**Installation of Oracle 9i (R2) on Fedora Core Linux 2, 3, 4, 5 and 6**

This paper (HOWTO) describes step-by-step installation of Oracle 9i database software on Fedora Core 2, 3, 4, 5 and 6.   
  
This paper covers following steps:

* [Pre-Instalation Tasks](http://ivan.kartik.sk/oracle/install_ora9_fedora.html#st1)
* [Download & Install](http://ivan.kartik.sk/oracle/install_ora9_fedora.html#st2)
* [Post-Instalation Tasks](http://ivan.kartik.sk/oracle/install_ora9_fedora.html#st3)
* [Common Installation Errors](http://ivan.kartik.sk/oracle/install_ora9_fedora.html#st4)

**Pre-Instalation Tasks**

1. Create oracle User Account  
  
Login as root and create te user oracle which belongs to dba group.

**su -  
# groupadd dba  
# useradd -g dba oracle**

2. Setting System parameters  
Edit the /etc/sysctl.conf and add following lines:

**kernel.sem = 250 32000 100 128  
kernel.shmmax = 2147483648  
kernel.shmmni = 128  
kernel.shmall = 2097152  
kernel.msgmnb = 65536  
kernel.msgmni = 2878  
fs.file-max = 65536  
net.ipv4.ip\_local\_port\_range = 1024 65000**

Note: You need execute "sysctl -p" or reboot system to apply above settings.   
  
Edit the /etc/security/limits.conf file and add following lines:

**\* - nproc 16384  
\* - nofile 16384**

3. Setting Oracle Enviroment  
Edit the /home/oracle/.bash\_profile file and add following lines:   
  
Settings for Fedora Core 2,3,4 only. For Fedora Core 5 and 6 use the next settings.

**ORACLE\_BASE=/opt/oracle  
ORACLE\_HOME=$ORACLE\_BASE/920  
ORACLE\_SID=MY\_ORACLE  
LD\_LIBRARY\_PATH=$ORACLE\_HOME/lib  
LD\_ASSUME\_KERNEL=2.4.1  
THREADS\_FLAG=native  
ORACLE\_OEM\_JAVARUNTIME=/opt/jre1.3.1\_15  
PATH=$PATH:$ORACLE\_HOME/bin  
  
export ORACLE\_BASE ORACLE\_HOME ORACLE\_SID LD\_LIBRARY\_PATH LD\_ASSUME\_KERNEL THREADS\_FLAG ORACLE\_OEM\_JAVARUNTIME PATH**

Settings for Fedora Core 5 and 6 only. For Fedora Core 2,3,4 use the above settings. Note setting of LD\_ASSUME\_KERNEL will cause incorrect functionality of FC5 and FC6.

**ORACLE\_BASE=/opt/oracle  
ORACLE\_HOME=$ORACLE\_BASE/920  
ORACLE\_SID=MY\_ORACLE  
LD\_LIBRARY\_PATH=$ORACLE\_HOME/lib  
ORACLE\_OEM\_JAVARUNTIME=/opt/jre1.3.1\_15  
PATH=$PATH:$ORACLE\_HOME/bin  
  
export ORACLE\_BASE ORACLE\_HOME ORACLE\_SID LD\_LIBRARY\_PATH ORACLE\_OEM\_JAVARUNTIME PATH**

Save the .bash\_profile and execute following commands for load new enviroment:

**cd /home/oracle  
. .bash\_profile**

4. Create base directory for Oracle  
  
Login as root and create base directory for Oracle ($ORACLE\_BASE).

**su -  
# cd /opt  
# mkdir oracle  
# chown oracle:dba oracle**

**Download & Install**

1. Download and install required .rpm packages  
  
Some additional packages are required for succesful instalation of Oracle software. To check whether required packages are installed on your operating system use following command:

**rpm -q gcc glibc-headers glibc-kernheaders glibc-devel compat-libstdc++ cpp compat-gcc**

Note: You don't need glibc-kernheaders installed on FC6 as this package is not shipped with FC6.  
If some package is not installed download it from [Fedora project website](http://fedora.redhat.com) or direct from [Core 2](http://download.fedora.redhat.com/pub/fedora/linux/core/2/), [Core 3](http://download.fedora.redhat.com/pub/fedora/linux/core/3/), [Core 4](http://download.fedora.redhat.com/pub/fedora/linux/core/4/), [Core 5](http://download.fedora.redhat.com/pub/fedora/linux/core/5/), [Core 6](http://download.fedora.redhat.com/pub/fedora/linux/core/6/) locations.   
  
