

## **SPRINT 3**

### **NIVELL 1**

#### **EXERCICI 1: CREACIÓ DE LA TAULA I CARREGA DE DADES**

```

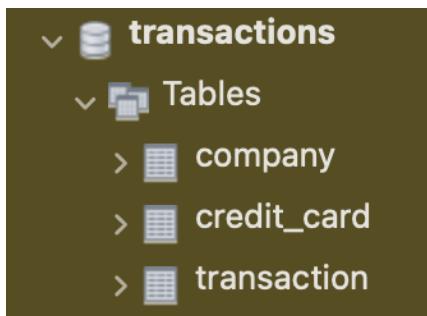
1 • USE transactions;
2   -- Creamos la tabla credit_card
3 • CREATE TABLE IF NOT EXISTS credit_card(
4     id VARCHAR(15) PRIMARY KEY,
5     iban VARCHAR(50),
6     pan VARCHAR(25),
7     pin VARCHAR(4),
8     cvv INT,
9     expiring_date VARCHAR(25)
10    );

```

160% 3:10

Action Output	Time	Action	Response	Duration / Fetch Time
100087 11:58:54		CREATE TABLE IF NOT EXISTS credit_card( id VARCHAR(15) PRIMARY KEY, iban VARCHAR(50), pan VARCHAR(25), pin..., expiring_date VARCHAR(25) );	0 row(s) affected	0.0098 sec

Apply Revert



**IMPORTANT:** Perquè hem creat cvv com a tipus INT? Més endavant en el exercici 3 ens demanaran aconseguir un diagrama objectiu de relació de taules. A més, ens demanaran afegir informació i nous registres per desenvolupar l'exercici, llavors no hem afegit NOT NULL. D'aquesta forma, durant aquest sprint evitem problemes relacionals entre taules.

```

100% 1:5002
Action Output
Time Action Response Duration / Fetch Time
105087 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9578', 'XX991539646456110587870254', '8999... 1 row(s) affected 0.00016 sec
105088 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9579', 'XX29639309158717022131236', '9690... 1 row(s) affected 0.00014 sec
105089 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9580', 'XX781258889851958086677358', '5541... 1 row(s) affected 0.00014 sec
5001 100% 1:5002
Action Output
Time Action Response Duration / Fetch Time
105087 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9578', 'XX991539646456110587870254', '8999... 1 row(s) affected 0.00016 sec
105088 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9579', 'XX29639309158717022131236', '9690... 1 row(s) affected 0.00014 sec
105089 12:10:09 INSERT INTO credit_card (id, iban, pan, pin, cvv, expiring_date) VALUES ('Ccs-9580', 'XX781258889851958086677358', '5541... 1 row(s) affected 0.00014 sec
5001 100% 1:5002

```

1 • SELECT \* FROM transactions.credit\_card;

Result Grid	Filter Rows:	Search:	Edit:	Export/Import:	Fetch rows:	Result Grid																																																																										
<table border="1"> <thead> <tr> <th>id</th> <th>iban</th> <th>pan</th> <th>pin</th> <th>cvv</th> <th>expiring_date</th> </tr> </thead> <tbody> <tr><td>Ccs-4858</td><td>XX851768137002436034025</td><td>658272029971533</td><td>3964</td><td>817</td><td>12/28/28</td></tr> <tr><td>Ccs-4859</td><td>XX7826930491423553603970</td><td>886164536289642</td><td>4983</td><td>277</td><td>11/26/26</td></tr> <tr><td>Ccs-4860</td><td>XX55595903688335304645299</td><td>2481155515498459</td><td>6876</td><td>661</td><td>07/27/27</td></tr> <tr><td>Ccs-4861</td><td>XX203518277195191627307</td><td>1308930301149557</td><td>5710</td><td>398</td><td>04/25/26</td></tr> <tr><td>Ccs-4862</td><td>XX4774721462463645409758</td><td>6715617009807829</td><td>4042</td><td>174</td><td>11/27/26</td></tr> <tr><td>Ccs-4863</td><td>XX147682964245046207111</td><td>3140879819451394</td><td>5989</td><td>449</td><td>12/27/29</td></tr> <tr><td>Ccs-4864</td><td>XX838023989338731196159</td><td>5736721336491114</td><td>8481</td><td>139</td><td>02/28/26</td></tr> <tr><td>Ccs-4865</td><td>XX7085078561010252805</td><td>5101552687251312</td><td>7847</td><td>903</td><td>11/25/28</td></tr> <tr><td>Ccs-4866</td><td>XX4792859188206596406839</td><td>8080768801072613</td><td>9271</td><td>961</td><td>02/28/25</td></tr> <tr><td>Ccs-4867</td><td>XX6038236816319374853717</td><td>7761849537661098</td><td>4820</td><td>862</td><td>11/30/25</td></tr> <tr><td>Ccs-4868</td><td>XX392910161730053036044</td><td>4160419663151801</td><td>6860</td><td>549</td><td>08/25/25</td></tr> <tr><td>Ccs-4869</td><td>XX156671209611153186465</td><td>5892930716233310</td><td>4775</td><td>448</td><td>09/29/25</td></tr> </tbody> </table>	id	iban	pan	pin	cvv	expiring_date	Ccs-4858	XX851768137002436034025	658272029971533	3964	817	12/28/28	Ccs-4859	XX7826930491423553603970	886164536289642	4983	277	11/26/26	Ccs-4860	XX55595903688335304645299	2481155515498459	6876	661	07/27/27	Ccs-4861	XX203518277195191627307	1308930301149557	5710	398	04/25/26	Ccs-4862	XX4774721462463645409758	6715617009807829	4042	174	11/27/26	Ccs-4863	XX147682964245046207111	3140879819451394	5989	449	12/27/29	Ccs-4864	XX838023989338731196159	5736721336491114	8481	139	02/28/26	Ccs-4865	XX7085078561010252805	5101552687251312	7847	903	11/25/28	Ccs-4866	XX4792859188206596406839	8080768801072613	9271	961	02/28/25	Ccs-4867	XX6038236816319374853717	7761849537661098	4820	862	11/30/25	Ccs-4868	XX392910161730053036044	4160419663151801	6860	549	08/25/25	Ccs-4869	XX156671209611153186465	5892930716233310	4775	448	09/29/25	Apply	Revert
id	iban	pan	pin	cvv	expiring_date																																																																											
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credit_card	Action Output	Time	Action	Response	Duration / Fetch Time																																																																											
105091 12:10:38	SELECT * FROM transactions.credit_card			5000 row(s) returned	0.0015 sec / 0.0065...																																																																											
105092 12:12:01	SELECT * FROM transactions.credit_card			5000 row(s) returned	0.0016 sec / 0.0066...																																																																											

