How to use URL Validator in Django?

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In Django, a popular Python web framework, URL validation can be easily implemented using built-in tools and libraries. In this article, we will explore how to use the URL validator in Django to ensure that the URLs in your web application are valid and secure.

Django's URL Validator

Django provides a URL validator as part of its built-in validation tools. This validator checks whether a given string is valid according to the URL specification. To use this validator, follow these steps:

Step 1: Create a project folder, and Navigate to the Project Directory

```
django-admin startproject bookstore
cd bookstore
```

Activate Virtual Environment (Optional)

Step 2: Create a Django App

Inside your project, create a Django app named "mini":

```
python manage.py startapp mini
```

Step 3: Define the Model

In this example, we'll create a simple model to store the validated URLs. Open the models.py file in your url_validator_app folder and define the model as follows:

Python3

```
# mini/models.py
from django.db import models

class ValidatedURL(models.Model):
    url = models.URLField(unique=True)

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

Step 4: Create form.py

By defining this form class, we've created a structure for capturing and validating URL input from users. It encapsulates the logic needed for URL validation, making it easy to use in our views and templates.

Python3

```
# mini/forms.py
from django import forms
from django.core.validators import URLValidator

class URLForm(forms.Form):
    url = forms.URLField(
        label='Enter a URL',
        validators=[URLValidator()],
        widget=forms.TextInput(attrs={'placeholder': 'https://example.com'})
    )
```

Step 5: Genrate view of the App

The index view handles URL validation and form submissions, while the success view displays the list of validated URLs.

Python3

```
# mini/views.py
from django.shortcuts import render, redirect
from .forms import URLForm
from .models import ValidatedURL

def index(request):
    if request.method == 'POST':
        form = URLForm(request.POST)
        if form.is_valid():
            url = form.cleaned_data['url']
            ValidatedURL.objects.create(url=url)
            return redirect('success')
    else:
        form = URLForm()
    return render(request, 'url_validator_app/index.html', {'form': form})

def success(request):
    validated_urls = ValidatedURL.objects.all()
    return render(request, 'url_validator_app/success.html', {'validated_urls': va
```

Step 6: Create the Templates

Create two HTML templates: one for the form and another for displaying the validated URLs. Create a templates folder within your app directory and add the following templates:

template/index.html: URL Validator

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>URL Validator</title>
</head>
<body>
    <h1>URL Validator</h1>
    <form method="post">
        {% csrf_token %}
        {{ form.as_p }}
        <button type="submit">Submit</button>
    </form>
```

```
</body>
</html>
```

template/index2.html: Validated URLs

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Validated URLs</title>
</head>
<body>
    <h1>Validated URLs</h1>
    <ul>
        {% for url in validated_urls %}
            <li>{{ url }}</li>
        {% empty %}
            <li>No validated URLs yet.</li>
        {% endfor %}
    </ul>
    <a href="{% url 'index' %}">Back to validation</a>
</body>
</html>
```

Step 7: Configure URLs in the mini/urls.py

Configure your app's URLs by creating a urls.py file within the app folder:

Python3

```
# mini/urls.py
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name='index'),
    path('success/', views.success, name='success'),
]
```

Step 8: Incude app URLs in the Project URLs

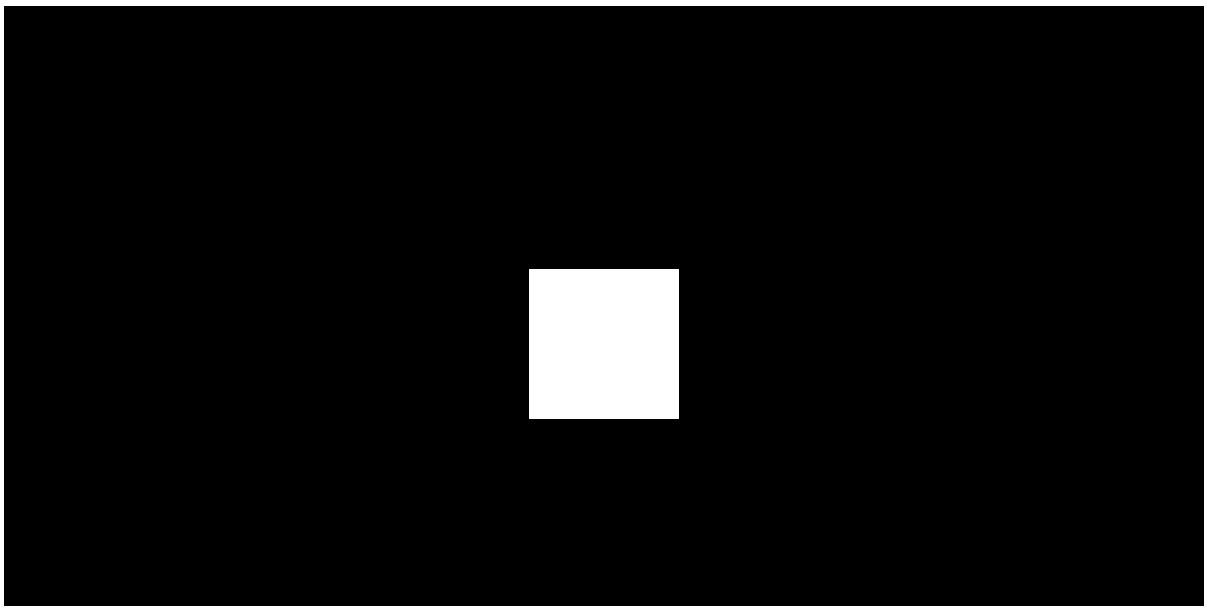
urls.py: In your project's urls.py, include the URLs from your app:

Python3

```
# url_validator_project/urls.py
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('mini.urls')),
]
```

Output:



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