

Sprint 3

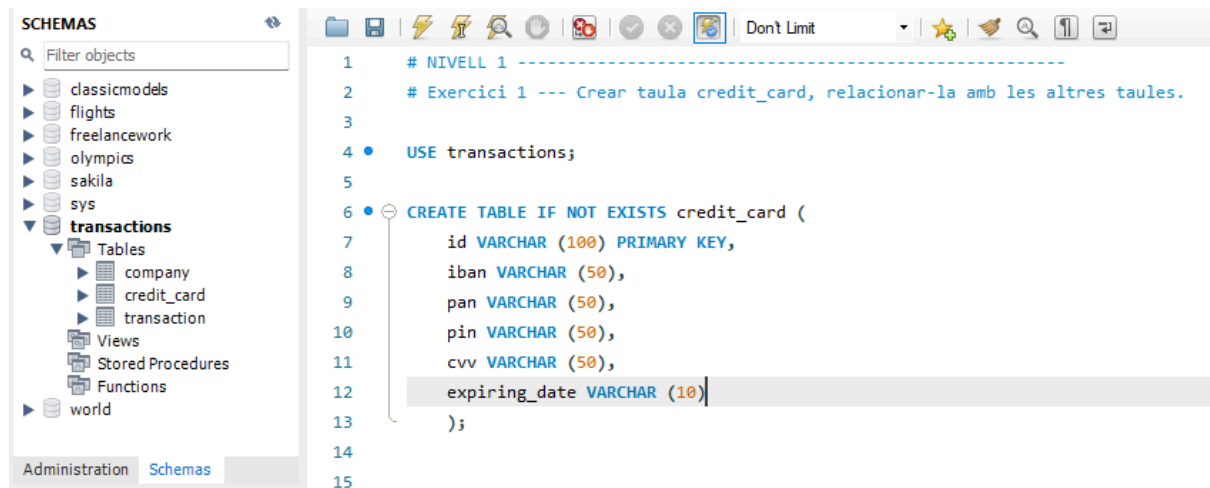
Tasca S3.01. Manipulació de taules

Nivell 1

Exercici 1

La teva tasca és dissenyar i crear una taula anomenada "credit_card" que emmagatzemi detalls crucials sobre les targetes de crèdit. La nova taula ha de ser capaç d'identificar de manera única cada targeta i establir una relació adequada amb les altres dues taules ("transaction" i "company"). Després de crear la taula serà necessari que ingressis la informació del document denominat "dades_introduir_credit". Recorda mostrar el diagrama i realitzar una breu descripció d'aquest.

Se crea la tabla "credit_card" con la siguiente sentencia:



The screenshot shows a MySQL IDE interface. On the left, the 'SCHEMAS' panel displays a tree view of databases, with 'transactions' expanded to show tables like 'company', 'credit_card', and 'transaction'. The main editor on the right contains SQL code for creating the 'credit_card' table. The code includes comments in Catalan and a 'USE transactions;' statement. The table definition specifies columns: 'id' as the primary key, 'iban', 'pan', 'pin', 'cvv', and 'expiring_date', all as VARCHAR types with specific lengths.

```
1  # NIVELL 1 -----
2  # Exercici 1 --- Crear taula credit_card, relacionar-la amb les altres taules.
3
4  • USE transactions;
5
6  • CREATE TABLE IF NOT EXISTS credit_card (
7      id VARCHAR (100) PRIMARY KEY,
8      iban VARCHAR (50),
9      pan VARCHAR (50),
10     pin VARCHAR (50),
11     cvv VARCHAR (50),
12     expiring_date VARCHAR (10)
13 );
14
15
```

Se creó la fecha como VARCHAR y no como DATE porque el formato de fecha de los datos que debían importarse no coincidían con el formato de fecha determinado por MySQL y eso causaba error.

