Handling Ajax request in Django

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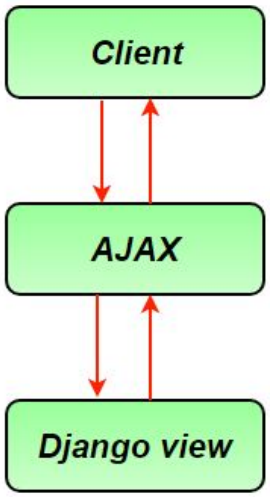


Introduction

This tutorial explains how to carry out an ajax request in the Django web framework. We will create a simple post-liking app as a part of the example.

Glossary

- Project Initialization
- Create models
- Create views
- Write URLs
- Carry out a request with Jquery Ajax.
- Register models to admin and add some posts.

Implementation:

1. Initiate the Django Project – Here I am assuming that you are done with Django Installation.

- To Create a Django Project execute:

```
$ django-admin startproject django_example
```

- After creating a project we need to create a Django app. To create an app say “post” execute the following:

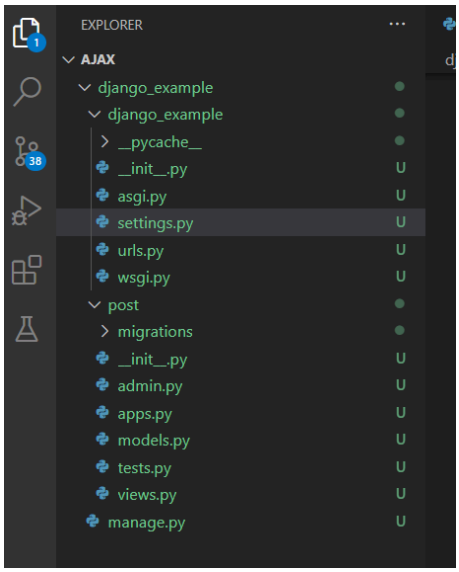
```
$ cd django_example
$ python manage.py startapp post
```

- Go to django_example/settings.py add the post-app

```
# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'post.apps.PostConfig',   # Defining our app
]
```

- Now you will have files something like this:



2. Create models: To create models, go to the post directory and open models.py.

- In models.py. First, create a post table. To create a post table you'll need to write:

```
class Post(models.Model):
    post_heading = models.CharField(max_length=200)
    post_text = models.TextField()
        def __unicode__(self):      # If python2 use __str__ if python3
                return unicode(self.post_heading)
```

- Then In models.py, create like a table. To create like a table you'll need to write:

```
class Like(models.Model):
    post = models.ForeignKey(Post, on_delete = models.CASCADE)
```

- Make Migration and migrate step:

```
$ python manage.py makemigrations
$ python manage.py migrate
```

After completing these steps, we have our database tables ready to use.

3. Create Views:

To create views, we need to go to the post directory and open views.py

- First, import Previously created Models and HTTP response

```
from .models import Post, Like
from django.http import HttpResponse
```

- Create an index view to render all the posts. Code sample:

```
def index(request):
    posts = Post.objects.all()  # Getting all the posts from database
```

```
    return render(request, 'post/index.html', { 'posts': posts })
```

- Create like posts view to like a post. This view will be called when we will hit a “like button”. Code sample:

```
def likePost(request):
    if request.method == 'GET':
           post_id = request.GET['post_id']
           likedpost = Post.objects.get(pk=post_id) #getting the liked
posts
           m = Like(post=likedpost) # Creating Like Object
           m.save()  # saving it to store in database
           return HttpResponse("Success!") # Sending an success response
    else:
           return HttpResponse("Request method is not a GET")
```

Once our view gets created we will move to write a template and jQuery to perform an ajax request.

4. Create URLs:

To create URLs, open django_example/urls.py. Your django_example/urls.py should look something like this:

```
from django.conf.urls import include, url
from django.contrib import admin
urlpatterns = [
     url(r'^admin/', admin.site.urls),
     url(r'^', include('post.urls')),   # To make post app available at
/
   ]
```

To create URLs, create file post/urls.py. Your post/urls.py should look something like this:

```
from django.conf.urls import url
from . import views
urlpatterns = [
```



```
          url(r'^likepost/$', views.likePost, name='likepost'),   #
```

```
likepost view at /likepost
   ]
```

5. Making templates and carrying out ajax requests:

- Create a file post/templates/post/index.html. Code sample:

```
<!DOCTYPE html>
<html>
<head>
    <title>Like Post App</title>
</head>
<body>
    <p id="message"></p>
    {% for post in posts %}
    <h3>{{ forloop.counter }}) {{ post.post_heading }}</h3>
    <p>{{ post.post_text }} </p>
    <a class="likebutton" id="like{{post.id}}" href="#" data-catid="{{
post.id }}">Like</a>
    {% endfor %}
    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js">
</script>
    <script type="text/javascript">
    $('.likebutton').click(function(){
    var catid;
    catid = $(this).attr("data-catid");
    $.ajax(
    {
        type:"GET",
        url: "/likepost",
        data:{
                 post_id: catid
        },
        success: function( data )
        {
            $( '#like'+ catid ).remove();
            $( '#message' ).text(data);
        }
     })
```

```
});
</script>
</body>
</html>
```

Basically, what we are doing here is - we are making an ajax get request -> /likepost?post_id=<id_of_liked_post>

6. To Register models to admin and add some posts:

- Open post/admin.py.
- Import Models to admin.py.

```
from .models import Post, Like
```

- Register your models:

```
admin.site.register(Post)
admin.site.register(Like)
```

Now add some posts using the Django default admin portal. Visit http://localhost:8000/ to view and like posts. I also have added this sample app to my github which you may use for reference.

This blog is written by Anshul Singhal.

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