

Creating an Oracle 9i Database on Windows; Author: James L. Colestock

Software Used: Oracle 9i Release 2 RDBMS; Microsoft Windows 2000 Advanced Server SP3

Step 1: Plan the file layout of Your Database; Create Necessary Directories

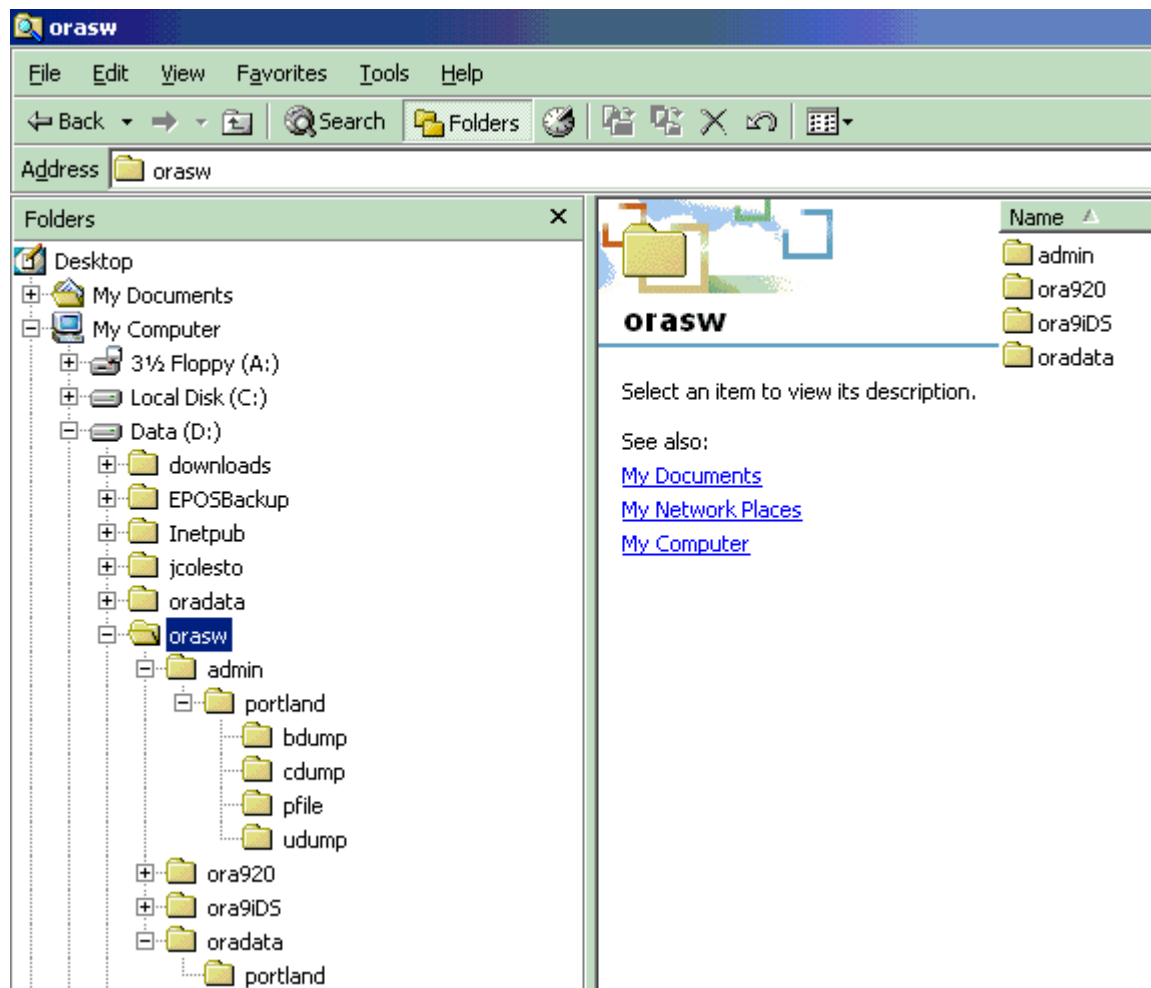
Oracle has many guidelines for how to do this appropriately; namely laying out a Database in accordance with OFA a.k.a "Optimal Flexible Architecture." My examples are quite simple and therefore will not incorporate all of these principles. After you have created your Database, make appropriate changes such as multiplexing, relocation, resizing Database Files per Oracle Standards. The Database I am creating is named "PORTLAND." For your Database, be sure to find and replace %ORACLE_HOME% and *sid* in the following example, where *sid* is the name of your Database.

