drf-yasg Documentation

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CHAPTER 1

drf-yasg - Yet another Swagger generator



Generate **real** Swagger/OpenAPI 2.0 specifications from a Django Rest Framework API.

Compatible with

- **Django Rest Framework**: 3.8, 3.9, 3.10
- **Django**: 1.11, 2.1, 2.2
- **Python**: 2.7, 3.5, 3.6, 3.7

Only the latest patch version of each `major.minor` series of Python, Django and Django REST Framework is supported.

Only the latest version of drf-yasg is supported. Support of old versions is dropped immediately with the release of a new version. Please do not create issues before upgrading to the latest release available at the time. Regression reports are accepted and will be resolved with a new release as quickly as possible. Removed features will usually go through a deprecation cycle of a few minor releases.

Resources:

- **Source**: https://github.com/axnsan12/drf-yasg/
- **Documentation**: https://drf-yasg.readthedocs.io/
- **Changelog**: https://drf-yasg.readthedocs.io/en/stable/changelog.html
- **Live demo**: https://drf-yasg-demo.herokuapp.com/

1.1 Features

- full support for nested Serializers and Schemas
- response schemas and descriptions
- model definitions compatible with codegen tools
- customization hooks at all points in the spec generation process
- JSON and YAML format for spec
- bundles latest version of swagger-ui and redoc for viewing the generated documentation
- schema view is cacheable out of the box
- generated Swagger schema can be automatically validated by swagger-spec-validator
- supports Django REST Framework API versioning with `URLPathVersioning` and `NamespaceVersioning`; other DRF or custom versioning schemes are not currently supported

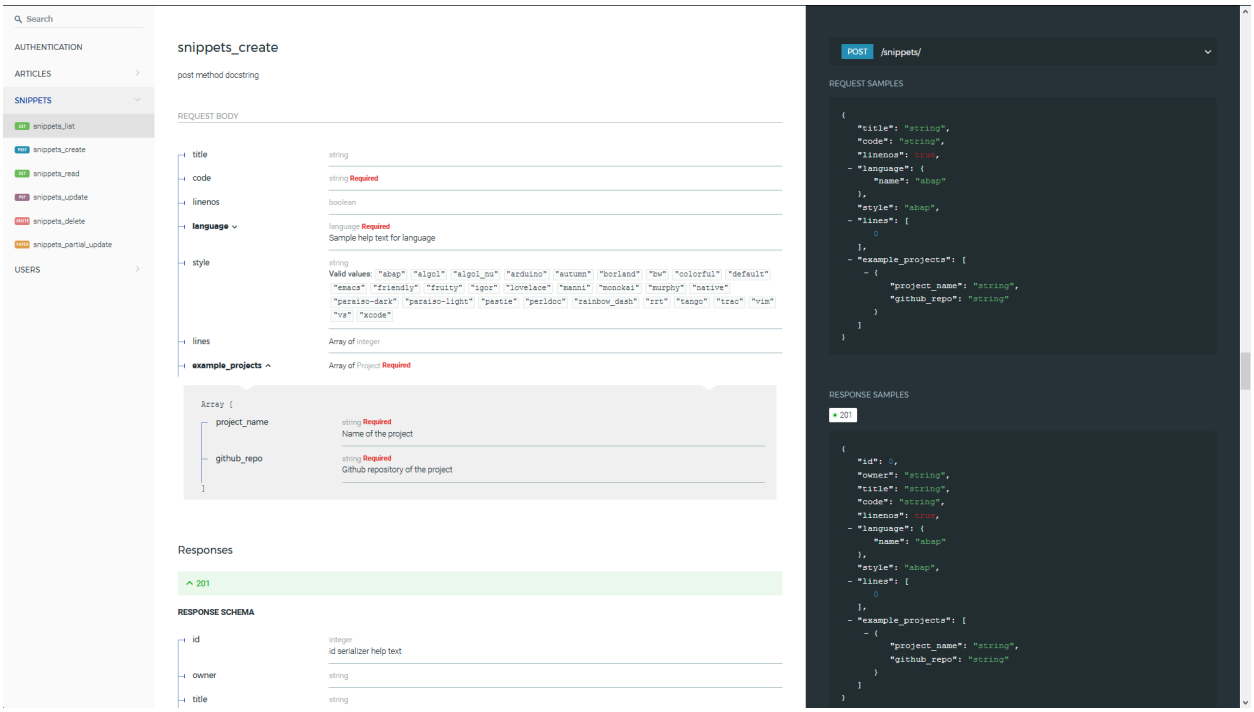


Fig. 1: **Fully nested request and response schemas.**

1.2 Table of contents

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- *drf-yasg - Yet another Swagger generator*
  - *Features*
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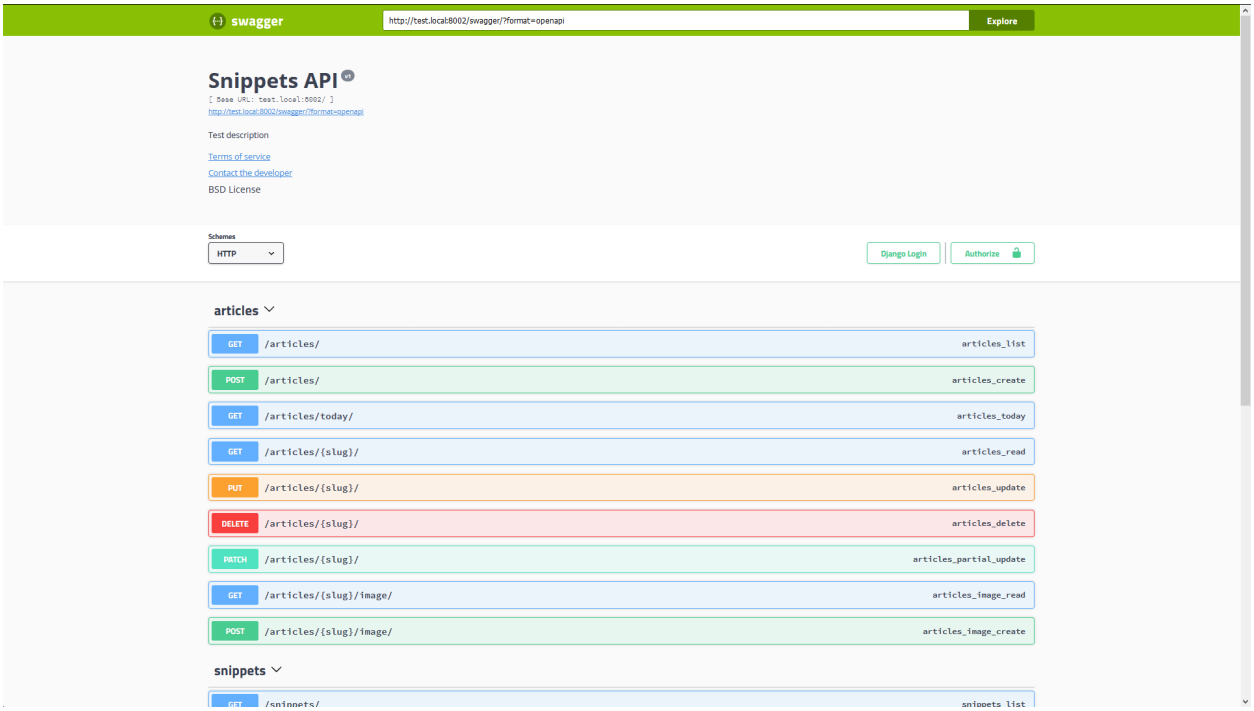


Fig. 2: **Choose between redoc and swagger-ui.**

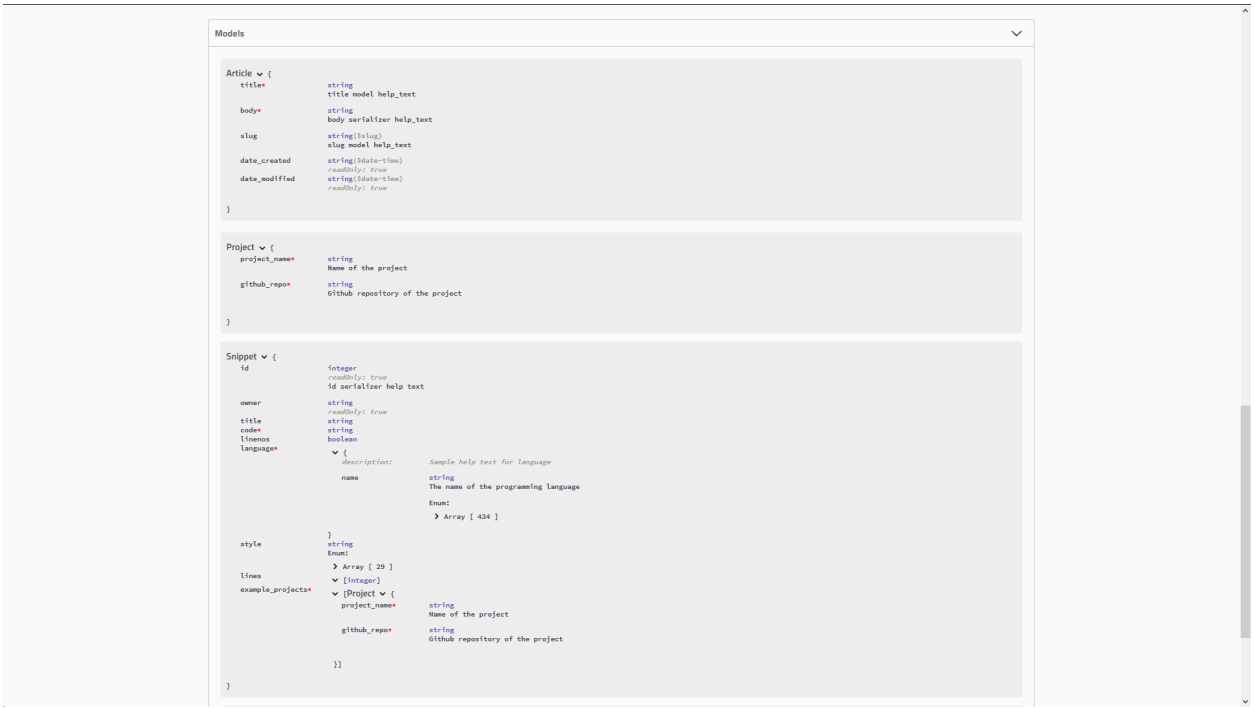


Fig. 3: **Real Model definitions.**

- *Usage*
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    - *a. `get_schema_view` parameters*
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1.3 Usage

1.3.1 0. Installation

The preferred instalation method is directly from pypi:

```
pip install -U drf-yasg
```

Additionally, if you want to use the built-in validation mechanisms (see *4. Validation*), you need to install some extra requirements:

```
pip install -U drf-yasg[validation]
```

1.3.2 1. Quickstart

In `settings.py`:

```
INSTALLED_APPS = [
   ...
   'drf_yasg',
   ...
]
```

In `urls.py`:

```
...
from rest_framework import permissions
from drf_yasg.views import get_schema_view
from drf_yasg import openapi

...

schema_view = get_schema_view(
   openapi.Info(
      title="Snippets API",
      default_version='v1',
      description="Test description",
      terms_of_service="https://www.google.com/policies/terms/",
      contact=openapi.Contact(email="contact@snippets.local"),
      license=openapi.License(name="BSD License"),
   ),
   public=True,
   permission_classes=(permissions.AllowAny,),
)

urlpatterns = [
   url(r'^swagger(?P<format>\.json|\.yaml)$', schema_view.without_ui(cache_timeout=0),
↪ name='schema-json'),
   url(r'^swagger/$', schema_view.with_ui('swagger', cache_timeout=0), name='schema-
↪swagger-ui'),
   url(r'^redoc/$', schema_view.with_ui('redoc', cache_timeout=0), name='schema-redoc
↪'),
   ...
]
```

This exposes 4 endpoints:

- A JSON view of your API specification at `/swagger.json`
- A YAML view of your API specification at `/swagger.yaml`
- A swagger-ui view of your API specification at `/swagger/`
- A ReDoc view of your API specification at `/redoc/`

1.3.3 2. Configuration

a. `get_schema_view` parameters

- `info` - Swagger API Info object; if omitted, defaults to `DEFAULT_INFO`
- `url` - API base url; if left blank will be deduced from the location the view is served at
- `patterns` - passed to SchemaGenerator
- `urlconf` - passed to SchemaGenerator
- `public` - if False, includes only endpoints the current user has access to
- `validators` - a list of validator names to apply on the generated schema; only `ssv` is currently supported
- `generator_class` - schema generator class to use; should be a subclass of `OpenAPISchemaGenerator`
- `authentication_classes` - authentication classes for the schema view itself
- `permission_classes` - permission classes for the schema view itself

b. `SchemaView` options

- `SchemaView.with_ui(renderer, cache_timeout, cache_kwargs)` - get a view instance using the specified UI renderer; one of `swagger`, `redoc`
- `SchemaView.without_ui(cache_timeout, cache_kwargs)` - get a view instance with no UI renderer; same as `as_cached_view` with no kwargs
- `SchemaView.as_cached_view(cache_timeout, cache_kwargs, **initkwargs)` - same as `as_view`, but with optional caching
- you can, of course, call `as_view` as usual

All of the first 3 methods take two optional arguments, `cache_timeout` and `cache_kwargs`; if present, these are passed on to Django's `cached_page` decorator in order to enable caching on the resulting view. See *3. Caching*.

c. `SWAGGER_SETTINGS` and `REDOC_SETTINGS`

Additionally, you can include some more settings in your `settings.py` file. See https://drf-yasg.readthedocs.io/en/stable/settings.html for details.

1.3.4 3. Caching

Since the schema does not usually change during the lifetime of the django process, there is out of the box support for caching the schema view in-memory, with some sane defaults:

- caching is enabled by the cache_page decorator, using the default Django cache backend, can be changed using the `cache_kwargs` argument
- HTTP caching of the response is blocked to avoid confusing situations caused by being shown stale schemas
- the cached schema varies on the `Cookie` and `Authorization` HTTP headers to enable filtering of visible endpoints according to the authentication credentials of each user; note that this means that every user accessing the schema will have a separate schema cached in memory.

1.3.5 4. Validation

Given the numerous methods to manually customize the generated schema, it makes sense to validate the result to ensure it still conforms to OpenAPI 2.0. To this end, validation is provided at the generation point using python swagger libraries, and can be activated by passing `validators=['ssv']` to `get_schema_view`; if the generated schema is not valid, a `SwaggerValidationError` is raised by the handling codec.

Warning: This internal validation can slow down your server. Caching can mitigate the speed impact of validation.

The provided validation will catch syntactic errors, but more subtle violations of the spec might slip by them. To ensure compatibility with code generation tools, it is recommended to also employ one or more of the following methods:

`swagger-ui` validation badge

Online

If your schema is publicly accessible, *swagger-ui* will automatically validate it against the official swagger online validator and display the result in the bottom-right validation badge.

Offline

If your schema is not accessible from the internet, you can run a local copy of swagger-validator and set the `VALIDATOR_URL` accordingly:

```
SWAGGER_SETTINGS = {
    ...
    'VALIDATOR_URL': 'http://localhost:8189',
    ...
}
```

```
$ docker run --name swagger-validator -d -p 8189:8080 --add-host test.local:10.0.75.1␣
↪swaggerapi/swagger-validator
84dabd52ba967c32ae6b660934fa6a429ca6bc9e594d56e822a858b57039c8a2
$ curl http://localhost:8189/debug?url=http://test.local:8002/swagger/?format=openapi
{}
```

Using `swagger-cli`

https://www.npmjs.com/package/swagger-cli

```
$ npm install -g swagger-cli
[...]
$ swagger-cli validate http://test.local:8002/swagger.yaml
http://test.local:8002/swagger.yaml is valid
```

Manually on editor.swagger.io

Importing the generated spec into https://editor.swagger.io/ will automatically trigger validation on it. This method is currently the only way to get both syntactic and semantic validation on your specification. The other validators only provide JSON schema-level validation, but miss things like duplicate operation names, improper content types, etc

1.3.6 5. Code generation

You can use the specification outputted by this library together with swagger-codegen to generate client code in your language of choice:

```
$ docker run --rm -v ${PWD}:/local swaggerapi/swagger-codegen-cli generate -i /local/
↪tests/reference.yaml -l javascript -o /local/.codegen/js
```

See the github page linked above for more details.

