

LAB 1

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Part 1 : Reading information from a script

In this exercise you will use the “obl Sports.ddl” file to consolidate your knowledge of DDL.

Open the “obl Sports.ddl” in a text editor.

1. How many tables have been created using the CREATE TABLE statement?

Ans : 10 tables

2. How many columns are created for the price history table?

Ans : 6 columns

3. What statement is used to enforce the constraint that the category column of the items table must have a value?

Ans : NOT NULL

4. What is the name of the foreign key constraint between the customers and customer addresses tables?

Ans : customer_address_customer_fk

5. What are the lowest and highest values that can be stored in the commission_rate column for the sales_representatives table?

Ans : Lowest value is -99, highest value is 99

6. What are the lowest and highest values that can be stored in the price column for the price_history table?

Ans : Lowest value is -99999.99, highest value is 99999.99

7. What are the 3 columns that make up the primary key for the price_history table?

Ans : itm_number, start_date, start_time

Part 2 : Updating Constraints

Log-in to APEX and go the SQL commands environment

Modifying a column

1. Run the DESCRIBE command on the orders table to view its structure.

The screenshot shows the APEX SQL Commands interface. The command 'describe orders' has been executed, and the results are displayed in a table format. The table lists the columns of the ORDERS table: ID, ODR_DATE, ODR_TIME, NUMBER_OF_UNITS, and CTR_NUMBER, along with their data types, lengths, and other attributes.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDERS	ID	VARCHAR2	9	-	-	1	-	-	-
	ODR_DATE	DATE	7	-	-	-	-	-	-
	ODR_TIME	DATE	7	-	-	-	-	-	-
	NUMBER_OF_UNITS	NUMBER	-	2	0	-	-	-	-
	CTR_NUMBER	VARCHAR2	6	-	-	-	-	-	-

2. Task: Add a default constraint that will use today's date to assign a value to the odr_date column of the orders table if no date is provided.

The screenshot shows the APEX SQL Commands interface with the command 'alter table orders modify odr_date DATE DEFAULT SYSDATE;' entered. The results section shows 'Table altered.' and the execution time '0.06 seconds'.

```
1 alter table orders
2 modify odr_date DATE DEFAULT SYSDATE;
```

Results Explain Describe Saved SQL History

Table altered.

0.06 seconds

3. Run the DESCRIBE command again to verify the command was successful.

The screenshot shows the Oracle APEX SQL Workshop interface. The SQL command entered is `describe orders`. The results are displayed in a table format under the 'Describe' tab.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDERS	ID	VARCHAR2	9	-	-	1	-	-	-
	ODR_DATE	DATE	7	-	-	-	-	SYSDATE	-
	ODR_TIME	DATE	7	-	-	-	-	-	-
	NUMBER_OF_UNITS	NUMBER	-	2	0	-	-	-	-
	CTR_NUMBER	VARCHAR2	6	-	-	-	-	-	-

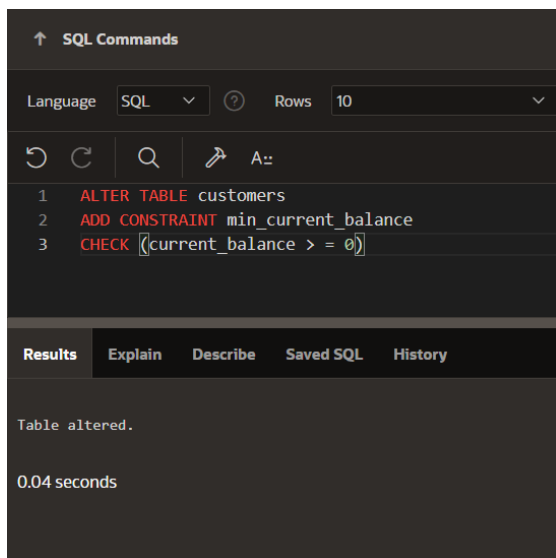
Adding a check constraint

1. Run the DESCRIBE command on the customers table to view its structure.

The screenshot shows the Oracle APEX SQL Workshop interface. The SQL command entered is `describe customers`. The results are displayed in a table format under the 'Describe' tab.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

