| Bank_account | |
|---|---|
| PK | account_id |
| | IBAN |
| | BIC/SWIFT |
| | country |
| FK | payment_info_id |

| payment_info | |
|---|---|
| PK | payment_info_id |
| | type |
| FK | user_id |

| Credit_Card | |
|---|---|
| PK | card_id |
| | type |
| | card_number |
| | expiry_date |
| | CVC |
| FK | payment_info_id |

| guest_rating_host | |
|---|---|
| PK | g_rating_id |
| | stars |
| | comment |
| FK | guest_rater |
| FK | host_rated |

| host_rating_guest | |
|---|---|
| PK | h_rating_id |
| | stars |
| | comment |
| FK | host_rater |
| FK | guest_rate |

| Languages | |
|---|---|
| PK | languages_id |
| | english |
| | spanish |
| | french |
| | portuguese |
| | russian |
| | chinese |
| | hindi |
| | japanese |
| FK | user_id |

| User | |
|---|---|
| PK | user_id |
| | name |
| | type |
| | surname |
| | gender |
| | photo |
| | date_of_birth |
| | join_date |
| | country |

| voucher_solution | |
|---|---|
| PK,FK1 | user_id |
| PK,FK2 | voucher_id |

| voucher | |
|---|---|
| PK | action_id |
| | type |
| | start_date |
| | end_date |
| | limit_use |
| | voucher_number |

| Contact | |
|---|---|
| PK | contact_id |
| | phone_number |
| | email |
| FK | user_id |

| Login | |
|---|---|
| PK | login_id |
| | username |
| | password |
| | last_online |
| FK | user_id |

| Booking | |
|---|---|
| PK | booking_id |
| | start_date |
| | end_date |
| | number_guests |
| | number_children |
| FK | user_id |
| FK | accomodation_id |

| Booking_help | |
|---|---|
| PK | help_id |
| | description |
| FK | agent_id |
| FK | booking_id |

| Agent | |
|---|---|
| PK | agent_id |
| | name |
| | gender |
| | photo |
| | join_date |

| Accommodation | |
|---|---|
| PK | accommodation_id |
| | type |
| | price_per_day |
| | number_guests_allowed |
| | max_number_children |
| | description |
| | max_checkin |
| | max_checkout |
| FK | room_belongs_to |
| FK | user_id |

| Date_help | |
|---|---|
| PK,FK1 | accommodation_id |
| PK,FK2 | calendar_date |

| Calendar | |
|---|---|
| PK | calendar_date |

| Alllowed | |
|---|---|
| PK | allowed_id |
| | smoking |
| | pets |
| | visitors |
| FK | accommodation_id |

| photos | |
|---|---|
| PK | photo_id |
| | photo |
| FK | accommodation_id |

| Amenities | |
|---|---|
| PK | amenities_id |
| | wifi |
| | kitchen |
| | air_conditioning |
| | washer |
| | iron |
| | free_parking |
| | pool |
| | self_check-in |
| | hair_dryer |
| | heating |
| FK | accommodation_id |

| Address | |
|---|---|
| PK | address_id |
| | country |
| | state |
| | city |
| | street |
| | house_number |
| | floor |
| | zip_code |
| FK | accommodation_id |

