Development Phase

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Overview

This database was designed based on the feedback received during the Conception Phase (Phase 1). The first part explains how the entities were created and how the data is stored, while the second part outlines the test cases and scenarios.

Table: Address

address_id	listing_id	street	city	country	postal_code
1	1	123 Table Street	Cape Town	South Africa	8001
2	2	456 Independence Ave	Windhoek	Namibia	10001
3	3	789 Beach Road	Swakopmund	Namibia	20002
4	4	321 Mountain Trail	Otjiwarongo	Namibia	30003
5	5	654 Ocean Drive	Walvis Bay	Namibia	40004
6	1	123 Table Street	Cape Town	South Africa	8001
7	2	456 Independence Ave	Windhoek	Namibia	10001
8	3	789 Beach Road	Swakopmund	Namibia	20002
9	4	321 Mountain Trail	Otjiwarongo	Namibia	30003
10	5	654 Ocean Drive	Walvis Bay	Namibia	40004
11	8	Mondesa	Swakopmund	Namibia	20835
47	36	Mercedes street	Windhoek	Namibia	28346
62	21	Nelson Mandela Avenue	Swakopmund	Namibia	10012
63	22	Independence Avenue	Windhoek	Namibia	00100
64	23	Ongava Drive	Otjiwarongo	Namibia	90012
65	24	Sam Nujoma Road	Walvis Bay	Namibia	32100
66	25	Kuiseb Street	Walvis Bay	Namibia	32110
67	26	Okaukuejo Street	Oshakati	Namibia	88001
68	27	Namib Crescent	Lüderitz	Namibia	21000
69	28	Zambezi Drive	Katima Mulilo	Namibia	50050

This entity stores address details (street, city, country) for each listing.

```
CREATE TABLE `address` (
  `address_id` int(11) NOT NULL,
  `listing_id` int(11) DEFAULT NULL,
  `street` varchar(100) DEFAULT NULL,
  `city` varchar(50) DEFAULT NULL,
  `country` varchar(50) DEFAULT NULL,
  `postal_code` varchar(20) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_general_ci;
```

Table: amenity

amenity_id	name
1	Free WiFi
2	Swimming Pool
3	Air Conditioning
4	Fitness Center
5	Room Service
6	Laundry Service
7	Parking
8	Restaurant
9	Spa
10	Pet Friendly
11	Dishes
12	Fireplace
13	Balcony
14	Coffee Maker
15	Microwave
16	Refrigerator
17	Private Bathroom
18	Towels & Linens
19	Smart TV
20	Iron & Ironing Board

This entity lists all possible amenities (e.g., Wi-Fi, parking) that can be offered in a listing.

```
CREATE TABLE `amenity` (
    `amenity_id` int(11) NOT NULL,
    `name` varchar(50) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

Table: booking

booking_id	guest_id	room_id	host_id	check_in	check_out	status	total_price
1	1	1	2	2025-05-01	2025-05-05	confirmed	320.00
2	3	2	4	2025-06-10	2025-06-15	confirmed	600.00
3	5	3	6	2025-07-20	2025-07-25	confirmed	750.00
4	7	4	8	2025-08-05	2025-08-10	confirmed	500.00
5	9	5	10	2025-09-15	2025-09-20	confirmed	1000.00
16	1	1	1	2025-05-08	2025-05-08	confirmed	900.00
117	1	1	1	2025-05-08	2025-05-09	confirmed	900.00
118	3	2	2	2025-05-10	2025-05-12	completed	1800.00
119	5	3	4	2025-05-15	2025-05-18	cancelled	0.00
120	7	4	6	2025-05-20	2025-05-23	confirmed	2100.00
121	9	1	1	2025-05-25	2025-05-28	completed	2700.00
122	32	4	33	2025-06-01	2025-06-05	confirmed	3600.00
123	34	5	6	2025-06-07	2025-06-08	pending	1200.00
124	36	2	34	2025-06-10	2025-06-13	confirmed	2400.00
125	38	3	4	2025-06-15	2025-06-17	cancelled	0.00
126	40	6	6	2025-06-20	2025-06-25	confirmed	4500.00
127	42	7	37	2025-06-26	2025-06-28	completed	1800.00
128	44	8	8	2025-07-01	2025-07-03	confirmed	2200.00
129	46	9	33	2025-07-04	2025-07-07	confirmed	3300.00
130	48	10	10	2025-07-08	2025-07-10	cancelled	0.00

This entity tracks bookings made by guests, including check-in/out dates, total price, and status.

