



PYTHON TRAINING

Automated Testing Python

Learn to build robust automated tests with Python, mastering frameworks and best practices to deliver reliable software.

DURATION

48 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

This intermediate-level "Automated Testing Python" course is meticulously designed for Python developers and Quality Assurance professionals seeking to master the art of building robust, efficient, and scalable automated test suites. Over 48 intensive hours, you will dive deep into Python's powerful testing frameworks and libraries, learning to implement unit tests, integration tests, API tests, and UI automation. The course emphasizes practical application, equipping you with the skills to significantly improve software quality, accelerate development cycles, and reduce manual testing efforts. You will gain hands-on experience with industry-standard tools like Pytest for comprehensive test execution, advanced mocking techniques to isolate code, and Selenium WebDriver for cross-browser UI testing. Furthermore, the curriculum covers best practices for test design, reporting, and integrating automated tests into Continuous Integration/Continuous Deployment (CI/CD) pipelines. By the end of this program, you will be proficient in creating maintainable and effective automated testing solutions that drive product reliability and deliver business value. This expertise is crucial for modern software development teams aiming for agility and excellence.

Duration	48 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Foundations of Automated Testing with Python

- Introduction to Software Testing Principles
- The Importance and Benefits of Automated Testing
- Setting Up Python Environment for Test Automation
- Basic Python Refresher for Testing Context
- Overview of Test Driven Development (TDD) and Behavior Driven Development (BDD)

02 Module 2: Unit Testing with Pytest

- Introduction to the Pytest Framework
- Writing and Executing Basic Pytest Tests
- Pytest Fixtures for Setup and Teardown
- Parameterization and Test Markers
- Advanced Assertions and Exception Handling
- Mocking and Patching Techniques for Isolating Code

03 Module 3: API and Integration Testing

- Understanding RESTful APIs and HTTP Methods
- Testing APIs using Python's `requests` Library
- Structuring Robust API Test Suites
- Data-driven API Testing Strategies
- Basic Database Interaction Testing Concepts
- Integrating API Tests with Pytest

04 Module 4: Web UI Automation with Selenium WebDriver

- Introduction to Web Automation Principles
- Setting Up Selenium WebDriver with Python
- Locating Web Elements using various Strategies (ID, Class, XPath, CSS Selectors)
- Interacting with Web Elements (Clicks, Inputs, Dropdowns, Assertions)

- Handling Waits (Implicit, Explicit, Fluent) for Dynamic Content
- Implementing the Page Object Model (POM) Design Pattern

05 Module 5: Advanced Testing Concepts & Reporting

- Introduction to Performance Testing Fundamentals
- Introduction to Security Testing Principles
- Generating Comprehensive Test Reports (e.g., pytest-html, Allure Reports)
- Effective Logging in Test Automation Frameworks
- Version Control Integration for Test Assets (Git Basics)

06 Module 6: Integrating Automation into CI/CD Pipelines

- Overview of Continuous Integration (CI) and Continuous Deployment (CD)
- Running Automated Tests in CI Environments (e.g., Jenkins, GitHub Actions)
- Strategies for Test Environment Management
- Best Practices for Maintainable and Scalable Test Suites
- Troubleshooting Common Issues in Automated Tests

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Automation QA Engineer (Python Specialist)**
- > **Software Development Engineer in Test (SDET)**
- > **Backend Python Developer with Test Automation Expertise**

FREQUENTLY ASKED QUESTIONS

Q: What prior Python knowledge or experience is recommended before enrolling in this Automated Testing Python course?

This course is designed for individuals with an intermediate understanding of Python programming fundamentals, including data structures (lists, dictionaries), control flow (loops, conditionals), and basic object-oriented programming concepts. Prior exposure to basic software development principles or quality assurance concepts would be beneficial but is not strictly required, as the course will cover testing foundations.

Q: How will mastering automated testing with Python specifically enhance my career as a Python Developer, beyond just writing functional code?

For Python Developers, this course transforms you from a code producer to a code owner with a strong quality mindset. You'll gain the critical ability to design and implement robust test suites that ensure the reliability and maintainability of your applications. This expertise makes you invaluable in teams practicing TDD/BDD, accelerates development cycles by catching bugs early, and positions you for roles like SDET or lead developer where ensuring code quality is paramount, distinguishing you from developers who only write functional code.

Q: Does this course include hands-on projects or case studies to apply the automated testing techniques learned?

Absolutely. This 48-hour course is highly practical and project-driven. You will engage in several hands-on exercises and mini-projects throughout each module, culminating in a comprehensive end-to-end testing project. This project will involve

building an automated test suite for a sample application, incorporating unit, API, and UI tests, and demonstrating integration with reporting tools, providing you with a tangible portfolio piece and real-world experience.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

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READY TO ENROL?

Take the next step in your technology career.

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