

DATA ANALYTICS – SQL – SPRINT 4

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Data Analytics – SQL – Sprint 4

Sprint 4

Nivel 1

Descarga los archivos CSV, estúdialos y diseña una base de datos con un esquema de estrella que contenga, al menos 4 tablas de las que puedas realizar las siguientes consultas:

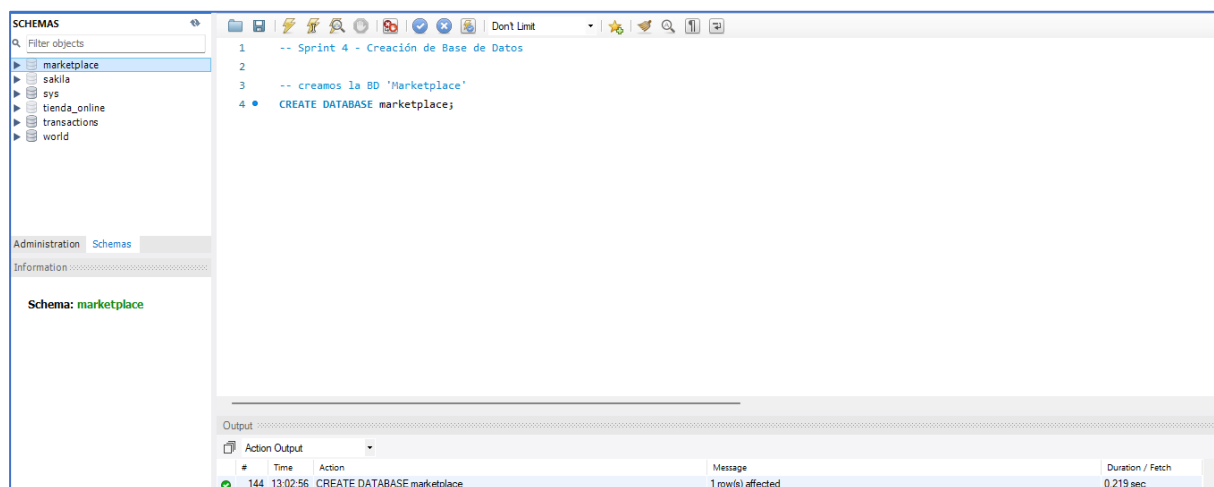
Verifico las tablas y las columnas de cada tabla además de que relaciones pueden tener con base en los ids de cada una.

La tabla 'transactions' es una tabla de hechos y las demás tablas son tablas de dimensiones.

Considero que las tablas american_users y european_users son redundantes y que se pueden juntar en una única dimensión: users.

transactions	products	companies	credit_cards	american_users	european_users
id	id	company_id	id	id	id
card_id	product_name	company_name	user_id	name	name
business_id	price	phone	iban	surname	surname
timestamp	colour	email	pan	phone	phone
amount	weight	country	pin	email	email
declined	warehouse_id	website	cvv	birth_date	birth_date
product_ids			track1	country	country
user_id			track2	city	city
lat			expiring_date	postal_code	postal_code
longitude				address	address

Paso a crear el Banco de Datos que le voy a llamar **Marketplace** y a la creación de cada una de las tablas.



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Voy a crear las tablas temporales con todas las columnas de tipo VARCHAR(500) para carga de los datos. Los tipos de datos van a ser tratados posterior a la carga de los ficheros .csv.

```
8  -- creamos la tabla temporal products
9  CREATE TABLE IF NOT EXISTS products_temp (
10     id VARCHAR(250) NULL,
11     product_name VARCHAR(500) NULL,
12     price VARCHAR(500) NULL,
13     colour VARCHAR(500) NULL,
14     weight VARCHAR(500) NULL,
15     warehouse_id VARCHAR(500) NULL
16 );
17
18 -- creamos la tabla temporal company
19 CREATE TABLE IF NOT EXISTS company_temp (
20     company_id VARCHAR(500) NULL,
21     company_name VARCHAR(500) NULL,
22     phone VARCHAR(500) NULL,
23     email VARCHAR(500) NULL,
24     country VARCHAR(500) NULL,
25     website VARCHAR(500) NULL
26 );
```

Output

#	Time	Action	Message	Duration / Fetch
168	10:42:25	CREATE TABLE IF NOT EXISTS products_temp (id VARCHAR(250) NULL, product_na...	0 row(s) affected	0.047 sec
169	10:42:25	CREATE TABLE IF NOT EXISTS company_temp (company_id VARCHAR(500) NULL, c...	0 row(s) affected	0.031 sec

```
28  -- creamos la tabla temporal credit_card
29  CREATE TABLE IF NOT EXISTS credit_card_temp (
30     id VARCHAR(500) NULL,
31     user_id VARCHAR(500) NULL,
32     iban VARCHAR(500) NULL,
33     pan VARCHAR(500) NULL,
34     pin VARCHAR(500) NULL,
35     cvv VARCHAR(500) NULL,
36     track1 VARCHAR(500) NULL,
37     track2 VARCHAR(500) NULL,
38     expiring_date VARCHAR(500) NULL
39 );
```

Output

#	Time	Action	Message	Duration / Fetch
170	10:42:25	CREATE TABLE IF NOT EXISTS credit_card_temp (id VARCHAR(500) NULL, user_id V...	0 row(s) affected	0.047 sec

```
41  -- creamos la tabla temporal american_users
42  CREATE TABLE IF NOT EXISTS american_users_temp (
43     id VARCHAR(500) NULL,
44     name VARCHAR(500) NULL,
45     surname VARCHAR(500) NULL,
46     phone VARCHAR(500) NULL,
47     email VARCHAR(500) NULL,
48     birth_date VARCHAR(500) NULL,
49     country VARCHAR(500) NULL,
50     city VARCHAR(500) NULL,
51     postal_code VARCHAR(500) NULL,
52     address VARCHAR(500) NULL
53 );
```

Output

#	Time	Action	Message	Duration / Fetch
171	10:42:25	CREATE TABLE IF NOT EXISTS american_users_temp (id VARCHAR(500) NULL, nam...	0 row(s) affected	0.047 sec

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```
55 -- creamos la tabla temporal european_users
56 CREATE TABLE IF NOT EXISTS european_users_temp (
57   id VARCHAR(500) NULL,
58   name VARCHAR(500) NULL,
59   surname VARCHAR(500) NULL,
60   phone VARCHAR(500) NULL,
61   email VARCHAR(500) NULL,
62   birth_date VARCHAR(500) NULL,
63   country VARCHAR(500) NULL,
64   city VARCHAR(500) NULL,
65   postal_code VARCHAR(500) NULL,
66   address VARCHAR(500) NULL
67 );
```

Output

#	Time	Action	Message	Duration / Fetch
171	10:42:25	CREATE TABLE IF NOT EXISTS european_users_temp (id VARCHAR(500) NULL, nam...	0 row(s) affected	0.047 sec
172	10:42:25	CREATE TABLE IF NOT EXISTS european_users_temp (id VARCHAR(500) NULL, nam...	0 row(s) affected	0.046 sec

```
69 -- creamos la tabla temporal transactions
70 CREATE TABLE IF NOT EXISTS transaction_temp (
71   id VARCHAR(500) NULL,
72   card_id VARCHAR(500) NULL,
73   business_id VARCHAR(500) NULL,
74   timestamp VARCHAR(500) NULL,
75   amount VARCHAR(500) NULL,
76   declined VARCHAR(500) NULL,
77   product_ids VARCHAR(500) NULL,
78   user_id VARCHAR(500) NULL,
79   lat VARCHAR(500) NULL,
80   longitude VARCHAR(500) NULL
81 );
```

Output

#	Time	Action	Message	Duration / Fetch
172	10:42:25	CREATE TABLE IF NOT EXISTS european_users_temp (id VARCHAR(500) NULL, nam...	0 row(s) affected	0.046 sec
173	10:42:26	CREATE TABLE IF NOT EXISTS transaction_temp (id VARCHAR(500) NULL, card_id V...	0 row(s) affected	0.032 sec

Intento cargar los datos en la tabla temporal 'products_temp' pero me sale el error 1290 - secure-file-privilege

```
83 -- cargamos datos em la tabla temporal 'products_temp'
84 LOAD DATA
85 INFILE 'C:\\Users\\anac1\\OneDrive\\IT Academy Cibernarium\\Data_Analytics\\Sprint4\\products.csv'
86 INTO TABLE products_temp
87 FIELDS TERMINATED BY ','
88 IGNORE 1 ROWS;
```

Output

#	Time	Action	Message	Duration / Fetch
174	10:59:24	LOAD DATA INFILE 'C:\\Users\\anac1\\OneDrive\\IT Academy Cibernarium\\Data_Analytic...	Error Code: 1290. The MySQL server is running with the --secure-file-priv option so it cann...	0.079 sec

Guardo el fichero en la carpeta 'Uploads' de MySQL y hago nuevo intento.

