1. System Overview – brief description and purpose of the system

The system is a **CodeIgniter 4 (CI4) Inventory Product Management** web application. Its main purpose is to let users **log in** and manage product records using **CRUD**. Products can be viewed in a **table layout** (with pagination + search) and a **card layout** (with barcode display).

2. System Architecture – explanation of the CI4 structure (controllers, models, views, modules)

Controllers (app/Controllers)

AuthController

- loginView() – loads login page

- login() – checks username/password and creates session

- logout() – destroys session and redirects to login

ProductController

- index() – displays product list (table view) with pagination (5 per page)

- cards() – displays product cards view (shows all products)

- add() – loads add product form

- editForm($id) – loads edit product form with product data

- create() – inserts new product then redirects with flash message

- update($id) – updates product then redirects with flash message

- delete($id) – deletes product then redirects with flash message

Models (app/Models)

UserModel

- Table: users

- Fields: username, password

- Methods:

  - checkUser($username) – fetches a user by username

  - hashPassword($password) – bcrypt hashing method for password storage

ProductModel

- Table: products

- Fields: product_name, description, price

- CRUD Methods:

  - createProduct($data)

  - getProduct($id)

  - updateProduct($id, $data)

  - deleteProduct($id)

Views (app/Views)

- login.php – login form with Bootstrap + flash messages

- product_view.php – product table list with sidebar, search, pagination, edit/delete

- product_card.php – product card layout with barcode image per product

- add_product.php – add product form (with CSRF)

- edit_product.php – edit product form (with CSRF)

Modules

1. Authentication Module (Login/Logout Session)

2. Product Management Module (CRUD)

3. Product Display Module (Table View + Card View + Barcode)

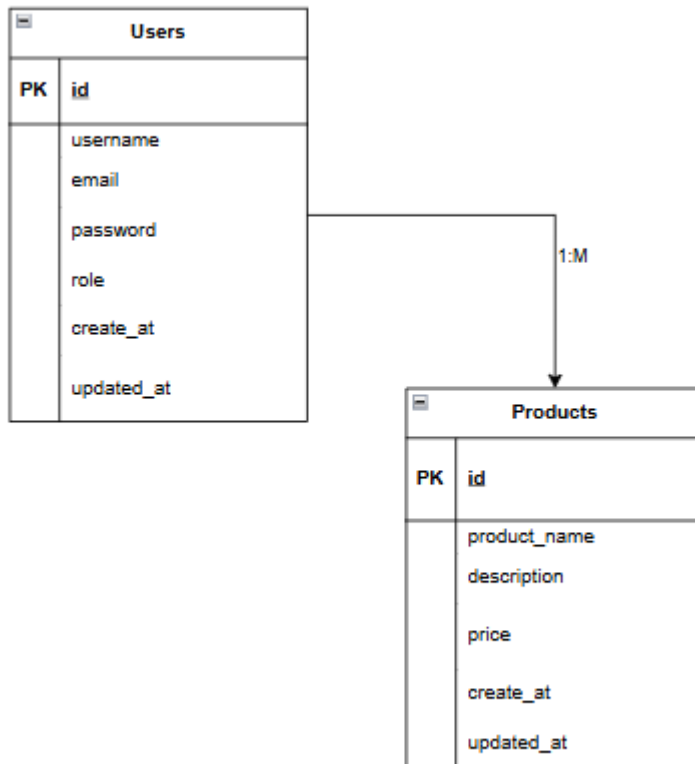## 3. Database Design – ER diagram, table structure, and relationships

ER Diagram

Table Structure

Table: users

- id (Primary Key)

- username

- password *(hashed using bcrypt)*

Table: products

- id (Primary Key)

- product_name

- description

- price

- created_at *(displayed in product table)*

- updated_at *(displayed in product table)*

Relationships

- Current implementation shows **no foreign key relationship** between users and products (products are shared/global once logged in).

4. Authentication Module – brief description of login/logout process and role management

Login Process

1. User opens GET / → login form displayed.

2. User submits credentials via POST /login.

3. System checks username using UserModel::checkUser($username).

4. If user exists, password is validated using password_verify().

5. If valid, session is created:

   - isLoggedIn, user_id, username

6. Redirects to /dashboard.

Logout Process

1. User clicks logout (GET /logout).

2. System destroys session via session()->destroy().

3. Redirects to /?logout=1.

Role Management

- Current code does **not include roles** (e.g., admin/staff). It only checks if login is successful.

5. API Integration – description of the API used, sample endpoint(s), and purpose

API Used: Barcode Generator (External API)

In the **Product Cards** view, barcodes are generated using the **bwip-js barcode API**.

Purpose:
To display a **Code128 barcode** based on the product id for easier product identification.

Sample Endpoint Format:

- https://bwipjs-
  api.metafloor.com/?bcid=code128&text={PRODUCT_ID}&scale=3&height=8&includet
  ext&textsize=10...

Implementation:
The system constructs a barcode URL per product and shows it using an <img> tag in the
card layout.

6. System Features / Modules – summary of key CRUD functionalities

Product CRUD Features

- **Create Product**

    o Route: POST products/store

    o Input: product name, description, price

    o Output: flash message "Product created successfully!"

- **Read / View Products**

    o Table View: GET /dashboard (pagination + search UI)

    o Card View: GET /products/cards (all products + barcode)

- **Update Product**

    o Edit page: GET products/edit/{id}

    o Update action: POST products/update/{id}

    o Output: flash message "Product updated successfully!"

- **Delete Product**

    o Route: GET products/delete/{id}

    o Confirmation prompt before delete

    o Output: flash message "Product deleted successfully!"

## 7. Security Implementation – password hashing and CSRF protection

Implemented Security Measures

- **Password verification**

    o Uses password_verify() for checking hashed passwords stored in DB.

- **Password hashing support**

- UserModel::hashPassword() uses bcrypt (PASSWORD_BCRYPT) for secure storage.

- **CSRF Protection**

  - Forms include <?= csrf_field() ?> (seen in add/edit product forms).

- **Basic client confirmation**

 - Logout and delete actions use confirmation dialog (confirm()).

