**Step 8: Implementing the Category Model (app/models/Category.php)**

* It represents the data and the business logic related to blog categories in your application. It's responsible for fetching, inserting, updating, and deleting categories data from the database.

<?php

namespace app\models;

// Include the bootstrap file for global setup

require\_once BASE\_DIR . '/bootstrap.php';

class Category {

    private $db;

    // Initialize connection in constructor

    public function \_\_construct() {

        $this->db = new \Database; // Create a Database object for connection

    }

    public function getCategory($id) {

        // Prepare a SQL statement

        $stmt = $this->db->conn->prepare("SELECT \* FROM categories WHERE id = ?");

        // Execute the statement with the ID

        $stmt->execute([$id]);

        // Fetch the category and return it

        return $stmt->fetch(\PDO::FETCH\_OBJ);

    }

    public function getCategories() {

        // Fetch all categories from the database

        $stmt = $this->db->conn->query("SELECT \* FROM categories");

        return $stmt->fetchAll(\PDO::FETCH\_OBJ);

    }

    public function create($data) {

        // Insert a new category into the database

        $stmt = $this->db->conn->prepare("INSERT INTO categories (name) VALUES (:name)");

        $stmt->execute([':name' => $data['name']]);

    }

    public function updateCategory($data, $id) {

        $stmt = $this->db->conn->prepare("UPDATE categories SET name = :name WHERE id = :id");

        $stmt->execute([':name' => $data['name'], ':id' => $id]);

    }

    public function getPosts($categoryId) {

        // Get the posts in a specific category

        $stmt = $this->db->conn->prepare("SELECT \* FROM posts WHERE category\_id = ?");

        $stmt->execute([$categoryId]);

        return $stmt->fetchAll(\PDO::FETCH\_OBJ);

    }

    public function deleteCategory($id) {

        // Delete a category from the database

        $stmt = $this->db->conn->prepare("DELETE FROM categories WHERE id = :id");

        $stmt->execute([':id' => $id]);

    }

}

***app/controllers/CategoryController.php***

Next is to update the category controller with different methods such as index, show, update and delete which are going to handle the CRUD functionality for our categories.

<?php

namespace app\controllers;

require\_once BASE\_DIR . '/app/models/Category.php';

class CategoryController {

    private $model;

    public function \_\_construct() {

        $this->model = new \app\models\Category;

    }

    public function index() {

        // Fetch all categories

        $categories = $this->model->getCategories();

        require BASE\_DIR . '/app/views/admin/categories/index.php';

    }

    public function create() {

        // Display the category creation form

        require BASE\_DIR . '/app/views/admin/categories/create.php';

    }

    public function showPosts($categoryId) {

        $category = $this->model->getCategory($categoryId);

        if (!$category) {

            die('Category not found');

        }

        $posts = $this->model->getPosts($categoryId);

        // A view that lists posts in this category

        require BASE\_DIR . '/app/views/admin/categories/posts.php';

    }

    public function store($data) {

        // Create a new category

        $this->model->create($data);

        header('Location: /admin/categories');

    }

    public function edit($id) {

        $category = $this->model->getCategory($id);

        if (!$category) {

            die('Category not found');

        }

        require BASE\_DIR . '/app/views/admin/categories/edit.php';

    }

    public function update($id, $data) {

        $this->model->updateCategory($id, $data);

        header('Location: /admin/categories');

    }

    public function delete($id) {

      $this->model->deleteCategory($id);

      header('Location: /admin/categories');

    }

}

?>

**Create The View Files**

***Views/admin/categories/create.php***

<div>

    <!-- View Category Button -->

    <div style="text-align: right; margin-bottom: 20px;">

        <a href="/admin/categories/">View Categories</a>

    </div>

    <form method="POST" action="/admin/categories/store" style="margin-bottom: 20px;">

        <div style="margin-bottom: 20px;">

            <label for="name">Category Name</label>

            <input type="text" id="name" name="name">

        </div>

        <button type="submit">Create Category</button>

    </form>

</div>

***Views/admin/categories/index.php***

<div>

    <div style="text-align: right; margin-bottom: 20px;">

        <!-- Create Category Button -->

        <a href="/admin/categories/create">Create Category</a>

        <!-- View Posts Button -->

        <a href="/admin/posts/">View Posts</a>

    </div>

    <?php foreach ($categories as $category): ?>

        <div style="margin-bottom: 20px; margin-top: 20px;">

            <div>

                <h2>Categories</h2>

                <p><?php echo htmlspecialchars($category->name, ENT\_QUOTES); ?></p>

                <a href="/admin/categories/edit/<?php echo $category->id; ?>">Edit</a>

                <a href="/admin/categories/posts/<?php echo $category->id; ?>">View Posts</a>

                <form action="/admin/categories/delete/<?php echo $category->id; ?>" method="POST" style="display: inline;">

                    <input type="hidden" name="\_method" value="DELETE">

                    <button type="submit">Delete</button>

                </form>

            </div>

        </div>

    <?php endforeach; ?>

</div>

***Views/admin/categories/edit.php***

<div>

    <form method="POST" action="/admin/categories/update/<?php echo $category->id; ?>" style="margin-bottom: 20px;">

        <input type="hidden" name="id" value="<?php echo $category->id; ?>">

        <div style="margin-bottom: 20px;">

            <label for="name">Name:</label>

            <input type="text" id="name" name="name" value="<?php echo htmlspecialchars($category->name, ENT\_QUOTES); ?>">

        </div>

        <!-- Add more input fields for other category properties... -->

        <button type="submit">Update</button>

    </form>

</div>

***Views/admin/categories/posts.php***

<!-- admin/categories/posts.php -->

<div>

    <h2>Posts in Category: <?php echo htmlspecialchars($category->name, ENT\_QUOTES); ?></h2>

    <?php if (!empty($posts)): ?>

        <ul>

            <?php foreach ($posts as $post): ?>

                <li>

                    <h3><?php echo htmlspecialchars($post->title, ENT\_QUOTES); ?></h3>

                    <p><?php echo htmlspecialchars($post->content, ENT\_QUOTES); ?></p>

                    <!-- Add links for edit, delete, view, etc. here -->

                </li>

            <?php endforeach; ?>

        </ul>

    <?php else: ?>

        <p>No posts found in this category.</p>

    <?php endif; ?>

</div>

**Add the Routes**

***public/Index.php***

$routes = [

    'GET' => [

 // Admin categories Routes

        'admin/categories/create' => ['controller' => '\app\controllers\CategoryController', 'method' => 'create'],

        'admin/categories' => ['controller' => '\app\controllers\CategoryController', 'method' => 'index'],

        'admin/categories/edit/([0-9]+)' => ['controller' => '\app\controllers\CategoryController', 'method' => 'edit'],

        'admin/categories/posts/([0-9]+)' => ['controller' => '\app\controllers\CategoryController', 'method' => 'showPosts']

    ],

'POST' => [

 // Admin categories Routes

        'admin/categories/store' => ['controller' => '\app\controllers\CategoryController', 'method' => 'store'],

        'admin/categories/update/([0-9]+)' => ['controller' => '\app\controllers\CategoryController', 'method' => 'update'],

        'admin/categories/delete/([0-9]+)' => ['controller' => '\app\controllers\CategoryController', 'method' => 'delete'],

    ]

];