```
83 -- cargamos datos em la tabla temporal 'products_temp'
84 LOAD DATA
85 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\products.csv'
86 INTO TABLE products_temp
87 FIELDS TERMINATED BY ','
88 LINES TERMINATED BY '\n'
89 IGNORE 1 ROWS;
```

Output

#	Time	Action	Message	Duration / Fetch
178	11:15:33	LOAD DATA INFILE 'C:\\Users\\anac1\\OneDrive\\IT Academy Cibernarium\\Data_Ana...	Error Code: 1290. The MySQL server is running with the --secure-file-priv option so it cann...	0.000 sec
179	11:15:44	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\product...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.062 sec

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```
91 -- consulto la carga de los datos
92 • SELECT *
93 FROM products_temp
94 LIMIT 5;
95
```

	id	product_name	price	colour	weight	warehouse_id
▶	1	Direwolf Stannis	\$161.11	#7c7c7c	1	WH-4
	2	Tarly Stark	\$9.24	#919191	2	WH-3
	3	duel tourney Lannister	\$171.13	#d8d8d8	1.5	WH-2
	4	warden south duel	\$71.89	#111111	3	WH-1
	5	skywalker ewok	\$171.22	#dbdbdb	3.2	WH-0

products_temp 2 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
179	11:15:44	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\product...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.062 sec
180	11:25:05	SELECT * FROM products_temp LIMIT 5	5 row(s) returned	0.047 sec / 0.000 sec

```
96 -- consultamos la tabla 'company_temp'
97 • SELECT *
98 FROM company_temp;
99
```

	company_id	company_name	phone	email	country	website
--	------------	--------------	-------	-------	---------	---------

company_temp 3 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
180	11:25:05	SELECT * FROM products_temp LIMIT 5	5 row(s) returned	0.047 sec / 0.000 sec
181	11:28:27	SELECT * FROM company_temp	0 row(s) returned	0.046 sec / 0.000 sec

```
101 • LOAD DATA
102 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\companies.csv'
103 INTO TABLE company_temp
104 FIELDS TERMINATED BY ','
105 LINES TERMINATED BY '\n'
106 IGNORE 1 ROWS;
107
108 -- consultamos la carga de los datos
109 • SELECT *
110 FROM company_temp
111 LIMIT 5;
```

	company_id	company_name	phone	email	country	website
▶	b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porttitor.tellus@yahoo.net	Germany	https://instagram.com/site
	b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@cloud.org	Australia	https://whatsapp.com/group/9
	b-2230	Fusce Corp.	08 14 97 58 85	risus@protonmail.edu	United States	https://pinterest.com/sub/cars
	b-2234	Convallis In Incorporated	06 66 57 29 50	mauris.ut@aol.couk	Germany	https://conn.com/user/110
	b-2238	Ante Taculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings

company_temp 9 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
190	11:34:38	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\compan...	100 row(s) affected Records: 100 Deleted: 0 Skipped: 0 Warnings: 0	0.000 sec
191	11:34:44	SELECT * FROM company_temp LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec

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```
113 -- consultamos la tabla 'credit_card_temp'
114 • SELECT *
115 FROM credit_card_temp;
116
```

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

id	user_id	iban	pan	pin	cvv	track1	track2	expiring_date
----	---------	------	-----	-----	-----	--------	--------	---------------

credit_card_temp 11 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 192	11:38:54	SELECT * FROM company_temp	100 row(s) returned	0.000 sec / 0.000 sec
✓ 193	11:39:08	SELECT * FROM credit_card_temp	0 row(s) returned	0.031 sec / 0.000 sec

```
117 -- cargamos datos en la tabla temporal 'credit_card_temp'
118 • LOAD DATA
119 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\credit_cards.csv'
120 INTO TABLE credit_card_temp
121 FIELDS TERMINATED BY ','
122 LINES TERMINATED BY '\n'
123 IGNORE 1 ROWS;
124
125 -- consultamos la carga de los datos
126 • SELECT *
127 FROM credit_card_temp
128 LIMIT 5;
```

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

id	user_id	iban	pan	pin	cvv	track1	track2	expiring_date
CcU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%B8383712448554646^WovsxjDpwiev^8604...	%B87653863056044187=800716333673	10/30/22
CcU-2945	274	DO26854763748537475216568689	5142423821948828	9080	887	%B4621311609958661^UftuyfsSeimxn^06106...	%B4149568437843501=510714033071	08/24/23
CcU-2952	273	BG451VQL52710525608255	4556 453 55 5287	4598	438	%B2183285104307501^CddytdLxwfdq^5907...	%B6778580257827162=6906859740077	06/29/21
CcU-2959	272	CR7242477244335841535	372461377349375	3583	667	%B7281111956795320^XocddjBkeed^09016...	%B4246154489281853=280522391678	02/24/23

credit_card_temp 12 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 194	11:39:41	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\credit_c...	5000 row(s) affected Records: 5000 Deleted: 0 Skipped: 0 Warnings: 0	0.359 sec
✓ 195	11:39:48	SELECT * FROM credit_card_temp LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec

```
130 -- vamos a utilizar apenas una tabla users ya que las columnas son las mismas tanto para american cuanto para european users
131
132 -- cambiamos el nombre de la tabla 'american_users_temp' a 'users_temp'
133 • RENAME TABLE american_users_temp TO users_temp;
134
135 -- consultamos el cambio de nombre de la tabla
136 • DESC users_temp;
137
138 -- borramos la tabla 'european_users_temp'
139 • DROP TABLE european_users_temp;
140
141 -- consultamos la tabla
142 • DESC european_users_temp;
143
```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 194	11:39:41	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\credit_c...	5000 row(s) affected Records: 5000 Deleted: 0 Skipped: 0 Warnings: 0	0.359 sec
✓ 195	11:39:48	SELECT * FROM credit_card_temp LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec
✓ 196	11:45:50	RENAME TABLE american_users_temp TO users_temp	0 row(s) affected	0.110 sec
✓ 197	11:47:15	DESC users_temp	10 row(s) returned	0.031 sec / 0.000 sec
✓ 198	11:47:34	DROP TABLE european_users_temp	0 row(s) affected	0.047 sec
✗ 199	11:48:07	DESC european_users_temp	Error Code: 1146. Table 'marketplace.european_users_temp' doesn't exist	0.000 sec

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144 -- consultamos la tabla 'users_temp'

145 • SELECT *

146 FROM users_temp;

147

Result Grid

id	name	surname	phone	email	birth_date	country	city	postal_code	address
----	------	---------	-------	-------	------------	---------	------	-------------	---------

users_temp 14 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
199	11:48:07	DESC european_users_temp	Error Code: 1146. Table 'marketplace.european_users_temp' doesn't exist	0.000 sec
200	11:51:07	SELECT * FROM users_temp	0 row(s) returned	0.156 sec / 0.000 sec

148 -- cargamos datos en la tabla temporal 'users_temp'

149 • LOAD DATA

150 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\american_users.csv'

151 INTO TABLE users_temp

152 FIELDS TERMINATED BY ','

153 ENCLOSED BY ''

154 LINES TERMINATED BY '\n'

155 IGNORE 1 ROWS;

156 -- consultamos la carga de los datos

157 • SELECT *

158 FROM users_temp

159 LIMIT 5;

Result Grid

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	New York	10001	348-7818 Sagittis St.
2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org	Aug 23, 1992	United States	Philadelphia	19101	903 Sit Ave
3	Ciaran	Harrison	(522) 598-1365	interdum.feugiat@aol.org	Apr 29, 1998	United States	Houston	77001	736-2063 Tellus St.
4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu	Feb 18, 1989	United States	Phoenix	85001	Ap #545-2244 Erat. Rd.
5	Hayfa	Pierce	1-554-541-2077	et.malesuada.fames@hotmail.org	Sep 26, 1998	United States	Philadelphia	19101	341-2821 Ultrices Av.

users_temp 17 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
210	12:06:33	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\america...	1010 row(s) affected Records: 1010 Deleted: 0 Skipped: 0 Warnings: 0	0.078 sec
211	12:06:57	SELECT * FROM users_temp LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec

162 -- cargamos datos de la tabla european_users en la tabla temporal 'users_temp'

163 • LOAD DATA

164 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\european_users.csv'

165 INTO TABLE users_temp

166 FIELDS TERMINATED BY ','

167 ENCLOSED BY ''

168 LINES TERMINATED BY '\n'

169 IGNORE 1 ROWS;

Output

Action Output

#	Time	Action	Message	Duration / Fetch
211	12:06:57	SELECT * FROM users_temp LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec
212	12:10:24	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\europe...	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.188 sec

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```
171 -- consultamos la tabla 'transaction_temp'
172 • SELECT *
173 FROM transaction_temp;
174
```

Result Grid

	id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
--	----	---------	-------------	-----------	--------	----------	-------------	---------	-----	-----------

transaction_temp 18 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
212	12:10:24	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\europe...	3990 row(s) affected Records: 3990 Deleted: 0 Skipped: 0 Warnings: 0	0.188 sec
213	12:13:20	SELECT * FROM transaction_temp	0 row(s) returned	0.079 sec / 0.000 sec

```
175 -- cargamos datos en la tabla temporal 'transaction_temp'
176 • LOAD DATA
177 INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\transactions.csv'
178 INTO TABLE transaction_temp
179 FIELDS TERMINATED BY ','
180 ENCLOSED BY '"'
181 LINES TERMINATED BY '\n'
182 IGNORE 1 ROWS;
183
184 -- consultamos la carga de los datos
185 • SELECT *
186 FROM transaction_temp;
```

Result Grid

	id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
▶	CDDA7E40-544D-47BB-A4ED-671DD8A950D9	CcS-6894	b-2466	2018-12-12 08:05:17	161.88	0	75, 73, 98	2313	59.62050974356148	16.559977155728436
	09456357-8E9B-475A-8257-87A023699964	CcS-5135	b-2342	2024-05-20 22:49:08	171.13	0	3	554	45.76458841901318	4.843056518287656
	C47C7C84-C174-4973-A76B-825A9B5582A	CcS-8415	b-2250	2018-11-04 23:16:18	497.29	0	92, 85, 36, 23	3834	52.06849608409912	4.301099382555438
	2FB526AA-3844-40DF-AC09-2EBC258EE76	CcS-6553	b-2610	2022-06-17 09:17:25	344.15	0	5, 27	1972	39.47598513179192	-0.3764194439184784
	0D877407-885E-40D2-9229-6BD6F2B8DFOA	CcS-7678	b-2454	2020-11-29 07:29:16	435.1	0	38, 32, 82, 62	3097	51.43656985032189	5.478525648707596

transaction_temp 19 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
214	12:15:26	LOAD DATA INFILE 'C:\\ProgramData\\MySQL\\MySQL Server 8.0\\Uploads\\transact...	100000 row(s) affected Records: 100000 Deleted: 0 Skipped: 0 Warnings: 0	3.094 sec
215	12:16:00	SELECT * FROM transaction_temp	100000 row(s) returned	0.000 sec / 0.156 sec

```
222
223 -- cambiamos el tipo de dato de VARCHAR(500) a FLOAT
224 • ALTER TABLE transaction_temp
225 MODIFY COLUMN longitude FLOAT;
226
227 -- consultamos los cambios
228 • DESC transaction_temp;
```