```
CREATE TABLE `booking` (
  `booking_id` int(11) NOT NULL,
  `guest_id` int(11) DEFAULT NULL,
  `room_id` int(11) DEFAULT NULL,
  `host_id` int(11) DEFAULT NULL,
  `check_in` date DEFAULT NULL,
  `check_out` date DEFAULT NULL,
  `status` varchar(20) DEFAULT NULL,
  `total_price` decimal(10,2) DEFAULT NULL
)
```

Table: calendar

calendar_id	room_id	date	is_available
1	1	2025-05-16	1
2	1	2025-05-17	0
3	2	2025-05-16	1
4	2	2025-05-18	1
5	3	2025-05-16	0
6	3	2025-05-19	1
7	4	2025-05-16	1
8	4	2025-05-20	0
9	5	2025-05-16	1
10	5	2025-05-21	1
11	1	2025-05-21	1
12	1	2025-05-21	1
13	1	2025-05-22	0
14	2	2025-05-21	1
15	2	2025-05-22	1
16	3	2025-05-21	0
17	3	2025-05-22	1
18	4	2025-05-21	1
19	4	2025-05-22	0
20	5	2025-05-21	1

This entity indicates room availability on specific dates (used for checking bookings and availability).

```
CREATE TABLE `calendar` (
  `calendar_id` int(11) NOT NULL,
  `room_id` int(11) DEFAULT NULL,
  `date` date DEFAULT NULL,
  `is_available` tinyint(1) DEFAULT NULL
);
```

Table: guest

guest_id	preferences
1	Non-smoking, prefers quiet rooms
3	Pet-friendly, near public transport
5	High-speed internet, workspace
7	Close to city center, parking available
9	Late check-in, flexible cancellation
32	Fitness center access, private bathroom
34	Room service, balcony view
36	Swimming pool, laundry service
38	Work desk, fast internet
40	Ground floor room, no stairs
42	Allergy-free bedding
44	Smart TV, Netflix access
46	Outdoor seating area
48	Child-friendly amenities
49	Dancing disco
50	Free parking, quiet street
51	Quiet neighborhood, early check-in
53	Pet friendly, near public transport
55	Beach view, non-smoking room
57	Free WiFi, late checkout
59	Air conditioning, city view

This entity holds guest-specific preferences and links to the user table

```
CREATE TABLE `guest` (
  `guest_id` int(11) NOT NULL,
  `preferences` text DEFAULT NULL
)
```

Table: host

host_id	income_expectation
1	2300.00
2	1500.00
4	2000.00
6	1800.00
8	2200.00
10	2500.00
32	3400.00
33	3200.00
34	5499.00
35	2800.00
37	3000.00
39	3500.00
41	2700.00
44	4000.00
45	2600.00
47	3200.00
49	2800.00
51	3000.00
52	3500.00
53	2700.00
54	4000.00
55	2600.00
56	3100.00

This entity contains host-specific information, such as expected income, and links to the user table