1.3.7 6. Example project

For additional usage examples, you can take a look at the test project in the `testproj` directory:

```
$ git clone https://github.com/axnsan12/drf-yasg.git
$ cd drf-yasg
$ virtualenv venv
$ source venv/bin/activate
(venv) $ cd testproj
```

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```
(venv) $ python -m pip install -U pip setuptools
(venv) $ pip install -U -r requirements.txt
(venv) $ python manage.py migrate
(venv) $ python manage.py runserver
(venv) $ firefox localhost:8000/swagger/
```

1.4 Third-party integrations

1.4.1 djangorestframework-camel-case

Integration with djangorestframework-camel-case is provided out of the box - if you have `djangorestframework-camel-case` installed and your `APIView` uses `CamelCaseJSONParser` or `CamelCaseJSONRenderer`, all property names will be converted to *camelCase* by default.

1.4.2 djangorestframework-recursive

Integration with djangorestframework-recursive is provided out of the box - if you have `djangorestframework-recursive` installed.

CHAPTER 2

Serving the schema

2.1 `get_schema_view` and the `SchemaView` class

The *`get_schema_view()`* function and the *`SchemaView`* class it returns (click links for documentation) are intended to cover the majority of use cases one might want to configure. The class returned by *`get_schema_view()`* can be used to obtain view instances via *`SchemaView.with_ui()`*, *`SchemaView.without_ui()`* and *`SchemaView.as_cached_view()`* - see *1. Quickstart* in the README for a usage example.

You can also subclass *`SchemaView`* by extending the return value of *`get_schema_view()`*, e.g.:

```
SchemaView = get_schema_view(info, ...)

class CustomSchemaView(SchemaView):
    generator_class = CustomSchemaGenerator
    renderer_classes = (CustomRenderer1, CustomRenderer2,)
```

2.2 Renderers and codecs

If you need to modify how your Swagger spec is presented in views, you might want to override one of the renderers in *`renderers`* or one of the codecs in *`codecs`*. The codec is the last stage where the Swagger object arrives before being transformed into bytes, while the renderer is the stage responsible for tying toghether the codec and the view.

You can use your custom renderer classes as kwargs to *`SchemaView.as_cached_view()`* or by subclassing *`SchemaView`*.

2.3 Management command

If you only need a swagger spec file in YAML or JSON format, you can use the `generate_swagger` management command to get it without having to start the web server:

```
$ python manage.py generate_swagger swagger.json
```

See the command help for more advanced options:

```
$ python manage.py generate_swagger --help
usage: manage.py generate_swagger [-h] [--version] [-v {0,1,2,3}]
   ... more options ...
```

Note: The *DEFAULT_INFO* setting must be defined when using the `generate_swagger` command. For example, the *README quickstart* code could be modified as such:

In `settings.py`:

```
SWAGGER_SETTINGS = {
   'DEFAULT_INFO': 'import.path.to.urls.api_info',
}
```

In `urls.py`:

```
api_info = openapi.Info(
   title="Snippets API",
   ... other arguments ...
)

schema_view = get_schema_view(
   # the info argument is no longer needed here as it will be picked up from DEFAULT_
↪INFO
   ... other arguments ...
)
```

CHAPTER 3

Functional overview

3.1 OpenAPI specification overview

This library generates OpenAPI 2.0 documents. The authoritative specification for this document's structure will always be the official documentation over at swagger.io and the OpenAPI 2.0 specification page.

Because the above specifications are a bit heavy and convoluted, here is a general overview of how the specification is structured, starting from the root `Swagger` object.

- ***Swagger*** **object**
  - `info`, `schemes`, `securityDefinitions` and other informative attributes
  - **`paths`: *`Paths`* object** A list of all the paths in the API in the form of a mapping
    - **`{path}`: *`PathItem`* - each *`PathItem`* has multiple operations keyed by method**
      - **`{http_method}`: *`Operation`*** Each operation is thus uniquely identified by its `(path, http_method)` combination, e.g. `GET /articles/`, `POST /articles/`, etc.
      - `parameters`: [*`Parameter`*] - and a list of path parameters
  - **`definitions`: named Models** A list of all the named models in the API in the form of a mapping
    - `{ModelName}`: *`Schema`*
- ***Operation*** **contains the following information about each operation:**
  - **`parameters`: [*`Parameter`*]** A list of all the *query*, *header* and *form* parameters accepted by the operation.
    - there can also be **at most one** body parameter whose structure is represented by a *`Schema`* or a reference to one (*`SchemaRef`*)
  - **`responses`: *`Responses`*** A list of all the possible responses the operation is expected to return. Each response can optionally have a *`Schema`* which describes the structure of its body.
    - `{status_code}`: *`Response`* - mapping of status code to response definition

  - `operationId` - should be unique across all operations
  - `tags` - used to group operations in the listing

It is interesting to note the main differences between *`Parameter`* and *`Schema`* objects:

`Schema`	*`Parameter`*
Can nest other Schemas	Cannot nest other Parameters Can only nest a Schema if the parameter is `in: body`
Cannot describe file uploads - `file` is not permitted as a value for `type`	Can describe file uploads via `type` = `file`, but only as part of a form *`Operation`*[1]
Can be used in *`Response`*s	Cannot be used in *`Response`*s
Cannot be used in form *`Operation`*s[1]	Can be used in form *`Operation`*s[1]
Can only describe request or response bodies	Can describe `query`, `form`, `header` or `path` parameters

3.2 Default behavior

This section describes where information is sourced from when using the default generation process.

- *`Paths`* are generated by exploring the patterns registered in your default `urlconf`, or the `patterns` and `urlconf` you specified when constructing *`OpenAPISchemaGenerator`*; only views inheriting from Django Rest Framework's `APIView` are looked at, all other views are ignored
- `path` *`Parameter`*s are generated by looking in the URL pattern for any template parameters; attempts are made to guess their type from the views `queryset` and `lookup_field`, if applicable. You can override path parameters via `manual_parameters` in *@swagger_auto_schema*.
- `query` *`Parameter`*s - i.e. parameters specified in the URL as `/path/?query1=value&query2=value` - are generated from your view's `filter_backends` and `paginator`, if any are declared. Additional parameters can be specified via the `query_serializer` and `manual_parameters` arguments of *@swagger_auto_schema*
- The request body is only generated for the HTTP `POST`, `PUT` and `PATCH` methods, and is sourced from the view's `serializer_class`. You can also override the request body using the `request_body` argument of *@swagger_auto_schema*.
  - if the view represents a form request (that is, all its parsers are of the `multipart/form-data` or `application/x-www-form-urlencoded` media types), the request body will be output as `form` *`Parameter`*s
  - if it is not a form request, the request body will be output as a single `body` *`Parameter`* wrapped around a *`Schema`*
- `header` *`Parameter`*s are supported by the OpenAPI specification but are never generated by this library; you can still add them using `manual_parameters`.
- *`Responses`* are generated as follows:
  - if `responses` is provided to *@swagger_auto_schema* and contains at least one success status code (i.e. any *2xx* status code), no automatic response is generated and the given response is used as described in the *`@swagger_auto_schema documentation`*

[1] a form Operation is an *`Operation`* that consumes `multipart/form-data` or `application/x-www-form-urlencoded` content
- a form Operation cannot have `body` parameters
- a non-form operation cannot have `form` parameters

  - otherwise, an attempt is made to generate a default response:
    * the success status code is assumed to be `204` for `DELETE` requests, `201` for `POST` requests, and `200` for all other request methods
    * if the view has a request body, the same `Serializer` or *`Schema`* as in the request body is used in generating the *`Response`* schema; this is inline with the default `GenericAPIView` and `GenericViewSet` behavior
    * if the view has no request body, its `serializer_class` is used to generate the *`Response`* schema
    * if the view is a list view (as defined by *`is_list_view()`*), the response schema is wrapped in an array
    * if the view is also paginated, the response schema is then wrapped in the appropriate paging response structure
    * the description of the response is left blank
- *`Response`* headers are supported by the OpenAPI specification but not currently supported by this library; you can still add them manually by providing an appropriately structured dictionary to the `headers` property of a *`Response`* object
- *descriptions* for *`Operation`*s, *`Parameter`*s and *`Schema`*s are picked up from docstrings and `help_text` attributes in the same manner as the default DRF SchemaGenerator
- The base URL for the API consists of three values - the `host`, `schemes` and `basePath` attributes
- The host name and scheme are determined, in descending order of priority:
  - from the `url` argument passed to *`get_schema_view()`* (more specifically, to the underlying *`OpenAPISchemaGenerator`*)
  - from the *DEFAULT_API_URL setting*
  - inferred from the request made to the schema endpoint

  For example, an url of `https://www.example.com:8080/some/path` will populate the `host` and `schemes` attributes with `www.example.com:8080` and `['https']`, respectively. The path component will be ignored.
- The base path is determined as the concatenation of two variables:
  1. the SCRIPT_NAME wsgi environment variable; this is set, for example, when serving the site from a sub-path using web server url rewriting

     Tip: The Django FORCE_SCRIPT_NAME setting can be used to override the SCRIPT_NAME or set it when it's missing from the environment.

  2. the longest common path prefix of all the urls in your API - see *`determine_path_prefix()`*
- When using API versioning with `NamespaceVersioning` or `URLPathVersioning`, versioned endpoints that do not match the version used to access the `SchemaView` will be excluded from the endpoint list - for example, `/api/v1.0/endpoint` will be shown when viewing `/api/v1.0/swagger/`, while `/api/v2.0/endpoint` will not

  Other versioning schemes are not presently supported.

3.3 A note on limitations

When schema generation is requested, available endpoints are inspected by enumeration all the routes registered in Django's urlconf. Each registered view is then artificially instantiated for introspection, and it is this step that brings some limitations to what can be done:

- the `request` the view sees will always be the request made against the schema view endpoint - e.g. `GET /swagger.yaml`
- path parameters will not be filled

This means that you could get surprizing results if your `get_serializer` or `get_serializer_class` methods depend on the incoming request, call `get_object` or in general depend on any stateful logic. You can prevent this in a few ways:

- provide a fixed serializer for request and response body introspection using *@swagger_auto_schema*, to prevent `get_serializer` from being called on the view
- *exclude your endpoint from introspection*
- use the `swagger_fake_view` marker to detect requests generated by `drf-yasg`:

```
def get_serializer_class(self):
   if getattr(self, 'swagger_fake_view', False):
      return TodoTreeSerializer

   raise NotImplementedError("must not call this")
```

CHAPTER 4

Describing authentication schemes

When using the *swagger-ui* frontend, it is possible to interact with the API described by your Swagger document. This interaction might require authentication, which you will have to describe in order to make *swagger-ui* work with it.

4.1 Security definitions

The first step that you have to do is add a *SECURITY_DEFINITIONS* setting to declare all authentication schemes supported by your API.

For example, the definition for a simple API accepting HTTP basic auth and *Authorization* header API tokens would be:

```
SWAGGER_SETTINGS = {
   'SECURITY_DEFINITIONS': {
      'Basic': {
            'type': 'basic'
      },
      'Bearer': {
            'type': 'apiKey',
            'name': 'Authorization',
            'in': 'header'
      }
   }
}
```

4.2 Security requirements

The second step is specifying, for each endpoint, which authentication mechanism can be used for interacting with it. See https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md#security-requirement-object for details.

By default, a top-level *security* that accepts any one of the declared security definitions is generated. For the example above, that would be `[{'Basic': []}, {'Bearer': []}]`. This can be overriden using the *SECURITY_REQUIREMENTS* setting.

Operation-level overrides can be added using the `security` parameter of *@swagger_auto_schema*.

4.3 `swagger-ui` as OAuth2 client

It is possible to configure `swagger-ui` to authenticate against your (or a third party) OAuth2 service when sending "Try it out" requests. This client-side configuration does not remove the requirement of a spec-side *security definiiton*, but merely allows you to test OAuth2 APIs using `swagger-ui` as a client.

DISCLAIMER: this setup is very poorly tested as I do not currently implement OAuth in any of my projects. All contributions relating to documentation, bugs, mistakes or anything else are welcome as an issue or pull request. The settings described below were added as a result of discussion in issue #53.

The settings of interest can be found on the *settings page*. Configuration options are similar to most OAuth client setups like web or mobile applications. Reading the relevant `swagger-ui` docmentation linked will also probably help.

4.3.1 Example

A very simple working configuration was provided by @Vigrond, originally at https://github.com/Vigrond/django_oauth2_example.

```
SWAGGER_SETTINGS = {
   'USE_SESSION_AUTH': False,
   'SECURITY_DEFINITIONS': {
      'Your App API - Swagger': {
         'type': 'oauth2',
         'authorizationUrl': '/yourapp/o/authorize',
         'tokenUrl': '/yourapp/o/token/',
         'flow': 'accessCode',
         'scopes': {
          'read:groups': 'read groups',
         }
      }
   },
   'OAUTH2_CONFIG': {
      'clientId': 'yourAppClientId',
      'clientSecret': 'yourAppClientSecret',
      'appName': 'your application name'
   },
}
```

If the OAuth2 provider requires you to provide the full absolute redirect URL, the default value for most `staticfiles` configurations will be `<origin>/static/drf-yasg/swagger-ui-dist/oauth2-redirect.html`. If this is not suitable for some reason, you can override the `OAUTH2_REDIRECT_URL` setting as appropriate.

CHAPTER 5

Custom schema generation

If the default spec generation does not quite match what you were hoping to achieve, `drf-yasg` provides some custom behavior hooks by default.

5.1 Excluding endpoints

You can prevent a view from being included in the Swagger view by setting its class-level `swagger_schema` attribute to `None`, or you can prevent an operation from being included by setting its `auto_schema` override to none in *@swagger_auto_schema*:

```
class UserList(APIView):
    swagger_schema = None

    # all methods of the UserList class will be excluded
    ...

# only the GET method will be shown in Swagger
@swagger_auto_schema(method='put', auto_schema=None)
@swagger_auto_schema(methods=['get'], ...)
@api_view(['GET', 'PUT'])
def user_detail(request, pk):
    pass
```

5.2 The `@swagger_auto_schema` decorator

You can use the *`@swagger_auto_schema`* decorator on view functions to override some properties of the generated *`Operation`*. For example, in a `ViewSet`,

```
from drf_yasg.utils import swagger_auto_schema
```

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```
@swagger_auto_schema(operation_description="partial_update description override",␣
↪responses={404: 'slug not found'})
def partial_update(self, request, *args, **kwargs):
    """partial_update method docstring"""
    ...
```

will override the description of the `PATCH /article/{id}/` operation, and document a 404 response with no body and the given description.

Where you can use the *`@swagger_auto_schema`* decorator depends on the type of your view:

- for function based `@api_views`, because the same view can handle multiple methods, and thus represent multiple operations, you have to add the decorator multiple times if you want to override different operations:

```
test_param = openapi.Parameter('test', openapi.IN_QUERY, description=
↪"test manual param", type=openapi.TYPE_BOOLEAN)
user_response = openapi.Response('response description', UserSerializer)

# 'method' can be used to customize a single HTTP method of a view
@swagger_auto_schema(method='get', manual_parameters=[test_param],␣
↪responses={200: user_response})
# 'methods' can be used to apply the same modification to multiple␣
↪methods
@swagger_auto_schema(methods=['put', 'post'], request_
↪body=UserSerializer)
@api_view(['GET', 'PUT', 'POST'])
def user_detail(request, pk):
    ...
```

- for class based `APIView`, `GenericAPIView` and non-`ViewSet` derivatives, you have to decorate the respective method of each operation:

```
class UserList(APIView):
    @swagger_auto_schema(responses={200: UserSerializer(many=True)})
    def get(self, request):
        ...

    @swagger_auto_schema(operation_description="description")
    def post(self, request):
        ...
```

- for `ViewSet`, `GenericViewSet`, `ModelViewSet`, because each viewset corresponds to multiple **paths**, you have to decorate the *action methods*, i.e. `list`, `create`, `retrieve`, etc. Additionally, `@actions` defined on the viewset, like function based api views, can respond to multiple HTTP methods and thus have multiple operations that must be decorated separately:

```
class ArticleViewSet(viewsets.ModelViewSet):
    # method or 'methods' can be skipped because the action only handles␣
↪a single method (GET)
    @swagger_auto_schema(operation_description='GET /articles/today/')
    @action(detail=False, methods=['get'])
    def today(self, request):
        ...

    @swagger_auto_schema(method='get', operation_description="GET /
↪articles/{id}/image/")
    @swagger_auto_schema(method='post', operation_description="POST /
↪articles/{id}/image/")
```

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```
    @action(detail=True, methods=['get', 'post'], parser_
↪classes=(MultiPartParser,))
    def image(self, request, id=None):
        ...

    @swagger_auto_schema(operation_description="PUT /articles/{id}/")
    def update(self, request, *args, **kwargs):
        ...

