

Full Stack Software Testing

Month 1: Introduction to Software Testing and Manual Testing

Week 1-2: Introduction to Software Testing

- Definition and significance of software testing
- Key testing principles and objectives
- Types of testing and their roles in SDLC

Week 3-4: Manual Testing Techniques

- Test planning and strategy
- Test case design and execution
- Defect life cycle and reporting
- Exploratory testing and risk-based testing

Week 5-6: Web Application Testing

- Understanding web application architecture
- Functional testing of web forms and UI
- Cross-browser testing and compatibility testing

Month 2: API Testing and Test Automation Basics

Week 1-2: API Testing

- Basics of API testing
- Testing RESTful and SOAP APIs
- Tools for API testing (e.g., Postman)

Week 3-4: Introduction to Test Automation

- Fundamentals of test automation
- Selecting test cases for automation
- Setting up a basic test automation environment

Week 5-6: Automated Testing with Selenium

- Selenium basics and WebDriver
- Scripting automated tests in Selenium
- Best practices in test automation

Month 3: Advanced Automated Testing and Performance Testing

Week 1-2: Advanced Selenium and Browser Automation

- Advanced Selenium features (e.g., handling dynamic elements)
- Browser automation with tools like Puppeteer

Week 3-4: Performance Testing

- Introduction to performance testing
- Tools for performance testing (e.g., JMeter)
- Load testing, stress testing, and performance analysis

Week 5-6: Security Testing and Test Frameworks

- Basics of security testing
- Common security vulnerabilities and testing methods
- Introduction to test frameworks (e.g., TestNG, JUnit)

Month 4: Final Project and Emerging Trends

Week 1-2: Full Stack Testing Project

- Guided work on a comprehensive testing project
- Real-world application of testing principles
- Troubleshooting and problem-solving

Week 3-4: Emerging Trends in Software Testing

- Introduction to DevOps and continuous testing
- Automation in CI/CD pipelines
- Trends in test management and reporting

Week 5-6: Final Presentations and Graduation

- Final project presentations
- Reflection on the learning journey
- Certification and graduation