1) **The roles and their actions :**

- THE HOST :

    - post an announce(picture, description …)

    - update an announce

    - delete an announce

    - rate the guest

    - get paid after 24 hours after guest arrival

    - create a profile page

    - upload at least one picture

    - post his/her phone number

    - calculate his/her expected income from his/her own accomodation

    - connect his/her profile with social networks

- THE GUEST :

    - pay by credit card

    - Book an accomodation

    - rate the host

- create an account

- provide more personal information (pictures, phone number, job ..)

- connect his/her profile with social networks

- establish the contact between host and guest

- handle the orders

- handle the transactions

- get 6-12% from guests and 3% from hosts after each deal done

- provide the access to various accomodations

1) Which data and functions are required?

-   THE HOST :

- HostID {ID}

- First Name
- Last Name
- Email Address
- Phone Number
- Password
- Nationality

- Picture link

- Accomodation address (country, city, street and zip code)

- Accomodation description

- Accomodation picture(s)

- Accomodation price per night

- Accomodation availibility

- Accomodation category(category, vue, space)

- Rate

- Invoice

- Invoice Date

- Bank account number

- Bank name

* postAds()

* deleteAds()

* updateAds()

* rate()

* createProfile()

* uploadPhoto()

* postPhoneNumber()

* calculateIncome()

* shareProfil()

- GuestID {ID}
- First Name
- Last Name
- Email Address
- Phone Number
- Job
- Marital Status
- Nationality
- Password

- Rate

- Invoice

- Invoice Date

- PhotoID {ID}

- Photo link
- CardID {ID}
- Card Number

- BookingID {ID}
- nbr of nights
- CheckIn Date
- CheckOut Date
- Total Cost
- nbr of persons

- BStatusID {ID}

- isBooked
- ExpirationDate

* rate()

* createProfile()

* uploadPhoto()

* postPhoneNumber()

* shareProfil()

* book()

* pay()

- **THE COMPANY :**

  - AdminID {ID}
  - Name
  - Email Address
  - Phone Number
  - Password

  - InvoiceID {ID}
  - Invoice
  - Date

  - OrderID
  - isConfirm
  - Confirmation Date

  - CardID {ID}
  - Card Number

- BankAccountID {ID}
- Account Number
- Bank Name

- TransactionID {ID}
- Method
- Status
- AdminComission
- Host Comission
- Date

- CurrencyID {ID}
- Currency

* handleTransaction()

* handleOrders()

* establishContact()

* calculateComission()

3) Data dictionary :

The table name	Attribute name	Attribute description	Data type	Data range
Host	HostID	Assign a primary key to each host	INT	NOT NULL UNIQUE
	FirstName	Includes the first name of the host	VARCHAR	(50)
	LastName	Includes the last name of the host	VARCHAR	(50)
	EmailAddress	Hold the email address of the host	VARCHAR	(100) UNIQUE
	PhoneNumber	Describes the phone number	INT	
	Password	Includes the password of the host	CHAR	(100)

		profile		NOT NULL
	Nationality	Includes the origin of the host	CHAR	(200)
	Photo	Includes a link of the host photo	VARBINARY	(1500)
Accommodation	AccommodationID	Assign a primary key to each accommodation	INT	NOT NULL UNIQUE
	Description	Provide the accommodation with its description	TEXT	
	Price/night	Hold the price of one night of the described accommodation	REAL	
	HostID	Identify the owner of the accommodation as a foreign key	INT	
Rating	RatingID	Assign a primary key to every rating	INT	NOT NULL UNIQUE
	Rating	Include the rating assigned by the guests	Decimal	(2,1)
	HostID	Identify the owner of the rating as a foreign key	INT	
Host Commission	CommissionID	Assign a primary key for each commission	INT	NOT NULL UNIQUE
	Commission	Includes the amount of the commission	REAL	
	Date	When the host gets his commission from the admin	DATE	
	IncomeID	Identify the income as a foreign key	INT	
	HostID	Identify the owner of the commission as a foreign key	INT	
	CardID	Identify which card paid the commission as a foreign key	INT	
Host BankAccount	BankAccountID	Assign a primary key for each bank account	INT	NOT NULL UNIQUE
	Account Number	Describes the number of the bank account	INT	NOT NULL UNIQUE
	Bank Name	Describes the name of the bank account	CHAR	(100)

