

NIVELL 1

He anat creant cada taula i carregant les dades indicant com acaben els camps en cada taula, així com les línies i si es fa us de les cometes. En el cas dels usuaris els he col·locats tots en una sola taula per a simplificar el diagrama i la comprensió de les dades emmagatzemades.

```
1  -----
2  ## NIVELL 1 ##
3  -----
4  -- Descàrrega els arxius CSV, estudia'ls i dissenya una base de dades amb un esquema d'estrella que contingui, almenys 4 taules
5  -- de les quals puguis realitzar les següents consultes:
6  • CREATE SCHEMA Sprint4;
7
8  • USE Sprint4;
9
10 • CREATE TABLE users (
11     id INT PRIMARY KEY AUTO_INCREMENT,
12     Name VARCHAR (50),
13     Surname VARCHAR (50),
14     Phone VARCHAR (15),
15     Email VARCHAR (70),
16     Birth_date VARCHAR (30),
17     Country VARCHAR (20),
18     City VARCHAR (30),
19     Postal_Code VARCHAR (15),
20     Address VARCHAR (100)
21 );

23 • LOAD DATA
24 INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/users_usa.csv"
25 INTO TABLE users
26 FIELDS TERMINATED BY ','
27 ENCLOSED BY '"'
28 LINES TERMINATED BY '\r\n'
29 IGNORE 1 ROWS;
30
31 #He col·locat l'arxiu en aquesta ubicació després de mirar-ho amb "SHOW VARIABLES LIKE 'secure_file_priv';"
32 #per evitar l'error 1290. Teòricament, alternativament, enlloc de moure'l, es podrien utilitzar els comandaments:
33 #SHOW VARIABLES LIKE 'secure_file_priv';
34 #SHOW VARIABLES LIKE 'local_infile';
35 #SHOW VARIABLES LIKE 'basedir';
36 #SET GLOBAL local_infile = 1;
37 #SHOW GLOBAL VARIABLES LIKE 'local_infile';
38 #I a "Database--Manage Connections--Advanced" afegir "OPT_LOCAL_INFILE=1" per a poder agafar els documents de la ubicació que vulgui,
39 #pero a mi em dona error igualment
```

MySQL Connections

Local instance MySQL80

Connection Name: Local instance MySQL80

Connection

Remote Management

System Profile

Connection Method: Standard (TCP/IP)

Method to use to connect to the RDBMS

Parameters

SSL

Advanced

☐ Use compression protocol

Select this option for WAN connections.

☐ Use ANSI quotes to quote identifiers

If enabled this option overwrites the serverside settings.

☐ Enable Cleartext Authentication Plugin

Send user password in cleartext. Required for some authentication methods.

Timeout: 60

Maximum time to wait before a connection is aborted.

SQL_MODE:

Override the default SQL_MODE used by the server.

Others:

DbSqlEditor:LastDefaultSchema=sprint4
 OPT_LOCAL_INFILE=1
 lastConnected=1738587045
 serverVersion=8.0.40

Other options for Connector/C++ as option=value pairs, one per line.

New

Delete

Duplicate

Move Up

Move Down

Test Connection

Close

```

41 • LOAD DATA
42 INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/users_uk.csv"
43 INTO TABLE users
44 FIELDS TERMINATED BY ','
45 ENCLOSED BY '"'
46 LINES TERMINATED BY '\r\n'
47 IGNORE 1 ROWS;
48
49 • LOAD DATA
50 INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/users_ca.csv"
51 INTO TABLE users
52 FIELDS TERMINATED BY ','
53 ENCLOSED BY '"'
54 LINES TERMINATED BY '\r\n'
55 IGNORE 1 ROWS;
56
57 • SELECT *
58 FROM users;

```

	id	Name	Surname	Phone	Email	Birth_date	Country	City	Postal_Code	Address
▶	1	Zeus	Gamble	1-282-581-0551	interdum.enim@protonmail.edu	Nov 17, 1985	United States	Lowell	73544	348-7818 Sagittis St.
	2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org	Aug 23, 1992	United States	Des Moines	59464	903 Sit Ave
	3	Ciaran	Harrison	(522) 598-1365	interdum.feugiat@aol.org	Apr 29, 1998	United States	Columbus	56518	736-2063 Tellus St.
	4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu	Feb 18, 1989	United States	Kailua	77417	Ap #545-2244 Erat. Rd.
	5	Hayfa	Pierce	1-554-541-2077	et.malesuada.fames@hotmail.org	Sep 26, 1998	United States	Sandy	31564	341-2821 Ultrices Av.

