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Machine 19 User Creation and Table-space Management 2-19-2016

We will use both SQLPlus and the Enterprise Manager GUI.

Log into your comp322 user account on your Oracle Linux system.

Open a terminal window and type emctl status dbconsole to see the database instance status.

1. Look through your “app” directory to find the “oradata” directory. It should have an orcl subdirectory. Where is the pathname to this orcl subdirectory?

/home/comp322/app/comp322/oradata/orcl

1. The oradata/orcl directory should contain control files, redo log files (if any) and datafiles. If you installed the sample schema, you will have some datafiles in the users tablespace. What files do you see? (Provide up to five file names. Include examples of all file types present.)

control01.ctl, redo01.log, system01.dbf, sysaux01.dbf, users01.dbf

1. Open a terminal and type sqlplus. If your path is correct, you should be able to bring up the prompt and log in as the SYS user (Enter SYS AS SYSDBA to get the correct privileges.)
2. Use the command select username from dba\_users; What users are declared by default? (Show the first five or so.)

SYS, SYSTEM, DBSNMP, SYSMAN, OUTLN

1. When installing, we had a choice of using the filesystem or ASM (Automated Storage Management). We chose the filesystem. At the prompt, type

select file#, name from v$datafile;

to see a list of datafiles. Provide examples of five files in this group.

/home/comp322/app/comp322/oradata/orcl/system01.dbf

/home/comp322/app/comp322/oradata/orcl/sysaux01.dbf

/home/comp322/app/comp322/oradata/orcl/undotbs01.dbf

/home/comp322/app/comp322/oradata/orcl/users01.dbf

/home/comp322/app/comp322/oradata/orcl/example01.dbf

1. Repeat and use select \* from v$logfile; and select \* from v$spparameter where name = 'control\_files'; to see the other types. (Include the single quotes. If you want to limit the columns shown, use describe tablename to get the table structures. )

control01.ctl, control02.ctl

redo01.log, redo02.log

1. When installing, we should have gotten **smallfile** for our tablespaces. A tablespace can either be **bigfile** (meaning one datafile for the entire tablespace) or **smallfile** (a series of small files). I believe the default is smallfile. We can manually change both types. Let’s resize one of the datafiles in the USERS tablespace (small file). Use the command:

alter database datafile '*path*/users01.dbf' resize 50m;

Where *path* is the fully-qualified path name to the user01 datafile. Include the single quotes!! This changes the max file size (but not the current size).

/home/comp322/app/comp322/oradata/orcl/users01.dbf

1. We can also ensure that the user01 datafile automatically extends itself up to a max size . Use the command:

alter database datafile */home/comp322/app/comp322/oradata/orcl*/user01.dbf

autoextend on next 10m maxsize 500m;

to extend the size in 10MB increments up to 500MB.

1. We can manually create new user datafiles by the following. Use the command:

alter tablespace users add datafile '*/home/comp322/app/comp322/oradata/orcl*/users02.dbf' size 50m autoextend on next 10m maxsize 200m;

1. We can manually create a new bigfile tablespace as follows:

CREATE bigfile tablespace datamart datafile '*/home/comp322/app/comp322/oradata/orcl*/dmart01.dbf' size 750m autoextend on next 100m;

1. Create another tablespace (not bigfile) called USERSTWO and add 3 datafiles into it – your choice of names and sizes.

CREATE tablespace USERSTWO datafile '/home/comp322/app/comp322/oradata/orcl/userstwo.dbf' size 50m autoextend on next 100m;

ALTER tablespace USERSTWO add datafile '/home/comp322/app/comp322/oradata/orcl/userstwo1.dbf' size 50m autoextend on next 100m;

ALTER tablespace USERSTWO add datafile '/home/comp322/app/comp322/oradata/orcl/userstwo2.dbf' size 50m autoextend on next 100m;

1. Open Enterprise Manager (https://<hostname>:1158/em), log in, hold your breath and you should be on the database home page – select your instance. Select the Tablespaces options to see the existing tablespaces. Do you see your new tablespaces and datafiles? Then exit sqlplus in the other window. Use the GUI to edit a property of one of the tablespaces such as USERSTWO – maybe increase the size.

