



Faculty of Technology and Engineering

Chandubhai S. Patel Institute of Technology (CSPIT)

Department of Computer Science & Engineering

Date: / /

Laboratory Manual

Academic Year	:	2024-25	Semester	:	4
Course code	:	CSE206	Course name	:	DATABASE MANAGEMENT SYSTEM

Practical - 2

Aim: Global Trust Bank is expanding its operations and requires a robust database management system to efficiently manage its employees, job profiles, customers' accounts, and loan information. The bank has laid out specific requirements and constraints to ensure data integrity, uniqueness, and completeness. Perform Data Definition Language (DDL) commands and change the existing schema as per the given information.

Constraints –

- Not Null Constraints: Ensure critical fields are not null.
- Unique Constraints: Ensure data integrity by limiting column values.
- Check Constraints: Ensure columns like Account Number have unique values.

Tasks:-

- 1) Create a table supplier from an employee with all the columns and verify.

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Connections' pane lists several database connections. The main window displays a SQL worksheet with the following query:

```
SELECT * FROM EMPLOYEE;
CREATE TABLE SUPPLIER AS
SELECT * FROM EMPLOYEE
WHERE 1=0;
DESCRIBE SUPPLIER;
```

The 'Script Output' pane shows the execution results:

```
SQL | All Rows Fetched: 6 in 0.01 seconds
```

EMP_NO	EMP_NAME	EMP_SAL	EMP_COMM	DEPT_NO
1	101 Smith	800	455	20
2	102 Snehal	1600	0	25
3	103 Adama	1100	425	20
4	104 Aman	3000	(null)	15
5	105 Anita	5000	425	10
6	106 Anamika	2975	(null)	30

2) Create table sup1 from an employee with the first two columns and verify.

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Connections' pane lists several database connections, with 'C23CS46' selected. The main window displays the 'SQL Worksheet' for 'C23CS46_PRACT2.sql'. The SQL code in the worksheet is:

```
CREATE TABLE SUP1 AS  
SELECT EMP_NO, EMP_NAME FROM EMPLOYEE  
WHERE 1=0;  
DESCRIBE SUP1;
```

Below the SQL code, the 'Query Result' pane shows the output of the DESCRIBE command. It indicates 'All Rows Fetched: 6 in 0.004 seconds' and displays the following table structure:

EMP_NO	EMP_NAME
1	101 Smith
2	102 Snehal
3	103 Adama
4	104 Aman
5	105 Anita
6	106 Anamika

3) Create table sup2 from employee with no data and verify.

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Connections' pane lists several database connections, with 'C23CS46' selected. The main window displays the 'SQL Worksheet' for 'C23CS46_PRACT2.sql'. The SQL code in the worksheet is:

```
CREATE TABLE SUP2 AS  
SELECT * FROM EMPLOYEE  
WHERE 1=0;  
  
SELECT * FROM SUP2
```

Below the SQL code, the 'Query Result' pane shows the output of the SELECT command. It indicates 'All Rows Fetched: 0 in 0.039 seconds' and displays the following table structure:

EMP_NO	EMP_NAME	EMP_SAL	EMP_COMM	DEPT_NO
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- 4) Insert the data into sup2 from employee whose name is 'Anita' and verify.

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Connections' pane lists several database connections. The main window displays the 'C23CS46_Prac2.sql' worksheet with the following SQL code:

```
INSERT INTO SUP2
SELECT * FROM EMPLOYEE
WHERE EMP_NAME = 'Anita';

SELECT
*
FROM SUP2
```

The 'Script Output' pane shows the execution results:

EMP_NO	EMP_NAME	EMP_SAL	EMP_COMM	DEPT_NO
1	105 Anita	5000	425	10

- 5) Rename the table sup2 and verify.

The screenshot shows the Oracle SQL Developer interface. The 'C23CS46_Prac2.sql' worksheet contains the following SQL code:

```
FROM SUP2

RENAME SUP2 TO SUPPLIER2;
DESCRIBE SUPPLIER2;
```

The 'Script Output' pane shows the execution results:

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(3)
EMP_NAME	NOT NULL	VARCHAR2(30)
EMP_SAL	NOT NULL	NUMBER(8,2)
EMP_COMM		NUMBER(6,1)
DEPT_NO	NOT NULL	NUMBER(3)

- 6) Destroy table sup1 with all the data and verify.