The Layout for my examples:

D:\orasw\ora920 is my Oracle Software Home, %ORACLE_HOME%

I created the D:\orasw\oradata and D:\orasw\admin directories, as well as all directories beneath, for the Database's Datafiles and Instance files, respectively (see Figure 1)

Figure 1

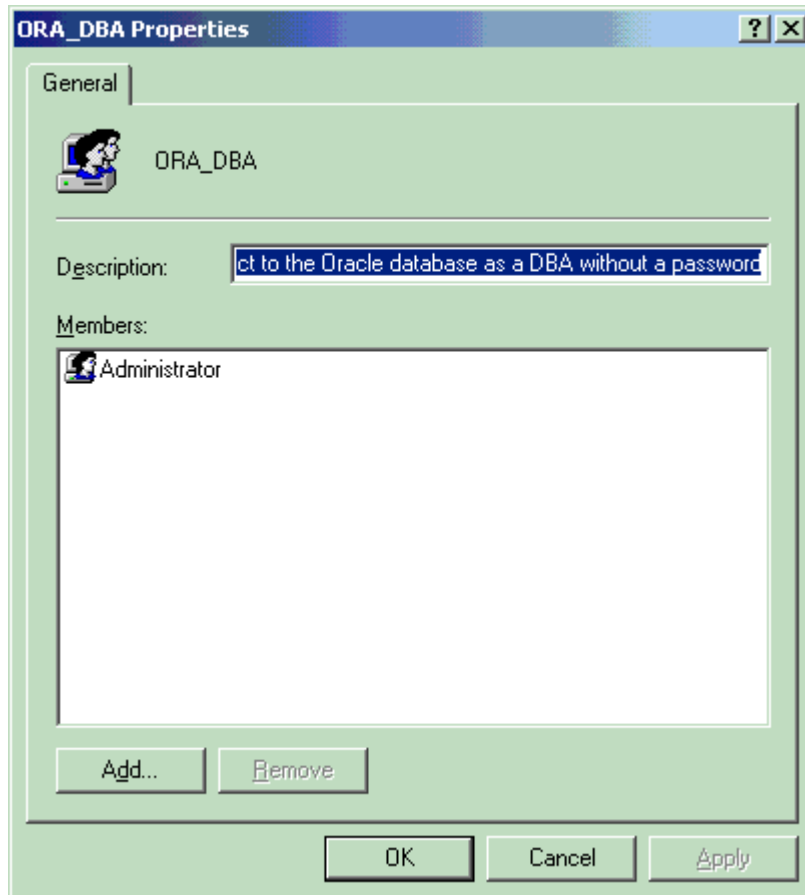


Step2: Ensure that you are Installing as a User with Administrative Powers, belonging to

ORA_DBA

I normally install the Database as a Local Administrator. If the ORA_DBA group does not exist, you must create it. Optionally, an ORA_OPER group may be created for those Users who need only SYSOPER Privileges. I normally, don't create this Group or grant this Privilege.

Figure 2



Step 3: Create the initSID.ora Parameter File

A SPFILE or "Server Parameter File" has also been introduced in 9i; however, for this example, I will use a text-based Initialization Parameter File. This file is needed during the creation to create the all important controlfile(s), instance name, SGA etc. Cut and Paste the Text below and place it in D:\orasw\admin\sid\pfile\initSID.ora. Afterwards, create a file with the same name and place it in %ORACLE_HOME%\Database Directory. Modify INSTANCE_NAME, DB_NAME, as well as all Parameters relevant to File Locations.

