

# SDET (FULL STACK AUTOMATION COURSE)

## WHAT YOU GET

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- 6 weeks of Basic + 2 weeks of Advanced Automation Course training
- 10 hours weekly training
- 5 days online access to teacher
- Online Training with a Live Instructor
- Recorded class videos
- Required Automation Testing software's will be provided

## WHAT YOU'LL LEARN

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### **BASIC AUTOMATION COURSE: SELENIUM WITH JAVA (6 WEEKS)**

Module 1: Overview on Automation

Module 2: Java Programming for Selenium

Module 3: Java Object Oriented Programming

Module 4: Selenium WebDriver

Module 5: TestNG

Module 6: Extent Reports, Page Object Model & Page Factory

Module 7: Maven Integration with Selenium

Module 8: Automation Frameworks

Module 9: Continuous Integration (CI) - Maven, Jenkins, GIT & Github

Module 10: Docker with Selenium Grid

### **ADVANCED AUTOMATION COURSE (2 WEEKS)**

Module-11: Cucumber BDD Framework

Module-12: API/Webservices Testing using Rest Assured

## AUTOMATION TESTING (BASIC COURSE)

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### **Module 1: Overview on Software Testing & Automation**

- What is Software testing?
- Ways of Software Testing
- Challenges in Manual testing
- Use of automation Testing
- Tools for Automation Testing
- What is Selenium?
- Features of Selenium
- Limitations in Selenium

### **Module 2: Java Programming for Selenium**

- Download and install Java
- Setup Java Environment
- How to use Eclipse/IntelliJ IDEA
- Basic Java Program
- Compile and run a Java program
- Understanding console output
- Java Variables and Data Types
- Java Operators
- Conditional statements
- Looping statements
- Single Dimensional array
- Double Dimensional array
- Object class
- String Class
- String methods

### **Module 3: Java Object Oriented Programming**

- Classes and Objects
- Java methods
- Passing parameters to the methods
- Call by value and call by reference
- Java Constructor
- Method Overloading
- Constructor Overloading
- this, final keywords
- Static variables and methods
- Java Inheritance
- Method Overriding
- Java Interfaces
- Access Modifiers
- Java Packages
- Exception Handling
- Array List
- Hash Map
- JDBC

### **Module 4: Selenium WebDriver**

- Download WebDriver API
- Create WebDriver Project in Eclipse
- Create WebDriver test case
- Execute test case on multiple browsers
- Locators
  - What are locators?
  - Types of Locators
  - Capturing XPath in different ways
  - How to use ChroPath in Chrome

- Types XPath
- Writing XPath
- Built-in functions in XPath
- Handling Dynamic elements using XPath
- WebDriver commands
  - Browser commands
  - Get commands
  - Switching commands
  - Navigation commands
  - Conditional commands
  - Implicit, Explicit and Fluent Waits
- Handling Web Elements
  - Textbox/Input box
  - Links
  - Radio Button/Checkbox
  - Dropdown box/Combo box
  - Multi Select dropdown
  - List box
  - Calendar/Date Picker
  - Web Links
  - HTML frames/Iframes
  - Web/HTML Tables
- Mouse actions using Actions class
  - Mouseover
  - Mouse double click
  - Mouse right clicks
  - Drag and Drop
  - Handling Slider/scroll bar
  - Resizing

- Handling Tooltips
- Keyboard actions
- Working with Robot Class
- Working with Sikuli
- How to use JavaScript Executor
- Browser profiles
- Desired Capabilities
- Handling cookies
- Headless browser testing
- Capturing Screenshots
- Data Driven Testing in Selenium
  - What is data driven testing?
  - Apache POI API
  - Data Driven Tests using multiple sources
    - Excel/csv files
    - Java HashMap
    - Databases
    - Text files
- Log4j for logging

## **Module 5: TestNG**

- What is TestNG? Features of TestNG
- Install TestNG in Eclipse
- How to write TestNG Test case
- Annotations in TestNG
- Understanding testng.xml
- TestNG html Report
- Prioritizing tests
- dependsOnMethods
- Skipping tests

- Grouping methods
- Parameterization
- Passing parameters using xml
- Parallel testing
- Data Provider
- Invocation methods
- TestNG Listeners