```
CREATE TABLE `host` (
  `host_id` int(11) NOT NULL,
  `income_expectation` decimal(10,2) DEFAULT NULL
)
```

Table: listing

listing_id	host_id	title	description	type	max_guests
1	2	Cozy Loft in Cape Town	Great views and location near the city center.	Loft	2
2	4	Modern Apartment in Windhoek	Spacious and well-furnished.	Apartment	4
3	6	Beach House in Swakopmund	Steps away from the beach.	House	6
4	8	Mountain Cabin in Otjiwarongo	Peaceful retreat in the mountains.	Cabin	3
5	10	Luxury Villa in Walvis Bay	Private pool and ocean views.	Villa	8
6	2	Cozy Loft in Cape Town	Great views and location near the city center.	Loft	2
7	4	Modern Apartment in Windhoek	Spacious and well-furnished.	Apartment	4
8	6	Beach House in Swakopmund	Steps away from the beach.	House	6
9	8	Mountain Cabin in Otjiwarongo	Peaceful retreat in the mountains.	Cabin	3
10	10	Luxury Villa in Walvis Bay	Private pool and ocean views.	Villa	8
11	32	Mastermind	This is affordable	guesthouse	3
21	33	Ocean Breeze	Enjoy ocean views from your room	apartment	4
22	34	Desert Inn	A cozy desert escape	guesthouse	2
23	35	City Lights Loft	Modern loft in downtown area	apartment	2
24	37	Mountain Retreat	Great for hiking enthusiasts	cabin	4
25	39	Sunset Villa	Amazing sunset views every night	villa	6
26	44	Peaceful Pines	Quiet and serene location	cabin	2
27	45	Ocean Edge BnB	Wake up to ocean sounds	bnb	4
28	51	Beach Haven	Steps from the beach, very quiet	villa	5
29	52	Mountain Retreat	Great for hiking enthusiasts	cabin	4
30	53	Green Garden BnB	Surrounded by nature	bnb	3
31	54	Sunset Villa	Amazing sunset views every night	villa	6
32	55	Budget Lodge	Clean and affordable	guesthouse	3

This entity represents properties listed by hosts. Includes title, description, type, and capacity.

```
CREATE TABLE `listing` (
    `listing_id` int(11) NOT NULL,
    `host_id` int(11) DEFAULT NULL,
    `title` varchar(100) DEFAULT NULL,
    `description` text DEFAULT NULL,
    `type` varchar(50) DEFAULT NULL,
    `max_guests` int(11) DEFAULT NULL
)
```

Table: listing_amenity

id	listing_id	amenity_id
1	1	2
2	1	3
3	2	1
4	2	4
5	3	2
6	3	5
7	4	1
8	5	3
9	5	4
10	6	5
11	27	20
27	27	10
28	27	1
29	27	2
30	28	20
31	28	3
32	28	4
33	29	5
34	29	6
35	30	10

A junction table linking listings to amenities in a many-to-many relationship

```
CREATE TABLE `listing_amenity` (
    `id` int(11) NOT NULL,
    `listing_id` int(11) DEFAULT NULL,
    `amenity_id` int(11) DEFAULT NULL
);
```

Table: message

message_id	sender_id	receiver_id	content	timestamp	parent_message_id
1	1	2	Hi, is the room available next weekend?	2025-05-01 09:15:00	NULL
2	2	1	Yes, it is available. Would you like to book?	2025-05-01 09:17:00	1
3	1	2	Yes, please reserve it for me.	2025-05-01 09:20:00	2
4	3	4	Can I bring a pet with me?	2025-05-02 14:05:00	NULL
5	4	3	Sorry, no pets are allowed.	2025-05-02 14:10:00	4
6	5	6	Is early check-in possible?	2025-05-03 08:00:00	NULL
7	6	5	Yes, early check-in is fine after 12 PM.	2025-05-03 08:05:00	6
8	7	8	The listing looks great! Is there parking?	2025-05-04 11:25:00	NULL
9	8	7	Yes, private parking is available for guests.	2025-05-04 11:30:00	8
10	1	2	Thanks for confirming the booking.	2025-05-05 10:00:00	NULL
11	1	46	Hey Can you help?	2025-05-16 11:12:14	1
12	1	46	Hey Can you help?	2025-05-16 11:12:14	1
13	46	1	Sure, what do you need?	2025-05-16 11:13:10	1
14	2	47	Is the room still available?	2025-05-16 12:00:00	NULL
15	47	2	Yes, it is available until next week.	2025-05-16 12:05:00	3
16	3	48	Can I bring my pet?	2025-05-16 13:10:00	NULL
17	48	3	Yes, we are pet friendly!	2025-05-16 13:12:00	5
18	4	49	Do you offer airport pickup?	2025-05-16 14:00:00	NULL
19	49	4	No, but taxis are readily available.	2025-05-16 14:05:00	7
20	5	50	Hi, how far is the beach?	2025-05-16 15:00:00	NULL

Tracks communication between users, including content and threading of messages.

