Django Admin Kit Documentation

Release 0.0.1

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Django Admin Kit adds more functionality to admin page. This includes easier **Ajax Bindings**, **Different Widgets** and a feature to **Duplicate models** in admin site.

CHAPTER 1

Compatibility

This is compatible with Django (version 1.11+) and Python 3.6+

CHAPTER 2

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2.1 Getting Started

2.1.1 Installation

The module can be downloaded using python pip.

Command: `pip install django-admin-kit`

2.1.2 Configuration

The app name `admin_kit` should be put at the top of installed apps in django `settings` file.

```
# settings.py

INSTALLED_APPS = [
    'admin_kit',

    'django.contrib.admin',
    'django.contrib.auth',
    ...
]
```

This is because, Admin Kit overrides Django *change_form* template. Then register the admin_kit app in root `urls` file with name `admin_kit`

```
# urls.py

from django.conf.urls import url
import admin_kit

urlpatterns = [
    ...
```

```
    url(r'^admin_kit/', admin_kit.site.urls, name="admin_kit"),
]
```

Start the server and hit `/admin_kit/ping` url response. You will get a `PONG` response if configured correctly.

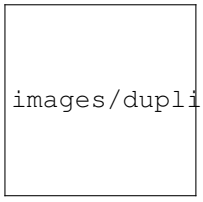
This *ping* url is enabled only in `DEBUG` Mode

2.1.3 Features

We will have a walk through of different features that Admin Kit provides.

Duplicate Button

This is a default feature that is added right after successfull configuration of the app.



This button is similar to `Add Another` button, but it initializes the fields with previously filled data. It is also compatible with django-nested-admin

To disable this feature set `KIT_DISABLE_DUPLICATE = True` in settings file.

Note: The duplicate button is only on **Inline Admin Models** like `Staked Inline`, `Tabular Inline` or `nested_admin fields`.

Multi Select Field

Admin Kit provides Multi Select field where you can specify choices. It uses *admin_kit.models.MultiSelectField*.

In **models.py** file

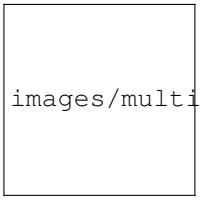
```
# models.py

from admin_kit.models import MultiSelectField

class Book(models.Model):
    ...
    GENRES = (
        ('thriller', 'thriller'),
        ('sci-fi', 'sci-fi'),
        ('fictional', 'fictional'),
        ('fantasy', 'fantasy'),
        ('philosophy', 'philosophy')
    )
    ...
```

```
genres = MultiSelectField(verbose_name='Valid Genres', choices=GENRES)
```

In **Admin Panel**



Ajax Binding

The core feature of Admin-Kit is the support for easier ajax behaviour. It binds the form-field with user defined view through ajax.

Setting up this behaviour is 2 step process.

- **Step 1: API Creation** Create an `ajax.py` file in the app. And create a class that inherits *admin_kit.ajax.Ajax* and has `run(self, request)` method. This method is executed, which acts as an API.

  And register this class using *admin_kit.site.register* method. The first argument is the key through which the model links to class and second is the class itself.

  For our example lets fill the choices from an API. Create an `ajax.py` with below code.

```
import admin_kit

class GenresAjax(admin_kit.ajax.Ajax):

    def run(self, request):
        GENRES = (
            ('thriller', 'thriller'),
            ('sci-fi', 'sci-fi'),
            ('fictional', 'fictional'),
            ('fantasy', 'fantasy'),
            ('philosophy', 'philosophy')
        )
        return GENRES

admin_kit.site.register('genres', GenresAjax)
```

  Internally, the return type of `run` method is json formatted and acts as an API.

  You can get the response by hitting `admin_kit/ajax/genres`. Here `genres` in the url is same as the `key` name used for registering in **ajax.py** file.

  The data was rendered by Chrome Extension JSON View

- **Step 2**: Model Binding

  In our `models.py` file modify `genres` field with below code

```
genres = MultiSelectField(verbose_name='Valid Genres', ajax_source=
↪'genres')
```

And thats it!! you will get the same behaviour, but now the choices are filled from your function. For every change in value, it calls `run` method from your ajax class. Thus you can process the return based on the request.

