

### Role ==>  
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- \* A role is several privileges collected under one name.
- \* Using roles aids in administration of multiple privileges to users.
- \* Oracle includes predefined roles; three popular ones that contain a number of different system privileges are CONNECT, RESOURCE, and DBA.
- \* The CONNECT role contains the CREATE SESSION system privilege that allows a user to start a session.
- \* The RESOURCE role allows a user to create tables and indexes on any tablespace as well as create PL/SQL packages, procedures, functions etc.
- \* The DBA role includes all system privileges. This role is usually granted to a user who performs database administration tasks.
- \* When a user is granted a role, the user acquires all the privileges defined within the role.
- \* The following statement uses the two predefined Oracle roles CONNECT and RESOURCE to grant a number of system privileges to the new user.  
# GRANT CONNECT, RESOURCE TO INDIAN;

## User Defined Roles ==>  
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- \* In addition to using Oracle's predefined system privilege roles we can create user-defined roles to customize a grouping of system and/or object privileges.
- \* There may be different types of users for a given system:
- \* Sometimes, there are users who only view data, so those users need only SELECT privileges.
- \* There are other users who maintain the data, and they typically need a combination of SELECT, INSERT, UPDATE, and DELETE privileges on certain tables and columns.
- \* In such cases we can create roles , add privileges to those roles as per requirement and finally assign these roles as needed to users.
- \* The syntax to create a role is as follows.  
# CREATE ROLE ROLENAME ;
- \* The following statement creates a role named READ\_DATA for users who only need to query the data in the ORACLEBATCH schema.  
# CREATE ROLE READ\_DATA;

## Adding Privileges To Role ==>  
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- \* However , the role still does not have any privileges associated with it.
- \* So to add privileges to a role we use following syntax:  
- GRANT <list\_of\_privileges>  
ON <resource\_name>

```
TO <role_name>;
```

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* Example:  
- GRANT SELECT  
  ON EMP  
  TO READ_DATA;
```

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## Granting Role To Users ==>  
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\* The next step is to grant the READ\_DATA role to users so these users have the privileges defined by the role.

\* The following statement grants this role to the user INDIAN.  
# GRANT READ\_DATA TO INDIAN;

\* Now the user INDIAN has SELECT privileges on EMP table of ORACLEBATCH schema.

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## Revoking Roles ==>  
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\* We can revoke role from a user by using the following REVOKE command.  
# REVOKE READ\_DATA FROM INDIAN;

```
## Revoking Privileges From Roles ==>  
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\* If we want none of the users to have the SELECT privilege to the EMP table anymore, then we can revoke this privilege from the individual role only, and all users that have been granted this role will no longer have the ability to query the table.

\* Syntax:  
- REVOKE <list\_of\_privileges>  
 ON <resource\_name>  
 FROM <role\_name>;

\* Example:  
- REVOKE SELECT ON EMP FROM READ\_DATA;

```
## Removing Roles ==>  
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\* We drop roles by using the DROP ROLE command.  
# DROP ROLE READ\_DATA;

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## Obtaining Details About Privileges & Role ==>  
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```
# USER_SYS_PRIVS ==>  
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\* It contains the information about system privileges assigned to the current user.

\* It contains following columns :-  
- USERNAME  
- PRIVILEGE  
- ADMIN\_OPTION

# USER\_TAB\_PRIVS ==>  
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\* It contains the information about object privileges assigned to a user or by the user.

\* It contains following columns :-  
- OWNER  
- GRANTEE  
- GRANTOR  
- TABLE\_NAME  
- PRIVILEGE  
- GRANTABLE

# USER\_TAB\_PRIVS\_MADE ==>  
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\* It contains the information about object privileges assigned by the user.

\* It contains following columns :-  
- OWNER  
- GRANTEE  
- GRANTOR  
- TABLE\_NAME  
- PRIVILEGE  
- GRANTABLE

# USER\_TAB\_PRIVS\_RECD ==>  
=====

\* It contains the information about object privileges assigned to the user.

\* It contains following columns :-  
- GRANTOR  
- TABLE\_NAME  
- PRIVILEGE  
- GRANTABLE

# ROLE\_SYS\_PRIVS ==>  
=====

\* It contains the information about system privileges received through a role.

\* It contains following columns :-  
- ROLE  
- PRIVILEGE  
- ADMIN\_OPTION

# DBA\_ROLES ==>  
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\* It contains the names of all the roles and has a column called ROLE.

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# DBA_ROLE_PRIVS ==>
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```

\* It contains information about the roles of a user as well as other roles.

\* It contains following columns :-

- GRANTEE
- GRANTED\_ROLE
- ADMIN\_OPTION

