Step-by-Step Guide: Creating a User Roles and Permissions App with Laravel 12

When building modern applications, one of the most common requirements is managing **user roles** and **permissions**. In this post, we'll break down the concepts, then show you how to implement them in a Laravel 12 app step by step — including a simple admin UI to manage roles and permissions.

Definitions

Role: A role is a named bundle of permissions (e.g., *Admin*, *Editor*). Assigning a role grants all permissions that role contains.

Permission: A permission represents a specific action (e.g., *posts.create*, *users.delete*). Permissions are the atomic units of access.

RBAC (Role-Based Access Control): A strategy where users get roles, and roles contain permissions. This avoids assigning dozens of permissions directly to each user.

Step 1 – Install Laravel and Spatie Roles & Permissions

```
composer create-project laravel/laravel roles-permissions-app
cd roles-permissions-app
```

```
composer require spatie/laravel-permission
```
Code language: JavaScript (javascript)

Publish config and migrations:

```
php artisan vendor:publish --provider="Spatie\Permission\PermissionServiceProvider"
```
Code language: JavaScript (javascript)

Step 2 – Run Migrations

```
php artisan migrate
```

This creates `roles`, `permissions`, and pivot tables to link them with users.

Step 3 – Add Trait to User Model

```
// app/Models/User.php
namespace App\Models;

use Illuminate\Foundation\Auth\User as Authenticatable;
use Spatie\Permission\Traits\HasRoles;

class User extends Authenticatable
```

```
{
    use HasRoles;

    // ...
}
```

Code language: PHP (php)

Step 4 – Seed Roles & Permissions

Create a seeder to define a baseline policy:

```php
// database/seeders/RolesAndPermissionsSeeder.php
namespace Database\Seeders;

use Illuminate\Database\Seeder;
use Spatie\Permission\Models\Role;
use Spatie\Permission\Models\Permission;

class RolesAndPermissionsSeeder extends Seeder
{
    public function run(): void
    {
        $permissions = [
            'posts.create',
            'posts.edit',
            'posts.delete',
            'users.view',
            'users.edit',
        ];

        foreach ($permissions as $name) {
```

```php
            Permission::firstOrCreate(['name' => $name]);
        }

        $admin = Role::firstOrCreate(['name' => 'Admin']);
        $editor = Role::firstOrCreate(['name' => 'Editor']);

        $admin->givePermissionTo($permissions);
        $editor->givePermissionTo(['posts.create', 'posts.edit']);
    }
}
```
Code language: PHP (php)

```
php artisan db:seed --class=RolesAndPermissionsSeeder
```
Code language: JavaScript (javascript)

Step 5 – Gate Your Routes

```php
// routes/web.php
use Illuminate\Support\Facades\Route;

Route::get('/admin', fn() => 'Admin panel')
    ->middleware('role:Admin');

Route::get('/posts/create', fn() => 'Create post form')
    ->middleware('permission:posts.create');
```
Code language: PHP (php)

Step 6 – Build a Simple Management UI (Blade)

> **What you'll build:** Minimal CRUD screens to list, create, and edit Roles and Permissions, plus assign permissions to roles and roles to users.

Generate controllers:

```
php artisan make:controller Admin/RoleController --resource
php artisan make:controller Admin/PermissionController --resource
php artisan make:controller Admin/UserRoleController
```

Routes for the admin UI (protect with `role:Admin`):

```
// routes/web.php
use App\Http\Controllers\Admin\RoleController;
use App\Http\Controllers\Admin\PermissionController;
use App\Http\Controllers\Admin\UserRoleController;

Route::middleware(['auth',
'role:Admin'])->prefix('admin')->name('admin.')->group(function () {
    Route::resource('roles', RoleController::class);          //
index, create, store, edit, update, destroy
    Route::resource('permissions', PermissionController::class);

    // Assign roles to users
    Route::get('users/{user}/roles', [UserRoleController::class,
'edit'])->name('users.roles.edit');
    Route::put('users/{user}/roles', [UserRoleController::class,
'update'])->name('users.roles.update');
});
```

