

# **Become a Django Developer**



www.aiquest.org-

Our Free Resources on Python! Django!, RestAPI! [Visit Channel]

Note: কোর্স শেষ করেই সরাসরি আমাদের কোম্পানিতে আপনাকে জব দিব, আমরা এই প্রমিস করতেছি না! কিন্তু, যে সকল স্কিল ছাড়া আপনি Django Developer পজিশনে জব পাবেন না, প্রতিটা স্কিল এই কোর্স এ অবশ্যই কান্ডার করা হবে, যেন এই কোর্স শেষ করেই আপনি জব পেয়ে যান। ধন্যবাদ।

# **Course Instructor:**

Abu Noman Basar Python Developer, eAppair Ltd Django Course Creator at STUDY MART

# <u>এক নজরে কোর্স মডিউল:</u>

- 1. Introduction to Web Development with Django
- 2. Python Programming Language & OOP Concepts
- 3. Working with Version Control Git & GitHub
- 4. Web Design with HTML, CSS, & Bootstrap
- 5. Python Django Framework
- 6. Working with Database (SQLite3, MySQL, PostgreSQL)
- 7. End to End E-Commerce Project with Django
- 8. Working with Docker Containerization
- 9. Project Deployment in Cloud Platforms
- 10. Django REST Framework Concepts
- 11. FastAPI Concepts
- 12. Personal Project Development Session
- 13. Session to Build Individual Final Project for All Students
- 14. Career Guideline Session

বলে রাখা ভালো, স্টুডেন্টের চাহিদা অনুযায়ী যদি নতুন কোন টপিক এড করার প্রয়োজন হয়, আমরা সেই বিষয়গুলোও মাথায় রেখেছি এবং জব এ ল্যান্ড করার আগে পর্যন্ত সাপোর্ট দেয়ার জন্য আমাদের জায়গা থেকে সর্বোচ্চ চেষ্টা করব! তাহলে চলে আসেন! দেখা হচ্ছে লাইভ ক্লাসে 🔒

# Module 01: Intro to Web Development with Python Django - (1.30 Hours)

- Intro to Web Development
- Framework Concepts
- APIs Concepts
- Importance of Python Django
- Docker Concepts
- Django Unit Testing Concepts
- Database (SQLite, MySQL, postgresql) Concepts
- Django Security Concepts
- Deployment and Hosting Concepts
- Demand of Django in Industry
- Importance of LinkedIn & GitHub
- Job Responsibility of Django Developer

# Module 02: Python Programming - (8 Hours)

Lecture 01: Python Basics

- Environment Setup
- Print 'Welcome to Become a Django Developer'
- Input & Output Function
- Understanding Variables
- Rules for Variable Naming
- Naming Multi-word Variables
- Understanding Data Types
- Exploring Python Operators
- Working with Strings

\*\*\*Asignment

Lecture 02: Control Structure

- Conditional Statement (if, elif, else)
- Loops (for loop, while loop)
- CRUD Opreation Project (Create, Read, Update Delete)

# \*\*\*Asignment

\*\*\*Previous Class problem solving

Lecture 03: Data Structures

- Understanding List
- Understanding Tuple
- Understanding Dictionary
- Understanding Functions

\*\*\*Asignment \*\*\*Previous Class problem solving

Lecture 04: Object-Oriented Programming

- Introduction to Object-Oriented Programming (OOP)
- What is Class, Object & How it Works.
- Methods in OOP
- Inheritance Concept
- Understanding polymorphism
- Encapsulation Concept
- Understanding abstraction

#### \*\*\*Asignment

\*\*\*Previous Class problem solving

# Module 03: Version Control Git and Github (1.30 Hours)

- Introduction to Version Control Systems
- Understanding Git Basics
- Setting up Git for a Django Project
- Git Workflow
- Collaborating with Git
- Git Best Practices for Django Development
- Version Control Strategies for Django Projects
- Advanced Git Techniques for Django Developers

# Module 04: Web Design Basics (5 Hours)

# HTML (Hypertext Markup Language)

- Introduction to HTML
- HTML Document Structure
- HTML Elements and Tags
- Text Formatting in HTML
- Hyperlinks and Anchors
- Images and Multimedia
- Lists in HTML
- Tables in HTML
- Forms and Input Elements

# **CSS (Cascading Style Sheets)**

- Introduction to CSS
- CSS Syntax and Selectors
- CSS Box Model
- Colors and Backgrounds etc.