Result Grid

Field	Type	Null	Key	Default	Extra
id	varchar(38)	YES		NULL	
card_id	varchar(8)	YES		NULL	
business_id	varchar(6)	YES		NULL	
timestamp	timestamp	YES		NULL	
amount	decimal(10,2)	YES		NULL	

Result 21 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
219	13:24:45	ALTER TABLE transaction_temp MODIFY COLUMN card_id VARCHAR(8)	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	3.828 sec
220	13:25:18	ALTER TABLE transaction_temp MODIFY COLUMN business_id VARCHAR(6)	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	2.593 sec
221	13:25:26	ALTER TABLE transaction_temp MODIFY COLUMN timestamp TIMESTAMP	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	2.015 sec
222	13:25:32	ALTER TABLE transaction_temp MODIFY COLUMN amount DECIMAL(10,2)	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	1.297 sec
223	13:25:38	ALTER TABLE transaction_temp MODIFY COLUMN declined TINYINT(1)	100000 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be ...	0.969 sec
224	13:25:43	ALTER TABLE transaction_temp MODIFY COLUMN user_id INT	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	1.125 sec
225	13:26:18	ALTER TABLE transaction_temp MODIFY COLUMN lat FLOAT	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	1.016 sec

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```
230 -- renombramos la tabla
231 • RENAME TABLE transaction_temp to transaction;
232
233 -- consultamos
234 • SELECT *
235 FROM transaction
236 LIMIT 5;
```

Result Grid

	id	card_id	business_id	timestamp	amount	declined	product_ids	user_id	lat	longitude
▶	CDDA7E40-544D-478B-A4ED-671DD8A950D9	CcS-6894	b-2466	2018-12-12 08:05:17	161.88	0	75, 73, 98	2313	59.6205	16.56
	09456357-8E9B-475A-8257-87A023699964	CcS-5135	b-2342	2024-05-20 22:49:08	171.13	0	3	554	45.7646	4.84306
	C47C7C84-C174-4973-A76B-825A9DB5582A	CcS-8415	b-2250	2018-11-04 23:16:18	497.29	0	92, 85, 36, 23	3834	52.0685	4.3011
	2FB526AA-3844-4DDF-AC09-2EBCC255EE76	CcS-6553	b-2610	2022-06-17 09:17:25	344.15	0	5, 27	1972	39.476	-0.376419
	0D877407-885E-40D2-9229-68D6F2B8DF0A	CcS-7678	b-2454	2020-11-29 07:29:16	435.10	0	38, 32, 82, 62	3097	51.4366	5.47853

transaction 22 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 229	13:36:19	RENAME TABLE transaction_temp to transaction	0 row(s) affected	0.047 sec
✗ 230	13:37:12	SELECT * FROM transactions LIMIT 5	Error Code: 1146. Table 'marketplace.transactions' doesn't exist	0.000 sec
✓ 231	13:37:22	SELECT * FROM transaction LIMIT 5	5 row(s) returned	0.016 sec / 0.000 sec

```
239 -- formatamos los datos de la tabla 'credit_card_temp'
240
241 -- consultamos la formatación actual
242 • DESC credit_card_temp;
```

Result Grid

Field	Type	Null	Key	Default	Extra
id	varchar(500)	YES		NULL	
user_id	varchar(500)	YES		NULL	
iban	varchar(500)	YES		NULL	
pan	varchar(500)	YES		NULL	
pin	varchar(500)	YES		NULL	
cvv	varchar(500)	YES		NULL	
track1	varchar(500)	YES		NULL	
track2	varchar(500)	YES		NULL	
expiring_date	varchar(500)	YES		NULL	

Result 23 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 231	13:37:22	SELECT * FROM transaction LIMIT 5	5 row(s) returned	0.016 sec / 0.000 sec
✓ 232	13:40:37	DESC credit_card_temp	9 row(s) returned	0.015 sec / 0.000 sec

```
244 -- cambiamos el tipo de dato de VARCHAR(500) a lo que corresponda
245 • ALTER TABLE credit_card_temp
246 MODIFY COLUMN id VARCHAR(8),
247 MODIFY COLUMN user_id INT,
248 MODIFY COLUMN iban VARCHAR(34),
249 MODIFY COLUMN pan VARCHAR(20),
250 MODIFY COLUMN pin VARCHAR(4),
251 MODIFY COLUMN cvv VARCHAR(3),
252 MODIFY COLUMN track1 VARCHAR(100),
253 MODIFY COLUMN track2 VARCHAR(100)
254 ;
255
```

Result Grid

Field	Type	Null	Key	Default	Extra
pin	varchar(4)	YES		NULL	
cvv	varchar(3)	YES		NULL	
track1	varchar(100)	YES		NULL	
track2	varchar(100)	YES		NULL	
expiring_date	varchar(500)	YES		NULL	

Result 27 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 239	13:57:21	ALTER TABLE credit_card_temp MODIFY COLUMN id VARCHAR(8), MODIFY COLUM...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.625 sec

Data Analytics – SQL – Sprint 4

```
256 -- consultamos los cambios
257 • DESC credit_card_temp;
```

Result Grid

Field	Type	Null	Key	Default	Extra
id	varchar(8)	YES		NULL	
user_id	int	YES		NULL	
iban	varchar(34)	YES		NULL	
pan	varchar(20)	YES		NULL	
pin	varchar(4)	YES		NULL	
cvv	varchar(3)	YES		NULL	
track1	varchar(100)	YES		NULL	
track2	varchar(100)	YES		NULL	
expiring_date	varchar(500)	YES		NULL	

Result 27 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
239	13:57:21	ALTER TABLE credit_card_temp MODIFY COLUMN id VARCHAR(8), MODIFY COLUM...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.625 sec
240	13:58:22	DESC credit_card_temp	9 row(s) returned	0.000 sec / 0.000 sec

```
259 -- renombramos la tabla
260 • RENAME TABLE credit_card_temp TO credit_card;
261
262 -- consultamos la tabla
263 • SELECT *
264 FROM credit_card
265 LIMIT 5;
```

Result Grid

id	user_id	iban	pan	pin	cvv	track1	track2	expiring_
CdU-2938	275	TR301950312213576817638661	5424465566813633	3257	984	%B8383712448554646^WovsxjDpwiev^8604...	%B7653863056044187=800716333673	10/30/22
CdU-2945	274	DO26854763748537475216568689	514243821948828	9080	887	%B4621311609958661^UftuyfsSeimxn^06106...	%B4149568437843501=510714033071	08/24/23
CdU-2952	273	BG45IVQL52710525608255	4556 453 55 5287	4598	438	%B2183285104307501^CddyttUxwfdq^5907...	%B6778580257827162=6906859740077	06/29/21
CdU-2959	272	CR7242477244335841535	372461377349375	3583	667	%B7281111956795320^XocddjBkecd^09016...	%B4246154489281853=280522391678	02/24/23
CdU-2966	271	RG721KTO15627628377363	448566 886747 7765	4000	130	%B472843272756273^Ilnue fHmwnt^7202	%B7318571115500881=800821578425	10/24/24

credit_card 28 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
241	09:47:09	RENAME TABLE credit_card_temp TO credit_card	0 row(s) affected	0.250 sec
242	09:47:57	SELECT * FROM credit_card LIMIT 5	5 row(s) returned	0.079 sec / 0.000 sec

```
267 -- formatamos los datos de la tabla 'company_temp'
268 -- consultamos la formación actual
269 • DESC company_temp;
```

Result Grid

Field	Type	Null	Key	Default	Extra
company_id	varchar(500)	YES		NULL	
company_name	varchar(500)	YES		NULL	
phone	varchar(500)	YES		NULL	
email	varchar(500)	YES		NULL	
country	varchar(500)	YES		NULL	
website	varchar(500)	YES		NULL	

Result 29 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
242	09:47:57	SELECT * FROM credit_card LIMIT 5	5 row(s) returned	0.079 sec / 0.000 sec
243	09:54:49	DESC company_temp	6 row(s) returned	0.031 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
271 -- cambiamos el tipo de dato de VARCHAR(500) a lo que corresponda
272 • ALTER TABLE company_temp
273   MODIFY COLUMN company_id VARCHAR(6),
274   MODIFY COLUMN company_name VARCHAR(150),
275   MODIFY COLUMN phone VARCHAR(15),
276   MODIFY COLUMN email VARCHAR(100),
277   MODIFY COLUMN country VARCHAR(100),
278   MODIFY COLUMN website VARCHAR(150)
279 ;
280 -- -- consultamos los cambios
281 • DESC company_temp;
```

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

Field	Type	Null	Key	Default	Extra
company_id	varchar(6)	YES		NULL	
company_name	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
country	varchar(100)	YES		NULL	
website	varchar(150)	YES		NULL	

Result 30 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
244	09:59:33	ALTER TABLE company_temp MODIFY COLUMN company_id VARCHAR(6), MODIFY ...	100 row(s) affected Records: 100 Duplicates: 0 Warnings: 0	0.188 sec
245	10:00:02	DESC company_temp	6 row(s) returned	0.016 sec / 0.000 sec

```
283 -- renombramos la tabla de 'company_temp' a 'company'
284 • RENAME TABLE company_temp TO company;
285
286 -- consultamos la tabla
287 • SELECT *
288   FROM company
289   LIMIT 5;
```

