Django Rest Framework and Amazon Web Services Course

A course by Rahul Sharma, Faisal Manzer and Team

What will you get for ₹ 250 /-

⏳ 30 - 45 Days	🎁 Demo Class	🤝 Google Meet
🕐 4 PM to 5:30 PM	🚀 No prerequisite	💬 Discord Server
📅 4 Days a week	📚 Regular notes	💻 Hands-on

> This course is for both beginners and advanced students, with no prerequisite. At the end of this course, you will have sufficient knowledge to build a scalable server with Django. You will get notes for each topic before every lecture. Mentors and students will remain connected on Discord, providing you a better class interaction. The course depicts real-life challenges and their solution, with hands-on sessions along with the speaker.

*This course is only for learning with **no certificates at the end**.*

📅 Timing

💝 Demo Classes	⏳ Normal Classes
There will be 2 demo classes	Classes will be 4 days a week
on @Aug 7, 2020 and @Aug 8, 2020	Mon | Tue | Wed | Thu

> 📌 **NOTE** We will only support two operating systems, *macOS and Linux*.

👨‍🎓 What we will learn

🐍 Basic Python

🧑‍🎄 Django

🔄 Django Rest Framework

🌥️ Amazon Web Services

🍀 Celery

🎁 Demo Class

🐍 Python Basic

▼ Basic Python Intro

1. About Python

2. Installing python

3. Running Hello World

4. Understanding syntax

▼ Basic variables in Python

1. String

2. Integer

3. Float

4. Boolean

    5. Scope of variables

▼ Basic iterables in Python

    1. List

    2. Tuple

    3. Set

▼ Functions in Python

    1. Uses of function

    2. Basic function

    3. Arguments in function

    4. Default Value argument

    5. Args and Kwargs in function

▼ Classes in Python

    1. Basic class object understanding

    2. Define own class

    3. Inheritance

    4. @property and @staticmethod decorators

🏗️ What we will build

> 💡 We will create only one project but with different concepts.

📑 Flog App

✏️ Blogging Site	🔄 REST Api	👨‍👧‍👦 Muti User Editing
🗺️ Location Enabled	🌤️ AWS Cloud	🔖 Tag following
⚔️ Discussion thread	📏 Scaled for Traffic	👩‍🔧 User following
👨🏻‍💻 Code Support	✉️ Email Support	💬 Discussion Thread

📝 Basic blog site open for all

▼ v0.0.1 Introduction

1. Client Server Architecture.

2. HTTP request and response overview

3. Django getting started

4. Django CLI and default files

5. Django app and project understanding

6. Django default project structure

7. Django URL Routing and views overview

▼ Hello World Example

A basic Django app where will just say hello world.

▼ v1.0.0 Database and Django ORM

1. What are databases

2. SQL vs NoSQL database

3. Django ORM concept overview

4. A basic Django model

5. Migrations and its importance

6. Django shell

▼ Basic Flog

We will create a basic app which will display all blogs in our database in our index page.

▼ v1.0.1 Database operations with Django ORM

1. Editing model object (Shell)

2. Deleting model object (Shell)

3. Creating model object (Shell)

4. GET and POST request

5. Handling Request and Performing CRUD action (View)

6. CSRF token and CSRF issue

▼ Decentralized Flog

We will do CRUD operations with our models on a request.

▼ v1.0.2 Django template system

1. What are templates

2. Rendering a template

3. Loops and variables in template

4. Extending a template

▼ Handsome Flog

We will use Django templates to show all information rather than sending a `HttpResponse`.

▼ v1.0.3 Django forms

1. Use Django form for rendering

2. Validation in form

3. Use Model form

▼ Cleaner Flog

We will rewrite some of our blog forms with Django form.

💁 User session and blog for user

▼ v2.0.0 Browser's Session

1. Request session

2. Saving data in user's session

3. Understanding issues with cookie

4. Permission management

▼ Browser's Flog

We will use Django session to store todos created by user in a session and will only allow operations on those log.

▼ v2.0.1 User Authentication overview

1. Who are users in Django

2. How Django authenticate them

3. User creation

4. User login

▼ SignIn to Flog

We will understand Django's authentication system and will implement Sign-Up and Sign-In feature.

▼ v2.0.2 Django Slug

1. Adding slug to our blog

2. Adding slug to our URL

▼ SignIn to Flog

We will understand Django's authentication system and will implement Sign-Up and Sign-In feature.

▼ v2.0.3 User Association with blog

1. Add user context to our blog

2. Show all blog user created

3. Permission management

▼ User's Flog

We will save user created blog in database and show them after login.

▼ v2.0.3 Many to Many field

1. Understanding Many to Many Field

2. Understanding One to One Field

3. Working with Many to Many field

4. Adding tag support to Flog

▼ Tagged Flog

We will add tag support to our app.

🌤️ AWS Introduction

▼ Intro to AWS Cloud

1. Basics of how Cloud Works

2. How Pricing works

3. Free Tier system

4. EC2 Introduction

5. Elastic Beanstalk Introduction

6. Security Groups in AWS

▼ v3.0.0 Hosting to Elastic Beanstalk

1. Making our app ready for Elastic Beanstalk

2. Creating Elastic Beanstalk Environment from Dashboard

3. Creating zip and hosting to Elastic Beanstalk

4. Debugging our app

5. Django's ALLOWED host and Debug Setting change

▼ Hosted Flog

We will host our project with Elastic beanstalk on AWS Cloud.

