

Settings.py



```
1  # Application definition
2
3  INSTALLED_APPS = [
4      'django.contrib.admin',
5      'django.contrib.auth',
6      'django.contrib.contenttypes',
7      'django.contrib.sessions',
8      'django.contrib.messages',
9      'django.contrib.staticfiles',
10
11
12      'rest_framework',
13      'books',
14  ]
15
```

Models.py

```
1 from django.db import models
2
3 class Book(models.Model):
4     title = models.CharField(max_length=255)
5     author = models.CharField(max_length=255)
6     published_date = models.DateField()
7     isbn = models.CharField(max_length=13, unique=True)
8     price = models.DecimalField(max_digits=6, decimal_places=2)
9
10    def __str__(self):
11        return self.title
12
```

serializers.py

```
1 from rest_framework import serializers
2 from .models import Book
3
4 class BookSerializer(serializers.ModelSerializer):
5     class Meta:
6         model = Book
7         fields = '__all__'
8
```

views.py

```
1 from rest_framework import status
2 from rest_framework.response import Response
3 from rest_framework.views import APIView
4 from .models import Book
5 from .serializers import BookSerializer
6
7 class BookListCreateAPIView(APIView):
8     """Handles GET (list all books) and POST (create a new book)"""
9
10    def get(self, request):
11        books = Book.objects.all()
12        serializer = BookSerializer(books, many=True)
13        return Response(serializer.data)
14
15    def post(self, request):
16        serializer = BookSerializer(data=request.data)
17        if serializer.is_valid():
18            serializer.save()
19            return Response(serializer.data, status=status.HTTP_201_CREATED)
20        return Response(serializer.errors, status=status.HTTP_400_BAD_REQUEST)
21
22 class BookDetailAPIView(APIView):
23     """Handles GET, PUT, and DELETE for a single book"""
24
25    def get_object(self, pk):
26        try:
27            return Book.objects.get(pk=pk)
28        except Book.DoesNotExist:
29            return None
30
31    def get(self, request, pk):
32        book = self.get_object(pk)
33        if not book:
34            return Response({"error": "Book not found"}, status=status.HTTP_404_NOT_FOUND)
35        serializer = BookSerializer(book)
36        return Response(serializer.data)
37
38    def put(self, request, pk):
39        book = self.get_object(pk)
40        if not book:
41            return Response({"error": "Book not found"}, status=status.HTTP_404_NOT_FOUND)
42        serializer = BookSerializer(book, data=request.data)
43        if serializer.is_valid():
44            serializer.save()
45            return Response(serializer.data)
46        return Response(serializer.errors, status=status.HTTP_400_BAD_REQUEST)
47
48    def delete(self, request, pk):
49        book = self.get_object(pk)
50        if not book:
51            return Response({"error": "Book not found"}, status=status.HTTP_404_NOT_FOUND)
52        book.delete()
53        return Response(status=status.HTTP_204_NO_CONTENT)
54
```

Books/urls.py

```
1 from django.urls import path
2 from .views import BookListCreateAPIView, BookDetailAPIView
3
4 urlpatterns = [
5     path('books/', BookListCreateAPIView.as_view(), name='book-list'),
6     path('books/<int:pk>', BookDetailAPIView.as_view(), name='book-detail'),
7 ]
8
```

Urls.py

```
1 from django.contrib import admin
2 from django.urls import path, include
3
4 urlpatterns = [
5     path('admin/', admin.site.urls),
6     path('api/', include('books.urls')),
7 ]
8
```

