

Step by Step Oracle Installation Guides from

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Step by Step Installing Oracle Database 10g Release 2 on Linux

Note: Before reading the post, you can have a look to my latest VIDEO instruction on [Installing OEL and Oracle 10gR2](#)

In order to use Oracle Database, first of all we need to setup Oracle Software. Installation of Oracle Database on Windows is very easy. By running setup.exe from installation CD of Oracle for Windows, we can invoke a setup and by clicking NEXT buttons we can install Oracle Software and Database without any problem. We don't need any prerequisite actions before installation. But in Linux it's different. If we want to install Oracle Database on Linux OS, we should follow some prerequisite actions.

Today, we're going to install Oracle Database on CentOS. To do it, we use last version of CentOS (the latest release for now) – “CentOS-5.2” and mostly used release of Oracle Database – “Oracle Database 10g Release 2”. And we're going to practice this whole project on VMware 6.0.0

Before starting, we need to install VMware. Then, we need to install CentOS on VMware. After that, we are going to install Oracle Database. You should refer to my previous posts in order to install VMware and Centos

[Step by step installing VMware](#)

[Step by Step Installing CentOS on VMware](#)

But there's one thing we should keep in mind. During installation of CentOS, on the “package lists” page, we should behave differently. It will be discussed in the next paragraphs.

This project covers following steps:

1. Checking minimum hardware requirements
2. Installing rpm packages which are required for Oracle installation
3. Configuring kernel parameters
4. Creating groups and user for Oracle Installation
5. Installing Oracle Software
6. Creating an Oracle Database
7. Connecting to Database with Enterprise Manager
8. AUTOMATING all processes and steps of installation Oracle 10g R2 on Centos using Shell Script

As you see from the list above, in order to setup Oracle Database, we need to change some parameters in the system. Changing these parameters each time could lead to mistakes and waste of time. The main purpose of our article is to automate all these processes and save your time. For this purpose we're going to use "Shell Script"

Now I'm going to explain above mentioned steps one by one

1. Checking minimum hardware requirements

At least, your system should meet the following requirements:

- 1GB RAM
- Requirement for swap space in Oracle installation is as follows:

Available RAM Swap Space Required

Between 1 GB and 2 GB 1.5 times the size of RAM

Between 2 GB and 8 GB Equal to the size of RAM

More than 8 GB .75 times the size of RAM

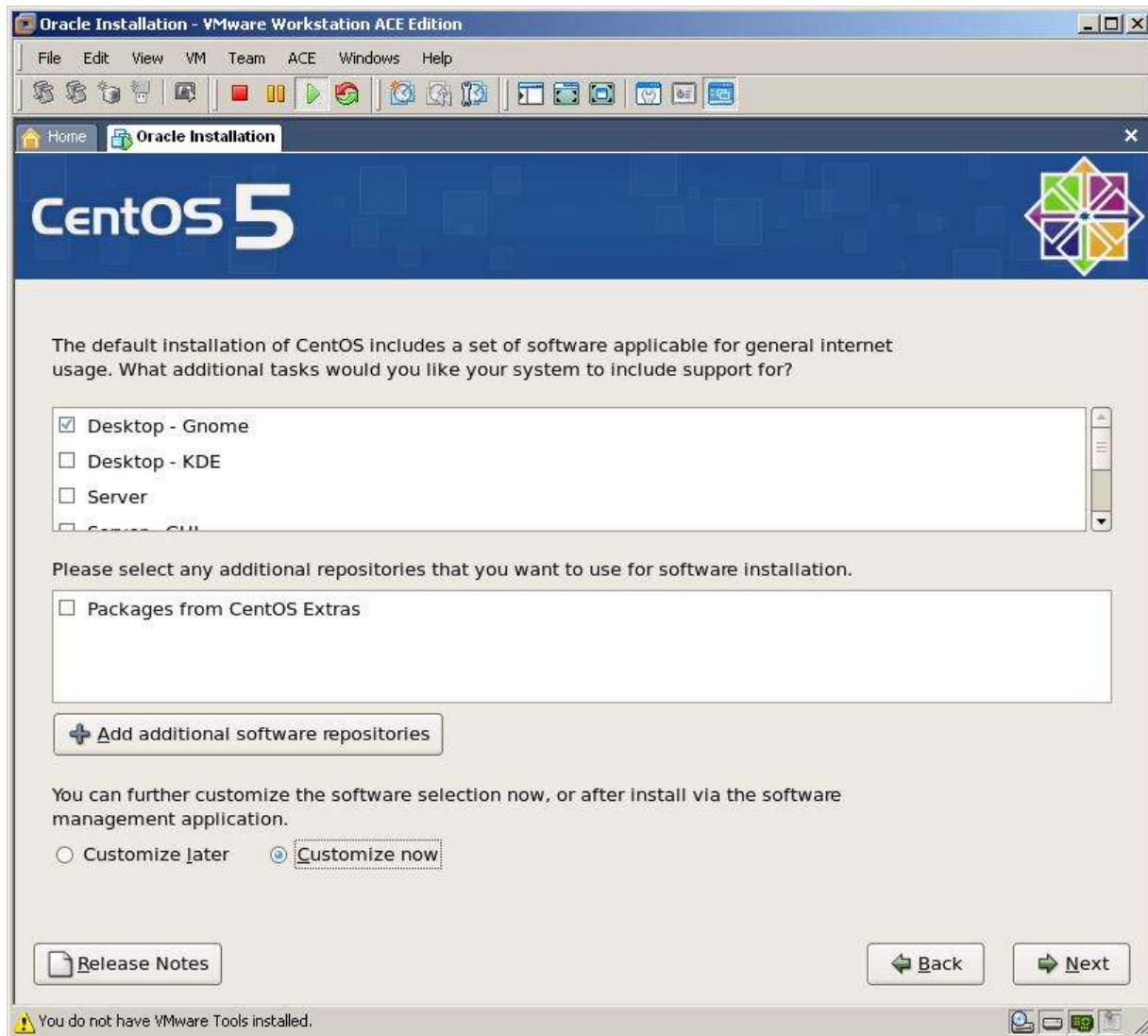
- 400MB free space in /tmp directory
- Depending on type of the installation, 1.5-3.5 GB free space for Oracle Software
- 1.5GB free space if new Oracle Database is created

Getting familiar with requirements mentioned above, we need to get hardware information of our system. To check the size of RAM, Swap space and **tmp** directory, we run these commands:

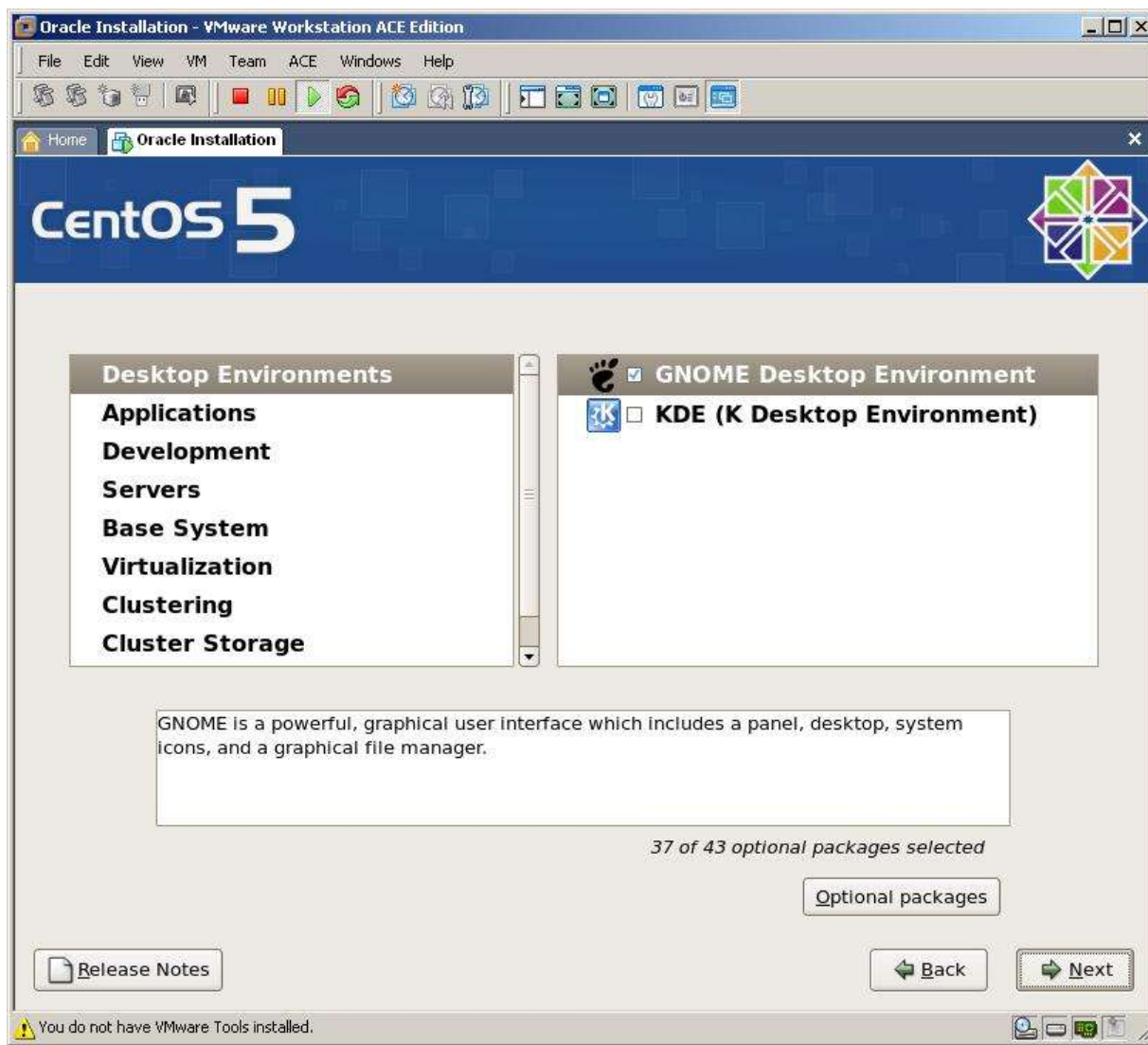
- To check the size of physical memory, execute **grep MemTotal /proc/meminfo**
- To check the size of swap space, execute **grep SwapTotal /proc/meminfo**
- To check the space in /tmp directory, execute **df -h /tmp**

2. Installing rpm packages which are required for Oracle installation

While installing CentOS, we have to install some rpm packages. During the installation, on the installation window you get list of packages. Here, we select “Customize” choice



On “Customized” window, we check required packages and uncheck packages that are not required for Oracle Installation



In the packages list, check following packages. Uncheck all packages that are not in the list below

Desktop Environments

GNOME Desktop Environment

Applications

Graphical Internet

Development

Development Libraries

Development Tools

GNOME Software Development

Java Development

Legacy Software Development

X Software Development

Servers

Server Configuration Tools

Web Server

Windows File Server

Base System

Administration Tools

Base

Java

Legacy Software Support

System Tools

X Window System

Furthermore, after installation of CentOS, we have manually to install these four rpm packages. Surely, you can select them (except libaio-devel package) from the package list during setup, for many people who don't want to find these packages in the package list, installing it manually after system installation is the best option. These are packages which should be installed before Oracle installation

- compat-db-4.2.52-5.1.i386.rpm

- sysstat-7.0.2-1.el5.i386.rpm

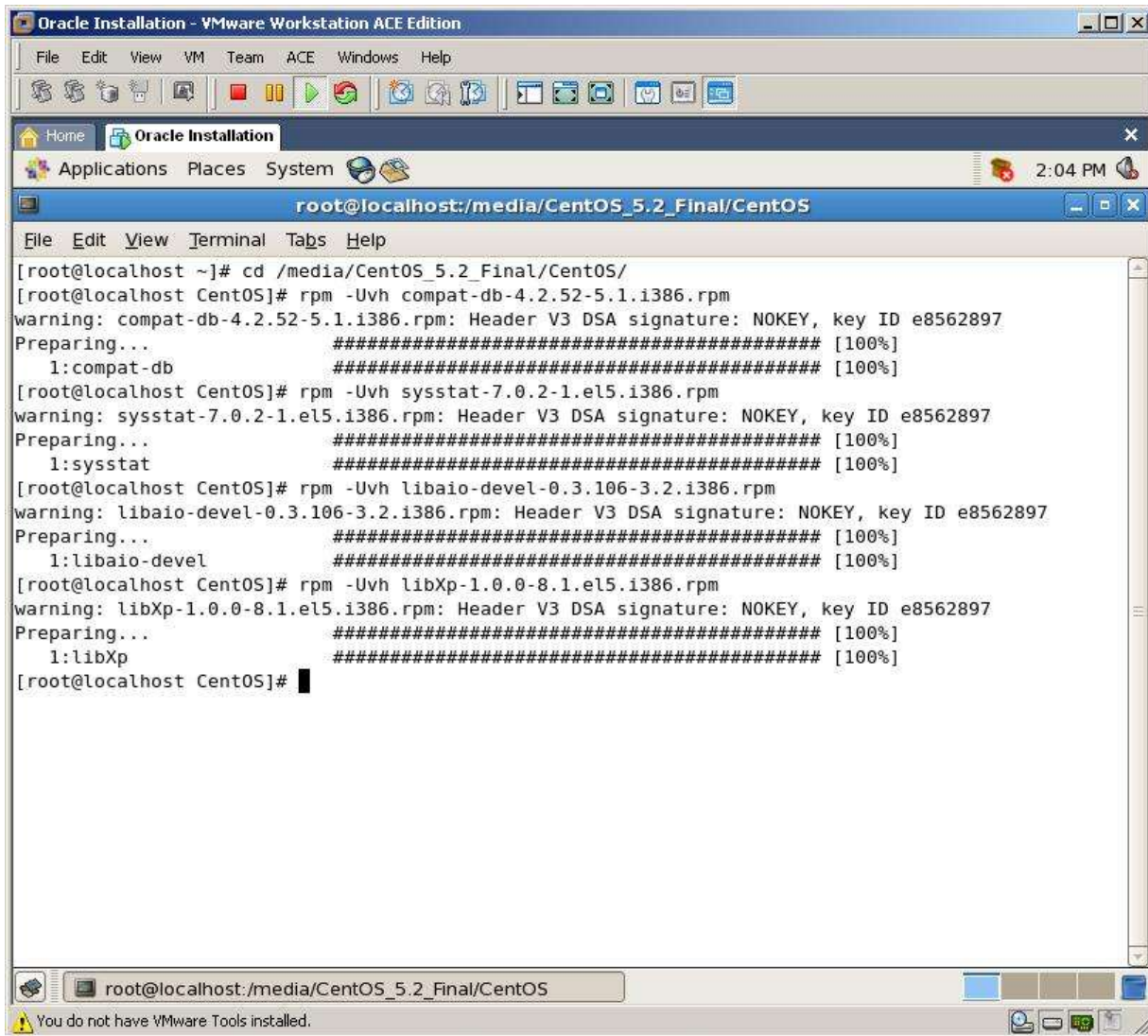
- libaio-devel-0.3.106-3.2.i386.rpm

- libXp-1.0.0-8.1.el5.i386.rpm

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In order to install these packages, you can use **rpm -Uvh** command by changing directory to CentOS directory inside the CD (DVD) of CentOS installation as shown below



```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help

Home Oracle Installation
Applications Places System 2:04 PM

root@localhost:/media/CentOS_5.2_Final/CentOS
File Edit View Terminal Tabs Help

[root@localhost ~]# cd /media/CentOS_5.2_Final/CentOS/
[root@localhost CentOS]# rpm -Uvh compat-db-4.2.52-5.1.i386.rpm
warning: compat-db-4.2.52-5.1.i386.rpm: Header V3 DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
 1:compat-db ##### [100%]
[root@localhost CentOS]# rpm -Uvh sysstat-7.0.2-1.el5.i386.rpm
warning: sysstat-7.0.2-1.el5.i386.rpm: Header V3 DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
 1:sysstat ##### [100%]
[root@localhost CentOS]# rpm -Uvh libaio-devel-0.3.106-3.2.i386.rpm
warning: libaio-devel-0.3.106-3.2.i386.rpm: Header V3 DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
 1:libaio-devel ##### [100%]
[root@localhost CentOS]# rpm -Uvh libXp-1.0.0-8.1.el5.i386.rpm
warning: libXp-1.0.0-8.1.el5.i386.rpm: Header V3 DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
 1:libXp ##### [100%]
[root@localhost CentOS]#
```

root@localhost:/media/CentOS_5.2_Final/CentOS

You do not have VMware Tools installed.

3. Changes to be made to Kernel parameters

After installing above mentioned packages, we need to change some Kernel parameters and make them match to Oracle requirements. Parameters which should be changed are shown below

shmmax	2147483648
shmmni	4096
shmall	2097152
shmmin	1
semmsl	250
semmns	32000
semopm	100
semmni	128
file-max	65536
ip_local_port_range	1024 65000
rmem_default	1048576
rmem_max	1048576
wmem_default	262144
wmem_max	262144

We do all these changes in the */etc/sysctl.conf* file by adding these lines to that file:

kernel.shmmax = 2147483648

kernel.shmall = 2097152

kernel.shmmni=4096

kernel.sem=250 32000 100 128

fs.file-max=65536

net.ipv4.ip_local_port_range=1024 65000

net.core.rmem_default=1048576

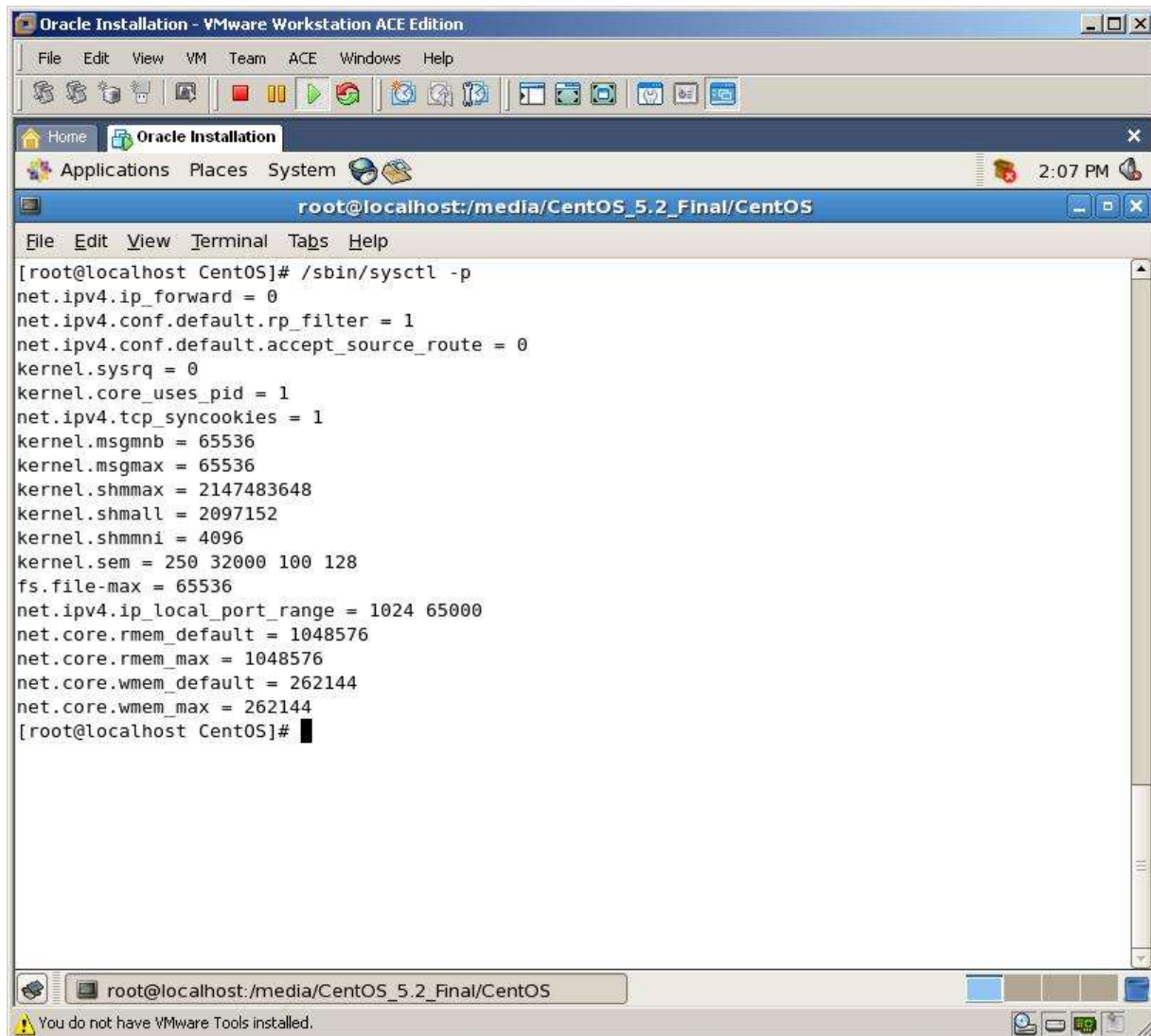
net.core.rmem_max=1048576

net.core.wmem_default=262144

net.core.wmem_max=262144

After appending those lines we save that file and run the following command to make these changes effective immediately in the running system

/sbin/sysctl -p



```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 2:07 PM
root@localhost:/media/CentOS_5.2_Final/CentOS
File Edit View Terminal Tabs Help
[root@localhost CentOS]# /sbin/sysctl -p
net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
net.ipv4.tcp_syncookies = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmmax = 2147483648
kernel.shmall = 2097152
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
fs.file-max = 65536
net.ipv4.ip_local_port_range = 1024 65000
net.core.rmem_default = 1048576
net.core.rmem_max = 1048576
net.core.wmem_default = 262144
net.core.wmem_max = 262144
[root@localhost CentOS]#
```

You do not have VMware Tools installed.

Setting Shell limits for the Oracle User

To improve the performance of the software on Linux systems, you must increase the following shell limits for the oracle user:

1. Add the following lines to */etc/security/limits.conf* file

oracle soft nproc 2047

oracle hard nproc 16384

oracle soft nofile 1024

oracle hard nofile 65536

2. Add the following lines to */etc/pam.d/login* file

session required /lib/security/pam_limits.so

session required pam_limits.so

3. In order to use Oracle Software, we need to make a change in “oracle” user’s buffer size and number of opened file descriptors. In order to do it, we add below lines to */etc/profile* file

if [\$USER = "oracle"]; then

if [\$SHELL = "/bin/ksh"]; then

ulimit -p 16384

ulimit -n 65536

else

ulimit -u 16384 -n 65536

fi

fi

4. Changing redhat-release file

One of the first checks performed by the Oracle Universal Installer (OUI) is to determine if the host platform is supported. The OUI uses the file */etc/redhat-release* to determine the platform. For the case of Red Hat Enterprise Linux, Oracle Database 10g Release 2 expects either RHEL 3 or RHEL/OEL 4.

The easiest way to get around this error is to modify the */etc/redhat-release* file replacing the current release information (CentOS release 5 (Final)) with the following:

redhat-4

Before modifying */etc/redhat-release*, make a backup copy of the file and ensure to replace the original one after the Oracle installation and patch process has been completed.

cp /etc/redhat-release /etc/redhat-release.original

echo "redhat-4" > /etc/redhat-release

After all these configurations, you should get this result:

```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 2:23 PM
root@localhost:/media/CentOS_5.2_Final/CentOS
File Edit View Terminal Tabs Help
[root@localhost CentOS]# cat /etc/security/limits.conf
oracle soft nproc 2047
oracle hard nproc 16384
oracle soft nofile 1024
oracle hard nofile 65536
[root@localhost CentOS]#
[root@localhost CentOS]# tail -2 /etc/pam.d/login
session required /lib/security/pam_limits.so
session required pam_limits.so
[root@localhost CentOS]#
[root@localhost CentOS]# head -13 /etc/profile
# /etc/profile

# System wide environment and startup programs, for login setup
# Functions and aliases go in /etc/bashrc

if [$USER="oracle"]; then
    if [$SHELL="/bin/ksh"]; then
        ulimit -p 16384
        ulimit -p 65536
    else
        ulimit -u 16384 -n 65536
    fi
fi
[root@localhost CentOS]#
[root@localhost CentOS]# cat /etc/redhat-release
redhat-4
[root@localhost CentOS]#
```

You do not have VMware Tools installed.

4. Create groups and user for Oracle Installation

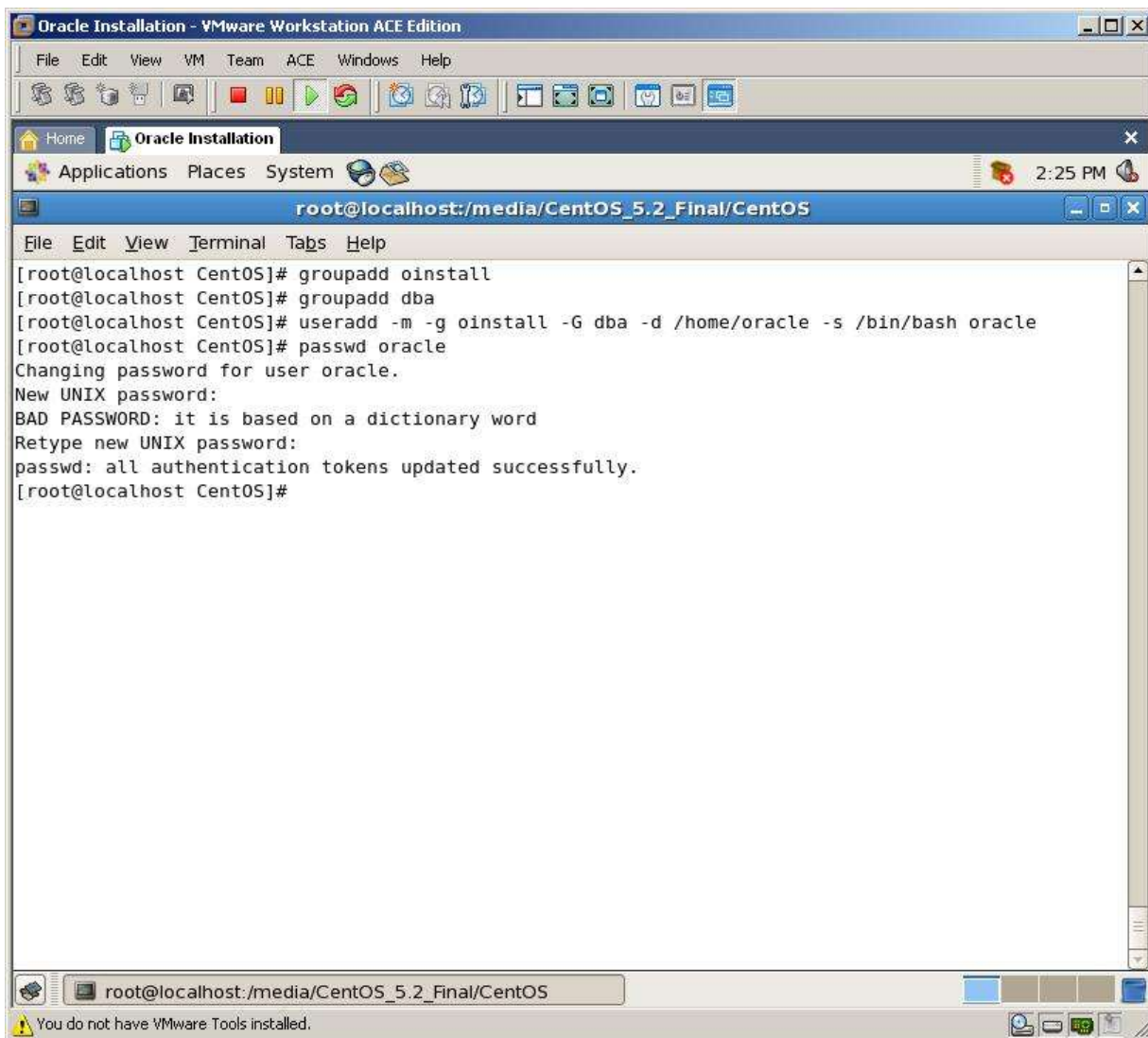
In this step, we create “oinstall” and “dba” groups and “oracle” user to install Oracle Software, and create new Database

groupadd oinstall

groupadd dba

useradd -m -g oinstall -G dba -d /home/oracle -s /bin/bash -c “Oracle Software Owner” oracle

passwd oracle



The screenshot shows a VMware Workstation ACE Edition window titled "Oracle Installation - VMware Workstation ACE Edition". The window contains a terminal window titled "root@localhost:/media/CentOS_5.2_Final/CentOS". The terminal output shows the following commands and their results:

```
[root@localhost CentOS]# groupadd oinstall
[root@localhost CentOS]# groupadd dba
[root@localhost CentOS]# useradd -m -g oinstall -G dba -d /home/oracle -s /bin/bash oracle
[root@localhost CentOS]# passwd oracle
Changing password for user oracle.
New UNIX password:
BAD PASSWORD: it is based on a dictionary word
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@localhost CentOS]#
```

The terminal window also shows a status bar at the bottom with the text "You do not have VMware Tools installed."

5. Installing Oracle Database 10g Release 2

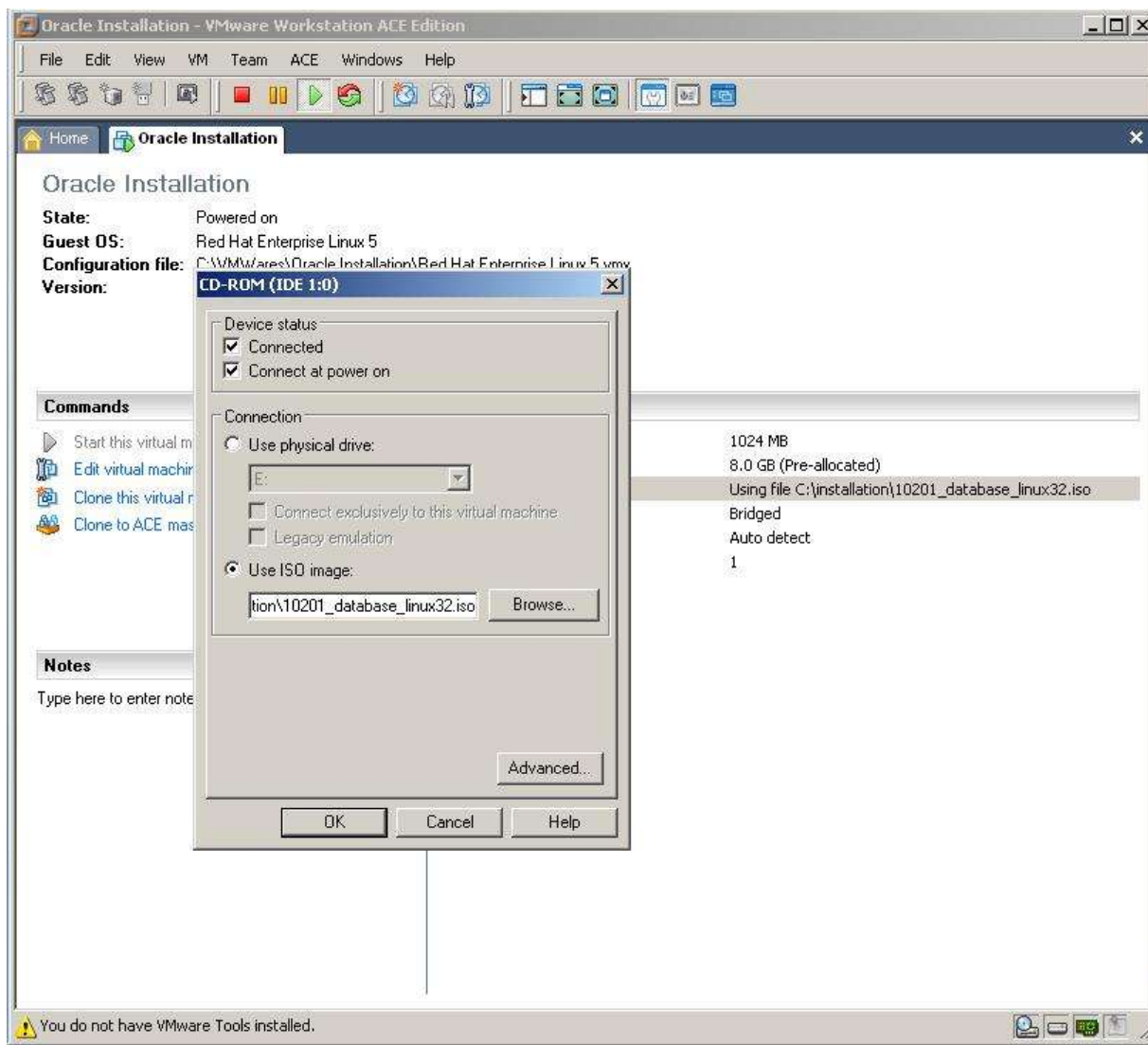
First of all, we need to download Oracle Database 10g R2. To download it, use this link:

http://download.oracle.com/otn/linux/oracle10g/10201/10201_database_linux32.zip

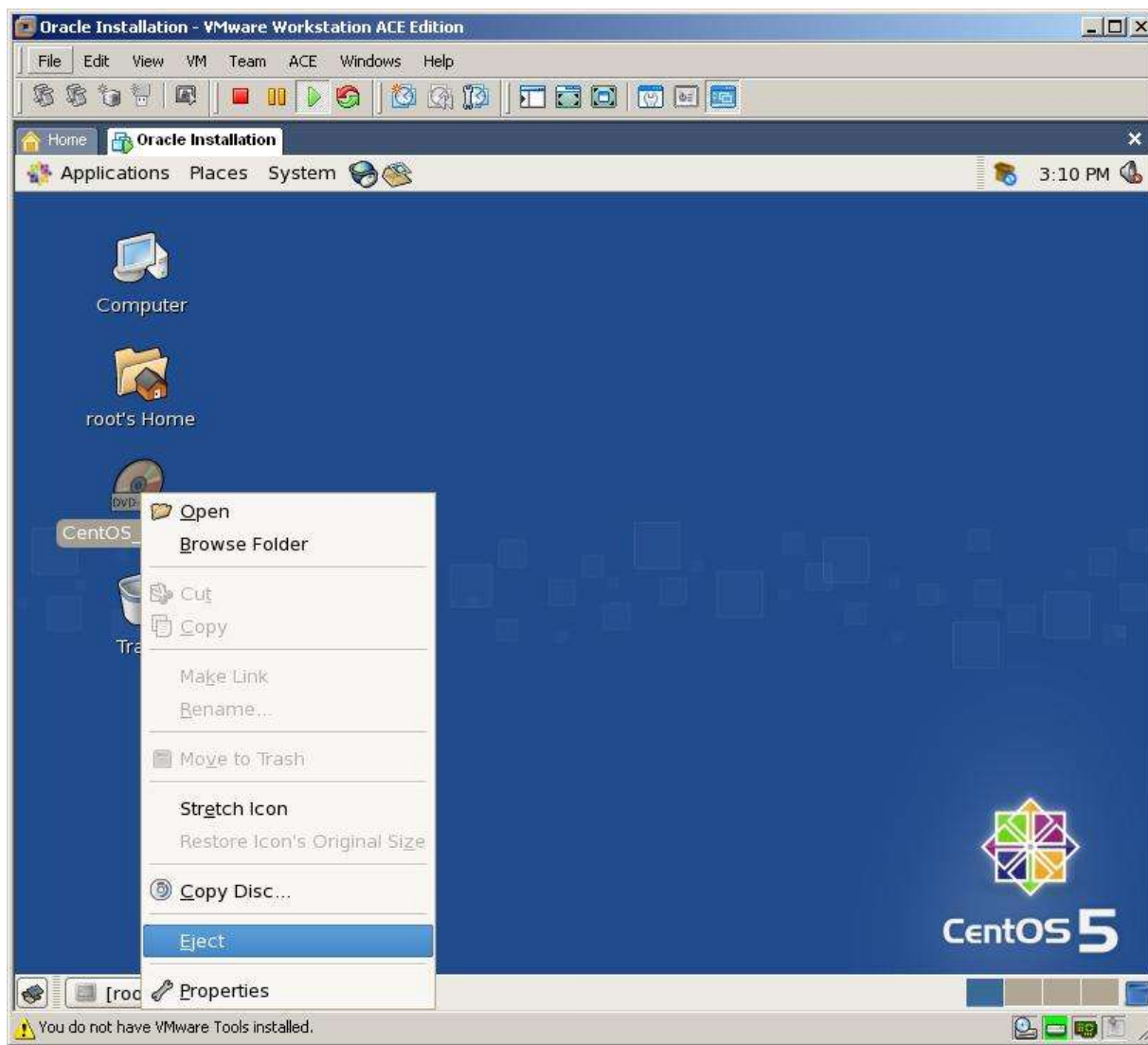
After download finish, we need to copy this file to the Virtual Machine. To copy it, we have two choices:

- Copy it using USB Flash Drive
- Copy it using Samba service
- Create an image file (.iso) from zipped installation and mount it to Virtual Machine

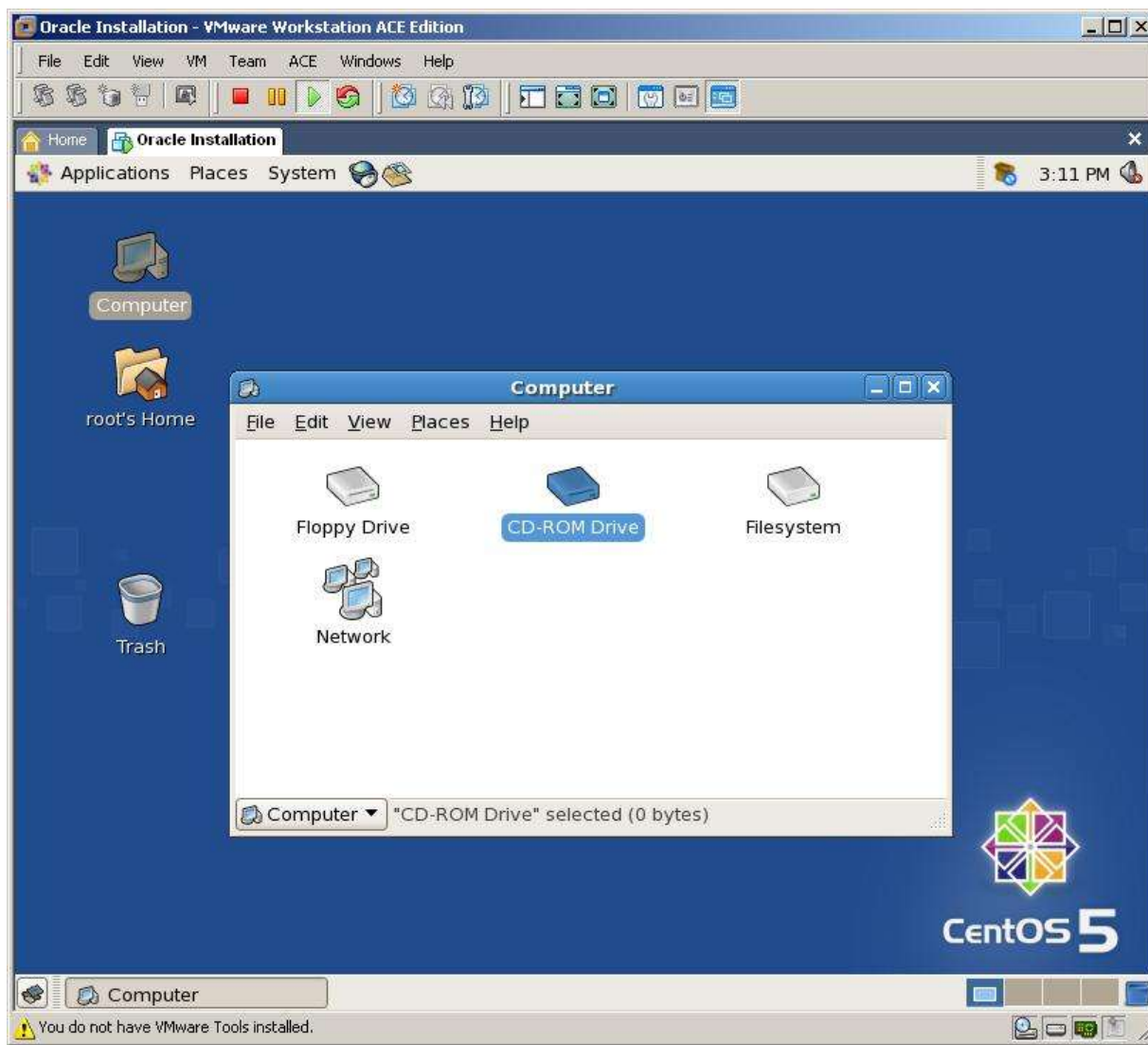
Here, we're going to copy the zipped file using second technique. With any ISO creator program, create .iso file from zipped installation file of Oracle Database. And then mount it to the Virtual Machine as shown below:



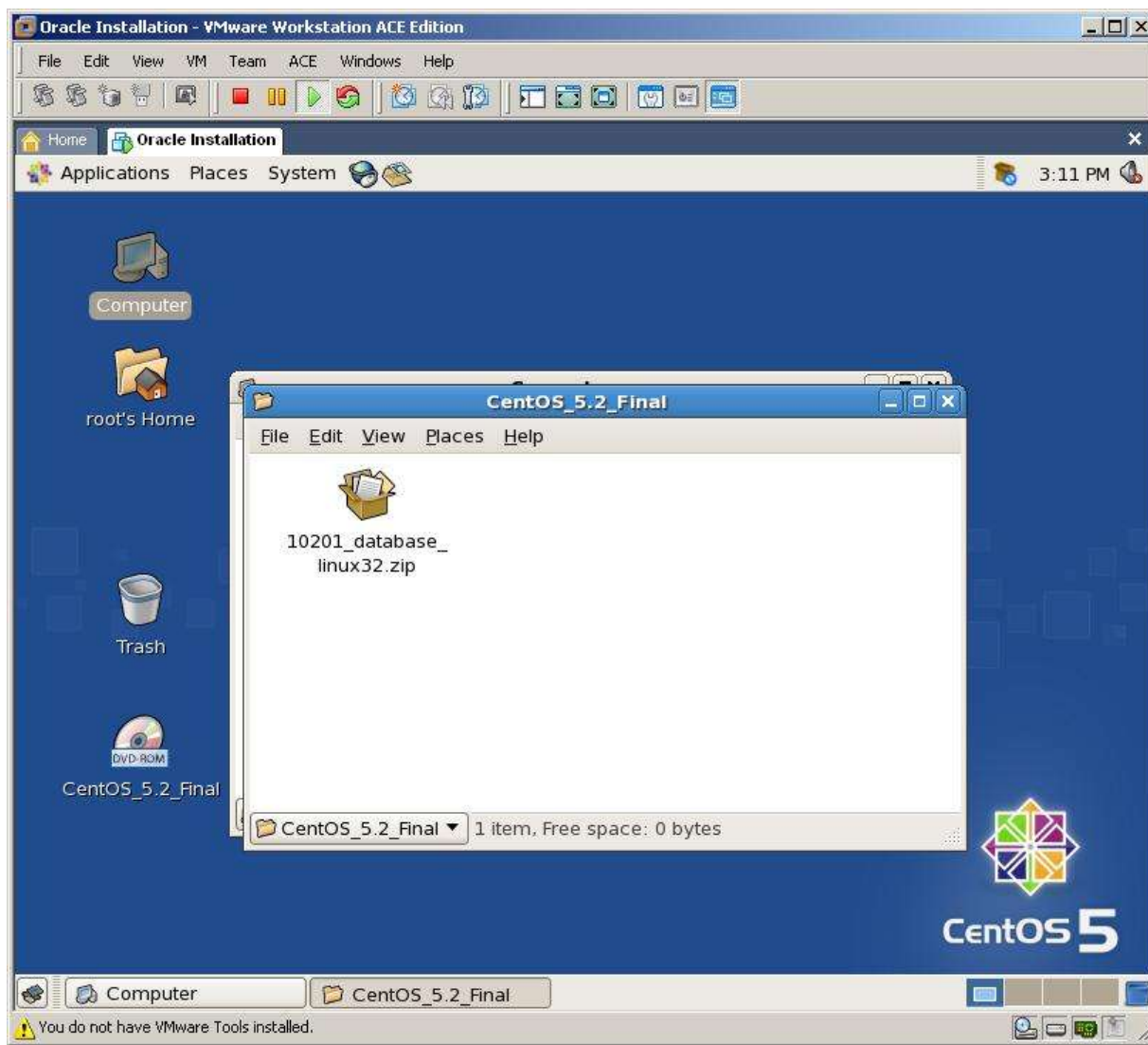
Now switch to the desktop of CentOS, right click on DVD of CentOS installation on the desktop and click “Eject” as shown below:



Now enter to “Computer” and double click on “CD-ROM” icon.

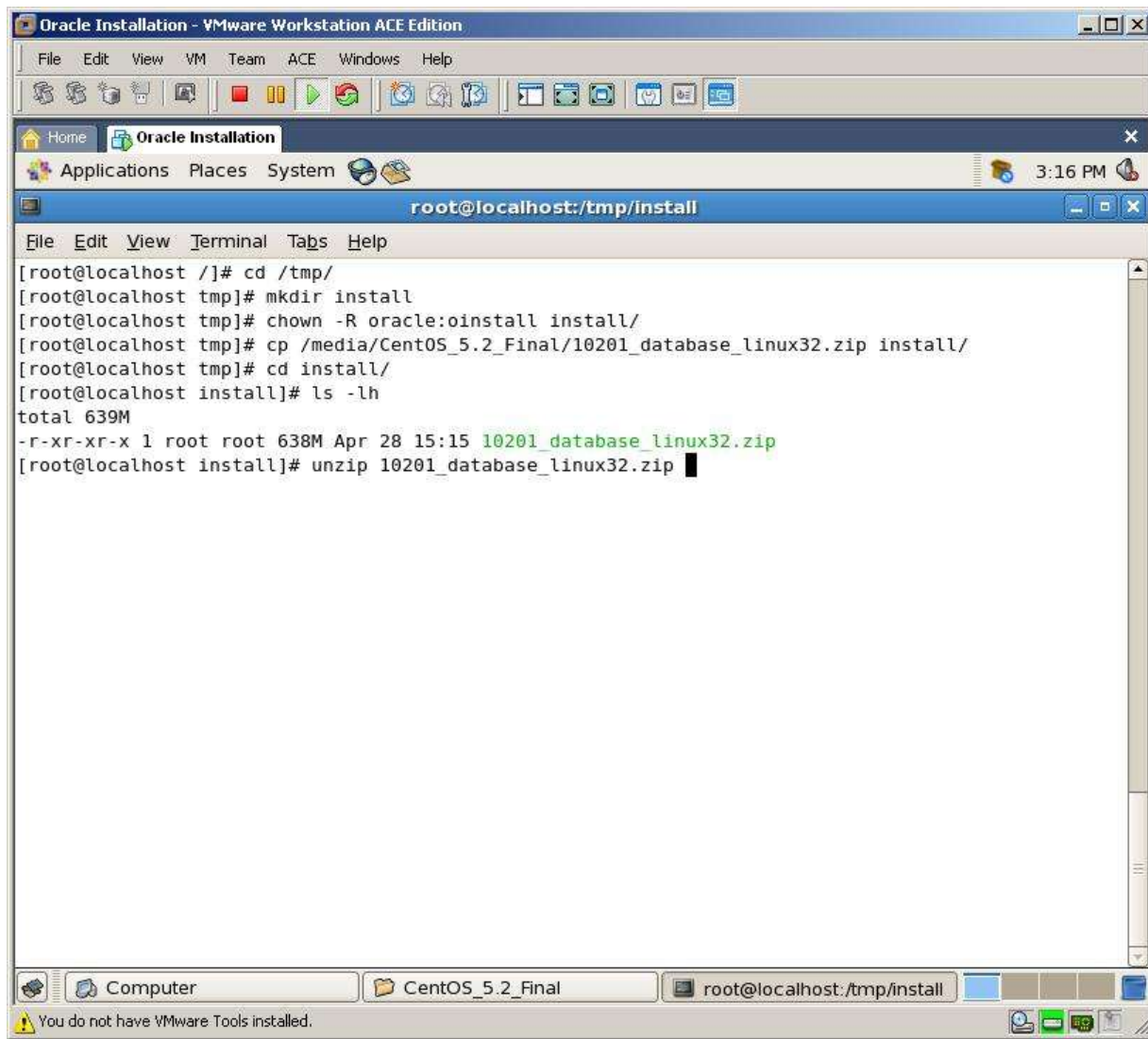


Installation file of Oracle Database will be opened:

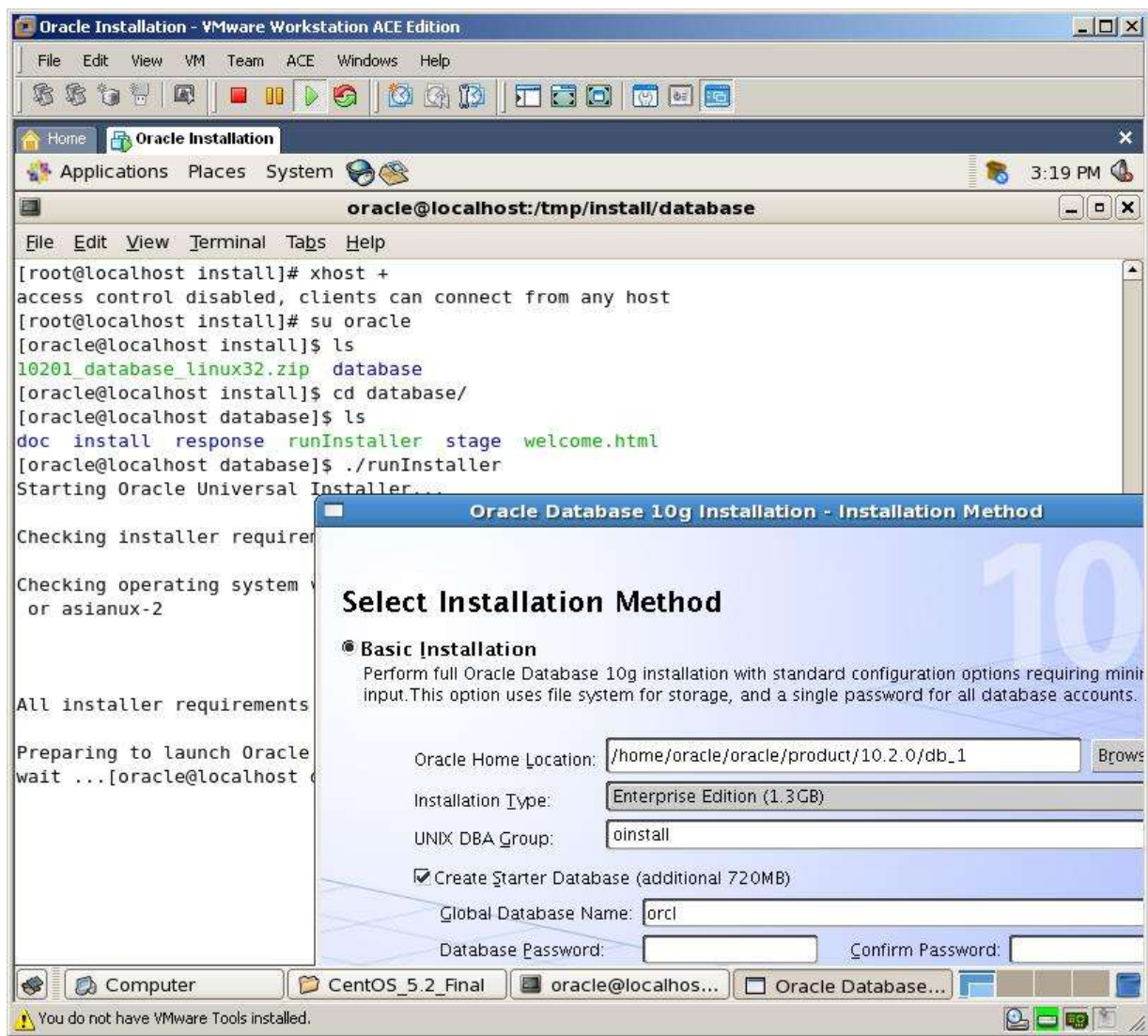


Now, create install folder on the /tmp directory, change owner of this folder to “oracle”, copy this file into /tmp/install directory

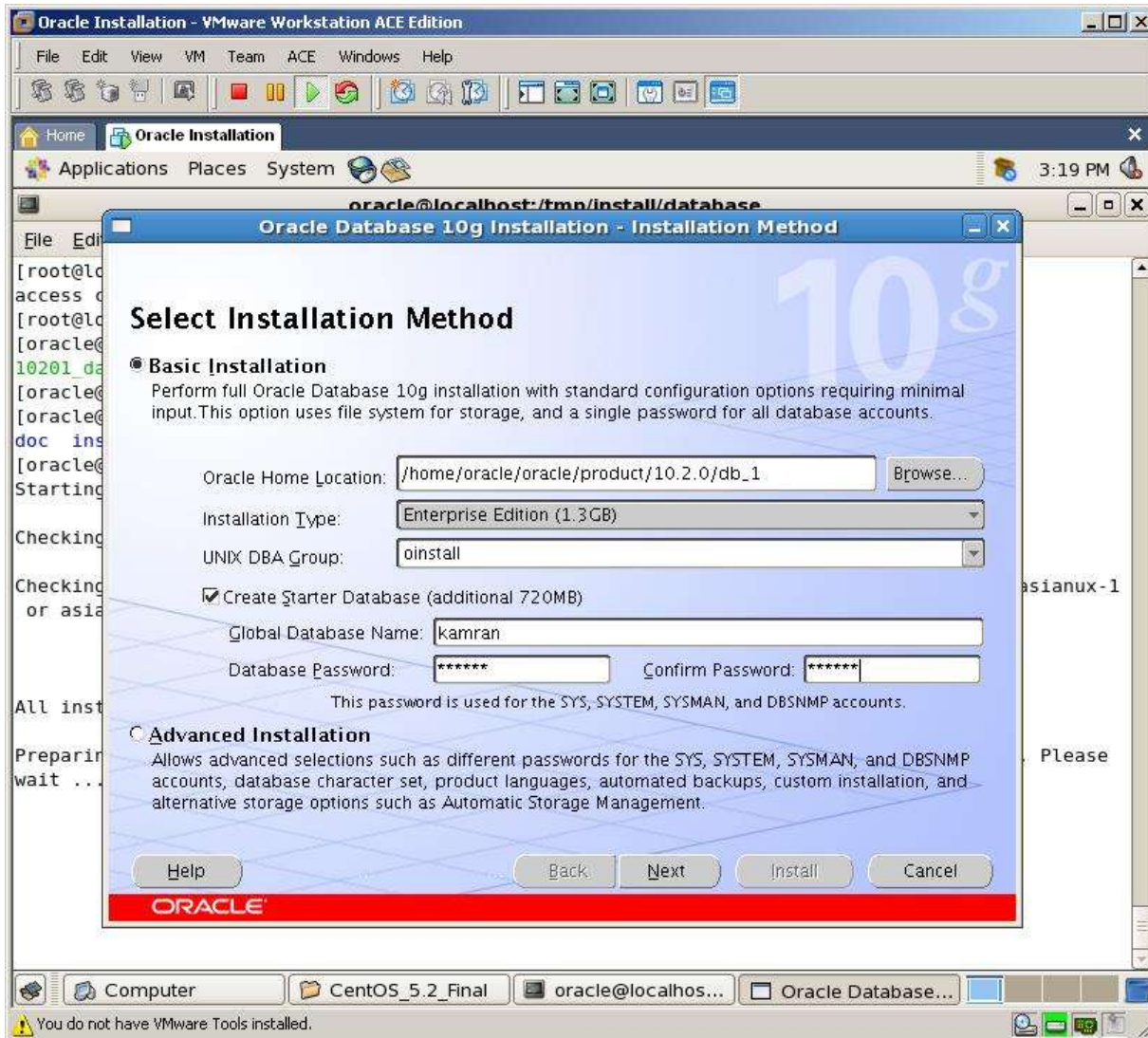
Then unzip this file and begin installation as follows:



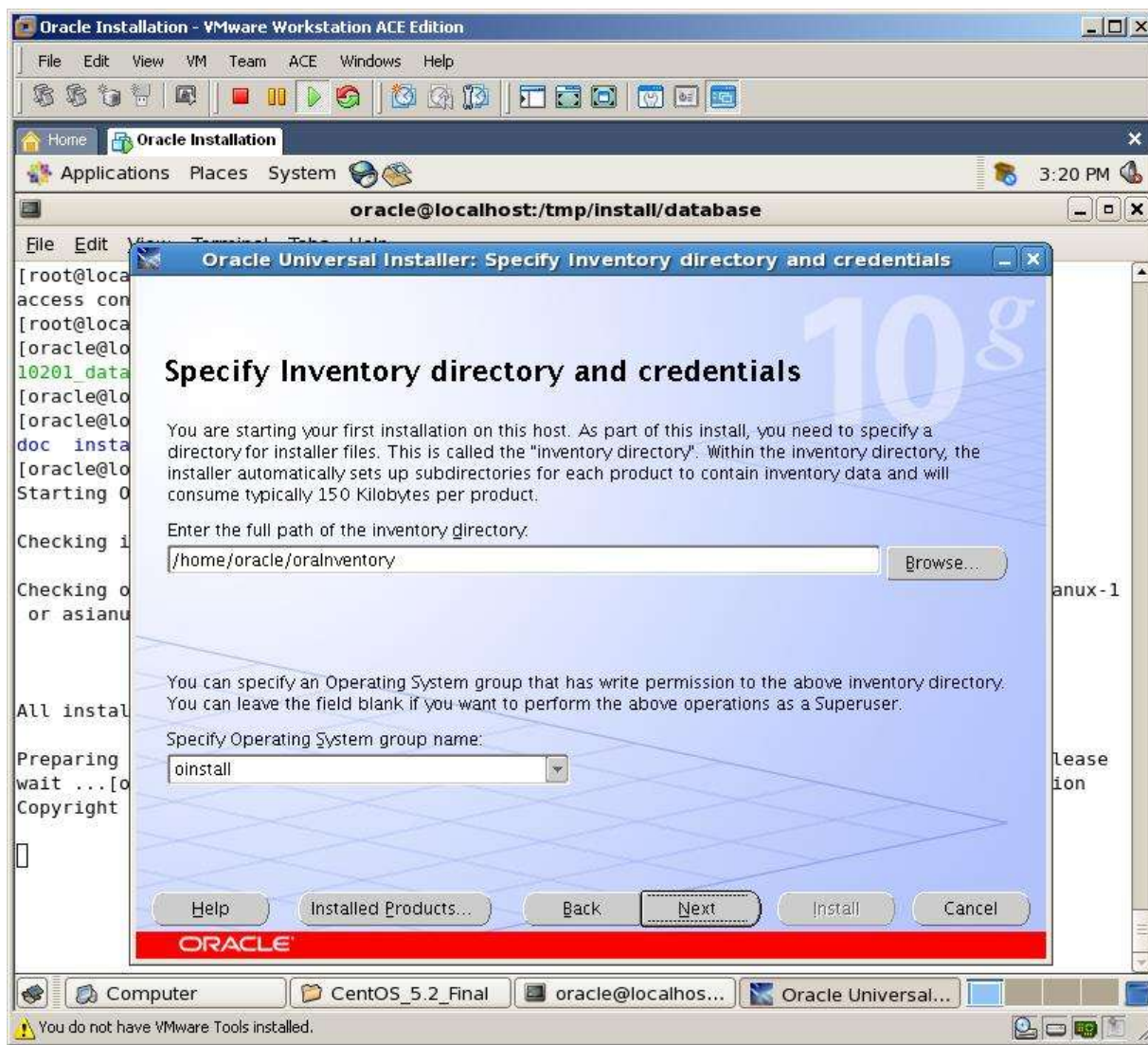
After unzip completes, installation will begin automatically



