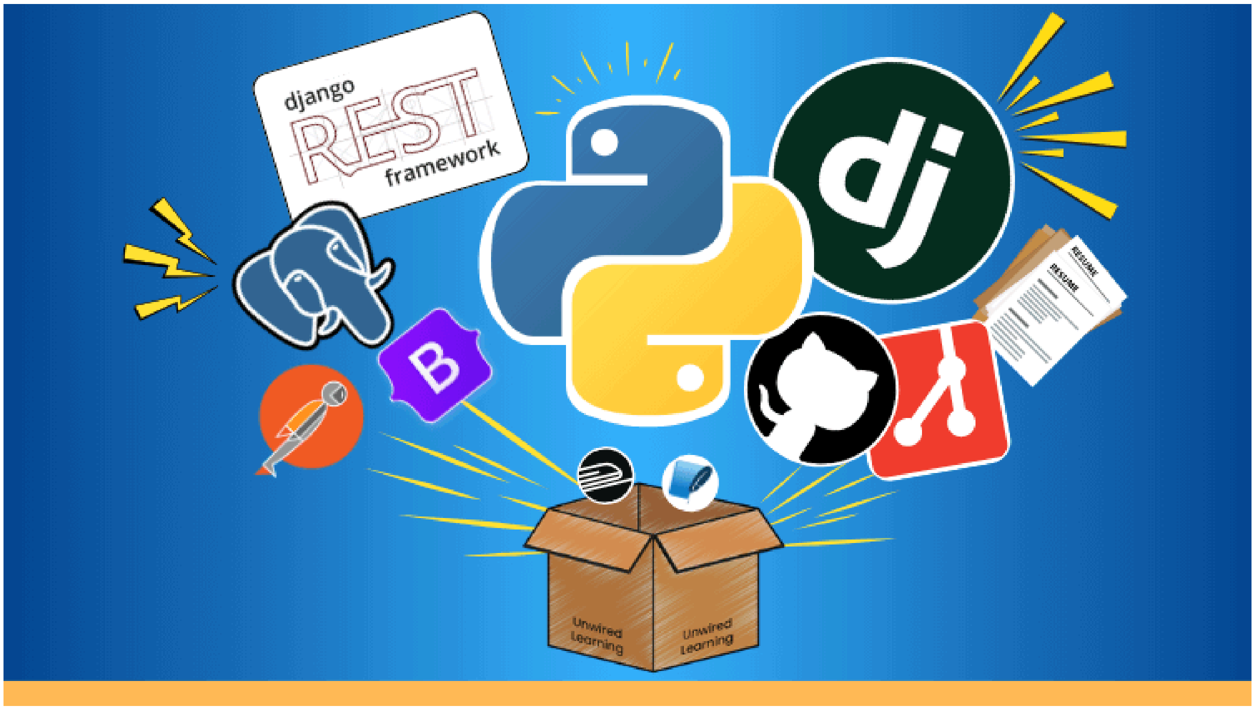
Unwired Learning

Complete Backend Development with Python & Django

(Learning Path Curriculum)



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(Check Page 24 For Certificate information)

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https://unwiredlearning.com/membership

Level - 1

Python Masterclass: Basics To Advanced With 15 Projects + Gen AI 🔗

Course Introduction

- Course Introduction
- Welcome - Let's Get Started!
- Resources [Important]

Python Programming - Is Python A Bubble?

- Introduction to Python as a programming language

Python Setup & Installing

- Python 3.x Installation
- Installing Python on Linux/Mac
- Different Methods To Execute Python Codes

Writing Our First Python Program

- Variables and Python Memory Management

Datatypes in Python

- Datatypes in Python
- Sequences in Python
- Sets, Dictionary
- Literals and Identifiers
- Reserve Words - You Can't Use Them!

