College of Engineering, Construction and Living Sciences
Bachelor of Information Technology
IN608: Intermediate Application Development Concepts
Level 6, Credits 15

Practical 14 Django 8: Django REST Framework

Due Date: 14/09/2020 at 5pm

In this practical, you will complete a series of tasks covering today's lecture. This practical is worth 1% of the final mark for the IN608: Intermediate Application Development Concepts course.

Before you start, in your practicals repository, create a new branch called **14-practical**.

Task

Create a Django project called `quizcreatordrf`. `cd` to `quizcreatordrf`, create a virtual environment & install Django. Create an app called `practical14quizcreatordrf`. Please ensure you configure your app in `quizcreatordrf/settings.py` & `quizcreatordrf/urls.py`.

In order to create a Django REST API, the `djangorestframework` Python module must be installed. Run the command `pipenv install djangorestframework` to install the `djangorestframework` Python module. In `settings.py`, declare `rest_framework` in `INSTALLED_APPS`.

In the `models.py`, copy & paste the `User` & `Quiz` model from **Practical 12 Django 6: Authentication**.

Create two files called `serializer.py` & `urls.py`. In `serializer.py`, create two classes called `UserSerializer` & `QuizSerializer` which implement `serializers.ModelSerializer`. For each class, create a nested class called `Meta`. In the `Meta` class, declare the appropriate `model` & `fields`.

In `view.py`, create two classes called `UserViewSet` which implements `viewsets.ReadOnlyModelViewSet` & `QuizViewSet` which implements `viewsets.ModelViewSet`. For each class, declare the appropriate `queryset` & `serializer_class`, i.e., `User.objects.all()` & `UserSerializer`.

In `urls.py`, create two URLs which map to `UserViewSet` & `QuizViewSet`. The URL patterns should be as follows:

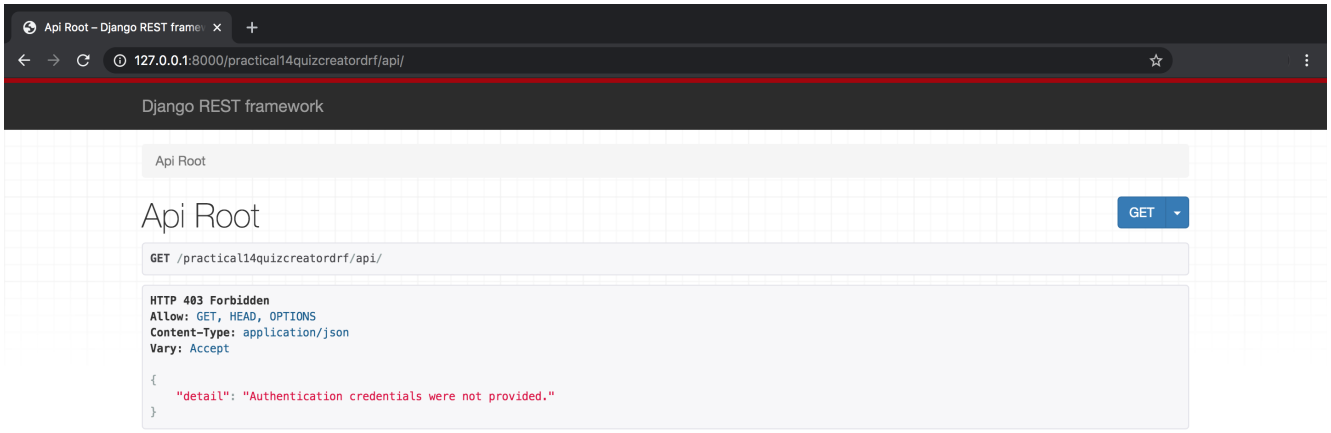
- api/user

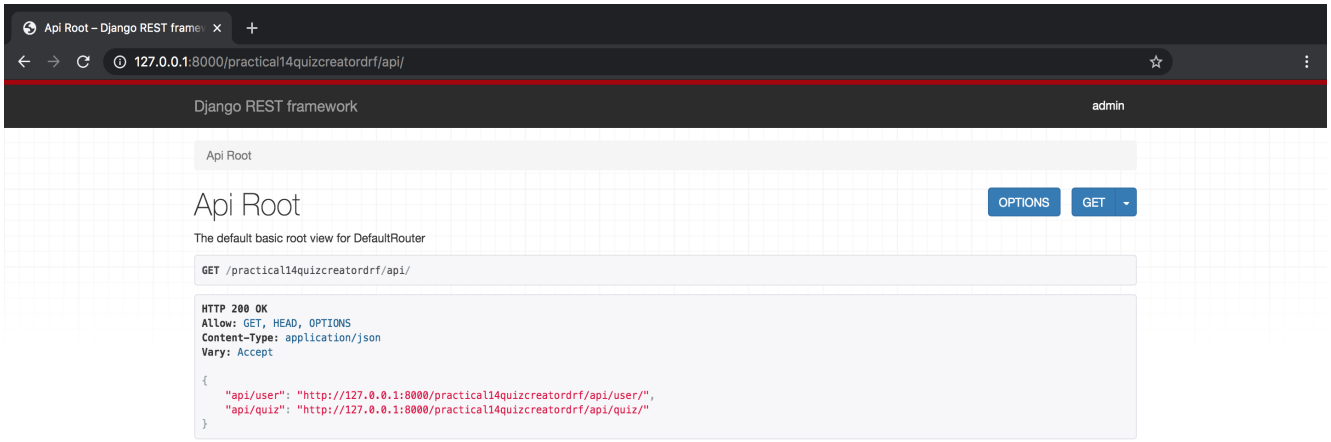
- api/quiz

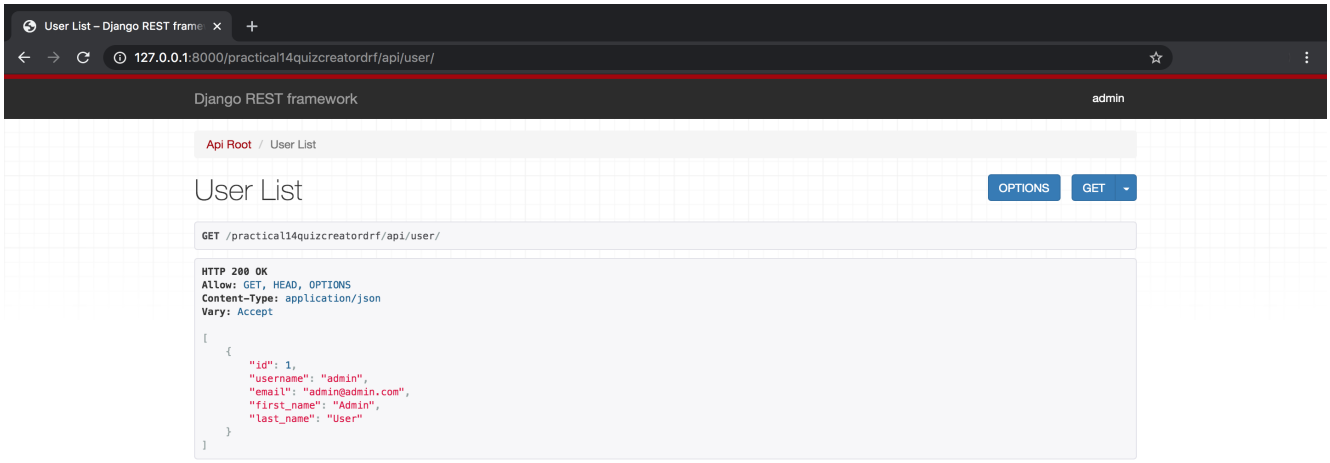
In `settings.py`, set permission policy so that the API is restricted to `only` admin users.