    @swagger_auto_schema(operation_description="PATCH /articles/{id}/")
    def partial_update(self, request, *args, **kwargs):
        ...
```

Tip: If you want to customize the generation of a method you are not implementing yourself, you can use `swagger_auto_schema` in combination with Django's `method_decorator`:

```
@method_decorator(name='list', decorator=swagger_auto_schema(
    operation_description="description from swagger_auto_schema via method_decorator"
))
class ArticleViewSet(viewsets.ModelViewSet):
    ...
```

This allows you to avoid unnecessarily overriding the method.

Tip: You can go even further and directly decorate the result of `as_view`, in the same manner you would override an `@api_view` as described above:

```
decorated_login_view = \
    swagger_auto_schema(
        method='post',
        responses={status.HTTP_200_OK: LoginResponseSerializer}
    )(LoginView.as_view())

urlpatterns = [
    ...
    url(r'^login/$', decorated_login_view, name='login')
]
```

This can allow you to avoid skipping an unnecessary *subclass* altogether.

Warning: However, do note that both of the methods above can lead to unexpected (and maybe surprising) results by replacing/decorating methods on the base class itself.

5.3 Support for SerializerMethodField

Schema generation of `serializers.SerializerMethodField` is supported in two ways:

1) The *`swagger_serializer_method`* decorator for the use case where the serializer method is using a serializer. e.g.:

```
from drf_yasg.utils import swagger_serializer_method

class OtherStuffSerializer(serializers.Serializer):
    foo = serializers.CharField()

class ParentSerializer(serializers.Serializer):
    other_stuff = serializers.SerializerMethodField()

    @swagger_serializer_method(serializer_or_field=OtherStuffSerializer)
    def get_other_stuff(self, obj):
        return OtherStuffSerializer().data
```

Note that the `serializer_or_field` parameter can accept either a subclass or an instance of `serializers.Field`.

2) For simple cases where the method is returning one of the supported types, Python 3 type hinting of the serializer method return value can be used. e.g.:

```
class SomeSerializer(serializers.Serializer):
    some_number = serializers.SerializerMethodField()

    def get_some_number(self, obj) -> float:
        return 1.0
```

When return type hinting is not supported, the equivalent `serializers.Field` subclass can be used with *`swagger_serializer_method`*:

```
class SomeSerializer(serializers.Serializer):
    some_number = serializers.SerializerMethodField()

    @swagger_serializer_method(serializer_or_field=serializers.FloatField)
    def get_some_number(self, obj):
        return 1.0
```

5.4 Serializer `Meta` nested class

You can define some per-serializer options by adding a `Meta` class to your serializer, e.g.:

```
class WhateverSerializer(Serializer):
   ...

   class Meta:
      ... options here ...
```

The available options are:

- `ref_name` - a string which will be used as the model definition name for this serializer class; setting it to `None` will force the serializer to be generated as an inline model everywhere it is used. If two serializers have the same `ref_name`, both their usages will be replaced with a reference to the same definition. If this option is not specified, all serializers have an implicit name derived from their class name, minus any `Serializer` suffix (e.g. `UserSerializer` -> `User`, `SerializerWithSuffix` -> `SerializerWithSuffix`)
- `swagger_schema_fields` - a dictionary mapping *`Schema`* field names to values. These attributes will be set on the *`Schema`* object generated from the `Serializer`. Field names must be python values, which are converted to Swagger `Schema` attribute names according to *`make_swagger_name()`*. Attribute names and values must conform to the OpenAPI 2.0 specification.

5.5 Subclassing and extending

5.5.1 SwaggerAutoSchema

For more advanced control you can subclass *SwaggerAutoSchema* - see the documentation page for a list of methods you can override.

You can put your custom subclass to use by setting it on a view method using the *@swagger_auto_schema* decorator described above, by setting it as a class-level attribute named `swagger_schema` on the view class, or *globally via settings*.

For example, to generate all operation IDs as camel case, you could do:

```
from inflection import camelize

class CamelCaseOperationIDAutoSchema(SwaggerAutoSchema):
   def get_operation_id(self, operation_keys):
      operation_id = super(CamelCaseOperationIDAutoSchema, self).get_operation_
↪id(operation_keys)
      return camelize(operation_id, uppercase_first_letter=False)


SWAGGER_SETTINGS = {
   'DEFAULT_AUTO_SCHEMA_CLASS': 'path.to.CamelCaseOperationIDAutoSchema',
   ...
}
```

5.5.2 OpenAPISchemaGenerator

If you need to control things at a higher level than *Operation* objects (e.g. overall document structure, vendor extensions in metadata) you can also subclass *OpenAPISchemaGenerator* - again, see the documentation page for a list of its methods.

This custom generator can be put to use by setting it as the *generator_class* of a *SchemaView* using *get_schema_view()*.

5.5.3 Inspector classes

For customizing behavior related to specific field, serializer, filter or paginator classes you can implement the *FieldInspector*, *SerializerInspector*, *FilterInspector*, *PaginatorInspector* classes and use them with *@swagger_auto_schema* or one of the *related settings*.

A *FilterInspector* that adds a description to all `DjangoFilterBackend` parameters could be implemented like so:

```
class DjangoFilterDescriptionInspector(CoreAPICompatInspector):
   def get_filter_parameters(self, filter_backend):
      if isinstance(filter_backend, DjangoFilterBackend):
         result = super(DjangoFilterDescriptionInspector, self).get_filter_
↪parameters(filter_backend)
         for param in result:
            if not param.get('description', ''):
               param.description = "Filter the returned list by {field_name}".
↪format(field_name=param.name)
```

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```
            return result

        return NotHandled

@method_decorator(name='list', decorator=swagger_auto_schema(
    filter_inspectors=[DjangoFilterDescriptionInspector]
))
class ArticleViewSet(viewsets.ModelViewSet):
    filter_backends = (DjangoFilterBackend,)
    filterset_fields = ('title',)
    ...
```

A second example, of a *FieldInspector* that removes the `title` attribute from all generated *Schema* objects:

```
class NoSchemaTitleInspector(FieldInspector):
    def process_result(self, result, method_name, obj, **kwargs):
        # remove the `title` attribute of all Schema objects
        if isinstance(result, openapi.Schema.OR_REF):
            # traverse any references and alter the Schema object in place
            schema = openapi.resolve_ref(result, self.components)
            schema.pop('title', None)

            # no ``return schema`` here, because it would mean we always generate
            # an inline `object` instead of a definition reference

        # return back the same object that we got - i.e. a reference if we got a␣
↪reference
        return result


class NoTitleAutoSchema(SwaggerAutoSchema):
    field_inspectors = [NoSchemaTitleInspector] + swagger_settings.DEFAULT_FIELD_
↪INSPECTORS

class ArticleViewSet(viewsets.ModelViewSet):
    swagger_schema = NoTitleAutoSchema
    ...
```

Note: A note on references - *Schema* objects are sometimes output by reference (*SchemaRef*); in fact, that is how named models are implemented in OpenAPI:

- in the output swagger document there is a `definitions` section containing *Schema* objects for all models
- every usage of a model refers to that single *Schema* object - for example, in the ArticleViewSet above, all requests and responses containg an `Article` model would refer to the same schema definition by a `'$ref': '#/definitions/Article'`

This is implemented by only generating **one** *Schema* object for every serializer **class** encountered.

This means that you should generally avoid view or method-specific `FieldInspectors` if you are dealing with references (a.k.a named models), because you can never know which view will be the first to generate the schema for a given serializer.

IMPORTANT: nested fields on `ModelSerializers` that are generated from model `ForeignKeys` will always be output by value. If you want the by-reference behaviour you have to explictly set the serializer class of nested fields instead of letting `ModelSerializer` generate one automatically; for example:

```
class OneSerializer(serializers.ModelSerializer):
   class Meta:
      model = SomeModel
      fields = ('id',)


class AnotherSerializer(serializers.ModelSerializer):
   child = OneSerializer()

   class Meta:
      model = SomeParentModel
      fields = ('id', 'child')
```

Another caveat that stems from this is that any serializer named "`NestedSerializer`" will be forced inline unless it has a `ref_name` set explicitly.

CHAPTER 6

Customizing the web UI

The web UI can be customized using the settings available in *Swagger UI settings* and *ReDoc UI settings*.

You can also extend one of the drf-yasg/swagger-ui.html or drf-yasg/redoc.html templates that are used for rendering. See the template source code (linked above) for a complete list of customizable blocks.

The `swagger-ui` view has some quite involed JavaScript hooks used for some functionality, which you might also want to review at drf-yasg/swagger-ui-init.js.

CHAPTER 7

Settings

Settings are configurable in `settings.py` by defining `SWAGGER_SETTINGS` or `REDOC_SETTINGS`.

Example:

settings.py

```
SWAGGER_SETTINGS = {
    'SECURITY_DEFINITIONS': {
        'basic': {
            'type': 'basic'
        }
    },
    ...
}

REDOC_SETTINGS = {
   'LAZY_RENDERING': False,
   ...
}
```

All settings which configure URLs (`LOGIN_URL`, `SPEC_URL`, `VALIDATOR_URL`, etc.) can accept several forms of input:

- A view name: *urls.reverse()* will be used to reverse-resolve the name
- A 2-tuple of `(view_name, kwargs)`: *urls.reverse()* will be used to reverse-resolve the name using the given *kwargs*; *kwargs* must be a dict
- A 3-tuple of `(view_name, args, kwargs)`: *urls.reverse()* will be used to reverse-resolve the name using the given *args* and *kwargs*; *args*, *kwargs* must be a tuple/list and a dict respectively
- A URL, which will be used as-is

The possible settings and their default values are as follows:

7.1 SWAGGER_SETTINGS

7.1.1 Default classes

DEFAULT_GENERATOR_CLASS

OpenAPISchemaGenerator subclass that will be used by default for generating the final *Schema* object. Can be overriden by the `generator_class` argument to *get_schema_view()*.

Default: *drf_yasg.generators.OpenAPISchemaGenerator*

DEFAULT_AUTO_SCHEMA_CLASS

ViewInspector subclass that will be used by default for generating *Operation* objects when iterating over endpoints. Can be overriden by using the *auto_schema* argument of *@swagger_auto_schema* or by a `swagger_schema` attribute on the view class.

Default: *drf_yasg.inspectors.SwaggerAutoSchema*

DEFAULT_FIELD_INSPECTORS

List of *FieldInspector* subclasses that will be used by default for inspecting serializers and serializer fields. Field inspectors given to *@swagger_auto_schema* will be prepended to this list.

Default: `['drf_yasg.inspectors.CamelCaseJSONFilter', 'drf_yasg.inspectors.ReferencingSerializerInspector', 'drf_yasg.inspectors.RelatedFieldInspector', 'drf_yasg.inspectors.ChoiceFieldInspector', 'drf_yasg.inspectors.FileFieldInspector', 'drf_yasg.inspectors.DictFieldInspector', 'drf_yasg.inspectors.JSONFieldInspector', 'drf_yasg.inspectors.HiddenFieldInspector', 'drf_yasg.inspectors.RecursiveFieldInspector', 'drf_yasg.inspectors.SerializerMethodFieldInspector', 'drf_yasg.inspectors.SimpleFieldInspector', 'drf_yasg.inspectors.StringDefaultFieldInspector',]`

DEFAULT_FILTER_INSPECTORS

List of *FilterInspector* subclasses that will be used by default for inspecting filter backends. Filter inspectors given to *@swagger_auto_schema* will be prepended to this list.

Default: `[ 'drf_yasg.inspectors.CoreAPICompatInspector', ]`

DEFAULT_PAGINATOR_INSPECTORS

List of *PaginatorInspector* subclasses that will be used by default for inspecting paginators. Paginator inspectors given to *@swagger_auto_schema* will be prepended to this list.

Default: `[ 'drf_yasg.inspectors.DjangoRestResponsePagination', 'drf_yasg.inspectors.CoreAPICompatInspector', ]`

7.1.2 Swagger document attributes

EXCLUDED_MEDIA_TYPES

A list of keywords for excluding MIME types from `Operation.produces`. Any MIME type string which includes one of the substrings in this list will be prevented from appearing in a `produces` array in the Swagger document.

Default: `['html']`

DEFAULT_INFO

An import string to an *`openapi.Info`* object. This will be used when running the `generate_swagger` management command, or if no `info` argument is passed to *`get_schema_view()`*.

Default: `None`

DEFAULT_API_URL

A string representing the default API URL. This will be used to populate the `host` and `schemes` attributes of the Swagger document if no API URL is otherwise provided. The Django FORCE_SCRIPT_NAME setting can be used for providing an API mount point prefix.

See also: *documentation on base URL construction*

Default: `None`

7.1.3 Authorization

USE_SESSION_AUTH

Enable/disable Django login as an authentication/authorization mechanism. If True, a login/logout button will be displayed in Swagger UI.

Default: `True`

LOGIN_URL

URL for the Django Login action when using *USE_SESSION_AUTH*.

Default: `django.conf.settings.LOGIN_URL`

LOGOUT_URL

URL for the Django Logout action when using *USE_SESSION_AUTH*.

Default: `django.conf.settings.LOGOUT_URL`

SECURITY_DEFINITIONS

Swagger security definitions to be included in the specification. See https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md#security-definitions-object.

Default:

```
'basic': {
   'type': 'basic'
}
```

SECURITY_REQUIREMENTS

Global security requirements. If `None`, all schemes in `SECURITY_DEFINITIONS` are accepted. See https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md#securityRequirementObject.

Default: `None`

7.1.4 Swagger UI settings

Swagger UI configuration settings. See https://github.com/swagger-api/swagger-ui/blob/112bca906553a937ac67adc2e500bdeed96d067b/docs/usage/configuration.md#parameters.

SPEC_URL

URL pointing to a swagger document for use by swagger-ui. The default behaviour is to append `?format=openapi` to the URL which serves the UI; see *note on URL settings* above.

Default: `None` *Maps to parameter*: `url`

VALIDATOR_URL

URL pointing to a swagger-validator instance; used for the validation badge shown in swagger-ui. Can be modified to point to a local install of swagger-validator or set to `None` to remove the badge.

Default: `'http://online.swagger.io/validator/'` *Maps to parameter*: `validatorUrl`

PERSIST_AUTH

Persist swagger-ui authorization data to local storage. **WARNING:** This may be a security risk as the credentials are stored unencrypted and can be accessed by all javascript code running on the same domain.

Default: `False` *Maps to parameter*: -

REFETCH_SCHEMA_WITH_AUTH

Re-fetch the OpenAPI document with the new credentials after authorization is performed through swagger-ui.

Default: `False` *Maps to parameter*: -

REFETCH_SCHEMA_ON_LOGOUT

Re-fetch the OpenAPI document without credentials after authorization is removed through swagger-ui.

Default: `False` *Maps to parameter*: -

FETCH_SCHEMA_WITH_QUERY

Fetch the OpenAPI document using the query parameters passed to the swagger-ui page request.

Default: `True` *Maps to parameter*: -

OPERATIONS_SORTER

Sorting order for the operation list of each tag.

- `None`: show in the order returned by the server
- `'alpha'`: sort alphabetically by path
- `'method'`: sort by HTTP method

Default: `None` *Maps to parameter*: `operationsSorter`

TAGS_SORTER

Sorting order for tagged operation groups.

- `None`: Swagger UI default ordering
- `'alpha'`: sort alphabetically

Default: `None` *Maps to parameter*: `tagsSorter`

DOC_EXPANSION

Controls the default expansion setting for the operations and tags.

- `'none'`: everything is collapsed
- `'list'`: only tags are expanded
- `'full'`: all operations are expanded

Default: `'list'` *Maps to parameter*: `docExpansion`

DEEP_LINKING

Automatically update the fragment part of the URL with permalinks to the currently selected operation.

Default: `False` *Maps to parameter*: `deepLinking`

SHOW_EXTENSIONS

Show vendor extension (`x-..`) fields.

Default: `True` *Maps to parameter*: `showExtensions`

DEFAULT_MODEL_RENDERING

Controls whether operations show the model structure or the example value by default.

- `'model'`: show the model fields by default
- `'example'`: show the example value by default

Default: `'model'` *Maps to parameter*: `defaultModelRendering`

DEFAULT_MODEL_DEPTH

Controls how many levels are expaned by default when showing nested models.

Default: `3` *Maps to parameter*: `defaultModelExpandDepth`

SHOW_COMMON_EXTENSIONS

Controls the display of extensions (`pattern`, `maxLength`, `minLength`, `maximum`, `minimum`) fields and values for Parameters.

Default: `True` *Maps to parameter*: `showCommonExtensions`

OAUTH2_REDIRECT_URL

Used when OAuth2 authentication of API requests via swagger-ui is desired. If `None` is passed, the `oauth2RedirectUrl` parameter will be set to `{% static 'drf-yasg/swagger-ui-dist/oauth2-redirect.html' %}`. This is the default https://github.com/swagger-api/swagger-ui/blob/master/dist/oauth2-redirect.html file provided by `swagger-ui`.

Default: `None` *Maps to parameter*: `oauth2RedirectUrl`

OAUTH2_CONFIG

Used when OAuth2 authentication of API requests via swagger-ui is desired. Provides OAuth2 configuration parameters to the `SwaggerUIBundle#initOAuth` method, and must be a dictionary. See OAuth2 configuration.

Default: `{}`

SUPPORTED_SUBMIT_METHODS

List of HTTP methods that have the Try it out feature enabled. An empty array disables Try it out for all operations. This does not filter the operations from the display.

Default: `['get','put','post','delete','options','head','patch','trace']` *Maps to parameter*: `supportedSubmitMethods`

DISPLAY_OPERATION_ID

Controls the display of operationId in operations list.

Default: `True` *Maps to parameter*: `displayOperationId`

7.2 REDOC_SETTINGS

7.2.1 ReDoc UI settings

ReDoc UI configuration settings. See https://github.com/Rebilly/ReDoc#configuration.

SPEC_URL

URL pointing to a swagger document for use by ReDoc. The default behaviour is to append `?format=openapi` to the URL which serves the UI; see *note on URL settings* above.

Default: `None` *Maps to attribute*: `spec-url`

LAZY_RENDERING

If set, enables lazy rendering mode in ReDoc. This mode is useful for APIs with big number of operations (e.g. > 50). In this mode ReDoc shows initial screen ASAP and then renders the rest operations asynchronously while showing progress bar on the top.

NOTE: this feature might be removed in future versions of ReDoc (see https://github.com/Rebilly/ReDoc/issues/475)

Default: `False` *Maps to attribute*: `lazyRendering`

HIDE_HOSTNAME

If set, the protocol and hostname is not shown in the operation definition.

Default: `False` *Maps to attribute*: `hideHostname`

EXPAND_RESPONSES

Specify which responses to expand by default by response codes. Values should be passed as comma-separated list without spaces e.g. expandResponses="200,201". Special value "all" expands all responses by default. Be careful: this option can slow-down documentation rendering time.

Default: `'all'` *Maps to attribute*: `expandResponses`

PATH_IN_MIDDLE

Show path link and HTTP verb in the middle panel instead of the right one.

Default: `False` *Maps to attribute*: `pathInMiddlePanel`

NATIVE_SCROLLBARS

Use native scrollbar for sidemenu instead of perfect-scroll (scrolling performance optimization for big specs).

Default: `False` *Maps to attribute*: `nativeScrollbars`

REQUIRED_PROPS_FIRST

Show required properties first ordered in the same order as in required array.

