



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

**SECD2523
DATABASE**

SECTION 10

SQL LAB 2 - DML 1 PART 2

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Section 6 Lesson 4 Exercise 2: Data Manipulation Language

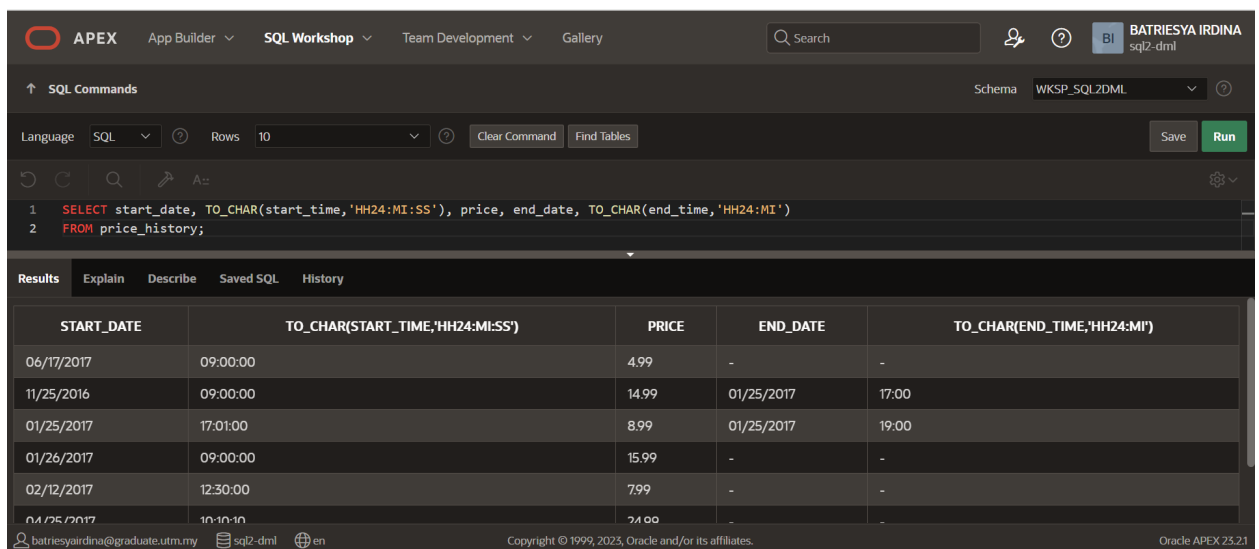
Use DML operations to manage database tables (S6L4 Objective 2)

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

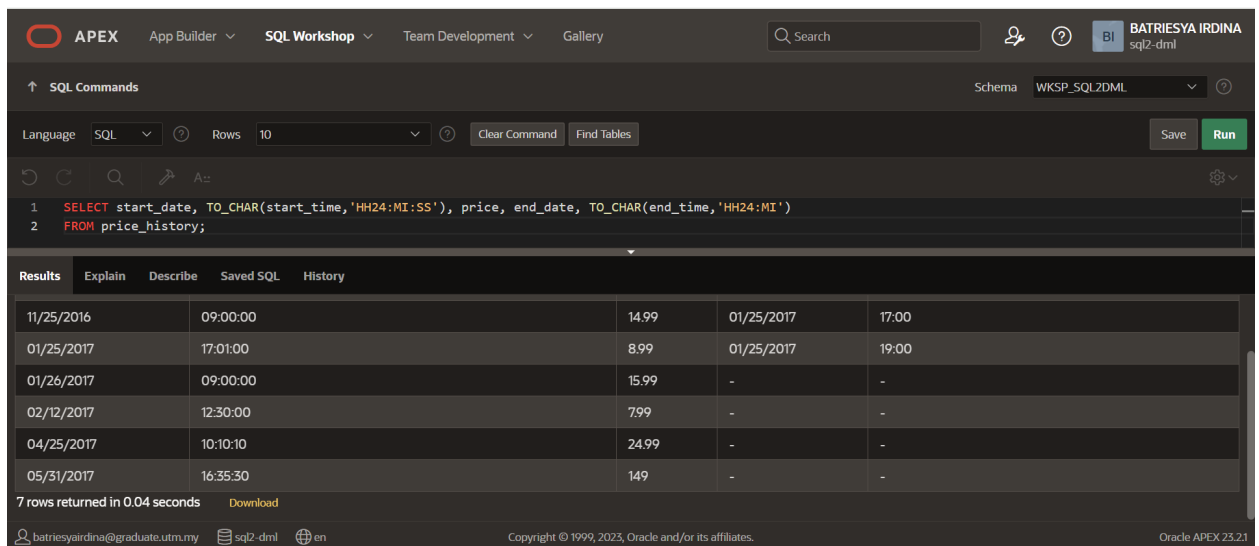
1. Run the following query to view the content of the price_history table.

