

Database Design Project

Oracle Baseball League Store Database

Project Scenario:

You are a small consulting company specializing in database development. You have just been awarded the contract to develop a data model for a database application system for a small retail store called Oracle Baseball League (OBL).

The Oracle Baseball League store serves the entire surrounding community selling baseball kit. The OBL has two types of customer, there are individuals who purchase items like balls, cleats, gloves, shirts, screen printed t-shirts, and shorts. Additionally customers can represent a team when they purchase uniforms and equipment on behalf of the team.

Teams and individual customers are free to purchase any item from the inventory list, but teams get a discount on the list price depending on the number of players. When a customer places an order we record the order items for that order in our database.

OBL has a team of three sales representatives that officially only call on teams but have been known to handle individual customer complaints.

Section 6 Lesson 3 Exercise: Data Definition Language

Use DDL to build and maintain database tables (S6L3 Objective 3)

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?
- 2. How many columns are created for the price history table?
- 3. What statement is used to enforce the constraint that the category column of the items table must have a value?
- 4. What is the name of the foreign key constraint between the customers and customer addresses tables?
- 5. What are the lowest and highest values that can be stored in the commission_rate column for the sales_representatives table?
- 6. What are the lowest and highest values that can be stored in the price column for the price_history table?
- 7. What are the 3 columns that make up the primary key for the price_history table?

Part 2: Updating Constraints

Log-in to APEX and go to the SQL commands environment

Modifying a column

- 1. Run the DESCRIBE command on the orders table to view its structure.
- 2. **Task**: Add a default constraint that will use todays date to assign a value to the odr_date column of the orders table if no date is provided.
- 3. Run the DESCRIBE command again to verify the command was successful.

Adding a check constraint

- 1. Run the DESCRIBE command on the customers table to view its structure.
- 2. Task: Add a check constraint that will not allow the customers current balance to go below zero.
- 3. Run the DESCRIBE command again to verify the command was successful.
- 4. A check constraint is not shown in the results of a describe command.
 - a. Go to the Object Browser
 - b. Select the customers table.
 - c. Click on the CONSTRAINTS tab.
 - d. 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.

- 1. Run the DESCRIBE command on the customers table to view its structure.
- 2. Task: Add column that will satisfy the clients requirements
- 3. Run the DESCRIBE command on the customers table to view its structure.

Dropping a column

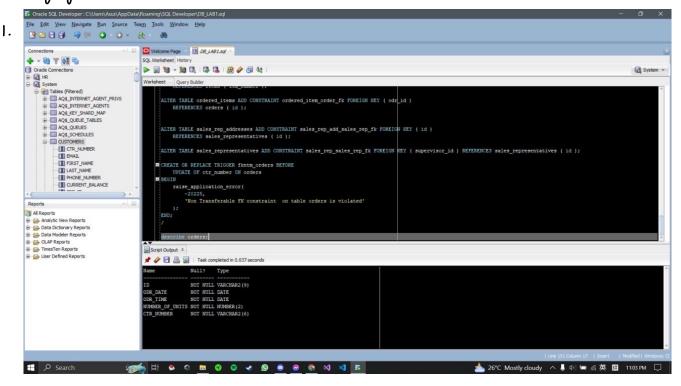
The client has decided that they don't need the mobile number column as most customers only provide a single contact number and that is already catered for with the existing phone number column.

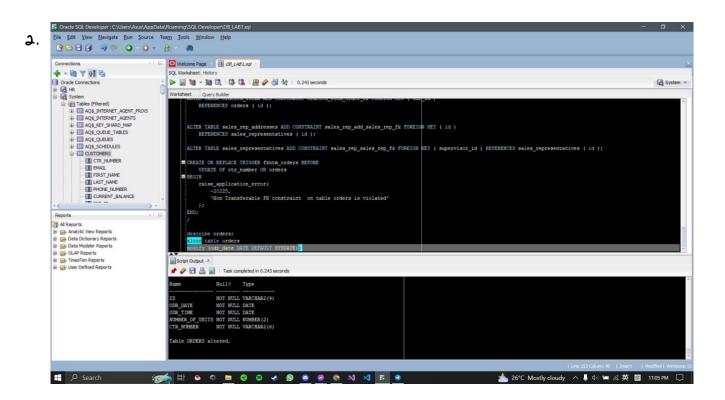
- 1. Run the DESCRIBE command on the customers table to view its structure.
- 2. **Task**: Drop the column that was created to store the mobile phone number.
- 3. Run the DESCRIBE command on the customers table to view its structure.

