

Perfect! Let's go **step by step with a full, detailed guide to deploy a Django project for free on Render**, which is one of the easiest and most reliable free hosts right now. I'll include **all commands, settings, and explanations**, so you can literally deploy in under 15 minutes.

Step 1: Prepare Your Django Project for Deployment

1.1 Install Required Packages

Open your terminal in your project folder and run:

```
pip install gunicorn dj-database-url whitenoise python-decouple psycopg2-binary
```

```
(env) D:\crud_example>pip install gunicorn dj-database-url whitenoise python-decouple psycopg2-binary
Collecting gunicorn
  Downloading gunicorn-25.1.0-py3-none-any.whl.metadata (5.5 kB)
Collecting dj-database-url
  Downloading dj_database_url-3.1.2-py3-none-any.whl.metadata (13 kB)
Collecting whitenoise
  Downloading whitenoise-6.12.0-py3-none-any.whl.metadata (3.7 kB)
```

What these do:

- **gunicorn** → Production server (instead of `manage.py runserver`)
- **dj-database-url** → Easily read database URL (like PostgreSQL)
- **whitenoise** → Serve static files (CSS/JS) in production
- **python-decouple** → Store sensitive data (`SECRET_KEY`) in `.env`
- **psycopg2-binary** → PostgreSQL driver (Render gives free Postgres)

1.2 Create a `.env` File

In your project root:

```
SECRET_KEY='s3cr3tK3y_1nCLuD1ng$pec!al&Chars2026'

DEBUG=False
```

Make sure you **never commit** `.env` to GitHub. Add it to `.gitignore`.

1.3 Update `settings.py`

Add imports at the top

```
import os
from decouple import config
import dj_database_url
```

Set secret key and debug

```
SECRET_KEY = config('SECRET_KEY')
DEBUG = config('DEBUG', default=False, cast=bool)
```

Set allowed hosts

```
ALLOWED_HOSTS = ['your-app-name.onrender.com']
```

```
# Replace with your Render URL for example https://crud-example-1-ayze.onrender.com/
```

Database configuration

At the bottom of `settings.py`, replace default SQLite for production:

```
DATABASES = {
    'default': dj_database_url.config(
        default='sqlite:///db.sqlite3', # fallback to SQLite
        conn_max_age=600
    )
}
```

1.4 Configure Static Files

Add to `settings.py`:

```
STATIC_URL = '/static/'
STATIC_ROOT = os.path.join(BASE_DIR, 'staticfiles')

# Whitenoise for serving static files
ALLOWED_HOSTS = ['crud-example-1-ayze.onrender.com']

# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'records',
]
```

```
MIDDLEWARE = [  
    'django.middleware.security.SecurityMiddleware',  
    'whitenoise.middleware.WhiteNoiseMiddleware', # for serving static files  
    'django.contrib.sessions.middleware.SessionMiddleware', # Must be  
BEFORE Auth  
    'django.middleware.common.CommonMiddleware',  
    'django.middleware.csrf.CsrfViewMiddleware',  
    'django.contrib.auth.middleware.AuthenticationMiddleware', # AFTER  
Sessions  
    'django.contrib.messages.middleware.MessageMiddleware', # AFTER  
Auth  
    'django.middleware.clickjacking.XFrameOptionsMiddleware',  
]
```

```
ROOT_URLCONF = 'crud_example.urls'
```

```
# Static files (CSS, JavaScript, Images)  
# https://docs.djangoproject.com/en/5.2/howto/static-files/
```

```
import os
```

```
STATIC_URL = '/static/'  
STATIC_ROOT = os.path.join(BASE_DIR, 'staticfiles')
```

```
STATICFILES_STORAGE =  
'whitenoise.storage.CompressedManifestStaticFilesStorage'
```

