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Learning Style: Virtual Classroom

Technology:

Difficulty: Advanced

Course Duration: 3 Days

Advanced Programming Techniques with Python (v1.11)

About This Course:

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, you'll build upon your basic Python skills, learning 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.

Course Objectives:

- Implement Object-Oriented Design
- Leverage the Benefits of Object-Oriented Programming
- Create a Class
- Use Build-in Methods
- Implement the Factory Design Pattern
- Design a Graphical User Interface (GUI)
- Create Interactive Applications
- Connect to Data
- Store, Update, and Delete Data in Database
- Select a Network Application Protocol
- Create a RESTful Web Service
- Create a Web Service Client
- Secure Connected Applications
- Clean Data with Python
- Visualize Data with Python
- Perform Linear Regression with machine Learning
- Handle Exceptions
- Write a Unit Test
- Execute a Unit Test
- Create and Install a Package
- Generate Alternative Distribution Files

Audience:

- Intermediate to advanced Python developers who want to deepen their programming skills
- Software engineers looking to write more efficient, maintainable, and scalable code
- Data scientists and analysts aiming to enhance their coding practices
- DevOps and automation engineers who use Python in production environments

Prerequisites:

- This course is designed for existing Python programmers who have at least one year of Python experience and who want to expand their programming proficiency in Python 3. To ensure your success in this course, you should have experience with object-oriented programming and Python 2.x or 3.x. You can obtain this level of skills and knowledge by taking the following course: Introduction to Programming with Python.

Course Outline:

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

Lesson 2: Creating Object-Oriented Python Applications

Lesson 3: Creating a Desktop Application

Lesson 4: Creating Data-Driven Applications

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

Lesson 6: Programming Python for Data Science

Lesson 7: Implementing Unit Testing and Exception Handling

Lesson 8: Packaging an Application for Distribution