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Sathish Yellanki

NEW BATCH FOR

ORACLE

UTILITIES

Batch Starts on 06th Sep 2018
Time: 5pm-6pm

Utilities Covered

- SQL* Loader
- UTL File
- External Tables
- Regular Expressions

- Dynamic SQL
- Advance SQL Functions
- Oracle Pragmas
- Bulk Collect & Bulk Loading

Online   - 500INR For Each Tool
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```
SQL> cl scr

SQL> CREATE OR REPLACE TRIGGER WeekEndCheck
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON Emp
  4  DECLARE
  5  V_WeekDay VARCHAR2(100);
  6  BEGIN
  7  V_WeekDay := TO_CHAR(SYSDATE, 'DY');
  8  IF V_WeekDay = 'SAT' OR V_WeekDay = 'SUN' THEN
  9  RAISE_APPLICATION_ERROR(-20010,'An Illegal Intrusion into the System
was Detected.');
 10  END IF;
 11  END;
 12  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'TURNER';
DELETE FROM Emp WHERE Ename = 'TURNER'
            *
ERROR at line 1:
ORA-20010: An Illegal Intrusion into the System was Detected.
ORA-06512: at "SCOTT.WEEKENDCHECK", line 6
ORA-04088: error during execution of trigger 'SCOTT.WEEKENDCHECK'


SQL> DELETE FROM Emp WHERE Deptno = 30;
DELETE FROM Emp WHERE Deptno = 30
            *
ERROR at line 1:
ORA-20010: An Illegal Intrusion into the System was Detected.
ORA-06512: at "SCOTT.WEEKENDCHECK", line 6
ORA-04088: error during execution of trigger 'SCOTT.WEEKENDCHECK'


SQL> ROLLBACK;

Rollback complete.

SQL> CREATE OR REPLACE TRIGGER WeekEndCheck
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON Emp
  4  FOR EACH ROW
  5  DECLARE
  6  V_WeekDay VARCHAR2(100);
  7  BEGIN
```

```
  8  V_WeekDay := TO_CHAR(SYSDATE, 'DY');
  9  IF V_WeekDay = 'SAT' OR V_WeekDay = 'SUN' THEN
 10  RAISE_APPLICATION_ERROR(-20010,'An Illegal Intrusion into the System
was Detected.');
 11  END IF;
 12  END;
 13  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'TURNER';
DELETE FROM Emp WHERE Ename = 'TURNER'
              *
ERROR at line 1:
ORA-20010: An Illegal Intrusion into the System was Detected.
ORA-06512: at "SCOTT.WEEKENDCHECK", line 6
ORA-04088: error during execution of trigger 'SCOTT.WEEKENDCHECK'


SQL> DELETE FROM Emp WHERE Deptno = 30;
DELETE FROM Emp WHERE Deptno = 30
              *
ERROR at line 1:
ORA-20010: An Illegal Intrusion into the System was Detected.
ORA-06512: at "SCOTT.WEEKENDCHECK", line 6
ORA-04088: error during execution of trigger 'SCOTT.WEEKENDCHECK'


SQL> cl scr

SQL> ROLLBACK;

Rollback complete.

SQL> cl scr

SQL> CREATE OR REPLACE TRIGGER WeekEndCheck
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON Emp
  4  DECLARE
  5  V_WeekDay VARCHAR2(100);
  6  BEGIN
  7  V_WeekDay := TO_CHAR(SYSDATE, 'DY');
  8  IF V_WeekDay = 'SAT' OR V_WeekDay = 'SUN' THEN
  9  DBMS_OUTPUT.PUT_LINE('An Illegal Intrusion into the System was
Detected.');
 10  END IF;
```

```
 11  END;
 12  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'TURNER';
An Illegal Intrusion into the System was Detected.

1 row deleted.

SQL> DELETE FROM Emp WHERE Deptno = 30;
An Illegal Intrusion into the System was Detected.

5 rows deleted.

SQL> ROLLBACK;

Rollback complete.

