

inomx

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“Where
Knowledge
Meets
Experience”

BACK-END DEVELOPMENT

Main Section

- Python
- Django
- Django Restframework
- PostgreSQL
- Nginx
- Gunicorn
- Digital ocean

Module 1

Python Basics

- ⦿ Variables, datatypes, and basic operations
- ⦿ Control structures (if-else, loops)
- ⦿ Functions and classes
- ⦿ Lists, tuples, dictionaries, and sets
- ⦿ File handling

Module 2

Introduction to Django

- ⦿ Overview of Django and its features
- ⦿ Setting up a Django project and app
- ⦿ Django project structure

Module 3

Models and Databases

- ⦿ Creating models and database tables
- ⦿ Querying the database with Django ORM
- ⦿ Model relationships (OneToOne, ForeignKey, ManyToMany)
- ⦿ Model inheritance

Module 4

Views and Templates

- ⦿ Creating views and URL patterns
- ⦿ Rendering templates and using template tags
- ⦿ Class-based views vs. function-based views
- ⦿ Forms and form handling

Module 5

Django Admin

- ⦿ Configuring Django admin for managing models
- ⦿ Customizing the Django admin interface

Module 6

Django Rest Framework (DRF) Basics

- ⦿ Introduction to DRF and its benefit
- ⦿ Serializers and working with JSON data
- ⦿ Creating API views with DRF
- ⦿ API Authentication and permissions

Module 7

RESTful APIs with DRF

- ⦿ API design principles (RESTful architecture)
- ⦿ Building CRUD APIs for models using DRF
- ⦿ Handling API requests (GET, POST, PUT, DELETE)

Module 8

Authentication and Permissions

- ⦿ Implementing user authentication with DRF
- ⦿ Token-based authentication using DRF's Token Authentication
- ⦿ Understanding and Implementing permissions

Module 9

API Pagination and Filtering

- ⦿ Handling large data with pagination
- ⦿ Filtering and searching data in APIs

Module 10

Viewsets and Routers

- ⦿ Working with DRF's ViewSets
- ⦿ Using Routers for automatic URL routing

Module 11

Serializers and Relationships

- ⦿ Handling Relationships between models in serializers
- ⦿ Nested serializers

Module 12

Advanced DRF Concepts

- ⦿ Versioning and Content negotiation
- ⦿ Throttling and rate limiting
- ⦿ Customizing response formats(XML, JSON)

Module 13

Celery and django channels

- Overview of Celery for background task processing.
- Setting up Celery with Django.
- Creating simple asynchronous tasks.
- Introduction to Django Channels.
- Setting up Channels in a Django project.
- Building a simple real-time application, like a chat room.

Module 14

Testing and Test-Driven Development (TDD)

- Preparing a Django project for deployment
- Deploying a Django project on a webserver (e.g., Gunicorn, Nginx)