Default: `False` *Maps to attribute*: `requiredPropsFirst`

FETCH_SCHEMA_WITH_QUERY

Fetch the OpenAPI document using the query parameters passed to the ReDoc page request.

Default: `True` *Maps to parameter*: -

CHAPTER 8

Contributing

Contributions are always welcome and appreciated! Here are some ways you can contribute.

8.1 Issues

You can and should open an issue for any of the following reasons:

- you found a bug; steps for reproducing, or a pull request with a failing test case will be greatly appreciated
- you wanted to do something but did not find a way to do it after reading the documentation
- you believe the current way of doing something is more complicated or less elegant than it can be
- a related feature that you want is missing from the package

Please always check for existing issues before opening a new issue.

8.2 Pull requests

You want to contribute some code? Great! Here are a few steps to get you started:

1. **Fork the repository on GitHub**
2. **Clone your fork and create a branch for the code you want to add**
3. **Create a new virtualenv and install the package in development mode**

```
$ virtualenv venv
$ source venv/bin/activate
(venv) $ python -m pip install -U pip setuptools
(venv) $ pip install -U -e .[validation]
(venv) $ pip install -U -r requirements/dev.txt
```

4. **Make your changes and check them against the test project**

```
(venv) $ cd testproj
(venv) $ python manage.py migrate
(venv) $ python manage.py runserver
(venv) $ firefox localhost:8000/swagger/
```

5. **Update the tests if necessary**

   You can find them in the `tests` directory.

   If your change modifies the expected schema output, you should regenerate the reference schema at `tests/reference.yaml`:

```
(venv) $ python testproj/manage.py generate_swagger ../tests/reference.yaml --
↪overwrite --user admin --url http://test.local:8002/
```

   After checking the git diff to verify that no unexpected changes appeared, you should commit the new `reference.yaml` together with your changes.

6. **Run tests. The project is setup to use tox and pytest for testing**

```
# install test dependencies
(venv) $ pip install -U -r requirements/test.txt
# run tests in the current environment, faster than tox
(venv) $ pytest -n auto --cov
# (optional) sort imports with isort and check flake8 linting
(venv) $ isort --apply
(venv) $ flake8 src/drf_yasg testproj tests setup.py
# (optional) run tests for other python versions in separate environments
(venv) $ tox
```

7. **Update documentation**

   If the change modifies behaviour or adds new features, you should update the documentation and `README.rst` accordingly. Documentation is written in reStructuredText and built using Sphinx. You can find the sources in the `docs` directory.

   To build and check the docs, run

```
(venv) $ tox -e docs
```

8. **Push your branch and submit a pull request to the master branch on GitHub**

   Incomplete/Work In Progress pull requests are encouraged, because they allow you to get feedback and help more easily.

9. **Your code must pass all the required travis jobs before it is merged**

   As of now, this consists of running on Python 2.7, 3.5, 3.6 and 3.7, and building the docs succesfully.

8.3 Maintainer's notes

8.3.1 Release checklist

- update `docs/changelog.rst` with changes since the last tagged version
- commit & tag the release - `git tag x.x.x -m "Release version x.x.x"`
- push using `git push --follow-tags`

- verify that Travis has built the tag and succesfully published the release to PyPI
- publish release notes on GitHub
- start the ReadTheDocs build if it has not already started
- deploy the live demo on Heroku

CHAPTER 9

License

9.1 BSD 3-Clause License

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CHAPTER 10

Changelog

10.1 1.17.0

Release date: Oct 03, 2019

- **ADDED:** added *JSONFieldInspector* for *JSONField* support (#417)
- **IMPROVED:** updated `swagger-ui` to version 3.23.11
- **IMPROVED:** updated `ReDoc` to version 2.0.0-rc.14 (#398)
- **FIXED:** fixed a type hint support issue (#428, #450)
- **FIXED:** fixed packaging issue caused by a missing requirement (#412)

10.2 1.16.1

Release date: Jul 16, 2019

- **IMPROVED:** better enum type detection for nested *ChoiceField*s (#400)
- **FIXED:** fixed DRF 3.10 compatibility (#408, #410, #411)

10.3 1.16.0

Release date: Jun 13, 2019

- **ADDED:** added *reference_resolver_class* attribute hook to *SwaggerAutoSchema* (#350)
- **ADDED:** added *operation_keys* attribute to *SwaggerAutoSchema*, along with *__init__* parameter (#355)
- **FIXED:** fixed potential crash on *issubclass* check without *isclass* check

10.4 1.15.1

Release date: Jun 13, 2019

- **IMPROVED:** updated `swagger-ui` to version 3.22.3
- **IMPROVED:** updated `ReDoc` to version 2.0.0-rc.8-1
- **FIXED:** fixed an issue with inspection of typing hints on Python 2.7 (#363)
- **FIXED:** fixed an issue with inspection of typing hints on Python 3.7 (#371)

Python 3.4 support has been dropped!

10.5 1.15.0

Release date: Apr 01, 2019

- **ADDED:** added `is_list_view` and `has_list_response` extension points to `SwaggerAutoSchema` (#331)
- **IMPROVED:** updated `swagger-ui` to version 3.22.0
- **IMPROVED:** updated `ReDoc` to version 2.0.0-rc.4
- **FIXED:** `ListModelMixin` will now always be treated as a list view (#306)
- **FIXED:** non-primtive values in field `choices` will now be handled properly (#340)

10.6 1.14.0

Release date: Mar 04, 2019

- **IMPROVED:** updated `swagger-ui` to version 3.21.0
- **FIXED:** implicit `ref_name` collisions will now throw an exception
- **FIXED:** `RecursiveField` will now also work as a child of `ListSerializer` (#321)
- **FIXED:** fixed `minLength` and `maxLength` for `ListSerializer` and `ListField`
- **FIXED:** the `items` property of `Schema`, `Parameter` and `Items` objects was renamed to `items_`; this is a *mildly breaking change* and was needed to fix the collision with the `items` method of `dict` (#308)
- **REMOVED:** the `get_summary` and `get_description` methods have been removed (previously deprecated in 1.12.0)

10.7 1.13.0

Release date: Jan 29, 2019

- **IMPROVED:** type hint inspection is now supported for collections and `Optional` (#272)
- **IMPROVED:** updated `swagger-ui` to version 3.20.5
- **IMPROVED:** updated `ReDoc` to version 2.0.0-rc.2

- **DEPRECATED:** quietly dropped support for the `flex` validator; it will still work if the library is installed, but the setup.py requirement was removed and the validator will be silently skipped if not installed (#285)

10.8 1.12.1

Release date: Dec 28, 2018

- **IMPROVED:** updated `ReDoc` to version 2.0.0-rc.0
- **FIXED:** management command will now correctly fall back to `DEFAULT_VERSION` for mock request
- **FIXED:** fixed bad "raised exception during schema generation" warnings caused by missing `self` parameter

10.9 1.12.0

Release date: Dec 23, 2018

- **ADDED:** `get_security_definitions` and `get_security_requirements` hooks to `OpenAPISchemaGenerator`
- **ADDED:** added `get_summary_and_description` and `split_summary_from_description` extension points to `SwaggerAutoSchema` to allow for better customisation
- **IMPROVED:** updated `swagger-ui` to version 3.20.4
- **IMPROVED:** paginator `next` and `previous` fields are now marked as `x-nullable` (#263)
- **IMPROVED:** added the `tags` argument to `swagger_auto_schema` (#259)
- **IMPROVED:** type of `enum` will now be automatically detected from `ChoiceField` if all `choices` values are objects of the same Python class (#264)
- **IMPROVED:** `SwaggerValidationError` details will now be logged and shown in the exception message
- **FIXED:** user implementations of `get_queryset`, `get_parsers` and `get_renderers` will no longer be bypassed
- **FIXED:** fixed handling of lazy objects in user-supplied values
- **FIXED:** `read_only` serializer fields will be correctly ignored when generating form parameters (#261)
- **FIXED:** fixed incorrect return type from `UIRenderer` (#268)
- **FIXED:** fixed incosistent ordering of global `securityDefinitions` and `security` objects
- **DEPRECATED:** the `get_summary` and `get_description` extension points have been deprecated in favor of the new `get_summary_and_description`, and will be removed in a future release

IMPORTANT PACKAGING NOTE

Starting with this version, the `setup_requires` argument was dropped from `setup.py` in favor of `build-system.requires` in `pyproject.toml` . This means that for correctly building or installing from sdist, you will need to use a PEP517/PEP518 compliant tool (tox>=3.3.0, setuptools>=40, pip>=10.0, pep517.build) or manually install the build requirements yourself (just `setuptools` and `setuptools-scm`, for now).

Additionally, for correct package version detection, a full git checkout is required when building (this was always the case). Building without `.git` or without `setuptools-scm` will result in a distribution with a version like `drf-yasg-1!0.0.0.dev0+noscm.00000167d19bd859`.

10.10 1.11.1

Release date: Nov 29, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.20.1
- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.41
- **FIXED:** `minLength` and `maxLength` will now also work for `ListSerializer` in addition to `ListField`
- **FIXED:** `MultipleChoiceField` will now use the `multi collectionFormat` where appropriate (#257)
- **FIXED:** the `format`, `pattern`, `enum`, `min_length` and `max_length` attributes of `coreschema.Schema` will now be persited into the converted `openapi.Parameter` (#212, #233)

10.11 1.11.0

Release date: Oct 14, 2018

- **ADDED:** `PERSIST_AUTH`, `REFETCH_SCHEMA_WITH_AUTH`, `REFETCH_SCHEMA_ON_LOGOUT` settings and related javascript implementation for persisting authentication data to swagger-ui localStorage
- **IMPROVED:** UI-enabled views will now no longer generate the full specification document twice; the HTML part of the view will only generate a barebones `Swagger` object with no `paths` and `definitions`
- **IMPROVED:** added the `FETCH_SCHEMA_WITH_QUERY` setting to enable fetching of the schema document using query parameters passed to the UI view (#208)
- **IMPROVED:** added support for the very common `x-nullable` extension (#217)
- **IMPROVED:** extensibility of some classes was improved by adding more extension points, together with more blocks for `swagger-ui.html`/`redoc.html` and some JavaScript hooks in `swagger-ui-init.js`
- **FIXED:** removed usage of `inspect.signature` on python 2.7 (#222)

10.12 1.10.2

Release date: Sep 13, 2018

- **ADDED:** added the `DISPLAY_OPERATION_ID` `swagger-ui` setting
- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.38
- **IMPROVED:** Operation summary will now be parsed from multi-line view method docstrings (#205)
- **IMPROVED:** `pattern` will now work on any field with a `RegexValidator` (would previously not appear on fields with special formats such as `EmailField`)
- **FIXED:** fixed an issue with `RelatedFieldInspector` handling of nested serializers
- **FIXED:** fixed handling of `reverse_lazy` in URL settings (#209)

10.13 1.10.1

Release date: Sep 10, 2018

- **ADDED:** added the `SPEC_URL` setting for controlling the download link in `swagger-ui` and `ReDoc`
- **ADDED:** updated `ReDoc` settings (added `NATIVE_SCROLLBARS` and `REQUIRED_PROPS_FIRST`)
- **ADDED:** added `extra_styles` and `extra_scripts` blocks to ui templates (#178)
- **IMPROVED:** updated `swagger-ui` to version 3.18.2
- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.37
- **FIXED:** stopped generating invalid OpenAPI by improper placement of `readOnly` Schemas
- **FIXED:** fixed broken CSS when `USE_SESSION_AUTH=False`
- **FIXED:** fixed implementation of `operation_summary` and `deprecated` (#194, #198)
- **FIXED:** fixed a bug related to nested `typing` hints (#195)
- **FIXED:** removed dependency on `future` (#196)
- **FIXED:** fixed exceptions logged for fields with `default=None` (#203)
- **FIXED:** fixed `request_body=no_body` handling and related tests (#188, #199)

10.14 1.10.0

Release date: Aug 08, 2018

- **ADDED:** added `EXCLUDED_MEDIA_TYPES` setting for controlling `produces` MIME type filtering (#158)
- **ADDED:** added support for `SerializerMethodField`, via the `swagger_serializer_method` decorator for the method field, and support for Python 3.5 style type hinting of the method field return type (#137, #175, #179)

  NOTE: in order for this to work, you will have to add the new `drf_yasg.inspectors.SerializerMethodFieldInspector` to your `DEFAULT_FIELD_INSPECTORS` array if you changed it from the default value
- **IMPROVED:** updated `swagger-ui` to version 3.18.0
- **IMPROVED:** added support for Python 3.7 and Django 2.1 (#176)
- **IMPROVED:** `swagger_schema_fields` will now also work on serializer `Fields` (#167)
- **IMPROVED:** `ref_name` collisions will now log a warning message (#156)
- **IMPROVED:** added `operation_summary` and `deprecated` arguments to `swagger_auto_schema` (#149, #173)
- **FIXED:** made `swagger_auto_schema` work with DRF 3.9 `@action` mappings (#177)

10.15 1.9.2

Release date: Aug 03, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.17.6

- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.32
- **IMPROVED:** added `--api-version` argument to the `generate_swagger` management command (#170)
- **FIXED:** corrected various documentation typos (#160, #162, #171, #172)
- **FIXED:** made `generate_swagger` work for projects without authentication (#161)
- **FIXED:** fixed `SafeText` interaction with YAML codec (#159)

10.16 1.9.1

Release date: Jun 30, 2018

- **IMPROVED:** added a `swagger_fake_view` marker to more easily detect mock views in view methods; `getattr(self, 'swagger_fake_view', False)` inside a view method like `get_serializer_class` will tell you if the view instance is being used for swagger schema introspection (#154)
- **IMPROVED:** updated `swagger-ui` to version 3.17.1
- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.25
- **FIXED:** fixed wrong handling of duplicate urls in urlconf (#155)
- **FIXED:** fixed crash when passing `None` as a response override (#148)

10.17 1.9.0

Release date: Jun 16, 2018

- **ADDED:** added `DEFAULT_GENERATOR_CLASS` setting and `--generator-class` argument to the `generate_swagger` management command (#140)
- **FIXED:** fixed wrongly required `'count'` response field on `CursorPagination` (#141)
- **FIXED:** fixed some cases where `swagger_schema_fields` would not be handlded (#142)
- **FIXED:** fixed crash when encountering `coreapi.Fieldss` without a `schema` (#143)

10.18 1.8.0

Release date: Jun 01, 2018

- **ADDED:** added a *swagger_schema_fields* field on serializer `Meta` classes for customizing schema generation (#132, #134)
- **FIXED:** error responses from schema views are now rendered with `JSONRenderer` instead of throwing confusing errors (#130, #58)
- **FIXED:** `readOnly` schema fields will now no longer be marked as `required` (#133)

10.19 1.7.4

Release date: May 14, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.14.2
- **IMPROVED:** updated `ReDoc` to version 2.0.0-alpha.20
- **FIXED:** ignore `None` return from `get_operation` to avoid empty `Path` objects in output
- **FIXED:** request body is now allowed on `DELETE` endpoints (#118)

10.20 1.7.3

Release date: May 12, 2018

- **FIXED:** views whose `__init__` methods throw exceptions will now be ignored during endpoint enumeration

10.21 1.7.2

Release date: May 12, 2018

- **FIXED:** fixed generation of default `SECURITY_REQUIREMENTS` to match documented behaviour
- **FIXED:** ordering of `SECURITY_REQUIREMENTS` and `SECURITY_DEFINITIONS` is now stable

10.22 1.7.1

Release date: May 05, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.14.1
- **IMPROVED:** set `swagger-ui` `showCommonExtensions` to `True` by default and add `SHOW_COMMON_EXTENSIONS` setting key
- **IMPROVED:** set `min_length=1` when `allow_blank=False` (#112, thanks to @elnappo)
- **FIXED:** made documentation ordering of `SwaggerDict` extra attributes stable

10.23 1.7.0

Release date: Apr 27, 2018

- **ADDED:** added integration with djangorestframework-recursive (#109, #110, thanks to @rsichny)

  NOTE: in order for this to work, you will have to add the new `drf_yasg.inspectors.RecursiveFieldInspector` to your `DEFAULT_FIELD_INSPECTORS` array if you changed it from the default value
- **FIXED:** `SchemaRef` now supports cyclical references via the `ignore_unresolved` argument

10.24 1.6.2

Release date: Apr 25, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.13.6
- **IMPROVED:** switched `ReDoc` to version 2.0.0-alpha.17 (was 1.21.2); fixes #107
- **FIXED:** made documentation ordering of parameters stable for urls with multiple parameters (#105, #106)
- **FIXED:** fixed crash when using a model `ChoiceField` of unknown child type

10.25 1.6.1

Release date: Apr 01, 2018

- **ADDED:** added `SUPPORTED_SUBMIT_METHODS` `swagger-ui` setting

10.26 1.6.0

Release date: Mar 24, 2018

- **IMPROVED:** `OAUTH2_REDIRECT_URL` will now default to the built in `oauth2-redirect.html` file

10.27 1.5.1

Release date: Mar 18, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.13.0
- **FIXED:** fixed a crash caused by `serializers.OneToOneRel` (#81, thanks to @ko-pp)

10.28 1.5.0

Release date: Mar 12, 2018

- **IMPROVED:** `serializers.HiddenField` are now hidden (#78, #79, thanks to @therefromhere)

  NOTE: in order for this to work, you will have to add the new `drf_yasg.inspectors.HiddenFieldInspector` to your `DEFAULT_FIELD_INSPECTORS` array if you changed it from the default value
- **IMPROVED:** type of model field is now detected for `serializers.SlugRelatedField` with `read_only=True` (#82, #83, thanks to @therefromhere)

