NovaIoT — E-commerce Platform

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Introduction

NovaIoT is a smart-home IoT e-commerce platform designed to provide an intuitive and seamless shopping experience. Users can browse products, manage their cart, and place orders, while administrators have access to powerful tools for managing products, categories, and orders. The project demonstrates a full-stack web solution using a modern and efficient technology stack.

Key Features

- User registration and login with secure password storage (MySQL + bcrypt)
- Product catalog browsing with search, filters, and sorting
- Shopping cart and checkout process
- User profile with order history and profile management
- Product reviews and ratings
- Admin dashboard to manage products, categories, and orders

Technologies Used and Motivation

NovaIoT uses a modern technology stack chosen for performance, scalability, and ease of deployment:
- **Frontend (HTML, CSS, JavaScript)**: Single-page application (SPA) for fast navigation and smooth UX.
- **Backend (Node.js + Express)**: Lightweight and flexible solution for building REST APIs.
- **Database (MySQL)**: Ensures structured storage of users, products, orders, and reviews.
- **Authentication (JWT + bcrypt)**: Provides secure session handling and encrypted password storage.
- **Infrastructure (Docker + Nginx)**: Simplifies deployment, ensures consistent environments, and optimizes performance.

Architecture and Development Decisions

NovaIoT follows a single-page application (SPA) approach, with the frontend communicating with the backend via RESTful APIs. JWT-based authentication is implemented for security, while bcrypt ensures safe password hashing. Nginx is configured as a reverse proxy to serve static files and forward API requests. Docker Compose is used to manage containers for the Node.js backend, MySQL database, and Nginx, ensuring consistent deployments.
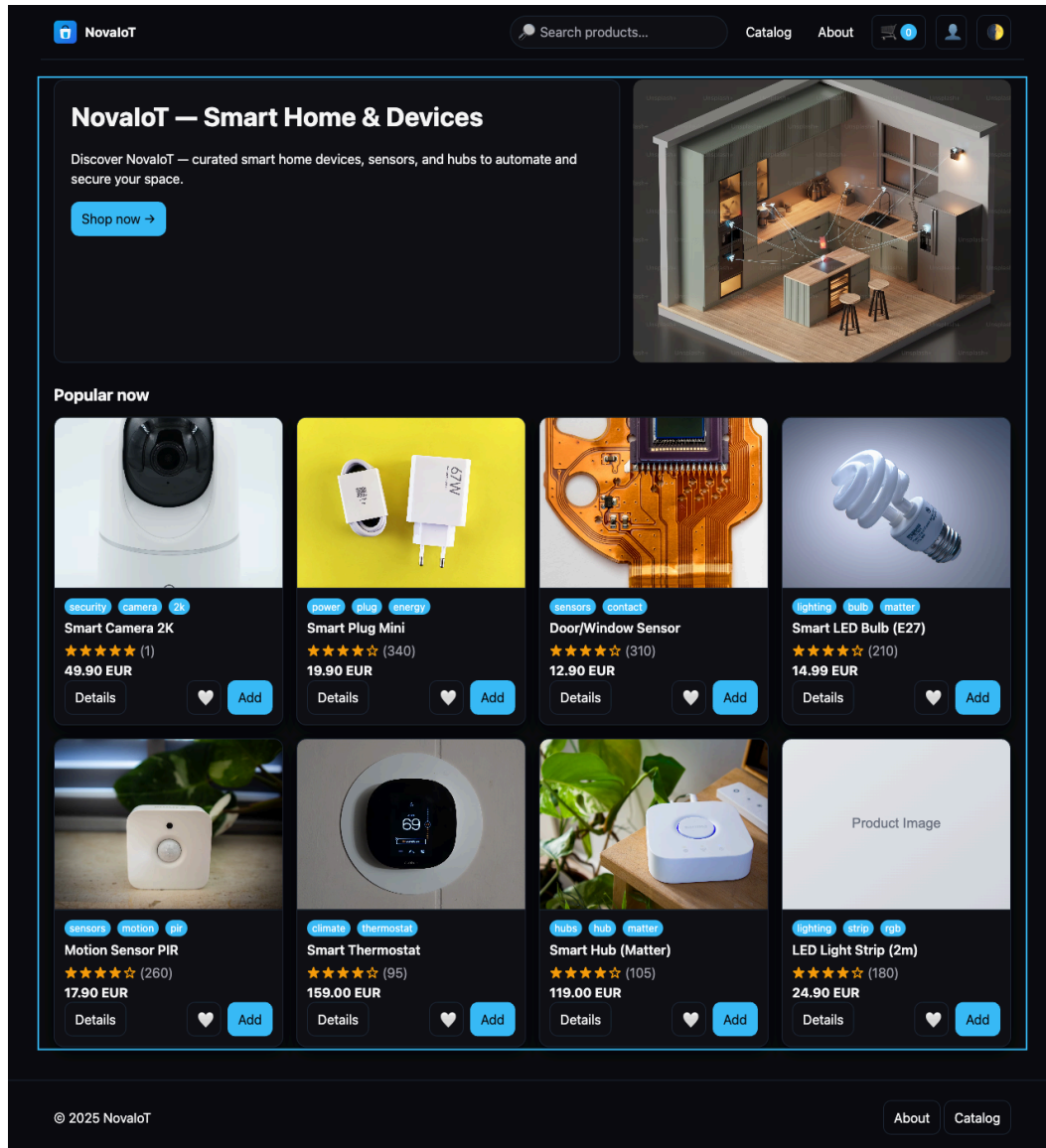
Setup and Run