users 52 x

Output

Action Output

#

Time

Action

Message

✓	15781	13:24:53	SELECT * FROM users	275 row(s) returned
---	-------	----------	---------------------	---------------------

```

81 • CREATE TABLE credit_cards (
82     id VARCHAR (10) PRIMARY KEY,
83     User_id INT,
84     Iban VARCHAR (40),
85     Pan VARCHAR (20),
86     Pin VARCHAR (10),
87     CVV VARCHAR (3),
88     Track1 VARCHAR (50),
89     Track2 VARCHAR (50),
90     Expiring_date VARCHAR (10)
91 );
92
93 • LOAD DATA
94 INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/credit_cards.csv"
95 INTO TABLE credit_cards
96 FIELDS TERMINATED BY ','
97 IGNORE 1 ROWS;

```

Result Grid								
Filter Rows:								
Edit: Export/Import: Wrap Cell Content:								
id	User_id	Iban	Pan	Pin	CVV	Track1	Track2	
CcU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%88383712448554646^WovsxejDpwiev^8604...	%8765	
CcU-2945	274	DO26854763748537475216568689	5142423821948828	9080	887	%84621311609958661^UftuyfsSeimxn^06106...	%8414	
CcU-2952	273	BG45IVQL52710525608255	4556 453 55 5287	4998	438	%82183285104307501^CddytytdUxavfdq^5907...	%8677	
CcU-2959	272	CR7242477244335841535	372461377349375	3583	667	%87281111956795320^XocddjBkecd^09016...	%8424	
CcU-2956	271	BC73UKTA1567363877363	448566 886747 765	0000	120	%84738033377567732^WovsxejDpwiev^8604...	%8765	

Action Output			
#	Time	Action	Message
30	10:29:25	CREATE TABLE credit_cards (id VARCHAR (10) PRIMARY KEY, User_id VARCHAR (...	0 row(s) affected
31	10:29:32	LOAD DATA INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/credit_cards....	275 row(s) affected Records: 275 Deleted: 0 Skipped: 0 Warnings: 0

El CVV i PIN l'he posat com VARCHAR perquè si poso INT, en cas que comenci per "0" no m'apareixeria aquest número. Al crear aquesta taula també es pot afegir "LINES TERMINATED BY \n", tot i que no es imprescindible.

```

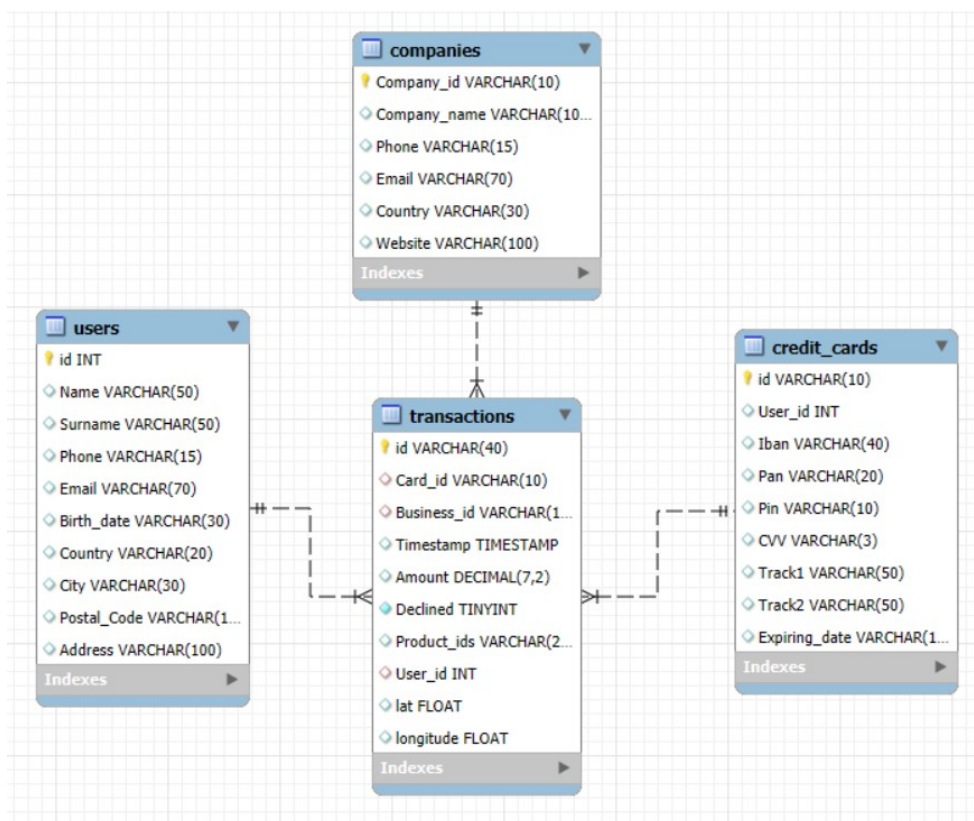
104 • CREATE TABLE transactions (
105     id VARCHAR (40) PRIMARY KEY,
106     Card_id VARCHAR (10),
107     Business_id VARCHAR (10),
108     Timestamp TIMESTAMP,
109     Amount DECIMAL (7,2),
110     Declined TINYINT,
111     Product_ids VARCHAR (20),
112     User_id INT,
113     Lat FLOAT,
114     Longitude FLOAT,
115     CONSTRAINT FKUserTrans FOREIGN KEY (User_id) REFERENCES users (id),
116     CONSTRAINT FKCompTrans FOREIGN KEY (Business_id) REFERENCES companies (Company_id),
117     CONSTRAINT FKCCTrans FOREIGN KEY (Card_id) REFERENCES credit_cards (id)
118 );
119
120 • LOAD DATA
121 INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/transactions.csv"
122 INTO TABLE transactions
123 FIELDS TERMINATED BY ';'
124 LINES TERMINATED BY '\r\n'
125 IGNORE 1 ROWS;
126

