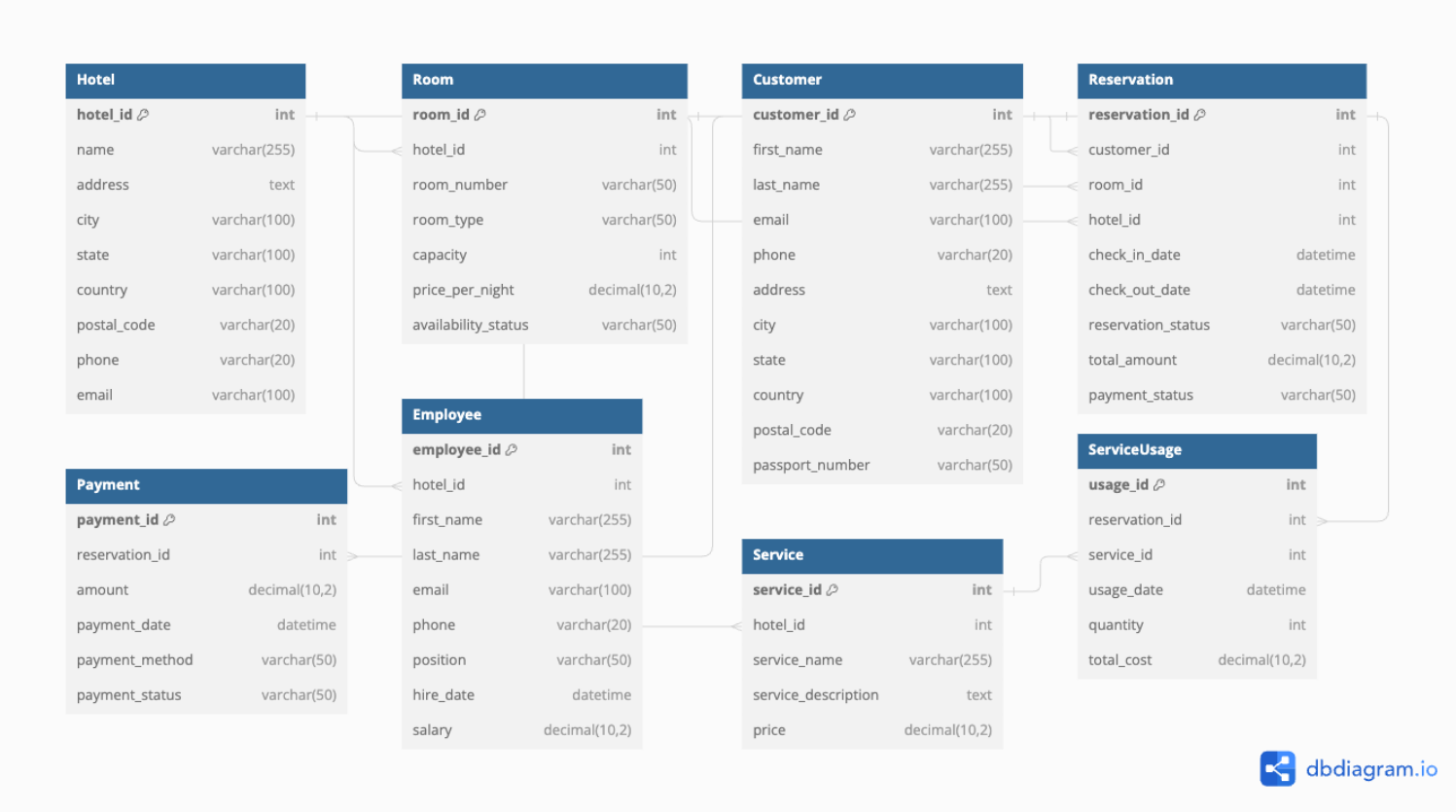
Housing Cloud

Question 1: Design a database schema that can handle the operations of a room reservation system for a global hotel chain. Ensure the schema is scalable, maintainable, and supports the necessary business operations.

Database Schema:



Please refer to the below link to see the relationships between the tables in detail.
https://dbdiagram.io/d/Hotel-Reservation-Schema-65e02cc7cd45b569fb2e529a

Explanation:

1. **Table Hotel**:
    - Stores basic information about each hotel, like name, address, and contact details.
    - The primary key (hotel_id) ensures each hotel is uniquely identifiable across multiple locations.
2. **Table Room**:
    - Contains details about individual rooms in each hotel, linked to the Hotel table via hotel_id.
    - Room attributes like type, capacity, and price support dynamic pricing.
3. **Table Customer**:
    - Holds customer data and can be used for personalized service and marketing.
4. **Table Reservation**:
    - Manages booking details, linking customers, rooms, and hotels.
    - Supports business operations like booking management and occupancy tracking, critical for optimizing revenue management strategies.
5. **Table Payment**:
    - Tracks payments for reservations, essential for financial record-keeping.
6. **Table Employee**:
    - Records details about hotel staff, crucial for HR management.
    - Links to Hotel to maintain information on staff allocation per hotel.
7. **Table Service**:
    - Details additional services offered by hotels, such as spa treatments or food services.
    - Enables hotels to easily expand or manage service offerings.
8. **Table ServiceUsage**:
    - Connects services to reservations, allowing detailed tracking of service usage.
    - Essential for accurate billing and service management, facilitating detailed analytics on service popularity and revenue.