

Full Stack Web Development using Python with Django Framework

Course Overview

Web development with Python Django is a popular and powerful framework for building web applications. Django follows the Model-View-Controller (MVC) architectural pattern, although it's commonly referred to as Model-View-Template (MVT) due to some differences in implementation. It aims to provide a high-level, easy-to-use, and efficient way to create web applications rapidly.

Here's an overview of the key components and concepts in Django web development:

Models: Django's model component is responsible for defining the data structure of your application. It allows you to define database tables as Python classes and their relationships (one-to-one, one-to-many, many-to-many). Django supports various database backends such as PostgreSQL, MySQL, SQLite, and more.

Views: Views handle the logic behind the application. They take user requests, process data from the models, and render templates to present the response. Views are Python functions or classes that interact with models and templates.

Templates: Templates are the presentation layer of Django. They define how the data from views should be displayed to the users. Django uses its own templating language to create dynamic HTML pages.

URLs: The URL dispatcher in Django is responsible for mapping URLs to corresponding views. You define URL patterns in a central URL configuration file, which points to specific view functions that should be executed when a matching URL is accessed.

Forms: Django provides a powerful form handling system that simplifies the process of building and processing forms. It includes form validation and data cleaning, making it easy to interact with user input.

Admin Interface: Django comes with a built-in administration interface, which automatically generates a user-friendly admin panel for managing the application's data. This admin interface can be customized and extended to suit your specific needs.

Middleware: Middleware in Django is a way to process requests and responses globally before they reach the view or after they leave the view. It can be used for tasks like authentication, session management, etc.

Authentication and Authorization: Django offers a robust authentication system to handle user authentication, registration, password reset, and permissions. It allows you to control access to different parts of the application based on user roles.

Static files: Django makes it easy to manage static files like CSS, JavaScript, and images. It provides tools to collect, serve, and cache these files efficiently.

Django's popularity is due to its well-organized and scalable structure, its vast ecosystem of packages, and its focus on following best practices for web development.

Pre-Requisites

Before you start learning Django, having a solid understanding of certain technologies and concepts will be beneficial. Here are some prerequisites that can help you get started with Django:

- **Python:** Django is a web framework based on Python, so a good understanding of Python programming is essential. Make sure you are familiar with Python syntax, data structures, functions, classes, and object-oriented programming concepts.
- **HTML/CSS:** Having a basic understanding of HTML (HyperText Markup Language) and CSS (Cascading Style Sheets) is necessary, as these are the building blocks for web page design and layout. Django's templates use HTML to render dynamic content.
- **Basic SQL and Database Concepts:** Familiarize yourself with basic SQL (Structured Query Language) queries and database concepts. Django interacts with databases to store and retrieve data, so understanding how databases work is crucial.
- **Command Line:** Django is often installed and managed using the command line, so having some familiarity with the command line interface will be helpful.

Benefits of Learning Full Stack Web Development Using Django

Learning Full Stack Web Development with Django offers numerous benefits, making it an attractive option for developers. Here are some of the key advantages:

- **Comprehensive Web Development:** Django is a full-stack web framework, which means it covers both the front-end (client-side) and back-end (server-side) aspects of web development. By learning Django, you can build complete web applications without the need to rely on additional frameworks or libraries.
- **Python Language:** Django is built on Python, a powerful and versatile programming language. Python's clean and readable syntax makes it easier for developers to write and maintain code, speeding up the development process.
- **Rapid Development:** Django follows the "batteries-included" philosophy, providing a wide range of built-in features and tools. These include an admin interface, authentication system, database ORM (Object-Relational Mapping), and more. With these pre-built components, you can develop web applications faster and with less code.
- **Scalability:** Django is designed to handle high-traffic and scalable web applications. It offers efficient query optimization, caching mechanisms, and support for load balancing, making it suitable for projects of varying sizes.
- **Security:** Django emphasizes security best practices by providing built-in features like protection against common web vulnerabilities (e.g., Cross-Site Scripting, Cross-Site Request Forgery) and secure password hashing. This helps developers build more secure applications.
- **Community and Documentation:** Django has a large and active community of developers. This means extensive documentation, numerous tutorials, and a wealth of third-party packages and extensions. If you encounter any issues or need help, the community is there to support you.
- **Job Opportunities:** Django is a widely used web framework, and proficiency in Django development can open up job opportunities in various industries and companies that require Python-based web development.

