

Product Management System project

package.json

```
{
  "name": "product-management-system",
  "version": "1.0.0",
  "description": "A web-based product management system.",
  "main": "index.js",
  "scripts": {
    "start:backend": "json-server --watch db.json",
    "start:frontend": "vite --open",
    "start": "concurrently \"npm run start:backend\" \"npm run start:frontend\""
  },
  "author": "",
  "license": "ISC",
  "dependencies": {
    "json-server": "^0.17.4"
  },
  "devDependencies": {
    "concurrently": "^8.2.2",
    "vite": "^5.3.1"
  }
}
```

db.json

```
{
  "users": [
    {
      "id": 1,
      "name": "Admin User",
      "email": "admin@example.com",
      "password": "admin123",
      "role": "admin"
    },
    {
      "id": 2,
      "name": "Regular User",
      "email": "user@example.com",
      "password": "user123",
      "role": "user"
    }
  ],
  "products": [
    {
      "id": 1,
```

```

    "name": "Modern Smartphone",
    "description": "Latest model with a stunning 120Hz display and 108MP camera.",
    "price": 699.99,
    "image": "/images/smartphone.jpg"
  },
  {
    "id": 2,
    "name": "Wireless Headphones",
    "description": "Noise-cancelling headphones with 30 hours of battery life.",
    "price": 199.99,
    "image": "/images/headphones.jpg"
  },
  {
    "id": 3,
    "name": "Smart Watch",
    "description": "Track your fitness and stay connected with this sleek smartwatch.",
    "price": 249.50,
    "image": "/images/smartwatch.jpg"
  },
  {
    "id": 4,
    "name": "4K Action Camera",
    "description": "Capture your adventures in stunning 4K. Waterproof and durable.",
    "price": 179.00,
    "image": "/images/action-camera.jpg"
  },
  {
    "id": 5,
    "name": "Ergonomic Keyboard",
    "description": "A split-design mechanical keyboard for ultimate typing comfort.",
    "price": 129.99,
    "image": "/images/keyboard.jpg"
  },
  {
    "id": 6,
    "name": "Portable Power Bank",
    "description": "A 20,000mAh power bank to keep all your devices charged on the go.",
    "price": 49.99,
    "image": "/images/powerbank.jpg"
  }
],
"cart": []
}

```

index.html

<!DOCTYPE html>

```

<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Welcome - PMS</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
  <link rel="stylesheet" href="/css/style.css">
</head>
<body>
  <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>

  <div class="container mt-5 text-center">
    <div class="p-5 mb-4 bg-light rounded-3">
      <div class="container-fluid py-5">
        <h1 class="display-5 fw-bold">Welcome to the Product Management System</h1>
        <p class="col-md-8 fs-4 mx-auto">Your one-stop solution for managing and
browsing products with ease.</p>
        <a href="/login.html" class="btn btn-primary btn-lg">Login</a>
        <a href="/signup.html" class="btn btn-secondary btn-lg">Signup</a>
      </div>
    </div>
  </div>

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
  <script type="module" src="/js/main.js"></script>
</body>
</html>

```

login.html

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login - PMS</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
  <link rel="stylesheet" href="/css/style.css">
</head>
<body>
  <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>

  <div class="container mt-5">
    <div class="row justify-content-center">

```

```
<div class="col-md-6 col-lg-4">
  <div class="card">
    <div class="card-body">
      <h3 class="card-title text-center mb-4">Login</h3>
      <form id="login-form">
        <div class="mb-3">
          <label for="email" class="form-label">Email address</label>
          <input type="email" class="form-control" id="email" required>
        </div>
        <div class="mb-3">
          <label for="password" class="form-label">Password</label>
          <input type="password" class="form-control" id="password" required>
        </div>
        <div class="d-grid">
          <button type="submit" class="btn btn-primary">Login</button>
        </div>
      </form>
      <p class="text-center mt-3">
        Don't have an account? <a href="/signup.html">Sign up here</a>
      </p>
    </div>
  </div>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
<script type="module" src="/js/main.js"></script>
<script type="module" src="/js/auth.js"></script>
</body>
</html>
```