(Optional improvement: protect routes like /dashboard with CI4 Filters to block access when not logged in.)
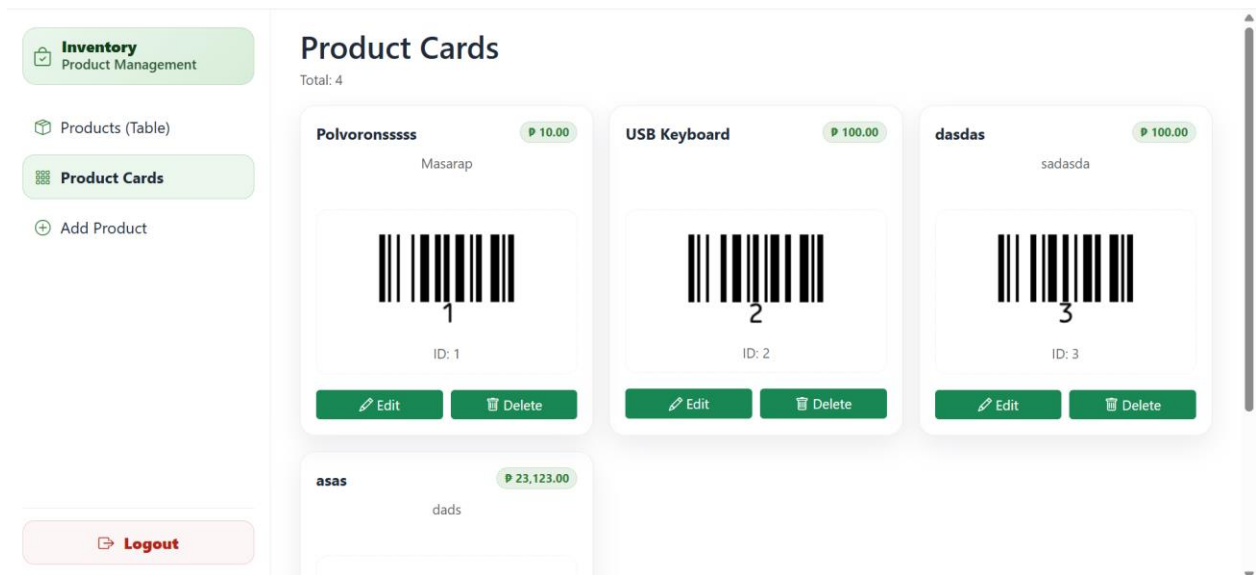
8. Testing and Validation
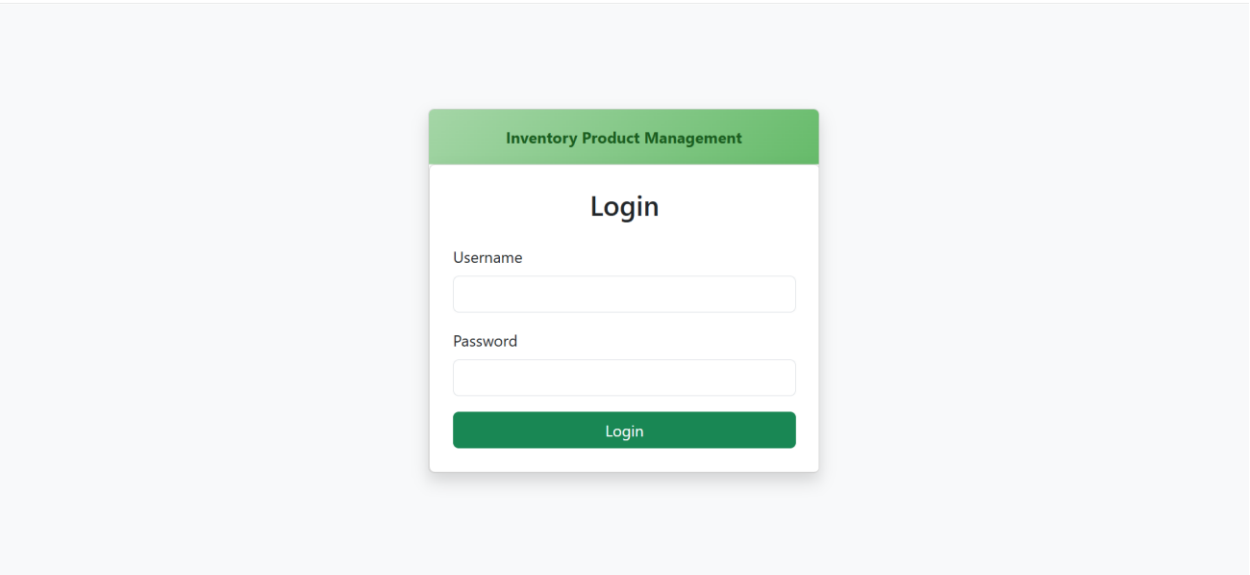
The login page allows the user to enter a username and password, then submits to /login to verify credentials and start a session before redirecting to the dashboard.
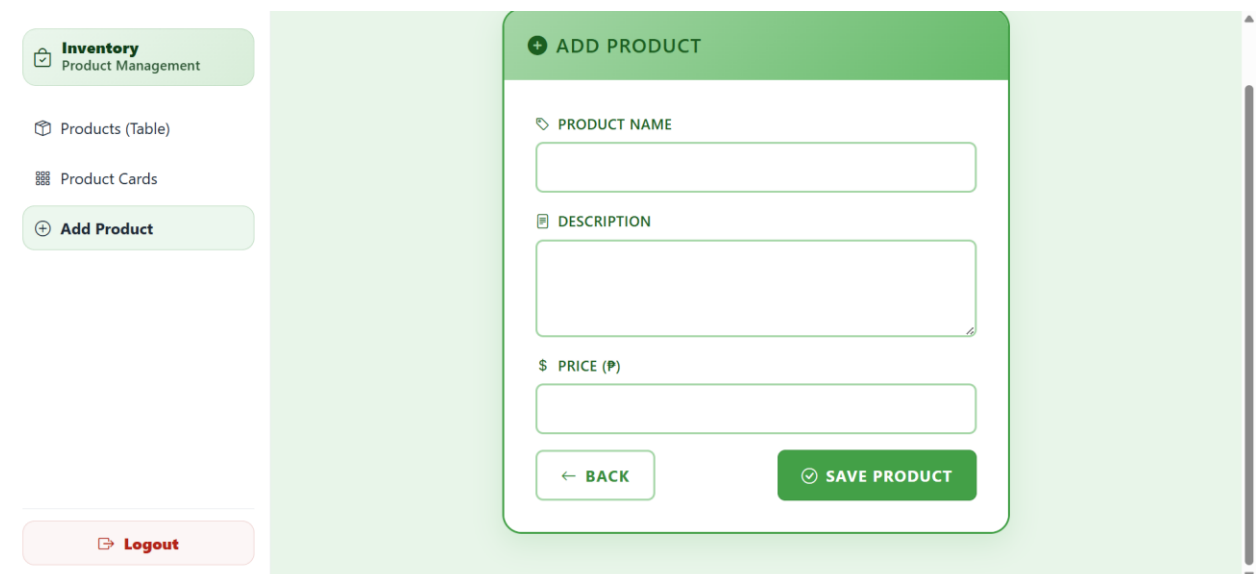
Product_View.php
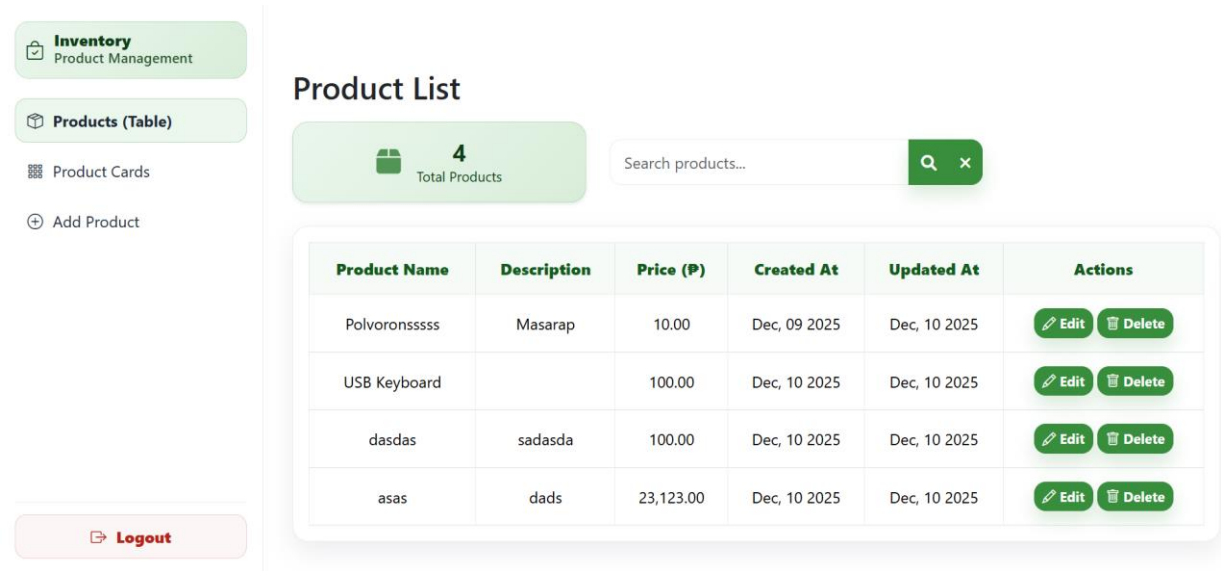
The product view displays all products in a table with search, pagination, and edit/delete actions for managing inventory records.