	HostID	Identify the owner of the bank account as a foreign key	INT	
	TransactionID	Identify the owner of the transaction as a foreign key	INT	
Pictures	PictureID	Assign a primary key for each picture	INT	NOT NULL UNIQUE
	Link	Includes the link for the photos	VARBINARY	(1500)
	AccommodationID	Identify the ownership of the pictures as a foreign key	INT	
Category	CategoryID	Assign a primary key for accommodation category	INT	NOT NULL UNIQUE
	Category	Describes the category of the accommodation	CHAR	(100)
	Space	Includes the space of the visited place	REAL	
	Vue	Mentions the vue of the place	CHAR	(80)
	AccommodationID	Identify the possessor of the category as a foreign key	INT	
Status	StatusID	Assign a primary key for the status of the accommodation	INT	NOT NULL UNIQUE
	isAvailable	Describes the status of the reserved accommodation	BOOLEAN	
	AccommodationID	Identify the possessor of the category as a foreign key	INT	
Country	CountryID	Assign a primary key for the country of the accommodation	INT	NOT NULL UNIQUE
	Name	Includes the name of the country	VARCHAR	(500)
	AccommodationID	Identify the possessor of the category as a foreign key	INT	
City	CityID	Assign a primary key for the city	INT	NOT NULL UNIQUE
	City	Includes the name of the city	VARCHAR	(500)
	Zip Code	Includes the zip code of the city	INT	
	CountryID	Identify the country primary key as a foreign key	INT	

Admin	AdminID	Assigns a primary key for the platform	INT	NOT NULL UNIQUE
	FullName	Includes the name of the platform	VARCHAR	(200)
	Email Address	Hold the email address of the admin	CHAR	(200)
	Phone Number	Describes the phone number	INT	
	Password	Includes the password of the admin profile	CHAR	(100) NOT NULL
Admin BankAccount	BankAccountID	Assign a primary key for each bank account	INT	NOT NULL UNIQUE
	Account Number	Describes the number of the bank account	INT	NOT NULL UNIQUE
	Bank Name	Describes the name of the bank account	CHAR	(80)
	AdminID	Identify the owner of the bank account as a foreign key	INT	
	TransactionID	Identify the owner of the transaction as a foreign key	INT	
Income	IncomeID	Assign a primary key for each income	INT	NOT NULL UNIQUE
	Income	Includes the cost of the reservation	REAL	
	Date	Identifies when the admin gets the income	DATE	
	AdminID	Identify the owner of the income as a foreign key	INT	
Admin Commission	CommissionID	Assign a primary key for each commission	INT	NOT NULL UNIQUE
	Commission	Includes the amount of the commission	REAL	
	Date	When the admin gets his commission from one income	DATE	
	IncomeID	Identify the income as a foreign key	INT	

Orders	OrderID	Assign a primary key for order	INT	NOT NULL UNIQUE
	isConfirm	Describes the status of the order	BOOLEAN	
	Confirmation Date	The date of the confirmation	DATE	
	BookingID	Identify the order is for which booking as a foreign key	INT	
Admin CreditCard	CardID	Assign a primary key for each credit card	INT	NOT NULL UNIQUE
	CardNumber	Holds the number of the credit card	INT	
	AdminID	Identify the owner of the credit card as a foreign key	INT	
	InvoiceID	Identify which credit card paid for which invoice as a foreign key	INT	
Guest	GuestID	Assign a primary key to each guest	INT	NOT NULL UNIQUE
	First Name	Includes the first name of the guest	VARCHAR	(50)
	Last Name	Includes the last name of the guest	VARCHAR	(50)
	Email Address	Hold the email address of the guest	VARCHAR	(100) UNIQUE
	Phone number	Describes the phone number	INT	
	Password	Includes the password of the guest profile	CHAR	(100) NOT NULL
	Nationality	Includes the origin of the guest	CHAR	(200)
	Marital status	Includes the marital status of the guest	VARCHAR	(40)
	Job	Describes the guest's job	CHAR	(60)
Guest CreditCard	CardID	Assign a primary key for each credit card	INT	NOT NULL UNIQUE
	CardNumber	Holds the number of the credit card	INT	