For example settings.py file screen shot given below:-

```

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = ['crud-example-1-ayze.onrender.com']

# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'records',
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'whitenoise.middleware.WhiteNoiseMiddleware', # for serving static files
    'django.contrib.sessions.middleware.SessionMiddleware', # Must be BEFORE Auth
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware', # AFTER Sessions
    'django.contrib.messages.middleware.MessageMiddleware', # AFTER Auth
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
]

ROOT_URLCONF = 'crud_example.urls'

# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/5.2/howto/static-files/
import os

STATIC_URL = '/static/'
STATIC_ROOT = os.path.join(BASE_DIR, 'staticfiles')

STATICFILES_STORAGE = 'whitenoise.storage.CompressedManifestStaticFilesStorage'

# Default primary key field type
# https://docs.djangoproject.com/en/5.2/ref/settings/#default-auto-field

DEFAULT_AUTO_FIELD = 'django.db.models.BigAutoField'

LOGIN_URL = '/login/'
LOGIN_REDIRECT_URL = '/'

LOGIN_REDIRECT_URL = '/' # where to go after successful login (your record_list)
LOGOUT_REDIRECT_URL = '/login/'

```

Then, collect static files locally to check everything works:

```
python manage.py collectstatic
```

```
(env) D:\crud_example>python manage.py collectstatic
```

1.5 Create requirements.txt

Render uses this to install dependencies:

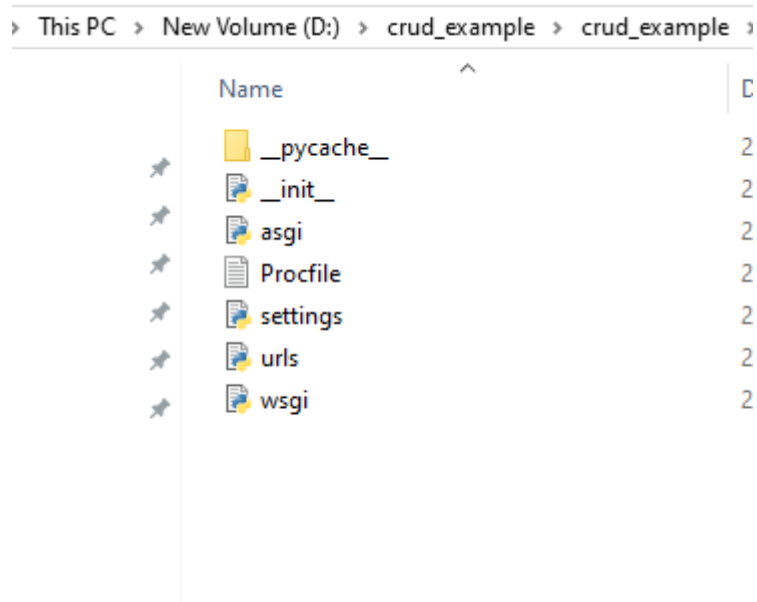
```
pip freeze > requirements.txt
```

1.6 Create Procfile

In your project root, create a file named Procfile (no extension) with:

```
web: gunicorn myproject.wsgi
```

Replace `myproject` with your Django project folder name (where `wsgi.py` is located).



Note:-

Embed migrations in your code (hacky, not recommended)

You could technically run migrations in `wsgi.py`:

```
import os
from django.core.wsgi import get_wsgi_application
from django.core.management import call_command

os.environ.setdefault("DJANGO_SETTINGS_MODULE", "crud_example.settings")

# Run migrations automatically (dangerous on each start!)
call_command('migrate', interactive=False)
application = get_wsgi_application()
```

- Pros: works on free Render

Step 2: Push to GitHub

Render connects to GitHub for deployment.

```
git init
git add .
git commit -m "Ready for Render deployment"
git branch -M main
git remote add origin https://github.com/username/repo.git
git push -u origin main
```

Step 3: Create a Free Render Account

1. Go to [Render.com](https://render.com) → Sign up.
2. Connect your **GitHub account**.

My Workspace ↕

crud_example ▾

crud_example

PROJECT

crud_example ✎

Production

All (0) Services (0) Env Groups (0)

🔍 Search resources in Production

Production is empty





Kickstart your environment with an existing one.