Related Job Roles

Learning Django can lead to various job roles in the web development industry. Here are some of the related job roles that often involve working with Django:

- Django Developer / Python Web Developer
- Full Stack Web Developer
- Backend Developer
- Web Application Developer
- Python Developer
- API Developer

These are just a few examples, and there could be other specific titles or roles depending on the company and its projects. Django's versatility and widespread adoption in the industry make it a valuable skill for a web developer, and it can lead to exciting career opportunities in various sectors.

Available Training Options

- Online/Offline
- Weekdays Batches
- Weekend Batches
- Course - Duration:120 Days
- Mode of Training - Online - Live Online Classes
- Daily 1Hr(Need to have a laptop or Computer with Good Internet)

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Topics we cover:

1. HTML 5
2. CSS
3. JavaScript
4. Jquery
5. Bootstrap
6. MYSQL
7. Python
8. Django

- month
- number
- password
- radio
- reset
- search
- submit
- text

Introduction to HTML

- Understanding about Browser
- Domain
- Host
- HTML Structure

TAG'S in HTML

- heading
- font
- formating
- paragraph

List in HTML

- ol and it's type
- ul and it's type

Table and it's properties

- table
- tr
- th
- td

Input Elements

- checkbox
- color
- date
- email
- file
- hidden
- image
- text

CSS - Introduction

- CSS - Syntax
- CSS - Colors
- CSS - Backgrounds
- CSS - Fonts
- CSS - Text
- CSS - Images
- CSS - Links
- CSS - Tables
- CSS - Borders
- CSS - Margins
- CSS - Lists
- CSS - Padding
- CSS - Positioning
- CSS - Layers
- CSS - Pseudo Classes
- CSS - Pseudo Elements
- CSS - Text Effects
- CSS - Rounded Corner
- CSS - Border Images
- CSS - Multi Background
- CSS - Color
- CSS - Gradients
- CSS - Shadow
- CSS - Text
- CSS - Box Sizing

Introduction to JavaScript

- What is Javascript
- JavaScript history
- Relation between JavaScript and ECMAScript
- Versions of JavaScript

JavaScript Core

- Syntax, Variables, Values, Data Types
- Syntax review
- Keywords
- Variable declaration
- Variable scope
- Block scope.
- Data Types
- Primitive values
- Reference values
- Expressions and Operators
- Expressions (arithmetic, relational, logical, assignment and others),

Control structures

- Flow control and conditionals
- Loops and iteration

Functions

- Defining functions
- Calling functions
- Functions as values
- Arguments and parameters
- Function scope
- Closures
- Arrow functions

Arrays

- Creating and populating Arrays
- Array methods
- Working with Arrays

JavaScript BOM

- Window Object
- History Object
- Navigator Object
- Screen Object

JavaScript DOM

- getElementById
- getElementsByClassName
- getElementsByTagName
- getElementsByTagName
- innerHTML property
- innerText property

JavaScript OOPs

- JS Class
- JS Object
- JS Prototype
- JS constructor Method
- JS static Method
- JS Encapsulation
- JS Inheritance
- JS Polymorphism
- JS Abstraction

jQuery

- jQuery Intro
- jQuery Get Started
- jQuery Syntax
- jQuery Selectors
- jQuery Events

jQuery Effects

- jQuery Hide/Show
- jQuery Fade
- jQuery Slide
- jQuery Animate
- jQuery stop()
- jQuery Callback
- jQuery Chaining

jQuery HTML

- jQuery Get
- jQuery Set
- jQuery Add
- jQuery Remove
- jQuery CSS Classes
- jQuery css()
- jQuery Dimensions

jQuery Traversing

- jQuery Traversing
- jQuery Ancestors
- jQuery Descendants
- jQuery Siblings
- jQuery Filtering

Bootstrap Introduction

- BS5 Containers
- BS5 Grid Basic
- BS5 Typography
- BS5 Colors
- BS5 Tables
- BS5 Images
- BS5 Jumbotron
- BS5 Alerts
- BS5 Buttons
- BS5 Button Groups
- BS5 Badges
- BS5 Progress Bars
- BS5 Spinners
- BS5 Pagination
- BS5 List Groups
- BS5 Cards
- BS5 Dropdowns
- BS5 Collapse
- BS5 Navs
- BS5 Navbar
- BS5 Carousel
- BS5 Modal
- BS5 Tooltip
- BS5 Popover
- BS5 Toast
- BS5 Scrollspy
- BS5 Offcanvas
- BS5 Utilities
- BS5 Dark Mode
- BS5 Flex
- BS5 Forms
- BS5 Grid System

Introduction to python

- History
- Features
- Setting up path
- Working with Python
- Basic Syntax
- Variable and Data Types
- Operator

