

# Oracle 11g Installation

本次操作为：在RHL6下安装oracle 11g，由于硬件方面有一定限制，所以暂不考虑硬件问题。所有命令已提取到附件txt文件中。

## 一、Checking the Software Requirements

根据不同linux版本下载不同的补丁，可参照官网，通过yum search命令搜寻相关补丁包，详

```
[root@OrcStudy RHEL63CD]# yum search gcc
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
base | 4.0 kB | 00:00 ...
base/primary_db | 2.5 MB | 00:00 ...
===== N/S Matched: gcc =====
compat-libgcc-296.i686 : Compatibility 2.96-RH libgcc library
gcc-c++.i686 : C++ support for GCC
gcc-gnat.i686 : Ada 95 support for GCC
gcc-java.i686 : Java support for GCC
gcc-objc.i686 : Objective-C support for GCC
gcc-objc++.i686 : Objective-C++ support for GCC
libgcc.i686 : GCC version 4.4 shared support library
compat-gcc-34.i686 : Compatibility GNU Compiler Collection
compat-gcc-34-c++.i686 : C++ support for compatibility compiler
compat-gcc-34-g77.i686 : Fortran 77 support for compatibility compiler
gcc.i686 : Various compilers (C, C++, Objective-C, Java, ...)
gcc-gfortran.i686 : Fortran support
libgcl.i686 : Java runtime library for gcc
libgcl-devel.i686 : Libraries for Java development using GCC
libgcl-src.i686 : Java library sources from GCC4 preview
libgomp.i686 : GCC OpenMP v3.0 shared support library

Name and summary matches only, use "search all" for everything.
[root@OrcStudy RHEL63CD]# yum search binutils
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
===== N/S Matched: binutils =====
binutils.i686 : A GNU collection of binary utilities
binutils-devel.i686 : BFD and opcodes static libraries and header files

Name and summary matches only, use "search all" for everything.
[root@OrcStudy RHEL63CD]# yum search compat-libcap1
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
===== N/S Matched: compat-libcap1 =====
compat-libcap1.i686 : Library for getting and setting POSIX.1e capabilities

Name and summary matches only, use "search all" for everything.
```

见附件txt文件，

将所有的补丁包对应搜索出来后，通过yum install命令安装相关补丁包，

```
[root@OrcStudy RHEL63CD]# yum install binutils.i686 compat-libcap1.i686 compat-libstdc++33.i686 gcc-c++.i686 gcc.i686 glibc.i686 glibc-devel.i686 ksh.i686 libgcc.i686 libstdc++.i686 libstdc++-devel.i686
libaio.i686 libaio-devel.i686 make.i686 sysstat.i686 -y
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
Setting up Install Process
Package binutils-2.20.51.0-2.5.34.el6.i686 already installed and latest version
Package glibc-2.12-1.80.el6.i686 already installed and latest version
Package libgcc-4.4.6-4.el6.i686 already installed and latest version
Package libstdc++-4.4.6-4.el6.i686 already installed and latest version
Package libaio-0.3.107-10.el6.i686 already installed and latest version
Package lrzsz-0.12-20.el6.i686 already installed and latest version
Package sysstat-9.0.4-20.el6.i686 already installed and latest version
Resolving Dependencies
--> Running transaction check
--> Package compat-libcap1.i686 0:1.10-1 will be installed
--> Package compat-libstdc++33.i686 0:3.2.3-69.el6 will be installed
--> Package gcc.i686 0:4.4.6-4.el6 will be installed
--> Processing Dependency: cpp = 4.4.6-4.el6 for package: gcc-4.4.6-4.el6.i686
--> Processing Dependency: cloog-ppl >= 0.15 for package: gcc-4.4.6-4.el6.i686
--> Package gcc-c++.i686 0:4.4.6-4.el6 will be installed
--> Processing Dependency: libmpfr.so.1 for package: gcc-c++-4.4.6-4.el6.i686
--> Package glibc-devel.i686 0:2.12-1.80.el6 will be installed
--> Processing Dependency: glibc-headers = 2.12-1.80.el6 for package: glibc-devel-2.12-1.80.el6.i686
--> Processing Dependency: glibc-headers for package: glibc-devel-2.12-1.80.el6.i686
--> Package ksh.i686 0:20100621-16.el6 will be installed
--> Package libaio-devel.i686 0:0.3.107-10.el6 will be installed
--> Package libstdc++-devel.i686 0:4.4.6-4.el6 will be installed
--> Running transaction check
--> Package cloog-ppl.i686 0:0.15.7-1.2.el6 will be installed
--> Processing Dependency: libppl-c.so.2 for package: cloog-ppl-0.15.7-1.2.el6.i686
--> Processing Dependency: libppl.so.7 for package: cloog-ppl-0.15.7-1.2.el6.i686
--> Package cpp.i686 0:4.4.6-4.el6 will be installed
--> Package glibc-headers.i686 0:2.12-1.80.el6 will be installed
--> Processing Dependency: kernel-headers >= 2.2.1 for package: glibc-headers-2.12-1.80.el6.i686
--> Processing Dependency: kernel-headers for package: glibc-headers-2.12-1.80.el6.i686
--> Package mpfr.i686 0:2.4.1-6.el6 will be installed
--> Running transaction check
--> Package kernel-headers.i686 0:2.6.32-279.el6 will be installed
--> Package ppl.i686 0:0.10.2-11.el6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved
```

