Tasca S4.01. Creació de Base de Dades

Nivell 1

Descàrrega els arxius CSV, estudia'ls i dissenya una base de dades amb un esquema d'estrella que contingui, almenys 4 taules de les quals puguis realitzar les següents consultes:

```sql
5       ---  CREO TAULA USERS
6       /*USO DE LA BBDD*/
7   •   USE sprint4;
8       /*USERS*/
9   •   CREATE TABLE IF NOT EXISTS users(id INT PRIMARY KEY,
10                          name CHAR(20) NULL,
11                          surname CHAR(50) NULL,
12                          phone VARCHAR(15) NULL,
13                          email VARCHAR (50) NULL,
14                          birth_date VARCHAR (20),
15                          country CHAR(20) NULL,
16                          city CHAR(50) NULL,
17                          postal_code VARCHAR(15) NULL,
18                          address VARCHAR(255) NULL);
19
20      #COM HEM DONAVA ERROR HE UTILIZAT ELS SEGUENTS PER SOLUCIONAR INCIDENCIES PER PODER CAREGAR LES DADES
21
22  •   SHOW VARIABLES LIKE 'secure_file_priv';
23  •   SHOW VARIABLES LIKE 'local_infile';
24  •   SHOW VARIABLES LIKE 'basedir';
25  •   SET GLOBAL local_infile = 1;
26  •   SHOW GLOBAL VARIABLES LIKE 'local_infile';
27
```

Output

#	Time	Action	Message	Duration / Fe
1	12:18:38	LOAD DATA INFILE 'C:/Users/Public/Documents/users_ca.csv' INTO TABLE users_ca FIELDS TE...	Error Code: 1290. The MySQL server is running with the --secure-file-priv option so it cannot execute t...	0.000 sec
2	12:18:41	LOAD DATA INFILE "C:\Users\Public\Documents\users_ca.csv" INTO TABLE users_ca FIELDS T...	Error Code: 1290. The MySQL server is running with the --secure-file-priv option so it cannot execute t...	0.000 sec

– Al crear la taula he tingut diferents errors per pujar caregar les dades, pel "-secure-file-priv" que he pogut solucionar amb aquest codi.

	21	12:51:16	CREATE TABLE IF NOT EXISTS users_caprueba(id INT PRIMARY KEY, name CHA...	0 row(s) affected	0.016 sec
⚠	22	12:51:24	LOAD DATA LOCAL INFILE "C:/Users/ahlam/Desktop/users_ca.csv" INTO TABLE users_caprueba...	58 row(s) affected, 17 warning(s): 1262 Row 4 was truncated; it contained more data than there were ...	0.015 sec
	23	12:52:47	SELECT * FROM sprint4.users_caprueba LIMIT 0, 1000	58 row(s) returned	0.000 sec / 0.000 sec
	24	13:07:07	DROP TABLE 'sprint4'.'users_caprueba'	0 row(s) affected	0.016 sec

- Tambe he tingut alguns errors al carregar les dades "row 4 truncated" ja que no estaba agafant les linies, i algunes columnes teninen simbols diferents, ho he especificat amb enclosed i quan ha de terminar cada linia.

