# Practices for Lesson 14: Diagnosing Failures

Practices for Lesson 14: Overview

Overview

In these practices, you will use the Data Recovery Advisor to diagnose database failure.

Practice 14-1: Diagnosing and Repairing Database Failure

Overview

In this practice, you will use Data Recovery Advisor via the RMAN client interface to diagnose and repair the loss of a data file.

Assumptions

You have two terminal windows open in which $HOME/labs/DBMod\_Recovery is the current directory, and environment variables point to the orclcdb database instance.

Tasks

Open a terminal window and execute the rec\_config.sh script from the

$HOME/labs/DBMod\_Recovery/ directory. This script configures a minimal configuration to ensure that the database is recoverable. If you have already done the configuration the script does nothing and exits.

$ $HOME/labs/DBMod\_Recovery/rec\_config.sh

Verify controlfiles are multiplexed The control files are multiplexed Verify Pfile Exists

PFILE

/u01/app/oracle/product/19.3.0/dbhome\_1/dbs/initorclcdb.ora exists

Verify database is in Archivelog ARCHIVELOG

Database in Archivelog

Verify fast recovery area is configured

PL/SQL procedure successfully completed.

Verify if redo logfiles mulitplexed file\_name is

/u01/app/oracle/fast\_recovery\_area/ORCLCDB/onlinelog/redo1a.log sqlstr is ALTER DATABASE ADD LOGFILE MEMBER

'/u01/app/oracle/fast\_recovery\_area/ORCLCDB/onlinelog/redo1a.log ' TO GROUP 1

file\_name is

/u01/app/oracle/fast\_recovery\_area/ORCLCDB/onlinelog/redo2a.log sqlstr is ALTER DATABASE ADD LOGFILE MEMBER

'/u01/app/oracle/fast\_recovery\_area/ORCLCDB/onlinelog/redo2a.log ' TO GROUP 2

file\_name is

/u01/app/oracle/fast\_recovery\_area/ORCLCDB/onlinelog/redo3a.log sqlstr is ALTER DATABASE ADD LOGFILE MEMBER

Execute the setup\_02\_01.sh script. This script creates the BAR91TBS tablespace in the file system, the BAR91 user, and the BARCOPY table, and populates the table. The script continues and takes a backup of the tablespace and updates the table. You can view the script output in the /tmp/setup.log file.

Execute the break\_02\_01.sh script. This script deletes a data file and causes the database to fail. You can view the script output in the /tmp/break.log file.

Open a new terminal window, as the oracle user with your environment variables pointing to orclcdb. Attempt to start the instance and open the ORCLPDB1 pluggable database. Observe the error messages, then exit SQL\*Plus.

**Note:** The error messages may occur while trying to open the ORCLCDB database or while trying to open the ORCLPDB1 PDB, or possibly both.

Use the Data Recovery Advisor to list the database failure. **Note:** You might see one or more failure IDs.

Use the Data Recovery Advisor to obtain advice on how to repair the failure. **Note:** During a manual recovery**,** if you see more than one optional manual action, you would focus on the one that references bar91tbs01.dbf, the missing file.

62 CRITICAL OPEN 02-JUL-19 System datafile 9: '/u01/app/oracle/oradata/ORCLCDB/orclpdb1/system01.dbf' needs media recovery

62 HIGH OPEN 02-JUL-19 One or more non-system datafiles need media recovery

62 HIGH OPEN 02-JUL-19 One or more non-system datafiles are missing

analyzing automatic repair options; this may take some time allocated channel: ORA\_DISK\_1

channel ORA\_DISK\_1: SID=40 device type=DISK analyzing automatic repair options complete

Mandatory Manual Actions

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no manual actions available

Optional Manual Actions

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If you restored the wrong version of data file

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/system01.dbf, then replace it with the correct one

Automatic repairs may be available if you shutdown the database and restart it in mount mode

If you restored the wrong version of data file

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/sysaux01.dbf, then replace it with the correct one

If you restored the wrong version of data file

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/undotbs01.dbf, then replace it with the correct one

If you restored the wrong version of data file

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/users01.dbf, then replace it with the correct one

If file

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/bar91tbs01.dbf was unintentionally renamed or moved, restore it

Automated Repair Options

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Option Repair Description

1 Restore and recover datafile 19 …

Strategy: The repair includes complete media recovery with no data loss

Repair script:

/u01/app/oracle/diag/rdbms/orclcdb/orclcdb/hm/reco\_991361536.hm

Use the Data Recovery Advisor to repair the failure. Examine the contents of the repair script that was generated for this repair before it executes. Enter Y or YES when prompted to execute the script.

RMAN> **repair failure;**

Strategy: The repair includes complete media recovery with no data loss

Repair script:

/u01/app/oracle/diag/rdbms/orclcdb/orclcdb/hm/reco\_991361536.hm

contents of repair script:

# restore and recover datafile

sql 'ORCLPDB1' 'alter database datafile 19 offline'; restore ( datafile 19 );

recover datafile 19;

sql 'ORCLPDB1' 'alter database datafile 19 online'; # recover datafile

sql 'ORCLPDB1' 'alter database datafile 9, 10, 11, 12 offline';

recover datafile 9, 10, 11, 12;

sql 'ORCLPDB1' 'alter database datafile 9, 10, 11, 12 online';

Do you really want to execute the above repair (enter YES or NO)? **YES**

executing repair script

...

channel ORA\_DISK\_1: restoring datafile 00190

input datafile copy RECID=19 STAMP=1012576702 file name=/u01/app/oracle/fast\_recovery\_area/ORCLCDB/8C28E6F854EB7DBB E0536210ED0AFDD9/datafile/o1\_mf\_bar91tbs\_gkpxfy1o\_.dbf

destination for restore of datafile 00190:

/u01/app/oracle/oradata/ORCLCDB/orclpdb1/bar91tbs01.dbf

...

repair failure complete

RMAN>

Open the ORCLPDB1 pluggable database.

Confirm that ORCLPDB1 is open.

Return to the first terminal window. Clean up the environment following this practice by executing the cleanup\_02\_01.sh. script. You can view the script output in the

/tmp/cleanup.log file.

Close the second terminal window.