Course : Django, Web development with Python

Practical course - 4d - 28h00 - Ref. DJA
Price : 2470 CHF E.T.

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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.

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.
- HttpResponse, HttpRequest 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.

Dates and locations

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