

PY-ADVP PYTHON ASSOCIATE - PROGRAMMER II (v3.8)



DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
3 Days	Intermediate	Python	Instructor Led	NA

INTRODUCTION

In this Python training course, students familiar with Python programming will learn advanced Python techniques. This advanced Python course is taught using Python 3; however, differences between Python 2 and Python 3 are noted.

AUDIENCE PROFILE

This course is intended for students who have attended the Introduction to Python Training and those already familiar with Python programming.

PREREQUISITES

Before attending this course, delegates must have basic Python programming experience. Students should be very comfortable with:

- Working with strings
- Working with lists, tuples and dictionaries
- Loops and conditionals of Writing your own functions
- Some exposure to HTML, XML, JSON, and SQL

COURSE OBJECTIVES

After completing this course, students will be able to:

- Learn to work with IPython Notebook
- Learn to work with the Collections module
- Learn about mapping and filtering and lambda functions
- Learn advanced sorting
- Learn to work with regular expressions in Python
- Learn to work with databases, CSV files, JSON, and XML
- Learn to write object-oriented code in Python
- Learn to test and debug your Python code
- Learn about Unicode and text encoding

COURSE CONTENT

Module 1: Advanced Python Concepts

- Lambda Functions
- Advanced list Comprehensions

Exercise 1: Rolling Five Dice

- Collections Module

Exercise 2: Creating a defaultdict

- Counters

Exercise 3: Creating a Counter

- Mapping and Filtering
- Mutable and Immutable Built-in Objects
- Sorting

Exercise 4: Converting list.sort() to sorted(iterable)

- Sorting Sequences of Sequences
- Creating a Dictionary from Two Sequences
- Unpacking Sequences in Function Calls

Exercise 5: Converting a String to a datetime.date Object

- Modules and Packages

Module 2: Regular Expressions

- Regular Expression Tester
- Regular Expression Syntax

- Python's Handling of Regular Expressions

Exercise 6: Green Glass Door

Module 3: Working with Data

- Virtual Environment
- Relational Databases
- Passing Parameters
- SQLite

Exercise 7: Querying a SQLite Database

- SQLite Database in Memory

Exercise 8: Inserting File Data into Database

- Drivers for Other Databases
- CSV

Exercise 9: Finding Data in a CSV File

- Creating a New CSV File

Exercise 10: Creating a CSV with DictWriter

- Getting Data from the Web

Exercise 11: HTML Scrapping

- XML
- JSON

Exercise 12: JSON Home Runs**Module 4: Testing and Debugging**

- Testing for Performance

Exercise 13: Comparing Times to Execute

- The unittest Module

Exercise 14: Fixing Functions

- Special unittest.TestCase Methods

Module 5: Classes and Objects

- Attributes
- Behaviors
- Classes vs. Objects
- Attributes and Methods

Exercise 15: Adding a roll() Method to Die

- Private Attributes
- Properties

Exercise 16: Properties

- Objects that Track their Own History
- Documenting Classes

Exercise 17: Documenting the Die Class

- Inheritance

Exercise 18: Extending the Die Class

- Extending a Class Method

Exercise 19: Extending the roll() Method

- Static Methods
- Class Attributes and Methods
- Understanding Decorators

ASSOCIATED CERTIFICATIONS & EXAM

There is no associated exam for this course.