This step is required for Fedora Core 3 and 4 only. Fedora Core 3 is shipped with compat-gcc-8.3.3.4. Fedora Core 4 is shipped with compat-gcc-32-3.2.3. These package are GCC 3.x compiler which are not useful for succesful inatallation. Check whether compat-gcc-8.3.3.4 or compat-gcc-32-3.2.3 is installed. If so then uninstall it using folowing command:

**rpm -e compat-gcc**

Download the compat-gcc-7.3-2.96.126.i386.rpm package from [Core 2](http://download.fedora.redhat.com/pub/fedora/linux/core/2/i386/os/Fedora/RPMS/) location or from [here](http://ivan.kartik.sk/oracle/download_from.php?site_id=2).   
  
Install the required packages using the rpm command (Note version of packages may change in newer release, so versions for all packages (except compat-gcc package) used in next command are just for example.):

**# rpm -ivh gcc-3.4.2-6.fc3.i386.rpm \  
glibc-headers-2.3.3-74.i386.rpm \  
glibc-kernheaders-2.4-9.1.87.i386.rpm \  
glibc-devel-2.3.3-74.i386.rpm \  
compat-libstdc++-3.4.2-6.fc3.i386.rpm \  
cpp-3.4.2-6.fc3.i386.rpm \  
compat-gcc-7.3-2.96.126.i386.rpm**

For Fedora Core 4, 5 and 6 only:Install the required additional packages using the rpm command:

**# rpm -ivh compat-libgcc-296-2.96-\_\_\_.rpm \  
compat-libstdc++-33-3.2.3-\_\_\_.rpm \  
compat-libstdc++-296-2.96-\_\_\_.rpm**

If all required packages were installed succesfuly then login as root and switch the GCC3 compiler binary with GCC2 compiler binary as following:

**su -  
# cd /usr/bin  
# mv ./gcc ./gcc3  
# mv ./gcc296 ./gcc**

2. Download the Java Runtime Enviroment (j2re-1\_3\_1\_15-linux-i586.bin) from the [Sun website](http://java.sun.com/products/archive/j2se/1.3.1_19/index.html). Keep in mind you need to download j2re1.3.1\_11 or higher (Note: Install JRE 1.3.1\_1x version only).  
  
Login as root and make the the file executable and then execute it. When the JRE is exracted move the "jre1.3.1\_15" di rectory to "/opt" directory.

**# chmod +x j2re-1\_3\_1\_15-linux-i586.bin  
# ./j2re-1\_3\_1\_15-linux-i586.bin  
  
# mv jre1.3.1\_15 /opt/**

3. Download the Oracle 9i (9.2.0.4) software from [Oracle website](http://www.oracle.com/technology/software/products/oracle9i/htdocs/linuxsoft.html).  
Extract the files using following command:

**gunzip ship\_9204\_linux\_disk1.cpio.gz  
gunzip ship\_9204\_linux\_disk2.cpio.gz  
gunzip ship\_9204\_linux\_disk3.cpio.gz  
  
cpio -idmv < ship\_9204\_linux\_disk1.cpio  
cpio -idmv < ship\_9204\_linux\_disk2.cpio  
cpio -idmv < ship\_9204\_linux\_disk3.cpio**

When all archives were extracted you've got three directories Disk1, Disk2 and Disk3.  
Edit the Disk1/install/linux/oraparam.ini and modify JRE\_LOCATION variable and set path to our JRE installation from Step 2.   
  
JRE\_LOCATION=/opt/jre1.3.1\_15  
  
4. Start the Oracle software installation process.  
  
Now the system is prepared for Oracle software installation. To start the installation process execute the following commands:

**cd Disk1  
./runInstaller**

When network configuration assistant and database configuration assistant has failed during st artup then do following steps:

**cd /opt/oracle/920  
rm JRE  
ln -s /opt/jre1.3.1\_15 JRE  
su -  
# cd /opt/oracle/920/JRE/bin  
# ln -s java jre  
# cd i386/native\_threads  
# ln -s java jre**

**Post-Instalation Tasks**

1. Switch back the GCC binaries

**su -  
# cd /usr/bin  
# mv ./gcc ./gcc296  
# mv ./gcc3 ./gcc**

2. Change of JRE path in Oracle Universal Installer  
  
Edit the $ORACLE\_BASE/oui/oraparam.ini file and modify the value of JRE\_LOCATION to /opt/jre1.3.1\_15   
  
3. (Optional) You may consider to use rlwrap for comfortable work with sqlplus. RPM package for Fedora Core (x86) distribution you can download [here](http://ivan.kartik.sk/oracle/download_from.php?site_id=4).

