

CS 683 Emerging Technologies
Fall Semester, 2006
Doc 10 Django Authentication
Sep 28, 2006

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References

User authentication in Django, <http://www.djangoproject.com/documentation/authentication/>

Django source code

How to use sessions, <http://www.djangoproject.com/documentation/sessions/>

Reading

User authentication in Django, <http://www.djangoproject.com/documentation/authentication/>

Authentication

Authentication

Turned on by default

Parts

Users

Permissions

Groups

Messages

Users

Django model

- username -- Required.
- first_name
- last_name
- email
- password -- Required.
- is_staff
- is_active
- is_superuser
- last_login
- date_joined

<http://code.djangoproject.com/browser/django/trunk/django/contrib/auth/models.py>

Adding Users

Admin Page
Script
View

Admin Site

Django administration

Welcome, **whitney**. [Documentation](#) / [Change](#)

Site administration

Auth	
Groups	+Add Change
Users	+Add Change
Sites	
Sites	+Add Change
Polls	
Choices	+Add Change
Polls	+Add Change
Books	
Authors	+Add Change
Books	+Add Change
Science books	+Add Change
Forms	
Contact infos	+Add Change

Recent Actions

My Actions

- [sam](#)
User
- [sam](#)
User
- [+Evolution](#)
Science book
- [+Book object](#)
Book
- [+Author object](#)
Author
- [+Author object](#)
Author
- [What's up doc?](#)
Poll
- [+Choice object](#)
Choice
- [+Choice object](#)
Choice
- [+Choice object](#)
Choice

Add User Page

Django administration

Welcome, **whitney**. [Documentation](#) / [Change password](#)

[Home](#) > [Users](#) > Add user

Add user

Username:	<input type="text"/>
Required. 30 characters or fewer. Alphanumeric characters only (letters, digits and underscores).	
Password:	<input type="password"/>
Use '[algo]\${salt}\${hexdigest}'	

Personal info

First name:	<input type="text"/>
-------------	----------------------

Need to add password in encoded form

Adding a User in the shell

Al 15->manage.py shell

(InteractiveConsole)

```
>>> from django.contrib.auth.models import User, Group
```

```
>>> u = User.objects.create_user('sam','sam@google.com', 'samman')
```

```
>>> u.is_staff=True
```

```
>>> u.is_active=True
```






```
>>> u.save()
```

Groups

Add group

Name:

Permissions:

Available permissions	Chosen permissions
<input type="text"/>	Select your choice(s) and click 
<div>message Can add message message Can change message message Can delete message group Can add group group Can change group group Can delete group user Can add user user Can change user user Can delete user permission Can add permission permission Can change permission permission Can delete permission content type Can add content type</div>	
 	
 Choose all	 Clear all

Creating Groups via code

Al 16->manage.py shell
(InteractiveConsole)

```
>>> from django.contrib.auth.models import User, Group
>>> staff = Group(name='staff')
>>> staff.save()
```

```
>>> Group.objects.filter(name='staff')
[<Group: staff>]
```

```
>>> sam = User.objects.get(username='sam')
>>> sam.groups.add(staff)
>>> sam.groups.all()
[<Group: staff>]
>>> sam.save()
```

Permissions

Each model has three default permissions

add

change

delete

Add Permissions

```
class Poll(models.Model):
    question = models.CharField(maxlength=200)
    pub_date = models.DateTimeField('date published')

    def __str__(self):
        return self.question

class Admin:
    pass

class Meta:
    permissions = (
        ("can_view", "Can view poll list"),
        ("can_vote", "Can vote"),
        ("can_see_results", "Can see voting results"),
    )
```

Accessing Permission Directly

```
>>> from django.contrib.auth.models import Permission
>>> Permission.objects.filter(codename='can_view')
[<Permission: poll | Can view poll list>]
```

Poll Example

Polls have permissions

"can_view"

"can_vote"

"can_see_results"

Users must

login in

have correct permissions

Node

Model changed per previous slide

manage.py syncdb run

Poll Example - Long Way

Login

`http://127.0.0.1:8000/polls/login.html` \longrightarrow `cs683.polls.views.loginPage`

