

Installing Compiere on Red Hat Enterprise Linux 3

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Overview

This article provides series of guides to install Compiere on Red Hat Enterprise Linux 3 and Oracle Database 10g. This is not a tutorial or try to provide you with “beefy” setup. Theoretically this guide can also be applied on other RHEL’s clones like Centos, Whitebox, Tao Linux, and of course Fedora as well, however you must fool Oracle so it thinks you are using RHEL. I am not going to tell you how to do that, sorry, you have to google around.

Part I: Installing Red Hat Enterprise Linux 3

Boot your machine with RHEL installation disk and follow the setup screen. Your disk should contain the following partitions:

- 100MB **/boot partition**
- 1,500MB **swap partition**—Set this to at least twice the amount of RAM in the system but to no more than 2GB (32-bit systems do not support swap files larger than 2GB). If you need more than 2GB of swap space, create multiple swap partitions.
- **/u02 partition** – This partition will be used for Oracle database files
- **/ root partition** — This partition will be used for everything, including /usr, /tmp, /var, /opt, /home, and more. This was done purely to simplify installation for the purposes of this guide. A more robust partitioning scheme would separate these directories onto separate filesystems.

Don’t forget to include [Legacy Software Development](#) package during installation or else Oracle might not work.

Verifying Your Installation

Check your kernel version by running the following command:

```
# uname -r
2.4.21-4.0.1.ELsmp
```

Other required package versions (or later):

- gcc-3.2.3-2
- make-3.79
- binutils-2.11
- openmotif-2.2.2-16
- setarch-1.3-1
- compat-gcc-7.3-2.96.122
- compat-gcc-c++-7.3-2.96.122
- compat-libstdc++-7.3-2.96.122
- compat-libstdc++-devel-7.3-2.96.122
- compat-db-4.0.14.5 (listed in the [Oracle 10g Database Installation Guide](#) as required but not needed here)

To see which versions of these packages are installed on your system, run the following command as root:

```
# rpm -q gcc make binutils openmotif setarch compat-db compat-gcc \
> openmotif compat-gcc-c++ compat-libstdc++ compat-libstdc++-devel
gcc-3.2.3-20
make-3.79.1-17
binutils-2.14.90.0.4-26
openmotif-2.2.2-16
setarch-1.3-1
```

```
package compat-db is not installed
compat-gcc-7.3-2.96.122
compat-gcc-c++-7.3-2.96.122
compat-libstdc++-7.3-2.96.122
compat-libstdc++-devel-7.3-2.96.122
```

Note that the compat-db package is not installed. This package is not available from any of the package groups available during installation and must be installed in a separate step.

Installing compat-db

Insert CD2 of the original Red Hat Enterprise Linux media. Run the following command as root:

```
# rpm -ivh /mnt/cdrom/RedHat/RPMS/compat-db-4.0.14-5.i386.rpm
Preparing...                ##### [100%]
 1:compat-db                ##### [100%]
```

Verifying Networking

You might want to check your `/etc/host` file before continuing. Make sure you have your machine IP properly setup. Just do not use 127.0.0.1

Part II: Configuring Linux for Oracle

Now that the Linux software is installed, you need to configure it for Oracle. This section walks through the steps required to configure Linux for Oracle Database 10g.

Create the Oracle Groups and User Account

Create the Linux groups and user account that will be used to install and maintain the Oracle 10g software. The user account will be called oracle, and the groups will be oinstall and dba. Execute the following commands as root:

```
# /usr/sbin/groupadd oinstall
# /usr/sbin/groupadd dba
# /usr/sbin/useradd -m -g oinstall -G dba oracle
# id oracle
uid=501(oracle) gid=501(oinstall) groups=501(oinstall),502(dba)
```

Set the password on the oracle account:

```
# passwd oracle
Changing password for user oracle.
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
```

Create Directories

In this article, we are going to store Oracle and Compiere application in `/u01/app`, while the database files will be in `/u02/oradata`. This guide adheres to the Optimal Flexible Architecture (OFA) for the naming conventions used in creating the directory structure.

