

# **DATABASE MANAGEMENT SYSTEM**

## Week-2

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Regno:2024053305

## 1.Employee Table

```
SQL> create table EMP3305(
 2 Empno number(4) CONSTRAINT PR_KY PRIMARY KEY,
 3 Emprname varchar2(50) CONSTRAINT NOT_NU NOT NULL,
 4 Depto number(2) CONSTRAINT D_NO CHECK(Depto BETWEEN 10 AND 90),
 5 Jobtitle varchar2(50) CONSTRAINT J_TITLE CHECK(Jobtitle IN('MANAGER', 'ANALYST', 'CLERK', 'SALESMAN')),
 6 Doj DATE DEFAULT SYSDATE,
 7 Salary number(6,2) CONSTRAINT SAL CHECK(Salary>0),
 8 Commission number(6,2),CONSTRAINT COM CHECK(Commission<Salary OR Commission IS NULL));

Table created.
```

```
SQL> INSERT INTO EMP3305(Empno,Empname,Deptno,Jobtitle,Salary,Commission) VALUES(3305,'SATLAS ROHIT',50,'MANAGER',1000.00,100.00);
1 row created.
```

```
SQL> Alter table EMP3305 rename column Depto to Deptno;
Table altered.
```

```
SQL> Alter table EMP3305 MODIFY(Salary number(8,2),Commission number(8,2));
Table altered.

SQL> INSERT INTO EMP3305 VALUES(1001,'John Smith',10,'MANAGER',DATE '2024-1-15',80000,50000);
1 row created.

SQL> INSERT INTO EMP3305 VALUES(1002,'Jane Doe',10,'ANALYST',DATE '2026-12-31',60000,NULL);
1 row created.

SQL> INSERT INTO EMP3305 VALUES(1003,'Bob Wilson',20,'CLERK',DATE '2024-03-20',25000,30000);
INSERT INTO EMP3305 VALUES(1003,'Bob Wilson',20,'CLERK',DATE '2024-03-20',25000,30000)
*
ERROR at line 1:
ORA-02290: check constraint (CT2024503305.COM) violated

SQL> INSERT INTO EMP3305 VALUES(1003,'Bob Wilson',20,'CLERK',DATE '2024-03-20',25000,30000);
INSERT INTO EMP3305 VALUES(1003,'Bob Wilson',20,'CLERK',DATE '2024-03-20',25000,30000)
*
ERROR at line 1:
ORA-02290: check constraint (CT2024503305.COM) violated

SQL> INSERT INTO EMP3305 VALUES(1004,'Alice Brown',30,'ENGINEER',DATE '2024-05-10',70000,NULL);
INSERT INTO EMP3305 VALUES(1004,'Alice Brown',30,'ENGINEER',DATE '2024-05-10',70000,NULL)
*
ERROR at line 1:
ORA-02290: check constraint (CT2024503305.J_TITLE) violated
```

```
SQL> select * from Emp3305
  2  ;

        EMPNO EMPNAME                      DEPTNO
-----   -----
      JOBTITLE                         DOJ      SALARY
-----   -----
      COMMISSION
-----
      3305 SATLAS ROHIT                  50
MANAGER                         08-JAN-26     1000
      100

      1001 John Smith                   10
MANAGER                         15-JAN-24    80000
      50000

        EMPNO EMPNAME                      DEPTNO
-----   -----
      JOBTITLE                         DOJ      SALARY
-----   -----
      COMMISSION
-----
      1002 Jane Doe                    10
ANALYST                         31-DEC-26    60000
```