Se crea la FK credit_card_id en la tabla transaction para relacionarla con la tabla credit_card:

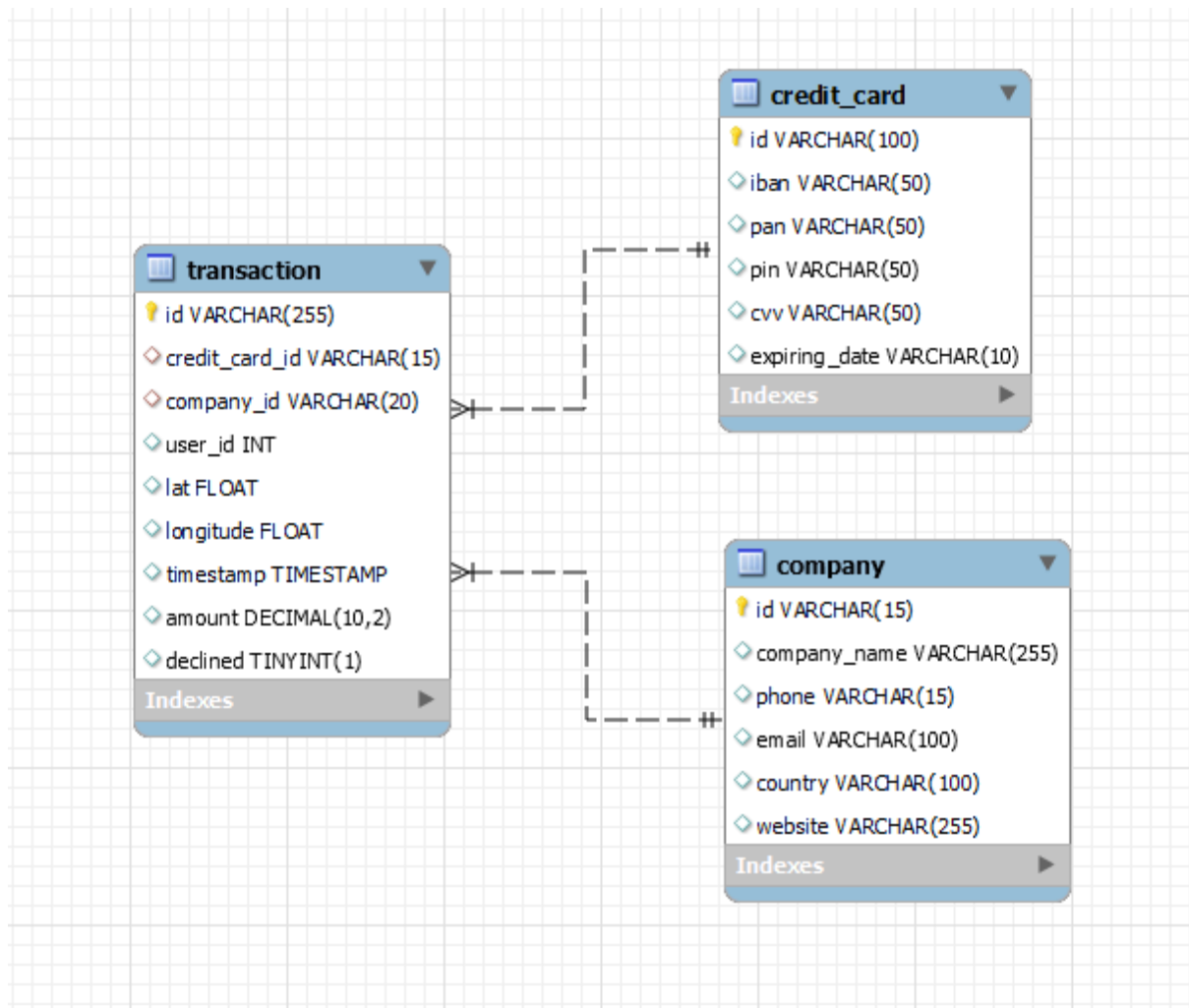
The screenshot shows a database management interface with the following components:

- Navigator:** Displays a tree of schemas. The 'transactions' schema is expanded, showing tables 'company', 'credit_card', and 'transaction'. The 'credit_card' table is selected.
- Information:** Shows details for the 'credit_card' table, including columns: id (varchar(10) PK), iban (varchar(50)), pan (varchar(50)), pin (varchar(50)), and cvv (varchar(50)).
- SQL Editor:** Contains the following SQL script:

```
3
4 • USE transactions;
5
6 # Crear tabla
7 • CREATE TABLE IF NOT EXISTS credit_card (
8     id VARCHAR (100) PRIMARY KEY,
9     iban VARCHAR (50),
10    pan VARCHAR (50),
11    pin VARCHAR (50),
12    cvv VARCHAR (50),
13    expiring_date VARCHAR (10)
14 );
15
16 # Agregar FK a la tabla transaction para relacionarlas
17 • ALTER TABLE transaction
18   ADD FOREIGN KEY (credit_card_id) REFERENCES credit_card(id)
19 ;
```
- Output:** Shows the execution results of the SQL script.