```sql
CREATE TABLE `message` (
  `message_id` int(11) NOT NULL,
  `sender_id` int(11) DEFAULT NULL,
  `receiver_id` int(11) DEFAULT NULL,
  `content` text DEFAULT NULL,
  `timestamp` datetime DEFAULT NULL,
  `parent_message_id` int(11) DEFAULT NULL
);
```

Table: payment

payment_id	booking_id	payment_date	amount	method	status
1	1	2025-04-18 20:16:38	320.00	Credit Card	Paid
2	2	2025-04-18 20:16:38	600.00	PayPal	Paid
3	3	2025-04-18 20:16:38	750.00	Credit Card	Paid
4	4	2025-04-18 20:16:38	500.00	Bank Transfer	Paid
5	5	2025-04-18 20:16:38	1000.00	Credit Card	Paid
16	1	2025-05-16 11:16:21	2000.00	cash	confirmed
32	1	2025-05-16 11:16:21	2000.00	Cash	Confirmed
33	2	2025-05-16 12:00:00	1800.00	Credit Card	Paid
34	3	2025-05-16 13:20:30	2200.00	PayPal	Pending
35	4	2025-05-16 14:05:00	2500.00	Mobile Money	Paid
36	5	2025-05-16 15:40:15	1900.00	Bank Transfer	Failed
37	16	2025-05-16 16:50:00	2100.00	Credit Card	Paid
38	117	2025-05-16 17:25:00	2300.00	Cash	Paid
39	118	2025-05-16 18:00:00	2700.00	PayPal	Confirmed
40	119	2025-05-16 19:30:45	3000.00	Bank Transfer	Pending
41	120	2025-05-16 20:00:00	2400.00	Credit Card	Confirmed
42	121	2025-05-16 21:15:00	1950.00	Cash	Confirmed
43	123	2025-05-16 22:45:00	2000.00	PayPal	Paid
44	130	2025-05-17 09:00:00	1750.00	Mobile Money	Confirmed
45	131	2025-05-17 10:30:00	2600.00	Credit Card	Paid
46	135	2025-05-17 11:45:00	2850.00	Cash	Paid

Stores payment transaction details for each booking, including amount and method.

```
CREATE TABLE `payment` (
  `payment_id` int(11) NOT NULL,
  `booking_id` int(11) DEFAULT NULL,
  `payment_date` datetime DEFAULT NULL,
  `amount` decimal(10,2) DEFAULT NULL,
  `method` varchar(50) DEFAULT NULL,
  `status` varchar(20) DEFAULT NULL
);
```

photo_id	listing_id	url	caption
1	1	https://example.com/photos/1.jpg	Spacious living room
2	1	https://example.com/photos/2.jpg	Modern kitchen area
3	2	https://example.com/photos/3.jpg	Cozy bedroom with queen bed
4	2	https://example.com/photos/4.jpg	Balcony view
5	3	https://example.com/photos/5.jpg	Bathroom with walk-in shower
6	3	https://example.com/photos/6.jpg	NULL
7	4	https://example.com/photos/7.jpg	Garden area
8	5	https://example.com/photos/8.jpg	Workspace with high-speed WiFi
9	5	https://example.com/photos/9.jpg	Front entrance
10	6	https://example.com/photos/10.jpg	Full apartment overview
11	1	https://example.com/photos/1.jpg	Spacious living room
12	1	https://example.com/photos/1.jpg	Spacious living room
13	2	https://example.com/photos/2.jpg	Modern kitchen with appliances
14	3	https://example.com/photos/3.jpg	Cozy bedroom with queen bed
15	4	https://example.com/photos/4.jpg	Bright bathroom with walk-in shower
16	5	https://example.com/photos/5.jpg	Balcony view overlooking city
17	6	https://example.com/photos/6.jpg	Private pool with loungers
18	7	https://example.com/photos/7.jpg	Garden and outdoor seating area
19	8	https://example.com/photos/8.jpg	Dining area for six people
20	9	https://example.com/photos/9.jpg	Cozy fireplace and reading nook

Table: photo

This entity stores URLs and captions for listing images.