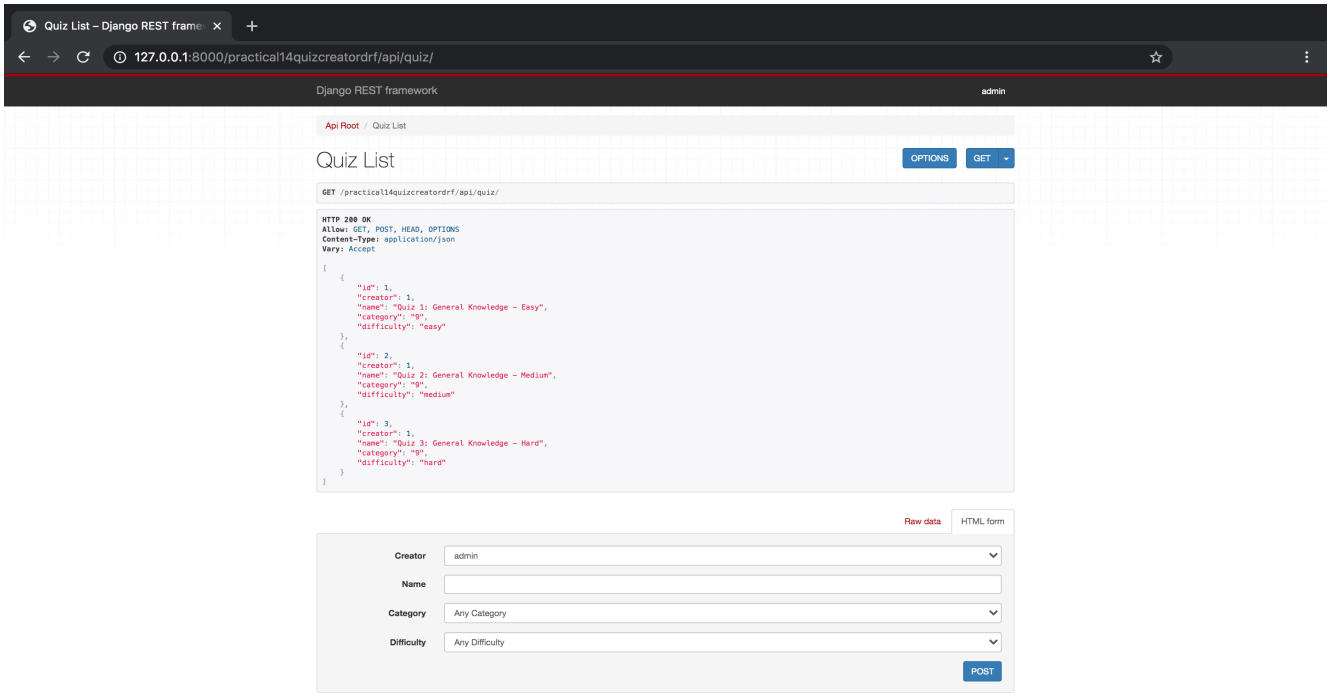
Expected Output

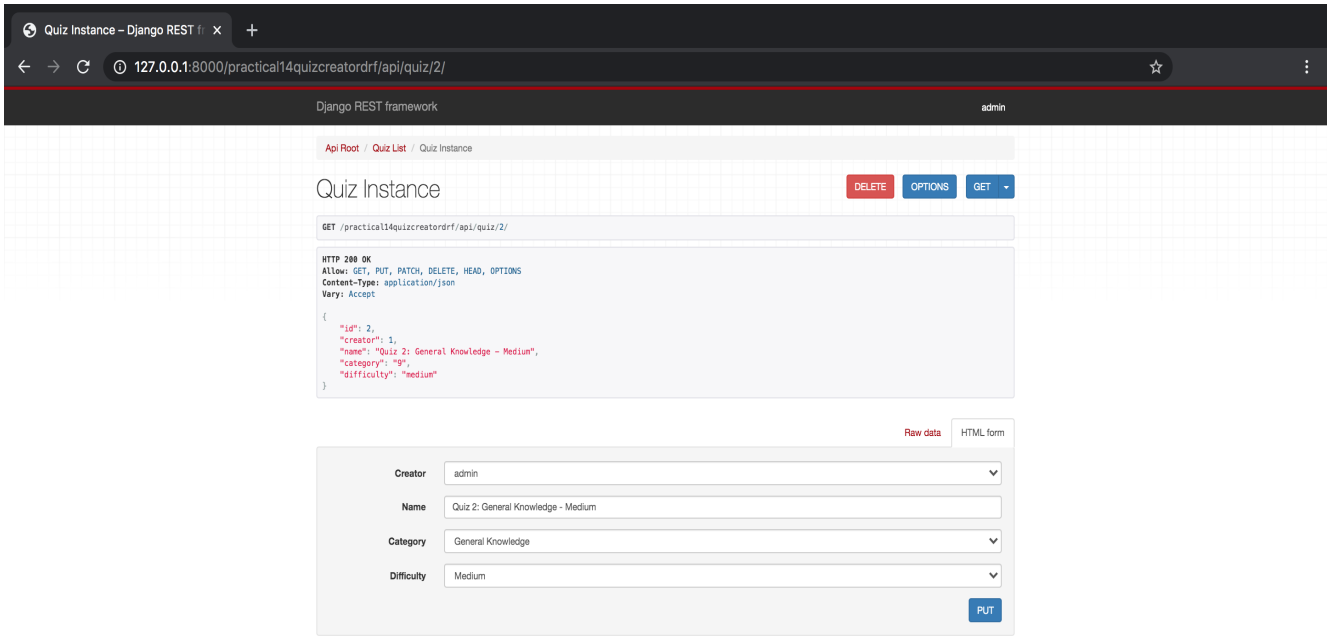
Run the command `python manage.py runserver` then navigate to http://127.0.0.1:8000/practical14quizcreatordrf/api






User List – Django REST frame
127.0.0.1:8000/practical14quizcreatordrf/api/user/
Django REST framework
admin
Api Root / User List
User List
OPTIONS
GET
GET /practical14quizcreatordrf/api/user/
HTTP 200 OK
Allow: GET, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept
[
{
"id": 1,
"username": "admin",
"email": "admin@admin.com",
"first_name": "Admin",
"last_name": "User"
}
]


Quiz List – Django REST frame
127.0.0.1:8000/practical14quizcreatordrf/api/quiz/
Django REST framework
admin
Api Root / Quiz List
Quiz List
OPTIONS
GET
GET /practical14quizcreatordrf/api/quiz/
HTTP 200 OK
Allow: GET, POST, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept
[
{
"id": 1,
"creator": 1,
"name": "Quiz 1: General Knowledge - Easy",
"category": "9",
"difficulty": "easy"
},
{
"id": 2,
"creator": 1,
"name": "Quiz 2: General Knowledge - Medium",
"category": "9",
"difficulty": "medium"
},
{
"id": 3,
"creator": 1,
"name": "Quiz 3: General Knowledge - Hard",
"category": "9",
"difficulty": "hard"
}
]
Raw data
HTML form
Creator
admin
Name
Category
Any Category
Difficulty
Any Difficulty
POST



Deployment link: https://int-app-dev-practical-14.herokuapp.com/practical14quizcreatordrf/api

Resources

- Django REST Framework