

# TopTech School

2024

## Course Syllabus

# SDET PROGRAM

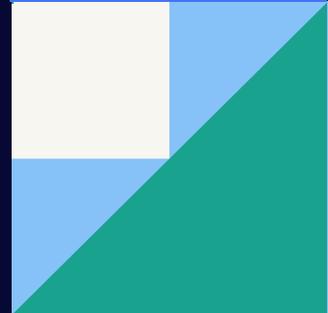
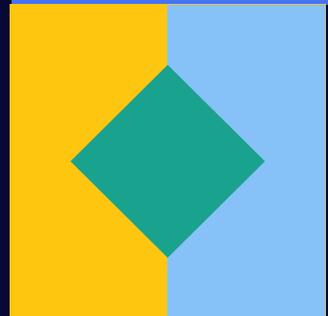
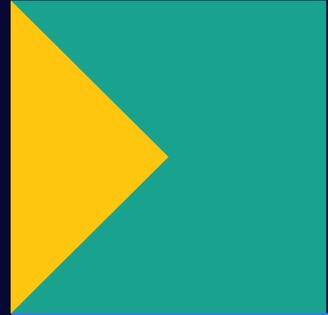
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<https://toptechschooledu.com/>

[+12064197410](tel:+12064197410)



# Overview

**TopTech School's SDET Program is a transformative course that prepares students to break into tech careers.**

**The program is designed to get the SDETs hired by completing the program requirements successfully.**

**This Software coding school features best-in-class instruction, career coaching and professional connections to top employers.**

**Join this great program via our remote classrooms and build your professional career.**

**As a graduate SDET, you'll leave with a solid base of Manual Software Testing, Structured Query Language (SQL) for database manipulation, programming language like Java , knowledge of Software Automation tools like Selenium WebDriver and other tools which are commonly used for testing software , managing testcases, writing test scripts and automating web-based applications as well as practical experience with different automation frameworks which are in great demand by employers .**



# Throughout the course, you will learn:

- Manual Software testing
- Test Management tool like Jira
- Test Plan, Test Case, Test Traceability Matrix and Test Results Prep Reports
- Structured Query Language (SQL) for data manipulation
- Java Programming Language for coding
- Selenium WebDriver for test automation
- Apache Maven Project Management tool
- Cucumber for writing Gherkin steps and testing BDD frameworks applications
- Git & GitHub -Version Control system
- CICD Pipeline Jenkins -Continuous Integration & Continuous Delivery
- Creating & working with different types of automation frameworks -TestNG & BDD frameworks
- API-Webservices Testing - RestAssured & Postman
- Capstone Project- SDETS required to build an Automation Framework & present it to the School
- Mock Interview for Job Market
- Resume preparation
- And finally Start applying for SDET positions

## Pre-requisites:

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SDET program starts from very basics with no prerequisites to intermediate and then to advanced levels which prepares the students to higher and higher level by completing each class.

Whether you are new to the field or you are looking for more skillsets, our curriculum helps you gain practical knowledge that employers demand and put them to work.

English Language Proficiency : Students are expected to understand and speak English to be able to join the class.

Computer and Internet Connection: Since the classes are offered online, students are required have stable internet connection and know basic computer use.

Our **Admission Team can** discuss your background and learning goals to advise for successful completing of SDET program.

## After Completing the Program:

- **Mock Interviews for Job Market**  
Learn how to talk and crack any technical job interview
- **Resume Preparation:**  
School will make professional resume for SDET job application
- **LinkedIn Profile:**  
School will help you create your LinkedIn profile and connect you with professionals for quick employability.
- **Mentoring Sessions:**  
School professional mentors will assist you in job application methods, interview process and other SDET job related application until you get job offer.

# What You'll Learn



## Manual Software Testing:

- Fundamentals of Software testing
- what is Software testing
- why we test a software
- When we test a software
- How we Test a software
- What is Software Development Life Cycle
- What is Software Testing Life Cycle
- What types of tests are required to test a software
- What are the levels of software testing
- What techniques are used to test a Software
- What are test cases, test scenarios, test plan, Requirement Traceability matrix and test reports
- What is bug/defect and Defect Life Cycle
- What is Agile and scrum

## Structured Query Language for Data Manipulation:

- What is database and types of databases
- What are components of a database
- How to create, update and delete a database, a table and a schema
- How to work with SQL and manipulate a database using different SQL functions and statements
- What are different types of Unions and how to apply them.
- What are different types of JOINS and how to apply them.

## Java Programming Language:

- Java basics (variables, operators, package, class, methods, loops, If statements, Arrays etc.)
- Java OOP concept (Abstraction, Encapsulation, Polymorphism & Inheritance)
- Java Exception handling
- Java Collection Framework ( List Interface, Set Interface, Set Interface and Map Interface etc.)

## Selenium WebDriver:

- Selenium WebDriver Introduction and Architecture
- Browser Drivers, Browser Commands and WebDriver basic commands
- Locators and its types ( xpath, css selectors, and more)
- Checkboxes, radio Buttons and dropdowns
- Actions class and Select Class
- Screenshot, window handling and Frame handling
- Alerts, popups, Web Table, Handle SSL certificate
- Waits ( Implicit wait, Explicit wait and Fluent wait)
- And more..

## Apache Maven

- What is Maven
- Why do we use maven and what is Pom.xml file
- What are maven plugins
- What is maven life cycle
- What are maven commands
- What is dependency, groupId and ArtifactId
- How to create a maven project

## Cucumber:

- What is cucumber and Gherkin language
- What are key words in Gherkin language (Given, When, And, Then, Scenario, Scenario Outline, Feature and Background key words and Hooks)
- What is data Table
- How to use cucumber in our framework

## Behavior Driven Development framework(Junit )

- CucumberOptions( features, glue, tags, dryRun, monochrome, plugin)
- What is stepDefinition
- What is PageObject Model design pattern
- What is Runner Class in Junit
- How to run parallel testing
- What is jvm report
- What is logger (log4j)

## TestNG Framework

- What is TestNG Framework
- TestNG annotation
- TestNG grouping, priority and dependency
- Assertions in TestNG
- **DataProvider and Parametrizing in TestNG**
- TestNG.xml file
- Including & Excluding in TestNG
- TestNG Listeners
- What is extent report
- What is the use of @Listener in TestNG
- How to run parallel testing in TestNG

## Git & GitHub

- What is Git and GitHub
- What is local repository and remote repository
- What is clone, pull, push, merge and ...
- What is branching
- What is merge conflict and how to resolve it

## CICD Pipeline (Jenkins)

- What is Jenkins
- How to configure Jenkins
- How to run our test in Jenkins and more

## Postman & Rest-Assured

- Difference between API and Web Services, SOAP & REST
- Common HTTP methods (Post, Put, Delete and Get) & HTTP Status codes
- JSON, JSON Path, JSON Schema & JSON Response
- JSON Response & XML Response Data Extraction
- JSON Response & XML Response Schema Validation
- Log All, Headers, Cookies, Query params, Path Params & Form param
- Basic & Digest Authentication
- Dependencies for rest-assured

## Test Report & Result Documentation:

- What is test report
- What does test report include
- What is Requirement Traceability matrix
- Test Report Preparation & Presentation to the Management



