Storing and processing database for data on the Airbnb use case.

Finalization Phase

DLBDSPBDM01 – Project: Build a Data Mart in SQL

B.S.c. Data Science

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Abstract

This this project I have developed a database that has the functionality that and organisation such as Airbnb would require. The database has 21 table or entities such as for the properties, users, accessibilities etc, that has a specific to the requirements and goals to Airbnb. After I developed an Entity-Relationship (ER) Diagram to be able to visualize the entities, attributes and relationships involved in the Airbnb. From the ER Diagram it is then converted into a logical database design, specifying tables, primary keys, and relationships to create the necessary SQL statements and execute them to create the database schema.

MySQL workbench was used to implement the database and from this I used dbForge Studio for MySQL to create dummy data that is used to test the database and make sure that the database works seamlessly. The tests were used to validate the functionality and usability if the systems and we as perform unit testing, integration testing to identify and fix any bugs or issues on the database.

Schema

The SHOW TABLE STATUS FROM Airbnb function was used to exact the metadata to show the size of the database. The metadata is extracted in

the .csv format and is attached alongside with the SQL queries and statements that we used for the test cases.

Name	Engine	Rows	Avg_row_length	Data_length	Index_length
accessibility	InnoDB	17	963	16384	0
address	InnoDB	20	819	16384	65536
amenities	InnoDB	20	819	16384	0
booking	InnoDB	20	819	16384	32768
city	InnoDB	20	819	16384	16384
country	InnoDB	20	819	16384	16384
host	InnoDB	2	8192	16384	0
host_language	InnoDB	20	819	16384	32768
image	InnoDB	20	819	16384	32768
language	InnoDB	20	819	16384	0
payments	InnoDB	20	819	16384	16384
property	InnoDB	20	819	16384	65536
property_accessibility	InnoDB	20	819	16384	32768
property_amenities	InnoDB	20	819	16384	32768
property_type	InnoDB	4	4096	16384	0
region	InnoDB	9	1820	16384	0
review	InnoDB	20	819	16384	49152
room_type	InnoDB	4	4096	16384	0
state	InnoDB	20	819	16384	0
user	InnoDB	20	819	16384	16384
user_type	InnoDB	2	8192	16384	0

Installation

Firstly, to install MySQL on your system click here. Afterward, MySQL Workbench can be installed from here. The data mart can be used with any MySQL database system. That is why I suggest the MySQL Workbench community version, which is a free DBMS that can also open the model file, which is a .mwb file located in the development directory.

After creating a database connection and a schema, using the data import tool in the server tab, you can import the **dump.sql** file, which is in the finalization submission.