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CNIT487 Lab Tuesday 9:30-11:20am

Part 1  
Part 1A Adding New Users:

--Step 1

```
SQL> CREATE USER bert IDENTIFIED BY bert
      2 TEMPORARY TABLESPACE temp
      3 QUOTA UNLIMITED ON appl_data QUOTA 2M ON system;
```

User created.

--Step 2

```
SQL> COLUMN tablespace_name format a10
SQL> column username format a10
SQL> select * from dba_ts_quotas;
```

TABLESPACE	USERNAME	BYTES	MAX_BYTES	BLOCKS	MAX_BLOCKS	DRO
SYSAUX	GSMADMIN_I	1376256	104857600	168	12800	
NO	INTERNAL					
SYSAUX	APPQOSSYS	0	-1	0	-1	NO
SYSTEM	BERT	0	2097152	0	256	NO
APPL_DATA	BERT	0	-1	0	-1	NO
SYSAUX	AUDSYS	0	-1	0	-1	NO

The -1 max\_bytes under appl\_data means that there is no limit on how much data that can be stored within the tablespace

--Step 3

```
SQL> create user ernie identified by ernie
      2 default tablespace users
      3 temporary tablespace temp;
```

User created.

--Step 4

```
SQL> alter user ernie quota 2m on test;
alter user ernie quota 2m on test
*
ERROR at line 1:
ORA-00959: tablespace 'TEST' does not exist
```

- a) If you try to assign a quota to a tablespace that does not exist, an error is thrown
- b) To prevent this, one can first verify if the tablespace exists or not and if it does not exist, they can then create the tablespace and then set a quota

--Step 5

```
SQL> select username, user_id, password,
      2 default_tablespace default_ts,
```

```
3 temporary_tablespace temporary_ts, created, profile
4 from dba_users;
```

```
USERNAME      USER_ID
-----
```

```
PASSWORD
-----
```

```
DEFAULT_TS      TEMPORARY_TS      CREATED
-----
```

```
PROFILE
-----
```

```
GSMCATUSER      62
```

```
USERS      TEMP      23-SEP-24
DEFAULT
```

```
USERNAME      USER_ID
-----
```

```
PASSWORD
-----
```

```
DEFAULT_TS      TEMPORARY_TS      CREATED
-----
```

```
PROFILE
-----
```

```
ERNIE      64
```

```
USERS      TEMP      20-OCT-24
DEFAULT
```

```
USERNAME      USER_ID
-----
```

```
PASSWORD
-----
```

```
DEFAULT_TS      TEMPORARY_TS      CREATED
-----
```

```
PROFILE
-----
```

```
DIP      23
```

```
USERS      TEMP      23-SEP-24
DEFAULT
```

```
USERNAME      USER_ID
-----
```

```
PASSWORD
```

```
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
BERT                63

USERS                TEMP                20-OCT-24
DEFAULT

USERNAME            USER_ID
-----
PASSWORD
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
ORACLE_OCM          36

USERS                TEMP                23-SEP-24
DEFAULT

USERNAME            USER_ID
-----
PASSWORD
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
XS$NULL            2147483638

USERS                TEMP                23-SEP-24
DEFAULT

USERNAME            USER_ID
-----
PASSWORD
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
```

```

-----
-----
GSMUSER          22

USERS              TEMP              23-SEP-24
DEFAULT

-----
-----
USERNAME          USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----
AUDSYS              7

USERS              TEMP              23-SEP-24
DEFAULT

-----
-----
USERNAME          USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----
ANONYMOUS          52

SYSAUX              TEMP              23-SEP-24
DEFAULT

-----
-----
USERNAME          USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----
DBSNMP              49

SYSAUX              TEMP              23-SEP-24
DEFAULT

