Report: Role-Based Access Control (RBAC) System Implementation

Project Overview:

This project is a Role-Based Access Control (RBAC) implementation for managing posts. The application differentiates access levels for **Admin**, **Moderator**, and **User** based on their roles. The main features of the system include:

- **Admin Role:** Can create, edit, and delete posts.
- **Moderator Role:** Can edit posts but cannot delete them.
- **User Role:** Can view posts but cannot create, edit, or delete them.

Key Functionalities:

- **Authentication & Authorization:** The system uses role checks to determine which actions are allowed based on the user's role.
- **Post Management:** Admins can create, edit, and delete posts, while moderators and users have limited permissions.
- **Redirection on Post Deletion:** After deleting a post, the user is redirected to the **dashboard** with a success message.
- **Role Validation:** Manual role checks using a simple `role` attribute in the `users` table.

Technologies Used:

- **Laravel Framework:** For backend functionality, routing, and middleware.
- **Blade Templates:** For rendering views.
- **Middleware:** Protecting routes based on user roles.
- **Authentication System:** Default Laravel authentication system used.

Login Credentials:

- **Admin:**
  Email: `admin@rbac.com`
  Password: `admin_password`
- **Moderator:**
  Email: `moderator@rbac.com`
  Password: `moderator_password`
- **User:**
  Email: `user@rbac.com`
  Password: `user_password`

This RBAC system ensures that only authorized users can perform actions according to their assigned roles. The Admin has full access to all functionalities, including post creation and deletion, while the Moderator is restricted to editing posts. The User role is only allowed to view the posts.

The authentication and authorization mechanisms were tested, and post-deletion redirection to the **dashboard** works as expected. The roles are validated manually through the user's `role` attribute in the database. This system provides a simple, effective way to control access to resources based on user roles.