Part 1

- 1. 10
- ه . د
- 3. NOT NULL
- 4. ctr_number
- S. lowest : 99.99
 - highest : 99.99
- 6. lowest : 99999. 99
 - highest: 99999.99
- 7. start _ date , start _ time , itm number

Modifying a coumn:





 Oracle SQL Developer : C:\Users\Asus\AppData\Roaming\SQL Developer\DB_LAB1.sql 3. Welcome Page D6_LAB1.sql ** + - @ Y 08 G ☐ Oracle Connections

☐ ☐ HR
☐ ☐ System System © System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© System

© Sys ALIER TABLE sales_rep_addresses ADD CONSTRAINT sales_rep_add_sales_rep_fk FOREIGN MEY (id)
REFERENCES sales_representatives (id); CREATE OR REPLACE TRIGGER fkntm_orders BEFORE
UPDATE OF ctr_number ON orders
BEGIN 'Non Transferable FK constraint on table orders is violated' Reports

All Reports

Analytic View Reports

Data Dictionary Reports

Data Dictionary Reports

Data Modeler Reports

Times Ten Reports

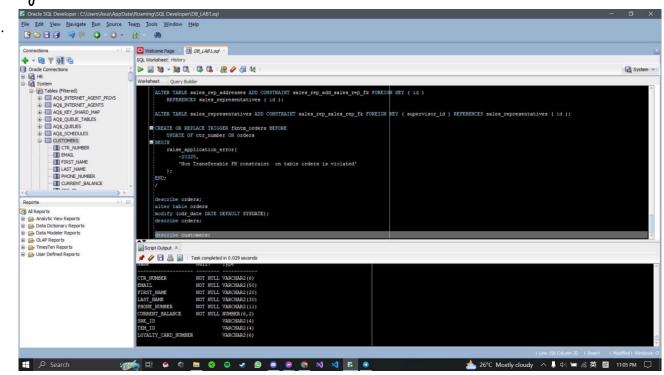
Data Modeler Reports

Data Modeler Reports

Data Modeler Reports

Data Modeler Reports describe orders; alter table orders modify (odr_date DATE DEFAULT SYSDATE); 📌 🥓 🔡 🚇 📓 | Task completed in 0.037 se able ORDERS altered. Null? Type NOT NULL VARCHAR2 (9)
DATE NOT NULL DATE
TIME NOT NULL DATE
BER_OF_UNITS NOT NULL NUMBER (2)
NUMBER NOT NULL VARCHAR2 (6) appide the state of the state 🃤 26°C Mostly cloudy \land 🌡 🕬 ≔ 🦟 英 閸 11:05 PM 📮

Adding a check constraint:



 Oracle SQL Developer : C:\Users\Asus\AppData\Roaming\SQL Developer\DB_LAB1.sql o x <u>File Edit View Navigate Run Source Team Tools Window Help</u> 4 - @ Y 01 G ☐ Welcome Page ☐ DB_LAB1.sql = ☐ CUSTOMERS ▶ 📓 🐚 - 🕍 🐧 🖟 🖟 🚱 🌽 0.25999999 seconds ☐ Tables (Filtered)
☐ AQS_INTERNET_AGENT_PRIVS
☐ AQS_INTERNET_AGENTS
☐ AQS_KEY_SHARD_MAP System • AQ\$_QUEUE_TABLES ALTER TABLE sales_representatives ADD CONSTRAINT sales_rep_sales_rep_fk FOREIGN KEY (supervisor_id) REFERENCES sales_representatives (id); G. TI AQS SOFENIAS

TO STONESS

TO STONESS

TO STONESS

TO MAIL

THAT JAME

T CREATE OR REPLACE TRIGGER fkmtm_orders BEFORE
UPDATE OF ctr_number ON orders

BEGIN
raise_application_error('Non Transferable FK constraint on table orders is violated' describe orders; alter table orders modify (odr_date DATE DEFAULT SYSDATE); describe orders; Reports

