

FINAL REPORT ADBMS

MAHDSE22.1F

Group Members

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EProvider Company Database

This is Internet Providing company and its Database. This is Departments and Employees Data tables are use to do this task.

The provided SQL statements and queries are related to creating and managing data for departments and employees within the company.

The "departments1" table represents different departments within the company, with each department having a unique department ID and a department name and managerID(employee).

The "employees1" table stores information about employees, including their ID(Primary Key), name, city, email, mobile number, date of birth, salary, and the department they belong to. The tables are linked through a foreign key constraint on the "dept_id" column in the "employees1" table, referencing the "dept_id" primary key in the "departments1" table.

1-----

The screenshot displays the Oracle SQL Developer interface for the EProvider database. The left pane shows the 'Connections' tree with 'EProvider' selected, and the 'Tables (Filtered)' list. The main workspace shows the 'Query Builder' tab with the following SQL scripts:

```
CREATE TABLE departments1 (  
    dept_id CHAR(2) PRIMARY KEY,  
    dept_name VARCHAR2(20) NOT NULL,  
    Manager_id NUMBER(4)  
);  
  
CREATE SEQUENCE emp_seq START WITH 1 INCREMENT BY 1;  
  
CREATE TABLE employees1 (  
    emp_id NUMBER(4) DEFAULT emp_seq.nextval NOT NULL,  
    emp_name VARCHAR2(20) NOT NULL,  
    emp_city VARCHAR2(20) NOT NULL,  
    emp_email VARCHAR2(40) NOT NULL,  
    emp_mobile VARCHAR2(10) NOT NULL,  
    emp_dob DATE,  
    emp_salary NUMBER(10,2),  
    dept_id CHAR(2),  
    FOREIGN KEY (dept_id) REFERENCES departments1(dept_id)  
);  
  
ALTER TABLE employees1 ADD (  
    CONSTRAINT emp_pk PRIMARY KEY (emp_id));
```

The bottom pane shows the 'Script Output' tab with the following messages:

```
Table EMPLOYEES1 created.  
  
Table EMPLOYEES1 altered.
```

2

For Departments

```
-- Insert records into departments1
INSERT INTO departments1 (dept_id,dept_name,Manager_id)
VALUES ('F1','Finance',0001);
INSERT INTO departments1 (dept_id, dept_name,Manager_id)
VALUES ('M1', 'Marketing',0002);
INSERT INTO departments1 (dept_id, dept_name,Manager_id)
VALUES ('M2', 'Management',0003);
INSERT INTO departments1 (dept_id, dept_name,Manager_id)
VALUES ('T1', 'Technical',0004);

-- Insert matching records into employees1 For Managers
INSERT INTO employees1 (emp_id,emp_name,emp_city,emp_email,emp_mobile,emp_dob,emp_salary,dept_id)
```

Script Output x Query Result x

SQL All Rows Fetched: 4 in 0 seconds

DEPT_ID	DEPT_NAME	MANAGER_ID
1 F1	Finance	1
2 M1	Marketing	2
3 M2	Management	3
4 T1	Technical	4

For Employees

```
Select * from departments1;

-- Insert matching records into employees1
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Supun Dihan','Matara', 'supu@gmail.com', '0723456789', TO_DATE('1997-01-01', 'YYYY-MM-DD'), 490000, 'F1');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Kasun Piha','Akuressa', 'kasu@gmail.com', '0763456780', TO_DATE('1998-01-08', 'YYYY-MM-DD'), 390000, 'M1');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Nuwan Gamage','Matara', 'nuwa@gmail.com', '0783456769', TO_DATE('2000-01-05', 'YYYY-MM-DD'), 990000, 'M2');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Ruwan Gimhani','Galle', 'ruwan@gmail.com', '0793456789', TO_DATE('1999-05-01', 'YYYY-MM-DD'), 250000, 'T1');

select * from employees1;
select * from departments1;

SELECT * FROM employees1 WHERE emp_city = 'New York';
```

Script Output x Query Result x

Task completed in 0.089 seconds

1 row inserted.

1 row inserted.

