

Objectifs

- Mise en place d'une base de données
- Gestion des utilisateurs

1. Mise en place d'une base de données

Ensemble de scripts autorisant la mise en place d'une nouvelle base de données

BaseFoadBaseAjout.bat

```
set ORACLE_SID=BaseFoad
D:\OraHome1\bin\oradim -new -sid basefoad -intpwd oracle -startmode manual -pfile
D:\OraHome1\admin\BaseFoad\pfile\initBaseFoad.ora"
D:\OraHome1\bin\svrmgrl
@C:\DocumentationPersonnelle\DiversCours\LicenceInformatique\LicenceFOAD\BaseFoadr
un.sql
D:\OraHome1\bin\svrmgrl
@C:\DocumentationPersonnelle\DiversCours\LicenceInformatique\LicenceFOAD\BaseFoadr
un1.sql
D:\OraHome1\bin\svrmgrl
@C:\DocumentationPersonnelle\DiversCours\LicenceInformatique\LicenceFOAD\BaseFoadr
eplicate.sql
D:\OraHome1\bin\sqlplus system/manager
@C:\DocumentationPersonnelle\DiversCours\LicenceInformatique\Licence
FOAD\BaseFoadsqlplus.sql
D:\OraHome1\bin\svrmgrl
@C:\DocumentationPersonnelle\DiversCours\LicenceInformatique\LicenceFOAD\BaseFoad
alterTablespace.sql
D:\OraHome1\bin\oradim -edit -sid basefoad -startmode auto
```

initBaseFoad.ora

```
#
# Copyright (c) 1991, 2000 by Oracle Corporation
#
#####
###
# Example INIT.ORA file
#
# This file is provided by Oracle Corporation to help you customize
# your RDBMS installation for your site. Important system parameters
# are discussed, and example settings given.
#
# Some parameter settings are generic to any size installation.
# For parameters that require different values in different size
# installations, three scenarios have been provided: SMALL, MEDIUM
# and LARGE. Any parameter that needs to be tuned according to
# installation size will have three settings, each one commented
# according to installation size.
```

```

#
# Use the following table to approximate the SGA size needed for the
# three scenarios provided in this file:
#
#          -----Installation/Database Size-----
#          SMALL          MEDIUM          LARGE
# Block      2K  4500K      6800K      17000K
# Size       4K  5500K      8800K      21000K
#
# To set up a database that multiple instances will be using, place
# all instance-specific parameters in one file, and then have all
# of these files point to a master file using the IFILE command.
# This way, when you change a public
# parameter, it will automatically change on all instances. This is
# necessary, since all instances must run with the same value for many
# parameters. For example, if you choose to use private rollback segments,
# these must be specified in different files, but since all gc_*
# parameters must be the same on all instances, they should be in one file.
#
# INSTRUCTIONS: Edit this file and the other INIT files it calls for
# your site, either by using the values provided here or by providing
# your own. Then place an IFILE= line into each instance-specific
# INIT file that points at this file.
#
# NOTE: Parameter values suggested in this file are based on conservative
# estimates for computer memory availability. You should adjust values upward
# for modern machines.
#
#####

db_name = "BaseFoad"

instance_name = BaseFoad

service_names = BaseFoad

db_files = 1024

control_files = ("D:\oracle\oradata\BaseFoad\control01.ctl",
"D:\oracle\oradata\BaseFoad\control02.ctl", "D:\oracle\oradata\BaseFoad\control03.ctl")

open_cursors = 300
max_enabled_roles = 30
db_file_multiblock_read_count = 8

db_block_buffers = 4841

shared_pool_size = 13219430

large_pool_size = 614400
java_pool_size = 0