Operators in Python

- Operators: Arithmetic, Assignment
- Operators: Unary Minus, Relational, Logical, Boolean
- Understanding Escape Characters

Input and Output

- Introduction to Input and Output Statements
- Output Statements

- Input Statements
- Python Built-in Functions and Built-in Module

IDE (Integrated Development Environment)

- Working With Code Editor

Python Control Statements

- Conditionals: If, If ... Else and Indentation
- Indentation
- Conditionals: If ... Else Statements With Operators
- Conditionals: if... elif ... else Statements + Nested if Statements

Loops In Python

- While Loop
- For Loops - Part 1
- For Loops - Part 2
- Break and Continue Statements

Strings and Characters

- Comments and Doc Strings
- Diving Deep With "Strings"

Lists, Tuples, and Dictionaries

- Diving Deep - List
- Diving Deep - Tuples
- Diving Deep - Dictionaries
- Indexing, Slicing, Negative Indexing

Functions

- What are Functions?
- Parameters, Arguments, Return
- Formal and Actual Arguments (arg, *arg, **karg)
- Local and Global Variables

Object-Oriented Programming (OOP)

- Introduction to Object Oriented Programming (OOP)

- Classes and Objects in Python (OOP)
- Understanding init() Method and 'self ' Parameter
- Theory: Understanding init() Method and 'self ' Parameter
- Solving Task: OOPS
- Defining Multiple Constructors in Python?
- Encapsulation
- Public And Private Methods
- Inheritance
- Getter and Setter
- Creating And Importing Module
- Creating User-Defined Module
- Multiple Inheritance
- Understanding super() Function [Part 1]
- Understanding super() Function [Part 2]
- Python Naming Convention (Classes, Variables, Functions, Methods ...)
- Composition
- Aggregation
- Abstract Classes
- Discussing Over import And from
- Operator Overloading [Part 1]
- Operator Overloading [Part 2]

Errors And Exception Handling

- Errors - Types of Errors!
- Exceptions
- Exceptions Handling Introduction
- Exceptions Handling
- Try, Except, Else, And Finally
- Raising Exception
- Creating User-Defined Exception

name == "main"

- if **name** == "**main**"

Python I/O - File Handling

- Creating Text File And Write Content

- Appending Files - Solving Example
- Reading Content From A File

Python Package Management System

- pip - PyPI for Managing Python Packages

Project 1 - Face Detection 🎉

- What is OpenCV?
- OpenCV Face Detection With Python
- Detecting Faces Of All Images In The Folder

Project 2 - Password Generator 🎉

- Random Module
- Random Password Generator
- Readable Password Generator

Project 3 - Data Analysis With Pandas 🎉

- What is Pandas?
- Starting With Pandas And iPython
- Working with Jupyter Notebooks
- Important Jupyter Notebook Commands
- Working with CSV, Excel, TXT, and JSON Files
- Working with API Response
- Indexing and Slicing Dataframe Tables
- Deleting Columns and Rows
- Adding and Updating New Columns and Rows

Project 4 - Get Data with CoinMarketCap API 🎉

- What is API?
- What are API and Request Methods?
- Working with CoinMarketCap API
- API Format
- Fetching API Data
- Extracting API and Coin Data
- Creating Coin List & Understanding Portfolio
- Creating Portfolio Dictionary

- Calculating Profit and Loss
- Project - Source Code

Project 5.1 - Building GUI Portfolio App With Tkinter 🎉

- GUI Introduction - Graphical User Interface
- Understanding 3 Steps Tkinter Working
- Tkinter Main Window and Labels
- Application Formatting - Adding Header
- Application Formatting - Adding More Data
- Application Formatting - Improving User Interface
- Color Indication For Profit and Loss
- Adding Update Button
- Creating Executable App (.exe file)

Project 5.2 - Understanding Database Basics (SQLite3) 🎉

- Databases - SQL vs SQLite3
- Introduction to SQLite3 and its Workings
- Creating Table | Working with DB Browser
- Insert Values - Databases
- Update Values - Databases
- Fetching Data From Database
- Delete Data - Database
- Creating Functions For Operation - Database

Project 5.3 - Tkinter GUI Application with SQLite3 Database 🎉

- Connecting With Database
- Fetching Data From Database
- Modifying Current Application
- Adding "Add Coin" Button
- Adding "Update Coin" - "Delete Coin" Button
- Solving Multiple Layer Issues
- Adding Notification System - Popup Box
- Adding Navigation System - Menu Bar
- Project - Source Code

Project 6 - Building Web Scraping Bot With Python 🎉

- Project Introduction - Web Scraping Bot
- Project Demo - Web Scraping Bot
- How Do We Scrape Data?
- Web Scraping - Overview
- Project Setup + Installing Libraries
- Working With BeautifulSoup
- Filtering Required Data
- Extracting Current Price
- Extracting Table Content - Part 1
- Extracting Table Content - Part 2
- Extracting All Stock Results
- Working with Static File
- Storing Stock Content in CSV File
- Sending Text Mail Through SMTPLIB
- Sending Text Mail Through Email Module
- Sending Attachment Through Email Module
- Integrating Mail System with Web Scraper
- File Name According To Today's Date
- Project - Source Code