Product_Cards.php
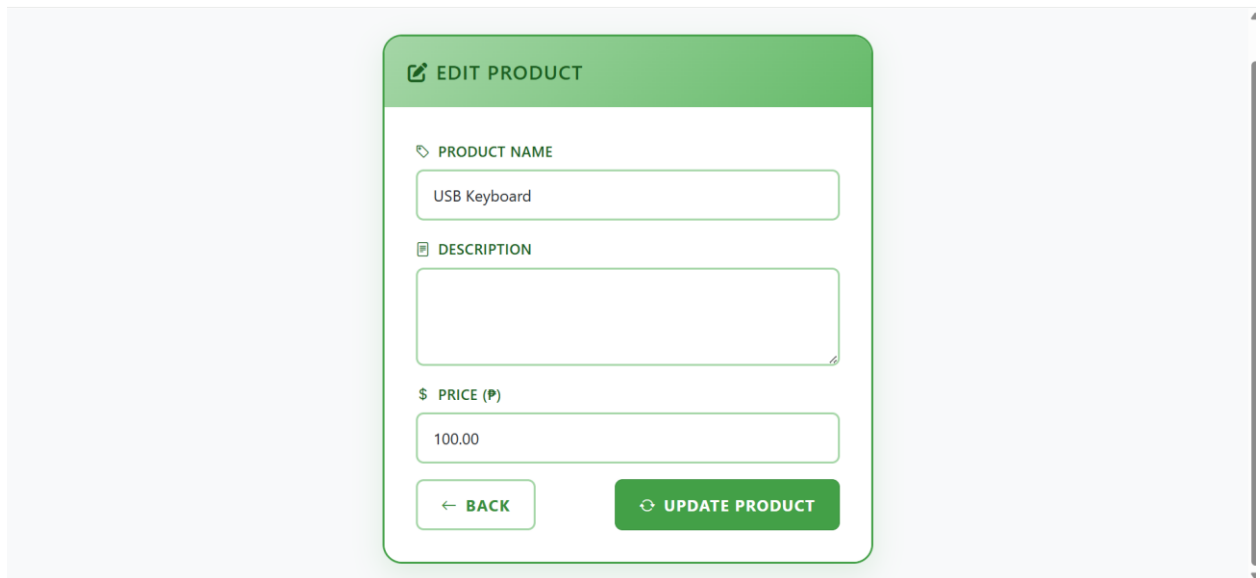
The product card view shows products in a card layout and generates a barcode image for each product using its ID.

Add_Product.php

The add product page provides a form to create a new product (name, description, price) and saves it to the database with CSRF protection.

Edit_Product.php

The edit product page loads an existing product's data into a form so the user can update it and save changes back to the database.

9. System Setup Guide – installation steps and dependencies for running the project

Requirements / Dependencies

- PHP (compatible with CodeIgniter 4)

- Composer

- MySQL/MariaDB (or any DB CI4 supports)

- Bootstrap / Icons via CDN (no local install needed)

- Internet connection (for bwip-js barcode API + CDN libraries)

Setup Steps

1. Download / clone the CI4 project.

2. Run: composer install

3. Configure database in .env (DB host/user/pass/name).

4. Create database tables:

   o users

   o products

5. Insert at least one user record with **bcrypt hashed password**.

6. Run the server:

   o php spark serve

7. Open in browser:

   o / login page

   o /dashboard after successful login

10. Conclusion / Future Improvements – limitations and enhancements

Conclusion

This project demonstrates a complete **CI4 MVC CRUD system** with authentication, product management, UI views (table + card), pagination, and barcode integration using an external API.

Future Improvements

- Add **role-based access** (admin vs staff)

- Add **login-required route protection** via CI4 Filters

- Change delete action to **POST/DELETE** instead of GET (more secure)

- Add server-side validation rules (e.g., price must be > 0)

- Link products to users (add user_id FK) for multi-user ownership

- Add import/export features (CSV/PDF) for inventory reporting

Codes:

Views:

Login.php:

```html
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Login</title>


    <!-- Bootstrap CSS -->

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">

</head>

<style>

  .form-control:focus{

    border-color: #43a047 !important; /* green border */

    box-shadow: 0 0 0 .2rem rgba(67,160,71,.25) !important; /* green glow */

    outline: 0 !important;

  }

</style>

<body class="bg-light d-flex align-items-center justify-content-center vh-100">

<div class="card shadow p-0 overflow-hidden " style="width: 400px;">

 <div class="card-header text-center fw-bold py-3"

     style="background: linear-gradient(135deg,#a5d6a7 0%,#66bb6a 100%); color:#1b5e20; border:0;">

    Inventory Product Management

 </div>


    <div class="card shadow p-4" style="width: 400px;">


      <h3 class="text-center mb-4">Login</h3>


    <!-- Show error message if login fails -->

    <?php if(session()->getFlashdata('error')): ?>

      <div class="alert alert-danger">

        <?= session()->getFlashdata('error') ?>

      </div>

    <?php endif; ?>


    <!-- Show success message if login succeeds or other info -->

    <?php if(session()->getFlashdata('success')): ?>

      <div class="alert alert-success">

        <?= session()->getFlashdata('success') ?>
```

```php
      </div>
    <?php endif; ?>



    <!-- Show logout message as alert if user just logged out (via query param) -->
    <?php if (isset($_GET['logout']) && $_GET['logout'] == '1'): ?>
      <script>
        window.alert("Successfully Logged Out");
      </script>
    <?php endif; ?>



    <!-- Show validation errors if any -->
    <?php if(isset($validation) && $validation->hasError('username')): ?>
      <div class="alert alert-danger">
        <?= $validation->getError('username') ?>
      </div>
    <?php endif; ?>
    <?php if(isset($validation) && $validation->hasError('password')): ?>
      <div class="alert alert-danger">
        <?= $validation->getError('password') ?>
      </div>
    <?php endif; ?>


      <form action="<?= base_url('/login') ?>" method="post">
        <div class="mb-3">
          <label for="username" class="form-label">Username</label>
          <input type="text" name="username" id="username" class="form-control" required>
        </div>


        <div class="mb-3">
          <label for="password" class="form-label">Password</label>
          <input type="password" name="password" id="password" class="form-control" required>
        </div>


        <button type="submit" class="btn btn-success w-100">Login</button>
      </form>
    </div>
    <?php



?>


</body>
</html>
```