You can also access the user selected values and target the values to a specific field. To learn them please go through our *documentation*

2.1.4 Gotchas

- While using ajax behaviour make sure the model field is from *admin_kit.fields*. If you try to use ajax attributes like `ajax_source` or `kit_config` in fields from `django.models`, you will get an error
- As the project is new, currently it only has MultiSelectField. In further releases, newer fields will be integrated.

2.2 Documentation

The documentation consists of mainly five parts.

2.2.1 Model Fields

The documentation for *admin_kit.models* module. Currently, the module provides only one field, new fields will be added in future releases.

MultiSelectField

MultiSelectField provides Multi Selecting features. It internally by default stores in a `TextField` and the values are seperated by `,`.

Parameters

It accepts all the `django model parameters`. Below are the additional parameters or special behaviour for a parameter.

- **`seperator`** The default is `,`. This value will be used as a delimiter while storing the selected values.
- **`max_length`** Default is `null`. If this is set, then `varchar(max_length)` will be used for storage by default `TextField` is used for storage.
- **`choices`** The choices used for storage. This field is optional as the choices can be from an ajax class
- **`ajax_source`** The `key` name used while registering inherited *admin_kit.ajax.Ajax* class. The return of its `run` method will be used as choices.
- **`ajax_target`** This will be of the form `key_name:target_field`. On every change in its input, it hits the inherited *admin_kit.ajax.Ajax* class mapped to the specified `key_name`.

If `target_field` is specified then it sets the value of specified model field to api's return value.

The selected values will be passed as `q[]` query list parameter.

Example

```
# ajax.py

import admin_kit

class SelectedGenresAjax(admin_kit.ajax.Ajax):
    response_type = 'text'

    def run(self, request):
        query = request.GET.getlist('q[]')
        response = ','.join(query)
        return response

admin_kit.site.register('selected-genres', SelectedGenresAjax)
```

This ajax class, joins query list `q[]` values with `,` and returns it in text format.

```
# models.py

from admin_kit.models import MultiSelectField

class Book(models.Model):
    name = models.CharField(max_length=100)
    GENRES = (
        ('thriller', 'thriller'),
        ('sci-fi', 'sci-fi'),
        ('fictional', 'fictional'),
        ('fantasy', 'fantasy'),
        ('philosophy', 'philosophy')
    )

    genres = MultiSelectField(verbose_name='Valid Genres',␣
↪choices=GENRES,
                              ajax_target='selected-
↪genres:selectedValues')
    selectedValues = models.TextField(verbose_name='Selected Values')
```

Hence for every change in `genres` field, the selected values will be sent to ajax class mapped to key: `selected-genres` which is `SelectedAjax` and its return will be filled to `selectedValues` field.

As you can notice the `target_field` of `ajax_target` parameter need not be from *`admin_kit.models`* module.

- **`ajax_subscribe`** This parameter is paired with `ajax_source` parameter and is set to `False`. If it is `True`, then this field is linked to every other field with its `ajax_source` value same as its linked `ajax_target` value.

  But it wont be linked to fields which have `target_field` specified in its `ajax_target` parameter.

  Example

```
# ajax.py

class GenresAjax(ajax.Ajax):
    def run(self, request):
        query = request.GET.getlist('q[]')
        response = list(zip(query, query))
        return response
```

This ajax class zips the selected query and returns it back.

```
# models.py

class Book(models.Model):
    ...
    genres = MultiSelectField(verbose_name='Valid Genres',␣
↪choices=GENRES,
                              ajax_target='genres')
    chosen_fields = MultiSelectField(seperator=',', ajax_source=
↪'genres',
                                     ajax_subscribe=True)
```

Here `chosen fields` will have choices dynamically filled whenever `genres` field is modified. And the choices for `chosen_fields` will be from return of the `GenresAjax` class.

- **`kit_config`** This defaults to `None`. Instead of passing `ajax_source`, `ajax_target` and `ajax_subscribe` seperately, one can specify them in a dictionary and can be passed to this parameter.

