



REAL WORLD
TECHNOLOGY TRAINING & SOLUTIONS
"Training You Can Really Use"

Advanced Programming Techniques with Python®

Duration: 3 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

Python® continues to be a popular programming language, perhaps owing to its easy learning curve, small code footprint, and versatility for business, web, and scientific uses. Python is useful for developing custom software tools, applications, web services, and cloud applications. In this course, participants will build upon their basic Python skills. They will learn more advanced topics such as object-oriented programming patterns, development of graphical user interfaces, data management, creating web service-connected apps, performing data science tasks, unit testing, and creating and installing packages and executable applications.

Target Audience

This course is intended for:

- Existing Python programmers who want to expand their programming proficiency in Python 3.

Prerequisites

To attend this course, candidates must have completed the following course or have at least one (1) year of Python experience:

- *Introduction to Programming with Python®*



Microsoft Partner

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Course Objectives

Upon successful completion of this course, attendees will be able to:

- Select an object-oriented programming approach for Python applications.
- Create object-oriented Python applications.
- Create a desktop application.
- Create data-driven applications.
- Create and secure web service-connected applications.
- Program Python for data science.
- Implement unit testing and exception handling.
- Package an application for distribution.

Course Topics

Module 1: Selecting an Object-Oriented Programming Approach for Python Applications

- Implement Object-Oriented Design
- Leverage the Benefits of Object-Oriented Programming

Module 2: Creating Object-Oriented Python Applications

- Create a Class
- Use Built-in Methods
- Implement the Factory Design Pattern

Module 3: Creating a Desktop Application

- Design a Graphical User Interface (GUI)
- Create Interactive Applications

Module 4: Creating Data-Driven Applications

- Connect to Data
- Store, Update and Delete Data in a Database

Module 5: Creating and Securing a Web Service-Connected App

- Select a Network Application Protocol
- Create a RESTful Web Service
- Create a Web Service Client
- Secure Connected Applications





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Course Topics *Continued*

Module 6: Programming Python for Data Science

- Clean Data with Python
- Visualize Data with Python
- Perform Linear Regression with Machine Learning

Module 7: Implementing Unit Testing and Exception Handling

- Handle Exceptions
- Write a Unit Test
- Execute a Unit Test

Module 8: Packaging an Application for Distribution

- Create and Install a Package
- Generate Alternative Distribution Files

ACTIVITIES INCLUDED



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