

Papara 1.4 Relational Databases: Homework (Basic)

1) Open the Flight Search UI of the educational application and find some flights that give results

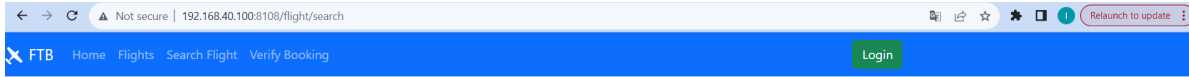
On The Flight page we can see such flights.

Flights

ID	Flight Number	From	To	Departure	Arrival	Flight Charge	Aircraft	Available Seats	
5	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-04 08:00	2023-10-04 10:30	1200.0	Boeing 307	97/100	✕
33	dal - cal	Dallas Love Field \ DAL	California Airport / CLN	2023-10-04 00:00	2023-10-04 21:00	500.0	Boeing 737	299/300	✕
38	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-05 08:00	2023-10-05 10:30	1100.0	Boeing 307	100/100	✕
42	dal - cal	Dallas Love Field \ DAL	California Airport / CLN	2023-10-05 00:00	2023-10-05 21:00	400.0	Boeing 737	300/300	✕
44	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-06 08:00	2023-10-06 10:30	1100.0	Boeing 307	100/100	✕

We can search these flights in search flight page

Search first flight



Search a Flight

From

Dallas Love Field

To

Dallas Love Field

Departure Time

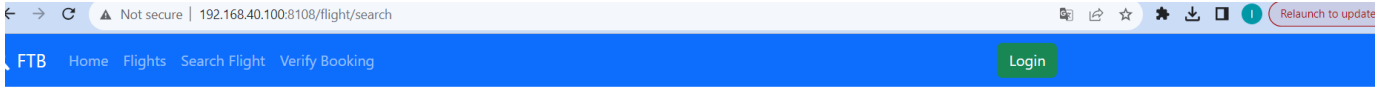
mm/dd/yyyy

Search

Result

ID	Flight Number	From	To	Departure time	Arrival time	Flight Charge	Aircraft	Available Seats
5	dallas-dubai100	Dallas Love Field	Dubai Creek SPB	2023-10-04 08:00	2023-10-04 10:30	1200.0	Boeing 307	97/100

Search another flight



Search a Flight

From

Dallas Love Field

To

Dallas Love Field

Departure Time

mm/dd/yyyy

Search

Result

ID	Flight Number	From	To	Departure time	Arrival time	Flight Charge	Aircraft	Available Seats
42	dal - cal	Dallas Love Field	California Airport	2023-10-05 00:00	2023-10-05 21:00	400.0	Boeing 737	300/300

2) Explore how objects are shown on UI, and find them in the DB.

- With this app we can see all flights on the Flights page (App shows 5 pages with flights)

Flights

ID	Flight Number	From	To	Departure	Arrival	Flight Charge	Aircraft	Available Seats	
5	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-04 08:00	2023-10-04 10:30	1200.0	Boeing 307	97/100	✕
33	dal - cal	Dallas Love Field \ DAL	California Airport / CLN	2023-10-04 00:00	2023-10-04 21:00	500.0	Boeing 737	299/300	✕
38	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-05 08:00	2023-10-05 10:30	1100.0	Boeing 307	100/100	✕
42	dal - cal	Dallas Love Field \ DAL	California Airport / CLN	2023-10-05 00:00	2023-10-05 21:00	400.0	Boeing 737	300/300	✕
44	dallas-dubai100	Dallas Love Field \ DAL	Dubai Creek SPB / DCG	2023-10-06 08:00	2023-10-06 10:30	1100.0	Boeing 307	100/100	✕

We can see Flight table in DB

This app takes data from table Flights to fill information that is shown on page Flights  
And some information from other tables



- We can verify Booking on the Verify Booking page  
To see some information about bookings we need to know Flight Id and Passenger Id.

In real life this information is known to the user. But we do not know.  
We can see passenger\_id from passenger table

Properties Data ER Diagram 192.168.40.150 Databases

passenger Enter a SQL expression to filter results (use Ctrl+Space)

	passenger_id	address	email	first_name	last_name
1	8	1000 N 4th Street, TES	john@test.ru	John	Doe
2	24	1000 N 4th Street, TES	anna@test.ru	Anna	Smith
3	29	1000 N 4th Street, TES	chibusi@test.ru	Chibusi	Kelvin
4	30	1000 N 4th Street, TES	ahmadi2008@test.ru	Ali Mohammed	Ahmadi
5	34	1000 N 4th Street, TES	churn@test.ru	Chinedu	Urbanus

Flight\_id we can take also in this table passenger

passenger_id	address	email	first_name	last_name	passport_number	phone_number	flight_flight_id
8	1000 N 4th Street, TEST	john@test.ru	John	Doe	78998787	6414513308	5
24	1000 N 4th Street, TEST, MR#100	anna@test.ru	Anna	Smith	02538467	6414513308	5
29	1000 N 4th Street, TEST, MR#15	chibusi@test.ru	Chibusi	Kelvin	45687997	6414513308	6
30	1000 N 4th Street, TEST, MR#48	ahmadi2008@test.ru	Ali Mohammed	Ahmadi	45687997	6414513308	5
34	1000 N 4th Street, TEST	churn@test.ru	Chinedu	Urbanus	A20193885	23456789	33

Let us take Flight id = 5 and Passenger id = 8 . It is the first string from the Passenger table.  
We can see information about this passenger and his flight

We can see here information “Customer info” from table passenger . And by FK field flight\_flight\_id it is related to table flight .