Establím la relació entre taules:

```

12 • ALTER TABLE transaction
13   ADD CONSTRAINT fk_transaction_credit_card
14     FOREIGN KEY (credit_card_id) REFERENCES credit_card(id);

```

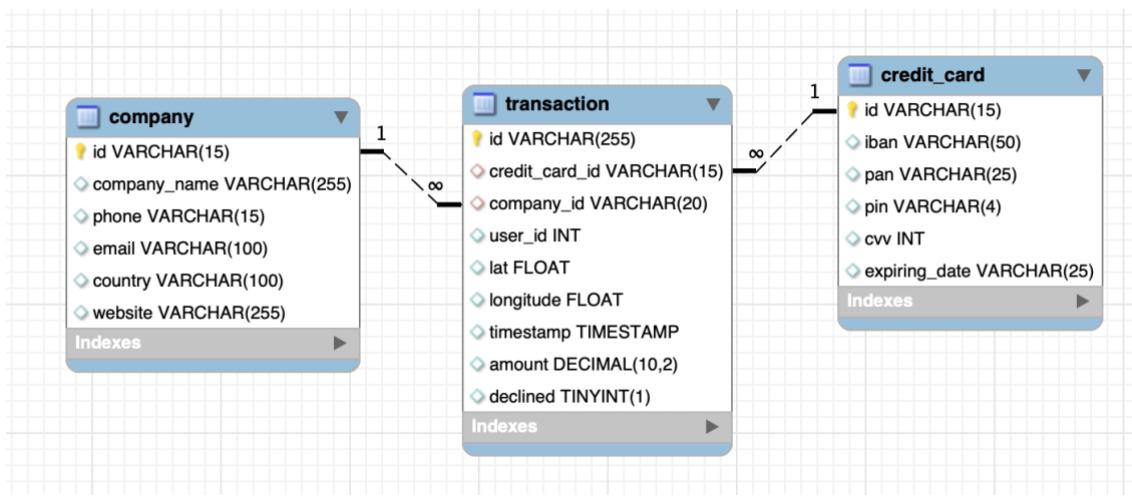
160% | 57:14 |

Action Output | Time | Action | Response | Duration / Fetch Time

105092	12:12:01	SELECT * FROM transactions.credit_card	5000 row(s) returned	0.0016 sec / 0.0066...
105093	12:28:15	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_credit_card FOREIGN KEY (credit_card_id) REFERENCES credit_card(id);	100000 row(s) affected Records: 100000 Duplic... 1.509 sec	

Apply | Revert

I aquest és el nostre diagrama fins ara:



### *EXERCICI 2: CANVIA LA TRANSACCIÓ DE CcU-2938*

Prèviament, aquest era el resultat d'aquesta query:

```

SELECT *
FROM credit_card
WHERE id='CcU-2938';

```

```

22
23 -- La targeta de crèdit CcU-2938 ha de mostrar com a número de compte: TR323456312213576817699999
24
25 • SELECT *
26 FROM credit_card cc
27 WHERE cc.id='CcU-2938';
28
29 • UPDATE credit_card cc
30 SET cc.iban='TR323456312213576817699999'
31 WHERE cc.id='CcU-2938';

```

Result Grid

id	iban	pan	pin	cvv	expiring_date
CcU-2938	TR301950312213576817638661	5424465566813633	3257	984	10/30/22

Action Output

Time	Action	Response	Duration / Fetch Time
12:54:05	UPDATE credit_card cc SET cc.iban='TR323456312213576817699999' WHERE cc.id='CcU-2938'	1 row(s) affected Rows matched: 1 Changed: 1...	0.013 sec
12:54:25	SELECT * FROM credit_card cc WHERE cc.id='CcU-2938'	1 row(s) returned	0.0010 sec / 0.00003...

Després d'executar el UPDATE si busquem de nou els registres coincidents, en efecte, veiem el canvi:

```

22
23 -- La targeta de crèdit CcU-2938 ha de mostrar com a número de compte: TR323456312213576817699999
24
25 • SELECT *
26 FROM credit_card cc
27 WHERE cc.id='CcU-2938';
28
29 • UPDATE credit_card cc
30 SET cc.iban='TR323456312213576817699999'
31 WHERE cc.id='CcU-2938';

```

Result Grid

id	iban	pan	pin	cvv	expiring_date
CcU-2938	TR323456312213576817699999	5424465566813633	3257	984	10/30/22

Action Output

Time	Action	Response	Duration / Fetch Time
12:54:05	UPDATE credit_card cc SET cc.iban='TR323456312213576817699999' WHERE cc.id='CcU-2938'	1 row(s) affected Rows matched: 1 Changed: 1...	0.013 sec
12:54:25	SELECT * FROM credit_card cc WHERE cc.id='CcU-2938'	1 row(s) returned	0.0010 sec / 0.00003...

**IMPORTANT:** A l'hora de corregir he tret els àlies, aquí no feien falta

```

25 • UPDATE credit_card
26   SET iban='TR323456312213576817699999'
27   WHERE id='CcU-2938';

```

### EXERCICI 3: INGRESA UNA NOVA TRANSACCIÓ

En el següent exercici, ens demanen afegir una nova transacció. Primer, afegim el credit\_card\_id ('CcU-9999') i el company\_id ('b-9999') en la taules pare com nous id. Sino saltará un error com:

“Error Code: 1452. Cannot add or update a child row: a foreign key constraint fails (`transactions`.`transaction`, CONSTRAINT

```
`transaction_ibfk_1` FOREIGN KEY (`company_id`) REFERENCES
`company` (`id`)).
```

PD: Com no hem afegit res més en la resta de d'atributs en la taula pare, aquests quedarán com nulls com figura en la següent captura de pantalla:

The screenshot shows the MySQL Workbench interface with a result grid. The grid has columns: id, iban, pan, pin, cvv, and expiring\_date. A row is selected with the value 'CcU-9999' in the id column. All other columns (iban, pan, pin, cvv, expiring\_date) contain 'NULL'. Below the grid, a SQL history window shows the execution of several statements. The last statement is:

```
VALUES('108B1D1D-5B23-A76C-55EF-C568E49A99DD', 'CcU-9999', 'b-9999', '9999', '829.999', '-117.999', '111.11', '0');
```

At the bottom, the action output shows three rows of logs corresponding to the executed statements.

