

Build a Data Mart in SQL (DLBDSPBDM01)

Conception Phase – Abstract

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This abstract sums up the first phase of an Airbnb-like data-mart project. The goal is to keep every step of a short-term rental—sign-up, listing, booking, payment, chat, reviews, referrals, and disputes—in a format that is easy to analyse.

We designed a relational model with 22 tables:

- Two ternary tables store three-way facts in one row (`dispute_resolution` and `referral_rewards`).
- One recursive table (`admin_users`) keeps the admin hierarchy.

Every table has a primary key. Foreign keys link related tables. Only when a single column cannot identify a row, we use a composite key.

The schema works well for star-schema roll-ups, avoids update problems, and keeps nightly price history for time-series reports.

Steps in this phase

1. **Gather needs:** outlined roles (guest, host, admin) and core flows.
2. **Draw ER model:** listed entities and links; added two ternary and one recursive relationship.
3. **Build logical schema:** mapped the ER model to 22 SQL tables with data types and keys.
4. **Create database:** wrote and ran the `CREATE TABLE` script in MySQL Workbench.
5. **Check design:** turned on foreign-key checks and generated an EER diagram to verify links.