Inventory and Warehouse Management System

■ Objective

Design a SQL backend for warehouse inventory tracking using MySQL Workbench 8.

■ Tools Used

1. MySQL 8
2. DBeaver / MySQL Workbench

■ Database Schema

1. Suppliers
2. Products
3. Warehouses
4. Stock
5. Low Stock Alerts

■■ Setup Instructions

1. Install MySQL 8 and open MySQL Workbench.
2. Create a new database: CREATE DATABASE inventory_db; USE inventory_db;
3. Create tables in the following order: Suppliers → Warehouses → Products → Stock → Low Stock Alerts.
4. Insert sample records to test the system.

■ Features

1. Maintain product, warehouse, and supplier details.
2. Track stock levels in multiple warehouses.
3. Generate low stock alerts using triggers.
4. Transfer stock between warehouses using stored procedures.
5. Query available stock for each product.

■ Example Queries

1. Check stock levels: SELECT p.name, s.warehouse_id, s.qty_on_hand FROM stock s JOIN products p ON s.product_id = p.product_id;
2. View low stock alerts: SELECT * FROM low_stock_alerts WHERE is_open = 1;

■ Triggers

Low Stock Notification: Automatically creates an alert if stock falls below the reorder level.

■ Stored Procedures

Transfer Stock: Move stock from one warehouse to another while updating quantities.

■ Deliverables

1. SQL Schema (DDL for tables)
2. Sample Data Inserts
3. Inventory Queries
4. Triggers for low stock alerts
5. Stored Procedure for stock transfer

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