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Oracle 9i and 9iAS Operation Manual

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Feb 5, 2005

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Table of Contents

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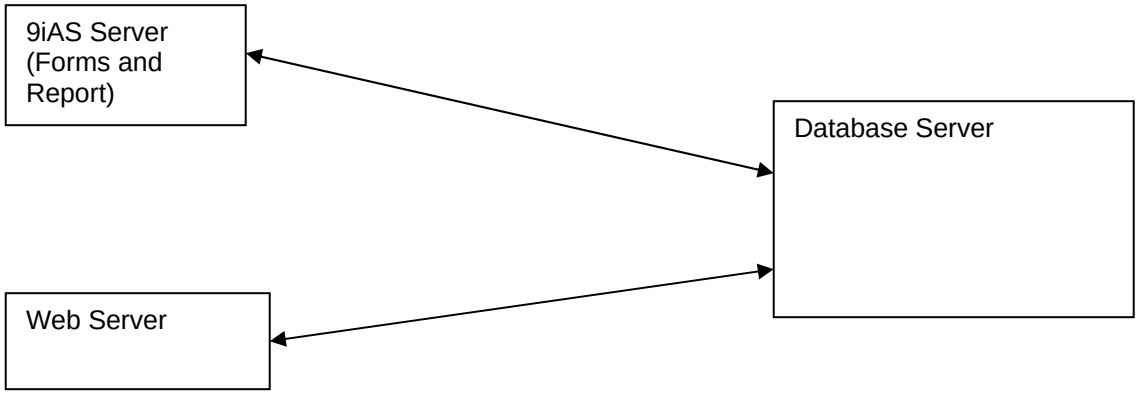
1 Introduction

This document is an operation manual, which includes instructions for how to:

- Start/stop databases and listener
- Backup/recover databases
- Start/stop Oracle Application servers
- Monitor databases and Application servers

Servers are:

- Database server
- Forms and Report server
- Web server



2 Database Server

2.1 System Configuration

2.1.1 Database Server Configuration

2.1.1.1 Disk Layout

Filesystem	Size	Remarks
/u01	8.7GB	Oracle Home, log files and control files.
/u03	34GB	Data files and cold backup

2.1.2 Database configuration

Version	9.2.0.1.0 64-bit	
Oracle Home	/u01/oracle/product/9.2.0	
Oracle SID	PENDB	
Oracle Base	/u01/oracle	
Oracle Admin	/u01/oracle/admin	
Listener port	1521	
Data files	/u03/oracle/oradata/PENDB	
Temporary files	/u03/oracle/oradata/PENDB	
Redo logs	/u01/oracle/oradata/PENDB	
Control files	/u01/oracle/oradata/PENDB	
Cold backup	/u03/backup/PENDB	
Cold Backup start at	2:30am every day	**Database is shutdown**
Cold Backup end at	Around 5am	**Database is started up**
Archive log	/u01/oracle/oradata/PENDB/archivelog	**enabled**

2.1.3 Start database

- Log in as user oracle
- sqlplus "/ as sysdba"
- Sql>startup
- Sql>select * from user_users; -- ***database is up if there are no errors returned.***
- Sql>exit

2.1.4 Start listener

- Log in as user oracle
- lsnrctl start
- ps –ef |grep tns -- ***should see a process running or use***
- lsnrctl status

2.1.5 Stop database

- Log in as user oracle
- sqlplus "/ as sysdba"
- sql>shutdown immediate
- sql>exit

2.1.6 Stop listener

- Log in as user oracle
- lsnrctl stop

2.1.7 Check Alert log

- Cd /u01/oracle/admin/PENDB/bdump
- View alert_PENDB.log from bottom, make sure there are no errors.

2.1.8 Backup database

- Cold backup is scheduled at 3:00am every day
  $ crontab -l
  30 2 * * * /export/home/oracle/backup/run_cold.sh >>/export/home/oracle/backup/log/cold_backup.log 2>&1
- Backup scripts locate at /export/home/oracle/backup
- Backup directory is /u03/backup
- What cold backup scripts do:
  - Shutdown database
  - Remove previous backups from disk
  - Copy data files to backup directory then compress
  - Copy control files and redo logs to backup directory then compress
  - Copy archived logs to backup directory then compress
  - Copy orapwPENDB,spfilePENDB.ora to backup directory
  - Tar backup directory and /export/home/oracle/backup to tape
  - Remove all archived logs
  - Start up database
- Check log file to make sure backup is completed successfully.
  - Open /export/home/oracle/backup/log/cold_backup.log, go to bottom then go through last backup information. Make sure there are no error messages.
  - Open /export/home/oracle/backup/log/run_cold.log, go to bottom then go through last backup information. Make sure there are no error messages
- Tape device
  - Built-in DSS3 , device name is /dev/rmt/0u
  - Tape should be replaced every day, backup strategy recommended is:
    - Recycle tapes every 2 weeks except tapes which are kept for long time
    - Tapes should be stored off-site
    - Don’t keep tape in server forever

