



AirBnB Clone

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Level Two

Department General

Code	Course Name	Credit Hours
IS212	Database	3



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System Description

This is a clone of Airbnb which allows users to search for rooms, book and review them.

Data Dictionaries

User

Field Name	Data Type	Description	Example
id	int		
name	varchar		
email	varchar		
email_verified_at	datetime (optional)		
password	varchar	Encrypted hash	\$2y\$12\$R87aZr6f8 p8wpQLcLCCLqePp U1IMN.nedxodQbrG 1sS9dVilTTxeC
remember_token	varchar (optional)	Whether to remember user login or not	True
created_at	datetime		
updated_at	datetime		
phone_number	varchar		
description	varchar		
profile_image	varchar		

Reservations

Field Name	Data Type	Description	Example
id	int		
user_id	int	Owner user id	
room_id	int	Reserved room id	
start_date	datetime	Reservation days start	
end_date	datetime	Reservation days end	
price	int	Price per night	
total	int	Total price	
created_at	datetime		
updated_at	datetime		

Rooms

Field Name	Data Type	Description	Example
id	int		
home_type	varchar		
room_type	varchar		
total_occupancy	int		
total_bedrooms	int		
total_bathrooms	int		
summary	varchar		
address	varchar		
has_tv	boolean		

has_kitchen	boolean		
has_air_con	boolean		
has_heating	boolean		
has_internet	boolean		
price	int		
published_at	datetime		
owner_id	int		
created_at	datetime		
updated_at	datetime		
latitude	float		
longitude	float		

Reviews

Field Name	Data Type	Description	Example
id	int		
reservation_id	int	The reservation this review belongs to	
rating	int	A number between 0 to 10	
comment	varchar	Review body	

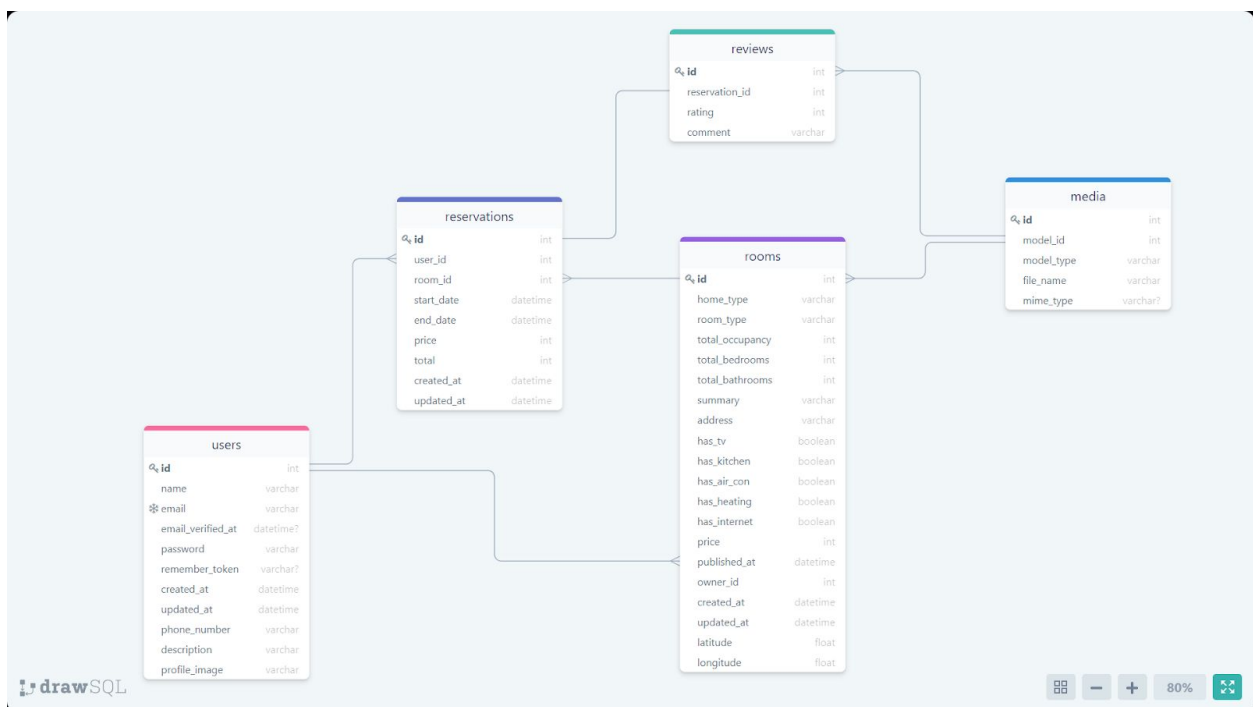
Media

Field Name	Data Type	Description	Example
id	int		
model_id	int	The room this media belongs to	

model_type	varchar	Room type	
file_name	varchar		
mime_type	varchar (optional)	File type	

Entity Relationship Diagram

This diagram explains the relationships between every field of a table in the database.



