How to write API in Django

Steps to creating a Django project.

1. Open a Terminal or Command Prompt

2. Navigate to the Directory where we want to create your project.

3. Run the startproject Command.
   django-admin startproject <project_name>

4. Navigate into the Project Directory
   cd project_name

5. Create a new django app
   python manage.py startapp restaurant_app

6. Open models.py File

   Inside your Django project directory, you'll find a file named
   models.py within the app directory

7. Define Your Models in models.py file

   In my project, two models are there Restaurant and MenuItem. The
   Restaurant model has two fields (name and location), and the
   MenuItem model has five fields (name, description, price, rating, and
   restaurant as a foreign key).

8. Open settings.py File

   Inside your Django project directory, locate a file named settings.py
   within the main project folder.

   The settings file contains various configurations that Django uses to
   control the behavior of your web application. This includes database
   configuration, time zone settings, installed applications, and more.

9. Configure Installed Apps

   The INSTALLED_APPS setting is a list of all Django applications that are installed and active in your project.

   Ex.
   ```
   INSTALLED_APPS = [
     # ...
     'restaurant_app',
   ]
   ```

10. Configure Database Settings

   Locate the DATABASES setting in settings.py. Configure the ENGINE, NAME, USER, PASSWORD, and other database-related settings based on your database setup.

   Ex.
   ```
   DATABASES = {
   'default': {
      'ENGINE': 'django.db.backends.mysql',
      'NAME': 'restaurant',
      'USER': 'root',
      'PASSWORD': 'Admin@12345',
      'HOST': '0.0.0.0',
      'PORT': 3306,
    }
   }
   ```

11. Run Migrations:

   After defining your models, you need to create and apply migrations. Migrations are a way of propagating changes you make to your models into your database schema.

   Run below Migrations commands:

python3 manage.py makemigrations
The first command creates migration files based on the changes you made in models.py.

python3 manage.py migrate
The second command applies those changes to the database

12. Define Views in views.py

Define the views that will handle different HTTP requests. For example, you might create a view to display a list of restaurants, a view to show details of a specific restaurant, or a view to handle API requests.

13. Configure URLs
Create a urls.py file in your app directory to define URL patterns for your views.

Ex.
urlpatterns = [path('get-restaurants-with-menu-items',
get_restaurants_with_menu_items, name='get-restaurants-with-menu-items'),
]

14. Run Development Server
Using below command runserver
python3 manage.py runserver

15. Test the API

Make a GET request to **http://127.0.0.1:8000/api/get-restaurants-with-menu-items/** to retrieve restaurant names along with their menu items.