```

Output

#	Time	Action	Message
44	11:49:32	CREATE TABLE transactions (id VARCHAR(40) PRIMARY KEY, Card_id VAR...	0 row(s) affected
45	11:49:37	LOAD DATA INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/transa...	587 row(s) affected Records: 587 Deleted: 0 Skipped: 0 Warnings: 0

Després de crear totes les taules, el diagrama queda així:



1. Exercici 1

```
130  ## Exercici 1
131  -- Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules.
132  • SELECT id AS "ID usuaris amb +30 transaccions", Name, Surname
133  FROM users
134  WHERE id IN (
135      SELECT user_id
136      FROM transactions
137      GROUP BY user_id
138      HAVING COUNT(id)>30);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

ID usuaris amb +30 transaccions	Name	Surname
92	Lynn	Riddle
267	Ocean	Nelson
272	Hedwig	Gilbert
275	Kenyon	Hartman

users 58 x

Output

Action Output

#	Time	Action	Message
✓ 15787	13:37:33	SELECT id AS "ID usuaris amb +30 transaccions", Name, Surname FROM users WHERE id IN (SE...	4 row(s) returned

1. Exercici 2

```
141  ## Exercici 2
142  -- Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.
143  • SELECT iban AS "iban de Donec Ltd", round(avg(amount),2) AS "Mitjana de compres per CC"
144  FROM credit_cards AS cc
145  JOIN transactions AS tr
146  ON cc.id = tr.card_id
147  JOIN companies AS co
148  ON tr.Business_id = co.company_id
149  WHERE Company_name = "Donec Ltd" AND declined = 0
150  GROUP BY iban;
151
152  ### Només hi ha 1 targeta amb 1 operació acceptada de Donec Ltd
153
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

iban de Donec Ltd	Mitjana de compres per CC
PT87806228135092429456346	42.82

Result 60 x

Output

Action Output

#	Time	Action	Message
✓ 15789	13:42:49	SELECT iban AS "iban de Donec Ltd", round(avg(amount),2) AS "Mitjana de compres per CC" FRO...	1 row(s) returned

NIVELL 2

```
157  ## NIVELL 2 ##
158  -----
159  -- Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van ser declinades i
160  -- genera la següent consulta:
161  • CREATE TABLE CCStatus (
162    SELECT Card_id, IF(SUM(Declined)=3,"Cancel·lada","Activa") AS Estat
163  FROM (
164    SELECT Card_id, Declined,
165           ROW_NUMBER () OVER (PARTITION BY Card_id ORDER BY Timestamp DESC) AS TransOrd
166    FROM transactions) AS TransTime
167  WHERE TransOrd <= 3
168  GROUP BY Card_id);
169
170  #Com la nova taula no té PK ni està relacionada amb la resta de taules amb FK, fem un ALTER TABLE per afegir aquesta informació
171  • ALTER TABLE CCStatus
172    ADD PRIMARY KEY (Card_id),
173    ADD CONSTRAINT FKStatusCC FOREIGN KEY (Card_id) REFERENCES credit_cards (id);
```

Result Grid

Card_id	Estat
CdJ-2938	Activa
CdJ-2945	Activa
CdJ-2952	Activa
CdJ-2959	Activa
CdJ-2966	Activa

CCStatus 67 x

Output

Action Output

#	Time	Action	Message
✓ 15803	12:02:51	CREATE TABLE CCStatus (SELECT Card_id, IF(SUM(Declined)=3,"Cancel·lada","Activa") AS Esta...	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0
✓ 15804	12:02:54	ALTER TABLE CCStatus ADD PRIMARY KEY (Card id), ADD CONSTRAINT FKStatusCC FOREIG...	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0

2. Exercici 1

```
175  ## Exercici 1
176  -- Quantes targetes estan actives?
177  • SELECT COUNT(Card_id) AS "Número de targetes actives"
178    FROM CCStatus
179    WHERE Estat = "Activa";
180
```

Result Grid

Número de targetes actives
275

Result 69 x

Output

Action Output

#	Time	Action	Message
✓ 15807	12:06:22	SELECT COUNT(Card_id) AS "Número de targetes actives" FROM CCStatus WHERE Estat = "Acti...	1 row(s) returned