

Python Revival and Practical Programming

FA-0806 · 3 days

Software Development

Introduction

Refresh Python or transfer programming experience from another language through a practical three-day sequence. Revisit data types and control flow, practise functions and OOP, and connect the concepts to introductory web-server and API examples.

Use a supported Python 3 environment and compatible packages. The course builds a foundation for further work rather than promising every skill needed for an arbitrary application.

Learning outcomes

- Run scripts in a selected editor or notebook environment and compare familiar programming concepts with Python.
- Use objects, collections, loops, comprehensions and functions.
- Explain scope, argument passing, recursion and basic resource handling.
- Define classes and methods and combine concepts in a small practical exercise.
- Describe web-server and API roles and use documentation for continued learning.

Prerequisites

For learners with some programming experience, including those returning to Python. Basic computer/file skills and a prepared supported Python 3 environment are useful.

Training outline

1. Day 1 — Logic, objects and data structures

- Logic
- Algorithms
- Pseudo-coding
- Variables
- Objects
- Numbers
- Arithmetic Operations
- Strings Manipulation
- Data Structures
- Lists
- Tuples
- Dictionaries

Use a selected IDE and compare Python conventions with previously learned languages. Review references to objects and basic data/resource handling.

2. Day 2 — Loops, functions and scope

- Loops
- String operations with loops
- List operations with loops
- Dictionary operations with loops
- List comprehension
- Functions
- Recursions
- Scopes
- Arguments and Parameters
- Packing and Unpacking

3. Day 3 — OOP and practical integration

- OOP
- Classes vs. Objects

- Functions vs. Methods
- Putting it all together
- Web Servers
- APIs
- Final Assessment

Use selected compatible external packages where needed. Web-server and API topics are introductory examples, not production deployment training.