**su -  
# rpm -ivh rlwrap-0.24.fedora.i386.rpm  
# exit  
echo "alias sqlplus='rlwrap sqlplus'" >> /home/oracle/.bash\_profile  
. /home/oracle/.bash\_profile**

**Common Installation Errors**

Unable to load native library: /tmp/OraInstall2005-01-08\_11-11-34AM/jre/lib/i386/libjava.so: symbol \_\_libc\_wait, version GLIBC\_2.0 not defined in file libc.so.6 with link time reference   
Solution: Install new JRE 1.3.1 version. Edit the Disk1/install/linux/oraparam.ini and set path to new JRE for JRE\_LOCATION variable. For more information see Download & Install section.   
  
/tmp/OraInstall2005-04-26\_11-38-19AM/jre/lib/i386/libawt.so: libXp.so.6: cannot open shared object file: No such file or directory   
Solution: Install the xorg-x11-deprecated-libs package (for >=FC4 versions). For FC5 and later install libXp package.   
  
/tmp/OraInstall2005-06-14\_03-46-25PM/jre/bin/i386/native\_threads/java: error while loading shared libraries: /tmp/OraInstall2005-06-14\_03-46-25PM/jre/lib/i386/native\_threads/libhpi.so: cannot restore segment prot after reloc: Permission denied   
Solution: Modify /etc/selinux/config and change value of SELINUX to "disabled" and reboot computer.   
  
Starting Oracle Intelligent Agent.../opt/oracle/920/bin/dbsnmpwd: line 156: 1393 Segmentation fault nohup $ORACLE\_HOME/bin/dbsnmp $\* >>$DBSNMP\_WDLOGFILE 2>&1  
/opt/oracle/920/bin/dbsnmpwd: line 156: 1405 Segmentation fault nohup $ORACLE\_HOME/bin/dbsnmp $\* >>$DBSNMP\_WDLOGFILE 2>&1  
/opt/oracle/920/bin/dbsnmpwd: line 156: 1416 Segmentation fault nohup $ORACLE\_HOME/bin/dbsnmp $\* >>$DBSNMP\_WDLOGFILE 2>&1  
/opt/oracle/920/bin/dbsnmpwd: line 156: 1427 Segmentation fault nohup $ORACLE\_HOME/bin/dbsnmp $\* >>$DBSNMP\_WDLOGFILE 2>&1   
Solution: Download and apply patch nr.: 3238244 from http://metalink.oracle.com.   
  
Exception in thread "main" java.lang.InternalError: Can't connect to X11 window server using 'localhost:0.0' as the value of the DISPLAY variable.   
Solution: Execute "export DISPLAY=:0.0" (as oracle user) and "xhost +" as user who has opened X session (for example logged in KDE, GNOME, etc.). If the value is other than 127.0.0.1 or localhost you should "xhost +" on client machine.   
  
Error in invoking target install of makefile /opt/oracle/920/ctx/lib/ins\_ctx.mk  
Error in invoking target install of makefile /opt/oracle/920/precomp/lib/ins\_precomp.mk  
Error in invoking target install of makefile /opt/oracle/920/plsql/lib/ins\_plsql.mk  
Error in invoking ntcontab.o of makfile /opt/oracle/920/network/lib/ins\_net\_client.mk   
Solution: Install the compat-gcc-7.3-2.96.126.i386.rpm (gcc 2.96) package and change the GCC binaries. For more information see Download & Install section. In case of Fedora Core 5 take look at next error message.   
  
sed: -e expression #1, char 7: unterminated `s' command error in $ORACLE\_HOME/install/make.log  
Solution: There is probably bug in bash (FC5 only). Download and install bash package from FC4. I have prepared this package (builded from FC4 src.rpm) for FC5 - [Download](http://ivan.kartik.sk/oracle/download_from.php?site_id=3).  
Install it using "rpm -ivh bash-3.0-31.i386.rpm --force".   
  
Initializing Java Virtual Machine from /tmp/OraInstall2006-10-25\_01-43-30PM/jre/bin/java. Please wait... /tmp/OraInstall2006-10-25\_01-43-30PM/jre/bin/i386/native\_threads/java: error while loading shared libraries: libstdc++-libc6.1-1.so.2: cannot open shared object file: No such file or directory - after ./runInstaller execution.   
Solution:  
su -  
# cd /usr/lib  
# ln -s libstdc++-3-libc6.2-2-2.10.0.so libstdc++-libc6.1-1.so.2  
  
Start ./runInstaller again.