#### Bootstrap

- Introduction to Bootstrap
- Setting up Bootstrap in a Project
- Bootstrap Components: Buttons, Forms, and Cards
- Responsive Design with Bootstrap
- Bootstrap Navigation Components: Navbar, Navs, and Dropdowns
- Advanced Bootstrap Components: Modals, Carousels, and Accordions
- Integrating Bootstrap with JavaScript Plugins

#### \*\*\*Asignment

\*\*\*Previous Class problem solving

# Module 05: Django Fundamentals (16 Hours)

#### Lecture 01:

- Understanding Concept of Django
- Advantages of Learning Django
- Understanding the Model-View-Template (MVT) Architecture in Django
- Setting up the Development Environment
- Global Installation of Django
- Installing Django within a Virtual Environment (VE)
- Installing Extensions in Visual Studio Code
- Understanding Django Project Structure
- Creating a Django App
- Exploring App Structure in Django
- Displaying 'Welcome to aiQuest' Message

#### Lecture 02:

- Function-Based Views (FBVs)
- URL Routing and Configuration
- Templates
- Template Rendering
- Context Data and Template Variables

#### Lecture 03:

- Django Template Language (DTL)
- Variables in Django Templates
- Filters in Django Templates
- Template Tags in Django Templates
- Template Inheritance in Django
- Dynamic Content Rendering
- Reusable Templates and Components
- Best Practices in Django Templating

#### Lecture 04:

- Inheritance in Django
- Hyperlinks and Navigation
- Cookies Management in Django
- Object-Relational Mapping (ORM)
- Models in Django
- QuerySets and Database Queries
- Model Views and Template Rendering

#### Lecture 05:

- Inheritance in DjangoCreating Migration Files with 'makemigrations'
- Applying Model Changes with 'migrate'
- Database Management in Django
- Creating Superusers for Django Admin
- Registering Models in Django Admin Interface
- Database Schema Evolution and Migration
- Advanced Migration Operations and Management
- Best Practices for Database Management in Django

#### Lecture 06:

- Introduction to Django Forms
- Working with Label Tags in Forms
- Exploring Form Field Arguments
- Utilizing Form Widgets for Data Input
- Understanding GET and POST Methods in Form Submission
- Validating Form Data in Django
- Accessing Cleaned Data in Django Forms

#### Lecture 07:

- Redirecting HTTP Responses in Django
- Validating Password Matching in Forms
- Styling Forms with CSS for Visual Appeal
- Save Form Data to Database
- Implementing Authentication and Authorization in Django
- Customizing Form Validation for Specific Requirements
- Handling Form Submissions and Redirects

#### Lecture 08:

- Creatine registration From using UserCreationForm
- Implementing Login Authentication Mechanisms
- Managing User Logout Functionality
- Enabling Password Change Forms
- Implementing Password Set Forms for New Users

#### \*\*\*Asignments

\*\*\*Previous Class problem solving

# Database Relationships with SQLite3:

- Understanding Model Relationships in Django
- Implementing One-to-One Relationships in Models
- Defining Many-to-One Relationships in Database Models
- Managing Many-to-Many Relationships between Database Entities

# Module 06: End to End Ecommerce Website Project (10 Hours)

#### Lecture 01:

- Project Overview and Discussion
- URL Routing and Configuration
- View Functions and Business Logic
- Templating for Dynamic Content Rendering
- Managing Static Files and Assets

