



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

BACHELOR OF COMPUTER SCIENCE

SECR1213 - DATABASE

SEMESTER 20232024 – 1

SECTION 10

LAB2

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Section 6 Lesson 4 Exercise 1: Data Manipulation Language

Use DML operations to manage database tables (S6L4 Objective 2)

In this exercise you will populate and work with the data that is stored in the database system tables.

Part 1 : Running a script to populate the tables.

You have to consider the order of the tables when populating them. A table that has a foreign key field cannot be populated before the related table with the primary key.

1. Use the table mapping document and list the order that you would use to populate the tables.
2. Open the “sports data.sql” and look at the order the data is being added there, does your list match? This file can be found in the Section 6 Lesson 4 interaction (sports data.zip) and must first be extracted.
3. Run the “sports data.sql” script in APEX to populate your tables
4. Check that no errors occurred when you ran the script.

```
SQL Worksheet

127
128 ✓ INSERT INTO items (itm_number, name, description, category, color, "Size", ilt_id )
129   VALUES('im01101044', 'gloves', 'catcher mitt', 'clothing', 'brown', 'm', 'il010230124');
130
131 ✓ INSERT INTO items (itm_number, name, description, category, color, "Size", ilt_id )
132   VALUES('im01101045', 'under shirt', 'top worn under the game top', 'clothing', 'white', 's', 'il010230125');
133
134 ✓ INSERT INTO items (itm_number, name, description, category, color, "Size", ilt_id )
135   VALUES('im01101046', 'socks', 'team socks with emblem', 'clothing', 'range', 'l', 'il010230126');
136
137 ✓ INSERT INTO items (itm_number, name, description, category, color, "Size", ilt_id )
138   VALUES('im01101047', 'game top', 'team shirt with emblem', 'clothing', 'range', 'm', 'il010230127');
139
140 ✓ INSERT INTO items (itm_number, name, description, category, ilt_id )
141   VALUES('im01101048', 'baseball bat', 'high quality baseball bat', 'equipment', 'il010230128');

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

NO ERRORS

Part 2- Inserting rows to the system

1. Add a new team to the system

id	name	Number_of_players	discount
t004	Jets	10	5

SQL Worksheet

```
1 v INSERT INTO teams (id, name, number_of_players, discount)
2   VALUES ('t004', 'Jets', 10, 5);
3
```

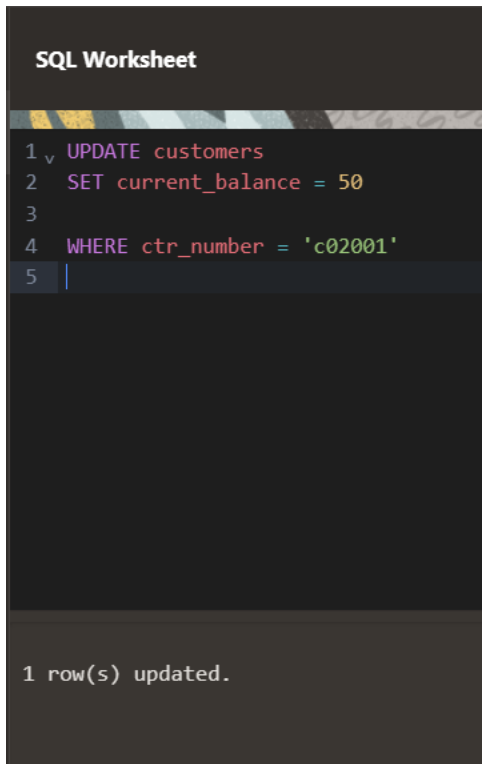
1 row(s) inserted.

2. Add a new Customer with the following details to the system

ctr number	email	First name	Last name	Phone number	Current balance	Loyalty card number	tem id	sre id
c02001	brianrog@hooote ch.com	Brian	Rogers	01654564898	-5	lc4587		

```
SQL Worksheet
1 v INSERT INTO customers (ctr_number, email, first_name, last_name, phone_number, current_balance, loyalty_card_number, tem_id, sre_id)
2 VALUES ('c02001', 'brianrog@hooote ch.com', 'Brian', 'Rogers', '01654564898', -5, 'lc4587', 't004', 'sr01');
3
>
>
1 row(s) inserted.
```

3. This information violates the check constraint that the current balance must not be less than zero.
Change the current balance to 50 and rerun the query.



The screenshot shows an SQL Worksheet interface. At the top, the title "SQL Worksheet" is displayed. Below it, a SQL query is entered in a text area with line numbers 1 through 5 on the left. The query is:
1 UPDATE customers
2 SET current_balance = 50
3
4 WHERE ctr_number = 'c02001'
5 |
Below the query area, the result of the query is shown: "1 row(s) updated."