+ Create new service

And click on new web services:-

Create a new Service

Select the type of service you'd like to create

<p> Static Sites</p> <p>Static content served over a global CDN. Ideal for frontend, blogs, and content sites.</p> <p>New Static Site →</p>	<p> Web Services</p> <p>Dynamic web app. Ideal for full-stack apps, API servers, and mobile backends.</p> <p>New Web Service →</p>	<p>£</p> <p>W</p> <p>fr</p> <p>Ni</p>
<p> Cron Jobs</p> <p>Short-lived tasks that run on a periodic schedule.</p> <p>New Cron Job →</p>	<p> Postgres</p> <p>Relational data storage. Supports point-in-time recovery, read replicas, and high availability.</p> <p>New Postgres →</p>	<p>≡</p> <p>M</p> <p>st</p> <p>Ni</p>

And then connect your github account with all repositories

Browser tabs: Login, ChatGPT, New Web Service - Render, digitalommaurya/crud-ex, my-django-project/projec, my-django-project

Address bar: dashboard.render.com/project/prj-d6gos824d50c73erqjog/environment/evm-d6gos824d50c73erqjp0/web/new

Workspace: My Workspace

Environment: crud_example / Production / New Web Service

New Web Service

Source Code

Git Provider | Public Git Repository | Existing Image

Search

- digitalommaurya / crud-example 37m ago
- digitalommaurya / my-django-project 2h ago
- digitalommaurya / php Nov 15, 2025
- digitalommaurya / mem-stack-projects Oct 25, 2025
- digitalommaurya / omsir Sep 15, 2025

And then

Browser tabs: Login, ChatGPT, New Web Service · Rende, digitalommaurya/crud-ex, my-django-pr

Address bar: dashboard.render.com/project/prj-d6gos824d50c73erqjog/environment/evm-d6gos824d50c73erqjp0/web/new

Navigation: My Workspace, crud_example / Production / New Web Service

New Web Service

It looks like you're using **Django**, so we've autofilled some fields accordingly.

Source Code

digitalommaurya / crud-example • 38m ago

Name

A unique name for your web service.

crud-example1

Project Optional

Add this web service to a **project** once it's created.

crud_example

Language

Choose the **runtime environment** for this service.

Python 3

Branch

The Git branch to build and deploy.

main

Region

Your services in the same **region** can communicate over a **private network**. You

Oregon (US West)

And you will see

dashboard.render.com/web-srv-d6gp141aae7s73bhqjg/deploys/dep-d6gp141aae7s73bhqjg?r=2026-02-27%4012%3A38%3A46-2026-02-27%4012%3A42%3A45

My Workspace crud_example Production crud-example-1

Environment crud-example-1

- Events
- Settings
- MONITOR
 - Logs
 - Metrics
- MANAGE
 - Environment
 - Shell
 - Scaling
 - Previews
 - Disk
 - Jobs
- Changelog
 - Invite a friend
 - Contact support
 - Render Status

WEB SERVICE crud-example-1 Python 3 Free Upgrade your instance →

Service ID: srv-d6gp141aae7s73bhqjg

digitalmaurya / crud-example main

https://crud-example-1-ayze.onrender.com

Your free instance will spin down with inactivity, which can delay requests by 50 seconds or more. Upgrade now

February 27, 2026 at 6:09 PM Live

d89c293 Initial commit

All logs Search Feb 27, 6:08 PM - 6:12 PM GMT+5:30

```
Feb 27
06:11:39 PM [log] File "/opt/render/project/src/.venv/lib/python3.14/site-packages/django/core/handlers/exception.py", line 55, in inner
response = get_response(request)
06:11:39 PM [log] File "/opt/render/project/src/.venv/lib/python3.14/site-packages/django/core/handlers/base.py", line 197, in _get_response
response = wrapped_callback(request, *callback_args, **callback_kwargs)
06:11:39 PM [log] File "/opt/render/project/src/.venv/lib/python3.14/site-packages/django/contrib/auth/decorators.py", line 56, in _view_wrapper
test_pass = test_func(request.user)
06:11:39 PM [log] AttributeError: 'WSGIRequest' object has no attribute 'user'
06:11:39 PM [log] 127.0.0.1 - - [27/Feb/2026:12:41:39 -0800] "HEAD / HTTP/1.1" 500 63198 "-" "Go-http-client/1.1"
06:11:46 PM
=== Your service is live 🎉
06:11:46 PM
===
06:11:46 PM
=== Available at your primary URL https://crud-example-1-ayze.onrender.com
06:11:46 PM
===
06:11:46 PM
===
```

Activate Windows
Go to Settings to activate Windows.

6:11 PM 2/27/2026