Weather Management System

CSCE 548

Hardik Marlapudi

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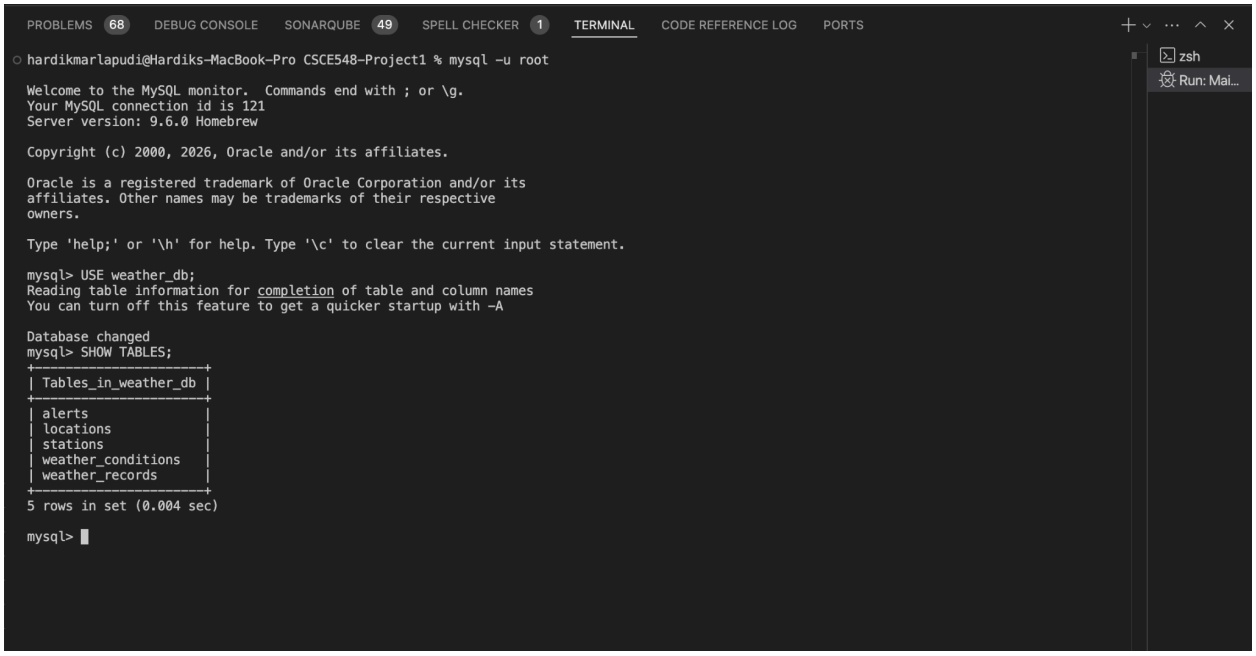