Column Name	
123 passenger_id	
ABC address	
ABC email	
ABC first_name	
ABC last_name	
ABC passport_number	
ABC phone_number	
123 flight_flight_id	

App for “Flight Info” takes information from tables, like it was written above:

- Flight Number is from table Flights flight\_number
- Field From = in table Flights it is departure\_airport\_airport\_id . It links to related table

From
Dallas Love Field \ DAL

airports and here takes airport\_name and airport\_code

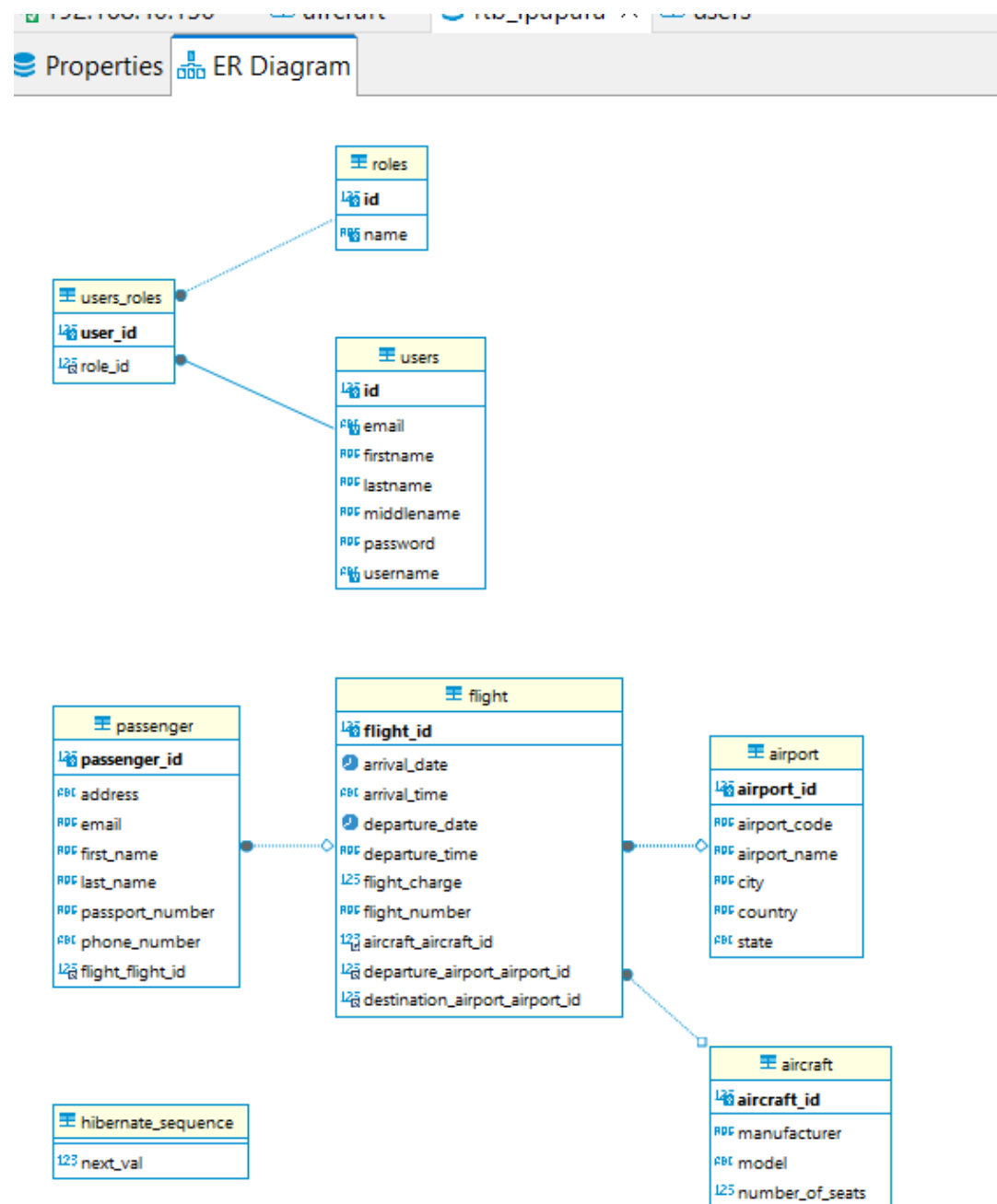
- Field To = in table Flights it is destination\_airport\_airport\_id. It links to related table