🎉 Postgres as Database

▼ v4.0.0 Postgres Introduction

1. About PostgresSQL database

2. Installing Postgres Database

3. Connection With Django

4. Recommendations for Saving Credentials

▼ Postgres Flog

We will upgrade our database server from SQLite3 to Postgres. We will learn about scaling issues and distributed system.

▼ v4.0.1 AWS RDS Intro

1. About AWS RDS

2. Setting up a free-tier instance

3. Connection With Django

4. Moving Data

▼ RDS Flog

We will learn about AWS RDS, and connect our hosted instance to it.

▼ v4.0.2 Features of Postgres

1. JSON Field

2. Array Field

3. Geo Fields

▼ Work Flog

We will add location to our blog app for work reference.

▼ v4.1.0 Class based view

1. About Class based view

2. Rewriting our views

3. Understanding Generic views

▼ Classy Flog

We will rewrite all our views from functional based view to class based view.

🔄 Django Rest Framework

▼ Rest Framework Intro

1. REST API

2. GET, POST, PATCH, PUT and DELETE request

3. Understanding serialization process

4. Understanding APIViews

▼ v5.0.0 Flog's API

1. Creating serialized

2. Adding save and update method

3. Creating List API (without DRF)

4. Changing it to Model serialized

5. Using DRF View

6. List, Create, Update and Delete operations

▼ DRF Flog

We will use DRF helper classes for creating API.

▼ v5.0.1 JWT Authentication

1. Understanding Authentication Token

2. Adding `djangorestframework-simple-jwt`

3. Setting up

4. Understanding Encryption

5. RSA256 introduction

▼ State Less Flog

We will add JWT authentication method to our app.

▼ v5.1.0 Generic Views

1. Understanding Authentication Token

2. Adding `djangorestframework-simple-jwt`

3. Setting up

4. Understanding Encryption

5. RSA256 introduction

▼ State Less Flog

We will add JWT authentication method to our app.

▼ v5.1.1 Many To Many field understanding

1. Nested serialized example

2. Using default user trick

3. Tag creation view

4. Remove tag view

▼ Tags Flog

Adding tag support to our API.

💪 EC2 the power

▼ Understanding EC2

1. Introduction to EC2

2. Creating an EC2 instance

3. Starting the EC2 instance and the key file

4. Connecting with ssh

▼ v6.0.0 Virtualenv

1. Intro to virtualenv

2. Creating virtualenv

3. Activating and deactivating

4. Installing dependency

5. requirements.txt

▼ Segregated Flog

We will segregate dependencies of our app to virtualenv.

▼ v6.1.0 Deploying to EC2

1. Understanding gunicorn, ngix

2. About DNS and subdomains

3. Route53 and other DNS provider overview

4. Postgres on Ubuntu

▼ Powerful Flog

We will deploy our app to EC2 with a subdomain.

▼ v6.1.1 Scaling our database

1. Connecting to our RDS

2. Securing our database connection

▼ SharedDB Flog

We will move our database out for scaling.

🍀 Celery power

▼ Celery as task manager

    1. Understanding Need of Celery

▼ Redis and Rabbit MQ

    1. Understanding Need of Celery

▼ v7.0.0 Installing Redis and setting Celery

    1. Installing Redis

    2. Configuring celery

    ▼ Vegan Flog

    We will set up a task with celery.

▼ v7.1.0 SMTP with celery

    1. Understanding SMTP

    2. Connecting with SMTP Gmail

    3. Notifying users on every login

    ▼ Secure Flog

    Notify users on every login.

▼ v7.1.1 Celery on cloud

    1. Setting-up Elastic Cache

    2. Adding celery support on EC2

    ▼ Cloud cache Flog

    We will host our celery support to cloud.

📁 Serving files better

▼ Intro to CDN and Storage Bucket

    1. Understanding S3 bucket

    2. Understanding CloudFront's DNS

▼ v8.0.0 Adding Django Storages

1. Setting-up Django Storages

2. Moving static files to S3

   ▼ Bucket Flog

   All media files and static files will be saved on S3 bucket.

▼ v8.0.1 Using CDN for better delivery

1. Setting-up CloudFront

2. Understanding AWS IAM

3. Adding CDN support

   ▼ Bucket Flog

   Now media will be served from CDN rather than bucket.

▼ v8.1.0 File upload with celery

1. Support for file upload

2. Moving files with celery

   ▼ Drag-n-Drop Flog

   Adding support for upload progress.

☁️ AWS Scaling

▼ v9.0.0 Understanding EC2 Images

1. Understanding EC2 Images

2. Backing up our instance

   ▼ Backed-up Flog

   We will backup of instance.

▼ v9.0.1 Adding Load-balancer

1. Understanding Load-balancer

2. Backing up our instance

   ▼ Backed-up Flog

   We will backup of instance.

🤡 Taking about AWS Services

We will talk different about AWS Services here.

🧨 Assignment

We will give you hints for implementing the following features:

1. 📰 News Feed
2. 👨‍👩‍👧 Muti User Editing
3. 🔖 Tag following
4. 👩‍🔧 User following
5. 💬 Discussion Thread

You can asks doubts and error on discord. And we will show this feature implemented in our way.