

# Installing Oracle 9i Release 2 on Red Hat Enterprise 4.0

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1. As root, determine the Linux kernel. Consult Oracle documentation to determine appropriate target Oracle software distribution to install

```
# uname -a
```

2. As root, determine that all prerequisite O/S packages are installed (consult Release Notes for Oracle Software version in question for the platform). Use the following to check for package existence:

```
# rpm -qa | grep <package name listed in Release Notes>
```

For example, the following packages are needed for Red Hat Enterprise 4.0 (Note: These are the packages as listed by oracle, O/S packages that satisfy there requirements may be named slightly different). Download patch #4198854, to obtain missing *compat-\** libraries :

```
compat-db-4.1.25-9
compat-gcc-32-3.2.3-47.3
compat-gcc-32-c++-3.2.3-47.3
compat-oracle-rhel4-1.0-3 ← Available from Oracle (Patch # 4198854)
compat-libcwait-2.0-1 ← Available from Oracle (Patch # 4198854)
compat-libgcc-296-2.96-132.7.2
compat-libstdc++-296-2.96-132.7.2
compat-libstdc++-33-3.2.3-47.3
gcc-3.4.3-9.EL4
gcc-c++-3.4.3-9.EL4
gnome-libs-1.4.1.2.90-44
gnome-libs-devel-1.4.1.2.90-44
libaio-devel-0.3.102-1
libaio-0.3.102-1
make-3.80-5
openmotif21-2.1.30-11
xorg-x11-deprecated-libs-devel-6.8.1-23.EL
xorg-x11-deprecated-libs-6.8.1-23.EL
```

You can install or update a package on Linux using:

```
# rpm -ivh <rpm file> or rpm -Uvh <rpm file>
```

3. As root, configure the system-level semaphore and file descriptor limits considering the platform and physical memory installed in the server. Ensure that the relevant System Administrator creates swap 2X the physical memory on the server if not already present:

To obtain swapsize:

```
# free
```

To obtain physical memory installed:

```
# cat /proc/meminfo | grep MemTotal
```

Use the following commands to configure, in the most basic manner, a server with 4GB of memory or less. Normally `shmmx` should be half of physical memory, but I wouldn't be too concerned about this on development and/or test systems. Production systems with higher process counts and the like will need a more refined configuration. The directives not explicitly modified below, leave at the default value.

(Note: Only change these items if you have to; in the case that you do, make sure to test thoroughly, etc.):

```
# echo "2147483648" > /proc/sys/kernel/shmmax
# echo "kernel.shmmax=2147483648" >> /etc/sysctl.conf
# echo "250 32000 100 128" > /proc/sys/kernel/sem
# echo "kernel.sem=250 32000 100 128" >> /etc/sysctl.conf
# echo "65536" > /proc/sys/fs/file-max
# echo "fs.file-max=65536" >> /etc/sysctl.conf
```

4. As root, configure X Server to accept access for all:

```
# xhost +
```

5. Download and install patch #3006854 from Metalink, as root, to fix a bug in the OUI
6. As root: create lowest level, oracle owned directory and change ownership; create O/S groups (Note: these are normally named dba and oinstall and it is strongly encouraged that the group id's be standardized across host environments); create O/S oracle user (assign oracle initially to the 'oinstall' group); set the oracle user's password:

```
# mkdir /opt/oracle
# mkdir /home/oracle
# groupadd -g 200 oinstall
# groupadd -g 201 dba
# useradd -u 175 -g 200 -G 201 -d /home/oracle -s /bin/bash -c "Oracle Software Owner" oracle
# chown -R oracle:dba /opt/oracle
# chown -R oracle:dba /home/oracle
# passwd oracle
```

7. As oracle, create any needed directories per established convention using mkdir
8. As oracle, modify the /home/oracle/.bash\_profile profile to include at least the following (Note: consult Oracle documentation in order to specify the correct value for LD\_ASSUME\_KERNEL):

```
# vi $HOME/.bash_profile

umask 022;
export ORACLE_HOME=<location of db software>;
export ORACLE_BASE=<location of oracle base>;
export ORA_NLS33=$ORACLE_HOME/ocommon/nls/admin/data;
export DISPLAY=<location of display>;
export PATH=$ORACLE_HOME/bin:/usr/bin:/bin:/usr/bin/X11:/usr/local/bin:$PATH;
export LD_ASSUME_KERNEL=2.4.1;
```