2.1.9 Recover database

- Install Sun 5.8 if server has crashed
- Install Oracle 9.2.0.1 if Oracle Home has crashed.
  - Create directory /u01/oracle/product/9.2.0
  - Insert installation CD
  - ./runInstaller
  - Choose install software only
- Restore Oracle database if database has crashed
  - Create directories /u01/oracle/oradata/PENDB and /u03/oracle/oradata/PENDB if they don’t exist
  - If backups are still on disk,
    - Copy files under /u03/backup/PENDB/u01 to /u01/oracle/oradata/PENDB then uncompress them
      Cp /u03/backup/PENDB/u01/* /u01/oracle/oradata/PENDB
      Cd /u01/oracle/oradata/PENDB
      Uncompress *.z
      Cp /u03/backup/PENDB/u01/orapwdPENDB /u01/oracle/product/9.0.2/dbs
      Cp /u03/backup/PENDB/u01/spfilePENDB.ora /u01/oracle/product/9.0.2/dbs

- Copy files under /u03/backup/PENDB/u03 to /u03/oracle/oradata/PENDB then uncompress them
  Cp /u03/backup/PENDB/u03/* /u03/oracle/oradata/PENDB
  Cd /u03/oracle/oradata/PENDB
  Uncompress *.z

- Start up database
- If backups are not on disk, restore them from tape. Then follow same steps above.
  Cd /u03/backup
  tar –xvf /dev/rmt/0u

3 Application Serve

3.1.1 LPFAPP Server Configuration

3.1.1.1 Disk Layout

Partition	Size	Remark
C:	4GB	Windows 2000
D:	29GB	Oracle Application Server 10g(Infrastructure and middle tier), LPF application(Forms and Report)

3.1.2 Application Server configuration

Version	9.0.4.1	
Oracle Home for infrastructure	D:\OASIN	
Oracle Home for middle tier	D:\OASMT	
Oracle SID	ASDB	
Listener port	1521	
Data files	D:\OASIN\oradata\asdb	
Temporary files	D:\OASIN\oradata\asdb	
Redo logs	D:\OASIN\oradata\asdb	
Control files	D:\OASIN\oradata\asdb	
LPF application	D:\lpf	
Forms (PROD)	D:\lpf\prod\forms	
Forms (UAT)	D:\lpf\uat\forms	
Reports(PROD)	D:\lpf\prod\reports	
Reprots(UAT)	D:\lpf\uat\reports	
Directories for PROD	D:\lpf\prod\cache D:\lpf\prod\temp D:\lpf\prod\sql	

3.1.3 Start 10gAS server

Oracle Application Server can be started manually, go to desktop, double click ***portalstart.bat***. It is strongly recommended to stop Oracle Application server first before starting. The script locates at d:\scripts.

Task ***repserver_bounce*** is scheduled to bounce report server lpfprd at 6am every day.

To make sure all components work properly, go to start→control panel→Administrative Tools, click service. Double check the following services are up.

OracleOASINTNSListener
OracleServiceASDB
OracleOASINProcessManager
OracleOASMTProcessManager
OracleOASMTClientCache
OracleOASMTReports [lpfprd]
OracleOASMTReports [lpfuat10]

If any services are not up, they can be started by right-clicking on the services then clicking start. They must be started sequentially

3.1.4 Stop 10gAS server

Go to Desktop, double click ***portalstop.bat.*** Then take same steps above to check services.

3.1.5 Monitor 10gAS server

- Make sure servers are up(see 5.1.2)
- Start service OracleOASINASControl and OracleOASMTASControl, log on as ias_admin with URL http://lpfapp.lpfcec.org:1812 or http://lpfapp.lpfcec.org:1813

Note: Oracle Enterprise Manager doesn't have to be started unless you want to manage and monitor Oracle Application server through it.

