

# Course : Django, Web development with Python

Practical course - 4d - 28h00 - Ref. DJA

Price : 2470 CHF E.T.

 5 / 5

Django is a Web MVC (Model-View-Controller) framework based on the Python language. This training course will teach you how to implement this framework and use its various modules effectively in Web application development.

## Teaching objectives

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

- ✓ How to interface Django with a database
- ✓ Developing dynamic views
- ✓ Developing templates
- ✓ Managing Django forms
- ✓ Use the main advanced functions

## Intended audience

This course is designed for developers wishing to acquire an in-depth knowledge of the basics of the Django framework.

## Prerequisites

Basic knowledge of Python and Web technologies (HTML, JavaScript...)

## Course schedule

### 1 Introduction

- Reminder of OOP principles.
- The MVC Design Pattern.
- Introducing the Django framework.
- Origin and history. Objectives and benefits.
- Django framework components.

### Exercise

Preparing the environment. Installation of Python, Django with web server, RDBMS (PostgreSQL, MySQL, or other) and IDE. Create a new project.

## PARTICIPANTS

This course is designed for developers wishing to acquire an in-depth knowledge of the basics of the Django framework.

## PREREQUISITES

Basic knowledge of Python and Web technologies (HTML, JavaScript...)

## 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 Data access with Django

- The Django ORM model.
- Django models: Model, Field, Table, Column, Primary Key...
- Association mapping: OneToMany, ManyToOne, ManyToMany, OneToOne.
- Inheritance mapping strategies: Meta Class, OneToOneField, ManyToManyField...
- Data access with QuerySets.

### Exercise

Develop a data access layer. Interfacing Django with the RDBMS.

## 3 View management

- Simple views or view functions.
- HttpResponseRedirect, HttpResponseRedirect and QueryDict classes.
- URL configuration : UrlConf.
- Generic views.
- Examples of generic views: Redirects, Create, Update, Delete...

### Exercise

Developing dynamic HTML views with Django.

## 4 Templates

- The role of templates.
- Template creation and loading.
- Context management.
- Use tags and custom filters.
- Template reuse: inheritance between templates.

### Exercise

Develop a template to facilitate presentation generation.

## 5 Forms management

- The benefits of Django forms.
- Forms creation.
- The different types of fields.
- Form data validation.
- Manage and customize error messages.
- Generate forms from templates.

### Exercise

Develop the forms associated with the CRUD operations from the previous workshop.

## 6 Advanced functions

- Internationalization.
- Authentication and session management.
- Optimization and caches.
- Ajax integration.
- The administration interface.
- Unit testing.

### Exercise

Integrate Ajax through a framework.

## 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.

## Dates and locations

### **REMOTE CLASS**

2026: 10 Mar., 19 May, 6 Oct., 1 Dec.