#	Time	Action	Message	Duration / Fetch
281	21:23:42	INSERT INTO credit_card (id, iban, pan, pin, cvv,...	1 row(s) affected	0.000 sec
282	21:31:16	ALTER TABLE transaction ADD FOREIGN KEY (...	587 row(s) affected Records: 587 Duplicates: 0 ...	0.141 sec

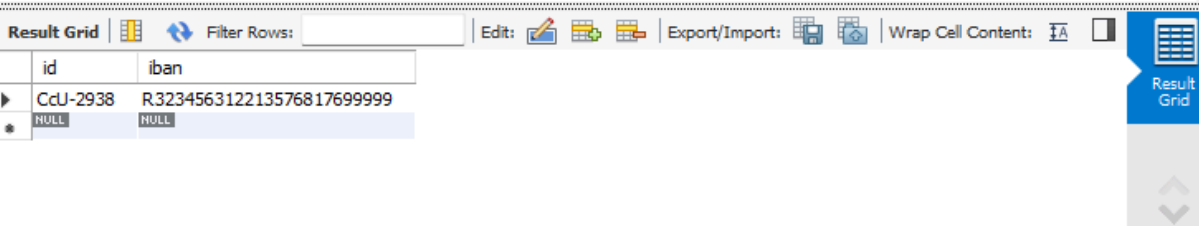
El diagrama muestra la tabla de hechos transaction con la PK id y dos FK que la relaciona con las tablas credit_card y company en una relación de muchos a uno con el campo que es primary key en las tablas de dimensión.



Exercici 2

El departament de Recursos Humans ha identificat un error en el número de compte de l'usuari amb ID CcU-2938. La informació que ha de mostrar-se per a aquest registre és: R323456312213576817699999. Recorda mostrar que el canvi es va realitzar.

```
21      # EXERCICI 2 --- Error en el número de compte de l'usuari amb ID CcU-2938, hauria de ser:
      R323456312213576817699999
22 •    UPDATE credit_card
23      SET iban = 'R323456312213576817699999'
24      WHERE id = 'CcU-2938'
25      ;
26 •    SELECT id, iban
27      FROM credit_card
28      WHERE id = 'CcU-2938'
29      ;
```



The screenshot shows a database management tool interface. At the top, a SQL query is entered in a text area. Below the query, a 'Result Grid' is displayed, showing the results of the query. The grid has two columns: 'id' and 'iban'. The first row shows 'CcU-2938' and 'R323456312213576817699999'. Below this, there are two rows with 'NULL' values. To the right of the grid, there is a 'Result Grid' button. Below the grid, there is a 'credit_card 2' tab with 'Apply' and 'Revert' buttons. At the bottom, there is an 'Output' section with a dropdown menu set to 'Action Output'. The output shows two actions: an UPDATE statement and a SELECT statement, both with their respective messages and durations.

#	Time	Action	Message	Duration / Fetch
3	10:44:54	UPDATE credit_card SET iban = 'R32345631221...	1 row(s) affected Rows matched: 1 Changed: 1 ...	0.000 sec
4	10:45:00	SELECT id, iban FROM credit_card WHERE id = ...	1 row(s) returned	0.000 sec / 0.000 sec

Exercici 3

En la taula "transaction" ingresa un nou usuari amb la següent informació:

Id	108B1D1D-5B23-A76C-55EF-C568E49A99DD
credit_card_id	CcU-9999
company_id	b-9999
user_id	9999
lat	829.999
longitude	-117.999
amount	111.11
declined	0

```
30
31 # EXERCICI 3 --- Ingressar nou registre a la taula transaction
32 # Desabilitar FK constraints
33 • SET FOREIGN_KEY_CHECKS = 0;
34
35 • INSERT INTO transaction (id, credit_card_id, company_id, user_id, lat, longitude, amount,
    declined)
36 VALUES ('108B1D1D-5B23-A76C-55EF-C568E49A99DD', 'CcU-9999', 'b-9999', '9999', '829.999',
    '-117.999', '111.11', '0')
37 ;
```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 9	13:03:13	SET FOREIGN_KEY_CHECKS = 0	0 row(s) affected	0.000 sec
✓ 10	13:03:24	INSERT INTO transaction (id, credit_card_id, co...	1 row(s) affected	0.000 sec

```
43 # Verificar dades en la taula
44 • SELECT *
45 FROM transaction
46 WHERE id = '108B1D1D-5B23-A76C-55EF-C568E49A99DD'
47 ;
```

Result Grid								
	id	credit_card_id	company_id	user_id	lat	longitude	timestamp	amount
▶	108B1D1D-5B23-A76C-55EF-C568E49A99DD	CcU-9999	b-9999	9999	829.999	-117.999	NULL	111.11
•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

transaction 3 x Apply Revert

Exercici 4

Des de recursos humans et sol·liciten eliminar la columna "pan" de la taula credit_card. Recordar mostrar el canvi realitzat.

```
49 # EXERCICI 4 --- Eliminar la columna 'pan' de la taula credit_card
50 • ALTER TABLE credit_card
51 DROP COLUMN pan
52 ;
53 • SELECT *
54 FROM credit_card
55 ;
```

Result Grid

	id	iban	pin	cvv	expiring_date
▶	CcU-2938	R323456312213576817699999	3257	984	10/30/22
	CcU-2945	DO26854763748537475216568689	9080	887	08/24/23
	CcU-2952	BG45IVQL52710525608255	4598	438	06/29/21
	CcU-2959	CR7242477244335841535	3583	667	02/24/23
	CcU-2966	BG72LKTQ15627628377363	4900	130	10/29/24

credit_card 5 x Apply Revert

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 15	13:31:19	ALTER TABLE credit_card DROP COLUMN pan	0 row(s) affected Records: 0 Duplicates: 0 Wami...	0.031 sec
✓ 16	13:31:34	SELECT * FROM credit_card	275 row(s) returned	0.000 sec / 0.000 sec

Nivell 2

Exercici 1

Elimina de la taula transaction el registre amb ID 02C6201E-D90A-1859-B4EE-88D2986D3B02 de la base de dades.

```
57 # NIVELL 2 -----
58 # EXERCICI 1 --- Elimina de la taula transaction el registre amb ID
    02C6201E-D90A-1859-B4EE-88D2986D3B02
59 • DELETE FROM transaction
60 WHERE id = '02C6201E-D90A-1859-B4EE-88D2986D3B02'
61 ;
```

Result Grid

	id	credit_card_id	company_id	user_id	lat	longitude	timestamp
▶	0466A42E-47CF-8D24-FD01-C0B689713128	CcU-4219	b-2302	170	-43.9695	-117.525	2021-07-26 07:
	063FBA79-99EC-66FB-29F7-25726D1764A5	CcU-2987	b-2250	275	-81.2227	-129.05	2022-01-06 21:
	0668296C-CDB9-A883-76BC-2E4C44F8C8AE	CcU-3743	b-2618	265	-34.3593	-100.556	2022-01-26 02:
	06CD9AA5-9B42-D684-DDDD-A5E394FEBA99	CcU-2959	b-2346	92	33.7381	158.298	2021-10-26 23:

transaction 7 × Apply Revert

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 18	12:40:55	DELETE FROM transaction WHERE id = '02C62...	1 row(s) affected	0.000 sec

Exercici 2

La secció de màrqueting desitja tenir accés a informació específica per a realitzar anàlisi i estratègies efectives. S'ha sol·licitat crear una vista que proporcioni detalls clau sobre les companyies i les seves transaccions. Serà necessària que creïs una vista anomenada VistaMarketing que contingui la següent informació: Nom de la companyia. Telèfon de contacte. País de residència. Mitjana de compra realitzat per cada companyia.