Worksheet | Query Builder

```

INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Lahiru','Matara', 'lahi@gmail.com', '0703456711', TO_DATE('2002-01-02', 'YYYY-MM-DD'), 90000, 'F1');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Naveen','Akuressa', 'navee@gmail.com', '0713456732', TO_DATE('1988-01-15', 'YYYY-MM-DD'), 85000, 'M1');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Malinga','Matara', 'mali@gmail.com', '0744456743', TO_DATE('2004-01-20', 'YYYY-MM-DD'), 160000, 'M2');
INSERT INTO employees1 (emp_name,emp_city, emp_email, emp_mobile, emp_dob, emp_salary, dept_id)
VALUES ('Dinuka','Galle', 'dinu@gmail.com', '0700056754', TO_DATE('2005-05-28', 'YYYY-MM-DD'), 65000, 'T1');

select * from employees1;
select * from departments1;

SELECT * FROM employees1 WHERE emp_city = 'New York';

SELECT dept_id, COUNT(*) FROM employees1 GROUP BY dept_id;

SELECT dept_id, COUNT(*) FROM employees1 GROUP BY dept_id HAVING COUNT(*) > 5;

SELECT * FROM employees1 ORDER BY emp_name ASC;

```

Script Output | Query Result

SQL | All Rows Fetched: 12 in 0.002 seconds

	EMP_ID	EMP_NAME	EMP_CITY	EMP_EMAIL	EMP_MOBILE	EMP_DOB	EMP_SALARY	DEPT_ID
1	1	Supun Dihan	Matara	supu@gmail.com	0723456789	01-JAN-97	490000	F1
2	2	Kasun Piha	Akuressa	kasu@gmail.com	0763456780	08-JAN-98	390000	M1
3	3	Nuwan Gamage	Matara	nuwa@gmail.com	0783456769	05-JAN-00	990000	M2
4	4	Ruwani Gimhani	Galle	ruwan@gmail.com	0793456789	01-MAY-99	250000	T1
5	27	Buddhi	Matara	budi@gmail.com	0703456781	08-JAN-02	90000	F1
6	28	Chiran	Akuressa	chira@gmail.com	0713456782	10-JAN-98	80000	M1
7	29	Thisaru	Matara	thisa@gmail.com	0744456763	20-JAN-00	150000	M2
8	30	Dulanja	Galle	dula@gmail.com	0700056784	27-MAY-92	75000	T1
9	31	Lahiru	Matara	lahi@gmail.com	0703456711	02-JAN-02	90000	F1
10	32	Naveen	Akuressa	navee@gmail.com	0713456732	15-JAN-88	85000	M1
11	33	Malinga	Matara	mali@gmail.com	0744456743	20-JAN-04	160000	M2
12	34	Dinuka	Galle	dinu@gmail.com	0700056754	28-MAY-05	65000	T1

3-----

Using where

-----3-----

```

SELECT *
FROM employees1
WHERE emp_city = 'Matara';

SELECT dept_id, COUNT(*) FROM employees1 GROUP BY dept_id;

SELECT dept_id, COUNT(*) FROM employees1 GROUP BY dept_id HAVING COUNT(*) > 5;

SELECT * FROM employees1 ORDER BY emp_name ASC;

SELECT emp_name FROM employees1 WHERE dept_id = (SELECT dept_id FROM departments1 WHERE dept_name = 'Sales');

```

Script Output | Query Result

SQL | All Rows Fetched: 6 in 0.006 seconds

	EMP_ID	EMP_NAME	EMP_CITY	EMP_EMAIL	EMP_MOBILE	EMP_DOB	EMP_SALARY	DEPT_ID
1	1	Supun Dihan	Matara	supu@gmail.com	0723456789	01-JAN-97	490000	F1
2	3	Nuwan Gamage	Matara	nuwa@gmail.com	0783456769	05-JAN-00	990000	M2
3	27	Buddhi	Matara	budi@gmail.com	0703456781	08-JAN-02	90000	F1
4	29	Thisaru	Matara	thisa@gmail.com	0744456763	20-JAN-00	150000	M2
5	31	Lahiru	Matara	lahi@gmail.com	0703456711	02-JAN-02	90000	F1
6	33	Malinga	Matara	mali@gmail.com	0744456743	20-JAN-04	160000	M2

Using Group by

```
SELECT emp_city, COUNT(*)
FROM employees1
GROUP BY emp_city;

SELECT dept_id, COUNT(*)
FROM employees1
GROUP BY dept_id HAVING COUNT(*) > 5;

SELECT *
FROM employees1
ORDER BY emp_name ASC;
```

Script Output x Query Result x

SQL | All Rows Fetched: 3 in 0.008 seconds

EMP_CITY	COUNT(*)
1 Matara	6
2 Galle	3
3 Akuressa	3

Using having

```
SELECT emp_city, COUNT(*)
FROM employees1
GROUP BY emp_city
HAVING COUNT(*) > 5;

SELECT *
FROM employees1
ORDER BY emp_name ASC;
```