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



The screenshot shows the APEX SQL Workshop interface. The query is executed, and the results are displayed in a table with 5 columns: START_DATE, TO_CHAR(START_TIME,'HH24:MI:SS'), PRICE, END_DATE, and TO_CHAR(END_TIME,'HH24:MI').

START_DATE	TO_CHAR(START_TIME,'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME,'HH24:MI')
06/17/2017	09:00:00	4.99	-	-
11/25/2016	09:00:00	14.99	01/25/2017	17:00
01/25/2017	17:01:00	8.99	01/25/2017	19:00
01/26/2017	09:00:00	15.99	-	-
02/12/2017	12:30:00	7.99	-	-
04/25/2017	10:10:10	24.00	-	-



The screenshot shows the APEX SQL Workshop interface. The query is executed, and the results are displayed in a table with 5 columns: START_DATE, TO_CHAR(START_TIME,'HH24:MI:SS'), PRICE, END_DATE, and TO_CHAR(END_TIME,'HH24:MI').

START_DATE	TO_CHAR(START_TIME,'HH24:MI:SS')	PRICE	END_DATE	TO_CHAR(END_TIME,'HH24:MI')
11/25/2016	09:00:00	14.99	01/25/2017	17:00
01/25/2017	17:01:00	8.99	01/25/2017	19:00
01/26/2017	09:00:00	15.99	-	-
02/12/2017	12:30:00	7.99	-	-
04/25/2017	10:10:10	24.99	-	-
05/31/2017	16:35:30	149	-	-

7 rows returned in 0.04 seconds

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.

- **UPDATE price_history**
SET end_date = CURRENT_DATE, end_time = CURRENT_TIMESTAMP
WHERE itm_number = 'im01101048' AND end_date IS NULL;

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'BATRIESYA IRDINA' are on the right. The 'SQL Commands' section is active, showing a list of commands with line numbers 1 to 3. The command is: `UPDATE price_history SET end_date = CURRENT_DATE, end_time = CURRENT_TIMESTAMP WHERE itm_number = 'im01101048' AND end_date IS NULL;`. Below the command, the 'Results' tab shows '1 row(s) updated.' and '0.03 seconds'. The bottom status bar shows the user email 'batriesyairdina@graduate.uttm.my', 'sql2-dml', and 'en'.

```
1 UPDATE price_history
2 SET end_date = CURRENT_DATE, end_time = CURRENT_TIMESTAMP
3 WHERE itm_number = 'im01101048' AND end_date IS NULL;
```

Results Explain Describe Saved SQL History

1 row(s) updated.
0.03 seconds

The screenshot shows the APEX Object Browser interface. The left sidebar lists various database objects, with 'PRICE_HISTORY' highlighted under the 'Tables' section. The main area displays the 'PRICE_HISTORY' table with columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The table contains 7 rows of data. The bottom status bar shows the user email 'batriesyairdina@graduate.uttm.my', 'sql2-dml', and 'en'.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
06/17/2017	06/17/2016	4.99			im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99			im01101045
02/12/2017	02/12/2017	7.99			im01101046
04/25/2017	04/25/2017	24.99			im01101047
05/31/2017	05/31/2017	149	12/06/2023	12/06/2023	im01101048

- Return the select statement on the price_history table to ensure that the statement has been executed.

```
- SELECT *  
FROM price_history;
```

The screenshot shows the APEX SQL Workshop interface. The SQL Commands tab is active, displaying the following query:

```
1 SELECT *  
2 FROM price_history;
```

The Results tab is selected, showing a table with 6 columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The table contains 6 rows of data.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
06/17/2017	06/17/2016	4.99	-	-	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046

The screenshot shows the APEX SQL Workshop interface. The SQL Commands tab is active, displaying the following query:

```
1 SELECT *  
2 FROM price_history;
```

The Results tab is selected, showing a table with 6 columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The table contains 7 rows of data.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046
04/25/2017	04/25/2017	24.99	-	-	im01101047
05/31/2017	05/31/2017	14.99	12/06/2023	12/06/2023	im01101048