Code language: PHP (php)

Controller examples:

```
// app/Http/Controllers/Admin/RoleController.php
namespace App\Http\Controllers\Admin;

use App\Http\Controllers\Controller;
use Illuminate\Http\Request;
use Spatie\Permission\Models\Role;
use Spatie\Permission\Models\Permission;

class RoleController extends Controller
{
    public function index()
    {
        $roles = Role::with('permissions')->paginate(10);
        return view('admin.roles.index', compact('roles'));
    }

    public function create()
    {
        $permissions = Permission::orderBy('name')->get();
        return view('admin.roles.create', compact('permissions'));
    }

    public function store(Request $request)
    {
        $data = $request->validate([
            'name' => 'required|string|max:255|unique:roles,name',
            'permissions' => 'array',
        ]);

        $role = Role::create(['name' => $data['name']]);
        $role->syncPermissions($data['permissions'] ?? []);

        return redirect()->route('admin.roles.index')->with('status',
'Role created.');
    }
```

```php
    public function edit(Role $role)
    {
        $permissions = Permission::orderBy('name')->get();
        $role->load('permissions');
        return view('admin.roles.edit', compact('role',
'permissions'));
    }

    public function update(Request $request, Role $role)
    {
        $data = $request->validate([
            'name' => 'required|string|max:255|unique:roles,name,' .
$role->id,
            'permissions' => 'array',
        ]);

        $role->update(['name' => $data['name']]);
        $role->syncPermissions($data['permissions'] ?? []);

        return redirect()->route('admin.roles.index')->with('status',
'Role updated.');
    }

    public function destroy(Role $role)
    {
        $role->delete();
        return back()->with('status', 'Role deleted.');
    }
}
```
Code language: PHP (php)

```php
// app/Http/Controllers/Admin/PermissionController.php
namespace App\Http\Controllers\Admin;

use App\Http\Controllers\Controller;
use Illuminate\Http\Request;
use Spatie\Permission\Models\Permission;

class PermissionController extends Controller
```

```
{
    public function index()
    {
        $permissions = Permission::orderBy('name')->paginate(15);
        return view('admin.permissions.index',
compact('permissions'));
    }

    public function create()
    {
        return view('admin.permissions.create');
    }

    public function store(Request $request)
    {
        $data = $request->validate([
            'name' =>
'required|string|max:255|unique:permissions,name',
        ]);

        Permission::create(['name' => $data['name']]);
        return
redirect()->route('admin.permissions.index')->with('status',
'Permission created.');
    }

    public function edit(Permission $permission)
    {
        return view('admin.permissions.edit', compact('permission'));
    }

    public function update(Request $request, Permission $permission)
    {
        $data = $request->validate([
            'name' =>
'required|string|max:255|unique:permissions,name,' . $permission->id,
        ]);
```

```
        $permission->update(['name' => $data['name']]);
        return
redirect()->route('admin.permissions.index')->with('status',
'Permission updated.');
    }

    public function destroy(Permission $permission)
    {
        $permission->delete();
        return back()->with('status', 'Permission deleted.');
    }
}
```
Code language: PHP (php)

```
// app/Http/Controllers/Admin/UserRoleController.php
namespace App\Http\Controllers\Admin;

use App\HttpControllers\Controller;
use App\Models\User;
use Illuminate\Http\Request;
use Spatie\Permission\Models\Role;

class UserRoleController extends Controller
{
    public function edit(User $user)
    {
        $roles = Role::orderBy('name')->get();
        $user->load('roles');
        return view('admin.users.roles', compact('user', 'roles'));
    }

    public function update(Request $request, User $user)
    {
        $data = $request->validate([
            'roles' => 'array',
        ]);

        $user->syncRoles($data['roles'] ?? []);
        return redirect()->route('admin.users.roles.edit',
```

```
$user)->with('status', 'User roles updated.');
    }
}
```
Code language: PHP (php)