3.1.6 Backup and recovery

Backup is not really necessary for Oracle Application Server since only forms and reports are used and there are no data. If recovery is necessary, just re-install Oracle Application server 10g.

- Install Windows 2000 with SP4 if system has crashed
- Install Oracle Application Server 10gAS then upgrade to 9.0.4.1, please see Section 7 Upgrade to 10gAS from 9iAS.
- If d:\lpf is still available, nothing has to do with Forms and Reports; Otherwise forms and reports have to be copied and re-compiled from source codes.

4 Web Server

4.1 System Configuration

4.1.1 WWW Server Configuration

4.1.1.1 Disk Layout

Partition	Size	Remark
C:	33GB	Windows 2003, Oracle Application server(Infrastructure and middle-tier)
D:	33GB	Backup of 9iAS for LPFAPP

4.1.2 Application Server configuration

Version	9.0.4	
Oracle Home for infrastructure	D:\orainf	
Oracle Home for middle tier	D:\oramt	
Oracle SID	ASDB	
Listener port	1521	
Data files	D:\orainf\oradata\asdb	
Temporary files	D:\orainf \oradata\asdb	
Redo logs	D:\orainf \oradata\asdb	
Control files	D:\orainf \oradata\asdb	

4.1.3 Start 10gAS server

When server reboots, Oracle Application server starts automatically.

Oracle Application Server can be started manually, go to desktop, double click ***portalstart.bat***. Strongly recommended to stop Oracle Application server first before starting.

To make sure all components work properly, go to start→control panel→Administrative Tools, click service. Double check the following services are up.

OracleorainfTNSListener
OracleServiceASDB
OracleorainfProcessManager
OracleoramtProcessManager
OracleoramtClientCache
OracleoramtReports [server=portal]

If any services are not up, they can be started by right-clicking on the services then clicking start. They must be started sequentially

4.1.4 Stop 10gAS server

Go to Desktop, double click ***portalstop.bat.*** Then take same steps above to check services.

4.1.5 Monitor 10gAS server

- Make sure servers are up(see 6.1.2)
- Start service OracleorainfASControl and OracleoramtASControl, then log on as ias_admin with URL http://www.lpfcec.org:1810 or http://www.lpfcec.org:1811

Note:
Oracle Enterprise Manager doesn't have to be started unless you want to manage and monitor Oracle Application server through it.

5 Scripts

5.1.1 Application Server

Portalstart.bat

```
ping localhost -n 120 -w 1000 >nul
rem net start OracleOASINTNSListener
rem net start OracleServiceASDB
ping localhost -n 30 -w 1000 >nul
net start OracleOASINProcessManager
rem net start OracleOASINClientCache
rem net start OracleOASINASControl
net start OracleOASMTProcessManager
net start OracleOASMTClientCache
rem net start OracleOASMTASControl
ping localhost -n 30 -w 1000 >nul
net start "OracleOASMTReports [lpfprd]"
net start "OracleOASMTReports [lpfuat10]"
```

portalstop.bat

```
net stop "OracleOASMTReports [lpfprd]"
net stop "OracleOASMTReports [lpfuat10]"
net stop OracleOASMTClientCache
net stop OracleOASMTProcessManager
rem net stop OracleOASMTASControl
rem net stop OracleOASINClientCache
net stop OracleOASINProcessManager
rem net stop OracleOASINASControl
net stop OracleOASINTNSListener
net stop OracleServiceASDB
```

repserver_bounce.bat

```
net stop "OracleOASMTReports [lpfprd]"
net start "OracleOASMTReports [lpfprd]"
```

5.2 Web Server

Portalstart.bat

```
ping localhost -n 120 -w 1000 >nul
net start OracleorainfTNSListener
net start OracleServiceASDB
ping localhost -n 30 -w 1000 >nul
net start OracleorainfProcessManager
rem net start OracleorainfClientCache
rem net start OracleorainfASControl
net start OracleoramtProcessManager
net start OracleoramtClientCache
rem net start OracleoramtASControl
ping localhost -n 30 -w 1000 >nul
net start "OracleoramtReports [server=portal]"
```

portalstop.bat

```
net stop "OracleoramtReports [server=portal]"
net stop OracleoramtClientCache
net stop OracleoramtProcessManager
net stop OracleoramtASControl
net stop OracleorainfClientCache
net stop OracleorainfProcessManager
net stop OracleorainfASControl
net stop OracleorainfTNSListener
net stop OracleServiceASDB
```