

Odoo Development with Python

Duration: 13 Days (4 Days Python + 9 Days Odoo)

Audience:

- Aspiring Python developers
- Beginners – New Odoo Developers, Business Analysts, Technical Enthusiasts moving into Odoo development
- Analysts and engineers interested in ERP customizations
- Tech enthusiasts exploring business software with programming

Week 1: Python Programming Bootcamp (4 Days / 32 Hours)

Day 1: Python Basics

- Introduction to Python
- Python Environment Setup
- Data Types & Variables
- Data Structures (Lists, Tuples, Sets, Dictionaries)
- Input and Output Operations
- Writing and Using Python Modules

Day 2: Functions and Logic

- Defining Functions
- *args and **kwargs
- Lambda & Decorators
- Map, Filter, Reduce
- Conditional Statements (if, elif, else)
- Loops (for, while, break, continue)

Day 3: Advanced Python Concepts

- List Comprehensions & Generators
- Modules & Imports
- String Manipulation & Formatting
- Exception Handling
- File Operations
- Date & Time Handling

Day 4: Object-Oriented Programming Language

- Introduction to Object-Oriented Programming
- Defining Classes and Creating Objects
- Using Constructors and Attributes
- Instance vs Class Variables and Methods
- Encapsulation and Access Modifiers

- Private Methods and Attribute Access
- Hands-on: Writing OOP-based Python programs

Weeks 2 & 3: Odoo Development for Beginners (9 Days – 72 hours)

Day 6: Odoo Introduction & CRM Basics

Module 1: Getting Started with Odoo

- What is Odoo? Core features and modules
- Understanding the Odoo interface
- Installing and accessing Odoo locally

Module 2: Introduction to Odoo CRM

- CRM workflow and pipeline
- Managing leads, opportunities, and activities
- Basic configuration (sales teams, tags, stages)

Lab: Create a sales pipeline and manage opportunities

Day 7: Basic Customisation in CRM

Module 3: Functional Customization using Odoo Studio

- Adding new fields to CRM forms
- Creating filters and reports
- Introduction to automated actions

Module 4: Simple Code-Based CRM Customization

- Understanding Odoo module structure
- Editing XML views
- Basic Python models

Lab: Add custom fields to CRM and create basic automation

Day 8: Odoo Development Basics

Module 5: Building Your First Custom Module

- Creating a custom module from scratch
- Understanding manifest file and folder structure
- Defining simple models and fields

Module 6: Views and Menus

- Creating forms, lists, and menus
- Adding your module to the Odoo interface

Lab: Build and install a basic custom module

Day 9: Managing Users & Access Rights

Module 7: User Roles and Access Control

- Understanding Users, Groups, and Permissions
- Defining Access Control Lists (ACLs)
- Creating Record Rules for field-level restrictions

Module 8: Configuring Roles for CRM and Custom Modules

- Assigning roles to users
- Testing access restrictions

Lab: Create a new role with limited access to CRM data

Day 10: Website Development and External Integration

Module 9: Odoo Website Builder for Beginners

- Creating and editing web pages
- Using snippets and dynamic website blocks
- Linking website with CRM (e.g., lead forms)

Module 10: Intro to External Integrations (SQL Server, APIs)

- Why integrate with external systems?
- Basics of connecting to SQL Server using Python (pyodbc)
- Making API calls from Odoo (using Python requests)
- Display external data in Odoo

Lab: Display external data (e.g., from SQL Server) on a website page

Day 11: Advanced ORM & Fields

Module 11: Advanced ORM

- ORM Internals & Concepts
- Common Methods & Decorators
- Sequences & Exceptions

Module 12: Advanced Fields

- Relational Fields: Many2one, One2Many, Many2many
- Recordsets, Computed & Related Fields
- Dependencies & Inverse Computation

Lab: Use ORM and custom computed fields

Day 12: Specialized Views, Inheritance & Wizards

Module 13: Specialized Views

- Kanban, Calendar, Pivot, Gantt, Graph, Dashboard, Diagram, Map

Module 14: Inheritance

- Model & View Inheritance

Module 15: Wizards

- Transient Models
- Creating Wizards

Lab: Create a wizard and a custom Kanban, Calendar, Pivot, Gantt, Graph, Dashboard, Diagram view

Day 13: UI Enhancements, Filtered/Map Functions, and Translation

Module 16: Buttons, Widgets & Chatter

- Button Types & Decorations
- Widgets: Avatar, Badges, Clipboard
- View Text Decorations

Module 17: Filtered vs. Mapped

- Using filtered() and mapped() functions in ORM

Module 18: Translation Support

- Module Translation Techniques
- Report & Language Translation

Lab: Add translation, filter/mapped usage, and dynamic button

Day 14: Legacy App Support & Capstone

Module 19: Working with Legacy Modules

- Identifying older Odoo modules
- Updating legacy code for modern Odoo versions
- Basic debugging tips

Module 20: Capstone Project & Wrap-Up

- Combine CRM customization, a simple custom module, user access control, website integration, and external data sync
- Best practices for development and maintenance

Lab: Build a mini project combining website, CRM, and external data display