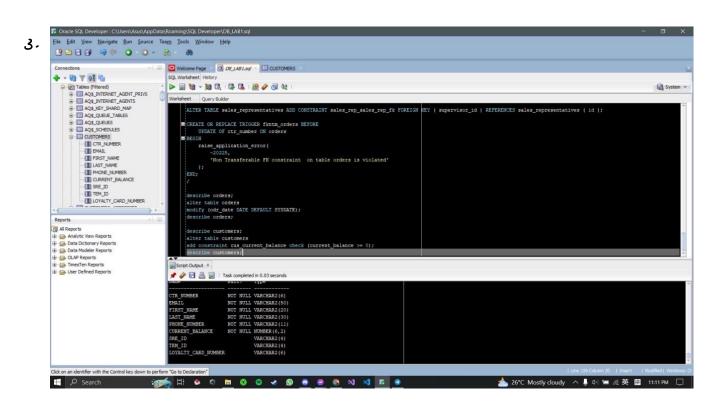
All Reports

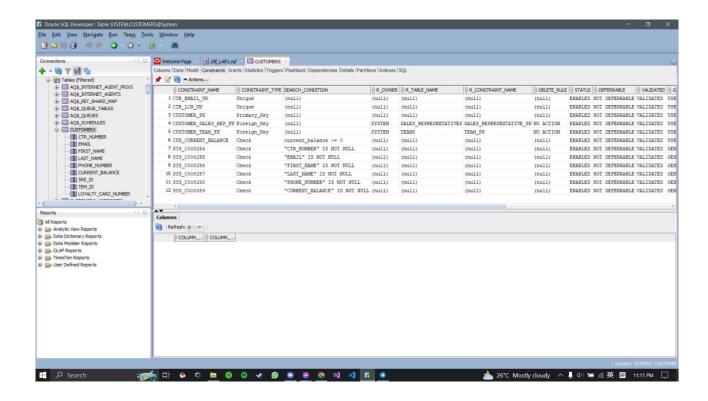
Analytic View Reports

Data Dictionary Reports

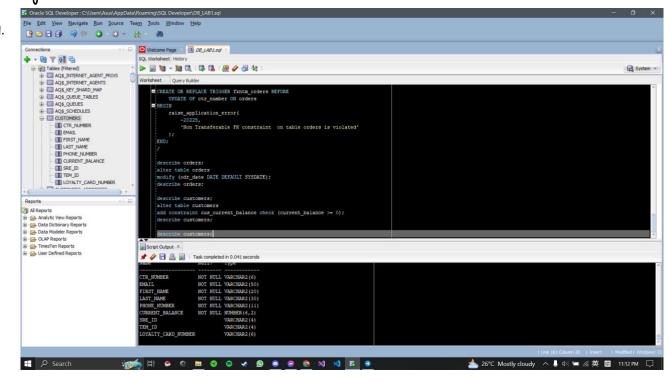
Data Modeler Reports

OLAP Reports nstraint cus_current_balance check (current_balance >= 0); Script Output X 🖈 🥢 🗟 📓 📗 | Task completed in 0.26 se FIRST NAME
FIRST NAME
LAST_NAME
PHONE_HUMBER
CURRENT_BALANCE
SRE_ID
TEM_ID
LOYALTY_CARD_NUMBER ble CUSTOMERS altered. Click on an identifier with the Control key down to perform "Go to Declaration" 📥 26℃ Mostly cloudy \land 🌡 🕬 ≔ 🦟 英 閸 11:11 PM 📮 Search





Adding a column:



 Oracle SQL Developer : C:\Users\Asus\AppData\Roaming\SQL Developer\DB_LAB1.sql o x <u>File Edit View Navigate Run Source Team Tools Window Help</u> **ð** -Welcome Page 0 D6_LAB1.sql → · @ ▼ 08 % Tables (Filtered)