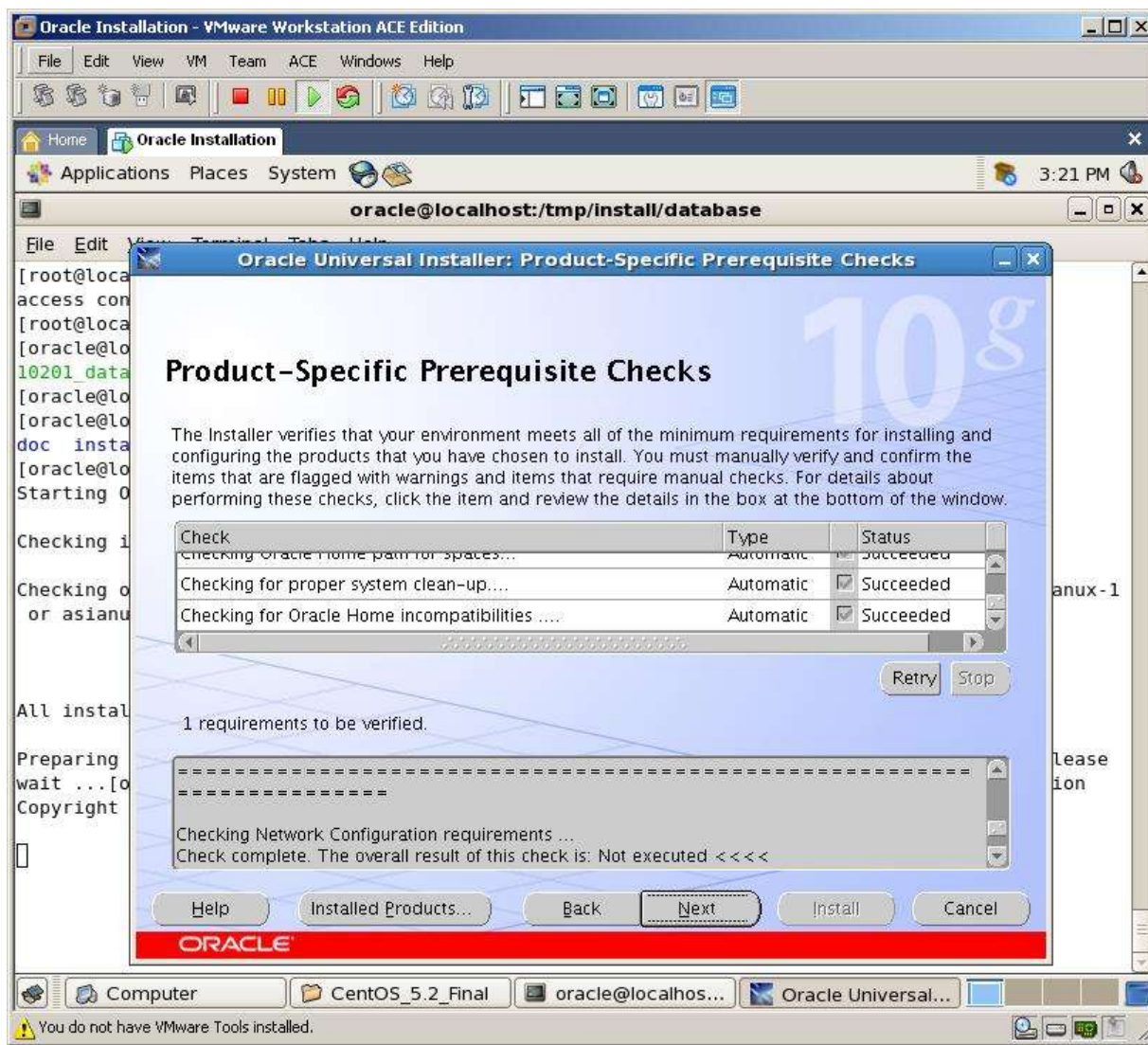
Oracle Database 10g Installation



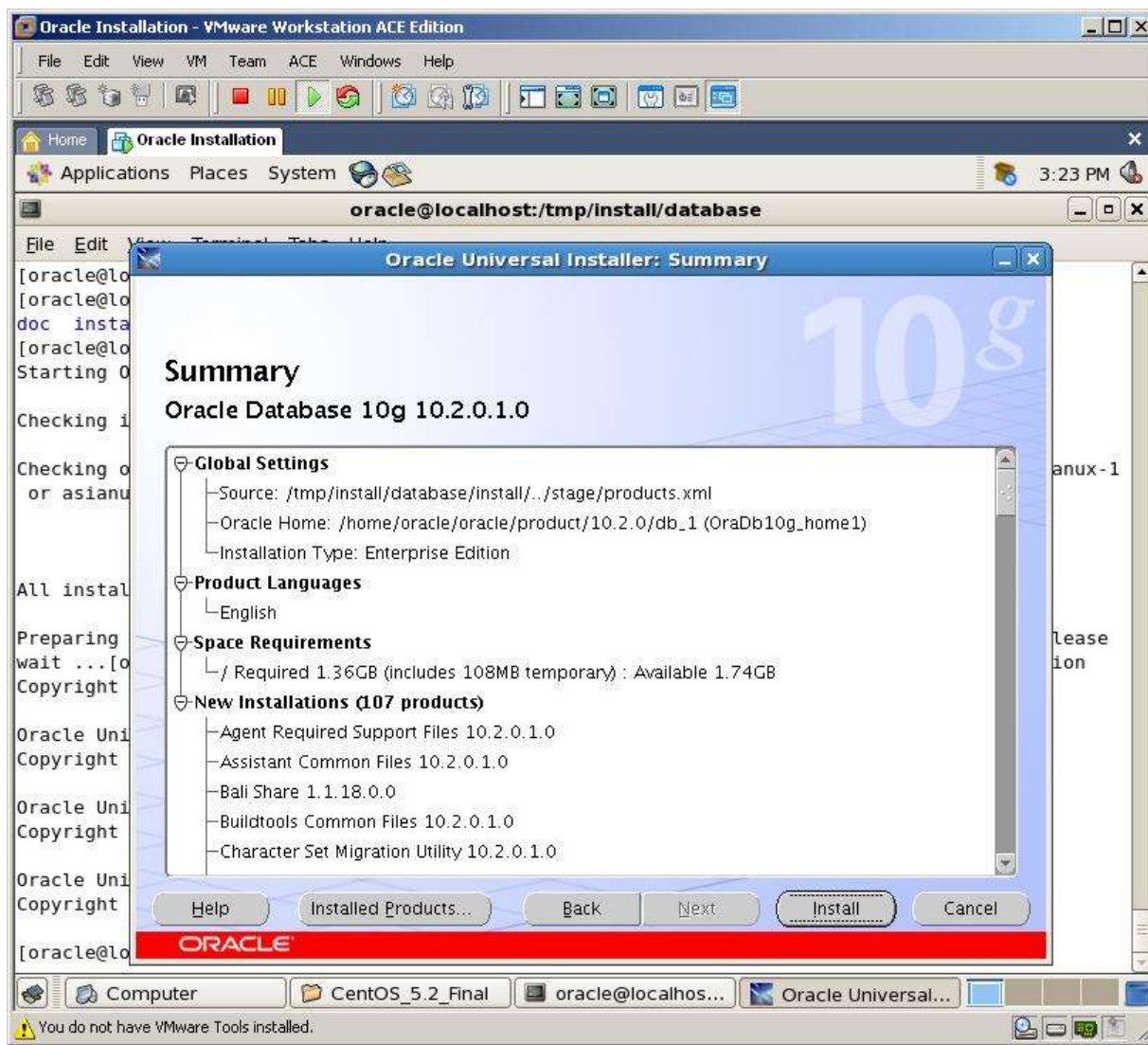
If you want to create new database after software installation, check “Create Starter Database” checkbox and enter database name and password, then click Next



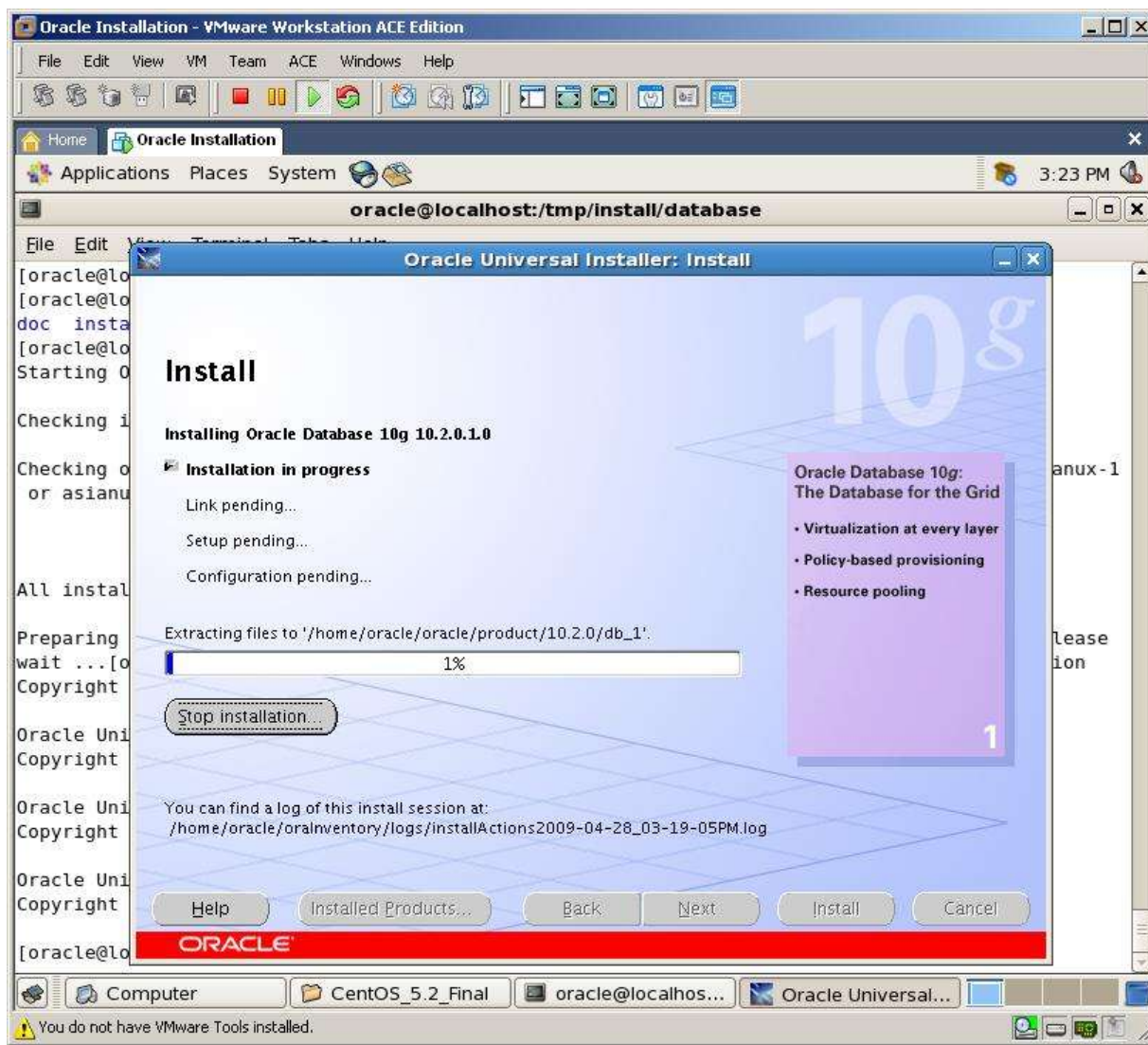
Specify Inventory directory (keep it as default) and click Next



Here we see that all Prerequisite Checks succeeded.



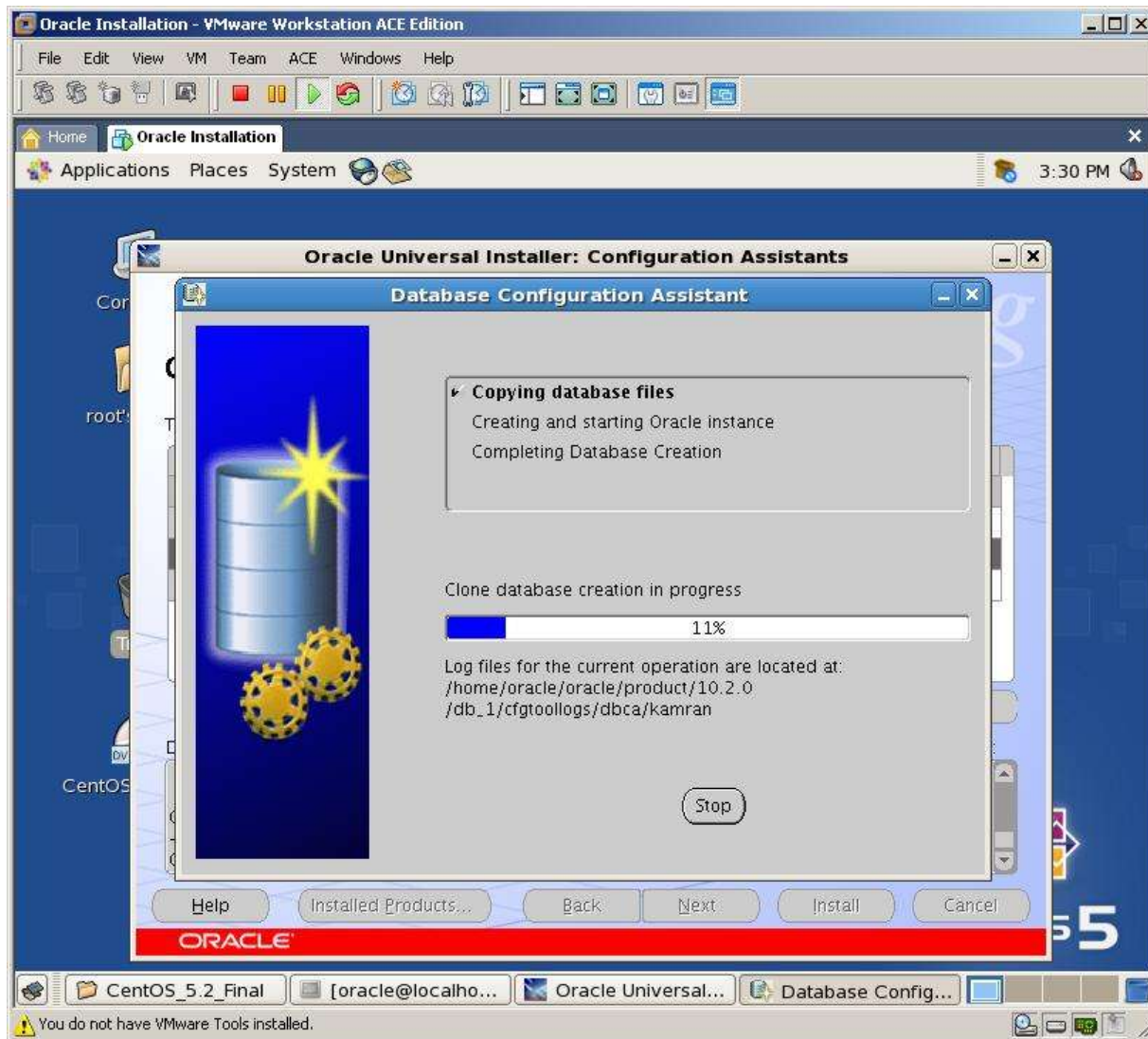
Click Install to begin installation



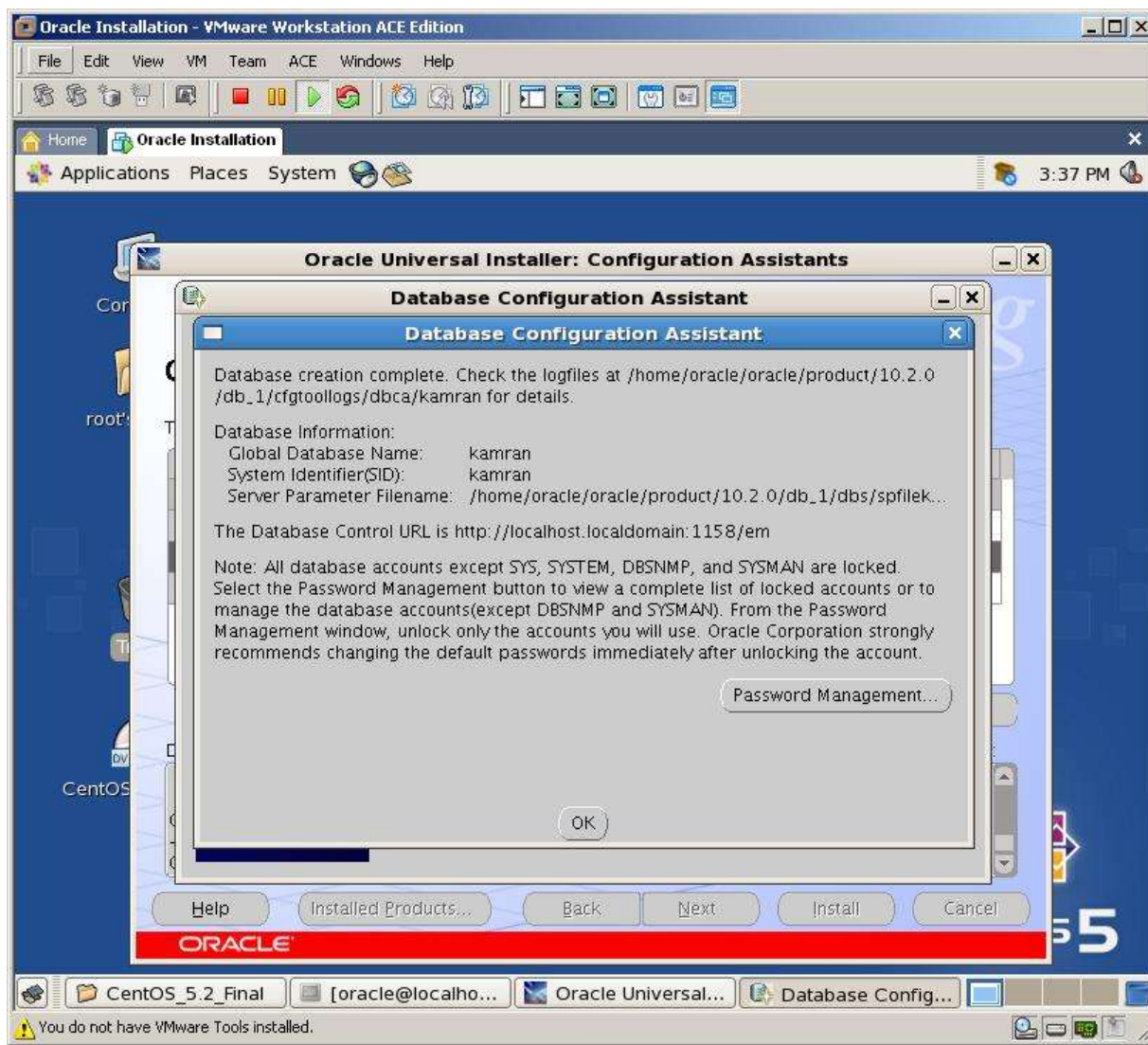
Now, we're installing Oracle 10g Software.

6. Creating an Oracle Database

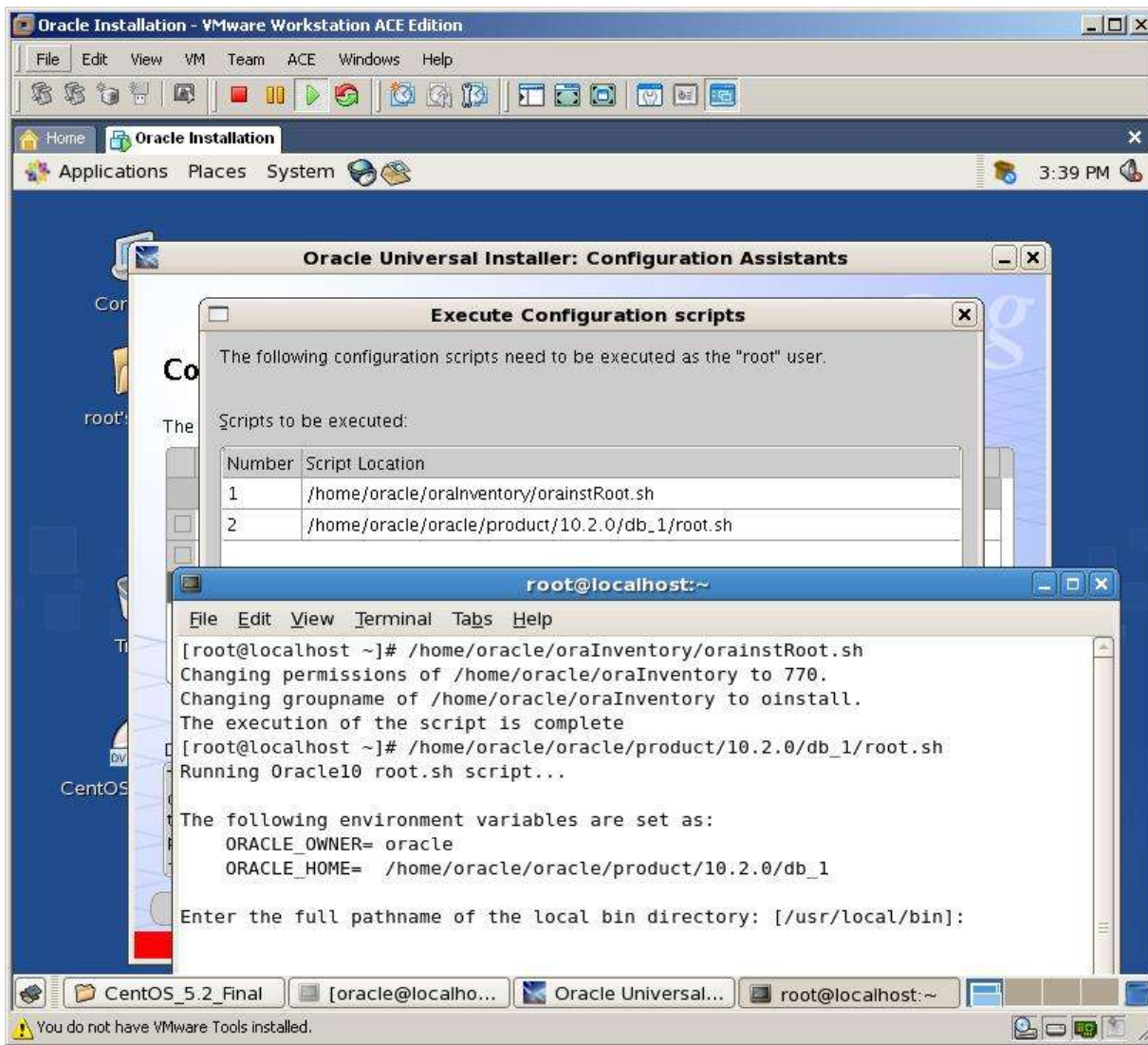
As we've checked "Create Starter Database" at the first page of the installation, new database will be created automatically after software installation



After database created, you'll get information about your database, Enterprise Manager and Spfile

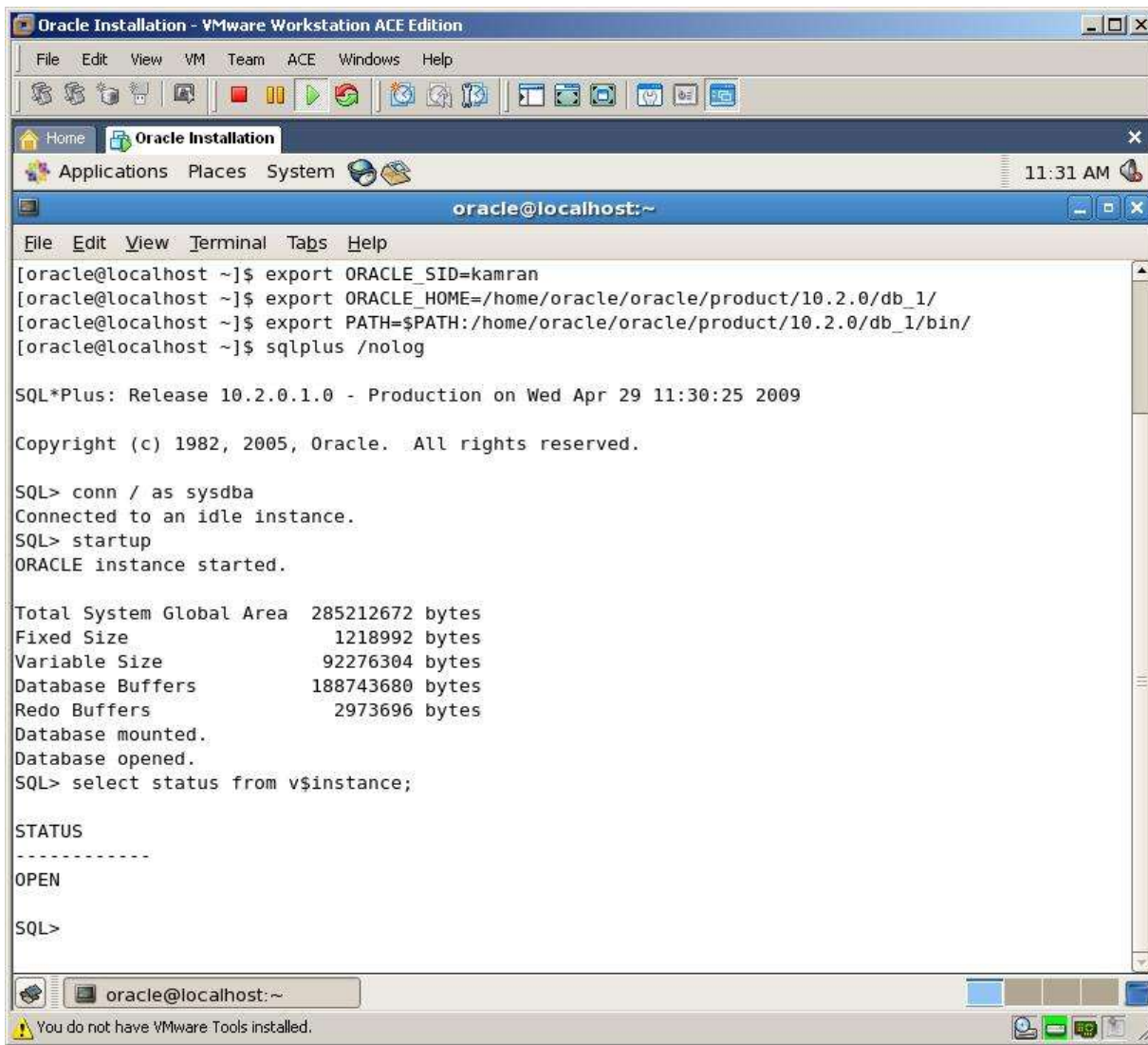


Click Ok. In the below window, you'll get location for two scripts which you should run as a root user to complete last configurations. Open new Terminal window and run those two scripts:



Installation of Oracle Database 10g completed successfully! Congratulations!

Now reboot your server and login as oracle user and start newly created database.



```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 11:31 AM
oracle@localhost:~
File Edit View Terminal Tabs Help
[oracle@localhost ~]$ export ORACLE_SID=kamran
[oracle@localhost ~]$ export ORACLE_HOME=/home/oracle/oracle/product/10.2.0/db_1/
[oracle@localhost ~]$ export PATH=$PATH:/home/oracle/oracle/product/10.2.0/db_1/bin/
[oracle@localhost ~]$ sqlplus /nolog

SQL*Plus: Release 10.2.0.1.0 - Production on Wed Apr 29 11:30:25 2009

Copyright (c) 1982, 2005, Oracle. All rights reserved.

SQL> conn / as sysdba
Connected to an idle instance.
SQL> startup
ORACLE instance started.

Total System Global Area 285212672 bytes
Fixed Size 1218992 bytes
Variable Size 92276304 bytes
Database Buffers 188743680 bytes
Redo Buffers 2973696 bytes
Database mounted.
Database opened.
SQL> select status from v$instance;

STATUS
-----
OPEN

SQL>
```

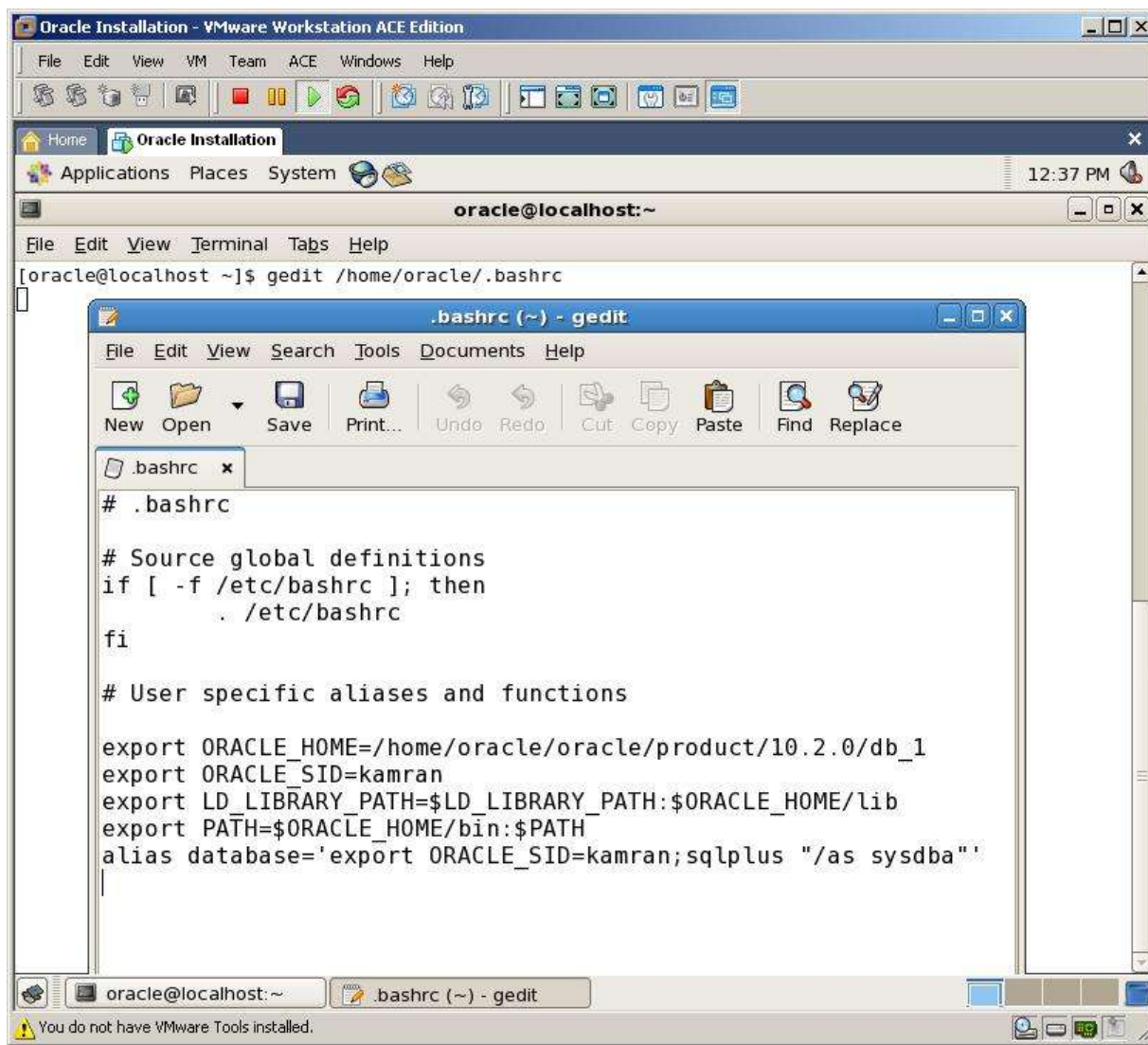
If we want to login to our database, we run **sqlplus**. But before it, we need to set Environment Variables. We can do it automatically by adding them to **.bashrc** file in the **/home/oracle** directory as below:

```
export ORACLE_HOME=/home/oracle/oracle/product/10.2.0/db_1
```

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ORACLE_HOME/lib
```

```
export PATH=$ORACLE_HOME/bin:$PATH
```

```
alias database='export ORACLE_SID=kamran;sqlplus "/ as sysdba"'
```



Now, let's open new terminal and try again

```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 12:37 PM
oracle@localhost:~
File Edit View Terminal Tabs Help
[oracle@localhost ~]$ sqlplus /nolog

SQL*Plus: Release 10.2.0.1.0 - Production on Wed Apr 29 12:37:17 2009

Copyright (c) 1982, 2005, Oracle. All rights reserved.

SQL> conn / as sysdba
Connected.
SQL> select name from v$database;

NAME
-----
KAMRAN

SQL> exit
Disconnected from Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - Production
With the Partitioning, OLAP and Data Mining options
[oracle@localhost ~]$ database

SQL*Plus: Release 10.2.0.1.0 - Production on Wed Apr 29 12:37:26 2009

Copyright (c) 1982, 2005, Oracle. All rights reserved.

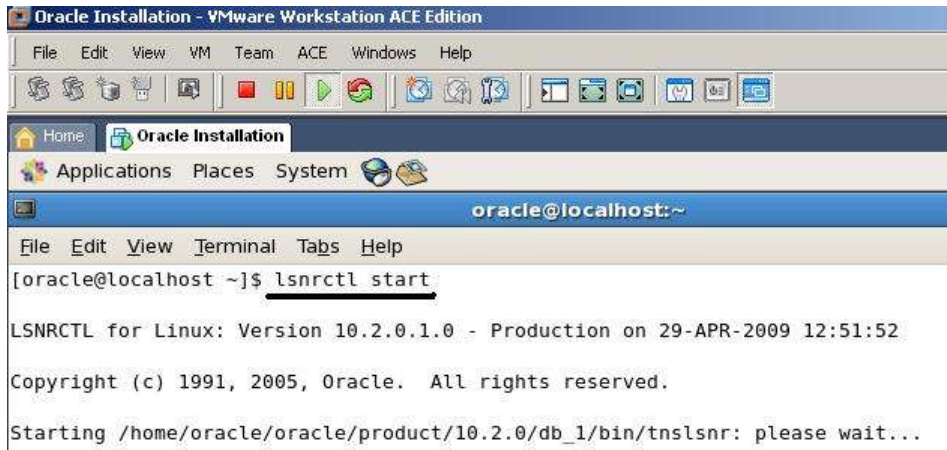
Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - Production
With the Partitioning, OLAP and Data Mining options
oracle@localhost:~
You do not have VMware Tools installed.
```

As you see, after setting Environment Variables to their correct values, I was able to login to SQL*Plus using two ways.

7. Connecting to Database with Enterprise Manager

Now, let's start Oracle Enterprise Manager. In order to use EM, we should firstly start listener. In production environment, you need automate database, listener and EM startup. To automate them, please refer to one of my previous blogs – [“Automatically StartUp and Shutdown an Oracle Database in Linux OS”](#)

Start the listener



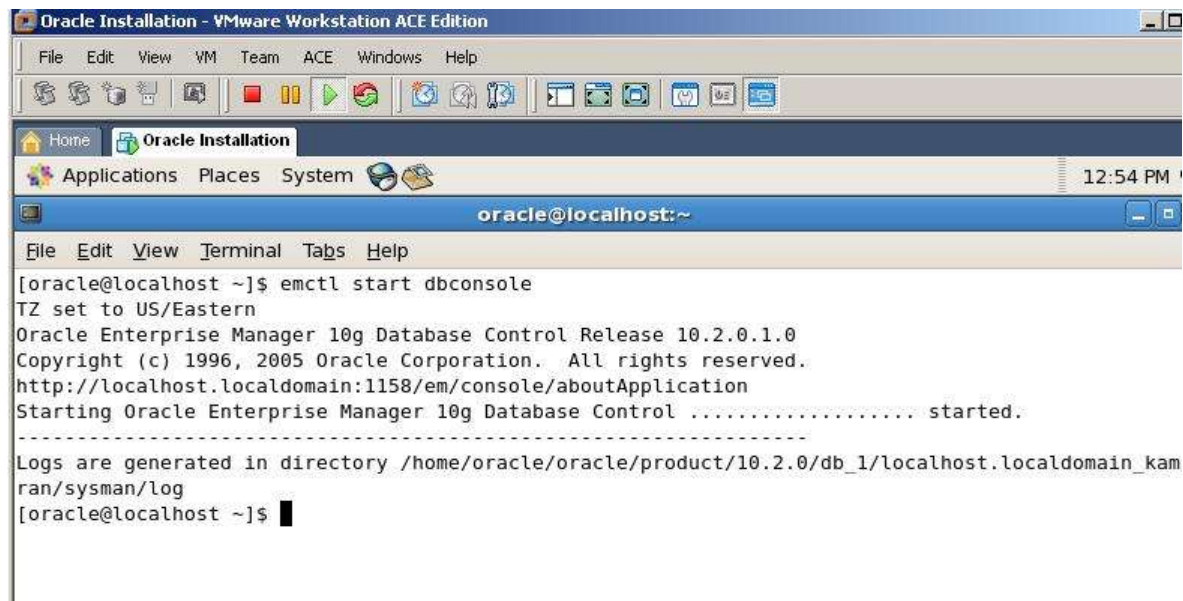
```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System
oracle@localhost:~
File Edit View Terminal Tabs Help
[oracle@localhost ~]$ lsnrctl start

LSNRCTL for Linux: Version 10.2.0.1.0 - Production on 29-APR-2009 12:51:52

Copyright (c) 1991, 2005, Oracle. All rights reserved.

Starting /home/oracle/oracle/product/10.2.0/db_1/bin/tnslsnr: please wait...
```

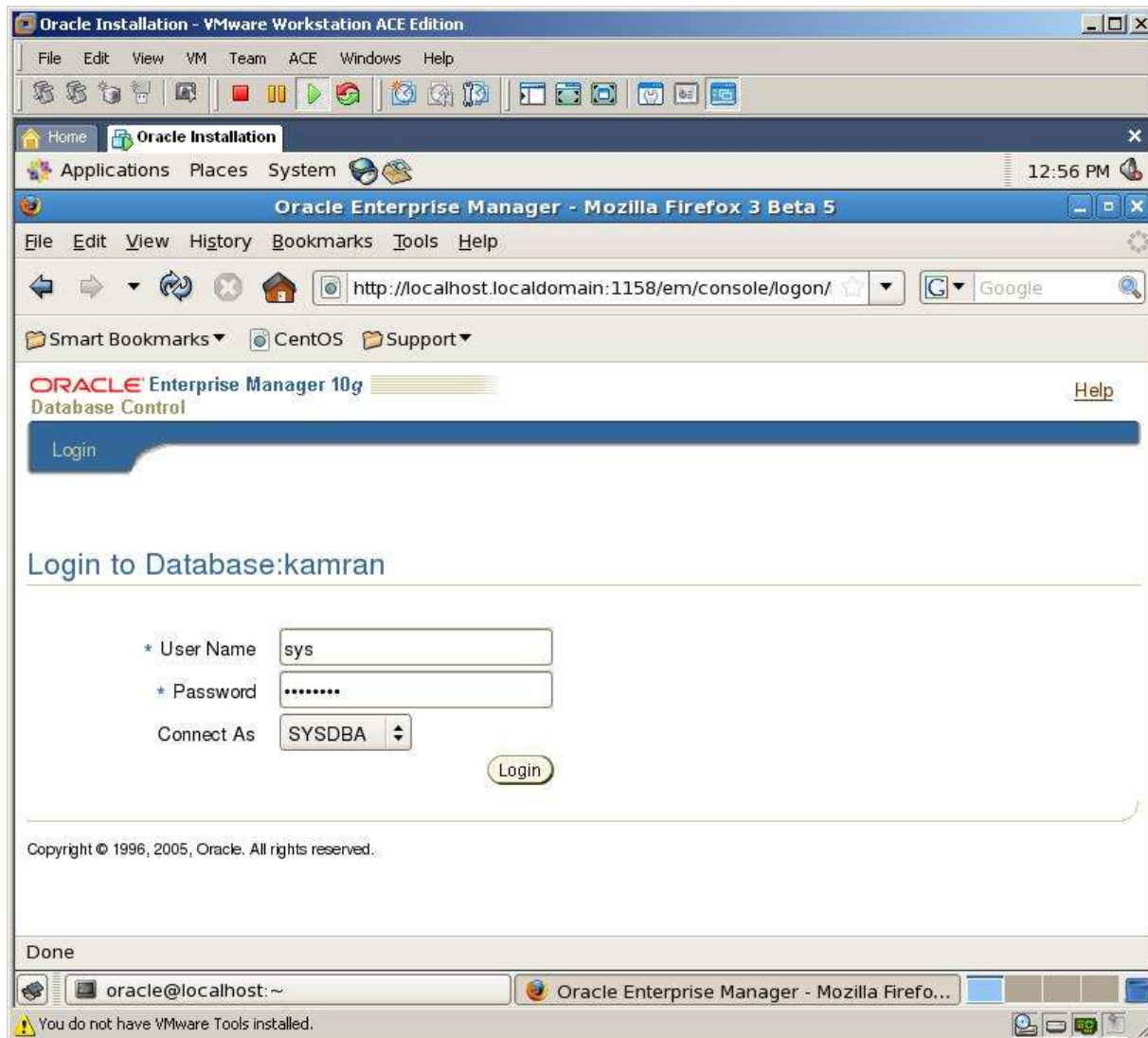
Then, start Enterprise Manager



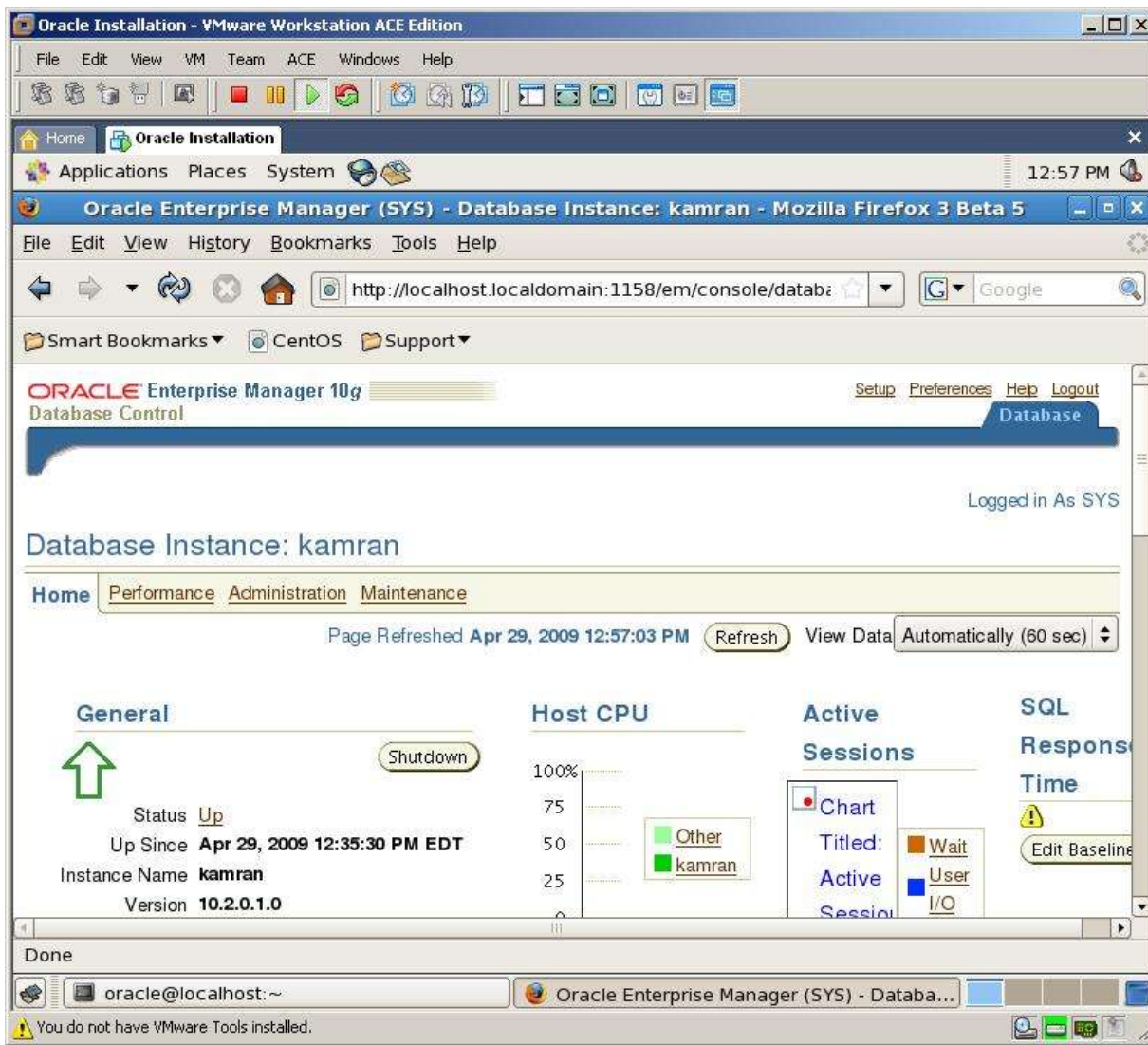
```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 12:54 PM
oracle@localhost:~
File Edit View Terminal Tabs Help
[oracle@localhost ~]$ emctl start dbconsole
TZ set to US/Eastern
Oracle Enterprise Manager 10g Database Control Release 10.2.0.1.0
Copyright (c) 1996, 2005 Oracle Corporation. All rights reserved.
http://localhost.localdomain:1158/em/console/aboutApplication
Starting Oracle Enterprise Manager 10g Database Control ..... started.
-----
Logs are generated in directory /home/oracle/oracle/product/10.2.0/db_1/localhost.localdomain_kam
ran/sysman/log
[oracle@localhost ~]$
```

Now, we can login to EM page to administer our database using above given address:

<http://localhost.localdomain:1158/em/>



Enter user sys and its password, then select “**SYSDBA**” as a role and click Login



Using Enterprise Manager, you can administer your database in very easy steps

That's all!! Our Database and EM is ready for use! Congratulations!!!

By following above mentioned steps we were able to install Oracle 10g R2 on CentOS 5. But if we carry out frequent tests and as a result of these tests each time we are to install Oracle Database, then we need to automate installation of Oracle Database. I would suggest two options to overcome this problem:

1. To install CentOS+Oracle on VMware and copy image of VMware to elsewhere, then each time use this image to get fresh copy of Oracle Database
2. To automate installation of Oracle Database by using Shell Script

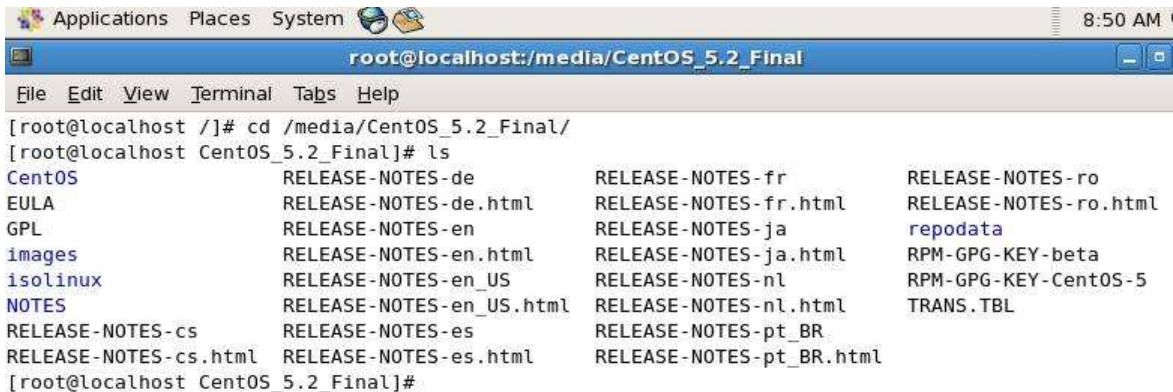
Let's explain each option in details:

1. Firstly, I usually create new Virtual Machine with 10GB size. Then, I install CentOS on it and create an Oracle Database with all its configurations. Then I shut down Virtual Machine and copy all the folders to another directory. Usually, I create two copies of the Virtual Machine. Then I do all my tests on the first Virtual Machine. When it becomes useless, I shut down and delete it as a whole folder, open second Virtual Machine which I've copied and continue my tests.
2. Second way is the best method of approach to the problem. For this, I create a shell script and write all steps and do all configuration changes from this script. By running this script once, all configurations needed for Oracle Installation will be changed automatically and we will only be asked for new oracle user's password and next we'll see installation page open.

Automating installation of Oracle Database 10g Release 2 on Centos 5 using Shell Script

To automate this job, we wrote a Shell Script. Before running this script, we should follow some steps as shown below:

1. Firstly you should know that before running this script we should create **install** directory in /tmp directory and copy zipped installation file of Oracle to this directory with this installation script
2. Before running this script we must be sure that installation DVD of CentOS has been inserted or installation DVD image of CentOS mounted to the system. You can check it by running this code:



```
root@localhost:/media/CentOS_5.2_Final
File Edit View Terminal Tabs Help
[root@localhost /]# cd /media/CentOS_5.2_Final/
[root@localhost CentOS_5.2_Final]# ls
CentOS          RELEASE-NOTES-de      RELEASE-NOTES-fr      RELEASE-NOTES-ro
EULA            RELEASE-NOTES-de.html RELEASE-NOTES-fr.html  RELEASE-NOTES-ro.html
GPL             RELEASE-NOTES-en      RELEASE-NOTES-ja      repodata
images          RELEASE-NOTES-en.html RELEASE-NOTES-ja.html  RPM-GPG-KEY-beta
isolinux        RELEASE-NOTES-en_US   RELEASE-NOTES-nl      RPM-GPG-KEY-CentOS-5
NOTES           RELEASE-NOTES-en_US.html RELEASE-NOTES-nl.html  TRANS.TBL
RELEASE-NOTES-cs      RELEASE-NOTES-es      RELEASE-NOTES-pt_BR
RELEASE-NOTES-cs.html RELEASE-NOTES-es.html  RELEASE-NOTES-pt_BR.html
[root@localhost CentOS_5.2_Final]#
```

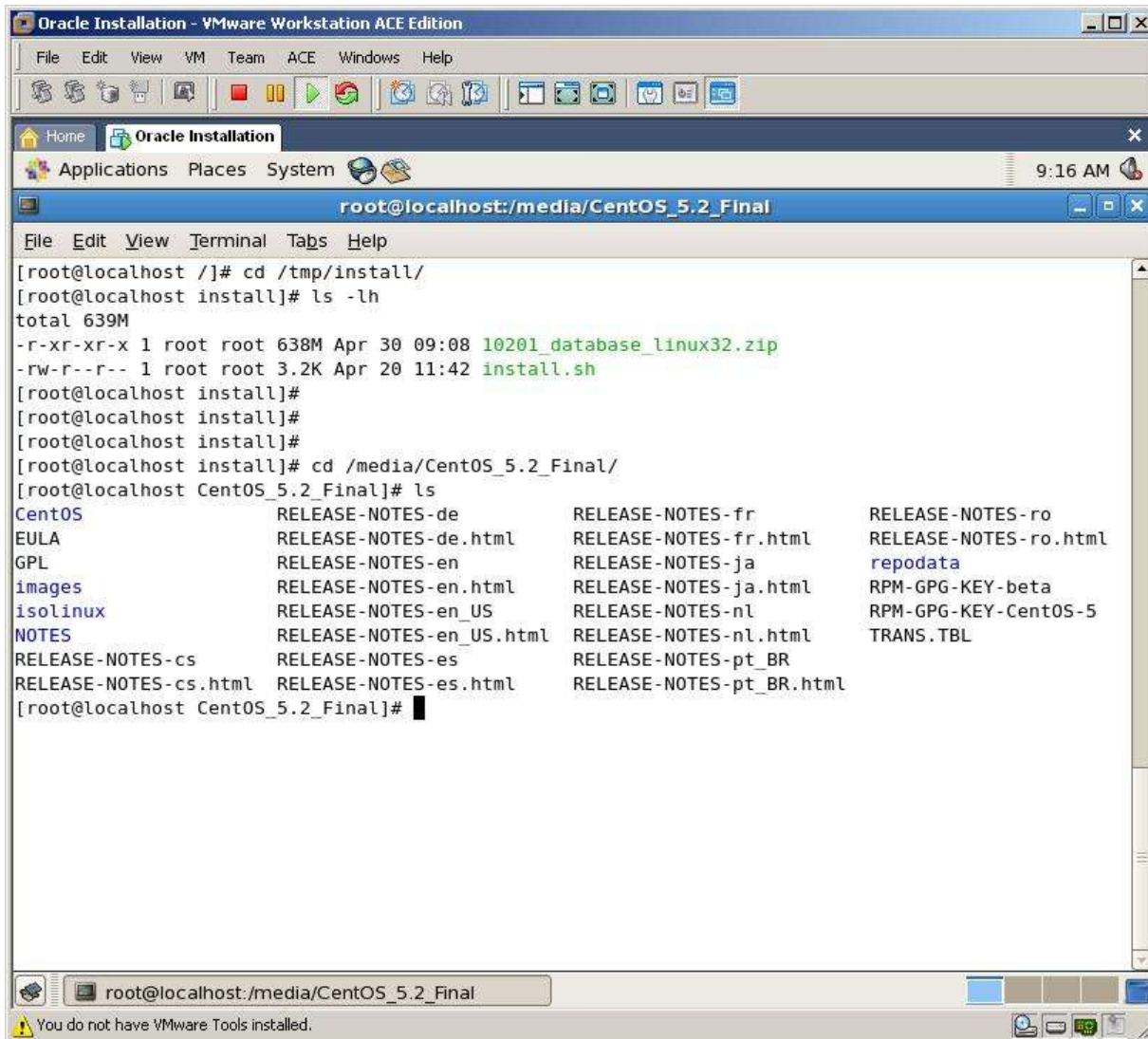
3. After installation completes, change the following Environment Variables and alias name into proper names which you've used during installation in the .bashrc file

1. ORACLE_HOME – If it is different folder, change it to correct value
2. ORACLE_SID – If it is different SID, change it to correct SID
3. As an alias, you can assign whatever you want

If everything is OK as mentioned above, we change directory to /tmp/install folder and run **install.sh** file. By running this shell script, all configurations needed for installation will be automatically changed and only thing asked will be oracle user's password. After that we'll see Oracle Database installation page. By clicking Next buttons we'll be able to install Oracle Software and Database very easily

Now, let's install Oracle Database 10g using this Shell Script

First of all, we need to create **install** folder in the **/tmp** directory and copy zipped installation file of Oracle Database 10g to **/tmp/install** directory with *install.sh* script and check their existence. After that we need to mount CentOS DVD once more, because we're going to install some packages that were not installed with CentOS. After getting below screen, you can start installation



```
Oracle Installation - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle Installation
Applications Places System 9:16 AM
root@localhost:/media/CentOS_5.2_Final
File Edit View Terminal Tabs Help
[root@localhost /]# cd /tmp/install/
[root@localhost install]# ls -lh
total 639M
-r-xr-xr-x 1 root root 638M Apr 30 09:08 10201_database_linux32.zip
-rw-r--r-- 1 root root 3.2K Apr 20 11:42 install.sh
[root@localhost install]#
[root@localhost install]#
[root@localhost install]#
[root@localhost install]# cd /media/CentOS_5.2_Final/
[root@localhost CentOS_5.2_Final]# ls
CentOS          RELEASE-NOTES-de          RELEASE-NOTES-fr          RELEASE-NOTES-ro
EULA            RELEASE-NOTES-de.html     RELEASE-NOTES-fr.html    RELEASE-NOTES-ro.html
GPL            RELEASE-NOTES-en          RELEASE-NOTES-ja          repodata
images         RELEASE-NOTES-en.html     RELEASE-NOTES-ja.html    RPM-GPG-KEY-beta
isolinux       RELEASE-NOTES-en_US       RELEASE-NOTES-nl          RPM-GPG-KEY-CentOS-5
NOTES          RELEASE-NOTES-en_US.html  RELEASE-NOTES-nl.html    TRANS.TBL
RELEASE-NOTES-cs  RELEASE-NOTES-es          RELEASE-NOTES-pt_BR
RELEASE-NOTES-cs.html  RELEASE-NOTES-es.html    RELEASE-NOTES-pt_BR.html
[root@localhost CentOS_5.2_Final]#
```

Here we see that

- We have zipped installation file of Oracle Database 10g in the **/tmp/install** directory
- We mounted CentOS DVD

Now, switch to **/tmp/install** folder and run *install.sh* script


```
root@localhost:/tmp/install
File Edit View Terminal Tabs Help
[root@localhost /]# cd /tmp/install/
[root@localhost install]# ls
10201_database_linux32.zip install.sh
[root@localhost install]# chmod 755 install.sh
[root@localhost install]# ./install.sh
Installing rpm packages ...
warning: /media/CentOS_5.2_Final/CentOS/compat-db-4.2.52-5.1.i386.rpm: Header V3
DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
1:compat-db ##### [100%]
warning: /media/CentOS_5.2_Final/CentOS/sysstat-7.0.2-1.el5.i386.rpm: Header V3
DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
1:sysstat ##### [100%]
warning: /media/CentOS_5.2_Final/CentOS/libaio-devel-0.3.106-3.2.i386.rpm: Header V3
DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
1:libaio-devel ##### [100%]
warning: /media/CentOS_5.2_Final/CentOS/libXp-1.0.0-8.1.el5.i386.rpm: Header V3
DSA signature: NOKEY, key ID e8562897
Preparing... ##### [100%]
1:libXp ##### [100%]
Rpm packages installed
```

```
root@localhost:/tmp/install
File Edit View Terminal Tabs Help
Changing limits.conf file
limits.conf file changed successfully

Changing /etc/profile file ...
/etc/profile file changed successfully

Changing /etc/pam.d/login file ...
/etc/pam.d/login file changed successfully

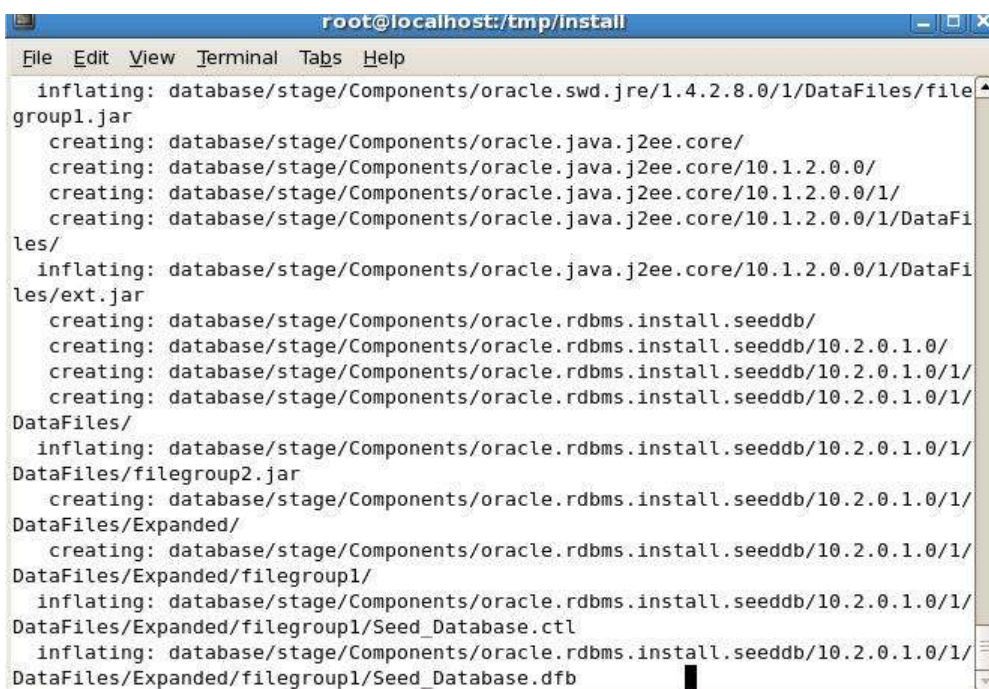
Changing kernel parameters ...
Kernel parameters changed successfully

net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
net.ipv4.tcp_syncookies = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmmax = 4294967295
kernel.shmall = 268435456
kernel.shmmax = 2147483648
kernel.shmall = 2097152
```