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

company_id	company_name	phone	email	country	website
b-2222	Ac Fermentum Incorporated	06 85 56 52 33	donec.porrtitor.tellus@yahoo.net	Germany	https://instagram.com/site
b-2226	Magna A Neque Industries	04 14 44 64 62	risus.donec.nibh@icloud.org	Australia	https://whatsapp.com/group/9
b-2230	Fusce Corp.	08 14 97 58 85	risus@protonmail.edu	United States	https://pinterest.com/sub/cars
b-2234	Convallis In Incorporated	06 66 57 29 50	mauris.ut@aol.co.uk	Germany	https://cnn.com/user/110
b-2238	Ante Jaculis Nec Foundation	08 23 04 99 53	sed.dictum.proin@outlook.ca	New Zealand	https://netflix.com/settings

company 31 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
246	10:01:46	RENAME TABLE company_temp TO company	0 row(s) affected	0.047 sec
247	10:02:00	SELECT * FROM company LIMIT 5	5 row(s) returned	0.016 sec / 0.000 sec

```
291 -- formatamos los datos de la tabla 'users_temp'
292 -- consultamos los datos de la tabla
293 • DESC users_temp;
```

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

Field	Type	Null	Key	Default	Extra
id	varchar(500)	YES		NULL	
name	varchar(500)	YES		NULL	
surname	varchar(500)	YES		NULL	
phone	varchar(500)	YES		NULL	
email	varchar(500)	YES		NULL	
birth_date	varchar(500)	YES		NULL	
country	varchar(500)	YES		NULL	
city	varchar(500)	YES		NULL	
postal_code	varchar(500)	YES		NULL	
address	varchar(500)	YES		NULL	

Result 32 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
247	10:02:00	SELECT * FROM company LIMIT 5	5 row(s) returned	0.016 sec / 0.000 sec
248	10:04:09	DESC users_temp	10 row(s) returned	0.000 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
295 -- cambiamos los tipos de datos de las columnas de VARCHAR(500) a lo que corresponda
296 • ALTER TABLE users_temp
297   MODIFY COLUMN id INT,
298   MODIFY COLUMN name VARCHAR(150),
299   MODIFY COLUMN surname VARCHAR(150),
300   MODIFY COLUMN phone VARCHAR(15),
301   MODIFY COLUMN email VARCHAR(100),
302   MODIFY COLUMN birth_date VARCHAR(12),
303   MODIFY COLUMN country VARCHAR(100),
304   MODIFY COLUMN city VARCHAR(100),
305   MODIFY COLUMN postal_code VARCHAR(10),
306   MODIFY COLUMN address VARCHAR(255);
```

Result Grid | Filter Rows: | Exports: | Wrap Cell Contents: |

Field	Type	Null	Key	Default	Extra
id	int	YES		NULL	
name	varchar(150)	YES		NULL	
surname	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	

Result 33 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
250	10:14:31	ALTER TABLE users_temp MODIFY COLUMN id INT, MODIFY COLUMN name VARCHAR...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.422 sec

```
309 -- -- consultamos los cambios
310 • DESC users_temp;
```

Result Grid | Filter Rows: | Exports: | Wrap Cell Contents: |

Field	Type	Null	Key	Default	Extra
id	int	YES		NULL	
name	varchar(150)	YES		NULL	
surname	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
birth_date	varchar(12)	YES		NULL	
country	varchar(100)	YES		NULL	
city	varchar(100)	YES		NULL	
postal_code	varchar(10)	YES		NULL	
address	varchar(255)	YES		NULL	

Result 33 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
250	10:14:31	ALTER TABLE users_temp MODIFY COLUMN id INT, MODIFY COLUMN name VARCHAR...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.422 sec
251	10:15:42	DESC users_temp	10 row(s) returned	0.047 sec / 0.000 sec

```
312 -- renombramos la tabla de 'users_temp' a 'users'
313 • RENAME TABLE users_temp TO users;
314
315 -- consultamos la tabla users
316 • SELECT *
```

Result Grid | Filter Rows: | Exports: | Wrap Cell Contents: |

	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	New York	10001	348-7818 Sagittis St.
2	Garrett	Mcconnell	(718) 257-2412	integer.vitae.nibh@protonmail.org		Aug 23, 1992	United States	Philadelphia	19101	903 Sit Ave
3	Ciaran	Harrison	(522) 598-1365	interdum.feugiat@aol.org		Apr 29, 1998	United States	Houston	77001	736-2063 Tellus St.
4	Howard	Stafford	1-411-740-3269	ornare.egestas@icloud.edu		Feb 18, 1989	United States	Phoenix	85001	Ap #545-2244 Erat. Rd.
5	Hayfa	Pierce	1-554-541-2077	et.malesuada.fames@hotmail.org		Sep 26, 1998	United States	Philadelphia	19101	341-2821 Ultrices Av.

users 37 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
254	10:27:07	RENAME TABLE users_temp TO users	0 row(s) affected	0.047 sec
255	10:27:12	SELECT * FROM users LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
320 -- creamos las PK en las tablas
321
322 -- consultamos la tabla company
323 • DESC company;
324
```

Field	Type	Null	Key	Default	Extra
company_id	varchar(6)	YES		NULL	
company_name	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
country	varchar(100)	YES		NULL	
website	varchar(150)	YES		NULL	

Result 38 x Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
258	10:29:57	SELECT * FROM users LIMIT 5	5 row(s) returned	0.000 sec / 0.000 sec
259	10:42:59	DESC company	6 row(s) returned	0.000 sec / 0.000 sec

```
325 -- en la tabla 'company' creamos la PK en la columna 'company_id'
326 • ALTER TABLE company
327 ADD PRIMARY KEY (company_id);
328
329 -- consultamos la PK creada
330 • DESC company;
331
```

Field	Type	Null	Key	Default	Extra
company_id	varchar(6)	NO	PRI	NULL	
company_name	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
country	varchar(100)	YES		NULL	
website	varchar(150)	YES		NULL	

Result 39 x Read On

Output

Action Output

#	Time	Action	Message	Duration / Fetch
260	10:43:49	ALTER TABLE company ADD PRIMARY KEY (company_id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.203 sec
261	10:43:54	DESC company	6 row(s) returned	0.000 sec / 0.000 sec

```
332 -- consultamos la tabla 'credit_card'
333 • DESC credit_card;
334
```

Field	Type	Null	Key	Default	Extra
id	varchar(8)	YES		NULL	
user_id	int	YES		NULL	
iban	varchar(34)	YES		NULL	
pan	varchar(20)	YES		NULL	
pin	varchar(4)	YES		NULL	
cvv	varchar(3)	YES		NULL	
track1	varchar(100)	YES		NULL	
track2	varchar(100)	YES		NULL	
expiring_date	varchar(500)	YES		NULL	

Result 40 x Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
261	10:43:54	DESC company	6 row(s) returned	0.000 sec / 0.000 sec
262	10:44:57	DESC credit_card	9 row(s) returned	0.000 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
335 -- en la tabla 'credit_card' creamos la PK en la columna 'id'
336 • ALTER TABLE credit_card
337   ADD PRIMARY KEY (id);
338
339 -- consultamos la PK creada
340 • DESC credit_card;
341
```

Result Grid Filter Rows: Exports: Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
id	varchar(8)	NO	PRI	NULL	
user_id	int	YES		NULL	
iban	varchar(34)	YES		NULL	
pan	varchar(20)	YES		NULL	
pin	varchar(4)	YES		NULL	
cvv	varchar(3)	YES		NULL	
track1	varchar(100)	YES		NULL	
track2	varchar(100)	YES		NULL	
expiring_date	varchar(500)	YES		NULL	

Result 41 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
263	10:45:51	ALTER TABLE credit_card ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.406 sec
264	10:45:54	DESC credit_card	9 row(s) returned	0.000 sec / 0.000 sec

```
342 -- consultamos la tabla 'users'
343 • DESC users;
344
```

Result Grid Filter Rows: Exports: Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
id	int	YES		NULL	
name	varchar(150)	YES		NULL	
surname	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
birth_date	varchar(12)	YES		NULL	
country	varchar(100)	YES		NULL	
city	varchar(100)	YES		NULL	
postal_code	varchar(10)	YES		NULL	
address	varchar(255)	YES		NULL	

Result 42 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
264	10:45:54	DESC credit_card	9 row(s) returned	0.000 sec / 0.000 sec
265	10:46:25	DESC users	10 row(s) returned	0.000 sec / 0.000 sec

```
345 -- en la tabla 'users' creamos la PK en la columna 'id'
346 • ALTER TABLE users
347   ADD PRIMARY KEY (id);
348
349 -- consultamos la PK creada
350 • DESC users;

```

Result Grid Filter Rows: Exports: Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	
name	varchar(150)	YES		NULL	
surname	varchar(150)	YES		NULL	
phone	varchar(15)	YES		NULL	
email	varchar(100)	YES		NULL	
birth_date	varchar(12)	YES		NULL	
country	varchar(100)	YES		NULL	
city	varchar(100)	YES		NULL	
postal_code	varchar(10)	YES		NULL	
address	varchar(255)	YES		NULL	

Result 43 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
266	10:47:04	ALTER TABLE users ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.500 sec
267	10:47:07	DESC users	10 row(s) returned	0.000 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
352 -- consultamos la tabla 'transaction'
353 • DESC transaction;
```

Field	Type	Null	Key	Default	Extra
id	varchar(38)	YES		NULL	
card_id	varchar(8)	YES		NULL	
business_id	varchar(6)	YES		NULL	
timestamp	timestamp	YES		NULL	
amount	decimal(10,2)	YES		NULL	
declined	tinyint(1)	YES		NULL	
product_ids	varchar(500)	YES		NULL	
user_id	int	YES		NULL	
lat	float	YES		NULL	
longitude	float	YES		NULL	