- He caregat les dades de USA, UK, CA a una sola taula de users, seguint l'ordre del ID

```
28      --- CARGO USA
29
30 •    LOAD DATA LOCAL INFILE "C:/Users/ahlam/Desktop/DATA ANALYST Bootcamp/Sprint 4/users_usa.csv"
31      INTO TABLE users
32      FIELDS TERMINATED BY ','
33      OPTIONALLY ENCLOSED BY '"'
34      LINES TERMINATED BY '\r\n'  --
35      IGNORE 1 LINES;
36
37      --- CARGO UK
38
39 •    LOAD DATA LOCAL INFILE  "C:/Users/ahlam/Desktop/DATA ANALYST Bootcamp/Sprint 4/users_uk.csv"
40      INTO TABLE users
41      FIELDS TERMINATED BY ','
42      OPTIONALLY ENCLOSED BY '"'
43      LINES TERMINATED BY '\r\n'  --
44      IGNORE 1 LINES;
45
46      --- CARGO CANADA
47
48 •    LOAD DATA LOCAL INFILE  "C:/Users/ahlam/Desktop/users_ca.csv"
49      INTO TABLE users
50      FIELDS TERMINATED BY ','
51      OPTIONALLY ENCLOSED BY '"'
52      LINES TERMINATED BY '\r\n'  --
53      IGNORE 1 LINES;
54
```

```
55      --- CREO TABLA CREDIT_CARDS
56      /*USO DE LA BBDD*/
57 •    USE sprint4;
58
59      /*CREACION DE TABLAS*/
60      /*CREDIT_CARDS*/
61 • ⊖  CREATE TABLE IF NOT EXISTS credit_cards(id VARCHAR(10) PRIMARY KEY,
62                          user_id INT NULL,
63                          iban VARCHAR(40) NULL,
64                          pan VARCHAR(20) NULL,
65                          pin VARCHAR(4) NULL,
66                          cvv INT NULL,
67                          track1 VARCHAR(255) NULL,
68                          track2 VARCHAR(255) NULL,
69                          expiring_date VARCHAR(10) NULL);
70
71
72      -- DATOS TABLA CREDIT_CARDS
73
74 •    LOAD DATA LOCAL INFILE  "C:/Users/ahlam/Desktop/DATA ANALYST Bootcamp/Sprint 4/credit_cards.csv"
75      INTO TABLE credit_cards
76      FIELDS TERMINATED BY ','
77      IGNORE 1 LINES;
```

```
79    -- CREO TAULA COMPANIES
80    /*USO DE LA BBDD*/
81 •  USE sprint4;
82    /*CREACION DE TABLAS*/
83    /*COMPANIES*/
84 •⊖ CREATE TABLE IF NOT EXISTS companies(company_id VARCHAR(6) PRIMARY KEY,
85                       company_name VARCHAR (255),
86                       phone VARCHAR(20) NULL,
87                       email VARCHAR(50),
88                       country VARCHAR(50) NULL,
89                       website VARCHAR(100) NULL);
90
91
92    -- DADES TAULA COMPANIES
93
94 •  LOAD DATA LOCAL INFILE  "C:/Users/ahlam/Desktop/DATA ANALYST Bootcamp/Sprint 4/companies.csv"
95    INTO TABLE companies
96    FIELDS TERMINATED BY ','
97    OPTIONALLY ENCLOSED BY '"'
98    LINES TERMINATED BY '\r\n'  --
99    IGNORE 1 LINES;
100
```
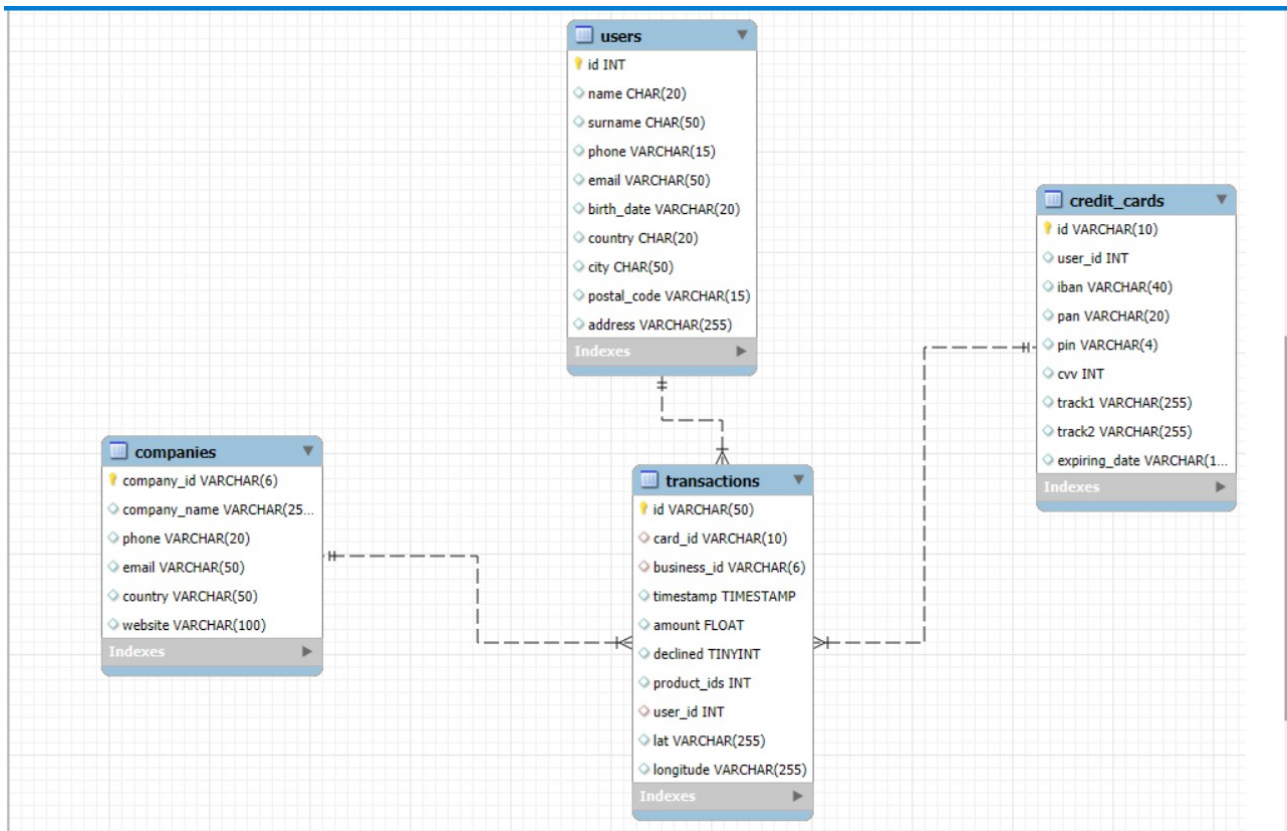
- Al final he creat la taula transactions i afegeixo "FOREIGN KEYs" per poder conectar-la amb les altres taules.

```
124    /*CREACION DE TABLAS*/
125    /*TRANSACTIONS*/
126 •⊖ CREATE TABLE IF NOT EXISTS transactions(id VARCHAR(50) PRIMARY KEY,
127                       card_id VARCHAR(10) NULL,
128                       business_id VARCHAR(6) NULL,
129                       timestamp TIMESTAMP NULL,
130                       amount FLOAT,
131                       declined TINYINT,
132                       product_ids INT NULL,
133                       user_id INT NULL,
134                       lat VARCHAR(255) NULL,
135                       longitude VARCHAR(255) NULL,
136    FOREIGN KEY (card_id) REFERENCES credit_cards (id),
137    FOREIGN KEY (business_id) REFERENCES companies (company_id),
138    FOREIGN KEY (user_id) REFERENCES users (id)
139    );
140
141    --- DATOS TABLA TRANSACTIONS
142
143 •  LOAD DATA LOCAL INFILE  "C:/Users/ahlam/Desktop/DATA ANALYST Bootcamp/Sprint 4/transactions.csv"
144    INTO TABLE transactions
145    FIELDS TERMINATED BY ';'
146    OPTIONALLY ENCLOSED BY '"'
147    LINES TERMINATED BY '\r\n'  --
148    IGNORE 1 LINES;
```