```
<nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>
```

```

<div class="container mt-5">
  <div class="row justify-content-center">
    <div class="col-md-6 col-lg-5">
      <div class="card">
        <div class="card-body">
          <h3 class="card-title text-center mb-4">Create an Account</h3>
          <form id="signup-form">
            <div class="mb-3">
              <label for="fullName" class="form-label">Full Name</label>
              <input type="text" class="form-control" id="fullName" required>
            </div>
            <div class="mb-3">
              <label for="email" class="form-label">Email address</label>
              <input type="email" class="form-control" id="email" required>
            </div>
            <div class="mb-3">
              <label for="password" class="form-label">Password</label>
              <input type="password" class="form-control" id="password" required>
            </div>
            <div class="mb-3">
              <label for="role" class="form-label">Role</label>
              <select class="form-select" id="role">
                <option value="user">User</option>
                <option value="admin">Admin</option>
              </select>
            </div>
            <div class="d-grid">
              <button type="submit" class="btn btn-primary">Sign Up</button>
            </div>
          </form>
          <p class="text-center mt-3">
            Already have an account? <a href="/login.html">Login here</a>
          </p>
        </div>
      </div>
    </div>
  </div>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
  <script type="module" src="/js/main.js"></script>
  <script type="module" src="/js/auth.js"></script>
</body>
</html>

```

css/style.css

```
body {
  background-color: #f8f9fa;
}

.product-card {
  transition: transform 0.2s ease-in-out, box-shadow 0.2s ease-in-out;
}

.product-card:hover {
  transform: translateY(-5px);
  box-shadow: 0 4px 12px rgba(0,0,0,0.1);
}

.product-card img {
  height: 200px;
  object-fit: cover;
}
```

js/main.js

```
const API_BASE_URL = 'http://localhost:3000';

document.addEventListener('DOMContentLoaded', () => {
  renderNavbar();
});

function renderNavbar() {
  const loggedInUser = JSON.parse(localStorage.getItem('loggedInUser'));
  const navbarContainer = document.getElementById('navbar-container');
  if (!navbarContainer) return;

  let navHTML = '';
  if (loggedInUser) {
    if (loggedInUser.role === 'admin') {
      navHTML = `
        <div class="container">
          <a class="navbar-brand" href="/admin/dashboard.html">PMS (Admin)</a>
          <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav">
            <span class="navbar-toggler-icon"></span>
          </button>
          <div class="collapse navbar-collapse" id="navbarNav">
            <ul class="navbar-nav me-auto mb-2 mb-lg-0">
              <li class="nav-item"><a class="nav-link"
href="/admin/dashboard.html">Product List</a></li>
            </ul>
          </div>
        </div>
      `;
    }
  }
}
```

```

        <li class="nav-item"><a class="nav-link" href="/admin/add-
product.html">Add Product</a></li>
    </ul>
    <span class="navbar-text me-3">Welcome, ${loggedInUser.name}</span>
    <button id="logout-btn" class="btn btn-outline-light">Logout</button>
</div>
</div>`;
} else {
    navHTML = `
    <div class="container">
        <a class="navbar-brand" href="/user/dashboard.html">Product Shop</a>
        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav">
            <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarNav">
            <ul class="navbar-nav me-auto mb-2 mb-lg-0">
                <li class="nav-item"><a class="nav-link"
href="/user/dashboard.html">Products</a></li>
            </ul>
            <a href="/user/cart.html" class="btn btn-outline-info me-3">Cart <span
id="cart-count" class="badge bg-danger">0</span></a>
            <span class="navbar-text me-3">Welcome, ${loggedInUser.name}</span>
            <button id="logout-btn" class="btn btn-outline-light">Logout</button>
        </div>
    </div>`;
}
} else {
    navHTML = `
    <div class="container">
        <a class="navbar-brand" href="/">PMS</a>
        <div class="ms-auto">
            <a href="/login.html" class="btn btn-outline-light me-2">Login</a>
            <a href="/signup.html" class="btn btn-light">Signup</a>
        </div>
    </div>`;
}

navbarContainer.innerHTML = navHTML;
if (loggedInUser) {
    document.getElementById('logout-btn').addEventListener('click', logout);
    if (loggedInUser.role === 'user') {
        updateCartCount();
    }
}
}
}

```