Result 45 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
269	10:47:51	DESC transaction	10 row(s) returned	0.016 sec / 0.000 sec
270	10:48:09	DESC transaction	10 row(s) returned	0.000 sec / 0.000 sec

```
355 -- en la tabla 'transaction' creamos la PK en la columna 'id'
356 • ALTER TABLE transaction
357   ADD PRIMARY KEY (id);
358
359 -- consultamos la PK creada en la tabla 'transaction'
360 • DESC transaction;
```

Field	Type	Null	Key	Default	Extra
id	varchar(38)	NO	PRI	NULL	
card_id	varchar(8)	YES		NULL	
business_id	varchar(6)	YES		NULL	
timestamp	timestamp	YES		NULL	
amount	decimal(10,2)	YES		NULL	
declined	tinyint(1)	YES		NULL	
product_ids	varchar(500)	YES		NULL	
user_id	int	YES		NULL	
lat	float	YES		NULL	
longitude	float	YES		NULL	

Result 46 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
271	10:48:36	ALTER TABLE transaction ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	3.328 sec
272	10:49:13	DESC transaction	Error Code: 1146. Table 'marketplace.transaction' doesn't exist	0.000 sec
273	10:49:31	DESC transaction	10 row(s) returned	0.000 sec / 0.000 sec

He optado por crear las FK con restricción para borrar datos en la tabla padre si hay datos en la tabla 'transaction' (ON DELETE RESTRICT).

En mi punto de vista si hay un registro de transacción este no se debería borrar en absoluto (ON DELETE CASCADE) ni tampoco perder la referencia de las tablas padre (ON DELETE SET NULL).

```
362 -- creamos las FK en la tabla 'transaction'
363
364 • ALTER TABLE transaction
365   ADD CONSTRAINT fk_transaction_creditcard
366   FOREIGN KEY (card_id) REFERENCES credit_card(id)
367   ON DELETE RESTRICT;
```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
282	17:55:40	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_creditcard FOREIGN KE...	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	7.187 sec

Data Analytics – SQL – Sprint 4

```
369 • ALTER TABLE transaction
370 ADD CONSTRAINT fk_transaction_company
371 FOREIGN KEY (business_id) REFERENCES company(company_id)
372 ON DELETE RESTRICT;
373
374 • ALTER TABLE transaction
375 ADD CONSTRAINT fk_transaction_users
376 FOREIGN KEY (user_id) REFERENCES users(id)
377 ON DELETE RESTRICT;
378
379
```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
284	17:57:33	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_company FOREIGN KEY ...	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	7.469 sec
285	17:57:46	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_users FOREIGN KEY (us...	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	8.797 sec

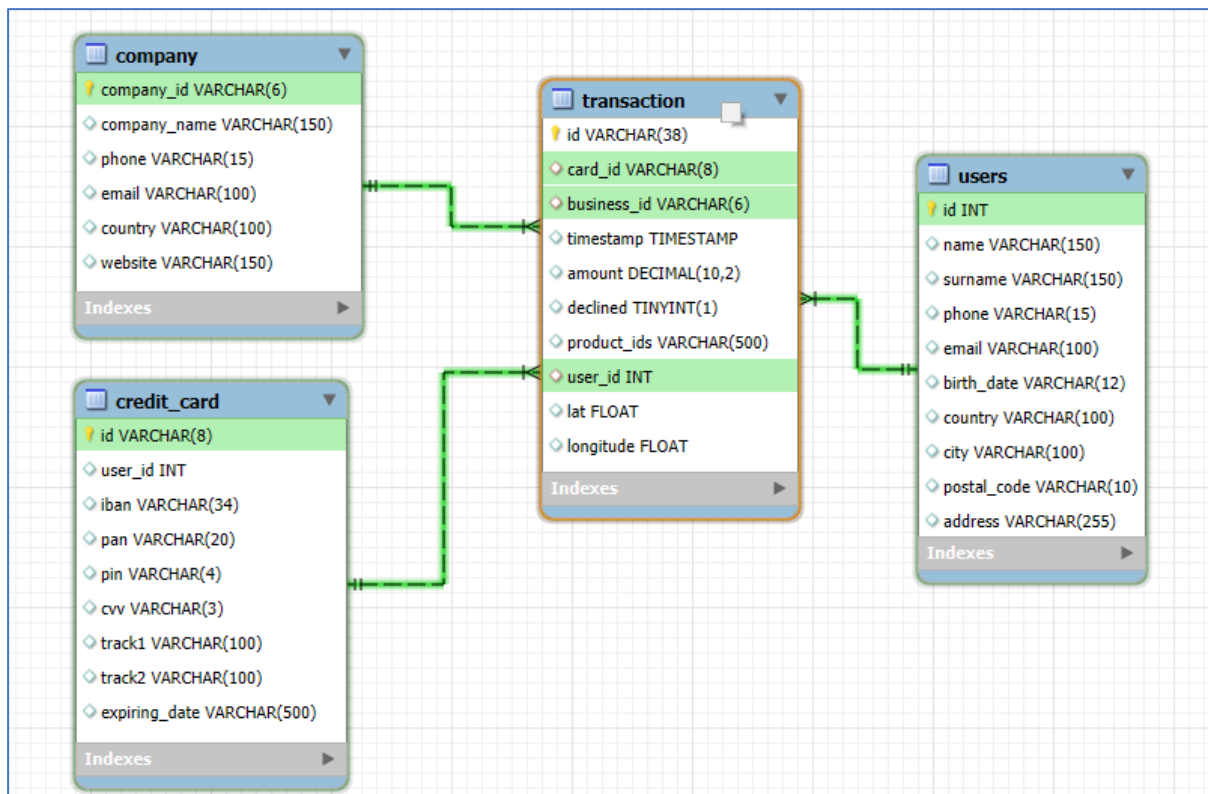
```
379 -- consultamos la creación de las FKs
380 • DESC transaction;
```

Result Grid						
Field	Type	Null	Key	Default	Extra	
id	varchar(38)	NO	PRI	NULL		
card_id	varchar(8)	YES	MUL	NULL		
business_id	varchar(6)	YES	MUL	NULL		
timestamp	timestamp	YES		NULL		
amount	decimal(10,2)	YES		NULL		
declined	tinyint(1)	YES		NULL		
product_ids	varchar(500)	YES		NULL		
user_id	int	YES	MUL	NULL		
lat	float	YES		NULL		
longitude	float	YES		NULL		

Result 54 x

Output				
#	Time	Action	Message	Duration / Fetch
285	17:57:46	ALTER TABLE transaction ADD CONSTRAINT fk_transaction_users FOREIGN KEY (us...	100000 row(s) affected Records: 100000 Duplicates: 0 Warnings: 0	8.797 sec
286	17:58:47	DESC transaction	10 row(s) returned	0.016 sec / 0.000 sec

Generamos el modelo estrella.



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Data Analytics – SQL – Sprint 4

Ejercicio 1

Realiza una subconsulta que muestre a todos los usuarios con más de 80 transacciones utilizando al menos 2 tablas

```
382 -- usuarios con más de 80 transacciones
383 • SELECT *
384   FROM users AS u
385  WHERE EXISTS(-- subquery para encontrar los usuarios con más de 80 transacciones
386              SELECT t.user_id
387                FROM transaction AS t
388               WHERE t.user_id = u.id
389                  HAVING COUNT(t.id) > 80
390              )
391      ;
```

id	name	surname	phone	email	birth_date	country	city	postal_code	address
185	Molly	Gilliam	0800 120 8023	donec@outlook.couk	Dec 21, 1993	United Kingdom	London	EC1A 1BB	P.O. Box 202, 5638 Mi Rd.
289	Dxwgi	Hwcru	+98-309-8797	dxwgi.hwcru@example.com	Aug 20, 1976	Germany	Stuttgart	70173	82 Hwcru Street
318	Bnyr	Astuw	+33-120-9644	bnyr.astuw@example.com	May 3, 1974	Italy	Genoa	16100	53 Astuw Street
454	Sfzoh	Xgvfridxs	+58-495-3945	sfzoh.xgvfridxs@example.com	Aug 28, 1962	Poland	Gdansk	80-001	52 Xgvfridxs Street
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

users 67 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
310	21:32:45	SELECT * FROM users AS u WHERE EXISTS(-- subquery para encontrar los ids de los u...	4 row(s) returned	0.063 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

Nivel 1

Ejercicio 2

Muestra la media de amount por IBAN de las tarjetas de crédito en la compañía Donec Ltd., utiliza por lo menos 2 tablas.

```
393 -- media de amount por IBAN de las tarjetas de crédito en la compañía Donec Ltd.
394 • SELECT c.company_name, cc.iban, ROUND(AVG(t.amount),2) as average_amount
395 FROM transaction AS t
396 LEFT JOIN company AS c
397 ON t.business_id = c.company_id
398 LEFT JOIN credit_card AS cc
399 ON t.card_id = cc.id
400 WHERE c.company_name = 'Donec Ltd'
401 GROUP BY c.company_name, cc.iban
402 ;
```

company_name	iban	average_amount
Donec Ltd	XX911406401125586307586805	356.25
Donec Ltd	SK9446370242474562577506	142.96
Donec Ltd	XX776752917845952975555640	257.37
Donec Ltd	XX413827362289719304908990	139.59
Donec Ltd	XX347787246070769610780308	240.41

Result 20 ×

Output

#	Time	Action	Message	Duration / Fetch
54	12:20:27	SELECT c.company_name, cc.iban, ROUND(AVG(t.amount),2) as average_amount FRO...	371 row(s) returned	0.328 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

Nivel 2

Crea una nueva tabla que refleje el estado de las tarjetas de crédito basado en si las últimas tres transacciones fueron declinadas y genera la siguiente consulta:

Ejercicio 1

¿Cuántas tarjetas están activas?

```
404 -- Nivel 2
405 -- crear una nueva tabla con el estado de las tarjetas de crédito basado en si las últimas tres transacciones fueron declinadas
406 • CREATE TABLE card_status AS
407     SELECT consulta2.card_id,
408         CASE -- agrega una columna con el estado de las tarjetas
409             WHEN SUM(consulta2.declined) = 3 THEN 'INACTIVE'
410             ELSE 'ACTIVE'
411         END AS card_status
412     FROM (-- select para seleccionar las últimas 3 transacciones
413         SELECT consulta1.*
414         FROM (-- select para incluir un rango en las transacciones ordenadas por fechas de más a menos reciente
415             SELECT t.*, ROW_NUMBER () OVER (PARTITION BY t.card_id ORDER BY t.timestamp DESC) AS cardrank
416             FROM transaction AS t
417         ) AS consulta1
418         WHERE cardrank <= 3) AS consulta2
419     GROUP BY consulta2.card_id
420 ;
421
```

Output

#	Time	Action	Message	Duration / Fetch
69	22:26:57	SELECT consulta2.card_id, CASE WHEN SUM(consulta2.declined) = 3 THEN INACTI...	5000 row(s) returned	0.563 sec / 0.000 sec
70	22:36:01	CREATE TABLE card_status AS SELECT consulta2.card_id, CASE -- agrega una colum...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	1.140 sec

```
422 -- consultamos la tabla creada
423 • SELECT *
424 FROM card_status;
```

Result Grid

card_id	card_status
CcS-4857	ACTIVE
CcS-4858	ACTIVE
CcS-4859	ACTIVE
CcS-4860	ACTIVE
CcS-4861	ACTIVE
CcS-4862	ACTIVE

card_status 3 x

Output

#	Time	Action	Message	Duration / Fetch
70	22:36:01	CREATE TABLE card_status AS SELECT consulta2.card_id, CASE -- agrega una colum...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	1.140 sec
71	22:38:20	SELECT * FROM card_status	5000 row(s) returned	0.000 sec / 0.000 sec

```
426 -- consultamos cuantas tarjetas están activas
427 • SELECT COUNT(card_id)
428 FROM card_status
429 WHERE card_status = 'ACTIVE';
```

Result Grid

COUNT(card_id)
4995

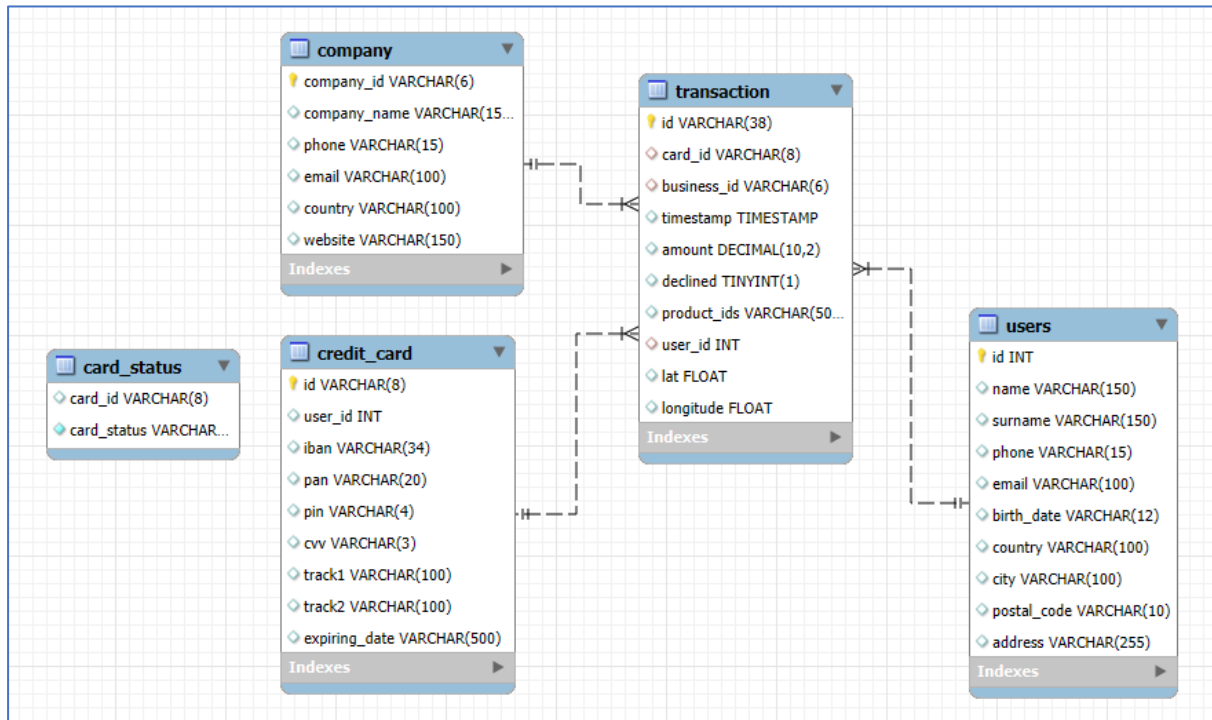
Result 4 x

Output

#	Time	Action	Message	Duration / Fetch
71	22:38:20	SELECT * FROM card_status	5000 row(s) returned	0.000 sec / 0.000 sec
72	22:40:10	SELECT COUNT(card_id) FROM card_status WHERE card_status = 'ACTIVE'	1 row(s) returned	0.016 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

Modelo después de la creación de la tabla 'card_status'



Creo la relación entre la tabla 'card_status' y 'credit_card'.

```
431 -- consultamos las características de la tabla
432 DESC card_status;
433
```

Field	Type	Null	Key	Default	Extra
card_id	varchar(8)	YES			
card_status	varchar(8)	NO			

Result 1 x

#	Time	Action	Message	Duration / Fetch
1	10:45:31	DESC card_status	2 row(s) returned	0.015 sec / 0.000 sec

```
434 -- creo la relación entre la nueva tabla 'card_status' y la tabla 'credit_card'
435 ALTER TABLE card_status
436 ADD CONSTRAINT fk_cardstatus_creditcard
437 FOREIGN KEY (card_id) REFERENCES credit_card(id)
438 ON DELETE RESTRICT;
439
440 -- consultamos la FK creada
441 DESC card_status;
```

Field	Type	Null	Key	Default	Extra
card_id	varchar(8)	YES	MUL		
card_status	varchar(8)	NO			

Result 2 x

#	Time	Action	Message	Duration / Fetch
2	10:47:09	ALTER TABLE card_status ADD CONSTRAINT fk_cardstatus_creditcard FOREIGN KE...	5000 row(s) affected Records: 5000 Duplicates: 0 Warnings: 0	0.609 sec
3	10:47:40	DESC card_status	2 row(s) returned	0.016 sec / 0.000 sec

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Data Analytics – SQL – Sprint 4

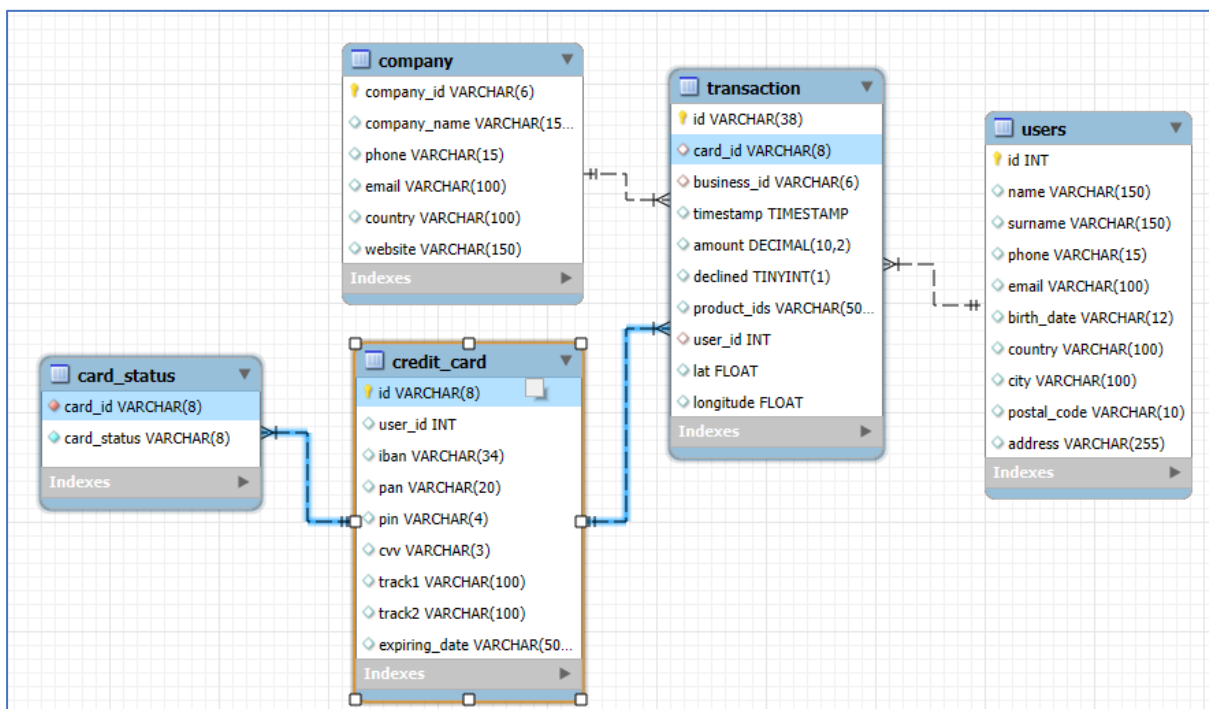
```
443 -- definimos card_id tambien como PK
444 • ALTER TABLE card_status
445   ADD PRIMARY KEY (card_id);
446
447 -- consultamos la PK creada
448 • DESC card_status;
```