```

USERNAME            USER\_ID

-----  
PASSWORD

-----  
DEFAULT\_TS                      TEMPORARY\_TS                      CREATED

-----  
PROFILE

-----  
XDB                      51

SYSAUX                                      TEMP                                      23-SEP-24  
DEFAULT

-----  
USERNAME            USER\_ID

-----  
PASSWORD

-----  
DEFAULT\_TS                      TEMPORARY\_TS                      CREATED

-----  
PROFILE

-----  
APPQOSSYS                      50

SYSAUX                                      TEMP                                      23-SEP-24  
DEFAULT

-----  
USERNAME            USER\_ID

-----  
PASSWORD

-----  
DEFAULT\_TS                      TEMPORARY\_TS                      CREATED

-----  
PROFILE

-----  
GSMADMIN\_I                      21

NTERNAL

SYSAUX                                      TEMP                                      23-SEP-24  
DEFAULT

-----  
USERNAME            USER\_ID

-----  
PASSWORD

```

-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----

SYSBACKUP  2147483617

SYSTEM          TEMP          23-SEP-24
DEFAULT

USERNAME      USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----

OUTLN          13

SYSTEM          TEMP          23-SEP-24
DEFAULT

USERNAME      USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE
-----
-----

SYSDG  2147483618

SYSTEM          TEMP          23-SEP-24
DEFAULT

USERNAME      USER_ID
-----
PASSWORD
-----
-----
DEFAULT_TS          TEMPORARY_TS          CREATED
-----
PROFILE

```

-----			
-----			
SYSKM	2147483619		
SYSTEM		TEMP	23-SEP-24
DEFAULT			
USERNAME	USER_ID		
-----			
PASSWORD			
-----			
-----			
DEFAULT_TS	TEMPORARY_TS	CREATED	
-----			
PROFILE			
-----			
-----			
SYSTEM	8		
SYSTEM		TEMP	23-SEP-24
DEFAULT			
USERNAME	USER_ID		
-----			
PASSWORD			
-----			
-----			
DEFAULT_TS	TEMPORARY_TS	CREATED	
-----			
PROFILE			
-----			
-----			
SYS	0		
SYSTEM		TEMP	23-SEP-24
DEFAULT			
USERNAME	USER_ID		
-----			
PASSWORD			
-----			
-----			
DEFAULT_TS	TEMPORARY_TS	CREATED	
-----			
PROFILE			
-----			
-----			

19 rows selected.

--Step 6

SQL> select sid, serial#, username from v\$session;

SID	SERIAL#	USERNAME
1	41830	
2	38843	
3	38790	
4	7658	
5	3723	
6	49155	
7	15620	
8	49054	
9	7467	
10	18049	
11	13968	SYS

SID	SERIAL#	USERNAME
14	13646	
15	52109	
17	23142	
18	34880	
24	29643	
125	48956	
126	12097	
127	55276	
128	48334	
129	58826	
130	18144	

SID	SERIAL#	USERNAME
131	58604	
132	20068	
133	31464	
134	13309	
135	29911	
136	7661	
137	36433	
141	48744	
144	34136	

31 rows selected.

Part 1B Dropping Users:

--Step 1

SQL> create user oscar identified by oscar  
2 temporary tablespace temp  
3 default tablespace appl\_data  
4 quota unlimited on appl\_data quota 0 on system;



User created.

```
SQL> grant create session to oscar;
```

Grant succeeded.

```
SQL> grant create table to oscar;
```

Grant succeeded.

--Step 2

```
SQL> drop user oscar;
```

User dropped.

a) There was no error, user Oscar was successfully dropped

b)

```
SQL> select username from dba_users where username = 'oscar';
```

no rows selected

--Step 3

```
SQL> create user oscar identified by oscar
```

```
2 temporary tablespace temp
```

```
3 default tablespace appl_data
```

```
4 quota unlimited on appl_data quota 0 on system;
```

User created.

```
SQL> grant create session to oscar;
```

Grant succeeded.

```
SQL> grant create table to oscar;
```

Grant succeeded.

--Step 4

```
SQL> connect oscar/oscar
```

Connected.

```
SQL> create table dept
```

```
2 (DeptNo Number);
```

Table created.

```
SQL> insert into dept values (1);
```

1 row created.

```
SQL> commit;
```

Commit complete.

--Step 5

```
SQL> drop user oscar;
```

```
drop user oscar
```

\*

ERROR at line 1:

ORA-01922: CASCADE must be specified to drop 'OSCAR'

a) Yes, there was an error

```
SQL> drop user oscar cascade;
```

User dropped.

```
SQL> select username from dba_users where username='oscar';
```

no rows selected

--Step 6

```
SQL> connect oscar/oscar
```

Connected.

```
SQL> create table dept
```

```
  2  (deptno      number);
```

Table created.

```
SQL> insert into dept values (1);
```

1 row created.

```
SQL> commit;
```

Commit complete.