```

```
log_checkpoint_interval = 10000
log_checkpoint_timeout = 1800

processes = 150

parallel_max_servers = 5

log_buffer = 32768

#audit_trail = true # if you want auditing
#timed_statistics = true # if you want timed statistics
max_dump_file_size = 10240 # limit trace file size to 5M each

# Uncommenting the line below will cause automatic archiving if archiving has
# been enabled using ALTER DATABASE ARCHIVELOG.
# log_archive_start = true
# log_archive_dest_1 = "location=D:\oracle\oradata\BaseFoad\archive"
# log_archive_format = %%ORACLE_SID%%T%TS%S.ARC

# If using private rollback segments, place lines of the following
# form in each of your instance-specific init.ora files:
#rollback_segments = ( RBS0, RBS1, RBS2, RBS3, RBS4, RBS5, RBS6 )

# Global Naming -- enforce that a dblink has same name as the db it connects to
global_names = true

# Uncomment the following line if you wish to enable the Oracle Trace product
# to trace server activity. This enables scheduling of server collections
# from the Oracle Enterprise Manager Console.
# Also, if the oracle_trace_collection_name parameter is non-null,
# every session will write to the named collection, as well as enabling you
# to schedule future collections from the console.
# oracle_trace_enable = true

oracle_trace_collection_name = ""
# define directories to store trace and alert files
background_dump_dest = D:\oracle\admin\BaseFoad\bdump
#Uncomment this parameter to enable resource management for your database.
#The SYSTEM_PLAN is provided by default with the database.
#Change the plan name if you have created your own resource plan.# resource_manager_plan
= system_plan
user_dump_dest = D:\oracle\admin\BaseFoad\udump
db_block_size = 8192

remote_login_passwordfile = exclusive

os_authent_prefix = ""

distributed_transactions = 10
compatible = 8.0.5
sort_area_size = 65536
sort_area_retained_size = 65536
```

BaseFoadrun.sql

```
spool D:\OraHome1\admin\BaseFoad\create\createdb
set echo on
connect INTERNAL/oracle
startup nomount pfile="D:\OraHome1\admin\BaseFoad\pfile\initBaseFoad.ora"
CREATE DATABASE BaseFoad
LOGFILE 'D:\OraHome1\oradata\BaseFoad\redo01.log' SIZE 1024K,
       'D:\OraHome1\oradata\BaseFoad\redo02.log' SIZE 1024K,
       'D:\OraHome1\oradata\BaseFoad\redo03.log' SIZE 1024K
MAXLOGFILES 32
MAXLOGMEMBERS 2
MAXLOGHISTORY 1
DATAFILE 'D:\OraHome1\oradata\BaseFoad\system01.dbf' SIZE 264M REUSE
AUTOEXTEND ON NEXT 10240K
MAXDATAFILES 254
MAXINSTANCES 1
CHARACTER SET WE8ISO8859P1
NATIONAL CHARACTER SET WE8ISO8859P1;
spool off
```