Example Blade views (Bootstrap 5 layout implied):

```
<!-- resources/views/admin/roles/index.blade.php -->
@extends('layouts.app')

@section('content')
<div class="container">
  <div class="d-flex justify-content-between align-items-center mb-3">
    <h1 class="h3">Roles</h1>
    <a href="{{ route('admin.roles.create') }}" class="btn btn-
primary">New Role</a>
  </div>

  <table class="table table-striped">
    <thead><tr><th>Name</th><th>Permissions</th><th class="text-
end">Actions</th></tr></thead>
    <tbody>
      @foreach($roles as $role)
        <tr>
          <td>{{ $role->name }}</td>
          <td>{{ $role->permissions->pluck('name')->join(', ') ?: '—'
}}</td>
          <td class="text-end">
            <a href="{{ route('admin.roles.edit', $role) }}"
class="btn btn-sm btn-outline-secondary">Edit</a>
            <form action="{{ route('admin.roles.destroy', $role) }}"
method="POST" class="d-inline">
              @csrf @method('DELETE')
              <button class="btn btn-sm btn-outline-danger"
onclick="return confirm('Delete this role?')">Delete</button>
            </form>
          </td>
        </tr>
      @endforeach
```

```
    </tbody>
  </table>

  {{ $roles->links() }}
</div>
@endsection
```

Code language: PHP (php)

```
<!-- resources/views/admin/users/roles.blade.php -->
@extends('layouts.app')

@section('content')
<div class="container">
  <h1 class="h3 mb-3">Manage Roles for: {{ $user->name }}</h1>

  @if(session('status'))
    <div class="alert alert-success">{{ session('status') }}</div>
  @endif

  <form method="POST" action="{{ route('admin.users.roles.update', 
$user) }}" class="card card-body">
    @csrf @method('PUT')

    <div class="row">
      @foreach($roles as $role)
        <div class="col-md-4 mb-2">
          <div class="form-check">
            <input class="form-check-input" type="checkbox" 
name="roles[]" value="{{ $role->name }}"
              id="role_{{ $role->id }}" {{ $user->hasRole($role->name) 
? 'checked' : '' }}>
            <label for="role_{{ $role->id }}" class="form-check-
label">{{ $role->name }}</label>
          </div>
        </div>
      @endforeach
    </div>

    <div class="mt-3">
```

```
      <button class="btn btn-primary">Save</button>
    </div>
  </form>
</div>
@endsection
```
Code language: PHP (php)

In Blade, you can also show/hide controls using directives:

```
@role('Admin')
  <a href="{{ route('admin.roles.index') }}" class="btn btn-sm btn-outline-primary">Manage Roles</a>
@endrole

@can('posts.create')
  <a href="{{ url('/posts/create') }}" class="btn btn-primary">New Post</a>
@endcan
```
Code language: PHP (php)

> **Security notes:** Keep the admin routes behind `auth` + `role:Admin`. Validate inputs. Prefer `syncRoles` / `syncPermissions` to avoid stale assignments.

Step 7 - Test Assignments Quickly

```
php artisan tinker

>>> $u = \App\Models\User::first();
>>> $u->assignRole('Admin');
```

```php
>>> $u->can('users.edit'); // true if Admin has this permission
```
Code language: PHP (php)

