing
• Data formatting and static imports

11. Exception handling
• Risky java codes
• Introduction to Java Exceptions
• Catching exceptions using try/catch block
• The finally block
• Catching multiple exceptions
• Handle or Declare law of exceptions

12. Introduction to GUI
• First GUI code
• Event handling
• Implementing listener interface
• Graphics on GUI
• Inner classes
• Using animation in GUI

13. Serialization and file I/O
• Saving objects state
• Writing serialized object
• I/O streams
• Serializable interface
• Deserialization
• Java IO file
• Reading/Writing a text file

14. Threads and Networking
• Network sockets and TCP ports
• Reading/writing from a socket
• Writing a simple server
• Introduction to Threads and it’s states
• The runnable interface
• Handling Multiple threads
• Dead Lock and synchronized methods

15. Collections
• Introduction to Java collections
• Concept of generics
• Lists
• Sets
• Map
• Hashmap

16. Apache – POI
• Introduction to Apache-POI
• Reading data from MS Excel file using POI
• Creating MS Excel file using POI
• Manipulating Excel file data using POI
17. JDBC
• JDBC concepts and terminology
• JDBC package
• Creating connection to a Database
• Accessing and manipulating tables using JDBC
• SQL statements

18. JUnit
• Introduction to Java Framework
• Annotations
• Testing Java codes using JUnit
• Test Cases creation
• Creating Test Suite to test an application

19. Framework
• Framework and their types
• Data driven framework
• Using framework to test a java application
Selenium RC Course Content

1: Introduction to Selenium IDE & RC:

• What is Selenium RC?
• How to download and configure RC
• Difference between IDE, RC and WebDriver
• Recording & Exporting script through IDE in different formats
• Exploring Selenium RC java doc
• Starting and stopping selenium server
• Download firebug and firepath
• Open Google home page through RC
• Change Facebook user image through RC
• How to download and configure Selenium RC?
• Creating your first RC test
• What is Xpath
• Tools available for finding Xpath

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2: Selenium RC Features & Examples:

- Partial & Full Xpaths
- Handling HTML Elements such as: Text box, Hyperlinks, Submit buttons, Radio buttons, Check boxes, Dropdown etc
- Handling Java script messages
- Finding Elements & text on a Webpage
- Printing all links and other values from a webpage and HTML Elements
- Setting execution speed of Selenium RC
- Capturing Screenshots
- How to capture a screenshot
- Capturing screenshots in case of an error
- Emailing test results
- Working with online captchas
3: Online webtables & Popup/tab browsing:

- Web tables
- Dynamic webtables
- Finding row and columns count
- Extracting dynamic data from rows and columns
- Concept of window names
- How to handle pop up windows
- How to click on elements in new tab

4: Flash / Flex Testing with Selenium RC:

- What is flash/flex testing
- Downloading and Installing flash jar file
- Automating flash player
- Using different call methods of YouTube flash player
- Difference in RC and Webdriver Flash testing
- Implementing flash testing with Selenium RC
Selenium WebDriver Course Content

5: Introduction to Selenium WebDriver:

• What is WebDriver
• Exploring Webdriver java docs
• Downloading Webdriver jar files
• Open Google home page through WebDriver
• Exploring more features of WebDriver
• WebDriver Features & Examples
• Handling HTML Elements such as: Text box, Hyperlinks, Submit buttons,
• Radio buttons, Check boxes, Dropdown etc
• Finding Elements & text on a Webpage
• Printing all links and other values from a webpage and HTML Elements
• Using By class to find elements using different methods
• Implement global wait
• Running test in multiple browsers
• Firefox profile
• Running test in multiple profiles
6: WebDriver & advance features

• Simulating keypress events such as buttons such as Enter, page up, pagedown, backspace etc.
• Handling java script messages
• Working with online captchas
• Running the test with HTMLUnit driver
• Online Webtables
• Downloading and configuring chrome driver
• How to find Xpaths through Chrome developer tool
• Generating your own Xpaths
• What if you don’t have firebug or firepath
• Handling multiple pop ups/tabs in Chrome
• Handling Mouse over Menus and Iframes
7: Ajax & Listeners:

- How to handle Ajax based applications
- Browser navigate methods
- Listeners
- Mouse movements
- Explore action class mouseover method
- Working with Javascriptexecutor
- Drag and Drop
- Resizable
- Handling Sliders

8: Flash Testing with Selenium WebDriver:

- What is flash/flex testing
- Downloading and Installing flash jar file
- Automating flash player
- Using different call methods of YouTube flash player
JUNIT Course Content

9: JUNIT JAVA FRAMEWORK, ANT & REPORTS Generation

• About JUnit and TestNG
• What is a Java framework
• Test Annotations
• Executing the tests in sequence
• Assertions
• Error Collectors
• How to parameterized our test case
• Reading Excel files
• What is Ant
• Configuring Ant
• Running Selenium tests through Ant
• Creating batch scripts for Ant execution
• Report Generation
TestNG Course Content

10: TestNG JAVA FRAMEWORK, ANT & REPORTS Generation

- About JUnit and TestNG
- What is a Java framework
- Test Annotations
- Executing the tests in sequence
- Assertions
- Error Collectors
- How to parameterized our test case
- Reading Excel files
- Generating XSLT Reports
- What is Ant
- Configuring Ant
- Running Selenium tests through Ant
- Creating batch scripts for Ant execution
11: Automation Framework Implementation on a Live Project

Covers end to end steps followed while creating the framework:

• Test data files
• TestCore class which loads Xls file, run selenium server through code
  and do other initialization
• Object.properties file to store Xpaths
• Configuration files
• Skipping test cases
• Screenshot capturing
• Emailing test results
• Generating Reports
• Generating Application and Selenium logs
• Running framework automation through ANT