



FULL STACK WITH PYTHON DJANGO TRAINING



Programming & development

Course Curriculum

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Django Training Overview

Django is an open-source web application framework which was written in Python Language. Django was mainly developed to solve the complex database-driven websites and to create web application framework with Django functionality.

Objectives of the Course

- To gain enough knowledge on Python Language
- Usage of Django template system
- Defining Database Models in Django
- To create applications to solve problems and their need

Pre-requisites

- Basic Programming knowledge and HTML is enough

Who should do the course

- Full Stack Developers
- Web Developers
- Technical Project Managers
- Aspirants those who are willing to learn Django



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Django Course Content

Introduction to WEB

- What is Web?
- Web Features?
- W3C and W3C Members
- Introduction to What WG

Core HTML

- Introduction
- Parts in HTML Document
- Version Information
- Head Section
- Meta Information
- Favicons
- Body Section
- HTML FORMS

- Anchors, Images

Advance HTML5

- Introduction
- HTML5 HISTORY
- Why HTML5?
- New Features and Groups
- Structure of HTML5 Document
- Power of HTML5 and Features
- Semantics and Block Level Elements
- HTML5 Forms
- HTML5 Multimedia
- HTML5 Graphics

Core CSS

- Introduction
- CSS Basics
- CSS Introduction
- CSS Syntax
- CSS Versions
- CSS Id & Class
- CSS Styling
- Styling Backgrounds
- Styling Text
- Styling Fonts
- CSS Borders



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Advance CSS

- Introduction
- CSS3 Modules
- Selectors
- Box Model
- Backgrounds and Borders
- Text Effects
- 2D/3D Transformations
- Core & Advanced Animations
- Multiple Column Layout
- User Interface

Core JavaScript

- What is Script? Types of Scripts?
- Introduction to JavaScript
- Comments and Types of Comments



- Popup Boxes
- Variables & Operators
- JavaScript Functions and Events
- Conditional Statements
- Looping Control Statement

Advance JavaScript

- Types of Errors
- Exception Handling
- Java Script Objects
- Browser Objects
- Validations in JS

Core Python

- Introduction to Python
- What is Python?
- History of Python
- Python Versions
- Features of Python
- How to Install Python
- Install Python with Diff IDEs
- Creating Your First Python Program
- Printing to the Screen
- Reading Keyboard Input
- Using Command Prompt and GUI or IDE

Different Modes in Python

- Execute the Script
- Interactive Mode
- Script Mode
- Python Comments
- Working with Python in Unix/Linux/Windows/Mac/Android
- Python New IDEs
- PyCharm IDE
- How to Work on PyCharm
- PyCharm Components
- Debugging process in PyCharm
- SublimeText IDE
- What is PIP?

Variables in Python

- What is Variable?
- Variables in Python



- Constants in Python
- Standard Data Types
- Operators and Operands
- Swap variables
- Type Conversion
- String Handling

Python Conditional Statements

- How to use “if condition” in conditional structures
- if statement (One-Way Decisions)
- if .. else statement (Two-way Decisions)
- How to use “else condition”
- if ..elif .. else statement (Multi-way)
- When “else condition” does not work
- How to use “elif” condition
- How to execute conditional statement with minimal code
- Nested IF Statement

Python LOOPS

- How to use “While Loop”
- How to use “For Loop”
- How to use For Loop for set of other things besides numbers
- Break statements in For Loop
- Continue statement in For Loop
- Enumerate function for For Loop

Python Lists

- Lists are mutable
- Getting to Lists
- List indices
- Traversing a list
- List operations
- List slices
- List methods
- Map, filter and reduce

Python TUPLE

- Advantages of Tuple over List
- Packing and Unpacking
- Comparing tuples
- Creating nested tuple
- Using tuples as keys in dictionaries
- Deleting Tuples



- Slicing of Tuple
- Tuple Membership Test

Python Sets

- How to create a set?
- Iteration Over Sets
- Python Set Methods
- Python Set Operations
- Union of sets
- Built-in Functions with Set
- Python Frozenset

Python Dictionary

- How to create a dictionary?
- Python Hashing?
- Python Dictionary Methods
- Copying dictionary
- Updating Dictionary
- Delete Keys from the dictionary
- Dictionary items() Method
- Sorting the Dictionary
- Python Dictionary in-built Functions



Python Functions

- What is a Function?
- How to define and call a function in Python
- Types of Functions
- Significance of Indentation (Space) in Python
- How Function Return Value?
- Types of Arguments in Functions
- Default Arguments
- Non-Default Arguments
- Keyword Arguments
- Non-keyword Arguments
- Arbitrary Arguments
- Rules to define a function in Python
- Various Forms of Function Arguments
- Scope and Lifetime of variables
- Anonymous Functions/Lambda functions
- map(), filter(), reduce() functions
- What is a Docstring?