--Step 7

```
SQL> drop table dept;
```

Table dropped.

a) 

```
SQL> select object_type, object_name
```

```
  2  from all_objects
```

```
  3  where owner='oscar';
```

no rows selected

--Step 8

```
SQL> drop user oscar;
```

User dropped.

b) 

```
SQL> select username from all_users where username='oscar';
```

no rows selected

Part 2 Privileges

Part 2A System Level Privileges

```
--Step 1
SQL> connect / as sysdba
Connected.
SQL> grant create session to ernie;
```

Grant succeeded.

```
--Step 2
SQL> connect ernie/ernie
Connected.
SQL> select * from user_sys_privs;
```

USERNAME	PRIVILEGE	ADM	COM
ERNIE	CREATE SESSION	NO	NO

```
--Step 3
SQL> connect / as sysdba
Connected.
SQL> grant create session, create table to bert;
```

Grant succeeded.

```
--Step 4
SQL> connect bert/bert
Connected.
SQL> select default_tablespace, temporary_tablespace
2 from user_users;
```

DEFAULT_TABLESPACE	TEMPORARY_TABLESPACE
USERS	TEMP

```
SQL> select * from user_ts_quotas;
```

TABLESPACE	BYTES	MAX_BYTES	BLOCKS	MAX_BLOCKS	DRO
SYSTEM	0	2097152	0	256	NO
APPL_DATA	0	-1	0	-1	NO

```
--Step 5
SQL> create table dept
2 (deptno number(2) constraint pk_dept primary key,
3  dname varchar2(14),
4  loc varchar2(13));
```

Table created.

```
SQL> select * from user_catalog
2
SQL> select * from user_catalog;
```

TABLE\_NAME

-----  
TABLE\_TYPE  
-----

DEPT  
TABLE

--Step 6

```
SQL> create table dept
  2  (Deptno  number(2)    not null primary key,
  3  dname    varchar2(14),
  4  loc      varchar2(13))
  5  tablespace appl_data;
create table dept
      *
```

ERROR at line 1:  
ORA-00955: name is already used by an existing object

SQL> select \* from user\_catalog;

TABLE\_NAME  
-----

TABLE\_TYPE  
-----

DEPT  
TABLE

Creating the table again was unsuccessful and I noticed no changes in  
user\_catalog

--Step 7

SQL> select \* from dba\_ts\_quotas;

TABLESPACE	USERNAME	BYTES	MAX_BYTES	BLOCKS	MAX_BLOCKS	DRO
SYSAUX	GSMADMIN_I	1376256	104857600	168	12800	
NO						

INTERNAL

SYSAUX	APPQOSSYS	0	-1	0	-1	NO
SYSTEM	BERT	0	2097152	0	256	NO
SYSAUX	AUDSYS	458752	-1	56	-1	NO
APPL_DATA	BERT	0	8192	0	1	NO

--Step 8

```
SQL> connect bert/bert
Connected.
SQL> drop table emp cascade constraints;
drop table emp cascade constraints
      *
```

ERROR at line 1:  
ORA-00942: table or view does not exist

```
SQL> create table emp (
  2  empno number(4) constraint pk_emp primary key,
  3  ename char(10),
  4  job char(9),
  5  mgr number(4) constraint fk_mgr references emp (empno) disable,
  6  hiredate date,
  7  sal number(7,2),
  8  comm number(7,2),
  9  deptno number(2) constraint nn_emp_deptno not null
 10  constraint fk_deptno references dept (deptno) disable);
\
Table created.
```

```
--Step 9
SQL> connect / as sysdba
Connected.
SQL> alter user bert
  2  quota 5m on appl_data;
```

User altered.

```
--Step 10
SQL> connect bert/bert
Connected.
SQL> @ /home/oracle/Downloads/Lab-3-files/create_emp
```

Table dropped.

Table created.

```
--Step 11
SQL> select object_name, object_type
  2  from user_objects;
```

```
OBJECT_NAME
-----
-----
OBJECT_TYPE
-----
PK_DEPT
INDEX

DEPT
TABLE

PK_EMP
INDEX

OBJECT_NAME
-----
-----
```

```
OBJECT_TYPE
-----
EMP
TABLE
```

## Part 2B Object Level Privileges

--Step 1

```
SQL> connect bert/bert
```

Connected.

```
SQL> @ /home/oracle/Downloads/Lab-3-files/create_emp
```

Table dropped.

Table created.

```
SQL> @ /home/oracle/Downloads/Lab-3-files/populate_emp
```

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

1 row created.

Commit complete.

SQL> @ /home/oracle/Downloads/Lab-3-files/create\_dept

Table dropped.

Table created.

SQL> @ /home/oracle/Downloads/Lab-3-files/populate\_dept

1 row created.

1 row created.