安装unix驱动，同样通过yum命令搜索和安装。

```
[root@OrcStudy RHEL63CD]# yum search unixODBC
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
===== N/S Matched: unixODBC =====
unixODBC-devel.i686 : Development files for programs which will use the unixODBC library
unixODBC.i686 : A complete ODBC driver manager for Linux

Name and summary matches only, use "search all" for everything.
[root@OrcStudy RHEL63CD]# yum install unixODBC
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
Setting up Install Process
Resolving Dependencies
--> Running transaction check
--> Package unixODBC.i686 0:2.2.14-11.el6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
unixODBC i686 2.2.14-11.el6 base 382 k
=====

Transaction Summary
=====
Install 1 Package(s)

Total download size: 382 k
Installed size: 1.1 M
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
Installing : unixODBC-2.2.14-11.el6.i686 1/1
Installed products updated.
Verifying : unixODBC-2.2.14-11.el6.i686 1/1

Installed:
unixODBC.i686 0:2.2.14-11.el6

Complete!
```

## 二、Creating Required Operating System Groups and Users

建立组oinstall、dba、oper和用户oracle，做如下操作，使oracle所属组为oinstall，附件组为dba和oper。

命令为：

```
groupadd oinstall,
groupadd dba,
groupadd oder,
useradd -g oinstall -G dba,oper oracle,
passwd oracle.
```

### 三、Configuring Kernel Parameters and Resource Limits

- If the value of any kernel parameter is different from the recommended value, then complete the following steps:
  1. Using any text editor, create or edit the `/etc/sysctl.conf` file, and add or edit lines similar to the following:

---

**Note:** Include lines only for the kernel parameter values to change. For the semaphore parameters (`kernel.sem`), you must specify all four values. However, if any of the current values are larger than the minimum value, then specify the larger value.

---

```
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmuni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576
```

需要注意的是，当原值大于需修改值时，要使用较大值。  
修改资源限制，参数也是根据官方文档给出，

命令为：`vim /etc/security/limits.conf`，

### 四、Creating Required Directories

创建安装oracle software的目录，

命令为：  
`mkdir -P /u01/app/oracle`，  
`chown -R oracle:oinstall /u01/app/oracle`，  
`chmod -R 755 /u01/app/oracle`，  
`mkdir -P /u01/app/oracle/db1`

### 五、Configuring the oracle User's Environment

用oracle用户登录，设置环境变量，命令为：`vim .bash_profile`。

修改内核参数时，  
根据官方文档里的  
参数来修改，命令  
为：`vim /etc/  
sysctl.conf`，

```

# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
    . ~/.bashrc
fi

# User specific environment and startup programs
export ORACLE_BASE=/u01/app/oracle
export ORACLE_HOME=/u01/app/oracle/db1
PATH=$PATH:$HOME/bin
PATH=$PATH:$ORACLE_HOME/bin
export ORACLE_SID=sales
export PATH
~
~

