- **Day 1:** What is a Relational Database? (Tables, Columns, Rows, Primary Keys, Foreign Keys). Intro to SQL. Basic SELECT queries. *Lab: Connect to a sample database and run simple SELECTs*.
- **Day 2:** Data Manipulation Language (DML): INSERT, UPDATE, DELETE. *Lab: Practice adding, modifying, and removing data*.
- **Day 3:** Database Design Principles: Normalization (1NF, 2NF). Why structure matters. *Activity: Design a simple schema for a small application (e.g., blog posts)*.
- **Day 4:** Querying Related Data: SQL JOIN types (INNER, LEFT). *Lab: Write queries joining multiple tables*.
- **Day 5:** Aggregating Data: COUNT, SUM, AVG, MIN, MAX, GROUP BY, HAVING. *Lab: Write queries to summarize data*. *Kick off CRUD project: Finalize schema*.
- **Day 6:** Basic DB Admin: User accounts, permissions/privileges. SRE Perspective: Why database availability and performance are critical.
- **Day 7: Performance Tuning Fundamentals - Indexes & Query Execution**
    - **Focus on index types, creation, and benefits**
    - **Understanding execution plans and query lifecycle**
    - **Index design principles and implementation**
    - **Analyzing and optimizing basic queries**
- **Day 8: Advanced Performance Tuning & Monitoring**
    - **Query optimization beyond indexes**
    - **Database configuration parameters**
    - **Monitoring and diagnostics tools**
    - **Database maintenance operations**
    - **Performance tuning in production environments**
- **Day 9 – 10: The review of the previous training materials comparison to NoSQL database such as Cassandra, Kafka and DynamoDB.**