```

function logout() {
  localStorage.removeItem('loggedInUser');
  window.location.href = '/login.html';
}

function updateCartCount() {
  const cart = JSON.parse(localStorage.getItem('cart')) || [];
  const cartCountElement = document.getElementById('cart-count');
  if (cartCountElement) {
    cartCountElement.textContent = cart.length;
  }
}

function protectRoute(roles) {
  const user = JSON.parse(localStorage.getItem('loggedInUser'));
  if (!user || !roles.includes(user.role)) {
    alert('Access Denied. You are not authorized to view this page.');
```

window.location.href = '/login.html';

```

  }
}

export { API_BASE_URL, updateCartCount, protectRoute };

```

js/auth.js

```

import { API_BASE_URL } from './main.js';

document.addEventListener('DOMContentLoaded', () => {
  const loginForm = document.getElementById('login-form');
  const signupForm = document.getElementById('signup-form');

  if (loginForm) {
    loginForm.addEventListener('submit', async (e) => {
      e.preventDefault();
      const email = document.getElementById('email').value;
      const password = document.getElementById('password').value;

      try {
        const response = await
fetch(`${API_BASE_URL}/users?email=${email}&password=${password}`);
        const users = await response.json();

        if (users.length > 0) {
          const user = users[0];
          localStorage.setItem('loggedInUser', JSON.stringify(user));

```



```

        if (user.role === 'admin') {
            window.location.href = '/admin/dashboard.html';
        } else {
            window.location.href = '/user/dashboard.html';
        }
    } else {
        alert('Invalid email or password.');
```

```

    }
} catch (error) {
    console.error('Login error:', error);
    alert('An error occurred during login.');
```

```

}
});
}

```

```

if (signupForm) {

```

```

    signupForm.addEventListener('submit', async (e) => {
        e.preventDefault();
        const name = document.getElementById('fullName').value;
        const email = document.getElementById('email').value;
        const password = document.getElementById('password').value;
        const role = document.getElementById('role').value;

```

```

        if (!name || !email || !password) {
            alert('Please fill in all fields.');
```

```

            return;
        }

```

```

        try {

```

```

            const checkUser = await fetch(`${API_BASE_URL}/users?email=${email}`);
            const existingUsers = await checkUser.json();

```

```

            if (existingUsers.length > 0) {
                alert('An account with this email already exists.');
```

```

                return;
            }

```

```

            const response = await fetch(`${API_BASE_URL}/users`, {
                method: 'POST',
                headers: { 'Content-Type': 'application/json' },
                body: JSON.stringify({ name, email, password, role })
            });

```

```

            if (response.ok) {
                alert('Signup successful! Please proceed to login.');
```

```

                window.location.href = '/login.html';
            }
        }
    }
}

```

```

    } else {
      alert('An error occurred during signup.');
```

js/admin.js

```
import { API_BASE_URL, protectRoute } from './main.js';
```

```

document.addEventListener('DOMContentLoaded', () => {
  protectRoute(['admin']);
  const path = window.location.pathname;
  if (path.includes('dashboard.html')) {
    loadProducts();
  } else if (path.includes('add-product.html')) {
    initializeProductForm();
  }
});
```

```

async function loadProducts() {
  try {
    const response = await fetch(`${API_BASE_URL}/products`);
    const products = await response.json();
    const productListBody = document.getElementById('product-list-body');
    productListBody.innerHTML = '';

    products.forEach(product => {
      const row = document.createElement('tr');
      row.innerHTML = `
        <td></td>
        <td>${product.name}</td>
        <td>${product.price.toFixed(2)}</td>
        <td>
          <a href="/admin/add-product.html?id=${product.id}" class="btn btn-sm btn-
warning">Edit</a>
          <button class="btn btn-sm btn-danger delete-btn" data-
id="${product.id}">Delete</button>
        </td>`;
      productListBody.appendChild(row);
    });
  }
}
```

```

        document.querySelectorAll('.delete-btn').forEach(button => {
            button.addEventListener('click', (e) => {
                const productId = e.target.dataset.id;
                deleteProduct(productId);
            });
        });
    } catch (error) {
        console.error('Error loading products:', error);
    }
}

```

```

async function deleteProduct(productId) {
    if (!confirm('Are you sure you want to delete this product?')) return;
    try {
        const response = await fetch(`${API_BASE_URL}/products/${productId}`, { method:
'DELETE' });
        if (response.ok) {
            alert('Product deleted successfully!');
            loadProducts();
        } else {
            alert('Failed to delete product.');
        }
    } catch (error) {
        console.error('Error deleting product:', error);
    }
}

```

