Selenium

Automation Concepts

- What is Test Automation
- Why Test Automation
- Benefits and Challenges
- Manual Testing Vs Test Automation
- When to Automate
- What to Automate
- A typical Test Automation Process
- Test Automation tools

Selenium Introduction

- What is Selenium
- Advantages of Selenium
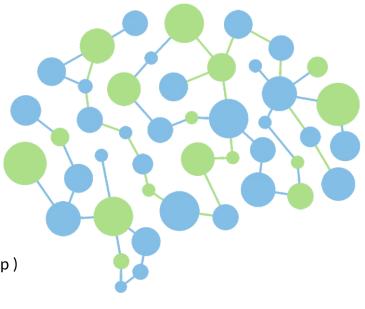- Introduction to IDE, RC, Grid and WebDriver

Java and Eclipse Installation

- Download and Install Java
- Set Environment Variable or Java Path
- Download and Start Eclipse
- Architecture of Eclipse
- Set up a Project
- Create Packages
- Create Classes
- Create Methods

- Java Introduction
- JVM Architecture
- Data Types
- Java Variables
- Java Modifier
- Single and Multiline comments in Java
- Java Operators
- Java Keywords
- Loops
- Constructor
- Static and Non Static Methods
- Static and Non Static Variables
- Local and Global Variables
- Passing Arguments in Methods
- Method Return Type
- Decision Statements
- Encapsulations
- Polymorphism
- Inheritance
- Method Overloading
- Method Overriding
- Exception Handling
- Throw and Throws Keywords
- Final and Finally Keyword
- Collection API (Array , List and HashMap)
- Arrays
- String Classes, Methods and Customize Methods
- Read Data from Excel File
- Write Data in Excel File
- Read Data from (notepad) text file

Introduction of Selenium IDE

- Selenium IDE Concepts
- Installing Selenium IDE
- Building Test Cases using Selenium IDE
- Adding Selenium IDE Commands
- Difference between assert and verify commands
- IDE menu bar
- Selenium IDE Commands

Locators of Selenium

- HTML Tags and attributes
- ID, Name, Xpath , CSS selector
- Difference between Absolute and Relative Xpath
- WebElement Commands
- Element inspector in Moziila, Chrome and IE
- Various Locator strategies
- Selection of Effective Xpath
- Handling Dynamic objects on the page

WebDriver

- Architecture of WebDriver
- WebDriver Interface
- WebElement Interface
- Launching Firefox / Chrome browser
- How to Open a URL
- Verify Page Title
- Strategy to get the Page Source
- Difference between Close and Quit
- Ways to Navigate Back and Forward
- How to Refresh Page
- Another way of Navigating to Specific Page

Handling Mouse Operations

- What is Action Class
- What can we do with Action Class
- Mouse Hover and Mouse Movement with Action
- Drag and Drop Action

Handling Dropdown Operations

- Select Class in Selenium
- Drop Down Handle
- Select multiple values form the List
- Select and Deselect operations by Index, Value and Visible Text

Multiple Web Elements Operations

- Difference between Find Element and Find Elements
- Enter and Clear Text form Input Field
- How Click Action works differently on different elements
- Managing Input fields, Buttons and Links
- Finding all Links on the Page
- Check dead links on the page
- Extracting more than one object from a page
- Extracting Objects from a specific area of a web page
- Check if element is Present, Displayed, Enabled or Selected

Working with Multiple Browsers

- Launching Firefox
- Challenges with Firefox Browser
- Launching IE
- Challanges with IE Browser
- IE driver server and path settings
- Launching Chrome
- Chrome server and path settings

WebDriver Advanced Usage

- Implicit and Explicit waits
- How to use Expected conditions with waits
- Page Load timeout and SetScript Timeout property
- Simple use of Thread Sleep
- Concept of Fluent wait in Selenium
- WebDriver Wait and its uses
- Different Wait Until Conditions
- Managing Ajax based Components
- Ways to handle Simple, Confirmation and Prompt Alert
- Concepts of Set interface in Java
- Difference between window Handle and Handles
- Switching and Closing Windows, Tabs & PopUps
- Concept of Window ID
- Extracting window IDs with Selenium Object Reference
- Capture Screenshots in Selenium

AutoIT

- What is AutoIT and its usage
- Downloading of AutoIT script Editor and Compiler
- Benefits of AutoIT in Selenium
- Upload, Download files using AutoIT

What is TestNG

- Benefits and Features of TestNG
- How to download TestNG
- Annotations in TestNG
- How to run Test Suite in TestNG
- Benefits of testing .xml
- Grouping of Test Case
- Dependency in TestNG
- Set Priority for Test Case
- Test Case Sequencing in TestNG

- TestNG Reporters

- TestNG Assets

- TestNG Parameters

- Multi Browser Testing in TestNG

- Parallel testing in TestNG

- Use of Data Provider Annotation and Attribute

- Cross Browser Testing

- Data Provider in TestNG using 2D Array

- Data Provider in TestNG using Excel Files

- Generate Reports in TestNG

- Generating the HTML Reports

Maven Concepts

- Download and Configure Maven

- Set Environment Variable for Maven

- Download Maven as Eclipse Plugin

- Execute Maven Build

Jenkins Concepts

- Jenkins Installations

- Jenkins Setup

- Create Build and Execute Build for nightly execution

- Send Email Reports based on Build Status

Frameworks

- What is Automation Frameworks

- Features of Automation Frameworks

- Benefits of Using Automation Frameworks

- Different Types of Automation Frameworks

- What is Data Driven Framework

- What is Modular Driven Framework

- What is Keyword Driven Framework

- What is Hybrid Framework

- Factory Pattern Design

- Page Objects Model

- Create Object Repository