2. Task: Add a check constraint that will not allow the customers current balance to go below zero.



↑ SQL Commands

Language SQL Rows 10

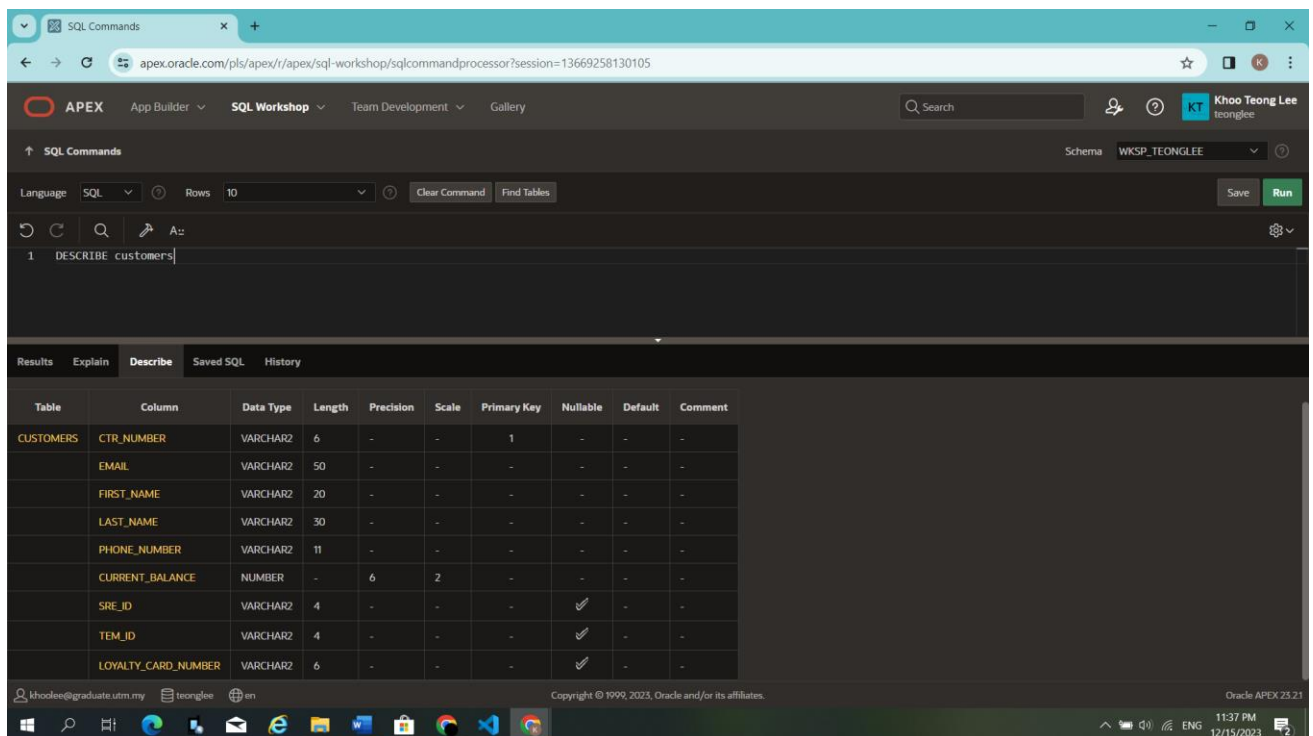
```
1 ALTER TABLE customers
2 ADD CONSTRAINT min_current_balance
3 CHECK (current_balance >= 0)
```

Results Explain Describe Saved SQL History

Table altered.