#### EXERCICI 4:

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following code:

```
-- Eliminar la columna "pan" de la taula credit_card
ALTER TABLE credit_card
DROP pan;
```

Below the editor, a result grid displays data from the credit\_card table. The columns are id, iban, pin, cvv, and expiring\_date. There are 5001 rows listed. At the bottom, the action output shows three log entries for the executed statements.

ALTER TABLE... DROP... funciona però es millor utilitzar:

```
44 • ALTER TABLE credit_card
45     DROP COLUMN pan;
```

#### NIVELL 2

#### EXERCICI 1:

```

50  --
51  -- Nivell 2: Elimina de la taula transaction el registre amb ID 000447FE-B650-4DCF-85DE-C7ED0EE1CAAD.
52  -----
53 • DELETE
54   FROM transaction
55   WHERE id='000447FE-B650-4DCF-85DE-C7ED0EE1CAAD';

49:55

```

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 105110	14:08:10	ALTER TABLE credit_card DROP pan	0 row(s) affected	0.001 sec / 0.000 sec
✓ 105116	14:09:09	SELECT * FROM credit_card	5001 row(s) returned	0.036 sec / 0.0064 sec
✓ 105117	10:25:08	DELETE FROM transaction WHERE id='000447FE-B650-4DCF-85DE-C7ED0EE1CAAD'	1 row(s) affected	0.089 sec

```

57  --
58  -- Crea una vista amb: Nom de la companyia, telèfon, país, mitjana de compra per companyia.
59  -----
60 • SELECT c.company_name, c.phone, c.country, ROUND(AVG(t.amount), 2) AS avg_purchase
61   FROM transaction t
62   JOIN company c ON t.company_id=c.id
63   WHERE declined=0
64   GROUP BY c.id, c.company_name;
65

31:64

```

Result Grid

company_name	phone	country	avg_purchase
Eget Tincidunt Dul Institute	05 35 93 32 44	Netherlands	254.62
Neque Tellus Imperdiet Corp.	09 15 42 22 11	Ireland	263.86
Fusce Corp.	08 14 97 58 85	United States	265.12
Mus Aenean Eget Foundation	08 25 15 52 43	Sweden	256.00
Aliquam facilis Lacus Corp.	04 43 07 91 28	Belgium	260.20
LOrem ipsum Dolor Corp.	09 03 14 74 11	Sweden	259.17
Amet Luctus Vulputate Foundation	03 18 64 24 19	Canada	258.46
Nulla Integer Vulputate Corp.	04 97 57 54 48	Sweden	262.23
Autocur Mattis Corp.	103 62 67 14 41	Germany	234.68

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 10064	13:23:39	SELECT c.company_name, c.phone, c.country, ROUND(AVG(t.amount), 2) AS avg_purchase FROM transaction t JOIN company...	101 row(s) returned	0.316 sec / 0.000033...

Primer, elaborem la consulta i visualitzem haver obtingut el resultat desitjat. Ara ja podem crear la vista.

```

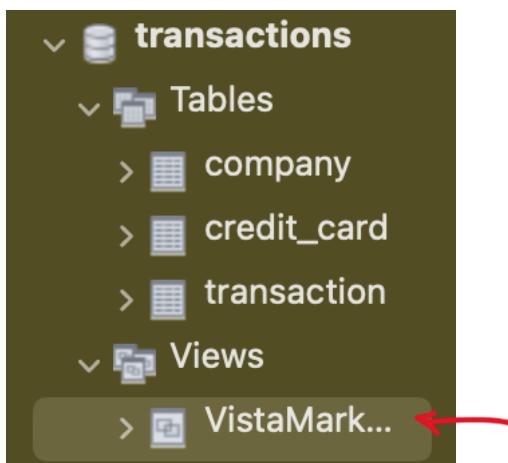
57  --
58  -- Crea una vista amb: Nom de la companyia, telèfon, país, mitjana de compra per companyia.
59  -----
60 • CREATE VIEW VistaMarketing AS
61   SELECT c.company_name, c.phone, c.country, ROUND(AVG(t.amount), 2) AS avg_purchase
62   FROM transaction t
63   JOIN company c ON t.company_id=c.id
64   WHERE declined=0
65   GROUP BY c.id, c.company_name;
66

31:65

```

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 10069	13:32:51	CREATE VIEW VistaMarketing AS SELECT c.company_name, c.phone, c.country, ROUND(AVG(t.amount), 2) AS avg_purchase F...	0 row(s) affected	0.0076 sec



```

67
68 -- Ordena la vista amb les dades de major a menor mitjana de compra.
69
70 • SELECT *
71   FROM VistaMarketing
72   ORDER BY avg_purchase DESC;
73

```

Result Grid | Filter Rows: | Search | Export: | Read Only

company_name	phone	country	avg_purchase
Urna Convallis Associates	06 01 24 77 04	United States	273.57
Ati Associates	09 56 61 10 65	New Zealand	272.74
Metus Vitae Associates	08 25 44 40 66	Australia	270.05
Aliquet Diam Limited	02 76 61 47 46	United States	269.29
Nec Luctus LLC	02 14 71 75 73	Norway	268.60
Neque Tellus Incorporated	04 43 18 34 19	Ireland	267.56
Cras Consulting	07 50 10 85 63	Belgium	267.38
Sed LLC	01 63 16 26 62	Belgium	266.61
Etiam In enim i M	07 67 44 46 72	United States	266.97

VistaMarketing 38

Action Output | Time | Action | Response | Duration / Fetch Time

10070	13:34:34	SELECT * FROM VistaMarketing ORDER BY avg_purchase DESC	101 row(s) returned	0.330 sec / 0.00010...
-------	----------	---	---------------------	------------------------

```

74
75 -- Filtra la vista VistaMarketing per a mostrar només les companyies que tenen el seu país de residència en "Germany"
76
77 • SELECT *
78   FROM VistaMarketing
79   WHERE country='Germany';
80

```

Result Grid | Filter Rows: | Search | Export: | Read Only

company_name	phone	country	avg_purchase
Auctor Mauris Corp.	05 62 87 14 41	Germany	254.68
Ac Fermentum Incorporated	06 85 56 52 33	Germany	284.91
Nunc Interdum Incorporated	05 18 15 48 13	Germany	259.32
Aliquam PC	01 45 73 52 16	Germany	252.96
Ac Industries	09 34 65 40 60	Germany	255.17
Convallis In Incorporated	06 66 57 29 50	Germany	257.69
Rutrum Non Inc.	02 66 31 61 09	Germany	255.14
Augue Foundation	06 88 43 15 63	Germany	253.56