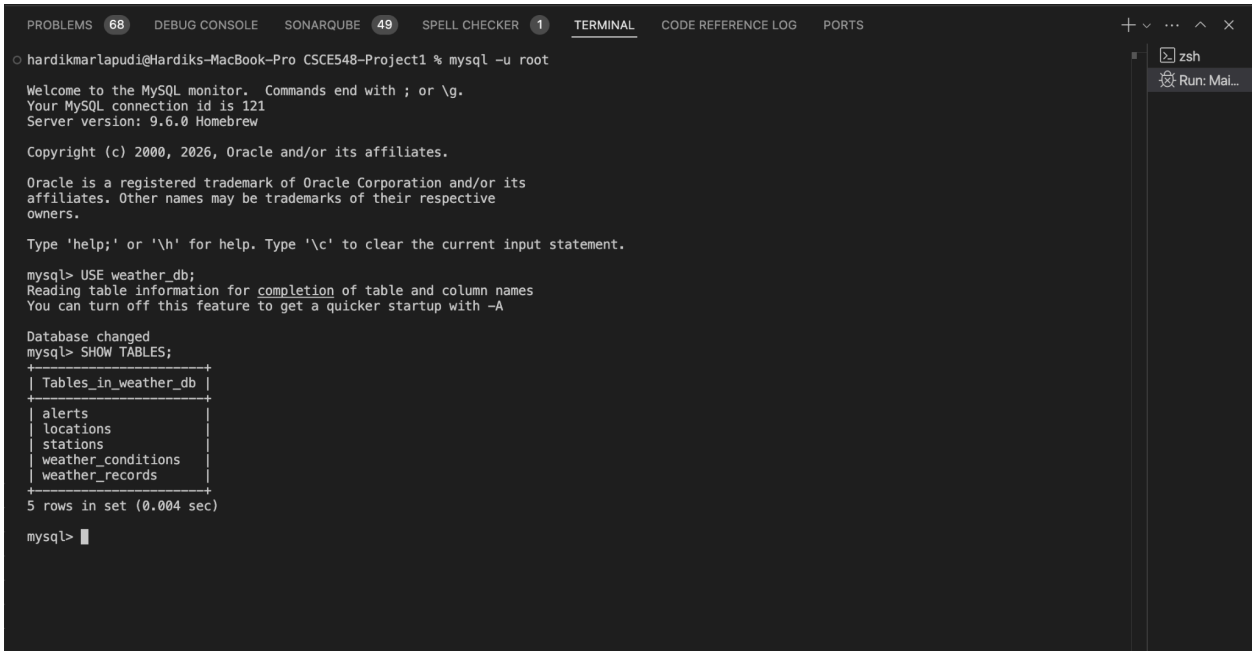
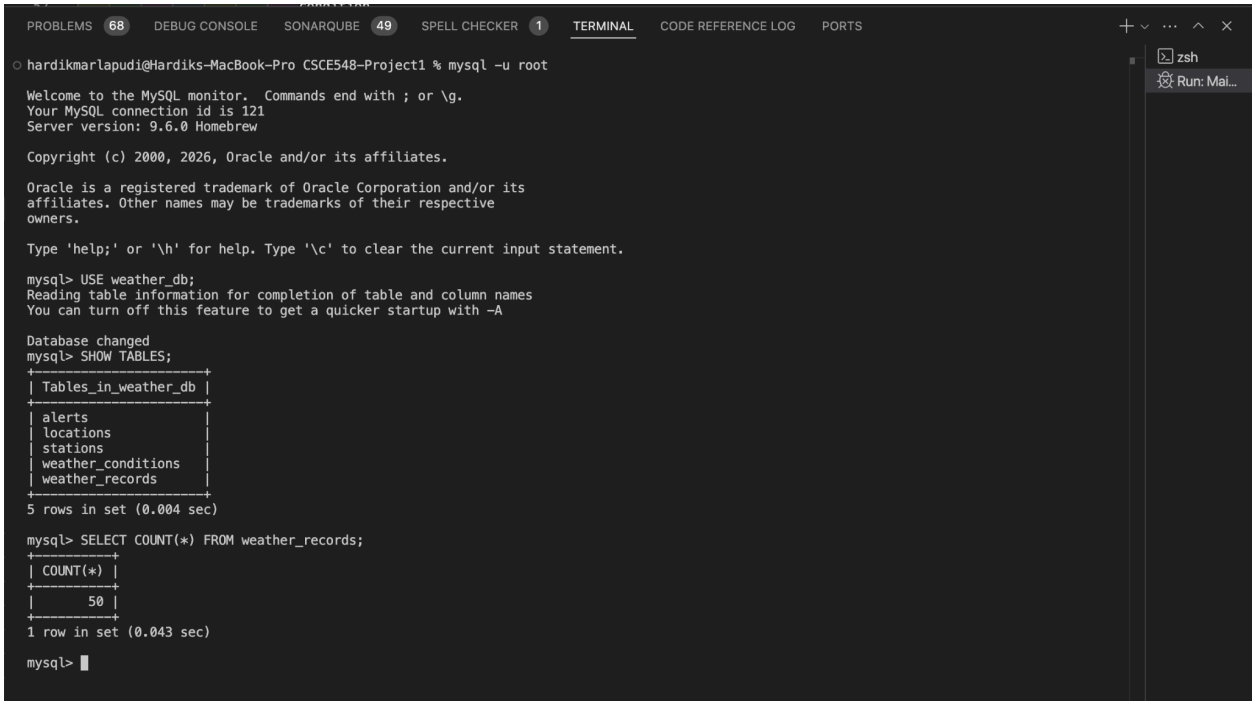
Database Schema Diagram



