Changes Between Group Project and Personal Repository

Repository Information

Group Project (Original): `CSE327_Group-6` - Branch: `Sadman` **Personal Repository**: `CSE327_Sadman_Personal` - Branches: `main` and `explain/2025-12-03-2327`

Purpose: This document explains all changes made when creating the personal repository from the group project.

Summary of Changes

What Stayed the Same ✓

- Core functionality (login, register, logout, admin authentication)
- Database schema (migrations unchanged)
- UI design and styling (Tailwind CSS, same look and feel)
- Routing structure
- Authentication guards (web and admin)
- All existing features work identically

What Was Added ☑

1. **Comprehensive PHPDoc Comments**
    - Admin.php: Class and property-level documentation
    - AuthController.php: Method documentation
    - AdminAuthController.php: Method documentation
    - User.php: Already had good documentation
    - AuthManager.php: Already had good documentation
2. **Unit Tests**
    - `tests/Unit/AdminTest.php` - Tests Admin model functionality
3. **Generated API Documentation**

- `docs/api/` folder with complete Doctum-generated documentation
- 18 classes documented
- Interactive HTML documentation

4. **Teaching/Learning Files**

- `PHPDOC_GUIDE.md` - How to use and generate PHPDoc
- `EXPLANATION_STRUCTURE.md` - Complete Laravel folder structure guide
- `MVC_EXPLANATION.md` - MVC architecture explained
- `EXPLANATION.md` - Teaching guide with 60-90 second demo script

5. **Line-by-Line Teaching Comments** (explain branch only)

- AuthController.php: 260+ lines of beginner-friendly comments
- AdminAuthController.php: 228+ lines of comments
- routes/web.php: Complete routing tutorial in comments
- login.blade.php: 350+ lines explaining HTML, Blade, forms, JavaScript

6. **Documentation Tools**

- `doctum.phar` - Documentation generator
- `doctum_config.php` - Configuration for generating docs

File-by-File Comparison

Backend Files

1. `app/Models/Admin.php`

Group Project Version (BEFORE):

```php
<?php

namespace App\Models;

use Illuminate\Foundation\Auth\User as Authenticatable;
use Illuminate\Notifications\Notifiable;
use Illuminate\Database\Eloquent\Factories\HasFactory;

class Admin extends Authenticatable
{
    use HasFactory, Notifiable;

    protected $guard = 'admin';

    protected $fillable = [
        'name',
        'email',
        'password',
    ];

    protected $hidden = [
        'password',
        'remember_token',
    ];

    protected function casts(): array
    {
        return [
            'password' => 'hashed',
        ];
    }
}
```

Personal Repository Version (AFTER - main branch):

```php
<?php

namespace App\Models;

use Illuminate\Foundation\Auth\User as Authenticatable;
use Illuminate\Notifications\Notifiable;
use Illuminate\Database\Eloquent\Factories\HasFactory;

/**
 * Admin Model
 *
 * Represents administrative staff accounts in the system.
 * Completely separate from regular User accounts with its own authentication guard.
 *
 * @property int $id Unique identifier for the admin
 * @property string $name Full name of the admin
 * @property string $email Email address (unique, used for login)
 * @property string $password Hashed password
 * @property string|null $remember_token Token for "remember me" functionality
 * @property \Carbon\Carbon $created_at Timestamp when admin was created
 * @property \Carbon\Carbon $updated_at Timestamp when admin was last updated
 *
 * @package App\Models
 */
class Admin extends Authenticatable
{
    use HasFactory, Notifiable;

    /**
     * The authentication guard this model uses
     *
     * @var string
     */
    protected $guard = 'admin';

    /**
     * Mass-assignable attributes
     * These can be set via Admin::create() or $admin->fill()
     *
     * @var array<string>
     */
    protected $fillable = [
        'name',
        'email',
        'password',
    ];

    /**
     * Attributes hidden from JSON serialization
     * Prevents passwords and tokens from being exposed in API responses
     *
```

```
     * @var array<string>
     */
    protected $hidden = [
        'password',
        'remember_token',
    ];

    /**
     * Get the attributes that should be cast
     * Laravel automatically hashes the password when set
     *
     * @return array<string, string>
     */
    protected function casts(): array
    {
        return [
            'password' => 'hashed',
        ];
    }
}
```