Project 7 - Automate Weather Forecast 🎉

- Project Introduction: Automate Weather Forecast
- OpenWeatherMap API
- Working With API Data
- Working With Pillow Library
- Adding Content: Date and Time
- Adding Content: Multiple City Position
- Adding Content: Multiple City Data
- Adding Content: Multiple Country Data
- Saving Post as PNG and PDF
- Exercise: Automate For Stories
- Project - Source Code

Project [8, 9]: Assignments 🎉

- Project 8 - Python Image Optimization and Transformations
- Project 9 - Web Scraping Encyclopedia Article
- Assignment Solutions

Project 10 - Building Twitter Bot With Python and Tweepy (Optional) 🎉

- Twitter API Update [Important]
- Project Introduction: Twitter Bot
- Creating Twitter Developer Account
- Creating App and Generation Access Tokens
- Installing Tweepy
- Update Status Through Bot
- Introduction To Auto-Reply
- Working With Timeline and Mentions
- Iterate Tweets And Add Condition
- Storing Replied Tweet IDs
- Storing-Accessing Last Seen ID
- Replying Tweet
- Formatting Function and Testing Bot
- Auto Retweet and Auto Like
- Setting-up PythonAnyWhere
- Deployment Done Along with Testing
- Auto Retweet To Particular Hashtag
- Implementing Error Handling And Testing Bot
- Project - Source Code

Advanced: Recursion

- What is Recursion?
- Control of a Function
- Tracing Tree
- Call Stack
- Tree Recursion
- Example: Factorial of a Number

Advanced: Map, Filter, and Reduce

- Lambda Functions
- Map
- Filter
- Reduce

Advanced: Comprehension

- List Comprehension

Advanced: Regular Expressions

- Why We Use Regular Expressions
- Different Methods With RegEx
- Writing Patterns
- Creating Pattern For Email Validation

Advanced: Decorators

- Decorators

Advanced: Logging

- Logging

Advanced: Date and Time

- Date and Time

Advanced: New Python Features

- Python 3.8: Walrus Operator, Positional-Only Argument & f-String
- Python 3.9: Union Operators
- Python 3.9: Type Hinting
- Python 3.9: New String Class Methods
- Python 3.9: Native Time Support (Zoneinfo)
- Python 3.10: Match Case, Better Errors & More
- Python 3.11: Exception Notes & Speed
- Python 3.12: Improved Error Messages

Project 11: Podcast Script Writer With OpenAI 🎉

- Project Introduction: Podcast Script Writer With OpenAI
- Introduction To OpenAI
- OpenAI Playground & Common Terms
- AI Writing Podcast Script
- Project - Source Code

Project 12: Conversational AI Chatbot 🎉

- Project Demo: Conversational AI Chatbot
- How Prompt Work For Conversations?
- Updating Prompt, Max Tokens & Chat History
- Storing Chat History To TXT File
- Hiding API Key With ENV File
- Specific Role Of AI
- Chat History Format With Timestamps
- Project - Source Code

Project 13: Text To Image Using DALL-E 🎉

- Generating Images Using OpenAI DALL-E
- Project - Source Code

Project 14: Building Video Summarizer With ChatGPT 🎉

- Project Introduction: Building Video Summarizer With ChatGPT
- Asking ChatGPT To Write Code
- ChatGPT Code Explanation
- Project - Source Code

Project 15: Web Application Using Flask 🎉

- Project Introduction: Web Application Using Flask
- Flask Introduction & Installation
- Initiating Flask App
- Routes, Folder Structure & Blueprint
- Template Rendering
- URL Parameters
- Query Parameters
- Conditional Rendering Inside Template: If Statement
- Returning JSON Response
- Error Handling: 404 Not Found
- Redirection
- Rendering Static Files
- Control Flow Inside Template: For Loop
- HTML Page Structure
- Base Template
- Improving Design With CSS

- Project - Source Code

Cheatsheet

- Cheatsheet [Attached]

Course Completion Certificate 🎓

- Python Programming Masterclass: Basics To Advanced With 15 Projects 🏆

Level - 2

Django Core: Build & Deploy Web Project With Python & Django 🔗

Course Introduction

- Course Introduction
- Welcome - Let's Get Started!
- Resources [Important]

Django As Framework

- Understanding Django

Taskmate: Project Setup 🎉

- Setting Up Text Editor - VSCode
- Setting Up Virtual Environment
- Django Version?