VistaMarketing 39

Action Output | Time | Action | Response | Duration / Fetch Time

10071	13:35:12	SELECT * FROM VistaMarketing WHERE country='Germany'	8 row(s) returned	0.332 sec / 0.000043...
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## NIVELL 3

### EXERCICI 1:

```

78
79 -- Nivell 3: Deixar els comandos executats per a obtenir el següent diagrama
80
81 • CREATE TABLE IF NOT EXISTS user (
82   id CHAR(10) PRIMARY KEY,
83   name VARCHAR(100),
84   surname VARCHAR(100),
85   phone VARCHAR(150),
86   email VARCHAR(150),
87   birth_date VARCHAR(100),
88   country VARCHAR(150),
89   city VARCHAR(150),
90   postal_code VARCHAR(100),
91   address VARCHAR(255)
92 );

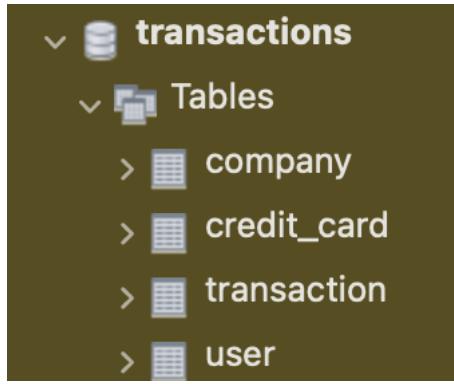
```

Result Grid | Filter Rows: | Search | Export: | Read Only

Action Output | Time | Action | Response | Duration / Fetch Time

5011	11:21:26	CREATE TABLE IF NOT EXISTS user ( id CHAR(10) PRIMARY KEY, name VARCHAR(100), surname VARCHAR(100), phone VAR...	0 row(s) affected	0.018 sec
------	----------	--	-------------------	-----------

**IMPORTANT:** Hem posat aquest límits de caràcters per fer un diagrama idèntic al diagrama objectiu, cal dir que en la pràctica no es eficient utilitzar 150 caràcters per atributs com el telèfon, la data de naixement, codi postal, etc.