To
Dubai Creek SPB / DCG

airports and here takes airport\_name and airport\_code

- Field Departure = in table Flights departure\_date and departure\_time
- Field Arrival = in table Flights arrival\_date and arrival\_time
- Flight Charge = in table Flights flight\_charge
- Aircraft = in table Flights aircraft\_aircraft\_id. It links to table aircraft and here takes model of aircraft

### 3) Where is it in the DB (use ER-diagram to find)



#### 4) How do the tables relate to each other?

Table Flight is related to table passenger with relation one to many.  
Flight\_id is PK for table flights

Table flight is related to table airport with relation many to one  
FK departure\_airport\_airport\_id  
FK destination\_airport\_airport\_id  
Data are taken from airport table with this keys

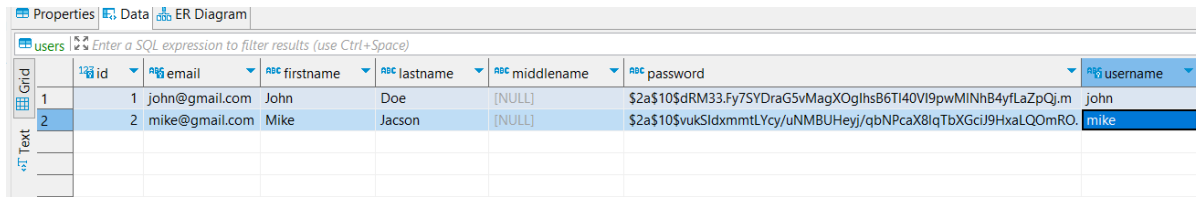
Table flight is related to table aircraft with relation many to one  
FK aircraft\_aircraft\_id  
Data are taken from aircraft with this key

Table passenger is related to table flight with relation many to one  
Passenger\_id is a PK for table passenger

Flight\_flight\_id is a FK for Table passenger

Table users is related to table users\_roles with relation many to many  
PK is id

There are only 2 users



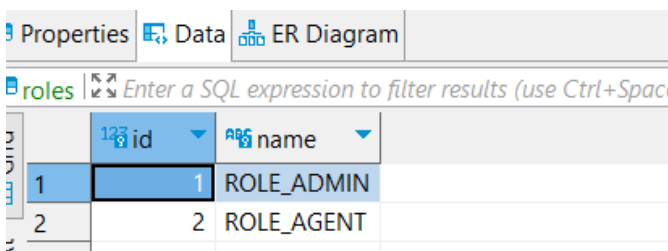
	id	email	firstname	lastname	middlename	password	username
1	1	john@gmail.com	John	Doe	[NULL]	\$2a\$10\$dRM33.Fy7SYDraG5vMagXOglhsB6T140Vl9pwMINhB4yfLaZpQj.m	john
2	2	mike@gmail.com	Mike	Jacson	[NULL]	\$2a\$10\$vukSlidxmmtLYcy/uNMBUHeyj/qbNPcaX8lqTbXGci9HxaLQOmRO.	mike

Table users\_roles is related to roles with relation one to one

Id is PK for table roles

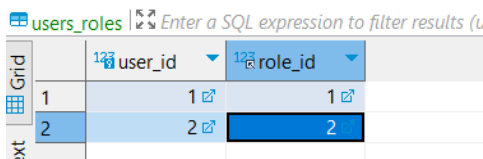
And user\_id is a primary key for users\_roles

There are only two roles



	id	name
1	1	ROLE_ADMIN
2	2	ROLE_AGENT

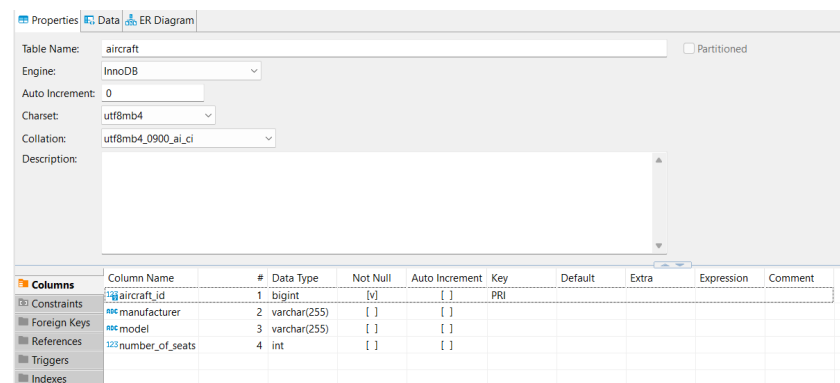
Table users\_roles looks like :



	user_id	role_id
1	1	1
2	2	2

## 5) What data types are used?

We can see data types for every table in properties



Column Name	#	Data Type	Not Null	Auto Increment	Key	Default	Extra	Expression	Comment
aircraft_id	1	bigint	[v]	[ ]	PRI				
manufacturer	2	varchar(255)	[ ]	[ ]					
model	3	varchar(255)	[ ]	[ ]					
number_of_seats	4	int	[ ]	[ ]					

Data types: int, varchar, bigint, date, double