BaseFoadrun1.sql

```
spool D:\OraHome1\admin\BaseFoad\create\createdb1
set echo on
connect INTERNAL/oracle

REM ***** ALTER SYSTEM TABLESPACE *****
ALTER TABLESPACE SYSTEM
DEFAULT STORAGE ( INITIAL 64K NEXT 64K MINEXTENTS 1 MAXEXTENTS
UNLIMITED PCTINCREASE 50);
ALTER TABLESPACE SYSTEM
MINIMUM EXTENT 64K;

REM ***** TABLESPACE FOR ROLLBACK *****
CREATE TABLESPACE RBS DATAFILE 'D:\OraHome1\oradata\BaseFoad\rbs01.dbf'
SIZE 520M REUSE
  AUTOEXTEND ON NEXT 5120K
MINIMUM EXTENT 512K
DEFAULT STORAGE ( INITIAL 512K NEXT 512K MINEXTENTS 8 MAXEXTENTS 4096);

REM ***** TABLESPACE FOR USER *****
CREATE TABLESPACE USERS DATAFILE 'D:\OraHome1\oradata\BaseFoad\users01.dbf'
SIZE 108M REUSE
  AUTOEXTEND ON NEXT 1280K
MINIMUM EXTENT 128K
DEFAULT STORAGE ( INITIAL 128K NEXT 128K MINEXTENTS 1 MAXEXTENTS
4096 PCTINCREASE 0);

REM ***** TABLESPACE FOR TEMPORARY *****
CREATE TABLESPACE TEMP DATAFILE 'D:\OraHome1\oradata\BaseFoad\temp01.dbf'
SIZE 72M REUSE
  AUTOEXTEND ON NEXT 640K
MINIMUM EXTENT 64K
```

```

DEFAULT STORAGE ( INITIAL 64K NEXT 64K MINEXTENTS 1 MAXEXTENTS
UNLIMITED PCTINCREASE 0) TEMPORARY;

REM ***** TABLESPACE FOR Tools *****
CREATE TABLESPACE TOOLS DATAFILE 'D:\OraHome1\oradata\BaseFoad\tools01.dbf'
SIZE 12M REUSE
  AUTOEXTEND ON NEXT 320K
MINIMUM EXTENT 32K
DEFAULT STORAGE ( INITIAL 32K NEXT 32K MINEXTENTS 1 MAXEXTENTS 4096
PCTINCREASE 0);

REM ***** TABLESPACE FOR INDEX *****
CREATE TABLESPACE INDX DATAFILE 'D:\OraHome1\oradata\BaseFoad\indx01.dbf'
SIZE 58M REUSE
  AUTOEXTEND ON NEXT 1280K
MINIMUM EXTENT 128K
DEFAULT STORAGE ( INITIAL 128K NEXT 128K MINEXTENTS 1 MAXEXTENTS
4096 PCTINCREASE 0);

CREATE PUBLIC ROLLBACK SEGMENT RBS0 TABLESPACE RBS
STORAGE ( OPTIMAL 4096K );
CREATE PUBLIC ROLLBACK SEGMENT RBS1 TABLESPACE RBS
STORAGE ( OPTIMAL 4096K );
CREATE PUBLIC ROLLBACK SEGMENT RBS2 TABLESPACE RBS
STORAGE ( OPTIMAL 4096K );
ALTER ROLLBACK SEGMENT "RBS0" ONLINE;
ALTER ROLLBACK SEGMENT "RBS1" ONLINE;
ALTER ROLLBACK SEGMENT "RBS2" ONLINE;
alter user sys temporary tablespace TEMP;
@D:\OraHome1\Rdbms\admin\catalog.sql;
@D:\OraHome1\Rdbms\admin\catexp7.sql
@D:\OraHome1\Rdbms\admin\catproc.sql
connect system/manager
@D:\OraHome1\sqlplus\admin\pupbld.sql
connect INTERNAL/oracle
spool off

```

BaseFoadreplicate.sql

```

spool D:\OraHome1\admin\BaseFoad\create\spoolrep.log;
connect internal/oracle
@D:\OraHome1\Rdbms\admin\catrep.sql
spool off
exit

```

BaseFoadsqlplus.sql

```

@D:\OraHome1\sqlplus\admin\help\helpbld.sql helpus.sql

```

BaseFoadalterTablespace.sql

```

connect internal/oracle
alter user system default tablespace TOOLS;
alter user system temporary tablespace TEMP;

```

Syntaxe des commandes sql

CREATE DATABASE

Use this command to create a database, making it available for general use, with the following options:

- to establish a maximum number of instances, data files, redo log file groups, or redo log file members
- to specify names and sizes of data files and redo log files
- to choose a mode of use for the redo log
- to specify the national and database character sets