Presenta la vista creada, ordenant les dades de major a menor mitjana de compra.

```
63  # EXERCICI 2 --- Crear VistaMarketing amb: nom de la companyia, telèfon, país, mitjana de
64  # compra de cada companyia. Presentar ordenant de major a menor la mitjana de compres.
65  • CREATE VIEW VistaMarketing AS
66  SELECT company.company_name, company.phone, company.country, AVG(transaction.amount) AS
67  avg_amount
68  FROM company
69  JOIN transaction
70  ON company.id = transaction.company_id
71  GROUP BY company.company_name, company.phone, company.country
72  ;
73  • SELECT *
74  FROM VistaMarketing
75  ORDER BY avg_amount DESC
76  ;
```

company_name	phone	country	avg_amount
Eget Ipsum Ltd	03 67 44 56 72	United States	473.075000
Non Magna LLC	06 71 73 13 17	United Kingdom	468.345000
Sed Id Limited	07 28 18 18 13	United States	461.210000
Justo Eu Arcu Ltd	08 42 56 71 52	Italy	443.635000
Eget Tincidunt Dui Institute	05 35 93 32 44	Netherlands	442.520000

VistaMarketing 12 x Read Only

Output

#	Time	Action	Message	Duration / Fetch
✓ 25	14:25:34	SELECT * FROM VistaMarketing WHERE countr...	8 row(s) returned	0.000 sec / 0.000 sec
✓ 26	14:26:10	SELECT * FROM VistaMarketing ORDER BY avg...	100 row(s) returned	0.000 sec / 0.000 sec

Exercici 3

Filtra la vista VistaMarketing per a mostrar només les companyies que tenen el seu país de residència en "Germany"

```
76  # EXERCICI 3 --- Filtra VistaMarketing per a mostrar companyies amb país 'Germany'
77  • SELECT *
78  FROM VistaMarketing
79  WHERE country = 'Germany'
80  ;
81
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	company_name	phone	country	avg_amount
▶	Ac Fermentum Incorporated	06 85 56 52 33	Germany	206.465000
	Convallis In Incorporated	06 66 57 29 50	Germany	156.730000
	Nunc Interdum Incorporated	05 18 15 48 13	Germany	244.025238
	Augue Foundation	06 88 43 15 63	Germany	240.800000
	Ac Industries	09 34 65 40 60	Germany	289.645000

VistaMarketing 13 x Read Only

Output

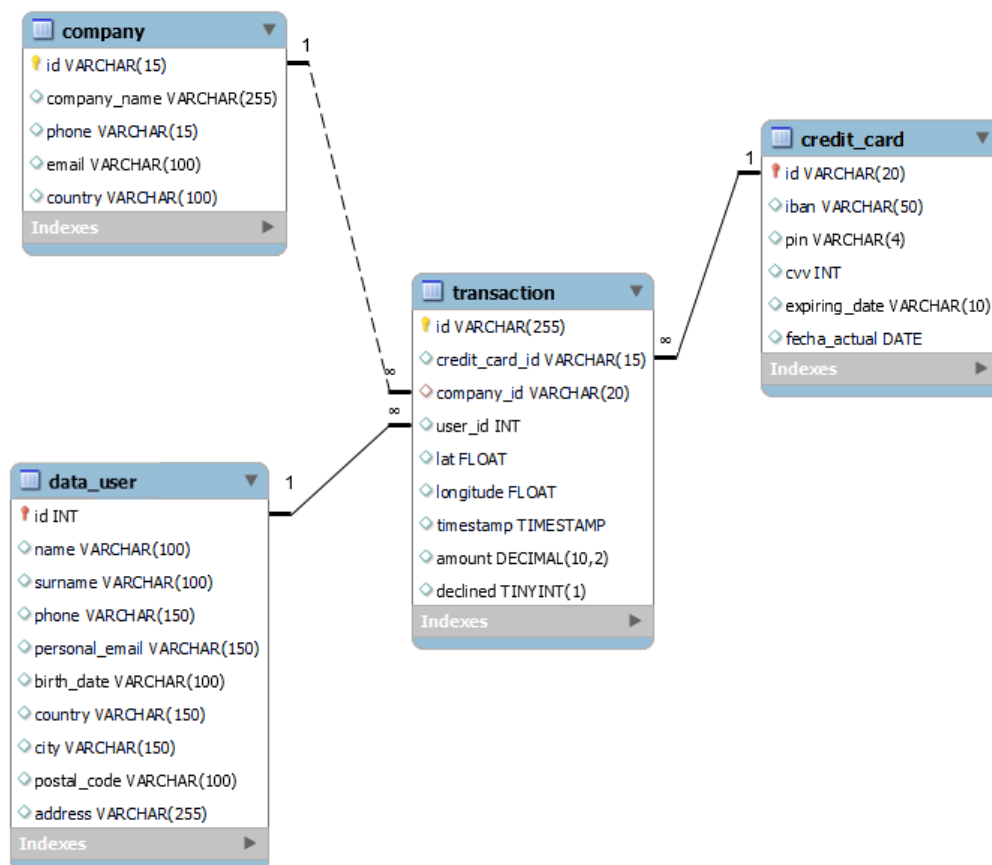
Action Output

#	Time	Action	Message	Duration / Fetch
✓ 26	14:26:10	SELECT * FROM VistaMarketing ORDER BY avg...	100 row(s) returned	0.000 sec / 0.000 sec
✓ 27	14:26:52	SELECT * FROM VistaMarketing WHERE countr...	8 row(s) returned	0.000 sec / 0.000 sec

Nivell 3

Exercici 1

La setmana vinent tindràs una nova reunió amb els gerents de màrqueting. Un company del teu equip va realitzar modificacions en la base de dades, però no recorda com les va realitzar. Et demana que l'ajudis a deixar els comandos executats per a obtenir el següent diagrama:



En aquesta activitat, és necessari que descriguis el "pas a pas" de les tasques realitzades.

Primero se crea la tabla user usando el archivo estructura_datos_user proporcionada. Se verifica que los campos coincidan en su función y que el índice creado para relacionarla con la tabla transaction sea correcto.

The screenshot shows a database management interface with a left-hand sidebar displaying a schema tree. The 'transactions' schema is selected, showing tables like 'company', 'credit_card', 'transaction', and 'user'. The main window displays SQL code for creating an index and a table. The bottom panel shows the execution output.