D:\orasw\admin\sid\pfile\initSID.ora:

```
# Cache and I/O
DB_BLOCK_SIZE=4096
DB_CACHE_SIZE=20M

# Cursors and Library Cache
CURSOR_SHARING=SIMILAR
OPEN_CURSORS=300

# Diagnostics and Statistics
BACKGROUND_DUMP_DEST=d:\orasw\admin\sid\bdump
CORE_DUMP_DEST=d:\orasw\admin\sid\cdump
TIMED_STATISTICS=TRUE
```

```

USER_DUMP_DEST=d:\orasw\admin\sid\udump

# Control File Configuration
CONTROL_FILES=("d:\orasw\oradata\sid\control01.ctl",
              "d:\orasw\oradata\sid\control02.ctl",
              "d:\orasw\oradata\sid\control03.ctl")

# Miscellaneous
COMPATIBLE=9.2.0
DB_NAME=sid

# Distributed, Replication and Snapshot
# DB_DOMAIN=us.oracle.com
REMOTE_LOGIN_PASSWORDFILE=EXCLUSIVE

# Network Registration
INSTANCE_NAME=sid

# Pools
JAVA_POOL_SIZE=32M
#LARGE_POOL_SIZE=1048576
SHARED_POOL_SIZE=35M

# Processes and Sessions
PROCESSES=150

# Use Oracle's Automatic Management of the SORT_AREA_* and PGA
WORKAREA_SIZE_POLICY = AUTO
PGA_AGGREGATE_TARGET = 10M

# Automatic Undo Management
UNDO_MANAGEMENT=AUTO
UNDO_TABLESPACE=undo

# Administration Method
REMOTE_LOGIN_PASSWORDFILE = NONE

## Some Noteworthy Parameters Not Currently Relevant to Configuration

# SGA Limit
# SGA_MAX_SIZE = 100M
# Redo Log and Recovery - Used with Databases in Archivelog Mode
# FAST_START_MTTR_TARGET=300

# Resource Manager
# RESOURCE_MANAGER_PLAN=SYSTEM_PLAN

# Sort, Hash Joins, Bitmap Indexes
# SORT_AREA_SIZE=
524288
# Archive#LOG_ARCHIVE_DEST_1='LOCATION=d:\orasw\oradata\sid\archive'
# LOG_ARCHIVE_FORMAT=%t_%s.dbf
# LOG_ARCHIVE_START=TRUE

# Shared Server
# Uncomment and use first DISPATCHES parameter below when your listener is
# configured for SSL
# (listener.ora and sqlnet.ora)
# DISPATCHERS = "(PROTOCOL=TCPS)(SER=MODESE)",
#               "(PROTOCOL=TCPS)(PRE=oracle.aurora.server.SGiopServer)"
# DISPATCHERS="(PROTOCOL=TCP)(SER=MODESE)",
#               "(PROTOCOL=TCP)(PRE=oracle.aurora.server.SGiopServer)",
#               (PROTOCOL=TCP)

%ORACLE_HOME%\Database\initSID.ora:

ifile=d:\orasw\admin\sid\pfile\initSID.ora

```

Step 4: Prepare the Scripts

Cut and Paste the Scripts Below, placing them in the Same Directory. Find and Replace as instructed in Step 1. You will run the Batch File, which in turn will call the applicable scripts to create your Database.

create_sid.bat:

```
set ORACLE_SID=SID
set ORACLE_HOME= <Your Oracle Home Here>
%ORACLE_HOME%\bin\oradim -new -sid SID -startmode manual
REM %ORACLE_HOME%\bin\orapwd file=D:\orasw\oradata\sid\PWDsid.ora password=initialsyspasswd
entries=5
%ORACLE_HOME%\bin\sqlplus /nolog @createSID.sql
%ORACLE_HOME%\bin\sqlplus /nolog @createdictSID.sql
%ORACLE_HOME%\bin\oradim -edit -sid SID -startmode auto
pause
```

createSID.sql:

```
connect / as sysdba
set echo on
spool createSID.log;
startup nomount
CREATE Database SID
  USER SYS IDENTIFIED BY sysisgod
  USER SYSTEM IDENTIFIED BY systemisalmostgod
  LOGFILE GROUP 1 ('d:\orasw\oradata\sid\redo01.log') SIZE 25M,
    GROUP 2 ('d:\orasw\oradata\sid\redo02.log') SIZE 25M,
    GROUP 3 ('d:\orasw\oradata\sid\redo03.log') SIZE 25M
  MAXLOGFILES 5
  MAXLOGMEMBERS 5
  MAXLOGHISTORY 100
  MAXDATAFILES 100
  MAXINSTANCES 1
  CHARACTER SET US7ASCII
  NATIONAL CHARACTER SET AL16UTF16
  DATAFILE 'd:\orasw\oradata\sid\system01.dbf' SIZE 325M REUSE
  EXTENT MANAGEMENT LOCAL
  DEFAULT TEMPORARY TABLESPACE temp
  TEMPFILE 'd:\orasw\oradata\sid\temp01.dbf' SIZE 200M REUSE
  UNIFORM SIZE 128K
  UNDO TABLESPACE undo
  DATAFILE 'd:\orasw\oradata\sid\undo01.dbf' SIZE 200M REUSE;
exit;
```

createdictSID.sql:

```
connect / as sysdba
set echo on
spool createdictSID.log
@%ORACLE_HOME%\rdbms\admin\catalog.sql;
@%ORACLE_HOME%\rdbms\admin\catproc.sql
@%ORACLE_HOME%\rdbms\admin\catrep.sql
@%ORACLE_HOME%\sqlplus\admin\pupbld.sql
rem Any Other Pertinent Scripts Here
rem Options etc
exit;
```

shutdown.sql:

```
shutdown &1
exit
```

destroy_sid.bat:

```
set ORACLE_SID=SID
set ORACLE_HOME= <Your Oracle Home Here>
%ORACLE_HOME%\bin\sqlplus "/ as sysdba" @shutdown.sql immediate
%ORACLE_HOME%\bin\oradim -delete -sid SID
del /S /Q D:\orasw\oradata\sid
pause
```