Issue the following commands as root:

```
# mkdir -p /u01/app/oracle
# mkdir -p /u02/oradata
# chown -R oracle:oinstall /u01/app/oracle /u02/oradata
# chmod -R 775 /u01/app/oracle /u02/oradata
```

Configuring the Linux Kernel Parameters

Next, cut and paste the following commands while logged in as root.

```
# cat >> /etc/sysctl.conf <<EOF
> kernel.shmall = 2097152
> kernel.shmmax = 2147483648
> kernel.shmni = 4096
> kernel.sem = 250 32000 100 128
> fs.file-max = 65536
> net.ipv4.ip_local_port_range = 1024 65000
> EOF
# /sbin/sysctl -p
net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
kernel.sysrq = 0
kernel.shmall = 2097152
kernel.shmmax = 2147483648
kernel.shmni = 4096
kernel.sem = 250 32000 100 128
fs.file-max = 65536
net.ipv4.ip_local_port_range = 1024 65000
```

Run the following commands as root to verify your settings:

```
# /sbin/sysctl -a | grep shm
kernel.shmni = 4096
kernel.shmall = 2097152
kernel.shmmax = 2147483648
kernel.shm-use-bigpages = 0
# /sbin/sysctl -a | grep sem
kernel.sem = 250          32000   100      128
# /sbin/sysctl -a | grep file-max
fs.file-max = 65536
# /sbin/sysctl -a | grep ip_local_port_range
net.ipv4.ip_local_port_range = 1024      65000
```

Setting Shell Limits for the oracle User

Now, cut and paste the following commands as root:

```
# cat >> /etc/security/limits.conf <<EOF
oracle          soft    nproc    2047
oracle          hard    nproc    16384
oracle          soft    nofile   1024
oracle          hard    nofile   65536
EOF

# cat >> /etc/pam.d/login <<EOF
session        required    /lib/security/pam_limits.so
EOF

# cat >> /etc/profile <<EOF
```

```

if [ \${USER} = "oracle" ]; then
  if [ \${SHELL} = "/bin/ksh" ]; then
    ulimit -p 16384
    ulimit -n 65536
  else
    ulimit -u 16384 -n 65536
  fi
  umask 022
fi
EOF

# cat >> /etc/csh.login <<EOF
if ( \${USER} == "oracle" ) then
  limit maxproc 16384
  limit descriptors 65536
  umask 022
endif
EOF

```

Setup Environment Variables

```

# cat >> /etc/profile <<EOF
export ORACLE_BASE=/u01/app/oracle;
export ORACLE_HOME=${ORACLE_BASE}/product/10.1.0/Db_1;
export ORACLE_SID=compiere;
export ORACLE_TERM=xterm;
export ORACLE_OWNER=oracle;
export TNS_ADMIN=${ORACLE_HOME}/network/admin;
export NLS_LANG=AMERICAN_AMERICA.WE8ISO8859P1;
export ORA_NLS10=${ORACLE_HOME}/nls/data;
export PATH=${PATH}:${ORACLE_HOME}/bin;
export
CLASSPATH=${CLASSPATH}:${ORACLE_HOME}/jdbc/lib/classes12.zip:${ORACLE_HOME}/jre:${ORACLE_H
OME}/jlib:${ORACLE_HOME}/rdbsms/jlib:${ORACLE_HOME}/network/jlib;
export LD_LIBRARY_PATH=${ORACLE_HOME}/lib:/lib:/usr/lib;
export JAVA_HOME=/usr/local/bin/j2sdk1.4.2_08;
export COMPIERE_HOME=/u01/app/Compiere2;
export DISABLE_HUGETLBFS=1;
EOF

```

Part III: Installing Oracle

Use the graphical login to log in as oracle.

Create a directory to contain the Oracle 10g distribution:

```
$ mkdir 10g_db
```

You can download the Oracle 10g distribution from <http://www.oracle.com/technology/software/products/database/oracle10g/htdocs/linuxsoft.html>. Oracle offers a development and testing license free of charge. However, no support is provided and the license does not permit production use. A full description of the license agreement is available on the website.

Save the Click on the ship.db.cpio.gz link, and save the file in the directory you created for this purpose (10g_db)—if you have not already logged in to OTN, you may be prompted to do so at this point.

