**Selenium**

**CoreJAva**

**Maven**

**Jenkins**

**GitHub**

**API Testing**

**Selenium Training Content**

**Introduction**

* What is automation testing?
* What is the use of automation testing?
* What do we need to Automate?
* What is Selenium?
* Advantages of Selenium
* What is the difference between Selenium and QTP?

### Different flavors****of Selenium****

* IDE
* Selenium RC
* Selenium Web Driver/Selenium 3.0
* Selenium-Grid

### Selenium IDE

* Installing Selenium IDE
* Selenium IDE icons
* Recording your first test with Selenium IDE
* IDE Context Menu
* Assert
* Verify
* Adding Selenium IDE comments
* Synchronization commands
* Working on pages with AJAX
* Storing elements
* Creating test suites
* What you cannot record

### Locators and Object Identification

* Tools to identify elements/objects
* Firebug
* IE Developer tools
* Google Chrome Developer tools

The different types of Locators in Selenium IDE

* ID
* Name
* Link Text
* CSS Selector
* Tag and ID
* Tag and class
* Tag and attribute
* Tag, class, and attribute
* Inner text
* DOM (Document Object Model)
* getElementById
* getElementsByName
* dom:name
* dom: index
* XPath
* partialLinkText
* tagName

### Java For WebDriver

#### Introducing the JAVA technology

1. Relating Java with other languages
2. Showing how to download, install, and configure the Java environment on a Windows system
3. Key features of the technology and advantages of using Java
4. Java Features
5. Write Simple Java Program
6. Compile and Run the class files
7. Java Programming format
8. Java Keywords
9. Java Data Types
10. Declarations and Access Control
11. Operators and Assignments
12. Flow Control
13. Typecasting
14. Arrays

#### ****Packages****

1. Introduction to all predefined packages
2. User Defined Packages
3. Access Specifiers

#### ****Object-Oriented Programming Concepts****

1. Introduction
2. Class
3. Object
4. Local, Instance and static variables
5. Constructors
6. This keyword
7. Inheritance and Types
8. Working with super classes and subclasses
9. Using types of polymorphism such as overloading, overriding, and dynamic binding
10. Abstraction
11. Encapsulation
12. Abstract classes
13. Interfaces

#### String Processing

1. String manipulation with String Builder and String Buffer
2. Essential String Methods

#### Exceptions and Assertions

1. Introduction
2. Exceptions categories
3. Standard Java Exception classes
4. Using Try-catch and finally clause

#### I/O Streams

1. I/O using Java
2. Files (Create/Read/Write operations on files)

#### Wrapper Classes

1. Introduction
2. Byte, Short, Integer, Long
3. Float, Double
4. Character
5. Boolean classes

#### Collections

1. Introduction to Collections framework
2. util Package
3. List, Set and Map
4. Difference of All Collections Interfaces and classes

* Reading data from Property files using java program
* Reading and Writing data from/to Excel files using Apache POI API and JXL API

### Junit FrameWork

* Running Java Programs using junit
* Writing Selenium tests from scratch using Junit FrameWork
* JUNIT Annotations
* JUNIT Methods
* Frequently used Selenium commands
* Test Suites using JUNIT
* Parameterized test cases using junit framework

### TestNG FrameWork

1. Overview of TestNG
2. Environment of TestNG
3. Writing WebDriver Test Cases using TestNG
4. Basic Annotations of TestNG
5. Executing Tests
6. Executing Test Suites
7. Ignore Test
8. Dependency Test
9. Parameterized Tests
10. TestNG XML
11. Report Generation

### Selenium WEB-DRIVER

* Why WebDriver?
* Downloading web driver Jars configuring in eclipse
* Architecture of selenium webdriver
* Drivers for Firefox, IE, Chrome, Iphone, Android etc
* What is the difference between Selenium RC and WD?