Product_View.php

```php
<!-- app/Views/product_view.php -->
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1">
 <title>Product List</title>
 <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">
 <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css" rel="stylesheet">
 <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css">

 <style>
  :root{
    --green-700:#2e7d32;
    --green-600:#388e3c;
    --green-500:#43a047;
    --green-100:#eaf6ec;

    --border:#e9ecef;
    --text:#1f2937;
    --muted:#6b7280;

    --sidebar-w: 270px;
  }

  body{
   background:#ffffff !important;
   color: var(--text);
  }

  /* ========= Sidebar ========= */
  .sidebar{
   position: fixed;
   top: 0;
   left: 0;
   height: 100vh;
   width: var(--sidebar-w);
   background: #fff;
   border-right: 1px solid var(--border);
   padding: 18px 16px;
```

```css
  z-index: 1030;

  display: flex;

  flex-direction: column;

  gap: 14px;

}


.sidebar-brand{

  display:flex;

  align-items:center;

  gap:10px;

  padding: 10px 10px;

  border-radius: 14px;

  background: linear-gradient(135deg, rgba(234,246,236,.95) 0%, rgba(200,230,201,.7) 100%);

  border: 1px solid rgba(56,142,60,.22);

  color:#0f3d18;

  font-weight: 800;

  letter-spacing:.2px;

}
.sidebar-brand i{ color: var(--green-700); font-size: 1.2rem; }


.sidebar-nav{

  margin-top: 6px;

  display:flex;

  flex-direction: column;

  gap: 6px;

}


.sidebar-link{

  display:flex;

  align-items:center;

  gap:10px;

  padding: 10px 12px;

  border-radius: 12px;

  text-decoration: none;

  color: var(--text);

  border: 1px solid transparent;

  transition: background .12s ease, border-color .12s ease, transform .12s ease;

}
.sidebar-link i{ color: var(--green-700); }
.sidebar-link:hover{

  background: rgba(234,246,236,.75);

  border-color: rgba(56,142,60,.22);
```

```css
  transform: translateY(-1px);
}
.sidebar-link.active{
  background: rgba(234,246,236,.9);
  border-color: rgba(56,142,60,.28);
  font-weight: 700;
}

.sidebar-spacer{ flex: 1; }

.sidebar-logout{
  border-top: 1px solid var(--border);
  padding-top: 12px;
}
.logout-link{
  display:flex;
  align-items:center;
  justify-content:center;
  gap:10px;
  padding: 10px 12px;
  border-radius: 12px;
  text-decoration:none;
  font-weight: 800;
  color:#b42318;
  border: 1px solid rgba(180,35,24,.18);
  background: rgba(180,35,24,.04);
  transition: transform .12s ease, box-shadow .12s ease;
}
.logout-link:hover{
  transform: translateY(-1px);
  box-shadow: 0 10px 18px rgba(180,35,24,.10);
}

/* Main content offset for sidebar */
.content{
  margin-left: var(--sidebar-w);
  padding: 18px 18px 30px;
}

/* Mobile: collapse sidebar */
.sidebar-toggle{
  display:none;
```

```css
  position: fixed;

  top: 14px;

  left: 14px;

  z-index: 1040;

  border-radius: 12px !important;

  box-shadow: 0 10px 18px rgba(16,24,40,.10);

}


@media (max-width: 991.98px){

 :root{ --sidebar-w: 280px; }


 .sidebar{

  transform: translateX(-105%);

  transition: transform .18s ease;

 }

 .sidebar.show{

  transform: translateX(0);

 }

 .content{

  margin-left: 0;

  padding-top: 64px; /* space for toggle */

 }

 .sidebar-toggle{ display:inline-flex; }

}


/* ========= Your existing styles (kept) ========= */

.card{ border-radius:16px !important; }


.card-green{

 background: linear-gradient(135deg, rgba(234,246,236,.95) 0%, rgba(200,230,201,.7) 100%) !important;

 border: 1px solid rgba(56,142,60,.22) !important;

 color: #0f3d18 !important;

 border-radius: 16px !important;

}

.card-green .text-white{ color:#0f3d18 !important; }

.card-green i{ color: var(--green-700) !important; }


.card.shadow-sm.border-success{

 border:1px solid var(--border) !important;

 box-shadow: 0 10px 26px rgba(16,24,40,.08) !important;

 overflow:hidden;

}
```

```css
.btn-green{

  background-color: var(--green-600) !important;

  border-color: var(--green-600) !important;

  color:#fff !important;

  font-weight:700;

  border-radius:12px !important;

  box-shadow: 0 10px 18px rgba(56,142,60,.18);

  transition: transform .12s ease, box-shadow .12s ease;

}

.btn-green:hover{

  background-color: var(--green-700) !important;

  border-color: var(--green-700) !important;

  transform: translateY(-1px);

  box-shadow: 0 12px 22px rgba(56,142,60,.22);

}

.btn-green i,.btn-green .bi,.btn-green .fas{ color:#fff !important; }


#searchInput{

  border:1px solid var(--border) !important;

  border-radius: 12px 0 0 12px !important;

  padding: .65rem .9rem;

}

#searchInput:focus{

  border-color: rgba(67,160,71,.65) !important;

  box-shadow: 0 0 0 .2rem rgba(56,142,60,.14) !important;

}

#searchBtn{ border-radius:0 !important; }

#clearBtn{ border-radius:0 12px 12px 0 !important; }


.table{ margin-bottom:0 !important; }

.table-green th{

  background:#f7fbf7 !important;

  color:#145a1f !important;

  border-bottom:1px solid var(--border) !important;

  font-weight:800;

  letter-spacing:.2px;

  padding: 14px 10px;

}

.table td{

  border-color: var(--border) !important;

  padding: 14px 10px;
```

```css
  vertical-align: middle;

}

.table-hover tbody tr:hover{

  background: rgba(234,246,236,.75) !important;

}


.alert{

  border-radius:14px !important;

  border:1px solid var(--border) !important;

  box-shadow: 0 8px 18px rgba(16,24,40,.06);

}

.alert-success{

  background:#f3fbf4 !important;

  color:#145a1f !important;

  border-color: rgba(56,142,60,.22) !important;

}


.pagination .page-link{

  color: var(--green-600);

  border-color: var(--border);

  border-radius:12px !important;

  margin: 0 4px;

}

.pagination .page-link:hover{

  color:#fff;

  background: var(--green-500);

  border-color: var(--green-500);

}

.pagination .page-link:focus{

  color:#fff;

  background: var(--green-600);

  border-color: var(--green-600);

  box-shadow: 0 0 0 .2rem rgba(56,142,60,.14);

}

.pagination .page-item.active .page-link{

  color:#fff;

  background: var(--green-600);

  border-color: var(--green-600);

}

.pagination .page-item.disabled .page-link{

  color:#a1a1aa;

  background:#fff;
```

```html
      border-color: var(--border);
    }


    .fas, .fa, .bi{ color: inherit !important; }
  </style>
</head>


<body>


  <!-- Mobile toggle -->
  <button class="btn btn-green sidebar-toggle" type="button" id="sidebarToggle">
    <i class="bi bi-list"></i>
  </button>


  <!-- Sidebar -->
  <aside class="sidebar" id="sidebar">
    <div class="sidebar-brand">
      <i class="bi bi-bag-check"></i>
      <div>
        <div style="line-height:1;">Inventory</div>
        <div class="small" style="font-weight:600; opacity:.85;">Product Management</div>
      </div>
    </div>


    <nav class="sidebar-nav">
      <!-- Mark active as needed -->
      <a class="sidebar-link active" href="<?= base_url('/dashboard') ?>">
        <i class="bi bi-box-seam"></i>
        <span>Products (Table)</span>
      </a>


      <a class="sidebar-link" href="<?= base_url('products/cards') ?>">
        <i class="bi bi-grid-3x3-gap"></i>
        <span>Product Cards</span>
      </a>
      <a class="sidebar-link" href="<?= base_url('product/productForm') ?>">
        <i class="bi bi-plus-circle"></i><span>Add Product</span>
      </a>


      <!-- Add more links if you want
      <a class="sidebar-link" href="<?= base_url('dashboard') ?>">
        <i class="bi bi-speedometer2"></i><span>Dashboard</span>
```

```html
    </a>
    -->
</nav>


<div class="sidebar-spacer"></div>


<!-- Logout moved here -->
<div class="sidebar-logout">
  <a href="<?= base_url('/logout')?>"
     class="logout-link"
     onclick="return confirm('Are you sure you want to logout?');">
    <i class="bi bi-box-arrow-right"></i>
    <span>Logout</span>
  </a>
</div>
</aside>


<!-- Main content -->
<main class="content">
  <div class="container mt-3 mt-lg-5">


    <!-- Header -->
    <div class="mb-4">
      <h2 class="text-dark mb-3">Product List</h2>


      <div class="row align-items-center">
        <!-- Total Products Card -->
        <div class="col-md-4 mb-3 mb-md-0">
          <div class="card shadow-sm border-0 card-green">
            <div class="card-body text-center py-3">
              <div class="d-flex align-items-center justify-content-center">
                <div class="me-3">
                  <i class="fas fa-box" style="font-size: 1.8rem; opacity: 0.8;"></i>
                </div>
                <div>
                  <h4 class="mb-0 fw-bold text-white"><?= $totalProducts ?></h4>
                  <p class="mb-0 small opacity-90 text-white">Total Products</p>
                </div>
              </div>
            </div>
          </div>
        </div>
```

```html
        <!-- Search Bar -->
        <div class="col-md-5 mb-3 mb-md-0">
          <div class="input-group">
            <input type="text" class="form-control" placeholder="Search products..." id="searchInput">
            <button class="btn btn-green" type="button" id="searchBtn">
              <i class="fas fa-search"></i>
            </button>
            <button class="btn btn-green" type="button" id="clearBtn" title="Clear search">
              <i class="fas fa-times"></i>
            </button>
          </div>
        </div>


        <!-- Add Product Button -->
        <div class="col-md-3 text-md-end">


        </div>
      </div>
    </div>


<!-- Flash Messages -->
<?php if (session()->has('message')): ?>
  <div class="alert alert-success alert-dismissible fade show" role="alert">
    <i class="fas fa-check-circle me-2"></i>
    <?= session('message') ?>
    <button type="button" class="btn-close" data-bs-dismiss="alert" aria-label="Close"></button>
  </div>
<?php endif; ?>


<?php if (session()->has('error')): ?>
  <div class="alert alert-danger alert-dismissible fade show" role="alert">
    <i class="fas fa-exclamation-circle me-2"></i>
    <?= session('error') ?>
    <button type="button" class="btn-close" data-bs-dismiss="alert" aria-label="Close"></button>
  </div>
<?php endif; ?>


<?php if (session()->has('warning')): ?>
  <div class="alert alert-warning alert-dismissible fade show" role="alert">
    <i class="fas fa-exclamation-triangle me-2"></i>
    <?= session('warning') ?>
```

```php
          <button type="button" class="btn-close" data-bs-dismiss="alert" aria-label="Close"></button>
    </div>
<?php endif; ?>


<?php if (session()->has('info')): ?>
    <div class="alert alert-info alert-dismissible fade show" role="alert">
        <i class="fas fa-info-circle me-2"></i>
        <?= session('info') ?>
        <button type="button" class="btn-close" data-bs-dismiss="alert" aria-label="Close"></button>
    </div>
<?php endif; ?>


<div class="card shadow-sm border-success">
    <div class="card-body">
        <table class="table table-bordered table-hover text-center">
            <thead class="table-green">
                <tr>
                    <th>Product Name</th>
                    <th>Description</th>
                    <th>Price (₱)</th>
                    <th>Created At</th>
                    <th>Updated At</th>
                    <th>Actions</th>
                </tr>
            </thead>
            <tbody>
                <?php if (!empty($products) && is_array($products)): ?>
                    <?php foreach ($products as $product): ?>
                        <tr>
                            <td><?= esc($product['product_name']) ?></td>
                            <td><?= esc($product['description']) ?></td>
                            <td><?= number_format($product['price'], 2) ?></td>
                            <td><?= date('M, d Y', strtotime($product['created_at'])) ?></td>
                            <td><?= date('M, d Y', strtotime($product['updated_at'])) ?></td>
                            <td>
                                <a href="<?= base_url('products/edit/' . $product['id']) ?>" class="btn btn-green btn-sm">
                                    <i class="bi bi-pencil"></i> Edit
                                </a>
                                <a href="<?= base_url('products/delete/' . $product['id']) ?>" class="btn btn-green btn-sm"
                                    onclick="return confirm('Are you sure you want to delete this product?');">