0.04 seconds

3. Run the DESCRIBE command again to verify the command was successful.



SQL Commands

apex.oracle.com/pls/apex/r/apex/sql-workshop/sqlcommandprocessor?session=13669258130105

APEX App Builder SQL Workshop Team Development Gallery

Search

KT Khoo Teong Lee teonglee

Schema WKSP_TEONGLEE

Language SQL Rows 10 Clear Command Find Tables Save Run

```
1 DESCRIBE customers
```

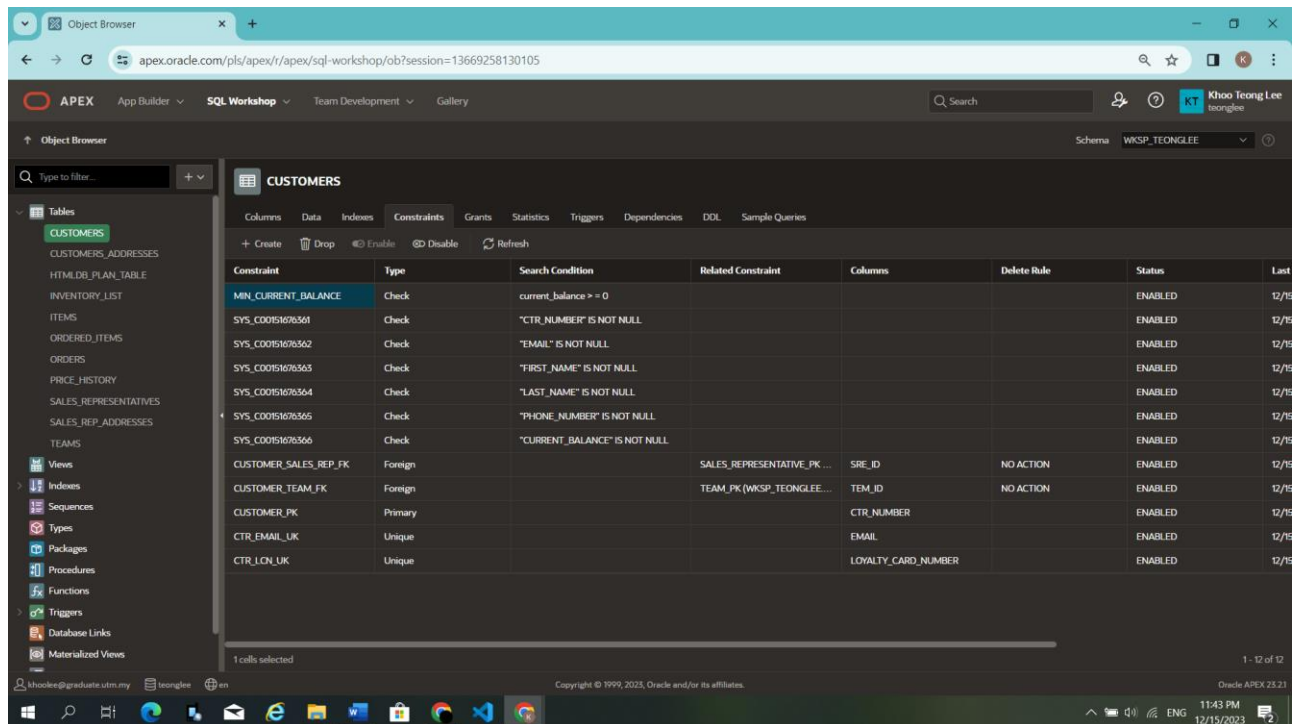
Results Explain Describe Saved SQL History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

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4. A check constraint is not shown in the results of a describe command.

- Go to the Object Browser
- Select the customers table.
- Click on the CONSTRAINTS tab.
- You will see your constraint here.