```sql
CREATE TABLE `photo` (
  `photo_id` int(11) NOT NULL,
  `listing_id` int(11) DEFAULT NULL,
  `url` text DEFAULT NULL,
  `caption` varchar(100) DEFAULT NULL
);
```

Table: rating

rating_id	from_user_id	to_user_id	score	date_rated
1	1	2	5	2025-05-06
2	3	4	4	2025-06-16
3	5	6	5	2025-07-26
4	7	8	4	2025-08-11
5	9	10	5	2025-09-21
6	1	2	5	2025-05-15
7	1	2	5	2025-05-15
8	2	3	4	2025-05-14
9	3	4	5	2025-05-13
10	4	5	3	2025-05-12
37	1	2	5	2025-05-15
38	2	3	4	2025-05-14
39	3	4	5	2025-05-13
40	4	5	3	2025-05-12
41	5	6	2	2025-05-11
42	7	8	2	2025-05-10
43	8	9	4	2025-05-09
44	9	10	5	2025-05-08
45	10	11	5	2025-05-07
46	11	11	1	2025-05-06
47	32	11	2	2025-05-05
48	33	4	3	2025-05-04
49	44	5	4	2025-05-03

This entity holds numerical ratings (1 to 5) between users, helping assess user reliability.

```
CREATE TABLE `rating` (
  `rating_id` int(11) NOT NULL,
  `from_user_id` int(11) DEFAULT NULL,
  `to_user_id` int(11) DEFAULT NULL,
  `score` int(11) DEFAULT NULL CHECK (`score` between 1 and 5),
  `date_rated` date DEFAULT NULL
);
```

Table: review

review_id	booking_id	reviewer_id	reviewee_id	review_text	date_posted
1	1	1	2	Great stay, very comfortable!	2025-05-06
2	2	3	4	Excellent host, highly recommend.	2025-06-16
3	3	5	6	Beautiful location and clean rooms.	2025-07-26
4	4	7	8	Peaceful retreat, loved it.	2025-08-11
5	5	9	10	Luxury at its best!	2025-09-21
6	136	3	8	This was the best	2025-05-17
67	117	3	8	This was the best	2025-05-17
68	118	4	9	Very comfortable and clean place.	2025-05-16
69	119	5	10	Had a lovely time staying here.	2025-05-15
70	129	6	11	Host was very friendly and helpful.	2025-05-14
71	120	7	42	Good location and peaceful area.	2025-05-13
72	121	8	43	Room was not as expected.	2025-05-12
73	122	9	40	Would definitely book again!	2025-05-11
74	123	10	39	Check-in was smooth and hassle-free.	2025-05-10
75	124	11	38	Amenities were top-notch.	2025-05-09
76	125	32	37	The host responded quickly to questions.	2025-05-08
77	126	33	36	Place was a bit noisy at night.	2025-05-07
78	127	34	35	Excellent value for money.	2025-05-06
79	128	35	34	Felt like home, thank you!	2025-05-05
80	129	36	33	Could have been cleaner.	2025-05-04

This entity stores textual feedback left by users about their booking experiences.

```sql
CREATE TABLE `review` (
  `review_id` int(11) NOT NULL,
  `booking_id` int(11) DEFAULT NULL,
  `reviewer_id` int(11) DEFAULT NULL,
  `reviewee_id` int(11) DEFAULT NULL,
  `review_text` text DEFAULT NULL,
  `date_posted` date DEFAULT NULL
);
```

Table: room

room_id	listing_id	name	price_per_night
1	1	Main Room	80.00
2	2	Master Bedroom	120.00
3	3	Sea View Room	150.00
4	4	Mountain View Room	100.00
5	5	Luxury Suite	200.00
6	1	Main Room	80.00
7	2	Master Bedroom	120.00
8	3	Sea View Room	150.00
9	4	Mountain View Room	100.00
10	5	Luxury Suite	200.00
11	1	Single Room	300.00
27	1	Single Room	300.00
28	2	Double Room	450.00
29	3	Deluxe Suite	750.00
30	4	Standard Room	350.00
31	5	Queen Room	500.00
32	6	King Suite	800.00
33	7	Family Room	650.00
34	8	Economy Room	250.00
35	9	Penthouse	1200.00
36	10	Studio Apartment	550.00

This entity stores details about rooms within a listing, including name and price per night.

