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Sign up

Python training: Object programming

5 days (35 hours)

Presentation

This Python: Object Programming course will give you the knowledge you need to program with the Python language. This course will cover the syntax, tools and best practices for developing in Python, so that you can benefit from the full power of this technology. We will present **the** frameworks, libraries, tools and functionalities most commonly used in business, such as database access, XML file manipulation, user interface and web interface creation.

In this training, as in all our training courses, we'll be using the latest stable version ([Python 3.12](#) at the date of this article).

Objectives

- Master the syntax of the Python language
- Acquire the essential notions of Object Programming
- Design graphic interfaces
- Know how to apply Python module functions
- Master program testing and evaluation tools

Target audience

- Developers
- Architects
- Engineers
- IT Project Manager

Prerequisites

- Basic programming skills.

Our Python training program: Object programming

Introduction to the Python language

- History and implementation
- Python script execution model
- Installation of a development environment
- Basic syntax

Data structures

- Objects and references
- Examining methods and attributes
- Simple data types
- Lists, tuples and dictionaries
- Mutability and immutability

Control structures

- Code block definition and indentation
- Boolean expressions
- Tests and loops
- Lists in comprehension
- Other types in comprehension
- Defining functions and generators

Object-oriented programming

- Types and classes
- Attribute and method definitions
- Instance and class attributes
- Single and multiple inheritance
- Polymorphism
- Modules and namespaces

System programming and I/O

- Processing arguments received
- Interaction with the operating system
- Flow redirection
- Input/output on files
- External process execution

The standard Python library

- Tools for collections, functions and iterators
- CSV, XML, Pickle, JSON data processing
- Concordance and regex pattern extraction
- Binary data processing
- Mathematical functions

Database access

- Supported RDBMS
- Table structures
- Preparing SQL queries and cursors
- Data extraction and type matching

User interfaces

- Graphics libraries: Tkinter, Gtk, Qt
- Element definition and placement
- Reactions to user events

Python development for the Web

- A reminder of HTTP and HTML
- The CGI model
- Apache integration with WSGI
- Microframeworks
- Introducing Django

To find out more...

- Function decorators
- Decorators for class and static methods
- Migrating from Python 2 to Python 3
- Unit testing
- Deploying scripts and modules

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical training: 60% Practical, 40% Theory. Training material distributed in

to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.