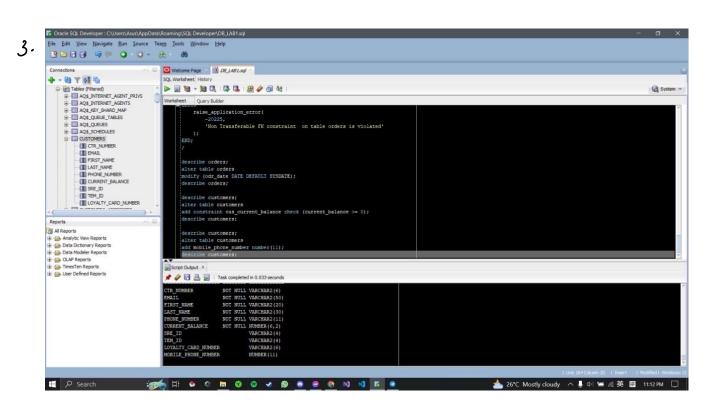
AQS_INTERNET_AGENT_PRIVS

AQS_INTERNET_AGENTS

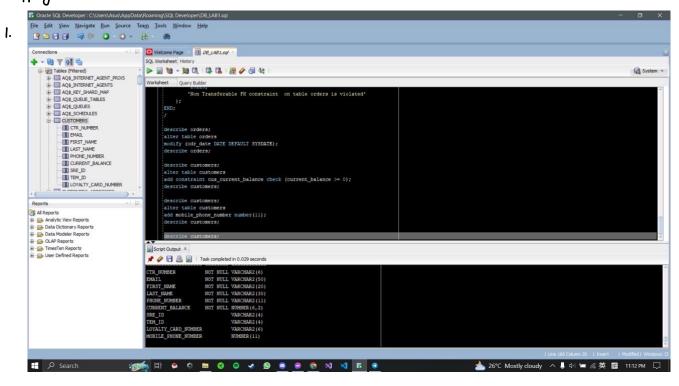
AQS_KEY_SHARD_MAP System • -20225,
"Non Transferable FK constraint on table orders is violated'
FKED; - ACA, COLEURS
- ACA, SOCIOURS
- CONTROLLES
- CONTROLLES AQ\$ QUEUE TABLES describe orders; alter table orders modify (odr_date DATE DEFAULT SYSDATE); describe orders; All Reports describe customers;

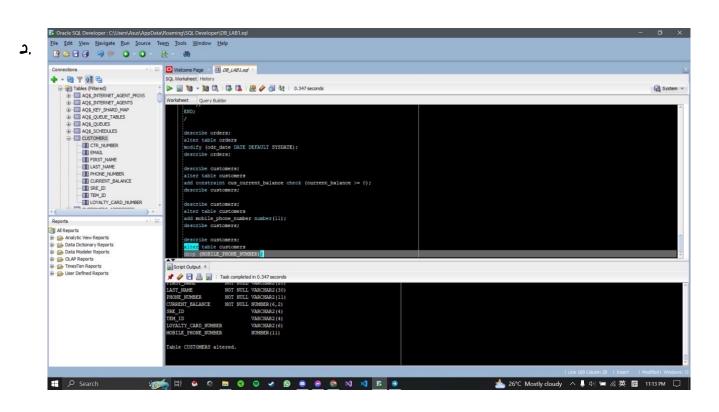
tler table customers

add mobile_phone_number number(ll); Script Output X 🖈 🥢 📑 📠 📓 | Task completed in 0.286 seconds SRE_ID
TEM_ID
LOYALTY_CARD_NUMBER 🃤 26°C Mostly cloudy \land 🌷 🕬 簟 烷 英 盟 11:12 PM 📮



Dropping a wlumn:





Gracle SQL Developer : C:\Users\Asus\AppData\Roaming\SQL Developer\DB_LAB1.sql o x Elle Edit View Navigate Run Source Team Jools Window Help 3. Welcome Page DB_LAB1.sql ~ System • describe orders; alter table orders modify (odr_date DATE DEFAULT SYSDATE); describe orders; describe customers; alter table customers add constraint our_current_balance check (current_balance >= 0); describe customers; describe customers; alter table customers add mobile_phone_number number(11); describe customers; Reports

A Reports

Analytic View Reports describe customers; alter table customers drop (MOBILE PHONE NUMBER); describe customers;

