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How to dynamically compose an OR query filter in Django?

asked 7 years ago

viewed 12164 times

active 4 months ago

From an example you can see a multiple OR query filter:

```
Article.objects.filter(Q(pk=1) | Q(pk=2) | Q(pk=3))
```

For example, this results in:

```
[<Article: Hello>, <Article: Goodbye>, <Article: Hello and goodbye>]
```

However, I want to create this query filter from a list. How to do that?

e.g. [1, 2, 3] -> `Article.objects.filter(Q(pk=1) | Q(pk=2) | Q(pk=3))`

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edited Dec 14 '15 at 22:22



Tomasz Jakub Rup
3,395 ● 5 ● 12 ● 27

asked May 12 '09 at 12:08



Jack Ha
2,275 ● 5 ● 23 ● 37

1 You appear to have asked this twice: stackoverflow.com/questions/852404 – Dominic Rodger May 12 '09 at 12:22

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10 Answers

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You could chain your queries as follows:

64



```
values = [1,2,3]

# Turn list of values into list of Q objects
queries = [Q(pk=value) for value in values]

# Take one Q object from the list
query = queries.pop()

# Or the Q object with the ones remaining in the list
for item in queries:
    query |= item
```



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```
# Query the model
Article.objects.filter(query)
```

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answered May 12 '09 at 12:21



Dave Webb

118k • 32 • 237 • 262

2 Thanks! This was what I was looking for :) Didn't know you could do |= – Jack Ha May 12 '09 at 12:43

7 You could also initialize the query using: query = Q() – chachan Jul 16 '12 at 0:58

1 you can make dynamic fields by using `**{'fieldname': value}: queries = [Q(**{'fieldname': value}) for value in values]` – rechie Sep 11 '13 at 3:17

How can you compose raw queries with Django if you want to add optional conditions like above? – Error Jul 13 '14 at 18:34

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A shorter way of writing Dave Webb's answer using python's reduce function:

27

```
values = [1,2,3]

# Turn list of values into one big Q objects
query = reduce(lambda q,value: q|Q(pk=value), values, Q())

# Query the model
Article.objects.filter(query)
```

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answered May 22 '09 at 13:36



Tom Viner

3,066 • 4 • 25 • 34

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```
values = [1, 2, 3]
query = reduce(operator.or_, (Q(pk=x) for x in values))
```

15

share improve this answer

answered May 22 '09 at 14:34



Ignacio Vazquez-Abrams

419k • 56 • 736 • 904

add a comment

Maybe it's better to use sql IN statement.

14

```
Article.objects.filter(id__in=[1, 2, 3])
```

See [queryset api reference](#).

If you really need to make queries with dynamic logic, you can do something like this (ugly + not tested):

```
query = Q(field=1)
for cond in (2, 3):
    query = query | Q(field=cond)
Article.objects.filter(query)
```

share improve this answer

edited May 12 '09 at 12:28

answered May 12 '09 at 12:12



alex vasi

3,651 • 14 • 26

add a comment

To build more complex queries there is also the option to use built in Q() object's constants Q.OR and Q.AND together with the add() method like so:

10

```
list = [1, 2, 3]
# it gets a bit more complicated if we want to dynamically build
# OR queries with dynamic/unknown db field keys, let's say with a list
# of db fields that can change like the following
# list_with_strings = ['dbfield1', 'dbfield2', 'dbfield3']
```

2

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```
# init our q objects variable to use .add() on it
q_objects = Q()

# loop through the list and create an OR condition for each item
for item in list:
    q_objects.add(Q(pk=item), Q.OR)
    # for our list_with_strings we can do the following
    # q_objects.add(Q(**{item: 1}), Q.OR)

queryset = Article.objects.filter(q_objects)

# sometimes the following is helpful for debugging (returns the SQL statement)
# print queryset.query
```

share improve this answer

answered Mar 19 '15 at 16:26



1 For newcomers to this thread, like myself, I think this answer should be regarded as the top answer. It is more Django-esque than the accepted answer. Thank you! – [theresaanna](#) Jun 26 '15 at 14:03

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See the [docs](#):

7

```
>>> Blog.objects.in_bulk([1])
{1: <Blog: Beatles Blog>}
>>> Blog.objects.in_bulk([1, 2])
{1: <Blog: Beatles Blog>, 2: <Blog: Cheddar Talk>}
>>> Blog.objects.in_bulk([])
{}
```

Note that this method only works for primary key lookups, but that seems to be what you're trying to do.

So what you want is:

```
Article.objects.in_bulk([1, 2, 3])
```

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answered May 12 '09 at 12:11



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You can use the `|=` operator to programmatically update a query using Q objects.

4

share improve this answer

answered May 12 '09 at 12:12



Is this documented anywhere? I have been searching for the last 15 minutes, and this is the only thing I can find. – [wobbily_col](#) Mar 9 at 10:56

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In case we want to programmatically set what db field we want to query:

2

```
import operator
questions = [('question__contains', 'test'), ('question__gt', 23)]
q_list = [Q(x) for x in questions]
Poll.objects.filter(reduce(operator.or_, q_list))
```

share improve this answer

answered Sep 24 '12 at 16:01



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This one is for dynamic pk list:

1

```
pk_list = qs.values_list('pk', flat=True) # i.e [] or [1, 2, 3]
```

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```
if len(pk_list) == 0:
    Article.objects.none()

else:
    q = None
    for pk in pk_list:
        if q is None:
            q = Q(pk=pk)
        else:
            q = q | Q(pk=pk)

    Article.objects.filter(q)
```

share improve this answer

edited Aug 2 '14 at 10:48

answered Aug 2 '14 at 10:30



Velodee

31 • 1 • 3

add a comment



0

easy..
from django.db.models import Q
import you model args = (Q(visibility=1)|
(Q(visibility=0)&Q(user=self.user))) #Tuple parameters={} #dic order = 'create_at' limit = 10



```
Models.objects.filter(*args,**parameters).order_by(order)[:limit]
```

share improve this answer

answered Dec 18 '15 at 15:50



alfonsoolavarria

37 • 6

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