

Práctica 9 - Academia Cobol 2023

Alumno: Víctor Lavalle

Instructor: Héctor Camacho

Código Fuente

```
*-----*
IDENTIFICATION DIVISION.
*-----*

PROGRAM-ID.      CBLDB21
AUTHOR.          Víctor Lavalle.

*-----*
*                                     *
*                               "Practice 9"                               *
*                                     *
* Instructions: Handle errors with SQLCODES, Commits and Rollback*
*                                     *
*-----*

*-----*
ENVIRONMENT DIVISION.
*-----*

CONFIGURATION SECTION.
INPUT-OUTPUT SECTION.
FILE-CONTROL.
    SELECT REPOUT
        ASSIGN TO UT-S-REPORT.

*-----*

DATA DIVISION.
*-----*

FILE SECTION.
FD  REPOUT
    RECORD CONTAINS 25 CHARACTERS
    LABEL RECORDS ARE OMITTED
    DATA RECORD IS REPREC.

01 REPREC.
    05 ACCT-STATE-0          PIC X(18).
    05 ACCT-CLIENTS-COUNT-0  PIC X(02).
    05 FILLER                PIC X(05).
```

WORKING-STORAGE SECTION.

01 FLAGS.

```
05 BANDERA-CURSOR          PIC X          VALUE SPACE.
08 FIN-CURSOR              VALUE 'Y'.
08 NO-FIN-CURSOR           VALUE 'N'.
```

```
EXEC SQL INCLUDE SQLCA  END-EXEC.
```

```
01 UD-ERROR-MESSAGE        PIC X(80)      VALUE SPACES.
01 SQLCODES.
05 SQLCODE0                PIC S9(9) COMP-5 VALUE 0.
05 SQLCODE100              PIC S9(9) COMP-5 VALUE 100.
```

```
* DECLARACION SQL DE LA TABLA *
```

```
EXEC SQL DECLARE Z94474T TABLE
(ACCTNO CHAR(8) NOT NULL,
 LIMIT DECIMAL(9,2) ,
 BALANCE DECIMAL(9,2) ,
 SURNAME CHAR(20) NOT NULL,
 FIRSTN CHAR(15) NOT NULL,
 ADDRESS1 CHAR(25) NOT NULL,
 ADDRESS2 CHAR(20) NOT NULL,
 ADDRESS3 CHAR(15) NOT NULL,
 RESERVED CHAR(7) NOT NULL,
 COMMENTS CHAR(50) NOT NULL)
```

```
END-EXEC.
```

```
* SQL CURSORS *
```

```
EXEC SQL DECLARE CURTABLA CURSOR FOR
SELECT * FROM Z94474T
END-EXEC.
```

```
* QUERY TO OBTAINING THE NUMBER OF CLIENTS PER STATE
```

```
EXEC SQL DECLARE STATES CURSOR FOR
SELECT ADDRESS3, COUNT(*)
FROM Z94474T
GROUP BY ADDRESS3
ORDER BY 2 DESC
END-EXEC.
```

```
* VARIABLES HOST EN DONDE RECIBIMOS LA TABLA *
```

01 VARIABLES-HOST.

```
02 ACCT-STATE              PIC X(15).
02 ACCT-CLIENTS-COUNT     PIC X(02).
```

01 VARIABLES.

```
05 WSV-PARG-NAME          PIC X(17).
```

01 LOG-MESSAGES_.

05 WSV-LOG-MESSAGE PIC X(80) VALUE SPACES_.

05 QMLOG-FD PIC S9(4) BINARY VALUE 0.

05 QMLOG-RECORD PIC X(80) VALUE SPACES_.

01 PARAGPH-NAMES_.

05 WSC-OPEN-CUR PIC X(13) VALUE 'ABRIR CURSOR'_.

05 WSC-READ-CUR PIC X(11) VALUE 'LEER CURSOR'_.

05 WSC-CLOSE-CUR PIC X(13) VALUE 'CERRAR CURSOR'_.

05 WSC-EVAL-CODE PIC X(17) VALUE

 'EVALUATE SQLCODES'_.

05 WSC-MAIN-PRO PIC X(17) VALUE

 'PROCESO PRINCIPAL'_.

01 ERROR-MESSAGES_.

05 WSC-ERR-MSG-CUR PIC X(28) VALUE

 "Error en operacion de cursor"_.