```
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
fs.file-max = 65536
net.ipv4.ip_local_port_range = 1024 65000
net.core.rmem_default = 1048576
net.core.rmem_max = 1048576
net.core.wmem_default = 262144
net.core.wmem_max = 262144
Changing /etc/redhat-release file ...
/etc/redhat-release file changed successfully

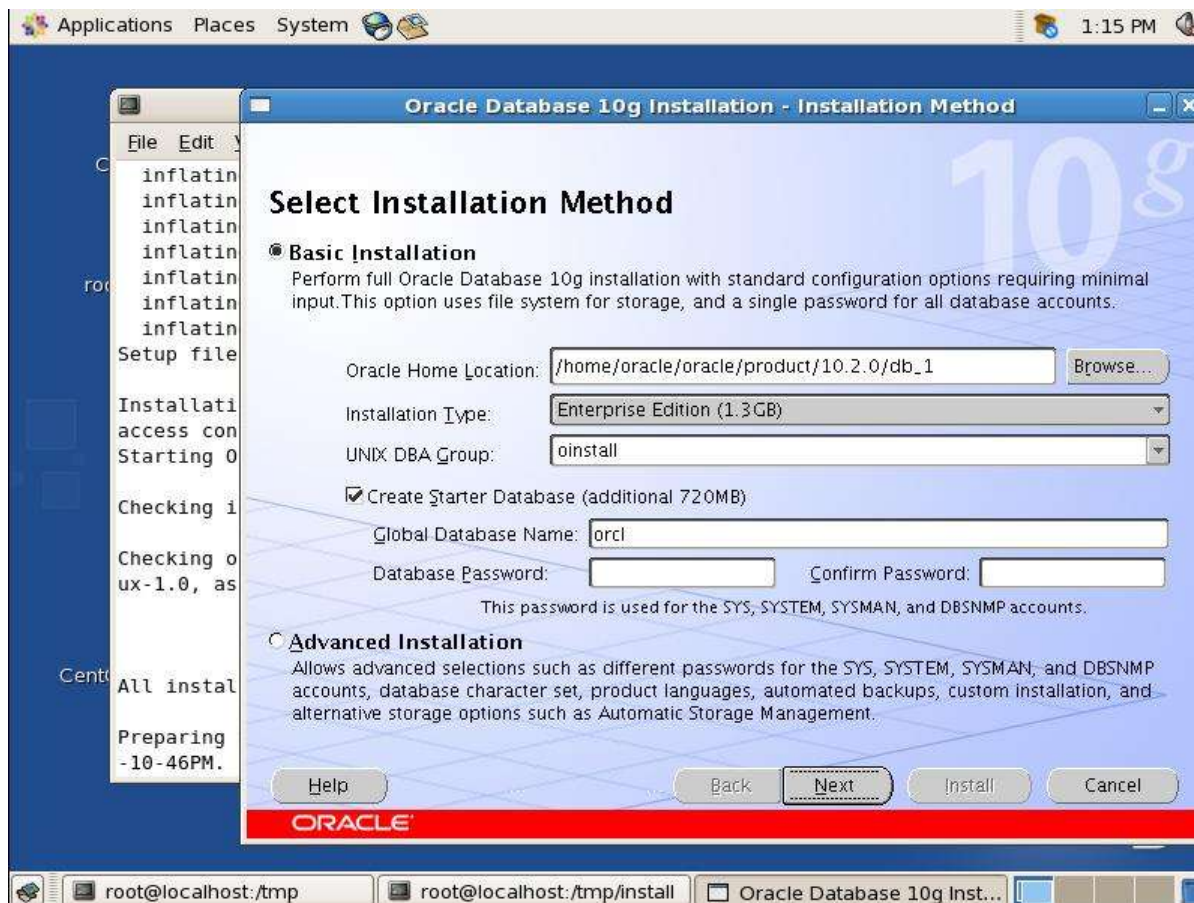
Creating new groups and 'oracle' user ...
Changing password for user oracle.
New UNIX password: █
```

Here, enter oracle user's password. Then click ok. After this step, zipped file will be unzipped



```
root@localhost:/tmp/install
File Edit View Terminal Tabs Help
inflating: database/stage/Components/oracle.swd.jre/1.4.2.8.0/1/DataFiles/file
group1.jar
creating: database/stage/Components/oracle.java.j2ee.core/
creating: database/stage/Components/oracle.java.j2ee.core/10.1.2.0.0/
creating: database/stage/Components/oracle.java.j2ee.core/10.1.2.0.0/1/
creating: database/stage/Components/oracle.java.j2ee.core/10.1.2.0.0/1/DataFi
les/
inflating: database/stage/Components/oracle.java.j2ee.core/10.1.2.0.0/1/DataFi
les/ext.jar
creating: database/stage/Components/oracle.rdbms.install.seeedb/
creating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/
creating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
creating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/
inflating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/filegroup2.jar
creating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/Expanded/
creating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/Expanded/filegroup1/
inflating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/Expanded/filegroup1/Seed_Database.ctl
inflating: database/stage/Components/oracle.rdbms.install.seeedb/10.2.0.1.0/1/
DataFiles/Expanded/filegroup1/Seed_Database.dfb █
```

After it finishes unzipping, we'll get Installation Window



That's all! After getting this page, you should follow above mentioned installation steps in which we installed Oracle Database manually.

Using automatic install script we've avoided of all configuration settings and got Oracle 10gR2 installer page opened successfully

The automatic installation script for Oracle Database on Linux is as follows:

```
#####----- Installing Rpm files -----#####
```

```
#Change directory to /tmp/install
```

```
cd /tmp/install
```

```
#Install all packages that are not installed during OS installation and that are required packages  
for Oracle Database 10gR2
```

```
echo "Installing rpm packages ..."
```

```
rpm -Uvh "$(find /media/ -name compat-db*)"
```

```
rpm -Uvh "$(find /media/ -name sysstat*)"
```

```
rpm -Uvh "$(find /media/ -name libaio-devel*)"
```

```
rpm -Uvh "$(find /media/ -name libXp-1*)"
```

```
echo "Rpm packages installed
```

```
"
```

```
#Add lines to limits.conf file
```

```
echo "Changing limits.conf file"
```

```
cat >> /etc/security/limits.conf <<EOF
```

```
oracle soft nproc 2047
```

```
oracle hard nproc 16384
```

```
oracle soft nofile 1024
```

```
oracle hard nofile 65536
```

```
EOF
```

```
echo "limits.conf file changed successfully
```

```
"
```

#Add lines to profile to give maximum limit for Oracle user

echo "Changing /etc/profile file"

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

echo "/etc/profile file changed successfully

"

#Add line to /etc/pam.d/login file

echo "Changing /etc/pam.d/login file ..."

cat >> /etc/pam.d/login <<EOF

session required /lib/security/pam_limits.so

EOF

echo "/etc/pam.d/login file changed successfully

"

#Add some kernel parameters to /etc/sysctl.conf file

echo “Changing kernel parameters ... “

cat >> /etc/sysctl.conf <<EOF

kernel.shmmax = 2147483648

kernel.shmall = 2097152

kernel.shmmni=4096

kernel.sem=250 32000 100 128

fs.file-max=65536

net.ipv4.ip_local_port_range=1024 65000

net.core.rmem_default=1048576

net.core.rmem_max=1048576

net.core.wmem_default=262144

net.core.wmem_max=262144

EOF

echo “Kernel parameters changed successfully

“

#Save all new kernel parameters

/sbin/sysctl -p

#Add “redhat-4” line to /etc/redhat-release file

echo “Changing /etc/redhat-release file ...”

cp /etc/redhat-release /etc/redhat-release.original

echo “redhat-4” > /etc/redhat-release

```
echo "/etc/redhat-release file changed successfully"

"

#Create new groups and "oracle" user and add this user to group

echo "Creating new groups and 'oracle' user ..."

groupadd oinstall

groupadd dba

useradd -m -g oinstall -G dba -d /home/oracle -s /bin/bash -c "Oracle Software Owner" oracle

passwd oracle

echo "Groups and user created successfully"

"

#Adding Environment Variables

#Adding Environment Variables

cat >> /home/oracle/.bashrc <<EOF

export ORACLE_HOME=/home/oracle/oracle/product/10.2.0/db_1

export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ORACLE_HOME/lib

export PATH=$ORACLE_HOME/bin:$PATH

alias mydb='export ORACLE_SID=mydb;sqlplus "/ as sysdba"'

export ORACLE_SID=mydb

EOF

EOF

#Unzip setup of Oracle

echo "Unzipping setup of Oracle 10g Release 2.... "
```

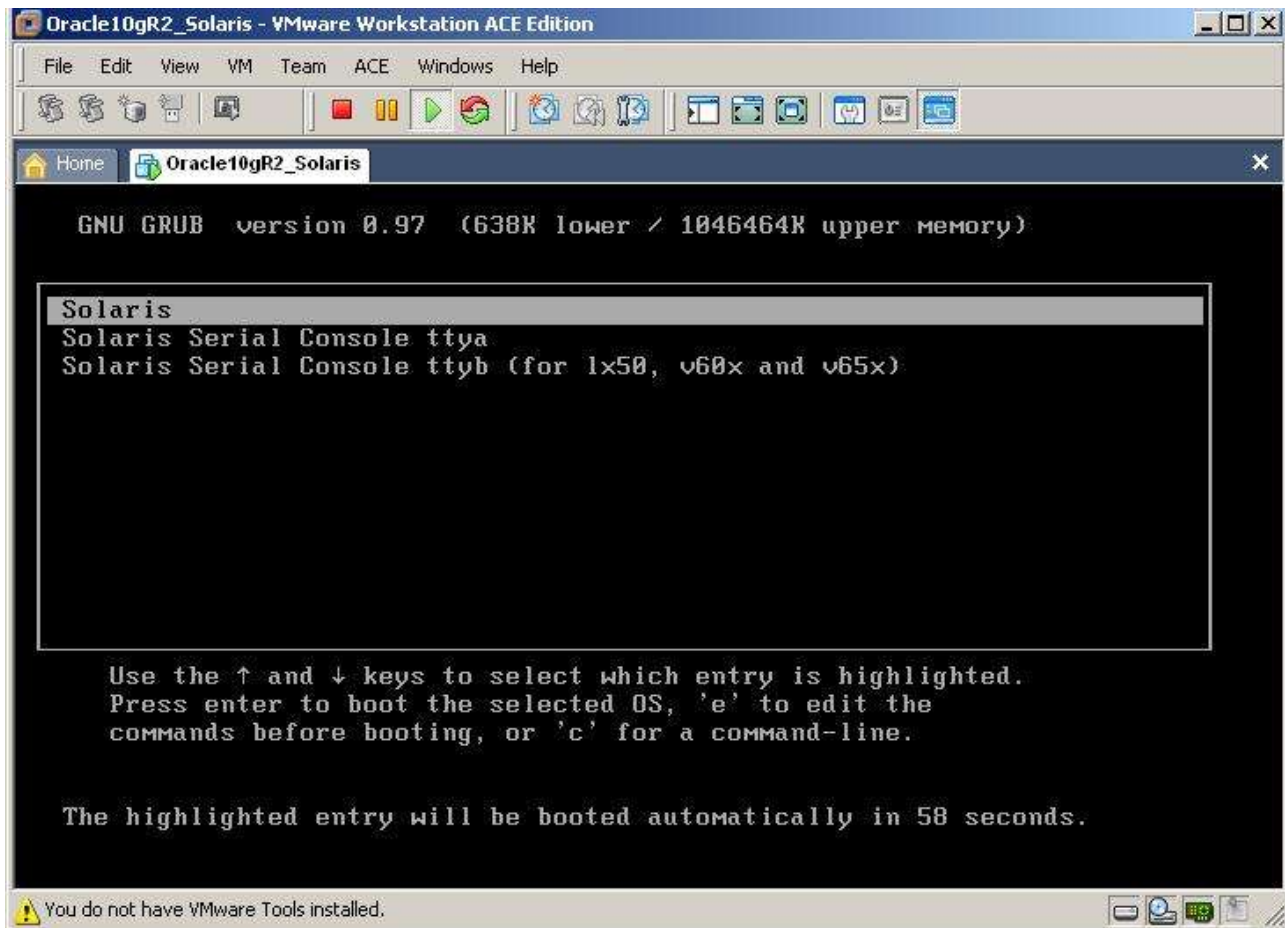
```
unzip 10201_database_linux32.zip
echo "Setup file successfully unzipped
"
#Enter to installation directory and run the installation ...
echo "Installation begins ..."
cd /tmp/install/database
chmod 755 runInstaller
chmod 755 install/.oui
chmod 755 install/unzip
xhost +
sudo -u oracle /tmp/install/database/runInstaller
```

Step by Step Installing Oracle Database 10gR2 on Oracle Solaris 10

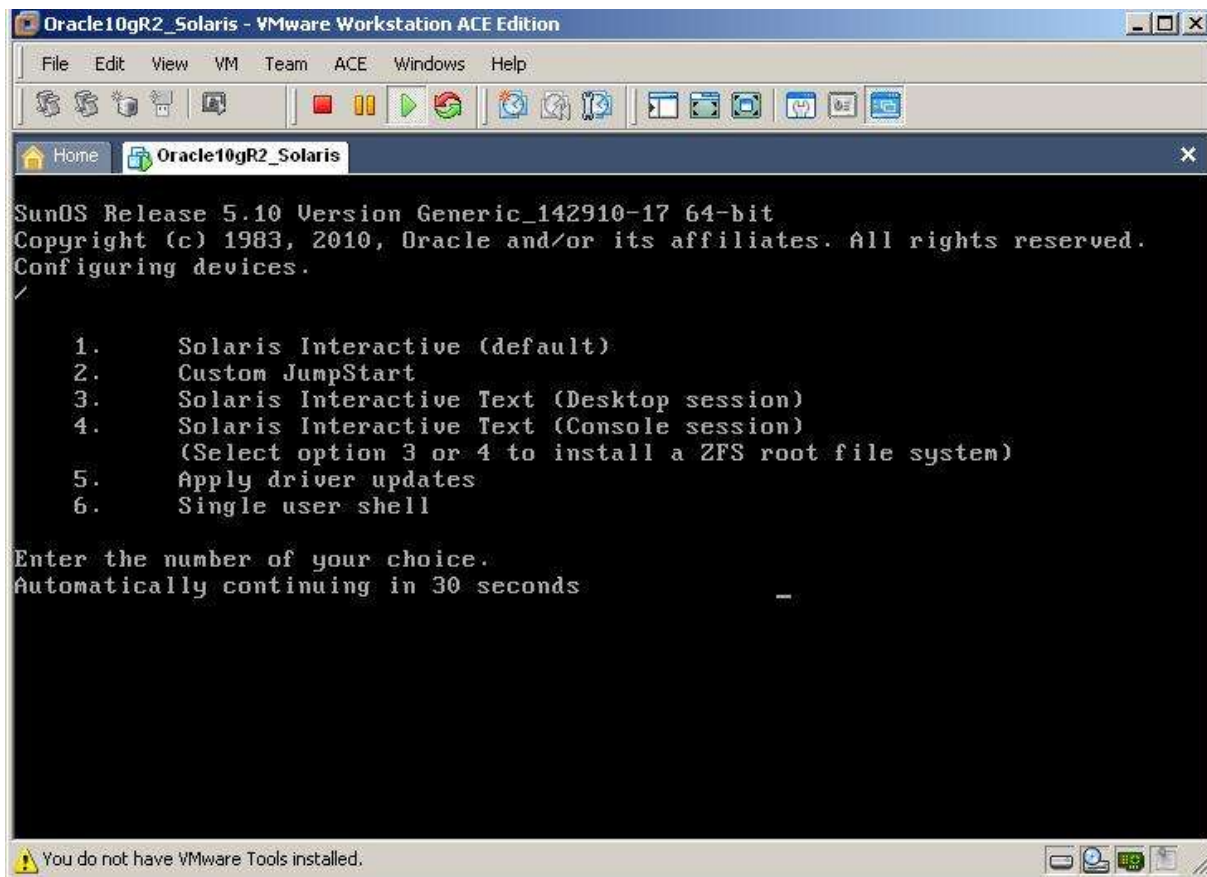
At last I've found time to create a Step by Step instruction on installing Oracle 10gR2 on Oracle Solaris 10. If you follow this instruction, you'll successfully install Oracle on Solaris. If you get any error, do not hesitate to contact me

So, let's begin. As a first step, download [Oracle 10gR2](#) and [Oracle Solaris](#), create a virtual machine using my previous [instruction](#), but don't forget to select "Solaris 10" on "Operating System types".

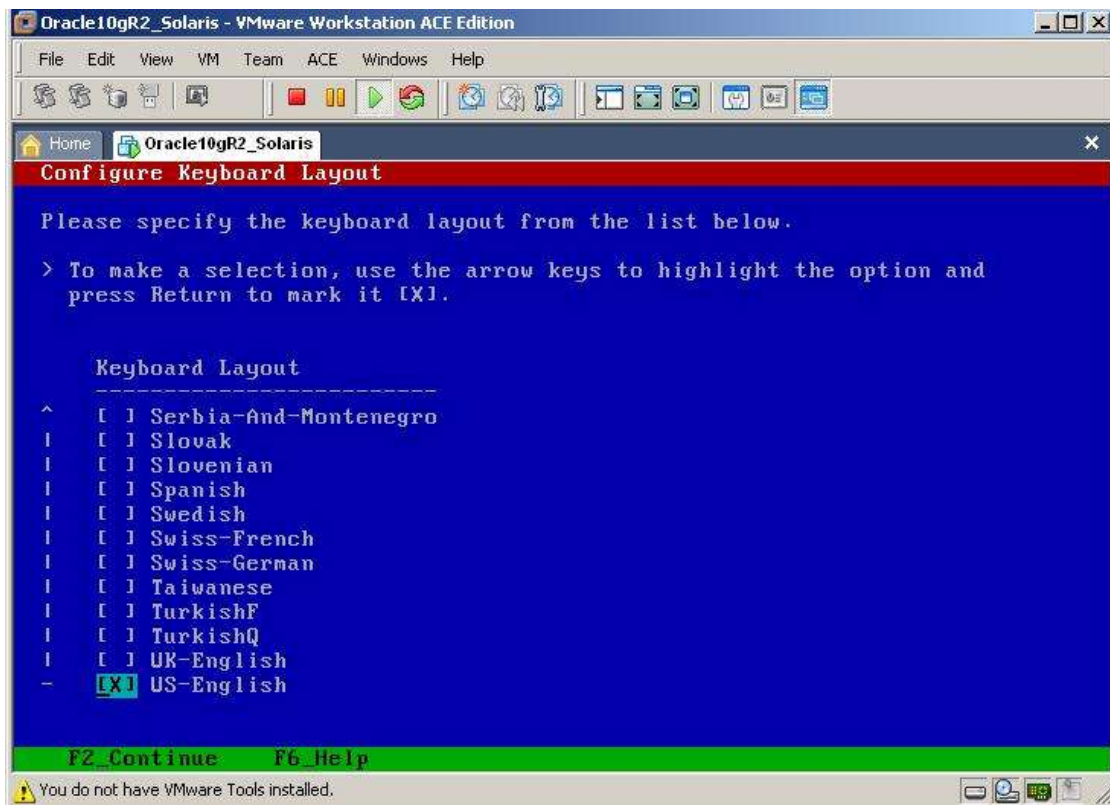
Next, unzip downloaded Solaris zip file, mount .iso file and start the virtual machine. You should get the following screen:



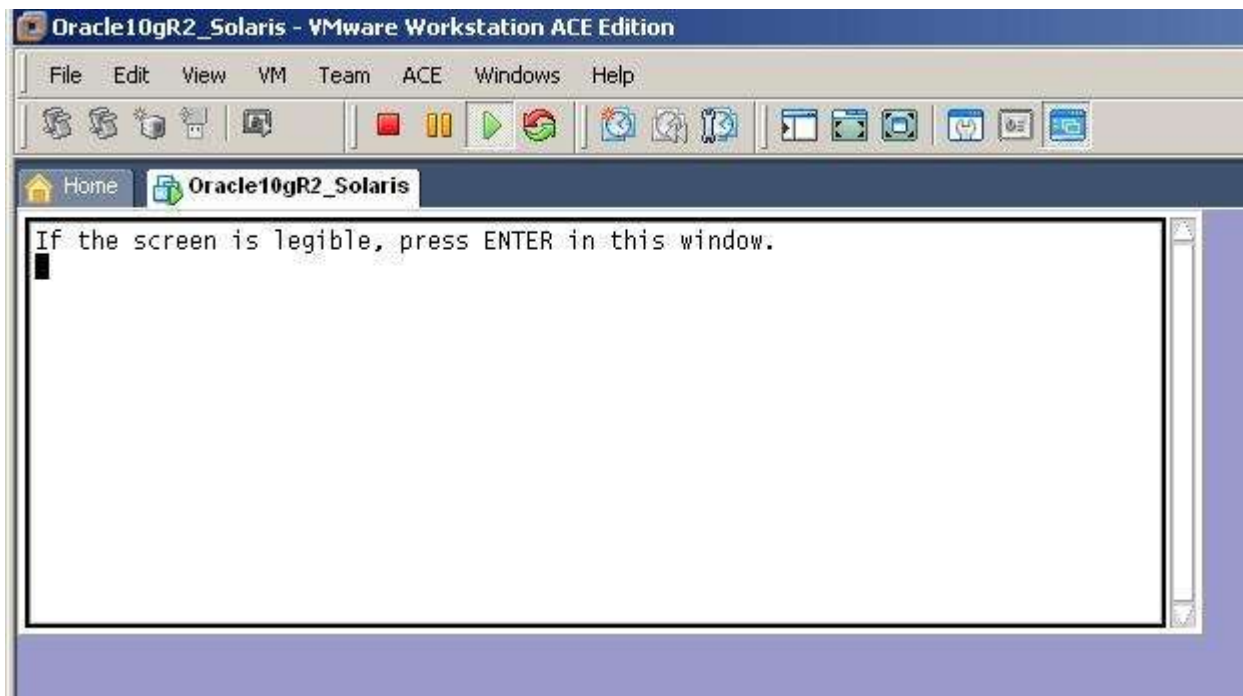
Press Enter



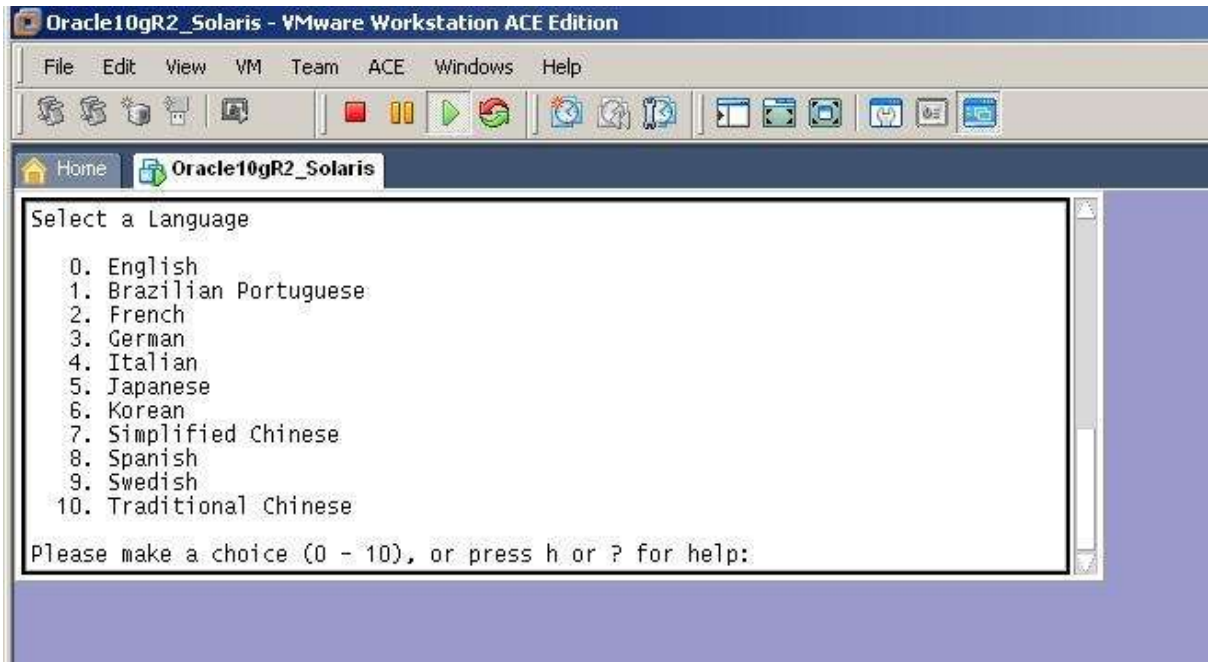
In the above screen type “1” and press Enter



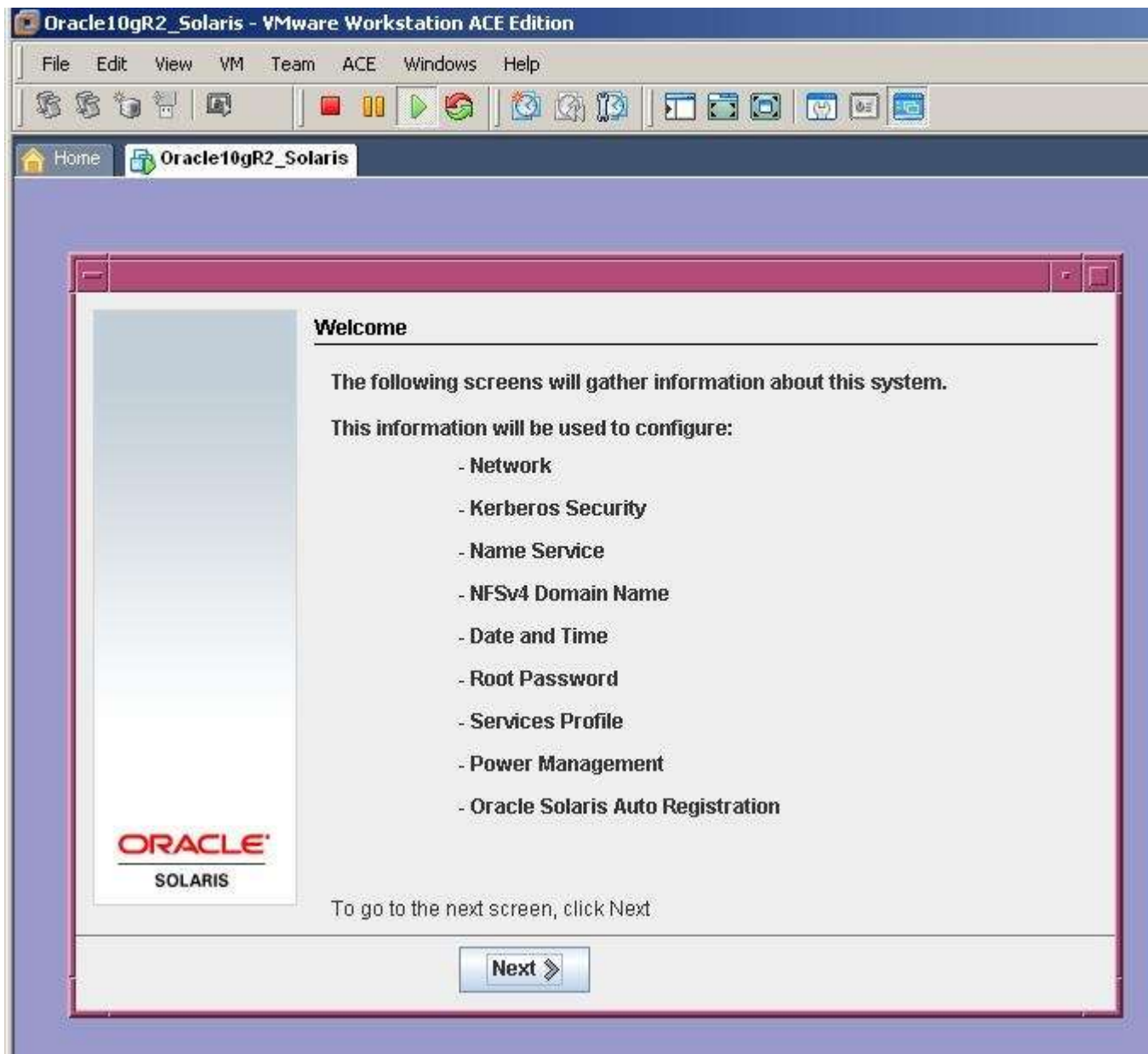
Select appropriate keyboard layout and press F2



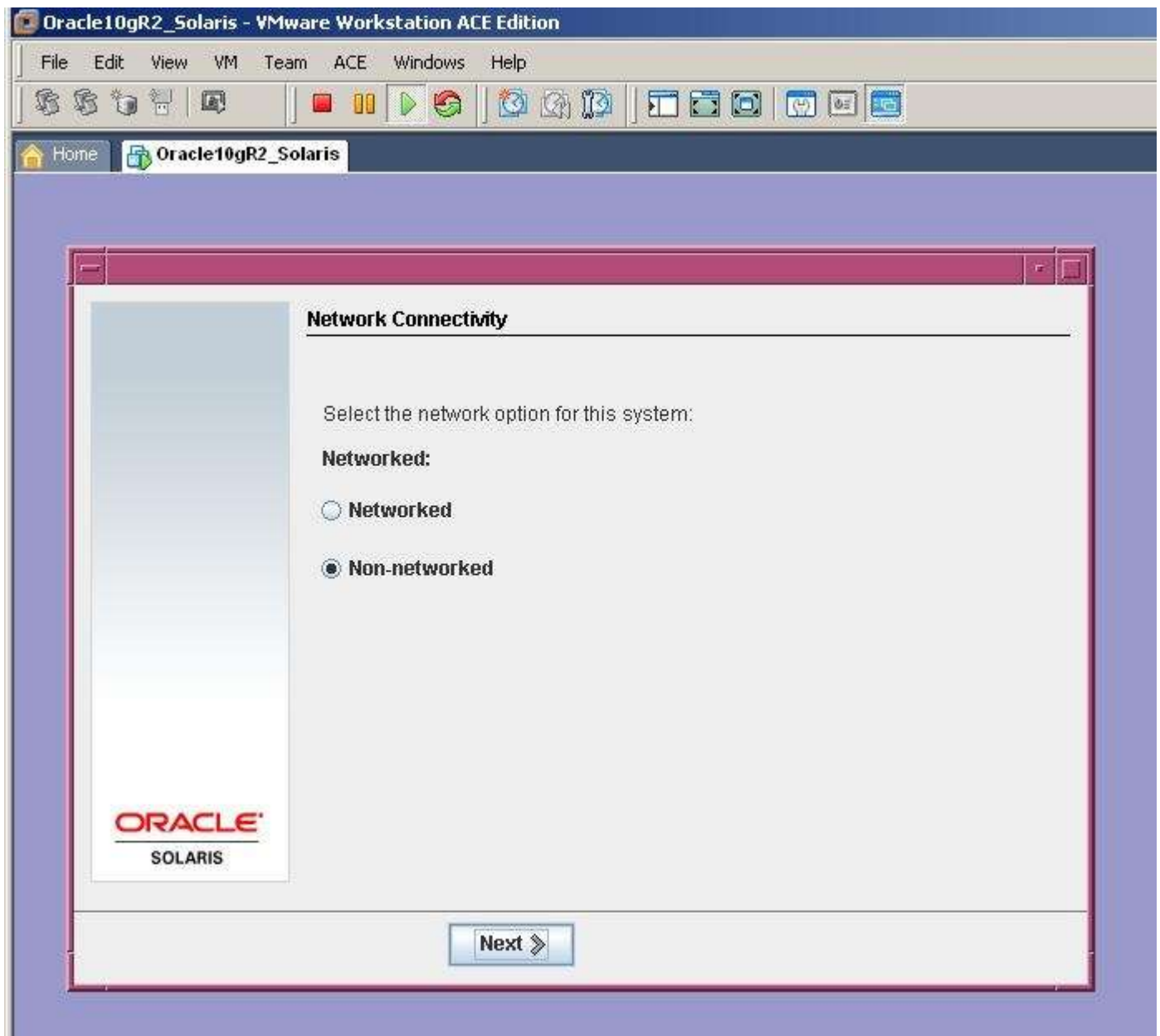
If you see the above screen, the click on the opened window and press Enter



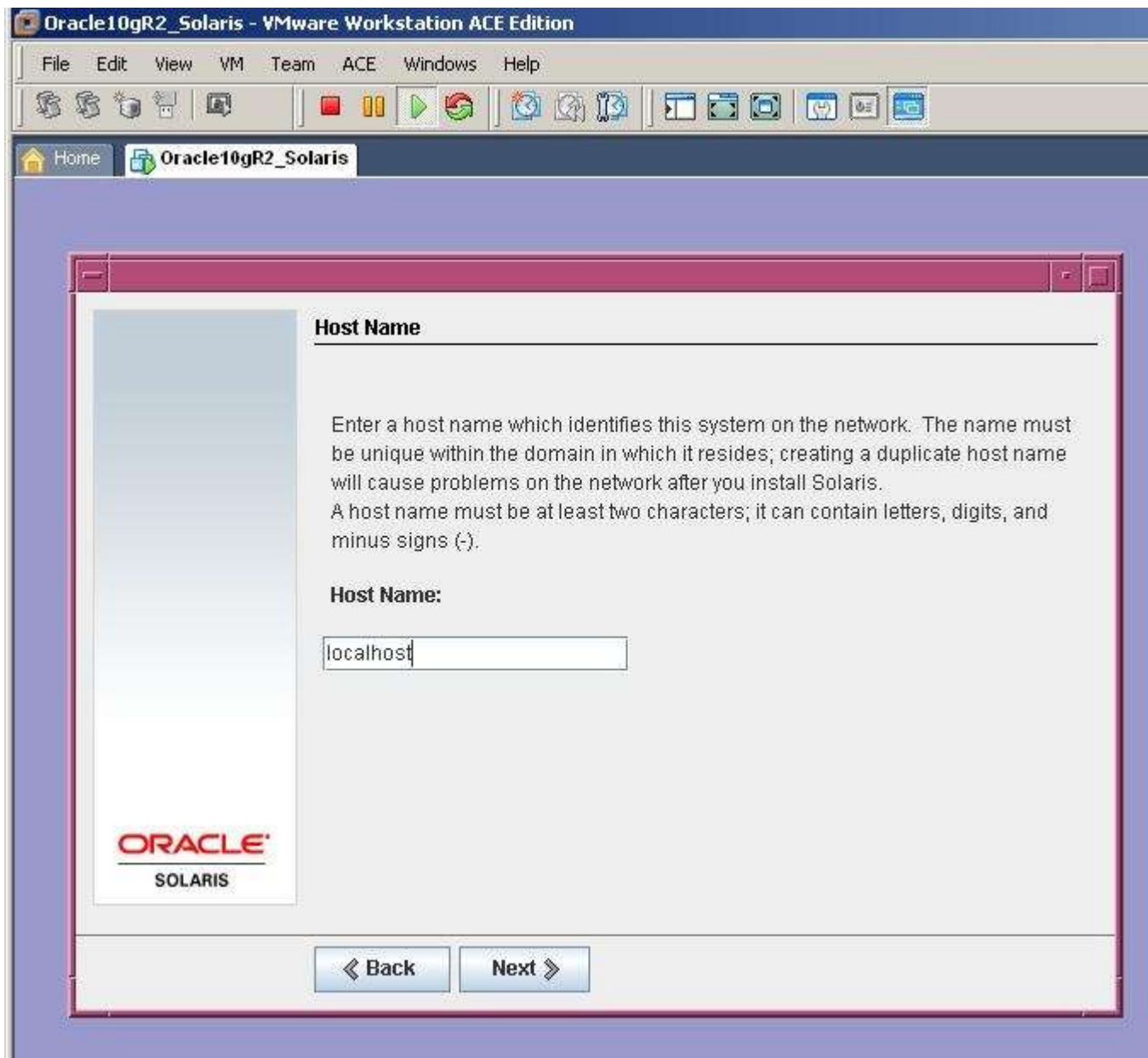
Select the language and press Enter



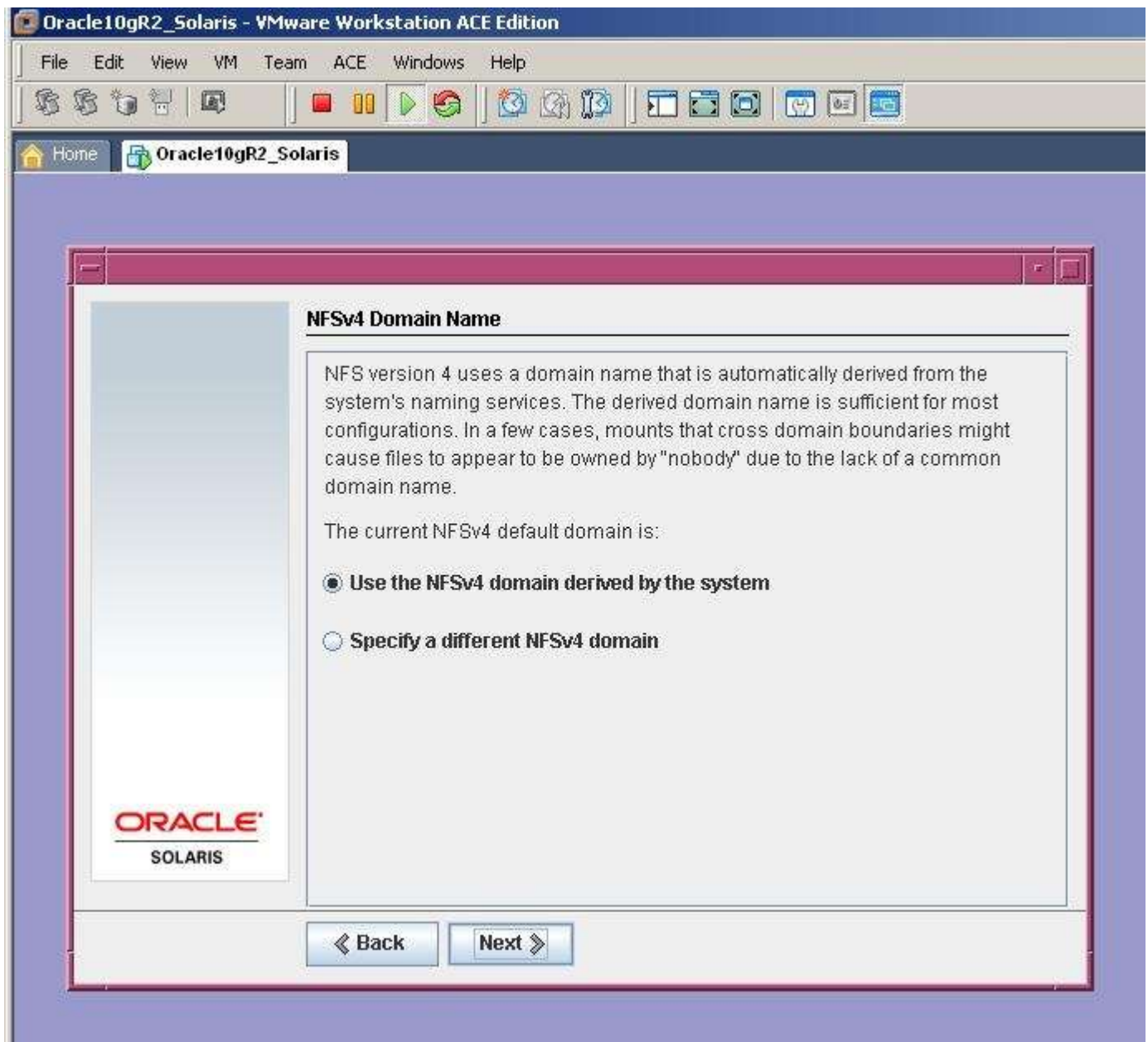
Click Next



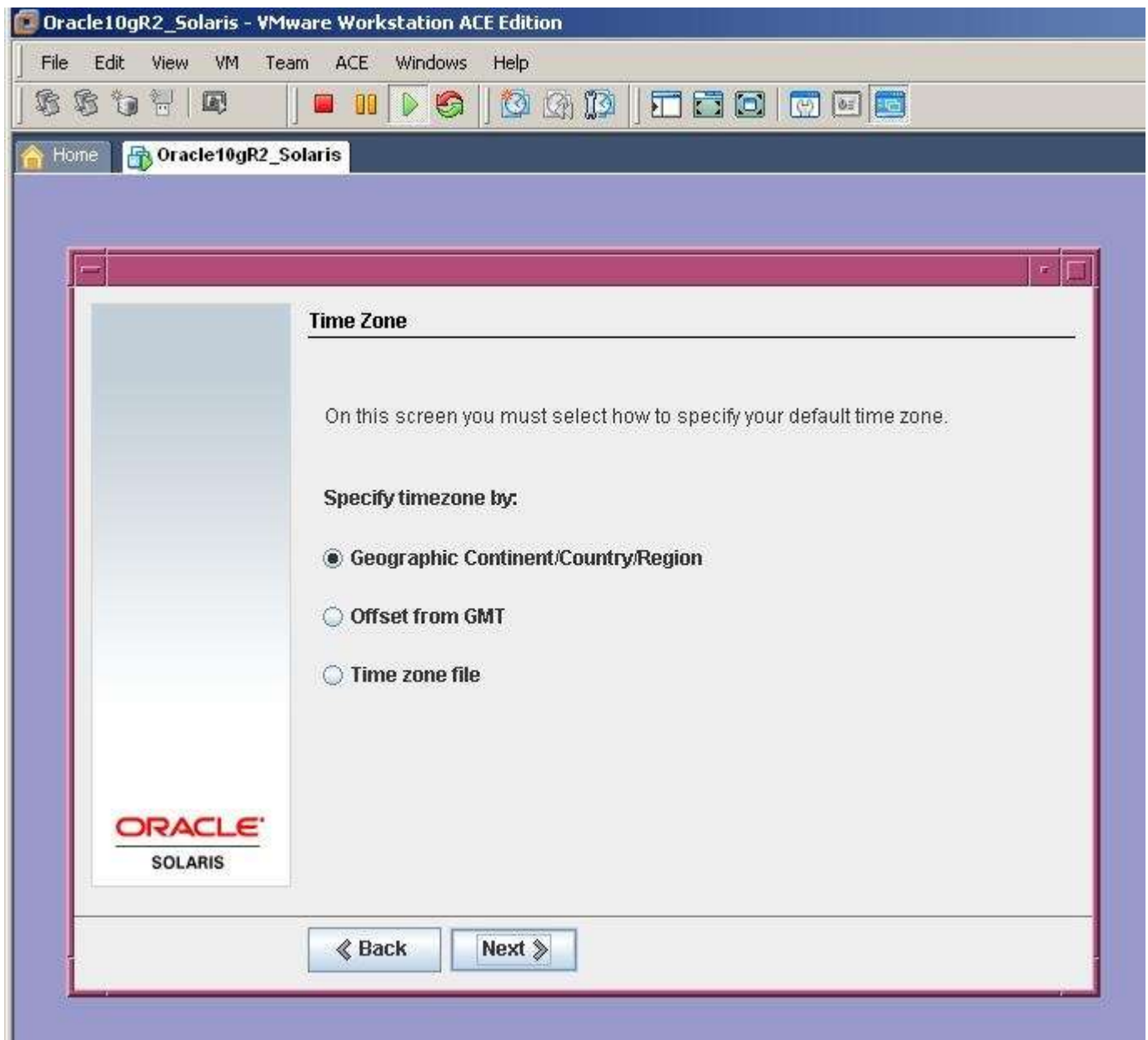
Select the Network Connectivity and click Next



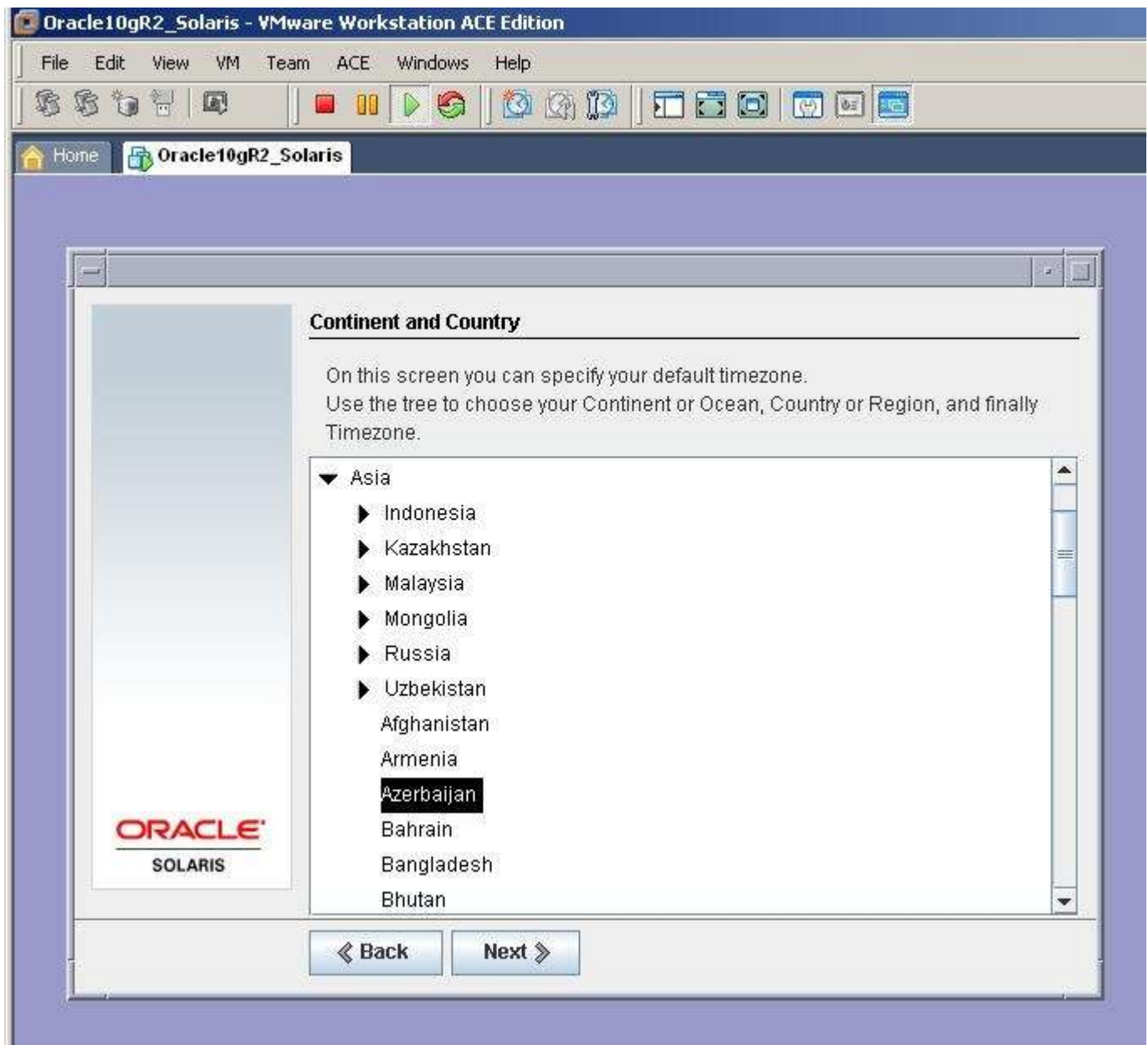
Provide the name of the host and click Next



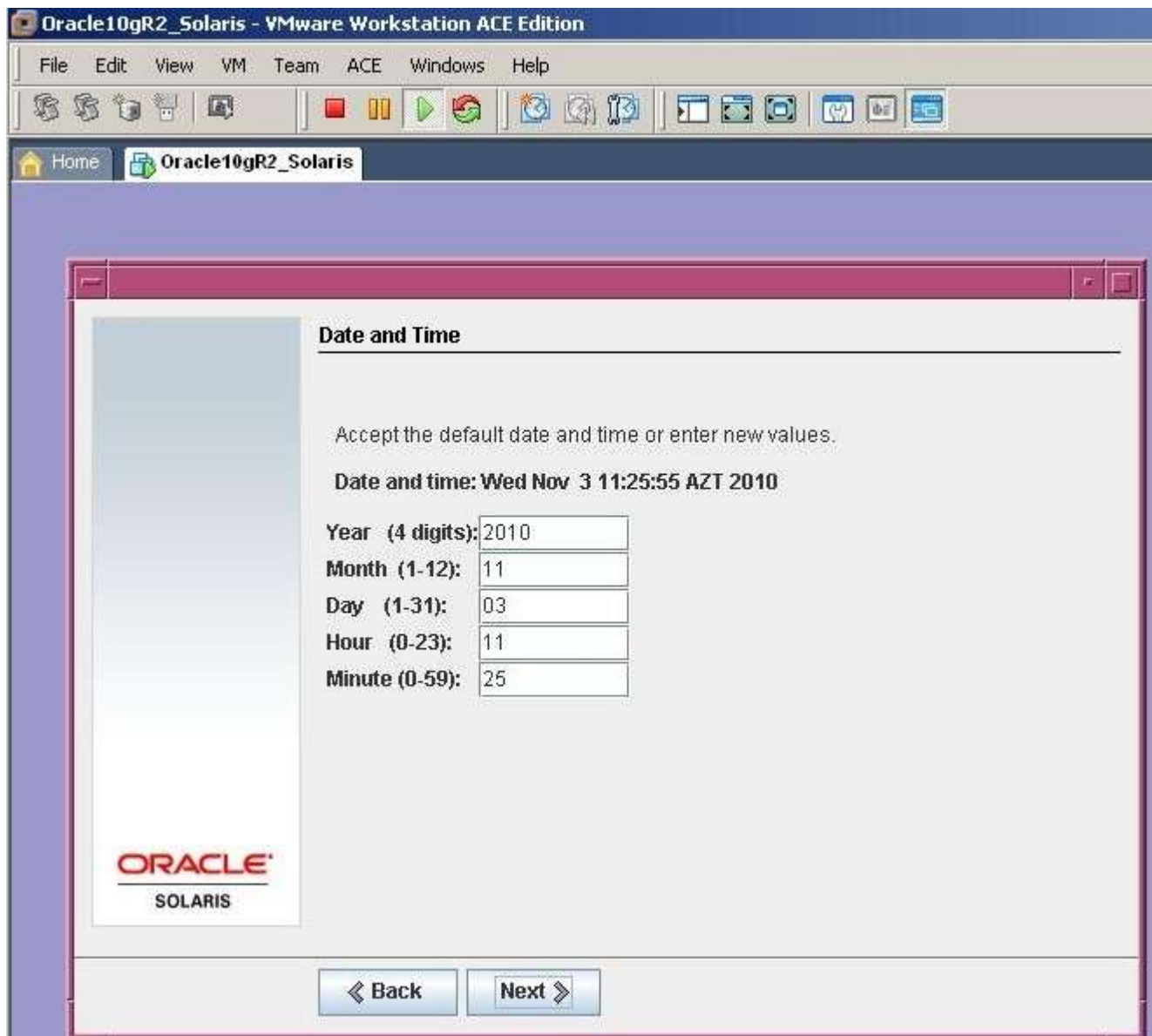
Click Next



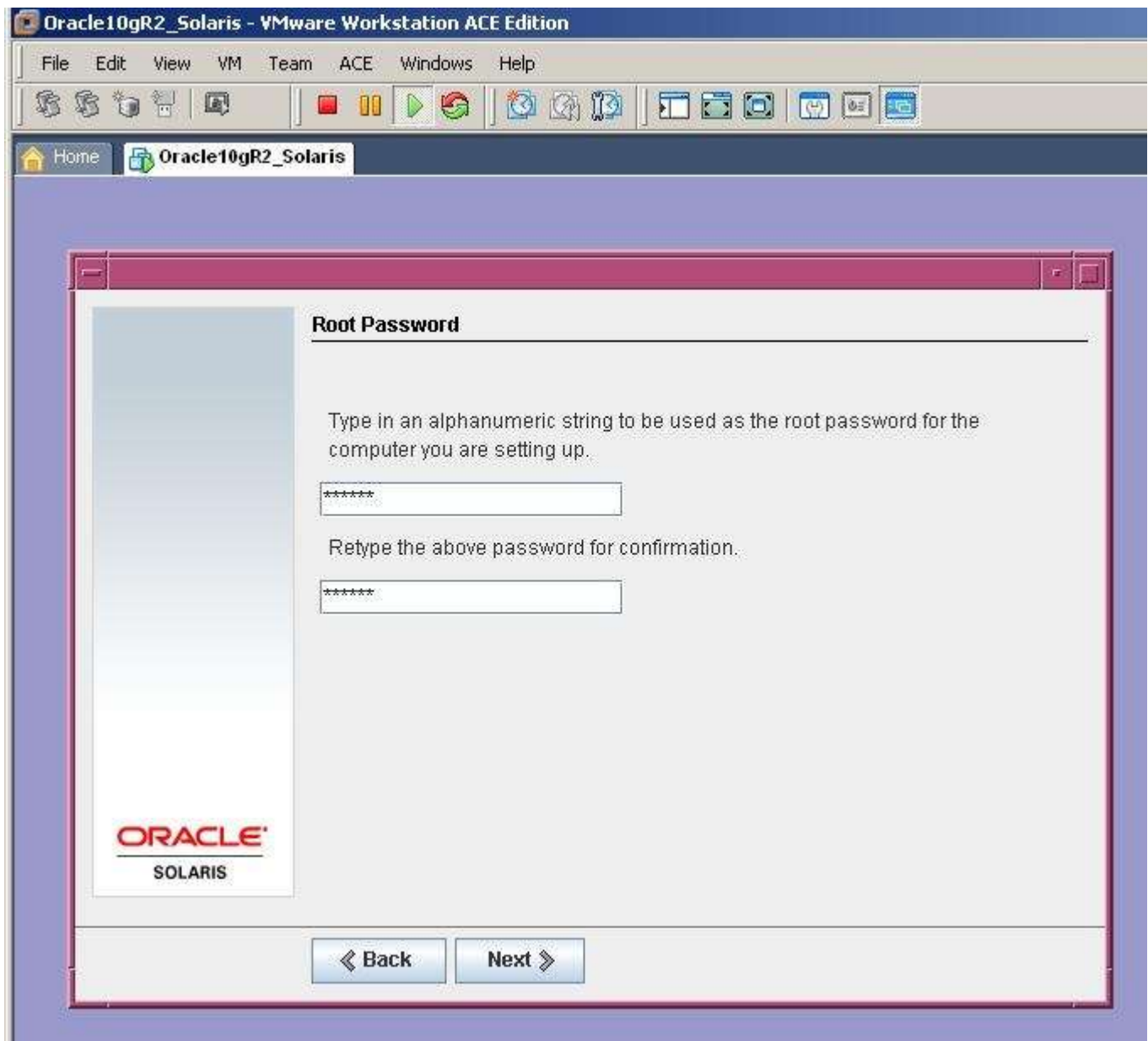
Click Next



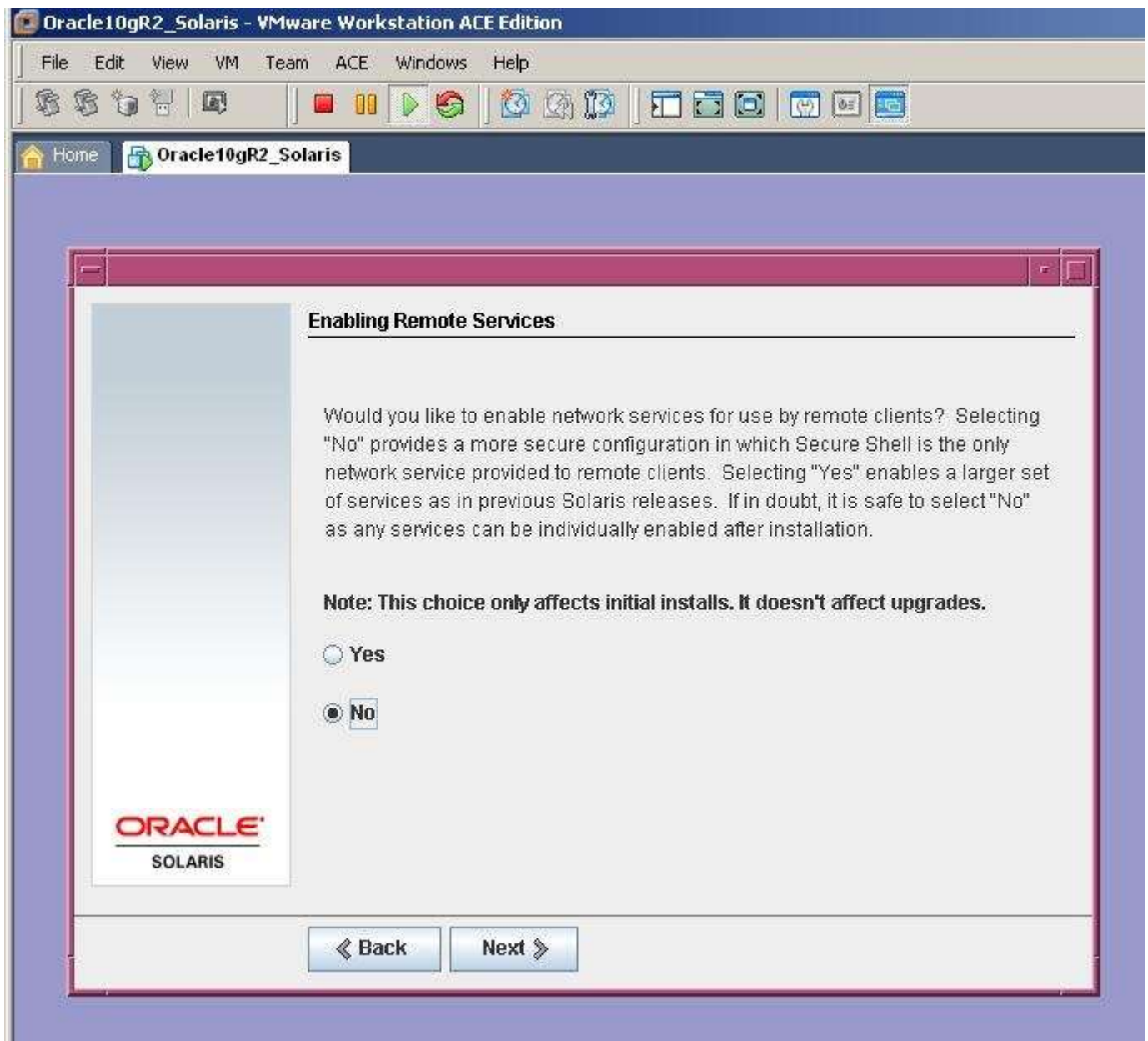
Select your country and click Next



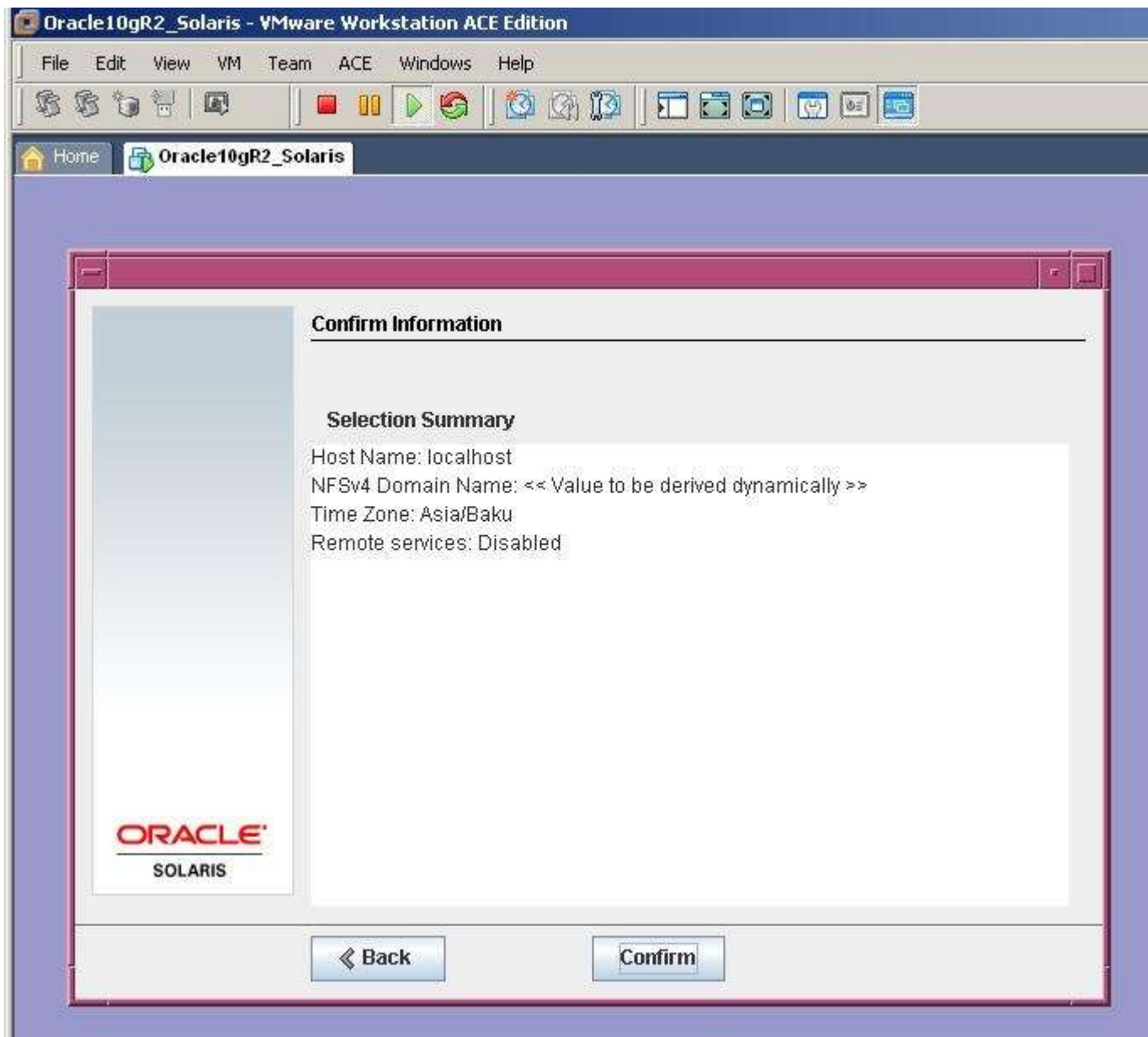
Provide correct date and time and click Next



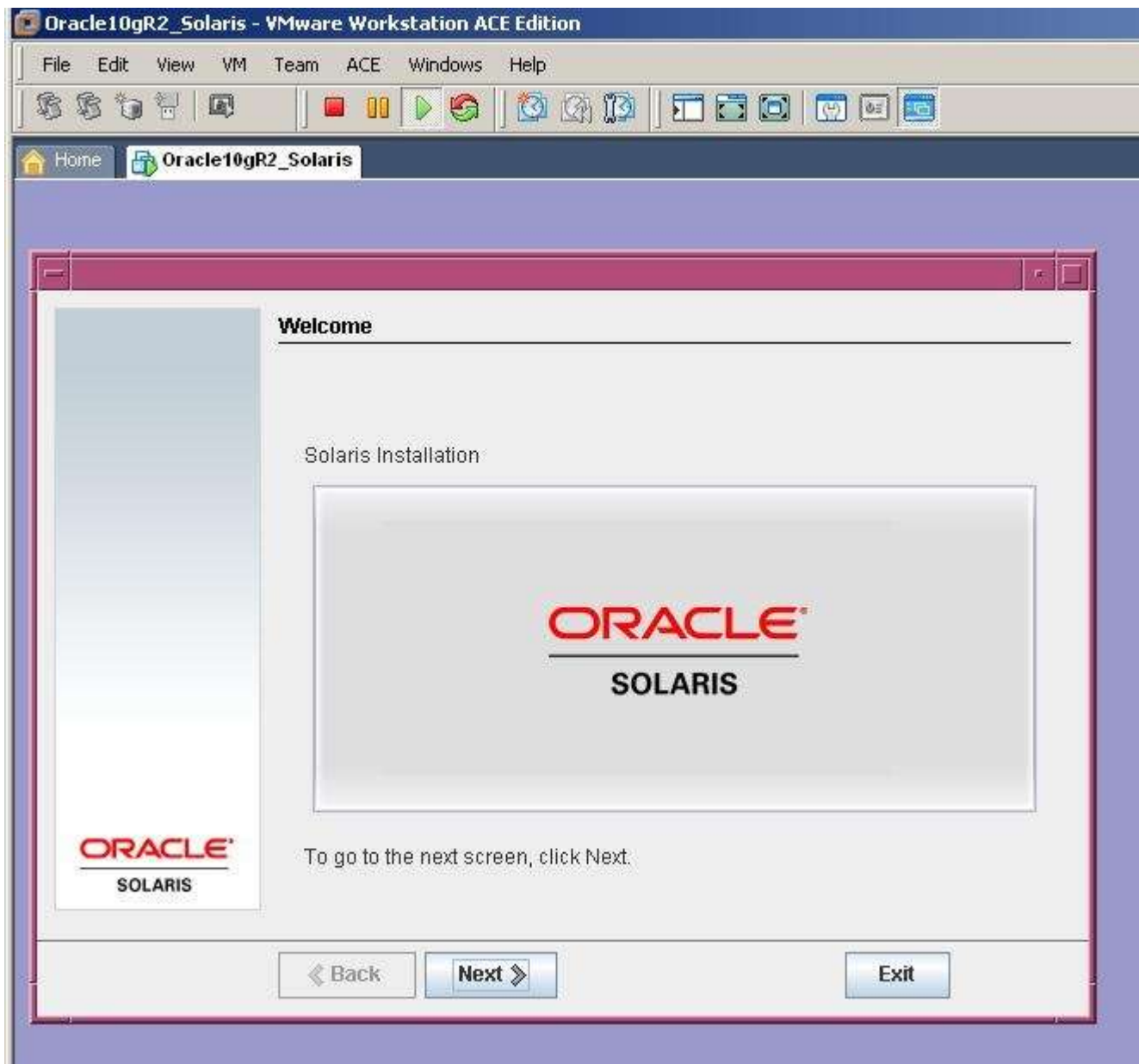
Provide a password for the root user and click Next



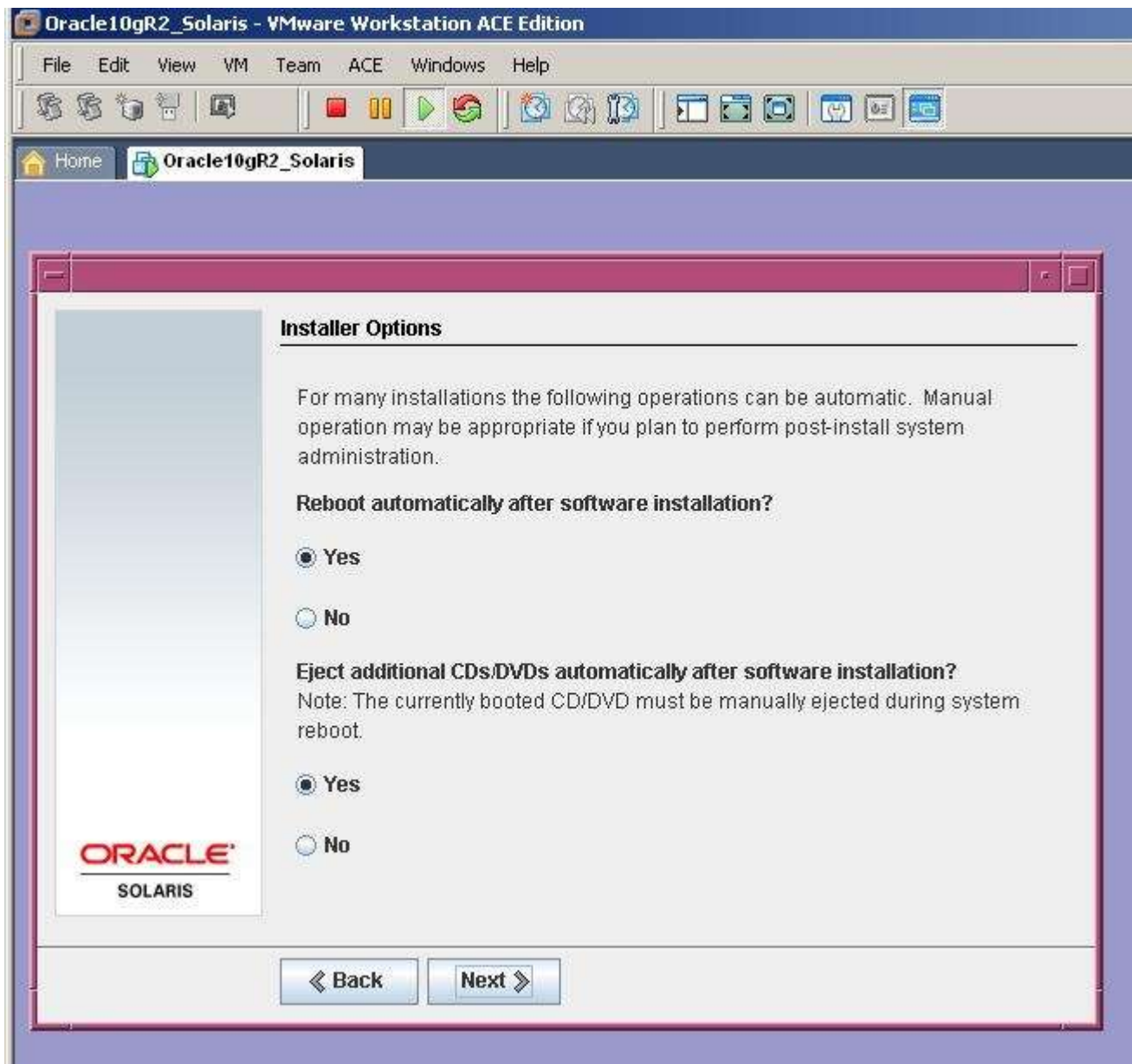
Select No and click Next



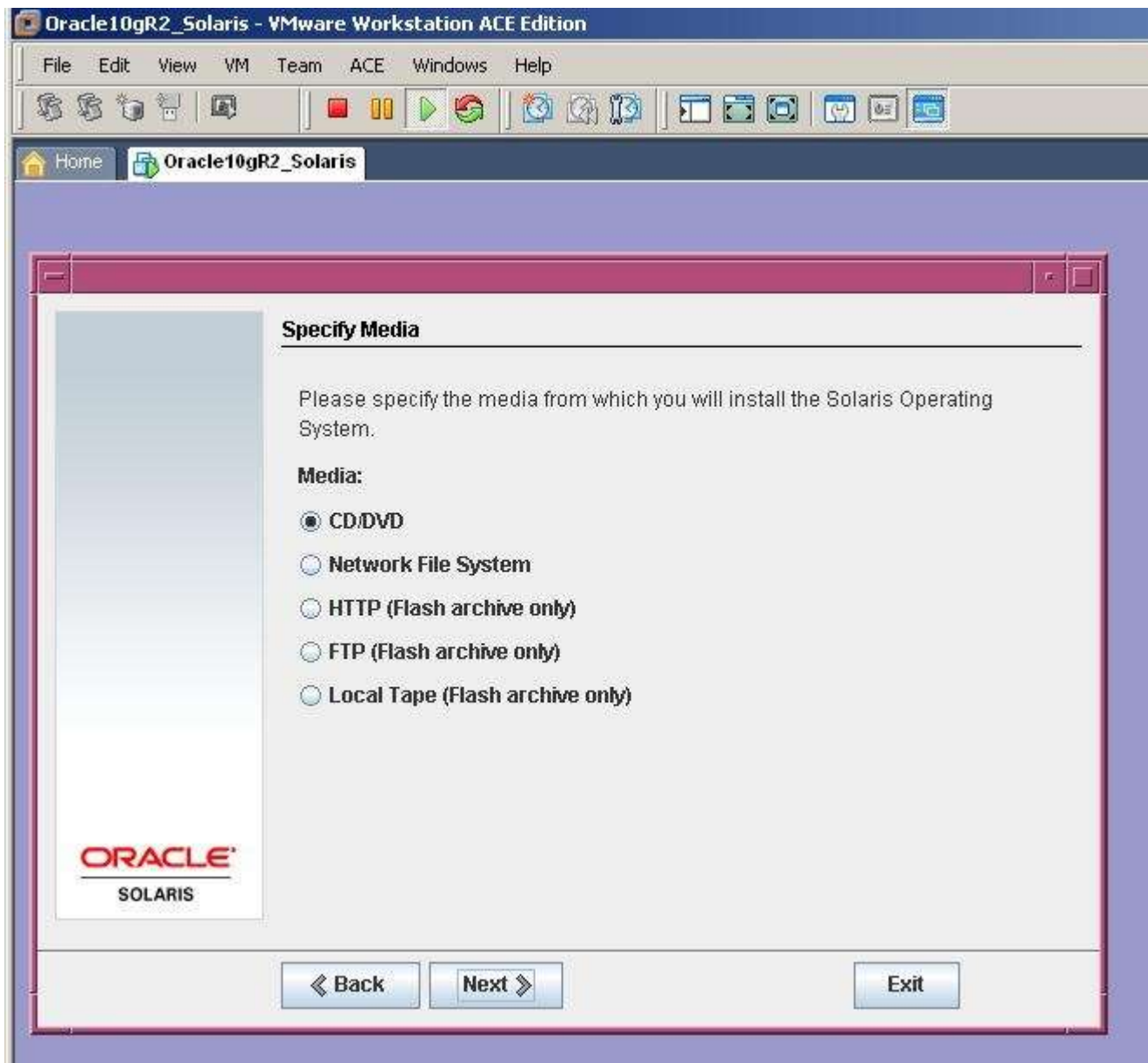
Press Confirm to proceed the installation



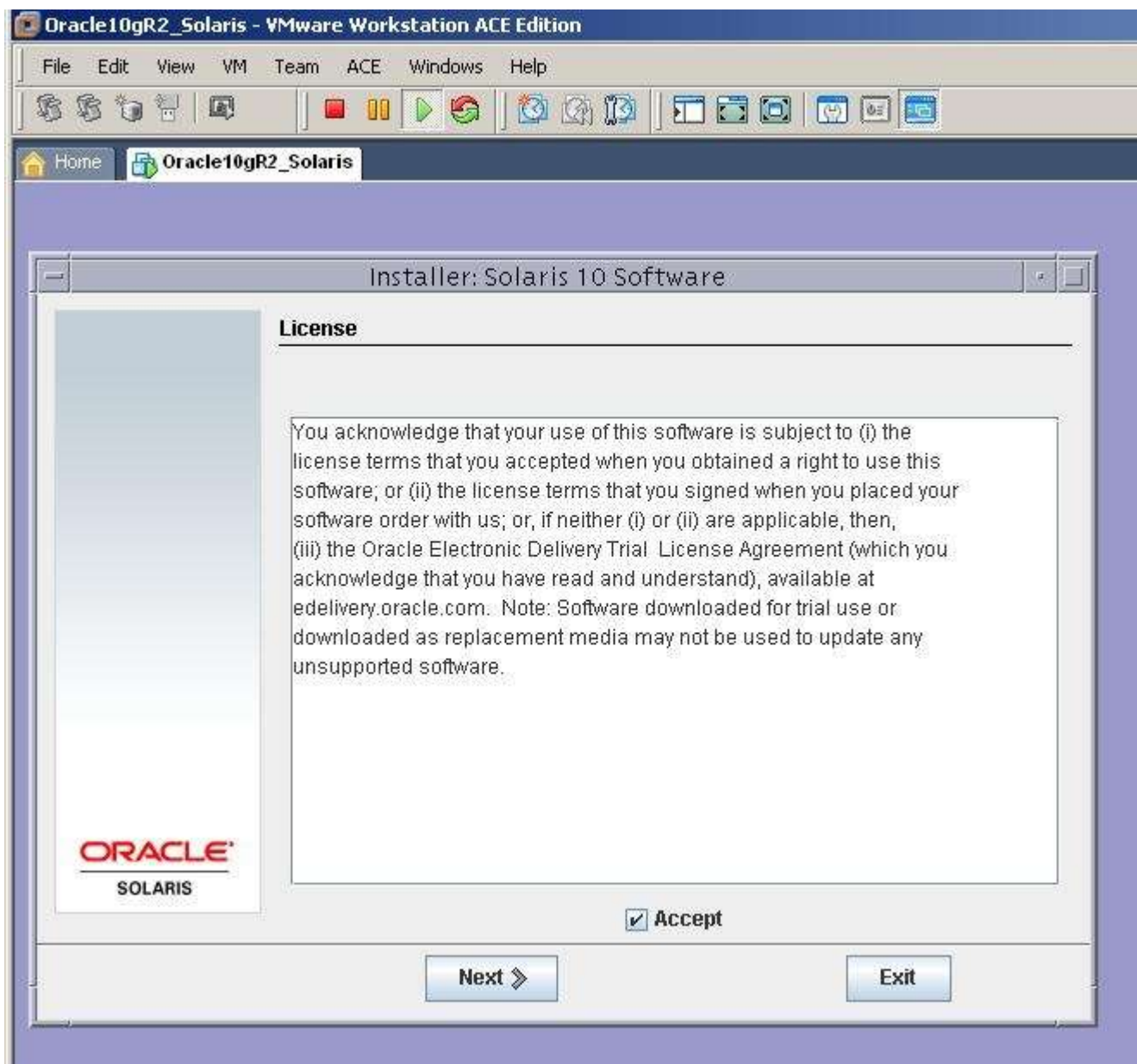
Click Next



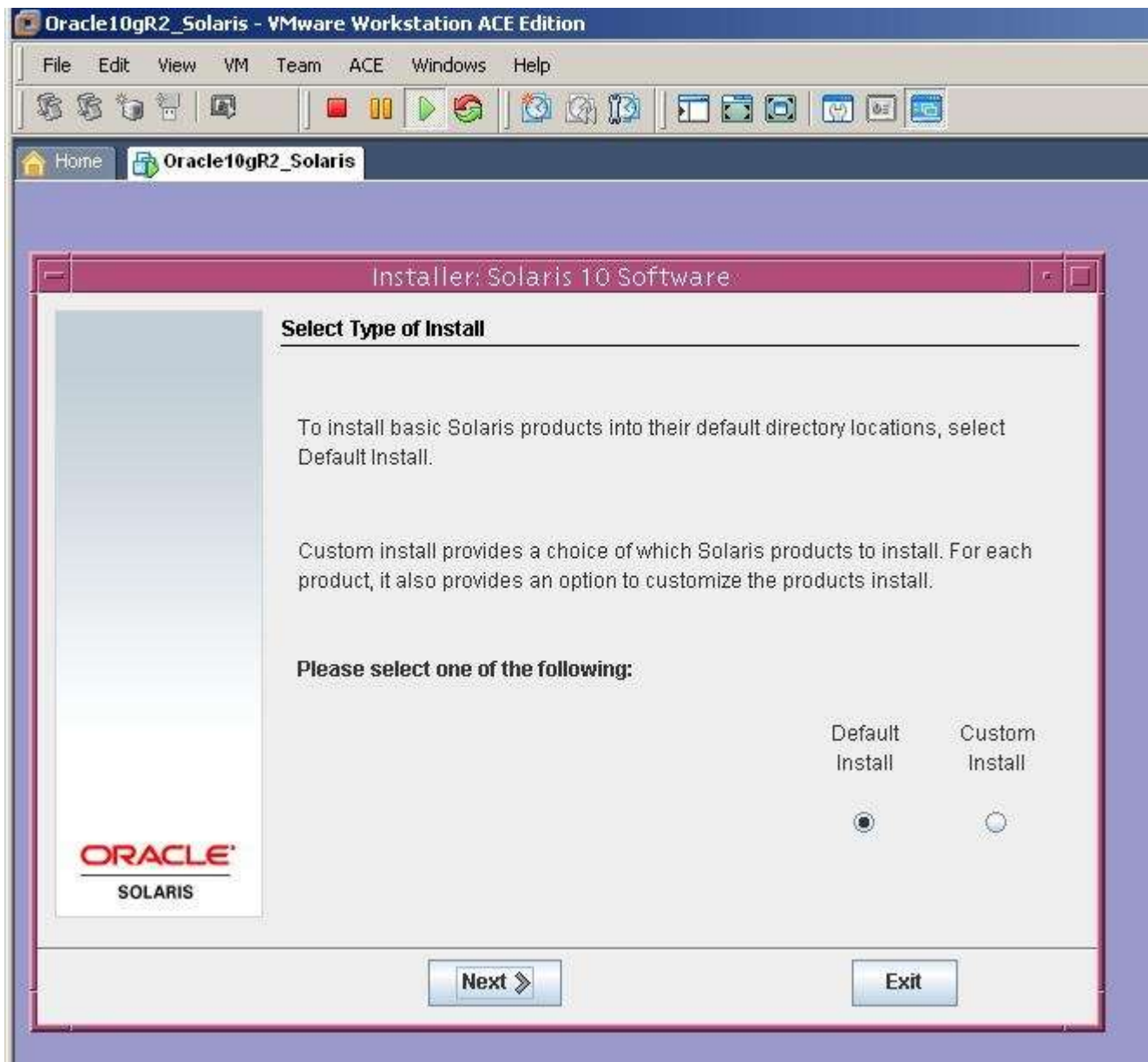
Click Next



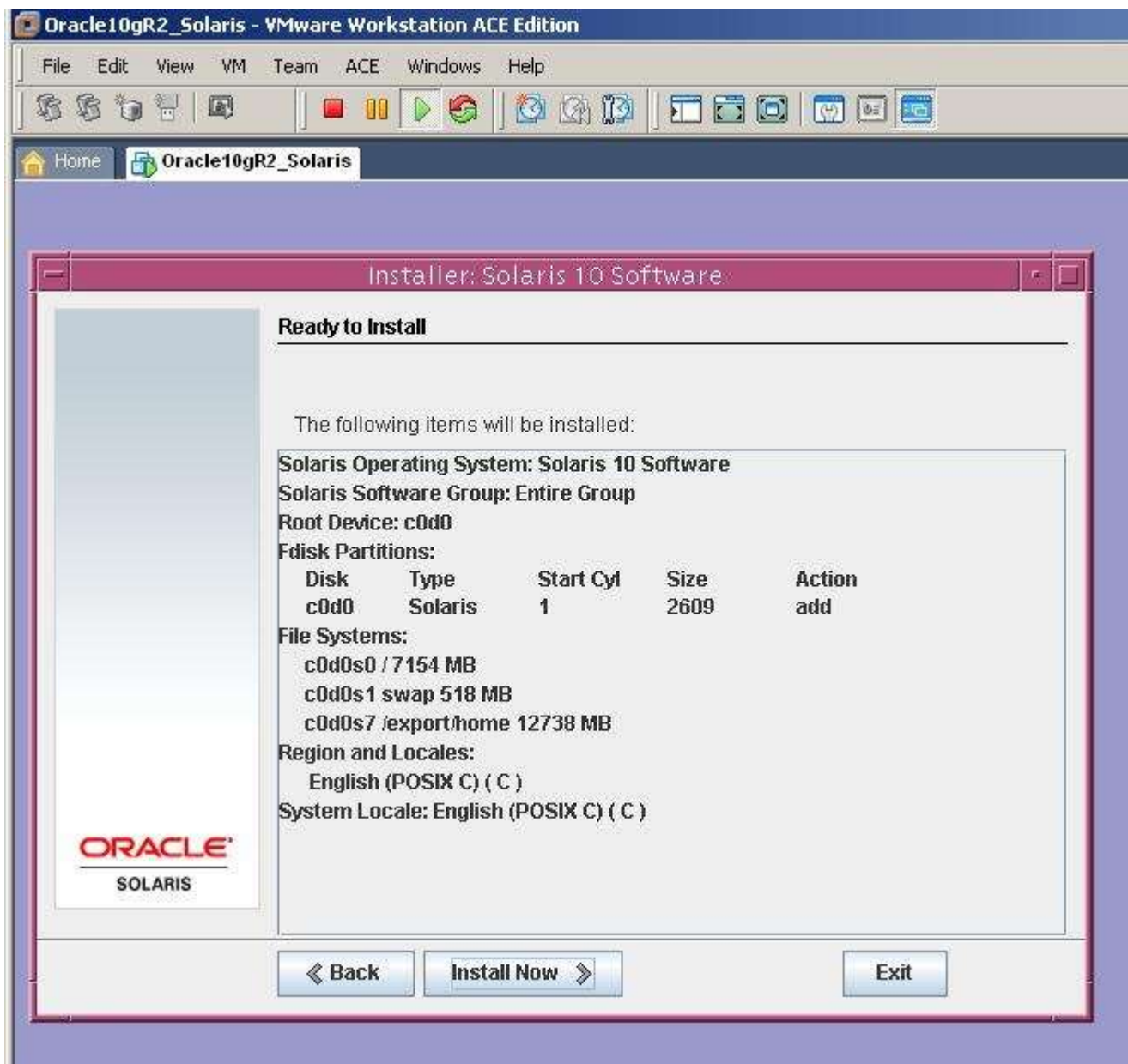
Select CD/DVD and click Next



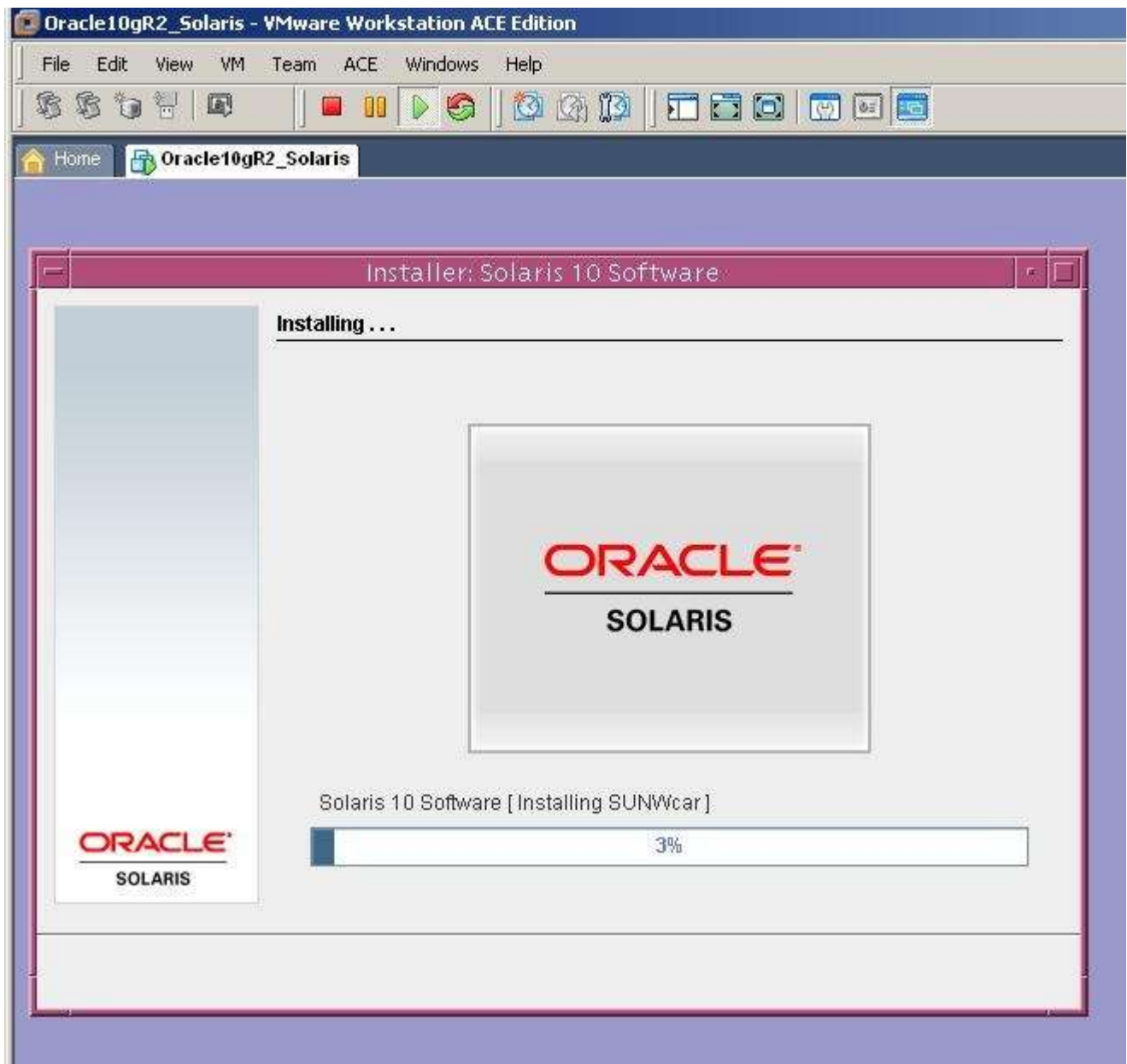
Select Accept and click Next



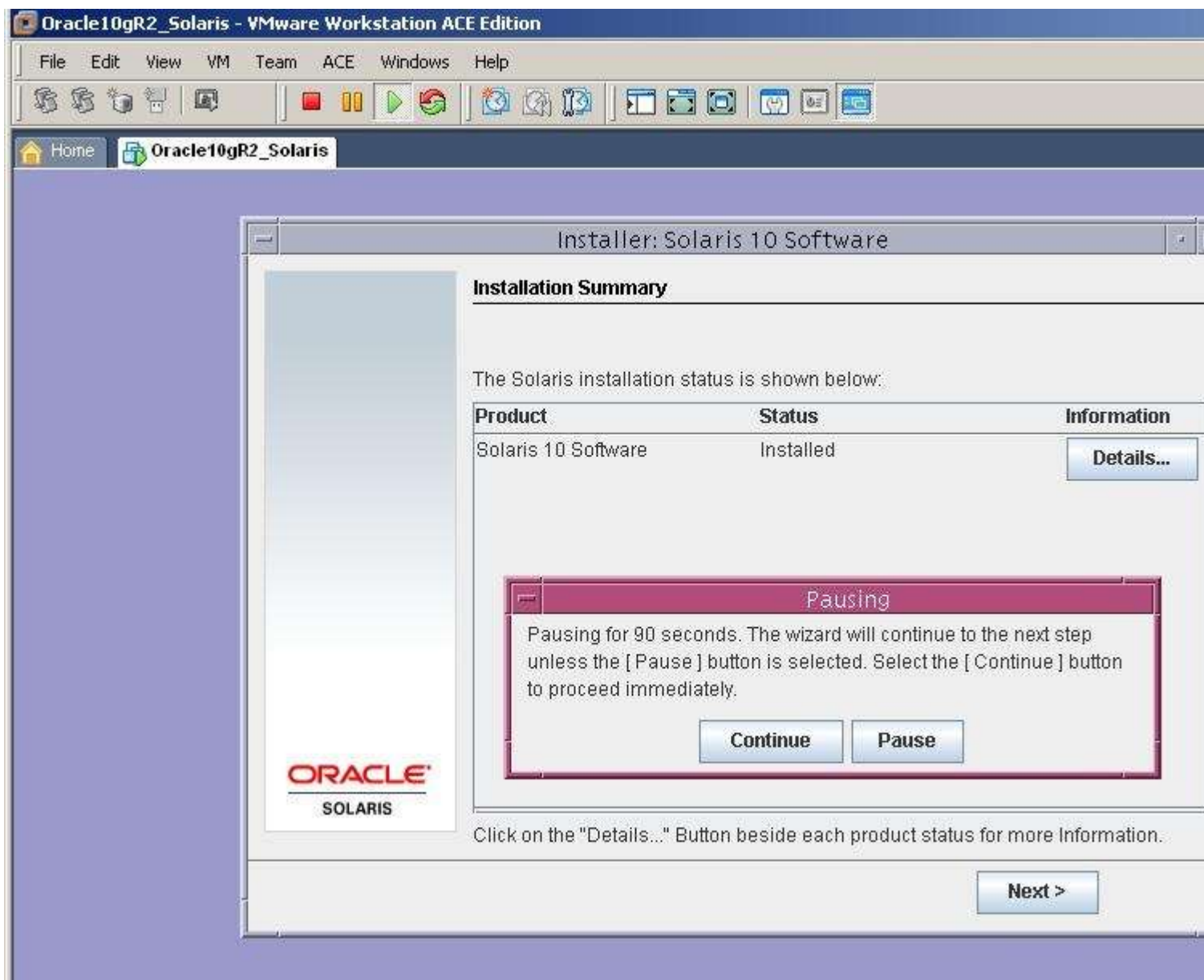
Select Default Installation and click Next



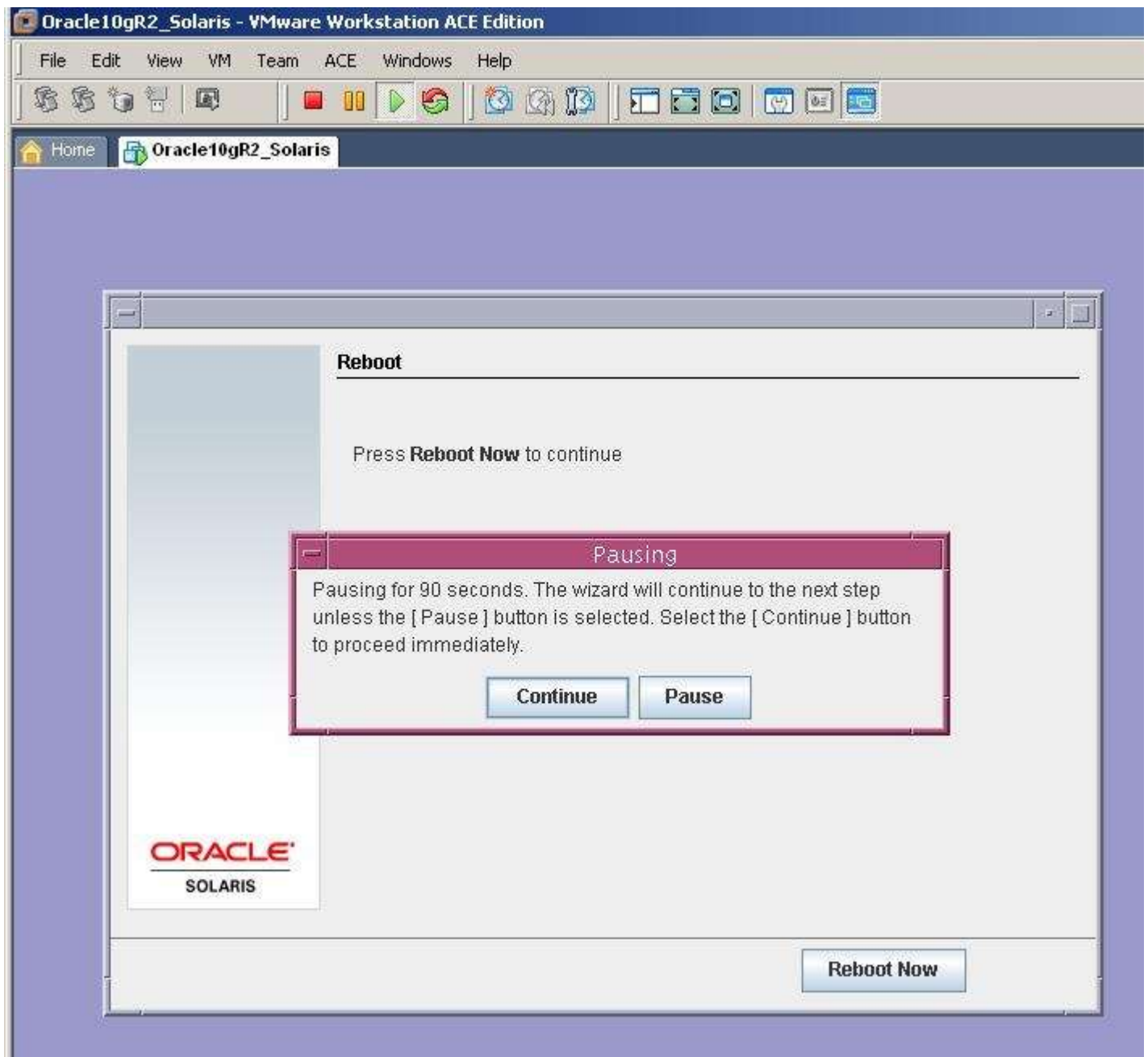
Click Install Now to start the installation



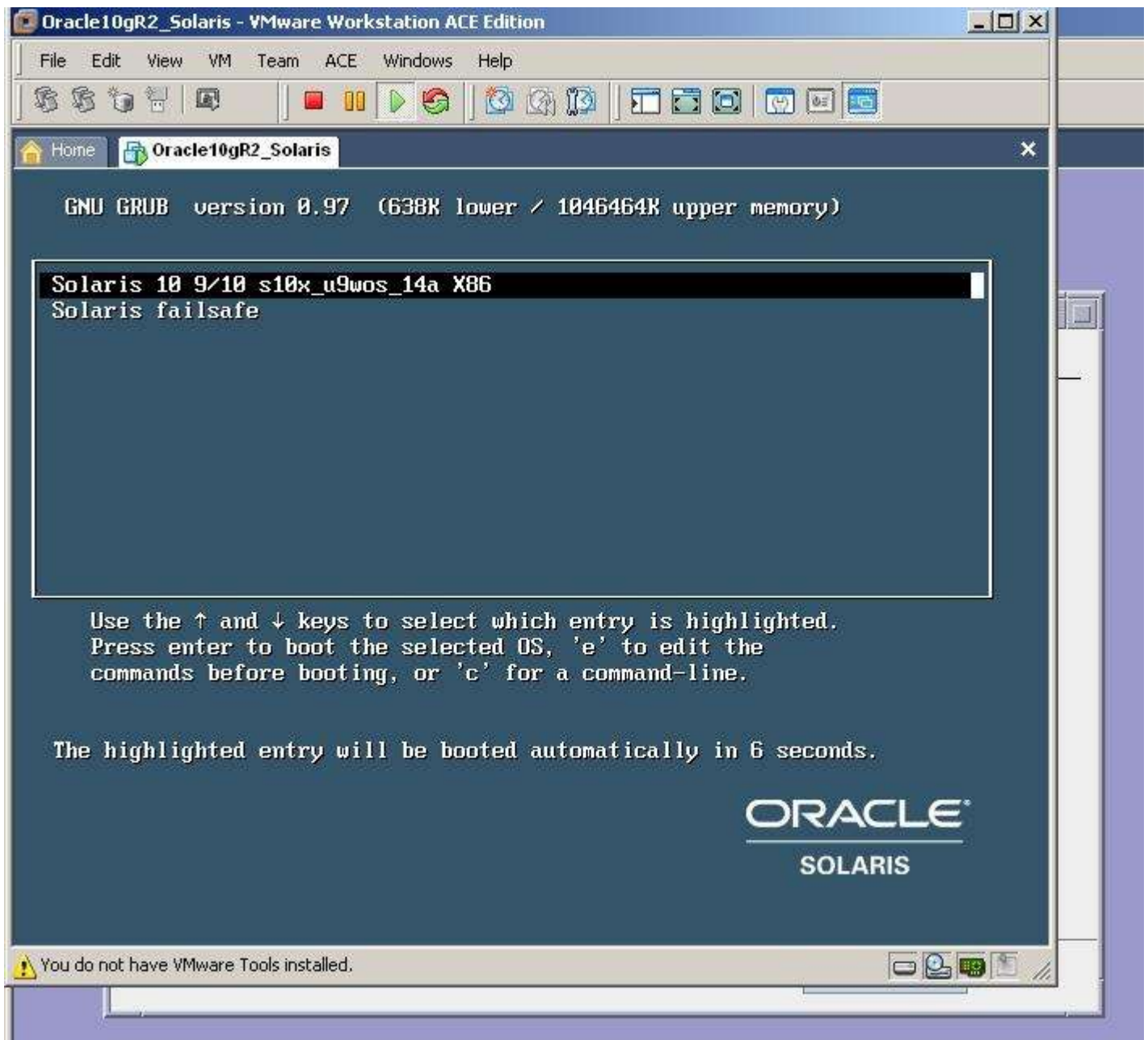
After installation completed, you get the following screen. Click on Continue and Next



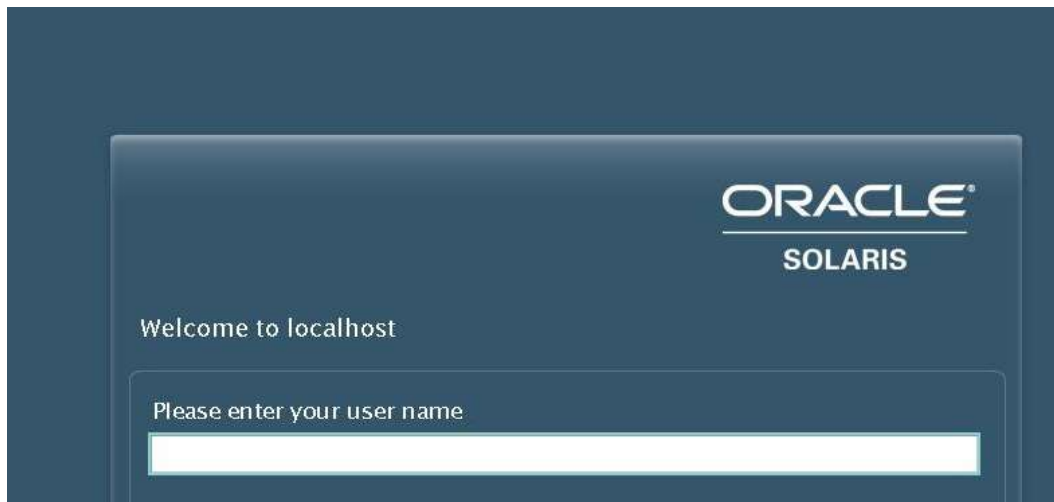
Click on Continue and Reboot Now button



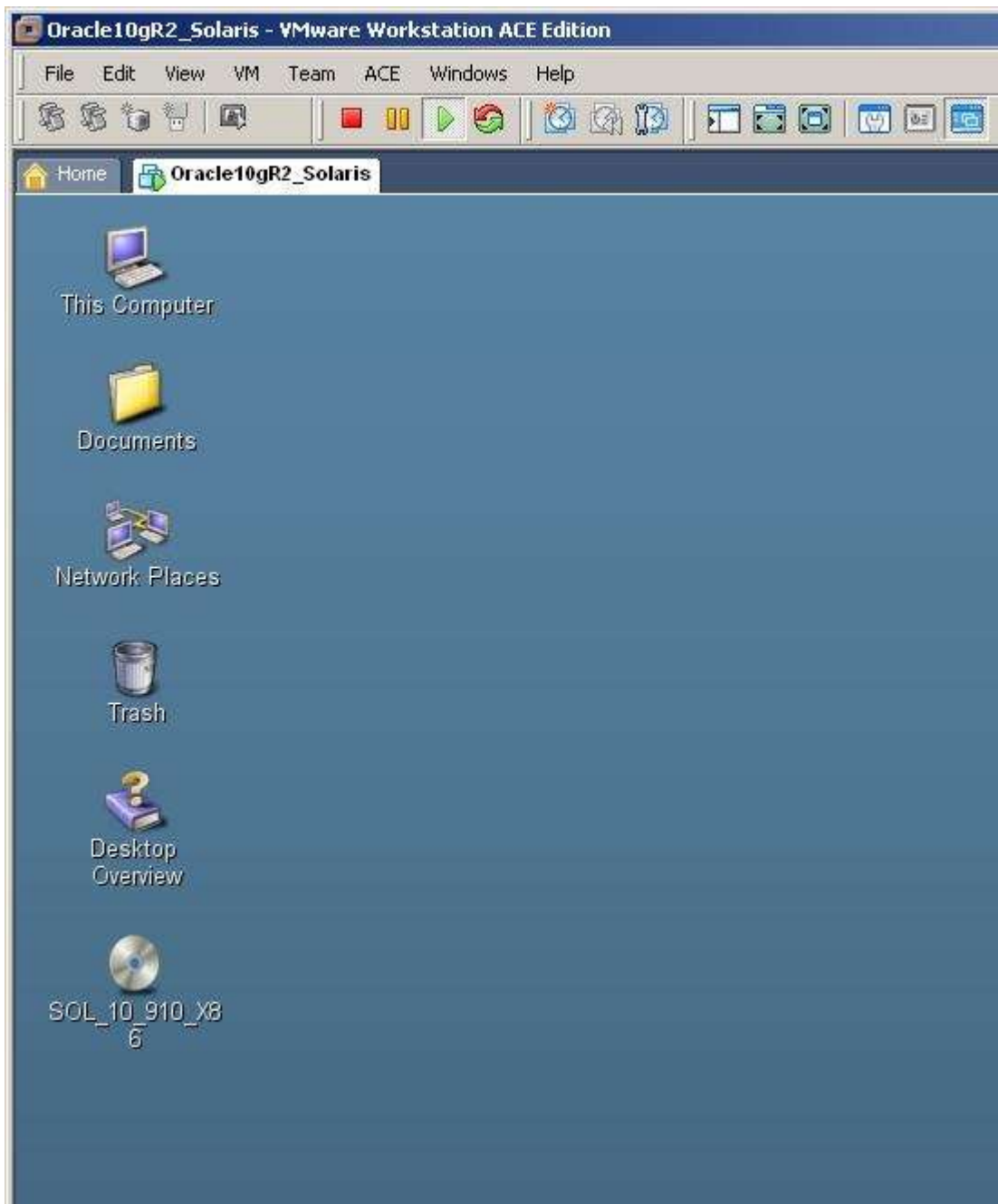
After reboot you get the following screen. Press Enter



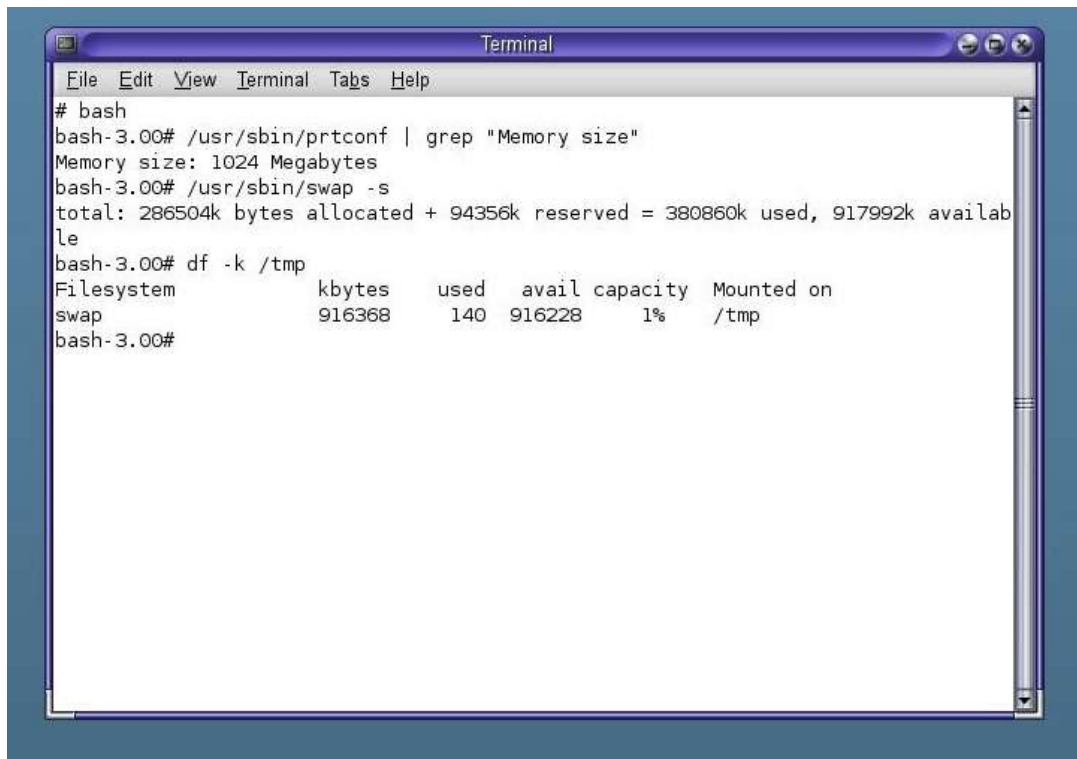
Wow. Oracle Solaris welcome screen! Login with the root user and the password that you've provided during the installation and login to the system



Here's the Oracle Solaris desktop



Now open new Terminal and check size of RAM, swap space and /tmp directory



