Day 2 Work Completion Report

Project: Mini Manufacturing ERP

Technology Stack: Spring Boot, React, MySQL

Objective of Day 2

The goal of Day 2 was to design a complete database schema for the Mini Manufacturing ERP system and represent it using an ER (Entity Relationship) Diagram. This includes identifying entities, defining attributes, primary keys, foreign keys, and establishing correct relationships between tables.

Work Completed on Day 2

- Designed all required database tables using MySQL Workbench EER Diagram.

- Created core master tables: Users, Roles, Items, Suppliers.

- Created transaction tables: Purchase Orders, Purchase Order Items, Sales Orders, Sales Order Items.

- Created inventory-related tables: GRR (Goods Receipt Report) and GRR Items.

- Created Expenses table for operational cost tracking.

- Defined proper Primary Keys (PK) for all tables.

- Established Foreign Key (FK) relationships using One-to-Many cardinality.

- Resolved automatic column creation issues by manually controlling foreign keys.

- Ensured naming consistency for foreign keys (role_id, supplier_id, item_id, etc.).

- Validated relationship count and structure against the reference ER diagram.

Final Relationships Implemented

- Roles → Users (One Role can be assigned to many Users)

- Suppliers → Purchase Orders (One Supplier can have many Purchase Orders)

- Purchase Orders → Purchase Order Items (One Purchase Order has many Items)

- Items → Purchase Order Items (One Item can appear in many Purchase Orders)

- Purchase Orders → GRR (One Purchase Order can have one GRR)

- GRR → GRR Items (One GRR contains many Items)

- Items → GRR Items (One Item can appear in many GRR entries)

- Sales Orders → Sales Order Items (One Sales Order has many Items)

- Items → Sales Order Items (One Item can be sold in many Sales Orders)

GitHub Work Completed

Created a structured docs/Day-2/ER-Diagram folder in the GitHub repository. Uploaded the ER Diagram file and updated README documentation to reflect Day 2 progress.

Day 2 Status

Day 2 work is successfully completed. The database design and ER diagram are finalized and ready to be used for Day 3 backend development tasks.

Next Steps (Day 3 Preview)

Day 3 will focus on backend implementation including entity creation, JPA mappings, repository layers, and initial REST APIs based on the finalized ER diagram.