

Odoo 18 Development

Duration: 4 days/ 32 hours

Prerequisites: Overview of Odoo / ERP systems and any programming language

Day 1: Introduction to Odoo & Module Development

Topics:

- Overview of Odoo Framework & Architecture
- Editions: Community vs Enterprise
- Odoo 18 New Features
- Environment Setup
 - Installation (from source)
 - PostgreSQL & Python setup
 - Configuration files
 - Directory structure
- Understanding Odoo Models & ORM
 - Model types: models.Model, models.TransientModel
 - Field types and attributes
 - Recordset operations
- View Types & UI Components
 - Tree, Form, Kanban, Calendar, Search
 - Inheriting and customizing views
 - Widgets and decorations

Labs:

- **Lab 1:** Install Odoo 18 from source
 - **Lab 2:** Create a basic custom module (e.g., Library Management)
 - **Lab 3:** Design tree and form views for your module
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Day 2: Business Logic & Security

Topics:

- Business Logic with Python
 - Compute and onchange methods
 - Constraints, validations
 - Custom methods and server actions
- Security
 - Access control lists and record rules
 - Groups, roles, and permission management
 - Menu access control
- Inheritance & Extending Models
 - Classical and delegation inheritance
 - View extension and model overrides
- Internationalization

- Language translations
- .po files and _() usage

Labs:

- **Lab 4:** Add computed fields and validations
 - **Lab 5:** Create custom roles and security rules
 - **Lab 6:** Extend res.partner with new fields
 - **Lab 7:** Add translations to your module
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Day 3: Advanced Development

Topics:

- QWeb Reports
 - Template basics and inheritance
 - Report action configuration
 - Styling and dynamic content
- Web Controllers & APIs
 - Creating http.Controller
 - Building REST APIs
 - Security for public/private endpoints
- Scheduled Actions & Automation
 - Using ir.cron for tasks
 - Automated server actions
- Odoo Studio & No-code Tools
 - Creating apps with Studio
 - Exporting customizations

Labs:

- **Lab 8:** Create a custom PDF report for your module
 - **Lab 9:** Build a REST API for your model
 - **Lab 10:** Automate tasks using scheduled actions
 - **Lab 11:** Use Odoo Studio to build and export a module
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Day 4: Integrations & Final Project

Topics:

- External API Integration
 - Using Python requests
 - JSON parsing
 - Syncing data with Odoo models
- Payment Gateway Integration
 - Working with acquirers
 - Implementing a custom payment flow
- Deployment Best Practices
 - Nginx, supervisor, and log management

- Performance tuning and production setup
- Capstone Project
 - Build a functional mini-ERP module

Labs:

- **Lab 12:** Integrate with Google Books API
- **Lab 13:** Mock payment gateway integration
- **Capstone Lab:** Final Library Management System with roles, views, reports, API, and automation