```
CREATE TABLE `room` (
  `room_id` int(11) NOT NULL,
  `listing_id` int(11) DEFAULT NULL,
  `name` varchar(50) DEFAULT NULL,
  `price_per_night` decimal(8,2) DEFAULT NULL
);
```

rule_id	rule_text
1	No smoking
2	No pets allowed
3	No loud music after 10 PM
4	Check-in after 2 PM
5	Check-out before 11 AM
6	No parties or events
7	Please remove shoes inside
8	Dispose of trash properly
9	Keep kitchen clean
10	Turn off lights when leaving
11	No car allowed inside
12	Do not rearrange furniture
13	Do not leave food out overnight
14	No unauthorized guests
15	Keep noise to a minimum
16	Do not block fire exits
17	No smoking on the balcony
18	Turn off AC when not in use
19	Report damages immediately
20	No hanging clothes on balcony

Table: roomrule

This entity stores individual rules (e.g., no smoking, no pets) that can be applied to rooms.

```
CREATE TABLE `roomrule` (
  `rule_id` int(11) NOT NULL,
  `rule_text` varchar(100) DEFAULT NULL
);
```

id	room_id	rule_id
1	1	1
2	1	2
3	2	3
4	2	4
5	3	5
6	3	6
7	4	7
8	5	8
9	5	9
10	8	10
11	37	4
27	37	4
28	37	5
29	37	6
30	38	2
31	38	3
32	38	7
33	39	1
34	39	4
35	39	8

Table: roomrule_assigment

This entity connects room rules to specific rooms (many-to-many relationship).

```
CREATE TABLE `roomrule_assignment` (
  `id` int(11) NOT NULL,
  `room_id` int(11) DEFAULT NULL,
  `rule_id` int(11) DEFAULT NULL
);
```

link_id	user_id	platform	url
1	1	LinkedIn	https://www.linkedin.com/in/user1
2	1	Facebook	https://www.facebook.com/user1
3	2	Twitter	https://twitter.com/user2
4	2	Instagram	https://www.instagram.com/user2
5	3	LinkedIn	https://www.linkedin.com/in/user3
6	3	GitHub	https://github.com/user3
7	4	Facebook	NULL
8	4	Twitter	https://twitter.com/user4
9	5	LinkedIn	https://www.linkedin.com/in/user5
10	5	Instagram	NULL
11	1	facebook	https:www.facebool.com/tom
27	1	facebook	https://www.facebook.com/tom
28	2	twitter	https://twitter.com/jane123
29	3	instagram	https://www.instagram.com/kevin.photos
30	4	linkedin	https://www.linkedin.com/in/sam-host
31	5	facebook	https://www.facebook.com/lucy.guest
32	6	twitter	https://twitter.com/mike_travel
33	7	instagram	https://www.instagram.com/host.vibes
34	8	linkedin	https://www.linkedin.com/in/lara-guest
35	9	facebook	https://www.facebook.com/andre.host

Table: sociallink

This entity stores URLs to users' social media profiles, helping verify identity or establish trust.

```
CREATE TABLE `sociallink` (
  `link_id` int(11) NOT NULL,
  `user_id` int(11) DEFAULT NULL,
  `platform` varchar(50) DEFAULT NULL,
  `url` text DEFAULT NULL
);
```

transaction_id	booking_id	user_id	role	commission
21	1	1	guest	15.50
22	1	2	host	10.00
23	2	3	guest	20.00
24	2	4	host	12.00
25	3	5	guest	18.75
26	3	2	host	14.00
27	4	3	guest	NULL
28	4	1	host	10.50
29	5	4	guest	25.00
30	5	5	host	NULL
31	131	11	sheepo	30.00
47	1	11	guest	30.00
48	2	2	host	25.00
49	3	3	guest	28.00
50	4	4	host	35.00
51	5	5	guest	22.00
52	16	6	host	30.00
53	117	7	guest	20.00
54	118	8	host	26.00
55	119	9	guest	31.00
56	120	10	host	29.00
57	122	11	guest	24.00
58	123	32	host	32.00

Table: transaction

This entity logs platform-level transactions, including user roles and commissions per booking