7 rows returned in 0.01 seconds

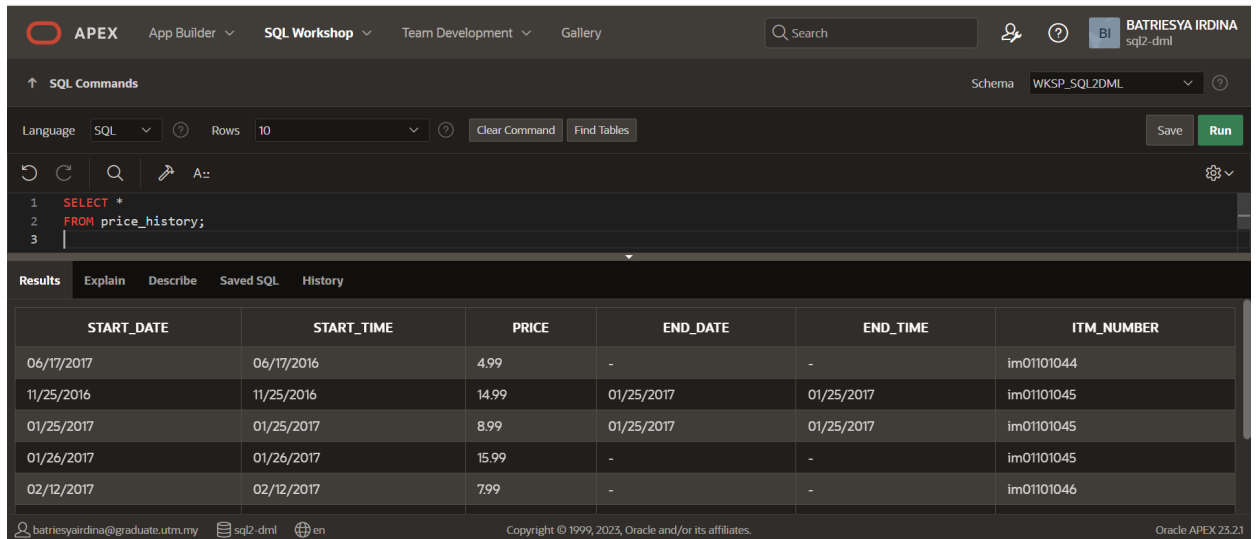
4. Insert a new row that will use the current date and time to set the new price of the premium bat to be 99.99.

```
- INSERT INTO price_history (itm_number, price, start_date, start_time)
  VALUE ('im01101048', 99.99, CURRENT_DATE,
        CURRENT_TIMESTAMP);
```

The screenshot displays the Oracle APEX SQL Workshop interface. At the top, the navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'BATRIESYA IRDINA' are also visible. The main area is titled 'SQL Commands' and shows the 'Schema' as 'WKSP_SQL2DML'. Below this, there are controls for 'Language' (set to SQL), 'Rows' (set to 10), and buttons for 'Clear Command' and 'Find Tables'. The SQL command being entered is:
1 INSERT INTO price_history (itm_number, price, start_date, start_time)
2 VALUES ('im01101048', 99.99, CURRENT_DATE, CURRENT_TIMESTAMP);
Below the command editor, the 'Results' tab is active, showing the output: '1 row(s) inserted.' and '0.01seconds'. The footer contains the user's email 'batriesyairdina@graduate.utm.my', the file name 'sql2.dml', the language 'en', the copyright notice 'Copyright © 1999, 2023, Oracle and/or its affiliates.', and the version 'Oracle APEX 23.2.1'.

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

```
- SELECT *  
FROM price_history;
```

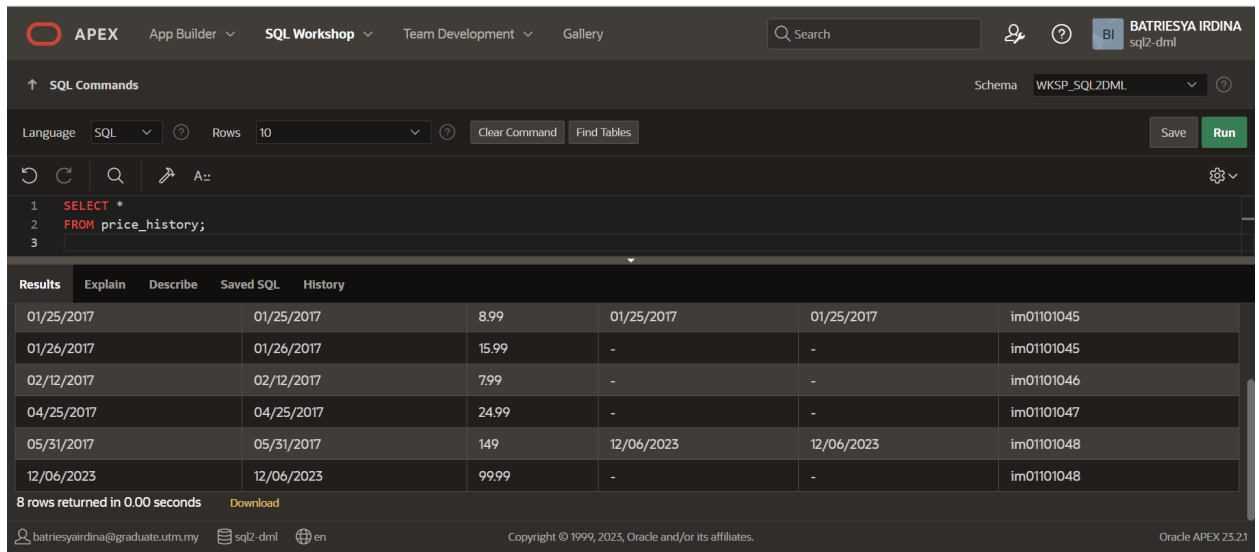


The screenshot shows the APEX SQL Workshop interface. The SQL command entered is:

```
1 SELECT *  
2 FROM price_history;  
3
```

