**Day 1: Thursday, July 31 – Schema Design & ERD Modeling**

* Reviewed the LMS project specifications and deliverables.
* Identified and finalized the core entities: users, admins, students, instructors, courses, enrollments, assignments, submissions, and submission\_audit.
* Designed a normalized database schema with all required relationships and constraints.
* Created a professional Entity Relationship Diagram (ERD) using **ERDPlus**, ensuring all relationships were clearly mapped and labeled.
* Decided on and committed to implementing **required advanced features**: soft deletes, indexing, audit logging, and triggers.

**Day 2: Friday, August 1 – SQL & PostgreSQL Implementation**

* Developed the full **MySQL schema** (schema\_lms\_mysql.sql) including:
  + CREATE TABLE statements with primary/foreign keys, check constraints, and soft-delete flags.
  + submission\_audit table and trigger for logging score changes.
  + user\_scores view combining student, course, assignment, and score data.
  + Trigger to automatically update student course averages in enrollments.
* Converted the schema to **PostgreSQL** syntax (schema\_lms\_postgres.sql) with appropriate changes (e.g., SERIAL, plpgsql, || for string concat).
* Learned the syntax differences between MySQL and PostgreSQL and how indexing, views, and triggers are implemented in each.

**Day 3: Saturday, August 2 – Sample Data & GitHub Workflow**

* Created realistic test data in both sample\_data\_mysql.sql and sample\_data\_postgres.sql.
* Tested constraints, views, and triggers using local MySQL Workbench and PostgreSQL environments.
* Gained practical understanding of:
  + **Indexing** on email and foreign keys to improve query performance.
  + **Trigger-based automation** for updating grades and auditing changes.
* Set up GitHub branche:
  + main branch: contains MySQL version and PostgreSQL schema, data, and ERD.

**🗓️ Day 4: Sunday, August 3 – Day Off**