	GuestID	Identify the owner of the credit card as a foreign key	INT	
	PaymentID	Identify which credit card paid for which invoice as a foreign key	INT	
Booking	BookingID	Assign a primary key for each credit card	INT	NOT NULL UNIQUE
	nbrOfNights	The number of nights consumed by guests	DECIMAL(2,1)	
	ChekInDate	The check in date	DATE	
	ChekOutDate	The check out date	DATE	
	Total	The total cost of one reservation	REAL	
	nbrOfPersons	The number of persons of one reservation	INT	NOT NULL
	GuestID	Identify the owner of the booking as a foreign key	INT	
Payment	Payment ID	Assign a primary key for each payment	INT	NOT NULL UNIQUE
	Amount	Includes the amount of the transactions	REAL	
	Date	The date of the invoice	DATE	
	GuestID	Identify the owner of the invoice as a foreign key	INT	
	OrderID	Identify the order of the invoice as a foreign key	INT	
Photo	PhotoID	Assign a primary key for each user photo	INT	
	Link	Includes the link for the photos	VARBINARY	(1500)
	GuestID	Identify the owner of the photo as a foreign key	INT	
Booking Status	BStatusID	Assign a primary key for the booking status	INT	NOT NULL UNIQUE
	isConfirmed	Describes the status of the booking	BOOLEAN	
	ExpirationDate	The date of the booking's expiration	DATE	

	BookingID	Identify the booking as a foreign key	INT	
Transaction	TransactionID	Assign a primary key for the booking status	INT	NOT NULL UNIQUE
	Method	The method of the payment could be for example by credit card or by bank	CHAR	(20)
	Status	Is transaction done or in progress ?	CHAR	(20)
	Amount	The amount of the transaction	REAL	
	From	From who's guest	VARCHAR	(100)
	To	To the company account	VARCHAR	(100)
	Date	The date of the transaction	DATE	
	PaymentID	Identify the transaction is for which payment as a foreign key	INT	
	IncomeID	Identify the income of the admin as a foreign key	INT	
Currency	CurrencyID	Assign a primary key for each currency	INT	NOT NULL UNIQUE
	Currency	The currency could be euros or dollars or others	CHAR	(20)
	TransactionID	Identify the owner of the transaction as a foreign key	INT	

- ## The ER Model

Host
- HostID {ID}
- First Name
- Last Name
- Email Address
- Phone Number
- Password
- Nationality
- Photo

Admin
- AdminID {ID}
- Name
- Email Address
- Phone Number
- Password

Guest
- GuestID {ID}
- First Name
- Last Name
- Email Address
- Phone Number
- Job
- Marital Status
- Nationality
- Password

Pictures
- PictureID {ID}
- link
- AccommodationID {FK}

Rating
- RatingID {ID}
- Rating
- HostID {FK}

Admin BankAccount
- BankAccountID {ID}
- Account Number
- Bank Name
- AdminID {FK}
- TransactionID {FK}

Admin CreditCard
- CardID {ID}
- CardNumber
- AdminID {FK}
- CommissionID {FK}

Accommodation
- AccommodationID {ID}
- description
- price/night
- HostID {FK}

Host Commission
- CommissionID {ID}
- Commission
- Date
- HostID {FK}
- IncomeID{FK}
- CardID {FK}

Income
- IncomeID {ID}
- Income
- Date
- AdminID {FK}

Orders
- OrderID
- isConfirm
- Confirmation Date
- BookingID {FK}

Booking
- BookingID {ID}
- nbr of nights
- CheckIn Date
- CheckOut Date
- Total Cost
- nbr of persons
- GuestID {FK}

Photo
- PhotoID {ID}
- link
- GuestID {FK}

Guest CreditCard
- CardID {ID}
- CardNumber
- GuestID{FK}
- PaymentID {FK}

Payment
- PaymentID {ID}
- Amount
- Date
- OrderID {FK}
- GuestID {FK}

Country
- CountryID {ID}
- Name
- AccommodationID {FK}

Status
- StatusID {ID}
- isAvailable
- AccommodationID {FK}

Category
- CategoryID {ID}
- Category
- Space
- Vue
- AccommodationID {FK}

Host BankAccount
- BankAccountID {ID}
- Account Number
- Bank Name
- HostID {FK}
- TransactionID {FK}

Admin Commission
- CommissionID {ID}
- Commission
- Date
- IncomeID {FK}

Booking Status
- BStatusID {ID}
- isConfirmed
- ExpirationDate
- BookingID {FK}

City
- CityID {ID}
- City
- Zip Code
- CountryID {FK}

Transaction
- TransactionID {ID}
- Method
- Status
- Amount
- From
- To
- Date
- PaymentID {FK}
- IncomeID {FK}

Street
- StreetID {ID}
- Name
- CityID {FK}

Currency
- CurrencyID {ID}
- Currency
- TransactionID {FK}