```
# DBA_SYS_PRIVS ==>
=====
```

\* It contains information about system privileges assigned to a user as well as roles.

\* It contains following columns :-

- GRANTEE
- PRIVILEGE
- ADMIN\_OPTION

```
# ROLE_TAB_PRIVS ==>
=====
```

\* It contains information about object privileges assigned to a role.

\* It contains following columns :-

- ROLE
- OWNER
- TABLE\_NAME
- COLUMN\_NAME
- PRIVILEGE
- GRANTABLE

# WAQ to display all the roles in Oracle.

- connect system/oracle
- select role from dba\_roles;

ROLE

-----

CONNECT

RESOURCE

DBA

SELECT\_CATALOG\_ROLE

EXECUTE\_CATALOG\_ROLE

DELETE\_CATALOG\_ROLE

EXP\_FULL\_DATABASE

IMP\_FULL\_DATABASE

LOGSTDBY\_ADMINISTRATOR

DBFS\_ROLE

AQ\_ADMINISTRATOR\_ROLE

ROLE

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AQ\_USER\_ROLE

```

DATAPUMP_EXP_FULL_DATABASE
DATAPUMP_IMP_FULL_DATABASE
ADM_PARALLEL_EXECUTE_TASK
GATHER_SYSTEM_STATISTICS
XDB_WEBSERVICES_OVER_HTTP
RECOVERY_CATALOG_OWNER
SCHEDULER_ADMIN
HS_ADMIN_SELECT_ROLE
HS_ADMIN_EXECUTE_ROLE
HS_ADMIN_ROLE

```

```

# WAQ to display all the system privileges held by the user indians.
- select grantee, privilege from dba_sys_privs
  2 where grantee = 'INDIANS';

```

GRANTEE	PRIVILEGE
INDIANS	UNLIMITED TABLESPACE
INDIANS	CREATE SESSION
INDIANS	CREATE TABLE

```

# WAQ to display all the system privileges held by the user indians.
- connect indians/intelligent
- select username, privilege
  2 from user_sys_privs;

```

USERNAME	PRIVILEGE
INDIANS	UNLIMITED TABLESPACE
INDIANS	CREATE SESSION
INDIANS	CREATE TABLE

```

# WAQ to display all the roles held by the user PRASHANT.
- connect system/oracle
- select grantee, granted_role from dba_role_privs
  2 where grantee = 'PRASHANT';

```

GRANTEE	GRANTED_ROLE
PRASHANT	RESOURCE
PRASHANT	CONNECT

```

# WAQ to display all the privileges stored inside the role RESOURCE.
- select grantee, privilege from dba_sys_privs
  2 where grantee = 'RESOURCE';

```

GRANTEE	PRIVILEGE
RESOURCE	CREATE TRIGGER
RESOURCE	CREATE SEQUENCE
RESOURCE	CREATE TYPE
RESOURCE	CREATE PROCEDURE
RESOURCE	CREATE CLUSTER
RESOURCE	CREATE OPERATOR
RESOURCE	CREATE INDEXTYPE
RESOURCE	CREATE TABLE

```
# WAQ to display all the system privileges which the user PRASHANT has received through roles.
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```
- connect prashant/prashant  
- select role, privilege from role_sys_privs;
```

ROLE	PRIVILEGE
RESOURCE	CREATE TRIGGER
RESOURCE	CREATE SEQUENCE
RESOURCE	CREATE TYPE
RESOURCE	CREATE PROCEDURE
RESOURCE	CREATE CLUSTER
CONNECT	CREATE SESSION
RESOURCE	CREATE OPERATOR
RESOURCE	CREATE INDEXTYPE
RESOURCE	CREATE TABLE

```
# WAQ to display all the object privileges which the user INDIANS has.
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```
- connect system/oracle  
- select owner, grantor, table_name, privilege  
2 from dba_tab_privs  
3 where grantee = 'INDIANS';
```

```
no rows selected
```