The screenshot shows the Oracle SQL Developer interface. The 'C23CS46_Prac2.sql' worksheet contains the following SQL code:

```
FROM SUP2

RENAME SUP2 TO SUPPLIER2;
DESCRIBE SUPPLIER2;

DROP table SUP1;
```

The 'Script Output' pane shows the execution results:

Table SUP1 dropped.

7) Add one column phone to an employee with size of column is Varchar2(10) and verify.

The screenshot shows the Oracle SQL Developer interface. The left pane displays the 'Connections' tree with various database connections. The main window shows the 'SQL Worksheet' with the following SQL commands:

```

DROP table SUP1;

ALTER TABLE EMPLOYEE ADD (PHONE NUMBER(10));
DESCRIBE EMPLOYEE;

```

The 'Script Output' pane shows the results of the execution:

```

Table SUP1 dropped.

Table EMPLOYEE altered.

```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(3)
EMP_NAME	NOT NULL	VARCHAR2(30)
EMP_SAL	NOT NULL	NUMBER(8,2)
EMP_COMM		NUMBER(6,1)
DEPT_NO	NOT NULL	NUMBER(3)
PHONE		NUMBER(10)

8) Modify column phone and change type to char(10) and verify.

The screenshot shows the Oracle SQL Developer interface. The left pane displays the 'Connections' tree. The main window shows the 'SQL Worksheet' with the following SQL commands:

```

ALTER TABLE EMPLOYEE ADD (PHONE NUMBER(10));
DESCRIBE EMPLOYEE;

ALTER TABLE EMPLOYEE MODIFY (PHONE CHAR(10));
DESCRIBE EMPLOYEE;

ALTER TABLE SUPPLIER_2 DROP COLUMN EMP_NAME;
ALTER TABLE SUPPLIER_2 RENAME COLUMN EMP_SAL TO NEW_SAL;
DESCRIBE SUPPLIER_2;

```

The 'Script Output' pane shows the results of the execution:

```

Table EMPLOYEE altered.

```

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(3)
EMP_NAME	NOT NULL	VARCHAR2(30)
EMP_SAL	NOT NULL	NUMBER(8,2)
EMP_COMM		NUMBER(6,1)
DEPT_NO	NOT NULL	NUMBER(3)
PHONE		CHAR(10)

9) Delete employee_name column from sup2 and verify;

The screenshot shows the Oracle SQL Developer interface. The left pane displays the 'Connections' tree with various database connections. The main window is titled 'C23CS46_PRACT2.sql' and contains the following SQL script:

```

DESCRIBE SUPPLIER2;

DROP table SUP1;

ALTER TABLE EMPLOYEE ADD (PHONE NUMBER(10));
DESCRIBE EMPLOYEE;

ALTER TABLE EMPLOYEE MODIFY (PHONE CHAR(10));
DESCRIBE EMPLOYEE;

ALTER TABLE SUPPLIER2 DROP COLUMN EMP_NAME;
ALTER TABLE SUPPLIER_2 RENAME COLUMN EMP_SAL TO NEW_SAL;
DESCRIBE SUPPLIER2;
  
```

The 'Script Output' pane shows the results of the execution:

Table SUPPLIER2 altered.

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(3)
EMP_SAL	NOT NULL	NUMBER(8,2)
EMP_COMM		NUMBER(6,1)
DEPT_NO	NOT NULL	NUMBER(3)

10) Rename the column salary to new_sal in sup2 and verify.

The screenshot shows the Oracle SQL Developer interface. The left pane displays the 'Connections' tree. The main window is titled 'C23CS46_PRACT2.sql' and contains the following SQL script:

```

DESCRIBE SUPPLIER2;

DROP table SUP1;

ALTER TABLE EMPLOYEE ADD (PHONE NUMBER(10));
DESCRIBE EMPLOYEE;

ALTER TABLE EMPLOYEE MODIFY (PHONE CHAR(10));
DESCRIBE EMPLOYEE;

ALTER TABLE SUPPLIER2 DROP COLUMN EMP_NAME;
ALTER TABLE SUPPLIER2 RENAME COLUMN EMP_SAL TO NEW_SAL;
DESCRIBE SUPPLIER2;
  
```

The 'Script Output' pane shows the results of the execution:

Task completed in 0.037 seconds

Name	Null?	Type
EMP_NO	NOT NULL	NUMBER(3)
NEW_SAL	NOT NULL	NUMBER(8,2)
EMP_COMM		NUMBER(6,1)
DEPT_NO	NOT NULL	NUMBER(3)