

CSDT Centre

(www.csdtdt.co.in)

Call: 7070090551/2/3

Full Stack Python Django Training

Durations: - 6 Months

Course Overview:

CSDT's Python Django Training and Certification course is intended to help the learner obtain proficiency in Python programming and develop real-world web applications using Django. This course will cover both the basics and the advanced concepts like writing Python scripts, file operations in Python, working with Databases, creating Views, Templates, Forms, Models and REST APIs in Django.

What are the objectives of this Python Django Training?

After completing this course, you should be able to:

- Discuss the core construct of the Python Programming Language
- Explain the data structures used in Python
- Explain the approach of the Object-Oriented programming paradigm
- Discuss exceptions and errors in the program
- Debug programs
- Play with databases and data persistence in the Database or some flat files
- Create Views and map URLs in Django
- Use the Django Template System
- Define Database Models for representing tables
- Create REST APIs

Why learn Python Django?

Django, a popular & high-level python web framework. Below are a few of the reasons why you should learn Django:

- Disqus, Facebook, Instagram, Pinterest, NASA, The Washington Post and other top companies use Python with Django. For web developers, this means that mastering Python and its popular advanced frameworks like Django should ensure you're able to find work or even build your own product or service as a startup.
- Python is an ideal option for bootstrappers and startups because of its quick deployment and—as mentioned earlier—a lesser amount of required code next to Java, C, and PHP among others.

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- Python Django framework supports the use of human-readable website URLs, which isn't only helpful from the actual user's perspective but also to search engines, which use the keywords in the URL when ranking sites.
- Django prevents a number of common security mistakes better than say, PHP does.
- Moreover, the average salary of a Django professional is \$117,000 / year in the US alone as reported by Indeed.com

Who should go for this Python Django Certification course?

The following professionals can go for this Python Django Training by CSDT Centre:

- Web Developers
- UI Developers and Technical Leads
- Full Stack Developers
- QAs, Architects, and Technical Project Managers

What are the pre-requisites for this Python Django certification training?

There are no pre-requisites for this training. However, a familiarity with elementary programming constructs and the basics of HTML will be beneficial.

Can I attend a demo session before enrollment?

We have limited number of participants in a live session to maintain the Quality Standards. So, unfortunately participation in a live class without enrolment is not possible.

Introduction to Python

Goal: Give a brief idea of what Python is and touch on basics.

Objectives: (Define Python, know why Python is popular, Setup Python environment, discuss flow control, Write your first Python program)

Topics:(Get an overview of Python, learn about Interpreted Languages, List the Advantages/Disadvantages of Python, Start Python, Discuss Interpreter PATH, Use the Interpreter, run a Python Script, Discuss Python Scripts on UNIX/Windows, Explore Python Editors and IDEs, Use Variables, Keywords, Built-in Functions, Strings, Different literals, Math operators and expressions, Writing to the screen, String formatting, Command line parameters and Flow Control.)

Hands-On: (Data types - string, numbers, dates, Keywords, Variables, Literals)

Sequences and File Operations

Goal: Learn different types of sequence structures, related operations and their usage. Also learn diverse ways of opening, reading, and writing to files.

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Objectives: (Define Reserved Keywords and Command Line Arguments, Describe how to Get User Input from Keyboard, Describe Flow Control and Sequences, Practice Working with Files, Define and Describe Dictionaries and Sets)

Topics: (Lists, Tuples, Indexing and Slicing, iterating through a sequence, Functions for all sequences, Using enumerate (), Operators and keywords for sequences, The xrange () function, List comprehensions, Generator expressions, Dictionaries and sets., Working with files, Modes of opening a file, File attributes, File methods)

Hands-On: (List - properties, related operations, Tuple - properties, related operations, comparison with list, Dictionary - properties, related operations, comparison with list, Set - properties, related operations, comparison with dictionary)

Deep Dive – Functions, Sorting, Errors and Exception, Regular Expressions and Packages

Goal: Learn how to create generic python scripts, how to address errors/exceptions in code and finally how to extract/filter content using regex.

