KKAR Technologies
....Career Through opportunities

SELENIUM SYLLABUS

Java Programming Basics

Why Java for Selenium

- ✓ Installing Java
- ✓ Installing Eclipse
- ✓ First Eclipse Project
- ✓ First Java program
- ✓ Concept of class file
- ✓ Datatypes in Java
- ✓ String class and functions

Practical Examples on Strings handling

Conditional Statements

- ✓ If...else...
- ✓ Switchcase
- ✓ Practical Examples with conditions

Loops

- ✓ While Loop
- ✓ For Loop
- ✓ Practical Examples with loops

Arrays

- ✓ Single Dimensional Arrays
- ✓ Two Dimensional arrays
- ✓ Practical usage of arrays in Selenium

Operators

- ✓ What are Functions?
- ✓ Function Input Parameters
- ✓ Function Return Types

Object Oriented Programming

Local Variables

- ✓ Global Variables
- ✓ Static and Non-Static Variables
- ✓ Static and Non-Static Functions

Creating Objects in Java

- ✓ Meaning of static
- ✓ Why is main method static?
- ✓ Object and Object References
- ✓ Call by reference and Value
- ✓ Overloading and Overriding Functions
- ✓ Access Modifiers – Public/Private/Default/Protected
- ✓ Constructors
- ✓ Interface
- ✓ Usage of Objects in Selenium
- ✓ Inheritance
- ✓ Usage of Inheritance in Selenium
- ✓ Creating Packages
- ✓ Accessing Classes across Packages

Exception Handling

Exception handing with try catch block

- ✓ Importance of exception handling
- ✓ Exception and Error
- ✓ Throwable Class
- ✓ Final and Finally
- ✓ Throw and Throws
- ✓ Different Types of Exceptions
- ✓ Need of exception handling in Selenium framework

Automating Excel file Operations

Creating/Opening XLS Files

- ✓ eading/Writing Microsoft XLS Files
- ✓ Counting Rows and Columns
- ✓ Filling BG/Font Colours
- ✓ Practical Examples

Automating Text File Operations
Creating/Opening Text Files
- ✓ Reading/Writing Text Files
- ✓ Practical Examples

Automating Database Operations
Connecting to Databases

- ✓ MySQL
- ✓ Oracle
- ✓ SQL Server
- ✓ Sending SQL Queries to Database
- ✓ Process the Results
- ✓ Practical Examples

Selenium Introduction
Introduction to Selenium and its Components
What is Selenium?

- ✓ Who developed Selenium?
- ✓ Selenium Components

Selenium IDE
Installing Selenium IDE

- ✓ Creating your First Selenium IDE script
- ✓ How to use Locators in Selenium IDE
- ✓ How to enhance a script using Selenium IDE
- ✓ Creating and Running Tests
- ✓ Creating and Running Test Suite

Selenium WebDriver Training
WebDriver Introduction
Introduction to WebDriver& Comparison with Selenium RC

- ✓ Installing Selenium WebDriver
- ✓ Architecture of selenium Webdriver
- ✓ Creating your First Script in Webdriver

Launching AUT and Inspecting properties of Elements

Launching AUT in FireFox
Launching AUT in InternetExplorer

- ✓ Launching AUT in Chrome
- ✓ Launching AUT in Safari
- ✓ Inspecting properties of Elements on different Browsers
- ✓ Installing FireBug and FirePath
- ✓ Creating FireFox Profile

Automating Operations on various Elements

Browser

- ✓ TextBox
- ✓ ListBox
- ✓ Links
- ✓ Check Box
- ✓ Radio Button
- ✓ HTML Tables
- ✓ Calendars

Automating Keyboard and Mouse Events

Action Class

- ✓ KeyBoard Events
- ✓ Drag & Drop Actions
- ✓ Mouse Hover Action
- ✓ RightClick, Double Click & Tool Tip

Handling multiple Windows

getwindowHandle()

- ✓ getwindowHandles()
- ✓ Switching between windows
- ✓ Handling elements present in different windows

Handling Alerts
- ✓ accept()

- ✓ dismiss()
- ✓ getText()
- ✓ sendKeys()

Handling Frames
What is iFrame?