Action Output	Time	Action	Response	Duration / Fetch Time
10001 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (1, "4852", "Kbxbxb", "Hiaftcbl", "+75-348-5657", "Kbxbxb.hiaftcbl@example.com", "Jan 5, 1992", "Canada", "Kitchener", "N2A 0A1", "638 Hiaftcbl St")	"4852"; "Put... 1 row(s) affected	0.00014 sec
10002 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (2, "4860", "Sfwouq", "Hjxqhwz", "+58-999-5843", "sfwouq.hjxqhwz@example.com", "Dec 28, 1989", "Canada", "Montreal", "H1A 0A1", "448 Hjxqhwz St")	"4860"; "Put... 1 row(s) affected	0.00014 sec
10003 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (3, "4876", "Yqvznn", "Jjhjrbew", "+50-894-7303", "yqvznn.jjhjrbew@example.com", "Nov 27, 1990", "Canada", "Winnipeg", "R2Z 0A1", "555 Jjhjrbew St")	"4876"; "Put... 1 row(s) affected	0.00014 sec
10004 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (4, "4870", "Vqoekq", "Gvstzepo", "+61-439-9962", "voeekq.gvstzepo@example.com", "Jun 13, 1996", "Canada", "Kitchener", "N2A 0A1", "461 Gvstzepo St")	"4870"; "Put... 1 row(s) affected	0.00014 sec
10005 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (5, "4878", "Iowvee", "Wysqpidj", "+30-169-1101", "iowvee.wysqpidj@example.com", "Jan 22, 1962", "United States", "San Antonio", "78201", "54 Wysqpidj St")	"4878"; "Put... 1 row(s) affected	0.00014 sec
10006 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (6, "4882", "Vntada", "Bgtmnv", "+38-919-4272", "bgtmnv.bnumpnf@example.com", "Dec 17, 1997", "United States", "Houston", "77001", "728 Dnumpnf St")	"4882"; "Put... 1 row(s) affected	0.00014 sec
10007 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (7, "4892", "Eeatkh", "Ayyimaoj", "+78-549-9530", "eeatkh.ayyimaoj@example.com", "Mar 25, 1962", "United States", "Chicago", "60601", "337 Ayyimaoj St")	"4892"; "Put... 1 row(s) affected	0.00014 sec
10008 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (8, "4896", "Tuefdm", "Jcmgbuh", "+98-532-2390", "tuefdm.jcmgbuh@example.com", "May 19, 2001", "Canada", "Kitchener", "N2A 0A1", "19 Jcmgbuh St")	"4896"; "Put... 1 row(s) affected	0.00014 sec
10009 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (9, "4899", "Vpxdvy", "Wrbrxrosf", "+71-381-4018", "vpxdvy.wrbrxrosf@example.com", "Jul 28, 1974", "United States", "San Diego", "92101", "678 Wrbrxrosf St")	"4899"; "Put... 1 row(s) affected	0.00014 sec
10010 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (10, "4901", "Nevsom", "Xnrzrmzw", "+87-131-1665", "nevsom.xnrzrmzw@example.com", "Oct 17, 1968", "United States", "San Antonio", "78201", "563 Xnrzrmzw St")	"4901"; "Put... 1 row(s) affected	0.00014 sec
10011 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (11, "4905", "Ohsaiv", "Kybjewd", "+99-885-3733", "ohsaiv.kybjewd@example.com", "Jun 17, 1974", "United States", "San Diego", "92101", "316 Kybjewd St")	"4905"; "Put... 1 row(s) affected	0.00014 sec
10012 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (12, "4914", "Efysfr", "Ihzumypa", "+91-988-2052", "efysfr.ihzumypa@example.com", "Jan 11, 1956", "United States", "Chicago", "60601", "91 Ihzumypa St")	"4914"; "Put... 1 row(s) affected	0.00014 sec
10013 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (13, "4920", "Vm afsk", "Mksiuervo", "+51-202-2467", "vm afsk.mksiuervo@example.com", "Oct 24, 1958", "United States", "San Antonio", "78201", "344 Mksiuervo St")	"4920"; "Put... 1 row(s) affected	0.00014 sec
10014 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (14, "4927", "Npech", "Izfujznh", "+60-230-4439", "npech.izfujznh@example.com", "Jan 13, 1979", "United States", "Houston", "77001", "422 Izfujznh St")	"4927"; "Put... 1 row(s) affected	0.00014 sec
10015 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (15, "4928", "Paasvv", "Kdxrcgta", "+75-743-6874", "paasvv.kdxrcgta@example.com", "Feb 17, 1991", "United States", "Phoenix", "85001", "788 Kdxrcgta St")	"4928"; "Put... 1 row(s) affected	0.00014 sec
10016 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (16, "4931", "Vrhgue", "Npzdnfea", "+89-915-1161", "vrhgue.npzdnfea@example.com", "Feb 26, 1950", "United States", "Los Angeles", "90001", "252 Npzdnfea St")	"4931"; "Put... 1 row(s) affected	0.00014 sec
10017 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (17, "4939", "Nzulpt", "Lyliewdk", "+94-736-5751", "nzulpt.lyliewdk@example.com", "Mar 5, 1999", "United States", "Philadelphia", "19101", "477 Lyliewdk St")	"4939"; "Put... 1 row(s) affected	0.00014 sec
10018 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (18, "4945", "Pimdet", "Zvajjirk", "+91-727-8872", "pimdet.zvajjirk@example.com", "Jul 1, 1969", "Canada", "Toronto", "M5A 1A1", "45 Zvajjirk St")	"4945"; "Put... 1 row(s) affected	0.00014 sec
10019 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (19, "4947", "Ypyafn", "Tfiliwpnz", "+95-878-8855", "ypyafn.tfiliwpnz@example.com", "Aug 1, 1985", "United States", "Los Angeles", "90001", "360 Tfiliwpnz St")	"4947"; "Put... 1 row(s) affected	0.00014 sec
10020 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (20, "4950", "Akxgbk", "Fxtbrlub", "+96-670-3225", "akxgbk.fxtbrlub@example.com", "Jan 3, 1984", "Canada", "Vancouver", "V5A 0A1", "1 Fxtbrlub St")	"4950"; "Put... 1 row(s) affected	0.00014 sec
10021 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (21, "4952", "Fuhfwm", "Sbqptspx", "+61-136-1383", "fuhfwm.sbqptspx@example.com", "Jul 22, 1968", "Canada", "Montreal", "H1A 0A1", "570 Sbqptspx St")	"4952"; "Put... 1 row(s) affected	0.00014 sec
10022 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (22, "4961", "Phwjfi", "Myxbvzkf", "+34-594-1874", "phwjfi.myxbvzkf@example.com", "Nov 2, 1972", "United States", "New York", "10001", "770 Myxbvzkf St")	"4961"; "Put... 1 row(s) affected	0.00014 sec
10023 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (23, "4977", "Gjldy", "Eggqecse", "+62-591-5059", "gjldy.eggqecse@example.com", "Aug 16, 1986", "United States", "Chicago", "60601", "537 Eggqecse St")	"4977"; "Put... 1 row(s) affected	0.00014 sec
10024 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (24, "4980", "Asgaxi", "Btardzti", "+39-155-6819", "asgaxi.btardzti@example.com", "Jul 24, 1999", "Canada", "Winnipeg", "R2C 0A1", "394 Btardzti St")	"4980"; "Put... 1 row(s) affected	0.00014 sec
10025 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (25, "4983", "Eredc", "Orekppbr", "+59-545-4710", "eremd.c.orekppbr@example.com", "Apr 5, 1953", "Canada", "Winnipeg", "R2C 0A1", "635 Orekppbr St")	"4983"; "Put... 1 row(s) affected	0.00014 sec
10026 11:22:39		INSERT INTO user (id, name, surname, phone, email, birth_date, country, city, postal_code, address) VALUES (26, "4993", "Omjnoy", "Rmuqvxxw", "+32-354-7682", "omjnoy.rmuqvxxw@example.com", "Aug 26, 1996", "United States", "San Diego", "92101", "437 Rmuqvxxw St")	"4993"; "Put... 1 row(s) affected	0.00014 sec

En aquest exercici ens demanen obtenir un diagrama concret, doncs canviarem ja el nom de la taula user a data\_user abans d'establir les relacions entre taules:

Action Output	Time	Action	Response	Duration / Fetch Time
10013 11:31:14		RENAME TABLE user TO data_user;	0 row(s) affected	0.065 sec

Ara canviem el tipus de atribut del data\_user.id per poder establir la relació entre taules. No obstant, obtenim un error → Hi ha almenys 1 valor a la taula de fets (transaction) que no existeix a data\_user.

```

93 -- Carreguem les dades de la taula user
94 -- Canviem el nom la taula
95 • RENAME TABLE user TO data_user;
96 -- Canviem el tipus de parametre id
97 • ALTER TABLE data_user
98 MODIFY COLUMN id INT;
99 -- Establim la relació entre la taula pare (User) i filla (Transaction)
100 • ALTER TABLE transaction
101 ADD CONSTRAINT fk_transaction_data_user
102 FOREIGN KEY (user_id) REFERENCES data_user(id);
103

```

Action Output

Time	Action	Response	Duration / Fetch Time
11:41:24	ALTER TABLE data_user MODIFY COLUMN id INT	0000 row(s) affected Records: 5000 Duplicates: 0.124 sec	
11:41:49	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_data_user FOREIGN KEY (user_id) REFERENCES data_user(id)	Error Code: 1452. Cannot add or update a child r... 0.161 sec	

Busquem quin o quins són els registres no coincidents:

```

104 • SELECT DISTINCT t.user_id
105   FROM transaction t
106   LEFT JOIN data_user u ON t.user_id = u.id
107 WHERE u.id IS NULL;
108

```

Result Grid

user_id
9999

Result 18

Action Output

Time	Action	Response	Duration / Fetch Time
11:48:15	SELECT DISTINCT t.user_id FROM transaction t LEFT JOIN data_user u ON t.user_id = u.id WHERE u.id IS NULL	1 row(s) returned	0.158 sec / 0.00026...