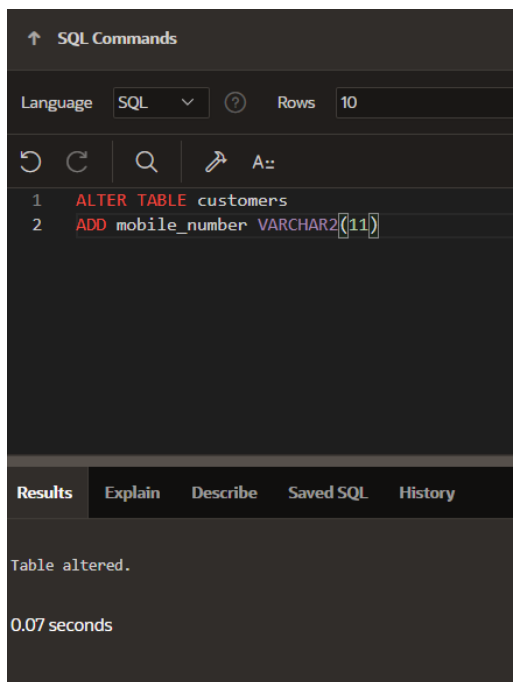
Adding a column

The client has decided that they would like a separate column for the customer's mobile phone number. This is an optional column that will be required to store 11 digits.

- Run the DESCRIBE command on the customers table to view its structure.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

