THE StackLearn

SDET(QA Automation)

QA automation is a field within quality assurance that focuses on automating the process of testing software applications.

20 Weeks

5 Modules

15 Quizzes

Course Highlights

138 Hrs.
of Applied Learning

LinkedIn
Profile Review

Designed for
Working Professionals & Freshers

1:1
Mock Interview

50+
Industry Projects & Case Studies

100+
Live sessions

100%
Placement Assistance

24*7
Support

Who can apply for this course

- Individuals already working in manual testing roles aiming to transition to automation testing.
- Professionals looking to enhance their automation skills and advance in their careers.
- Those interested in specializing in QA or adding testing skills to their repertoire.
- Individuals aspiring to enter the software testing field.
- Anyone keen on switching careers and entering the software testing domain.

Where will your career Take off?

- Automation Tester/Engineer
- QA Analyst
- Test Automation Architect
- SDET (Software Development Engineer in Test)
- DevOps Engineer
- Performance Test Engineer
- Mobile Test Automation Engineer
- Continuous Integration/Continuous Delivery (CI/CD) Engineer
- Quality Assurance Manager
- Test Consultant

Learning Outcome

- Proficient in conducting Test Automation and configuring systems across multiple application platforms such as Web, Desktop, and Mobile.
- Facilitate technical communication with colleagues to comprehend clients' systems or APIs.
- Capable of establishing diverse test environments and executing acceptance tests.
- Develop and oversee bug reports while collaborating with the team.
- Competent in managing, configuring, and executing test automation frameworks.
- Possess exceptional debugging skills to identify the root causes of ineffective code, test case failures, memory leaks, etc.
- Actively participate in product design discussions to provide insights on the testability of functional components, product designs, and planning or estimation.
- Accountable for ensuring quality during production releases.
- Interpret customer requirements and product objectives to conduct relevant tests.

Course Modules

Module - 1

SQL

- Getting Started with SQL
- What is Database
- Idea of Different types of Database
- Setting up the Microsoft SQL Database
- Idea on DML, DDL,DCL
- Different Data types in MS SQL
- Create Table Statements in MS SQL
- Insert Statements in MY SQL
- Assignment-1
- Idea on Different types of Keys in Database
- Putting Key Constraint in tables
- Deep diving into Primary ,Super ,Candidate
- Key in SQL
- Update Statements in SQL
- Assignment-2
- Rename Table
- Delete and Truncate Records
- Renaming tables
- Drop Tables
- Add / Delete columns in tables
- Modify Existing Table
- Alter Tables
- Assignment-3
- My SQL Null values and Aggregrate Functions
- Exist keyword in SQL
- Limit in My SQL
- Wildcards in My SQL
- Between and IN in My sql
- Like Operator in Mysql
- Assignment-4
- Aliases in My sql
- Idea on Count and count *
- Distinct Keyword in SQL
- Order by Keyword
- Group by and Having Clauses
- Assignment-5
- Joins in MY sql
- Idea on Self Joins
- Left and Right Joins
- Full Outer Joins
- Assignment-6
- Deep Diving into Joins
- Writing SQL Join Queries
- Detailed Explaination of Full Outer joins
- Assignment-7
- Indexes and Views in My SQL
- Types of Indexes
- Implementation of Indexes in My SQL
- Creating a View on the Top of SQL Tables
- Assignment-8
- Idea on Stored Procedures
- How to create Procedures
- Implementing CRUD Operations with
- Procedures
- Reusing Stored Procedure
- Assignment-9
- Quiz-1
- Mock Interview-1

