Publication date : 06/11/2024

Course : Python, developing REST Web Services

Practical course - 2d - 14h - Ref. CZT
Price : 1500 CHF E.T.

Dans ce cours, vous verrez comment développer des Web Services REST avec le langage Python. La première approche est basée sur des composants et des librairies internes. La seconde par le biais de Django Rest Framework, permet de développer rapidement et avec robustesse des API fonctionnelles.

Teaching objectives

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

- Understanding the principles of REST web services
- Handling JSON data
- Developing REST APIs with Django REST Framework
- Securing Web services

Intended audience

Developers, engineers, project managers close to development.

Prerequisites

Good web skills, Python programming experience required.

Course schedule

1 Python reminders

- Variables & typing.
- Understand collections with lists, tuples and dictionaries.
- Scope of variables and references.
- Optimize your functions with named parameters.
- Python class reminders.

Hands-on work

Create a Python class and instantiate an object.

PARTICIPANTS

Developers, engineers, project managers close to development.

PREREQUISITES

Good web skills, Python programming experience required.

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.

2 Web Services fundamentals

- The role of Web Services and how to use them.
- n-tier architectures.
- What is a Web Service? Purpose, principle.
- Comparing SOAP and REST.
- The role of XML and JSON.

Hands-on work
Application examples, how to invoke a Web Service?

3 Creating a RESTful API

- Components and libraries to facilitate API implementation.
- General approach.
- Creation of the routing system.
- Define exchange format.
- Setting up middleware.

4 REST API with Django Rest framework

- Django REST Framework overview and installation.
- Class-based views.
- Generic views.
- Serializers.
- The addition of an App: Django Debug Toolbar.
- Optimizing data access.

Hands-on work
Creation of a first simple API with Django REST Framework.

5 Server security

- Authentication and access permissions.
- Global authentication or view-based authentication.
- Setting up JSON Web Tokens with Simple JWT.

Hands-on work
Authentication and access permissions management.

6 Deploying REST webservices on a Linux server

- Gunicorn, an example of a pure Python WSGI server for Unix.
- Consumption by front-end frameworks using AJAX (Angular, React, Vue).
- Protection against CSRF (Cross Site Request Forgery).
- CORS (Cross-Origin Resource Sharing) headers.

Dates and locations

REMOTE CLASS
2026 : 19 Mar., 11 June, 24 Sep., 26 Nov.

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.

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.