



Selenium with Java, API with Groovy, Mobile with Appium, SQL and JIRA:

Total Course length: 80 hours [Approx]

1. Selenium with Java
2. API with Groovy (SOAP Ui, Postman and RestAssured)
3. Mobile testing with Appium
4. Cucumber
5. Devops for QA
6. SQL
7. JIRA

(Note: A student is welcome to take any combination of these topics)

1. Test automation using Selenium IDE – Java and WebDriver

- 1.1 Selenium Introduction
 - 1.1.1. Selenium History
 - 1.1.2. Migrating to Web driver latest Version
 - 1.1.3. Selenium 2.0 Web driver Architecture
- 1.2. Installations and Configurations with Java basics
 - 1.2.1. Java Installation
 - 1.2.2. Eclipse Installation, configuration
 - 1.2.3. Selenium Jars download/Configuration
 - 1.2.4. Brush up basic java concepts
- 1.3. Java OOPS Basics for Selenium
 - 1.3.1. First Steps
 - 1.3.1.1. Introduction
 - 1.3.1.2. Creating Your First Java Project
 - 1.3.1.3. Exploring The IntelliJ Interface
 - 1.3.2. Variables, Datatypes and Operators
 - 1.3.2.1. Introduction
 - 1.3.2.2. What Are Variables?
 - 1.3.2.3. Understand Primitive Data Types: Byte, Short, Int And Long
 - 1.3.2.4. Getting To Know Primitive Data Types – Float And Double
 - 1.3.2.5. Getting To Know Primitive Data Types – Char And Boolean
 - 1.3.2.6. Understand Strings And Finishing Up Primitive Data Types
 - 1.3.2.7. Operators In Java
 - 1.3.2.8. More On Operators And Operator Precedence
 - 1.3.3. Java: Expressions, Statements, Code blocks, Methods and more
 - 1.3.3.1. Introduction
 - 1.3.3.2. Keywords And Expressions
 - 1.3.3.3. Statements, Whitespace and Indentation (Code Organization)
 - 1.3.3.4. Code Blocks And The If Then Else Control Statements
 - 1.3.3.5. Methods In Java
 - 1.3.3.6. Method Overloading
 - 1.3.4. Control Flow Statements
 - 1.3.4.1. Introduction
 - 1.3.4.2. The switch statement
 - 1.3.4.3. The for Statement
 - 1.3.4.4. The while and do while statements



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- 1.3.5. Naming Conventions and Packages. static and final keywords
 - 1.3.5.1. Naming Conventions
 - 1.3.5.2. Packages
- 1.3.6. Java Collections

- 1.4. Basic Concepts for first Webdriver program
 - 1.4.1 Webdriver Interface explanation and Invoking Browser
 - 1.4.2 Basic Methods of Webdriver
 - 1.4.3 How to run tests in Google Chrome
 - 1.4.4 How to run tests in Internet Explorer

- 1.5 Locator Techniques & Tools used
 - 1.5.1 Preview Browser Addons overview to identify elements
 - 1.5.2 Preview Installing Firebug & Firepath Addons
 - 1.5.3 Locator Techniques : Xpath identification using Firepath, Name ,ID, ClassName, LinkText,-Handling links
 - 1.5.4 ADVANCED WAYS-locating objects
 - 1.5.4.1 Writing Customized xpath Using Attributes
 - 1.5.4.2 Writing customized xpath Using Tagnames Traversing
 - 1.5.4.3 Css Selectors locators

- 1.6 Techniques to automate Web UI
 - 1.6.1 Handle Dynamic dropdowns with Webdriver API
 - 1.6.2 Handling Static dropdowns with Select webdriver API
 - 1.6.3 Handling Checkboxes with webdriver API
 - 1.6.4 Handling Radio buttons with Customized xpath
 - 1.6.5 Handling Radio button dynamically- real time examples
 - 1.6.6 Types of Alerts present and Methods to handle them
 - 1.6.7 Handling Java Alerts using Webdriver API
 - 1.6.8 Web Elements Validation
 - 1.6.9 End to End Practice Exercise

- 1.7 Techniques to automate ADVANCED Web UI
 - 1.7.1 Handling Ajax/Mouse Interactions
 - 1.7.2 Actions class-real time example
 - 1.7.3 Handling Multiple Windows
 - 1.7.4 Window Handle concepts-real time example
 - 1.7.5 Live Example on working with Child windows
 - 1.7.6 Handling ul li Tags in Selenium
 - 1.7.7 How to handle Frames?
 - 1.7.8 Frames Techniques-real time example