Course Modules

Module – 2

Manual Testing

- Introduction to Software Testing
- What is testing, and its objectives
- Why is testing important, and principles of testing
- Common terms in testing
- Software testing life cycle: A brief introduction
- Software testing models - Waterfall, V, RAD, Spiral, Agile
- Different types of Testing
- Static & Dynamic Testing
- Functional Testing
- Non-Functional Testing
- User Acceptance Testing
- Requirements Analysis & Test Planning4 lectures
- Introduction & How are requirements created
- Requirement Traceability Matrix & Test Coverage
- Test Planning and Test Estimation
- Introduction & Test Case best practices
- Equivalence Partitioning, Boundary value analysis
- Test Case Review, Maintenance, Test Management Tools
- Test Environment & Test Data Setup
- Assignment-10
- Test Case Design & Environment Setup
- When to start testing, when to stop testing?
- Test execution, Statuses and Non-functional testing
- What are defects? Sample defect reporting
- Defect life cycle; When defect is fixed or not fixed
- Cost of defect
- Test Reporting
- What is sufficient testing? And Test Closure Activities
- Production release stages and process
- END-TO-END PROJECT, USING TEST MANAGEMENT TOOL & JIRA5
- What is Agile? And how testing is done in Agile
- What is JIRA tool?
- Roles & Responsibilities of Testers in an Organization
- Understanding requirements and writing test scenarios
- Writing test cases in a test management tool
- Executing test cases, reporting defects, test closure
- What is Agile? And how testing is done in Agile
- Mock Interview-2

Course Modules

Module – 3

Automation Testing

- Core Java and Essentials
- Installing Java and Installation of Eclipse
- Java -OOPS concept and idea on JVM
- Detailed Programming Explaination of OOPs Concept
- OOP programming in Java
- Data types in Java
- Arrays in Java
- String Function
- Exception Handling
- File Operations in Java
- Assignment-11
- Quiz-2
- Advance Java Concepts
- Collection concepts
- Idea on types of List
- Idea on Set and types
- Idea on Maps
- Assignment-12
- Mock Interview-3
- Maven
- What is Maven and why Maven
- Installing /Configuring Maven
- Creating Maven Project
- Importing Maven project to Eclipse
- POM.XML and advantages
- Selenium - Introduction and Launching AUT
- Web Driver Architecture
- Selenium Components and Installing Web Driver
- Launching AUT in Firefox, Chrome,IE
- Creating your first Script in WebDriver
- Launching AUT in Firefox
- Launching AUT in Chrome
- Inspecting Properties of Elements in different Browsers
- Finding Elements using Locators(Creating Customize xpath /CSS selectors)
- Locators - Types of Locators and Example
- What is Xpath
- When to Use Xpath

Course Modules

Module – 3

Automation Testing

- Absolute Xpath and Relative Xpath - Examples and Advantages
- CSS Selectors - Advantages and Difference with Xpath
- Quiz-3
- Automating Web Element Operations
- Browser
- Text Box, List Box,Links ,Radio Button ,Calendars ,HTML tables
- Automating Links
- Automating Dropdowns
- Handling Alert and Types of Alert
- Handling Frames and Types of Frames
- Alert Functions-accept ,dismiss and getText
- Window Handle - Definations and Syntax
- Window Handles - Defination and Syntax
- Difference between Window Handle and Windowhandles
- Switching between Windows and Handling Elements present in Diff. Windows
- Assignment-13
- Assignment-14
- Synchronization in Automation scripts
- Wait types -Implicit wait , WebDriver Wait ,Fluent wait
- Thread.Sleep and Difference with wait methods
- Mock Interview-4
- Third Party tools Used in Selenium
- Auto IT -Description
- Components of AutoIT
- Creating Scripts in Auto IT
- Sikuli - Overview and Advantages
- TestNg
- TestNg - Overview
- Advantages of TestNg over Junit
- Installing TestNG in Eclipse
- TestNG Annotations
- TestNG Assertions
- Prioritizing Test Cases
- TestNG Data Provider and Parameters
- Parallel Testing with TestNg
- TestNg Reports
- Assignment-15

Course Modules

Module – 3

Automation Testing

- Mock Interview-5
- Cucumber and BDD
- Cucumber -Overview and idea
- Installing Cucumber in Project
- Understanding Cucumber hooks,tags
- Cucumber PICO container
- Cucumber Reports
- Selenium GRID basics and MISC concepts
- Selenium GRID overview
- Use of Selenium GRID
- Overview on HUB and Node of Selenium GRID
- GIT HUB concepts
- Creating GIT HUB Account
- Basic GIT HUB commands
- Configuring and Interface Overview of GITHUB
- Framework Creation from Scratch
- Basic Idea on Page Object Model , Cucumber
- Writing E2E Feature files using Cucumber
- Creating Page class ,Step Definition for E2E feature
- Executing Test Scripts and generating Reports
- Assignment-16
- CICD Integration with Automation Framework
- Creating a Jenkins Maven Project and Basic Overview and Installation of Jenkins
- Pushing Code to Git and executing code through Jenkins
- Getting an E2E Report generated for the run
- Mock Interview-6