```
Terminal
File Edit View Terminal Tabs Help
# bash
bash-3.00# /usr/sbin/prtconf | grep "Memory size"
Memory size: 1024 Megabytes
bash-3.00# /usr/sbin/swap -s
total: 286504k bytes allocated + 94356k reserved = 380860k used, 917992k available
bash-3.00# df -k /tmp

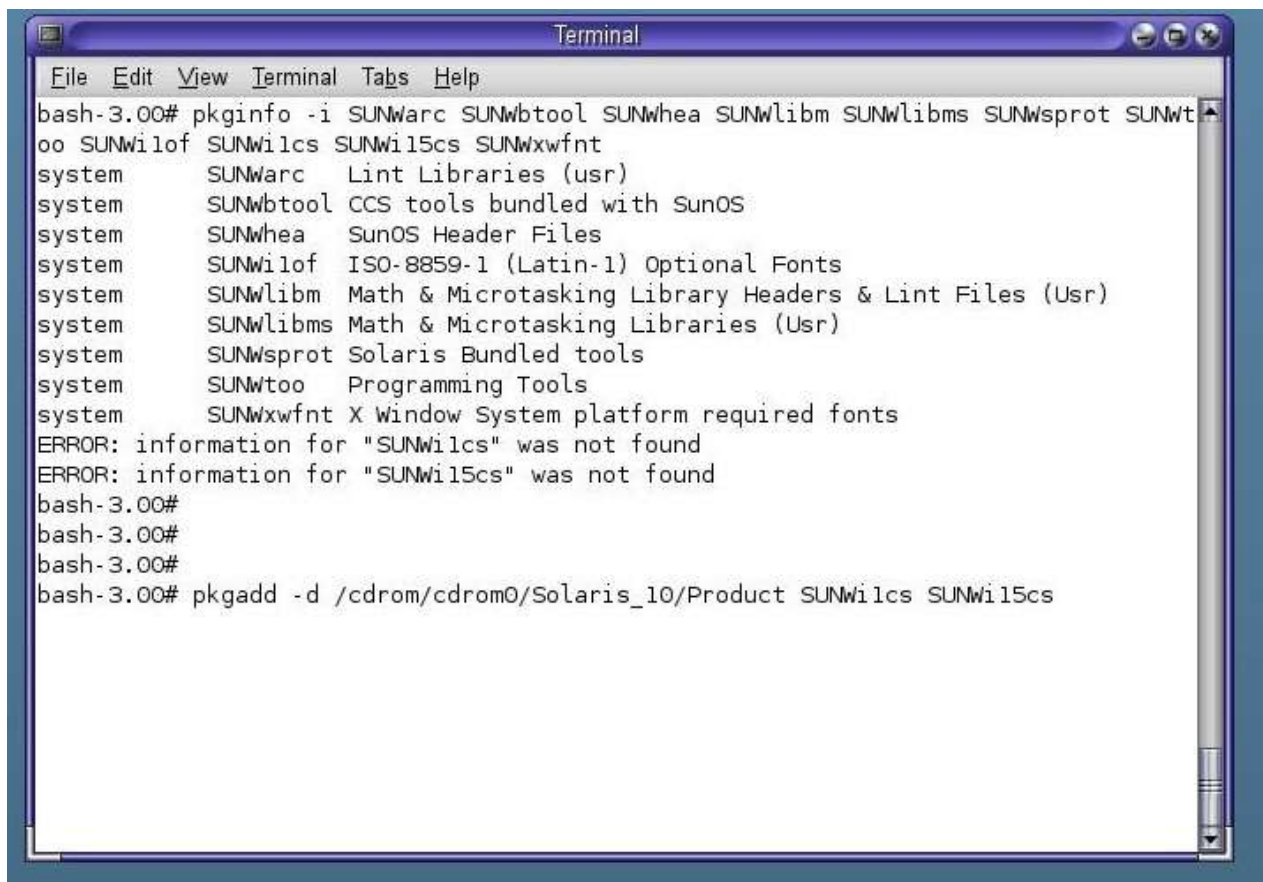
```

Filesystem	kbytes	used	avail	capacity	Mounted on
swap	916368	140	916228	1%	/tmp

```
bash-3.00#
```

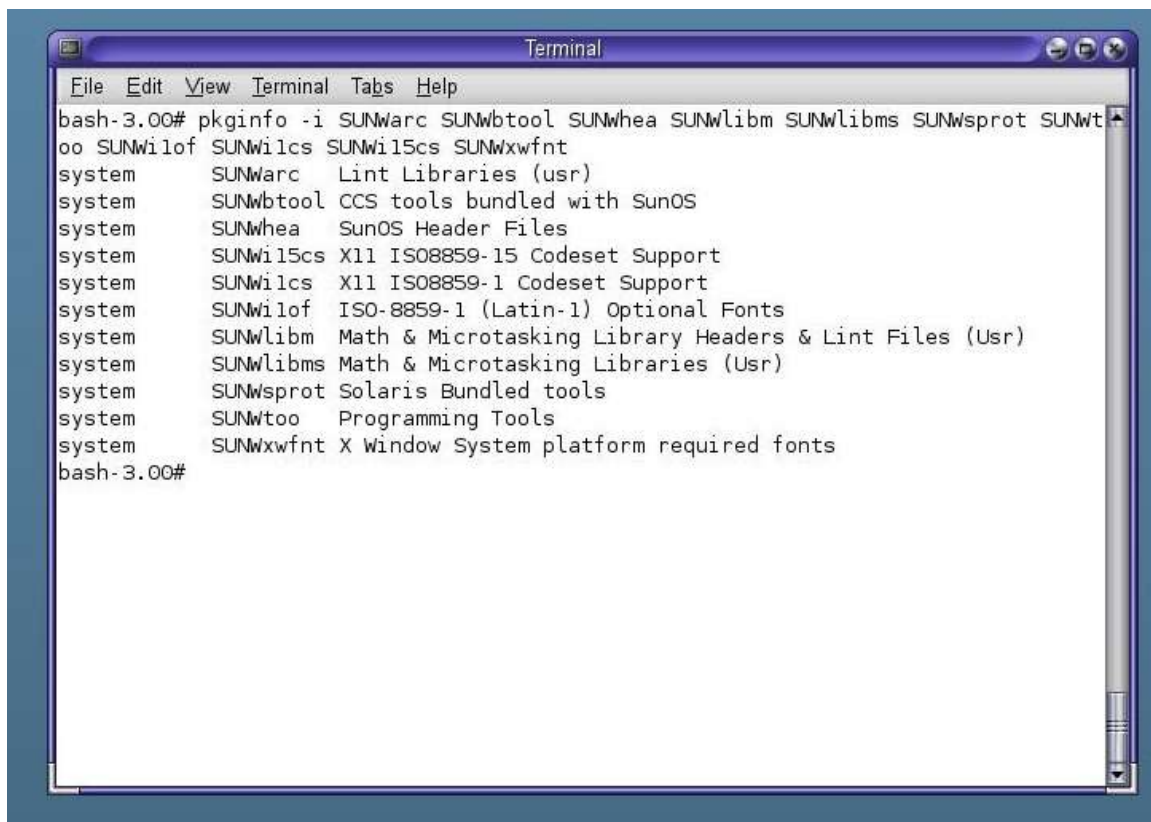
Now check whether you've installed all packages that are required for Oracle installation

```
pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprot SUNWtoo
SUNWi1of SUNWi1cs SUNWi15cs SUNWxwfont
```

A screenshot of a Solaris terminal window titled "Terminal". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal shows the output of the command `pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprt SUNWt`. The output lists several system packages and their descriptions. Two packages, `SUNWilcs` and `SUNWil5cs`, are missing, resulting in error messages. The user then enters `pkgadd -d /cdrom/cdrom0/Solaris_10/Product SUNWilcs SUNWil5cs` to install them.

