

**Universidad de Costa Rica**  
**Administración de bases de datos**  
**Mario Quirós Luna B76090**  
**Laboratorio 2**

**1) Creación de base de datos para el curso.**

- a. Se creó la base de datos llamada "IF5100\_2022\_B76090".

**2) Base de datos funcional?.**

- a. La base de datos funciona correctamente, como se vera en los siguientes puntos.

**3) Ingresar datos Dummy.**

- a. Se ingresaron varios registros en cada tabla, en las imágenes se muestran solo algunos por razones practicas para mostrar la información.

```
SELECT * FROM [CLI_COMMON].[tb_CLIENTS]
SELECT * FROM [CUSTOMERS].[tb_ADDRESS]
SELECT * FROM [CUSTOMERS].[tb_COUNTRY]
SELECT * FROM [CUSTOMERS].[tb_CREDIT_CARD]
SELECT * FROM [CUSTOMERS].[tb_CUSTOMER_ACCOUNTS]
SELECT * FROM [CUSTOMERS].[tb_CUSTOMER_ADDRESSES]
SELECT * FROM [CUSTOMERS].[tb_CUSTOMER_CREDIT_CARDS]
SELECT * FROM [CUSTOMERS].[tb_CUSTOMER_PHONES]
SELECT * FROM [CUSTOMERS].[tb_PHONE]
SELECT * FROM [CUSTOMERS].[tb_STATE_PROVINCE]
SELECT * FROM [FINANCIAL_DEPOSIT].[tb_CURRENCY]
SELECT * FROM [FINANCIAL_DEPOSIT].[tb_EVENT_TYPES]
SELECT * FROM [FINANCIAL_DEPOSIT].[tb_EVENTS]
SELECT * FROM [FINANCIAL_DEPOSIT].[tb_PAYMENT_TYPE]
```

CLIENT_ID	NAME	INDUSTRY_DESC	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1000	BAC	Financiero	1	0	laboratorios	2022-04-04 10:58:00.927
2 1001	BN	Financiero	1	0	laboratorios	2022-04-04 10:58:00.927

ADDRESS_ID	DETAILS	STATE_PROVINCE_ID	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1000	San Pedro	1	1	0	laboratorios	2022-04-04 10:51:06.970
2 1001	Paseo la reforma	2	1	0	laboratorios	2022-04-04 10:51:06.970

COUNTRY_ID	COUNTRY_NAME	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	Costa Rica	1	0	laboratorios	2022-04-04 10:36:51.610
2 2	Estados Unidos	1	0	laboratorios	2022-04-04 10:37:09.657

CREDIT_CARD_ID	CREDIT_CARD_NUMBER	CREDIT_CARD_BRAND	EXPIRATION_MONTH	EXPIRATION_YEAR	CVV	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 5000	552244388288082	1	9	2024	717	1	0	laboratorios	2022-04-02 13:42:32.753
2 5001	6461681095399517	2	4	2025	474	1	0	laboratorios	2022-04-02 13:42:32.863

CUSTOMER_ACCOUNT_ID	CLIENT_ID	CUSTOMER_NAME	CUSTOMER_LAST_NAME	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	1000	Mario	Quirós Luna	1	0	laboratorios	2022-04-04 11:11:32.470
2 2	1000	Isabel	Portugues Calderón	1	0	laboratorios	2022-04-04 11:11:32.470

CUSTOMER_ACCOUNT_ID	ADDRESS_ID	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	1000	1	0	laboratorios	2022-04-07 20:21:15.460
2 2	1000	1	0	laboratorios	2022-04-07 20:21:15.460

CUSTOMER_ACCOUNT_ID	CREDIT_CARD_ID	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	5000	1	0	laboratorios	2022-04-07 20:24:37.823
2 2	5001	1	0	laboratorios	2022-04-07 20:24:37.823

