django-relationships Documentation

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Contents

Descriptive relationships between auth.users:

```
>>> john.relationships.friends()
[<User: Yoko>]

>>> john.relationships.following()
[<User: Paul>, <User: Yoko>]

>>> john.relationships.followers()
[<User: Yoko>]

>>> john.relationships.blockers()
[<User: Paul>]

>>> paul.relationships.blocking()
[<User: John>]
```

You can create as many types of relationships as you like, or just use the default ones, ‘following’ and ‘blocking’.

CHAPTER 1

From, To and Symmetrical

Relationship types define each of the following cases:

- from - ‘following’, who **I** am following
- to - ‘followers’, who is following **me**
- symmetrical - ‘friends’, **we** follow eachother

Relationship types can be *login_required*, or *private*, and if you want to make a relationship type unviewable (i.e. you may not want to allow users to see who is blocking them), simply give it a unmatchable slug, like ‘!blockers’.

Contents:

Installation

You can pip install django-relationships:

```
pip install django-relationships
```

Alternatively, you can use the version hosted on GitHub, which may contain new or undocumented features:

```
git clone git://github.com/coleifer/django-relationships.git
cd relationships
python setup.py install
```

Adding to your Django Project

After installing, adding relationships to your projects is a snap. First, add it to your projects’ `INSTALLED_APPS`:

```
# settings.py
INSTALLED_APPS = [
    ...
    'relationships'
]
```

Next you'll need to run a `syncdb`:

```
django-admin.py syncdb
```

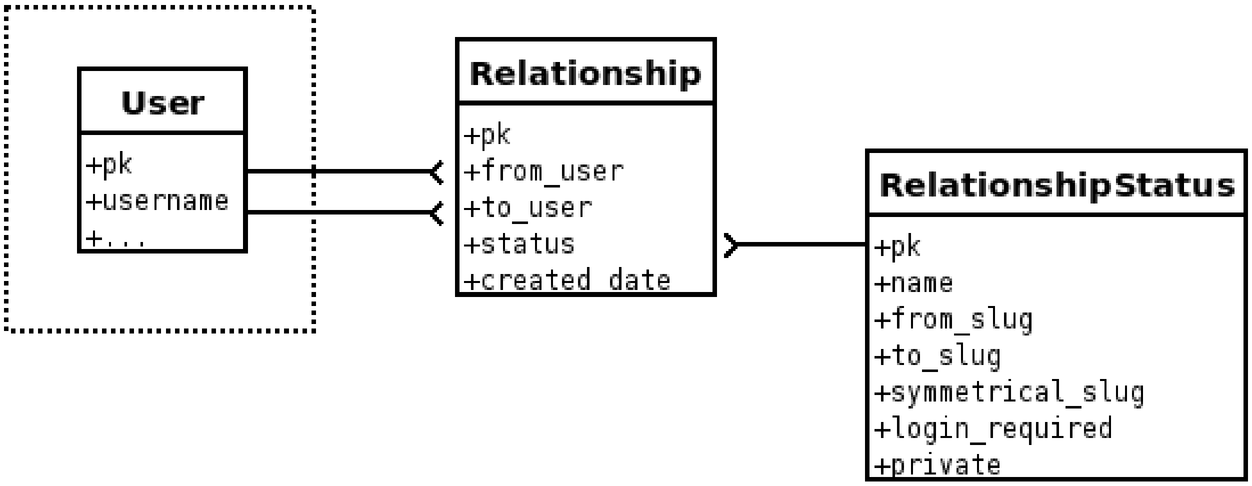
If you're using *south* for schema migrations, you can use the migrations provided by the app.

Getting started

The purpose of this doc is to get you up and running quickly.

How the app works

It doesn't matter too much that the `User` model is siloed off, since we're going to store the `Relationship` objects in a separate table:



The only dirty trick is that we create a "fake" `ManyToMany` relation and monkeypatch the `User` model with it to expose the relationships using a nice, familiar API.

Check out relationships/models.py for more details.

