Project 4: Inventory Management System

Core Features
- Product catalog management
- Stock tracking and alerts
- Supplier management
- Purchase orders and sales

FastAPI Endpoints

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POST /products - create_product()
GET /products - get_products()
PUT /products/{id} - update_product()
DELETE /products/{id} - delete_product()

POST /categories - create_category()
GET /categories - get_categories()

POST /suppliers - create_supplier()
GET /suppliers - get_suppliers()
PUT /suppliers/{id} - update_supplier()

POST /purchase-orders - create_purchase_order()
GET /purchase-orders - get_purchase_orders()
PUT /purchase-orders/{id}/receive - receive_inventory()

POST /sales - record_sale()
GET /sales - get_sales()

GET /inventory/alerts - get_low_stock_alerts()
POST /inventory/adjust - adjust_stock_levels()
```

Streamlit Tabs
- **Products**: Add products, manage categories, pricing, descriptions
- **Inventory**: Current stock levels, stock adjustments, low stock alerts
- **Suppliers**: Manage supplier info, contact details, payment terms
- **Orders**: Create purchase orders, track deliveries, record sales

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DB Design: -- Product catalog products: id (uuid), name (text), description (text), sku (text), category_id (fk), purchase_price (decimal), selling_price (decimal), reorder_level (int), supplier_id (fk), created_at

-- Product categories categories: id (uuid), name (text), description (text), parent_category_id (fk)

-- Supplier information suppliers: id (uuid), name (text), contact_person (text), email (text), phone (text), address (text), payment_terms (text), active (bool)

-- Current stock levels inventory: id (uuid), product_id (fk), quantity_on_hand (int), reserved_quantity (int), last_restock_date (date), location (text)

-- Purchase orders from suppliers purchase_orders: id (uuid), supplier_id (fk), order_date (date), expected_delivery (date), total_amount (decimal), status (text),

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notes (text)

-- Items in each purchase order purchase_order_items: id (uuid), order_id (fk),
product_id (fk), quantity_ordered (int), quantity_received (int), unit_price (decimal)

-- Sales transactions sales: id (uuid), product_id (fk), quantity_sold (int),
sale_price (decimal), sale_date (timestamp), customer_name (text), profit_margin
(decimal)
```