Cardinalities

1:CN

1:N

1:C

1:1

N:M

CN:CM

CN:M

C:N

# Data dictionary

| Attribute | datatype | entity | description |
|---|---|---|---|
| name | varchar (50) | user,agent | variable size data containing the name of the user or of the support agent |
| surname | varchar (50) | user | surname of the user |
| gender | char(1) | user,agent | gender represented by a letter M (male),F(female) or O (for other) |
| photo | mediumblob | user,agent,accomodation | photo with a limit of 16,777,215 bytes |
| date_of_birth | date | user | date of birth of the user, can provide age information |
| join_date | date | user,agent | date of account creation |
| country | char(2) | user,address,bank_account | country represented by alpha-2 ( 2 letters system ) example: Germany = DE |
| user_id | integer(7) | user | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| guest_rater,host_rated,host_rater guest_rated | integer(7) | guest_rating_host, host_rating_guest | foreign keys both referencing table user to allow rating each other |
| IBAN,BIC/SWIFT | char(64) | bank_account | host banking info for receiving bank transfers from airbnb or guest's banking info to pay airbnb hashed with sha-256 algorithm |
| type,card_number,expiry_date, CVC | char(64) | credit_card | guest credit card info used to pay airbnb hashed with sha-256 algorithm |
| type | char(10) | payment_info | helps understand along with one of the foreign keys in the table if the information is for payment or to receive money (more so in the case of the guest) |
| stars | tinyint(1) | host_rating_guest, guest_rating_host | integer from 1 to 5 used to evaluate the experience as a guest or as a host |
| comment | text | host_rating_guest, guest_rating_host | short text comment on the guest or on the host and the accommodation experience |
| english, spanish,french,portuguese,russian chinese, hindi,japanese | boolean | languages | boolean value 0 or 1 (False or True respectively) to describe if a user has knowledge of the language or not |
| type | varchar(25) | voucher | used to represent the type of voucher for the specific action_id, for example "Discount_5%", "Book1get1" |
| start_date,end_date | date | voucher | define the time schedule for a specific voucher |
| limit_use | tinyint(2) | voucher | integer with 2 characters used to limit the number of times a voucher can be used |
| voucher_number | integer(8) | voucher | 8-number integer used to attribute a number to a voucher which the user can use as input to apply the discount to a booking |
| phone_number | varchar(30) | contact | user's phone number |
| email | varchar(50) | contact | user's email address |
| username | varchar(50) | login | login username used to login into the app |
| password | char(64) | login | used along username to login into the app, hashed value with sha-256 |
| last_online | timestamp | login | time stamp that tracks user behavior changing everytime the user goes offline, also useful in the context of knowing if the host has been active recently or not which might influence a booking |
| start_date, end_date | datetime | booking | contains the period of time for which the booking as been made |
| number_guests | tinyint(2) | booking | number describing the number of guests |
| number_children | tinyint(2) | booking | quantifies the number of children accompanying the guest(s) |
| description | text | booking_help | request inserted by the user relating to a booking which describes the issue encountered or request for information |
| type | varchar(10) | accommodation | used to describe the type of accommodation, example "room", "apartment",etc |
| photo | mediumblob | photos | photo related to the foreign key accommodation_id in the table, a way to allow multiple photos for an accommodation |
| price_per_day | decimal(6,2) | accommodation | price per day of the accommodation, allows a maximum value of 999999.99 |
| calendar_date | date | calendar | primary key of the table calendar, can range from 2022/01/01 to 2032 for example. Used for calculations along the booking table start, end_date to display the availability of an accommodation on the app. |
| max_checkin, max_checkout | time | accommodation | the earliest and latest allowed by the host for check-in and check-out times |
| number_guests_allowed, max_number_children | tinyint(2) | accommodation | maximum number of guests and accompanying children allowed by the host |
| description | text | accommodation | description of the accommodation and additional information provided by the host in the form of a small text |

| Attribute | datatype | entity | description |
|---|---|---|---|
| room_belongs_to | integer | accommodation | recursive relationship that points back to the accommodation table in the sense that if the accommodation is a room it might or not be part of a major accommodation an entire apartment for example |
| state | varchar(50) | address | contains the state information for the address table |
| city | varchar(50) | address | contains the city information for the address table |
| street | varchar(50) | address | contains the street information for the address table |
| house_number | smallint(4) | address | contains the house number for the address table |
| floor | smallint(3) | address | contains the floor number for the address table |
| zip_code | varchar(15) | address | contains the zip code for the address table |
| wifi,kitchen,air_conditioning, washer,iron, | boolean | amenities | serves to inform in the form of True or False if the accommodation features or not the amenitiy |
| free_parking, pool, self_checkin, hair_dryer, heating | boolean | amenities | serves to inform in the form of True or False if the accommodation features or not the amenitiy |
| pets, visitors, smoking | boolean | allowed | True or False values that provides rules defined by the host allowing or not the thing |
| account_id | integer | bank_account | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| payment_info_id | integer | payment_info | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| card_id | integer | credit_card | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| g_rating_id | integer | guest_rating_host | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| h_rating_id | integer | host_rating_guest | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| languages_id | integer | languages | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| action_id | integer | voucher | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| contact_id | integer | contact | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| login_id | integer | login | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| booking_id | integer | booking | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| agent_id | integer | agent | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| help_id | integer | booking_help | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| allowed_id | integer | allowed | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| amenities_id | integer | amenities | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| address_id | integer | address | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| accommodation_id | integer | accommodation | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| photo_id | integer | photos | artificial key in the form of an auto-incremented integer that serves as primary key for the table |
| type | char(1) | user | describes the type of user "G" guest or "H" host |