Select Statements using Different Functions

How many rooms are available with internet in them?

```
SELECT COUNT(*) FROM `rooms` WHERE `has_internet`=TRUE
```



What is our cheapest room price?

```
SELECT MIN(`price`) FROM `rooms`
```

What is our highest room price?

```
SELECT MAX(`price`) FROM `rooms`
```

Select statements using Subquery

Who are the top 10 most paying users?

```
SELECT * FROM `users` WHERE `id` IN (SELECT `user_id` FROM  
`reservations` ORDER BY `price` LIMIT 10)
```

Show pictures of rooms that have a TV

```
SELECT * FROM `media` WHERE `model_id` IN (SELECT `id` FROM `rooms`  
WHERE `has_tv`=TRUE)
```

How much have users paid who registered before a certain date?

```
SELECT SUM(`total`) FROM `reservations` WHERE `user_id` IN (SELECT  
`id` FROM `users` WHERE `created_at` <= <date>)
```

Select statements using Count and Group functions

How many rooms do we have of each room type?

```
SELECT `room_type`, COUNT(*) as `count` FROM `rooms` GROUP BY  
`room_type`
```




How many rooms do we have?

```
SELECT COUNT(*) FROM rooms
```

Select statements using Different Joins

What are the reviews for this room?

```
SELECT * FROM reservations, reviews INNER JOIN reviews ON  
reservations.id = reviews.reservation_id WHERE room_id=<room_id>
```

Showcase pictures of rooms

```
SELECT * FROM media, rooms LEFT JOIN rooms ON media.model_id =  
rooms.id
```

What rooms has this user reserved?

```
SELECT * FROM reservations, rooms LEFT JOIN rooms ON  
reservations.room_id = rooms.id WHERE user_id=<user_id>
```

Insert Statements

Create a media file

```
INSERT INTO media (model_id, model_type, file_name, mime_type) VALUES  
(<model_id>, <model_type>, <file_name>, <mime_type>)
```

Create review

```
INSERT INTO reviews (`reservation_id`, `rating`, `comment`) VALUES  
(<reservation_id>, <rating>, <comment>)
```

Create room

```
INSERT INTO rooms (`home_type`, `room_type`) VALUES (<home_type>, <room_type>)
```

Create user

```
INSERT INTO users (`name`, `email`, `password`) VALUES (<name>, <email>, <password>)
```

Create new reservation

```
INSERT INTO `reservations` (`user_id`, `room_id`, `price`) VALUES (<user_id>, <room_id>, <price>)
```

Update Statements

Verify email

```
UPDATE `users` SET `email_verified_at` = NOW() WHERE `email`=<email>
```

Update review rating

```
UPDATE `reviews` SET `rating`=<rating> WHERE `id`=<id>
```

Update user name

```
UPDATE `users` SET `name`=<name> WHERE `id`=<user_id>
```

Update room price

```
UPDATE `rooms` SET `price`=<price> WHERE `id`=<id>
```

Update user password

```
UPDATE `users` SET `password`=<password> WHERE `id`=<user_id>
```

Delete Statements

Delete a user

```
DELETE FROM `users` WHERE `id`=<user_id>
```

Delete a reservation

```
DELETE FROM `reviews` WHERE `reservation_id`=<reservation_id>  
DELETE FROM `reservations` WHERE `id`=<reservation_id>
```

Delete a room's media files

```
DELETE FROM `media` WHERE `model_id`=<room_id>
```

Delete a room

```
DELETE FROM `reviews` WHERE `reservation_id` IN (SELECT `id` FROM  
`reservations` WHERE `room_id`=<room_id>)  
DELETE FROM `reservations` WHERE `room_id`=<room_id>  
DELETE FROM `rooms` WHERE `id`=<room_id>
```

Delete a review

```
DELETE FROM `reviews` WHERE `id`=<review_id>
```

References

- What is a data dictionary?
<https://www.tutorialspoint.com/What-is-Data-Dictionary>
- What is an entity relationship diagram?
<https://www.smartdraw.com/entity-relationship-diagram/>
- SQL Reference from W3Schools
https://www.w3schools.com/sql/sql_ref_keywords.asp

GitHub Repository Link

[GitHub Repository](#)