```

```

# - stack - max stack size (KB)
# - cpu - max CPU time (MIN)
# - nproc - max number of processes
# - as - address space limit (KB)
# - maxlogins - max number of logins for this user
# - maxsyslogins - max number of logins on the system
# - priority - the priority to run user process with
# - locks - max number of file locks the user can hold
# - sigpending - max number of pending signals
# - msgqueue - max memory used by POSIX message queues (bytes)
# - nice - max nice priority allowed to raise to values: [-20, 19]
# - rtprio - max realtime priority
#
#<domain> <type> <item> <value>
#
#*          soft   core    0
#*          hard   rss     10000
#@student   hard   nproc   20
#@faculty   soft   nproc   20
#@faculty   hard   nproc   50
#ftp        hard   nproc   0
#@student   -       maxlogins 4

oracle     soft   nofile   1024
oracle     hard   nofile   65536
oracle     soft   nproc    2047
oracle     hard   nproc    16384
oracle     soft   stack    10240
oracle     hard   stack    32768

# En s.com>of file
~
~
"/etc/security/limits.conf" 57L, 2111C

```

## 六、Installing Oracle Database

将oracle的安装包挂载到Desktop下，用命令unzip执行解压，解压后桌面会多出database文件夹，切换到database目录下，使用./runInstaller命令进行安装，

```

oracle@OrcStudy:~/Desktop/database
File Edit View Search Terminal Help
[oracle@OrcStudy database]$ ./runInstaller
Starting Oracle Universal Installer...

Checking Temp space: must be greater than 80 MB.   Actual 55947 MB   Passed
Checking swap space: must be greater than 150 MB.   Actual 2047 MB   Passed
Checking monitor: must be configured to display at least 256 colors.   Actual 1
6777216   Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2015-04-17_09
-25-28PM. Please wait ...