```
bash-3.00# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprt SUNWt
oo SUNWilof SUNWilcs SUNWil5cs SUNWxwft
system      SUNWarc    Lint Libraries (usr)
system      SUNWbtool  CCS tools bundled with SunOS
system      SUNWhea    SunOS Header Files
system      SUNWilof   ISO-8859-1 (Latin-1) Optional Fonts
system      SUNWlibm   Math & Microtasking Library Headers & Lint Files (Usr)
system      SUNWlibms  Math & Microtasking Libraries (Usr)
system      SUNWsprt   Solaris Bundled tools
system      SUNWttoo   Programming Tools
system      SUNWxwft   X Window System platform required fonts
ERROR: information for "SUNWilcs" was not found
ERROR: information for "SUNWil5cs" was not found
bash-3.00#
bash-3.00#
bash-3.00#
bash-3.00# pkgadd -d /cdrom/cdrom0/Solaris_10/Product SUNWilcs SUNWil5cs
```

As you see from the output, you're missing two packages. So install it using **pkgadd** command and check the packages again:



```
Terminal
File Edit View Terminal Tabs Help
bash-3.00# pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibm SUNWlibms SUNWsprt SUNWtoo SUNWilof SUNWilcs SUNWil5cs SUNWxwft
system      SUNWarc    Lint Libraries (usr)
system      SUNWbtool  CCS tools bundled with SunOS
system      SUNWhea    SunOS Header Files
system      SUNWil5cs  X11 ISO8859-15 Codeset Support
system      SUNWilcs   X11 ISO8859-1 Codeset Support
system      SUNWilof   ISO-8859-1 (Latin-1) Optional Fonts
system      SUNWlibm   Math & Microtasking Library Headers & Lint Files (Usr)
system      SUNWlibms  Math & Microtasking Libraries (Usr)
system      SUNWsprt   Solaris Bundled tools
system      SUNWtoo    Programming Tools
system      SUNWxwft   X Window System platform required fonts
bash-3.00#
```

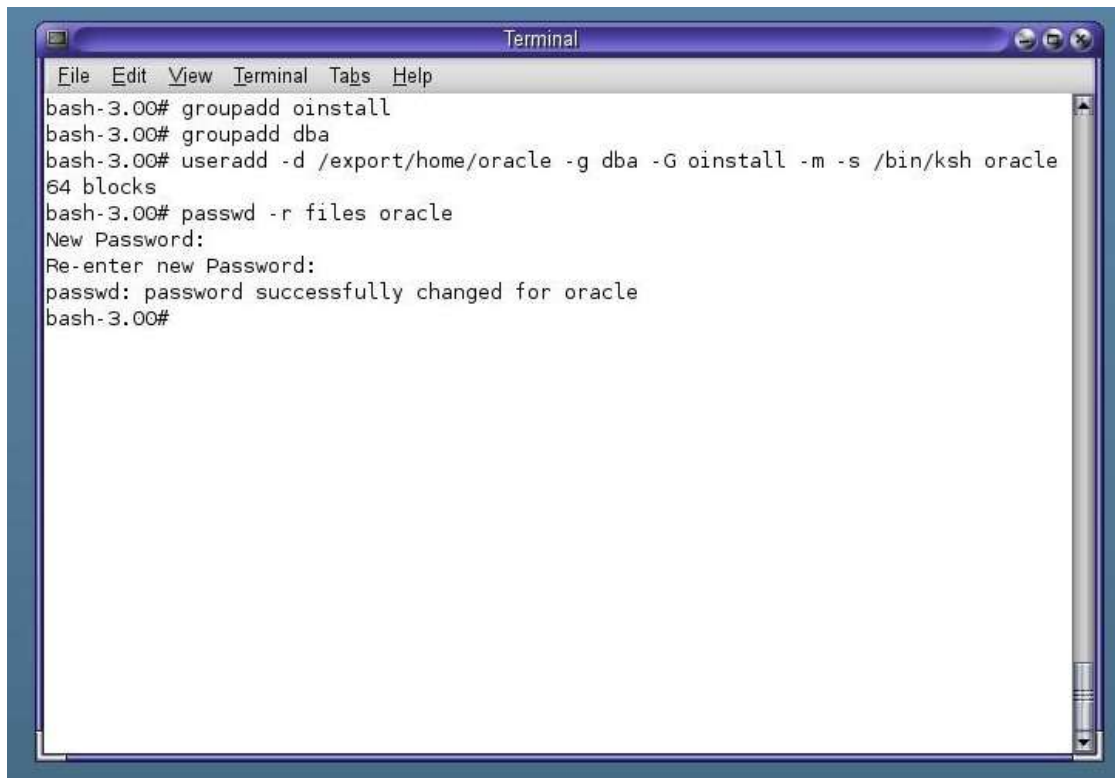
Ok, now you need to create a group and a user:

groupadd oinstall

groupadd dba

useradd -d /export/home/oracle -g dba -G oinstall -m -s /bin/ksh oracle

passwd -r files oracle

A screenshot of a terminal window titled "Terminal". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal shows the following commands and output:

```
bash-3.00# groupadd oinstall
bash-3.00# groupadd dba
bash-3.00# useradd -d /export/home/oracle -g dba -G oinstall -m -s /bin/ksh oracle
64 blocks
bash-3.00# passwd -r files oracle
New Password:
Re-enter new Password:
passwd: password successfully changed for oracle
bash-3.00#
```

Now change the profile of the “oracle” user and set environemnt variables:

gedit /export/home/oracle/.profile

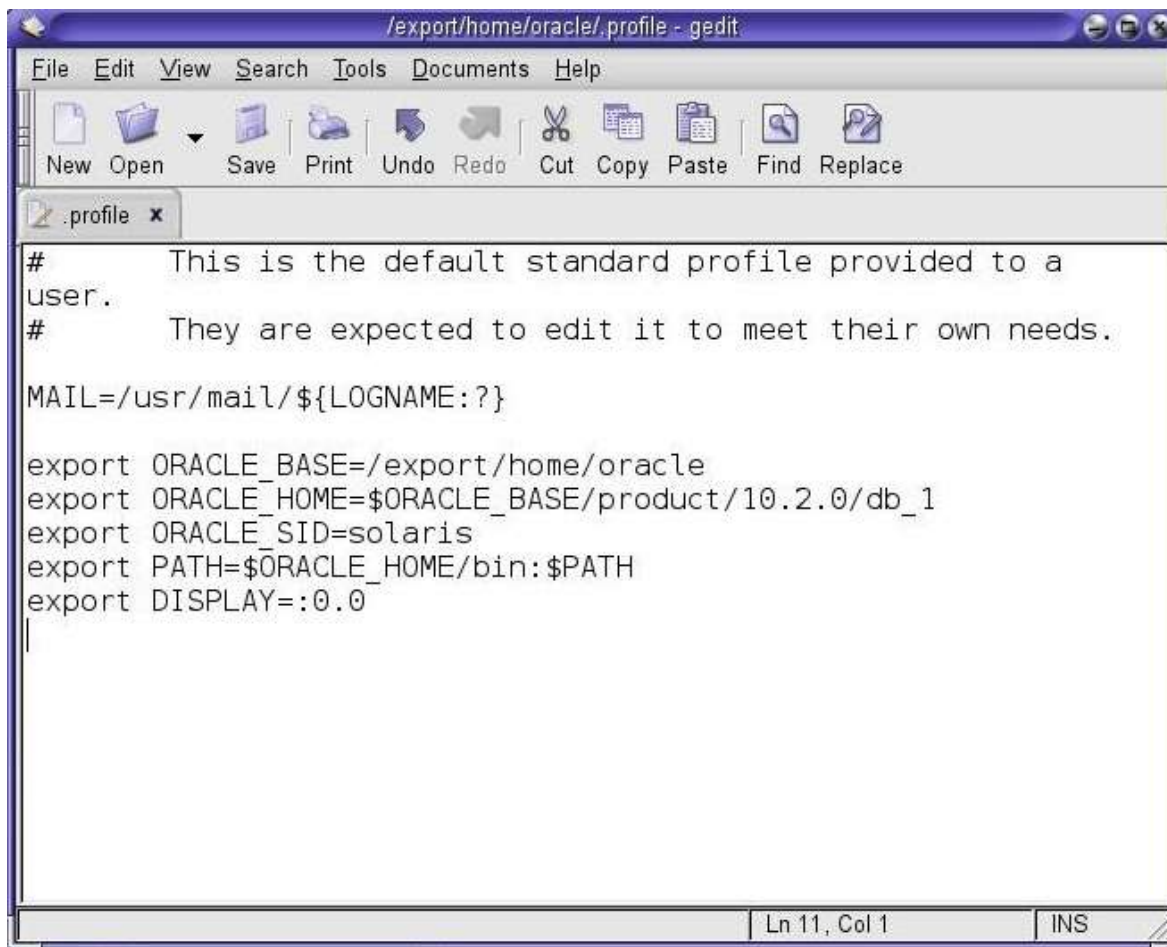
export ORACLE_BASE=/export/home/oracle

export ORACLE_HOME=\$ORACLE_BASE/product/10.2.0/db_1

export PATH=\$ORACLE_HOME/bin:\$PATH

export ORACLE_SID=solaris

export DISPLAY=:0.0



```
/export/home/oracle/.profile - gedit
File Edit View Search Tools Documents Help
New Open Save Print Undo Redo Cut Copy Paste Find Replace
.profile x
# This is the default standard profile provided to a
user.
# They are expected to edit it to meet their own needs.
MAIL=/usr/mail/${LOGNAME:?}
export ORACLE_BASE=/export/home/oracle
export ORACLE_HOME=$ORACLE_BASE/product/10.2.0/db_1
export ORACLE_SID=solaris
export PATH=$ORACLE_HOME/bin:$PATH
export DISPLAY=:0.0
Ln 11, Col 1 INS
```

Next, change kernel parameters by editing /etc/system file as follows:

set shmsys:shminfo_shmmax=4294967295

set shmsys:shminfo_shmmin=1

set shmsys:shminfo_shmmni=100

set shmsys:shminfo_shmseg=10

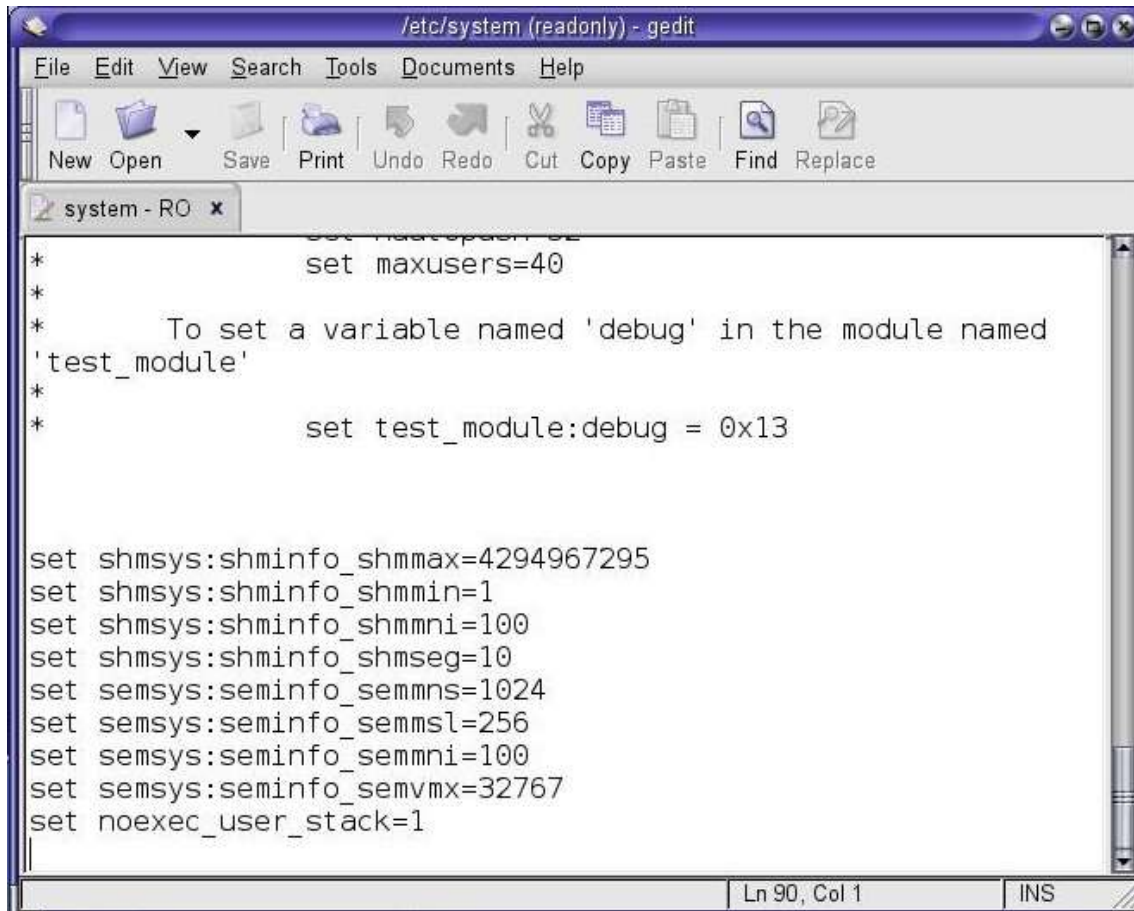
set semsys:seminfo_semmns=1024

set semsys:seminfo_semmsl=256

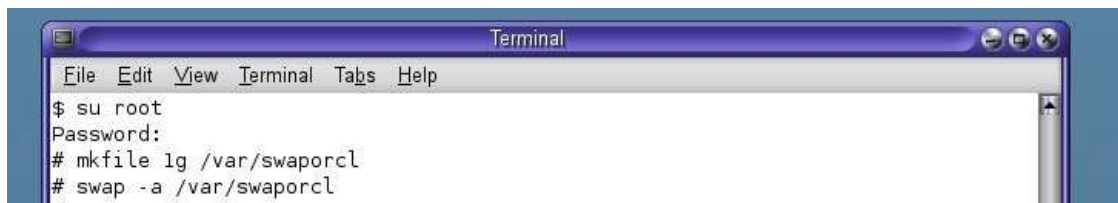
set semsys:seminfo_semmni=100

set semsys:seminfo_semvmx=32767

set noexec_user_stack=1



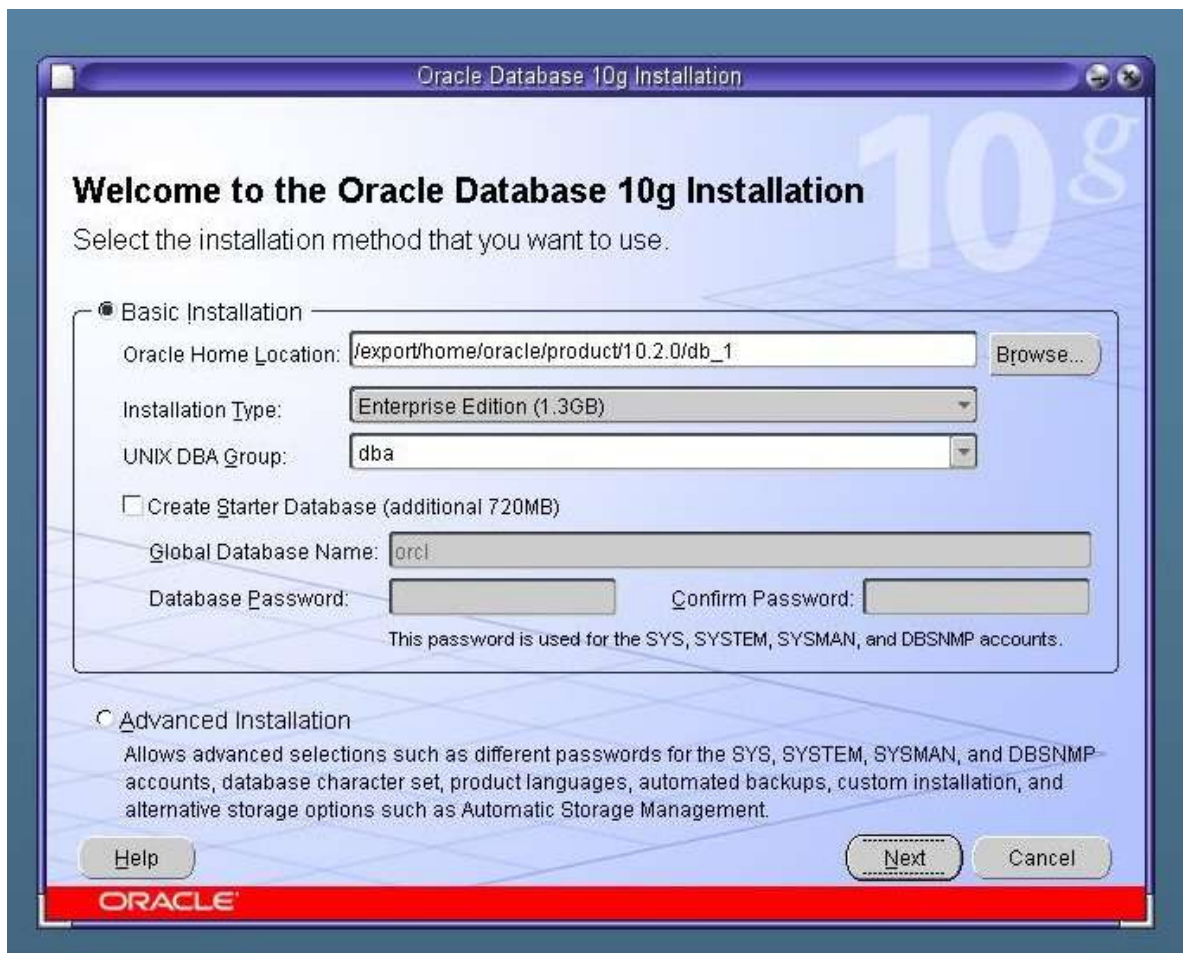
Restart the virtual machine, login with **oracle** user and add 1g of swap space (with root user)



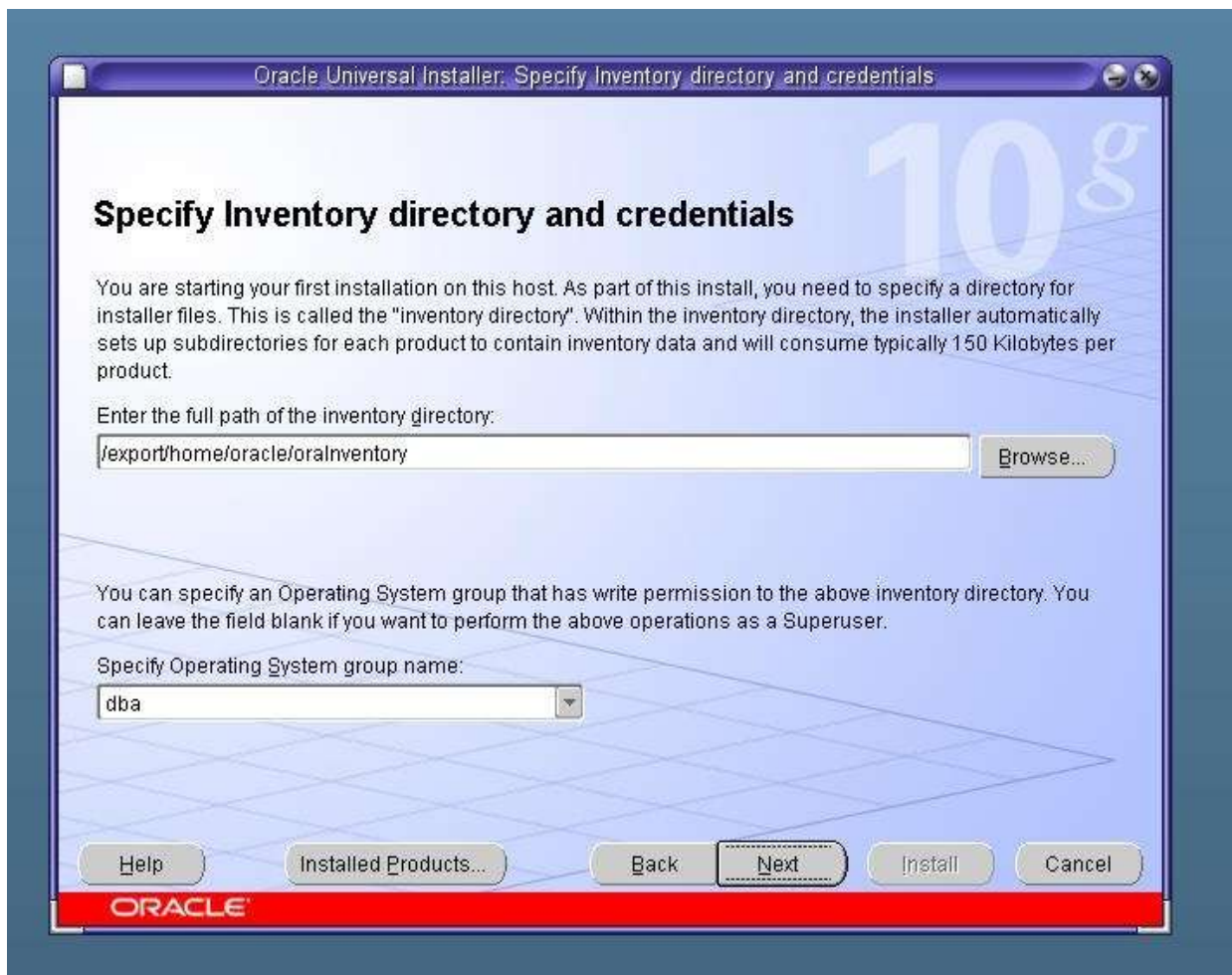
Create a directory for Oracle installation :

mkdir -p /export/home/oracle/product/10.2.0/db_1

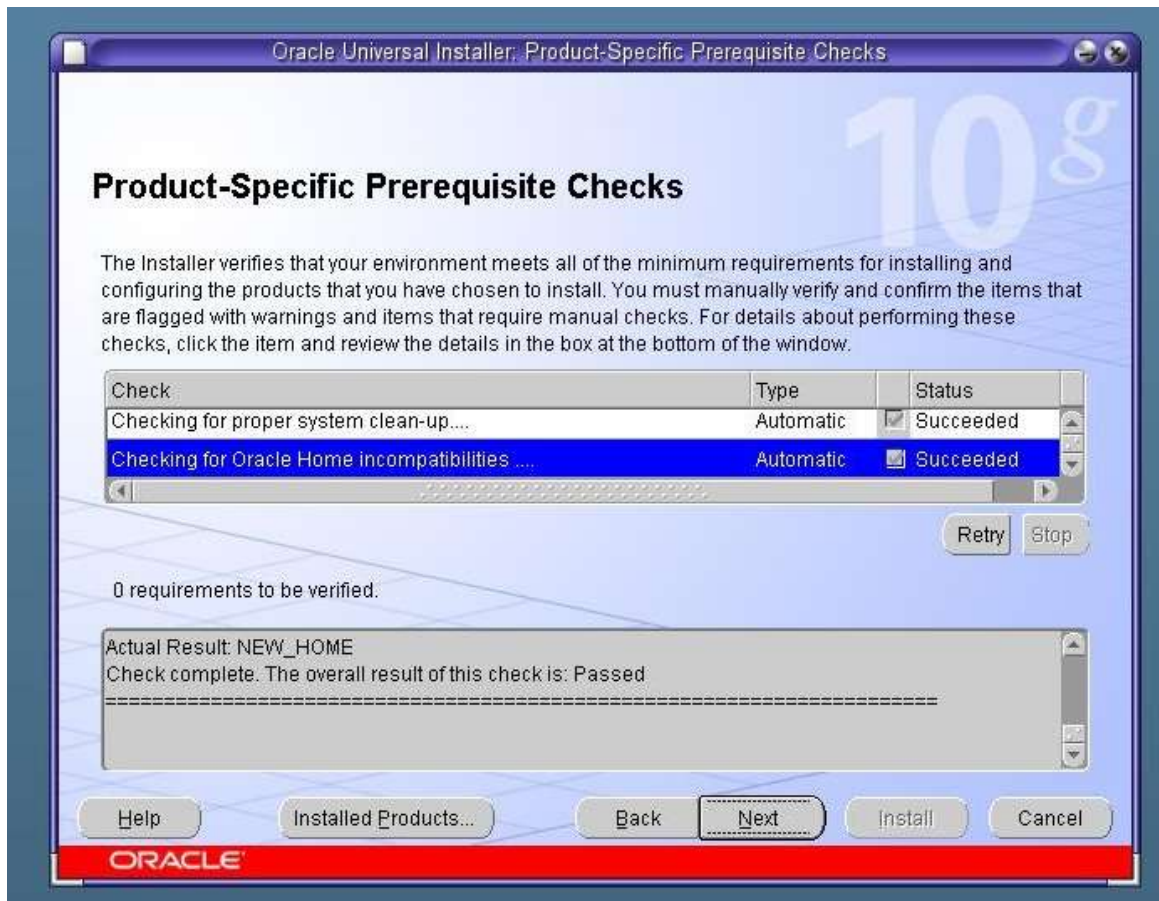
Then copy Oracle installation to /export/home/oracle folder, unzip it, switch to unzipped directory called **database** and start the installed with **./runInstaller** command:



Uncheck “Create Starter Database” option and click Next



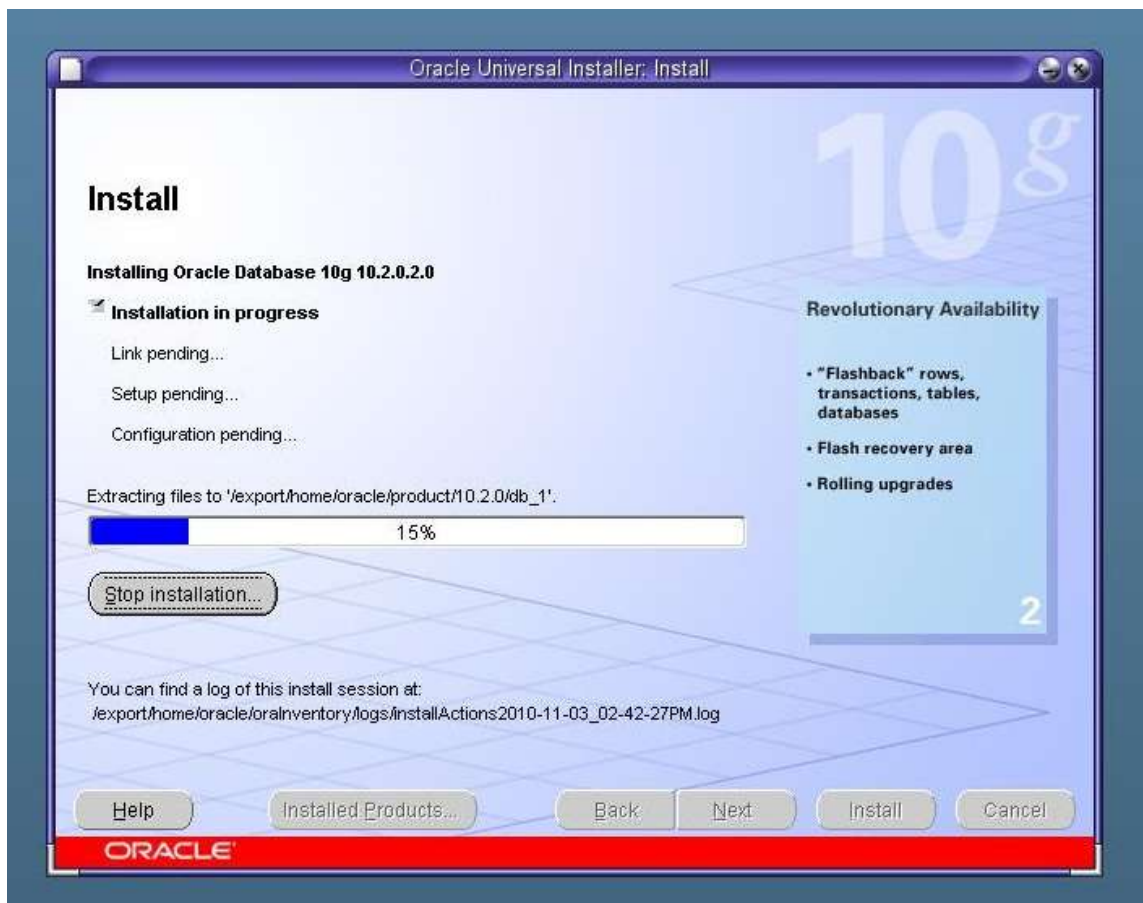
Click Next



The installer checks all pre-requisit configurations and should Succeed. If so, click Next

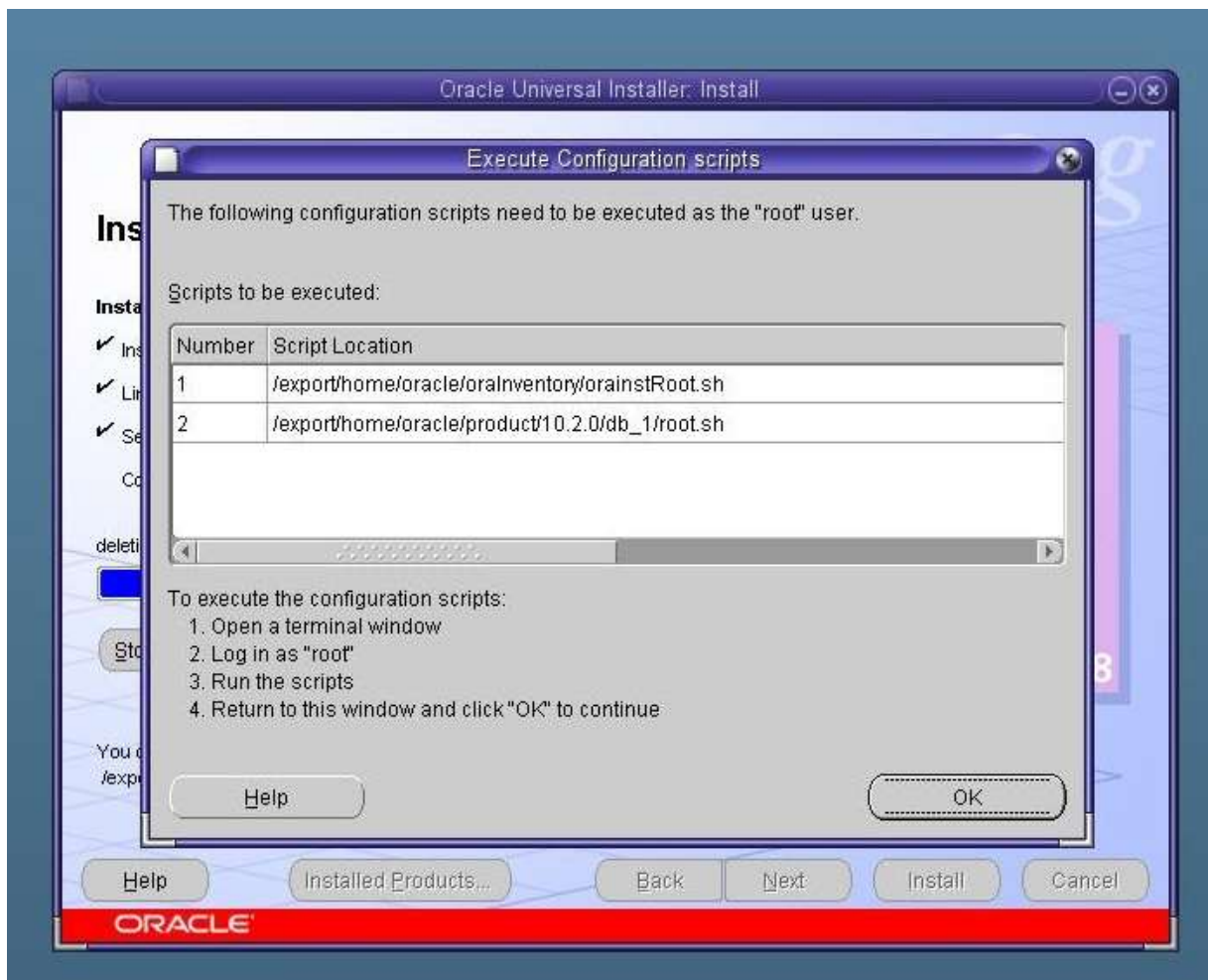


Click Install button to start the installation

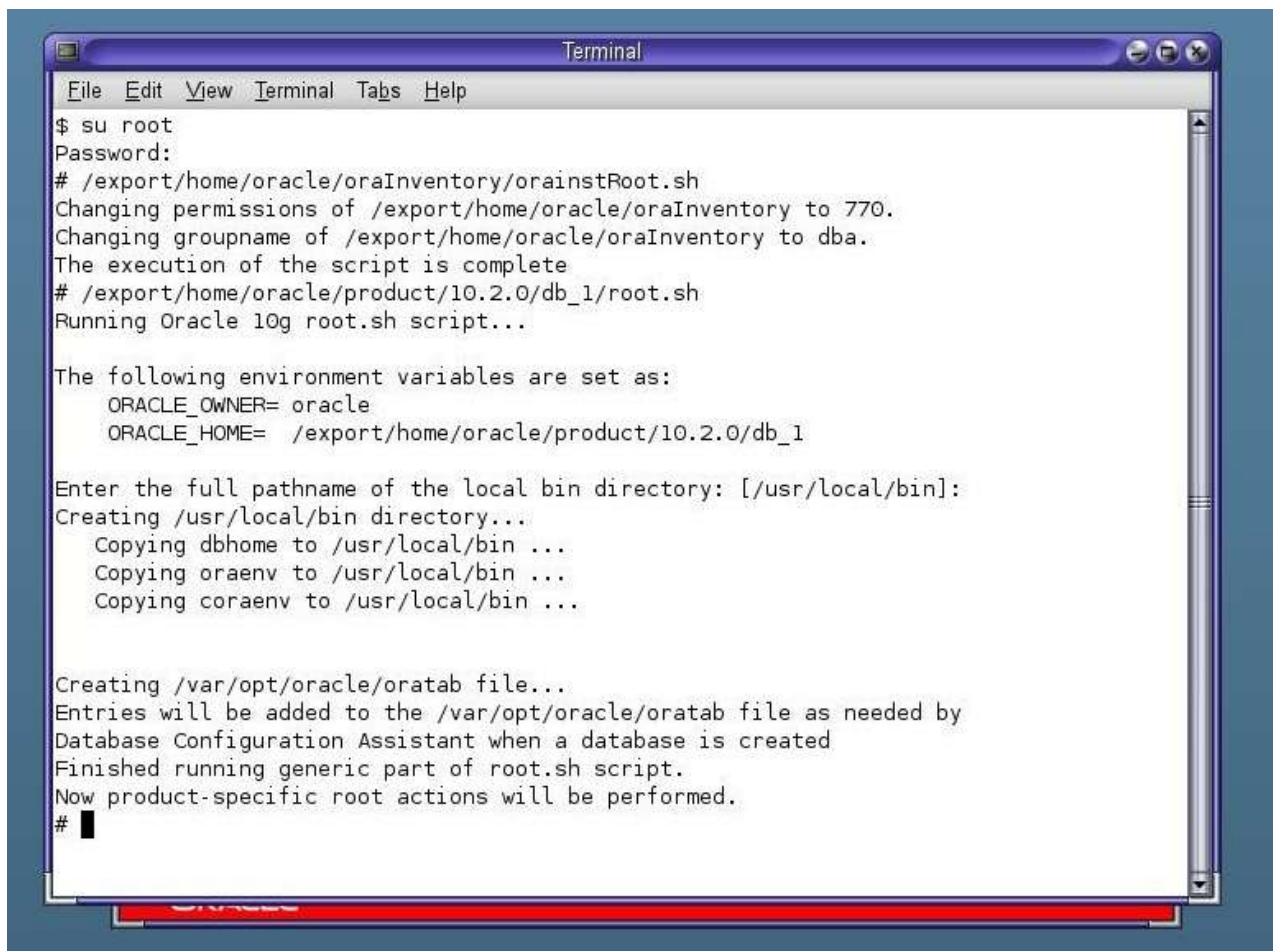


Please don't press "Stop Installation" button 😊

When the installation completes, you'll be asked to run the following shell scripts with root user.



Login with root user from the new terminal and run them

A screenshot of a terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The terminal shows the execution of the Oracle 10g root.sh script. The user switches to root, runs the script, and the script performs various setup tasks like changing permissions, setting environment variables, and creating directories. The script ends with a prompt for product-specific actions.

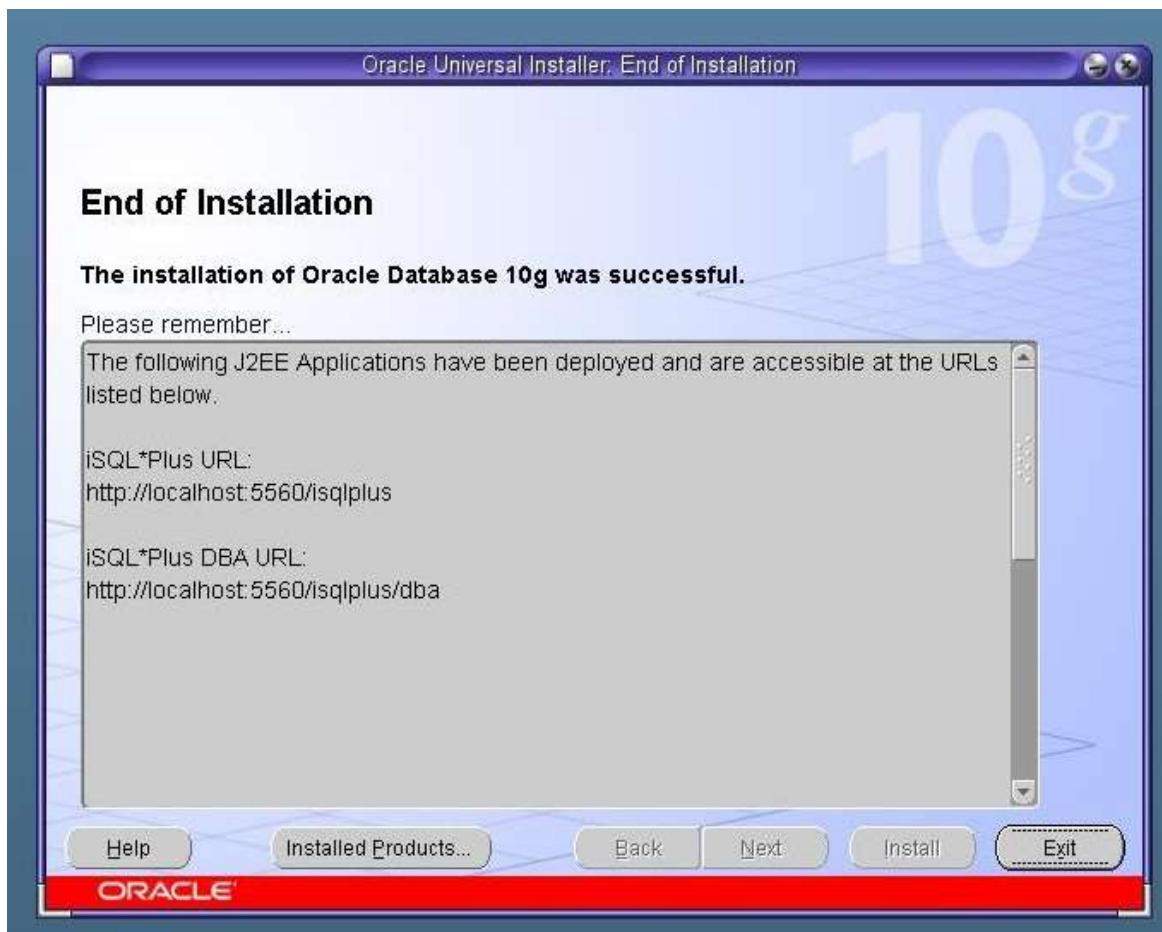
```
$ su root
Password:
# /export/home/oracle/oraInventory/orainstRoot.sh
Changing permissions of /export/home/oracle/oraInventory to 770.
Changing groupname of /export/home/oracle/oraInventory to dba.
The execution of the script is complete
# /export/home/oracle/product/10.2.0/db_1/root.sh
Running Oracle 10g root.sh script...

The following environment variables are set as:
    ORACLE_OWNER= oracle
    ORACLE_HOME=  /export/home/oracle/product/10.2.0/db_1

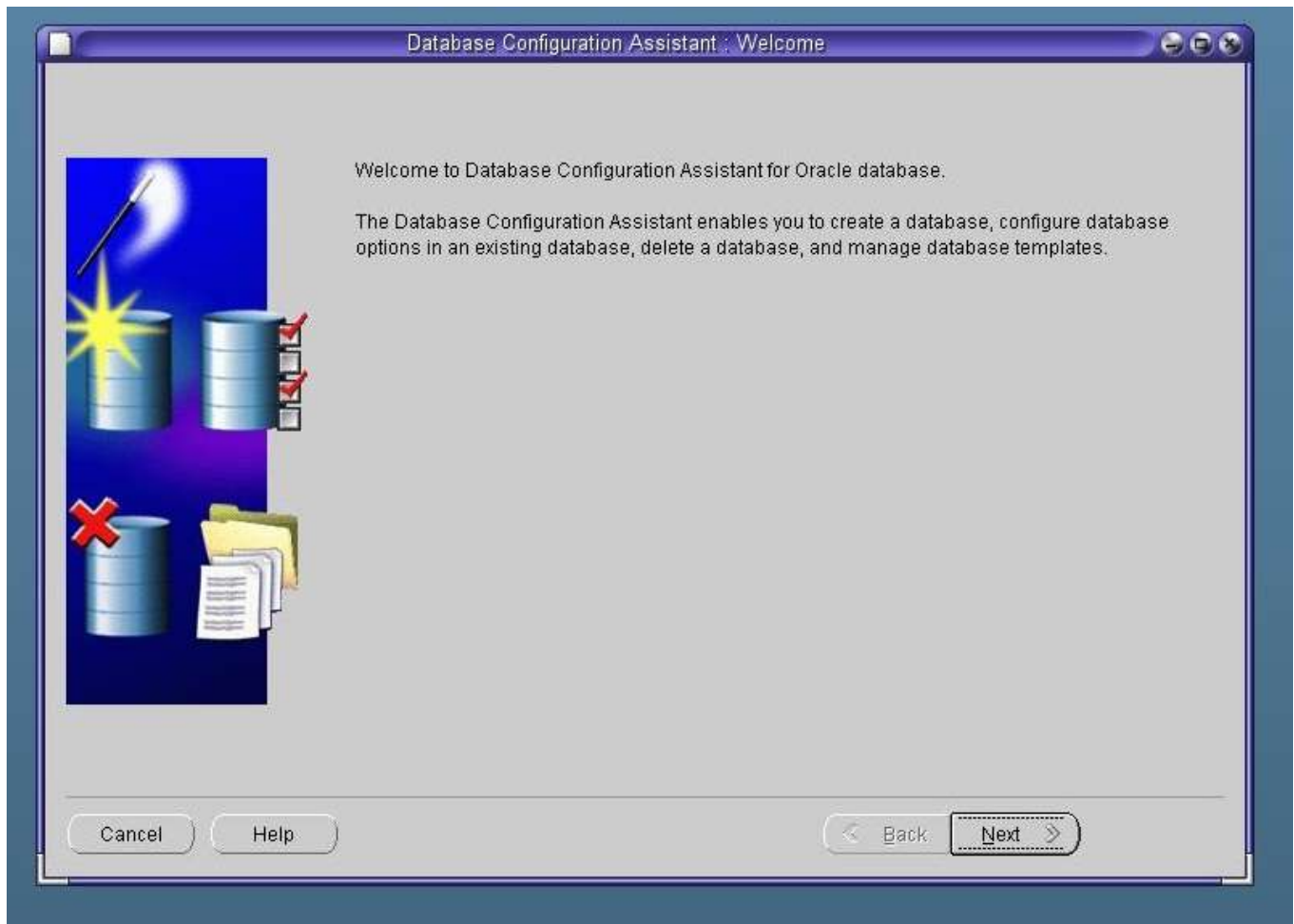
Enter the full pathname of the local bin directory: [/usr/local/bin]:
Creating /usr/local/bin directory...
    Copying dbhome to /usr/local/bin ...
    Copying oraenv to /usr/local/bin ...
    Copying coraenv to /usr/local/bin ...

