**7 Privileges & Roles**

**Two type of privileges:**

1. **System level privileges**
2. **Object level privileges**

**System level privileges:**

* desc dba\_sys\_privs
* SYS user will give this privileges
* **select distinct privilege from dba\_sys\_privs; (shows list of privileges**)
* grant create session to u1;
* grant create table to u1;

**To check system level privileges of user**:

* select privilege from dba\_sys\_privs where grantee=‘u1’;

**To check weather user privilege has admin option or not:**

* select Privilege,ADMIN\_OPTION from dba\_sys\_privs where grantee=‘u1’;
* Grant create view to u1 with admin option;

**Revoke Privileges:**

* revoke create any index from u1;

**Object level privileges:**

* desc dba\_tab\_privs
* **select distinct privilege from dba\_tab\_privs;(shows list of previliges**)
* Object level privs means user giving permission to another user on its objects.
* u1 giving permission to u2
* grant select on u1.t1 to u2;

**To check object level privileges on user:**

* select OWNER,TABLE\_NAME,PRIVILEGE,GRANTOR,GRANTEE,GRANTABLE from dba\_tab\_privs where grantee=‘u2’;
* grant all on u1.t1 to u2;
* INSERT
* UPDATE
* INDEX
* ALTER
* SELECT
* DELETE
* FLASHBACK
* DEBUG
* QUERY REWRITE
* ON COMMIT REFRESH
* READ
* REFERENCE
* grant all on u1.t1 to u2 with grant option;
* U2 can give permission to any other user on u1 objects
* Grant select on u1.t1 to u3;

**To check other schema data:**

* Select \* from u1.t1;

**Revoke object level privileges:**

* Revoke select on t1 from u2;
* Revoke all on t1 from u2;

**Grantable option: object level privs**

* Taking privilege from another user and giving to another user.
* grant all on u1.t1 to u2 with grant option;
* U2 can give grant on u1 objects to u3.
* Grant select on u1.t1 to u3;

**To check object level privileges:**

* desc dba\_tab\_privs
* select OWNER,TABLE\_NAME,PRIVILEGE,GRANTOR,GRANTEE,GRANTABLE from dba\_tab\_privs where grantee=‘u2’;

**Roles**

**Role is a set of priviliges.**

* desc dba\_roles
* Instead of giving individual privileges we can create role and assign to user.
* It may contain system\_privileges or object\_privileges.
* select role from dba\_roles;

**To check privileges under role:**

* select privilege from dba\_sys\_privs where grantee=’DBA’;

**To check how many roles assign to user:**

* select granted\_role from dba\_role\_privs where grantee=‘u1’;

**To grant roles to user:**

* grant connect ,resource to u1;

**To create ROLE and assign privileges:**

* create role r1;
* grant create session to r1;
* Grant create table to r1;

**To check role assigned to which user:**

* desc dba\_role\_privs
* select GRANTEE from dba\_role\_privs where GRANTED\_ROLE=‘R1’;

**To assign one ROLE to another ROLE:**

* desc role\_role\_privs
* grant r2 to r1;
* Select granted\_role from role\_role\_privs where ROLE=‘R1’;

**To drop role:**

* drop role r1;