És el registre que vam afegir fa poc a la taula transaction, l'afegirem a continuació a la taula data\_user. I ara sí, podem veure que la relació s'ha executat i ho revisarem amb el digrama.

```

78
79 -- Nivell 3: Deixar els comandos executats per a obtenir el següent diagrama
80
81 • CREATE TABLE IF NOT EXISTS user (
82   id CHAR(10) PRIMARY KEY,
83   name VARCHAR(100),
84   surname VARCHAR(100),
85   phone VARCHAR(150),
86   email VARCHAR(150),
87   birth_date VARCHAR(100),
88   country VARCHAR(150),
89   city VARCHAR(150),
90   postal_code VARCHAR(100),
91   address VARCHAR(255)
92 );
93 -- Carreguem les dades de la taula user
94 -- Canviem el nom la taula
95 • RENAME TABLE user TO data_user;
96 -- Canviem el tipus de parametre id
97 • ALTER TABLE data_user
98 MODIFY COLUMN id INT;
99 -- Afegim el id 9999(anteriorment el vam afegir manualment a la taula transaction)
100 • INSERT INTO data_user(id)
101   VALUES ('9999');
102 -- Establim la relació entre la taula pare (User) i filla (Transaction)
103 • ALTER TABLE transaction
104   ADD CONSTRAINT fk_transaction_data_user
105     FOREIGN KEY (user_id) REFERENCES data_user(id);
106

```

Action Output

Time	Action	Response	Duration / Fetch Time
11:53:31	INSERT INTO data_user(id) VALUES ('9999')	1 row(s) affected	0.015 sec
11:53:40	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_data_user FOREIGN KEY (user_id) REFERENCES data_user(id)	1000000 row(s) affected Records: 1000000 Duplic... 1.874 sec	

DIAGRAMES OBJECTIU:

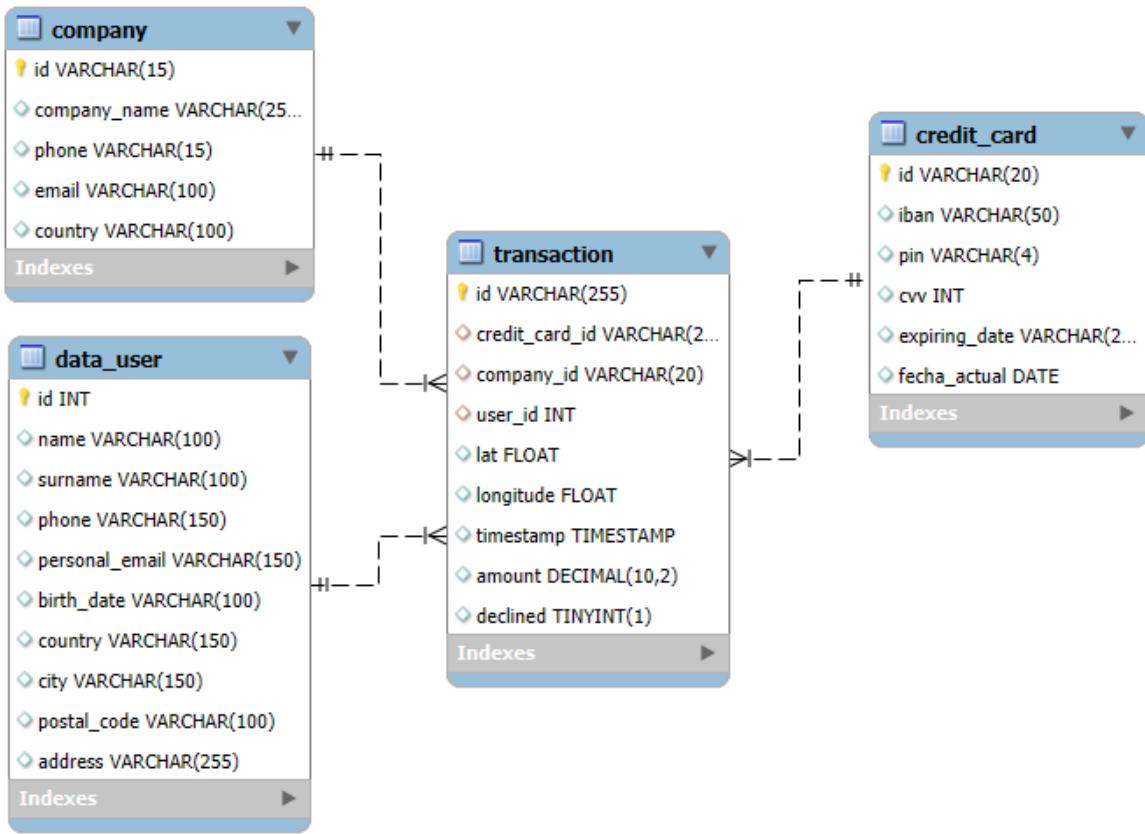
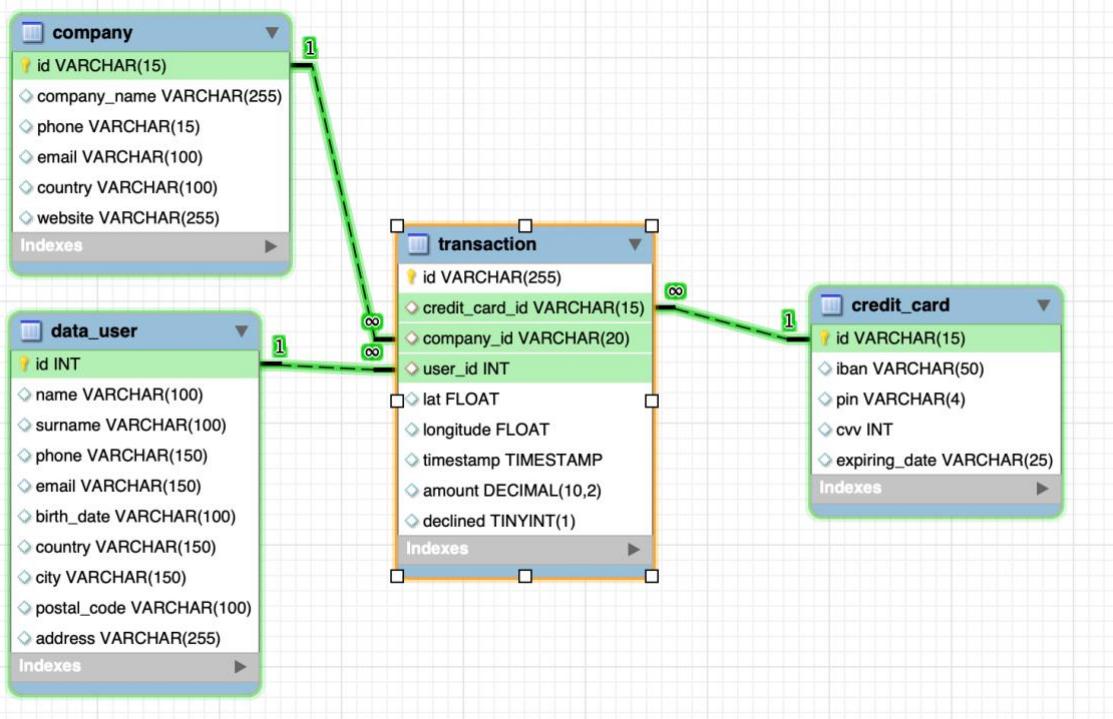