  Example

```
# models.py

class Book(models.Model):
    ...
    genres = MultiSelectField(verbose_name='Valid Genres',
                              ajax_source='genres', ajax_
↪subscribe=True,
                              ajax_target='selected-
↪genres:selectedValues')
```

Is equivalent to

```
# models.py

class Book(models.Model):
    ...
    kit_config = {
        'ajax-source': 'genres',
        'ajax-subscribe': True,
        'ajax-target': 'selected-genres:selectedValues'
    }
    genres = MultiSelectField(verbose_name='Valid Genres',␣
↪choices=GENRES,
                              kit_config=kit_config)
```

Note: Make sure the *key names* are **hiphen seperated** and not *underscore* seperated.

2.2.2 Form Fields

The documentation for *admin_kit.fields* module.

MultiSelect Form Field

MultiSelectField provides Multi Selecting features. It is same as *models.MultiSelectField*, but is used in `Django Admin Forms`

Parameters

- **`seperator`** The default is `,`. This value will be used as a delimiter while storing the selected values.
- **`choices`** The choices used for rendering. This field is optional as the choices can be from an ajax class
- **`ajax_source`** The `key` name used while registering inherited *admin_kit.ajax.Ajax* class. The return of its `run` method will be used as choices.
- **`ajax_target`** This will be of the form `key_name:target_field`. On every change in its input, it hits the inherited *admin_kit.ajax.Ajax* class mapped to the specified `key_name`. If `target_field` is specified then it sets the value of specified model field to api's return value.

  The selected values will be passed as `q[]` query list parameter.
- **`ajax_subscribe`** This parameter is paired with `ajax_source` parameter and is set to `False`. If it is `True`, then this field is linked to every other field with its `ajax_source` value same as its linked `ajax_target` value.

  But it wont be linked to fields which have `target_field` specified in its `ajax_target` parameter.
- **`kit_config`** This defaults to `None`. Instead of passing `ajax_source`, `ajax_target` and `ajax_subscribe` seperately, one can specify them in a dictionary and can be passed to this parameter.

  Example

```
# admin.py

...
from admin_kit.fields import MultiSelectField

class BookForm(forms.ModelForm):
    model = Book
    selected_fields = MultiSelectField(ajax_source='genres', ajax_
↪subscribe=True)
    fields = ('name', 'genres')

 class BookAdmin(nested_admin.NestedStackedInline):
    model = Book
    form = BookForm
```

  is equivalent to

```
# admin.py

...
```

```
from admin_kit.fields import MultiSelectField

class BookForm(forms.ModelForm):
    model = Book
    kit_config = {
            'ajax-source': 'genres',
            'ajax-subscribe': True
    }
    selected_fields = MultiSelectField(kit_config=kit_config)
    fields = ('name', 'genres')

class BookAdmin(nested_admin.NestedStackedInline):
    model = Book
    form = BookForm
```

Note: Make sure the key names are **hiphen seperated**.

2.2.3 Form Widgets

The documentation for *admin_kit.widgets* module.

SelectMultipleWidget

MultiSelectField is the widget used for Multi Select. It inherits `Django SelectMultiple Widget` class.

The widget doesnt take any new parameters. It just adds the initial value of that widget to `data-kit-config` attribute.

2.2.4 Ajax Module

The documentation for *admin_kit.ajax* module. The module has only one class *Ajax*. So we will go through its attributes , methods and their functionality.

Attributes

- **response_type**
  The response type of the ajax class. Its defaults to `json`, where its jsonifies the output python object. It also accepts `text` where it converts the output to a string and is sent as the response.
- **unique**
  It defaults to `False`, if its `True` then the key will be unique to a class. Hence different Ajax classes with the same key can be registered.

Methods

- **run** (*self*, *request*)
  The main method that will be executed for generating response for an Ajax request. This is method should be overided by the child class.

Note: The remainder methods are **internal**. So should be overrided only if necessary.

- **format_response** (*self*, *output*)
  This method formats the return value of *run* method based on `response_type` attribute. If it is `json`, then it converts the output to json, else it renders it in `text` format.
- **route** (*self*, *request*)
  This is the core function, that calls *run* method and then passes the output to *format_response* method and returns it. This method is executed when the *admin_kit site* figures out the `ajax_class` based on the request.
- **classmethod generate_key** (*cls*, *key*)
  Generates the key based on the configuration of Ajax Class. If the `unique` attribute is set , it prepends the `key` with the slug form of its class name.

  This method is called in the *register* function for `key` and `ajax_class` mapping.

