Airbnb Data Mart

User Manual

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1. Overview

1.1 Introduction

The following document is an installation guide to the "Airbnb Data Mart". The Airbnb Data Mart is a database oriented after the Airbnb use case, which consists of a SQL database featuring a database structure, as well as stored procedures and test data. The structure of the database, as well as the test data, is contained in the "project_data_mart.sql" file.

1.2 Installation

The requirements for "Airbnb Data Mart" are:

- A server environment, with MariaDB and PhpMyAdmin support

- A webbrowser (e.g., Chrome, Internet Explorer)

- XAMPP

To install and use the application the following steps must be fulfilled:

1. Download the application from Github and extract the contents

2. Download and install XAMPP from Apache Friends

3. Then execute the XAMPP program and start the Apache and MySQL module

4. Open a web browser and enter "localhost" as URL in the address bar

5. Click phpMyAdmin in the bar

6. Add a new database by pressing the "new" button.

7. Choose a name for the database, for example, "airbnb data mart"

8. Select the newly created database

9. Click the "import" button in the taskbar

10. Press on the "choose file" button and select the "project_data_mart.sql" file, extracted from the Github contents

11. The press the "ok" button

With this step, the installation process of the database is finished, and the created database should be filled with structure, procedures, and test data. The guide to the control of the application follows in the next chapter

2. Program usage

2.1 General Program usage

Under the database name are two buttons, which can be selected, "tables" and "procedures". The tables button shows a list of all entities inside the database, as well as their respective names. By selecting an entity further information can be displayed in the form of rows and columns. The test data should be shown like in the following image.

Image 1: "accommodationreviews" test data

The functionality of the program can be managed with the procedures of the database. These are located directly under the database name. By selecting the procedures, a list of the existing procedures should be generated. The following image showcases the list of procedures.
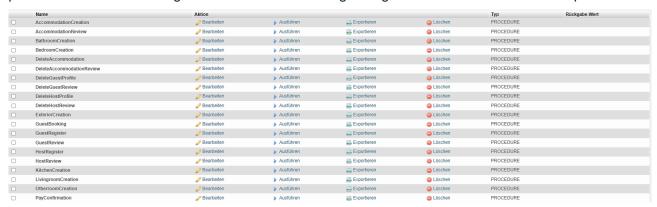

Image 2: Procedure overview

These procedures can be utilized by pressing the execute button and inserting the correct parameters. An example is shown in the image below:

Image 3: "GuestReview" procedure

The application offers the following functionality. There are two different user groups, guests, and hosts, which determine what functions are accessible. It connects guests, who want to stay in accommodations of a specific area, with hosts, who rent out their homes. The guest is able to make reservations and conduct payments. A host on the other hand can set up his price and the attributes of his accommodation. The exact procedures are elaborated in the next section.

3. Procedures

The overall procedures of the database can be separated into two main components. These two components are the procedures a guest can perform and the procedures a host can perform. These two components are now explained in detail.

3.1 Guest Procedures

The following procedures are all the actions a guest can perform.

3.1.1 Guest Register

The "GuestRegister" procedure is used to register a guest user. The tables affected are the "guests", "guestcontacts", and "guestaddresses" table. For this procedure, the following guest information is needed:

- The name of the guest
- The last name of the guest
- The age of the guest
- The code of the currency, which is used
- The country of the guest
- The region of the guest
- The town of the guest
- The street of the guest
- The house number of the guest
- The ZIP code
- The email address of the guest
- The phone number of the guest

If all the information is entered click the Ok button to create a guest. The application checks for the following criteria:

- Existing currency
- Not already existing address
- Not already existing phone number or email

If the information passed all the checks and no error is shown, a new guest user is created. The data is inserted in the aforementioned tables.

3.1.2 Delete Guest Profile

The "DeleteGuestProfile" procedure is used to delete a guest user. The tables affected are the "guests","guestcontacts", "guestaddresses", "guestreviews", "hostreviews", "accommodationreviews", "payments", and "reservations". Both the email address and phone number are needed to ensure additional confirmation safety. For this procedure, the following guest information is needed:

- The email address of the guest
- The phone number of the guest

If all the information is entered click the Ok button to delete a guest profile. The application checks for the following criteria:

- Existing guest contacts
- Existing guest
- Not open reservations

If the information passed all the checks and no error is shown, a guest user is deleted. The data is removed from the aforementioned tables.

3.1.3 Guest Booking

The "GuestBooking" procedure is used to book an accommodation, for a chosen duration. The table affected are the "reservations", "payment", and "payconfirmations" tables. The information needed for this procedure are the guest information, the accommodation information, payment method and reservation information. The format of the check in and check out date must be "YYYY-MM-DD". For this procedure, the following guest information is needed:

- The email address of the guest
- The phone number of the guest
- The name of the accommodation
- The payment method
- The check in date
- The check out date
- The number of guests

If all the information is entered click the Ok button to make a reservation. The application checks for the following criteria:

- If the accommodation exists
- If the host exists
- If the guest exists
- If the reservation date is in the future and the check out date is after the check in date

- If the accommodation has already been booked
- If the payment method exists
- If the price exists

If the information passed all the checks and no error is shown, a reservation is made. The data is inserted in the aforementioned tables.

