

Simple PHP CRUD Project with Bootstrap

This is a basic PHP CRUD (Create, Read, Update, Delete) application that uses Bootstrap for styling and MySQL for the database.

Project Structure

```
simple-php-crud/
├── config/
│   └── database.php
├── includes/
│   ├── header.php
│   └── footer.php
├── products/
│   ├── create.php
│   ├── read.php
│   ├── update.php
│   └── delete.php
└── index.php
```

Step 1: Set Up Database

First, create a database and table. Here's the SQL:

```
sql
CREATE DATABASE simple_crud;
USE simple_crud;

CREATE TABLE products (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    description TEXT,
    price DECIMAL(10,2) NOT NULL,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Step 2: Database Configuration

Create config/database.php:

```
php
<?php
$host = 'localhost';
$db   = 'simple_crud';
$user = 'root';
$pass = '';
$charset = 'utf8mb4';

$dsn = "mysql:host=$host;dbname=$db;charset=$charset";
$options = [
    PDO::ATTR_ERRMODE            => PDO::ERRMODE_EXCEPTION,
    PDO::ATTR_DEFAULT_FETCH_MODE => PDO::FETCH_ASSOC,
    PDO::ATTR_EMULATE_PREPARES   => false,
];
```

```

try {
    $pdo = new PDO($dsn, $user, $pass, $options);
} catch (\PDOException $e) {
    throw new \PDOException($e->getMessage(), (int)$e->getCode());
}
?>

```

Step 3: Create Header and Footer

includes/header.php:

```

php
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>PHP CRUD with Bootstrap</title>
    <!-- Bootstrap 5 CDN -->
    <link
href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.c
ss" rel="stylesheet">
</head>
<body>
    <div class="container mt-4">
        <h2 class="text-center mb-4">Product Management</h2>

        <?php if (isset($_SESSION['message'])): ?>
            <div class="alert alert-<?=$_SESSION['msg_type'] ?> alert-
dismissible fade show">
                <?=$_SESSION['message'] ?>
                <button type="button" class="btn-close" data-bs-
dismiss="alert" aria-label="Close"></button>
            </div>
            <?php
                unset($_SESSION['message']);
                unset($_SESSION['msg_type']);
            ?>
        <?php endif; ?>

```

includes/footer.php:

```

php
</div>
<!-- Bootstrap JS Bundle with Popper -->
<script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.
min.js"></script>
</body>
</html>

```

Step 4: Create CRUD Operations

Create Product (products/create.php)

```
php
<?php
include('../config/database.php');
include('../includes/header.php');

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $name = $_POST['name'];
    $description = $_POST['description'];
    $price = $_POST['price'];

    try {
        $stmt = $pdo->prepare("INSERT INTO products (name, description,
price) VALUES (?, ?, ?)");
        $stmt->execute([$name, $description, $price]);

        $_SESSION['message'] = "Product created successfully!";
        $_SESSION['msg_type'] = "success";
        header("location: ../index.php");
    } catch (PDOException $e) {
        $_SESSION['message'] = "Error creating product: " . $e-
>getMessage();
        $_SESSION['msg_type'] = "danger";
    }
}
?>

<div class="card">
    <div class="card-header">
        <h4>Add New Product</h4>
    </div>
    <div class="card-body">
        <form action="" method="POST">
            <div class="mb-3">
                <label for="name" class="form-label">Product Name</label>
                <input type="text" class="form-control" id="name"
name="name" required>
            </div>
            <div class="mb-3">
                <label for="description" class="form-
label">Description</label>
                <textarea class="form-control" id="description"
name="description" rows="3"></textarea>
            </div>
            <div class="mb-3">
                <label for="price" class="form-label">Price</label>
                <input type="number" step="0.01" class="form-control"
id="price" name="price" required>
            </div>
            <button type="submit" class="btn btn-primary">Submit</button>
            <a href="../index.php" class="btn btn-secondary">Cancel</a>
        </form>
    </div>
</div>

<?php include('../includes/footer.php'); ?>
```

Read Products (index.php)

php

```
<?php
session_start();
include('config/database.php');
include('includes/header.php');
?>

<div class="mb-4">
    <a href="products/create.php" class="btn btn-success">Add New
    Product</a>
</div>

