

## Database Normalization Process

### Unnormalized Form (UNF):

- Users: user\_id, email, password\_hash, first\_name, last\_name, phone, user\_type, created\_at, remember\_token, remember\_token\_expires\_at, is\_active
- Cities: city\_id, city\_name, country
- Hotels: hotel\_id, city, hotel\_name, address, hotel\_image, title, description, contact\_number, email, check\_in\_time, check\_out\_time, status, total\_capacity, standard\_rooms, double\_rooms, family\_rooms, created\_at, updated\_at, features (may contain multiple features in a single field)
- Rooms: room\_id, hotel\_id, room\_type\_id, room\_number, floor\_number, base\_price, room\_image, status, is\_active, created\_at, updated\_at, features (may contain multiple features in a single field)
- Bookings: booking\_id, booking\_reference, user\_id, hotel\_id, room\_id, currency\_id, check\_in\_date, check\_out\_date, number\_of\_guests, special\_requests, total\_amount, discount\_amount, final\_amount, booking\_date, status, cancellation\_charge, payment\_status, notes, created\_at, updated\_at, guest\_name, guest\_email, guest\_phone
- Newsletter Subscribers: subscriber\_id, email, subscribed\_at, is\_active

### First Normal Form (1NF):

- Users: user\_id, email, password\_hash, first\_name, last\_name, phone, user\_type, created\_at, remember\_token, remember\_token\_expires\_at, is\_active

- Password Reset Tokens: id, user\_id, token, created\_at, expires\_at, used
- Email Verification: id, user\_id, token, expires\_at, used, created\_at
- Cities: city\_id, city\_name, country
- Hotels: hotel\_id, city, hotel\_name, address, hotel\_image, title, description, contact\_number, email, check\_in\_time, check\_out\_time, status, total\_capacity, standard\_rooms, double\_rooms, family\_rooms, created\_at, updated\_at
- Room Types: room\_type\_id, type\_name, base\_price\_multiplier, max\_occupancy, description, distribution\_percentage, created\_at, updated\_at
- Rooms: room\_id, hotel\_id, room\_type\_id, room\_number, floor\_number, base\_price, room\_image, status, is\_active, created\_at, updated\_at
- Room Features: feature\_id, feature\_name, description, icon\_class
- Room Feature Mapping: room\_id, feature\_id
- Bookings: booking\_id, booking\_reference, user\_id, hotel\_id, room\_id, currency\_id, check\_in\_date, check\_out\_date, number\_of\_guests, special\_requests, total\_amount, discount\_amount, final\_amount, booking\_date, status, cancellation\_charge, payment\_status, notes, created\_at, updated\_at
- Booking Details: detail\_id, booking\_id, guest\_name, guest\_email, guest\_phone, is\_primary\_guest
- Room Inventory: inventory\_id, hotel\_id, room\_type\_id, total\_rooms, available\_rooms, date

- Reviews: review\_id, booking\_id, user\_id, hotel\_id, rating, comment, review\_date, is\_verified
- Seasons: season\_id, season\_name, start\_date, end\_date, is\_peak, price\_multiplier, created\_at, updated\_at
- Currencies: currency\_id, code, name, symbol, is\_active
- Exchange Rates: rate\_id, from\_currency\_id, to\_currency\_id, rate, last\_updated
- Newsletter Subscribers: subscriber\_id, email, subscribed\_at, is\_active, is\_verified, verified\_at, created\_at, updated\_at
- Newsletter Audit Log: audit\_id, subscriber\_id, action, ip\_address, user\_agent, created\_at
- Contact Messages: message\_id, name, email, subject, message, created\_at, status, updated\_at
- Hotel Amenities: amenity\_id, hotel\_id, amenity\_name, description, icon\_class
- Gallery: gallery\_id, title, image\_url, category, description, hotel\_id, display\_order, is\_active, created\_at, updated\_at
- FAQs: id, question, answer, category, display\_order, is\_active, submitted\_by, is\_approved, created\_at
- FAQ Suggestions: id, question, user\_id, status, created\_at

### Second Normal Form (2NF):

- Users: user\_id, email, password\_hash, first\_name, last\_name, phone, user\_type, created\_at, remember\_token, remember\_token\_expires\_at, is\_active