```
1  -- Creamos la tabla user
2
3  CREATE INDEX idx_user_id ON transaction(user_id);
4
5  CREATE TABLE IF NOT EXISTS user (
6      id INT PRIMARY KEY,
7      name VARCHAR(100),
8      surname VARCHAR(100),
9      phone VARCHAR(150),
10     email VARCHAR(150),
11     birth_date VARCHAR(100),
12     country VARCHAR(150),
13     city VARCHAR(150),
14     postal_code VARCHAR(100),
15     address VARCHAR(255),
16     FOREIGN KEY(id) REFERENCES transaction(user_id)
17 );
18
19
20
21
22
```

Output

#	Time	Action	Message	Duration / Fetch
30	10:11:03	CREATE INDEX idx_user_id ON transaction(user...	0 row(s) affected Records: 0 Duplicates: 0 Wami...	0.047 sec
31	10:11:03	CREATE TABLE IF NOT EXISTS user (id I...	0 row(s) affected	0.031 sec

A continuación se ejecuta el archivo datos_introducir_user(1).sql para introducir los registros de la tabla user.

1 • `SELECT * FROM transactions.user;`

	id	name	surname	phone	email	birth_date	country	city
▶	1	Zeus	Gamble	1-282-581-0551	interdum.enim@protonmail.edu	Nov 17, 1985	United States	Lowell
	2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org	Aug 23, 1992	United States	Des Moi
	3	Ciaran	Harrison	(522) 598-1365	interdum.feugiat@aol.org	Apr 29, 1998	United States	Columbi
	4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu	Feb 18, 1989	United States	Kailua

user 1 x Apply Revert

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 308	10:15:06	SET foreign_key_checks = 1	0 row(s) affected	0.000 sec
✓ 309	10:15:20	SELECT * FROM transactions.user	275 row(s) returned	0.000 sec / 0.000 sec

Se elimina el campo website de la tabla company.

82 # NIVELL 3 -----

83 # EXERCICI 1 --- Fer comandos per a obtenir el diagrama

84 • `ALTER TABLE company`

85 `DROP COLUMN website`

86 `;`

87

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 309	10:15:20	SELECT * FROM transactions.user	275 row(s) returned	0.000 sec / 0.000 sec
✓ 310	10:18:38	ALTER TABLE company DROP COLUMN website	0 row(s) affected Records: 0 Duplicates: 0 Wami...	0.031 sec