SQL> CREATE OR REPLACE TRIGGER WeekEndCheck
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON Emp
  4  FOR EACH ROW
  5  DECLARE
  6  V_WeekDay VARCHAR2(100);
  7  BEGIN
  8  V_WeekDay := TO_CHAR(SYSDATE, 'DY');
  9  IF V_WeekDay = 'SAT' OR V_WeekDay = 'SUN' THEN
 10  DBMS_OUTPUT.PUT_LINE('An Illegal Intrusion into the System was
Detected.');
 11  END IF;
 12  END;
 13  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'TURNER';
An Illegal Intrusion into the System was Detected.

1 row deleted.

SQL> DELETE FROM Emp WHERE Deptno = 30;
An Illegal Intrusion into the System was Detected.
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```

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Spool File For Oracle Students Trained by Mr.Sathish Yellanki

....

```
5 rows deleted.

SQL> ROLLBACK;

Rollback complete.

SQL> DROP TRIGGER WeekEndCheck;

Trigger dropped.

SQL> cl scr

SQL> CREATE VIEW DeptView
  2  AS
  3  SELECT Deptno, Dname, Loc
  4  FROM Dept
  5  /

View created.

SQL> SELECT * FROM DeptView;

    DEPTNO DNAME          LOC
---------- -------------- -------------
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS     BOSTON

SQL> CREATE OR REPLACE TRIGGER DeptDel
  2  INSTEAD OF DELETE ON DeptView
  3  FOR EACH ROW
  4  BEGIN
  5  DBMS_OUTPUT.PUT_LINE('Instead of Trigger Fired...');
  6  DELETE FROM Dept
  7  WHERE Deptno = :OLD.Deptno;
  8  IF SQL%FOUND THEN
  9  DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT||' Record Deleted');
 10  DBMS_OUTPUT.PUT_LINE('Instead of Trigger Ended...');
 11  ELSE
 12  DBMS_OUTPUT.PUT_LINE(SQL%ROWCOUNT||' Record Deleted');
 13  DBMS_OUTPUT.PUT_LINE('Instead of Trigger Ended...');
 14  END IF;
 15  END;
 16  /
```

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```
Trigger created.

SQL> DELETE FROM DeptView WHERE Deptno = 40;
Instead of Trigger Fired...
1 Record Deleted
Instead of Trigger Ended...

1 row deleted.

SQL> ROLLBACK;

Rollback complete.

SQL> cl scr

SQL> CREATE OR REPLACE VIEW Employees_Dept_Info
  2   AS
  3   SELECT Dname, Ename
  4   FROM Emp, Dept
  5   WHERE Dept.DeptNo = Emp.DeptNo;

View created.

SQL> CREATE OR REPLACE TRIGGER Insert_Dept_Info
  2   INSTEAD OF INSERT ON Employees_Dept_Info
  3   DECLARE
  4   V_DeptNo Dept.Deptno%TYPE;
  5   Duplicate_Record EXCEPTION;
  6   PRAGMA EXCEPTION_INIT(Duplicate_Record, -00001);
  7   BEGIN
  8   DBMS_OUTPUT.PUT_LINE('Instead of Trigger Fired...');
  9   SELECT MAX(Deptno) INTO V_Deptno
 10   FROM Dept;
 11   V_Deptno := V_Deptno + 10;
 12   INSERT INTO Dept
 13   VALUES(V_Deptno, :NEW.Dname, 'Not Confirmed');
 14   DBMS_OUTPUT.PUT_LINE('Instead of Trigger Ended...');
 15   EXCEPTION
 16   WHEN DUPLICATE_RECORD THEN
 17   RAISE_APPLICATION_ERROR(num=> -20107, msg=> 'Duplicated Department
Number!');
 18   END Insert_Dept_Info;
 19   /

Trigger created.
```

```
SQL> INSERT INTO Employees_Dept_Info(Dname, Ename) VALUES(NULL,
'SHIPPING');
Instead of Trigger Fired...
Instead of Trigger Ended...

1 row created.