- ✓ Locating Frames
- ✓ Switching between Frames
- ✓ Handling Frames

Handling Ajax Components
Creating Customize XPath/CSS Selectors
What is XPath

- ✓ When to Use XPath
- ✓ Absolute XPath/Relative XPath
- ✓ Specifying conditions with XPath
- ✓ CSS Selectors
- ✓ Customizing CSS Selector

Synchronization
ImplicitWait
- ✓ WebDriverWait
- ✓ FluentWait
- ✓ PageLoadTimeout

TestNG
What is TestNG?
Advantages of TestNG over JUnit

- ✓ Why do we need TestNG in Selenium?
- ✓ Installing TestNG in Eclipse
- ✓ Creating a New TestNG Test File
- ✓ Test annotation
- ✓ Running the Test
- ✓ Checking reports created by TestNG
- ✓ Generating HTML Reports
- ✓ Annotations used in TestNG

Validating Tests with Assertions

- ✓ Creating multiple Tests
- ✓ Prioritizing Tests
- ✓ Parameterizing Tests with dataProvider
- ✓ TestNGdataProvider with Excel
- ✓ Creating and Running Test Suites with TestNG.xml
- ✓ Parallel Test Execution with TestNG
- ✓ Cross Browser Testing using TestNG

Automation Test Frameworks
Modular Driven Framework

- ✓ Keyword Driven Framework
- ✓ Data Driven Framework
- ✓ Hybrid Framework

Page Object Model (POM) & Page Factory in Selenium
What is POM
- ✓ Why POM?
- ✓ Advantages of POM
- ✓ Creating POM Tests
- ✓ What is Page Factory?
- ✓ Creating Tests with Page Factory

Database Testing using Selenium
JDBC (Java Database Connectivity)

- ✓ Driver Manager
- ✓ Driver
- ✓ Connection
- ✓ Statement
- ✓ ResultSet
- ✓ SQLException
- ✓ Connecting to DataBases
- ✓ Sending SQL Queries to DatabaseProcessing Results
- ✓ Real-time examples of Database Testing with Selenium

AutoIT
Installing AutoIT

- ✓ Components of AutoIT
- ✓ Using FinderTool
- ✓ AutoIT commands
- ✓ Creating Scripts in AutoIT
- ✓ Creating executable files
- ✓ Running AutoIT Scripts from Selenium

Selenium GRID
What is Selenium Grid?

- ✓ When to Use Selenium Grid?
- ✓ What is a Hub and Node?
- ✓ How to Install and Use Grid 2.0?
- ✓ Designing Test Scripts That Can Run on the Grid
- ✓ Using the DesiredCapabilites Object
- ✓ Using the RemoteWebDriver Object
- ✓ Running a Sample Test Case on the Grid
- ✓ Sequential and Parallel Test Execution
- ✓ Running Tests on different Operating Systems
- ✓ Running Tests on different Browsers

MAVEN & JENKINS
MAVEN
What is Maven and Why Maven?

- ✓ Installing/Configuring Maven
- ✓ Creating Maven Project
- ✓ Importing Maven Project into Eclipse
- ✓ What is POM.xml?
- ✓ Adding Dependencies to POM.xml

JENKINS
Installing/Configuring Jenkins

- ✓ Scheduling Test Execution in Jenkins
- ✓ Auto mail configuration in Jenkins
- ✓ What is continues integration?
- ✓ Continues integration with JENKINS

GIT
Downloading and Installing GIT

- ✓ Installing GIT and GITHUB plug-ins for JENKINS
- ✓ Configuring SSH host keys for GIT and JENKINS
- ✓ GIT Bash commands
- ✓ Uploading project to GIT

LOG4J
Introduction about Logging

- ✓ Logging problems without Log4J
- ✓ How to solve Logging problem with Log4J
- ✓ What is Layout?
- ✓ Different types of Layouts in Log4J
- ✓ What is Appender?
- ✓ Different types of Appenders

Project Testing WorkShop