ADBMS Project Report

Inventory Management System (IMS)

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1. Introduction

The IMS (Inventory Management System) project was developed to address the needs of multi-tenant inventory tracking and order processing. Each tenant manages its data in a shared schema with complete isolation using TenantID.

2. System Modules

- Authentication: Login with tenant-specific user account.
- Dashboard: Provides tenants with a quick overview of their stock.
- Products: Add, edit, view, and delete products.
- Inventory Reports: Highlight total products, low stock, and out-of-stock items.
- Orders: View and create product orders for stock movement.
- Users: Optionally manage additional users (hidden by default).

3. Technologies Used

- WPF for the UI with XAML for modern, responsive design.
- Entity Framework for ORM and database interactions.
- MS SQL Server as the relational database with indexes for performance.

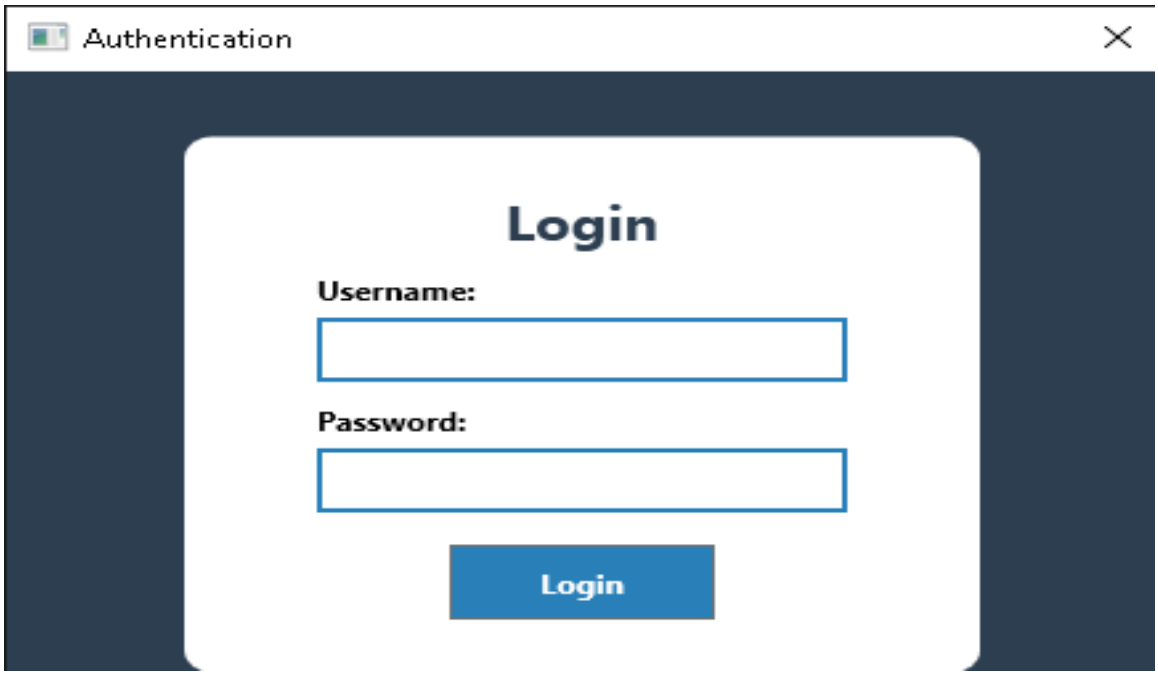
4. Challenges & Solutions

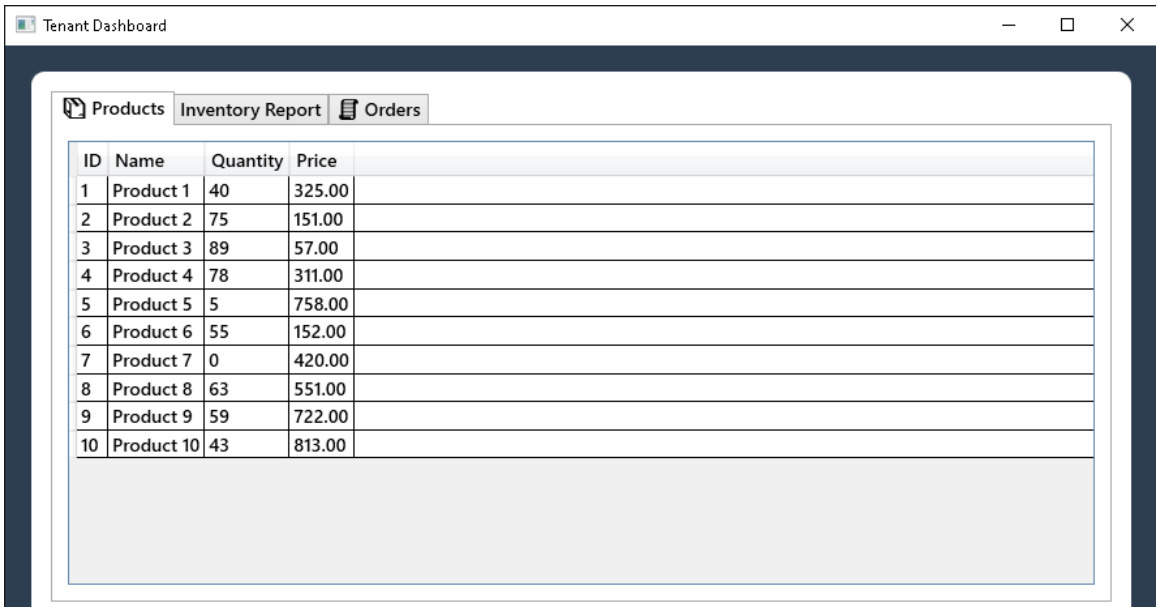
- Entity Proxy Issue: Navigation properties were cluttering DataGrids. Solution was to manually configure the columns and hide navigation-related properties.
- Design Issues: Overlapping controls fixed by proper layout structuring using StackPanels, Grid rows, and appropriate alignment.