Core Django - Starting Our Project

- Startapp - Taskmate
- Run server For the First Time
- Django Flow and Django Structure
- URLs and Views

Templates

- Templates
- Bootstrap
- Working with Jinja 2
- Base Template and Jinja 2
- Static Folder and Improving Website Look

Model and Migration (Database Stuff)

- Admin Panel
- Models
- Database Migrations

Fetch Data And Display On Template

- Fetch Data From the Database
- Displaying Data On Templates
- Adding Condition On Data

Django Forms

- Adding Form and Accepting Input

Django Messages

- Adding Messages and Alert Options
- Close Option On Alert

Understanding CSS and Bootstrap

- Understanding CSS and Bootstrap

Implementing CRUD Functionality

- Deleting Queryset Item
- Editing Queryset Item - 1
- Editing Queryset Item - 2
- Editing Queryset Item - 3
- Adding Option - Mark Task As Completed
- Adding Option - Mark Task As Pending

Pagination

- Pagination Overview
- Implementing Pagination - 1
- Implementing Pagination - 2
- Implementing Pagination - 3

Designing Task Page

- Fixing URLs and Links
- Fixing Task Page Design - 1
- Fixing Task Page Design - 2

Designing Home Page Using Bootstrap

- Designing Home Page - 1
- Designing Home Page - 2

Accounts & Authentication

- Introduction - Django Authentication System
- Creating User Section

Registration

- Registration Form
- Register Templates
- Register Views [Part I]
- Register Views [Part II]
- Adding Email Field In Forms
- Improving Form Design With Crispy Forms
- Adding Grid Layout On the Registration Page

Login & Logout

- Login - URLs, Views & Template
- Login - Functionality Test
- Login - Redirect URL
- Logout
- Quick Design Change

Adding Restrictions

- Adding Header Restriction [Part I]
- Adding Header Restriction [Part II]
- Adding Page Restrictions

Relationship Between Task & User

- Relationship Between Task & User
- Adding Foreign Key
- Updating Task Input Fields
- Task Of Logged-in User Only

Securing Our Application

- Security Problem & Solution [Part I]
- Security Problem & Solution [Part II]

Database: PostgreSQL

- PostgreSQL - I
- PostgreSQL - II

Project Deployment 🎉

- Deployment Introduction
- Upgrading Django LTS/Latest Version
- Working with requirements and .gitignore files
- Working with Environment Variables
- Pushing Project On GitHub
- Deploying on Railway App
- Serving Static Files
- Allowed Host and CSRF Domain
- Database Connection Locally
- Working with README and Demo
- Complete Source Code

Course Completion Certificate 🎓

- Django Framework: Build & Deploy Web Project With Python & Django 🏆

Level - 3

Master Django REST Framework: Build Secure and Scalable APIs 🔗

Course Introduction

- Course Introduction
- Welcome - Let's Get Started!

Basic API Concepts - Theory

- Understanding API
- Understanding REST API

API With Django 🎉

- Basic Django Setup
- Installation
- Models and Migrations
- Creating JSON Response - All Elements
- Creating JSON Response - Individual Elements
- Code Source - Github

Django REST Framework

- DRF Introduction
- DRF Project Source Code - GitHub

Project Setup: IMDB Clone 🎉

- Setting up IMDB Clone Project

Views and Serializers

- Serializers - GET Request
- Serializers - POST, PUT, DELETE Request
- Status Codes
- APIView Class
- Validation
- Serializer Fields and Core Arguments
- Model Serializer

- Custom Serializer Fields
- Updating Models
- Django Relationships
- Nested Serializers
- Serializer Relations
- HyperLinked Model Serializer
- Serializer Relations
- GenericAPIView and Mixins
- URL Structure
- Concrete View Classes
- Overwrite Queryset
- Viewsets and Routers
- ModelViewSets

Postman and Project Update

- Postman
- User Model
- Temporary Login and Logout

Permissions

- Introduction to Permissions
- Custom Permissions
- Custom Calculation

Authentication

- Introduction to Authentications

Basic Authentication

- Basic Authentication

Token Authentication

- Token Authentication - Part 1
- Token Authentication - Part 2
- Token Authentication - Part 3 (Login)
- Token Authentication - Part 4 (Registration)
- Token Authentication - Part 5 (Registration)