Warning: This command prepares a database for initial use and erases any data currently in the specified files. Only use this command when you understand its ramifications.

```
CREATE DATABASE [database]
  { CONTROLFILE REUSE
  | LOGFILE [GROUP integer] filespec
    [, [GROUP integer] filespec] ...
  | MAXLOGFILES integer
  | MAXLOGMEMBERS integer
  | MAXLOGHISTORY integer
  | MAXDATAFILES integer
  | MAXINSTANCES integer
  | {ARCHIVELOG | NOARCHIVELOG}
  | EXCLUSIVE
  | CHARACTER SET charset
  | NATIONAL CHARACTER SET charset
  | DATAFILE filespec [AUTOEXTEND {OFF | ON [NEXT integer [K | M] ]
    [MAXSIZE { UNLIMITED | integer [K | M]} ] } ]
    [, filespec [AUTOEXTEND {OFF | ON [NEXT integer [K | M] ]
    [MAXSIZE { UNLIMITED | integer [K | M]} ] } ] ] ...}
...

```

CREATE ROLLBACK SEGMENT

Use this command to create a rollback segment. A rollback segment is an object that Oracle uses to store data necessary to reverse, or undo, changes made by transactions.

```
CREATE [PUBLIC] ROLLBACK SEGMENT rollback_segment
  [ TABLESPACE tablespace
  | STORAGE storage_clause
  | OPTIMAL [ TO integer [K | M]
  | NULL] ] ...

```

CREATE TABLESPACE

Use this command to create a tablespace. A tablespace is an allocation of space in the database that can contain schema objects.

```
CREATE TABLESPACE tablespace
  DATAFILE filespec
  [ AUTOEXTEND
  { OFF | ON
  [ NEXT integer [K | M] ]
  [ MAXSIZE
  { UNLIMITED | integer [K | M] } ] } ]
  [ LOGGING | NOLOGGING]
  [, filespec

```

```

[ AUTOEXTEND
  { OFF | ON
    [ NEXT integer [K | M] ]
    [ MAXSIZE
      { UNLIMITED | integer [K | M] } ] ] ] ]
[ LOGGING | NOLOGGING ] ...
[ MINIMUM EXTENT integer [K | M] ]
[ DEFAULT STORAGE storage_clause
  | { ONLINE | OFFLINE }
| { PERMANENT | TEMPORARY } ] ...

```

ALTER TABLESPACE

Use this command to alter an existing tablespace in one of the following ways:

- to add datafile(s)
- to rename datafiles
- to change default storage parameters
- to take the tablespace online or offline
- to begin or end a backup
- to allow or disallow writing to a tablespace
- to change the default logging attribute of the tablespace
- to change the minimum tablespace extent length

```

ALTER TABLESPACE tablespace [ LOGGING | NOLOGGING ]
{ ADD DATAFILE 'filespec'
  [ AUTOEXTEND { OFF | ON [ NEXT integer [K | M] ]
                [ MAXSIZE { UNLIMITED
                            | integer [K | M] } ] ] ] ]
[ , 'filespec'
  [ AUTOEXTEND { OFF | ON [ NEXT integer [K | M] ]
                [ MAXSIZE { UNLIMITED
                            | integer [K | M] } ] ] ] ] ...
| RENAME DATAFILE 'filename' [ , 'filename' ] ...
| TO 'filename' ['filename'] ...
| COALESCE
| DEFAULT STORAGE storage_clause
| MINIMUM EXTENT integer [K | M]
| ONLINE
| OFFLINE [ NORMAL | TEMPORARY | IMMEDIATE ]
| { BEGIN | END } BACKUP
| READ { ONLY | WRITE }
| PERMANENT
| TEMPORARY }

```

Questions

- 1.1 Dans quel état se trouve la base de données après la commande startup ?
- 1.2 Quelle est la taille du bloc logique ?
- 1.3 Indiquer la structure de la base de données mise en place.
- 1.4 Quel est le libellé de la base de données
- 1.5 Indiquez les caractéristiques de chaque élément de la base de données
- 1.6 Quelle est la taille de la base de données ?
- 1.7 Quelle peut-être la taille maximale de la base de données ?
- 1.8 Comment faire pour obtenir la mise en place de deux fichiers de contrôle de la base ?
- 1.9 Quelle est la taille approximative de la sga ?
- 1.10 Ecrire les commandes nécessaires à la mise en place d'une base ayant les caractéristiques suivantes :