```
SQL Worksheet

1 UPDATE customers
2 SET current_balance = 50
3
4 WHERE ctr_number = 'c02001'
5 |

1 row(s) updated.
```

Section 6 Lesson 4 Exercise 2: Data Manipulation Language

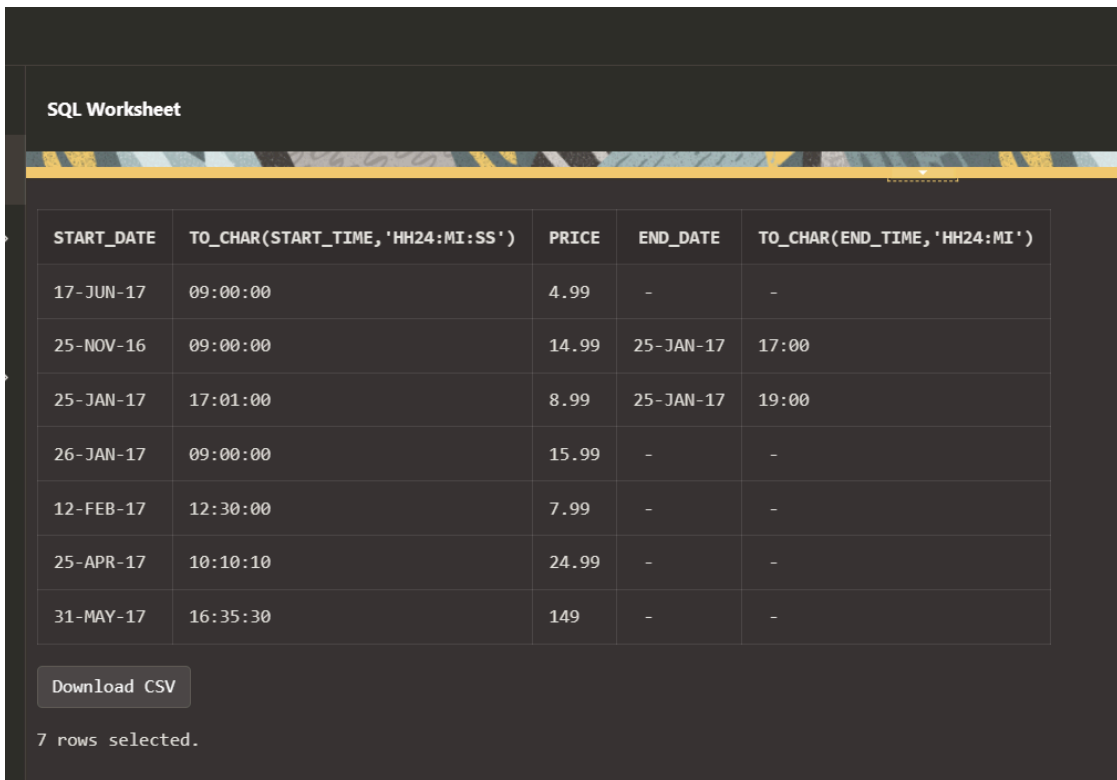
Use DML operations to manage database tables (S6L4 Objective 2)

In this exercise you will populate and work with the data that is stored in the database system.

Part 1- Updating rows to the system

1. Run the following query to view the content of the price_history table:

```
SELECT start_date, TO_CHAR (start_time, 'HH24:MI:SS'), price, end_date,
      TO_CHAR
      (end_time,
      'HH24:MI ')
FROM
price_history;
```



START_DATE	TO_CHAR(START_TIME, 'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME, 'HH24:MI')
17-JUN-17	09:00:00	4.99	-	-
25-NOV-16	09:00:00	14.99	25-JAN-17	17:00
25-JAN-17	17:01:00	8.99	25-JAN-17	19:00
26-JAN-17	09:00:00	15.99	-	-
12-FEB-17	12:30:00	7.99	-	-
25-APR-17	10:10:10	24.99	-	-
31-MAY-17	16:35:30	149	-	-

Download CSV

7 rows selected.

2. Obl is going to update the price of the premium bat so you will need to write a query that will close off the current price by adding the system date values to the end_date and end_time fields. To run this query you will need to both match the item number and identify that the end date is null. This ensures that you are updating the latest price.