## 2. Department Table

```
SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 4 CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 5
SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3 Location varchar2(30) NOT NULL,
 4 Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references DEPT3305(Deptno));
Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
*
ERROR at line 2:
ORA-00907: missing right parenthesis

SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3
SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3 Location varchar2(30) NOT NULL,
 4 Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references DEPT3305(Deptno));
Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references DEPT3305(Deptno)
*
ERROR at line 4:
ORA-00942: table or view does not exist

SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3 Location varchar2(30) NOT NULL,
 4 Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references EMP3305(Deptno));
Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references EMP3305(Deptno)
*
ERROR at line 4:
ORA-02270: no matching unique or primary key for this column-list
```

```
SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2
SQL> CREATE TABLE DEPT(Deptno number(2) CONSTRAINT DP_PK Primary Key,
 2 Deptname varchar2(30) CONSTRAINT DT_UQ Unique,
 3 Location varchar2(30) NOT NULL,
 4 Manager_empno number(4) , CONSTRAINT MANAGE FOREIGN KEY(Deptno) references EMP3305(EMPno));
Table created.
```

```
SQL> INSERT INTO DEPT INTO(10,'Sales','New York',NULL);
INSERT INTO DEPT INTO(10,'Sales','New York',NULL)
*
ERROR at line 1:
ORA-00926: missing VALUES keyword

SQL> INSERT INTO DEPT VALUES(10,'Sales','New York',NULL);
INSERT INTO DEPT VALUES(10,'Sales','New York',NULL)
*
ERROR at line 1:
ORA-02291: integrity constraint (CT2024503305.MANAGE) violated - parent key not
found

SQL> INSERT INTO EMP3305 VALUES(1001,'John Manager','10','MANAGER',DATE '2024-01-15',80000,NULL);
INSERT INTO EMP3305 VALUES(1001,'John Manager','10','MANAGER',DATE '2024-01-15',80000,NULL)
*
ERROR at line 1:
ORA-00917: missing comma

SQL> INSERT INTO EMP3305 VALUES(1001,'John Manager',10,'MANAGER',DATE '2024-01-15',80000,NULL);
INSERT INTO EMP3305 VALUES(1001,'John Manager',10,'MANAGER',DATE '2024-01-15',80000,NULL)
*
ERROR at line 1:
ORA-00001: unique constraint (CT2024503305.PR_KY) violated

SQL> UPDATE DEPT SET Manager_empno=1001 WHERE Deptno=10;
0 rows updated.

SQL> UPDATE DEPT SET Manager_empno=9999 WHERE Deptno=10;
0 rows updated.

SQL> -
```

### 3.Table Level Constraint Table

```
SQL> CREATE TABLE PROJECT(Projectno number(4) CONSTRAINT PR_PK Primary Key,
 2 Projectname varchar2(50) CONSTRAINT PR_UQ UNIQUE,
 3 Deptno number(2) NOT NULL,
 4 Budget number(12,2) CONSTRAINT BG CHECK(Budget>0),
 5 Start_date DATE DEFAULT SYSDATE,
 6 End_date DATE,
 7 CONSTRAINT ED CHECK(End_date IS NULL OR End_date>Start_date),
 8 CONSTRAINT DT_FK FOREIGN KEY(Deptno) references DEPT(Deptno) ON DELETE CASCADE);

Table created.
```

```
SQL> INSERT INTO PROJECT VALUES(101,'ERP Implementation',10,500000,DATE '2024-01-01',DATE '2025-12-31');
INSERT INTO PROJECT VALUES(101,'ERP Implementation',10,500000,DATE '2024-01-01',DATE '2025-12-31')
*
ERROR at line 1:
ORA-02291: integrity constraint (CT2024503305.DT_FK) violated - parent key not
found

SQL> INSERT INTO PROJECT VALUES(102,'Invalid Project',10,100000,DATE '2024-06-01',DATE '2024-01-01');
INSERT INTO PROJECT VALUES(102,'Invalid Project',10,100000,DATE '2024-06-01',DATE '2024-01-01')
*
ERROR at line 1:
ORA-02290: check constraint (CT2024503305.ED) violated

SQL> INSERT INTO PROJECT VALUES(103,'Long Project',10,200000,DATE '2020-01-01',DATE '2026-01-01');
INSERT INTO PROJECT VALUES(103,'Long Project',10,200000,DATE '2020-01-01',DATE '2026-01-01')
*
ERROR at line 1:
ORA-02291: integrity constraint (CT2024503305.DT_FK) violated - parent key not
found

SQL> INSERT INTO PROJECT VALUES(104,'Small Project',10,30000,DATE '2024-01-01',NULL);
INSERT INTO PROJECT VALUES(104,'Small Project',10,30000,DATE '2024-01-01',NULL)
*
ERROR at line 1:
ORA-02291: integrity constraint (CT2024503305.DT_FK) violated - parent key not
found
```