In EM, choose server, then tablespace, then click USERSTWO. Click userstwo1.dbf and then edit. Change the file size from 100m to 125m

1. Within the em GUI, we will also create some roles, users and schemas. By default, we get two administration accounts: SYS and SYSTEM. SYS can do all dba functions while SYSTEM can do everything except Oracle system software upgrades and recovery. SYSDBA and SYSOPER are administrative privileges (not user accounts) required to perform high-level administrative operations such as creating, starting up, shutting down, backing up, or recovering the database. The SYSDBA system privilege is for fully empowered database administrators and the SYSOPER system privilege allows a user to perform basic operational tasks, but without the ability to look at user data. Recall that when you logged in as SYS, you were required to choose the SYSDBA role. To view existing roles:
   * Go to the Database Home page (you should be there) and at the top of the page, click Server to view the Server subpage. In the Security section, click Roles.

Some roles are DBA, CONNECT, CTXAPP

1. Tocreate a new role (APPDEV for an application developer role)
   * View the roles and then click Create. The Create Role page appears.
   * In the Name field, enter APPDEV.
   * Click System Privileges to go to the System Privileges subpage.
   * Click **Edit List**. The Modify System Privileges page appears.
   * In the Available System Privileges list, double-click privileges to add them to the Selected System Privileges list. You will want the following privileges: CREATE TABLE, CREATE VIEW, CREATE PROCEDURE, CREATE TRIGGER, CREATE SEQUENCE, CREATE SYNONYM.
   * Then click OK and OK to return to the roles page.
2. To view users: Go to the Database Home page. At the top of the page, click Server to view the Server subpage. In the Security section, click Users.

To create a new user (use your first name and last initial – e.g. DianeMW):

* Go to the Users page. On the Users page, click **Create**. The Create User page appears, displaying the General subpage. In the **Name** field, enter the new name.
* In the Profile list, accept the value DEFAULT. This setting assigns the default password policy to the new user. Accept the default value Password in the Authentication list.
* In the **Enter Password** and **Confirm Password** fields, enter a password that is (sort of) secure. What is it? **monkey1** .
* Do not select **Expire password now**. If the account status is set to expired, then the user or the database administrator must change the password before the user can log in to the database.
* Next to the **Default Tablespace** field, click the flashlight icon, select the **USERS** tablespace, and then click **Select**.
* Next to the **Temporary Tablespace** field, click the flashlight icon, select the **TEMP** tablespace, and then click **Select**.
* For the Status option, accept the default selection of **Unlocked**.
* Grant roles, system privileges, and object privileges to the user by
  + click roles, click edit list and assigning the following privileges CONNECT, APPDEV, and SELECT\_CATALOG\_ROLE. Select Ok.
  + click **System Privileges** to select the System Privileges, clicking **Edit List** In the Available System Privileges list, scroll to locate the CREATE ANY TABLE and CREATE ANY VIEW. Select Ok.
  + click **Object Privileges** to select the Object Privileges subpage. In the Select Object Type list, select **Table** and then click **Add.** Click the flashlight icon next to the Select Table Objects list. The Select Table Objects dialog box appears. In the Schema list, select **HR**, and then click **Go**. All tables in the HR schema are displayed. (Remember the names of a couple of these tables.) Click **Select All**, and then click the **Select** button. The Select Table Objects dialog box closes, and the names of all tables in the HR schema appear in the Select Table Objects field on the Add Table Object Privileges page. In the Available Privileges list, double-click the **SELECT** privilege to move it to the Selected Privileges list, and then click OK.
  + The Create User or Edit User page returns, showing that the SELECT object

privilege for all HR tables is granted to the new user.

* Assign a 10 MB quota on the USERS tablespace by selecting the Quotas subpage then select the Users tablepace and enter 10.
* If you did not click OK while assigning the tablespace quota (previous step), then click **OK** now to create the user.

If at any point clicking Ok creates the user before you are finished, you can just select the user and edit.

1. Check to see if the HR user account is unlocked. If not, unlock it. Then reset password. What is the new password? 13JCrossen
2. Go back to the terminal window, start sqlplus, log in as your new user account and try to select data from tables in the HR schema. Try to create an HR schema table – can you do it? Can you delete one of the HR schema tables? (Be careful to choose one without dependencies.)

select \* from HR.JOBS works correctly.

Dropping or creating a table does not work in the HR schema with the current permissions.

1. Your new user gets a new schema of the same name by default. Create a sample table in your personal schema(not HR) and insert a couple of rows in sqlplus.

CREATE table test (testvalue varchar(20);

INSERT into test (testvalue) value ('123');

INSERT into test (testvalue) value ('456');

1. Back in em, select your schema from the main page and then select and find your new table.

Table test existed with the column testvalue and values 123 and 456.