SQL> SELECT * FROm Dept;

    DEPTNO DNAME          LOC
---------- -------------- -------------
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS     BOSTON
        50                Not Confirmed

SQL> INSERT INTO Employees_Dept_Info(Dname, Ename) VALUES('CARGO', NULL);
Instead of Trigger Fired...
Instead of Trigger Ended...

1 row created.

SQL> SELECT * FROm Dept;

    DEPTNO DNAME          LOC
---------- -------------- -------------
        10 ACCOUNTING     NEW YORK
        20 RESEARCH       DALLAS
        30 SALES          CHICAGO
        40 OPERATIONS     BOSTON
        50                Not Confirmed
        60 CARGO          Not Confirmed

6 rows selected.

SQL> ROLLBACK;

Rollback complete.

SQL> cl scr

SQL> CREATE OR REPLACE TRIGGER Tab_ReadOnly
  2  BEFORE DELETE OR INSERT OR UPDATE
  3  ON Emp
  4  FOR EACH ROW
  5  BEGIN
```

```
  6     RAISE_APPLICATION_ERROR(-20201, 'Table Status : READ ONLY.');
  7  END;
  8  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'SMITH';
DELETE FROM Emp WHERE Ename = 'SMITH'
              *
ERROR at line 1:
ORA-20201: Table Status : READ ONLY.
ORA-06512: at "SCOTT.TAB_READONLY", line 2
ORA-04088: error during execution of trigger 'SCOTT.TAB_READONLY'


SQL> UPDATE Emp SET Sal = Sal + 1000 WHERE Deptno = 30;
UPDATE Emp SET Sal = Sal + 1000 WHERE Deptno = 30
        *
ERROR at line 1:
ORA-20201: Table Status : READ ONLY.
ORA-06512: at "SCOTT.TAB_READONLY", line 2
ORA-04088: error during execution of trigger 'SCOTT.TAB_READONLY'


SQL> ROLLBACK;

Rollback complete.

SQL> cl scr

SQL> DROP TRIGGER Tab_ReadOnly;

Trigger dropped.

SQL> cl scr

SQL> CREATE TABLE EmpAudit
  2  (
  3   UserName VARCHAR2(10),
  4   TranDate DATE,
  5   TranTime DATE,
  6   TranType VARCHAR2(10)
  7  );

Table created.

SQL> SELECT * FROM EmpAudit;
```

```
no rows selected

SQL> CREATE OR REPLACE TRIGGER EmpAuditTrg
  2  AFTER INSERT OR DELETE OR UPDATE
  3  ON Emp
  4  DECLARE
  5  V_TranType EmpAudit.TranType%TYPE;
  6  BEGIN
  7  IF INSERTING THEN
  8  V_TranType := 'INSERT';
  9  ELSIF UPDATING THEN
 10  V_TranType := 'UPDATE';
 11  ELSE
 12  V_TranType := 'DELETE';
 13  END IF;
 14  INSERT INTO EmpAudit
 15  VALUES(USER, TO_DATE(TO_CHAR(SYSDATE, 'DD-MON-YYYY'), 'DD-MON-
YYYY'), TO_DATE(TO_CHAR(SYSDATE, 'HH24:MI:SS'), 'HH24:MI:SS'),
V_TranType);
 16  END;
 17  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'SMITH';

1 row deleted.

SQL> SELECT * FROM EmpAudit;

USERNAME    TRANDATE  TRANTIME  TRANTYPE
---------- --------- --------- ----------
SCOTT      04-SEP-18 01-SEP-18 DELETE

SQL> UPDATE Emp SET Sal = Sal + 1000 WHERE Deptno = 30;

6 rows updated.