Libellé de la base : BaseLicn

Intitulé de l'instance : Licn

Libellé du fichier paramètre : initlicn.ora

Localisation de tous les fichiers : c:\admindba\database

Intitulé des fichiers contrôles : ctrl1_licn.ora ctrl2_licn.ora

Intitulé du fichier de données : data1_licn.ora

taille du fichier de données 20Mo

Intitulé des fichiers redo log : log1_licn.ora

log2_licn.ora

taille des redo log 50ko

- 1.11 Après la requête 1.10 quels sont les tablespaces mis en place ?
- 1.12 Ajouter les tablespaces qui vous paraissent nécessaires
- 1.13 Ajouter un tablespace TsUtil de 20 mo pour gérer les données des utilisateurs
fichier associé : TsUtil.dbf
localisation : c:\admindba\database
- 1.14 Ajouter une extension de 20 mo au tablespace SYSTEM.
- 1.15 Ajouter les tablespaces APPLI, TEMP avec les mêmes caractéristiques que le tablespace TSUtil

2. Gestion utilisateurs

Exercice 2.1

Mettre en place le profil ElevProf ayant les caractéristiques suivantes
sessions_per_user 1, connect_time 2

Exercice 2.2

Mettre en place un utilisateur Elev<n°> ayant les caractéristiques suivantes :

default tablespace	user_data
temporary tablespace	temporary_data
quota sur le tb user_data	2M
profile	ElevProf

Exercice 2.3

Mettre en place le rôle ElevRole

Affecter au rôle ElevRole les privilèges systèmes suivants :

- create session
- create synonym

Vous connectez sous scott/tiger et affecter au rôle ElevRole les privilèges objets suivants :

- select sur la table emp
- select sur la table dept

Exercice 2.4

Affecter le rôle ElevRole à l'utilisateur Elev<n°>

Exercice 2.5

Créer les utilisateurs suivants:

Utilisateur	Tablespace par défaut	Tablespace temporaire
ADMIN	APPLI	TEMP
DEVEL	TsUtil	TEMP
UTIL1	TsUtil	TEMP
UTIL2	TsUtil	TEMP

Exercice 2.6

Modifier les quotas des utilisateurs de la manière suivante:

Utilisateur	Quota	à assigner au tablespace
ADMIN	Aucun	SYSTEM
	Illimité	TsUtil
DEVEL	Aucun	SYSTEM
	100K	TsUtil
UTIL1	Aucun	Tous
UTIL2	Aucun	Tous

Exercice 2.7

Créer les utilisateurs suivants avec les privilèges indiqués

Utilisateur/ mot de passe	Tablespace par défaut	Tablespace temporaire	Privilèges
ADMIN_APPLI/ ADMIN_APPLI	APPLI	TEMP	CREATE SESSION CREATE TABLE CREATE VIEW CREATE SYNONYM CREATE ROLE
ADMIN_SYS/ ADMIN_SYS	APPLI	TEMP	CREATE SESSION CREATE USER, ALTER USER CREATE ANY TABLE, ALTER ANY TABLE, DROP ANY TABLE SELECT ANY TABLE CREATE ANY INDEX