`cs683.polls.views.loginPage`

```
def loginPage(request):  
    return render_to_response('polls/simpleLogin.html', {})
```

cs683/templates/pools/simpleLogin.html

```
<h1>Please Login in</h1>
```

```
<form method="post" action="processLogin.html">
```

```
<table>
```

```
<tr>
```

```
<td>Name:</td>
```

```
<td><input type="text" name="username" size="30" value="{{name}}" maxlength="100" /></td>
```

```
</tr>
```

```
<tr>
```

```
<td>Password:</td>
```

```
<td><input type="password" name="password" size="30" value="{{Password}}" /></td>
```

```
</tr>
```

```
</table>
```

```
<input type="submit" />
```

```
</form>
```

cs683.polls.views. processLogin

```
from django.contrib.auth import authenticate, login
from django.http import HttpResponseRedirect

def processLogin(request):
    username = request.POST['username']
    password = request.POST['password']
    user = authenticate(username=username, password=password)
    if user is not None:
        login(request, user)
        #Just to show how to access default permissions
        if user.has_perm('polls.add'):
            print 'add'
        return HttpResponseRedirect('/polls/')
    else:
        return HttpResponseRedirect('/polls/login.html')
```

cs683.polls.veiws.index

http://127.0.0.1:8000/polls/  cs683.polls.veiws.index

```
def index(request):  
    if not request.user.is_authenticated():  
        return HttpResponseRedirect('/polls/login.html')  
  
    if not request.user.has_perm('Poll.can_view'):  
        return HttpResponseRedirect('/polls/invalidPermission.html')  
  
    poll_list = Poll.objects.all().order_by('-pub_date')  
    return render_to_response('polls/poll_list.html', {'object_list': poll_list})
```

Protecting Pages

Each view of each restricted page needs to check for authentication

Accessing user and Permissions in Template

Pass them in as template variables

If use RequestContext they are passed in automatically

But then can not use render_to_response

Login Short Cuts

Could not get the examples to run

Logout
Admin Options
Sessions

Admin Page Options

```
from django.db import models
```

```
class Poll(models.Model):  
    question = models.CharField(maxlength=200)  
    pub_date = models.DateTimeField('date published')
```

```
    def foo(self):  
        return 'function call' + self.question
```

```
    def __str__(self):  
        return self.question
```

```
class Admin:  
    date_hierarchy = 'pub_date'  
    list_display = ('question', 'pub_date', 'foo')  
    list_filter = ('pub_date', )
```

Login out

```
from django.contrib.auth import logout
```

```
def logoutView(request):  
    logout(request)
```

```
    return some page
```

Poll Admin View

Django administration

Welcome, **whitney**. Documentation / Change password / Log out

Home > Polls

Select poll to change

Add poll +

2006			Filter
Question	Date published	Foo	By date published
What's up doc?	Sept. 14, 2006, 3:43 p.m.	function callWhat's up doc?	Any date
Do you like Python?	Sept. 14, 2006, 11:22 a.m.	function callDo you like Python?	Today
Do you like Django Reinhardt's music?	Sept. 13, 2006, 6:45 p.m.	function callDo you like Django Reinhardt's music?	Past 7 days
			This month
			This year
3 polls			

Sessions

```
def vote(request, poll_id):
    if request.session.get(str(poll_id), False):
        return HttpResponse('You already voted on this poll')

    poll = get_object_or_404(Poll, pk=poll_id)
    try:
        selected_choice = poll.choice_set.get(pk=request.POST['choice'])
    except (KeyError, Choice.DoesNotExist):
        # Redisplay the poll voting form.
        return render_to_response('polls/poll_detail.html', {
            'poll': poll,
            'error_message': "You didn't select a choice.",
        })
    else:
        selected_choice.votes += 1
        selected_choice.save()
        request.session[str(poll_id)] = True

    return HttpResponseRedirect('/polls/%s/results/' % poll.id)
```