SQL> SELECT * FROM EmpAudit;

USERNAME    TRANDATE  TRANTIME  TRANTYPE
---------- --------- --------- ----------
SCOTT      04-SEP-18 01-SEP-18 DELETE
SCOTT      04-SEP-18 01-SEP-18 UPDATE

SQL> ROLLBACK;
```

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```
Rollback complete.

SQL> SELECT * FROM EmpAudit;

no rows selected

SQL> CREATE OR REPLACE TRIGGER EmpAuditTrg
  2  AFTER INSERT OR DELETE OR UPDATE
  3  ON Emp
  4  FOR EACH ROW
  5  DECLARE
  6  V_TranType EmpAudit.TranType%TYPE;
  7  BEGIN
  8  IF INSERTING THEN
  9  V_TranType := 'INSERT';
 10  ELSIF UPDATING THEN
 11  V_TranType := 'UPDATE';
 12  ELSE
 13  V_TranType := 'DELETE';
 14  END IF;
 15  INSERT INTO EmpAudit
 16  VALUES(USER, TO_DATE(TO_CHAR(SYSDATE, 'DD-MON-YYYY'), 'DD-MON-
YYYY'), TO_DATE(TO_CHAR(SYSDATE, 'HH24:MI:SS'), 'HH24:MI:SS'),
V_TranType);
 17  END;
 18  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'SMITH';

1 row deleted.

SQL> SELECT * FROM EmpAudit;

USERNAME    TRANDATE   TRANTIME   TRANTYPE
---------- ---------- ---------- ----------
SCOTT      04-SEP-18  01-SEP-18  DELETE

SQL> UPDATE Emp SET Sal = Sal + 1000 WHERE Deptno = 30;

6 rows updated.

SQL> SELECT * FROM EmpAudit;

USERNAME    TRANDATE   TRANTIME   TRANTYPE
```

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```
---------- --------- --------- ----------
SCOTT       04-SEP-18 01-SEP-18 DELETE
SCOTT       04-SEP-18 01-SEP-18 UPDATE
SCOTT       04-SEP-18 01-SEP-18 UPDATE
SCOTT       04-SEP-18 01-SEP-18 UPDATE
SCOTT       04-SEP-18 01-SEP-18 UPDATE
SCOTT       04-SEP-18 01-SEP-18 UPDATE
SCOTT       04-SEP-18 01-SEP-18 UPDATE

7 rows selected.

SQL> ROLLBACK;

Rollback complete.

SQL> SELECT * FROM EmpAudit;

no rows selected

SQL> cl scr

SQL> CREATE TABLE Emp_Audit_Table
  2  (
  3     AuditSeq        NUMBER,
  4     UserName        VARCHAR2(10),
  5     TimeTaran       DATE,
  6     UserTerm        VARCHAR2(10),
  7     TranType        VARCHAR2(10),
  8     ProcDone        VARCHAR2(10),
  9     Enum       NUMBER
 10  );

Table created.

SQL> CREATE SEQUENCE Audit_Seq;

Sequence created.

SQL> CREATE TABLE Audit_Table_Values
  2  (
  3     Audit_Seq       NUMBER,
  4     ColumnName          VARCHAR2(10),
  5     OldValue        NUMBER,
  6     NewValue        NUMBER
  7  );

Table created.
```

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```
SQL> SELECT * FROM Emp_Audit_Table;

no rows selected

SQL> SELECT * FROM Audit_Table_Values;

no rows selected

SQL> CREATE OR REPLACE TRIGGER Audit_On_Emp_Table
  2  AFTER INSERT OR UPDATE OR DELETE
  3  ON Emp
  4  FOR EACH ROW
  5  DECLARE
  6  Tran_Time          DATE;
  7  User_Terminal     VARCHAR2(10);
  8  BEGIN
  9  Tran_Time := SYSDATE;
 10  User_Terminal := USERENV('TERMINAL');
 11  IF INSERTING THEN
 12   INSERT INTO Emp_Audit_Table
 13   VALUES(
 14            Audit_Seq.NEXTVAL,
 15            USER,
 16            Tran_Time,
 17            User_Terminal,
 18            'Emp',
 19            'INSERT',
 20            :NEW.Empno
 21            );
 22  ELSIF DELETING THEN
 23          INSERT INTO Emp_Audit_Table
 24          VALUES(
 25            Audit_Seq.NEXTVAL,
 26            USER,
 27            Tran_Time,
 28            User_Terminal,
 29            'Emp',
 30            'DELETE',
 31            :OLD.Empno
 32            );
 33  ELSE
 34          INSERT INTO Emp_Audit_Table
 35          VALUES (
 36            Audit_Seq.NEXTVAL,
 37            USER,
 38            Tran_Time,
```