Tous ces privilèges seront attribués avec la clause WITH ADMIN OPTION

Exercice 2.8

En vous plaçant sous le compte SYSTEM

a/ Donner aux utilisateurs ADMIN,DEVEL,UTIL la possibilité de se connecter à la base

b/ Donner à ADMIN la possibilité de créer des tables, des vues et des synonymes

Exercice 2.9

Soit les commandes suivantes

ALTER SESSION SET NLS_LANGUAGE = AMERICAN; ALTER SESSION SET NLS_TERRITORY = AMERICA; DROP TABLE EMP; CREATE TABLE EMP (EMPNO NUMBER(4) NOT NULL, ENAME VARCHAR2(10), JOB VARCHAR2(9), MGR NUMBER(4), HIREDATE DATE, SAL NUMBER(7,2), COMM NUMBER(7,2), DEPTNO NUMBER(2));	ALTER SESSION SET NLS_LANGUAGE = AMERICAN; ALTER SESSION SET NLS_TERRITORY = AMERICA; DROP TABLE DEPT; CREATE TABLE DEPT (DEPTNO NUMBER(2), DNAME VARCHAR2(14), LOC VARCHAR2(13));
---	---

Sans changer les privilèges SYSTEM des utilisateurs,

A partir du fichier dept.sql, créer la table dept de façon à ce qu'elle appartienne à ADMIN

A partir du fichier emp.sql, créer la table emp de façon à ce qu'elle appartienne à DEVEL

Exercice 2.10

Dans quels tablespaces ont été créées ces deux tables?

Exercice 2.11

Donner à UTIL1 la possibilité de visualiser en une seule requête le nom des employés (emp.ename) et leur lieu de travail (dept.loc) (sans pouvoir visualiser les autres champs des tables emp et dept).

Exercice 2.12

Donner à UTIL2 la possibilité de mettre à jour, supprimer et d'insérer des enregistrements dans la table emp.

Donner à UTIL2 la possibilité de mettre à jour uniquement la colonne LOC de la table dept.

Ecrire les requêtes permettant de vérifier ces possibilités

Vérifier dans le dictionnaire de données la liste des privilèges de UTIL1 et UTIL2.

Exercice 2.13

Quelles conclusions pouvez-vous tirer sur les "rôles" des différents utilisateurs

Exercice 2.14

Attribuer à l'utilisateur <UTILn> les caractéristiques suivantes:

Tablespace par défaut: TsUtil

Tablespace temporaire: temp

quota sur TSUtil : 200K

Connectez vous sur un compte adéquat et créez les rôles R1 et R2.

Sans lui donner explicitement les privilèges, faites en sorte que < UTILn > puisse créer des tables, des vues et/ou des synonymes.

Vérifier que < UTILn > peut effectivement créer des tables et des synonymes

Sans vous déconnecter du compte < UTILn >, faites en sorte qu'il ne puisse plus créer de synonymes mais toujours créer des tables

Sans vous déconnecter du compte < UTILn >, faites en sorte qu'il ne puisse plus créer de tables mais toujours créer des synonymes

Sans vous déconnecter du compte < UTILn >, rétablissez la situation de départ

Donner à < UTILn > le rôle R1 par défaut

Rechercher dans le dictionnaire de données, la liste des rôles existants ainsi que les privilèges attribués à chaque rôle

Faire en sorte que UTIL1 et UTIL2 ne puissent ouvrir que 2 sessions simultanément et ne puissent pas rester connectés plus de 2 minutes.

Commandes SQL**ALTER SYSTEM**

Use this command to dynamically alter your Oracle instance in one of the following ways:

- to restrict log ons to Oracle to only those users with RESTRICTED SESSION system privilege
- to clear all data from the shared pool in the System Global Area (SGA)
- to explicitly perform a checkpoint
- to verify access to data files
- to enable or disable resource limits
- to enable or disable global name resolution
- to manage shared server processes or dispatcher processes for the multi-threaded server architecture
- to dynamically change or disable limits or thresholds for concurrent usage licensing and named user licensing
- to explicitly switch redo log file groups
- to enable distributed recovery in a single-process environment
- to disable distributed recovery
- to manually archive redo log file groups or to enable or disable automatic archiving
- to terminate a session