Objectives: (Explain Functions and various forms of Function Arguments, Explain Standard Library, Define Modules, Describe Zip Archives and Packaging)

Topics: (Functions, Function Parameters, Global variables, Variable scope and Returning Values, Sorting, Alternate Keys, Lambda Functions, Sorting collections of collections, Sorting dictionaries, Sorting lists in place, Errors and Exception Handling, Handling multiple exceptions, The standard exception hierarchy using Modules, The Import statement, Module search path, Package installation ways Module Aliases and Regular Expressions)

Hands-On / Demo: (Functions - syntax, arguments, keyword arguments, return values, Lambda - features, syntax, options, comparison with functions, Sorting - sequences, dictionaries, limitations of sorting, Errors and exceptions - types of issues, remediation, Packages and module - modules, import options, sys path)

Object Oriented Programming in Python

Goal: Understand the Object-Oriented Programming world in Python and use of standard libraries.

Objectives: (Implement Regular Expression and its Basic Functions, Use Classes, Objects, and Attributes, develop applications based on Object Oriented Programming and Methods)

Topics: The sys Module, Interpreter information, STDIO, Launching external programs, Paths, Directories and filenames, Walking directory trees, Math Function, Random Numbers, Dates and Times, Zipped Archives, Introduction to Python Classes, Defining Classes, Initializes, Instance methods, Properties, Class methods and data, Static methods, Private methods and Inheritance)

Hands-On: Regular expressions - regex library, search/match object, find all, sub, compile, Classes - classes and objects, access modifiers, instance and class members, OOPS paradigm - Inheritance, Polymorphism and Encapsulation in Python

Debugging, Databases and Project Skeletons

Goal: Learn how to debug, how to use databases and how a project skeleton looks like in Python.

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Objectives: Debug python scripts using pdb, Debug python scripts using IDE, Classify Errors, Develop Unit Tests, Create project Skeletons, Implement Database using SQLite, Perform CRUD operations on SQLite database

Topics: Debugging, Dealing with errors, Using unit tests, Project Skeleton, Required packages, Creating the Skeleton, Project Directory, Final Directory Structure, Testing your set up, Using the skeleton, Creating a database with SQLite 3, CRUD operations, Creating a database object.

Hands-On: Debugging - debugging options, logging, troubleshooting, Unit testing - TDD, unit test library, assertions, automated testing, Project skeleton - industry standard, configurations, sharable libraries, RDBMS - Python for RDBMS, CRUD operations on Sqliite

Introduction to Web Designing: HTML, CSS, JavaScript, Bootstrap

Introduction to Django Web Framework

Goal: In this module, you will be introduced to Django and learn how to create views and perform URL mapping

Objectives: Explain Web Framework, Explain MVC pattern, Create a basic Django app, Create Views, Use HTTP request and response objects, Use URL Conf)

Topics: Web development, Introduction to Django Web Framework, Features of Django, Installing Django, MVC model, HTTP concepts, Views, URL Mapping)

Hands-On/Demo: Create a simple View using Django

Templates and Forms

Goal: In this module, you will learn how to create Templates and Forms in Django

Objectives: Explain the Django Template System, Load Template Files, Render Templates, Create Forms, Process Form Data, Customize Form Field Validation

Topics: Django Template Language, Utilities of Templates, Creating Template Objects, Tags, Variables and Filters, Rendering Templates, Template Inheritance, Form Handling, Form validation and Error Messages, Form Display

Hands-On/Demo: Create a Form that accepts personal data from a user

Models and Dynamic Webpages

Goal: In this module, you will learn how to create Database Models and add Dynamic content to your webpages

Objectives: Define Database Models, Use Model Fields, Populate a Database, CRUD, Use Query ets for data retrieval, Use jQuery and AJAX with Django to create Dynamic websites

Topics: Django Models, Model Fields, Model Inheritance, CRUD on DB, Primary keys and the Model, Dynamic Webpages, Toggle Hidden Content, jQuery and AJAX integration

Hands-On/Demo: Adding a Like button to a webpage

Note: Project Work is Compulsory after the Completion of training Program.