```sql
CREATE TABLE `transaction` (
  `transaction_id` int(11) NOT NULL,
  `booking_id` int(11) DEFAULT NULL,
  `user_id` int(11) DEFAULT NULL,
  `role` varchar(20) DEFAULT NULL,
  `commission` decimal(10,2) DEFAULT NULL
);
```

Table: user

This entity stores general information about all users (hosts and guests), including login credentials and profile details.

user_id	name	email	password	phone	profile_picture	joined_date	user_type
1	Alice Smith	alice@example.com	hashedpassword1	1234567890	NULL	2023-01-10	guest
2	Bob Johnson	bob@example.com	hashedpassword2	0987654321	NULL	2023-02-20	host
3	Charlie Brown	charlie@example.com	hashedpassword3	2345678901	NULL	2023-03-15	guest
4	Diana Prince	diana@example.com	hashedpassword4	3456789012	NULL	2023-04-10	host
5	Ethan Hunt	ethan@example.com	hashedpassword5	4567890123	NULL	2023-05-05	guest
6	Fiona Glenanne	fiona@example.com	hashedpassword6	5678901234	NULL	2023-06-01	host
7	George Clooney	george@example.com	hashedpassword7	6789012345	NULL	2023-07-20	guest
8	Hannah Montana	hannah@example.com	hashedpassword8	7890123456	NULL	2023-08-25	host
9	Ian Malcolm	ian@example.com	hashedpassword9	8901234567	NULL	2023-09-30	guest
10	Julia Roberts	julia@example.com	hashedpassword10	9012345678	NULL	2023-10-15	host
11	Akawa	sheepo@gmail.com	akawa1234	08149659562	my_picture.jpg	2025-05-01	host
32	Lukas	lukas@gmail.com	lukas2025	08123456789	lukas.jpg	2025-05-02	guest
33	Maria	maria@gmail.com	maria2025	08123456780	maria.jpg	2025-05-03	host
34	Peter	peter@gmail.com	peter2025	08123456781	peter.jpg	2025-05-04	guest
35	Elsa	elsa@gmail.com	elsa2025	08123456782	elsa.jpg	2025-05-05	host
36	John	john@gmail.com	john2025	08123456783	john.jpg	2025-05-06	guest
37	Nina	nina@gmail.com	nina2025	08123456784	nina.jpg	2025-05-07	host
38	Simon	simon@gmail.com	simon2025	08123456785	simon.jpg	2025-05-08	guest
39	Amelia	amelia@gmail.com	amelia2025	08123456786	amelia.jpg	2025-05-09	host
40	Jacob	jacob@gmail.com	jacob2025	08123456787	jacob.jpg	2025-05-10	guest

```
CREATE TABLE `user` (
  `user_id` int(11) NOT NULL,
  `name` varchar(100) DEFAULT NULL,
  `email` varchar(100) DEFAULT NULL,
  `password` varchar(255) DEFAULT NULL,
  `phone` varchar(15) DEFAULT NULL,
  `profile_picture` text DEFAULT NULL,
  `joined_date` date DEFAULT NULL,
  `user_type` enum('guest','host') DEFAULT NULL
);
```

verification_id	user_id	type	status
1	1	Email	1
2	1	Phone	0
3	2	ID	1
4	2	Email	1
5	3	Phone	0
6	3	ID	1
7	4	Email	0
8	4	Phone	1
9	5	ID	1
10	5	Email	1
11	4	Email	1
12	4	Phone	0
13	4	ID	1
14	5	Email	1
15	5	Phone	1
16	5	ID	0
17	1	Social Media	1
18	2	Address	1
19	3	Bank Account	0
20	4	Passport	1

Table: verification

This entity tracks different verification methods (ID, email, phone) used to validate a user's identity.

```
CREATE TABLE `verification` (
  `verification_id` int(11) NOT NULL,
  `user_id` int(11) DEFAULT NULL,
  `type` varchar(50) DEFAULT NULL,
  `status` tinyint(1) DEFAULT NULL
);
```
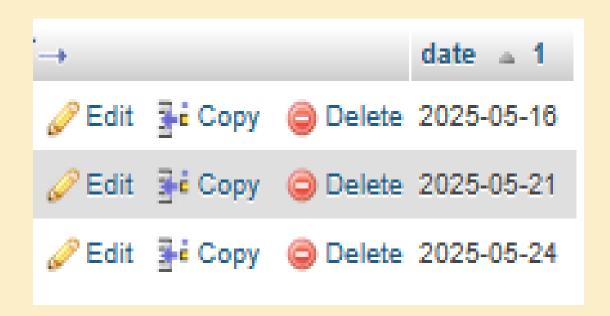
Test cases

Top 5 Most Booked Listings

Identify which listings received the most bookings.

title	booking_count ⚲ 1
Cozy Loft in Cape Town	7
Beach House in Swakopmund	5
Modern Apartment in Windhoek	5
Mountain Cabin in Otjiwarongo	5
Luxury Villa in Walvis Bay	3