Creating /var/opt/oracle/oratab file...
Entries will be added to the /var/opt/oracle/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.
# █
```

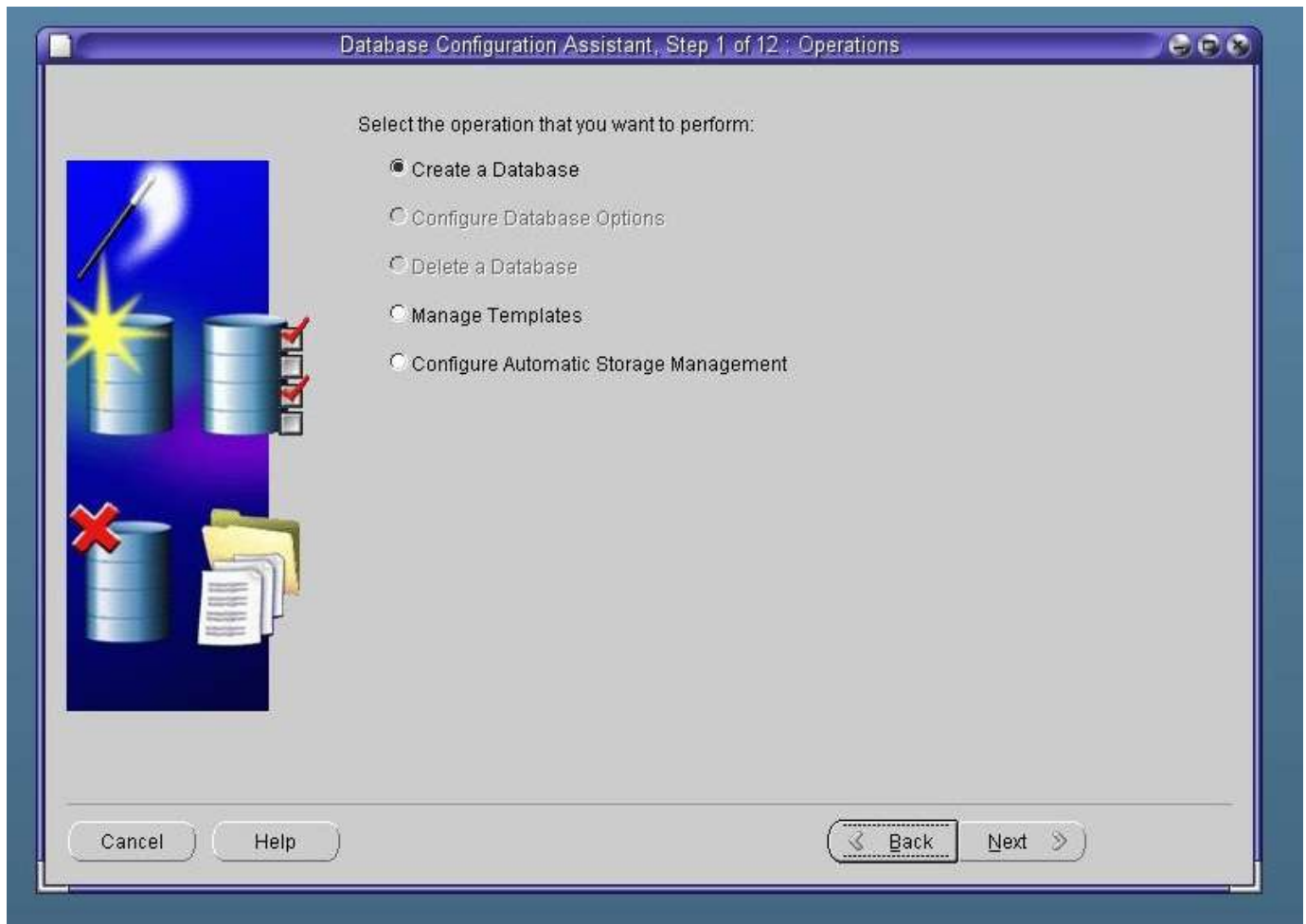
The installation completed! Congratulations! 😊



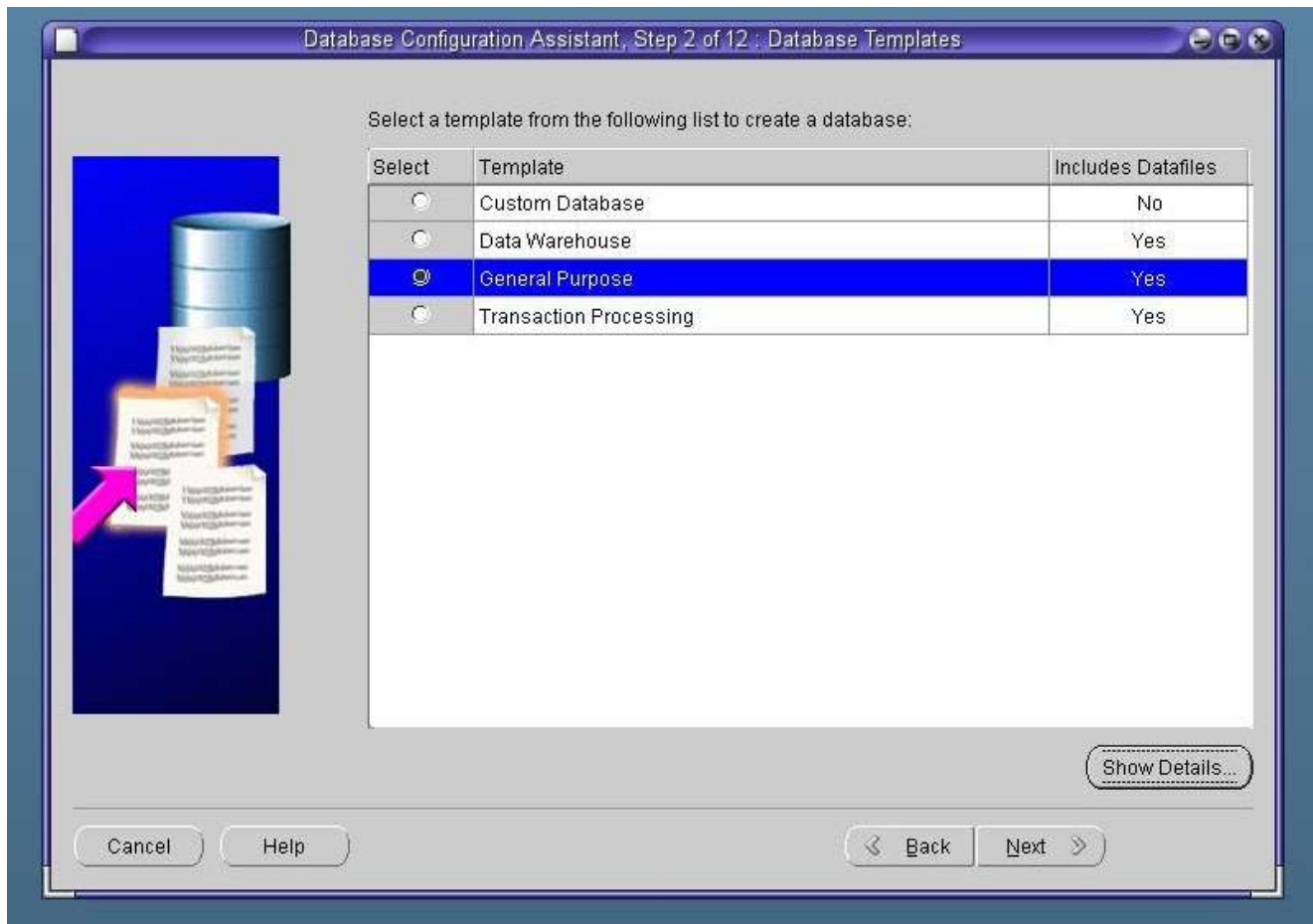
Now let's create a database. Open new terminal and run dbca (Database Configuration Assistant) command to create a database



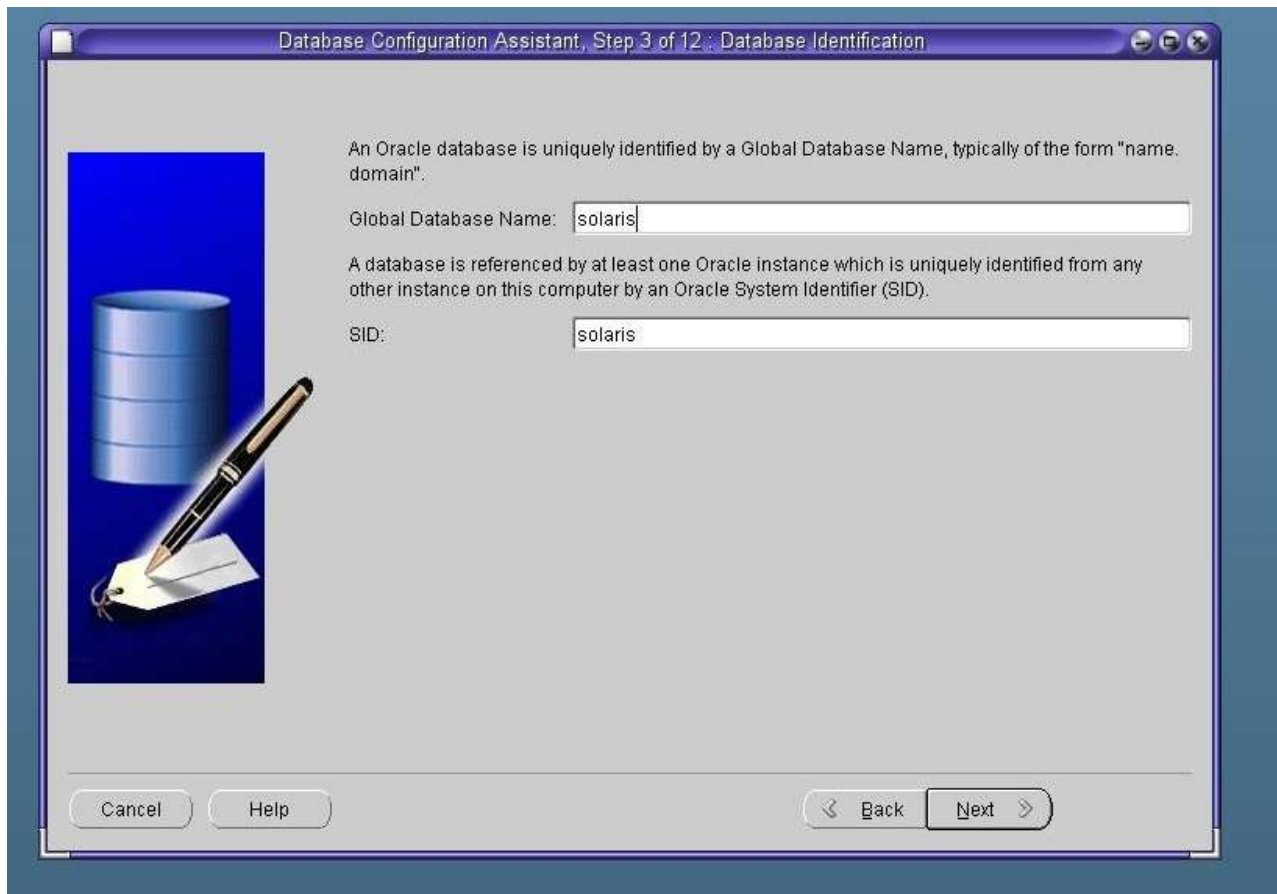
Click Next



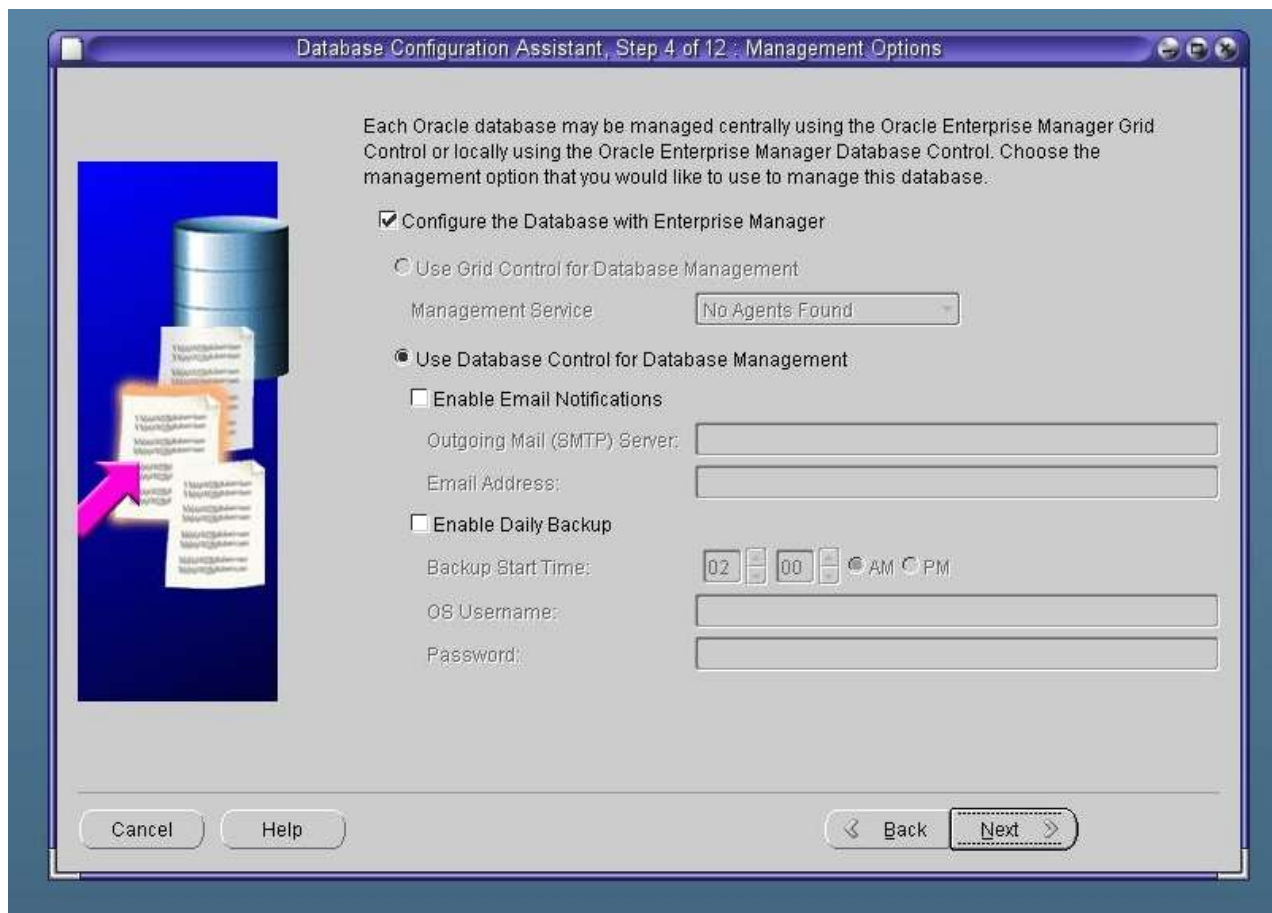
Select "Create a database" and click Next (Don't select "Delete a Database", ups.. you can't even select it :))



Select "General Purpose" and click Next



Provide a database name and click Next



Click Next

Database Configuration Assistant, Step 5 of 12: Database Credentials

For security reasons, you must specify passwords for the following user accounts in the new database.

☒ Use the Same Password for All Accounts

Password:

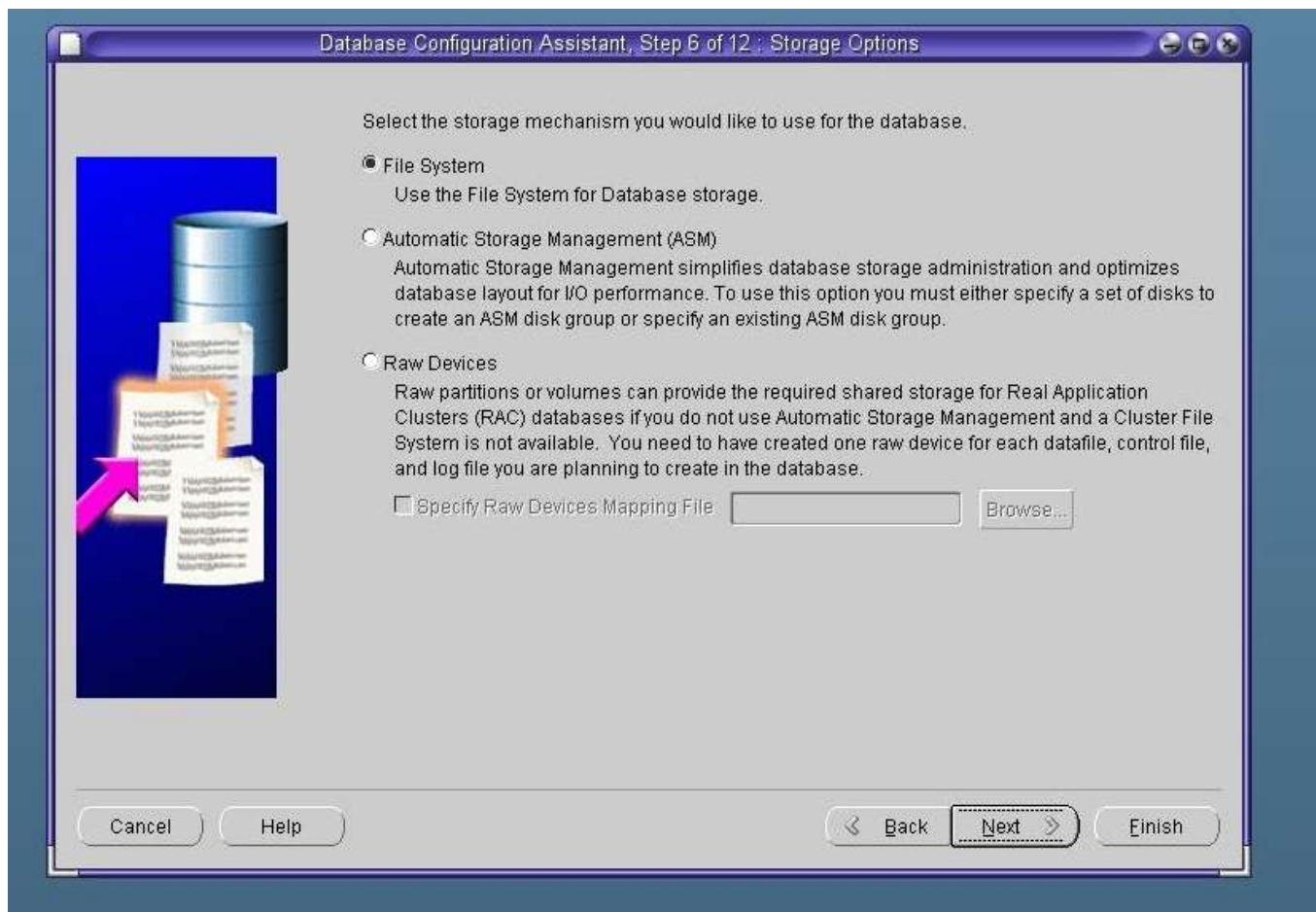
Confirm Password:

☐ Use Different Passwords

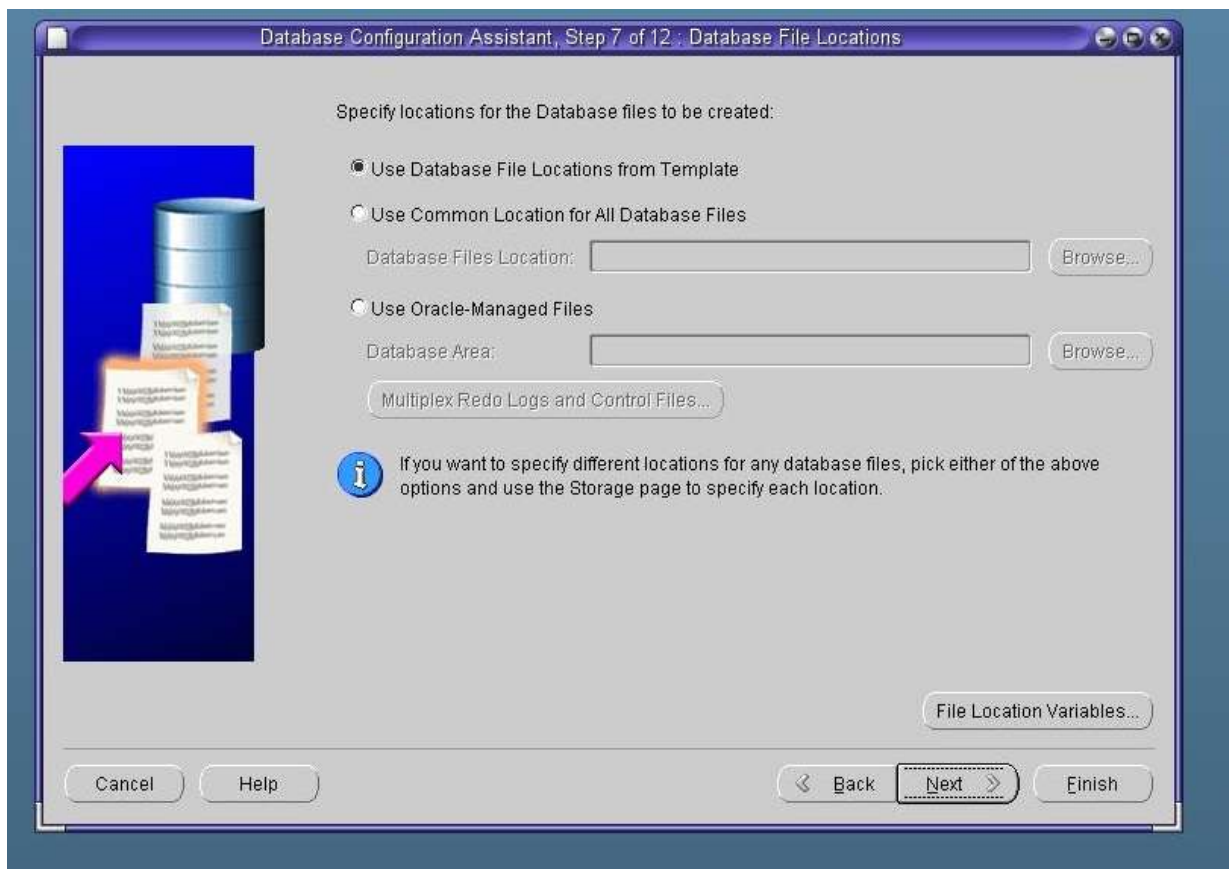
User Name	Password	Confirm Password
SYS		
SYSTEM		
DBSNMP		
SYSMAN		

Cancel Help < Back Next >

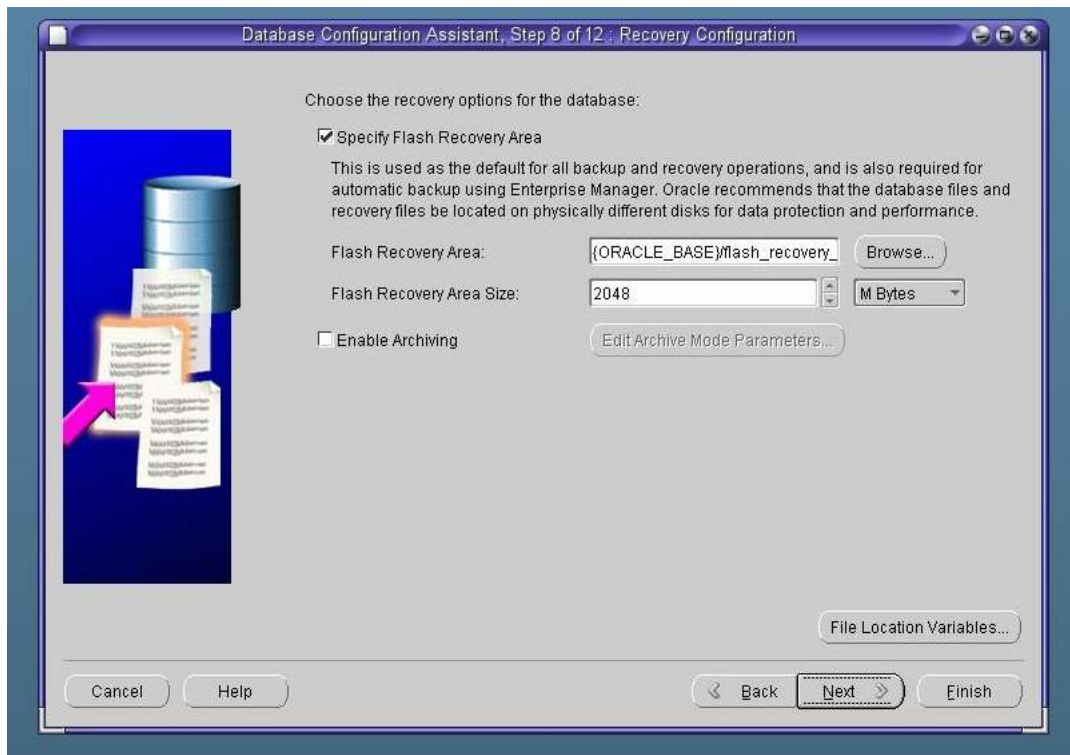
Provide a password for SYS user and click Next



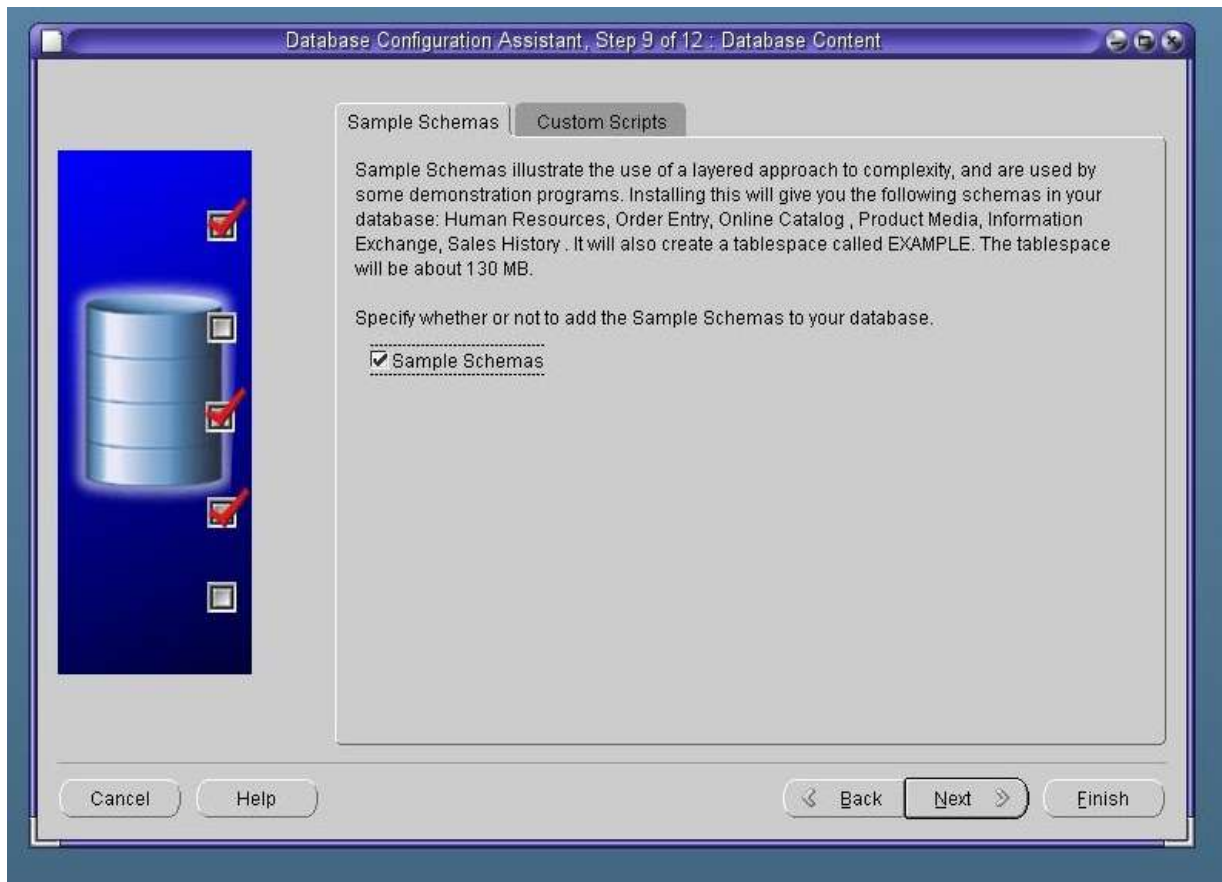
Click Next



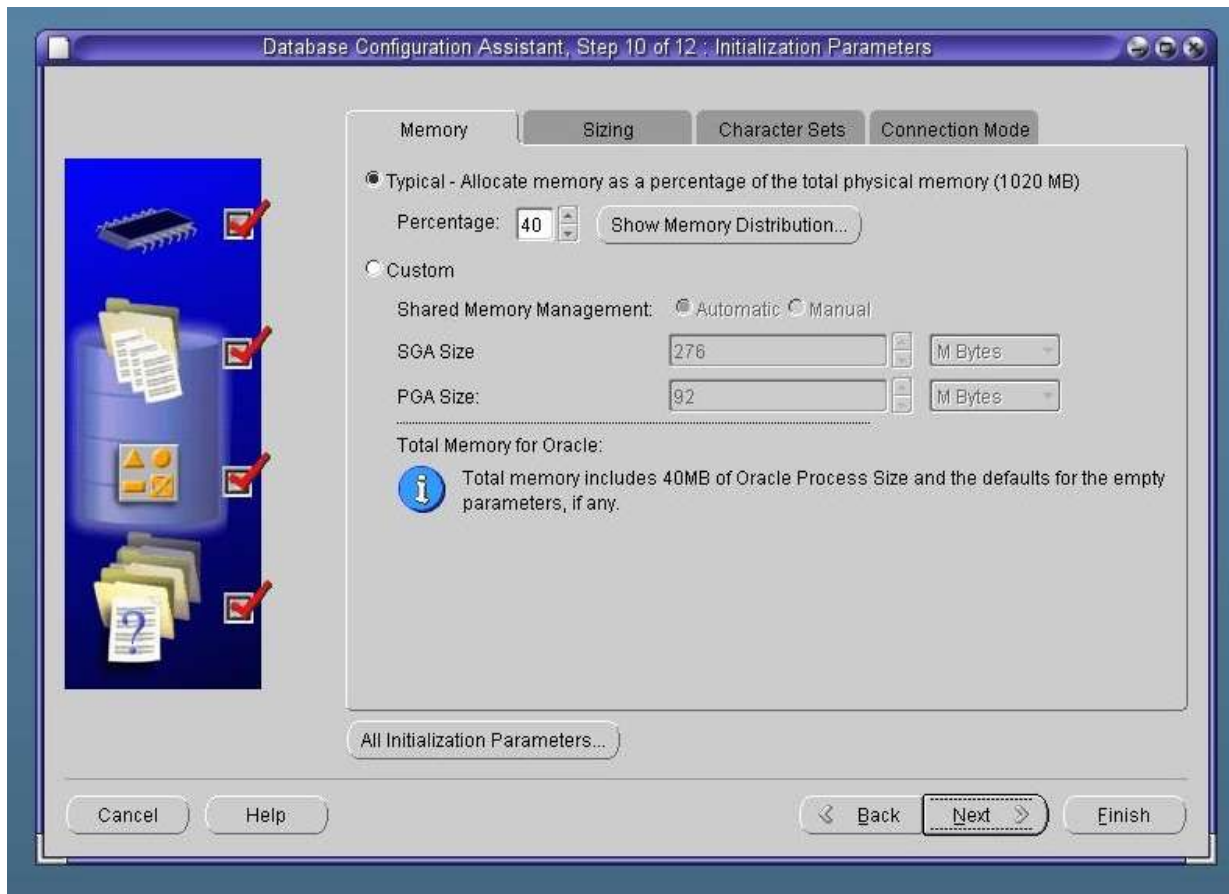
Click Next



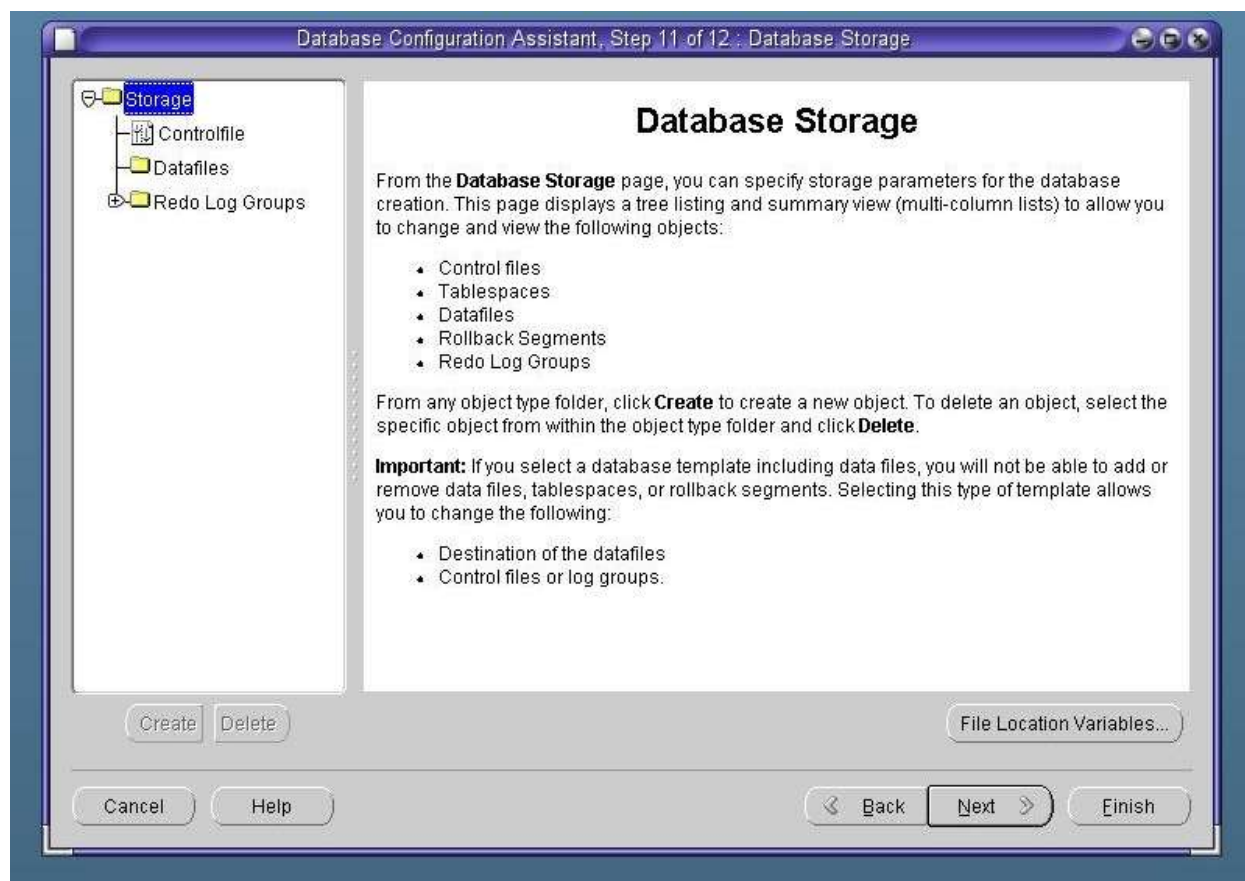
Click Next



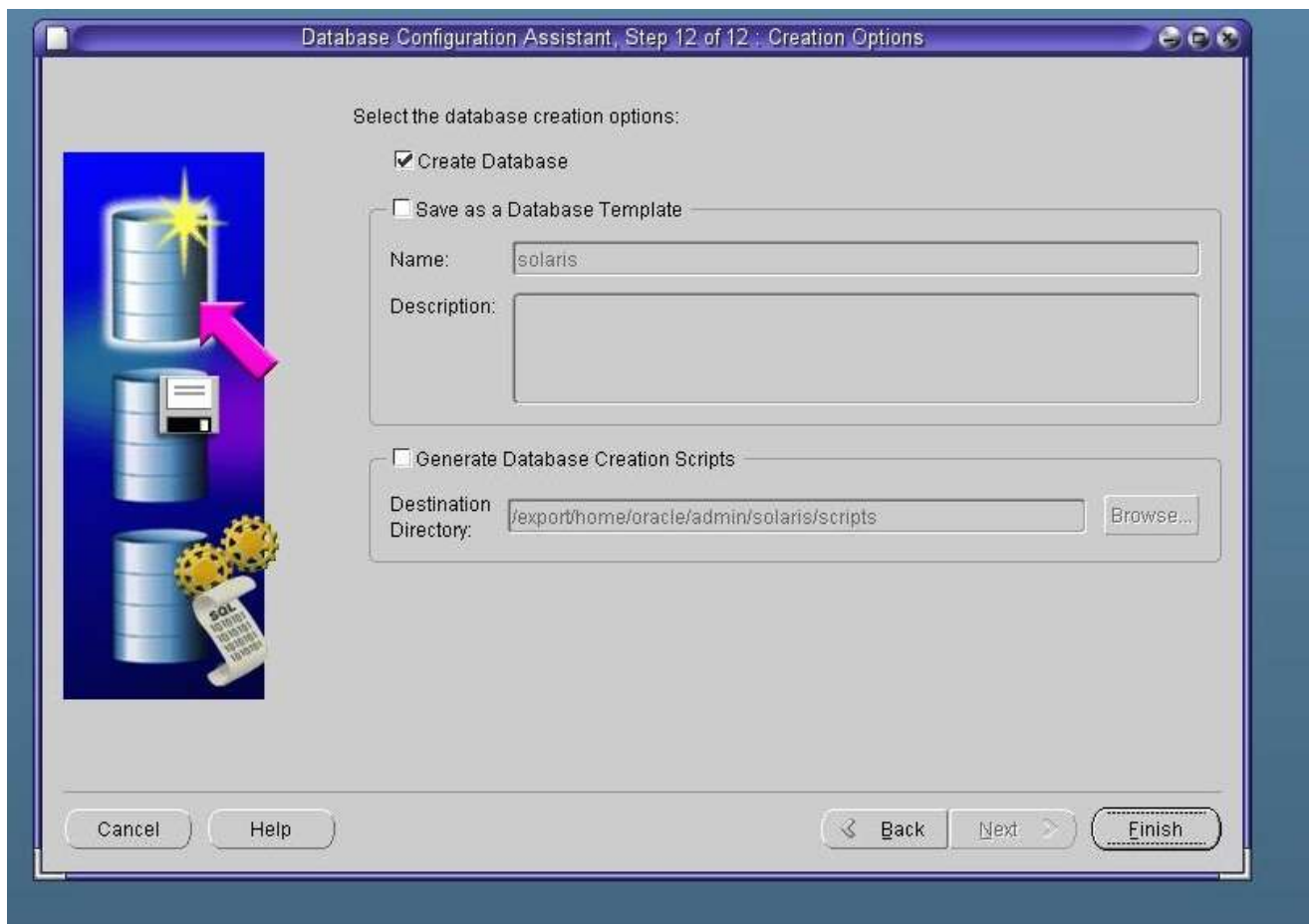
If you want to install sample schemas, then select this option and click Next



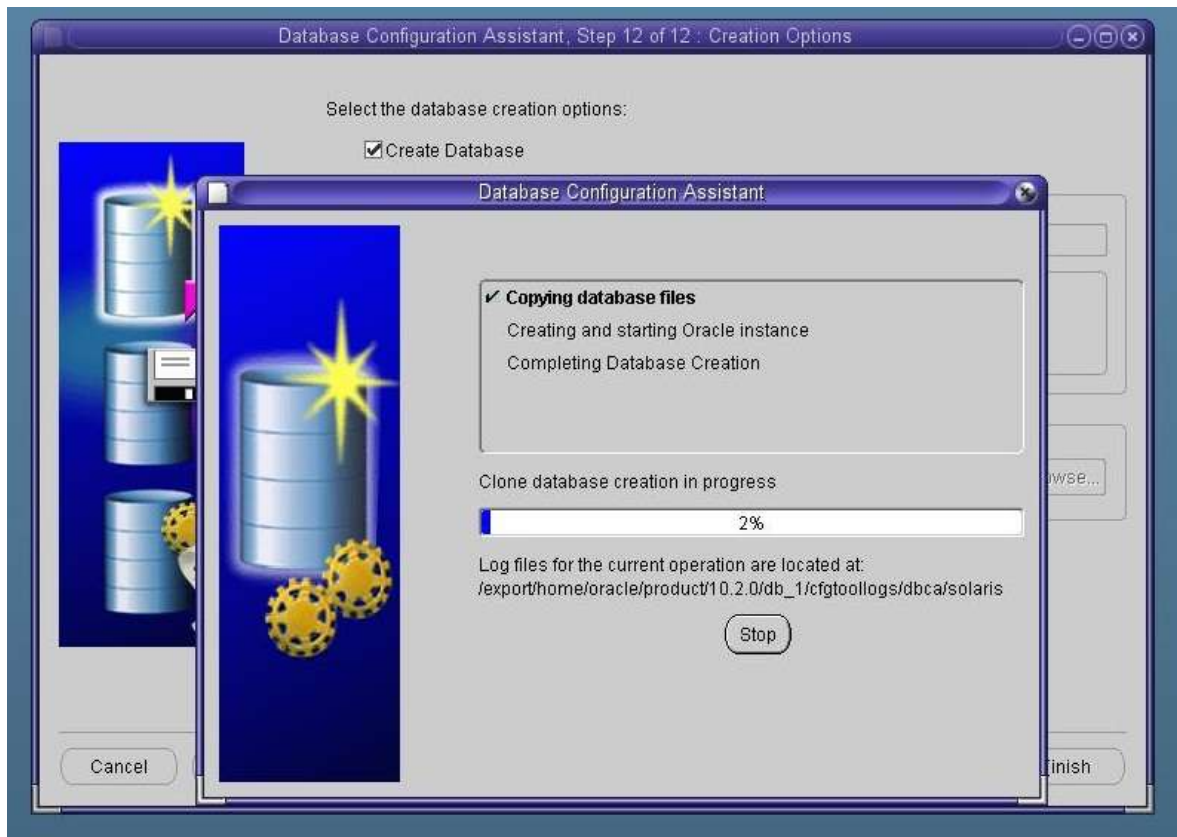
Click Next



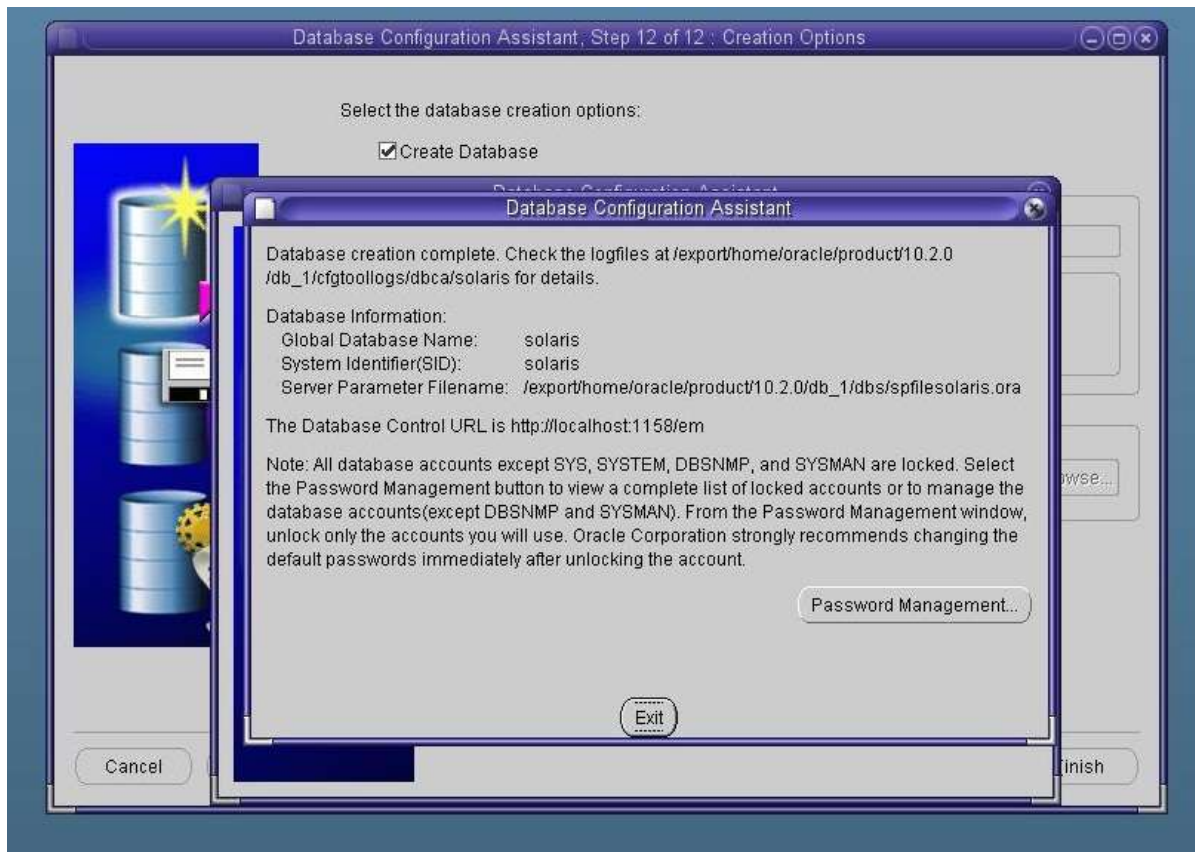
Click Next



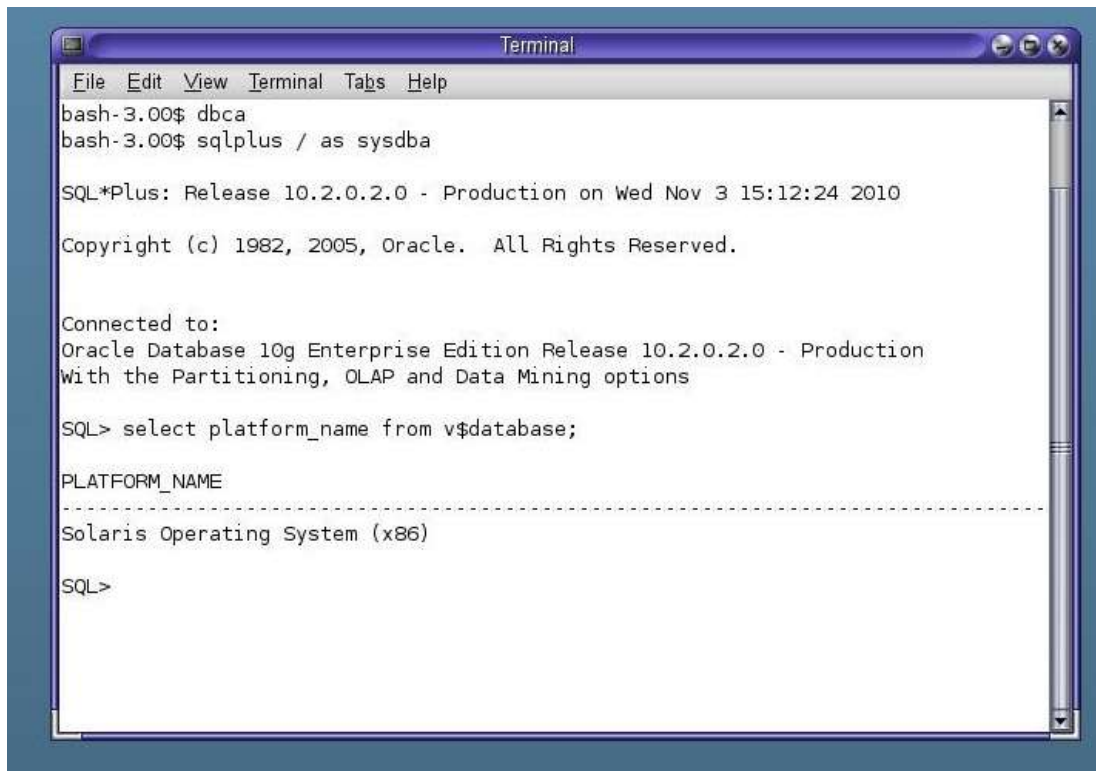
Click Finish and start the database creation



The database creation process has started



You got the message that the database has successfully created. Let's check it!

A screenshot of a terminal window titled "Terminal". The window has a menu bar with "File", "Edit", "View", "Terminal", "Tabs", and "Help". The terminal shows the following commands and output:

```
bash-3.00$ dbca
bash-3.00$ sqlplus / as sysdba

SQL*Plus: Release 10.2.0.2.0 - Production on Wed Nov 3 15:12:24 2010

Copyright (c) 1982, 2005, Oracle. All Rights Reserved.

Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.2.0 - Production
With the Partitioning, OLAP and Data Mining options

SQL> select platform_name from v$database;

PLATFORM_NAME
-----
Solaris Operating System (x86)