Script Output x Query Result x

SQL | All Rows Fetched: 1 in 0.003 seconds

EMP_CITY	COUNT(*)
1 Matara	6

Using order by

```
SELECT *
FROM employees1
ORDER BY emp_name ASC;

SELECT emp_name FROM employees1 WHERE dept_id = (SELECT dept_id FROM departments1 WHERE dept_name = 'Sales');

SELECT emp_name FROM employees1 WHERE dept_id IN (SELECT dept_id FROM departments1 WHERE dept_name IN ('Sales', 'Marketing'));
```

Script Output x Query Result x

SQL | All Rows Fetched: 12 in 0.005 seconds

	EMP_ID	EMP_NAME	EMP_CITY	EMP_EMAIL	EMP_MOBILE	EMP_DOB	EMP_SALARY	DEPT_ID
1	27	Buddhi	Matara	budi@gmail.com	0703456781	08-JAN-02	90000	F1
2	28	Chiran	Akuressa	chira@gmail.com	0713456782	10-JAN-98	80000	M1
3	34	Dinuka	Galle	dinu@gmail.com	0700056754	28-MAY-05	65000	T1
4	30	Dulanja	Galle	dula@gmail.com	0700056784	27-MAY-92	75000	T1
5	2	Kasun Piha	Akuressa	kasu@gmail.com	0763456780	08-JAN-98	390000	M1
6	31	Lahiru	Matara	lahi@gmail.com	0703456711	02-JAN-02	90000	F1
7	33	Malinga	Matara	mali@gmail.com	0744456743	20-JAN-04	160000	M2
8	32	Naveen	Akuressa	navee@gmail.com	0713456732	15-JAN-88	85000	M1
9	3	Nuwan Gamage	Matara	nuwa@gmail.com	0783456769	05-JAN-00	990000	M2
10	4	Ruwani Gimhani	Galle	ruwan@gmail.com	0793456789	01-MAY-99	250000	T1
11	1	Supun Dihan	Matara	supu@gmail.com	0723456789	01-JAN-97	490000	F1
12	29	Thisaru	Matara	thisa@gmail.com	0744456763	20-JAN-00	150000	M2

4----- single-row subquery

```
4-----
SELECT emp_name AS Finance_Employee
FROM employees1
WHERE (dept_id = (SELECT dept_id FROM departments1 WHERE dept_name = 'Finance'))
AND emp_salary >= 100000;

SELECT emp_name AS Finance_Marketing_Employees
FROM employees1
WHERE dept_id IN (SELECT dept_id FROM departments1 WHERE dept_name IN ('Finance', 'Marketing'));

5-----

SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
LEFT JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

Script Output x Query Result x

SQL | All Rows Fetched: 1 in 0.009 seconds

	FINANCE_EMPLOYEE
1	Supun Dihan

multiple-row subquery

```
SELECT emp_name AS Finance_Marketing_Employees
FROM employees1
WHERE dept_id IN (SELECT dept_id FROM departments1 WHERE dept_name IN ('Finance', 'Marketing'));
```

-----5-----

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
LEFT JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

Script Output x Query Result x

SQL | All Rows Fetched: 6 in 0.003 seconds

FINANCE_MARKETING_EMPLOYEES
1 Supun Dihan
2 Kasun Piha
3 Buddhi
4 Chiran
5 Lahiru
6 Naveen

5-----

Left joins.

-----5-----

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
LEFT JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
RIGHT JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
FULL OUTER JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

-----6-----

```
CREATE VIEW emp_view AS
SELECT emp_id, emp_name, emp_sal...
```

Script Output x Query Result x

SQL | All Rows Fetched: 12 in 0.004 seconds

EMP_NAME	DEPT_NAME	EMP_SALARY
1 Supun Dihan	Finance	490000
2 Buddhi	Finance	90000
3 Lahiru	Finance	90000
4 Kasun Piha	Marketing	390000
5 Chiran	Marketing	80000
6 Naveen	Marketing	85000
7 Nuwan Gamage	Management	990000
8 Thisaru	Management	150000
9 Malinga	Management	160000
10 Ruwani Gimhani	Technical	250000
11 Dulanja	Technical	75000
12 Dinuka	Technical	65000

Right joins.

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
RIGHT JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
FULL OUTER JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

-----6-----

```
CREATE VIEW emp_view AS
SELECT emp_id, emp_name, emp_city
```

Script Output x Query Result x

SQL | All Rows Fetched: 12 in 0.004 seconds

EMP_NAME	DEPT_NAME	EMP_SALARY
1 Supun Dihan	Finance	490000
2 Kasun Piha	Marketing	390000
3 Nuwan Gamage	Management	990000
4 Ruwani Gimhani	Technical	250000
5 Buddhi	Finance	90000
6 Chiran	Marketing	80000
7 Thisaru	Management	150000
8 Dulanja	Technical	75000
9 Lahiru	Finance	90000
10 Naveen	Marketing	85000
11 Malinga	Management	160000
12 Dinuka	Technical	65000

Full outer joins.