Field	Type	Null	Key	Default	Extra
card_id	varchar(8)	NO	PRI		
card_status	varchar(8)	NO			

Result 4 x

Output

#	Time	Action	Message	Duration / Fetch
3	10:47:40	DESC card_status	2 row(s) returned	0.016 sec / 0.000 sec
4	11:04:29	ALTER TABLE card_status ADD PRIMARY KEY (card_id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.329 sec
5	11:04:45	DESC card_status	2 row(s) returned	0.000 sec / 0.000 sec



Data Analytics – SQL – Sprint 4

Nivel 3

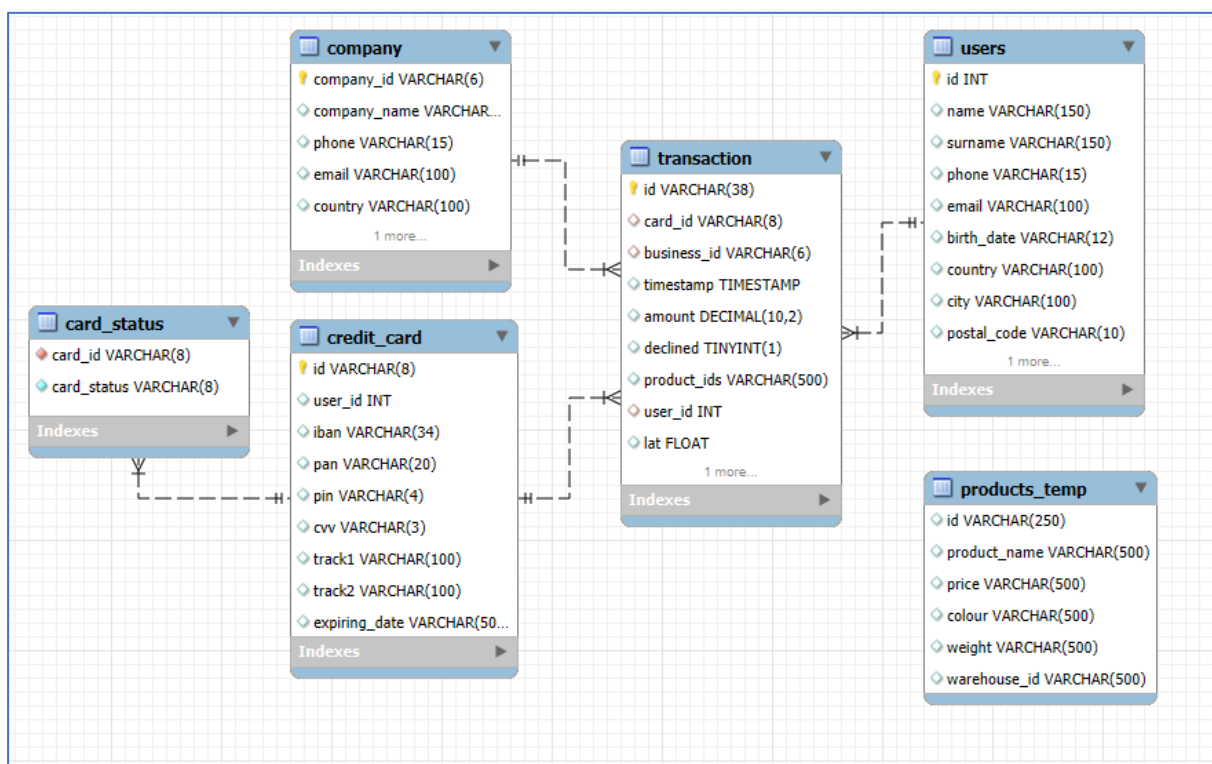
Crea una tabla con la que podamos unir los datos del nuevo archivo products.csv con la base de datos creada, teniendo en cuenta que desde transaction tienes product_ids. Genera la siguiente consulta:

Ejercicio 1

Necesitamos conocer el número de veces que se ha vendido cada producto.

Nota: Como en el nivel 1 se pedía descargar y estudiar los ficheros para hacer los ejercicios yo ya tengo la tabla 'products' creada en el nivel 1. Aquí en el nivel 3 empezaré por la revisión de los tipos de campos de las columnas y la creación de la PK y FK.

Presento el modelo con la tabla ya creada, antes de las modificaciones necesarias.



```
452 -- consultamos la tabla 'products_temp'
453 DESC products_temp;
454
```

Field	Type	Null	Key	Default	Extra
id	varchar(250)	YES		NULL	
product_name	varchar(500)	YES		NULL	
price	varchar(500)	YES		NULL	
colour	varchar(500)	YES		NULL	
weight	varchar(500)	YES		NULL	
warehouse_id	varchar(500)	YES		NULL	

Result 3 x

#	Time	Action	Message	Duration / Fetch
2	12:23:20	SELECT * FROM products_temp	100 row(s) returned	0.031 sec / 0.000 sec
3	12:31:02	DESC products_temp	6 row(s) returned	0.000 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
455 -- actualizamos los tipos de los campos en la tabla 'products_temp'
456 • ALTER TABLE products_temp
457   MODIFY COLUMN id INT,
458   MODIFY COLUMN product_name VARCHAR(250),
459   MODIFY COLUMN price VARCHAR(255),
460   MODIFY COLUMN colour VARCHAR(7),
461   MODIFY COLUMN weight DECIMAL(10,1),
462   MODIFY COLUMN warehouse_id VARCHAR(10);
463 -- consultamos la actualización
464 • DESC products_temp;
```

Field	Type	Null	Key	Default	Extra
id	int	YES		NULL	
product_name	varchar(250)	YES		NULL	
price	varchar(255)	YES		NULL	
colour	varchar(7)	YES		NULL	
weight	decimal(10,1)	YES		NULL	
warehouse_id	varchar(10)	YES		NULL	

Result 4 x

#	Time	Action	Message	Duration / Fetch
4	12:31:50	ALTER TABLE products_temp MODIFY COLUMN id INT, MODIFY COLUMN product_na...	100 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.734 sec
5	12:32:17	DESC products_temp	6 row(s) returned	0.000 sec / 0.000 sec

```
467 -- renombramos la tabla 'products_temp' a 'products'
468 • RENAME TABLE products_temp to products;
469
470 -- consultamos la tabla
471 • SELECT *
472   FROM products;
```

id	product_name	price	colour	weight	warehouse_id
1	Direwolf Stannis	\$161.11	#7c7c7c	1.0	WH-4
2	Tarly Stark	\$9.24	#919191	2.0	WH-3
3	duel tourney Lannister	\$171.13	#d8d8d8	1.5	WH-2
4	warden south duel	\$71.89	#111111	3.0	WH-1
5	skywalker ewok	\$171.22	#bdbdbd	3.2	WH-0
6	dooku solo	\$136.60	#c4c4c4	0.8	WH--1

products 5 x

#	Time	Action	Message	Duration / Fetch
6	12:34:22	RENAME TABLE products_temp to products	0 row(s) affected	0.031 sec
7	12:34:51	SELECT * FROM products	100 row(s) returned	0.000 sec / 0.000 sec

```
474 -- creamos la tabla puente 'transaction_products'
475 • CREATE TABLE transaction_products (
476   transaction_id VARCHAR(38),
477   product_id INT
478 );
479
480 -- consultamos la tabla
481 • DESC transaction_products;
```

Field	Type	Null	Key	Default	Extra
transaction_id	varchar(38)	YES		NULL	
product_id	int	YES		NULL	

Result 6 x

#	Time	Action	Message	Duration / Fetch
12	13:09:05	CREATE TABLE transaction_products (transaction_id VARCHAR(38), product_id I...	0 row(s) affected	0.047 sec
13	13:09:35	DESC transaction_products	2 row(s) returned	0.016 sec / 0.000 sec

Data Analytics – SQL – Sprint 4

```
483 -- insertamos los datos en la tabla creada
484 • INSERT INTO transaction_products (transaction_id, product_id)
485     SELECT
486         t.id,
487         jt.product_id
488     FROM transaction AS t
489     JOIN JSON_TABLE(
490         CONCAT('[', REPLACE(t.product_ids, ',', ' '), ']'),
491         "$[*]" COLUMNS (
492             product_id INT PATH "$"
493         )
494     ) AS jt;
```

transaction_id	product_id
00043A49-2949-494B-A5DD-A5BAE38B19DD	16
00043A49-2949-494B-A5DD-A5BAE38B19DD	26
00043A49-2949-494B-A5DD-A5BAE38B19DD	97
00043A49-2949-494B-A5DD-A5BAE38B19DD	87
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	66
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	69

transaction_products7 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
14	13:10:06	INSERT INTO transaction_products (transaction_id, product_id) SELECT t.id, jt.pro...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	5.688 sec

```
497 -- consultamos la tabla
498 • SELECT *
499 FROM transaction_products;
```

transaction_id	product_id
00043A49-2949-494B-A5DD-A5BAE38B19DD	16
00043A49-2949-494B-A5DD-A5BAE38B19DD	26
00043A49-2949-494B-A5DD-A5BAE38B19DD	97
00043A49-2949-494B-A5DD-A5BAE38B19DD	87
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	66
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	69

transaction_products7 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
14	13:10:06	INSERT INTO transaction_products (transaction_id, product_id) SELECT t.id, jt.pro...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	5.688 sec

Comparo el resultado de una transacción para comprobar que los datos se han cargado bien en la tabla puente.

transaction_id	product_id
00043A49-2949-494B-A5DD-A5BAE38B19DD	16
00043A49-2949-494B-A5DD-A5BAE38B19DD	26
00043A49-2949-494B-A5DD-A5BAE38B19DD	97
00043A49-2949-494B-A5DD-A5BAE38B19DD	87
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	66
000447FE-B650-4DCF-85DE-C7ED0EE1CAAD	69