```

1 v UPDATE price_history
2   SET end_date = SYSDATE,
3       end_time = SYSTIMESTAMP
4 WHERE itm_number = 'im01101048'
5   AND end_date IS NULL;
6

```

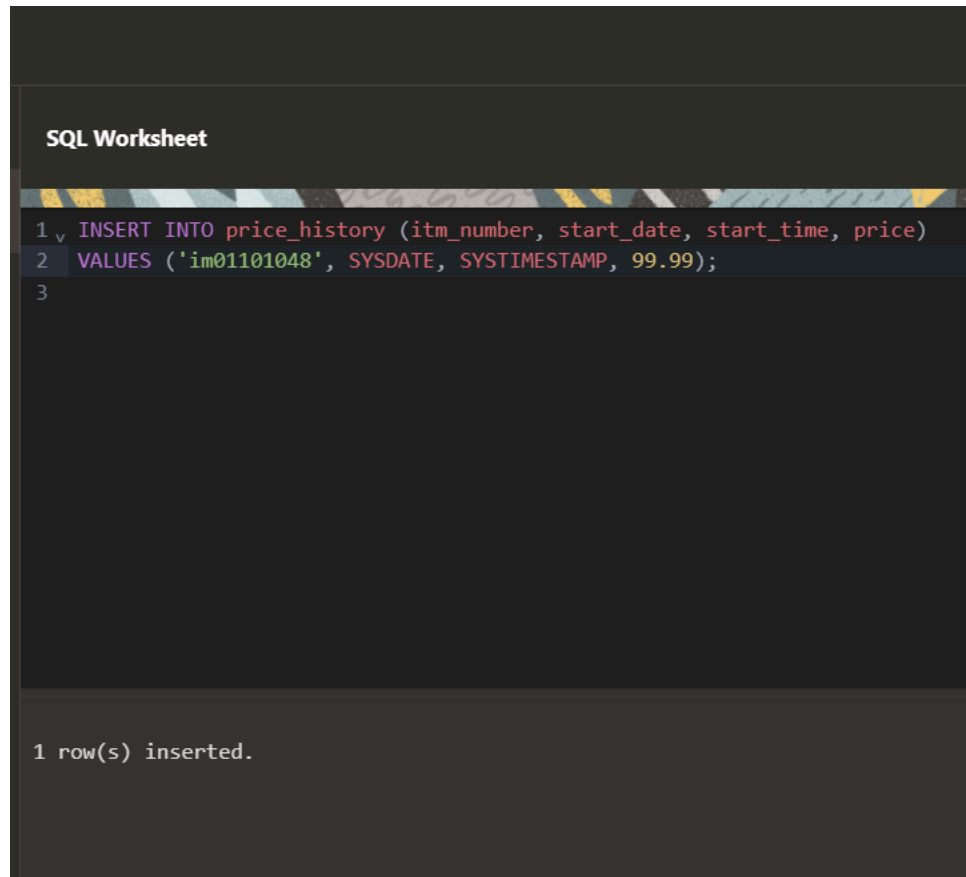
1 row(s) updated.

3. Rerun the select statement on the price_history table to ensure that the statement has been executed.

SQL Worksheet

START_DATE	TO_CHAR(START_TIME, 'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME, 'HH24:MI')
17-JUN-17	09:00:00	4.99	-	-
25-NOV-16	09:00:00	14.99	25-JAN-17	17:00
25-JAN-17	17:01:00	8.99	25-JAN-17	19:00
26-JAN-17	09:00:00	15.99	-	-
12-FEB-17	12:30:00	7.99	-	-
25-APR-17	10:10:10	24.99	-	-
31-MAY-17	16:35:30	149	09-JAN-24	15:24

4. Insert a new row that will use the current date and time to set the new price of the premium bat to be 99.99.



The image shows a screenshot of an SQL Worksheet interface. The title bar at the top reads "SQL Worksheet". Below the title bar, there is a decorative horizontal bar with a pattern of yellow, blue, and grey. The main area of the worksheet contains an SQL INSERT statement written in a monospaced font with syntax highlighting. The statement is as follows:

```
1 v INSERT INTO price_history (itm_number, start_date, start_time, price)
2 VALUES ('im01101048', SYSDATE, SYSTIMESTAMP, 99.99);
3
```

Below the SQL statement, the execution result is displayed in a separate section, showing "1 row(s) inserted."

5. Rerun the select statement on the price_history table to ensure that the statement has been executed.

START_DATE	TO_CHAR(START_TIME, 'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME, 'HH24:MI')
17-JUN-17	09:00:00	4.99	-	-
25-NOV-16	09:00:00	14.99	25-JAN-17	17:00
25-JAN-17	17:01:00	8.99	25-JAN-17	19:00
26-JAN-17	09:00:00	15.99	-	-
12-FEB-17	12:30:00	7.99	-	-
25-APR-17	10:10:10	24.99	-	-
31-MAY-17	16:35:30	149	09-JAN-24	15:24
09-JAN-24	15:31:00	99.99	-	-

Part 2: Deleting rows from the system

1. Bob Thornberry has contacted Obl to ask that the 83 Barrhill Drive address be removed from the system as he can longer receive parcels at this address. Write a SQL statement that will remove this address from the system.

```
SQL Worksheet

1 v DELETE FROM customers_addresses
2   WHERE address_line_1 = '83 Barrhill Drive'
3

1 row(s) deleted.
```

2. Run a select statement on the customers_addresses table to ensure that the statement has been executed.

```
SQL Worksheet

1 v SELECT *
2   FROM customers_addresses
3
4
```

ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE	CTR_NUMBER
ca0102	17 Gartsquare Road	Starford	Liverpool	LP89JHK	c00001
ca0103	54 Ropehill Crescent	Georgetown	Star	ST45AGV	c00101
ca0104	36 Watercress Lane	-	Jump	JP23YTH	c01986
ca0105	63 Acacia Drive	Skins	Liverpool	LP83JHR	c00001

Download CSV

4 rows selected.