

Practical Exercise 1

(Manage Database Storage Structures)

ORACLE DBA I

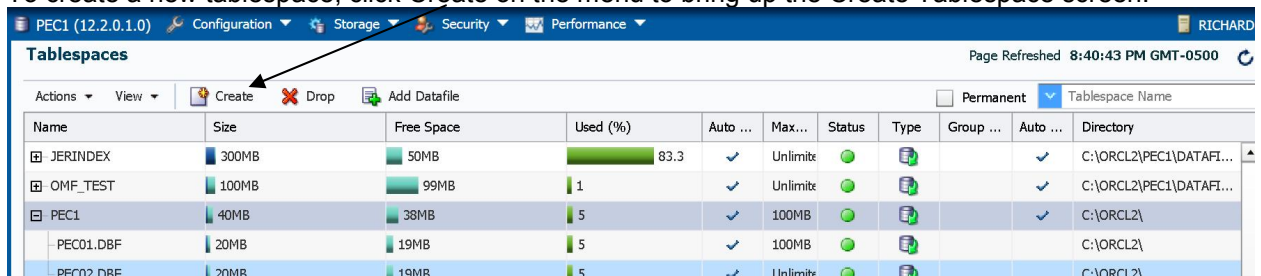
Practical Exercise 2

Manage Database Storage Structures

DIRECTIONS: This is a hands-on performance exercise. Follow the directions provided. You will have 50 minutes to complete this exercise. **DO YOUR OWN WORK!**


Perform the following steps:

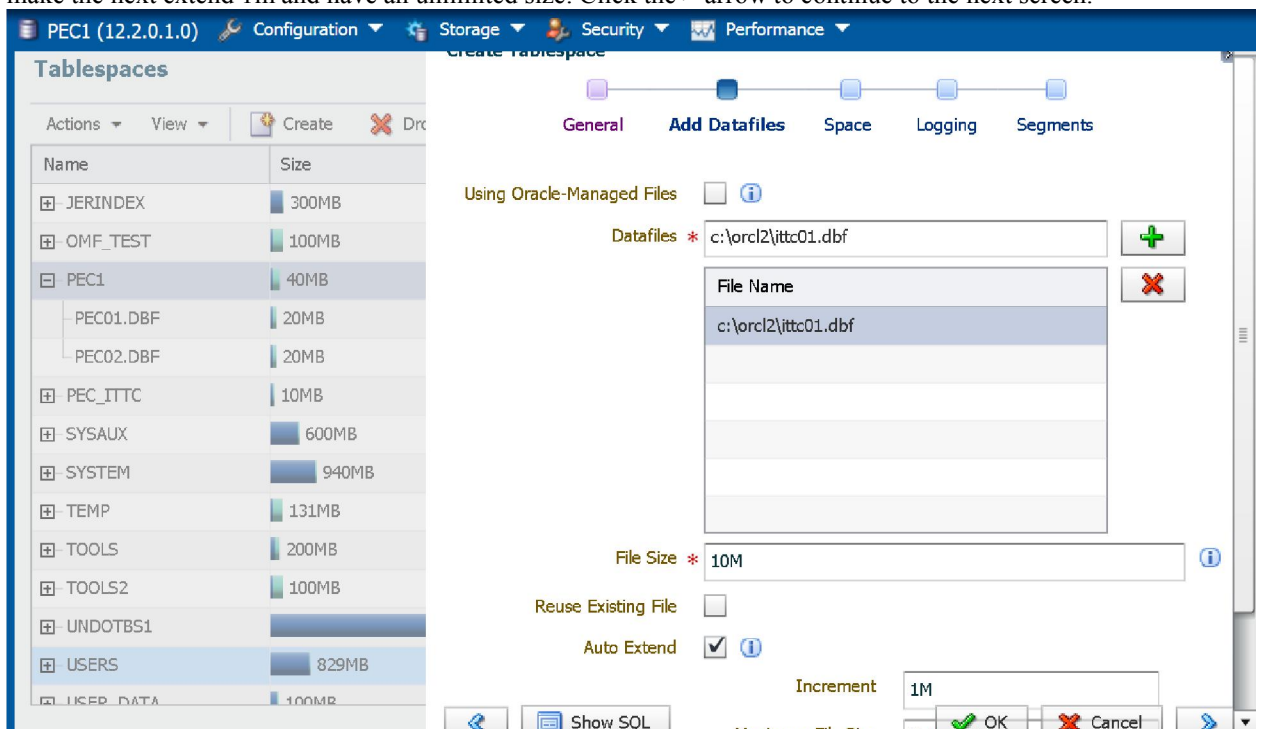
1. Start a web browser and connect to the Enterprise Manager Database Express URL on your Oracle database server.
2. Log in to your database as the user SIDPERS with the password of password.
3. On the Enterprise Manager main page, click the Storage hyperlink to display the EM Express Home page.
4. Click the Tablespaces hyperlink under Storage to display the current tablespaces in the database and their space utilization.
5. To create a new tablespace, click Create on the menu to bring up the Create Tablespace screen.