```

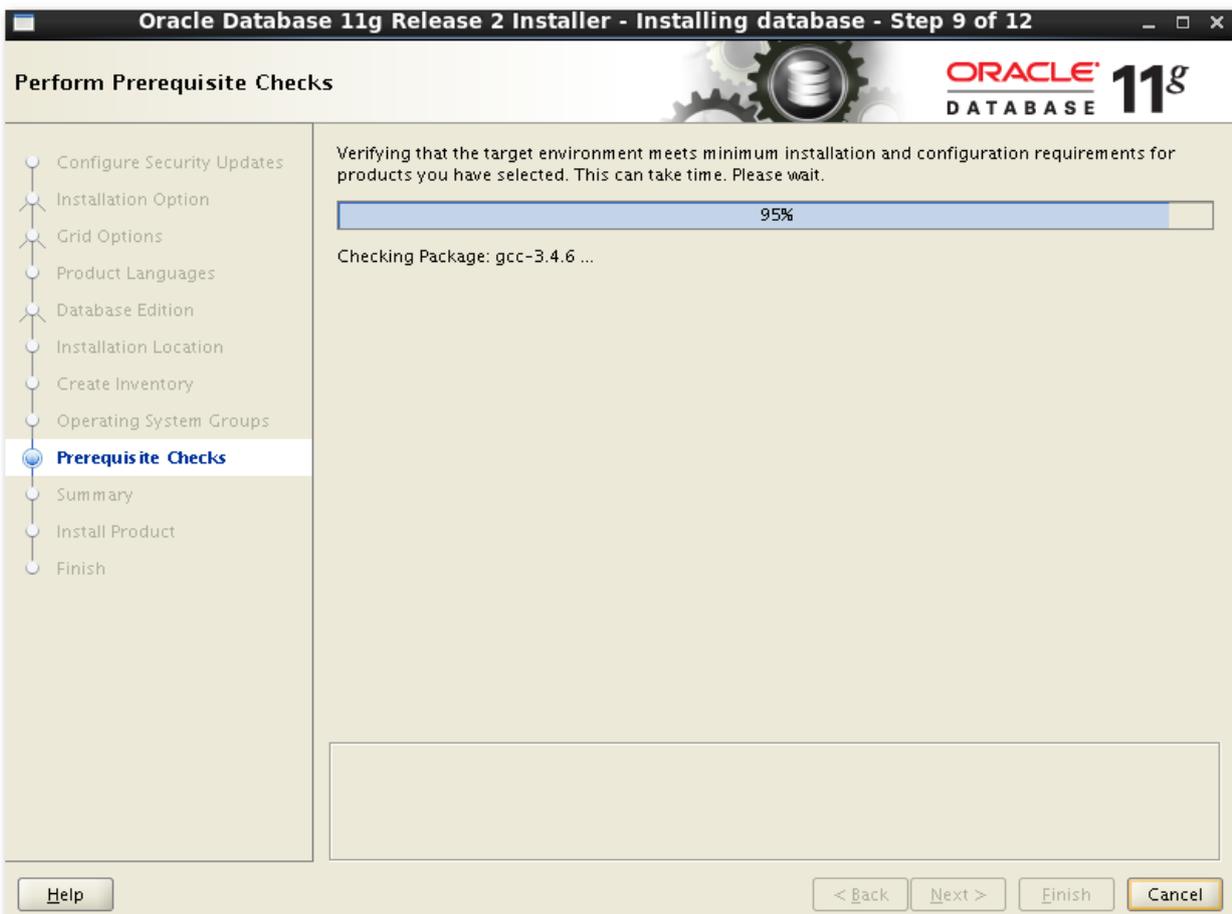


等待一段时间后，会出现oracle安装的图形界面，  