10.29 1.4.7

Release date: Mar 05, 2018

- **FIXED:** prevent crashes caused by attempting to delete object attributes which do not exist in the first place (#76)

10.30 1.4.6

Release date: Mar 05, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.12.0
- **IMPROVED:** updated `ReDoc` to version 1.21.2

10.31 1.4.5

Release date: Mar 05, 2018

- **FIXED:** fixed an issue with modification of `swagger_auto_schema` arguments in-place during introspection, which would sometimes cause an incomplete Swagger document to be generated after the first pass (#74, #75)

10.32 1.4.4

Release date: Feb 26, 2018

- **IMPROVED:** `type` for `ChoiceField` generated by a `ModelSerializer` from a model field with `choices=...` will now be set according to the associated model field (#69)
- **FIXED:** `lookup_field` and `lookup_value_regex` on the same `ViewSet` will no longer trigger an exception (#68)

10.33 1.4.3

Release date: Feb 22, 2018

- **FIXED:** added a missing assignment that would cause the `default` argument to `openapi.Parameter.__init__` to be ignored

10.34 1.4.2

Release date: Feb 22, 2018

- **FIXED:** fixed a bug that causes a `ModelViewSet` generated from models with nested `ForeignKey` to output models named `Nested` into the `definitions` section (#59, #65)
- **FIXED:** `Response` objects without a `schema` are now properly handled when passed through `swagger_auto_schema` (#66)

10.35 1.4.1

Release date: Feb 21, 2018

- **FIXED:** the `coerce_to_string` is now respected when setting the type, default value and min/max values of `DecimalField` in the OpenAPI schema (#62)

- **FIXED:** error responses from web UI views are now rendered with `TemplateHTMLRenderer` instead of throwing confusing errors (#58)
- **IMPROVED:** updated `swagger-ui` to version 3.10.0
- **IMPROVED:** updated `ReDoc` to version 1.21.0

10.36 1.4.0

Release date: Feb 04, 2018

- **ADDED:** added settings for OAuth2 client configuration in `swagger-ui` (#53)
- **IMPROVED:** updated `swagger-ui` to version 3.9.3

10.37 1.3.1

Release date: Jan 24, 2018

- **FIXED:** fixed a bug that would sometimes cause endpoints to wrongly be output as form operations (#50)
- **IMPROVED:** added generation of `produces` based on renderer classes
- **IMPROVED:** added generation of top-level `consumes` and `produces` based on `DEFAULT_PARSER_CLASSES` and `DEFAULT_RENDERER_CLASSES` (#48)

10.38 1.3.0

Release date: Jan 23, 2018

- **ADDED:** security requirements are now correctly set and can be customized; this should fix problems related to authentication in `swagger-ui` Try it out! (#50, #54)
- **IMPROVED:** updated `swagger-ui` to version 3.9.2
- **IMPROVED:** updated `ReDoc` to version 1.20.0
- **FIXED:** fixed an exception caused by a warning in get_path_from_regex (#49, thanks to @blueyed)

10.39 1.2.2

Release date: Jan 12, 2018

- **FIXED:** djangorestframework>=3.7.7 is now required because of breaking changes (#44, #45, thanks to @h-hirokawa)

10.40 1.2.1

Release date: Jan 12, 2018

- Fixed deployment issues

10.41 1.2.0

Release date: Jan 12, 2018 (missing from PyPI due to deployment issues)

- **ADDED:** `basePath` is now generated by taking into account the `SCRIPT_NAME` variable and the longest common prefix of API urls (#37, #42)
- **IMPROVED:** removed inline scripts and styles from bundled HTML templates to increase CSP compatibility
- **IMPROVED:** improved validation errors and added more assertion sanity checks (#37, #40)
- **IMPROVED:** improved handling of NamespaceVersioning by excluding endpoints of differing versions (i.e. when accesing the schema view for v1, v2 endpoints will not be included in swagger)

10.42 1.1.3

Release date: Jan 02, 2018

- **FIXED:** schema view cache will now always `Vary` on the `Cookie` and `Authentication` (the `Vary` header was previously only added if `public` was set to `True`) - this fixes issues related to Django authentication in `swagger-ui` and `CurrentUserDefault` values in the schema

10.43 1.1.2

Release date: Jan 01, 2018

- **IMPROVED:** updated `swagger-ui` to version 3.8.1
- **IMPROVED:** removed some unneeded static files

10.44 1.1.1

Release date: Dec 27, 2017

- **ADDED:** *generate_swagger management command* (#29, #31, thanks to @beaugunderson)
- **FIXED:** fixed improper generation of `\Z` regex tokens - will now be repalced by `$`

10.45 1.1.0

Release date: Dec 27, 2017

- **ADDED:** added support for APIs versioned with `URLPathVersioning` or `NamespaceVersioning`
- **ADDED:** added ability to recursively customize schema generation *using pluggable inspector classes*
- **ADDED:** added `operation_id` parameter to *`@swagger_auto_schema`*
- **ADDED:** integration with djangorestframework-camel-case (#28)
- **IMPROVED:** strings, arrays and integers will now have min/max validation attributes inferred from the field-level validators

- **FIXED:** fixed a bug that caused `title` to never be generated for Schemas; `title` is now correctly populated from the field's `label` property

10.46 1.0.6

Release date: Dec 23, 2017

- **FIXED:** Swagger UI "Try it out!" should now work with Django login
- **FIXED:** callable `default` values on serializer fields will now be properly called (#24, #25)
- **IMPROVED:** updated `swagger-ui` to version 3.8.0
- **IMPROVED:** `PrimaryKeyRelatedField` and `SlugRelatedField` will now have appropriate types based on the related model (#26)
- **IMPROVED:** mock views will now have a bound request even with `public=False` (#23)

10.47 1.0.5

Release date: Dec 18, 2017

- **FIXED:** fixed a crash caused by having read-only Serializers nested by reference
- **FIXED:** removed erroneous backslashes in paths when routes are generated using Django 2 path()
- **IMPROVED:** updated `swagger-ui` to version 3.7.0
- **IMPROVED:** `FileField` is now generated as an URL or file name in response Schemas (#21, thanks to @h-hirokawa)

10.48 1.0.4

Release date: Dec 16, 2017

- **FIXED:** fixed improper generation of YAML references
- **ADDED:** added `query_serializer` parameter to *`@swagger_auto_schema`* (#16, #17)

10.49 1.0.3

Release date: Dec 15, 2017

- **FIXED:** fixed bug that caused schema views returned from cache to fail (#14)
- **FIXED:** disabled automatic generation of response schemas for form operations to avoid confusing errors caused by attempting to shove file parameters into Schema objects

10.50 1.0.2

Release date: Dec 13, 2017

- First published version

CHAPTER 11

Source code documentation

- genindex
- modindex
- search

11.1 drf_yasg package

11.1.1 drf_yasg.codecs

drf_yasg.codecs.**_validate_flex**(*spec*)

drf_yasg.codecs.**_validate_swagger_spec_validator**(*spec*)

drf_yasg.codecs.**VALIDATORS = {'flex': <function _validate_flex>, 'ssv': <function _valida**

class drf_yasg.codecs.**_OpenAPICodec**(*validators*)

Bases: object

media_type = None

validators

List of validator names to apply

encode(*document*)

Transform an *Swagger* object to a sequence of bytes.

Also performs validation and applies settings.

Parameters **document** (openapi.Swagger) – Swagger spec object as generated by *OpenAPISchemaGenerator*

Returns binary encoding of document

Return type bytes

encode_error(*err*)
Dump an error message into an encoding-appropriate sequence of bytes

_dump_dict(*spec*)
Dump the given dictionary into its string representation.

Parameters **spec** (*dict*) – a python dict

Returns string representation of spec

Return type str or bytes

generate_swagger_object(*swagger*)
Generates the root Swagger object.

Parameters **swagger** (openapi.Swagger) – Swagger spec object as generated by *OpenAPISchemaGenerator*

Returns swagger spec as dict

Return type OrderedDict

class drf_yasg.codecs.**OpenAPICodecJson**(*validators*, *pretty=False*, *media_type='application/json'*)
Bases: *drf_yasg.codecs._OpenAPICodec*

media_type = 'application/json'

_dump_dict(*spec*)
Dump spec into JSON.

Return type str

drf_yasg.codecs.**yaml_sane_dump**(*data*, *binary*)
Dump the given data dictionary into a sane format:

- OrderedDicts are dumped as regular mappings instead of non-standard !!odict
- multi-line mapping style instead of json-like inline style
- list elements are indented into their parents
- YAML references/aliases are disabled

Parameters

- **data** (*dict*) – the data to be dumped
- **binary** (*bool*) – True to return a utf-8 encoded binary object, False to return a string

Returns the serialized YAML

Return type str or bytes

drf_yasg.codecs.**yaml_sane_load**(*stream*)
Load the given YAML stream while preserving the input order for mapping items.
Parameters **stream** – YAML stream (can be a string or a file-like object)

Return type OrderedDict

class drf_yasg.codecs.**OpenAPICodecYaml**(*validators*, *media_type='application/yaml'*)
Bases: *drf_yasg.codecs._OpenAPICodec*

media_type = 'application/yaml'

_dump_dict(*spec*)
Dump spec into YAML.

Return type bytes

11.1.2 drf_yasg.errors

exception drf_yasg.errors.**SwaggerError**
Bases: Exception

exception drf_yasg.errors.**SwaggerValidationError**(*msg*, *errors=None*, *spec=None*, *source_codec=None*, **args*)
Bases: *drf_yasg.errors.SwaggerError*

exception drf_yasg.errors.**SwaggerGenerationError**
Bases: *drf_yasg.errors.SwaggerError*

11.1.3 drf_yasg.generators

class drf_yasg.generators.**EndpointEnumerator**(*patterns=None*, *urlconf=None*, *request=None*)
Bases: rest_framework.schemas.generators.EndpointEnumerator

get_path_from_regex(*path_regex*)
Given a URL conf regex, return a URI template string.

should_include_endpoint(*path*, *callback*, *app_name=''*, *namespace=''*, *url_name=None*)
Return *True* if the given endpoint should be included.

replace_version(*path*, *callback*)
If `request.version` is not `None` and *callback* uses `URLPathVersioning`, this function replaces the `version` parameter in *path* with the actual version.

Parameters

- **path** (*str*) – the templated path
- **callback** – the view callback

Return type str

get_api_endpoints(*patterns=None*, *prefix=''*, *app_name=None*, *namespace=None*, *ignored_endpoints=None*)
Return a list of all available API endpoints by inspecting the URL conf.

Copied entirely from super.

unescape(*s*)
Unescape all backslash escapes from *s*.

Parameters **s** (*str*) – string with backslash escapes

Return type str

unescape_path(*path*)
Remove backslashe escapes from all path components outside {parameters}. This is needed because `simplify_regex` does not handle this correctly.

NOTE: this might destructively affect some url regex patterns that contain metacharacters (e.g. w, d) outside path parameter groups; if you are in this category, God help you

Parameters **path** (*str*) – path possibly containing

Returns the unescaped path

Return type str

class drf_yasg.generators.**OpenAPISchemaGenerator**(*info*, *version=''*, *url=None*, *patterns=None*, *urlconf=None*)

Bases: object

This class iterates over all registered API endpoints and returns an appropriate OpenAPI 2.0 compliant schema. Method implementations shamelessly stolen and adapted from rest-framework SchemaGenerator.

Parameters

- **info** (openapi.Info) – information about the API
- **version** (*str*) – API version string; if omitted, *info.default_version* will be used
- **url** (*str*) – API scheme, host and port; if None is passed and DEFAULT_API_URL is not set, the url will be inferred from the request made against the schema view, so you should generally not need to set this parameter explicitly; if the empty string is passed, no host and scheme will be emitted

  If *url* is not None or the empty string, it must be a scheme-absolute uri (i.e. starting with http:// or https://), and any path component is ignored;

  See also: *documentation on base URL construction*
- **patterns** – if given, only these patterns will be enumerated for inclusion in the API spec
- **urlconf** – if patterns is not given, use this urlconf to enumerate patterns; if not given, the default urlconf is used

endpoint_enumerator_class

alias of *EndpointEnumerator*

reference_resolver_class

alias of *drf_yasg.openapi.ReferenceResolver*

url

get_security_definitions()

Get the security schemes for this API. This determines what is usable in security requirements, and helps clients configure their authorization credentials.

Returns the security schemes usable with this API

Return type dict[str,dict] or None

get_security_requirements(*security_definitions*)

Get the base (global) security requirements of the API. This is never called if *get_security_definitions()* returns *None*.

Parameters **security_definitions** – security definitions as returned by *get_security_definitions()*

Returns the security schemes accepted by default

Return type list[dict[str,list[str]]] or None

get_schema(*request=None*, *public=False*)

Generate a *Swagger* object representing the API schema.

Parameters

- **request** (*rest_framework.request.Request or None*) – the request used for filtering accessible endpoints and finding the spec URI
- **public** (*bool*) – if True, all endpoints are included regardless of access through *request*

Returns the generated Swagger specification

Return type *openapi.Swagger*

create_view(*callback*, *method*, *request=None*)
Create a view instance from a view callback as registered in urlpatterns.

Parameters

- **callback** – view callback registered in urlpatterns
- **method** (*str*) – HTTP method
- **request** (*rest_framework.request.Request or None*) – request to bind to the view

Returns the view instance

coerce_path(*path*, *view*)
Coerce {pk} path arguments into the name of the model field, where possible. This is cleaner for an external representation (i.e. "this is an identifier", not "this is a database primary key").

Parameters

- **path** (*str*) – the path
- **view** (*rest_framework.views.APIView*) – associated view

Return type str

get_endpoints(*request*)
Iterate over all the registered endpoints in the API and return a fake view with the right parameters.

Parameters **request** (*rest_framework.request.Request or None*) – request to bind to the endpoint views

Returns {path: (view_class, list[(http_method, view_instance)])

Return type dict[str,(type,list[(str,rest_framework.views.APIView)])]

get_operation_keys(*subpath*, *method*, *view*)
Return a list of keys that should be used to group an operation within the specification.

```
/users/                   ("users", "list"), ("users", "create")
/users/{pk}/              ("users", "read"), ("users", "update"), ("users",
↪"delete")
/users/enabled/           ("users", "enabled")  # custom viewset list action
/users/{pk}/star/         ("users", "star")     # custom viewset detail␣
↪action
/users/{pk}/groups/       ("users", "groups", "list"), ("users", "groups",
↪"create")
/users/{pk}/groups/{pk}/  ("users", "groups", "read"), ("users", "groups",
↪"update")
```

Parameters

- **subpath** (*str*) – path to the operation with any common prefix/base path removed
- **method** (*str*) – HTTP method
- **view** – the view associated with the operation

Return type list[str]

determine_path_prefix(*paths*)
Given a list of all paths, return the common prefix which should be discounted when generating a schema structure.

This will be the longest common string that does not include that last component of the URL, or the last component before a path parameter.

For example:

```
/api/v1/users/
/api/v1/users/{pk}/
```

The path prefix is `/api/v1/`.

Parameters **paths** (*list[str]*) – list of paths

Return type str

should_include_endpoint(*path*, *method*, *view*, *public*)
Check if a given endpoint should be included in the resulting schema.

Parameters

- **path** (*str*) – request path
- **method** (*str*) – http request method
- **view** – instantiated view callback
- **public** (*bool*) – if True, all endpoints are included regardless of access through *request*

Returns true if the view should be excluded

Return type bool

get_paths_object(*paths*)
Construct the Swagger Paths object.

Parameters **paths** (*OrderedDict[str,openapi.PathItem]*) – mapping of paths to *PathItem* objects

Returns the *Paths* object

Return type *openapi.Paths*

get_paths(*endpoints*, *components*, *request*, *public*)
Generate the Swagger Paths for the API from the given endpoints.

Parameters

- **endpoints** (*dict*) – endpoints as returned by get_endpoints
- **components** (*ReferenceResolver*) – resolver/container for Swagger References
- **request** (*Request*) – the request made against the schema view; can be None
- **public** (*bool*) – if True, all endpoints are included regardless of access through *request*

Returns the *Paths* object and the longest common path prefix, as a 2-tuple

Return type tuple[*openapi.Paths*,str]

get_operation(*view*, *path*, *prefix*, *method*, *components*, *request*)
Get an *Operation* for the given API endpoint (path, method). This method delegates to *get_operation()* of a *ViewInspector* determined according to settings and *@swagger_auto_schema* overrides.

Parameters

- **view** – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **prefix** (*str*) – common path prefix among all endpoints
- **method** (*str*) – the http method of the operation
- **components** (openapi.ReferenceResolver) – referenceable components
- **request** (*Request*) – the request made against the schema view; can be None

Return type *openapi.Operation*

get_path_item(*path*, *view_cls*, *operations*)
Get a *PathItem* object that describes the parameters and operations related to a single path in the API.

Parameters

- **path** (*str*) – the path
- **view_cls** (*type*) – the view that was bound to this path in urlpatterns
- **operations** (*dict[str,*openapi.Operation*]*) – operations defined on this path, keyed by lowercase HTTP method

Return type *openapi.PathItem*

get_overrides(*view*, *method*)
Get overrides specified for a given operation.

Parameters

- **view** – the view associated with the operation
- **method** (*str*) – HTTP method

Returns a dictionary containing any overrides set by *@swagger_auto_schema*

Return type dict

get_path_parameters(*path*, *view_cls*)
Return a list of Parameter instances corresponding to any templated path variables.

