

Database Management Functionality

Database Management

The database behaves similarly to an Airbnb-like platform, simulating behaviour with relatively similar content, managing three key of users, who either host or rent a place, a booking and social system that allows to book a property, and finally the properties themselves that can be chosen and booked, as well as that contain all the main information about themselves. The main functionalities are:

1. User Management

- Contains user data that is used by the platform to manage users.
- Users have roles (Guest, Host, or Admin), and the system ensures role-based access and operations.

2. Property Management

- Hosts can list, update, or remove properties.
- Properties include details such as location, pricing, amenities, images, services and policies.

3. Booking Management

- Guests can book available properties.
- Booking details include date, number of guests, and status, as well as payment information and booking history.

4. Payment Management

- Payments are tracked for each booking.
- Supports payment details like method, amount, and status.

5. Review System

- Guests can leave reviews and ratings.

6. Support and Notifications

- Users can create support tickets as well as be tracked using notifications and activity monitoring.
- Notification management keeps users updated on important events.

7. Messaging System

- Facilitates direct communication between guests and hosts.

8. Location Management

- Properties are linked hierarchically to addresses, cities, countries, and regions.
- Supports location-based filtering and search functionality.

Metadata

The database contains 31 tables. The three main tables that connect to most of the other tables are **user_account**, **booking** and **property**. The decision to organize the tables depending on the topics that they are dealing made was made: User Management, Property Management, Booking Management, Support, and Social Interaction.

- **user_account**: Holds user details with expected entries for hosts and guests.
- **property**: Includes property-related entries.
- **booking**: Contains reservation records including user and property references.

The dummy data that was inserted is 20 records per table, with the total number of records being $30 \times 20 + 3$ (roles) = 603 records. The final size of the structure and data dump is 61.5KB, which can be found in the Phase 3 folder under the name "Structure and Data Dump".

The main areas that the table can be split into are

User account and management: *user_account, roles, user_roles, user_language, language.*

Support and Notifications (ticketing): *support_tickets, user_notification.*

Social and communication: *social_media, user_message, payment_info, user_activity_log*

Booking and Payments: *booking, booking_status_history, payment, booking_guideline, host, review.*

Property Management: *property, cancellation_policies, property_utility, property_policy, property_policy_map, property_images, amenities, property_amenities_map, property_service, property_service_map.*

Location: address, city, country, region.