1 row created.

1 row created.

Commit complete.

--Step 2

SQL> connect / as sysdba

Connected.

SQL> select \* from bert.emp;

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
	7369	SMITH	CLERK	7902	17-DEC-80	800	
	20						
	7499	ALLEN	SALESMAN		7698 20-FEB-81	1600	
300	30						
	7521	WARD	SALESMAN		7698 22-FEB-81	1250	
500	30						

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
7566	JONES	MANAGER	7839	02-APR-81	2975	
20						
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	
30						
7698	BLAKE	MANAGER	7839	01-MAY-81	2850	
30						

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
7782	CLARK	MANAGER	7839	09-JUN-81	2450	
10						
7788	SCOTT	ANALYST	7566	09-DEC-82	3000	
20						
7839	KING	PRESIDENT		17-NOV-81	5000	
10						

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0
30						
7876	ADAMS	CLERK	7788	12-JAN-83	1100	
20						
7900	JAMES	CLERK	7698	03-DEC-81	950	
30						

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
7902	FORD	ANALYST	7566	03-DEC-81	3000	
20						



```
7934 MILLER      CLERK      7782 23-JAN-82      1300
10
```

14 rows selected.

--Step 3

```
SQL> grant select on bert.emp to ernie;
```

Grant succeeded.

It was successful because I granted privileges as the sysdba

--Step 4

```
SQL> connect bert/bert
```

Connected.

```
SQL> select * from user_tab_privs;
```

GRANTEE

-----  
-----

OWNER

-----  
-----

TABLE\_NAME

-----  
-----

GRANTOR

-----  
-----

PRIVILEGE

GRA HIE COM TYPE

-----  
-----

ERNIE

BERT

EMP

GRANTEE

-----  
-----

OWNER

-----  
-----

TABLE\_NAME

-----  
-----

GRANTOR

-----  
-----

PRIVILEGE

GRA HIE COM TYPE

-----  
-----

BERT

SELECT

NO NO NO TABLE

GRANTEE

OWNER

TABLE\_NAME

GRANTOR

PRIVILEGE

GRA HIE COM TYPE

PUBLIC

SYS

BERT

GRANTEE

OWNER

TABLE\_NAME

GRANTOR

PRIVILEGE

GRA HIE COM TYPE

BERT

INHERIT PRIVILEGES

NO NO NO USER

--Step 5

SQL> connect ernie/ernie

Connected.

SQL> select \* from bert.emp;

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
7369	SMITH	CLERK	7902	17-DEC-80	800	
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	

500      7521 WARD      SALESMAN      7698 22-FEB-81      1250  
          30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
-----						
-						
DEPTNO						
-----						
7566	JONES	MANAGER	7839	02-APR-81	2975	
20						

1400      7654 MARTIN      SALESMAN      7698 28-SEP-81      1250  
          30  
          7698 BLAKE      MANAGER      7839 01-MAY-81      2850  
          30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
-----						
-						
DEPTNO						
-----						
7782	CLARK	MANAGER	7839	09-JUN-81	2450	
10						

         7788 SCOTT      ANALYST      7566 09-DEC-82      3000  
          20  
          7839 KING      PRESIDENT      17-NOV-81      5000  
          10

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
-----						
-						
DEPTNO						
-----						
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0
30						

         7876 ADAMS      CLERK      7788 12-JAN-83      1100  
          20  
          7900 JAMES      CLERK      7698 03-DEC-81      950  
          30

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM
-------	-------	-----	-----	----------	-----	------

```

-----
-
DEPTNO
-----
7902 FORD ANALYST 7566 03-DEC-81 3000
20
7934 MILLER CLERK 7782 23-JAN-82 1300
10

```

14 rows selected.

a) Ernie was able to query Bert's table because he has the privileges to  
b) The sysdba granted those privileges and has that ability because the sysdba has the grant any object privilege

```

--Step 6
SQL> connect bert/bert
Connected.
SQL> revoke select on emp from ernie;

```

Revoke succeeded.