### **Module 6: Extent Reports, Page Object Model & Page Factory**

- Generating Extent Reports
- Page Object Model - Creating Page objects
- Page Factory – @FindBy annotation

### **Module 7: Maven Integration with Selenium**

- 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

### **Module 8: Automation Frameworks**

- What is Framework?
- Various Types of Frameworks
- Implementation of Hybrid Driven Framework from the scratch
  - Creating Maven Project
  - Update pom.xml with dependencies
  - Creating page objects and Object repository
  - Creating utility files
  - Setting up configuration files
  - Creating automation test scripts
  - Creating data driven test scripts

- Generating extent reports
- Generating logs using log4j
- Execute test scripts
- Emailing test reports
- Execute test scripts through Maven
- Execute test scripts using bat file

## **Module 9: Continuous Integration (CI) - Maven, Jenkins & GIT**

- What is Continuous Integration?
- Continuous Integration Tools
- Download and install Jenkins
- Maven integration with Jenkins
- Run selenium test scripts through Jenkins
- Downloading and Installing GIT
- Installing GIT and GITHUB plug-ins for Jenkins
- Git commands
- Uploading project to Github

## **Module 10: Docker with Selenium Grid**

- What is Virtualization?
- What is Containerization/Container management?
- What is Docker, Docker Container & Docker Image?
- What is Docker Hub?
- Docker Container Life Cycle
- Virtualization Vs docker
- How Docker helps in Automation?
- Docker Terminology
- Docker Commands
- Run Selenium Tests on Docker Containers
- Selenium Grid on Docker

## AUTOMATION TESTING (ADVANCED COURSE)

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### **Module-10: Cucumber BDD Framework**

- Cucumber Introduction
- TDD (Test Driven Development) Vs BDD (Behavior Driven Development)
- Set Up Cucumber with Eclipse & IntelliJ IDE's
- Install Cucumber Plugins in Eclipse & IntelliJ IDE's
- Cucumber Environment
- Setting Up Cucumber with Selenium
- Maven dependencies for Cucumber
- Cucumber Selenium Java Test
- Cucumber Gherkins Keywords
- Cucumber – Features file
- Cucumber – Scenarios
- Cucumber – Annotations
- Cucumber - Scenario Outline
- Cucumber – Tag
- Cucumber - Data Tables
- Parameterization in Cucumber
- Cucumber - Comments
- Cucumber - Hooks
- Cucumber - Command Line Options
- Cucumber - JUnit Runner
- Cucumber – Reports generation both Html report and Json report
- Implementation of Hybrid Driven Framework (Java, Selenium, Cucumber)

### **Module-11: API/Webservices Testing**

- Basics of API & Web services Testing



- What is Client and Server?
- Client Server architecture
- Presentation, Business & Database Layer
- What is Request & Response
- What is API Testing
- API Testing VS Unit Testing
- What is Web Service
- Difference between API & Web service
- Components of Web services (WSDL & UDDI)
- SOAP VS Rest services
- API/Web service testing challenges
- Web Service API testing tools
- Web services API Testing process
- HTTP Methods (GET/POST/PUT/DELETE)
- Status Codes
- Examples of Web service API's

## **Postman**

- Download and Install Postman
- Creating Requests and Analyzing Response
- Postman Collections
- HTTP Requests and Response (GET, POST, PUT, DELETE)
- Test and Collection Runner in Postman
- Variables in POSTMAN
- Environment/Global variables
- Data Driven testing using Json & CSV files
- Generating Reports in Postman
- How to handle SOAP Web service Requests in Postman

## **Rest Assured API**

- REST Assured Setting up environment (Eclipse, Maven, TestNG & Rest Assured)

- Keywords used in BDD Approach
- How to send GET Request
- How to send POST Request
- How to send PUT Request
- How to send DELETE Request
- Validating Headers
- Authorization parameters
- Validations on JSON Response
- Validations on XML Response
- How to rootPath & detachRootPath in RestAssured
- Different ways of Reading Response
- Working with Response Headers
- Working with Response Cookies
- Handling Authentication types
- Types Parameters and working with Parameters
- How to use Request Specification Builder & Response Specification Builder
- Logging
- Serialization & De-Serialization JSON
- serialization & De-Serialization XML
- Rest Assured End-to-End Test Case
- RestAssured Automation Framework development
- How to run API tests using Maven CLI
- Run Rest Assured tests in Jenkins