

These slides are part of the downloadable resources of *The Complete Guide to Django REST Framework and Vue JS* Udemy course.


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- ▶ YouTube Channel: https://www.youtube.com/channel/UCxPWtz5N--X3lyYJ13Zr99A?sub_confirmation=1
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Django REST Framework

Level Two - Objectives



DRF Level Two - Objectives

Welcome to the second section dedicated to **Django REST Framework**!

Now that we have got familiar with the basics of it's usage, it is time to start using more advanced classes and functionalities, that will allow us to speed up the development process and make our Web APIs more secure.

DRF Level Two - Objectives

- Learn to use the GenericAPIView and Mixins classes
- Learn to use and customize Generic Class Based Views
- Group the results provided by your APIs with a pagination system
- Secure your Web APIs with a Permissions System

Django REST Framework

Level Two - Lessons

- Ebooks API - Project Setup
- GenericAPIView & Mixins
- Generic Class Based Views
- Permissions - Part 1
- Permissions - Part 2
- Results Pagination
- Section Assignment and Solution



Ebooks API

Project Setup



DRF Level Two - Ebooks API - Project Setup

In this new section of the course we will create a REST API for a website specialized in ebooks!

Our API's users will be able to get a list of all the ebooks in our app's database, add new ones and even leave reviews about the available ebooks.

In this first lesson we are going to deal with setting up the project, by creating the required models and serializers.

Let's code!

GenericAPIView & Mixins

DRF Level Two - GenericAPIView & Mixins

One of the key benefits of using the Generic Views in Django as in Django REST Framework, is that these offer us a large amount of ready-to-use code that is useful in most of the most common development scenarios.

CRUD operations in a model-backed API for example will be implemented in the same way in most cases: reinventing the wheel every time would be a waste of time!

DRF has a class called `GenericAPIView` that extends the `APIView` class already seen in previous lessons, adding to this some very useful methods and attributes.

DRF Level Two - GenericAPIView & Mixins

The GenericAPIView class is often used with **Mixins**, classes that provide further functionalities to our views increasing their capabilities.

It is important to note that as we will see, the Mixin Classes provide **action methods** such as `.list()` or `.create()` rather than defining the handler methods, such as `.get()` or `.post()` directly, as we did using the APIView class.

GenericAPIView & Mixins - Reference Links

<https://www.django-rest-framework.org/api-guide/generic-views/#genericapiview>

<https://www.django-rest-framework.org/api-guide/generic-views/#mixins>



Generic Class Based Views



DRF Level Two - Generic Class Based API Views

Now that we have learned how to use the `GenericAPIView` and `Mixins` classes, we can finally talk about the generic classes that we are going to be using most of the time because of their practicality and power!

In DRF's docs they are called **Concrete View Classes**, because these are in fact the real, concrete generic views that implement most of the functionalities that a developer might need.

How do they work?

DRF Level Two - Generic Class Based API Views

Each one of the concrete view classes extends the `GenericAPIView` class and those Mixins that offer the functionalities that the class is meant to provide.

`RetrieveUpdateAPIView` for example will extend the `GenericAPIView` class plus both `RetrieveModelMixin` and `UpdateModelMixin`.

Because of their abstraction level they are surely the fastest to write and the easiest to read... but at the cost of being also *the most magical!*

It's important to keep in mind what we have seen so far in order to use them comfortably, knowing exactly if, when and how to customize them.

Generic Class Based API Views- Reference Links

<https://www.django-rest-framework.org/api-guide/generic-views/#concrete-view-classes>

<http://www.cdrf.co/>

Permissions - Part One

DRF Level Two - Permissions - Part One

In this lesson you are going to learn how to secure your REST APIs with the **Permissions System** provided by Django REST Framework.

In the context of our Ebooks API project, we will see how to:

- Grant access to our API only to authenticated users
- Grant write permissions only to authorized users

Let's Get Started!

Permissions - Reference Links

<https://www.django-rest-framework.org/api-guide/permissions/>



Permissions - Part Two



DRF Level Two - Permissions - Part Two

Continuing the discussion we have started in the previous lesson, we are now going to see how to secure our review instances so that they can be updated or deleted only by the same users who have created them.

In order to do so we will first need to modify our Review model, binding it to Django's User model using a ForeignKey field.

Let's Code!

Pagination

DRF Level Two - Pagination

In this lesson we are going to be talking about pagination in DRF!

This will allow us to group the results provided by our API's List Views in order to make it easier for users and clients to retrieve our data.

Let's code!

Pagination - Reference Links

<https://www.django-rest-framework.org/api-guide/pagination/>



DRF Level Two

Competency Assessment



DRF Level Two - Competency Assessment

Let's check the proper acquisition of all your new programming skills by creating a new Web API which will provide a list of **Quotes**!

- Create/Update/Delete permissions must be granted exclusively to admin users
- Anonymous users must be able to retrieve the available records paginated in groups of 30 quotes each.

DRF Level Two - Competency Assessment

The project requires using a single Model (you can call it **Quote**) which must include the following fields:

- quote_author
- quote_body
- context
- source
- created_at

DRF Level Two - Competency Assessment

To write the views, you must use the **Concrete View Classes**.

As always, you can download all the code and the slides used so far from the first lesson of the section.

Happy Coding!



DRF Level Two

Competency Assessment Solution



DRF Level Two - Quotes API

You can download all the code and the slides used in each section from the first lesson of every section.