### 4.Employee Project Table

```
SQL> INSERT INTO employee_project3305 VALUES (1001, 101, 40);
1 row created.

SQL> INSERT INTO employee_project3305 VALUES (1001, 102, 20);
1 row created.

ERROR at line 1:
ORA-02293: integrity constraint (CT2024503703.EMP_PROJ_PROJ_FK) violated -
parent key not found

SQL> INSERT INTO project3703 VALUES (102, 'Valid Project', 10, 100000, DATE
`2024-01-01', DATE '2025-01-01');

1 row created.

SQL> INSERT INTO employee_project3305 VALUES (1001, 102, 20);
1 row created.
```

```

SQL> INSERT INTO employee_project3305 VALUES (1001, 101, 30);
*
INSERT INTO employee_project3305 VALUES (1001, 101, 30)
*
ERROR at line 1:
ORA-00001: unique constraint (CT2024503305.EMP_PROJ_PK) violated

SQL> altered.
SQL> INSERT INTO employee_project3305 VALUES (1002, 101, 200);
INSERT INTO employee_project3305 VALUES (1002, 101, 200),200
*
ERROR at line 1:
ORA-02299: check constraint (CT2024503305.EMP_PROJ_HOURS_CHK) violated

SQL> desc emp3305;
*
SQL> INSERT employee_prroject3305 VALUES (9999, 101, 10)
```
SQL> ALTER TABLE emp3305
Name          Null?    Type
-----        -----   -----
EMPNO         NOT NULL NUMBER(4)
EMPNAME       NOT NULL VARCHAR2(50)
DEPNO          NUMBER(2)
JORTITLE      VARCHAR2(50)
DOJ            DATE
JULIARY       NUMBER(8,2)

```

```

SQL> INSERT INTO employee_project3305 VALUES (1001, 101, 40);
1 row created.

SQL> INSERT INTO employee_project3305 VALUES (1001, 102, 20);
1 row created.

ERROR at line 1:
ORA-02299: integrity constraint (CT2024503703.EMP_PROJ_PROJ_FK) violated -
parent key not found

SQL> INSERT INTO project3703 VALUES (102, 'Valid Project', 10, 100000, DATE
`2024-01-01', DATE `2025-01-01`);

1 row created.

SQL> INSERT INTO employee_project3305 VALUES (1001, 102, 20);
1 row created.

```

## 5. Dependent Table

```
SQL> CREATE TABLE dependent3305 (
  2  empno NUMBER(4),
  3  dependent_name VARCHAR2(50),
  4  relationship VARCHAR2(30),
  5  dob DATE,
  6  CONSTRAINT dependent_pk PRIMARY KEY (empno, dependent_name),
  7  CONSTRAINT dependent_emp_fk FOREIGN KEY (empno) REFERENCES emp3305 ON DELETE CASCADE
  8  );

Table created.

SQL> desc dependent3305;
Name          Null?    Type
-----        -----   -----
EMPNO         NOT NULL NUMBER(4)
DEPENDENT_NAME NOT NULL VARCHAR2(50)
RELATIONSHIP      VARCHAR2(30)
DOB             DATE

SQL> INSERT INTO dependent3305 VALUES (1003, 'Unknown Relative', 'M', NULL, 'Other');

1 row inserted.

SQL> INSERT INTO dependent3305 VALUES (1001, 'John Smith Jr', 'M', DATE '2010-08-20', |
```