选择下列第二项 Install database software only，执行下一步即可，

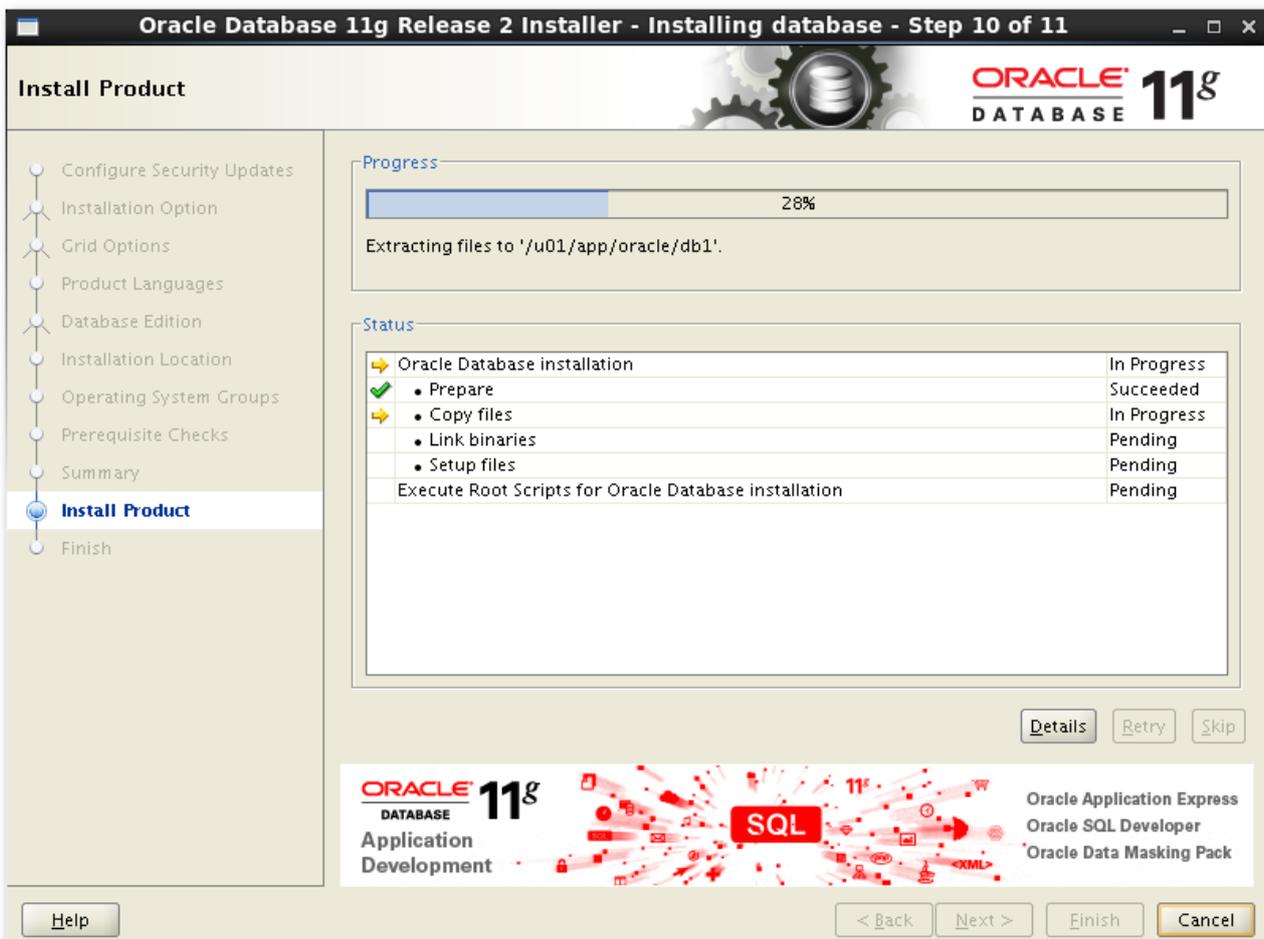
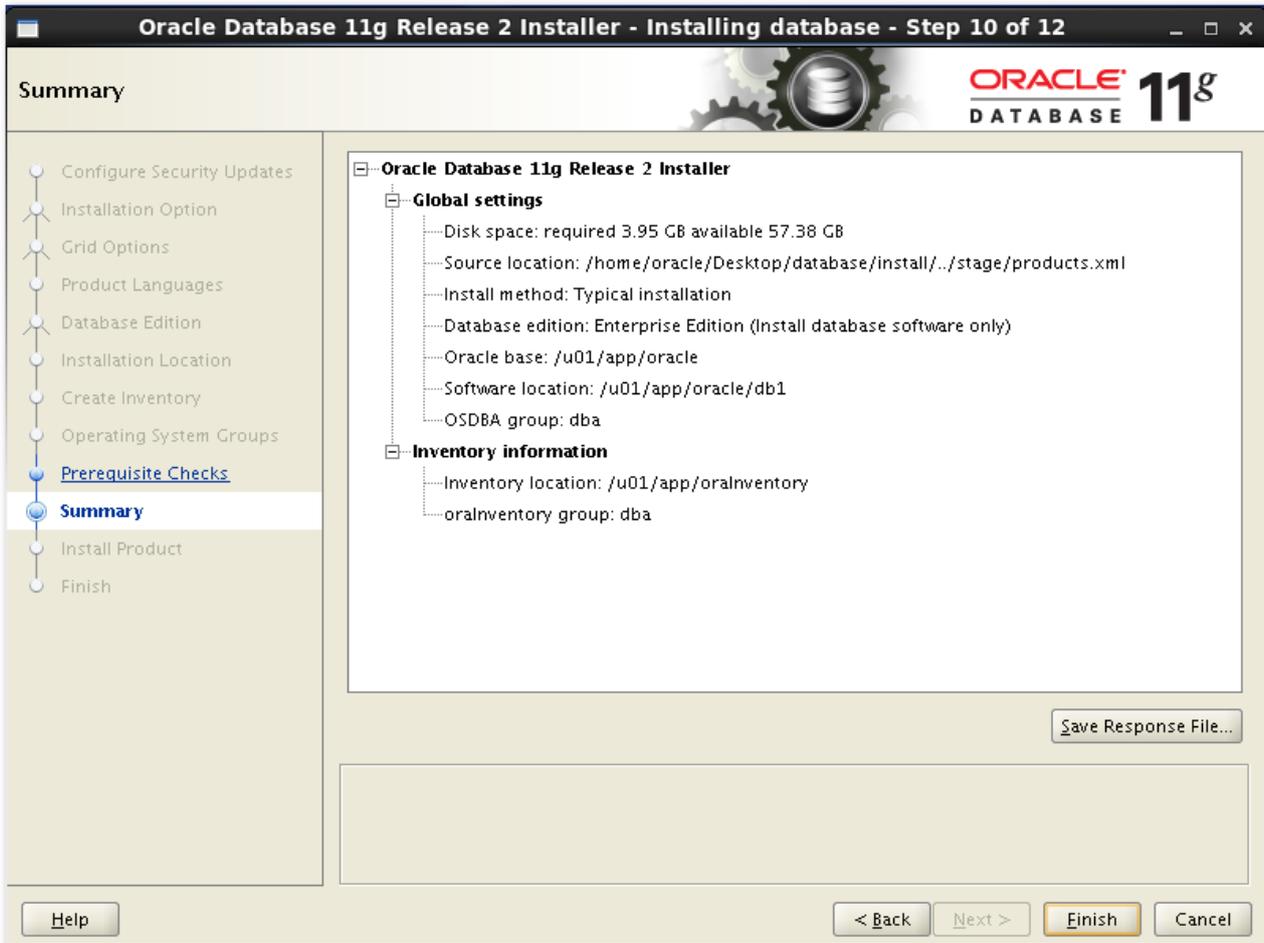