```
501 -- consultamos un registro de la tabla transaction para comparación si se hizo bien
502 • SELECT product_ids
503 FROM transaction
504 WHERE id = '00043A49-2949-494B-A5DD-A5BAE38B19DD';
```

product_ids
16, 26, 97, 87

transaction 9 x

Output

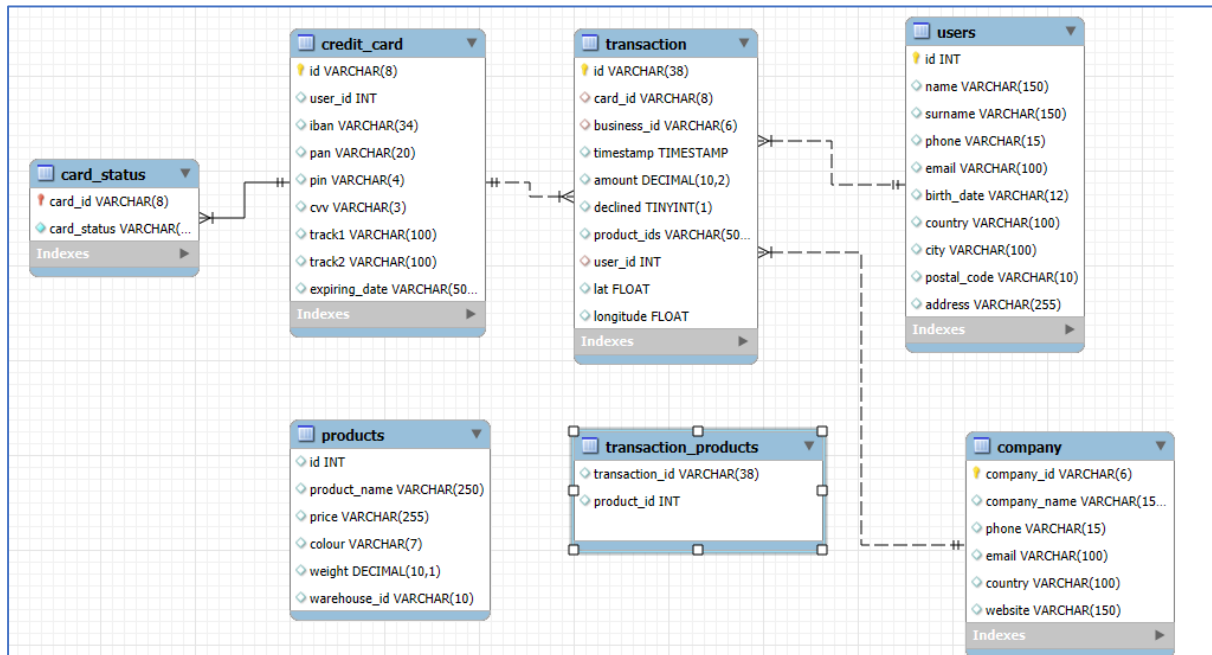
Action Output

#	Time	Action	Message	Duration / Fetch
17	13:15:49	SELECT product_ids FROM transaction WHERE id = '00043A49-2949-494B-A5BA...	1 row(s) returned	0.016 sec / 0.000 sec

Author: Ana Cláudia da Costa

Data Analytics – SQL – Sprint 4

Modelo después de las ultimas actualizaciones:



```
506 -- creamos las relaciones entre las tablas 'transaction_products' y 'transaction'
507 • ALTER TABLE transaction_products
508 ADD CONSTRAINT fk_transprod_transaction
509 FOREIGN KEY (transaction_id) REFERENCES transaction (id)
510 ON DELETE SET NULL;
511
```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
2	13:47:44	ALTER TABLE transaction_products ADD CONSTRAINT fk_transprod_transaction FOR...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	6.016 sec

```
512 -- definimos la PK en la tabla 'products'
513 • ALTER table products
514 ADD PRIMARY KEY (id);
515
```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
9	21:42:23	ALTER table products ADD PRIMARY KEY (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.750 sec

```
516 -- consultamos la creación de la PK
517 • DESC products;
```

Result Grid					
Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	
product_name	varchar(250)	YES		NULL	
price	varchar(255)	YES		NULL	
colour	varchar(7)	YES		NULL	
weight	decimal(10,1)	YES		NULL	
warehouse_id	varchar(10)	YES		NULL	

Result 7 x

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
11	21:43:55	DESC products	6 row(s) returned	0.094 sec / 0.000 sec

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Data Analytics – SQL – Sprint 4

```
519 -- creamos las relaciones entre las tablas 'transaction_products' y 'products'
520 • ALTER TABLE transaction_products
521 ADD CONSTRAINT fk_transprod_products
522 FOREIGN KEY (product_id) REFERENCES products(id)
523 ON DELETE SET NULL;
524
525
```

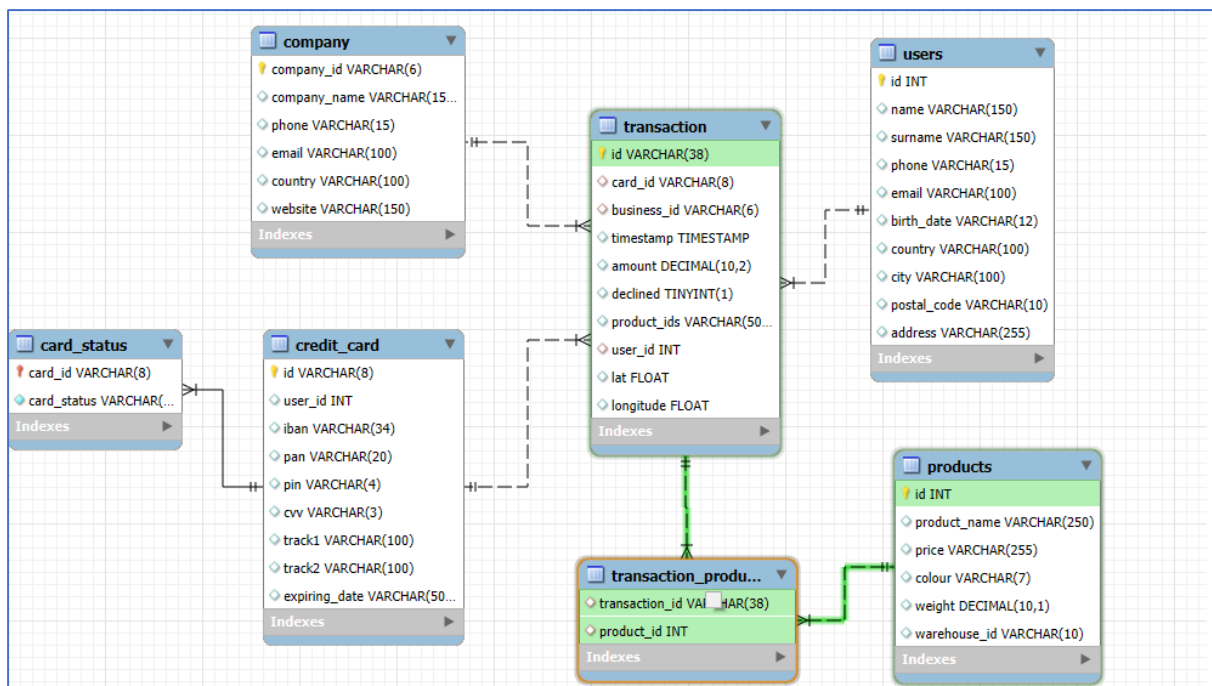
Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
12	21:44:05	DESC products	6 row(s) returned	0.000 sec / 0.000 sec
13	21:44:42	ALTER TABLE transaction_products ADD CONSTRAINT fk_transprod_products FOREI...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	14.797 sec

```
525 -- consultamos la creación de las FK en la tabla puente 'transaction_products'
526 • DESC transaction_products;
```

Result Grid						
Field	Type	Null	Key	Default	Extra	
transaction_id	varchar(38)	YES	MUL			
product_id	int	YES	MUL			

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
13	21:44:42	ALTER TABLE transaction_products ADD CONSTRAINT fk_transprod_products FOREI...	253391 row(s) affected Records: 253391 Duplicates: 0 Warnings: 0	14.797 sec
14	21:47:01	DESC transaction_products	2 row(s) returned	0.000 sec / 0.000 sec

Presento diagrama:



Data Analytics – SQL – Sprint 4

```
528 -- consultamos cuantas veces se vendió cada producto
529 • SELECT tp.product_id, p.product_name, COUNT(tp.transaction_id) AS sales
530 FROM transaction_products AS tp
531 LEFT JOIN products AS p
532 ON tp.product_id = p.id
533 GROUP BY tp.product_id, p.product_name
534 ORDER BY tp.product_id;
```

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

	product_id	product_name	sales
▶	1	Direwolf Stannis	2468
	2	Tarly Stark	2573
	3	duel tourney Lannister	2528
	4	warden south duel	2584
	5	skywalker ewok	2548
	6	dooku solo	2492

Result 17 x | Read Only

Output

#	Time	Action	Message	Duration / Fetch
✓ 26	22:17:34	SELECT tp product_id, p product_name, COUNT(tp.transaction_id) FROM transaction_pr...	100 row(s) returned	1.563 sec / 0.000 sec
✓ 27	22:18:14	SELECT tp product_id, p product_name, COUNT(tp.transaction_id) AS sales FROM trans...	100 row(s) returned	1.672 sec / 0.000 sec

Revisión

Hacer la consulta del ejercicio 2 nivel 1 sin el 'LIKE'.

En lugar de VARCHAR(500) puedes utilizar el tipo TEXT

Revisado por: Manoel