

SDET With Python

Mode of Training: Class & Online Training

Name of Trainer: Sekhar



**Course
Curriculum**

A Software Development Engineer in Test [SDET] at Quality Thought is a developer with the primary responsibility of effective assurance of product quality through white-box as well as black box testing, Smart Test Driven Development, test automation, code inspections, peer reviews, and other forms of engineering excellence. As an SDET you can analyze business requirements and scenarios and translate them into robust design, code and tests.

Outcome of this course:

- ✓ To gain experience in develop and extend automated unit test cases and share test code.
- ✓ Implement test automation using Java, Python, C# .Net, XML and Selenium.
- ✓ To create White & Black box test strategy and test cases from functional specifications.
- ✓ Good experience of Automation Frameworks – Data Driven, Key word Driven, Hybrid.
- ✓ Strong knowledge on Java (Object Oriented) programming concepts (Constructor's, Abstract classes, Java keyword such as static, final, super etc, String handling, Exception & File Handling).
- ✓ Understand the working of JDBC connection.
- ✓ Hands on experience in Web Services Testing and Automation.
- ✓ Must have worked on at-least one of the databases, e.g., Oracle, SQL Server with Strong knowledge in writing and validating queries using DML's (Insert, update & delete).
- ✓ Experience testing APIs (familiarity with REST API, JSON, XML).
- ✓ Experience working with REST API (Swagger, Rest Assured).
- ✓ Candidate should also be willing to work on multiple platforms (Linux , Mobile , Web).
- ✓ Good understanding of CI-CD and DevOps concepts is preferred.
- ✓ In-Depth Agile training with scrum Framework and Kanban Framework, Complete Agile Testing exposure.
- ✓ Good knowledge on Insurance domain.

Difference Between SDET and TESTER?

- ✓ **SDET** is highly skilled resource with development as well as testing skills; on the other hand tester is involved in preparing and executing the test cases either manually or by automation.
- ✓ **Testers** are resources with limited programming skills and they are much focused on black box or functional testing whereas SDETs are skilled resources with good programming skills and do the job of tester (white box testing) as well as developer in test automation.

SDET (SELENIUM, PYTHON, AGILE, SQL)

Section 1: Introduction

- History
- Features

Section 2: Setup and Configuration

- Python Installation - Windows
- Configuration Of Python - Windows

- Python Installation And Setup - Mac
- Package Management Using PIP
- IDE Options For Python Development
- Installing iPython

Section 3: Understanding Variables and Data Type

- Python Terminal Walkthrough
- Understanding Objects and References
- Variables Rules
- Numbers Data Type And MathOperations
- Numbers - Exponentiation AndModulo
- Arithmetic Order Of Precedence
- Boolean Data Type
- Working with Strings
- String Methods - Part 1
- String Methods - Part 2

Section 4: Advanced Data Types

- List and Accessing The Elements
- List Methods
- Working with Dictionary
- Nested Dictionary
- Dictionary Methods
- Working with Tuple

Section 5: Comparison and Boolean Operators

- Working with Comparators
- Understanding Boolean Operators
- Boolean Operators - Order of Precedence

Section 6: Program Control Flow

- Conditional Logic - If Else Conditions
- While Loop Demo
- Break Continue and While/Else
- For Loop Demo
- Iterating Multiple Lists - Using the ZipFunction
- Using Range Function In For Loop

Section 7: Functions/Methods -Working With Reusable Code

- Understanding Methods
- Working with Return Values
- Working With Positional / OptionalParameters
- Understanding Variable Scope
- More Built-In Functions

Section 8: Classes - Object Oriented Programming

- Understanding Objects / Classes

- Create Your Own Object
- Create Your Own Methods
- Inheritance
- Method Overriding

Section 9: Exception Handling

- Exception Handling Demo
- Finally and Else Block

Section 10: Modules

- Built-in Modules
- Create Your Own Modules

Section 11: Working with Files

- How To Write Data To A File
- How To Read A File
- File Handling Using "With" And "As"Keywords

Section 12: How to Inspect Elements

- Different Browsers - Add-Ons
- How To Inspect Elements UsingFirefox DevTools
- Firefox Add-On - Try XPath
- How To Inspect Elements UsingChrome DevTools
- Chrome Extension - Part 1
- Chrome Extension - Part 2
- Tricks To Generate XPath
- FirePath Fans -> If you want to useFirePath

Section 13: Selenium WebDriver ->Setup and Installation

- Selenium WebDriver Installation - Mac
- Selenium WebDriver Installation -Windows
- How To Install Selenium Plugin ToPyCharm
- Selenium 3.x Update