Models

django-relationships attaches a `ManyToMany` relationship to the `User` model found in `django.contrib.auth`. This is exposed via the *relationships* attribute on a `User` instance:

```
>>> john = User.objects.get(username='john')
>>> rel = john.relationships.add(jane)
>>> rel
<Relationship: Relationship from john to jane>
```

We now have a relationship from "john" to "jane". The default relationship type is "following":

```
>>> rel.status
<RelationshipStatus: Following>
```

We can query to see who john is following:

```
>>> john.relationships.following()
[<User: jane>]
```

Or, conversely, see who jane is followed by:

```
>>> jane.relationships.followers()
[<User: john>]
```

If we want to do a more facebook-like thing by having symmetrical relationships, that is possible:

```
>>> john.relationships.add(bob, symmetrical=True)
(<Relationship: Relationship from john to bob>,
 <Relationship: Relationship from bob to john>)
```

Now we can see who john is friends with:

```
>>> john.relationships.friends()
[<User: bob>]
```

You can also attach a specific "status" to a `Relationship`, the default being "following". There can be any number of statuses – its totally up to you:

```
>>> enemies = RelationshipStatus.objects.create(
        name='enemies',
        verb='enemies with',
        from_slug='enemies-with',
        to_slug='disliked-by',
        symmetrical_slug='mutually-dislike',
    )
>>> rel = john.relationships.add(joe, enemies)
>>> rel.status
<RelationshipStatus: enemies>
```

We can query a users enemies:

```
>>> john.relationships.get_relationships(enemies)
[<User: joe>]
```

And also the reverse:

```
>>> joe.relationships.get_related_to(enemies)
[<User: john>]
```

Views and Templatetags

There are a handful of views at your disposal for creating and listing relationships. This section will assume you've included the relationships urls at /relationships/ in your `ROOT_URLCONF`:

```
urlpatterns = patterns('',
    ...
    url(r'^relationships/', include('relationships.urls')),
    ...
)
```

Allowing users to manage relationships

Most likely you'll want your users to be able to follow, unfollow, maybe even block certain users.

To this end there are a couple views and templatetags that can help you out.

For example, assume you want to display a list of user profiles and give users the option to:

1. follow the user if they aren't
2. unfollow the user if they're already following them

```
{% load relationship_tags %}

{% if request.user != profile.user %}

  {# decide whether or not the current user is following this user #}

  {% if_relationship request.user profile.user "following" %}

    {# they are following them, so show a "remove" url #}
    <a href="{{ profile.user|remove_relationship_url:"following" }}">Unfollow</a>

  {% else %}

    {# they are not following them, so show a link to start following #}
    <a href="{{ profile.user|add_relationship_url:"following" }}">Follow</a>

  {% endif_relationship %}

{% else %}
  <p>This is you!</p>
{% endif %}
```

These urls end up taking the following form:

`/relationships/(add|remove)/<username>/<relationship-status-slug>/`

Here are a couple examples:

- `/relationships/add/joe/following/` – start following joe
- `/relationships/add/bob/friends/` – become friends with bob (create symmetrical relationship)

You can generate these urls by hand using the `{% url %}` tag, or use the template filters provided in the `relationship_tags` library:

```
{{ some_user|add_relationship_url:"friends" }}
```

The add and remove views support POSTing via Ajax.

Listing relationships for a user

The urls to view a user's relationships take the following form:

`/relationships/<username>/<relationship-status-slug>/`

Here are a couple examples:

- `/relationships/joe/following/` – show who joe is following
- `/relationships/bob/followers/` – see who is following bob
- `/relationships/joe/friends/` – see who joe is friends with

Admin Interface

Relationships hook right into the pre-existing User admin, and appear below the 'Groups' inline.