I was successful because bert is the owner of the table

```

--Step 7
SQL> connect bert/bert
Connected.
SQL> grant update (ename, job) on emp to ernie;

```

Grant succeeded.

```

--Step 8
SQL> connect ernie/ernie
Connected.
SQL> select * from user_tab_privs;

```

```

GRANTEE
-----
OWNER
-----
TABLE_NAME
-----
GRANTOR
-----
PRIVILEGE          GRA HIE COM TYPE
-----
PUBLIC
SYS

```

ERNIE

GRANTEE

OWNER

TABLE\_NAME

GRANTOR

PRIVILEGE

GRA HIE COM TYPE

ERNIE

INHERIT PRIVILEGES

NO NO NO USER

SQL> select \* from user\_col\_privs;

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

ERNIE

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

-----  
-----

PRIVILEGE

GRA COM

-----

BERT

GRANTEE

-----  
-----

OWNER

-----  
-----

TABLE\_NAME

-----  
-----

COLUMN\_NAME

-----  
-----

GRANTOR

-----  
-----

PRIVILEGE

GRA COM

-----

EMP

GRANTEE

-----  
-----

OWNER

-----  
-----

TABLE\_NAME

-----  
-----

COLUMN\_NAME

-----  
-----

GRANTOR

-----  
-----

PRIVILEGE

GRA COM

-----

JOB

GRANTEE

-----  
-----

OWNER

-----  
-----

TABLE\_NAME

-----  
-----

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

BERT

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

UPDATE

NO NO

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

ERNIE

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

BERT

GRANTEE

OWNER

TABLE\_NAME

COLUMN\_NAME

GRANTOR

PRIVILEGE

GRA COM

EMP

GRANTEE



```
OWNER
-----
TABLE_NAME
-----
COLUMN_NAME
-----
GRANTOR
-----
PRIVILEGE                GRA COM
-----
ENAME

GRANTEE
-----
OWNER
-----
TABLE_NAME
-----
COLUMN_NAME
-----
GRANTOR
-----
PRIVILEGE                GRA COM
-----
BERT

GRANTEE
-----
OWNER
-----
TABLE_NAME
-----
COLUMN_NAME
-----
GRANTOR
-----
PRIVILEGE                GRA COM
-----
UPDATE                    NO  NO
```

GRANTEE	OWNER	TABLE_NAME	COLUMN_NAME	GRANTOR	PRIVILEGE	GRA COM

```
--Step 9
SQL> update bert.emp
  2  set sal=sal*1.1
  3  where job = 'clerk';
update bert.emp
      *
```

ERROR at line 1:  
ORA-01031: insufficient privileges

```
--Step 10
SQL> update bert.emp
  2  set job='sr clerk'
  3  where job = 'clerk';
```

0 rows updated.

```
--Step 11
SQL> rollback;
```

Rollback complete.

```
--Step 12
SQL> connect bert/bert
Connected.
SQL> grant select on emp to sys with grant option;
```

Grant succeeded.

```
--Step 13
SQL> connect / as sysdba
Connected.
SQL> grant select on bert.emp to ernie with grant option;
```

Grant succeeded.

```
--Step 14
SQL> connect ernie/ernie
Connected.
SQL> select * from user_tab_privs;
```

```
GRANTEE
```

```
-----
```

```
OWNER
```

```
-----
```

```
TABLE_NAME
```

```
-----
```

```
GRANTOR
```

```
-----
```

```
PRIVILEGE
```

```
GRA HIE COM TYPE
```

```
-----
```

```
ERNIE
```

```
BERT
```

```
EMP
```

```
GRANTEE
```

```
-----
```

```
OWNER
```

```
-----
```

```
TABLE_NAME
```

```
-----
```

```
GRANTOR
```

```
-----
```

```
PRIVILEGE
```

```
GRA HIE COM TYPE
```

```
-----
```

```
SYS
```

```
SELECT
```

```
YES NO NO TABLE
```

```
GRANTEE
```

```
-----
```

```
OWNER
```

```
-----
```

```
TABLE_NAME
```

```
-----
```

```
GRANTOR
```

```

-----
-----
PRIVILEGE                                GRA HIE COM TYPE
-----
-----
PUBLIC
SYS
ERNIE

GRANTEE
-----
-----
OWNER
-----
-----
TABLE_NAME
-----
-----
GRANTOR
-----
-----
PRIVILEGE                                GRA HIE COM TYPE
-----
-----
ERNIE
INHERIT PRIVILEGES                        NO  NO  NO  USER

```

```
SQL> select * from user_tab_privs_made;
```

```

GRANTEE
-----
-----
TABLE_NAME
-----
-----
GRANTOR
-----
-----
PRIVILEGE                                GRA HIE COM TYPE
-----
-----
PUBLIC
ERNIE
ERNIE
INHERIT PRIVILEGES                        NO  NO  NO  USER

