Software Testing & Automation Track

Equipping Learners for Industry Success

Your Name

Program Goal & Structure

Mastering Foundational Principles





- Develop a robust understanding of fundamental software testing concepts.
- Explore black-box, white-box testing, and formal testing theories.
- Grasp QA essentials and industry best practices for the entire SDLC.

Foundational Knowledge

QA Essentials

Testing Theories

Advanced Automation & Design





- Learn systematic test case design for diverse software functionalities.
- Acquire advanced automation scripting skills for web and mobile apps.
- Gain expertise in integrating automated tests within robust frameworks.

Test Case Design

Automation Scripting

Framework Integration

Tool Proficiency & Application









Web Automation: Hands-on mastery of Selenium WebDriver for robust browser testing.

API Testing: Practical application of Postman for comprehensive API validation.

Performance Testing: Exploration of tools like JMeter for system

Building a Holistic Test Suite





- Construct a fully functional and scalable automated test suite.
- Emphasize practical, hands-on implementation for project readiness.
- Prepare to plan, execute, and report on testing efforts as an SDET.

Phase 1: Foundational & Web Automation (Month 1)



Week 1: Core Principles



Understanding QA Essentials: Delve into fundamental QA concepts and their role in the SDLC.

Testing Techniques: Gain a comprehensive understanding of various testing types and methodologies.

QA Fundamentals

Testing Types

SDLC Integration



Week 2: Structured Approach



Effective Test Case

Creation: Master designing comprehensive test cases for thorough coverage.

Test Management: Explore techniques for organizing, prioritizing, and tracking testing efforts.

Test Planning

Coverage

Workflow



Week 3: Automation Foundations



Automation Principles:

Understand the benefits, challenges, and applications of test automation.

Selenium WebDriver

Basics: Get hands-on with the industry-standard tool for web automation.

Web Automation

Scripting

Browser Testing



Week 4: Robust Automation



Advanced Selenium:

Deepen expertise with dynamic elements, waits, and Page Object Models.

Framework Integration:

Learn to use JUnit/TestNG to manage and execute tests efficiently.

Frameworks

Reporting

Regression Testing

Phase 1: Specialized Testing & CI (Month 2)





Introduction to APIs: Understand the crucial role of APIs in modern software architecture for system integration and data exchange.

Postman for API Testing: Master Postman for send validating responses, and organizing test collections.

API Basics

Postman

Request/Response



₩ Week 6: Automated API Workflows



Scripting API Tests: Develop advanced scripting skills in Postman to handle complex scenarios and data-driven testing.

> tegration: Automate Postman collections using mless execution in CI environments.

mation

Newman

Data-Driven Testing



Week 7: CI/CD Integration

Elevating Quality: Advanced **Techniques &** Integration

8: Performance & Application



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Key Automation Tools & Concepts



Web Automation: Selenium & Frameworks



Selenium WebDriver: The industry-standard for automating web browsers, enabling robust, scalable regression suites.

JUnit/TestNG: Essential frameworks for managing test execution, assertions, and reporting in Java-based Selenium projects.

Page Object Model (POM): A design pattern for maintainable frameworks, separating UI locators from test logic.

Browser Automation

Regression Testing

POM



API Testing: Postman & Newman



Postman: A collaboration platform to design, document, and test APIs, simplifying request creation and response validation.

Newman for CLI Execution: Postman's command-line runner, enabling the automation of API test collections within CI/CD pipelines.

API Validation

HTTP Methods

CLI Automation



CI/CD Integration: Jenkins & GitLab CI



Phase 2: Capstone Project & Immersion (Month 3)



Month 3 marks the pinnacle of the program: a hands-on Capstone Project, fostering realworld application, team collaboration, and crucial career preparation for industry success.





Capstone Project Deep Dive: Automated Test Suite



Week 9: Fandation & Architecture



Requirements & Scope Definition: Detailed analysis of project requirements and defining the scope of automation.

Automated Framework

Design: Strategic design of the test automation framework using tools like Selenium and TestNG.

Environment Setup:

Configuring development/testing environments and dependencies.



Week 10: Cripting & Data Integration



Test Case Implementation:

Translating scenarios into executable scripts for UI and API layers using POM.

Data-Driven Automation:

Enhancing test coverage using external data sources (Excel, ISON).

Debugging & Refinement:

Ensuring script accuracy, stability, and adherence to requirements.



Week 11: Recution & Integration



Automated Test Execution:

Running comprehensive regression, smoke, and integration test cycles.

CI/CD Pipeline Integration:

Integrating the test suite into a CI/CD pipeline like Jenkins for automated triggers.

Results Analysis & Reporting:

Analyzing results, logging defects, and generating reports.



Week 12: Almination & Showcase



Project Documentation &

Review: Finalizing all project documentation for quality and completeness.

Capstone Presentation:

Presenting the test suite's functionality, robustness, and business value.

Live Demonstration & Q&A:

Demonstrating the suite's capabilities and addressing technical questions.

Project Planning

Regression Testing

Career Launchpad & Professional Growth

E Crafting Your QA Automation Profile



Tailored Resumes: Learn to construct impactful resumes for QA Automation and SDET roles, highlighting technical skills and achievements.

Dynamic Portfolios: Build a compelling portfolio showcasing your automated test suites and framework designs from the Capstone Project.

Resume Optimization

Project Showcase

ATS Friendly

Maximizing Professional Online Presence



LinkedIn Profile Enhancement:
Optimize your LinkedIn profile to attract recruiters and showcase your QA
Automation expertise.

Strategic Networking: Develop effective strategies for connecting with industry leaders and potential employers online.

Digital Branding

Industry Connections

Online Visibility

Mastering Interview Dynamics



Technical Interview Preparation:

Engage in rigorous mock interviews covering data structures, automation frameworks, and problem-solving scenarios.

Behavioral Interview Coaching: Receive

guidance on the STAR method for Source: Software Engineering Team Stock Illustrations; Collaborative software development team; Software effectively communicating your experience

Direct Industry Engagement



Exclusive Networking Events:

Participate in dedicated sessions with experienced QA engineers, hiring managers, and industry leaders.

Mentorship & Insights: Gain direct insights into industry trends, career paths, and job market expectations for valuable to Tester Images; Information Technology Team Royalty-Free Images mentorship opportunities.

Content adapted from OA Online Training Tripleten Testring

Program Outcome & Future Opportunities

Our comprehensive program culminates in a robust skill set, preparing you for immediate impact and longterm success in the dynamic field of Software Quality Assurance and Test Automation.



Mastering
Comprehensive
QA &
Automation



Deep Foundational Knowledge: Gain expertise in core software testing principles, including





Architecting Automated Frameworks: Learn to design, develop, and implement robust and scalable automated test suites from scratch. This includes best practices for framework design, test script maintenance, and integrating automation into development workflows.

Real-world Project Application: Apply your knowledge to build a comprehensive automated test suite for a realistic application during the Capstone Project. This practical experience ensures



Career
Launchpad &
Industry
Recognition



Job Market Readiness: Benefit from dedicated career readiness workshops covering