Publication date : 04/26/2024

Developing a Python application certification course

Practical course - 17d - 119h00 - Ref. KZO
Price : 5610 € E.T.

This certification course will enable you to master all the steps involved in developing an application in Python. You'll learn the fundamentals of the language and how to develop applications using the Django and Spark frameworks.

Teaching objectives

At the end of the training, the participant will be able to:

- Master the syntax of the Python language
- Implement tools for testing and evaluating the quality of a Python program
- Learn the Django framework for web applications
- Understanding and implementing the Spark framework for big data applications

Intended audience

Anyone wishing to learn how to develop applications in Python.

Prerequisites

Basic programming skills.

Certification

This certification program is validated by a written exam in the form of a case study (see Ref. KOZ).

PARTICIPANTS

Anyone wishing to learn how to develop applications in Python.

PREREQUISITES

Basic programming skills.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

Course contents

This course consists of the following modules :

Python: Object-Oriented Programming

Ref. PYT - 5 days ★ 4 / 5

Python: Advanced

Ref. PYA - 4 days ★ 4 / 5

Django, Web development with Python

Ref. DJA - 4 days ★ 5 / 5

Certification Developing an application in Python

Ref. KOZ - 1 day

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

Course schedule

1 Python, object-oriented programming

- Python language syntax.
- Object-oriented approach.
- Object programming in Python.
- Using StdLib.
- QA tools.
- TkInter HMI creation.
- Python/C interfacing.
- Conclusion.

Hands-on work

UML modeling of a simple case study. Implementation of Python modules: regular expressions, database access. Use of pylint and pychecker tools to check Python code. Implement unit tests.

2 Python, advanced

- Important reminders about language.
- Advanced functions.
- Advanced object-oriented programming.
- Deployment and quality.
- Parallelism: optimizing program performance.
- Libraries: contributing to the success of the language.

Hands-on work

Optimization: list intersection and algorithm complexity calculation. Implement a metaclass to create singleton classes. Pack a library and place it on PypI. Distribute and consolidate (Map Reduce) calculations with Celery.

3 Django, web development with Python

- Introduction.
- Data access with Django.
- View management.
- Templates.
- Forms management.
- Advanced functions.

Hands-on work
Environment preparation. Installation and development of Python, Django, Apache Server, MySQL and Eclipse. Create a new project. Integrate Ajax through the JQuery framework.

4 Spark Python, developing applications for big data

- Introduction to Apache Spark.
- Using Spark with Python: Resilient Distributed Dataset (RDD).
- Handle structured data.
- Machine learning with Spark.
- Real-time analysis with Spark Streaming.
- Graph theory.

Hands-on work
Numerous exercises are used to illustrate the topics.

Dates and locations

REMOTE CLASS
2026 : 23 Feb., 23 Mar., 23 Mar., 20 Apr., 4 May, 4 May, 18 May, 8 June, 8 June, 15 June, 22 June, 27 July, 24 Aug., 24 Aug., 7 Sep., 7 Sep., 7 Sep., 28 Sep., 12 Oct., 2 Nov., 2 Nov., 2 Nov., 23 Nov., 23 Nov., 14 Dec.

BRUXELLES
2026 : 8 June, 8 June, 7 Sep., 7 Sep., 23 Nov., 23 Nov.

PARIS LA DÉFENSE
2026 : 23 Feb., 23 Mar., 20 Apr., 4 May, 18 May, 8 June, 22 June, 27 July, 24 Aug., 7 Sep., 28 Sep., 12 Oct., 2 Nov., 23 Nov., 14 Dec.

LILLE
2026 : 18 May, 27 July, 23 Nov.

LUXEMBOURG
2026 : 8 June, 7 Sep., 23 Nov.