Advanced Python



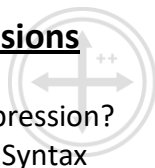
- Python Exception Handling
- Python Errors
- Common RunTime Errors in PYTHON
- Abnormal termination
- Chain of importance Of Exception
- Exception Handling
- Try ... Except
- Try ..Except .. else
- Try ... finally

Python Class and Objects

- Introduction to OOPs Programming
- Object Oriented Programming System
- OOPS Principles
- Basic concept of Object and Classes
- Access Modifiers
- How to define Python classes
- Self-variable in python
- What is Inheritance? Types of Inheritance?
- How Inheritance works?

Python Regular Expressions

- What is Regular Expression?
- Regular Expression Syntax
- Understanding Regular Expressions
- Regular Expression Patterns
- Literal characters



Bootstrap (Powerful Mobile Front-End Framework)

- What is Responsive Web Designing?
- Typography Features
- Bootstrap Tables, Buttons, Dropdowns, Navbars
- Bootstrap Images
- Bootstrap Responsive utilities
- Bootstrap Glyph icons

Bootstrap Grid System

- What is a Grid?
- What is Bootstrap Grid System?
- MOBILE FIRST STRATEGY
- Working of Bootstrap Grid System
- Media Queries



Grid Options

- Responsive column resets
- Offset columns
- Nested columns

Django Web Framework

- What is a Framework
- Introduction to Django
- Django – Design Philosophies
- History of Django
- Why django and Features
- Environment setup
- Web Server

MVC Pattern

- MVC Architecture vs MVT Architecture
- Django MVC – MVT Pattern

Getting Started with Django

- Creating the first Project
- Integrating the Project to sublime text
- The Project Structure
- Running the server
- Solving the issues and Migrations
- Database Setup
- Setting Up Your Project

Create an Application

- What Django Follows
- Structure of django framework
- Model Layer
- What are models
- Model fields
- Querysets

Django – Admin Interface

- Starting the Admin Interface
- Migrations

Views Layer



- Simple View
- Basic view(displaying hello world)
- Functional views, class based views

Django – URL Mapping

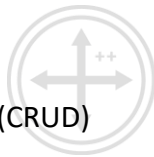
- Organizing Your URLs
- Role of urls in django
- Working urls
- Forms
- Sending Parameters to Views
- Templates layer
- The Render Function

Django Template Language (DTL)

- Role of template layer in django
- Filters,Tags, Tag if, Tag for, Block and Extend Tags
- Comment Tag, Usage of templates
- Extending base template

Django – Models

- Creating a Model
- Manipulating Data (CRUD)
- Linking Models
- Django – Page Redirection



Django – Sending E-mails

- Sending a Simple E-mail
- Sending Multiple Mails with send_mass_mail
- Sending HTML E-mail
- Sending HTML E-mail with Attachments

Django – Form Processing

- Using Form in a View
- Usage of forms
- Crud operations using forms
- Crispy forms in django

Django – File Uploading

- Uploading an Image
- Django – Apache Setup



Django – Cookies Handling

- Django – Sessions
- Django – Comments

Django Admin

- Creating Super User
- Using admin in Django
- Adding models to admin
- Adding model objects using admin
- Displaying in cmd using querysets

Static files

- Loading css files into templates
- Loading js files into templates
- Uploading image using models
- User authentication

SQL Server

- Fundamentals (Database, Tables Rows & Columns)
- Primary Key, Foreign Key, Referential Integrity And Constraints
- SQL DDL Commands
- Store Procedure And Their Importance
- SQL Joins
- SQL Sub Query and Co- Related Queries

Sample Projects and Websites

- News website (BLOGs Forums)
- Drawing a Graph using DB values