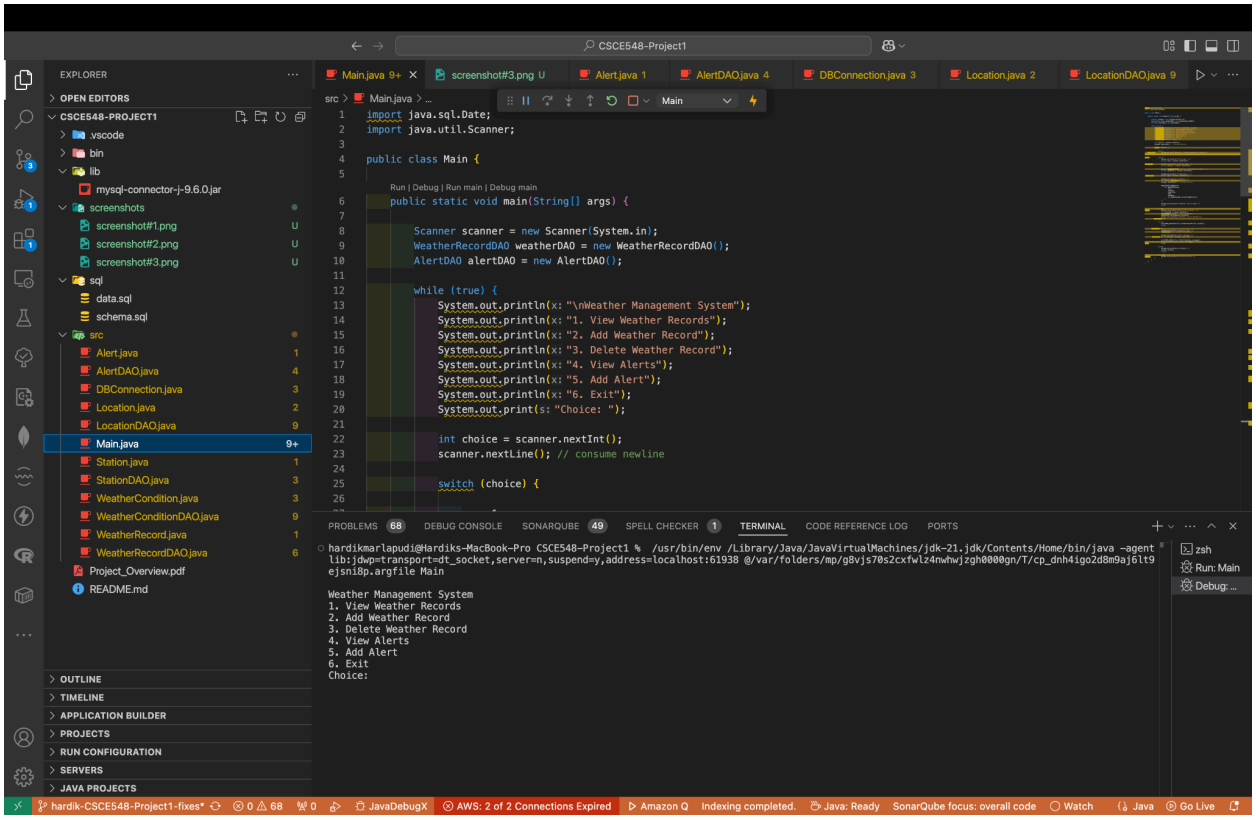
Tables Created



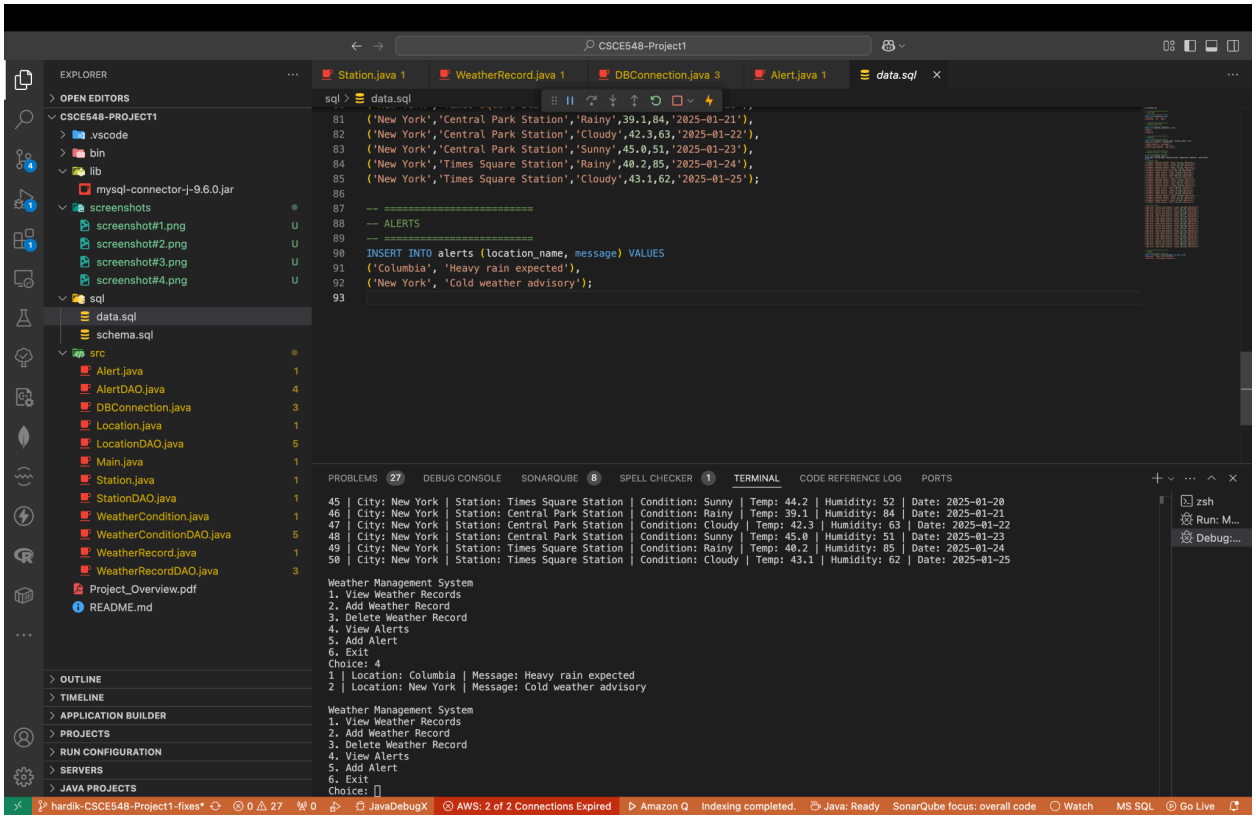
50+ Rows Verification



Console Application Running



Data Retrieved from Database



Write the Overview Document Section

This project is based on modeling a Weather Management System, which stores and manages weather details based on location and station. The system monitors daily weather conditions such as temperature and humidity levels, and it is capable of generating location-based weather alerts. The application is based on the integration of a database with a Java-based console interface.

AI Prompt Used

ChatGPT was employed for creating the initial SQL schema, test data, and Java Data Access Object (DAO) code. The prompts were centered on creating a relational database with various tables, establishing foreign key relationships between them, and creating CRUD operations for the project. The result obtained from using ChatGPT was a starting point, which was later verified and corrected using manual debugging and testing.

Changes I Made Manually

Example:

- Removed unnecessary join tables generated by AI
- Replaced `users` table with `stations` to better fit the problem
- Fixed SQL column mismatches causing runtime errors
- Corrected DAO queries to match final schema
- Ensured 50 sequential weather records
- Debugged MySQL connection and missing-table errors

AI Effectiveness Analysis

ChatGPT helped hasten the development process, but it created overly complex schemas and used columns inconsistently. Debugging and refactoring were necessary to make it correct and adhere to foreign keys.