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```
39                  User_Terminal,
40                  'Emp',
41                  'UPDATE',
42                  :OLD.Empno
43                  );
44    IF UPDATING('SAL') THEN
45          INSERT INTO Audit_Table_Values
46          VALUES(
47                  Audit_Seq.CURRVAL,
48                  'SAL',
49                  :OLD.Sal,
50                  :NEW.Sal
51                  );
52    ELSIF UPDATING ('DEPTNO') THEN
53          INSERT INTO Audit_Table_Values
54          VALUES(
55                  Audit_Seq.CURRVAL,
56                  'DEPTNO',
57                  :OLD.Deptno,
58                  :NEW.Deptno
59                  );
60     END IF;
61     END IF;
62     END;
63     /
```

Trigger created.

```
SQL> INSERT INTO Emp(Empno, Ename, Deptno, Job, Sal)
  2  VALUES(7935, 'SURESH', 30, 'CLERK', 2000);
```

1 row created.

```
SQL> SELECT * FROM Emp_Audit_Table;

  AUDITSEQ USERNAME    TIMETARAN USERTERM   TRANTYPE   PROCDONE   ENUM
---------- ---------- --------- ---------- ---------- ---------- --------
--
         2 SCOTT      04-SEP-18 YELLANKIPC Emp        INSERT
7935

SQL> DELETE FROM Emp WHERE Ename = 'ADAMS';
```

1 row deleted.

```
SQL> SELECT * FROM Emp_Audit_Table;
```

```
  AUDITSEQ USERNAME   TIMETARAN USERTERM   TRANTYPE   PROCDONE  ENUM
---------- ---------- --------- ---------- ---------- ---------- --------
--
         2 SCOTT     04-SEP-18 YELLANKIPC Emp        INSERT
7935
         3 SCOTT     04-SEP-18 YELLANKIPC Emp        DELETE
7876

SQL> UPDATE Emp SET Sal = Sal + 1000 WHERE Ename = 'JONEs';

0 rows updated.

SQL> UPDATE Emp SET Sal = Sal + 1000 WHERE Ename = 'JONES';

1 row updated.

SQL> SELECT * FROM Emp_Audit_Table;

  AUDITSEQ USERNAME   TIMETARAN USERTERM   TRANTYPE   PROCDONE  ENUM
---------- ---------- --------- ---------- ---------- ---------- --------
--
         2 SCOTT     04-SEP-18 YELLANKIPC Emp        INSERT
7935
         3 SCOTT     04-SEP-18 YELLANKIPC Emp        DELETE
7876
         4 SCOTT     04-SEP-18 YELLANKIPC Emp        UPDATE
7566

SQL> SELECT * FROM Audit_Table_Values;

 AUDIT_SEQ COLUMNNAME   OLDVALUE   NEWVALUE
---------- --------- ---------- ----------
         4 SAL            2975       3975

SQL> UPDATE Emp SET Deptno = 20 WHERE Ename = 'TURNER';

1 row updated.

SQL> SELECT * FROM Emp_Audit_Table;

  AUDITSEQ USERNAME   TIMETARAN USERTERM   TRANTYPE   PROCDONE  ENUM
---------- ---------- --------- ---------- ---------- ---------- --------
--
```

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```
        2 SCOTT        04-SEP-18 YELLANKIPC Emp            INSERT
7935
        3 SCOTT        04-SEP-18 YELLANKIPC Emp            DELETE
7876
        4 SCOTT        04-SEP-18 YELLANKIPC Emp            UPDATE
7566
        5 SCOTT        04-SEP-18 YELLANKIPC Emp            UPDATE
7844

SQL> SELECT * FROM Audit_Table_Values;

 AUDIT_SEQ COLUMNNAME    OLDVALUE    NEWVALUE
---------- ---------- ---------- ----------
        4 SAL              2975        3975
        5 DEPTNO             30          20

SQL> ROLLBACK;

Rollback complete.

SQL> SELECT * FROM Emp_Audit_Table;

no rows selected

SQL> cl scr

SQL> CREATE TABLE RecycleBin
  2  (
  3  Empno NUMBER(4),
  4  Ename VARCHAR2(15),
  5  Job VARCHAR(15),
  6  MGR NUMBER(4),
  7  HireDate DATE,
  8  Sal NUMBER(7, 2),
  9  Comm NUMBER(7, 2),
 10  Deptno NUMBER(2)
 11  );

Table created.

SQL> SELECT * FROM RecycleBin;

no rows selected

SQL> CREATE OR REPLACE TRIGGER EmpRBin
  2  BEFORE DELETE
  3  ON Emp
```