SQL>
```

Woouu!!!! Congratulations again!! At the end, you've successfully installed Oracle Solaris, Oracle Database on Solaris and created a database! That's great!

Don't forget to post a feedback!

Step by Step installing Oracle 11g R2 on OEL 5.5

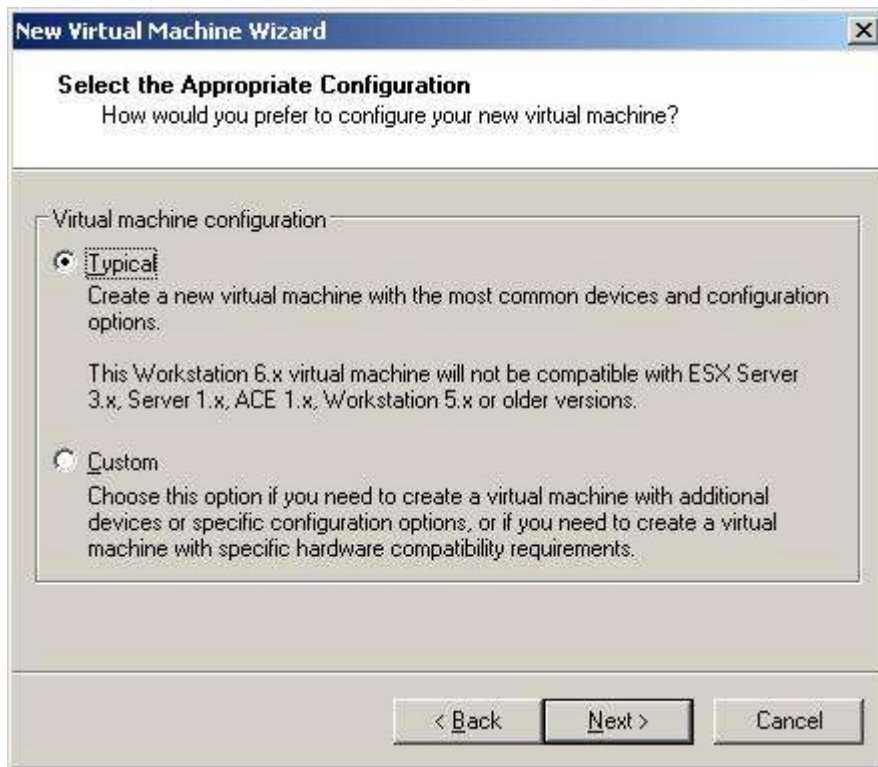
In this step by step tutorial I'm going to show you the installation of Oracle 11gR2 on OEL 5.5

As in every my step by step and video tutorials, I use VMware virtual machine, so here also I start with creating a virtual machine

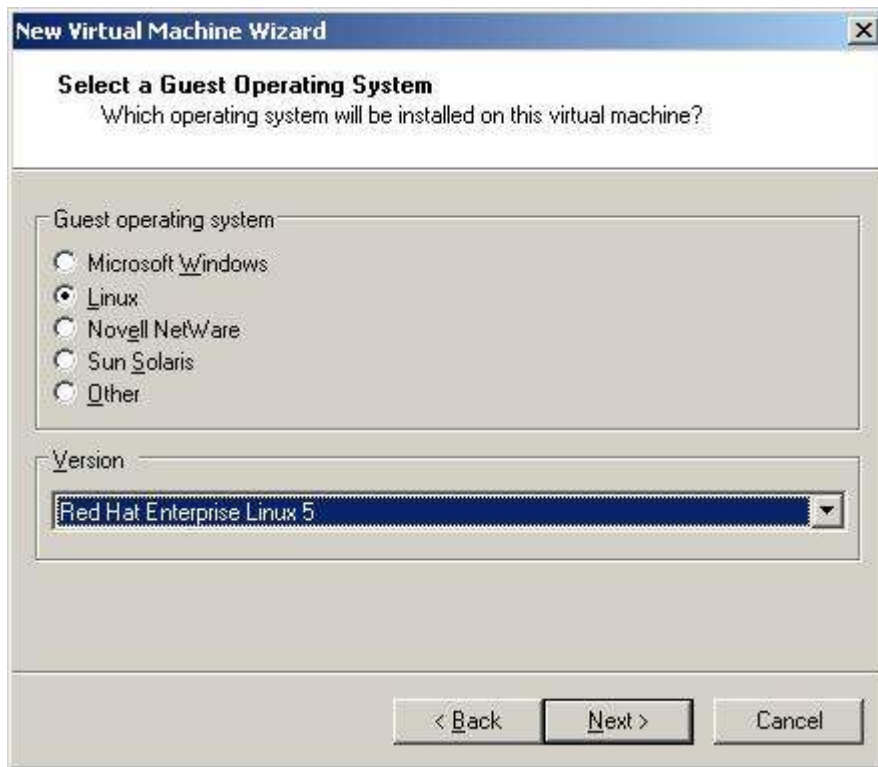
P.S. Actually I was preparing this tutorial for CentOS, but somehow mixed .iso images 😊 So the name of the virtual machine appears as "CentOS" but the installation is made on OEL. However, you can try the same tutorial for CentOS as well



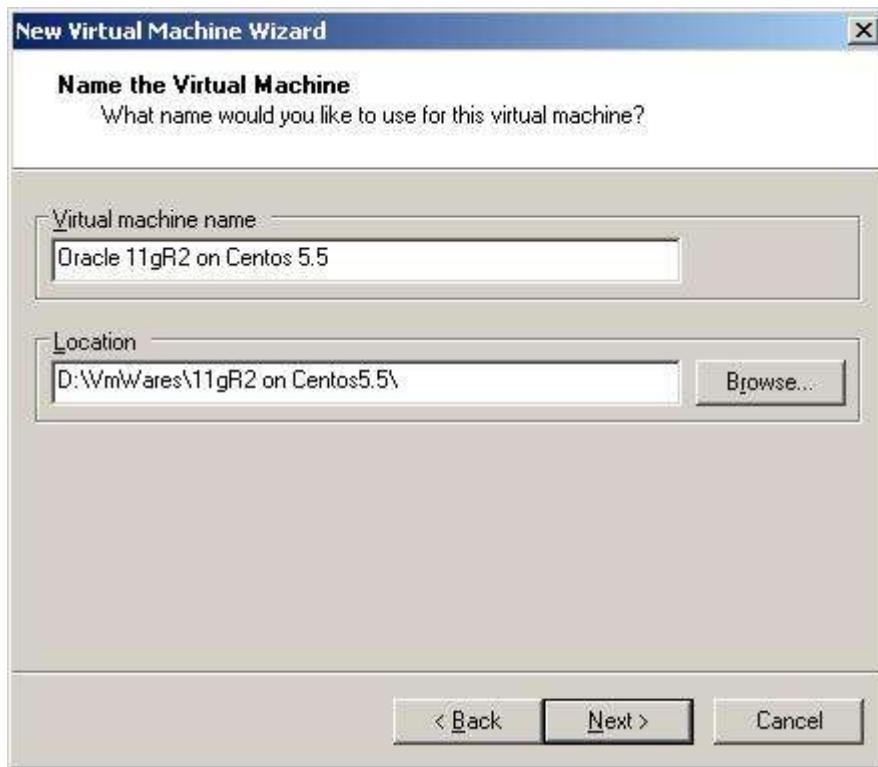
Click Next



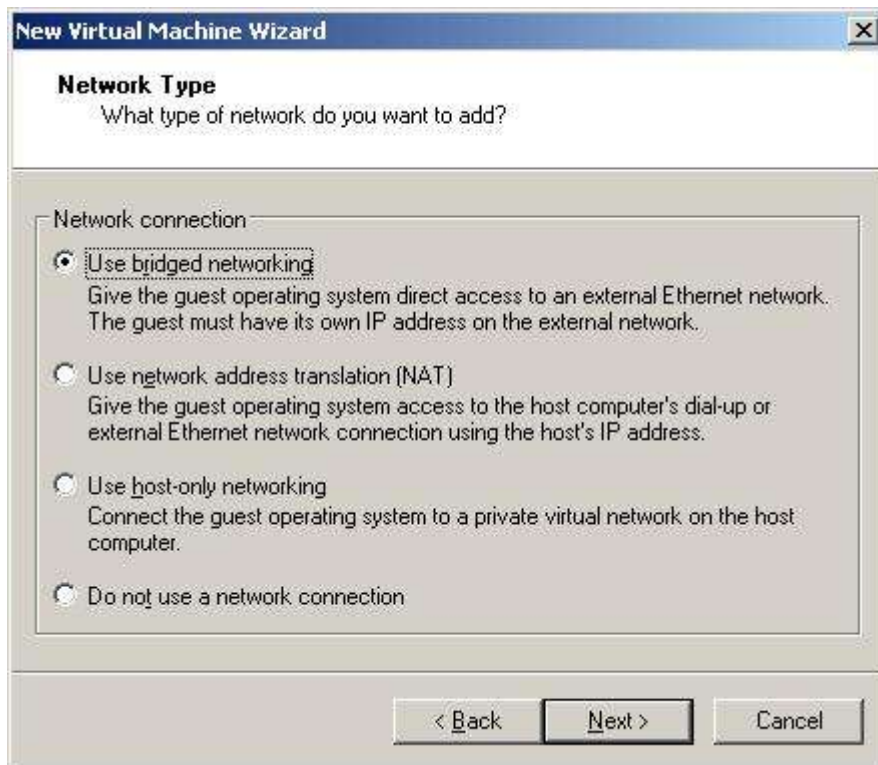
Select Typical and click Next



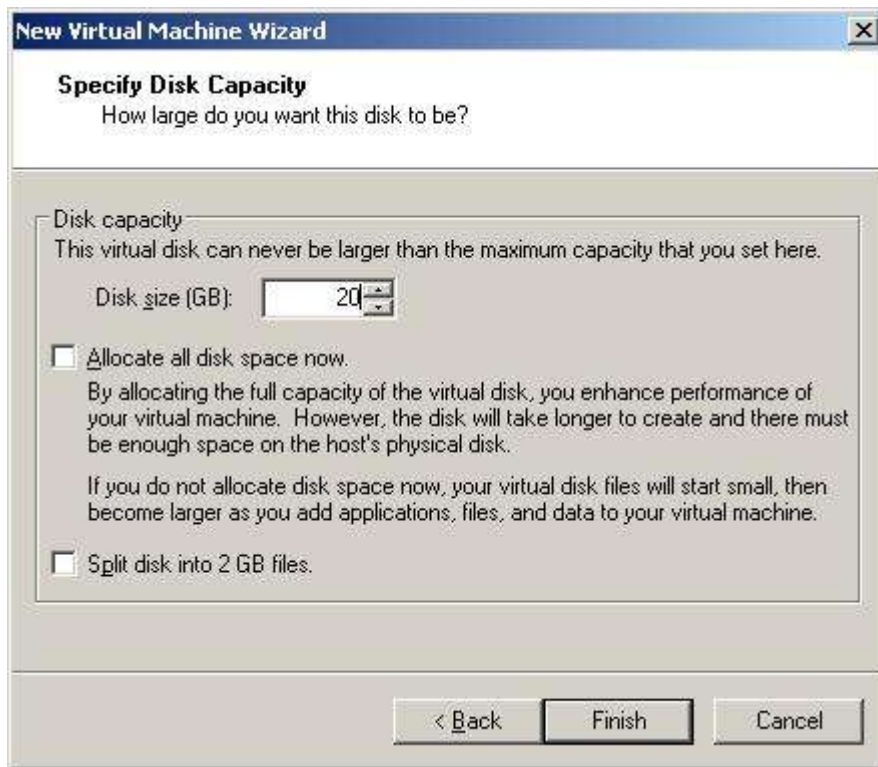
Select Linux and “Red Hat Enterprise Linux 5” as an OS version and click next



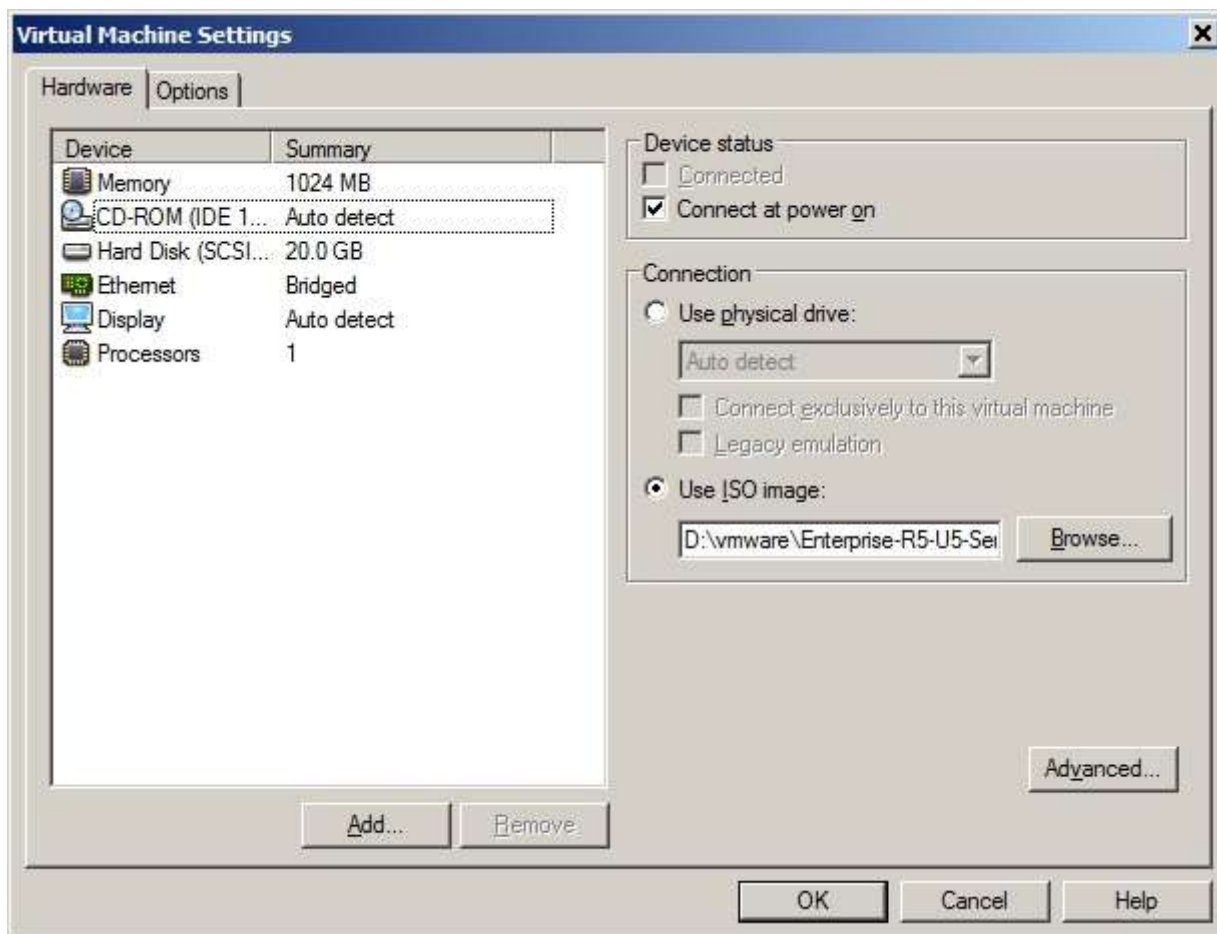
Provide the name of virtual machine and specify the location and click next



Select "Use bridged networking" and click Next



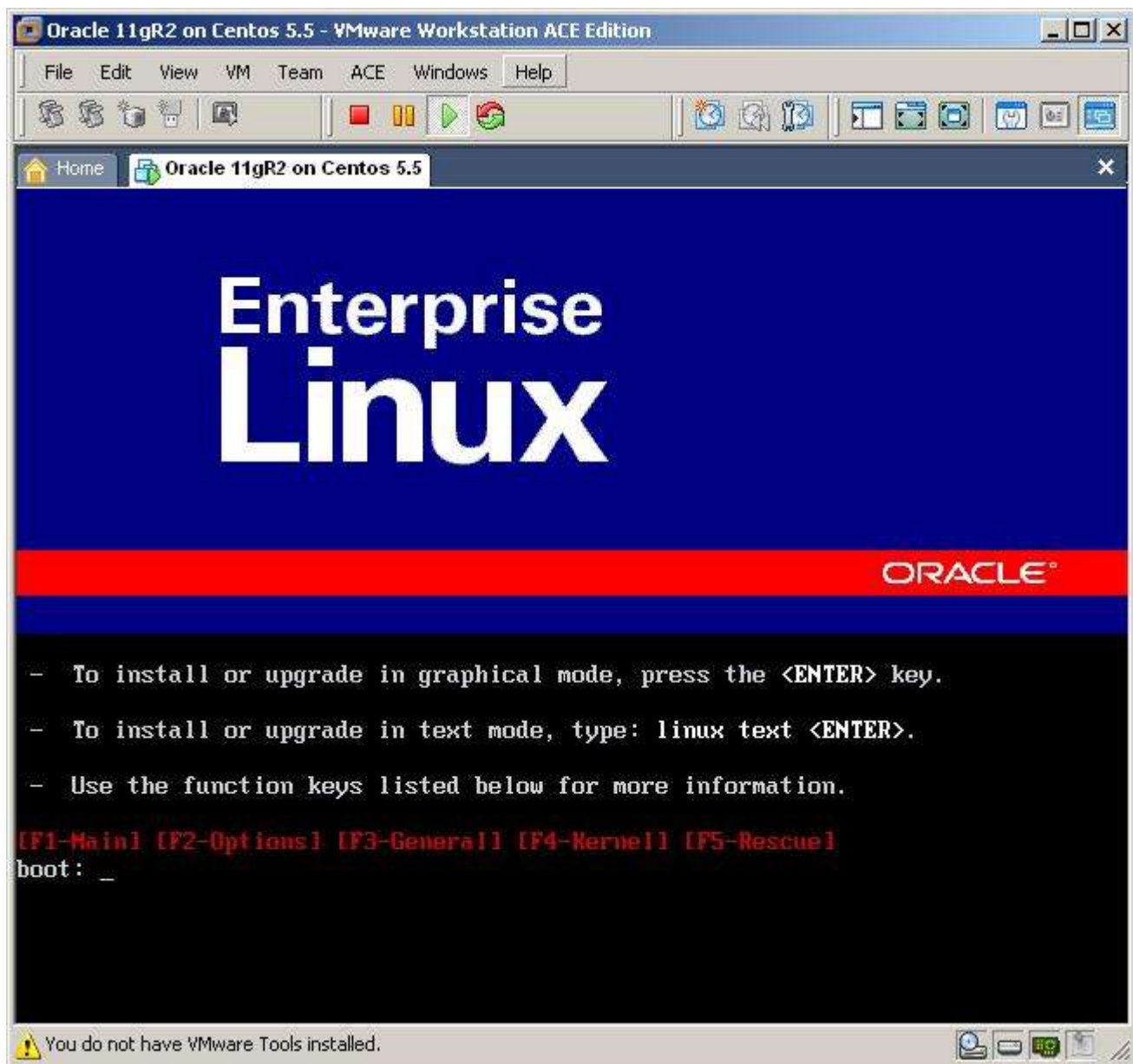
Specify the size of the virtual machine and click Finish



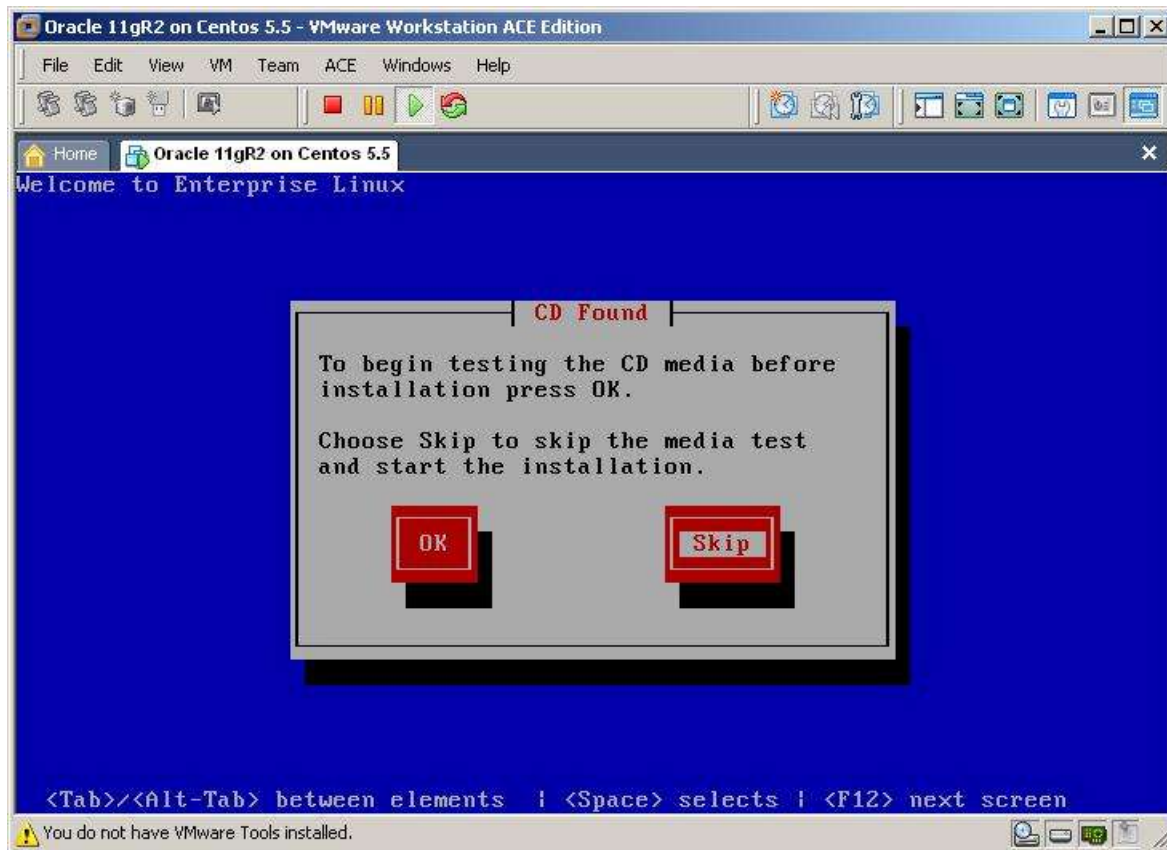
Delete Floppy, USB Controller and Sound Adapter devices, set Memory to 1024 Mb, mount ISO image of the OEL 5.5 OS and click OK



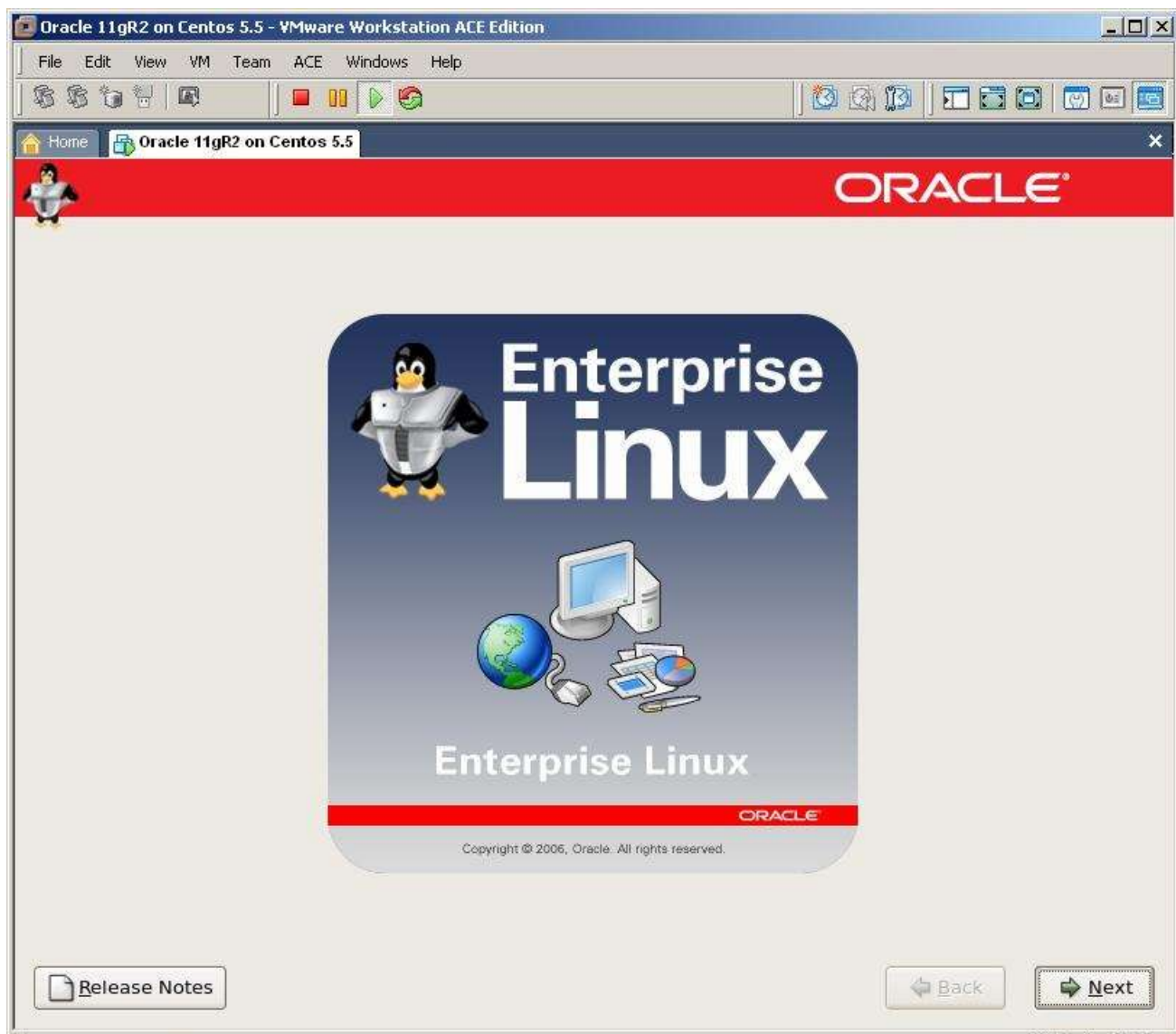
Click “Power on” button to start the virtual machine



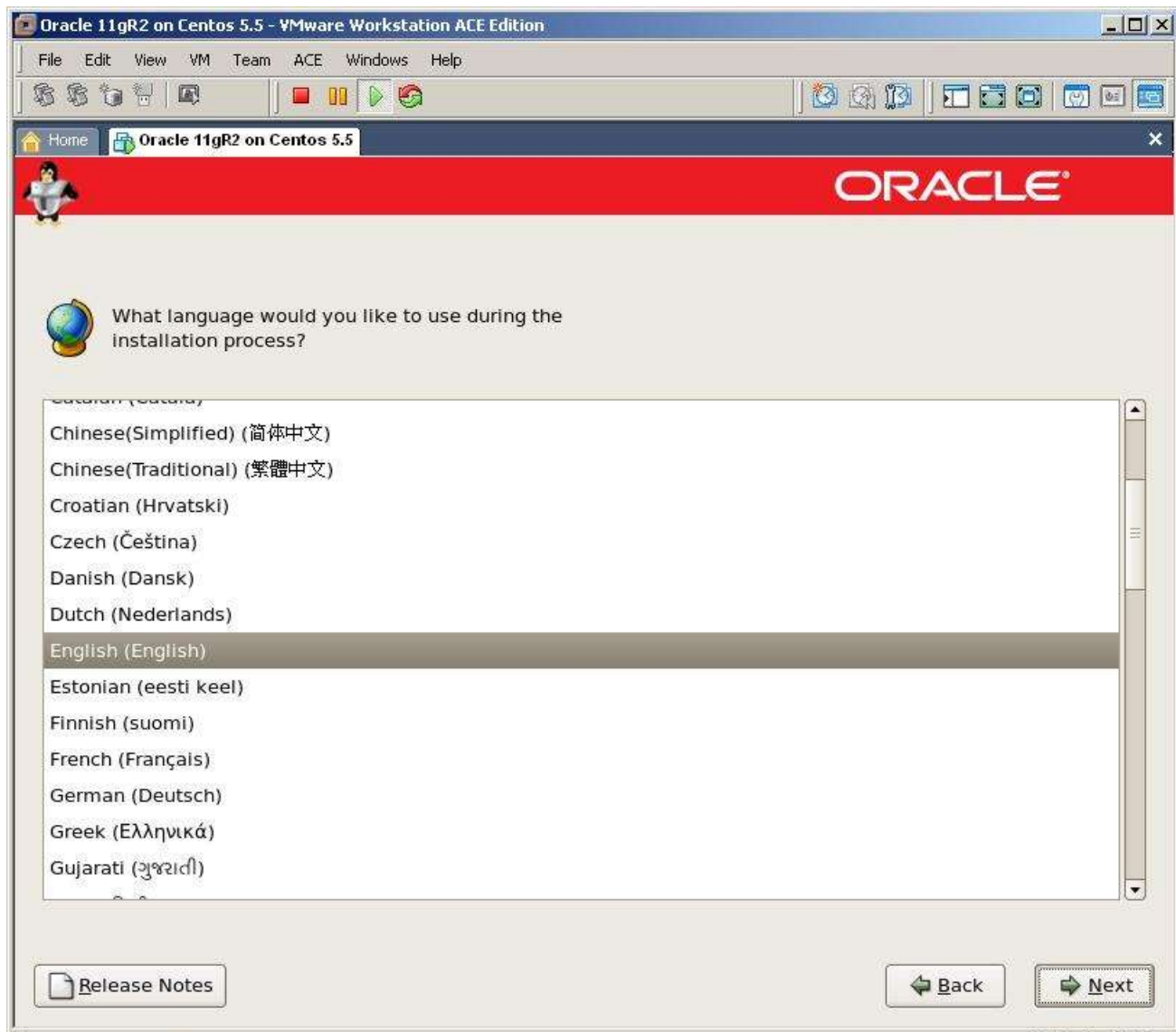
Click enter



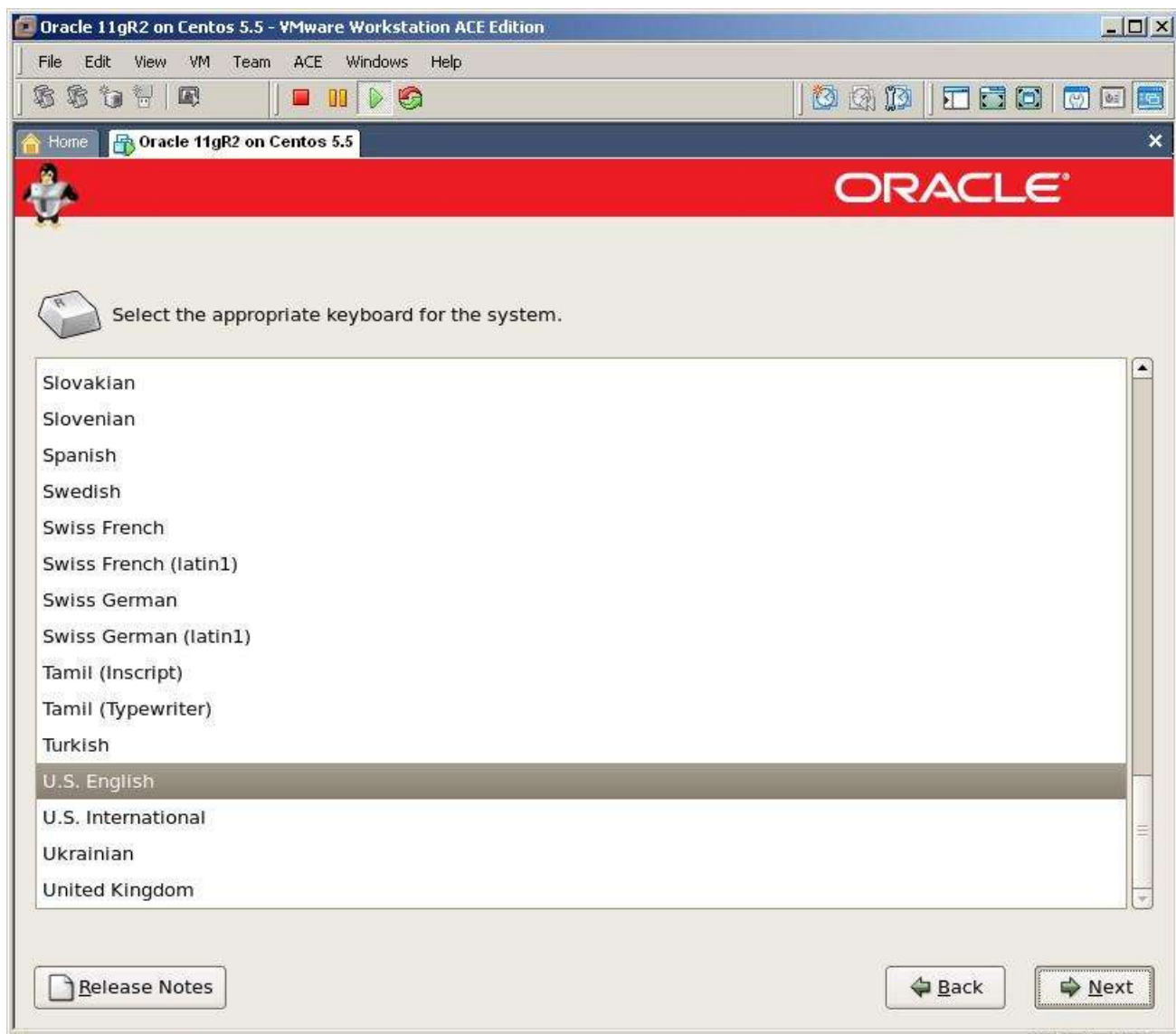
Select Skip button



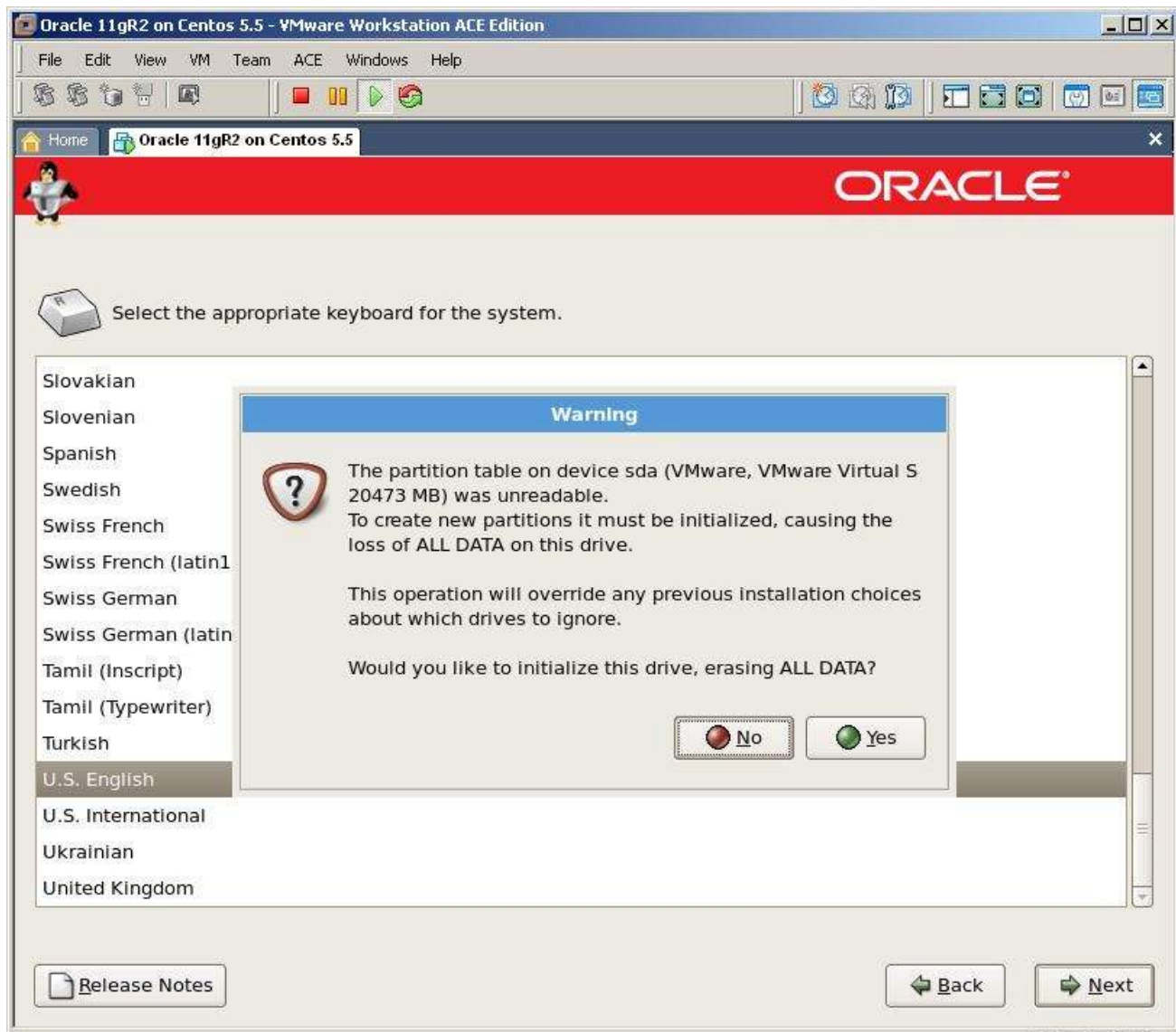
Click Next



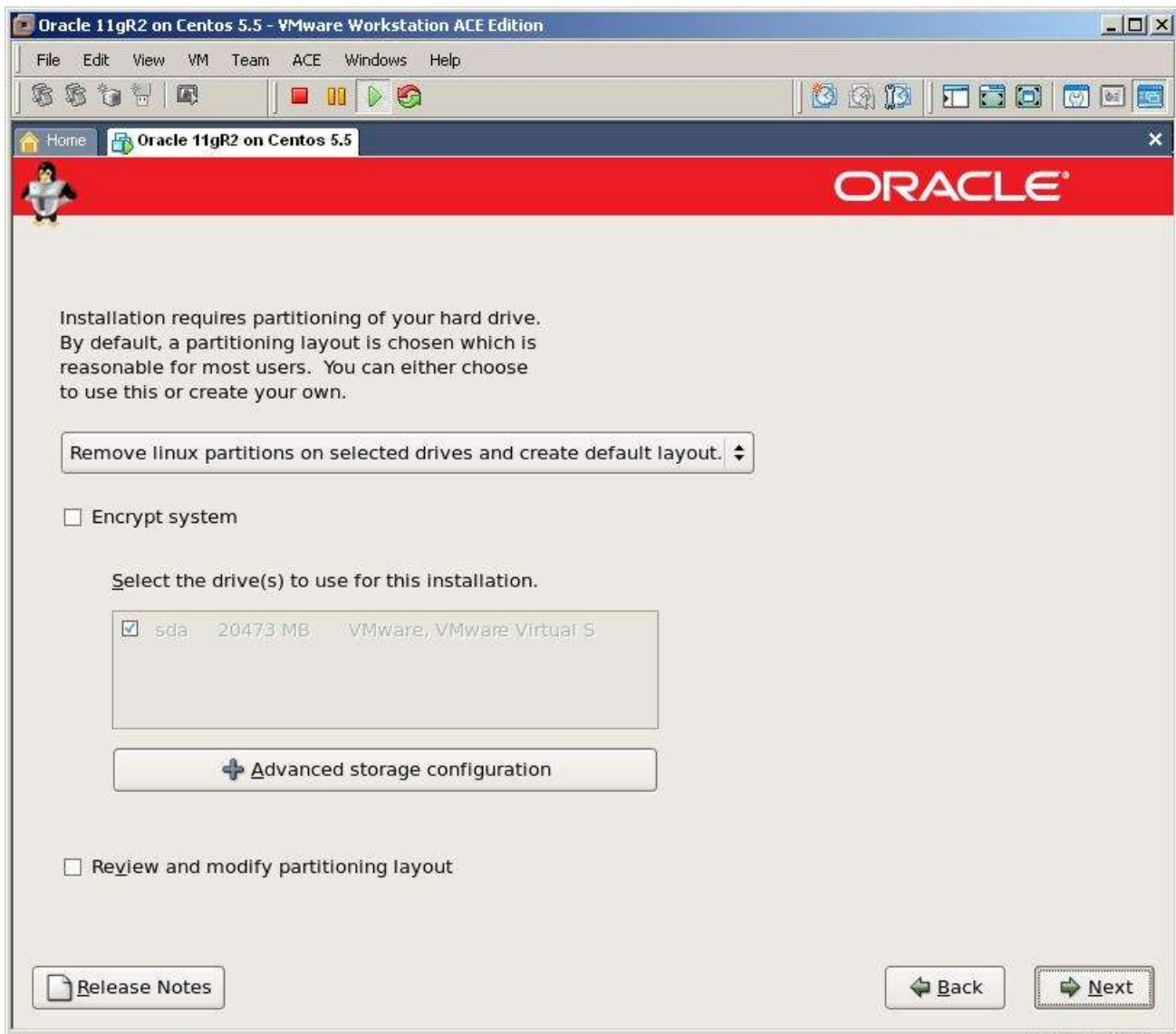
Select Installation language and click next



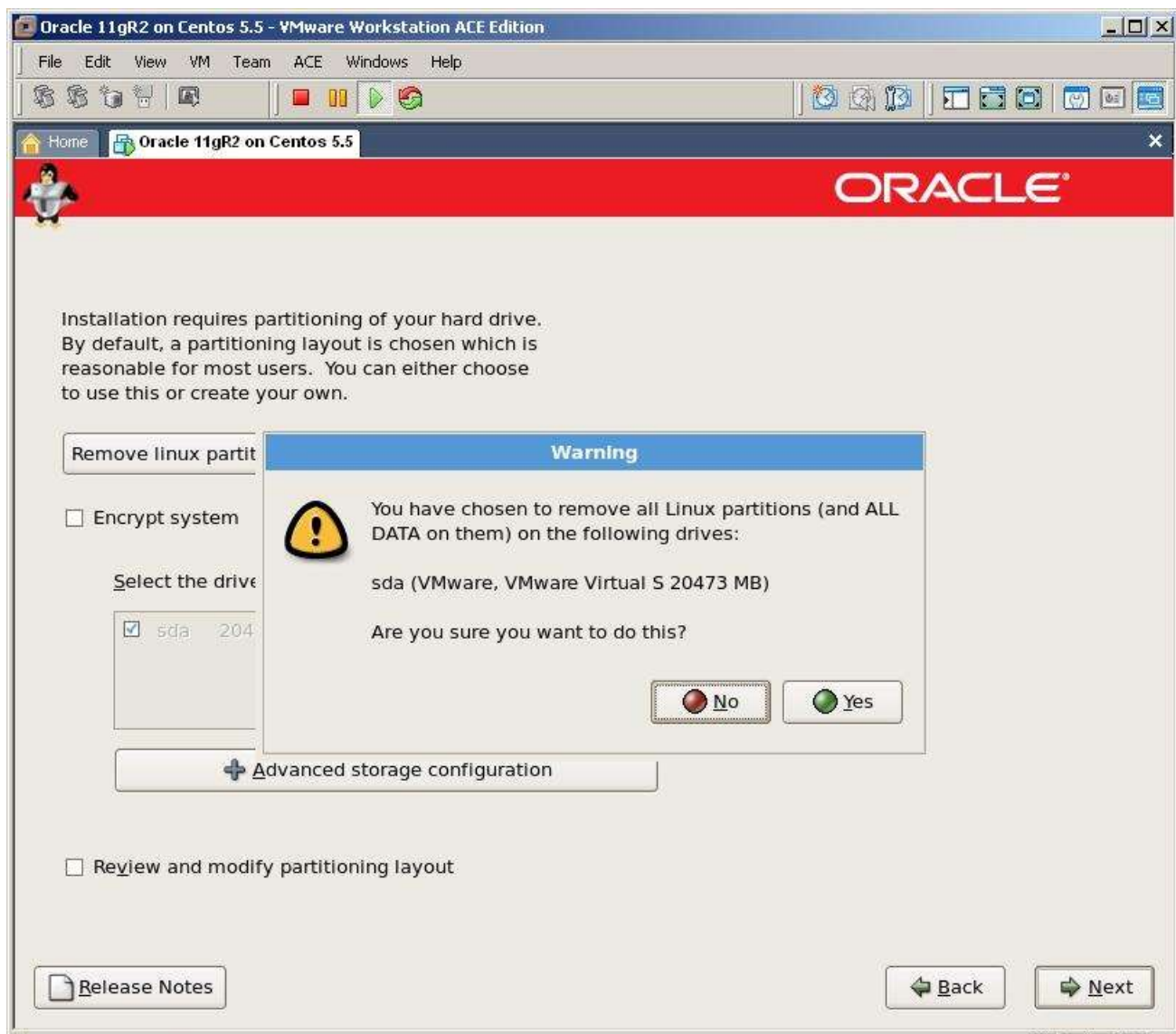
Select the keyboard and click next



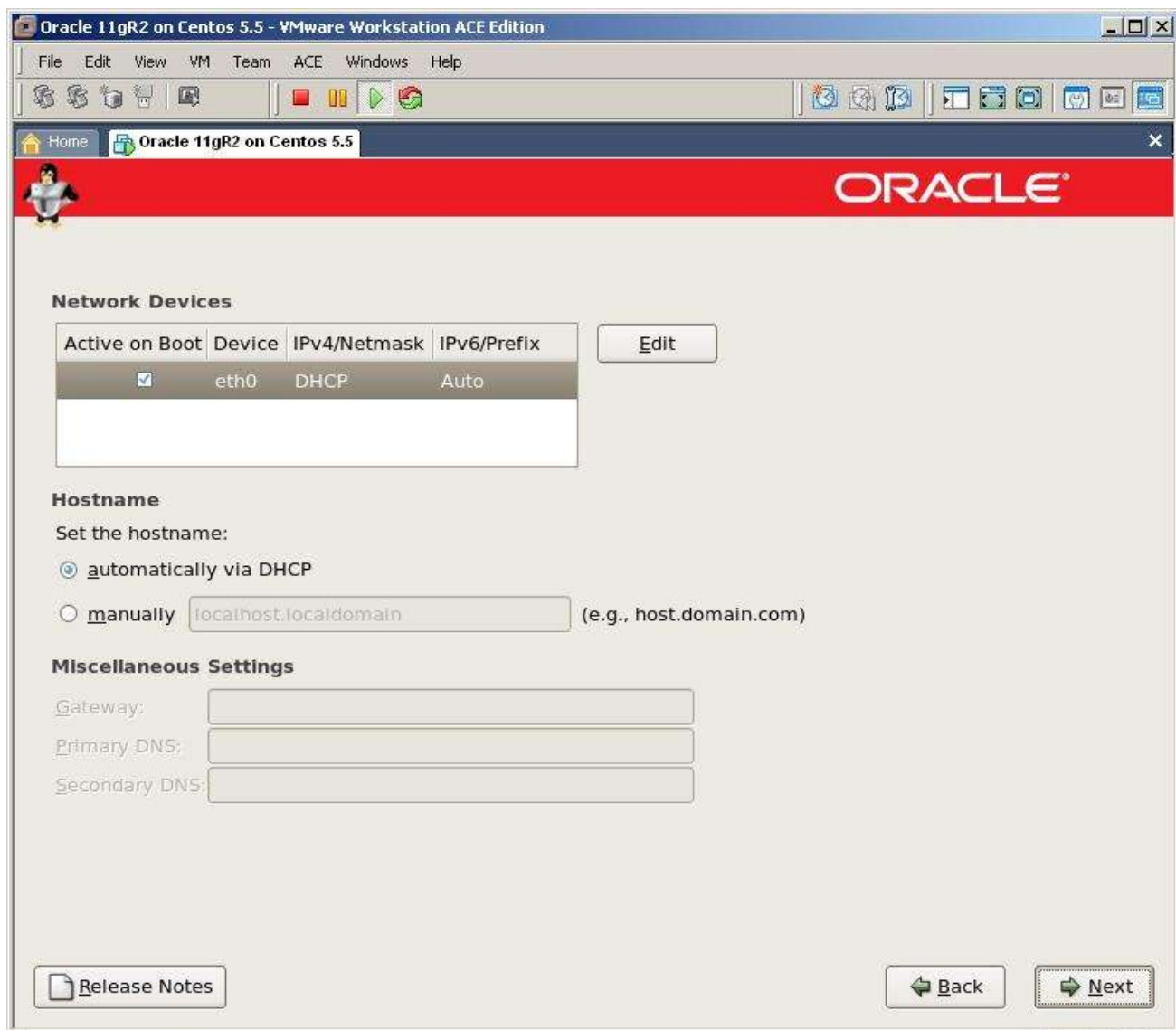
Click on Yes



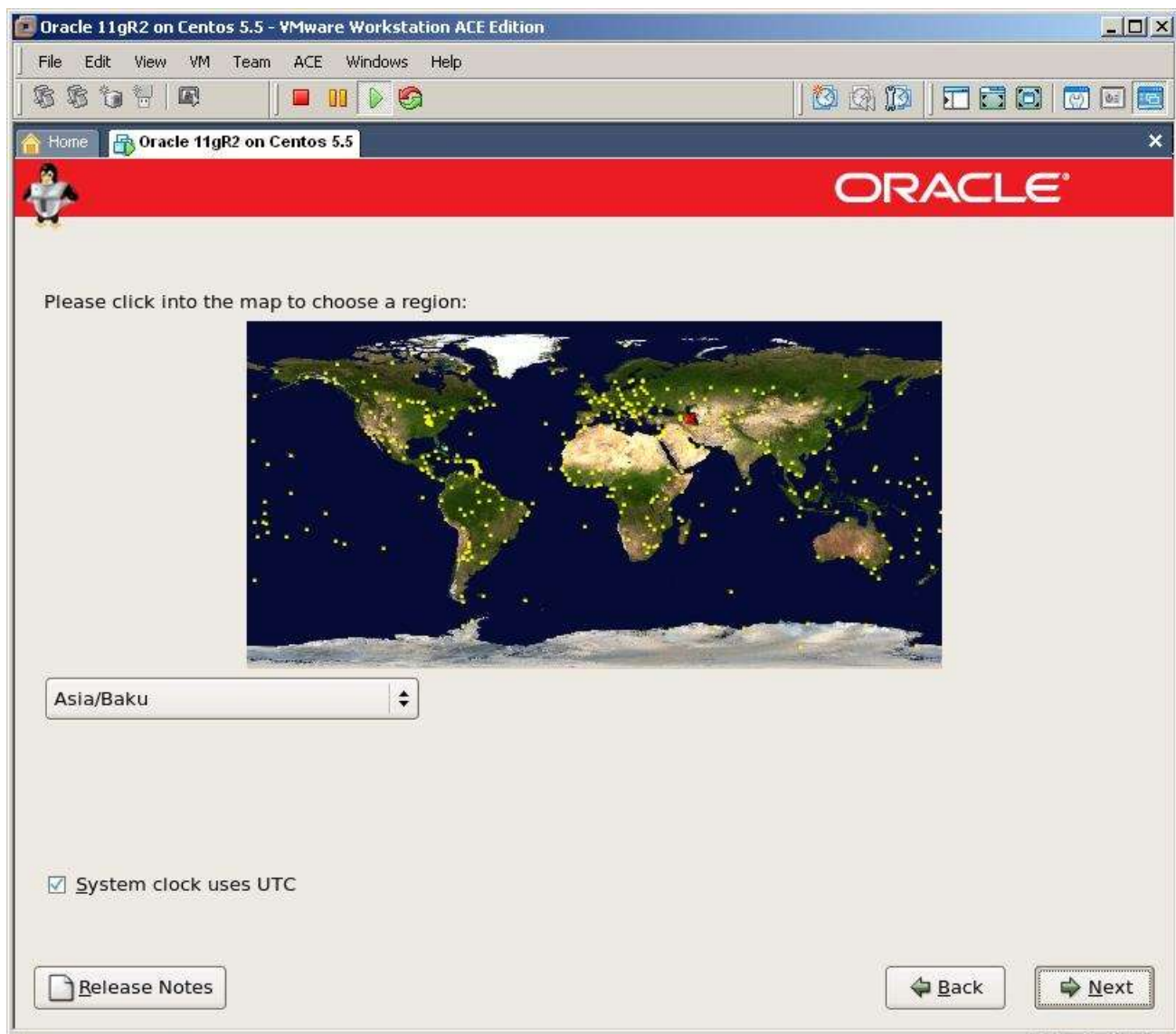
Click Next



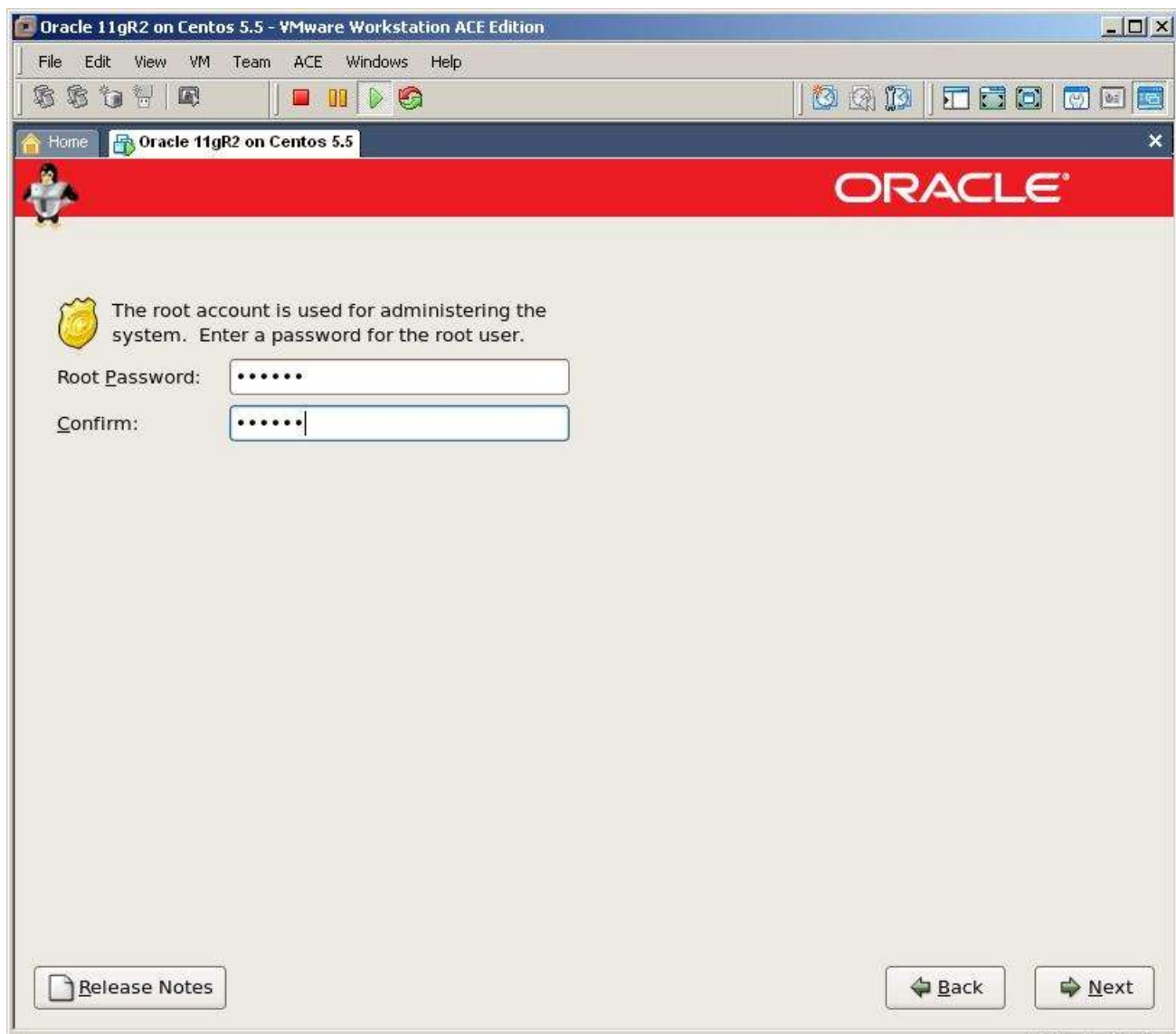
Click on YES to remove the partition and click next



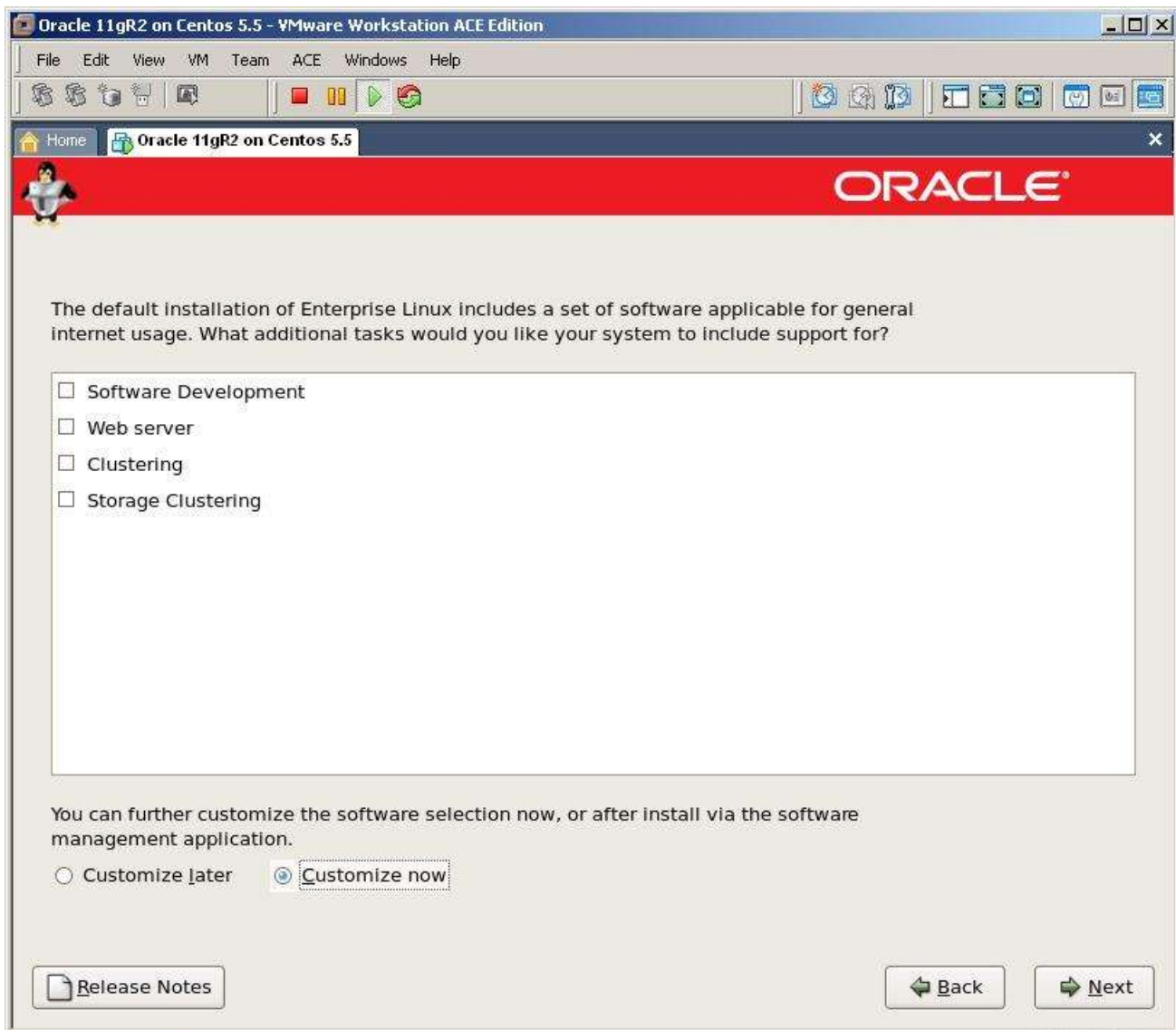
Click Next



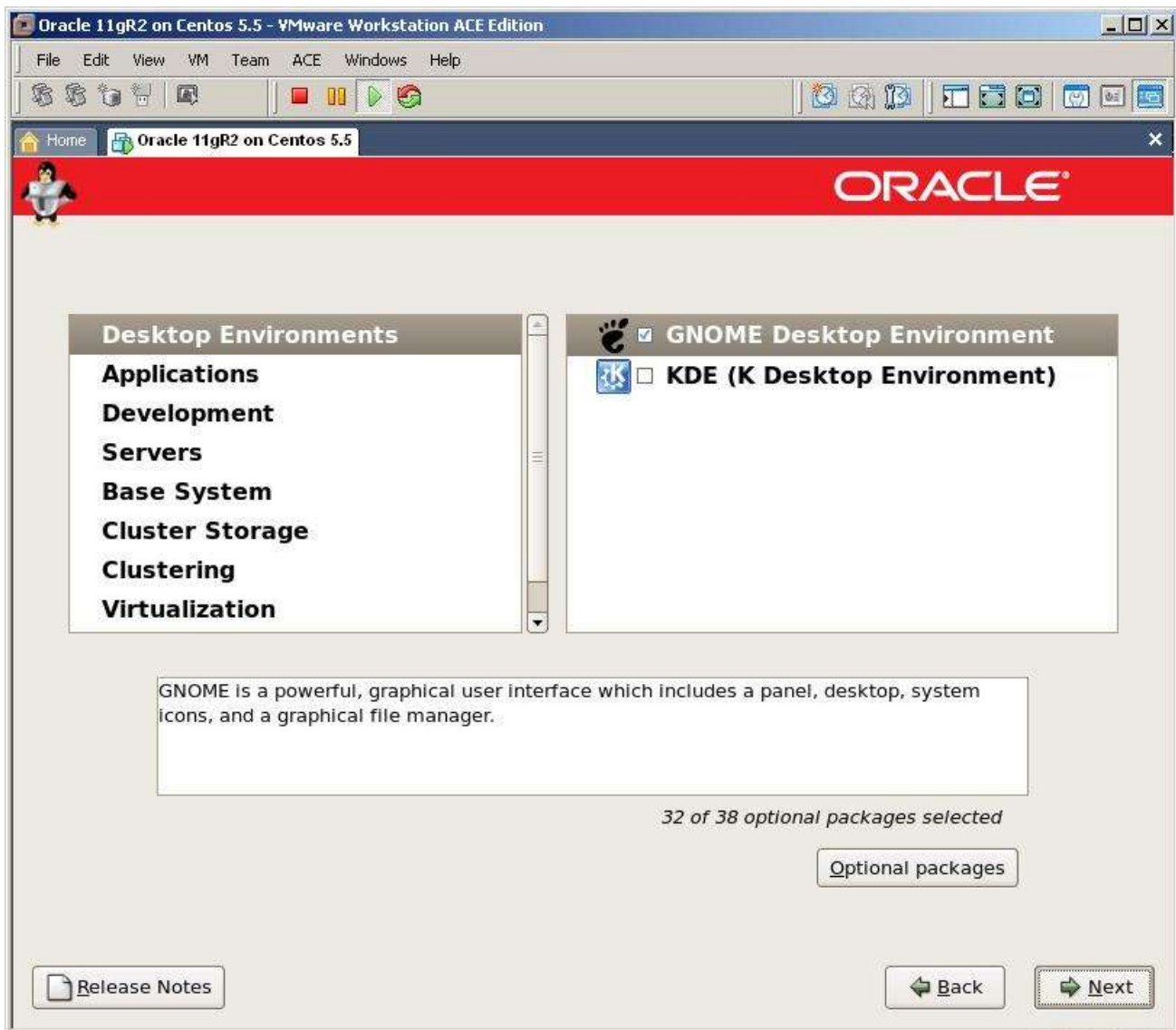
Select the country and click next



Provide the password of the root user and click next



To install required packages for Oracle installation select “Customize now” and click Next



Desktop Environments

GNOME Desktop Environment

Applications

Graphical Internet

Development

Development Libraries

Development Tools

GNOME Software Development

Java Development

Legacy Software Development

X Software Development (Select libxp-devel and openmotif)

Servers

Server Configuration Tools

Web Server

Windows File Server

Base System

Administration Tools

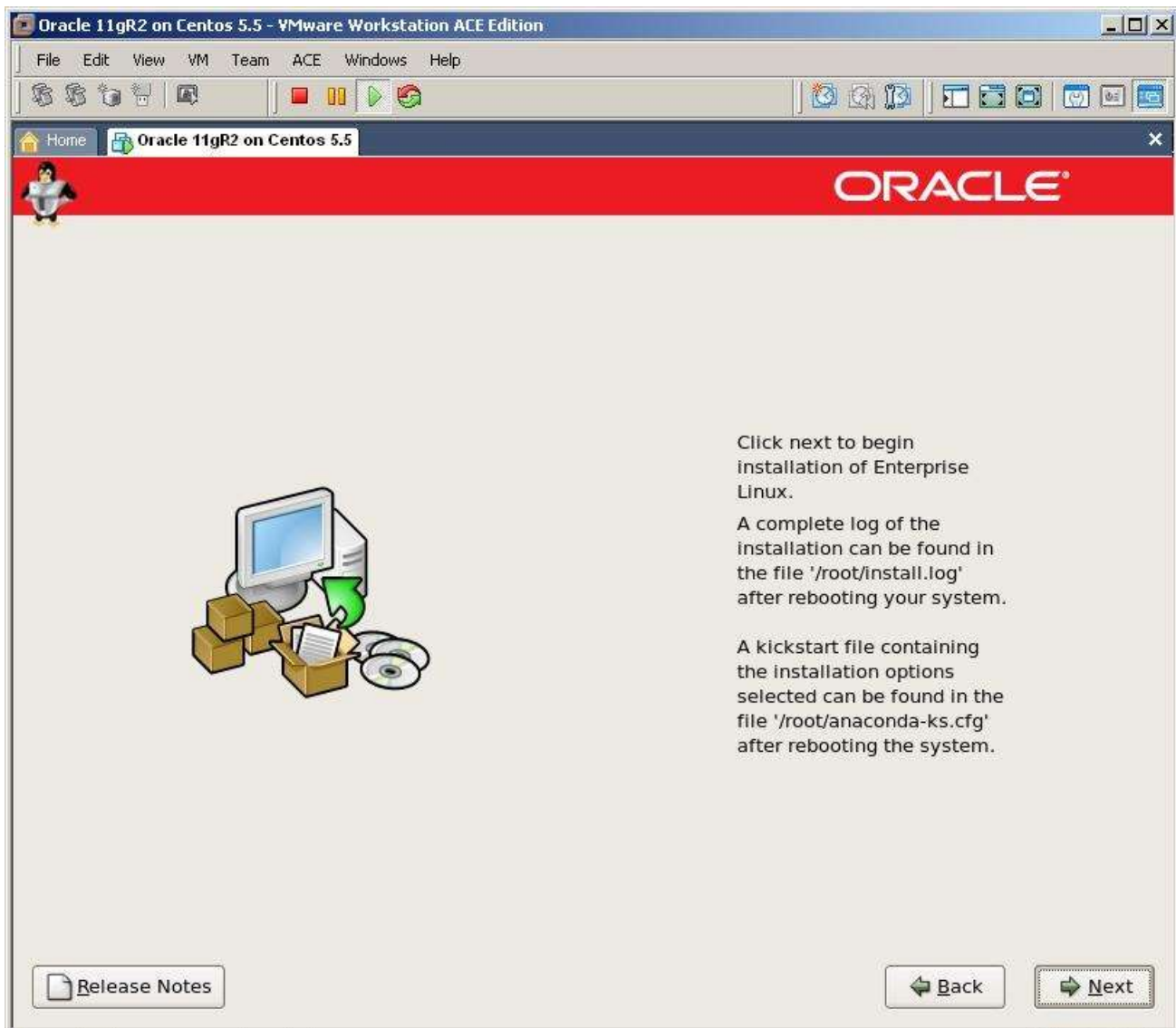
Base

Java

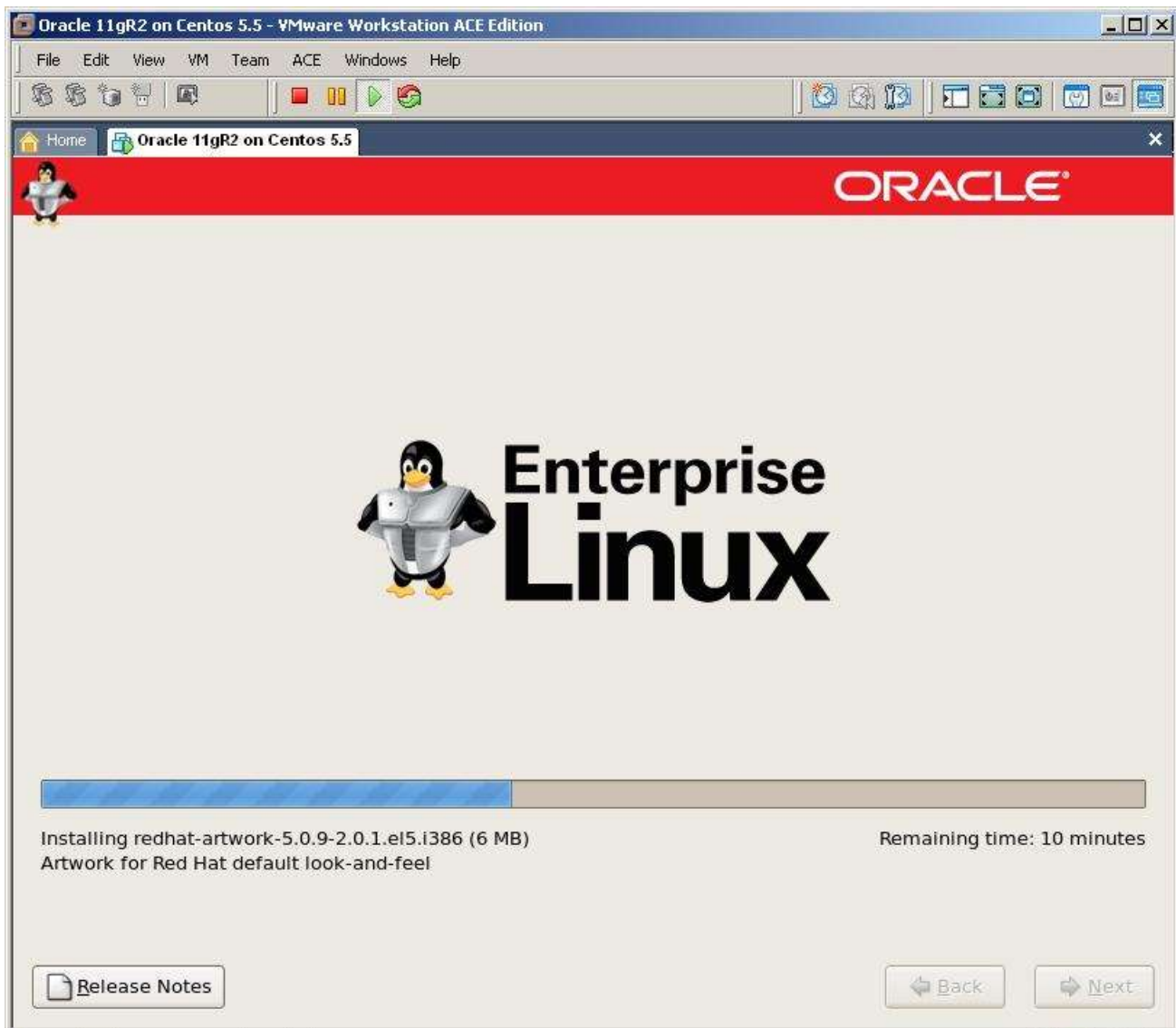
Legacy Software Support (select compat-db)

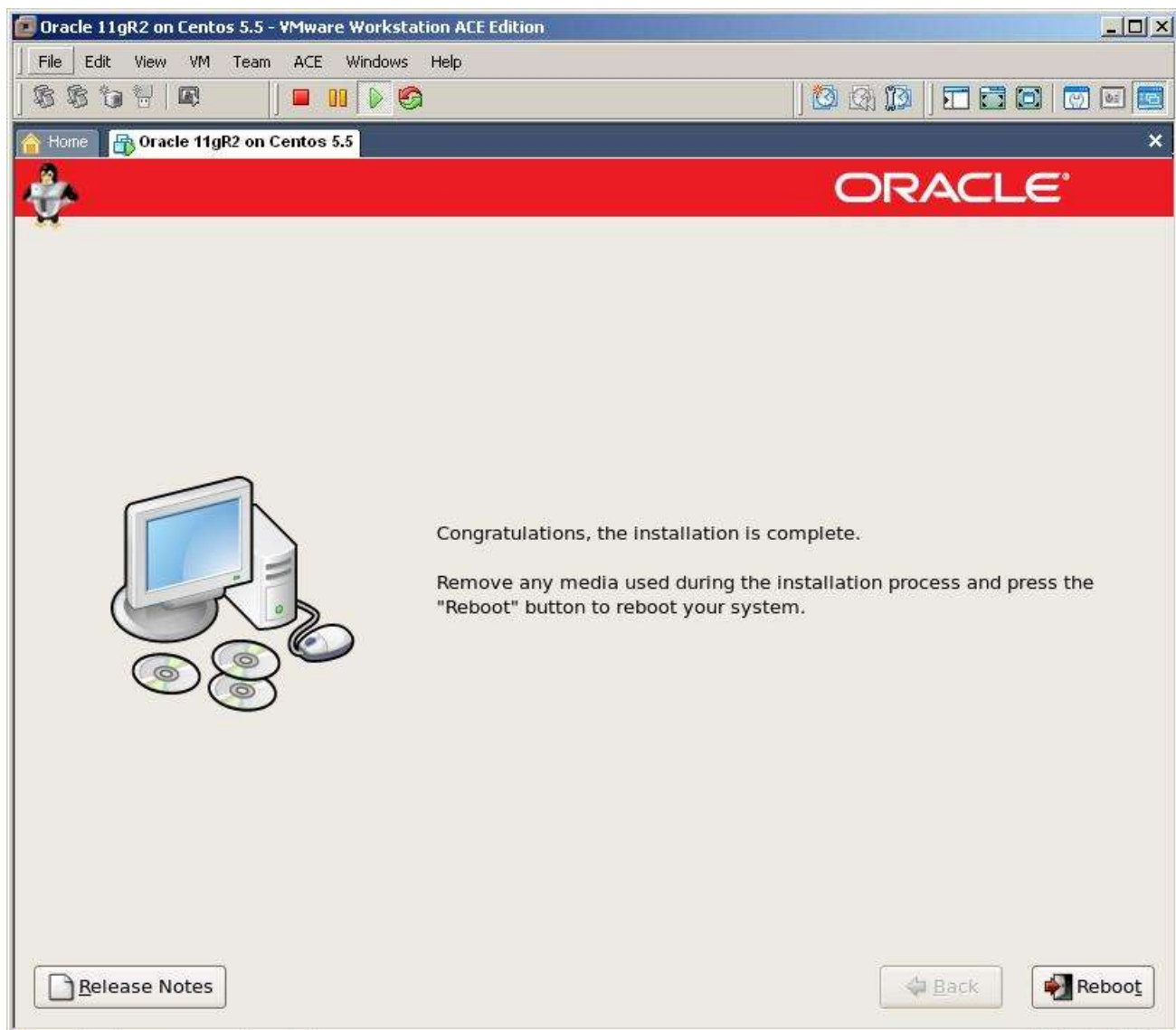
System Tools (select sysstat)

X Window System



Click Next to start the installation





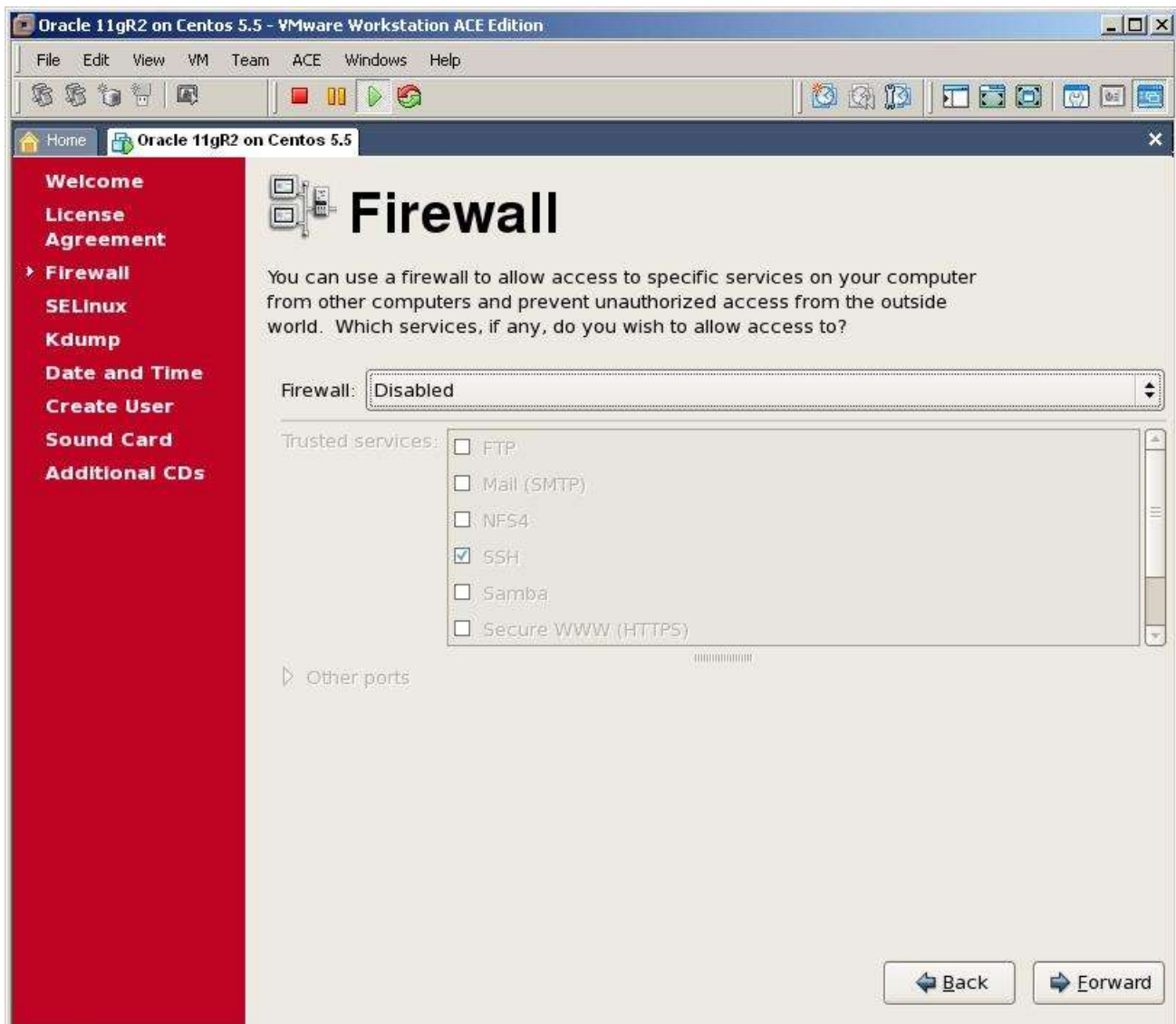
Click on Reboot button



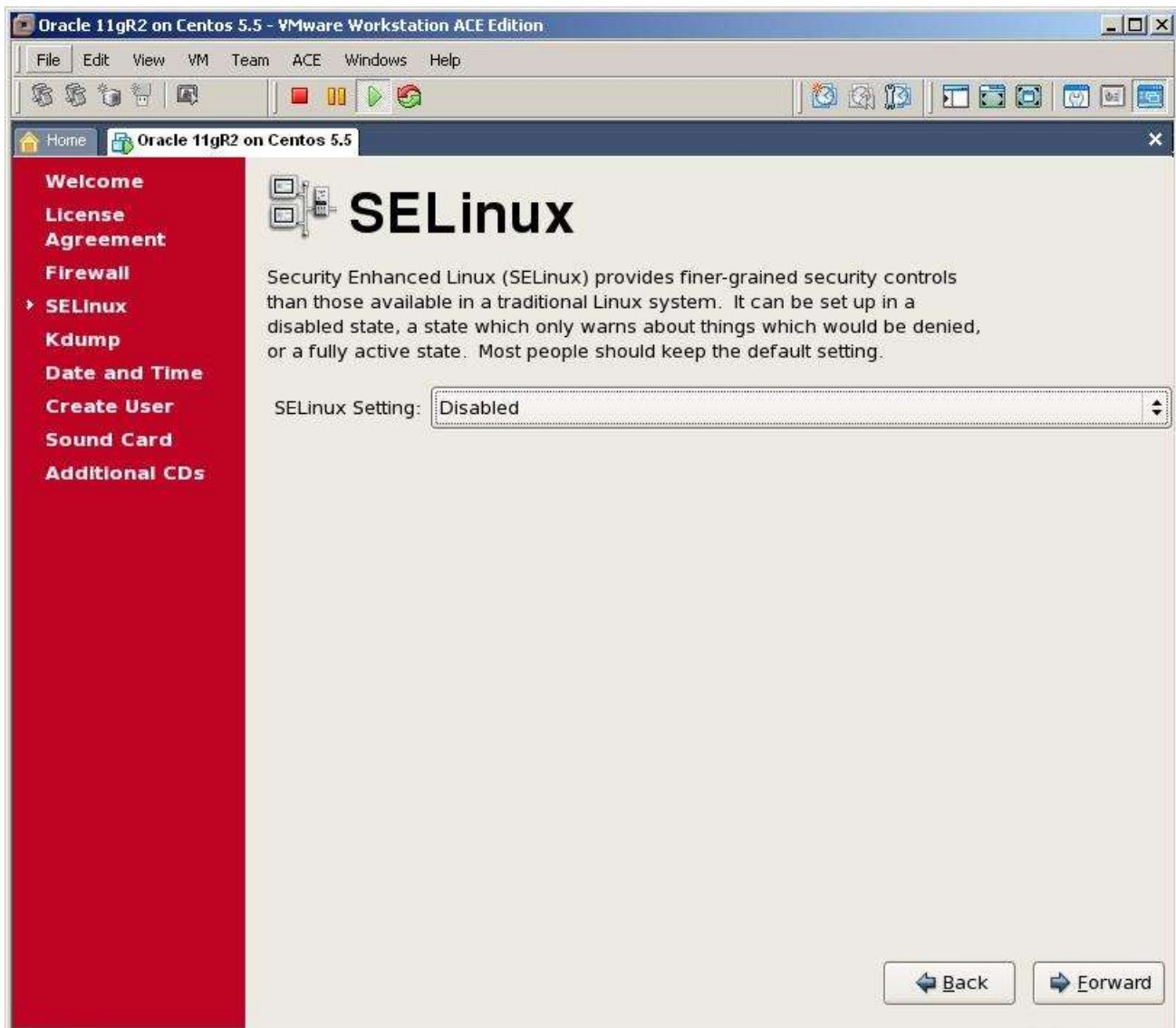
Click Forward



Choose the first option and click Forward



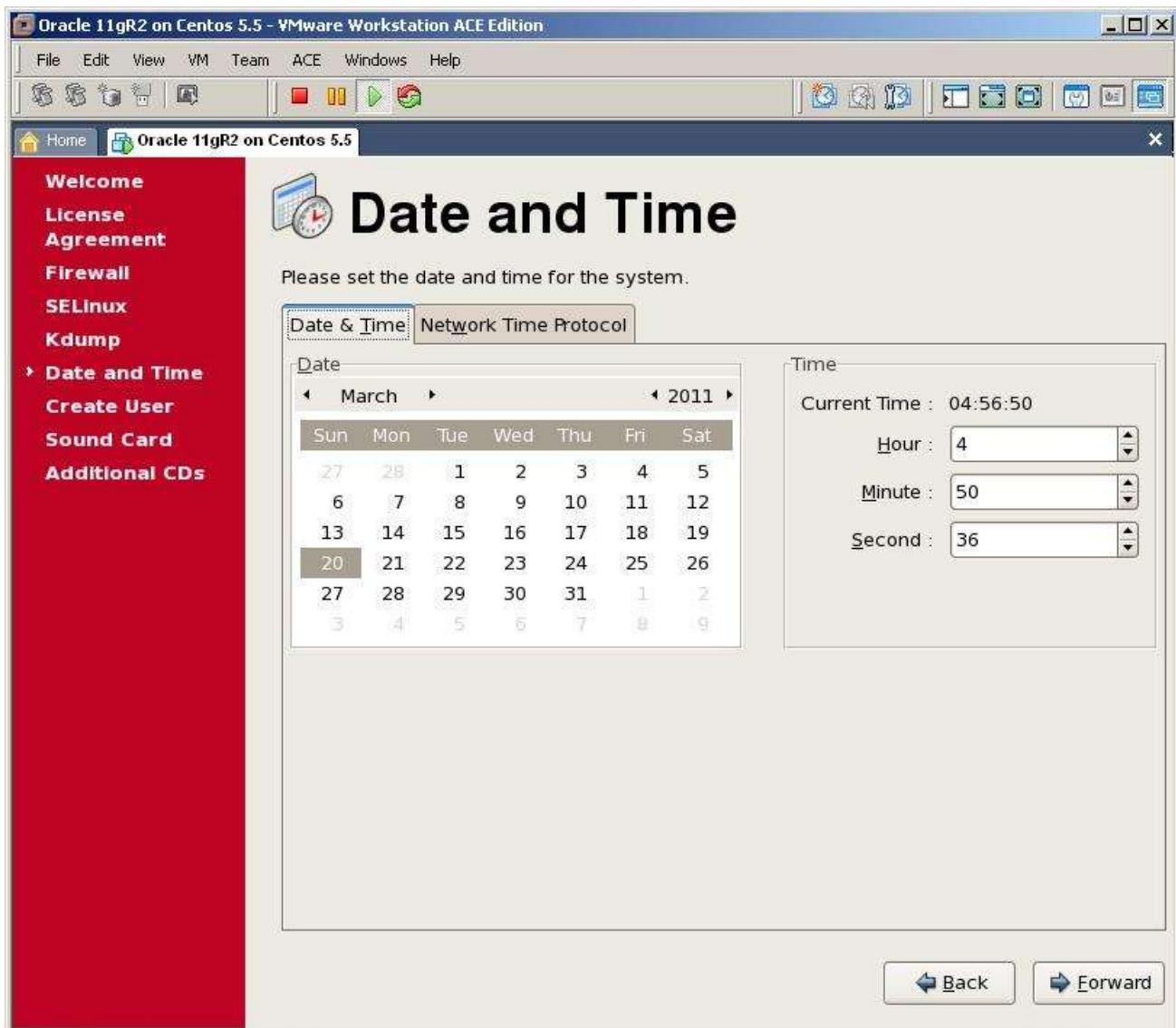
As we use the virtual machine for testing purpose, disable the firewall and click Forward



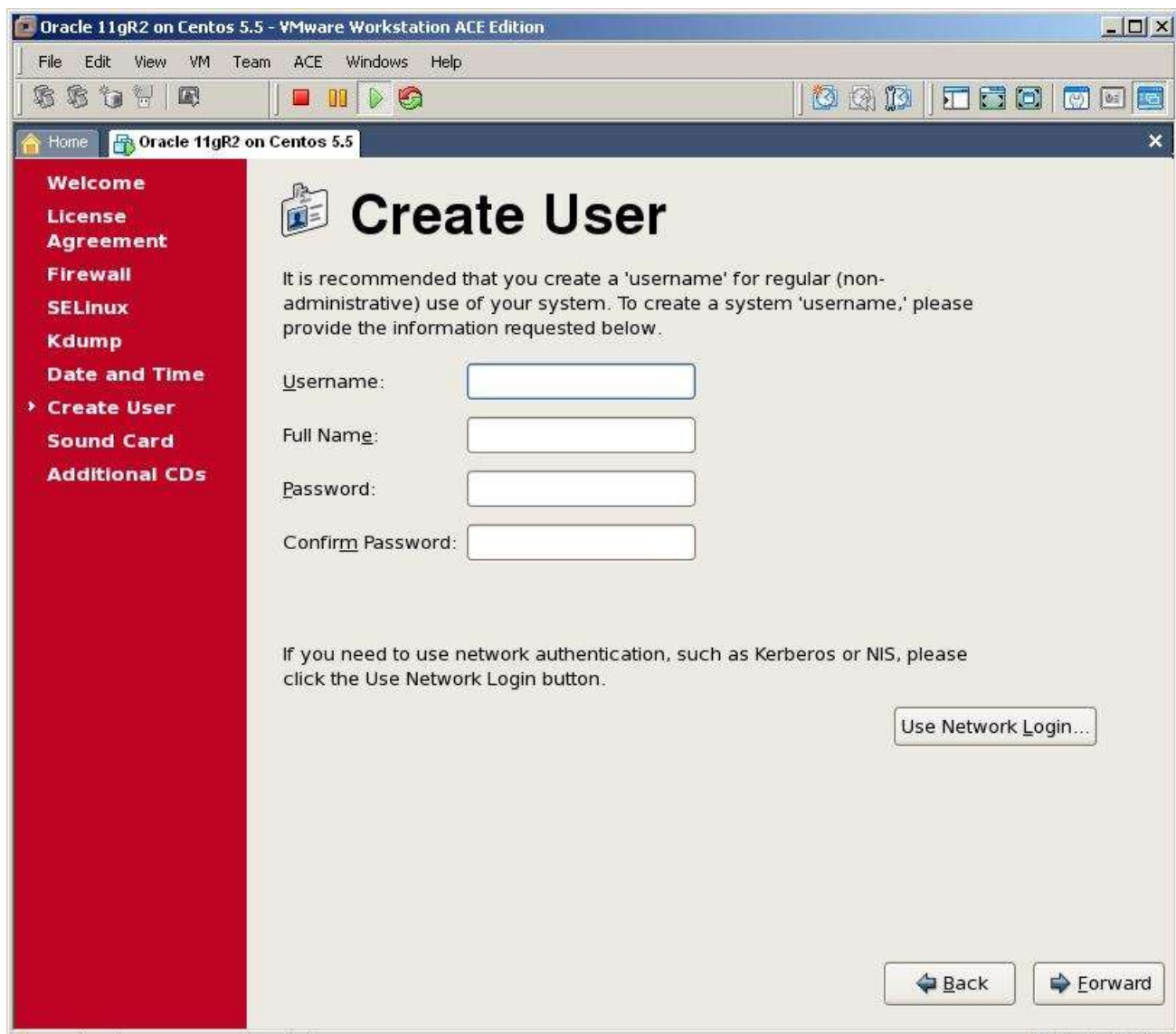
Disable Selinux and click Forward



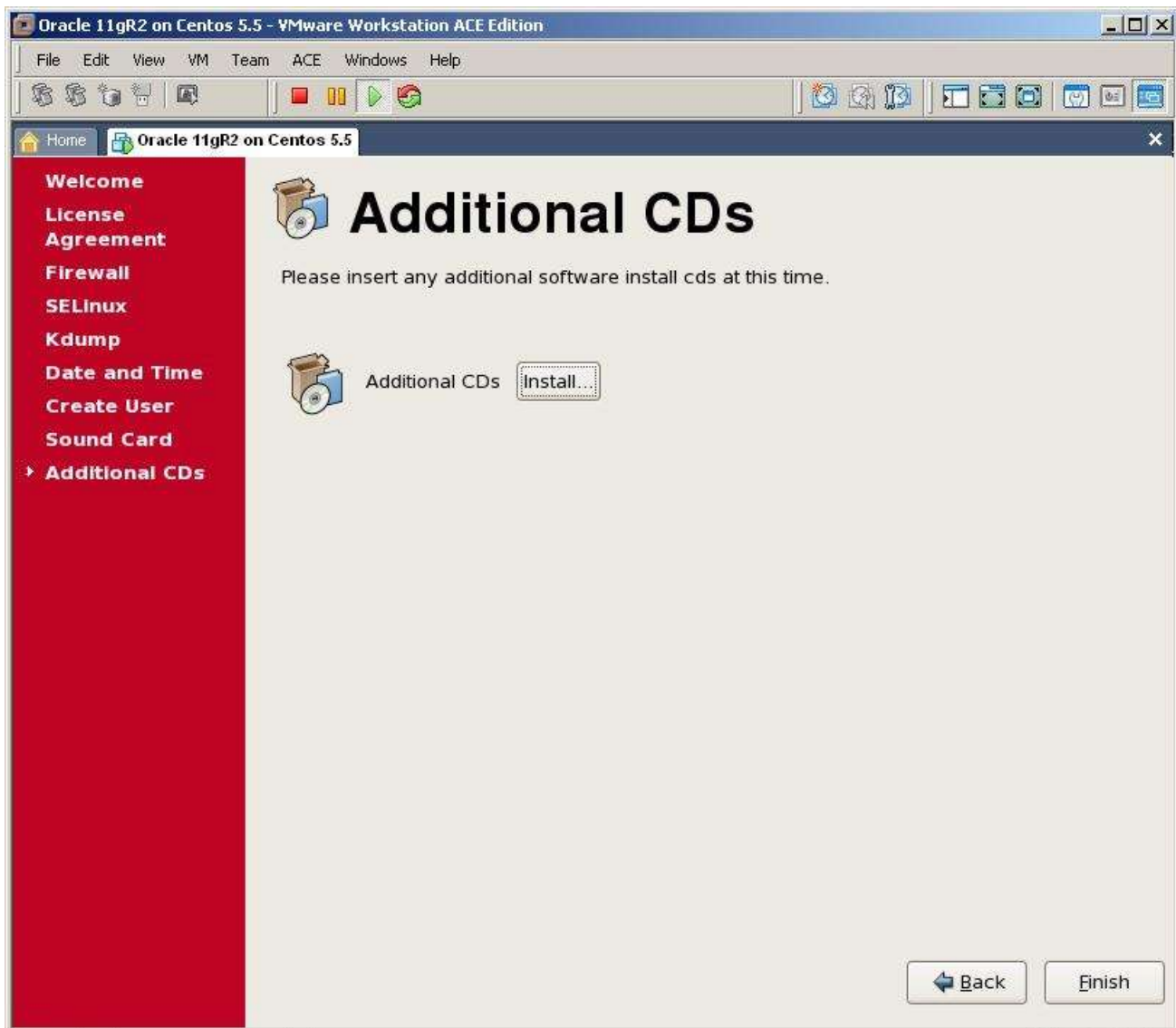
Click Forward



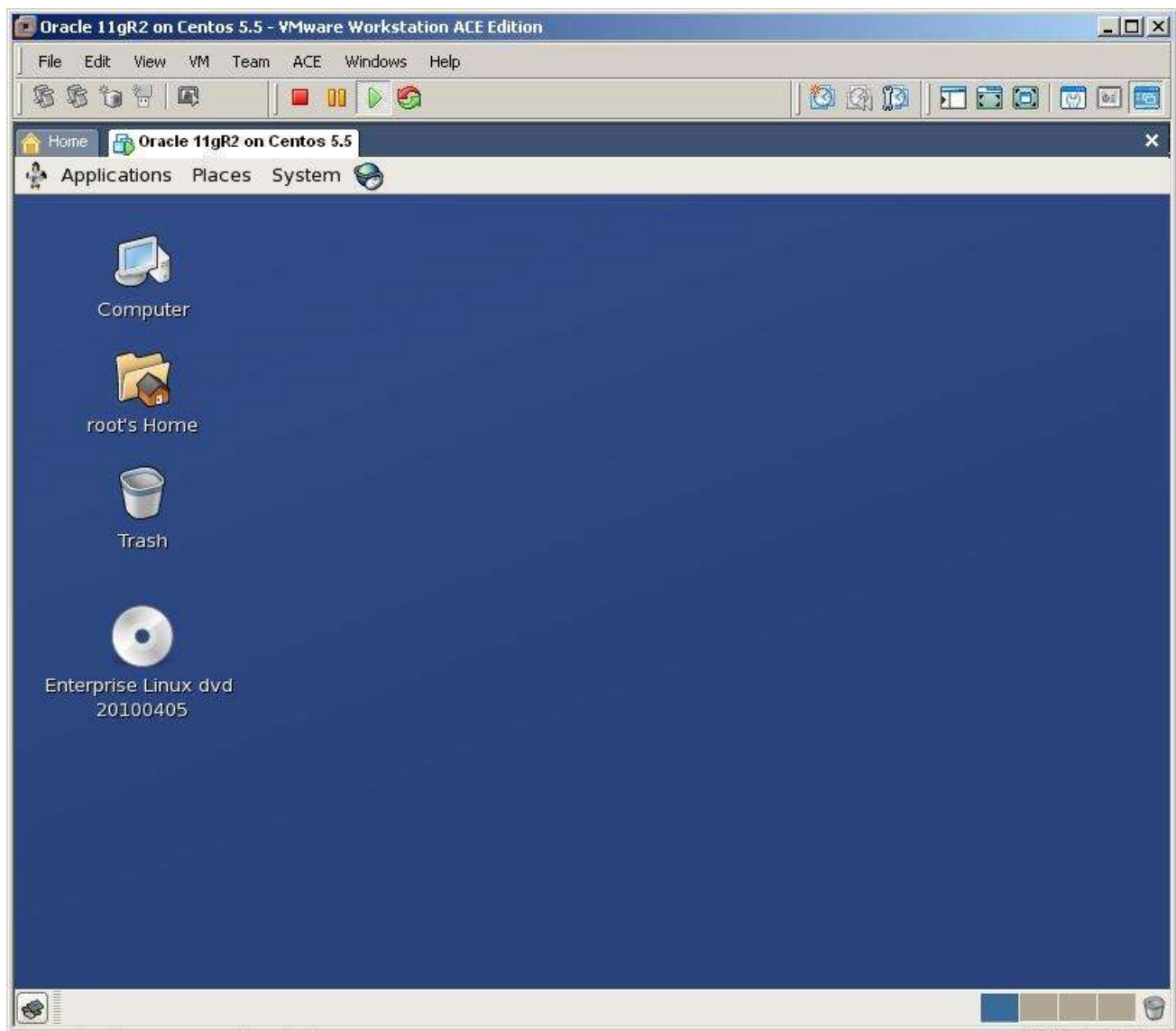
Specify the time and date and click Forward



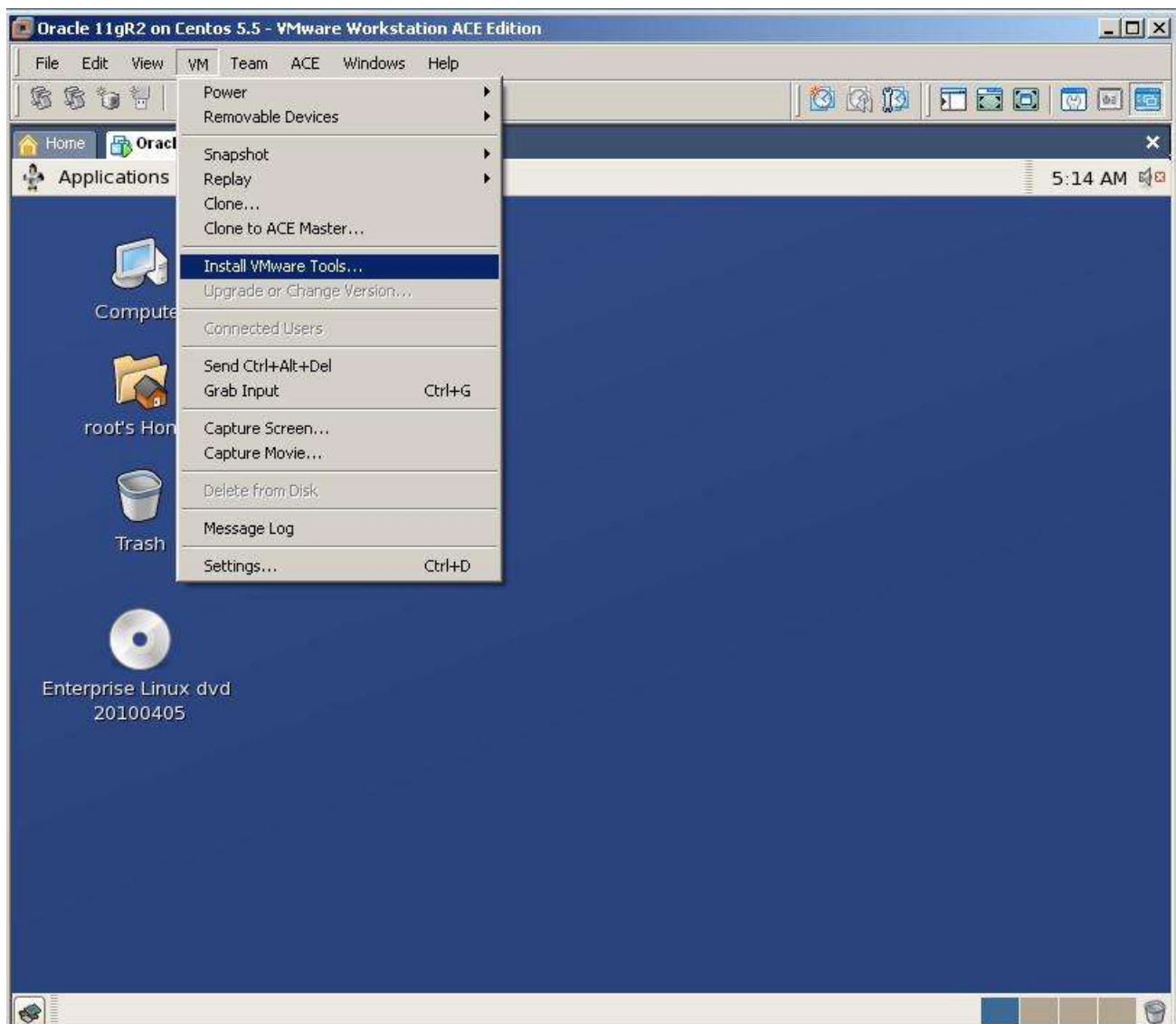
We don't need to create a user so click Forward



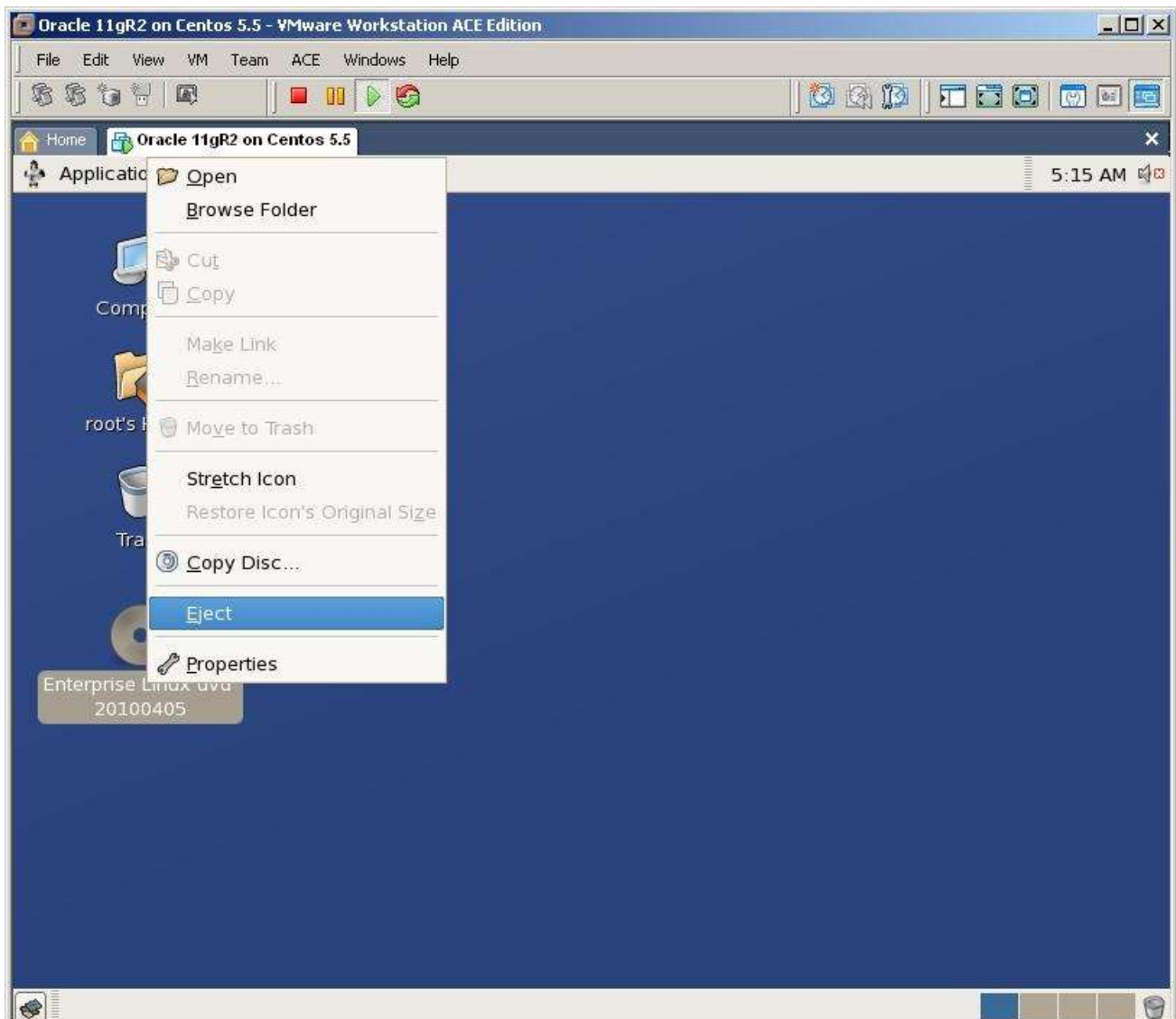
Click Finish button to finish the installation of OEL



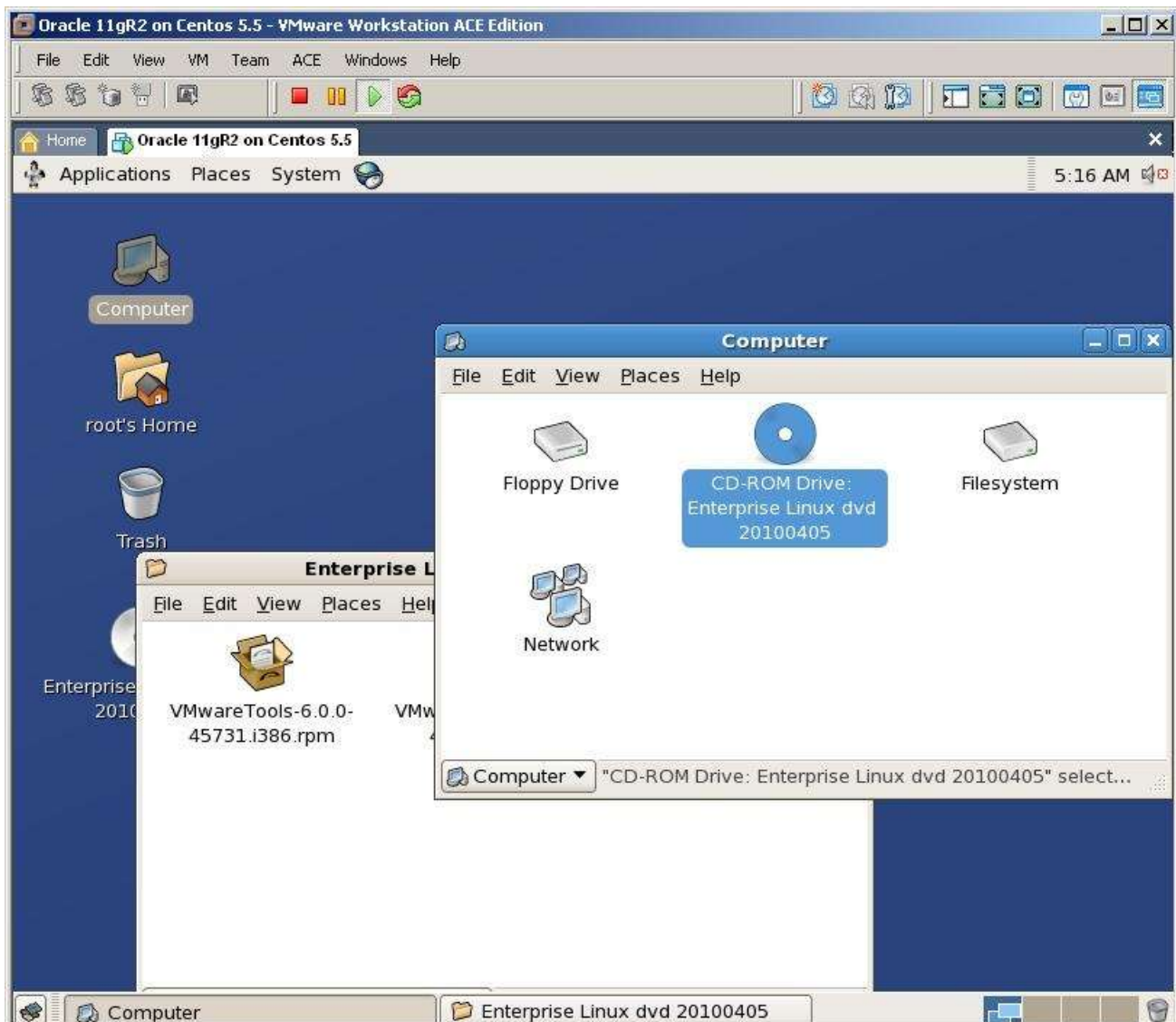
Login with the root user



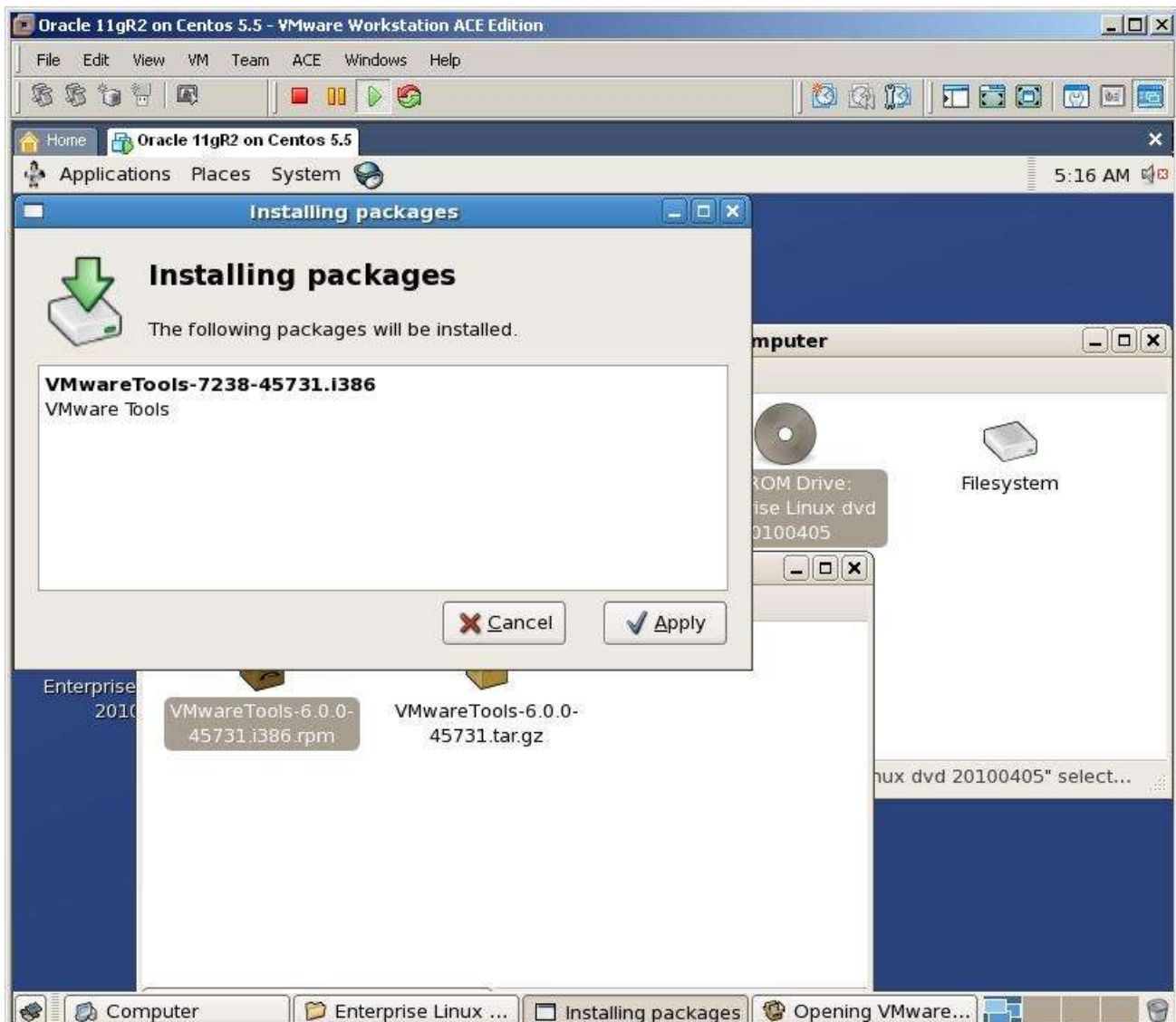
From VM menu, select Install VMWare tools



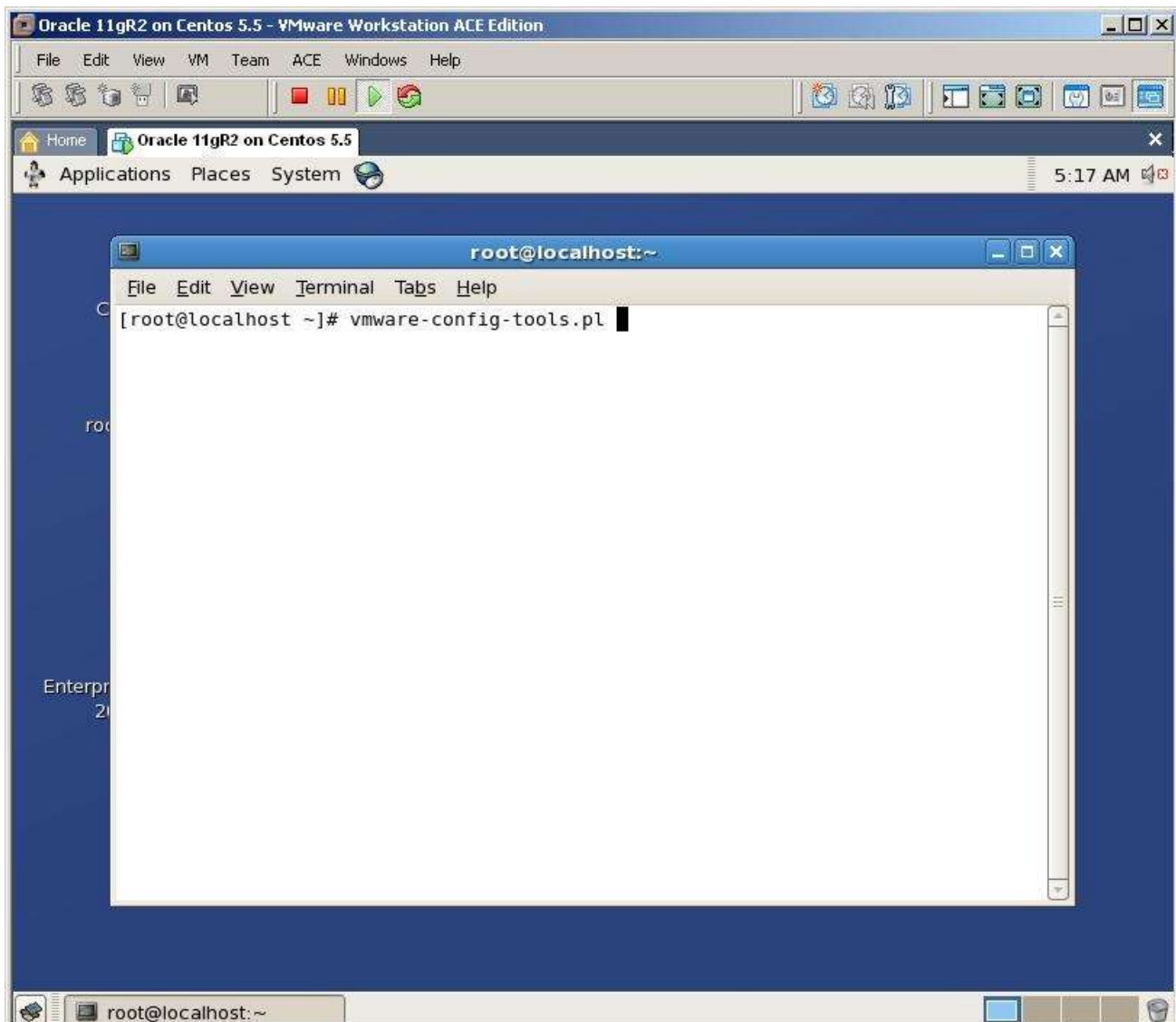
If the vmware installation cd doesn't appear automatically, Eject the previous cd (installation of OEL), double click on Computer and double click on Cd-rom device. This will initialize the vmware tools cd



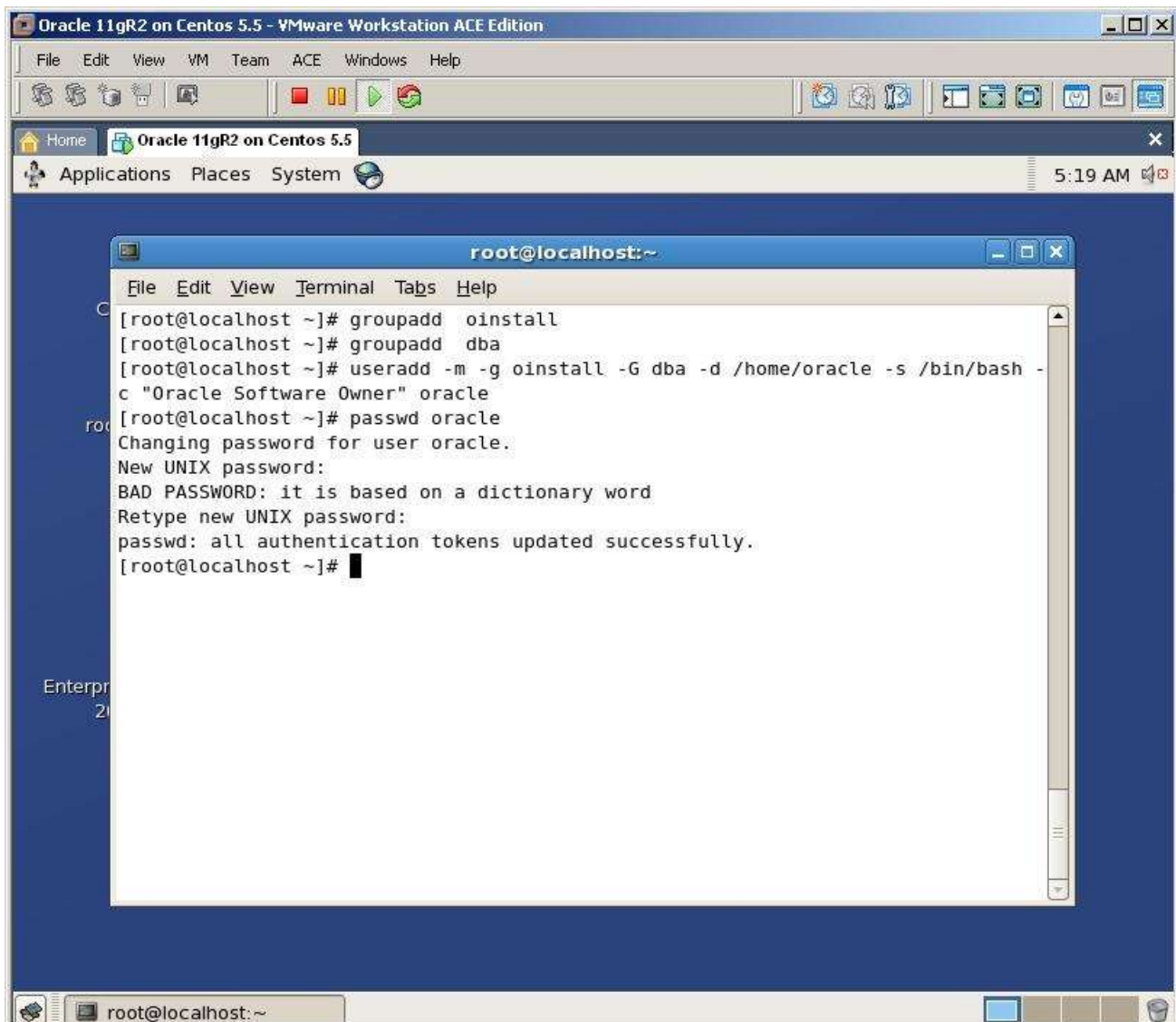
Double click on .rpm package



Click on Apply to start the installation

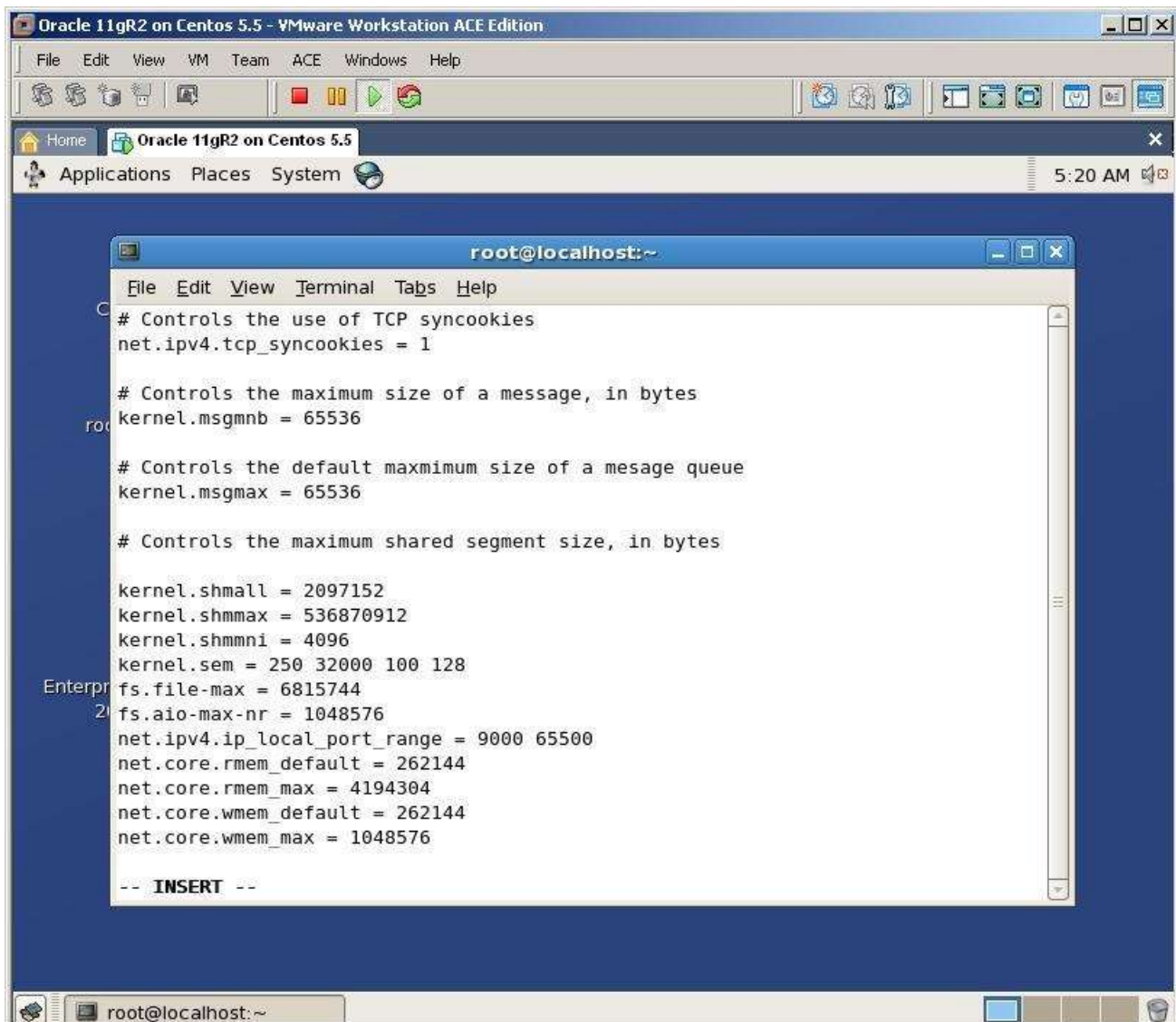


After you set all configurations, open new terminal and run vmware-config-tools executable and finish the installation of vmware tools



Now let's create a user and groups for Oracle installation

