Django Form

Summary: in this tutorial, you'll learn how to create a Django Form to create, update, and delete Post models of the blog application.

Django admin is good enough for admin to manage the contents based on the models. However, when you want the users of the website to manage their content, you need to create separate forms for them.

Introduction to the Django Form

Handling forms involves very complex logic:

- Prepare an HTML form.
- Validate fields in the browser using JavaScript or built-in HTML5 validation.
- Receive the values in the server.
- Validate fields in the server.
- Processing form values like saving them into the database if the form is valid
- Rerender the form with old values and an error message if the form is invalid.

Django forms simplify and automate almost all of the above steps.

> Note that you can write code to do all of the above steps manually if you want more customization of the forms.

All forms in Django inherit from the `django.forms.Form` class. The `ModelForm` class allows you to create a form that associates with a model .

Defining a form

First, create a new file `forms.py` in the `blog` application's directory.

Second, define a new form called `PostForm` that inherits from the `ModelForm` class:

```
from django.forms import ModelForm
from .models import Post

class PostForm(ModelForm):
    class Meta:
        model = Post
        fields = ['title','content', 'author', 'author']
```

How it works.

- Import `ModelForm` from the `django.forms` .
- Import `Post` from the `models.py` module.
- Define `PostForm` class that inherits from the `ModelForm` class. In the `PostForm` class, define the `Meta` class and specify the `model` and `fields` attributes.

Third, define a route that displays the `PostForm` :

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.home, name='posts'),
    path('post/create', views.create_post, name='post-create'),
    path('about/', views.about, name='about'),
]
```

Fourth, define `create_post()` function that displays the form:

```
from django.shortcuts import render
from .models import Post
from .forms import PostForm


def create_post(request):
    if request.method == 'GET':
        context = {'form': PostForm()}
        return render(request, 'blog/post_form.html', context)


def home(request):
    posts = Post.objects.all()
    context = {'posts': posts}
    return render(request, 'blog/home.html', context)


def about(request):
    return render(request, 'blog/about.html')
```

In the `create_post()`, if the `HTTP` request is `GET`, then create a new instance of the `PostForm` class and pass it to the `render()` function.

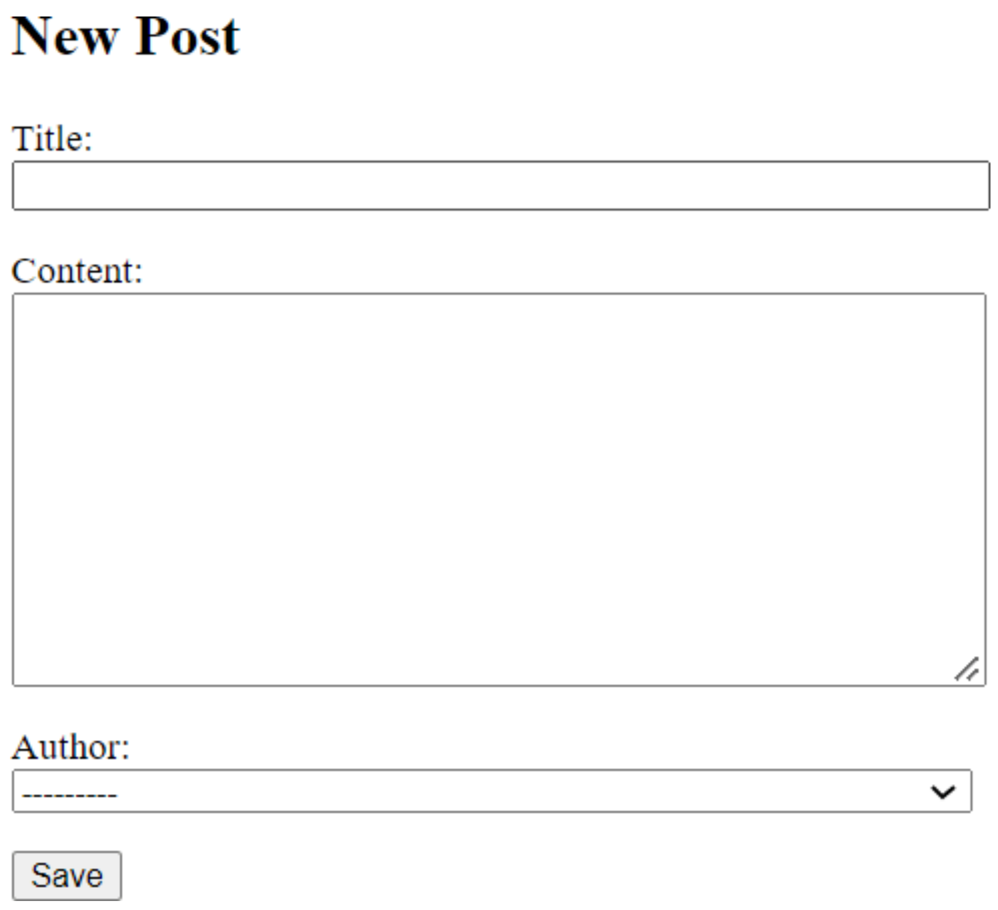
Fifth, create the `post_form.html` template:

```
{% extends 'base.html' %}

{% block content %}

<h2>New Post</h2>
<form method="post" novalidate>
        {% csrf_token %}
        {{ form.as_p }}
        <input type="submit" value="Save" />
</form>

{% endblock content %}
```

In the `post_form.html`, add the `csrf_token` tag and render the form using the `form.as_p` property. It'll output the following:

```
<p>
    <label for="id_title">Title:</label>
    <input type="text" name="title" maxlength="120" required id="id_title">
</p>
<p>
    <label for="id_content">Content:</label>
    <textarea name="content" cols="40" rows="10" required id="id_content"></textarea>
</p>
```

If you open the URL `http://127.0.0.1:8000/post/create` , you'll see the following form:

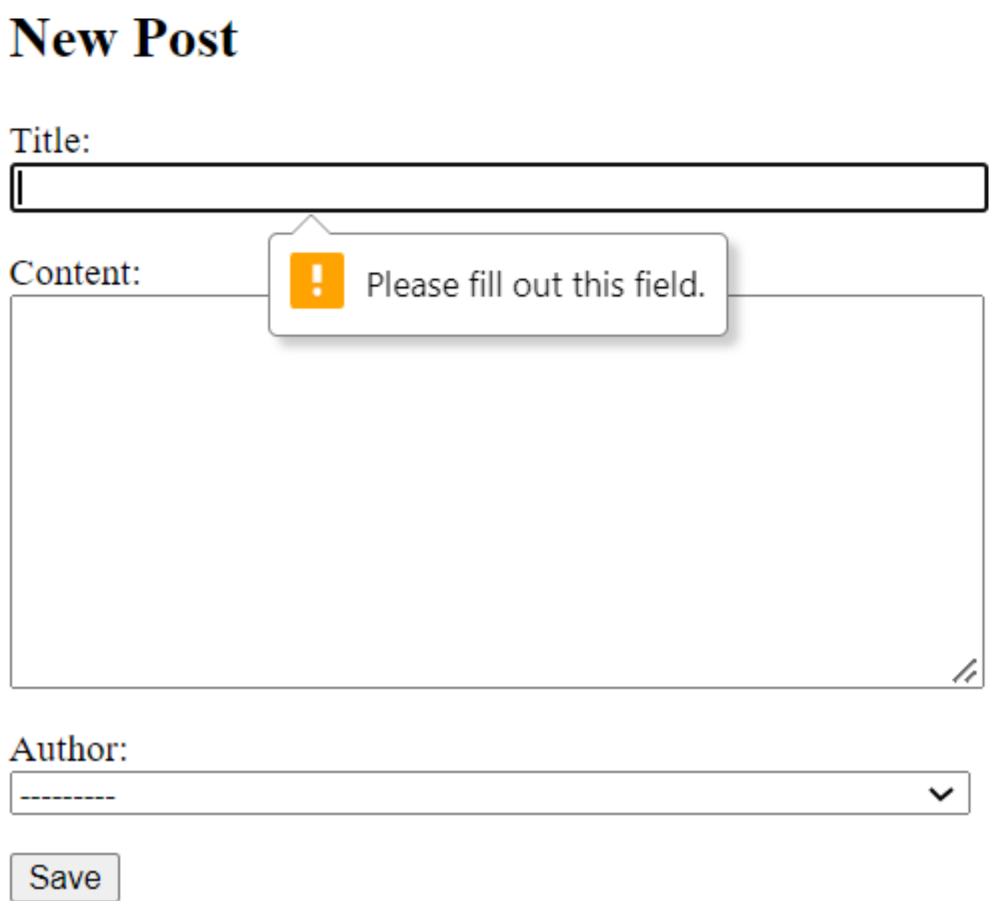

New Post

Title:

Content:

Author:

If you click the Save button, you'll see the error message:


New Post

Title:

Please fill out this field.

Content:

Author:

Because the title, content, and author fields of the Post model are **required fields** by default, the `PostForm` that uses the `Post` model also renders an HTML form that requires these fields.

To test the server validation, you can disable the client validation by adding the `novalidate` property to the form like this:

```
{% extends 'base.html' %}

{% block content %}

<h2>New Post</h2>
<form method="post" novalidate>
        {% csrf_token %}
        {{ form.as_p }}
        <input type="submit" value="Save" />
</form>

{% endblock content %}
```

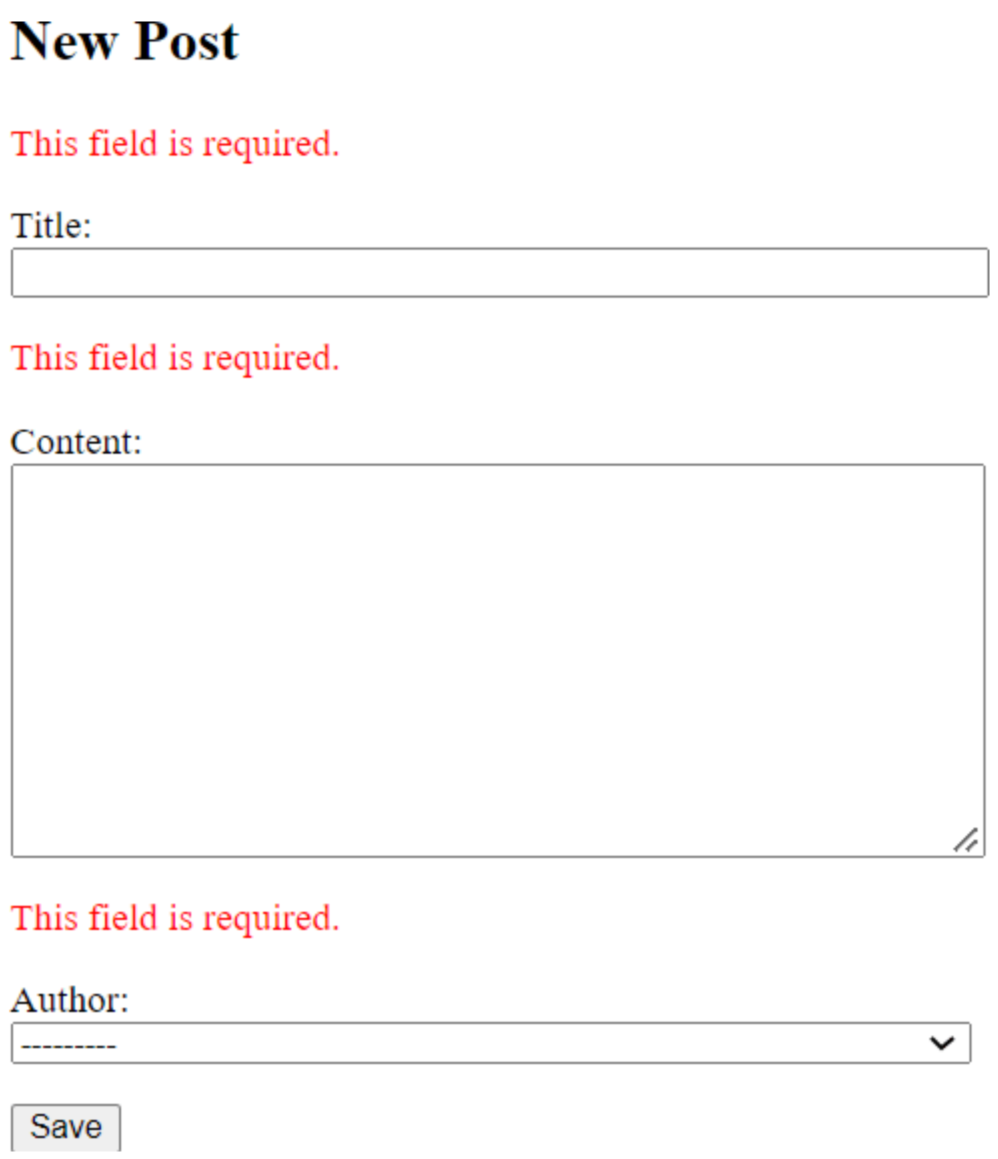
To handle the HTTP POST method, you need to modify the `create_post` function in the `views.py` of the `blog` application:

```
from django.shortcuts import render, redirect
from .models import Post
from .forms import PostForm


def create_post(request):
    if request.method == 'GET':
        context = {'form': PostForm()}
        return render(request, 'blog/post_form.html', context)
    elif request.method == 'POST':
        form = PostForm(request.POST)
        if form.is_valid():
            form.save()
            return redirect('posts')
        else:
            return render(request, 'blog/post_form.html', {'form': form})

# ...
```

If the HTTP request is POST (`request.method=='POST'`):

- Create a new instance of the `PostForm` class with the data from the POST.
- Check if the form is valid.
- If the form is valid, save the form values into the database and redirect the web browser to the `'posts'` path.
- Otherwise, rerender the form with old values and errors.

If you submit the form without entering anything values, you'll get the following error messages:


New Post

This field is required.

Title:

This field is required.

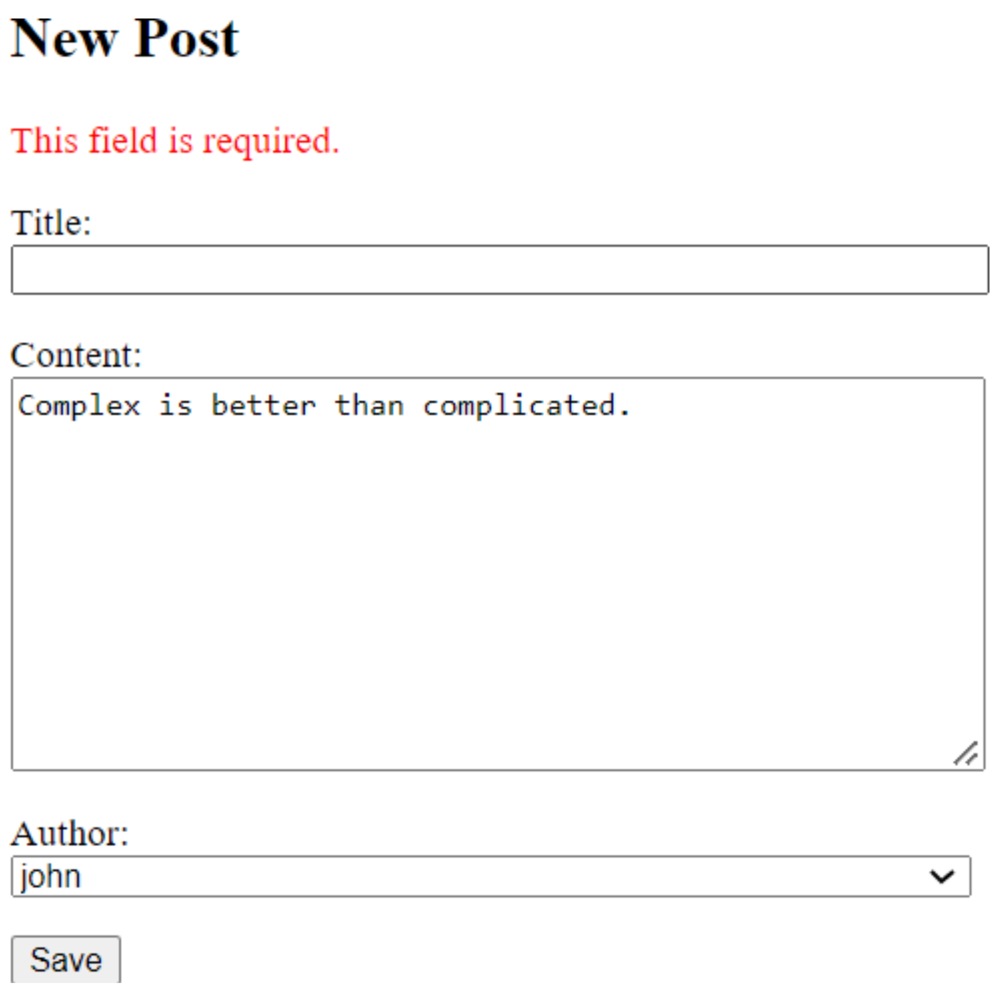
Content:

This field is required.

Author:

However, when you provide values for some required fields, Django renders the form with old values and displays error messages for only invalid fields.

For example, the following form displays the error message for the `title` field while retaining the old values for the `content` and `author` fields:



New Post

This field is required.

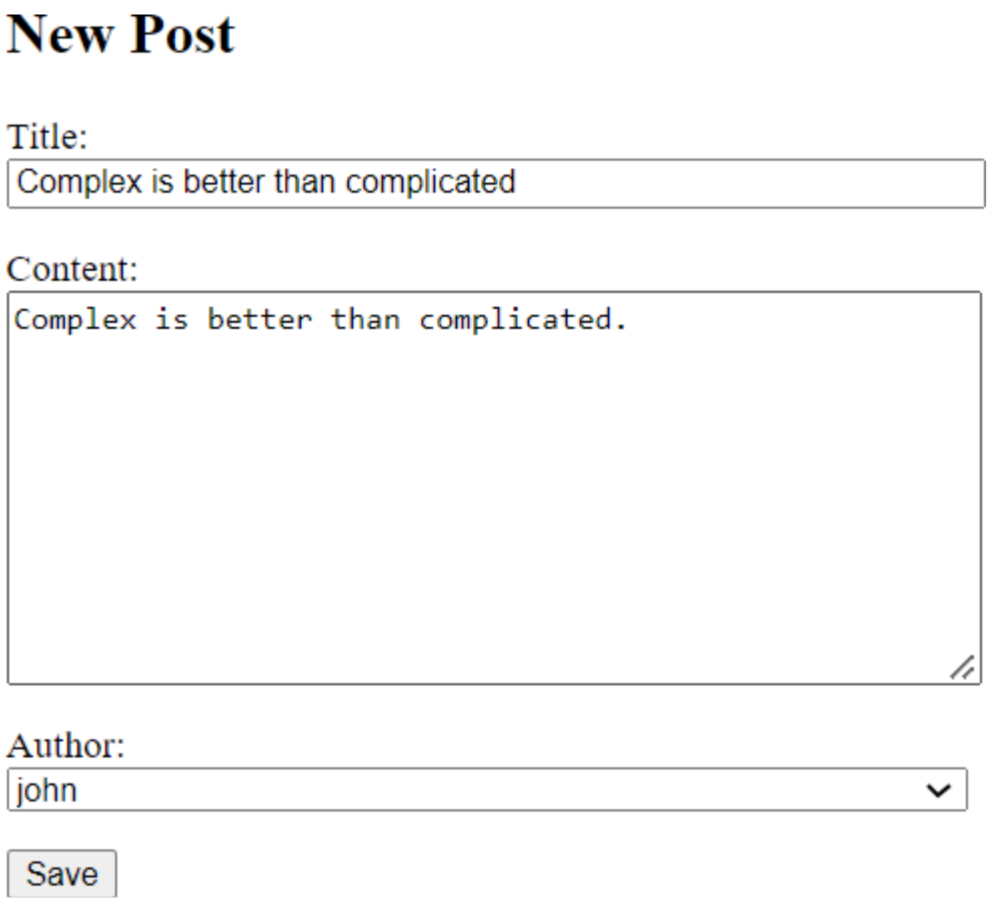
Title:

Content:

```
Complex is better than complicated.
```

Author: john

If you enter valid values for all the fields, Django saves the values into the database


New Post

Title:

Complex is better than complicated

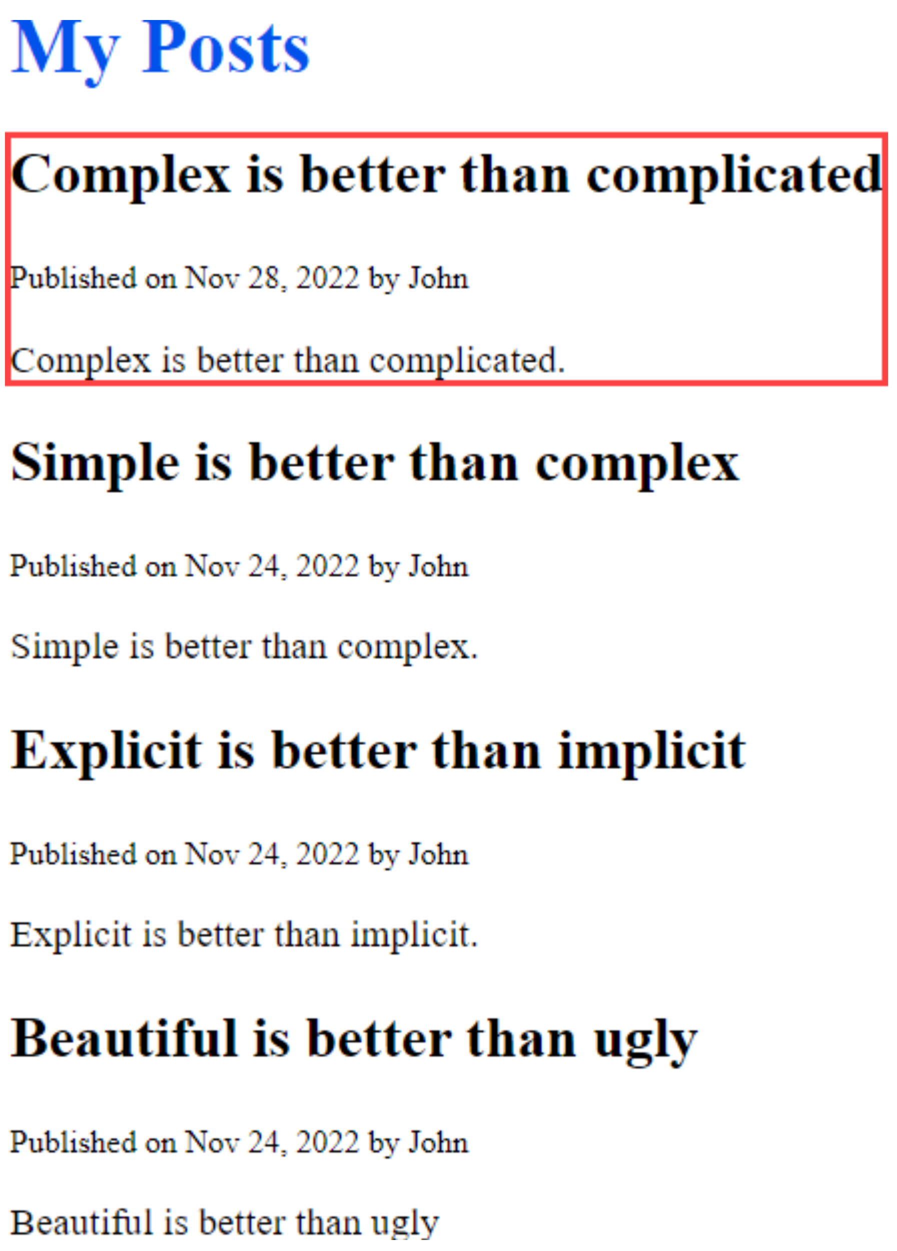
Content:

Complex is better than complicated.

Author:

john

…and redirect to the post list:


My Posts

Complex is better than complicated

Published on Nov 28, 2022 by John

Complex is better than complicated.

Simple is better than complex

Published on Nov 24, 2022 by John

Simple is better than complex.

Explicit is better than implicit

Published on Nov 24, 2022 by John

Explicit is better than implicit.

Beautiful is better than ugly

Published on Nov 24, 2022 by John

Beautiful is better than ugly

Summary

- Create a model form by subclassing the `ModelForm` .
- Add the `novalidate` property to the form to disable HTML5 validation temporarily for testing server validation.
- Use `form.is_valid()` to check if the form is valid.
- Use `form.save()` to save form values into the database.

- Use `redirect()` to redirect to a path.