- Password Reset Tokens: id, user\_id, token, created\_at, expires\_at, used
- Email Verification: id, user\_id, token, expires\_at, used, created\_at
- Cities: city\_id, city\_name, country
- Hotels: hotel\_id, city, hotel\_name, address, hotel\_image, title, description, contact\_number, email, check\_in\_time, check\_out\_time, status, total\_capacity, standard\_rooms, double\_rooms, family\_rooms, created\_at, updated\_at
- Room Types: room\_type\_id, type\_name, base\_price\_multiplier, max\_occupancy, description, distribution\_percentage, created\_at, updated\_at
- Rooms: room\_id, hotel\_id, room\_type\_id, room\_number, floor\_number, base\_price, room\_image, status, is\_active, created\_at, updated\_at
- Room Features: feature\_id, feature\_name, description, icon\_class
- Room Feature Mapping: room\_id, feature\_id
- Bookings: booking\_id, booking\_reference, user\_id, hotel\_id, room\_id, currency\_id, check\_in\_date, check\_out\_date, number\_of\_guests, special\_requests, total\_amount, discount\_amount, final\_amount, booking\_date, status, cancellation\_charge, payment\_status, notes, created\_at, updated\_at
- Booking Details: detail\_id, booking\_id, guest\_name, guest\_email, guest\_phone, is\_primary\_guest
- Room Inventory: inventory\_id, hotel\_id, room\_type\_id, total\_rooms, available\_rooms, date

- Reviews: review\_id, booking\_id, user\_id, hotel\_id, rating, comment, review\_date, is\_verified
- Seasons: season\_id, season\_name, start\_date, end\_date, is\_peak, price\_multiplier, created\_at, updated\_at
- Currencies: currency\_id, code, name, symbol, is\_active
- Exchange Rates: rate\_id, from\_currency\_id, to\_currency\_id, rate, last\_updated
- Newsletter Subscribers: subscriber\_id, email, subscribed\_at, is\_active, is\_verified, verified\_at, created\_at, updated\_at
- Newsletter Audit Log: audit\_id, subscriber\_id, action, ip\_address, user\_agent, created\_at
- Contact Messages: message\_id, name, email, subject, message, created\_at, status, updated\_at
- Hotel Amenities: amenity\_id, hotel\_id, amenity\_name, description, icon\_class
- Gallery: gallery\_id, title, image\_url, category, description, hotel\_id, display\_order, is\_active, created\_at, updated\_at
- FAQs: id, question, answer, category, display\_order, is\_active, submitted\_by, is\_approved, created\_at
- FAQ Suggestions: id, question, user\_id, status, created\_at

### Third Normal Form (3NF):

- Users: user\_id, email, password\_hash, first\_name, last\_name, phone, user\_type, created\_at, remember\_token, remember\_token\_expires\_at, is\_active

- Password Reset Tokens: id, user\_id, token, created\_at, expires\_at, used
- Email Verification: id, user\_id, token, expires\_at, used, created\_at
- Cities: city\_id, city\_name, country
- Hotels: hotel\_id, city, hotel\_name, address, hotel\_image, title, description, contact\_number, email, check\_in\_time, check\_out\_time, status, total\_capacity, standard\_rooms, double\_rooms, family\_rooms, created\_at, updated\_at
- Room Types: room\_type\_id, type\_name, base\_price\_multiplier, max\_occupancy, description, distribution\_percentage, created\_at, updated\_at
- Rooms: room\_id, hotel\_id, room\_type\_id, room\_number, floor\_number, base\_price, room\_image, status, is\_active, created\_at, updated\_at
- Room Features: feature\_id, feature\_name, description, icon\_class
- Room Feature Mapping: room\_id, feature\_id
- Bookings: booking\_id, booking\_reference, user\_id, hotel\_id, room\_id, currency\_id, check\_in\_date, check\_out\_date, number\_of\_guests, special\_requests, total\_amount, discount\_amount, final\_amount, booking\_date, status, cancellation\_charge, payment\_status, notes, created\_at, updated\_at
- Booking Details: detail\_id, booking\_id, guest\_name, guest\_email, guest\_phone, is\_primary\_guest
- Room Inventory: inventory\_id, hotel\_id, room\_type\_id, total\_rooms, available\_rooms, date

- Reviews: review\_id, booking\_id, user\_id, hotel\_id, rating, comment, review\_date, is\_verified
- Seasons: season\_id, season\_name, start\_date, end\_date, is\_peak, price\_multiplier, created\_at, updated\_at
- Currencies: currency\_id, code, name, symbol, is\_active
- Exchange Rates: rate\_id, from\_currency\_id, to\_currency\_id, rate, last\_updated
- Newsletter Subscribers: subscriber\_id, email, subscribed\_at, is\_active, is\_verified, verified\_at, created\_at, updated\_at
- Newsletter Audit Log: audit\_id, subscriber\_id, action, ip\_address, user\_agent, created\_at
- Contact Messages: message\_id, name, email, subject, message, created\_at, status, updated\_at
- Hotel Amenities: amenity\_id, hotel\_id, amenity\_name, description, icon\_class
- Gallery: gallery\_id, title, image\_url, category, description, hotel\_id, display\_order, is\_active, created\_at, updated\_at
- FAQs: id, question, answer, category, display\_order, is\_active, submitted\_by, is\_approved, created\_at
- FAQ Suggestions: id, question, user\_id, status, created\_at