DIAGRAMA ACTUAL:



Observem els següents canvis pendents:

- En el diagrama objectiu no existeix l'atribut company.website
- En el diagrama objectiu si existeix l'atribut expiring\_date a credit\_card

- El límit de caracters de VARCHAR de credit\_card.id i transaction. credit\_card\_id ha de ser de 20
- En el diagrama objectiu l'atribut email s'anomena personal\_email.

Doncs farem els següents canvis:

```

109  -- Eliminem la variable website de company
110 • ALTER TABLE company
111   DROP COLUMN website;
112
113 • SELECT *
114   FROM company;
  ↴ 14:14

Result Grid Filter Rows: Q Search Edit: Export/Import: 
Action Output Time Action Response Duration / Fetch Time
  ↴ 10072 13:41:24 SELECT * FROM company 101 row(s) returned 0.0013 sec / 0.0004

```

id	company_name	phone	email	country
b-2230	Fuse Corp.	08 14 97 58 85	rissus@protonmail.edu	United States
b-2234	Convallis Incorporated	06 66 57 29 50	mauris.ut@aol.co.uk	Germany
b-2238	Ante laculis Nec Foundation	08 23 04 99 53	sed dictum.prius@outlook.ca	New Zealand
b-2242	Donec Ltd	01 25 51 37 37	at.laculis@hotmail.co.uk	Norway
b-2246	Sed Nunc Ltd	02 62 64 73 48	nibh@yahoo.org	United Kingdom
b-2250	Amet Nulla Donec Corporation	07 15 25 14 74	mattis.integer.eu@protonmail.net	Italy
b-2254	Nascetur Ridiculus Mus Inc.	06 26 67 61 84	suspendisse.dui@icloud.net	United States
b-2258	Vestibulum Lorem PC	02 02 87 33 40	aenean.massa.integer@aol.net	Belgium
b-2262	Gravida Sanctis IIP	07 81 58 33 67	turpis.ultra@protonmail.ca	Sweden

```

110 • SELECT *
111   FROM company;
112   -- Afegeim variable fecha_actual
113 • ALTER TABLE credit_card
114   ADD COLUMN fecha_actual DATE DEFAULT (CURDATE());
115
116 • SELECT *
117   FROM credit_card;
  ↴ 80:14

Result Grid Filter Rows: Q Search Edit: Export/Import: Fetch rows: 
Action Output Time Action Response Duration / Fetch Time
  ↴ 10053 11:51:53 SELECT * FROM credit_card 5001 row(s) returned 0.0049 sec / 0.0042

```

id	iban	pin	cvv	expiring_date	fecha_actual
CcS-4857	XX4857591835292505850771	1819	467	09/27/25	2025-11-20
CcS-4858	XX858176813700243604025	3964	817	12/28/28	2025-11-20
CcS-4859	XX782693049142353809370	4983	277	11/26/26	2025-11-20
CcS-4860	XX55599036885304645299	6876	661	07/27/27	2025-11-20
CcS-4861	XX20351828771951627307	5710	398	04/25/26	2025-11-20
CcS-4862	XX4774721462463645409758	4042	174	11/27/26	2025-11-20
CcS-4863	XX147829662425046207111	5969	449	12/27/29	2025-11-20
CcS-4864	XX838029889385731196159	8481	139	02/28/28	2025-11-20
CcS-4865	XX70850785961025280599	17847	1903	11/25/28	2025-11-20

De forma predeterminada s'afegeix la nova columna 'fecha\_actual' al final, si haguéssim volgut afegir-la al principi o en una altra posició haver utilitzat FIRST o AFTER en la consulta.

```

118  -- Canviem el límit de caracters
119 • ALTER TABLE transaction
120   MODIFY COLUMN credit_card_id VARCHAR(20);
121
122 • ALTER TABLE credit_card
123   MODIFY COLUMN id VARCHAR(20);
  ↴ 30:123

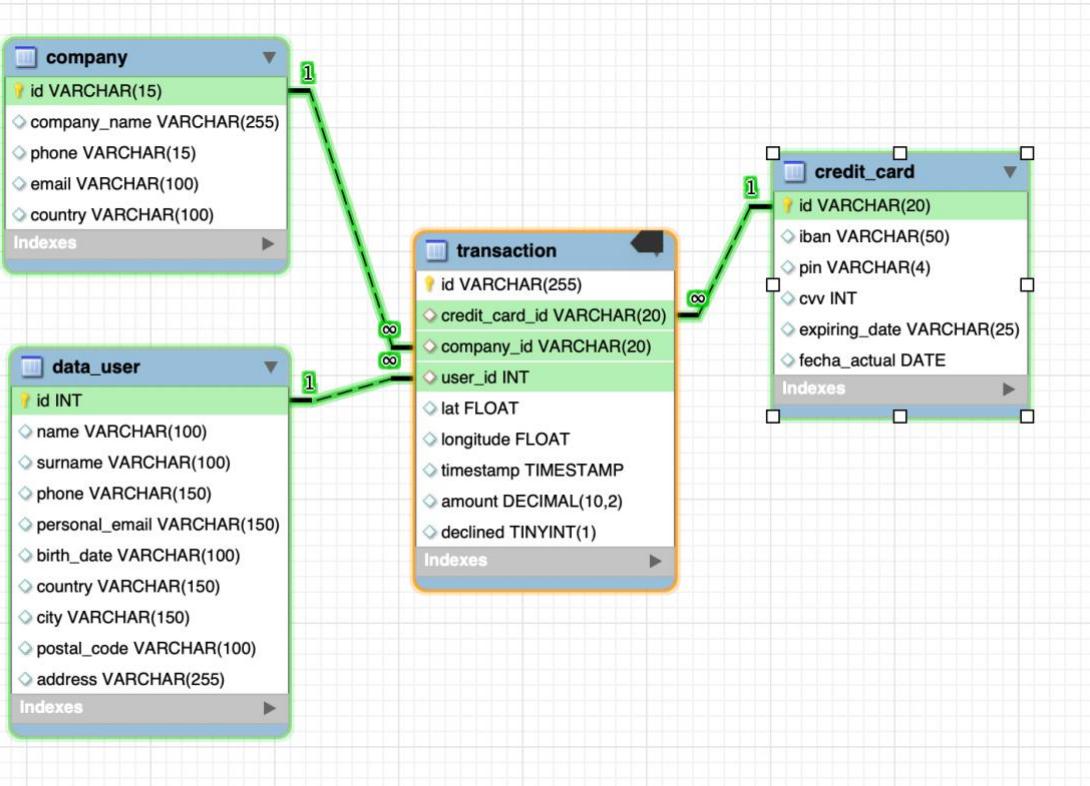
Action Output Time Action Response Duration / Fetch Time
  ↴ 10036 13:33:05 ALTER TABLE transaction MODIFY COLUMN credit_card_id VARCHAR(20) 0 row(s) affected Records: 0 Duplicates: 0 Warn... 0.072 sec
  ↴ 10037 13:33:09 ALTER TABLE credit_card MODIFY COLUMN id VARCHAR(20) 0 row(s) affected Records: 0 Duplicates: 0 Warn... 0.013 sec

124  -- Canviem el nom de la variable email a personal_email
125 • ALTER TABLE data_user
126   RENAME COLUMN email TO personal_email;
  ↴ 39:126

Action Output Time Action Response Duration / Fetch Time
  ↴ 10037 13:33:09 ALTER TABLE credit_card MODIFY COLUMN id VARCHAR(20) 0 row(s) affected Records: 0 Duplicates: 0 Warn... 0.013 sec
  ↴ 10038 13:41:35 ALTER TABLE data_user RENAME COLUMN email TO personal_email 0 row(s) affected Records: 0 Duplicates: 0 Warn... 0.093 sec