1. Install Docker and Docker Compose.
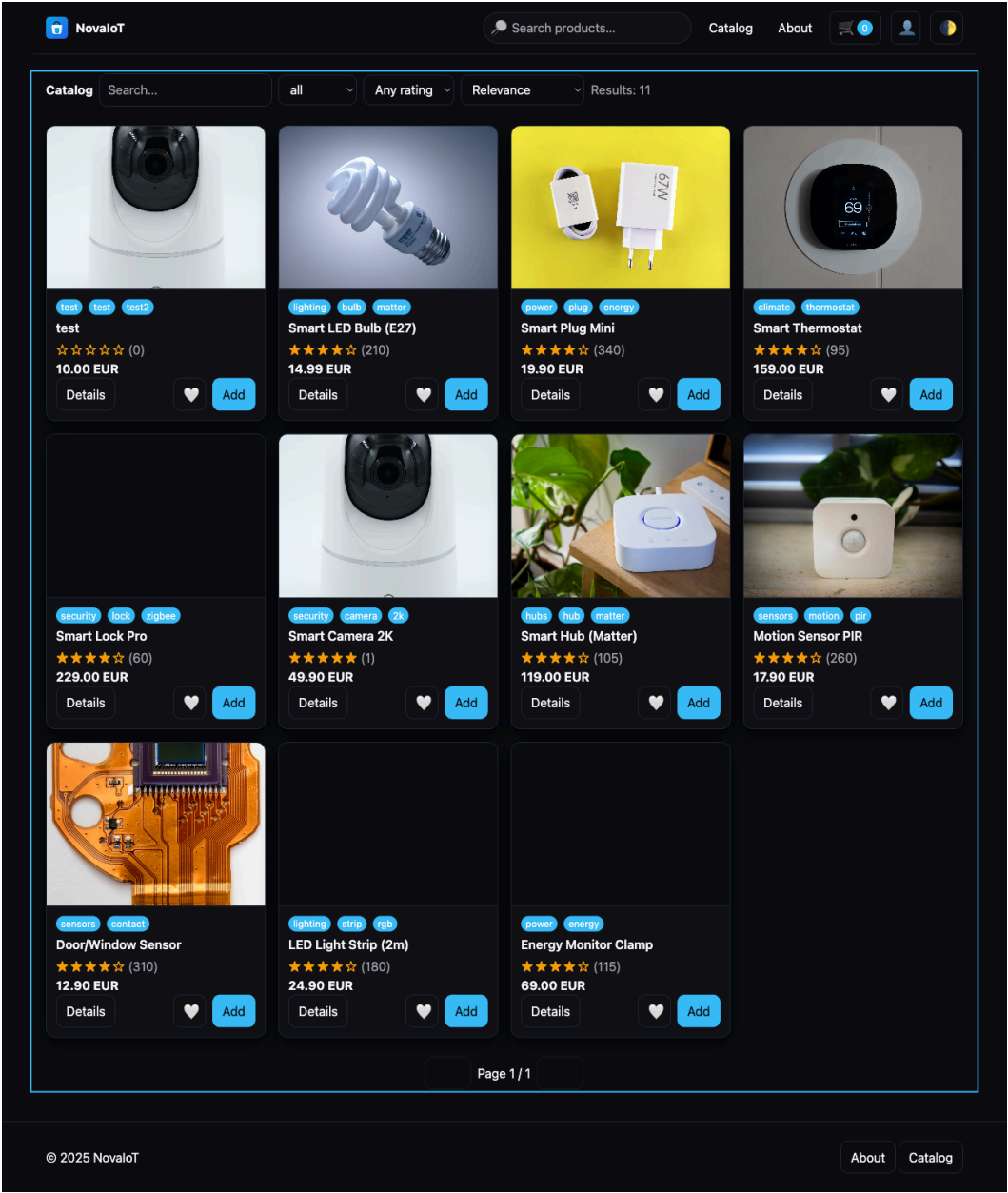2. Run: docker compose up --build

3. Access the app at: http://localhost
4. Default admin credentials: admin@example.com / admin123
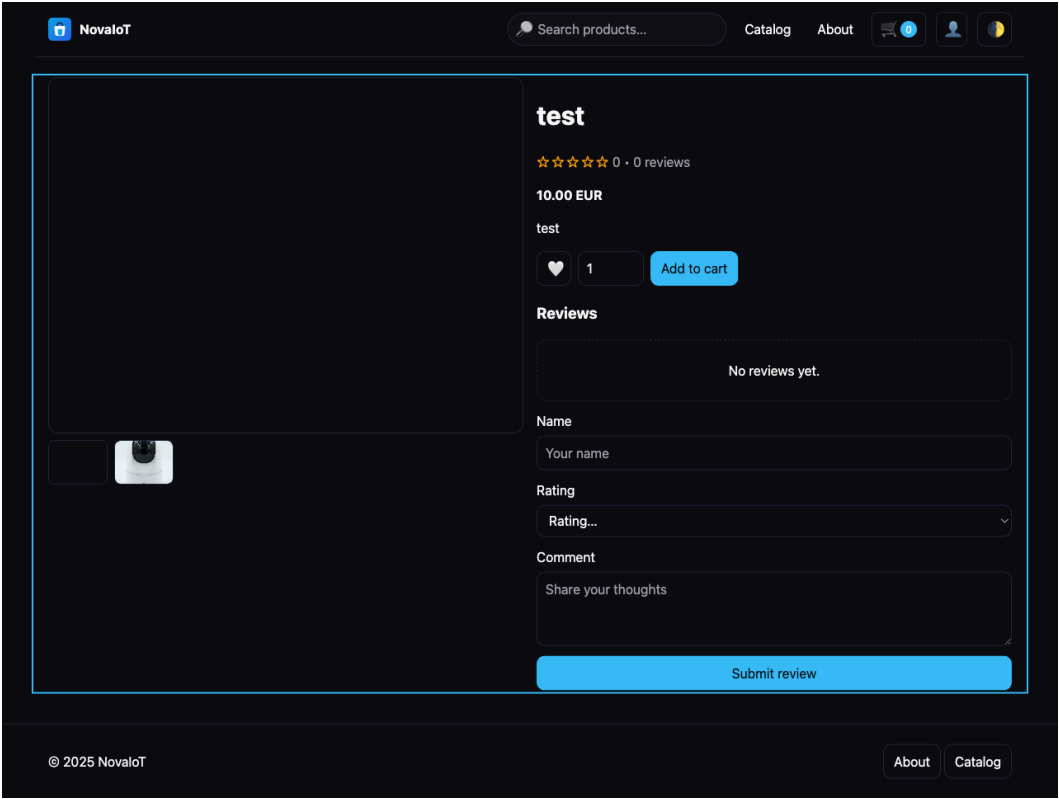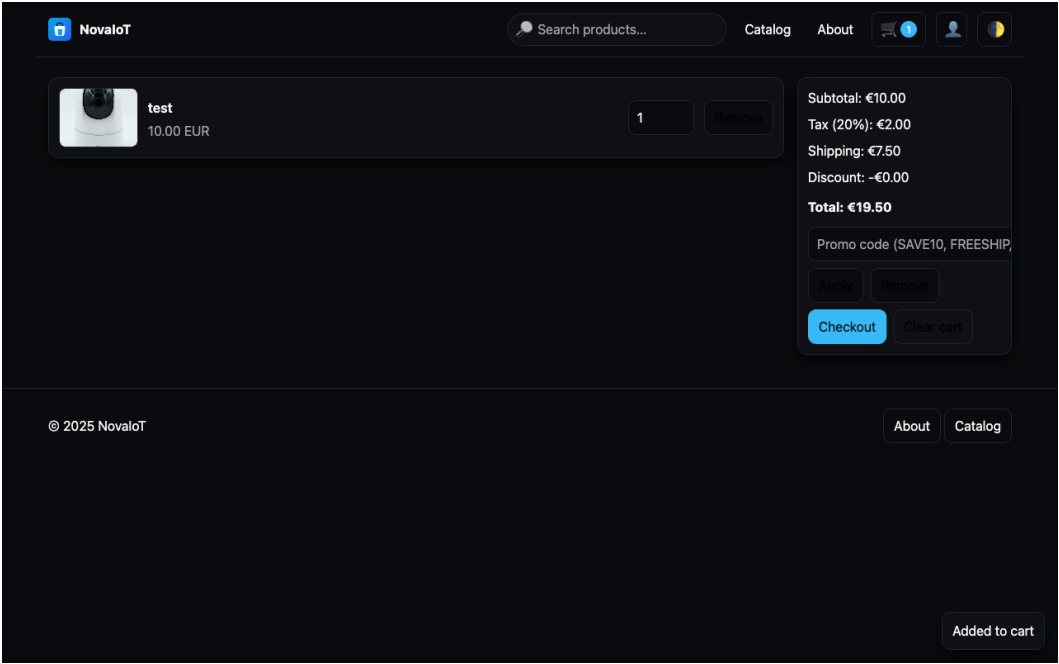
Screenshots

Home Page

Product Catalog

Product Details

Shopping Cart

Checkout

NovaIoT   Search products...   Catalog   About

Checkout

Full name
John Doe

Email
john@example.com

Phone
+39 333 123 4567

Address
Via Roma 1, Milano

Payment method
Select...