Unzip and extract the file:

```
$ cd 10g_db
$ gunzip ship.db.cpio.gz
$ cpio -idmv < ship.db.cpio
```

Install the Software

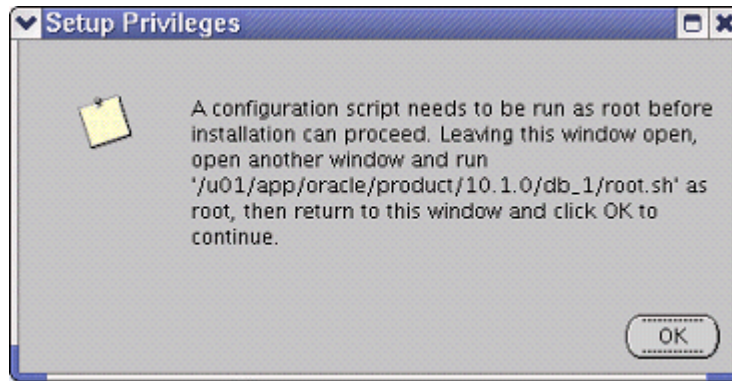
```
$ cd Disk1
```

Start the Oracle Universal Installer.

```
$ ./runInstaller
```

1. Welcome
 - o Click on **Next**.
2. Specify Inventory Directory and Credentials
 - o If you've been following the steps in this guide, the defaults will be correct. If not, edit the path to the inventory directory to point to the correct directory.
 - o The operating system group name should be **oinstall**.
3. If this is the first time Oracle has been installed on this machine, you will get a pop-up window indicating that the oraInstRoot.sh script needs to be run as root. Log in as root, cd to the directory specified in the window, and execute the script before proceeding.
4. Specify File Locations
 - o If you've been following the steps in this guide, the defaults will be correct. Otherwise, make sure that the Source path and the Destination path is correct before proceeding.
5. Select Installation Type
 - o Accept the default of **Enterprise Edition**.
6. Product-specific Prerequisite Checks
 - o If you've been following the steps in this guide, all the checks should pass without difficulty. If one or more checks fail, correct the problem before proceeding.
7. Select Database Configuration
 - o Accept the defaults of **Create a starter database** and **General Purpose**.
8. Specify Database Configuration Options
 - o Enter the global database name for your database. This should include ORACLE_SID followed by the domain name for the server (for example, compiere.compiere.org, where [compiere](http://compiere.compiere.org) is the ORACLE_SID and [compiere.org](http://compiere.compiere.org) is the domain name).
 - o The SID box fills in automatically when you enter the Global Database Name.
 - o Accept the default Database Character Set.
 - o Select **Create database with sample schemas**.
9. Select Database Management Option
 - o Select **Use Database Control for Database Management**.
10. Specify Database File Storage Option
 - o Select **File System**, and enter the pathname to be used for the database files ([/u02/oradata](#), in this case).
11. Specify Backup and Recovery Options
 - o Select **Do not enable Automated backups**.
12. Specify Database Schema Passwords
 - o Select **Use the same password for all the accounts**.
 - o Choose a password and enter it twice to confirm.
13. Summary
 - o A summary of the products being installed is presented.
 - o Click on **Install**.
14. Install
 - o This screen progresses through several stages as the Oracle software is being installed and linked.
 - o A pop-up window appears at the end of the installation process, displaying configuration information. Make note of the Enterprise Manager URL and click **OK** to dismiss the window.
 - o A "Setup Privileges" pop-up window appears, indicating that a configuration script needs to be run as root. Log in as root, cd to the directory indicated in the window, and execute the root.sh script. The