- 1.8 Real Time Exercises (end to end Programming)
 - 1.8.1 Test Cases- Practice Exercise
 - 1.8.2 Exercise 1.1-Limiting Webdriver scope
 - 1.8.3 Getting Count of links in the pages, sections
 - 1.8.4 Test cases-Practice Exercise-2
 - 1.8.5 Exercise 2.1-Dynamic data in Websites
 - 1.8.6 Exercise 2.2-Dynamic Links Handling
 - 1.8.7 Exercise 2.3-Validations & checkpoints



1.9 Practical problems and Methods to Handle them with Selenium

- 1.9.1 How to handle table Grids in webpage
- 1.9.2 Techniques used for table grid-Real time example
- 1.9.3 How to overcome Synchronization problems
- 1.9.4 Maximizing window and deleting cookies
- 1.9.5 Handling HTTPS certifications
- 1.9.6 How to troubleshoot if it is not invoking in Firefox
- 1.9.7 Killing the Process and Cookies using Selenium
- 1.9.8 How to take Screenshots in Selenium

1.10 Overview on TestNG, Page Object, Keyword Driven, hybrid frameworks

2 API/Web Services Testing (SOAP UI and Post Man)

2.5 SOAP UI

- 2.5.1 Get to know about web services
 - 2.5.1.1 What is a Web Service?
 - 2.5.1.2 Types of web services
 - 2.5.1.3 SOAP
- 2.5.2 REST
 - 2.5.2.1 UDDI
 - 2.5.2.2 Web Service Testing Process
- 2.5.3 Installation of SoapUI
 - 2.5.3.1 Installing SoapUI
- 2.5.4 Testing with SOAP UI
 - 2.5.4.1 Manual
 - 2.5.4.2 Automation
- 2.5.5 Working with SoapUI tool
 - 2.5.5.1 Creating Project
 - 2.5.5.2 Creating Test Suites
 - 2.5.5.3 Creating Test Cases
 - 2.5.5.4 Creating Test Steps
 - 2.5.5.5 Saving the project
 - 2.5.5.6 Importing the existing project
- 2.5.6 Creating & Reading properties at different levels
 - 2.5.6.1 Under Standing Properties
 - 2.5.6.2 Global Level Properties
 - 2.5.6.3 Project Level Properties
 - 2.5.6.4 Test Suite Level Properties
 - 2.5.6.5 Test Case Level Properties
 - 2.5.6.6 Test Step Level Properties
- 2.5.7 End Point & Its Parameterization
- 2.5.8 Property transfer
- 2.5.9 Assertions
 - 2.5.9.1 Contains
 - 2.5.9.2 Not Contains
 - 2.5.9.3 Xpath Match
 - 2.5.9.4 SOAP Response
 - 2.5.9.5 Valid HTTP status code
 - 2.5.9.6 Invalid HTTP Status code
 - 2.5.9.7 SOAP Fault
 - 2.5.9.8 Not SOAP Fault
 - 2.5.9.9 SLA etc



- 2.5.10 SOAP and REST based web services will be covered
- 2.5.11 Lab
 - 2.5.11.1 Instructor Driven Lab Exercises
 - 2.5.11.2 Interview Questions

2.6 POST MAN

- 2.6.1 What is Postman?
- 2.6.2 Why Use Postman?
- 2.6.3 How to use Postman
- 2.6.4 Working with GET Requests
- 2.6.5 Working with POST Requests
- 2.6.6 How to Parameterize Requests
- 2.6.7 How to Create Postman Tests
- 2.6.8 How to Create Collections
- 2.6.9 How to Run Collections using Collection Runner

3 JIRA

- 3.5 JIRA – Introduction
- 3.6 JIRA tool registration (Trail Version)
- 3.7 JIRA – Dashboard
- 3.8 Managing Product backlog
- 3.9 Sprint Creation
- 3.10 Managing Sprint Backlog
- 3.11 Creating sub tasks
- 3.12 Sprint Progress and logging work
- 3.13 Reporting defects

4 Mobile Testing with Automation

- 4.5 Introduction to Mobile Application Testing
 - 4.5.1 Complexity of Mobile Applications and Testing
 - 4.5.2 Overview of Mobile Domain
 - 4.5.3 User Expectations
 - 4.5.4 Mobile Application Testing vs Traditional Application Testing
- 4.6 Installation
 - 4.6.1 Appium
 - 4.6.2 Android Studio SDK
 - 4.6.3 XCode installation for iOS.