3.1.4 Pay Confirmation

The "PayConfirmation" procedure is used to confirm or cancel a payment. The table affected is the "payconfirmations" and "income" table. The information needed for this procedure are the accommodation information and guest information, as well as the confirmation or cancellation of the payment. This is denoted by either "1" for confirm or "0" for cancel. For this procedure, the following guest information is needed:

- The email address of the guest
- The phone number of the guest
- The name of the accommodation
- The payment confirmation or cancellation

If all the information is entered click the Ok button to conduct or cancel a payment. The application checks for the following criteria:

- If the accommodation exists
- If the guest exists
- If the reservation date is in the future and the check out date is after the check in date
- If the accommodation has already been booked
- If the payment method exists
- If the price exists

If the information passed all the checks and no error is shown a payment is either conducted or canceled. The data is either inserted in the aforementioned tables when confirming the payment or removed when canceling the payment.

3.1.5 Host Review

The "HostReview" procedure is used to create a review about a host from a guest. The table affected is only the "hostreviews" table. The information needed for this procedure are the guest email and host email, as well as the host review information.

- The email address of the guest
- The email address of the host
- The score of the review
- The text of the review

If all the information is entered click the Ok button to conduct a review about a host. The application checks for the following criteria:

- If the host exists
- If the guest exists
- If the score is a number between 1 to 5

If the information passed all the checks and no error is shown a review about a host is made. The data is inserted in the aforementioned tables.

3.1.6 Delete Host Review

The "DeleteHostReview" procedure is used to delete a review about a host. The table affected is only the "hostreviews" table. The information needed for this procedure are the guest email and host email.

- The email address of the guest
- The email address of the host

If all the information is entered click the Ok button to conduct a review about a host. The application checks for the following criteria:

- If the host exists
- If the guest exists

If the information passed all the checks and no error is shown a review about a host is deleted. The data is removed from the aforementioned tables.

3.1.7 Accommodation Review

The "AccommodationReview" procedure is used to create a review about an accommodation from a guest. The table affected is only the "accommodationreviews" table. The information needed for this procedure are the guest email, accommodation name, as well as the guest review information.

- The email address of the guest
- The name of the accommodation
- The score of the review
- The text of the review

If all the information is entered click the Ok button to conduct a review about an accommodation. The application checks for the following criteria:

- If the accommodation exists
- If the guest exists

- If the score is a number between 1 to 5

If the information passed all the checks and no error is shown a review about an accommodation is conducted. The data is inserted into the aforementioned tables.

3.1.8 Delete Accommodation Review

The "DeleteAccommodationReview" procedure is used to delete a review about an accommodation. The table affected is only the "accommodationreviews" table. The information needed for this procedure are the guest email and accommodation name.

- The email address of the guest
- The name of the accommodation

If all the information is entered click the Ok button to delete a review about an accommodation. The application checks for the following criteria:

- If the accommodation exists
- If the guest exists

If the information passed all the checks and no error is shown a review about an accommodation is deleted. The data is removed from the aforementioned tables.

3.2 Host Procedures

The following procedures are all the actions a host can perform.

3.2.1 Host Register

The "HostRegister" procedure is used to register a host user. The tables affected are the "host", "hostcontacts", and "hostaddresses" table. For this procedure, the host informations are needed.

- The name of the host
- The last name of the host
- The age of the host
- The code of the currency, which is used
- The country of the host
- The region of the host
- The town of the host
- The street of the host
- The house number of the host
- The ZIP code
- The email address of the host
- The phone number of the host

If all the information is entered click the Ok button to create a host. The application checks for the following criteria:

- Existing currency
- Not already existing address
- Not already existing phone number or email

If the information passed all the checks and no error is shown, a new host user is created. The data is inserted in the aforementioned tables.

3.2.2 Delete Host Profile

The "DeleteHostProfile" procedure is used to delete a host user. The tables affected are the "host", "hostcontacts","hostaddresses","guestreviews","hostreviews", "accommodations", and "reservations", as well as their subsequent tables. Both the email address and phone number are needed to ensure additional confirmation safety.

- The email of the host
- The phone number of the host

If all the information is entered click the Ok button to delete a host profile. The application checks for the following criteria:

- If the host exists
- If the accommodation
- No open reservations

If the information passed all the checks and no error is shown, a host user is deleted. The data is removed from the aforementioned tables.

3.2.3 Accommodation Creation

The "AccommodationCreation" procedure is used to create an accommodation. The tables affected are the "accommodations", "price", "locations" and "interiors" table. The information needed for this procedure are the accommodation information and host information.