                                    <i class="bi bi-trash"></i> Delete
                                </a>
```

```php
          </td>

        </tr>

      <?php endforeach; ?>

    <?php else: ?>

      <tr>

        <td colspan="6" class="text-muted">No products found.</td>

      </tr>

    <?php endif; ?>

  </tbody>

</table>


<!-- Pagination -->

<?php if ($totalPages > 1): ?>

  <nav aria-label="Product pagination" class="mt-4">

    <ul class="pagination justify-content-center">

      <?php if ($currentPage > 1): ?>

        <li class="page-item">

          <a class="page-link" href="<?= base_url('?page=' . ($currentPage - 1)) ?>" aria-label="Previous">

            <span aria-hidden="true">&laquo;</span>

          </a>

        </li>

      <?php else: ?>

        <li class="page-item disabled">

          <span class="page-link" aria-label="Previous"><span aria-hidden="true">&laquo;</span></span>

        </li>

      <?php endif; ?>


      <?php for ($i = 1; $i <= $totalPages; $i++): ?>

        <?php if ($i == $currentPage): ?>

          <li class="page-item active"><span class="page-link"><?= $i ?></span></li>

        <?php else: ?>

          <li class="page-item"><a class="page-link" href="<?= base_url('?page=' . $i) ?>"><?= $i ?></a></li>

        <?php endif; ?>

      <?php endfor; ?>


      <?php if ($currentPage < $totalPages): ?>

        <li class="page-item">

          <a class="page-link" href="<?= base_url('?page=' . ($currentPage + 1)) ?>" aria-label="Next">

            <span aria-hidden="true">&raquo;</span>

          </a>

        </li>

      <?php else: ?>
```

```html
            <li class="page-item disabled">
              <span class="page-link" aria-label="Next"><span aria-hidden="true">&raquo;</span></span>
            </li>
          <?php endif; ?>
        </ul>
      </nav>


      <div class="text-center text-muted mt-2">
        <small>
          Showing <?= (($currentPage - 1) * $perPage) + 1 ?> to
          <?= min($currentPage * $perPage, $totalProducts) ?> of
          <?= $totalProducts ?> products
        </small>
      </div>
    <?php endif; ?>
    </div>
  </div>


 </div>
</main>


<script>
  document.addEventListener('DOMContentLoaded', function() {
    // Sidebar toggle (mobile)
    const sidebar = document.getElementById('sidebar');
    const toggle = document.getElementById('sidebarToggle');
    if (toggle) {
      toggle.addEventListener('click', () => sidebar.classList.toggle('show'));
    }


    // Your search script (unchanged)
    const searchInput = document.getElementById('searchInput');
    const searchBtn = document.getElementById('searchBtn');
    const clearBtn = document.getElementById('clearBtn');
    const tableRows = document.querySelectorAll('tbody tr');
    const noProductsRow = document.querySelector('tbody tr td[colspan]');
    let originalNoProductsMessage = '';


    if (noProductsRow) {
      originalNoProductsMessage = noProductsRow.innerHTML;
    }
```

```javascript
function performSearch() {

  const searchTerm = searchInput.value.toLowerCase().trim();

  let visibleRows = 0;


  tableRows.forEach(row => {

    if (row.querySelector('td[colspan]')) return;


    const productName = row.cells[0].textContent.toLowerCase();

    const description = row.cells[1].textContent.toLowerCase();

    const price = row.cells[2].textContent.toLowerCase();


    if (searchTerm === '' ||

        productName.includes(searchTerm) ||

        description.includes(searchTerm) ||

        price.includes(searchTerm)) {

      row.style.display = '';

      visibleRows++;

    } else {

      row.style.display = 'none';

    }

  });


  if (searchTerm !== '' && visibleRows === 0) {

    if (noProductsRow) {

      noProductsRow.innerHTML = 'No products found matching your search.';

      noProductsRow.parentElement.style.display = '';

    }

  } else if (searchTerm === '' || visibleRows > 0) {

    if (noProductsRow) {

      if (searchTerm === '') noProductsRow.innerHTML = originalNoProductsMessage;

      if (visibleRows > 0) noProductsRow.parentElement.style.display = 'none';

    }

  }


  const pagination = document.querySelector('nav[aria-label="Product pagination"]');

  const paginationInfo = document.querySelector('.text-center.text-muted');


  if (searchTerm !== '') {

    if (pagination) pagination.style.display = 'none';

    if (paginationInfo) paginationInfo.style.display = 'none';

  } else {

    if (pagination) pagination.style.display = '';
```

```
      if (paginationInfo) paginationInfo.style.display = '';

    }

  }


  function clearSearch() {

    searchInput.value = '';

    performSearch();

    searchInput.focus();

  }


  searchBtn.addEventListener('click', performSearch);

  clearBtn.addEventListener('click', clearSearch);

  searchInput.addEventListener('input', performSearch);


  searchInput.addEventListener('keypress', function(e) {

    if (e.key === 'Enter') {

      e.preventDefault();

      performSearch();

    }

  });

  });

</script>


<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

Product_Card.php

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Product Cards</title>


  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">

  <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css" rel="stylesheet">

  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css">


  <style>

  :root{

    --green-700:#2e7d32; --green-600:#388e3c; --green-500:#43a047; --green-100:#eaf6ec;
```

```css
  --border:#e9ecef; --text:#1f2937; --muted:#6b7280;

  --sidebar-w: 270px;

}

body{ background:#fff !important; color:var(--text); }


/* Sidebar */

.sidebar{

  position:fixed; top:0; left:0; height:100vh; width:var(--sidebar-w);

  background:#fff; border-right:1px solid var(--border);

  padding:18px 16px; z-index:1030; display:flex; flex-direction:column; gap:14px;

}

.sidebar-brand{

  display:flex; align-items:center; gap:10px; padding:10px;

  border-radius:14px; background:linear-gradient(135deg, rgba(234,246,236,.95), rgba(200,230,201,.7));

  border:1px solid rgba(56,142,60,.22); color:#0f3d18; font-weight:800;

}

.sidebar-brand i{ color:var(--green-700); font-size:1.2rem; }

.sidebar-nav{ display:flex; flex-direction:column; gap:6px; margin-top:6px; }

.sidebar-link{

  display:flex; align-items:center; gap:10px; padding:10px 12px; border-radius:12px;

  text-decoration:none; color:var(--text); border:1px solid transparent;

  transition:.12s ease;

}

.sidebar-link i{ color:var(--green-700); }

.sidebar-link:hover{ background:rgba(234,246,236,.75); border-color:rgba(56,142,60,.22); transform:translateY(-1px); }

.sidebar-link.active{ background:rgba(234,246,236,.9); border-color:rgba(56,142,60,.28); font-weight:700; }

.sidebar-spacer{ flex:1; }

.sidebar-logout{ border-top:1px solid var(--border); padding-top:12px; }

.logout-link{

  display:flex; align-items:center; justify-content:center; gap:10px; padding:10px 12px;

  border-radius:12px; text-decoration:none; font-weight:800; color:#b42318;

  border:1px solid rgba(180,35,24,.18); background:rgba(180,35,24,.04);

}


.content{ margin-left:var(--sidebar-w); padding:18px 18px 30px; }

.sidebar-toggle{ display:none; position:fixed; top:14px; left:14px; z-index:1040; border-radius:12px !important; }


@media (max-width: 991.98px){

  :root{ --sidebar-w: 280px; }

  .sidebar{ transform:translateX(-105%); transition:transform .18s ease; }

  .sidebar.show{ transform:translateX(0); }

  .content{ margin-left:0; padding-top:64px; }
```

```
      .sidebar-toggle{ display:inline-flex; }

    }


    /* Cards */
    .p-card{

      border:1px solid var(--border);

      border-radius:16px;

      box-shadow: 0 10px 26px rgba(16,24,40,.08);

      overflow:hidden;

    }
    .p-card .badge{

      background: rgba(56,142,60,.12);

      color: var(--green-700);

      border: 1px solid rgba(56,142,60,.18);

    }
    .barcode{

      background:#fff;

      border:1px dashed var(--border);

      border-radius:12px;

      padding:10px;

    }
  </style>
</head>


<body>
  <!-- Mobile toggle -->
  <button class="btn btn-success sidebar-toggle" type="button" id="sidebarToggle">

    <i class="bi bi-list"></i>

  </button>


  <!-- Sidebar -->
  <aside class="sidebar" id="sidebar">
    <div class="sidebar-brand">

      <i class="bi bi-bag-check"></i>

      <div>

        <div style="line-height:1;">Inventory</div>

        <div class="small" style="font-weight:600; opacity:.85;">Product Management</div>

      </div>

    </div>


    <nav class="sidebar-nav">

      <a class="sidebar-link" href="<?= base_url('/dashboard') ?>">
```

```html
      <i class="bi bi-box-seam"></i><span>Products (Table)</span>

    </a>


    <a class="sidebar-link active" href="<?= base_url('products/card') ?>">

      <i class="bi bi-grid-3x3-gap"></i><span>Product Cards</span>

    </a>


    <a class="sidebar-link" href="<?= base_url('product/productForm') ?>">

      <i class="bi bi-plus-circle"></i><span>Add Product</span>

    </a>

  </nav>


  <div class="sidebar-spacer"></div>


  <div class="sidebar-logout">

    <a href="<?= base_url('/logout')?>"

       class="logout-link"

       onclick="return confirm('Are you sure you want to logout?');">

      <i class="bi bi-box-arrow-right"></i>

      <span>Logout</span>

    </a>

  </div>

</aside>


<main class="content">

  <div class="container">

    <div class="d-flex align-items-center justify-content-between flex-wrap gap-2 mb-3">

      <div>

        <h2 class="mb-1">Product Cards</h2>

        <div class="text-muted small">Total: <?= esc($totalProducts ?? 0) ?></div>

      </div>

    </div>


    <div class="row g-3">

      <?php if (!empty($products) && is_array($products)): ?>

        <?php foreach ($products as $p): ?>

          <?php


            $barcodeText = (string)($p['id'] ?? '');


            $barcodeUrl = 'https://bwipjs-api.metafloor.com/?bcid=code128'

            . '&text=' . urlencode($barcodeText)
```

```php
        . '&scale=3'

        . '&height=8'

        . '&includetext'

        . '&textsize=10'

        . '&paddingwidth=10'

        . '&paddingheight=5';


    ?>
    <div class="col-12 col-md-6 col-lg-4">
      <div class="p-card p-3 h-100">
        <div class="d-flex justify-content-between align-items-start mb-2 text-center">
          <div class="fw-bold"><?= esc($p['product_name'] ?? '') ?></div>
          <span class="badge rounded-pill">₱ <?= number_format((float)($p['price'] ?? 0), 2) ?></span>
        </div>


        <div class="text-muted small mb-3 text-center" style="min-height:42px;">
          <?= esc($p['description'] ?? '') ?>
        </div>


        <div class="barcode text-center mb-3">
          <img
            src="<?= esc($barcodeUrl) ?>"
            alt="Barcode for product <?= esc($barcodeText) ?>"
            class="img-fluid"
            loading="lazy"
          >
          <div class="small text-muted mt-1">ID: <?= esc($barcodeText) ?></div>
        </div>


        <div class="d-flex gap-2 mt-auto">
          <a href="<?= base_url('products/edit/' . $p['id']) ?>" class="btn btn-success btn-sm w-50">
            <i class="bi bi-pencil"></i> Edit
          </a>
          <a href="<?= base_url('products/delete/' . $p['id']) ?>"
            class="btn btn-success btn-sm w-50"
            onclick="return confirm('Are you sure you want to delete this product?');">
            <i class="bi bi-trash"></i> Delete
          </a>
        </div>
      </div>
    </div>
<?php endforeach; ?>
```

```php
    <?php else: ?>

      <div class="col-12">

        <div class="alert alert-light border">No products found.</div>

      </div>

    <?php endif; ?>

    </div>

  </div>

</main>


<script>

  document.addEventListener('DOMContentLoaded', function () {

    const sidebar = document.getElementById('sidebar');

    const toggle = document.getElementById('sidebarToggle');

    if (toggle) toggle.addEventListener('click', () => sidebar.classList.toggle('show'));

  });

</script>


  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

Edit_Product.php