```sql
SELECT l.title, COUNT(b.booking_id) AS booking_count

FROM booking b

JOIN room r ON b.room_id = r.room_id

JOIN listing l ON r.listing_id = l.listing_id

GROUP BY l.listing_id

ORDER BY booking_count DESC

LIMIT 5;
```

Check Room Availability Calendar

	date ▲ 1
✏️ Edit 🔀 Copy ⛔ Delete	2025-05-16
✏️ Edit 🔀 Copy ⛔ Delete	2025-05-21
✏️ Edit 🔀 Copy ⛔ Delete	2025-05-24

```sql
SELECT date

FROM calendar

WHERE room_id = 3 AND is_available = 0

ORDER BY date;
```

Host Reviews and Ratings Summary

Show average rating and number of reviews received by each host.

host_name	review_count	average_rating
Bob Johnson	4	5.0000
Diana Prince	4	4.2500
Fiona Glenanne	3	4.0000
Hannah Montana	8	3.0000
Julia Roberts	6	5.0000
Akawa	6	2.8667

```sql
SELECT u.name AS host_name,
       COUNT(rv.review_id) AS review_count,
       AVG(rt.score) AS average_rating
FROM user u
LEFT JOIN review rv ON u.user_id = rv.reviewee_id
LEFT JOIN rating rt ON u.user_id = rt.to_user_id
WHERE u.user_type = 'host'
GROUP BY u.user_id;
```

Get Host Earnings Summary

Show the total earnings (confirmed bookings only) for each host.

host_id	host_name	total_earnings
1	Alice Smith	1800.00
2	Bob Johnson	320.00
4	Diana Prince	600.00
6	Fiona Glenanne	7350.00
8	Hannah Montana	2700.00
10	Julia Roberts	1000.00
33	Maria	6900.00
34	Peter	2400.00
53	Maria	3900.00
55	Elsa	3800.00

```sql
SELECT h.host_id, u.name AS host_name, SUM(b.total_price) AS total_earnings

FROM booking b

JOIN host h ON b.host_id = h.host_id

JOIN user u ON h.host_id = u.user_id

WHERE b.status = 'confirmed'

GROUP BY h.host_id;
```

Search Available Rooms in a City Within a Date Range

A guest wants to search for available rooms in *Swakopmund* from *2025-07-20 to 2025-07-25*.

room_id	name	price_per_night	title	city
3	Sea View Room	150.00	Beach House in Swakopmund	Swakopmund
3	Sea View Room	150.00	Beach House in Swakopmund	Swakopmund
8	Sea View Room	150.00	Beach House in Swakopmund	Swakopmund
8	Sea View Room	150.00	Beach House in Swakopmund	Swakopmund
29	Deluxe Suite	750.00	Beach House in Swakopmund	Swakopmund
29	Deluxe Suite	750.00	Beach House in Swakopmund	Swakopmund
34	Economy Room	250.00	Beach House in Swakopmund	Swakopmund
38	Executive Suite	950.00	Ocean Breeze	Swakopmund

```sql
SELECT r.room_id, r.name, r.price_per_night, l.title, a.city
FROM room r
JOIN listing l ON r.listing_id = l.listing_id
JOIN address a ON l.listing_id = a.listing_id
WHERE a.city = 'Swakopmund'
  AND NOT EXISTS (
    SELECT 1
    FROM calendar c
    WHERE c.room_id = r.room_id
      AND c.date BETWEEN '2025-07-20' AND '2025-07-25'
      AND c.is_available = 0
);
```

Repository

The Conception document, Development document, together with the sql file for project can access on this github link. https://github.com/sheepo9/Build-a-Data-Mart-in-SQL.git