- The email address of the host
- The phone number of the host
- The name of the accommodation
- An optional description
- The type of the accommodation
- The country of the accommodation
- The region of the accommodation
- The town of the accommodation
- The street of the accommodation
- The house number of the accommodation
- The ZIP code

- An optional description about the location
- The price
- The number of nights
- An optional discount
- An optional description about the interior

If all the information is entered click the Ok button to create an accommodation. The application checks for the following criteria:

- If the host exists
- Not already existing address

If the information passed all the checks and no error is shown, an accommodation is created. The data is inserted from the aforementioned tables.

3.2.4 Delete Accommodation

The "DeleteAccommodation" procedure is used to delete an accommodation. The tables affected are the "acommodations", "interiors", "exteriors", "prices", "locations" tables and their subsequent tables. The information needed are the host contact information and the accommodation name

- The email address of the host
- The phone number of the host
- The name of the accommodation

If all the information is entered click the Ok button to delete an accommodation. The application checks for the following criteria:

- If the host exists
- If the accommodation exists
- No open reservations
- Host must have at least one other accommodation

If the information passed all the checks and no error is shown, an accommodation is deleted. The data is removed from the aforementioned tables.

3.2.5 Exterior Creation

The "ExteriorCreation" procedure is used to create an exterior. The table affected is only the "exteriors" table. The information needed for this procedure are the accommodation information and exterior information.

- The name of the accommodation
- The type of exterior (e.g. garden)
- An optional description

If all the information is entered click the Ok button to create an exterior. The application checks for the following criteria:

- If the accommodation exists
- No already existing exterior

If the information passed all the checks and no error is shown, an exterior is created. The data is inserted into the aforementioned tables.

3.2.6 Bathroom Creation

The "BathroomCreation" procedure is used to create a bathroom. The table affected is only the "bathrooms" table. The information needed for this procedure are the accommodation information and bathroom information.

- The name of the accommodation
- The name of the bathroom
- An optional description

If all the information is entered click the Ok button to create a bathroom. The application checks for the following criteria:

- If the accommodation exists
- If an interior exists

If the information passed all the checks and no error is shown, a bathroom is created. The data is inserted into the aforementioned tables.

3.2.7 Bedroom Creation

The "BedroomCreation" procedure is used to create a bedroom. The table affected is only the "bedrooms" table. The information needed for this procedure are the accommodation information and bedroom information.

- The name of the accommodation
- The name of the bedroom
- The number of beds
- An optional description

If all the information is entered click the Ok button to create a bedroom. The application checks for the following criteria:

- If the accommodation exists
- If an interior exists

If the information passed all the checks and no error is shown, a bedroom is created. The data is inserted into the aforementioned tables.

3.2.8 Kitchen Creation

The "KitchenCreation" procedure is used to create a kitchen. The table affected is only the "kitchens" table. The information needed for this procedure are the accommodation information and kitchen information.

- The name of the accommodation
- The name of the kitchen
- An optional description

If all the information is entered click the Ok button to create a kitchen. The application checks for the following criteria:

- If the accommodation exists
- If an interior exists

If the information passed all the checks and no error is shown, a kitchen is created. The data is inserted into the aforementioned tables.

3.2.9 Living Room Creation

The "LivingroomCreation" procedure is used to create a living room. The table affected is only the "livingrooms" table. The information needed for this procedure are the accommodation information and living room information.

- The name of the accommodation
- The name of the living room
- An optional description

If all the information is entered click the Ok button to create a living room. The application checks for the following criteria:

- If the accommodation exists
- If an interior exists

If the information passed all the checks and no error is shown, a living room is created. The data is inserted into the aforementioned tables.

3.2.10 Other Room Creation

The "OtherroomCreation" procedure is used to create any type of room. The table affected is only the "otherrooms" table. The information needed for this procedure are the accommodation information and room information.

- The name of the accommodation
- The name of the other room
- An optional description

If all the information is entered click the Ok button to create an other room. The application checks for the following criteria:

- If the accommodation exists
- If an interior exists

If the information passed all the checks and no error is shown, an other room is created. The data is inserted into the aforementioned tables.

3.2.11 Guest Review

The "GuestReview" procedure is used to create a review about a guest from a host. The table affected is only the "guestreviews" table. The information needed for this procedure are the guest email and host email, as well as the guest review information.

- The email address of the guest
- The email address of the host
- The score of the review
- The text of the review

If all the information is entered click the Ok button to conduct a review about a guest. The application checks for the following criteria:

- If the host exists
- If the guest exists
- If the score is a number between 1 to 5

If the information passed all the checks and no error is shown a review about a guest is conducted. The data is inserted into the aforementioned tables.

3.2.12 Delete Guest Review

The "DeleteGuestReview" procedure is used to delete a review about a guest. The table affected is only the "guestreviews" table. The information needed for this procedure are the guest email and host email.

- The email address of the guest
- The name of the accommodation

If all the information is entered click the Ok button to delete a review about a guest. The application checks for the following criteria:

- If the host exists
- If the guest exists

If the information passed all the checks and no error is shown a review about a guest is deleted. The data is removed from the aforementioned tables.