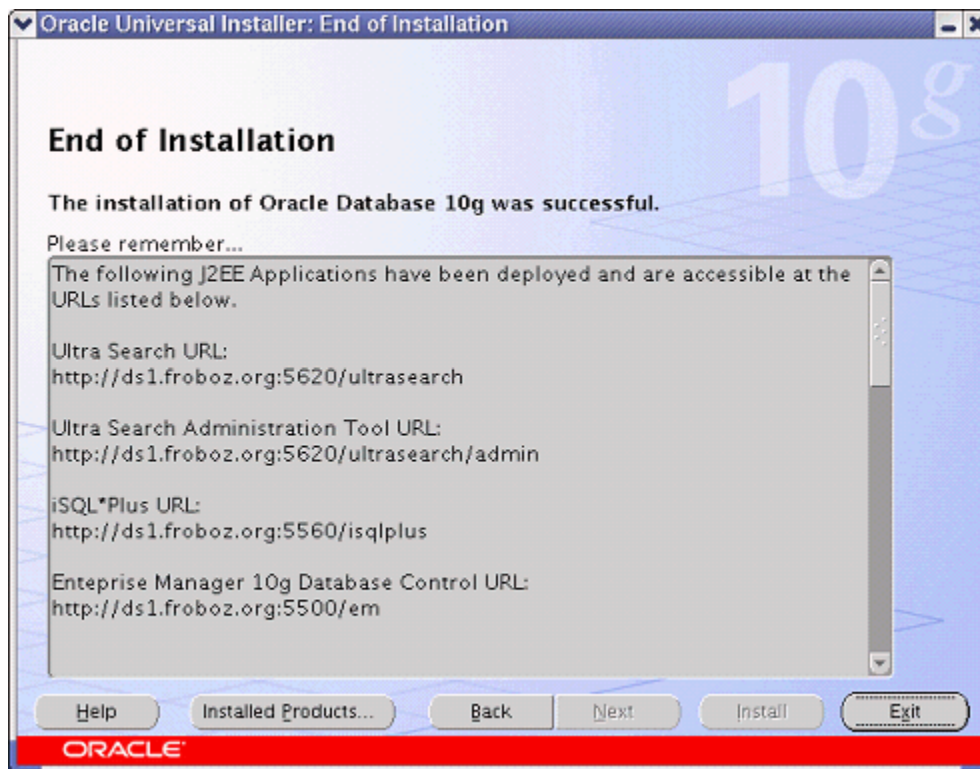
script prompts for the location of the local bin directory. Accept the default by pressing **Enter**. When the script completes, return to the Setup Privileges window and click on **OK**. (See below.)



15. End of Installation

- o Make note of the URLs presented in the summary, and click on **Exit** when ready.

16. Congratulations! Your new Oracle 10g database is up and ready for use.



Create a Shutdown/Startup Service

Now login as root. Edit file **/etc/oratab**. You should set the last field to **Y** to make your Compiere database start and shutdown automatically. Your line should be seen like below:

```
compiere:/u01/app/oracle/product/10.1.0:Y
```

Next, Create the file **/etc/rc.d/init.d/oracle** with the following contents:

```

#!/bin/bash
#
# Run-level Startup script for the Oracle Instance and Listener
#
# chkconfig: 345 91 19
# description: Startup/Shutdown Oracle listener and instance

ORA_HOME="/u01/app/oracle/product/10.1.0/Db_1"
ORA_OWNER="oracle"

# if the executables do not exist -- display error

# depending on parameter -- startup, shutdown, restart
# of the instance and listener or usage display

case "$1" in
    start)
        # Oracle listener and instance startup
        echo -n "Starting Oracle: "
        su - $ORA_OWNER -c $ORA_HOME/bin/dbstart
        su - $ORA_OWNER -c "$ORA_HOME/bin/lsnrctl start"
        echo "OK"
        ;;
    stop)
        # Oracle listener and instance shutdown
        echo -n "Shutdown Oracle: "
        su - $ORA_OWNER -c "$ORA_HOME/bin/lsnrctl stop"
        su - $ORA_OWNER -c $ORA_HOME/bin/dbshut
        echo "OK"
        ;;
    reload|restart)
        $0 stop
        $0 start
        ;;
    *)
        echo "Usage: $0 start|stop|restart|reload"
        exit 1
esac
exit 0

```

Set the appropriate owner and mode:

```

# chown root.root /etc/rc.d/init.d/oracle
# chmod 0755 /etc/rc.d/init.d/oracle

```

Register your Oracle service to the system:

```

# ln -s /etc/init.d/oracle /etc/rc.d/rc2.d/S98oracle
# ln -s /etc/init.d/oracle /etc/rc.d/rc3.d/S98oracle
# ln -s /etc/init.d/oracle /etc/rc.d/rc4.d/S98oracle
# ln -s /etc/init.d/oracle /etc/rc.d/rc0.d/K02oracle
# ln -s /etc/init.d/oracle /etc/rc.d/rc6.d/K02oracle

```

Part IV: Installing Java

Login in as root. Download Java 2 SDK from Sun Microsystems website. Assume it is J2SDK version 1.4.2.8. Put it in **/usr/local/bin**.

