

Database for storing and processing information by using an Airbnb case study.

Finalization Phase

DLBDSPBDM01 – Project: Build a Data Mart in SQL

B.Sc. Data Science

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1. Methodology

My project included developing a reservation system with the functionality a company like Airbnb would require. 20 tables are included in this database schema, each of which corresponds to a specific operation. In phase one, I developed an entity-relationship model for storing the data.

needed for the system as well as linking tables together. When creating a database model, it is necessary to understand basic concepts, such as relationships, cardinalities, data types, etc.

Utilizing the MySQL Workbench application, I implemented the conceptual model based on my database system knowledge during the development phase.

Dummy data was generated to test the database's capabilities. To accomplish this, it is necessary to learn more advanced.

MySQL topics, such as queries, statements, and views.

At the end of the project, I ensured that the database worked adequately before submitting it.

In my opinion, this course was challenging and allowed me to learn and expand my DBMS and SQL knowledge. Working with different databases is a crucial skill for any data scientist in the future, and

I found this project to be a promising step toward learning how to do that.

2. Adjustments

To finalize the project after phase 2, I amended some column names in order of normalization.

Some FKs and PKs had different syntax which needed to be fixed.

Made my test cases more complex using join commands and order by.

3. Schema

In the following picture, details of the schema have been shown. Using “SHOW TABLE STATUS FROM DB”

Name	Engine	Version	Row_format	Rows	Avg_row_length	Data_length	Max_data_length	Index_length	Data_free	Auto_increment	Create_time	Update_time	Check_time	Collation	Checksum
customer	InnoDB	10	Dynamic	13	1260	16384	0	16384	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
address	InnoDB	10	Dynamic	40	409	16384	0	81920	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
amenity	InnoDB	10	Dynamic	24	682	16384	0	16384	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
login	InnoDB	10	Dynamic	40	409	16384	0	49152	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
city	InnoDB	10	Dynamic	40	409	16384	0	16384	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
country	InnoDB	10	Dynamic	40	409	16384	0	16384	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
login_details	InnoDB	10	Dynamic	20	819	16384	0	0	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
facilities	InnoDB	10	Dynamic	50	327	16384	0	49152	0	50	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
rules	InnoDB	10	Dynamic	40	409	16384	0	49152	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
reservations	InnoDB	10	Dynamic	40	409	16384	0	16384	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
post_inspection	InnoDB	10	Dynamic	3	5461	16384	0	16384	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
staff	InnoDB	10	Dynamic	40	409	16384	0	16384	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
dependents	InnoDB	10	Dynamic	40	409	16384	0	81920	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
entertainment	InnoDB	10	Dynamic	100	163	16384	0	49152	0	100	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
room	InnoDB	10	Dynamic	100	163	16384	0	32768	0	100	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
room_owner	InnoDB	10	Dynamic	4	4096	16384	0	16384	0	40	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
room_address	InnoDB	10	Dynamic	8	2048	16384	0	0	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
reviews	InnoDB	10	Dynamic	40	2048	81920	0	65536	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL
payment	InnoDB	10	Dynamic	20	819	16384	0	16384	0	NULL	#####	NULL	NULL	utf8mb4_0900_ai_ci	NULL

3. Installation

It is first necessary to install MySQL on your system. Afterward, the data mart can be used with any MySQL database system. I suggest the MySQL Workbench community version, a free DBMS, that can also open the model file, which is a .mwb file located in the development directory.

MySQL can be installed from [Here](#)

MySQL Workbench can be installed from [Here](#)

After creating a database connection and a schema, using the data import tool in the server tab, you can import the [mydb.sql](#) file, which is in the finalization directory.

Project GitHub repository: <https://github.com/Dinakhaled15/AirbnbCase-Dina.git>