```

async function initializeProductForm() {
    const productForm = document.getElementById('product-form');
    const formTitle = document.getElementById('form-title');
    const urlParams = new URLSearchParams(window.location.search);
    const productId = urlParams.get('id');
    const isEditMode = productId !== null;

    if (isEditMode) {
        formTitle.textContent = 'Edit Product';
        try {
            const response = await fetch(`${API_BASE_URL}/products/${productId}`);
            const product = await response.json();
            document.getElementById('product-name').value = product.name;
            document.getElementById('product-description').value = product.description;
            document.getElementById('product-price').value = product.price;
            document.getElementById('product-image').value = product.image;
        } catch (error) {
            console.error('Error fetching product:', error);
        }
    }
}

```

```

    }
  }

productForm.addEventListener('submit', async (e) => {
  e.preventDefault();
  const productData = {
    name: document.getElementById('product-name').value,
    description: document.getElementById('product-description').value,
    price: parseFloat(document.getElementById('product-price').value),
    image: document.getElementById('product-image').value
  };

  try {
    const url = isEditMode ? `${API_BASE_URL}/products/${productId}` :
`${API_BASE_URL}/products`;
    const method = isEditMode ? 'PUT' : 'POST';
    const response = await fetch(url, {
      method: method,
      headers: { 'Content-Type': 'application/json' },
      body: JSON.stringify(productData)
    });

    if (response.ok) {
      alert(`Product ${isEditMode ? 'updated' : 'added'} successfully!`);
      window.location.href = '/admin/dashboard.html';
    } else {
      alert('Failed to save product.');
```

js/user.js

```
import { API_BASE_URL, updateCartCount, protectRoute } from './main.js';
```

```

document.addEventListener('DOMContentLoaded', () => {
  protectRoute(['user']);
  const path = window.location.pathname;
  if (path.includes('dashboard.html')) {
    displayProductsForUser();
  } else if (path.includes('cart.html')) {
    displayCart();
  }
});

```

```

async function displayProductsForUser() {
  try {
    const response = await fetch(`${API_BASE_URL}/products`);
    const products = await response.json();
    const productGrid = document.getElementById('product-grid');
    productGrid.innerHTML = "";

    products.forEach(product => {
      const cardHTML = `
        <div class="col">
          <div class="card h-100 product-card">
            
            <div class="card-body d-flex flex-column">
              <h5 class="card-title">${product.name}</h5>
              <p class="card-text">${product.description}</p>
              <h6 class="card-subtitle mb-2 text-
muted">${product.price.toFixed(2)}</h6>
              <button class="btn btn-primary mt-auto add-to-cart-btn" data-
product='${JSON.stringify(product)}'>Add to Cart</button>
            </div>
          </div>
        </div>`;
      productGrid.innerHTML += cardHTML;
    });

    document.querySelectorAll('.add-to-cart-btn').forEach(button => {
      button.addEventListener('click', (e) => {
        const product = JSON.parse(e.target.dataset.product);
        addToCart(product);
      });
    });
  } catch (error) {
    console.error('Error loading products for user:', error);
  }
}

```

```

function addToCart(product) {
  let cart = JSON.parse(localStorage.getItem('cart')) || [];
  const existingProduct = cart.find(item => item.id === product.id);

  if (existingProduct) {
    alert('This item is already in your cart.');
```

```

  } else {
    cart.push(product);
    localStorage.setItem('cart', JSON.stringify(cart));
  }
}

```

```

        alert(`${product.name} has been added to your cart!`);
    }
    updateCartCount();
}

function displayCart() {
    const cart = JSON.parse(localStorage.getItem('cart')) || [];
    const cartContainer = document.getElementById('cart-container');
    let totalPrice = 0;

    if (cart.length === 0) {
        cartContainer.innerHTML = '<p>Your cart is empty. <a
href="/user/dashboard.html">Start shopping!</a></p>';
        return;
    }

    let cartHTML = `
        <table class="table">
            <thead>
                <tr><th>Product</th><th>Price</th><th>Action</th></tr>
            </thead>
            <tbody>`;

    cart.forEach(item => {
        cartHTML += `
            <tr>
                <td>${item.name}</td>
                <td>${item.price.toFixed(2)}</td>
                <td><button class="btn btn-sm btn-danger remove-from-cart-btn" data-
id="${item.id}">Remove</button></td>
            </tr>`;
        totalPrice += item.price;
    });

    cartHTML += `
        </tbody>
    </table>
    <div class="text-end">
        <h4>Total: ${totalPrice.toFixed(2)}</h4>
        <button id="checkout-btn" class="btn btn-success">Place Order</button>
    </div>`;

    cartContainer.innerHTML = cartHTML;

    document.querySelectorAll('.remove-from-cart-btn').forEach(button => {
        button.addEventListener('click', (e) => {

```