```

## DIAGRAMA FINAL:



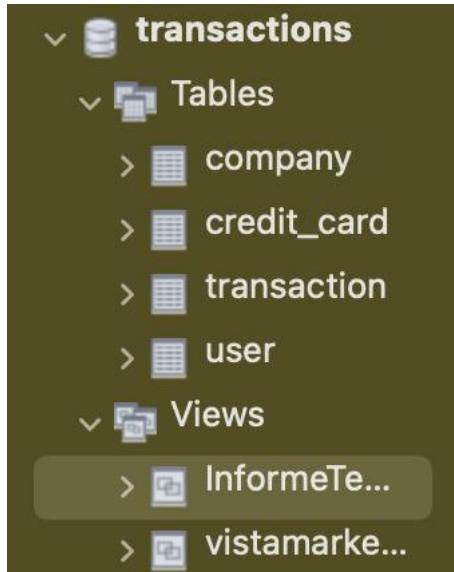
## EXERCICI 2:

```

131 --- 
132 -- L'empresa també us demana crear una vista anomenada "InformeTecnico" que contingui la següent informació:
133 --- 
134 • CREATE VIEW InformeTecnico AS
135   SELECT t.id AS transaction_id, u.name AS user_name, u.surname AS user_surname, cc.iban, c.company_name
136   FROM transaction t
137   JOIN data_user u ON t.user_id=u.id
138   JOIN credit_card cc ON t.credit_card_id=cc.id
139   JOIN company c ON t.company_id=c.id;
140
  
```

Action Output

Time	Action	Response	Duration / Fetch Time
10073 13:43:06	CREATE VIEW InformeTecnico AS SELECT t.id AS transaction_id, u.name AS user_name, u.surname AS user_surname, cc.iban, c...	0 row(s) affected	0.014 sec



```

137
138 -- Mostra els resultats de la vista i ordena'ls de forma descendent en funció de la variable ID de transacció.
139
140 • SELECT *
141   FROM InformeTecnico
142   ORDER BY transaction_id DESC;
  
```

Result Grid | Filter Rows: | Search | Export: | Fetch rows: |

transaction_id	user_name	user_surname	iban	company_name
FFFD31D6-9495-47CE-B5AA-7DB8E1CC274B	Bmgsl	Tprvrmrc	XX794814451211289182490922	Turpis Company
FFFCF76D-EFC0-4965-A2D0-B2a7B75999FC	Dfired	Vlcejcdl	XX636251701647892036676034	Amet Nulla Donec Corporation
FFFC9E8D-27C7-4ADE-98F2-7533EF40DF128	Securp	FaoIvfyf	XX162677143304223631437567	Nunc Interdum Incorporated
FFFB27D0-F53A-4D5D-9668-E5307C5C0C84	Gzrjpa	Urzjulh	XX395114267082019952567052	Viverra Donec Foundation
FF90E3CE-234E-408C-A8EF-F9CAD577224A	Yshime	Zpsjleed	XX8845462156337570367941	Convallis In Incorporated
FF90E178-6CD2-4DF9-9990-49AE068809B1	Jevexp	Xwcowzwmn	XX321405515711654384711481	Mus Aenean Eget Foundation
FFFB67C9-17B5-4B1F-AF09-F8023AAA449E	Fqjngd	Lvhfgyxi	XX27844634293368097979426	Cras Vehicula Aliquet Industries
FFF660D4-4244-47F6-9210-E5D1DCB99D80	Loozal	Iltrvryav	XX405009272572550082027209	Placerat LLP
FFF7042D-1BC8-4DDC-823C-4D90AAC8F28	Norraa	Egsoquili	XX63376659736627454015125	Pede Cum Ltd

InformeTecnico 29 | Read Only

Action Output |

Time	Action	Response	Duration / Fetch Time
14-09-55	SELECT * FROM InformeTecnico ORDER BY transaction_id DESC	100000 row(s) returned	0.639 sec / 0.038 sec

Comentaris de millora Peer-to-Peer aplicats:

- Utilitzar DEFAULT (CURDATE()) per complementar al detall l'exercici que implica la creació de la columna 'fecha actual' del nivell 3.
- Per demostrar el coneixement del codi, fer la creació de les vistes en la pròpia consulta en lloc de amb l'eina crear vista.
- ALTER TABLE... DROP COLUMN → afegir COLUMN en la query.
- Treure àlies on son prescindibles.