```php
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>Edit Product</title>

  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">

  <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css" rel="stylesheet">

  <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css">

  <style>

    /* Green theme matching Product_View palette */

    body {

      background: #e8f5e9 !important;

      color: #1b5e20 !important;

      min-height: 100vh;

      display: flex;

      align-items: center;

      justify-content: center;

    }
```

```css
.form-container {
  max-width: 500px;
  width: 100%;
  margin: 20px auto;
}

.card {
  border: 2px solid #43a047 !important;
  border-radius: 20px !important;
  box-shadow: 0 10px 30px rgba(67, 160, 71, 0.15) !important;
  background: #fff !important;
  overflow: hidden;
}

.card-header {
  background: linear-gradient(135deg, #a5d6a7 0%, #66bb6a 100%) !important;
  color: #1b5e20 !important;
  font-weight: bold;
  text-transform: uppercase;
  letter-spacing: 1px;
  padding: 1.5rem;
  border-bottom: none !important;
}

.card-body {
  background: #fff !important;
  padding: 2rem !important;
}

.form-label {
  color: #1b5e20 !important;
  font-weight: 600;
  text-transform: uppercase;
  letter-spacing: 0.5px;
  font-size: 0.9rem;
}

.form-control {
  border: 2px solid #a5d6a7 !important;
  border-radius: 8px !important;
  padding: 0.75rem 1rem;
  transition: all 0.3s ease;
```

```css
}

.form-control:focus {
  border-color: #43a047 !important;
  box-shadow: 0 0 0 0.2rem rgba(56, 142, 60, 0.25) !important;
  transform: translateY(-1px);
}

.btn {
  font-weight: bold;
  text-transform: uppercase;
  letter-spacing: 1px;
  padding: 0.75rem 1.5rem;
  border-radius: 8px !important;
  transition: all 0.3s ease;
}

.btn-green, .btn-outline-success, .btn-outline-primary {
  background: #43a047 !important;
  color: #fff !important;
  border-color: #388e3c !important;
}

.btn-green:hover, .btn-outline-success:hover, .btn-outline-primary:hover {
  background: #388e3c !important;
  border-color: #2e7d32 !important;
  color: #fff !important;
  transform: translateY(-2px);
  box-shadow: 0 5px 15px rgba(67, 160, 71, 0.3) !important;
}

.btn-outline-secondary {
  background: transparent !important;
  color: #388e3c !important;
  border: 2px solid #a5d6a7 !important;
}

.btn-outline-secondary:hover {
  background: #a5d6a7 !important;
  color: #1b5e20 !important;
  border-color: #a5d6a7 !important;
  transform: translateY(-2px);
```

```
    }

  .fas, .fa, .bi {
    margin-right: 0.5rem;
    color: inherit !important;
  }

  h4 {
    margin: 0 !important;
    font-size: 1.25rem;
  }

  .table-green th {
    background-color: #a5d6a7 !important;
    color: #1b5e20 !important;
  }
  </style>
</head>
<body class="bg-light">

<div class="container mt-5">
  <div class="form-container">
    <div class="card shadow-sm">
      <div class="card-header">
        <h4 class="mb-0"><i class="fas fa-edit me-2"></i>Edit Product</h4>
      </div>
      <div class="card-body">
        <form action="<?= base_url('products/update/'.$product['id']) ?>" method="post">
          <?= csrf_field() ?>

          <div class="mb-3">
            <label for="product_name" class="form-label"><i class="bi bi-tag me-2"></i>Product Name</label>
            <input type="text" name="product_name" id="product_name"
                   class="form-control"
                   value="<?= esc($product['product_name']) ?>" required>
          </div>

          <div class="mb-3">
            <label for="description" class="form-label"><i class="bi bi-file-text me-2"></i>Description</label>
            <textarea name="description" id="description" class="form-control" rows="3"><?= esc($product['description']) ?></textarea>
          </div>
```