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```
  4   FOR EACH ROW
  5   BEGIN
  6   INSERT INTO RecycleBin
  7   VALUES(:OLD.Empno, :OLD.Ename, :OLD.Job, :OLD.MGR, :OLD.HireDate,
:OLD.Sal, :OLD.Comm, :OLD.Deptno);
  8   END;
  9   /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'JAMES';

1 row deleted.

SQL> SELECT * FROM Emp WHERE Ename = 'JAMES';

no rows selected

SQL> SELECT * FROM RecycleBin;

     EMPNO ENAME            JOB                   MGR HIREDATE
SAL        COMM       DEPTNO
---------- --------------- ------------------- ---------- --------- ---------
- ---------- ----------
      7900 JAMES            CLERK                7698 03-DEC-81
950                       30

SQL> SELECT * FROM Emp WHERE Deptno = 30;

     EMPNO ENAME            JOB              MGR HIREDATE          SAL
COMM       DEPTNO
---------- ---------- --------- ---------- --------- ---------- ---------
- ----------
      7698 BLAKE      MANAGER        7839 01-MAY-81        4850
30
      7654 MARTIN     SALESMAN       7698 28-SEP-81        1250
1400         30
      7499 ALLEN      SALESMAN       7698 20-FEB-81        4400
300          30
      7844 TURNER     SALESMAN       7698 08-SEP-81        1500
0       30
      7521 WARD       SALESMAN       7698 22-FEB-81        1250
500          30

SQL> DELETE FROM Emp WHERE Deptno = 30;

5 rows deleted.
```

```
SQL> SELECT * FROM Emp WHERE Deptno = 30;

no rows selected

SQL> SELECT * FROM RecycleBin;

    EMPNO ENAME           JOB              MGR HIREDATE
SAL      COMM    DEPTNO
---------- --------------- --------------- ---------- --------- ---------
- ---------- ----------
     7900 JAMES           CLERK           7698 03-DEC-81
950              30
     7698 BLAKE           MANAGER         7839 01-MAY-81
4850             30
     7654 MARTIN          SALESMAN        7698 28-SEP-81
1250     1400    30
     7499 ALLEN           SALESMAN        7698 20-FEB-81
4400      300    30
     7844 TURNER          SALESMAN        7698 08-SEP-81
1500        0    30
     7521 WARD            SALESMAN        7698 22-FEB-81
1250      500    30

6 rows selected.

SQL> ROLLBACK;

Rollback complete.

SQL> CREATE OR REPLACE TRIGGER PresidentNo
  2  BEFORE DELETE ON Emp
  3  FOR EACH ROW
  4  WHEN (OLD.Job = 'PRESIDENT')
  5  BEGIN
  6  RAISE_APPLICATION_ERROR(-20555, 'Sorry President Cannot be
Deleted...');
  7  END PresidentNo;
  8  /

Trigger created.

SQL> DELETE FROM Emp WHERE Ename = 'JAMES';

1 row deleted.

SQL> DELETE FROM Emp WHERE Ename = 'KING';
```

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```
DELETE FROM Emp WHERE Ename = 'KING'
              *
ERROR at line 1:
ORA-20555: Sorry President Cannot be Deleted...
ORA-06512: at "SCOTT.PRESIDENTNO", line 2
ORA-04088: error during execution of trigger 'SCOTT.PRESIDENTNO'


SQL> SPOOL OFF
```