Se agrega el campo actual_date a la tabla credit_card, un campo en que se ve la fecha con formato DATE.

87 • ALTER TABLE credit_card

88 ADD COLUMN actual_date DATE

89 AS (STR_TO_DATE(expiring_date, '%m/%d/%y')) STORED

90 ;

91 • SELECT *

92 FROM credit_card;

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

Result Grid

	id	iban	pin	cvv	expiring_date	actual_date
▶	CcU-2938	R323456312213576817699999	3257	984	10/30/22	2022-10-30
	CcU-2945	DO26854763748537475216568689	9080	887	08/24/23	2023-08-24
	CcU-2952	BG45IVQL52710525608255	4598	438	06/29/21	2021-06-29
	CcU-2959	CR7242477244335841535	3583	667	02/24/23	2023-02-24
	CcU-2966	BG72LKTQ15627628377363	4900	130	10/29/24	2024-10-29

credit_card 14 x

Apply

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 312	11:54:41	ALTER TABLE credit_card ADD COLUMN actual...	275 row(s) affected Records: 275 Duplicates: 0 ...	0.063 sec
✓ 313	11:55:28	SELECT * FROM credit_card	275 row(s) returned	0.000 sec / 0.000 sec

Se cambia el tipo de dato del campo cvv de la columna credit_card a tipo INT.

Table: credit_card

Columns:

id

varchar(100)

PK

iban

varchar(50)

pin

varchar(50)

cvv

int

expiring_date

varchar(10)

actual_date

date

93 ;

94 • ALTER TABLE credit_card

95 MODIFY COLUMN cvv INT(3)

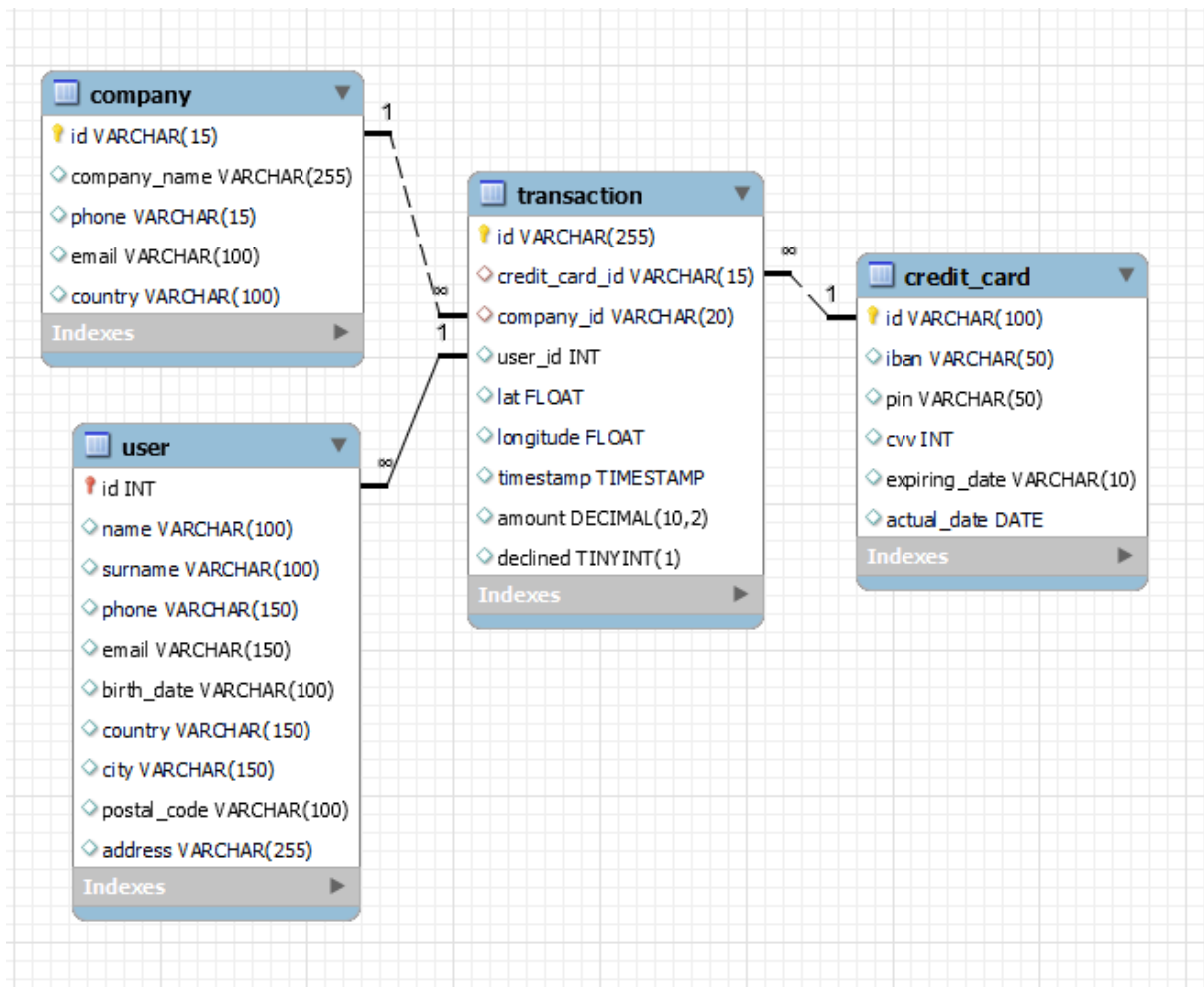
96 ;

Output

Action Output

#	Time	Action	Message	Duration / Fetch
---	------	--------	---------	------------------

Diagrama finalizado:



Exercici 2

L'empresa també et sol·licita crear una vista anomenada "InformeTecnico" que contingui la següent informació:

ID de la transacció

Nom de l'usuari/ària

Cognom de l'usuari/ària

IBAN de la targeta de crèdit usada.

Nom de la companyia de la transacció realitzada.

Assegura't d'incloure informació rellevant de totes dues taules i utilitza àlies per a canviar de nom columnes segons sigui necessari.

Mostra els resultats de la vista, ordena els resultats de manera descendent en funció de la variable ID de transaction.

