PYTHON TRAINING

Github Copilot Python Testing Course

Learn to leverage GitHub Copilot to streamline Python testing. Master AI-powered code generation for robust, efficient tests.

DURATION
2 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 "Github Copilot Python Testing Course" from Computer Pride is meticulously designed for Python developers looking to significantly enhance their testing workflow through AI-powered assistance. In just two hours, you'll delve into leveraging Github Copilot to generate, refactor, and debug Python unit, integration, and end-to-end tests with unprecedented speed and accuracy. The course covers practical techniques for integrating Copilot into your development environment, understanding its suggestions for test cases, assertions, and even entire test suites, ensuring your applications are robust and reliable. This course will focus on core technologies such as Python's unittest and pytest frameworks, alongside practical application of GitHub Copilot's AI capabilities.

By mastering Github Copilot for Python testing, you'll not only accelerate your development cycle but also elevate the quality of your code. This course emphasizes best practices for writing maintainable and effective tests, augmented by AI. You'll gain hands-on experience in various testing scenarios, transforming how you approach test-driven development and quality assurance in your Python projects. This skill set is invaluable for any developer aiming to boost productivity, improve code reliability, and deliver high-quality software solutions in a competitive IT landscape.

Duration	2 hours
Level	Intermediate
Vendor	Python

COURSE CURRICULUM

01 Module 1: Introduction to AI-Assisted Python Testing

- What is GitHub Copilot and its role in modern software development?
- Setting up your Python development environment for Copilot integration
- Overview of Python's built-in unittest framework
- Introduction to the pytest framework for advanced testing

02 Module 2: Generating Python Tests with GitHub Copilot

- Leveraging Copilot for basic unit test generation (functions, methods)
- Writing assertions and mock objects with Copilot's intelligent suggestions
- Generating comprehensive test cases for existing Python functions/classes
- Exploring Copilot's capabilities for identifying edge cases and error handling tests

03 Module 3: Refactoring and Debugging Tests using Copilot

- Utilizing Copilot to refactor messy or inefficient Python test code
- Identifying and fixing failing tests with AI-driven insights
- Debugging complex test failures by leveraging Copilot's context awareness
- Strategies for improving test readability, maintainability, and performance

04 Module 4: Advanced Python Testing Scenarios and Best Practices

- Generating integration tests for database interactions and external APIs
- Applying Copilot for exploratory testing in complex application components
- Integrating Copilot effectively into a Test-Driven Development (TDD) workflow
- Limitations, ethical considerations, and best practices for AI in testing

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

> **Efficient Python Software Engineer (focus on AI-assisted TDD)**

> **Automated QA Specialist for Python Applications**

> **DevOps Engineer with advanced Python testing automation skills**

FREQUENTLY ASKED QUESTIONS

Q: What prior experience with Python testing frameworks (like unittest or pytest) is required before taking this GitHub Copilot Python Testing Course?

While this course will touch upon the basics of unittest and pytest, a foundational understanding of writing simple Python tests and familiarity with core testing concepts like assertions and test fixtures will significantly enhance your learning experience. The course primarily focuses on augmenting existing testing knowledge with GitHub Copilot.

Q: How will learning to use GitHub Copilot specifically for Python testing impact my ability to write production-ready code faster and with higher quality?

This course will equip you to dramatically accelerate your test writing process, allowing you to cover more code paths and edge cases in less time. By leveraging Copilot's AI to suggest and refactor tests, you'll not only speed up development but also inherently improve code quality by catching bugs earlier and ensuring more robust test coverage, leading to more reliable production deployments.

Q: Beyond generating new tests, how does this course teach me to use Copilot to improve my existing Python test suites or debug complex test failures?

This course dedicates a significant module to advanced Copilot applications in testing. You will learn practical techniques for using Copilot to refactor cumbersome test code, identify areas for improvement in existing test suites, and receive intelligent suggestions to diagnose and resolve complex test failures, making your debugging process more efficient and effective.

ABOUT COMPUTER PRIDE

computerpride

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+	10,000+	50+
Years of Excellence	Professionals Trained	Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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