CUSTOMER_ACCOUNT_ID	PHONE_ID	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	1	1	0	laboratorios	2022-04-06 11:49:17.703
2 1	4	1	0	laboratorios	2022-04-06 12:12:08.020

PHONE_ID	PHONE_NUMBER	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	87111111	1	0	laboratorios	2022-04-04 10:53:11.127
2 2	87222222	1	0	laboratorios	2022-04-04 10:53:11.127

STATE_PROVINCE_ID	STATE_NAME	COUNTRY_ID	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	San Jose	1	1	0	laboratorios	2022-04-04 10:42:15.520
2 2	Mexico DC	3	1	0	laboratorios	2022-04-04 10:43:48.263

CURRENCY_ID	CURRENCY_NAME
1 1	Euro
2 2	Dolar

EVENT_TYPE_ID	EVENT_TYPE
1 1	Compra
2 2	Retiro

EVENT_ID	CLIENT_ID	EVENT_TYPE_ID	CUSTOMER_ACCOUNT_ID	AMOUNT	PAYMENT_TYPE_ID	CURRENCY_ID	SUBMITTED_DATE	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1000	1003	3	144	97167.0000000000	4	1	2022-04-18 11:09:09.573	1	0	laboratorios	2022-04-18 11:09:09.573
2 1003	1002	3	254	94596.0000000000	3	6	2022-04-18 11:09:56.420	1	0	laboratorios	2022-04-18 11:09:56.420

PAYMENT_TYPE_ID	PAYMENT_TYPE	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1 1	Bitcoin	1	0	laboratorios	2022-04-18 10:26:00.057
2 2	Paypal	1	0	laboratorios	2022-04-18 10:26:00.057
3 3	Tarjeta de credito	1	0	laboratorios	2022-04-18 10:26:00.057
4 4	Tarjeta de debito	1	0	laboratorios	2022-04-18 10:26:00.057
5 5	Criptomonedas	1	0	laboratorios	2022-04-18 10:26:00.057

#### 4) Procedimientos almacenados para automatizar insercion de “Cuentas Cliente” nuevas y eventos nuevos.

##### a. Cuentas cliente.

```
-- =====
-- Author:      Mario Quiros Luna
-- Create date: 20/04/2022
-- Description: Simula la insercion de cuentas cliente en la base de datos.
--              Usando una tabla con nombres dummy y otra con apellidos dummy para crear nombres aleatorios.
-- =====
CREATE PROCEDURE FINANCIAL_DEPOSIT.sp_INSERT_CUSTOMER_ACCOUNT MOCK
AS
BEGIN
    INSERT INTO [CUSTOMERS].[tb_CUSTOMER_ACCOUNTS] (
        [CLIENT_ID], [CUSTOMER_NAME], [CUSTOMER_LAST_NAME], [IS_ACTIVE], [IS_DELETED], [LAST_MODIFIED_BY], [LAST_MODIFIED_DATE]
    ) VALUES (
        FLOOR(RAND()*(1003-1000+1)+1000),
        (
            SELECT
                first_name
            FROM MOCKS.MOCK_DATA_FIRST_NAMES
            WHERE ID = FLOOR(RAND()*(500-1+1)+1)
        ),
        (
            SELECT
                last_name
            FROM MOCKS.MOCK_DATA_LAST_NAMES
            WHERE ID = FLOOR(RAND()*(500-1+1)+1)
        ),
        1,
        0,
        SUSER_NAME(),
        GETDATE());
END
GO
```