```
SELECT employees1.emp_name, departments1.dept_name, employees1.emp_salary
FROM employees1
FULL OUTER JOIN departments1 ON employees1.dept_id = departments1.dept_id;
```

-----6-----

```
CREATE VIEW emp_view AS
SELECT emp_id, emp_name, emp_city
FROM employees1;
```

Script Output x Query Result x

SQL | All Rows Fetched: 12 in 0.01 seconds

EMP_NAME	DEPT_NAME	EMP_SALARY
1 Supun Dihan	Finance	490000
2 Kasun Piha	Marketing	390000
3 Nuwan Gamage	Management	990000
4 Ruwani Gimhani	Technical	250000
5 Buddhi	Finance	90000
6 Chiran	Marketing	80000
7 Thisaru	Management	150000
8 Dulanja	Technical	75000
9 Lahiru	Finance	90000
10 Naveen	Marketing	85000
11 Malinga	Management	160000
12 Dinuka	Technical	65000

6

```

CREATE VIEW employees_views AS
SELECT emp_id, emp_name, emp_city
FROM employees1
WHERE emp_salary > 100000;

select * from employees_views;

```

```

DECLARE

```

Script Output x Query Result x
 SQL | All Rows Fetched: 6 in 0.006 seconds

EMP_ID	EMP_NAME	EMP_CITY
1	Supun Dihan	Matara
2	Kasun Piha	Akuressa
3	Nuwan Gamage	Matara
4	Ruwani Gimhani	Galle
5	29 Thisaru	Matara
6	33 Malinga	Matara

7

```

DECLARE
  v_emp_name employees1.emp_name%TYPE;
BEGIN
  SELECT emp_name INTO v_emp_name
  FROM employees1
  WHERE emp_id = 1;

  DBMS_OUTPUT.PUT_LINE('Employee name: ' || v_emp_name);
END;
/

```

```

DECLARE
  v_emp_id employees1.emp_id%TYPE := 4;
BEGIN

```

Script Output x Query Result x
 Task completed in 0.085 seconds

PL/SQL procedure successfully completed.

Employee name: Supun Dihan

PL/SQL procedure successfully completed.

```
DECLARE
    v_emp_id employees1.emp_id%TYPE := 4;
BEGIN
    UPDATE employees1
    SET emp_salary = emp_salary + 20000
    WHERE emp_id = v_emp_id;

    DBMS_OUTPUT.PUT_LINE('Record updated successfully.');
```

-----9-----

```
DECLARE
    v_emp_id employees1.emp_id%TYPE := 31;
BEGIN
    DELETE FROM employees1
    WHERE emp_id = v_emp_id;
```

Script Output x Query Result x
Task completed in 0.058 seconds

PL/SQL procedure successfully completed.

Record updated successfully.

PL/SQL procedure successfully completed.

```
-----9-----  
  
DECLARE  
  v_emp_city employees1.emp_city%TYPE := 'Matara';  
BEGIN  
  DELETE FROM employees1  
  WHERE emp_city = v_emp_city;  
  
  DBMS_OUTPUT.PUT_LINE('Record deleted successfully.');
```

```
-----10-----  
  
DECLARE  
  v_emp_city employees1.emp_city%TYPE := 'Matara';
```

Script Output x Query Result x
Task completed in 0.043 seconds

PL/SQL procedure successfully completed.

Record deleted successfully.

PL/SQL procedure successfully completed.

```
DECLARE
  v_emp_city employees1.emp_city%TYPE := 'Matara';
  v_rows_deleted NUMBER;
BEGIN
  DELETE FROM employees1
  WHERE emp_city = v_emp_city;

  v_rows_deleted := SQL%ROWCOUNT;

  DBMS_OUTPUT.PUT_LINE('Number of rows deleted: ' || v_rows_deleted);
END;
```

Script Output x Query Result x
Task completed in 0.093 seconds

PL/SQL procedure successfully completed.

Number of rows deleted: 5

PL/SQL procedure successfully completed.

Thank You