```
    <div class="mb-3">

      <label for="price" class="form-label"><i class="bi bi-currency-dollar me-2"></i></i>Price (₱)</label>

      <input type="number" step="0.01" name="price" id="price"

           class="form-control"

           value="<?= esc($product['price']) ?>" required>

    </div>


    <div class="d-flex justify-content-between">

      <a href="<?= site_url('/dashboard') ?>" class="btn btn-outline-secondary"><i class="bi bi-arrow-left me-2"></i></i>Back</a>

      <button type="submit" class="btn btn-outline-primary"><i class="bi bi-arrow-repeat me-2"></i></i>Update Product</button>

    </div>

    </form>

   </div>

  </div>

 </div>

</div>

</body>

</html>
```

Add_Product.php:

```
<!DOCTYPE html>

<html lang="en">

<head>

 <meta charset="UTF-8">

 <meta name="viewport" content="width=device-width, initial-scale=1">

 <title>Add Product</title>


 <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">

 <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css" rel="stylesheet">

 <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css">


 <style>
  :root{

   --green-700:#2e7d32;

   --green-600:#388e3c;

   --green-500:#43a047;

   --green-100:#eaf6ec;


   --border:#e9ecef;

   --text:#1f2937;

   --muted:#6b7280;
```

```css
  --sidebar-w: 270px;

}


body{

  background: #e8f5e9 !important;

  color: #1b5e20 !important;

  min-height: 100vh;

}


/* ========= Sidebar ========= */

.sidebar{

  position: fixed;

  top: 0;

  left: 0;

  height: 100vh;

  width: var(--sidebar-w);

  background: #fff;

  border-right: 1px solid var(--border);

  padding: 18px 16px;

  z-index: 1030;

  display: flex;

  flex-direction: column;

  gap: 14px;

}


.sidebar-brand{

  display:flex;

  align-items:center;

  gap:10px;

  padding: 10px 10px;

  border-radius: 14px;

  background: linear-gradient(135deg, rgba(234,246,236,.95) 0%, rgba(200,230,201,.7) 100%);

  border: 1px solid rgba(56,142,60,.22);

  color:#0f3d18;

  font-weight: 800;

  letter-spacing:.2px;

}

.sidebar-brand i{ color: var(--green-700); font-size: 1.2rem; }


.sidebar-nav{

  margin-top: 6px;

  display:flex;
```

```css
  flex-direction: column;

  gap: 6px;

}


.sidebar-link{

  display:flex;

  align-items:center;

  gap:10px;

  padding: 10px 12px;

  border-radius: 12px;

  text-decoration: none;

  color: var(--text);

  border: 1px solid transparent;

  transition: background .12s ease, border-color .12s ease, transform .12s ease;

}
.sidebar-link i{ color: var(--green-700); }
.sidebar-link:hover{

  background: rgba(234,246,236,.75);

  border-color: rgba(56,142,60,.22);

  transform: translateY(-1px);

}
.sidebar-link.active{

  background: rgba(234,246,236,.9);

  border-color: rgba(56,142,60,.28);

  font-weight: 700;

}


.sidebar-spacer{ flex: 1; }


.sidebar-logout{

  border-top: 1px solid var(--border);

  padding-top: 12px;

}
.logout-link{

  display:flex;

  align-items:center;

  justify-content:center;

  gap:10px;

  padding: 10px 12px;

  border-radius: 12px;

  text-decoration:none;

  font-weight: 800;
```

```css
  color:#b42318;

  border: 1px solid rgba(180,35,24,.18);

  background: rgba(180,35,24,.04);

  transition: transform .12s ease, box-shadow .12s ease;

}

.logout-link:hover{

  transform: translateY(-1px);

  box-shadow: 0 10px 18px rgba(180,35,24,.10);

}


/* Main content offset for sidebar */

.content{

  margin-left: var(--sidebar-w);

  padding: 18px 18px 30px;

  min-height: 100vh;

}


/* Mobile: collapse sidebar */

.sidebar-toggle{

  display:none;

  position: fixed;

  top: 14px;

  left: 14px;

  z-index: 1040;

  border-radius: 12px !important;

  box-shadow: 0 10px 18px rgba(16,24,40,.10);

}


@media (max-width: 991.98px){

  :root{ --sidebar-w: 280px; }


  .sidebar{

  transform: translateX(-105%);

  transition: transform .18s ease;

  }

  .sidebar.show{

  transform: translateX(0);

  }

  .content{

  margin-left: 0;

  padding-top: 64px; /* space for toggle */

  }
```

```css
  .sidebar-toggle{ display:inline-flex; }
}


/* ========= Your form styles ========= */
.form-container {
  max-width: 520px;
  width: 100%;
  margin: 20px auto;
}

.card {
  border: 2px solid #43a047 !important;
  border-radius: 20px !important;
  box-shadow: 0 10px 30px rgba(67, 160, 71, 0.15) !important;
  background: #fff !important;
  overflow: hidden;
}

.card-header {
  background: linear-gradient(135deg, #a5d6a7 0%, #66bb6a 100%) !important;
  color: #1b5e20 !important;
  font-weight: bold;
  text-transform: uppercase;
  letter-spacing: 1px;
  padding: 1.5rem;
  border-bottom: none !important;
}

.card-body { background: #fff !important; padding: 2rem !important; }

.form-label{
  color:#1b5e20 !important;
  font-weight: 600;
  text-transform: uppercase;
  letter-spacing: .5px;
  font-size: .9rem;
}

.form-control{
  border:2px solid #a5d6a7 !important;
  border-radius:8px !important;
  padding:.75rem 1rem;
```

```css
  transition: all .3s ease;

}

.form-control:focus{

  border-color:#43a047 !important;

  box-shadow: 0 0 0 .2rem rgba(56, 142, 60, 0.25) !important;

  transform: translateY(-1px);

}


.btn{

  font-weight:bold;

  text-transform: uppercase;

  letter-spacing: 1px;

  padding:.75rem 1.5rem;

  border-radius: 8px !important;

  transition: all .3s ease;

}


.btn-green{

  background:#43a047 !important;

  color:#fff !important;

  border-color:#388e3c !important;

}

.btn-green:hover{

  background:#388e3c !important;

  border-color:#2e7d32 !important;

  transform: translateY(-2px);

  box-shadow: 0 5px 15px rgba(67, 160, 71, 0.3) !important;

}


.btn-outline-secondary{

  background:transparent !important;

  color:#388e3c !important;

  border:2px solid #a5d6a7 !important;

}

.btn-outline-secondary:hover{

  background:#a5d6a7 !important;

  color:#1b5e20 !important;

  border-color:#a5d6a7 !important;

  transform: translateY(-2px);

}


.fas, .fa, .bi{ color: inherit !important; }
```

```
      h4{ margin:0 !important; font-size:1.25rem; }
    </style>
  </head>


  <body>


    <!-- Mobile toggle -->
    <button class="btn btn-success sidebar-toggle" type="button" id="sidebarToggle">
      <i class="bi bi-list"></i>
    </button>


    <!-- Sidebar -->
    <aside class="sidebar" id="sidebar">
      <div class="sidebar-brand">
        <i class="bi bi-bag-check"></i>
        <div>
          <div style="line-height:1;">Inventory</div>
          <div class="small" style="font-weight:600; opacity:.85;">Product Management</div>
        </div>
      </div>


      <nav class="sidebar-nav">
        <a class="sidebar-link " href="<?= base_url('/dashboard') ?>">
          <i class="bi bi-box-seam"></i>
          <span>Products (Table)</span>
        </a>


        <a class="sidebar-link" href="<?= base_url('products/cards') ?>">
          <i class="bi bi-grid-3x3-gap"></i>
          <span>Product Cards</span>
        </a>
        <a class="sidebar-link active" href="<?= base_url('product/productForm') ?>">
          <i class="bi bi-plus-circle"></i><span>Add Product</span>
        </a>
      </nav>


      <div class="sidebar-spacer"></div>


      <div class="sidebar-logout">
        <a href="<?= base_url('/logout')?>"
           class="logout-link"
           onclick="return confirm('Are you sure you want to logout?');">
```

