

**Python Full Stack + Django & SQL Training – Course Catalog**  
**Duration: 2 Months**

**Main Concepts:**

- **Introduction to Python:**  
Basic Datatypes (Int, Strings, Lists, Tuples, Dictionaries), Built-in Functions, Data Structures
- **Operators and Control Structures:**  
Arithmetic, Comparison & Logical Operators, Loops, Nested Loops
- **Regular Expressions:**  
Searching and Replacing Data, Meta-characters, Quantifiers
- **File Handling:**  
File I/O, Reading and Writing Files, Handling Large Files, File Operations
- **Functions:**  
Lambda Expressions, Map, Filter, Arguments (Optional, Keyword, Default)
- **Complex Data Structures:**  
Multi-dimensional Data Structures (List of List, Dict of Dict)
- **Modules:**  
Packages and Modules, Writing and Importing Modules
- **Object-Oriented Programming (OOPS):**  
Class Definition, Inheritance, Super, Operator Overloading, Method Overriding
- **MySQL Database:**  
Database Connectivity, SQL Basics
- **Exception Handling:**  
Try/Except, Raising and Handling Exceptions, Using Finally
- **Generators & Iterators:**  
Iterators, Generators, Data Compression
- **Decorators:**  
Function Modification, Chaining Decorators
- **Collections:**  
Namedtuple, Deque, ChainMap, Counter, Date & Time Operations
- **Threading Essentials:**  
Threading & Multi-Threading, Thread Life-Cycles
- **HTML5:**  
Front-end Application Development, Responsive Design
- **CSS3:**  
Styling for Web Applications, CSS3 Animations, Media Queries
- **Bootstrap:**  
Proficiency in Bootstrap, Building Responsive Web Pages
- **JavaScript:**  
Front-end Application Development, jQuery & AngularJS Integration
- **ReactJS:**  
Building User Interfaces, Component-Based Architecture, Redux State Management

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**Additional Topics (Django & SQL):**

- **Introduction to Django:**  
Overview of Django Framework, MVC Architecture, Django Setup, Django Models, Views, and Templates (MVT)
- **Django ORM (Object-Relational Mapping):**  
Working with Databases, QuerySets, Database Migrations, Django Admin Interface, Relationships (One-to-One, ForeignKey, Many-to-Many)
- **Django Authentication & Authorization:**  
User Authentication, Permissions, User Registration and Login, Session Management
- **Django REST Framework (DRF):**  
Building APIs with Django, Serializers, ViewSets, Routers, JWT Authentication in Django REST Framework
- **SQL (Structured Query Language):**  
SQL Basics, SELECT, INSERT, UPDATE, DELETE Queries, WHERE, JOIN (INNER, LEFT, RIGHT), Grouping and Sorting Data, Subqueries, Indexing, Normalization
- **SQL with Django:**  
Integrating Django with SQL Databases (MySQL, PostgreSQL), Working with Django's ORM for SQL Queries