Conditional Statements

- If- else
- elif
- Nested if-else

Looping

- For
- While
- Nested loops

Control Statements

- Break
- Continue
- Pass

String Manipulation

- Accessing Strings
- Basic Operations
- String slices
- Function and Methods

Lists

- Introduction
- Accessing list
- Operations
- Working with lists
- Function and Methods

Tuple

- Introduction
- Accessing tuples
- Operations
- Working
- Functions and Methods

Dictionaries

- Introduction
- Accessing values in dictionaries
- Working with dictionaries
- Properties
- Functions

Functions

- Defining a function
- Calling a function
- Types of functions
- Function Arguments
- Anonymous functions
- Global and local variables

Modules

- Importing module
- Math module
- Random module
- Packages
- Composition

Input-Output

- Printing on screen
- Reading data from keyboard
- Opening and closing file
- Reading and writing files
- Functions

Exception Handling

- Exception
- Exception Handling
- Except clause
- Try ? finally clause
- User Defined Exceptions

Advance Python

OOPs concept

- Class and object
- Attributes
- Inheritance
- Overloading
- Overriding
- Data hiding

Regular expressions

- Match function
- Search function
- Matching VS Searching
- Modifiers
- Patterns

Multithreading

- Thread
- Starting a thread
- Threading module
- Synchronizing threads
- Multithreaded Priority Queue

MySQL Database

- MySQL Database
- MySQL Connect
- MySQL Create DB
- MySQL Create Table
- MySQL Insert Data
- MySQL Get Last ID
- MySQL Insert Multiple
- MySQL Prepared
- MySQL Select Data
- MySQL Where
- MySQL Order By
- MySQL Delete Data
- MySQL Update Data

Django Basics

- Django Introduction and Installation
- When to Use Django? Comparison with other Development

Stacks

- Django Project MVT Structure
- How to Create a Basic Project using MVT in Django ?
- How to Create an App in Django ?

Django Forms

- Django Forms
- How to create a form using Django Forms ?
- Render HTML Forms (GET & POST) in Django
- Django Form Fields
- form field custom widgets
- Initial form data – Django Forms
- ModelForm – Create form from Models
- Render Form Fields Manually
- Django Formsets
- Django ModelFormSets

Django Templates

- Django Templates
- Template Filters
- Template Tags
- variables
- Boolean Operators
- for loop
- if – Django Templates
- Template Inheritance

Django URLs

- Django URL patterns | Python
- Get parameters passed by urls in Django
- url – Django Template Tag
- URLField – Django Models
- URL fields in serializers – Django REST Framework

Django Views

- Django Views
- Function Based Views
- Create View
- List View
- Detail View
- Update View
- Delete View
- Class Based Generic Views Django
- Createview
- ListView
- DetailView
- UpdateView
- FormView

Django Models

- Django Models
- ORM – Inserting, Updating & Deleting Data
- Basic App Model – Makemigrations and Migrate
- model data types and fields list
- Add the slug field inside Django Model
- Intermediate fields in Django
- Uploading images in Django
- Render Model in Django Admin Interface
- Change Object Display Name using __str__ function – Django Models
- Built-in Field Validations – Django Models
- Custom Field Validations in Django Models
- How to use Django Field Choices ?
- Overriding the save method – Django Models

For Registration/ Customization of Course / Course Fees

Call / What's app on:	+91 8050123030
Duration:	120 Days
Mode of Training:	Online
Weekdays:	Monday-Friday
Weekends:	Saturday and Sunday

Student Review

Arvind Raju

From : Oman

I've taken up the Advance Python & Arcpy classes from this institute with trainer Mrs. Roselynn is very knowledgeable and teaches the course topics with great detail. Everything was easy to understand and I was always helped with doubts until it was completely rectified. I would definitely recommend this Institute to anyone wanting to learn Python or any of the other courses they offer.

Ullash Ghosh

From : Kolkatta

Excellent teaching of Advance Python programming by experienced trainer. Flexible timings. It was an awesome experience.

Jahir Hussain

From : Qatar

Its Helped me to identify clear, be able next steps towards resolving my own workplace conflict and issues.

Ayeesha H

From : Bangalore

Great knowledge given by the mentor, Best training institution. Mam has explained all the topics very clearly.

Student Review

Vishnu vg From Kerala

My trainer, has a very good command over all the topics. She has explained each topic very clearly. We got a good understanding of all the concepts as she used to write programs daily for the real time scenarios. She make us practice during the classes. Overall I could say, you will be gaining good hands-on and understanding by end of the course

Eshawar Rao From Hubli Dharwad

Excellent Faculty, Excellent Knowledge about subject, madam gives Attention towards every individual student, Madam is having enough Patience in clearing all individual doubts, Overall Excellent training centre to learn and to grow.