#### Lecture 02:

- Defining Database Models with Relationships
- Admin Interface Integration: Registering Models
- Generating Migration Files with 'makemigrations'
- Applying Migrations to Update Database Schema
- Creating Superuser for Admin Panel Access
- Admin Panel Content Management: Adding Images and Information
- Displaying Images and Data in the User Interface

#### Lecture 03:

- Implementing Password Change Functionality for Enhanced Security
- Enabling Forgot Password Functionality with Email Verification
- Managing Password Reset Mechanism for User Convenience
- Validating Password Match for Form Submission
- Enhancing Form Appearance with CSS Styling
- Storing Form Data Securely in the Database
- Implementing Authentication and Authorization Mechanisms for User Access Control

#### Lecture 04:

- Implementing a Cart System: Creating a Virtual Container for Purchased Products
- Adding Products to the Cart: Allowing Customers to Add Items
- Cart Calculation: Computing the Total Price of Products in the Cart
- Handling Product Quantity Increase in the Cart: Allowing Customers to Add More of the Same Product
- Managing Product Quantity Decrease in the Cart: Allowing Customers to Remove Items from the Cart

#### Lecture 05:

- Removing Products from the Cart: Allowing Customers to Remove Items
- Checkout Process: Reviewing Cart Details Before Finalizing Purchase
- Displaying Products in the Cart: Showing Items Added for Purchase
- Search Functionality: Enabling Users to Search for Products
- Project Guidelines

\*\*\*Asignments \*\*\*Previous Class problem solving

# Module 07: Deployment Django Project - (2 Hours)

- Introduction to PythonAnywhere
- Creating an Account
- Setting Up a Django Virtual Environment
- Uploading Django Project Files
- Configuring WSGI File
- Installing Dependencies
- Configuring Database
- Running Migrations
- Testing Deployment
- Monitoring and Maintenance

# Module 08: Docker - (2 Hours)

- Introduction to Docker
- Installing Docker
- Dockerfile
- Docker Compose
- Containerizing Django
- Docker Images
- Docker Deployment

# Module 09: Working with Database (MySQL, PostgreSQL) - (3 Hours)

- Introduction to Database Integration in Django
- Configuring Database Settings
- Creating Database Tables
- Migrating Database Schema
- Handling Database Operations
- Discuss about sql query.
- Xampp install & environment setup for postgresql

#### \*\*\*Asignments

\*\*\*Previous Class problem solving

# Module 10: Django REST Framework - (5 Hours)

#### Lecture 01:

- Introduction to Django Rest Framework (DRF)
- Serializers: Converting Django models into JSON and vice versa

- Views: Implementing API endpoints with class-based views or function-based views
- Understandin GET, PUT, POST, PATCH method.
- Authentication: Configuring authentication methods such as Token Authentication or OAuth2
- Permissions: Managing user access permissions for API endpoints

# Lecture 02:

- ViewSets and Routers: Simplifying API URL routing and view creation
- Filtering, Searching, and Sorting: Implementing filters, search functionality, and sorting options for API endpoints.
- JWT

# \*\*\*Asignment

\*\*\*Previous Class problem solving

# Module 11: FASTAPI - (5 Hours)

# Lecture 01:

- Introduction to FastAPI
- Installation and Setup
- Creating API Endpoints
- Request and Response Models
- Middleware
- Token

# Lecture 02: Project

- Fastapi create login API & authentication & authorization using token authentication.
- Another project.

# Module 12: Guidelines for Django Projects, Protfolio and Jobs - (2 Hours)

- How to gather and implement frontend designs into a Django project effectively.
- Project Ideas
- Importance of LinkedIn Community
- ATS Friendly CV Making
- Professional Network Building
- Internship / Job Guidelines.

# **To Enroll in the Course:**

Contact: +8801704265972 (Call/WhatsApp) <u>Sohan Khan</u>, Course Coordinator at aiQuest Intelligence Watch Free Courses: <u>https://www.aiquest.org/free-courses</u> Facebook Community: <u>Join Our Community!</u> Visit Our Pages: <u>Study Mart</u>, <u>aiQuest Intelligence</u>