☐ I agree to Terms

Place order

© 2025 NovaIoT   About   Added to cart

Order Confirmation

NovaIoT   Search products...   Catalog   About

Your cart is empty. Go shopping →

© 2025 NovaIoT   About   Catalog

Admin Dashboard

Admin Orders

Admin Categories

Search products...

Catalog   About   Admin

0   ADMIN

Admin

Admin area — protected

Products   Orders

Add category

Add

Signed in
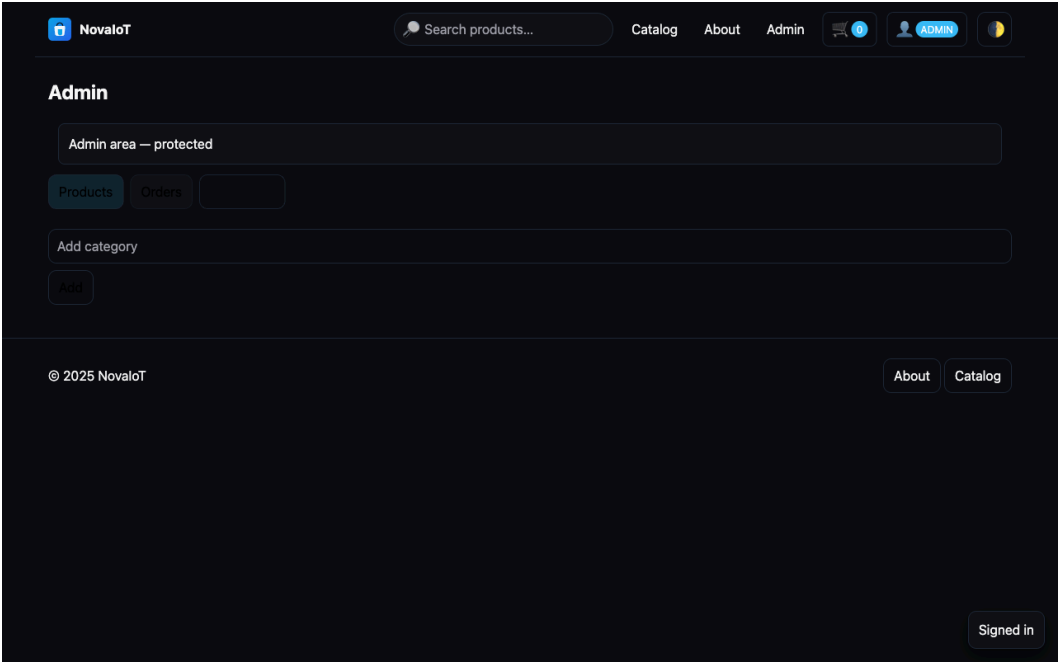
About Page

About NovaIoT

We curate reliable IoT devices for modern homes — from smart sensors and hubs to lighting, security, and energy monitoring. Our team hand-selects interoperable products that are easy to set up and built to last.

4.7★ Average Rating
Based on verified customer reviews.

48–72h Delivery
Fast, tracked shipping across the EU.

30-Day Returns
Hassle-free returns on eligible items.

Our Promise

- Quality you can feel and rely on
- Fast, tracked shipping on every order
- 30-day hassle-free returns
- Secure checkout and responsive support

Our Story

NovaIoT started with a simple idea: make smart homes accessible. We partner with trusted manufacturers and test devices in-house across major ecosystems (Matter, HomeKit, Google Home, Alexa).

We are a small, distributed team of IoT enthusiasts. Every device we carry has a purpose — to make homes safer, greener, and more convenient.

Sustainability

- Carbon-neutral shipping on most orders
- Minimal, recyclable packaging
- Long-life products to reduce waste

Shipping & Returns

Most orders ship within 24 hours. Delivery within 48–72 hours in the EU.

- Free shipping for orders over €60
- 30-day returns, fast refunds
- Pre-paid return labels available

Payment & Security

We accept Visa, MasterCard, Amex, PayPal, and Apple Pay.

All payments are processed over secure, PCI-compliant gateways.

FAQ

▶ When will my order ship?

▶ How do I start a return?

▶ Do you ship internationally?