Changes Made:

- ✅ Added comprehensive class-level PHPDoc with `@property` tags documenting all model attributes
- ✅ Added property-level documentation for `$guard`, `$fillable`, and `$hidden`
- ✅ Added method documentation for `casts()`
- ✅ Functionality remains 100% identical

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2. `app/Http/Controllers/AuthController.php`

Group Project Version (BEFORE): Had basic PHPDoc but minimal documentation.

Personal Repository Version (AFTER):

- ✅ Enhanced class-level documentation explaining the controller's purpose
- ✅ Improved method docblocks with detailed `@param` and `@return` descriptions
- ✅ **explain branch**: Added 260+ lines of teaching comments explaining every line of code

Changes Made:

- Functionality: 0 changes - works exactly the same
- Documentation: Significantly enhanced
- Teaching comments (explain branch only): Explains what, how, and why for every line

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3. `app/Http/Controllers/AdminAuthController.php`

Group Project Version (BEFORE): Had basic PHPDoc.

Personal Repository Version (AFTER):

- ✅ Enhanced class and method documentation
- ✅ **explain branch**: Added 228+ lines of teaching comments

Changes Made:

- Functionality: 0 changes
- Documentation: Significantly enhanced

Frontend Files

4. `resources/views/auth/login.blade.php`

Group Project Version (BEFORE): Minimal or no comments in the Blade template.

Personal Repository Version (explain branch):

- ✅ Added 350+ lines of teaching comments
- ✅ Explains every HTML element
- ✅ Explains Blade directives (`@extends` , `@section` , `{{ }}` , `@csrf` , etc.)
- ✅ Explains form submission flow
- ✅ Explains Alpine.js integration for password toggle
- ✅ Explains CSRF protection

Changes Made:

- UI/functionality: 0 changes - looks and works exactly the same
- Comments: Comprehensive beginner-friendly explanations added

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Routing

5. `routes/web.php`

Group Project Version (BEFORE): Basic routing with minimal comments.

Personal Repository Version (explain branch):

- ✅ Added comprehensive routing tutorial in comments
- ✅ Explains middleware (`auth` , `guest` , `auth:admin` , `guest:admin`)
- ✅ Explains guards
- ✅ Explains route naming
- ⚠ One minor change: Simplified routing structure slightly (but all routes still work the same)

Changes Made:

- Routes: All routes identical and functional
- Comments: Complete routing education added

New Files Created

6. `tests/Unit/AdminTest.php` ✨ NEW

What it does: Tests the Admin model following PHPUnit conventions:

- Tests model creation
- Tests fillable attributes
- Tests hidden attributes
- Tests guard configuration

Format:

- Docblocks above each test
- Uses `new Admin()` instantiation
- Uses `$this->assertEquals()` assertions

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7. `PHPDOC_GUIDE.md` ✨ NEW

What it contains:

- Explanation of PHPDoc and its purpose
- How to write PHPDoc comments
- How to run Doctum to generate documentation
- Examples from the codebase
- Benefits of documentation

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8. `EXPLANATION_STRUCTURE.md` ✨ NEW

What it contains:

- Detailed explanation of every Laravel folder
- Answers: What is it? What goes in it? How does this project use it? MVC role?
- Covers: `/app`, `/resources`, `/routes`, `/database`, `/tests`, `/config`, etc.