5. Achievements

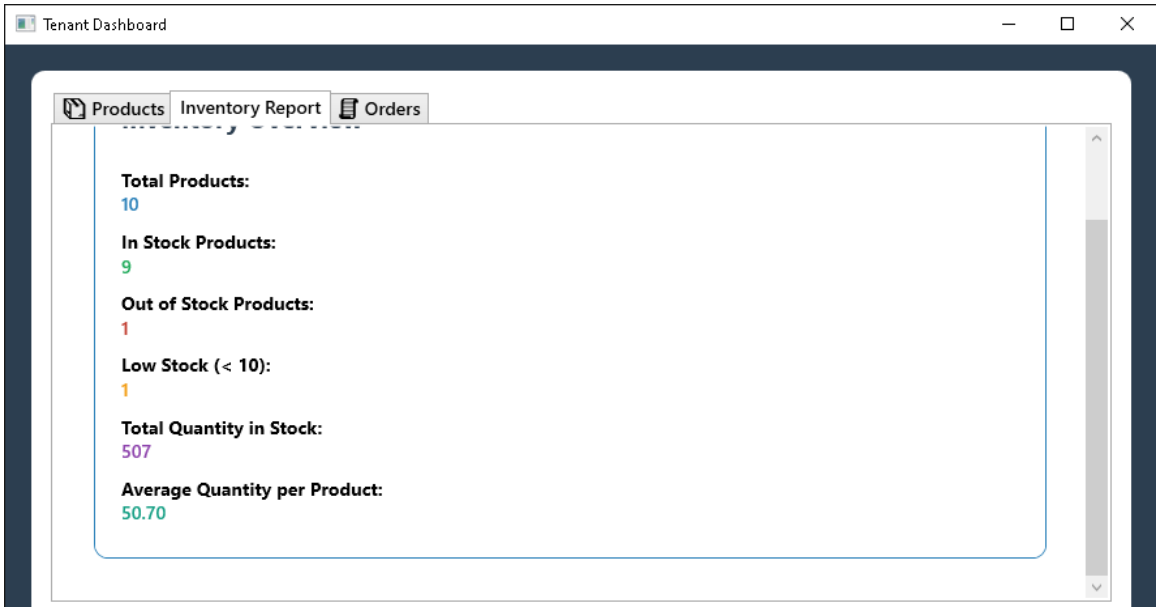
- Fully functional IMS with multi-tenant support.
- Professional design for both login and dashboard UI.
- Dynamic loading of products, orders, and reports based on logged-in user.

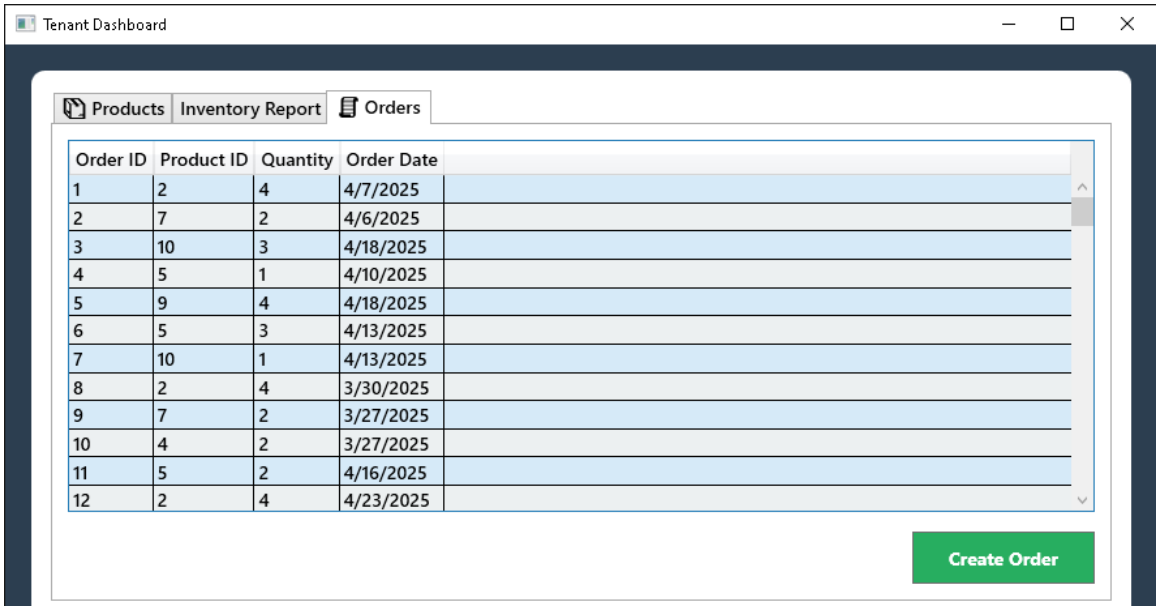
6. Screenshots





ID	Name	Quantity	Price
1	Product 1	40	325.00
2	Product 2	75	151.00
3	Product 3	89	57.00
4	Product 4	78	311.00
5	Product 5	5	758.00
6	Product 6	55	152.00
7	Product 7	0	420.00
8	Product 8	63	551.00
9	Product 9	59	722.00
10	Product 10	43	813.00





7. Conclusion

The IMS was a successful project that combined modern UI design with robust backend logic. It fulfilled the goals of clean user experience, multi-tenancy, and modular inventory management.