Parameters

- **path** (*str*) – templated request path
- **view_cls** (*type*) – the view class associated with the path

Returns path parameters

Return type list[*openapi.Parameter*]

11.1.4 drf_yasg.inspectors

drf_yasg.inspectors.**NotHandled = <object object>**
The most base type

class drf_yasg.inspectors.**BaseInspector**(*view*, *path*, *method*, *components*, *request*)

Bases: object

Parameters

- **view** (*rest_framework.views.APIView*) – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **method** (*str*) – the http method of the operation
- **components** (openapi.ReferenceResolver) – referenceable components
- **request** (*rest_framework.request.Request*) – the request made against the schema view; can be None

get_parser_classes()

Get the parser classes of this view by calling *get_parsers*.

Returns parser classes

Return type list[type[rest_framework.parsers.BaseParser]]

get_renderer_classes()

Get the renderer classes of this view by calling *get_renderers*.

Returns renderer classes

Return type list[type[rest_framework.renderers.BaseRenderer]]

probe_inspectors(*inspectors*, *method_name*, *obj*, *initkwargs=None*, ***kwargs*)

Probe a list of inspectors with a given object. The first inspector in the list to return a value that is not *NotHandled* wins.

Parameters

- **inspectors** (*list[type[BaseInspector]]*) – list of inspectors to probe
- **method_name** (*str*) – name of the target method on the inspector
- **obj** – first argument to inspector method
- **initkwargs** (*dict*) – extra kwargs for instantiating inspector class
- **kwargs** – additional arguments to inspector method

Returns the return value of the winning inspector, or None if no inspector handled the object

process_result(*result*, *method_name*, *obj*, ***kwargs*)

After an inspector handles an object (i.e. returns a value other than *NotHandled*), all inspectors that were probed get the chance to alter the result, in reverse order. The inspector that handled the object is the first to receive a process_result call with the object it just returned.

This behaviour is similar to the Django request/response middleware processing.

If this inspector has no post-processing to do, it should just return result (the default implementation).

Parameters

- **result** – the return value of the winning inspector, or None if no inspector handled the object
- **method_name** (*str*) – name of the method that was called on the inspector
- **obj** – first argument passed to inspector method
- **kwargs** – additional arguments passed to inspector method

Returns

class drf_yasg.inspectors.**FilterInspector**(*view*, *path*, *method*, *components*, *request*)
Bases: *drf_yasg.inspectors.BaseInspector*

Base inspector for filter backends.

Responsible for determining extra query parameters added by given filter backends.

Parameters

- **view** (*rest_framework.views.APIView*) – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **method** (*str*) – the http method of the operation
- **components** (openapi.ReferenceResolver) – referenceable components
- **request** (*rest_framework.request.Request*) – the request made against the schema view; can be None

get_filter_parameters(*filter_backend*)
Get the filter parameters for a single filter backend **instance**.

Should return *NotHandled* if this inspector does not know how to handle the given *filter_backend*.

Parameters **filter_backend** (*BaseFilterBackend*) – the filter backend

Return type list[*openapi.Parameter*]

class drf_yasg.inspectors.**PaginatorInspector**(*view*, *path*, *method*, *components*, *request*)
Bases: *drf_yasg.inspectors.BaseInspector*

Base inspector for paginators.

Responisble for determining extra query parameters and response structure added by given paginators.

Parameters

- **view** (*rest_framework.views.APIView*) – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **method** (*str*) – the http method of the operation
- **components** (openapi.ReferenceResolver) – referenceable components
- **request** (*rest_framework.request.Request*) – the request made against the schema view; can be None

get_paginated_response(*paginator*, *response_schema*)
Add appropriate paging fields to a response *Schema*.

Should return *NotHandled* if this inspector does not know how to handle the given *paginator*.

Parameters

- **paginator** (*BasePagination*) – the paginator
- **response_schema** (openapi.Schema) – the response schema that must be paged.

Return type *openapi.Schema*

get_paginator_parameters(*paginator*)
Get the pagination parameters for a single paginator **instance**.

Should return *NotHandled* if this inspector does not know how to handle the given *paginator*.

Parameters **paginator** (*BasePagination*) – the paginator

Return type list[*openapi.Parameter*]

class drf_yasg.inspectors.**FieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.BaseInspector*

Base inspector for serializers and serializer fields.

_get_partial_types(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Helper method to extract generic information from a field and return a partial constructor for the appropriate openapi object.

All arguments are the same as *field_to_swagger_object()*.

The return value is a tuple consisting of:

- a function for constructing objects of *swagger_object_type*; its prototype is:

```
def SwaggerType(existing_object=None, **instance_kwargs):
```

  This function creates an instance of *swagger_object_type*, passing the following attributes to its init, in order of precedence:

  - arguments specified by the `kwargs` parameter of *_get_partial_types()*
  - `instance_kwargs` passed to the constructor function
  - `title`, `description`, `required`, `x-nullable` and `default` inferred from the field, where appropriate

  If `existing_object` is not `None`, it is updated instead of creating a new object.

- a type that should be used for child objects if *field* is of an array type. This can currently have two values:

  - *Schema* if *swagger_object_type* is *Schema*
  - *Items* if *swagger_object_type* is *Parameter* or *Items*

Return type (function,type[*openapi.Schema*] or type[*openapi.Items*])

add_manual_fields(*serializer_or_field*, *schema*)

Set fields from the `swagger_schem_fields` attribute on the Meta class. This method is called only for serializers or fields that are converted into `openapi.Schema` objects.

Parameters

- **serializer_or_field** – serializer or field instance
- **schema** (`openapi.Schema`) – the schema object to be modified in-place

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items

- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

probe_field_inspectors(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Helper method for recursively probing *field_inspectors* to handle a given field.

All arguments are the same as *field_to_swagger_object()*.

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**SerializerInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)
Bases: *drf_yasg.inspectors.FieldInspector*

get_request_parameters(*serializer*, *in_*)
Convert a DRF serializer into a list of *Parameter*s.

Should return *NotHandled* if this inspector does not know how to handle the given *serializer*.

Parameters

- **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance
- **in** (*str*) – the location of the parameters, one of the *openapi.IN_** constants

Return type list[*openapi.Parameter*]

get_schema(*serializer*)
Convert a DRF Serializer instance to an *openapi.Schema*.

Should return *NotHandled* if this inspector does not know how to handle the given *serializer*.

Parameters **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance

Return type *openapi.Schema*

class drf_yasg.inspectors.**ViewInspector**(*view*, *path*, *method*, *components*, *request*, *overrides*)
Bases: *drf_yasg.inspectors.BaseInspector*

Inspector class responsible for providing *Operation* definitions given a view, path and method.

Parameters **overrides** (*dict*) – manual overrides as passed to *@swagger_auto_schema*

_prepend_inspector_overrides(*inspectors*)

body_methods = ('PUT', 'PATCH', 'POST', 'DELETE')

field_inspectors = [<class 'drf_yasg.inspectors.field.CamelCaseJSONFilter'>, <class 'd

filter_inspectors = [<class 'drf_yasg.inspectors.query.CoreAPICompatInspector'>]

get_filter_parameters()
Return the parameters added to the view by its filter backends.

Return type list[*openapi.Parameter*]

get_operation(*operation_keys*)
Get an *Operation* for the given API endpoint (path, method). This includes query, body parameters and response schemas.

Parameters **operation_keys** (*tuple[str]*) – an array of keys describing the hierarchical layout of this view in the API; e.g. `('snippets', 'list')`, `('snippets', 'retrieve')`, etc.

Return type *openapi.Operation*

get_paginated_response(*response_schema*)
Add appropriate paging fields to a response *Schema*.

Parameters **response_schema** (`openapi.Schema`) – the response schema that must be paged.

Returns the paginated response class:.*Schema*, or `None` in case of an unknown pagination scheme

Return type *openapi.Schema*

get_pagination_parameters()
Return the parameters added to the view by its paginator.

Return type list[*openapi.Parameter*]

has_list_response()
Determine whether this view returns multiple objects. By default this is any non-detail view (see *is_list_view()*) whose request method is one of *implicit_list_response_methods*.

Return type bool

implicit_body_methods = ('PUT', 'PATCH', 'POST')

implicit_list_response_methods = ('GET',)

is_list_view()
Determine whether this view is a list or a detail view. The difference between the two is that detail views depend on a pk/id path parameter. Note that a non-detail view does not necessarily imply a list reponse (*has_list_response()*), nor are list responses limited to non-detail views.

For example, one might have a */topic/<pk>/posts* endpoint which is a detail view that has a list response.

Return type bool

paginator_inspectors = [<class 'drf_yasg.inspectors.query.DjangoRestResponsePagination

serializer_to_parameters(*serializer*, *in_*)
Convert a serializer to a possibly empty list of *Parameter*s.

Parameters

- **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance
- **in** (*str*) – the location of the parameters, one of the *openapi.IN_** constants

Return type list[*openapi.Parameter*]

serializer_to_schema(*serializer*)
Convert a serializer to an OpenAPI *Schema*.

Parameters **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance

Returns the converted *Schema*, or `None` in case of an unknown serializer

Return type *openapi.Schema* or *openapi.SchemaRef*

should_filter()
Determine whether filter backend parameters should be included for this request.

Return type bool

should_page()
Determine whether paging parameters and structure should be added to this operation's request and response.

Return type bool

class drf_yasg.inspectors.**CoreAPICompatInspector**(*view*, *path*, *method*, *components*, *request*)
Bases: *drf_yasg.inspectors.PaginatorInspector*, *drf_yasg.inspectors.FilterInspector*

Converts `coreapi.Fields` to *openapi.Parameter*s for filters and paginators that implement a `get_schema_fields` method.

Parameters

- **view** (*rest_framework.views.APIView*) – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **method** (*str*) – the http method of the operation
- **components** (`openapi.ReferenceResolver`) – referenceable components
- **request** (*rest_framework.request.Request*) – the request made against the schema view; can be None

coreapi_field_to_parameter(*field*)
Convert an instance of *coreapi.Field* to a swagger *Parameter* object.

Parameters **field** (*coreapi.Field*) –

Return type *openapi.Parameter*

get_filter_parameters(*filter_backend*)
Get the filter parameters for a single filter backend **instance**.

Should return *NotHandled* if this inspector does not know how to handle the given *filter_backend*.

Parameters **filter_backend** (*BaseFilterBackend*) – the filter backend

Return type list[*openapi.Parameter*]

get_paginator_parameters(*paginator*)
Get the pagination parameters for a single paginator **instance**.

Should return *NotHandled* if this inspector does not know how to handle the given *paginator*.

Parameters **paginator** (*BasePagination*) – the paginator

Return type list[*openapi.Parameter*]

class drf_yasg.inspectors.**DjangoRestResponsePagination**(*view*, *path*, *method*, *components*, *request*)
Bases: *drf_yasg.inspectors.PaginatorInspector*

Provides response schema pagination warpping for django-rest-framework's LimitOffsetPagination, PageNumberPagination and CursorPagination

Parameters

- **view** (*rest_framework.views.APIView*) – the view associated with this endpoint
- **path** (*str*) – the path component of the operation URL
- **method** (*str*) – the http method of the operation
- **components** (openapi.ReferenceResolver) – referenceable components
- **request** (*rest_framework.request.Request*) – the request made against the schema view; can be None

get_paginated_response(*paginator*, *response_schema*)

Add appropriate paging fields to a response *Schema*.

Should return *NotHandled* if this inspector does not know how to handle the given *paginator*.

Parameters

- **paginator** (*BasePagination*) – the paginator
- **response_schema** (openapi.Schema) – the response schema that must be paged.

Return type *openapi.Schema*

class drf_yasg.inspectors.**InlineSerializerInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.SerializerInspector*

Provides serializer conversions using *FieldInspector.field_to_swagger_object()*.

_has_ref_name(*serializer*)

add_manual_parameters(*serializer*, *parameters*)

Add/replace parameters from the given list of automatically generated request parameters. This method is called only when the serializer is converted into a list of parameters for use in a form data request.

Parameters

- **serializer** – serializer instance
- **parameters** (*list[openapi.Parameter]*) – genereated parameters

Returns modified parameters

Return type list[*openapi.Parameter*]

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, name and in_ should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

get_parameter_name(*field_name*)

get_property_name(*field_name*)

get_request_parameters(*serializer*, *in_*)
Convert a DRF serializer into a list of `Parameter`s.

Should return `NotHandled` if this inspector does not know how to handle the given *serializer*.

Parameters

- **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance
- **in** (*str*) – the location of the parameters, one of the *openapi.IN_** constants

Return type list[*openapi.Parameter*]

get_schema(*serializer*)
Convert a DRF Serializer instance to an `openapi.Schema`.

Should return `NotHandled` if this inspector does not know how to handle the given *serializer*.

Parameters **serializer** (*serializers.BaseSerializer*) – the `Serializer` instance

Return type *openapi.Schema*

get_serializer_ref_name(*serializer*)

use_definitions = False

class drf_yasg.inspectors.**RecursiveFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversion for RecursiveField (https://github.com/heywbj/django-rest-framework-recursive)

class drf_yasg.inspectors.**ReferencingSerializerInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.InlineSerializerInspector*

use_definitions = True

class drf_yasg.inspectors.**RelatedFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversions for `RelatedFields`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Convert a drf Serializer or Field instance into a Swagger object.

Should return `NotHandled` if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items

- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**SimpleFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversions for fields which can be described using just `type`, `format`, `pattern` and min/max validators.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**FileFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversions for `FileFields`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**ChoiceFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversions for `ChoiceField` and `MultipleChoiceField`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**DictFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversion for `DictField`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)

Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**JSONFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)

Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversion for `JSONField`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**StringDefaultFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)
Bases: *drf_yasg.inspectors.FieldInspector*

For otherwise unhandled fields, return them as plain *TYPE_STRING* objects.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**CamelCaseJSONFilter**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)
Bases: *drf_yasg.inspectors.FieldInspector*

Converts property names to camelCase if `djangorestframework_camel_case` is used.

camelize_schema(*schema*)
Recursively camelize property names for the given schema using `djangorestframework_camel_case`. The target schema object must be modified in-place.

Parameters **schema** (*openapi.Schema*) – the *Schema* object

camelize_string(*s*)
Hack to force `djangorestframework_camel_case` to camelize a plain string.

Parameters **s** (*str*) – the string

Returns camelized string

Return type str

is_camel_case()

process_result(*result*, *method_name*, *obj*, ***kwargs*)
After an inspector handles an object (i.e. returns a value other than *NotHandled*), all inspectors that were probed get the chance to alter the result, in reverse order. The inspector that handled the object is the first to receive a `process_result` call with the object it just returned.

This behaviour is similar to the Django request/response middleware processing.

If this inspector has no post-processing to do, it should just `return result` (the default implementation).

Parameters

- **result** – the return value of the winning inspector, or `None` if no inspector handled the object
- **method_name** (*str*) – name of the method that was called on the inspector
- **obj** – first argument passed to inspector method
- **kwargs** – additional arguments passed to inspector method

Returns

class drf_yasg.inspectors.**HiddenFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)
Bases: *drf_yasg.inspectors.FieldInspector*

Hide `HiddenField`.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**SerializerMethodFieldInspector**(*view*, *path*, *method*, *components*, *request*, *field_inspectors*)
Bases: *drf_yasg.inspectors.FieldInspector*

Provides conversion for SerializerMethodField, optionally using information from the swagger_serializer_method decorator.

field_to_swagger_object(*field*, *swagger_object_type*, *use_references*, ***kwargs*)
Convert a drf Serializer or Field instance into a Swagger object.

Should return *NotHandled* if this inspector does not know how to handle the given *field*.

Parameters

- **field** (*rest_framework.serializers.Field*) – the source field
- **swagger_object_type** (*type[openapi.SwaggerDict]*) – should be one of Schema, Parameter, Items
- **use_references** (*bool*) – if False, forces all objects to be declared inline instead of by referencing other components
- **kwargs** – extra attributes for constructing the object; if swagger_object_type is Parameter, `name` and `in_` should be provided

Returns the swagger object

Return type *openapi.Parameter* or *openapi.Items* or *openapi.Schema* or *openapi.SchemaRef*

class drf_yasg.inspectors.**SwaggerAutoSchema**(*view*, *path*, *method*, *components*, *request*, *overrides*, *operation_keys=None*)
Bases: *drf_yasg.inspectors.ViewInspector*

_get_request_body_override()
Parse the request_body key in the override dict. This method is not public API.

add_manual_parameters(*parameters*)
Add/replace parameters from the given list of automatically generated request parameters.

Parameters **parameters** (*list[openapi.Parameter]*) – genereated parameters

Returns modified parameters

Return type list[*openapi.Parameter*]

get_consumes()
Return the MIME types this endpoint can consume.

Return type list[str]

get_default_response_serializer()
Return the default response serializer for this endpoint. This is derived from either the `request_body` override or the request serializer (*get_view_serializer()*).

Returns response serializer, *Schema*, *SchemaRef*, `None`

get_default_responses()
Get the default responses determined for this view from the request serializer and request method.

Type dict[str, *openapi.Schema*]

get_operation(*operation_keys=None*)
Get an *Operation* for the given API endpoint (path, method). This includes query, body parameters and response schemas.

Parameters **operation_keys** (*tuple[str]*) – an array of keys describing the hierarchical layout of this view in the API; e.g. `('snippets', 'list')`, `('snippets', 'retrieve')`, etc.

Return type *openapi.Operation*

get_operation_id(*operation_keys=None*)
Return an unique ID for this operation. The ID must be unique across all *Operation* objects in the API.