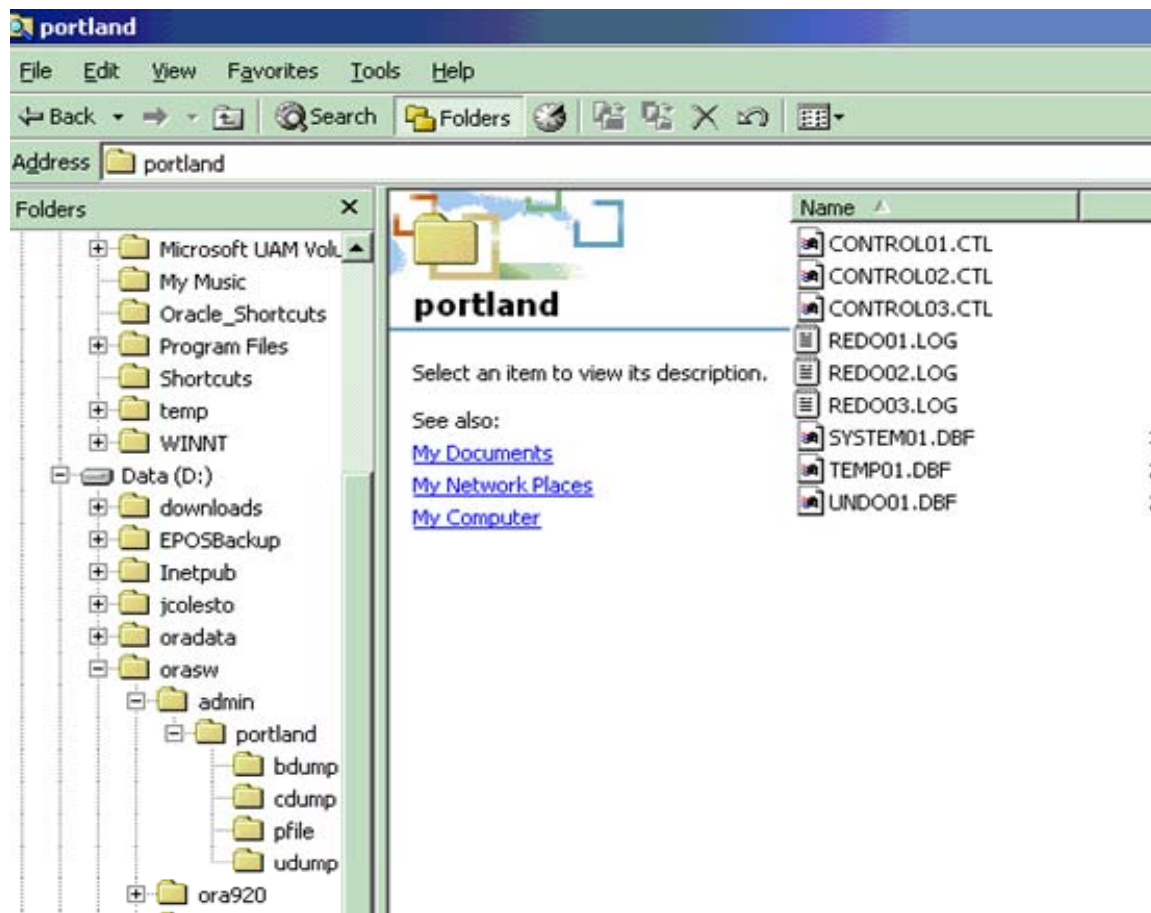
Step 5: Create the Database by Running the create_sid.bat

Step 6: Verify Successful Installation

- Check Batch File and Script Logs
- Check for a Service Named OracleServiceSID
- Make sure Database's Files were created (see Figure 3). There should also be an alert_SID.log and some background process trace files in the bdump location specified in your initSID.ora file

In the event that there is a failure, the destroy_sid.bat can be used to destroy the Database.

Figure 3



Step 7: Post-Installation Tasks

There are a great many things that may be configured at the point, most of which are beyond the scope of this document. I would, however, suggest performing the following:

- Configure the Oracle Net Listener for this Database Service

- Tune and Size SGA as appropriate, including: DB_CACHE_SIZE; LOG_BUFFERS; PGA MEMORY etc.
- Configure Automatic Undo Management to suit the nature of your Applications Needs
- Make aforementioned changes, such as configuring/multiplexing/resizing/adding of: Redo Log Groups/Members; Controlfiles; and Datafiles
- Place the Database in Archivelog Mode
- Implement and Appropriate Backup & Recovery Plan