  Example

```
# ajax.py

from admin_kit import ajax

class TestAjax(ajax.Ajax):
    ...

class UniqueTestAjax(ajax.Ajax):
    unique = True
    ...

TestAjax.generate_key('key')
# `key`

UniqueTestAjax.generate_key('key')
# `unique-test-ajax-key`
```

  To access this Ajax class in `models`, Its slugged key name has to be used. In the above Example to map to `UniqueTestAjax` class, `unique-test-ajax-key` key should be used in `models` file.

2.2.5 Sites Module

The documentation of *admin_kit.sites* module. The module has only class *AdminKitSite* which is the root site of the app.

This site object is aliased to `admin_kit.site`. So it can accessed through the same

Site Methods

- **register** (*key*, *ajax_class*)

  key :: str This is the *key* that will be used in models for binding

  ajax_class :: class The ajax class that inherits *admin_kit.ajax.Ajax*

  This method is used to bind an `ajax_class` to a `key`.

Note: If `unique` attribute of `ajax_class` is `True`, remember to prepend its slugname to the `key`.

2.3 Contents

2.3.1 Models

class admin_kit.models.**BaseField**(*kit_config=None*, *ajax_source=None*, *ajax_target=None*, *ajax_subscribe=False*, **args*, ***kwargs*)
The Base model field of Admin-Kit models. This inherits Django's models.Field class.

deconstruct()
Deconstructs the field to a tuple of 4 elements. This is used to recreate the same object.

formfield(*form_class*, *choices_form_class=None*, ***kwargs*)
Returns the form object to be used for rendering.

from_db_value(*value*, *expression*, *connection*, *context*)
Returns value from the database. inherited models should override this

validate(*value*, *model_instance*)
To validate the value of a model instance. Inherited models should override this

value_to_string(*obj*)
Converts the value of the object to a string

class admin_kit.models.**MultiSelectField**(*seperator=', '*, **args*, ***kwargs*)
The Multiselect model field of Admin-Kit, which allows users to create multi select ajax fields.

2.3.2 Fields

class admin_kit.fields.**BaseField**(*kit_config=None*, *ajax_source=None*, *ajax_target=None*, *ajax_subscribe=None*, **args*, ***kwargs*)
The Base Field for form fields

widget_attrs(*widget*)
This will add `data-kit-config` attibute to the widget

class admin_kit.fields.**MultiSelectField**(*seperator=', '*, *choices=()*, **args*, ***kwargs*)
This field is used to create MultiSelect Form fields.

widget
alias of `SelectMultipleWidget`

2.3.3 Widgets

class admin_kit.widgets.**SelectMultipleWidget**(**args*, ***kwargs*)
MultiSelect Widget which inherits Django's SelectMultiple widget

2.3.4 Site

class admin_kit.sites.**AdminKitSite**(*name='admin_kit'*)
The main AdminKitSite that routes and process url requests.

register(*key*, *ajax_class*)
Registers the `ajax_class` for ajax behaviour

key :: str This is the *key* that will be used in models for binding

ajax_class :: class The ajax class that inherits *admin_kit.ajax.Ajax*

`admin_kit.site.`**register**(*key*, *ajax_class*)
Registers the `ajax_class` for ajax behaviour. This is same as *admin_kit.sites.AdminKitSite.register* method

key :: str This is the *key* that will be used in models for binding

ajax_class :: class The ajax class that inherits *admin_kit.ajax.Ajax*

2.3.5 Ajax

class `admin_kit.ajax.`**Ajax**
This is the base class for Ajax functionality.

response_type [str] The response type of the API. By default its set to `json`, It also accepts `text`.

unique [bool] If True, the `key` is prepended with class name slug, Thus making it unique per class.

format_response(*output*)
Formats the response type based on `response_type` attribute.

classmethod generate_key(*key*)
A class method that generates key, that maps to the function

If `unique` attribute is true, then it appends hiphen seperated class name to actual `key`

Example:

```
>>> import DummyAjaxClass
>>> DummyAjaxClass.generateKey('the_key')
the_key
>>> DummyAjaxClass.unique = True
>>> DummyAjaxClass.generateKey('the_key')
dummy-ajax-class-the_key
```

route(*request*)
For a given request it executes the `run` method of the `module_cls` and returns the response

run(*request*)
This method should be overrided by the child class.

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2.5 Python Module Index

CHAPTER 3

Liscense

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