```
98 # EXERCICI 2 --- Crear vista anomenada 'InformeTecnico'
99 • CREATE VIEW InformeTecnico AS
100 SELECT transaction.id AS 'ID de la transacció',
101         user.name AS Nom,
102         user.surname AS Cognom,
103         credit_card.iban AS IBAN,
104         company.company_name AS Companyia
105 FROM transaction
106 JOIN user
107 ON transaction.user_id = user.id
108 JOIN credit_card
109 ON transaction.credit_card_id = credit_card.id
110 JOIN company
111 ON transaction.company_id = company.id
112 ;
113 • SELECT *
114 FROM InformeTecnico
115 ORDER BY 'ID de la transacció' DESC
116 ;
```

ID de la transacció	Nom	Cognom	IBAN	Companyia
108B1D1D-5B23-A76C-55EF-C568E49A05DD	Kenyon	Hartman	R323456312213576817699999	Ac Fermentum Incorpo
EA2C3281-C9C1-A387-44F8-729FB4B51C76	Kenyon	Hartman	R323456312213576817699999	Ac Fermentum Incorpo
7DC26247-20EC-53FE-E555-B6C2E55CA5D5	Kenyon	Hartman	DO26854763748537475216568689	Magna A Neque Indust
FE96CE47-BD59-381C-4E18-E3CA3D44E8FF	Kenyon	Hartman	DO26854763748537475216568689	Magna A Neque Indust
72997E96-DC2C-A4D7-7C24-66C302F8AE5A	Kenyon	Hartman	BG45IVQL52710525608255	Fusce Corp.
8766F52-A331-B816-8644-F7DCD12C4F03	Kenyon	Hartman	BG45IVQL52710525608255	Fusce Corp.

InformeTecnico 16 x Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 318	14:07:26	CREATE VIEW InformeTecnico AS SELECT tran...	0 row(s) affected	0.016 sec
✗ 319	14:08:55	SELECT * FROM InformeTecnico ORDER BY tra...	Error Code: 1054. Unknown column 'transaction.id'...	0.000 sec
✓ 320	14:09:14	SELECT * FROM InformeTecnico ORDER BY 'ID...	586 row(s) returned	0.000 sec / 0.016 sec