

Task: Employee Management System

Overview:

You are tasked with creating a basic Employee Management System (EMS) that allows for managing departments and employees within those departments. The system will feature a user authentication mechanism, CRUD operations for managing departments and employees, relationships between departments and employees, soft deletion of records, and an API to interact with the system.

Requirements:

- Authentication**:
 - Implement a simple authentication system where users can register, login, and logout.
 - Ensure that only authenticated users can access the CRUD functionalities.
- CRUD Operations**:
 - Create interfaces for adding, updating, viewing, and deleting departments and employees.
 - Utilize form requests to validate data before storing it in the database.
- Models and Relationships**:
 - **Department Model**: Should have a ``name`` and ``description``.
 - **Employee Model**: Should have fields like ``first_name``, ``last_name``, ``email``, ``department_id``, and ``position``.
 - Implement a **Many-to-Many** relationship between Employees and Projects (assume a project model exists and employees can work on multiple projects).
 - Use **Polymorphic Relations** (Morph Relation) to allow both departments and employees to have notes (assume a notes model that can be associated with multiple models).
- Soft Deletes**:
 - Implement soft deleting for departments and employees, allowing them to be restored or permanently deleted.
- API Development**:
 - Develop an API that allows third-party applications to get the list of departments, view employees within a department, and manage employees (add, update, delete).
 - Secure the API with API tokens.
- Extra Features**:
 - Implement setters and getters in the Employee model to ensure that the ``first_name`` and ``last_name`` are properly capitalized upon retrieval and storage.

Practical Implementation Steps:

- Setup a New Laravel Project:
 - Use Laravel's 10 version and set up the environment and database connections.
- Authentication:
 - Use Laravel's built-in authentication scaffolding (JWT) to set up the auth system.
- Database Migrations and Models:
 - Create migrations for departments, employees, projects, and notes.
 - Define models with the necessary relationships (hasMany, belongsTo, belongsToMany, morphMany).
- API Routes and Controllers:
 - Define RESTful routes in Laravel for the API.

- Implement controllers with methods for handling the API requests, utilizing Resource Controllers for clean code.

Submission:

Students are expected to submit a GitHub repository link containing their complete Laravel project. The README file should include instructions on setting up the project, running migrations, seeding the database, and any other necessary configuration details.