Course Modules

Module - 4

API TESTING (Advanced - SDET Topics)

- Basics of API
- What is REST API
- API testing terms
- Headers
- Path Param
- Query Param
- Payload
- Base URL & Endpoints
- HTTP methods
- Basics of PostMan
- Installation & Updates
- Postman Navigation
- Sending Your First Request
- Creating First Collection
- Sending API Requests
- Creating Requests
- Authorizing Requests
- GET Request in Postman
- Response in Postman
- Request Parameters
- POST Request
- Postman Cookies
- Assignment-17
- Mock Server
- Mock Servers
- Intro to Mock Servers
- Setting Up a Mock Server
- Get Response in Mock Server
- HTTP Request ,Response and Client Server Protocol
- Client Server Architecture and HTTP Protocol
- HTTP Request
- HTTP Response
- Assignment-18
- Setting up Rest Assured
- Configure Eclipse with Rest-Assured
- REST API Test using Rest Assured
- Validate Response Status using Rest Assured

Course Modules

Module - 4

API TESTING (Advanced - SDET Topics)

- Validate Response Header using Rest Assured
- Read JSON Response Body using Rest Assured
- Assignment-19
- Serialization and Deserialization in Rest Assured
- POST Request using Rest Assured
- Serialization and Deserialization in Java
- Deserialize Json Response
- Authentication and Authorization in REST WebServices
- PUT Request using Rest Assured
- DELETE Request using Rest Assured
- Assignment-20
- Validating Response in Rest Assured
- What is JSON?
- JSONPath and Query JSON using JSONPath
- Expressions in JSONPath
- Deserialize JSON Array to List
- Deserialize JSON Response to an Array
- Spec Builder in Rest Assured
- Request Spec Builder
- Response Builder
- Building Test cases using Request and Response Builder
- Assignment-21
- Token Based Authentication
- Understanding Token Mechanism
- Concept of Bearer Toke, Oauth 1.0 , Oauth 2.0
- Integrating Token Mechanism in framework
- Mock Interview-7
- Creation of Automation Framework from Scratch
- Basic Idea on Page Object Model , Cucumber
- Writing E2E Feature files using Cucumber
- Creating Page class ,Step Definition for E2E feature
- Executing Test Scripts and generating Reports
- Sample Project-1
- CICD Integration of Automation Framework
- Creating a Jenkins Maven Project
- Pushing Code to Git and executing code through Jenkins
- Getting an E2E Report generated for the run
- Mock Interview-8

Course Modules

Module – 5

Jmeter (Performance Testing)

- Introduction to Jmeter
- What is Performance Testing and idea on Jmeter
- Prerequisites to Set Up Jmeter
- Installation and Jmeter Set Up
- Getting Familiar with Jmeter GUI
- Building Jmeter Test Plan
- Elements of Test Plan
- Thread Group
- Logic Controller
- Samplers
- Configuring Elements
- Timers in Jmeter
- Preprocessor in Jmeter
- Postprocessor in Jmeter
- Assertion
- Listener
- Creation of an E2E Test Plan with all the components
- Writing and fetching data from property files
- Creation of Different Modules in Jmeter
- Creation of Performance Test through API
- Creation of Performance test in Jmeter through UI using blazemeter
- Assignment-22
- Mock Interview-9
- Sample Project-2
- Job Assistance

Top Skills and Tools covered

- Agile(skills)
- Git (tools)
- Java (skills)
- SQL(tools)
- Selenium(tools)

- Jenkins (tools)
- JUnit (tools)
- JMeter 5.0 (tools)
- Docker (tools)
- TDD with TestNG(skills)

- AWS (skills)
- Maven (tools)
- API Testing with
- Postman(skills)