ALTER SYSTEM

```
{ {ENABLE | DISABLE} RESTRICTED SESSION
| FLUSH SHARED_POOL
| {CHECKPOINT | CHECK DATAFILES} [GLOBAL | LOCAL]
| SET { {RESOURCE_LIMIT | GLOBAL_NAMES} = {TRUE | FALSE}
      | SCAN_INSTANCES = integer
      | CACHE_INSTANCES = integer
      | MTS_SERVERS = integer
      | MTS_DISPATCHERS = 'protocol, integer'
      | LICENSE_MAX_SESSIONS = integer
      | LICENSE_SESSIONS_WARNING = integer
      | LICENSE_MAX_USERS = integer
      | REMOTE_DEPENDENCIES_MODE = {TIMESTAMP | SIGNATURE} } ...
| SWITCH LOGFILE
| {ENABLE | DISABLE} DISTRIBUTED RECOVERY
| ARCHIVE LOG archive_log_clause
| KILL SESSION 'integer1, integer2'}
```

CREATE PROFILE

Use this command to create a profile. A profile is a set of limits on database resources. If you assign the profile to a user, that user cannot exceed these limits.

CREATE PROFILE profile LIMIT

```
{ { SESSION_PER_USER
  | CPU_PER_SESSION
  | CPU_PER_CALL
  | CONNECT_TIME
  | IDLE_TIME
  | LOGICAL_READS_PER_SESSION
  | LOGICAL_READS_PER_CALL
  | COMPOSITE_LIMIT}
{ integer | UNLIMITED | DEFAULT}
| { PRIVATE_SGA { integer [K | M] | UNLIMITED | DEFAULT} }
| FAILED_LOGIN_ATTEMPTS
| PASSWORD_LIFETIME
| {PASSWORD_REUSE_TIME | PASSWORD_REUSE_MAX}
```

```

| ACCOUNT_LOCK_TIME
| PASSWORD_GRACE_TIME
{ integer | UNLIMITED | DEFAULT}
| PASSWORD_VERIFY_FUNCTION
{ function | NULL | DEFAULT} }...

```

CREATE ROLE

Use this command to create a role. A role is a set of privileges that can be granted to users or to other roles.

```

CREATE ROLE role [NOT IDENTIFIED | IDENTIFIED {BY password |
  EXTERNALLY | GLOBALLY} ]

```

CREATE USER

Use CREATE USER to create a database user, or an account through which you can log in to the database, and establish the means by which Oracle permits access by the user. You can optionally assign the following properties to the user:

- default tablespace
- temporary tablespace
- quotas for allocating space in tablespaces
- profile containing resource limits

```

CREATE USER user IDENTIFIED {BY password | EXTERNALLY | GLOBALLY AS
'CN=user'}
  [ DEFAULT TABLESPACE tablespace
  | TEMPORARY TABLESPACE tablespace
  | QUOTA { integer [K | M] | UNLIMITED } ON tablespace
  [ QUOTA { integer [K | M] | UNLIMITED } ON tablespace ] ...
  | PROFILE profile
  | PASSWORD EXPIRE
|ACCOUNT { LOCK | UNLOCK } ... ]

```

GRANT (System Privileges and Roles)

Use this command to grant system privileges and roles to users and roles. To grant object privileges, use the GRANT command (Object Privileges).

```

GRANT
  { system_priv | role}
  [, { system_priv | role} ] ...
TO
  { user | role | PUBLIC}
  [, { user | role | PUBLIC} ] ...
  [ WITH ADMIN OPTION]

```

GRANT (Object Privileges)

Use this command to grant privileges for a particular object to users and roles. To grant system privileges and roles, use the GRANT command (System Privileges and Roles).

```

GRANT
  { object_priv | ALL [PRIVILEGES] }
  [ ( column [, column] ... ) ]
  [, { object_priv | ALL [PRIVILEGES] }
  [ ( column [, column] ... ) ] ] ...
ON [ schema.| DIRECTORY] object
TO { user | role | PUBLIC} ...
  [ WITH GRANT OPTION]

```