Name	Size	Free Space	Used (%)	Auto ...	Max...	Status	Type	Group ...	Auto ...	Directory
JERINDEX	300MB	50MB	83.3	✓	Unlimite	●	FILE		✓	C:\ORCL2\PEC1\DATAFI...
OMF_TEST	100MB	99MB	1	✓	Unlimite	●	FILE		✓	C:\ORCL2\PEC1\DATAFI...
PEC1	40MB	38MB	5	✓	100MB	●	FILE		✓	C:\ORCL2\
PEC01.DBF	20MB	19MB	5	✓	100MB	●	FILE			C:\ORCL2\
PEC02.DBF	20MB	19MB	5	✓	Unlimite	●	FILE			C:\ORCL2\

6. In the name box, enter ITTC. Leave your tablespace at the default values of Locally Managed, Permanent, and Read Write and as a smallfile tablespace with a status of online.
7. Under the Add Datafiles heading, Do not use the OMF option so leave unchecked and use a

name of c:\orcl2\ITTC01.dbf and click the big green PLUS Symbol  to move the information so it will be used in the tablespace creation. Make the file size 10m and check auto extend and make the next extend 1m and have an unlimited size. Click the > arrow to continue to the next screen.



Create Tablespace

Using Oracle-Managed Files ☐

Datafiles * c:\orcl2\ittc01.dbf

File Name c:\orcl2\ittc01.dbf

File Size * 10M

Reuse Existing File ☐

Auto Extend ☒

Increment 1M

Maximum File Size

OK Cancel

8. Next, make sure that automatic allocation is selected and since we are done click on OK.

Create Tablespace

General Add Datafiles **Space** Logging Segments

Block Size Database Default (8KB)

Extent Allocation ☒ Automatic ☐ Uniform

Extent Size

Show SQL OK Cancel

9. Next you will receive a confirmation message.

Confirmation

Tablespace has been created successfully.

SQL

OK

10. Now Select the New ITTC tablespace and right click on the Action Menu. Here you can add new datafiles as needed for your new tablespace.