Install with:

```
# ./j2sdk-1_4_2_08-linux-i586.bin
```

And link with:

```
# ln -s /usr/local/bin/j2sdk1.4.2_08/bin/java /usr/bin/java
```

Installing Oracle database might have pre-installed Java. Thus, the link command above might fail. To solve this:

```
# cd /usr/bin
# mv java java.old
# ln -s /usr/local/bin/j2sdk1.4.2_08/bin/java /usr/bin/java
```

Now you can check your Java installation.

```
# java -version
java version "1.4.2_08"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.2_08-b03)
Java HotSpot(TM) Client VM (build 1.4.2_08-b03, mixed mode)
```

Part V: Installing Compiere

Still login as root. Extract Compiere binary distribution under **/u01/app**.

```
# tar xvzf Compiere_252a.tar.gz
```

Assuming the previous installation steps were successfully done by you (e.g. Oracle is running), execute the Compiere setup script.

```
# cd Compiere2
# ./Run_setup.sh
```

Initial screen appears and if test is ok you can read CPL. Remember that *Apps Server* and *DatabaseServer* is your host. Your *System Password* is the password for *System* user entered when installing Oracle. If the Compiere setup reports run time error when you click Test button, like this:

```
An unexpected exception has been detected in native code outside the VM.
Unexpected Signal : 11 occurred at PC=0x400A4CEF
Function=memcpy+0x2F
Library=/lib/tls/libc.so.6
```

Try again running setup. This time (after making sure your configuration is right) just click Save button without testing it.

Now we test our environment.

```
# cd /u01/app/Compiere2/utils
# ./RUN_Env.sh
```

if ok, go ahead importing data

```
# ./RUN_ImportCompiere.sh
```

If all is ok, we can test the Compiere server.

```
# ./RUN_Server2.sh
```

And now the client:

```
# ./RUN_Compierre2.sh
```

If it runs ok as expected, congratulations! You have succeeded installing Compierre on Red Hat Enterprise Linux.

However there is one more step to do. Let's make Compierre server automatically start and shutdown. Create file **/etc/init.d/compierre**. Write down the following script. This script is originally written by Jaume Teixi.

```
#!/bin/sh
# /etc/init.d/compierre
#
# 15012003 by Jaume Teixi <teixi@rocacorbit.com>.
#
# not suitable for production environments
# use only at your own risk
#

set -e

#export COMPIERE_HOME=/u01/app/Compierre2

if [ ! -f $COMPIERE_HOME/utils/RUN_Server2.sh -o ! -d $ORACLE_HOME ]
then
    echo -n "No dbstart encountered... Is there still an Oracle Installation ?"
    exit 0
fi

case "$1" in
start)
    echo -n `date` "Compierre Server2 Starting up... "
    source $COMPIERE_HOME/utils/myEnvironment.sh
    su -c "$COMPIERE_HOME/utils/RUN_Server2.sh > /var/log/compierre.log &"
    echo -n ""
    touch /var/lock/compierre
    ;;
stop)
    echo -n `date` "Stoping Compierre Server2... "
    source $COMPIERE_HOME/utils/myEnvironment.sh
    su -c "killall $JAVA_HOME/bin/java"
    su -c "killall $COMPIERE_HOME/utils/RUN_Server2.sh"
    rm -rf /var/lock/compierre
    ;;
restart)
    echo -n `date` "Restarting Compierre Server2"
    echo -n ""
    $0 stop
    $0 start
    echo -n
    ;;
*)
    echo "Usage: /etc/init.d/$NAME {start|stop|restart}"
    exit 1
    ;;
esac

exit 0
```

Reference:

1. Installing Oracle Database 10g on Linux x86 - *John Smiley*
2. Compierre 2.4.4a on Debian GNU/Linux 3.0 'woody' (with Oracle 9i 9.2.0.1.0) – *Jaume Teixi*