Section 14: Selenium WebDriver ->Running Tests On Various Browsers

- Running Tests On Firefox
- Running Tests On Google Chrome -Mac
- Running Tests On Google Chrome -Windows
- Requirements To Run Tests On IE
- Running Tests On Internet Explorer
- Requirements To Run Tests On Safari
- Running Tests On Safari
- How To Set Drivers In System Path -Mac
- How To Set Drivers In System Path -Windows

Section 15: Selenium WebDriver ->Finding Elements

- Understanding Elements And DOM
- Find Element By Id And Name
- Understanding Dynamic Ids AndSelenium Exception
- Find Element By XPath And CSSSelectors
- Find Element By Link Text
- Find Element By Class Name And Tag
- Understanding "By" Class
- How To Find List Of Elements

Section 16: CSS Selectors – AdvancedLocators

- Using Ids With CSS Selectors To FindElements
- How To Use Multiple CSS Classes ToFind Elements
- Using Wildcards With CSS Selectors
- How To Find Child Nodes Using CSSSelectors
- CSS Cheat Sheet

Section 17: Xpath - Advanced Locators

- Difference Between Absolute AndRelative Xpath
- How to Build An Effective Xpath
- Using Text To Build An Effective Xpath
- Build Xpath Using Contains Keyword
- Build Xpath Using Starts-With Keyword
- How To Find Parent and Sibling Nodes

Section 18: Selenium WebDriver -> Working with Web Elements

- Browser Interactions Introduction
- Browser Interaction Practical Implementation
- How To Click And Type On A WebElement
- How To Find The State Of A WebElement (Disabled And Enabled Elements)
- Radio Buttons And Checkboxes
- Working With Elements List
- Understanding Dropdown Elements
- Working With A Dropdown Element

Section 19: Selenium WebDriver ->Useful Methods And Properties

- How To Get The Text On Element
- How To Get Value Of ElementAttribute
- Generic Method To Find Elements
- How To Check If Element Is Present
- How To Build Dynamic XPath

Section 20: Selenium WebDriver ->Wait Types

- Implicit Wait Vs Explicit Wait
- Implicit Wait Practical Example
- Explicit Wait Practical Example
- Generic Method To Work WithExplicit Wait

Section 21: Selenium WebDriver ->Advanced

- Calendar Selection Introduction
- AutoComplete Introduction
- How To Take Screenshots
- Generic Method To Take Screenshots
- Executing JavaScript Commands
- How To Find Size Of The Window
- How To Scroll Element Into View

Section 22: Selenium WebDriver ->Switch Window And IFrames

- How To Switch Window Focus
- Switch To Window PracticalExample
- How To Work With IFrames
- Switch To IFrame PracticalExample
- Handling JavaScript Popup

Section 23: Selenium WebDriver ->Working With Actions Class

- Mouse Hover Actions
- How To Drag And Drop Element On AWeb Page
- Working With Sliders Actions

Section 24: Logging Infrastructure

- Introduction To LoggingInfrastructure
- Changing The Format Of Logs
- Logger - Console Example
- Logger - Configuration File Example
- How To Write A Generic CustomLogger Utility

Section 25: Unittest Infrastructure

- Unittest Introduction
- Writing First Test Case
- How To Implement Class Level SetUpAnd TearDown Methods
- How To Assert A Test Method
- How To Run Code From Terminal
- How To Create A Test Suite

Section 26: Pytest -> Advanced Testing Framework (Unit Testing)

- Pytest Installation And First Script
- Pytest Naming Conventions
- How To Work With PyTest Fixtures
- Pytest Fixture Update
- Multiple Ways To Run Test Cases
- Important Note For Next Lecture
- Conftest -> Common Fixtures ToMultiple Modules
- How To Maintain Run Order Of Tests
- Running Tests Based On CommandLine Arguments
- Structure Tests In A Test Class

- How To Return A Value From Fixtures
- Install PyTest HTML Plugin
- How To Generate HTML Test Report

Section 27: Automation Framework -Part 1

- Automation Framework Introduction
- Understanding Framework Structure
- Test Scenario Without Framework
- Convert Test Case To Page ObjectModel Framework
- Refactor Your Page Object Class -Part 1
- Build Your Custom Selenium DriverClass
- Refactor Your Page Object Class -Part 2

Section 28: Automation Framework -Part 2

- Add Logging To AutomationFramework
- How To Verify Test Case Result
- Complete Login Page Test Cases
- Create Conftest To ImplementCommon Setup Methods