- Token Authentication - Part 6 (Logout)

Manual Testing Entire Project

- Manual Testing Entire Project - Part 1
- Manual Testing Entire Project - Part 2

JWT Authentication

- JWT Authentication - Access Token and Refresh Token
- JWT Authentication - Login
- JWT Authentication - Registration

Throttling

- Throttling Introduction
- Throttle Rate (Anon and User)
- Throttle Rate (Custom and Scope)

Filtering, Searching, Ordering

- Filtering Introduction
- Filter, Search, Ordering
- Project Update

Pagination

- Pagination Part 1 - PageNumber
- Pagination Part 2 - LimitOffset
- Pagination Part 3 - Cursor
- Browsable API Update

Automated API Testing

- API Testing - Registration
- API Testing - Login and Logout
- API Testing - StreamPlatform
- API Testing - WatchList
- API Testing - ReviewTestCase
- API Testing - UserTestCase
- Test Driven Development - TDD
- Project Completed

Project Code Source

- Project Code Source - Github

Optional - Code Cleanup

- Optional - Code Cleanup
- Project Code Source - Github

Course Completion Certificate 🎓

- Build REST APIs with Django REST Framework and Python 🏆

Level - 4

Git & GitHub Masterclass: From Basics to Advanced 🔗

Course Introduction

- Course Introduction
- Welcome - Let's Get Started!
- Resources [Important]

Git Introduction

- Git Introduction and Version Control System
- Installation & Setup
- Configuration

Commands & Lifecycle

- Basic Commands & Lifecycle
- Push Changes On GitHub
- Practice: Common Commands
- Git Lifecycle In-depth
- Commit Timeline

Other: Diff, Stash & Restore

- Git Diff
- Git Stash
- Git Restore

Git Branches

- Introduction to Git Branches
- Feature Branch
- Pull Changes & Merge Branch
- Git Pull Command

Merge Conflicts

- Introduction: Merge Conflict
- Solving: Merge Conflict

- Delete Merged & Unmerged Branches
- Push Changes to GitHub
- Pull Changes from GitHub
- Always Pull Before You Push

Rebase

- Git Rebase Introduction
- Rebase Merge Conflict
- Difference Between Merge & Rebase

Git Files

- Git Ignore
- Git README

Other: Squash, Revert & Reset

- Git Squash
- Git Revert
- Git Reset

Tag, Releases & Commits

- Git Tag & GitHub Releases
- Git Checkout Tag/Commit/HEAD

Git Clone

- Git Clone: Any Repository
- Git Clone: Own Repository

Open Source Contribution

- Open Source Contribution
- Pull Changes
- Merge Conflict on Pull Request
- Structured Pull Request

Assignment: Create Pull Request 🎉

- Create Pull Request

Workflows

- Git & GitHub Workflow

[Optional] Super Charge GitHub 🎉

- Demo: Project & Profile README
- Profile README
- Project README

Course Completion Certificate 🎓

- Git & GitHub Masterclass: From Basics to Advanced 🏆

Level - 5

Job Search & Resume Building: Preparation For Freshers 🔗

Course Introduction

- Course Introduction
- Access Resources

Profile Building

- Section Introduction
- Github Profile README
- Github Project README
- LinkedIn
- Blog
- Twitter
- Freelancing

Resume Building

- Resume Basics
- Resume Content
- Resume: Building First Version
- Resume Examples
- Resume Templates
- Resume Checklist

Searching Internship

- Internship Search - 1
- Internship Search - 2
- Internship Search - 3
- Internship Search - 4

Random Questions

- Section Introduction
- Should You Join Unpaid Internship?
- Building Experience As A Beginner?

Certificate Information

1. The complete roadmap is divided into 5 different levels according to concepts and projects.

2. Each level is independent,

Level 1 - Python Masterclass: Basics To Advanced With 15 Projects + Gen AI 🏆

Level 2 - Django Core: Build & Deploy Web Project With Python & Django 🏆

Level 3 - Master Django REST Framework: Build Secure and Scalable APIs 🏆

Level 4 - Git & GitHub Masterclass: From Basics to Advanced 🏆

Level 5 - Job Search & Resume Building: Preparation For Freshers 🏆

Here '*trophy emoji* ' represents a certificate.

3. You will get access to certificates instantly after completing the course lectures.

4. For more information about topics, projects and course flow, check the individual course page.