2. Task: Add column that will satisfy the clients requirements

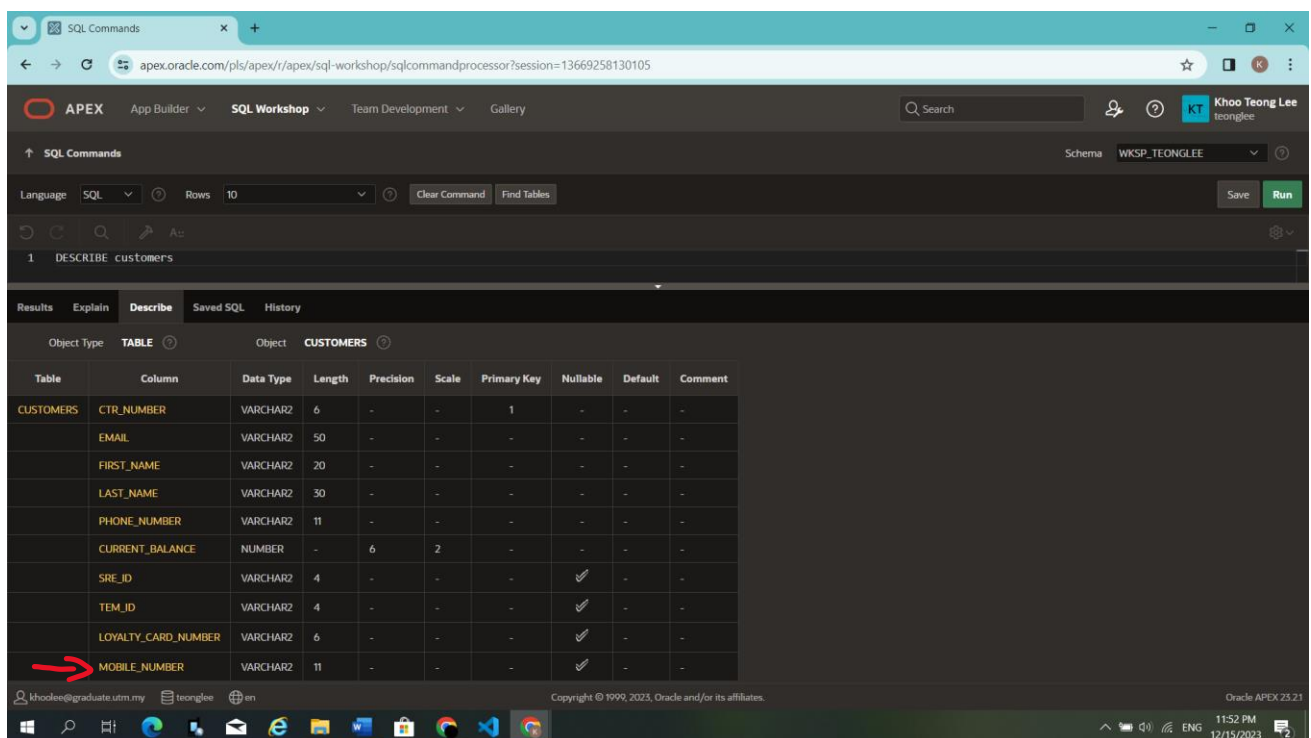


The screenshot shows the SQL Workshop interface with the following details:

- SQL Commands** tab is active.
- Language** is set to **SQL**.
- Rows** is set to **10**.
- The command entered is:

```
1 ALTER TABLE customers
2 ADD mobile_number VARCHAR2(11)
```
- The **Results** tab shows the message: **Table altered.**
- The execution time is **0.07 seconds**.

3. Run the DESCRIBE command on the customers table to view its structure.



The screenshot shows the SQL Workshop interface with the following details:

- SQL Commands** tab is active.
- Language** is set to **SQL**.
- Rows** is set to **10**.
- The command entered is: `DESCRIBE customers`.
- The **Describe** tab is active, showing the structure of the **CUSTOMERS** table.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-
	MOBILE_NUMBER	VARCHAR2	11	-	-	-	✓	-	-

A red arrow points to the **MOBILE_NUMBER** column in the table structure.

Dropping a column

The client has decided that they don't need the mobile number column as most customers only provide a single contact number and that is already catered for with the existing phone_number column.

1. Run the DESCRIBE command on the customers table to view its structure.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

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2. Task: Drop the column that was created to store the mobile phone number.

↑ SQL Commands

Language SQL ? Rows 10

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1 ALTER TABLE customers
2 DROP (mobile_number)

Results Explain Describe Saved SQL History

Table altered.

0.07 seconds

3. Run the DESCRIBE command on the customers table to view its structure.

The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The user is logged in as 'Khoo Teong Lee' (teonglee). The 'SQL Commands' section is active, showing a command prompt with the text '1 describe customers'. The 'Run' button is highlighted in green. Below the command prompt, the 'Describe' tab is selected, displaying the structure of the 'CUSTOMERS' table. The table structure is shown in a grid with columns: Table, Column, Data Type, Length, Precision, Scale, Primary Key, Nullable, Default, and Comment. The 'CUSTOMERS' table has the following columns: CTR_NUMBER (VARCHAR2, 6, Primary Key), EMAIL (VARCHAR2, 50), FIRST_NAME (VARCHAR2, 20), LAST_NAME (VARCHAR2, 30), PHONE_NUMBER (VARCHAR2, 11), CURRENT_BALANCE (NUMBER, 6, Scale 2), SRE_ID (VARCHAR2, 4), TEM_ID (VARCHAR2, 4), and LOYALTY_CARD_NUMBER (VARCHAR2, 6). The 'SRE_ID', 'TEM_ID', and 'LOYALTY_CARD_NUMBER' columns have checkmarks in the 'Nullable' column, indicating they are not nullable.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CTR_NUMBER	VARCHAR2	6	-	-	1	-	-	-
	EMAIL	VARCHAR2	50	-	-	-	-	-	-
	FIRST_NAME	VARCHAR2	20	-	-	-	-	-	-
	LAST_NAME	VARCHAR2	30	-	-	-	-	-	-
	PHONE_NUMBER	VARCHAR2	11	-	-	-	-	-	-
	CURRENT_BALANCE	NUMBER	-	6	2	-	-	-	-
	SRE_ID	VARCHAR2	4	-	-	-	✓	-	-
	TEM_ID	VARCHAR2	4	-	-	-	✓	-	-
	LOYALTY_CARD_NUMBER	VARCHAR2	6	-	-	-	✓	-	-

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