```

```
--Step 15
```

```
SQL> connect bert/bert
```

```
Connected.
```

```
SQL> revoke select on emp from sys;
```

```
Revoke succeeded.
```

```
--Step 16
SQL> connect ernie/ernie
Connected.
SQL> select * from user_tab_privs;
```

GRANTEE

-----

OWNER

-----

TABLE\_NAME

-----

GRANTOR

-----

PRIVILEGE

GRA HIE COM TYPE

-----

PUBLIC

SYS

ERNIE

GRANTEE

-----

OWNER

-----

TABLE\_NAME

-----

GRANTOR

-----

PRIVILEGE

GRA HIE COM TYPE

-----

ERNIE

INHERIT PRIVILEGES

NO NO NO USER

Part 3 Roles

```
--Step 1
```

```
SQL> connect / as sysdba
```

Connected.

```
SQL> create user bigbird
```

```
2 identified by bigbird
```

```
3 default tablespace users
```

```
4 temporary tablespace temp;
```

User created.

```
SQL> grant create session to bigbird;
```

Grant succeeded.

--Step 2

```
SQL> create role security_admin;
```

Role created.

```
SQL> grant create user, alter user, drop user,  
2 create role, grant any role, grant any privilege to security_admin;
```

Grant succeeded.

```
SQL> grant security_admin to bigbird;
```

Grant succeeded.

--Step 3

```
SQL> select * from dba_role_privs  
2 where granted_role='security_admin';
```

no rows selected

```
SQL> select * from dba_roles  
2 where role='security_admin';
```

no rows selected

```
SQL> select * from dba_sys_privs  
2 where grantee='security_admin';
```

no rows selected

--Step 4

```
SQL> connect bigbird/bigbird
```

Connected.

```
SQL> select * from session_privs;
```

PRIVILEGE

-----

GRANT ANY PRIVILEGE

GRANT ANY ROLE

CREATE ROLE

DROP USER

ALTER USER

CREATE USER

CREATE SESSION

7 rows selected.

--Step 5

```
SQL> create role developer;
```

Role created.

```
SQL> grant create table, create view, create cluster, create sequence,
create synonym to developer;
```

Grant succeeded.

--Step 6

```
SQL> connect bert/bert
```

Connected.

```
SQL> select * from session_privs;
```

PRIVILEGE

-----

CREATE SEQUENCE

CREATE VIEW

CREATE SYNONYM

CREATE CLUSTER

CREATE TABLE

CREATE SESSION

6 rows selected.

```
SQL> select * from session_roles;
```

ROLE

-----

DEVELOPER

```
SQL> select * from user_sys_privs;
```

USERNAME	PRIVILEGE	ADM	COM
----------	-----------	-----	-----

BERT	CREATE TABLE	NO	NO
------	--------------	----	----

BERT	CREATE SESSION	NO	NO
------	----------------	----	----

```
SQL> select * from user_role_privs;
```

USERNAME

-----

GRANTED\_ROLE

-----

ADM	DEL	DEF	OS_	COM
-----	-----	-----	-----	-----

BERT
------

DEVELOPER
-----------

NO	NO	YES	NO	NO
----	----	-----	----	----

```
SQL> select * from role_sys_privs;
```

ROLE

```

-----
-----
PRIVILEGE                                ADM COM
-----
DEVELOPER
CREATE TABLE                            NO  NO

DEVELOPER
CREATE SEQUENCE                          NO  NO

DEVELOPER
CREATE SYNONYM                           NO  NO


ROLE
-----
-----
PRIVILEGE                                ADM COM
-----
DEVELOPER
CREATE CLUSTER                           NO  NO

DEVELOPER
CREATE VIEW                              NO  NO

--Step 7
SQL> grant all on emp to security_admin;

Grant succeeded.

--Step 8
SQL> grant all on emp to security_admin;

Grant succeeded.

SQL> select * from user_tab_privs
      2  where table_name='emp';

no rows selected

--Step 9
SQL> connect bigbird/bigbird
Connected.
SQL> create role end_user;

Role created.

--Step 10
SQL> connect bert/bert
Connected.
SQL> grant select,
      2  update (ename, job),
      3  insert (empno, ename, hiredate, job, deptno)
      4  on emp

```



```
5 to end_user;
```

Grant succeeded.

--Step 11

```
SQL> connect ernie/ernie
```

Connected.

```
SQL> select * from bert.emp;
```

```
select * from bert.emp
          *
```

ERROR at line 1:

ORA-01031: insufficient privileges

I was unsuccessful because ernie does not have the proper privileges.