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9. `MVC_EXPLANATION.md` ✨ NEW

What it contains:

- What MVC means
- How Laravel implements MVC
- Restaurant analogy for easy understanding
- User login flow diagram
- Where business logic belongs
- Which files represent M, V, and C in this project

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10. `EXPLANATION.md` ✨ NEW

What it contains:

- File-by-file teaching guide
- Key lines to highlight for each file
- **60-90 second demo script for presentation**
- Anticipated instructor questions & answers
- Presentation tips

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11. `docs/api/` ✨ NEW

What it contains:

- Generated API documentation using Doctum
- `index.html` - Main documentation page
- Complete documentation for 18 classes
- Interactive navigation and search

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12. `doctum_config.php` ✨ NEW

What it is: Configuration file for Doctum documentation generator.

Testing & Verification

Tests That Run Successfully

```
# Run all tests
php artisan test

# Run unit tests only
php artisan test tests/Unit/

# Run specific test
php artisan test tests/Unit/AdminTest.php
```

Expected Output:

```
Tests:    4 passed
Duration: < 1 second
```

Functional Verification

✅ User Registration

- Navigate to `/register`
- Fill out form (first name, last name, email, password)
- Submit
- User is registered and logged in automatically
- Redirected to home page

✅ User Login

- Navigate to `/login`
- Enter email and password
- Check "Remember Me" (optional)
- Submit
- User is logged in
- Redirected to home page or intended page

✅ User Logout

- Click logout button
- User is logged out
- Session destroyed
- Redirected to login page

✅ Admin Login

- Navigate to `/admin/login`
- Enter admin email and password
- Submit
- Admin is logged in
- Redirected to admin dashboard

✅ Admin Registration

- Navigate to `/admin/register`
- Fill out form
- Submit
- Admin account created and logged in
- Redirected to admin dashboard

✅ Admin Logout

- Click logout in admin dashboard
- Admin is logged out
- Redirected to admin login

UI Verification

☑ Login Page

- Logo displays correctly
- Form fields are styled with Tailwind CSS
- Password toggle (eye icon) works
- Error messages display in red box
- "Remember Me" checkbox is functional
- "Sign up" link navigates to register page

☑ Registration Page

- Same styling as login
- Validation errors display correctly
- Password confirmation works

☑ Admin Login Page

- Separate page at `/admin/login`
- Same styling consistency
- Works independently from user login

☑ Admin Dashboard

- Displays admin's name
- Logout button works
- Protected by `auth:admin` middleware

Key Differences Summary

Aspect	Group Project	Personal Repository
Core Code	Functional	Identical - works the same
PHPDoc	Basic	Comprehensive with @property, @param, @return
Unit Tests	✗ None	✓ AdminTest.php
Generated Docs	✗ None	✓ Complete Doctum documentation
Teaching Guides	✗ None	✓ 4 comprehensive guides
Line-by-Line Comments	✗ None	✓ 1000+ lines (explain branch)
Functionality	✓ Works	✓ Works identically
UI	✓ Looks good	✓ Looks identical

Original CSE327 Project Explanation (Before Changes)

What the Project Was

The CSE327 Group Project was a **Laravel-based authentication system** created as a group assignment. It included:

Core Features:

1. User authentication (login, register, logout)
2. Admin authentication (separate admin panel)
3. Session management
4. "Remember Me" functionality
5. Clean, modern UI using Tailwind CSS

Technical Stack:

- Laravel 11.x (PHP framework)
- MySQL database (via `user` and `admins` tables)
- Tailwind CSS (styling)
- Alpine.js (minimal JavaScript for interactions)

Architecture:

- Custom authentication using `AuthManager` service
- Separate guards for users (`web`) and admins (`admin`)
- MVC pattern (Models, Views, Controllers)
- Blade templating engine for views

What Was Missing

Despite being functional, the group project lacked:

- ❌ Professional documentation (PHPDoc)
- ❌ Unit tests
- ❌ Teaching materials for presentation
- ❌ Beginner-friendly explanations
- ❌ Generated API documentation

Why Personal Repository Was Created

The personal repository was created to:

1. **Learn deeply by refactoring**: Understand every line by documenting it
2. **Create teaching materials**: Make the code explainable to instructors
3. **Add professional touches**: PHPDoc, tests, generated documentation
4. **Separate from group work**: Avoid affecting the group project
5. **Demonstrate understanding**: Show mastery through documentation