RelationshipStatus and how it works

If you look at the model definition for `RelationshipStatus`, it might seem a little odd as it has 3 separate slug fields:

```
class RelationshipStatus(models.Model):
    name = models.CharField(_('name'), max_length=100)
    verb = models.CharField(_('verb'), max_length=100)
    from_slug = models.CharField(_('from slug'), max_length=100,
        help_text=_("Denote the relationship from the user, i.e. 'following'"))
    to_slug = models.CharField(_('to slug'), max_length=100,
        help_text=_("Denote the relationship to the user, i.e. 'followers'"))
    symmetrical_slug = models.CharField(_('symmetrical slug'), max_length=100,
        help_text=_("When a mutual relationship exists, i.e. 'friends'"))
    login_required = models.BooleanField(_('login required'), default=False,
        help_text=_("Users must be logged in to see these relationships"))
    private = models.BooleanField(_('private'), default=False,
        help_text=_("Only the user who owns these relationships can see them"))
```

Each of these slug fields denotes a particular aspect of the given status. For example, if I'm talking about "following" a user these values might be appopriate:

- from_slug = 'following', as in "these are the people I am following", the relationship comes *from* me
- to_slug = 'followers', as in "these are my followers", they have a relationship *to* me
- symmetrical_slug = 'friends', as in "we are friends, we follow each other"

The relationship views use these slugs to tell what kind of relationships you want to present, so going to `/relationships/charles/following/` will show a list of people "charles" is following, whereas `/relationships/charles/friends/` will show a list of people with whom charles has a symmetrical following relationship.

You can have any number of `RelationshipStatus` instances, but by default the app comes with two:

- Following
- Blocking

Filtering content

There is very little use for social features on a site unless you're doing some kind of filtering based on a logged-in user's relationships. For example, if Paul is blocking Yoko, he probably doesn't want to see her latest posts.

django-relationships offers several features to make filtering content easier.

Template filters

there are several high-level template filters for your content. assume we're dealing with a photo sharing site that has social features.

```
{# all examples use relationship_tags #}
{% load relationship_tags %}
```

Assume you have a generic view that is returning a list of photos. It is very easy to filter incoming content

```
<h3>Friends' photos</h3>
{% for photo in object_list|friend_content:request.user %}
  ... only stuff from my friends ...
{% endfor %}

<h3>Following photos</h3>
{% for photo in object_list|following_content:request.user %}
  ... only stuff from the people I follow ...
{% endfor %}

<h3>Follower's photos</h3>
{% for photo in object_list|followers_content:request.user %}
  ... only stuff from people who follow me ...
{% endfor %}
```

If you want, there's also a filter for any status but blocked. Cumulatively, these simple filters show how you can white/black-list of content based on a user's relationships.

```
<h3>Photos</h3>
{% for photo in object_list|unblocked_content:request.user %}
  ... stuff from everyone but the people I have bloocked ...
{% endfor %}
```

lower-level filtering

relationships.utils has two helper functions that can be used to white/black-list content from various users.

`positive_filter`(*qs*, *user_qs*[, *user_lookup=None*])
apply a white-list to a queryset of content, only allowing through items by users in the user_qs

Parameters

- **`qs`** – queryset of content items to be filtered
- **`user_qs`** – queryset of users whose content should be allowed through
- **`user_lookup`** – the lookup on the content model for the user field to use when filtering - it will be autodetected if not supplied

`negative_filter`(*qs*, *user_qs*[, *user_lookup=None*])
apply a black-list to a queryset of content, allowing through items *NOT* by users in the user_qs

Parameters

- **`qs`** – queryset of content items to be filtered
- **`user_qs`** – queryset of users whose content should *NOT* be allowed through
- **`user_lookup`** – the lookup on the content model for the user field to use when filtering - it will be autodetected if not supplied

Example

```
photo_qs = Photo.objects.all()
user_friends = request.user.relationships.friends()
user_blocked = request.user.relationships.blocking()

# assume the photographer is a FK to User
friend_photos = positive_filter(photo_qs, user_friends, 'photographer')
non_blocked_photos = negative_filter(photo_qs, user_friends, 'photographer')

# now friend_photos contains only photos by the requesting users friends
# and non_blocked_photos contains photos by anyone the request user has not blocked
```

CHAPTER 2

Indices and tables

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