Siddhi Kanekar From Pune

Best training institution. Mam has explained all the topics very clearly.

Thank you so much mam for being part of your institution.

Aghil Dev From Orisa

I happy to be a student of rose mam, as she was always present to help. My classes were good and helped me in understanding the concept. Thanks rose mam

Gaurav Chauhan

Position: GIS Analyst

Company:

Carifer Technologies Private Limited
Chennai

Salary: 13 LPA

Harisha

Position: GIS Analyst

Company:

GVS Technosoft Pvt. Ltd

Salary: 10 LPA

Ankit Hemnani

Position: Software Engineer .Net

Company:

Celtic System Pvt.Ltd

Salary: 7.5 LPA

Harish Vijayakumar

Position: Project-Assosiate

Company:

Cognizant Technology Solutions India
Private Limited

Salary: 12 LPA

KIRAN B

Qualification: MBA

Position: Business Head

Experience: 18 Years

His extensive experience in Operations Management, Client Acquisition, HR & Recruitment, and working with startups, he has demonstrated a track record of success across multiple industries and geographies. Starting from an executive level, he progressed to management positions, where he implemented process improvements to enhance efficiency, increase revenue, and drive growth. His vast network of colleges and training centers has significantly contributed to the development of robust recruitment and training pipelines. Moreover, he has successfully engaged with diverse clients.

NIKHIL S D

Qualification: BE Civil

Position: CAD Trainer (Civil)

Experience: 10 Years

Programing Skills: C,C++

2D And 3D Skills: AutoCad, 3D Max, Staad pro, Solid Works, Revit, Google Sketchup and ArcGIS CityEngine

Highly experienced CAD Civil Trainer with a demonstrated track record of success in delivering comprehensive training and instruction, specifically tailored for civil engineering applications. Committed to empowering learners with the necessary skills and knowledge to excel in their civil design and drafting projects.

RAMESH J

Qualification: BE Mech

Position: CAD CAM Trainer (Mech)

Experience: 6 Years

Programing Skills: C,C++,Python

2D And 3D Skills: AutoCad, Catia, Pro-e, Solid Edge, MatLab, Ansys, Solid Works,

Results-oriented CAD Mech Trainer with a decade of experience delivering exceptional training and instruction in 2D and 3D modeling software for mechanical engineering applications. Committed to equipping learners with the skills and knowledge needed to excel in mechanical design, simulation, and manufacturing.

ROSELEN S B

Qualification: MCA

Position: Programmer And Corporate Trainer

Experience: 12 Years

Programing Skills: Java, Python, AI, Machine Learning, Php, SQL, Full Stack

GIS Skill: Arcpy, ArcGIS JS API, ArcGIS Python API, PostGIS, Web AppBuilder, WebGIS

Highly experienced programming mentor with strong background in various programming languages. With over 12 years of training experience, has successfully mentored more than 3000 students, dedicated to helping aspiring programmers and professionals acquire the necessary skills and knowledge to excel in their programming careers.

KAVITA H

Qualification: MSc.IT

Position: Programing Trainer

Experience: 10 Years

Programing Skills: C, C++, Java, MSSQL, MYSQL Server,C#,GUI Good Knowledge in Servlets, JSP, EJB Worked on J2EE 1.4 Application Server

Kavita is a seasoned programming mentor and trainer with a decade of experience specializing in Java Servlets and MySQL. She has a strong passion for teaching and guiding individuals in mastering these technologies. kavita's in-depth knowledge and practical experience in Java Servlets and MySQL make her an ideal mentor for aspiring programmers looking to excel in web development

ANKIT H

Qualification: MSc.Geoinformatics

Position: GIS Trainer

Experience: 6 Years

GIS Skills: Arc GIS, Arc GIS Pro, QGIS, IGIS, Fusion X, Auto CAD, MS Office, Google Earth, Bhuvan Portal, Geo-Server, Arcgis online, Microstation

Programing Skills: HTML, CSS, Java script, ArcGIS API for Java script, .Net, Python
Ankit is a highly skilled GIS trainer Has experience in ArcGIS, QGIS, PostGIS, remote sensing, and network analysis. His expertise lies in the field of spatial data analysis and geospatial technologies. He is passionate about sharing his knowledge and helping individuals develop proficiency in GIS applications for various industries.

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