Oracle Enterprise Manager Database Express 12c

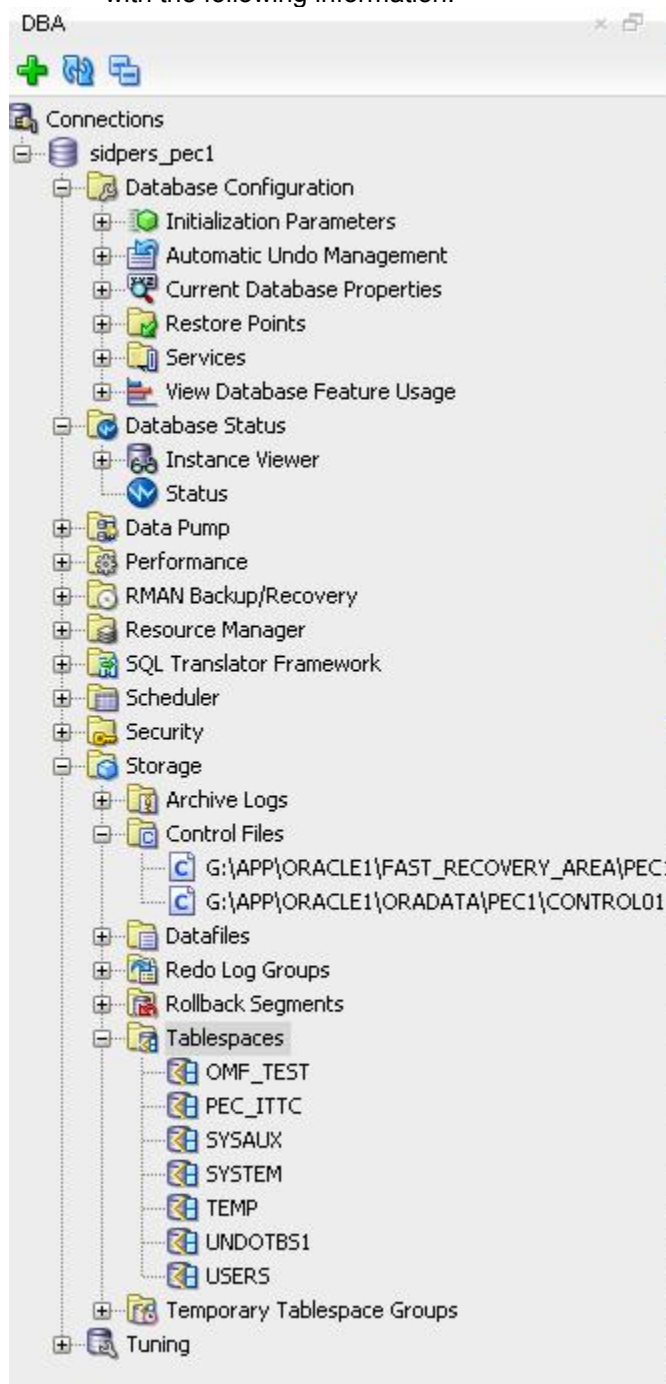
Tablespaces

Page Refreshed 8:40:43 PM GMT-0500

Actions	View	Create	Drop	Add Datafile	Tablespace Name	Free Space	Used (%)	Auto ...	Max...	Status	Type	Group ...	Auto ...	Directory
<ul style="list-style-type: none"> Create Drop Set Status Tablespace Groups Add Datafile Edit Auto Extend Resize Set As Default Alter In-Memory Setting 					ITTC	50MB	83.3	✓	Unlimitz	✓	File		✓	C:\ORCL2\PEC1\DATAFI...
					ITTC	99MB	1	✓	Unlimitz	✓	File		✓	C:\ORCL2\PEC1\DATAFI...
					ITTC	38MB	5	✓	100MB	✓	File		✓	C:\ORCL2\
					ITTC	19MB	5	✓	100MB	✓	File		✓	C:\ORCL2\
					ITTC	19MB	5	✓	Unlimitz	✓	File		✓	C:\ORCL2\
					ITTC	9MB	10	✓	Unlimitz	✓	File		✓	G:\APP\ORACLE1\PROD...
					ITTC	36MB	93.9	✓	Unlimitz	✓	File		✓	G:\APP\ORACLE1\ORAD...
					ITTC	26MB	97.3	✓	Unlimitz	✓	File		✓	G:\APP\ORACLE1\ORAD...

11. After the tablespace has been created, you will be returned to the Tablespaces page of Enterprise Manager Database Express.

12. Now let's create a tablespace in SQL Developer. Go to SQL Developer and under DBA Connections click on Storage | Tablespaces and right click and select Create New tablespace with the following information:



Tablespace Name: PEC1

Values: Locally Managed, Permanent, and Read Write

Datafiles: Leave Bigfile Tablespace box unchecked.

Add Datafile: c:\oracle2\oradata\pec01.dbf

Size: 100M, autogrow in increments of 50M, maximum of 500M

Storage: Extent Allocation – Automatic; Segment Space Management – Automatic; Enable

Logging – Yes

No changes to Thresholds

13. Fill out the information as shown below to add your datafile and directory information. Then select Properties.

The screenshot shows the 'Create Tablespace' dialog box with the 'File Specifications' tab selected. The 'Name' field is 'TABLESPACE1' and the 'Tablespace Type' is 'Permanent'. In the 'File Specifications' list, 'PEC01.DBF' is selected. To the right, the 'Name' field is 'PEC01.DBF', the 'Directory' is 'c:\ord2', and the 'File Size' is '20' with a unit dropdown set to 'M'. There are checkboxes for 'Reuse' and 'Auto Extend On', both of which are unchecked. Below these are fields for 'Next Size' and 'Max Size', both empty, with a unit dropdown set to 'M'. There is also an 'Unlimited' checkbox which is unchecked. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

14. Go to Properties and fill out the appropriate Values as indicated: Leave Block Size blank

The screenshot shows the 'Create Tablespace' dialog box with the 'Properties' tab selected. The 'Name' field is 'PEC1' and the 'Tablespace Type' is 'Permanent'. In the 'Properties' section, the 'File Type' is 'Small File', 'Online Status' is 'Online', 'Block Size' is blank, 'Logging' is 'Logging', 'Segment Management' is 'Auto', and 'Extent Management Type' is 'Local'. There is a checkbox for 'Force Logging' which is unchecked. Below these is a checkbox for 'Auto Allocate' which is checked, and a 'Uniform Size' field which is blank with a unit dropdown set to 'M'. At the bottom are 'Help', 'OK', and 'Cancel' buttons.

1. Go to the DBA Connections.
2. Select Tablespaces hyperlink under Storage and Select PEC1.
3. Then right click and select Edit. In the File Specifications, Change the File Size to 40m and ensure that auto-extend is on. Make the next extend 1m and the maximum size 100m.

Edit Tablespace

Name: PEC1

Tablespace Type: Permanent

File Specifications Properties Default Parameters DDL

File Specifications: + X

PEC01.DBF

Name: PEC01.DBF

Directory: C:\ORCL2

File Size: 40 M

☐ Reuse

☒ Auto Extend On

Next Size: 1 M

Max Size: 100 M ☐ Unlimited

Help OK Cancel

4. Go to Properties and Click the drop-down list on Online Status and notice the different options to take the tablespace offline: Return the Online Status to Online otherwise you will be unable to save your current changes.