05 WSC-ERR-MSG-NOT-FOUND PIC X(22) VALUE

 "Registro no encontrado"_.

05 WSC-ERR-MSG-EMPTY PIC X(16) VALUE

 "Registro vacio"_.

05 WSC-ERR-MSG-PARG PIC X(16) VALUE

 "Error en parrafo"_.

01 SUCCESS-MESSAGES_.

05 WSC-SUC-MSG-UPD PIC X(21) VALUE

 "Actualizacion exitosa"_.

05 WSC-SUC-MSG-DEL PIC X(19) VALUE

 "Eliminacion exitosa"_.

05 WSC-SUC-MSG-INS PIC X(17) VALUE

 "Insercion exitosa"_.

05 WSC-SUC-MSG-COMMIT PIC X(14) VALUE

 "Commit exitoso"_.

05 WSC-SUC-MSG-ROLLBACK PIC X(16) VALUE

 "Rollback exitoso"_.

05 WSC-SUC-MSG-READ PIC X(15) VALUE

 "Lectura exitosa"_.

```

05 WSC-SUC-MSG-CUR          PIC X(27)          VALUE
    "Operacion en cursor exitosa"_.

*****

* Print format for the report
*****

01 BREAKLINE_.
    05 BLANK-SPACE          PIC X(50)          VALUE ALL " "_.

01 HEADER-1_.
    05 FILLER                PIC X(09)          VALUE 'Realizo: '
    _
    05 WSV-AUTHOR            PIC X(06)_.

01 HEADER-2_.
    05 FILLER                PIC X(06)          VALUE
    'Estado'_.
    05 FILLER                PIC X(09)          VALUE SPACES_.
    05 FILLER                PIC X(06)          VALUE
    'Conteo'_.

* -----*
PROCEDURE DIVISION_.
* -----*

EMPIEZO-PROGRAMA_.
    OPEN OUTPUT REPOUT_.
    SET NO-FIN-CURSOR TO TRUE
    PERFORM PROCESO-PRINCIPAL_.

FIN-PROGRAMA_.
    CLOSE REPOUT_.
    GOBACK_.

PROCESO-PRINCIPAL_.
    PERFORM ESCRIBE-ENCABEZADO

*

    PERFORM ABRO-CURSOR
    PERFORM LEO-CURSOR

    IF SQLCODE = SQLCODE100
        MOVE WSC-MAIN-PRO TO WSV-PARG-NAME
        DISPLAY WSC-ERR-MSG-EMPTY ' en ' WSV-PARG-NAME ' SQLCODE: '
        SQLCODE

        STOP RUN
    END-IF

*

    PERFORM CICLO-CURSOR UNTIL FIN-CURSOR
    PERFORM CIERRO-CURSOR_.

```

CICLO-CURS0R_.

PERFORM ESCRIBE-REPORTE_.

PERFORM LEO-CURS0R_.

ABRO-CURS0R_.

EXEC SQL

OPEN STATES

END-EXEC_.

MOVE WSC-OPEN-CUR TO WSV-PARG-NAME

PERFORM QMLOG-OPEN-CURS0R_.

LEO-CURS0R_.

EXEC SQL

FETCH STATES

INTO :VARIABLES-HOST

END-EXEC

MOVE WSC-READ-CUR TO WSV-PARG-NAME

PERFORM QMLOG-READ-CURS0R_.

CIERRO-CURS0R_.

EXEC SQL

CLOSE STATES

END-EXEC_.

MOVE WSC-OPEN-CUR TO WSV-PARG-NAME

PERFORM QMLOG-CLOSE-CURS0R _.

* Paragraphs to print out the report of the data *

ESCRIBO-AUTOR_.

MOVE 'Victor' TO WSV-AUTHOR_.

WRITE REPREC FROM HEADER-1_.

ESCRIBE-REPORTE_.