<table class="table table-striped table-bordered">
    <thead class="table-dark">
        <tr>
            <th>ID</th>
            <th>Name</th>
            <th>Description</th>
            <th>Price</th>
            <th>Created At</th>
            <th>Actions</th>
        </tr>
    </thead>
    <tbody>
        <?php
        $stmt = $pdo->query("SELECT * FROM products ORDER BY created_at
DESC");
        while ($row = $stmt->fetch()):
            ?>
            <tr>
                <td><?= $row['id'] ?></td>
                <td><?= $row['name'] ?></td>
                <td><?= $row['description'] ?></td>
                <td><?= number_format($row['price'], 2) ?></td>
                <td><?= $row['created_at'] ?></td>
                <td>
                    <a href="products/update.php?id=<?= $row['id'] ?>"
class="btn btn-sm btn-warning">Edit</a>
                    <a href="products/delete.php?id=<?= $row['id'] ?>"
class="btn btn-sm btn-danger" onclick="return confirm('Are you
sure?')">Delete</a>
                </td>
            </tr>
        <?php endwhile; ?>
    </tbody>
</table>

<?php include('includes/footer.php'); ?>
```

Update Product (products/update.php)

php

```
<?php
include(' ../config/database.php');
include(' ../includes/header.php');

if (!isset($_GET['id'])) {
```

```

        $_SESSION['message'] = "Invalid product ID!";
        $_SESSION['msg_type'] = "danger";
        header("location: ../index.php");
        exit();
    }

    $id = $_GET['id'];

    // Fetch product data
    $stmt = $pdo->prepare("SELECT * FROM products WHERE id = ?");
    $stmt->execute([$id]);
    $product = $stmt->fetch();

    if (!$product) {
        $_SESSION['message'] = "Product not found!";
        $_SESSION['msg_type'] = "danger";
        header("location: ../index.php");
        exit();
    }

    if ($_SERVER['REQUEST_METHOD'] == 'POST') {
        $name = $_POST['name'];
        $description = $_POST['description'];
        $price = $_POST['price'];

        try {
            $stmt = $pdo->prepare("UPDATE products SET name = ?, description =
?, price = ? WHERE id = ?");
            $stmt->execute([$name, $description, $price, $id]);

            $_SESSION['message'] = "Product updated successfully!";
            $_SESSION['msg_type'] = "success";
            header("location: ../index.php");
        } catch (PDOException $e) {
            $_SESSION['message'] = "Error updating product: " . $e-
>getMessage();
            $_SESSION['msg_type'] = "danger";
        }
    }
    ?>

<div class="card">
    <div class="card-header">
        <h4>Edit Product</h4>
    </div>
    <div class="card-body">
        <form action="" method="POST">
            <div class="mb-3">
                <label for="name" class="form-label">Product Name</label>
                <input type="text" class="form-control" id="name"
name="name" value="<?= $product['name'] ?>" required>
            </div>
            <div class="mb-3">
                <label for="description" class="form-
label">Description</label>
                <textarea class="form-control" id="description"
name="description" rows="3"><?= $product['description'] ?></textarea>
            </div>
            <div class="mb-3">
                <label for="price" class="form-label">Price</label>

```

```

        <input type="number" step="0.01" class="form-control"
id="price" name="price" value="<?= $product['price'] ?>" required>
    </div>
    <button type="submit" class="btn btn-primary">Update</button>
    <a href="../../index.php" class="btn btn-secondary">Cancel</a>
</form>
</div>
</div>

<?php include('../../includes/footer.php'); ?>

```

Delete Product (products/delete.php)

php

```

<?php
include('../../config/database.php');

if (!isset($_GET['id'])) {
    $_SESSION['message'] = "Invalid product ID!";
    $_SESSION['msg_type'] = "danger";
    header("location: ../../index.php");
    exit();
}

$id = $_GET['id'];

try {
    $stmt = $pdo->prepare("DELETE FROM products WHERE id = ?");
    $stmt->execute([$id]);

    $_SESSION['message'] = "Product deleted successfully!";
    $_SESSION['msg_type'] = "success";
} catch (PDOException $e) {
    $_SESSION['message'] = "Error deleting product: " . $e->getMessage();
    $_SESSION['msg_type'] = "danger";
}

header("location: ../../index.php");
?>

```

How to Use This Project

1. Create the database and table using the SQL provided
2. Update the database credentials in config/database.php
3. Place all files in your web server's root directory (like htdocs or www)
4. Access the application through your browser (e.g., <http://localhost/simple-php-crud>)

Features

- Create new products
- View all products in a table
- Edit existing products
- Delete products with confirmation
- Bootstrap 5 styling
- Responsive design

- Form validation
- Success/error messages

This simple CRUD application demonstrates the basic operations needed in most web applications and is a great starting point for learning PHP and MySQL.