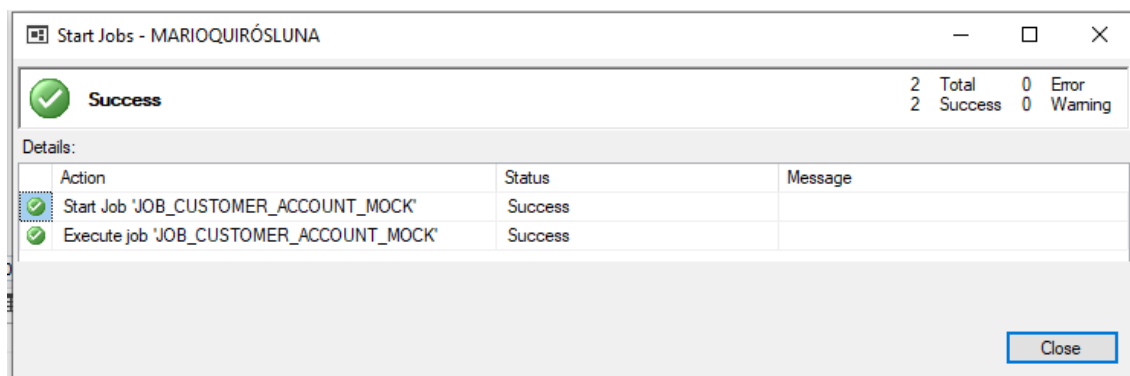
## b. Eventos.

```
-- =====
-- Author:      Mario Quiros Luna
-- Create date: 20/04/2022
-- Description: Simula la insercion de eventos en la base de datos.
-- =====

CREATE PROCEDURE FINANCIAL_DEPOSIT.sp_INSERT_EVENTS MOCK
AS
BEGIN
    INSERT INTO [FINANCIAL_DEPOSIT].[tb_EVENTS]
    (
        [CLIENT_ID]
        , [EVENT_TYPE_ID]
        , [CUSTOMER_ACCOUNT_ID]
        , [AMOUNT]
        , [PAYMENT_TYPE_ID]
        , [CURRENCY_ID]
        , [SUBMITTED_DATE]
        , [IS_ACTIVE]
        , [IS_DELETED]
        , [LAST_MODIFIED_BY]
        , [LAST_MODIFIED_DATE]
    )
    VALUES
    (
        FLOOR(RAND()*(1003-1000+1)+1000) --ID DE LOS BANCOS DE 1000 A 1003
        , FLOOR(RAND()*(3-1+1)+1) --ID DEL TIPO DE EVENTO DE 1 A 3
        , FLOOR(RAND()*(303-1+1)+1) --ID DEL CLIENTE QUE REALIZA EL EVENTO
        , FLOOR(RAND()*(100000-1000+1)+1000) --SIMULACION DE UN MONTO
        , FLOOR(RAND()*(5-1+1)+1) --ID DE TIPO DE PAGO
        , FLOOR(RAND()*(6-1+1)+1) --ID DE DIVISA UTILIZADA
        , GETDATE() --FECHA A LA QUE SE REALIZA EL EVENTO
        , 1 --ACTIVO
        , 0 --BORRADO
        , USER_NAME() --ULTIMA PERSONA QUE MODIFICO
        , GETDATE() --ULTIMA HORA DED MODIFICACION
    )
END
GO
```

5) Crear un “JOB” que permita simular el funcionamiento de un ambiente de producción.

a. Job 1: Inserta customer account cada 10 segundos en las horas definidas.



100 %

Results Messages

	CUSTOMER_ACCOUNT_ID	CLIENT_ID	CUSTOMER_NAME	CUSTOMER_LAST_NAME	IS_ACTIVE	IS_DELETED	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
100	100	1000	Kippy	Feldhuhn	0	0	kfeldhuhn2r	2021-09-03 09:34:36.000
101	101	1001	Margaret	Frisdick	1	0	sa	2022-04-20 21:20:34.157
102	102	1001	Vincenz	Salling	1	0	NT SERVICE\SQLS...	2022-04-20 21:30:11.130
103	103	1000	Shawn	Barrasse	1	0	NT SERVICE\SQLS...	2022-04-20 21:30:20.740
104	104	1003	Danielle	Thomassen	1	0	NT SERVICE\SQLS...	2022-04-20 21:30:30.813
105	105	1003	Inessa	Streeton	1	0	NT SERVICE\SQLS...	2022-04-20 21:30:40.907
106	106	1001	Loleta	Carles	1	0	NT SERVICE\SQLS...	2022-04-20 21:30:50.963
107	107	1003	Bamis	Bodega	1	0	NT SERVICE\SQLS...	2022-04-20 21:31:01.030
108	108	1002	Josefa	Allerton	1	0	NT SERVICE\SQLS...	2022-04-20 21:31:10.070
109	109	1003	Joyous	Cordeau	1	0	NT SERVICE\SQLS...	2022-04-20 21:31:20.137
110	110	1001	Vasili	Bamborough	1	0	NT SERVICE\SQLS...	2022-04-20 21:31:30.250