- Un cop creades totes les taules i carregat les dades el diagrama queda aixi, en estrella on totes les taules estan conectades a transactions, la taula de "products" la creat i carregat les dades pero no la he conectat.

- Exercici 1

Realitza una subconsulta que mostri tots els usuaris amb més de 30 transaccions utilitzant almenys 2 taules.

- Exercici 2

Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.

– Ho he fet teninit en compte si la transacio ha sigut declinada.

```
162      -- Exercici 2 Mostra la mitjana d'amount per IBAN de les targetes de crèdit a la companyia Donec Ltd, utilitza almenys 2 taules.
163
164 ●   SELECT cc.IBAN, ROUND(AVG(T.AMOUNT),2) AS MITJANA ,c.company_name
165      FROM credit_cards CC
166      JOIN transactions T ON t.card_id = cc.id
167      JOIN companies C ON t.business_id = c.company_id
168      WHERE company_name = "Donec Ltd" AND DECLINED = 0
169      GROUP BY  cc.IBAN, c.company_name;
170
```

IBAN	MITJANA	company_name
PT8780622813509242945646346	42.82	Donec Ltd

#	Time	Action	Message
● 183	12:41:24	SELECT cc.IBAN, ROUND(AVG(T.AMOUNT),2) AS MITJANA ,c.company_name FROM credit_card...	1 row(s) returned

Nivell 2

Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van ser declinades i genera la següent consulta:

```
180      -- Nivell 2 Crea una nova taula que reflecteixi l'estat de les targetes de crèdit basat en si les últimes tres transaccions van se
181      -- declinades i genera la següent consulta:
182
183 ●   USE sprint4;
184      -- Aquest funciona
185 ●   CREATE TABLE card_status AS
186      SELECT cc.id,  CASE WHEN SUM(CASE WHEN t.declined = 1 THEN 1 ELSE 0 END) = 3 THEN 'Inactive'ELSE 'Active'END AS status
187      FROM credit_cards CC
188      JOIN transactions T ON T.card_id = CC.id
189      WHERE cc.id in (SELECT tmp_table.id FROM
190      (SELECT cc1.id, t1.timestamp from transactions t1 inner join credit_cards cc1 on t1.card_id = cc1.id
191      where cc1.id = cc.id
192      order by t1.card_id, t1.timestamp DESC
193      LIMIT 3) tmp_table)
194      group by cc.id;
```

#	Time	Action	Message
● 158	10:56:09	CREATE TABLE card_status AS SELECT cc.id, CASE WHEN SUM(CASE WHEN t.declined = 1 TH...	275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0

Exercici 1

Quantes targetes estan actives?

```
207        -- Exercici 1 Quantes targetes estan actives?*/
208
209 ●      SELECT COUNT(STATUS) as targetes_actives
210        FROM card_status
211        WHERE status = 'Active';
212
213
214
```

targetes_actives
275

- – També he afegit a la taula card_status la Foreign Key per que quedi conectada a la taula Credit _cards

```
192
193        # MODIFICAR TAULA card_status PER UNIRLA AMB TRANSACTION
194 ●      ALTER TABLE card_status
195           ADD FOREIGN KEY(id)
```

| | 213 | 13:25:49 | ALTER TABLE card_status ADD FOREIGN KEY(id) REFERENCES credit_cards(id) | 275 row(s) affected Records: 275 Duplicates: 0 Warnings: 0 | 0.063 sec |

- – Aixi queda el diagrama final.