Edit Tablespace

Name: PEC1

Tablespace Type: Permanent

File Specifications Properties Default Parameters DDL

File Type: Small File

Online Status: Offline

Block Size: 8192

OK Cancel

5. If you want to see the SQL you have generated click on DDL and you will see all the changes from your current Edit session.

Edit Tablespace

Name:

Tablespace Type:

File Specifications Properties Default Parameters **DDL**

SQL Statement(s):

☐ Create ☒ Update (for current edit)

```
ALTER TABLESPACE PEC1 OFFLINE;  
  
ALTER DATABASE  
DATAFILE 'C:\ORCL2\PEC01.DBF'  
AUTOEXTEND ON NEXT 1048576 MAXSIZE 104857600;  
  
ALTER DATABASE  
DATAFILE 'C:\ORCL2\PEC01.DBF' RESIZE 41943040;
```

Save... OK Cancel

6. To add another datafile to PEC1, go to Storage | Tablespaces and select PEC. Right click and select add datafile.
7. Make the new datafile 20m and automatically extend by 1m and have an unlimited size. Notice the backslash after the File Directory. This is necessary. Click Apply to save your changes.

Add Datafile

Properties **SQL**

Tablespace:

File Name:

File Directory:

File Size: MB

Reuse Existing File: ☐

Automatically Extend When Full: ☒

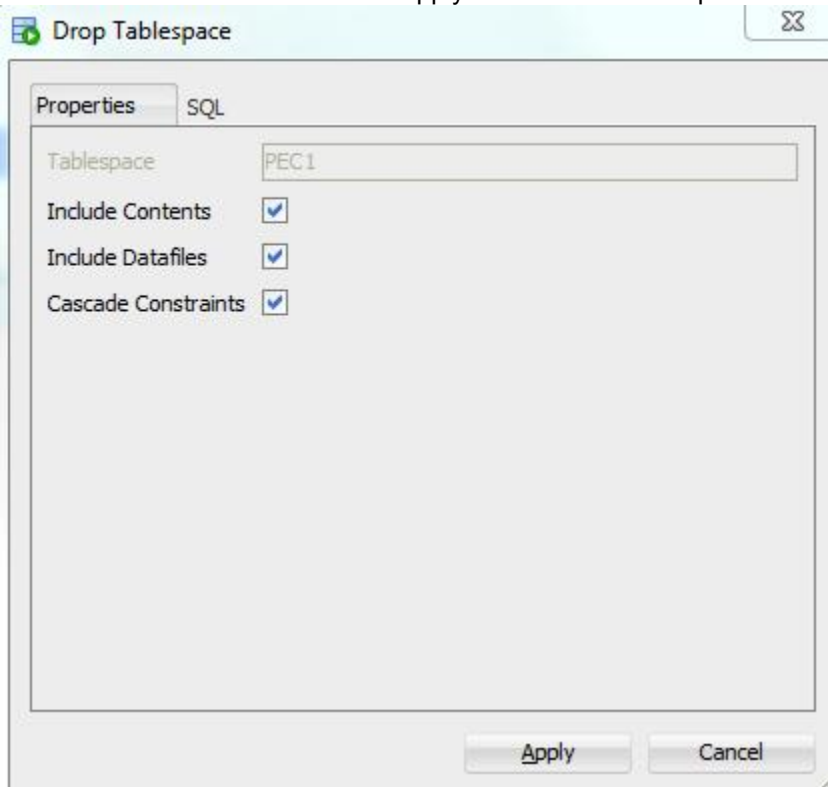
Increment: MB

Unlimited Maximum Size: ☒

Maximum Size: KB

Apply Cancel

8. Select the tablespace called PEC1 and right click and notice at the bottom of the menu is a Drop Tablespace menu. Select the Drop Tablespace
9. To ensure that you Delete Associated Datafiles, Contents and Constraints are deleted from the OS check all the boxes then click Apply to delete the tablespace.



10. Notice that the tablespace is no longer listed on the Tablespaces page.

From your computer, verify that the datafile has been removed by using cd to change directories to /orcl2/ directory, then perform the following:

From sql*plus, or Sql Developer login in as sidpers/password, display the information from the data dictionary by issuing a query for dba_data_files as shown below.

```
SELECT file_name, tablespace_name, bytes,  
       autoextensible, increment_by  
FROM DBA_DATA_FILES;
```

Query the dynamic performance view V\$DATAFILE to verify the result.

```
select name, bytes, create_bytes FROM v$datafile;
```

THIS COMPLETES THE LAB.