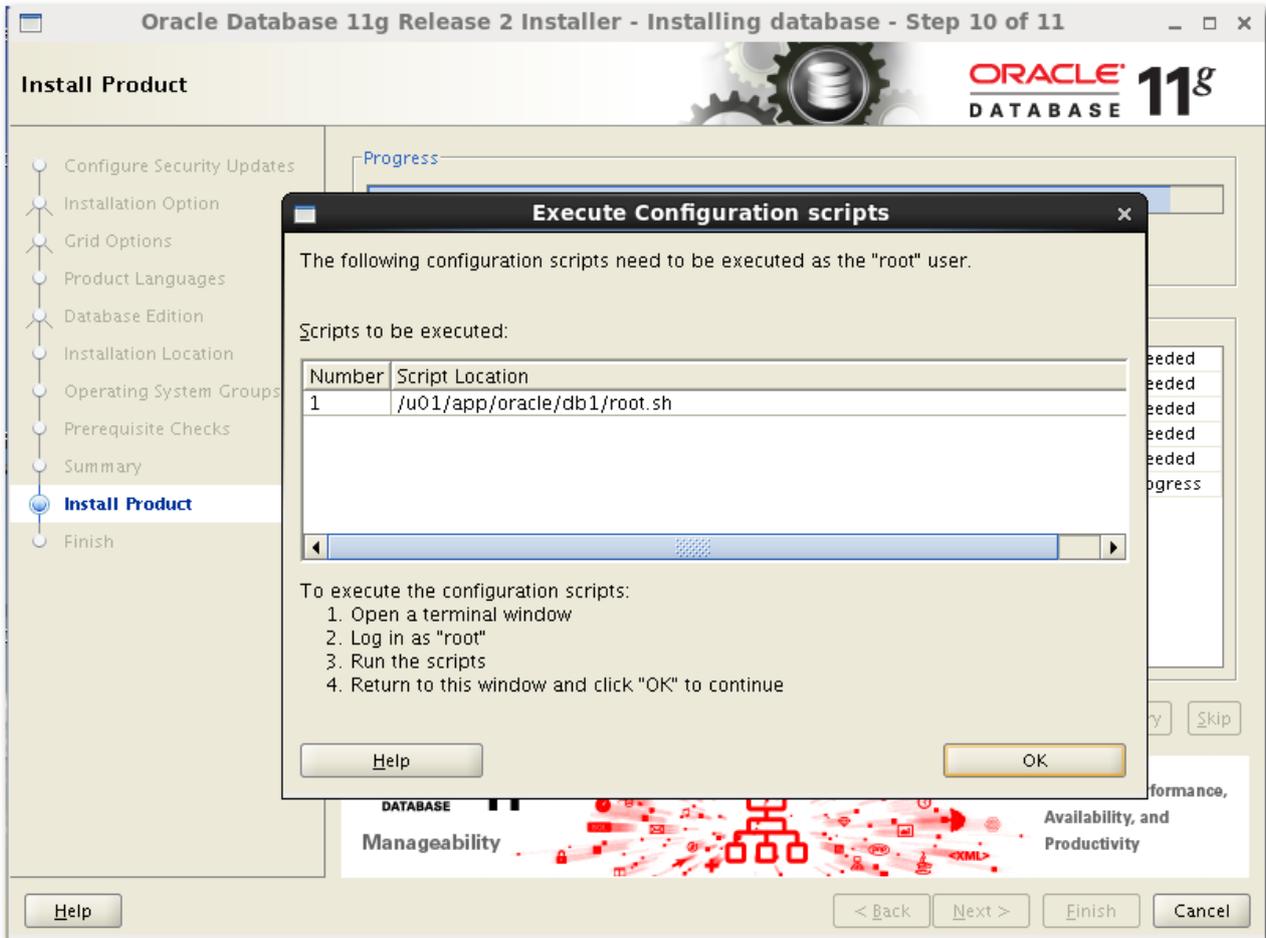
确定好安装路径,



点击下一步进行检测,  
确认无误后进行安装



当安装到一定进度时，会弹出窗口显示要运行shell脚本，根据指令运行即可，



```
[root@OrcStudy etc]# cd /u01/app/oracle/db1
[root@OrcStudy db1]# ls
apex          deinstall      jdev           OPatch        scheduler
assistants   demo           jdk            opmn          slax
bin           diagnostics    jlib          oracore       sqldeveloper
ccr          dv             ldap          oraInst.loc   sqlj
cdata        emcli         lib           ord           sqlplus
cfgtoollogs  has           log           oui           srvm
clone        hs            md            owb           sysman
config       ide           msg          owm           timingframework
crs          install       mgw          perl          ucp
csmig        install.platform network        plsql        uix
css          instantclient nls          precomp      utl
ctx          inventory     oc4j         racg          wwv
cv           j2ee         odbc         rdbms        xdk
dbs          javavm        olap         relnotes
dc_ocm       jdbc         ons          root.sh

[root@OrcStudy db1]# sh root.sh
Running Oracle 11g root.sh script...

The following environment variables are set as:
ORACLE_OWNER= oracle
ORACLE_HOME= /u01/app/oracle/db1

Enter the full pathname of the local bin directory: [/usr/local/bin]:
Copying dbhome to /usr/local/bin ...
Copying oraenv to /usr/local/bin ...
Copying coraenv to /usr/local/bin ...

Creating /etc/oratab file...
Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root.sh script.
Now product-specific root actions will be performed.
Finished product-specific root actions.
```

等待至安装完毕，



最后进行测试，命令为：sqlplus / as sysdba。

```
[oracle@OrcStudy ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.1.0 Production on Sun Apr 19 11:35:09 2015

Copyright (c) 1982, 2009, Oracle. All rights reserved.

Connected to an idle instance.

SQL> █
```

至此，oracle 11g的安装已全部结束。

```
# Configuration file for Cluster Verification Utility(CVU)
# Version: 011405
#
# NOTE:
# 1. Any line without a '=' will be ignored
# 2. Since the fallback option will look into the environment variables,
# please have a component prefix(CV_) for each property to define a
# namespace.
#

#Nodes for the cluster. If CRS home is not installed, this list will be
#picked up when -n all is mentioned in the commandline argument.
#CV_NODE_ALL=

#if enabled, cvuqdisk rpm is required on all nodes
CV_RAW_CHECK_ENABLED=TRUE

# Fallback to this distribution id
CV_ASSUME_DISTID=OEL6

# Whether X-Windows check should be performed for user equivalence with SSH
#CV_XCHK_FOR_SSH_ENABLED=TRUE

# To override SSH location
#ORACLE_SRVM_REMOTESHELL=/usr/bin/ssh

# To override SCP location
#ORACLE_SRVM_REMOTECOPY=/usr/bin/scp

enabled=0
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release

[rhel-source-beta]
name=Red Hat Enterprise Linux $releasever Beta - $basearch - Source
baseurl=ftp://ftp.redhat.com/pub/redhat/linux/beta/$releasever/en/os/SRPMS/
enabled=0
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-beta,file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
--
--
--
--
```