Parameters **operation_keys** (*tuple[str]*) – an array of keys derived from the pathdescribing the hierarchical layout of this view in the API; e.g. `('snippets', 'list')`, `('snippets', 'retrieve')`, etc.

Return type str

get_produces()
Return the MIME types this endpoint can produce.

Return type list[str]

get_query_parameters()
Return the query parameters accepted by this view.

Return type list[*openapi.Parameter*]

get_query_serializer()
Return the query serializer (used for parsing query parameters) for this endpoint.

Returns the query serializer, or `None`

get_request_body_parameters(*consumes*)
Return the request body parameters for this view. This is either:

- a list with a single object Parameter with a *Schema* derived from the request serializer
- a list of primitive Parameters parsed as form data

Parameters **consumes** (*list[str]*) – a list of accepted MIME types as returned by *get_consumes()*

Returns a (potentially empty) list of *Parameter*s either `in: body` or `in: formData`

Return type list[*openapi.Parameter*]

get_request_body_schema(*serializer*)
Return the *Schema* for a given request's body data. Only applies to PUT, PATCH and POST requests.

Parameters **serializer** – the view's request serializer as returned by *get_request_serializer()*

Return type *openapi.Schema*

get_request_form_parameters(*serializer*)
Given a Serializer, return a list of `in: formData` *Parameter*s.

Parameters **serializer** – the view's request serializer as returned by *get_request_serializer()*

Return type list[*openapi.Parameter*]

get_request_serializer()
Return the request serializer (used for parsing the request payload) for this endpoint.

Returns the request serializer, or one of *Schema*, *SchemaRef*, `None`

Return type rest_framework.serializers.Serializer

get_response_schemas(*response_serializers*)
Return the *openapi.Response* objects calculated for this view.

Parameters **response_serializers** (*dict*) – response serializers as returned by *get_response_serializers()*

Returns a dictionary of status code to *Response* object

Return type dict[str, *openapi.Response*]

get_response_serializers()
Return the response codes that this view is expected to return, and the serializer for each response body. The return value should be a dict where the keys are possible status codes, and values are either strings, `Serializers`, *Schema*, *SchemaRef* or *Response* objects. See *@swagger_auto_schema* for more details.

Returns the response serializers

Return type dict

get_responses()
Get the possible responses for this view as a swagger *Responses* object.

Returns the documented responses

Return type *openapi.Responses*

get_security()
Return a list of security requirements for this operation.

Returning an empty list marks the endpoint as unauthenticated (i.e. removes all accepted authentication schemes). Returning `None` will inherit the top-level secuirty requirements.

Returns security requirements

Return type list[dict[str,list[str]]]

get_summary_and_description()
Return an operation summary and description determined from the view's docstring.

Returns summary and description

Return type (str,str)

get_tags(*operation_keys=None*)
Get a list of tags for this operation. Tags determine how operations relate with each other, and in the UI each tag will show as a group containing the operations that use it. If not provided in overrides, tags will be inferred from the operation url.

Parameters **operation_keys** (*tuple[str]*) – an array of keys derived from the pathdescribing the hierarchical layout of this view in the API; e.g. `('snippets', 'list')`, `('snippets', 'retrieve')`, etc.

Return type list[str]

get_view_serializer()
Return the serializer as defined by the view's `get_serializer()` method.

Returns the view's `Serializer`

Return type rest_framework.serializers.Serializer

is_deprecated()
Return `True` if this operation is to be marked as deprecated.

Returns deprecation status

Return type bool

make_body_parameter(*schema*)
Given a *Schema* object, create an `in: body` *Parameter*.

Parameters **schema** (openapi.Schema) – the request body schema

Return type *openapi.Parameter*

split_summary_from_description(*description*)
Decide if and how to split a summary out of the given description. The default implementation uses the first paragraph of the description as a summary if it is less than 120 characters long.

Parameters **description** – the full description to be analyzed

Returns summary and description

Return type (str,str)

11.1.5 drf_yasg.middleware

class drf_yasg.middleware.**SwaggerExceptionMiddleware**(*get_response*)
Bases: object

process_exception(*request*, *exception*)

11.1.6 drf_yasg.openapi

drf_yasg.openapi.**TYPE_OBJECT = 'object'**

drf_yasg.openapi.**TYPE_STRING = 'string'**

drf_yasg.openapi.**TYPE_NUMBER = 'number'**

drf_yasg.openapi.**TYPE_INTEGER = 'integer'**

drf_yasg.openapi.**TYPE_BOOLEAN = 'boolean'**

drf_yasg.openapi.**TYPE_ARRAY = 'array'**

drf_yasg.openapi.**TYPE_FILE = 'file'**

drf_yasg.openapi.**FORMAT_DATE = 'date'**

drf_yasg.openapi.**FORMAT_DATETIME = 'date-time'**

drf_yasg.openapi.**FORMAT_PASSWORD = 'password'**

drf_yasg.openapi.**FORMAT_BINARY = 'binary'**

drf_yasg.openapi.**FORMAT_BASE64 = 'bytes'**

drf_yasg.openapi.**FORMAT_FLOAT = 'float'**

drf_yasg.openapi.**FORMAT_DOUBLE = 'double'**

drf_yasg.openapi.**FORMAT_INT32 = 'int32'**

drf_yasg.openapi.**FORMAT_INT64 = 'int64'**

drf_yasg.openapi.**FORMAT_EMAIL = 'email'**

drf_yasg.openapi.**FORMAT_IPV4 = 'ipv4'**

drf_yasg.openapi.**FORMAT_IPV6 = 'ipv6'**

drf_yasg.openapi.**FORMAT_URI = 'uri'**

drf_yasg.openapi.**FORMAT_UUID = 'uuid'**

drf_yasg.openapi.**FORMAT_SLUG = 'slug'**

drf_yasg.openapi.**IN_BODY = 'body'**

drf_yasg.openapi.**IN_PATH = 'path'**

drf_yasg.openapi.**IN_QUERY = 'query'**

drf_yasg.openapi.**IN_FORM = 'formData'**

drf_yasg.openapi.**IN_HEADER = 'header'**

drf_yasg.openapi.**SCHEMA_DEFINITIONS = 'definitions'**

drf_yasg.openapi.**make_swagger_name**(*attribute_name*)

Convert a python variable name into a Swagger spec attribute name.

In particular,

- if name starts with `x_`, return `x-{camelCase}`
- if name is `ref`, return `$ref`
- else return the name converted to camelCase, with trailing underscores stripped

Parameters **attribute_name** (*str*) – python attribute name

Returns swagger name

class drf_yasg.openapi.**SwaggerDict**(***attrs*)

Bases: `collections.OrderedDict`

A particular type of OrderedDict, which maps all attribute accesses to dict lookups using *make_swagger_name()*. Attribute names starting with _ are set on the object as-is and are not included in the specification output.

Used as a base class for all Swagger helper models.

_insert_extras__()

From an ordering perspective, it is desired that extra attributes such as vendor extensions stay at the bottom of the object. However, python2.7's OrderdDict craps out if you try to insert into it before calling init. This means that subclasses must call super().__init__ as the first statement of their own __init__, which would result in the extra attributes being added first. For this reason, we defer the insertion of the attributes and require that subclasses call ._insert_extras__ at the end of their __init__ method.

static _as_odict(*obj*, *memo*)

Implementation detail of *as_odict()*

as_odict()

Convert this object into an `OrderedDict` instance.

Return type OrderedDict

class drf_yasg.openapi.**Contact**(*name=None*, *url=None*, *email=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Swagger Contact object

At least one of the following fields is required:

Parameters

- **name** (*str*) – contact name
- **url** (*str*) – contact url

- **email** (*str*) – contact e-mail

class drf_yasg.openapi.**License**(*name*, *url=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Swagger License object

Parameters

- **name** (*str*) – Required. License name
- **url** (*str*) – link to detailed license information

class drf_yasg.openapi.**Info**(*title*, *default_version*, *description=None*, *terms_of_service=None*, *contact=None*, *license=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Swagger Info object

Parameters

- **title** (*str*) – Required. API title.
- **default_version** (*str*) – Required. API version string (not to be confused with Swagger spec version)
- **description** (*str*) – API description; markdown supported
- **terms_of_service** (*str*) – API terms of service; should be a URL
- **contact** (Contact) – contact object
- **license** (License) – license object

class drf_yasg.openapi.**Swagger**(*info=None*, *_url=None*, *_prefix=None*, *_version=None*, *consumes=None*, *produces=None*, *security_definitions=None*, *security=None*, *paths=None*, *definitions=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Root Swagger object.

Parameters

- **info** (Info) – info object
- **_url** (*str*) – URL used for setting the API host and scheme
- **_prefix** (*str*) – api path prefix to use in setting basePath; this will be appended to the wsgi SCRIPT_NAME prefix or Django's FORCE_SCRIPT_NAME if applicable
- **_version** (*str*) – version string to override Info
- **security_definitions** (*dict[str,dict]*) – list of supported authentication mechanisms
- **security** (*list[dict[str,list[str]]]*) – authentication mechanisms accepted globally
- **consumes** (*list[str]*) – consumed MIME types; can be overriden in Operation
- **produces** (*list[str]*) – produced MIME types; can be overriden in Operation
- **paths** (Paths) – paths object
- **definitions** (*dict[str,*Schema*]*) – named models

classmethod get_base_path(*script_prefix*, *api_prefix*)

Determine an appropriate value for basePath based on the SCRIPT_NAME and the api common prefix.

Parameters

- **script_prefix** (*str*) – script prefix as defined by django `get_script_prefix`
- **api_prefix** (*str*) – api common prefix

Returns joined base path

class drf_yasg.openapi.**Paths**(*paths*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

A listing of all the paths in the API.

Parameters **paths** (*dict[str,PathItem]*) –

class drf_yasg.openapi.**PathItem**(*get=None*, *put=None*, *post=None*, *delete=None*, *options=None*, *head=None*, *patch=None*, *parameters=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Information about a single path

Parameters

- **get** (Operation) – operation for GET
- **put** (Operation) – operation for PUT
- **post** (Operation) – operation for POST
- **delete** (Operation) – operation for DELETE
- **options** (Operation) – operation for OPTIONS
- **head** (Operation) – operation for HEAD
- **patch** (Operation) – operation for PATCH
- **parameters** (*list[Parameter]*) – parameters that apply to all operations

OPERATION_NAMES = ['get', 'put', 'post', 'delete', 'options', 'head', 'patch']

operations

A list of all standard Operations on this PathItem object. See *OPERATION_NAMES*.

Returns list of (method name, Operation) tuples

Return type list[tuple[str,*Operation*]]

class drf_yasg.openapi.**Operation**(*operation_id*, *responses*, *parameters=None*, *consumes=None*, *produces=None*, *summary=None*, *description=None*, *tags=None*, *security=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Information about an API operation (path + http method combination)

Parameters

- **operation_id** (*str*) – operation ID, should be unique across all operations
- **responses** (Responses) – responses returned
- **parameters** (*list[Parameter]*) – parameters accepted
- **consumes** (*list[str]*) – content types accepted
- **produces** (*list[str]*) – content types produced
- **summary** (*str*) – operation summary; should be < 120 characters
- **description** (*str*) – operation description; can be of any length and supports markdown

- **tags** (*list[str]*) – operation tags
- **security** (*list[dict[str,list[str]]]*) – list of security requirements

drf_yasg.openapi.**_check_type**(*type*, *format*, *enum*, *pattern*, *items*, *_obj_type*)

class drf_yasg.openapi.**Items**(*type=None*, *format=None*, *enum=None*, *pattern=None*, *items=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Used when defining an array *Parameter* to describe the array elements.

Parameters

- **type** (*str*) – type of the array elements; must not be `object`
- **format** (*str*) – value format, see OpenAPI spec
- **enum** (*list*) – restrict possible values
- **pattern** (*str*) – pattern if type is `string`
- **items** (Items) – only valid if *type* is `array`

class drf_yasg.openapi.**Parameter**(*name*, *in_*, *description=None*, *required=None*, *schema=None*, *type=None*, *format=None*, *enum=None*, *pattern=None*, *items=None*, *default=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Describe parameters accepted by an *Operation*. Each parameter should be a unique combination of (*name*, *in_*). `body` and `form` parameters in the same operation are mutually exclusive.

Parameters

- **name** (*str*) – parameter name
- **in** (*str*) – parameter location
- **description** (*str*) – parameter description
- **required** (*bool*) – whether the parameter is required for the operation
- **schema** (Schema *or* SchemaRef) – required if *in_* is `body`
- **type** (*str*) – parameter type; required if *in_* is not `body`; must not be `object`
- **format** (*str*) – value format, see OpenAPI spec
- **enum** (*list*) – restrict possible values
- **pattern** (*str*) – pattern if type is `string`
- **items** (Items) – only valid if *type* is `array`
- **default** – default value if the parameter is not provided; must conform to parameter type

class drf_yasg.openapi.**Schema**(*title=None*, *description=None*, *type=None*, *format=None*, *enum=None*, *pattern=None*, *properties=None*, *additional_properties=None*, *required=None*, *items=None*, *default=None*, *read_only=None*, ***extra*)

Bases: *drf_yasg.openapi.SwaggerDict*

Describes a complex object accepted as parameter or returned as a response.

Parameters

- **title** (*str*) – schema title
- **description** (*str*) – schema description

- **type** (*str*) – value type; required
- **format** (*str*) – value format, see OpenAPI spec
- **enum** (*list*) – restrict possible values
- **pattern** (*str*) – pattern if type is `string`
- **properties** (*dict[str,Schema or SchemaRef]*) – object properties; required if *type* is `object`
- **additional_properties** (*bool or Schema or SchemaRef*) – allow wildcard properties not listed in *properties*
- **required** (*list[str]*) – list of requried property names
- **items** (*Schema or SchemaRef*) – type of array items, only valid if *type* is `array`
- **default** – only valid when insider another `Schema`'s `properties`; the default value of this property if it is not provided, must conform to the type of this Schema
- **read_only** – only valid when insider another `Schema`'s `properties`; declares the property as read only - it must only be sent as part of responses, never in requests

OR_REF = (<class 'drf_yasg.openapi.Schema'>, <class 'drf_yasg.openapi.SchemaRef'>)
useful for type-checking, e.g `isinstance(obj, openapi.Schema.OR_REF)`

_remove_read_only()

class drf_yasg.openapi.**_Ref**(*resolver*, *name*, *scope*, *expected_type*, *ignore_unresolved=False*)
Bases: *drf_yasg.openapi.SwaggerDict*

Base class for all reference types. A reference object has only one property, `$ref`, which must be a JSON reference to a valid object in the specification, e.g. `#/definitions/Article` to refer to an article model.

Parameters

- **resolver** (ReferenceResolver) – component resolver which must contain the referneced object
- **name** (*str*) – referenced object name, e.g. "Article"
- **scope** (*str*) – reference scope, e.g. "definitions"
- **expected_type** (*type[SwaggerDict]*) – the expected type that will be asserted on the object found in resolver
- **ignore_unresolved** (*bool*) – do not throw if the referenced object does not exist

ref_name_re = re.compile('#/(?P<scope>.+)/(?P<name>[^/]+)$')

resolve(*resolver*)
Get the object targeted by this reference from the given component resolver.

Parameters **resolver** (ReferenceResolver) – component resolver which must contain the referneced object

Returns the target object

class drf_yasg.openapi.**SchemaRef**(*resolver*, *schema_name*, *ignore_unresolved=False*)
Bases: *drf_yasg.openapi._Ref*

Adds a reference to a named Schema defined in the `#/definitions/` object.

Parameters

- **resolver** (ReferenceResolver) – component resolver which must contain the definition
- **schema_name** (*str*) – schema name

- **ignore_unresolved** (*bool*) – do not throw if the referenced object does not exist

drf_yasg.openapi.**resolve_ref**(*ref_or_obj*, *resolver*)
Resolve *ref_or_obj* if it is a reference type. Return it unchaged if not.

Parameters

- **ref_or_obj** (*SwaggerDict or _Ref*) – object to derefernece
- **resolver** – component resolver which must contain the referenced object

class drf_yasg.openapi.**Responses**(*responses*, *default=None*, ***extra*)
Bases: *drf_yasg.openapi.SwaggerDict*

Describes the expected responses of an *Operation*.

Parameters

- **responses** (*dict[str or int,Response]*) – mapping of status code to response definition
- **default** (*Response*) – description of the response structure to expect if another status code is returned

class drf_yasg.openapi.**Response**(*description*, *schema=None*, *examples=None*, ***extra*)
Bases: *drf_yasg.openapi.SwaggerDict*

Describes the structure of an operation's response.

Parameters

- **description** (*str*) – response description
- **schema** (*Schema or SchemaRef or rest_framework.serializers.Serializer or type[rest_framework.serializers.Serializer]*) – sturcture of the response body
- **examples** (*dict*) – example bodies mapped by mime type

class drf_yasg.openapi.**ReferenceResolver**(**scopes*, ***kwargs*)
Bases: object

A mapping type intended for storing objects pointed at by Swagger Refs. Provides support and checks for different refernce scopes, e.g. 'definitions'.

For example:

```
> components = ReferenceResolver('definitions', 'parameters')
> definitions = components.with_scope('definitions')
> definitions.set('Article', Schema(...))
> print(components)
{'definitions': OrderedDict([('Article', Schema(...)]), 'parameters':␣
↪OrderedDict()}
```

Parameters **scopes** (*str*) – an enumeration of the valid scopes this resolver will contain

with_scope(*scope*)
Return a view into this *ReferenceResolver* whose scope is defaulted and forced to *scope*.