9. As oracle, verify your environment, install and patch Oracle software as appropriate. Specify the Oracle Enterprise Option without creating a database. Also, specify oinstall as the software owner group if prompted. When running the OUI, you may have to specify the `-ignoreSysPreReqs` switch for platforms that are not checked by the OUI. You may also need to install the 10g OUI to apply certain 9i patchsets, such as 9.2.0.6, which currently is patch 3948480. When installing this patchset, install the 10g Installer first and then apply the 9.2.0.6 patchset using this installer.
10. As oracle, create a database and configure the listener per preferred method
11. Ensure that firewall settings allow for access to the Database service, etc – confer with System/Network Administrators as appropriate

12. As oracle, update /etc/oratab with the new database (indicating 'Y' for a service that you want started at boot time), placing it first in the oratab file before any general \$ORACLE\_HOME entries
13. As oracle, update the \$HOME/.bash\_profile to source the database (optional), You may use a combination of export commands and calls to /usr/local/bin/oraenv
14. Some 9i Release 2 versions on Linux platforms have a bug in the Intelligent Agent (agentctl); rather than patching around this problem, install the 10g Agent (emctl). This step assumes of course that you have a Grid Control installation. If you don't have Grid Control installed, skip this step. If you do, to accomplish this:
  - a. Download the current 10g Agent from the following URL:  
<http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html>
  - b. Uncompress the downloaded software

```
# gunzip <file name>
# cpio -idmv < <file name>
```
  - c. Create the destination directory for the 10g agent, normally \$ORACLE\_BASE/product/agent via the mkdir command
  - d. Export your ORACLE\_HOME environment variable to reflect this location:

```
# export ORACLE_HOME=$ORACLE_BASE/product/agent
```
  - e. Use the oracle database home's oui and point to the 10g agent software's products.xml file when installing (i.e. /<location of software>/Disk1/linux/agent/stage/products.xml) media. Launch the 10g Database software home's installer via a command similar to the following

```
# /opt/oracle/product/ora92/oui/bin/runInstaller -ignoreSysPreReqs
```
  - f. When running the installer, point to the products.xml under the software location extracted to in (b.)
  - g. When prompted, specify the following values for your Management Host and Port, respectively.
  - h. After the install, ensure that the agent is running properly and attempt to perform a manual upload:

```
# $ORACLE_HOME/bin/emctl status agent
# $ORACLE_HOME/bin/emctl upload agent
```
  - i. Contact the EM Repository owner (whomever has access to sysman) and have them discover your database server as a target and grant access as appropriate
15. As root, change the primary group of the oracle user to dba:

```
# usermod -g 201 -G 200 oracle
```
16. Modify the \$ORACLE\_HOME/bin/dbstart script to not 'shutdown abort' the Database if it is already running
17. As root, configure the O/S to automatically start/stop Oracle services (reference Metalink Note 222813.1).

a. As root:

```
# touch /etc/init.d/dbora
```

b. Edit the file as appropriate, using the following as an example:

```
#!/bin/bash
#
# chkconfig: 35 99 10
# description: Starts and stops Oracle processes
#
# Set ORA_HOME to be equivalent to the $ORACLE_HOME
# from which you wish to execute dbstart and dbshut;
#
# Set ORA_OWNER to the user id of the owner of the
# Oracle database in ORA_HOME.
#
ORA_HOME=/opt/oracle/product/ora92
ORA_AGENT_HOME=/opt/oracle/product/agent
ORA_OWNER=oracle

case "$1" in
'start')
# Start the Oracle databases:
# The following command assumes that the oracle login
# will not prompt the user for any values
su - $ORA_OWNER -c $ORA_HOME/bin/dbstart
# Start the TNS Listener
su - $ORA_OWNER -c "$ORA_HOME/bin/lsnrctl start"
# Start the Intelligent Agent
if [ -f $ORA_AGENT_HOME/bin/emctl ]; then
su - $ORA_OWNER -c "$ORA_AGENT_HOME/bin/emctl start agent"
fi
touch /var/lock/subsys/dbora
;;
'stop')
# Stop the Intelligent Agent
if [ -f $ORA_AGENT_HOME/bin/emctl ]; then
su - $ORA_OWNER -c "$ORA_AGENT_HOME/bin/emctl stop agent"
fi
# Stop the TNS Listener
su - $ORA_OWNER -c "$ORA_HOME/bin/lsnrctl stop"
# Stop the Oracle databases:
# The following command assumes that the oracle login
# will not prompt the user for any values
su - $ORA_OWNER -c $ORA_HOME/bin/dbshut
rm -f /var/lock/subsys/dbora
;;
esac
# End of script dbora
```

c. As root, test the above script by running it, passing both start and stop. If everything looks good, issue the following command:

```
# chkconfig --add dbora
```

d. As root, test the dbora service by either issuing a shutdown reboot or a init command, similar to the following:

```
# shutdown -r 0
# init 6
```