## 七、本次安装过程遇到的四个比较重要的问题

1、yum 报错 Error:cannot retrieve repository... and try again, 无法使用yum命令

解决办法:

vim /etc/yum.repos.d/rhel-source.repo,  
将enabled=1改为enabled=0。

2、workstation无法运行虚拟机, 无法获取所有权, 显示程序被占用

解决办法:

找到跟目录, 删除 \*.lck格式的文件夹。

3、oracle安装监测报错, 显示有缺失补丁包

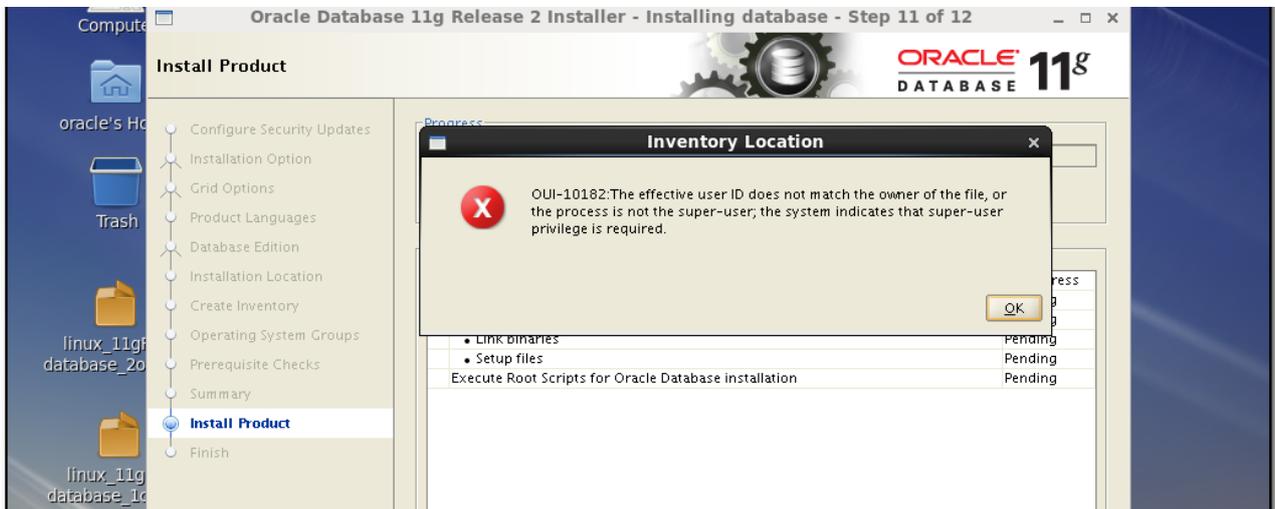
解决办法:

vim /Desktop/database/stage/cvu/cv/admin/cvu\_config,  
将CV\_ASSUME\_DISTID=OEL4中的4改为对应的红帽版本, 这里改为6,重启虚拟机。

#### 4、oracle安装报错OUI-10182:The effective user ID does not match ...

解决办法:

在root用户/etc下建立oralnst.loc文件,  
vim oralnst.loc。



```
login as: root
root@10.88.5.107's password:
Last login: Sun Apr 19 08:29:25 2015 from air-it-591550.sf.com
[root@OrcStudy ~]# cd /etc
[root@OrcStudy etc]# touch oraInst.loc
[root@OrcStudy etc]# vim oraInst.loc
[root@OrcStudy etc]# vim oraInst.loc
inventory_loc=/u01/app/oraInventory
inst_group=oinstall
~
~
~
```