Parameters **scope** (*str*) – target scope, must be in this resolver's *scopes*

Returns the bound resolver

Return type *ReferenceResolver*

_check_scope(*scope*)

set(*name*, *obj*, *scope=None*)
Set an object in the given scope, raise an error if it already exists.

Parameters

- **name** (*str*) – reference name
- **obj** – referenced object
- **scope** (*str*) – reference scope

setdefault(*name*, *maker*, *scope=None*)
Set an object in the given scope only if it does not exist.

Parameters

- **name** (*str*) – reference name
- **maker** (*function*) – object factory, called only if necessary
- **scope** (*str*) – reference scope

get(*name*, *scope=None*)
Get an object from the given scope, raise an error if it does not exist.

Parameters

- **name** (*str*) – reference name
- **scope** (*str*) – reference scope

Returns the object

getdefault(*name*, *default=None*, *scope=None*)
Get an object from the given scope or a default value if it does not exist.

Parameters

- **name** (*str*) – reference name
- **default** – the default value
- **scope** (*str*) – reference scope

Returns the object or *default*

has(*name*, *scope=None*)
Check if an object exists in the given scope.

Parameters

- **name** (*str*) – reference name
- **scope** (*str*) – reference scope

Returns True if the object exists

Return type bool

scopes

keys()

11.1.7 drf_yasg.renderers

class drf_yasg.renderers.**_SpecRenderer**
Bases: rest_framework.renderers.BaseRenderer

Base class for text renderers. Handles encoding and validation.

charset = 'utf-8'

validators = []

codec_class = None

classmethod with_validators(*validators*)

render(*data*, *media_type=None*, *renderer_context=None*)

class drf_yasg.renderers.**OpenAPIRenderer**
Bases: *drf_yasg.renderers._SpecRenderer*

Renders the schema as a JSON document with the `application/openapi+json` specific mime type.

media_type = 'application/openapi+json'

format = 'openapi'

codec_class
alias of *drf_yasg.codecs.OpenAPICodecJson*

class drf_yasg.renderers.**SwaggerJSONRenderer**
Bases: *drf_yasg.renderers._SpecRenderer*

Renders the schema as a JSON document with the generic `application/json` mime type.

media_type = 'application/json'

format = '.json'

codec_class
alias of *drf_yasg.codecs.OpenAPICodecJson*

class drf_yasg.renderers.**SwaggerYAMLRenderer**
Bases: *drf_yasg.renderers._SpecRenderer*

Renders the schema as a YAML document.

media_type = 'application/yaml'

format = '.yaml'

codec_class
alias of *drf_yasg.codecs.OpenAPICodecYaml*

class drf_yasg.renderers.**_UIRenderer**
Bases: rest_framework.renderers.BaseRenderer

Base class for web UI renderers. Handles loading and passing settings to the appropriate template.

media_type = 'text/html'

charset = 'utf-8'

template = ''

render(*swagger*, *accepted_media_type=None*, *renderer_context=None*)

set_context(*renderer_context*, *swagger=None*)

resolve_url(*to*)

get_auth_urls()

get_oauth2_config()

class drf_yasg.renderers.**SwaggerUIRenderer**
Bases: *drf_yasg.renderers._UIRenderer*

Renders a swagger-ui web interface for schema browisng.

template = 'drf-yasg/swagger-ui.html'

format = 'swagger'

set_context(*renderer_context*, *swagger=None*)

get_swagger_ui_settings()

class drf_yasg.renderers.**ReDocRenderer**
Bases: *drf_yasg.renderers._UIRenderer*

Renders a ReDoc web interface for schema browisng.

template = 'drf-yasg/redoc.html'

format = 'redoc'

set_context(*renderer_context*, *swagger=None*)

get_redoc_settings()

class drf_yasg.renderers.**ReDocOldRenderer**
Bases: *drf_yasg.renderers.ReDocRenderer*

Renders a ReDoc 1.x.x web interface for schema browisng.

template = 'drf-yasg/redoc-old.html'

11.1.8 drf_yasg.utils

class drf_yasg.utils.**no_body**
Bases: object

Used as a sentinel value to forcibly remove the body of a request via *swagger_auto_schema()*.

class drf_yasg.utils.**unset**
Bases: object

Used as a sentinel value for function parameters not set by the caller where None would be a valid value.

drf_yasg.utils.**swagger_auto_schema**(*method=None*, *methods=None*, *auto_schema=<class 'drf_yasg.utils.unset'>*, *request_body=None*, *query_serializer=None*, *manual_parameters=None*, *operation_id=None*, *operation_description=None*, *operation_summary=None*, *security=None*, *deprecated=None*, *responses=None*, *field_inspectors=None*, *filter_inspectors=None*, *paginator_inspectors=None*, *tags=None*, ***extra_overrides*)

Decorate a view method to customize the *Operation* object generated from it.

method and *methods* are mutually exclusive and must only be present when decorating a view method that accepts more than one HTTP request method.

The *auto_schema* and *operation_description* arguments take precendence over view- or method-level values.

Parameters

- **method** (*str*) – for multi-method views, the http method the options should apply to
- **methods** (*list[str]*) – for multi-method views, the http methods the options should apply to
- **auto_schema** (drf_yasg.inspectors.SwaggerAutoSchema) – custom class to use for generating the Operation object; this overrides both the class-level swagger_schema attribute and the DEFAULT_AUTO_SCHEMA_CLASS setting, and can be set to None to prevent this operation from being generated
- **request_body** (drf_yasg.openapi.Schema *or* drf_yasg.openapi.SchemaRef *or* *rest_framework.serializers.Serializer* *or* *type*[no_body]) – custom request body which will be used as the schema property of a *Parameter* with in: 'body'.

  A Schema or SchemaRef is not valid if this request consumes form-data, because form and body parameters are mutually exclusive in an *Operation*. If you need to set custom form parameters, you can use the *manual_parameters* argument.

  If a Serializer class or instance is given, it will be automatically converted into a *Schema* used as a body *Parameter*, or into a list of form *Parameter*s, as appropriate.
- **query_serializer** (*rest_framework.serializers.Serializer*) – if you use a Serializer to parse query parameters, you can pass it here and have *Parameter* objects be generated automatically from it.

  If any Field on the serializer cannot be represented as a query *Parameter* (e.g. nested Serializers, file fields, ...), the schema generation will fail with an error.

  Schema generation will also fail if the name of any Field on the *query_serializer* conflicts with parameters generated by filter_backends or paginator.
- **manual_parameters** (*list[*drf_yasg.openapi.Parameter*]*) – a list of manual parameters to override the automatically generated ones

  *Parameter*s are identified by their (name, in) combination, and any parameters given here will fully override automatically generated parameters if they collide.

  It is an error to supply form parameters when the request does not consume form-data.
- **operation_id** (*str*) – operation ID override; the operation ID must be unique across the whole API
- **operation_description** (*str*) – operation description override
- **operation_summary** (*str*) – operation summary string
- **security** (*list[dict]*) – security requirements override; used to specify which authetication mechanism is requried to call this API; an empty list marks the endpoint as unauthenticated (i.e. removes all accepted authentication schemes), and None will inherit the top-level secuirty requirements
- **deprecated** (*bool*) – deprecation status for operation
- **responses** (*dict[str,(*drf_yasg.openapi.Schema *or* drf_yasg.openapi.SchemaRef *or* drf_yasg.openapi.Response *or* *str* *or* *rest_framework.serializers.Serializer)]*) – a dict of documented manual responses keyed on response status code. If no success (2xx) response is given, one will automatically be generated from the request body and http method. If any 2xx response is given the automatic response is suppressed.

  - if a plain string is given as value, a *Response* with no body and that string as its description will be generated
  - if `None` is given as a value, the response is ignored; this is mainly useful for disabling default 2xx responses, i.e. `responses={200: None, 302: 'something'}`
  - if a *Schema*, *SchemaRef* is given, a *Response* with the schema as its body and an empty description will be generated
  - a `Serializer` class or instance will be converted into a *Schema* and treated as above
  - a *Response* object will be used as-is; however if its `schema` attribute is a `Serializer`, it will automatically be converted into a *Schema*

- **field_inspectors** (*list[type[*drf_yasg.inspectors.FieldInspector*]]*) – extra serializer and field inspectors; these will be tried before *ViewInspector.field_inspectors* on the *inspectors.SwaggerAutoSchema*
- **filter_inspectors** (*list[type[*drf_yasg.inspectors.FilterInspector*]]*) – extra filter inspectors; these will be tried before *ViewInspector.filter_inspectors* on the *inspectors.SwaggerAutoSchema*
- **paginator_inspectors** (*list[type[*drf_yasg.inspectors.PaginatorInspector*]]*) – extra paginator inspectors; these will be tried before *ViewInspector.paginator_inspectors* on the *inspectors.SwaggerAutoSchema*
- **tags** (*list[str]*) – tags override
- **extra_overrides** – extra values that will be saved into the `overrides` dict; these values will be available in the handling *inspectors.SwaggerAutoSchema* instance via `self.overrides`

drf_yasg.utils.**swagger_serializer_method**(*serializer_or_field*)

Decorates the method of a serializers.SerializerMethodField to hint as to how Swagger should be generated for this field.

Parameters **serializer_or_field** – `Serializer`/`Field` class or instance

Returns

drf_yasg.utils.**is_list_view**(*path*, *method*, *view*)

Check if the given path/method appears to represent a list view (as opposed to a detail/instance view).

Parameters

- **path** (*str*) – view path
- **method** (*str*) – http method
- **view** (*APIView*) – target view

Return type bool

drf_yasg.utils.**guess_response_status**(*method*)

drf_yasg.utils.**param_list_to_odict**(*parameters*)

Transform a list of *Parameter* objects into an `OrderedDict` keyed on the `(name, in_)` tuple of each parameter.

Raises an `AssertionError` if *parameters* contains duplicate parameters (by their name + in combination).

Parameters **parameters** (*list[drf_yasg.openapi.Parameter]*) – the list of parameters

Returns *parameters* keyed by `(name, in_)`

Return type dict[(str,str),*drf_yasg.openapi.Parameter*]

`drf_yasg.utils.`**`merge_params`**(*parameters*, *overrides*)

Merge *overrides* into *parameters*. This is the same as appending *overrides* to *parameters*, but any element of *parameters* whose `(name, in_)` tuple collides with an element in *overrides* is replaced by it.

Raises an `AssertionError` if either list contains duplicate parameters.

Parameters

- **parameters** (*list[drf_yasg.openapi.Parameter]*) – initial parameters
- **overrides** (*list[drf_yasg.openapi.Parameter]*) – overriding parameters

Returns merged list

Return type list[*drf_yasg.openapi.Parameter*]

`drf_yasg.utils.`**`filter_none`**(*obj*)

Remove `None` values from tuples, lists or dictionaries. Return other objects as-is.

Parameters **obj** – the object

Returns collection with `None` values removed

`drf_yasg.utils.`**`force_serializer_instance`**(*serializer*)

Force *serializer* into a `Serializer` instance. If it is not a `Serializer` class or instance, raises an assertion error.

Parameters **serializer** (*serializers.BaseSerializer or type[serializers.BaseSerializer]*) – serializer class or instance

Returns serializer instance

Return type serializers.BaseSerializer

`drf_yasg.utils.`**`get_serializer_class`**(*serializer*)

Given a `Serializer` class or intance, return the `Serializer` class. If *serializer* is not a `Serializer` class or instance, raises an assertion error.

Parameters **serializer** – serializer class or instance, or `None`

Returns serializer class

Return type type[serializers.BaseSerializer]

`drf_yasg.utils.`**`get_object_classes`**(*classes_or_instances*, *expected_base_class=None*)

Given a list of instances or class objects, return the list of their classes.

Parameters

- **classes_or_instances** (*list[type or object]*) – mixed list to parse
- **expected_base_class** (*type*) – if given, only subclasses or instances of this type will be returned

Returns list of classes

Return type list

`drf_yasg.utils.`**`get_consumes`**(*parser_classes*)

Extract `consumes` MIME types from a list of parser classes.

Parameters **parser_classes** (*list[rest_framework.parsers.BaseParser or type[rest_framework.parsers.BaseParser]]*) – parser classes

Returns MIME types for `consumes`

Return type list[str]

`drf_yasg.utils.`**`get_produces`**(*renderer_classes*)
Extract `produces` MIME types from a list of renderer classes.

Parameters **`renderer_classes`** (*list[rest_framework.renderers.BaseRenderer or type[rest_framework.renderers.BaseRenderer]]*) – renderer classes

Returns MIME types for `produces`

Return type list[str]

`drf_yasg.utils.`**`decimal_as_float`**(*field*)
Returns true if `field` is a django-rest-framework DecimalField and its `coerce_to_string` attribute or the `COERCE_DECIMAL_TO_STRING` setting is set to `False`.

Return type bool

`drf_yasg.utils.`**`get_serializer_ref_name`**(*serializer*)
Get serializer's ref_name (or None for ModelSerializer if it is named 'NestedSerializer')

Parameters **`serializer`** – Serializer instance

Returns Serializer's `ref_name` or `None` for inline serializer

Return type str or None

`drf_yasg.utils.`**`force_real_str`**(*s*, *encoding='utf-8'*, *strings_only=False*, *errors='strict'*)
Force *s* into a `str` instance.

Fix for https://github.com/axnsan12/drf-yasg/issues/159

`drf_yasg.utils.`**`field_value_to_representation`**(*field*, *value*)
Convert a python value related to a field (default, choices, etc.) into its OpenAPI-compatible representation.

Parameters

- **`field`** (*serializers.Field*) – field associated with the value
- **`value`** (*object*) – value

Returns the converted value

`drf_yasg.utils.`**`get_field_default`**(*field*)
Get the default value for a field, converted to a JSON-compatible value while properly handling callables.

Parameters **`field`** – field instance

Returns default value

`drf_yasg.utils.`**`dict_has_ordered_keys`**(*obj*)
Check if a given object is a dict that maintains insertion order.

Parameters **`obj`** – the dict object to check

Return type bool

11.1.9 drf_yasg.views

`drf_yasg.views.`**`deferred_never_cache`**(*view_func*)
Decorator that adds headers to a response so that it will never be cached.

`drf_yasg.views.`**`get_schema_view`**(*info=None*, *url=None*, *patterns=None*, *urlconf=None*, *public=False*, *validators=None*, *generator_class=None*, *authentication_classes=None*, *permission_classes=None*)
Create a SchemaView class with default renderers and generators.

Parameters

- **info** (*Info*) – information about the API; if omitted, defaults to *DEFAULT_INFO*
- **url** (*str*) – same as *OpenAPISchemaGenerator*
- **patterns** – same as *OpenAPISchemaGenerator*
- **urlconf** – same as *OpenAPISchemaGenerator*
- **public** (*bool*) – if False, includes only the endpoints that are accesible by the user viewing the schema
- **validators** (*list*) – a list of validator names to apply; the only allowed value is `ssv`, for now
- **generator_class** (*type*) – schema generator class to use; should be a subclass of *OpenAPISchemaGenerator*
- **authentication_classes** (*tuple*) – authentication classes for the schema view itself
- **permission_classes** (*tuple*) – permission classes for the schema view itself

Returns SchemaView class

Return type type[*drf_yasg.views.SchemaView*]

class drf_yasg.views.**SchemaView**(***kwargs*)

Bases: rest_framework.views.APIView

Constructor. Called in the URLconf; can contain helpful extra keyword arguments, and other things.

_ignore_model_permissions = True

classmethod apply_cache(*view*, *cache_timeout*, *cache_kwargs*)

Override this method to customize how caching is applied to the view.

Arguments described in *as_cached_view()*.

classmethod as_cached_view(*cache_timeout=0*, *cache_kwargs=None*, ***initkwargs*)

Calls .as_view() and wraps the result in a cache_page decorator. See https://docs.djangoproject.com/en/dev/topics/cache/

Parameters

- **cache_timeout** (*int*) – same as cache_page; set to 0 for no cache
- **cache_kwargs** (*dict*) – dictionary of kwargs to be passed to cache_page
- **initkwargs** – kwargs for .as_view()

Returns a view instance

authentication_classes = [<class 'rest_framework.authentication.SessionAuthentication'

generator_class

alias of *drf_yasg.generators.OpenAPISchemaGenerator*

get(*request*, *version=''*, *format=None*)

permission_classes = [<class 'rest_framework.permissions.AllowAny'>]

public = False

renderer_classes = (<class 'drf_yasg.renderers.SwaggerYAMLRenderer'>, <class 'drf_yasg

schema = None

classmethod with_ui(*renderer='swagger'*, *cache_timeout=0*, *cache_kwargs=None*)
Instantiate this view with a Web UI renderer, optionally wrapped with cache_page. See https://docs.djangoproject.com/en/dev/topics/cache/.

Parameters

- **renderer** (*str*) – UI renderer; allowed values are `swagger`, `redoc`
- **cache_timeout** (*int*) – same as cache_page; set to 0 for no cache
- **cache_kwargs** (*dict*) – dictionary of kwargs to be passed to cache_page

Returns a view instance

classmethod without_ui(*cache_timeout=0*, *cache_kwargs=None*)
Instantiate this view with just JSON and YAML renderers, optionally wrapped with cache_page. See https://docs.djangoproject.com/en/dev/topics/cache/.

Parameters

- **cache_timeout** (*int*) – same as cache_page; set to 0 for no cache
- **cache_kwargs** (*dict*) – dictionary of kwargs to be passed to cache_page

Returns a view instance

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