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Verification Checklist

✅ Code Works Identically

- ☑ User can register
- ☑ User can login
- ☑ User can logout
- ☑ Admin can login at /admin/login
- ☑ Admin can register at /admin/register
- ☑ Admin can access dashboard
- ☑ Admin can logout
- ☑ Sessions work correctly
- ☑ Remember Me functionality works
- ☑ Guards prevent unauthorized access

✅ UI Looks Identical

- ☑ Login page matches group project
- ☑ Registration page matches group project
- ☑ Admin login page matches group project
- ☑ Admin dashboard matches group project
- ☑ Tailwind CSS styling identical
- ☑ Password toggle icon works
- ☑ Form validation displays correctly

✅ Tests Pass

- ☑ `php artisan test` runs successfully
- ☑ AdminTest.php passes (4/4 tests)
- ☑ No PHP errors
- ☑ No database errors

☑ Documentation Complete

- ☑ PHPDoc in all controllers and models
- ☑ Teaching guides created
- ☑ API documentation generated
- ☑ Line-by-line comments added (explain branch)

How to Verify Everything Works

Step 1: Clone and Setup

```
git clone https://github.com/Szaman07/CSE327_Sadman_Personal.git
cd CSE327_Sadman_Personal
composer install
cp .env.example .env
php artisan key:generate
```

Step 2: Configure Database

Edit `.env` file:

```
DB_DATABASE=your_database
DB_USERNAME=your_username
DB_PASSWORD=your_password
```

Step 3: Run Migrations

```
php artisan migrate
```

Step 4: Run Tests

```
php artisan test
```

Expected: All tests pass ✅

Step 5: Start Server

```
php artisan serve
```

Step 6: Test Functionality

1. Visit `http://localhost:8000/register` - Register a user
2. Login at `http://localhost:8000/login`
3. Logout
4. Visit `http://localhost:8000/admin/register` - Register an admin
5. Login at `http://localhost:8000/admin/login`

Step 7: View Documentation

Open `docs/api/index.html` in browser to see generated API documentation.

Conclusion

The personal repository is a **fully documented, tested, and explained version** of the group project that:

- ✅ Functions identically to the original
- ✅ Includes comprehensive documentation
- ✅ Has beginner-friendly teaching materials
- ✅ Passes all tests
- ✅ Looks identical (same UI)
- ✅ Is ready for presentation

No functionality was broken or changed - only documentation, tests, and teaching materials were added.

Live Session Additions (December 4, 2025)

The following features were added during the live presentation preparation session:

User Status Management

File	Type	Purpose
`app/Http/Middleware/CheckUserStatus.php`	NEW	Security middleware that blocks inactive users
`database/migrations/add_status_to_user_table.php`	NEW	Adds 'status' column to user table
`app/Models/User.php`	MODIFIED	Added 'status' to $fillable
`bootstrap/app.php`	MODIFIED	Registered 'check-status' middleware alias

Product Inventory System

File	Type	Purpose
`app/Models/Product.php`	NEW	Product model with CRUD capabilities
`app/Http/Controllers/ProductController.php`	NEW	Handles Add/Edit/Delete products
`database/migrations/create_products_table.php`	NEW	Creates products table

Admin Dashboard Enhancements

File	Type	Purpose
`app/Http/Controllers/DashboardController.php`	MODIFIED	Added toggleUserStatus(), real product data
`resources/views/dashboard/admin.blade.php`	MODIFIED	User status toggle UI, Product CRUD UI

How to Demonstrate

1. **User Status Toggle:**
    - Login as admin at `/admin/login`
    - Click "Deactivate" on any user
    - Try to login as that user → Blocked!
    - Click "Activate" to restore access
2. **Product Management:**
    - Click "Add Product" → Fill form → Submit
    - Click "Edit" on any product → Modify values → Save

- Click "Delete" → Confirm → Product removed

3. **Security Check:**
   - Login as a regular user
   - Have admin deactivate their account
   - User's next page load will log them out automatically