

## **DCL**

Creating user and grant privileges. After revoking the privileges, error is shown.

```
CREATE USER abc IDENTIFIED BY abc_password;  
GRANT CONNECT TO abc;  
GRANT CREATE SESSION TO abc;  
GRANT CREATE TABLE TO abc;  
GRANT SELECT, INSERT TO abc;  
CONN abc/abc_password
```

```
create table test(  
ID int,  
NAME varchar2(30));
```

```
insert into test values(1,'rahul');
```

```
select * from test;
```

ID	NAME
1	rahul

```
revoke create table from abc;
```

when abc user tries to create more tables error is shown:

ORA-01031: insufficient privileges

When privileges are revoked, user can no longer create tables.

## TCL

```
BEGIN
INSERT INTO employees_test(id, name, salary) VALUES(1, 'John', 5000);
SAVEPOINT A;
INSERT INTO employees_test(id, name, salary) VALUES(2, 'Jane', 6000);
SAVEPOINT B;
INSERT INTO employees_test(id, name, salary) VALUES(1, 'Jim', 7000);
ROLLBACK TO B;
INSERT INTO employees_test(id, name, salary) VALUES(3, 'Jim', 7000);
COMMIT;
END;
```

In this example a transaction is created and new records are inserted. A savepoint A is set and another record is inserted. A savepoint B is set. When a third insert statement is used, it does not work because of primary key constraint. This is why rollback is used to rollback to second savepoint and undo the second insert statement.

ORA-00001: unique constraint (SCHEMA\_NAME.EMPLOYEES\_TEST\_PK) violated

This error means that a primary key constraint is violated.