```html
      <i class="bi bi-box-arrow-right"></i>

      <span>Logout</span>

    </a>

   </div>

</aside>


<!-- Main Content -->

<main class="content">

  <div class="container mt-3 mt-lg-5">

    <div class="form-container">

      <div class="card shadow-sm">

        <div class="card-header">

          <h4 class="mb-0"><i class="fas fa-plus-circle me-2"></i>Add Product</h4>

        </div>

        <div class="card-body">

          <form action="<?= site_url('products/store') ?>" method="post">

            <?= csrf_field() ?>


            <div class="mb-3">

              <label for="product_name" class="form-label"><i class="bi bi-tag me-2"></i>Product Name</label>

              <input type="text" name="product_name" id="product_name" class="form-control" required>

            </div>


            <div class="mb-3">

              <label for="description" class="form-label"><i class="bi bi-file-text me-2"></i>Description</label>

              <textarea name="description" id="description" class="form-control" rows="3"></textarea>

            </div>


            <div class="mb-3">

              <label for="price" class="form-label"><i class="bi bi-currency-dollar me-2"></i>Price (₱)</label>

              <input type="number" step="0.01" name="price" id="price" class="form-control" required>

            </div>


            <div class="d-flex justify-content-between">

              <a href="<?= site_url('/dashboard') ?>" class="btn btn-outline-secondary">

                <i class="bi bi-arrow-left me-2"></i>Back

              </a>

              <button type="submit" class="btn btn-green">

                <i class="bi bi-check-circle me-2"></i>Save Product

              </button>

            </div>

          </form>
```

```
        </div>

      </div>

    </div>

  </div>

</main>


<script>

  document.addEventListener('DOMContentLoaded', function () {

    const sidebar = document.getElementById('sidebar');

    const toggle = document.getElementById('sidebarToggle');

    if (toggle) toggle.addEventListener('click', () => sidebar.classList.toggle('show'));

  });

</script>


<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle.min.js"></script>

</body>

</html>
```

Models:

UserModel.php

```php
<?php

namespace App\Models;


use CodeIgniter\Model;


class UserModel extends Model
{
protected $table = 'users';

protected $primaryKey = 'id';


protected $allowedFields = ['username', 'password'];


// Method to check user credentials
public function checkUser($username)
{
return $this->where('username', $username)->first();
}


// Hash password using bcrypt
public function hashPassword($password)
{
return password_hash($password, PASSWORD_BCRYPT);
}
}
```

ProductModel.php:

```php
<?php

namespace App\Models;
use CodeIgniter\Model;
class ProductModel extends Model {
protected $table = 'products';
protected $primaryKey = 'id';
protected $allowedFields = ['product_name', 'description', 'price'];
// Createa
public function createProduct($data) {
return $this->insert($data);
}
```

```php
// Read

public function getProduct($id) {

return $this->find($id);

}

// Update

public function updateProduct($id, $data) {

return $this->update($id, $data);


}

// Delete

public function deleteProduct($id) {

return $this->delete($id);

}

}
```

ProductController.php:

```php
<?php


namespace App\Controllers;


use App\Models\ProductModel;


class ProductController extends BaseController

{

    public function index()

    {

        $model = new ProductModel();


        // Get the current page from the URL (default to 1 if not specified)

        $page = $this->request->getGet('page') ?? 1;

        $perPage = 5; // 5 items per page


        // Calculate offset

        $offset = ($page - 1) * $perPage;


        // Get products with pagination

        $data['products'] = $model->findAll($perPage, $offset);


        // Get total count for pagination calculation
```

```php
        $data['totalProducts'] = $model->countAll();

        $data['currentPage'] = $page;

        $data['perPage'] = $perPage;

        $data['totalPages'] = ceil($data['totalProducts'] / $perPage);


        return view('product_view', $data);

    }

    public function cards(){

        $model = new ProductModel();


// "all the cards" = show all products

$data['products'] = $model->findAll();

$data['totalProducts'] = $model->countAll();


return view('product_card', $data);


    }

    public function add()

    {

        return view('add_product');

    }

    public function editForm($id)

    {

        $model = new ProductModel();

        $data['product'] = $model->getProduct($id);

        return view('edit_product', $data);

    }


    public function create()

    {

        $model = new ProductModel();

        $data = [

            'product_name' => $this->request->getPost('product_name'),

            'description' => $this->request->getPost('description'),

            'price' => $this->request->getPost('price')

        ];

        $model->createProduct($data);

        session()->setFlashdata('message', 'Product created successfully!');

        return redirect()->to('/dashboard');
```

```php
    }

    public function edit($id)

    {

        $model = new ProductModel();

        $data['product'] = $model->getProduct($id);

        return view('edit_product', $data);

    }

    public function update($id)

    {

        $model = new ProductModel();

        $data = [

            'product_name' => $this->request->getPost('product_name'),

            'description' => $this->request->getPost('description'),

            'price' => $this->request->getPost('price')

        ];

        $model->updateProduct($id, $data);

        session()->setFlashdata('message', 'Product updated successfully!');

        return redirect()->to('/dashboard');

    }

    public function delete($id)

    {


        $model = new ProductModel();

        $model->deleteProduct($id);

        session()->setFlashdata('message', 'Product deleted successfully!');

        return redirect()->to('/dashboard');

    }

}



Home.php

<?php


namespace App\Controllers;


class Home extends BaseController

{

    public function index(): string

    {

        return view('welcome_message');
```

```php
    }
}


BaseController.php

<?php


namespace App\Controllers;


use CodeIgniter\Controller;

use CodeIgniter\HTTP\CLIRequest;

use CodeIgniter\HTTP\IncomingRequest;

use CodeIgniter\HTTP\RequestInterface;

use CodeIgniter\HTTP\ResponseInterface;

use Psr\Log\LoggerInterface;


/**

 * Class BaseController

 *

 * BaseController provides a convenient place for loading components

 * and performing functions that are needed by all your controllers.

 * Extend this class in any new controllers:

 *     class Home extends BaseController

 *

 * For security be sure to declare any new methods as protected or private.

 */

abstract class BaseController extends Controller

{

    /**

     * Instance of the main Request object.

     *

     * @var CLIRequest|IncomingRequest

     */

    protected $request;


    /**

     * An array of helpers to be loaded automatically upon

     * class instantiation. These helpers will be available

     * to all other controllers that extend BaseController.

     *
```

```php
     * @var list<string>

     */

    protected $helpers = [];


    /**

     * Be sure to declare properties for any property fetch you initialized.

     * The creation of dynamic property is deprecated in PHP 8.2.

     */

    // protected $session;


    /**

     * @return void

     */

    public function initController(RequestInterface $request, ResponseInterface $response, LoggerInterface $logger)

    {

        // Do Not Edit This Line

        parent::initController($request, $response, $logger);


        // Preload any models, libraries, etc, here.


        // E.g.: $this->session = service('session');

    }

}
```

AuthController.php

```php
<?php


namespace App\Controllers;


use App\Models\UserModel;

use CodeIgniter\Controller;


class AuthController extends Controller

{

    // Show login page (optional if you have a view)

    public function loginView()

    {

        return view('login');

    }
```

```php
    // Handle login

    public function login()

    {

        $userModel = new UserModel();


        $username = $this->request->getPost('username');

        $password = $this->request->getPost('password');


        // Check if username exists

        $user = $userModel->checkUser($username);


        if ($user && password_verify($password, $user['password'])) {

            // Set session data

            session()->set([

                'isLoggedIn' => true,

                'user_id'   => $user['id'],

                'username'   => $user['username']

            ]);


            return redirect()->to('/dashboard'); // redirect to dashboard after login

        }


        return redirect()->back()->with('error', 'Invalid username or password.');

    }


    // Logout user

    public function logout()

    {

    session()->destroy();

    return redirect()->to('/?logout=1');

    }

}
```

Routes:

```php
<?php


use CodeIgniter\Router\RouteCollection;


/**
```

```
 * @var RouteCollection $routes
 */
$routes->get('/', 'AuthController::loginView');

$routes->post('/login', 'AuthController::login');

$routes->get('/logout', 'AuthController::logout');


$routes->get('/products/cards', 'ProductController::cards');

$routes->get('/dashboard', 'ProductController::index');

$routes->get('product/productForm', 'ProductController::add');

$routes->post('products/store', 'ProductController::create');

$routes->get('products/edit/(:num)', 'ProductController::editForm/$1');

$routes->post('products/update/(:num)', 'ProductController::update/$1');

$routes->get('products/delete/(:num)', 'ProductController::delete/$1');
```

Video Link:

https://www.facebook.com/jhomel.natividad.2024/videos/1179391254319764/?fs=e&mibextid=wwXIfr&rdid=bIjBLJntNpwNPRlq#