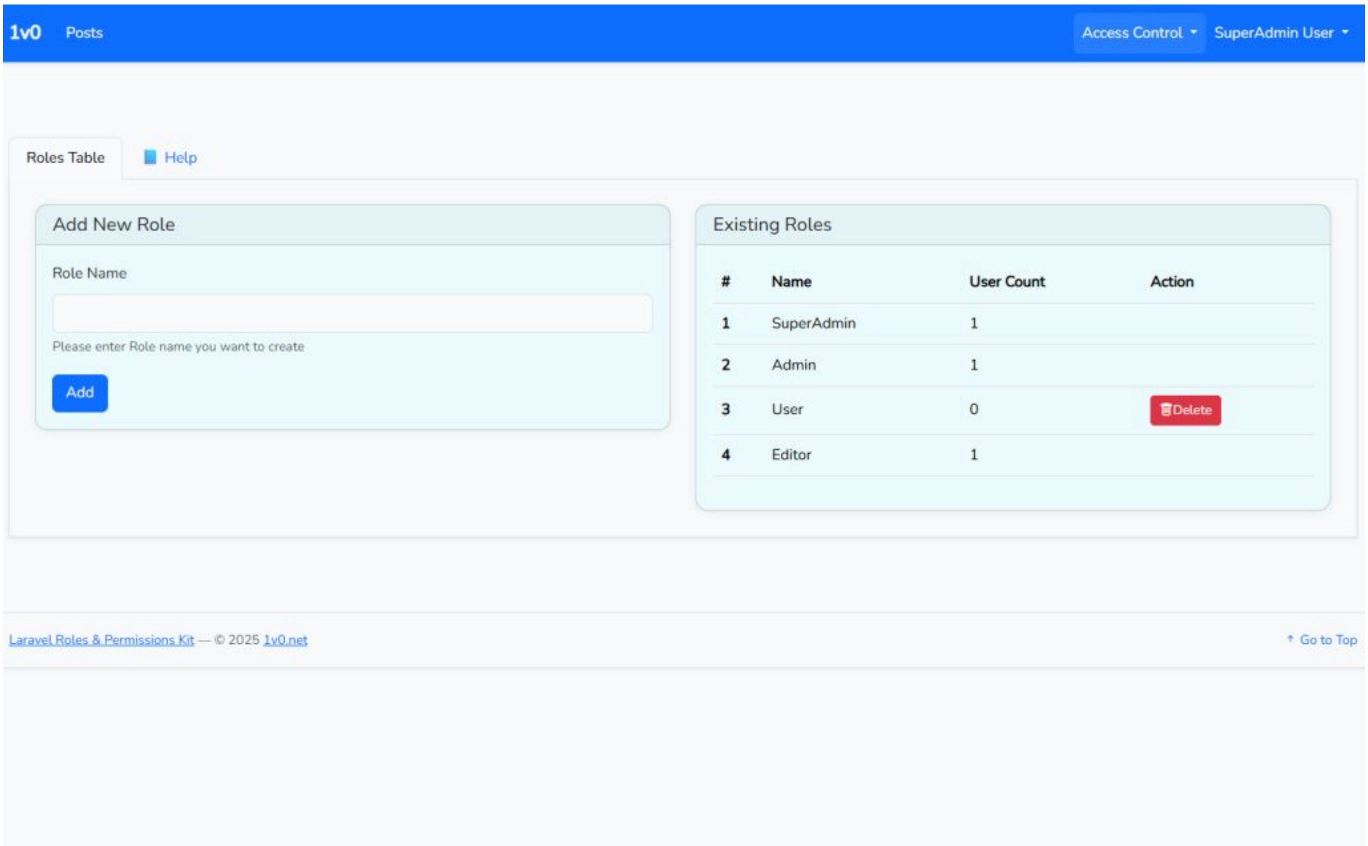
Conclusion

You now have a working RBAC foundation in Laravel 12: roles, permissions, protected routes, and a minimal UI to manage everything. From here, you can expand the interface (search, pagination, bulk assign), add activity logs, and expose APIs for admin operations.

Grab a production-ready implementation

If you don’t want to wire up all the edge cases (UI, roles, permissions, settings toggles, demos), **Grab a production-ready implementation**:

[Laravel Starter Kits]



Laravel Roles & Permissions UI

This lightweight Laravel starter kit helps you quickly integrate user roles and permissions using the popular spatie/laravel-permission package.

[Learn more]

[Laravel Starter Kits]