### Sample programs in web driver

* Handel Text box
* Handel HyperLink
* Handel Button and Check box
* Handel Radio Button and DropDown Controls
* Select value from DropDown
* Display all values
* Select values step by step
* Capture screenshots
* Synchronization Commands In Web Driver
* Why Implicit wait and Implementation of Implicit wait
* Why Explicit wait and Implementation of Explicit wait
* Web Driver Fluent wait and Thread Sleep functionality
* File uploads and File downloads (Handling Window based controls using Robot and Sikuli API)
* Handling alerts box and Verfying the Alert Texts
* Handling confirmation messages
* Keyboard actions
* Mouse actions
* Handling Iframes working with Nested Iframes
* Handling multiple tabs
* Handling popups
* Preparing web driver test cases using customized x-path
* Identifying controls using x-path predefined functions
* Web Tables

1. What is Web Table
2. Extracting data from web tables
3. Examples on static and dynamic Web Tables
4. Creating Reusable functions for Web Tables

* Web Driver with TEST NG Frame Work
* Batch Running Test cases using TestNG
* Validations and its usage in Automation test scripts
* Customized Report Generation
* Implementing Logs using Apache Log4j API
* Database testing using Web Driver

### Working with multiple browsers

* Executing Automation Test Cases in multiple browsers Sequentially
* Working with Chrome and IE browsers
* What is Firefox Profile And Implementation of Firefox Profile
* What is WebDriver Desired Capabilities class
* Executing Automation Test Cases in multiple browsers Parallel

### Maven Project Management Tool

* Introduction about maven
* High-Level Overview
* Ant vs Maven
* Installation of Maven
* Demo using Sample Maven Project
* Maven Structure
  1. Introduction of Maven Folder Structure
  2. The pom.xml
  3. Dependencies
  4. Goals
  5. Local Reo Structure
  6. Defaults
  7. Sample Demo of Build Session of Maven Project

#### ****M****aven Dependencies

1. Dependency version
2. Versions
3. Types
4. Transitive Dependencies
5. Scopes

#### Maven Repositories

1. What is a Repository
2. Dependency Repository
3. Adding a Repository
4. Plugin Repository

### Maven****Eclipse Integration****

1. Demo Installation
2. Importing Projects
3. Converting Existing Projects
4. Pom Viewer
5. Effective Pom

### Version controlling tool GITHUB

* Downloading and configuring Github
* Difference between CVC Versus DVC
* Basic Git Commands
* Working with Repositories
* Setting up Repositories
* Local and Remote Repositories
* Create repository and cloning projects
* Committing and Syncing the code
* Reverting and Rolling Back the Code
* Branch and Merging Concepts and Implementation
* Stashing Changes
* Resolving the Conflicts

### Database testing using web driver

* Installing MySQL Database
* sql package
* Overview on Connection Interface, Statement Interface, Prepared Statement and Result set Interfaces.
* Example program to Access Database.
* Some examples on SELECT,UPDATE and DELETE queries
* Some Web driver examples using Data fetched from Database

### ****Automation Test Frame Work****

How to develop Test automation frame work in live environment

* What is a frame work
* Types of frame work
* Data driven frame work
* Modular driven frame work
* Keyword driven frame work
* User Defined Keyword driven framework with implementation
* Execute test scripts from the framework

### ****Continuous Integration Testing using Jenkins****

* About Jenkins
* History of Jenkins
* Splitting of Projects
* What is Continues Integration
* Installing Jenkins
* Creating a simple job
* Integrating Jenkins to the Project

### ****The Fundamentals of RESTFul Services in Java****

* What is Jersey?
* RESTFul Architecture
* Using HTTP GET Demo
* Test Created New REST Service USING HTTP GET
* JSON Output for HTTP GET
* Using HTTP POST Demo
* Test Service USING HTTP POST
* JSON Output for HTTP POST
* Using HTTP PUT Demo
* Test Service USING HTTP PUT
* PUT vs POST
* JSON Output for HTTP PUT
* Using HTTP DELETE Demo
* Test Service USING HTTP DELETE
* JSON Output for HTTP DELETE

### ****Interview Questions on****

* Selenium IDE
* Selenium webdriver and Automation Testing
* Core Java
* Manual Testing Concepts
* Overview on Selenium Grid