```

        const productId = parseInt(e.target.dataset.id, 10);
        removeFromCart(productId);
    });
});
document.getElementById('checkout-btn').addEventListener('click', checkout);
}

function removeFromCart(productId) {
    let cart = JSON.parse(localStorage.getItem('cart')) || [];
    cart = cart.filter(item => item.id !== productId);
    localStorage.setItem('cart', JSON.stringify(cart));
    displayCart();
    updateCartCount();
}

function checkout() {
    alert('Thank you for your order! Your items will be shipped soon. ');
    localStorage.removeItem('cart');
    displayCart();
    updateCartCount();
}

```

admin/dashboard.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Admin Dashboard - PMS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
    <link rel="stylesheet" href="/css/style.css">
</head>
<body>
    <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>
    <div class="container mt-4">
        <div class="d-flex justify-content-between align-items-center mb-3">
            <h2>Product List</h2>
            <a href="/admin/add-product.html" class="btn btn-primary">Add New Product</a>
        </div>
        <div class="table-responsive">
            <table class="table table-striped table-hover">
                <thead class="table-dark">
                    <tr><th>Image</th><th>Product
Name</th><th>Price</th><th>Actions</th></tr>
                </thead>

```

```

        <tbody id="product-list-body"></tbody>
    </table>
</div>
</div>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
    <script type="module" src="/js/main.js"></script>
    <script type="module" src="/js/admin.js"></script>
</body>
</html>

```

admin/add-product.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Manage Product - PMS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
    <link rel="stylesheet" href="/css/style.css">
</head>
<body>
    <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>
    <div class="container mt-4">
        <h2 id="form-title">Add New Product</h2>
        <form id="product-form">
            <div class="mb-3">
                <label for="product-name" class="form-label">Product Name</label>
                <input type="text" class="form-control" id="product-name" required>
            </div>
            <div class="mb-3">
                <label for="product-description" class="form-label">Description</label>
                <textarea class="form-control" id="product-description" rows="3"
required></textarea>
            </div>
            <div class="mb-3">
                <label for="product-price" class="form-label">Price</label>
                <input type="number" class="form-control" id="product-price" step="0.01"
required>
            </div>
            <div class="mb-3">
                <label for="product-image" class="form-label">Image Path</label>
                <input type="text" class="form-control" id="product-image"
placeholder="/images/your-image-name.jpg" required>
            </div>

```



```

        <button type="submit" class="btn btn-primary">Save Product</button>
        <a href="/admin/dashboard.html" class="btn btn-secondary">Cancel</a>
    </form>
</div>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
    <script type="module" src="/js/main.js"></script>
    <script type="module" src="/js/admin.js"></script>
</body>
</html>

```

user/dashboard.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Products - PMS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
    <link rel="stylesheet" href="/css/style.css">
</head>
<body>
    <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>
    <div class="container mt-4">
        <h2 class="mb-4">Our Products</h2>
        <div id="product-grid" class="row row-cols-1 row-cols-md-2 row-cols-lg-3 g-
4"></div>
    </div>
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
    <script type="module" src="/js/main.js"></script>
    <script type="module" src="/js/user.js"></script>
</body>
</html>

```

user/cart.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Your Cart - PMS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet">
    <link rel="stylesheet" href="/css/style.css">

```

```
</head>
<body>
  <nav id="navbar-container" class="navbar navbar-expand-lg navbar-dark bg-dark"></nav>
  <div class="container mt-4">
    <h2>Shopping Cart</h2>
    <div id="cart-container"></div>
  </div>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
    <script type="module" src="/js/main.js"></script>
    <script type="module" src="/js/user.js"></script>
  </body>
</html>
```