4.7 Different Types of Mobile Applications

- 4.7.1 Native
- 4.7.2 Web
- 4.7.3 Hybrid

4.8 Challenges in Mobile Application Testing

- 4.8.1 Mobile Platforms
- 4.8.2 Mobile Browsers
- 4.8.3 Customers
- 4.8.4 Interfaces

4.9 Mobile Application Development Platforms

- 4.9.1 ios
- 4.9.2 Android



4.10 Mobile Testing Types

- 4.10.1 Emulators, Simulators, Real Devices
- 4.10.2 Manual vs Automation
- 4.10.3 Baseline Testing Criteria for Android/iOS
- 4.10.4 Functional/UI Testing
- 4.10.5 Hands-On: Web App Testing Using Firefox/Chrome Emulator
- 4.10.6 Hands-On: Native App Testing Using Android Emulator

4.11 Mobile Application Testing Strategy

- 4.11.1 Defining Requirements
- 4.11.2 Testing Scope
- 4.11.3 Use cases
- 4.11.4 Test Levels
- 4.11.5 Testing Techniques
- 4.11.6 Test Data
- 4.11.7 Target Devices
- 4.11.8 Test Environment
- 4.11.9 Test Automation
- 4.11.10 Risks

4.12 Mobile Application Testing Tools

- 4.12.1 Android Tools
- 4.12.2 IOS Tools

4.13 Mobile Application Testing –Important Skills for Testers

- 4.13.1 Interview Questions

5 SQL and Advanced SQL

5.5 Introduction to SQL

- 5.5.1 SQL
- 5.5.2 Database
- 5.5.3 Table, Rows and Columns
- 5.5.4 Data Types
- 5.5.5 Primary Key, Alternate/Secondary Keys/NOT NULL/UNIQUE/CHECK and Foreign Keys

5.6 Statements:

- 5.6.1 SQL
- 5.6.2 Select and Select *
- 5.6.3 Column Alias, Null Value, Arithmetic Expressions
- 5.6.4 Concatenation Operator(||), Literal, DISTINCT
- 5.6.5 Where
- 5.6.6 Order By (Desc, Asc)
- 5.6.7 And & OR, Like
- 5.6.8 Not
- 5.6.9 IN
- 5.6.10 Not In
- 5.6.11 Insert, Update, Delete
- 5.6.12 DESCRIBE

5.7 Advanced SQL with Oracle

- 5.7.1 SQL commands:
- 5.7.2 Update, Delete



- 5.7.3 Create, Alter, Drop
- 5.7.4 Truncate, Select with various operators,
- 5.7.5 Count, Sum, Distinct,
- 5.7.6 Order by, Group by, Having
- 5.7.7 Working With Dates
- 5.7.8 Sub Query
- 5.7.9 Introduction to Joins
 - 5.7.9.1 Inner Join
 - 5.7.9.2 Self Join
 - 5.7.9.3 Outer Joins – Left/Right/Full
- 5.7.10 Hands on all above with Oracle APEX online

5.8 Why QA professionals need to know SQL basics

- 5.8.1 Sample queries for data verification
- 5.8.2 acquiring test data
- 5.8.3 SQL Injection attack
- 5.8.4 What to test in Relational DB apps

6 GROOVY

- 6.5 Script Editors
- 6.6 Groovy Script Library
- 6.7 Modifying Script File
- 6.8 Static Method
- 6.9 SOAPUI Environment variables
- 6.10 XML Interaction
- 6.11 JSON Interaction
- 6.12 SOAPUI Properties and Project Variables.

7 DevOps

- 7.5 What is DevOps
- 7.6 Why Dev Ops is needed?
- 7.7 Version Control System (GIT)
- 7.8 Git Hub
- 7.9 SVN
- 7.10 Continuous Integration and Continuous Deployment
- 7.11 Jenkins
- 7.12 Travis

8 Cucumber

- 8.1 Section 1: Introduction to BDD
- 8.2 Section 2: Cucumber BDD Basics
 - 8.2.1 Getting started with Cucumber – Adding Jars
 - 8.2.2 Adding Eclipse Cucumber Plugin
 - 8.2.3 Creating a Feature File
 - 8.2.4 Creating Step definition and runner files
 - 8.2.5 Adding Multiple scenarios in a Feature
 - 8.2.6 Adding Parameterization
 - 8.2.7 Creating Multiple Features and Step files
 - 8.2.8 Adding List and Data tables
 - 8.2.9 Adding Background



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- 8.3 Section 3: Cucumber Options
 - 8.3.1 Features, Glue and Monochrome
 - 8.3.2 Adding Tags
 - 8.3.3 Adding Hooks
 - 8.3.4 Adding tagged Hooks
 - 8.3.5 Pretty Format Feature

- 8.4 Section 4: Cucumber Reporting
 - 8.4.1 Generating Cucumber Reports

- 8.5 Section 5: Integrating Selenium WebDriver with Cucumber
 - 8.5.1 Adding Selenium APIs
 - 8.5.2 Creating the feature file
 - 8.5.3 Creating automation steps
 - 8.5.4 Fixing sync issues and adding validations

9 Interview and Resume preparations

- 9.1 HR Questions
- 9.2 General IT
- 9.3 QA questions
- 9.4 Resume preparations, Mock Interview, Job Placement Help

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