The results are displayed in a table with the following columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The table contains 5 rows of data.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
06/17/2017	06/17/2016	4.99	-	-	im01101044
11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046



The screenshot shows the APEX SQL Workshop interface. The SQL command entered is:

```
1 SELECT *  
2 FROM price_history;  
3
```

The results are displayed in a table with the following columns: START_DATE, START_TIME, PRICE, END_DATE, END_TIME, and ITM_NUMBER. The table contains 8 rows of data.

START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
01/26/2017	01/26/2017	15.99	-	-	im01101045
02/12/2017	02/12/2017	7.99	-	-	im01101046
04/25/2017	04/25/2017	24.99	-	-	im01101047
05/31/2017	05/31/2017	149	12/06/2023	12/06/2023	im01101048
12/06/2023	12/06/2023	99.99	-	-	im01101048

8 rows returned in 0.00 seconds

APEX App Builder SQL Workshop Team Development Gallery

Search

Object Browser Schema WKSP_SQL2DML

Type to filter...

Tables

- CUSTOMERS
- CUSTOMERS_ADDRESSES
- INVENTORY_LIST
- ITEMS
- ORDERED_ITEMS
- ORDERS
- PRICE_HISTORY**
- SALES_REPRESENTATIVES
- SALES_REP_ADDRESSES
- TEAMS

Views

Indexes

PRICE_HISTORY

Columns Data Indexes Constraints Grants Statistics Triggers Dependencies DDL Sample Queries

+ Insert Row Columns... Filter... Count Rows Load Data Download Refresh

	START_DATE	START_TIME	PRICE	END_DATE	END_TIME	ITM_NUMBER
	06/17/2017	06/17/2016	4.99			im01101044
	11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017	im01101045
	01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017	im01101045
	01/26/2017	01/26/2017	15.99			im01101045
	02/12/2017	02/12/2017	7.99			im01101046
	04/25/2017	04/25/2017	24.99			im01101047
	05/31/2017	05/31/2017	149	12/06/2023	12/06/2023	im01101048

1 cells selected

1 - 8

batriesyairdina@graduate.utm.my sql2-dml en Copyright © 1999, 2023, Oracle and/or its affiliates. Oracle APEX 23.21

Part 2: Deleting Rows from the System

- Bob Thornberry has contacted obl to ask that the 83 Barhill Drive address be removed from the system as he can no longer receive parcels at this address. Write a SQL statement that will remove this address from the system.

- **DELETE FROM customers_addresses**
WHERE id = 'ca0101';

APEX App Builder SQL Workshop Team Development Gallery

Search

SQL Commands Schema WKSP_SQL2DML

Language SQL Rows 10 Clear Command Find Tables Save Run

```

1 DELETE FROM customers_addresses
2 WHERE id = 'ca0101';

```

Results Explain Describe Saved SQL History

1 row(s) deleted.

0.03 seconds

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

- **SELECT ***
FROM customers_addresses;

The screenshot displays the Oracle APEX SQL Workshop interface. At the top, the navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user profile 'BATRIESYA IRDINA' are also visible. The main area is titled 'SQL Commands' and shows a query: `1 SELECT *` and `2 FROM customers_addresses;`. The 'Run' button is highlighted in green. Below the query, the 'Results' tab is active, displaying a table with 4 rows. The table columns are ID, ADDRESS_LINE_1, ADDRESS_LINE_2, CITY, ZIP_CODE, and CTR_NUMBER. The data rows are: (ca0102, 17 Gartsquare Road, Starford, Liverpool, LP89JHK, c00001), (ca0103, 54 Ropehill Crescent, Georgetown, Star, ST45AGV, c00101), (ca0104, 36 Watercress Lane, -, Jump, JP23YTH, c01986), and (ca0105, 63 Acacia Drive, Skins, Liverpool, LP83JHR, c00001). A status bar at the bottom indicates '4 rows returned in 0.02 seconds' and provides a 'Download' link. The footer contains the user email 'batriesyairdina@graduate.utm.my', file name 'sql2.dml', language 'en', copyright notice, and version 'Oracle APEX 23.21'.

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