Section 29: Automation Framework -Part 3

- How To Assert Without Stopping TestExecution
- How To Assert Without Stopping TestExecution Practical Example
- Implement Screenshots In AFramework
- Taking Screenshots On Test Failure
- BasePage And Util ConceptIntroduction
- Inheriting BasePage Class

Section 30: Automation Framework ->Part 4

- CustomDriver -> Additional MethodsBefore Exercise
- Data Driven Testing PracticalImplementation
- Utility To Read CSV Data
- Multiple Data Sets Test Case

Section 32: Running Complete TestSuite

- How To Manage Navigation InFramework
- Refactor Login Tests
- How To Run A Test Suite
- Running Test Suite On Chrome

Section 33: Webservice/API Introduction

- What is Web Service?
- Web Service Example
- Different type of Services: Soap and Rest

Section 34: JSON and JSON - Must for API Testing

- Basic understanding of JSON
- What is JSON Path | Calculate JSON Path

- JSON Path Advance Options
- Work with JSON

Section 35: Start API Testing using

- Python - REST API Basics
- Different methods used in REST API
- What is Rest API with Parameters?
- Making a GET request using python
- Validate Status Code
- Fetch Response Header Values
- Fetch Response Content - using Json path
- Fetch Response Content - using Advance Json Path
- Create New Resource - POST Request -
- Update Resource on Server: UPDATE Method

Section 36: Code Management using GIT

- Introduction to Git & GitHub
- Setup Git and GitHub
- Configure GIT with Username and Email
- Create Local Repository
- Commit File to Local Repository
- Undo Files from Stage to Untrack
- Check and Discard Changes
- Push Code to Remote Repository
- Clone Repository
- Create Batch File
- Push Code to Remote Repository

Section 37: Jenkins Integration

- Setup Jenkins on Windows Machine
- Download Jenkins War & Setup Plugins
- Configure Paths on Jenkins
- Setup Allure Reporting Options

Section 38: Create Job on Jenkins

- Fetch Code from Github
- Setup Environment Variable
- Run batch file to install library
- Execute Test Case using Pytest

Section 39: Reporting with Allure

- Allure Introduction & Setup
- Generate JSON formatted reports
- Convert JSON Report to HTML Report
- Integrate Allure Reporting with Jenkins
- Generate Allure Report

Section 40: Docker Setup and Installation

- What is Docker
- Where I will Find the Docker Resource
- Docker Edition : Which Do I Use?
- Docker For Windows

- Check Docker Install and Configurations
- Start Your First Container
- Stop-Remove the Containers
- Docker Internal Processing
- Containers vs Virtual Machines
- Start Container in Interactive Mode
- Run Commands in Running Containers

Section 41: Get Started with Kubernetes

- Kubernetes Introduction & Uses
- Kubernetes Architecture
- Orchestration Giants : Kubernetes vs
- Docker Swarm
- Kubernetes Node Workflow
- Scaling Pods in Kubernetes
- Replica Set in Kubernetes
- Deployment in Kubernetes

FAQ's:

1. What is the course duration?

Ans: Duration: 45 Days.

2. Do you provide the material?

Ans: Will provide Softcopy Material and Daily Class Notes.

3. Do you help in preparing for the interview?

Ans: Yes, will help you to preparing for Interview through Resume Preparation, Interview KIT, HR Guidance.

4. Who are your trainers?

Ans: Mr. Sekhar is your trainer, He is a Realtime expert and Having 13 Yrs of Exp.

5. What is the total batch size per course?

Ans: The batch max size is 10 - 15 and will take individual care of students

6. Do you provide certification for the course?

Ans: Yes, will provide that after completion of the Course with Reg Fee.

7. Will I be joining a new batch or be merged with another batch?

Ans: You can join in new batch only

8. Is fast track training available?

Ans: We are offering Regular Batches only.

9. Do you assist in job placements?

Ans: Yes, we have HR Team to assist in job placements.

10. Will you be working on a live project during training ?

Ans: Yes, will provide the training on Realtime Project

11. What happens if I miss a class?

Ans: If you miss the Offline Classes you can attend in next batch with Reg Fee. About Online Class: For online classes repetition not allowed... If you have any urgency on that day inform to admin, he will provide the recorded session for particular day.

12. Can I attend a demo before the actual class?

Ans: Yes, You can attend first two or three Classes

Reach us:

Front Office:	Classes:
Branch 1: # 208B, 2nd Floor, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Telangana	Branch 1: # 208B, 2nd Floor, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Telangana
Branch 2: # 109B, 1st Floor, Annapoorna Block, Aditya Enclave, Ameerpet, Hyderabad, Telangana	Branch 2: # 605B, 6th Floor, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad, Telangana