INITIALIZE REPREC

MOVE ACCT-STATE TO ACCT-STATE-0

```

MOVE ACCT-CLIENTS-COUNT TO ACCT-CLIENTS-COUNT-0
WRITE REPREC AFTER ADVANCING 1 LINES.

ESCRIBE-ENCABEZADO.
PERFORM ESCRIBO-AUTOR
WRITE REPREC FROM BREAKLINE AFTER ADVANCING 1 LINES
WRITE REPREC FROM HEADER-2
WRITE REPREC FROM BREAKLINE.

*****
* The EVALUATE-SQLCODES subroutine evaluates the      *
* SQLCODE value and sets flags accordingly.           *
*****

EVALUATE-SQLCODES.

EVALUATE SQLCODE
  WHEN SQLCODE0
    SET NO-FIN-CURSOR TO TRUE
  WHEN SQLCODE100
    SET FIN-CURSOR TO TRUE
    MOVE WSC-EVAL-CODE TO WSV-PARG-NAME
    DISPLAY WSC-ERR-MSG-EMPTY ' al ejecutar '
    WSV-PARG-NAME ' - SQLCODE:' SQLCODE
  WHEN OTHER
    DISPLAY WSC-SUC-MSG-ROLLBACK ' al ejecutar '
    WSV-PARG-NAME ' - SQLCODE:' SQLCODE
    STOP RUN
END-EVALUATE.

*****
* Functions to print a log of the program running    *
*****

QMLOG-ERROR.
DISPLAY '*****!'
DISPLAY '*          OOPS, ALGO SALIO MAL:          *'
DISPLAY '** WSC-ERR-MSG-CUR ' EN ' WSV-PARG-NAME '**'
DISPLAY '* SQLCODE: ' SQLCODE'                      *'
DISPLAY '*****!'

QMLOG-READ-CURSOR.
EVALUATE SQLCODE
  WHEN SQLCODE0
    DISPLAY WSC-SUC-MSG-CUR ' en ' WSV-PARG-NAME
  WHEN OTHER
    PERFORM QMLOG-ERROR
    PERFORM EVALUATE-SQLCODES
END-EVALUATE.

```


```

QMLOG-OPEN-CURSOR_
    EVALUATE SQLCODE
        WHEN SQLCODE=0
            DISPLAY WSC-SUC-MSG-CUR ' en ' WSV-PARG-NAME
        WHEN OTHER
            PERFORM QMLOG-ERROR
            PERFORM EVALUATE-SQLCODES
    END-EVALUATE_

QMLOG-CLOSE-CURSOR_
    EVALUATE SQLCODE
        WHEN SQLCODE=0
            DISPLAY WSC-SUC-MSG-CUR ' en ' WSV-PARG-NAME
        WHEN OTHER
            PERFORM QMLOG-ERROR
            PERFORM EVALUATE-SQLCODES
    END-EVALUATE_

```

Salida

 Z94474.CBL(CBLDB21).cbl

 CBLDB21R.JOB04635.SYSOUT

 CBLDB21R.JOB04635.REPORT X

1	Realizo: Victor	
2		
3	Estado	Conteo
4		
5	Virginia	8
6	New York	8
7	Ohio	7
8	Massachusetts	3
9	North Carolina	2
10	Texas	2
11	Vermont	2
12	New Jersey	2
13	New Hampshire	1
14	Missouri	1
15	Kentucky	1
16	Iowa	1
17	California	1
18	South Carolina	1
19	Pennsylvania	1
20	Illinois	1
21	Hawaii	1
22	Georgia	1
23	Connecticut	1
24		

```
1 Operacion en cursor exitosa en ABRIR CURSOR
2 Operacion en cursor exitosa en LEER CURSOR
3 Operacion en cursor exitosa en LEER CURSOR
4 Operacion en cursor exitosa en LEER CURSOR
5 Operacion en cursor exitosa en LEER CURSOR
6 Operacion en cursor exitosa en LEER CURSOR
7 Operacion en cursor exitosa en LEER CURSOR
8 Operacion en cursor exitosa en LEER CURSOR
9 Operacion en cursor exitosa en LEER CURSOR
10 Operacion en cursor exitosa en LEER CURSOR
11 Operacion en cursor exitosa en LEER CURSOR
12 Operacion en cursor exitosa en LEER CURSOR
13 Operacion en cursor exitosa en LEER CURSOR
14 Operacion en cursor exitosa en LEER CURSOR
15 Operacion en cursor exitosa en LEER CURSOR
16 Operacion en cursor exitosa en LEER CURSOR
17 Operacion en cursor exitosa en LEER CURSOR
18 Operacion en cursor exitosa en LEER CURSOR
19 Operacion en cursor exitosa en LEER CURSOR
20 Operacion en cursor exitosa en LEER CURSOR
21 Error en operacion de cursor LEER CURSOR
22 Registro vacio al ejecutar EVALUATE SQLCODES - SQLCODE:000000100
23 Operacion en cursor exitosa en ABRIR CURSOR
24
```