Query executed successfully. MARIOQUIRÓSLUNA (15.0 RTM) sa (51) Testing 00:00:00

**b. Job 2: Inserta eventos cada 10 segundos en las horas definidas.**

Start Jobs - MARIOQUIRÓSLUNA

Success

2 Total 0 Error  
2 Success 0 Warning

Details:

Action	Status	Message
Start Job 'JOB_INSERT_EVENTS MOCK'	Success	
Execute job 'JOB_INSERT_EVENTS MOCK'	Success	

Close

	EVENT_ID	CLIENT_ID	EVENT_TYPE_ID	CUSTOMER...	AMOUNT	PAYM...	CUR...	SUBMITTED_DATE	IS_A...	IS_...	LAST_MODIFIED_BY	LAST_MODIFIED_DATE
1	1000	1002	1	74	75571.00...	1	4	2022-04-20 21:21:30.323	1	0	sa	2022-04-20 21:21:30.323
2	1001	1002	2	21	13678.00...	3	1	2022-04-20 21:47:00.950	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:00.950
3	1002	1001	1	30	92142.00...	5	2	2022-04-20 21:47:10.063	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:10.063
4	1003	1003	2	19	35191.00...	3	5	2022-04-20 21:47:20.173	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:20.173
5	1004	1001	1	49	30147.00...	5	2	2022-04-20 21:47:30.223	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:30.223
6	1005	1002	3	26	44792.00...	1	5	2022-04-20 21:47:40.280	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:40.280
7	1006	1001	3	64	44260.00...	5	5	2022-04-20 21:47:50.350	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:47:50.350
8	1007	1000	1	97	62665.00...	5	6	2022-04-20 21:48:00.417	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:00.417
9	1008	1001	1	92	23335.00...	4	1	2022-04-20 21:48:10.493	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:10.493
10	1009	1001	3	44	43260.00...	1	4	2022-04-20 21:48:20.560	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:20.560
11	1010	1001	1	65	48535.00...	5	6	2022-04-20 21:48:30.650	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:30.650
12	1011	1003	3	21	93520.00...	1	1	2022-04-20 21:48:40.717	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:40.717
13	1012	1002	3	92	9688.000...	5	4	2022-04-20 21:48:50.803	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:48:50.803
14	1013	1003	3	69	16788.00...	2	6	2022-04-20 21:49:00.890	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:00.890
15	1014	1003	2	20	55232.00...	4	5	2022-04-20 21:49:10.993	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:10.993
16	1015	1003	2	18	14122.00...	5	6	2022-04-20 21:49:20.053	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:20.053
17	1016	1003	2	17	17065.00...	3	4	2022-04-20 21:49:30.123	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:30.123
18	1017	1000	2	88	80230.00...	3	5	2022-04-20 21:49:40.190	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:40.190
19	1018	1000	3	37	38393.00...	5	3	2022-04-20 21:49:50.253	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:49:50.253
20	1019	1000	1	83	58135.00...	5	4	2022-04-20 21:50:00.480	1	0	NT SERVICE\SQLSERVERAGENT	2022-04-20 21:50:00.480

Query executed successfully. MARIOQUIRÓSLUNA (15.0 RTM) sa (51) Testing 00:00:00