```
groupadd oinstall
groupadd dba
useradd -m -g oinstall -G dba -d /home/oracle -s /bin/bash -c "Oracle Software Owner" oracle
passwd oracle
```

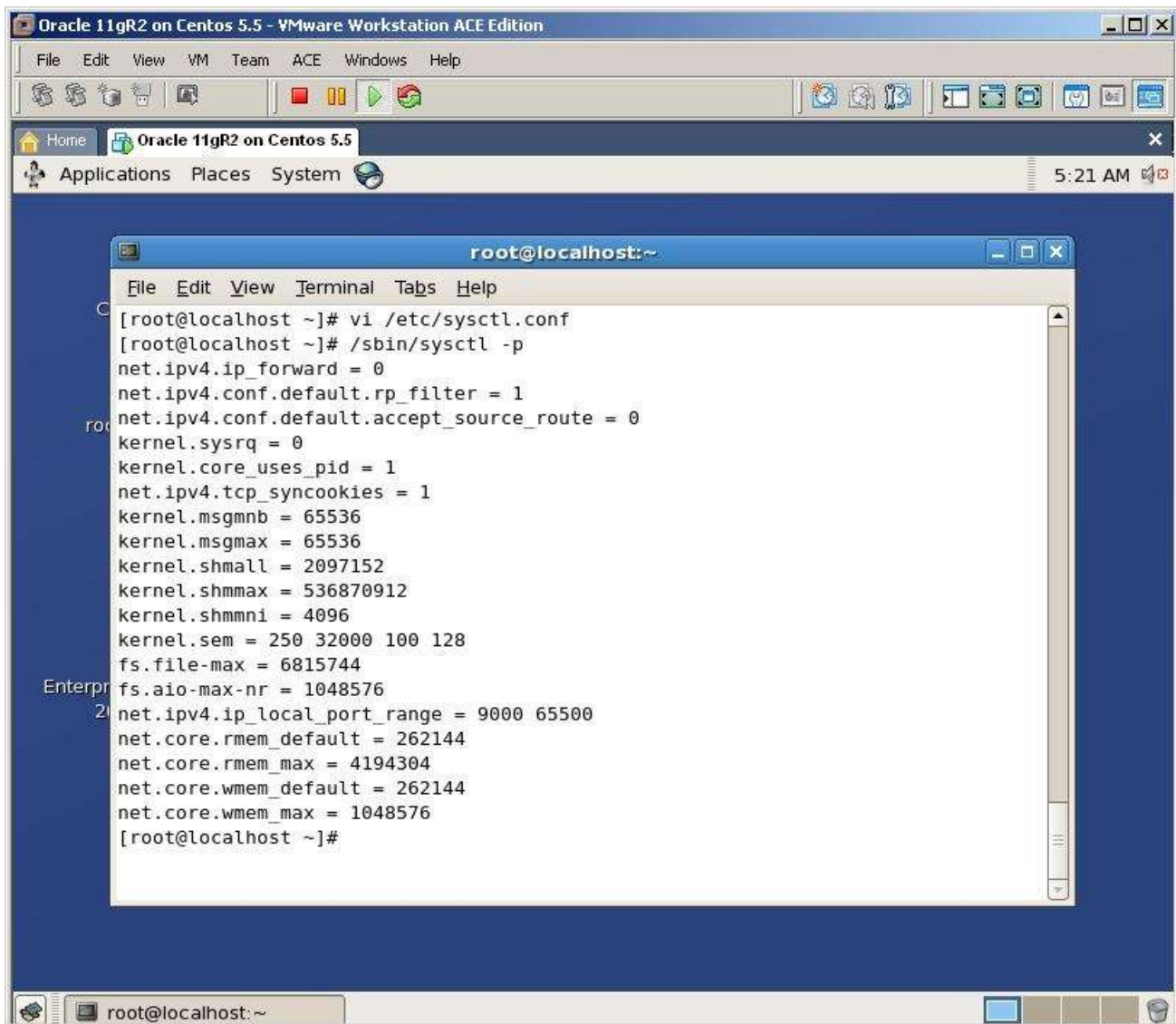


Change the /etc/sysconfig.conf file to add (change) kernel parameters that are required for Oracle installation

The file should be as follows:

```
net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
```

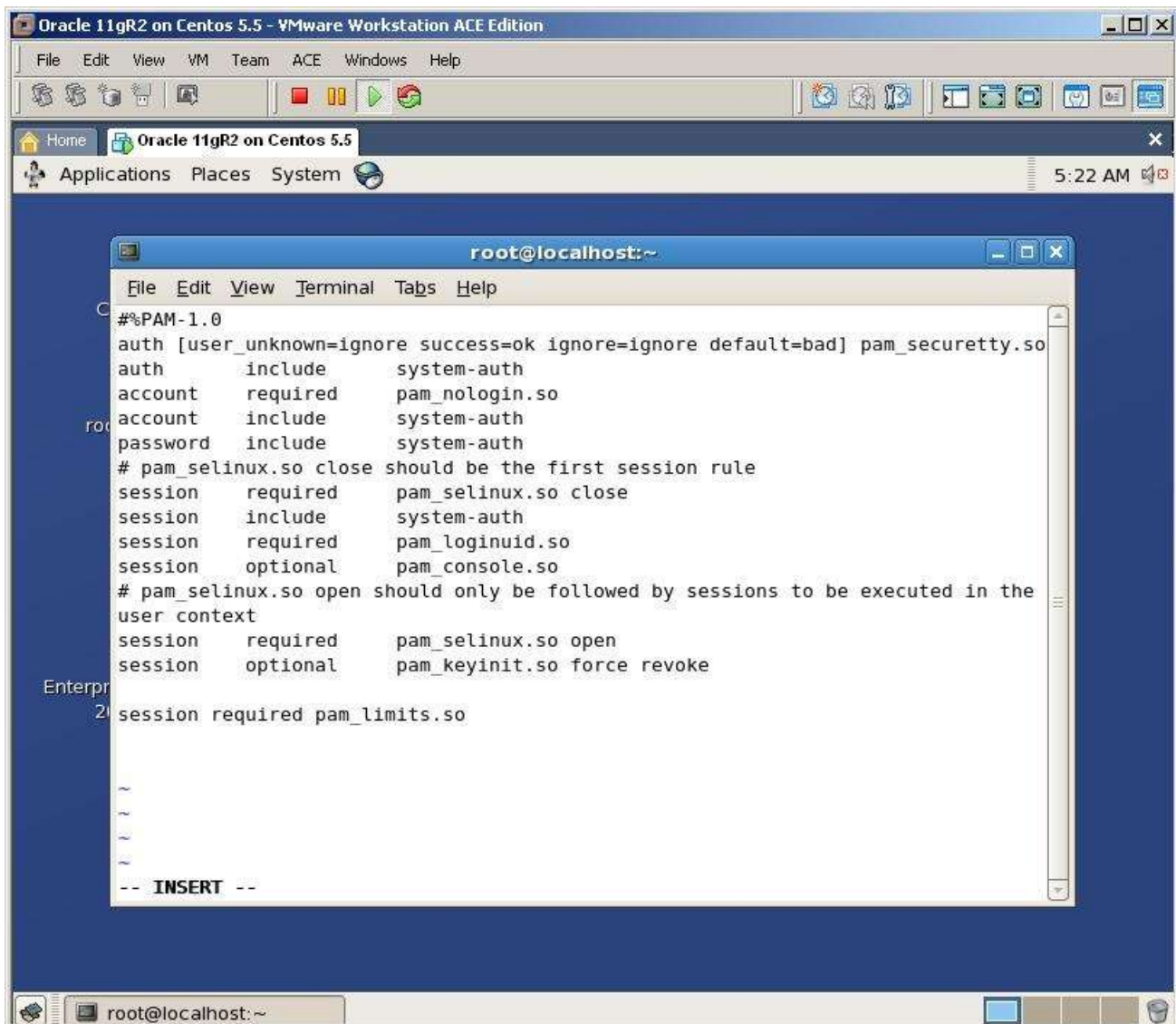
net.ipv4.tcp_syncookies = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmmax = 2147483648
kernel.shmall = 2097152
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
fs.file-max = 6815744
fs.aio-max-nr = 1048576
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 1048576
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576



The screenshot shows a VMware Workstation ACE Edition window titled "Oracle 11gR2 on Centos 5.5". Inside the VM, a terminal window titled "root@localhost:~" is open. The terminal shows the following commands and output:

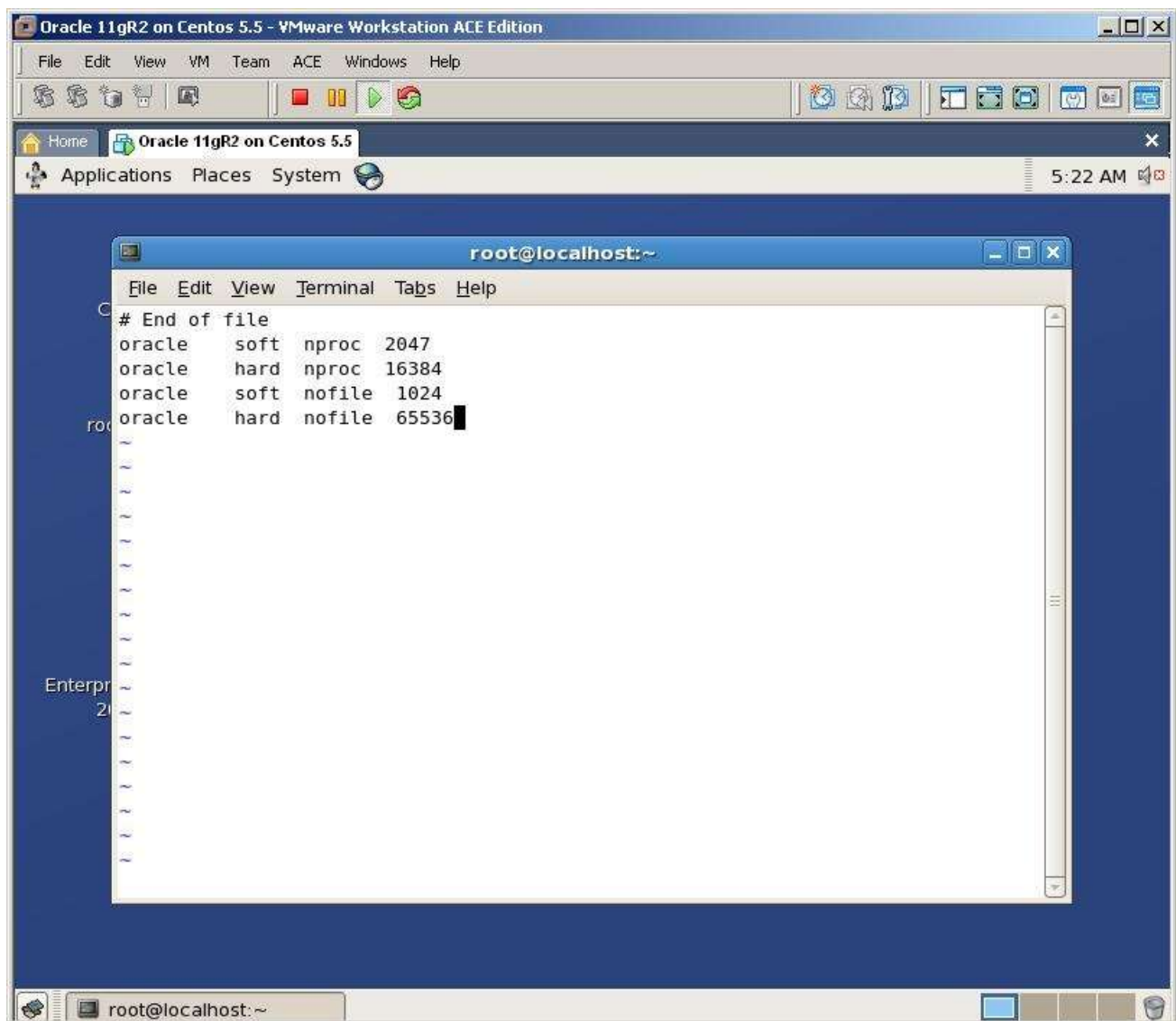
```
[root@localhost ~]# vi /etc/sysctl.conf
[root@localhost ~]# /sbin/sysctl -p
net.ipv4.ip_forward = 0
net.ipv4.conf.default.rp_filter = 1
net.ipv4.conf.default.accept_source_route = 0
kernel.sysrq = 0
kernel.core_uses_pid = 1
net.ipv4.tcp_syncookies = 1
kernel.msgmnb = 65536
kernel.msgmax = 65536
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
fs.file-max = 6815744
fs.aio-max-nr = 1048576
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
[root@localhost ~]#
```

To make the active in the current session, run `/sbin/sysctl -p` command



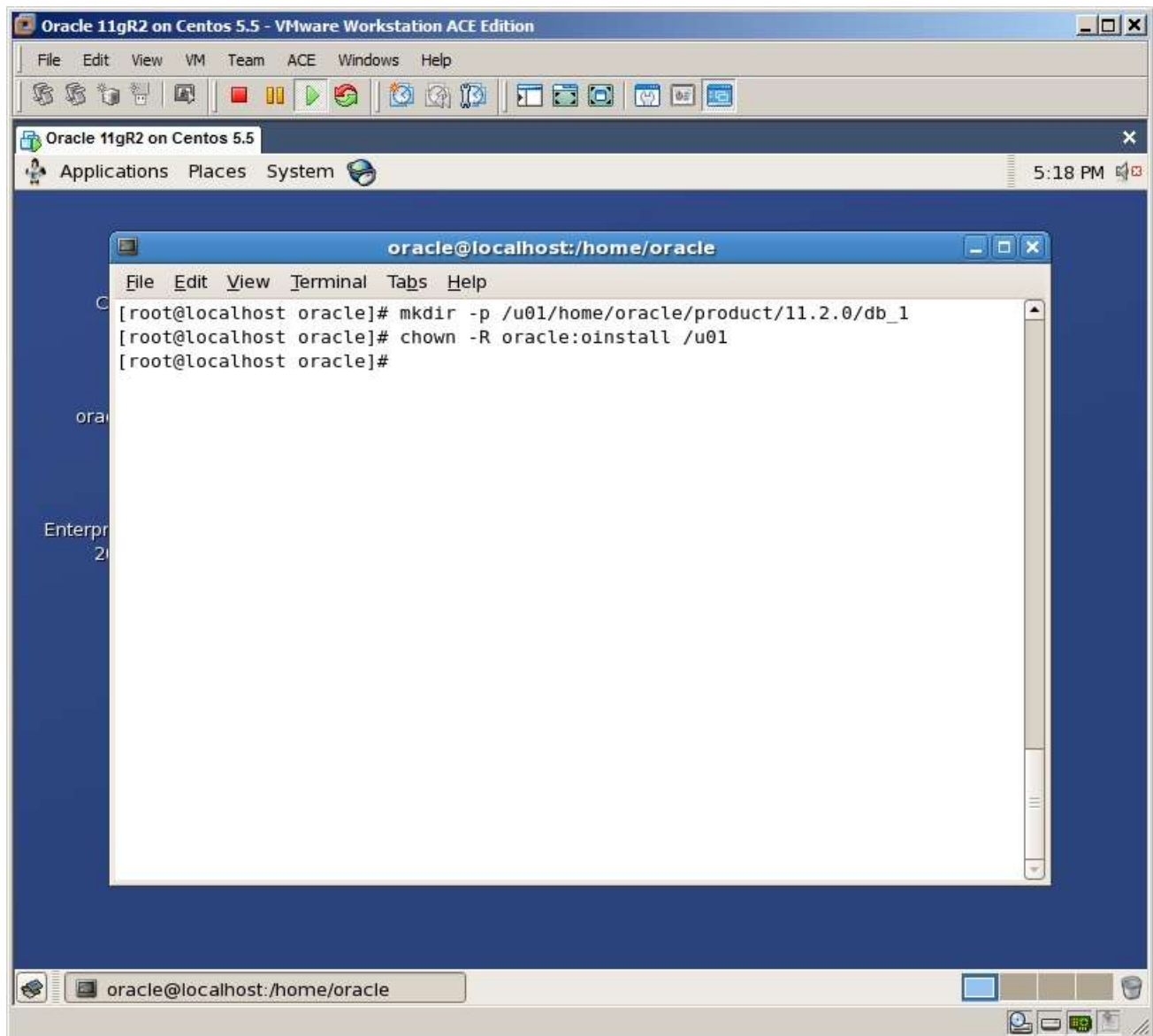
Change /etc/pam.d/login file and add the following line:

session required pam_limits.so

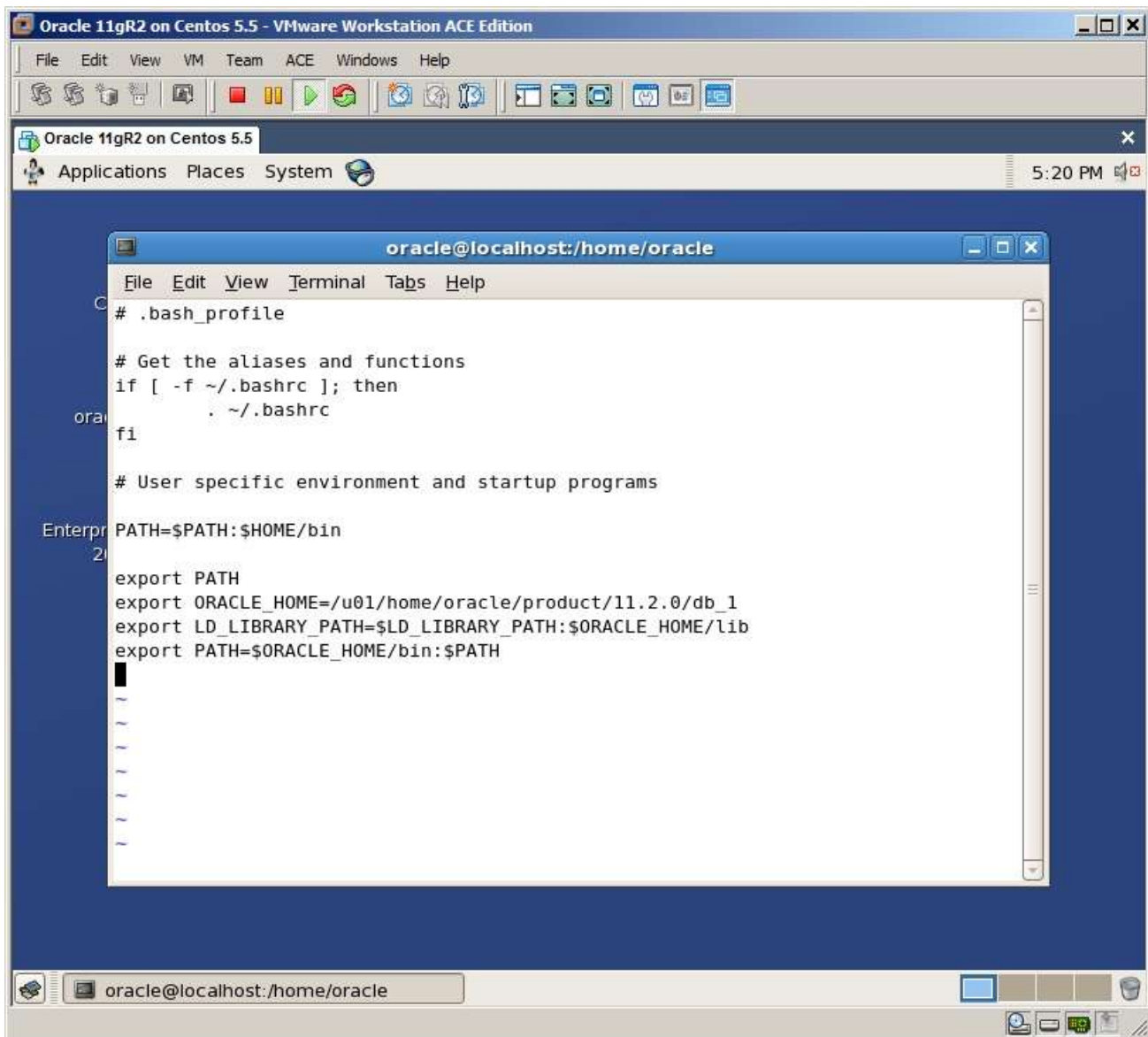


Change /etc/security/limits.conf and add the following lines:

```
oracle soft nproc 2047
oracle hard nproc 16384
oracle soft nofile 1024
oracle hard nofile 65536
```



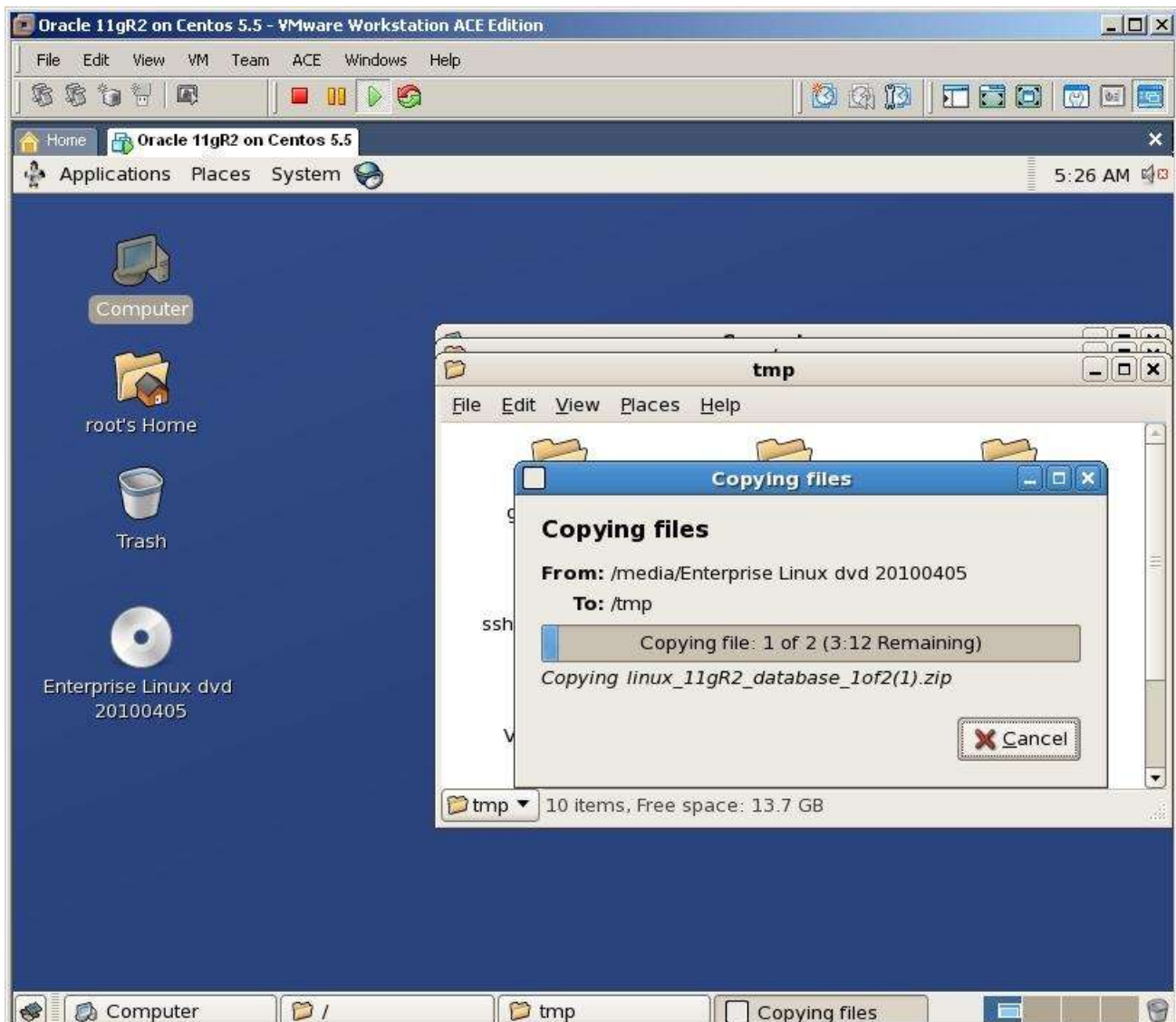
Create necessary directories for Oracle home



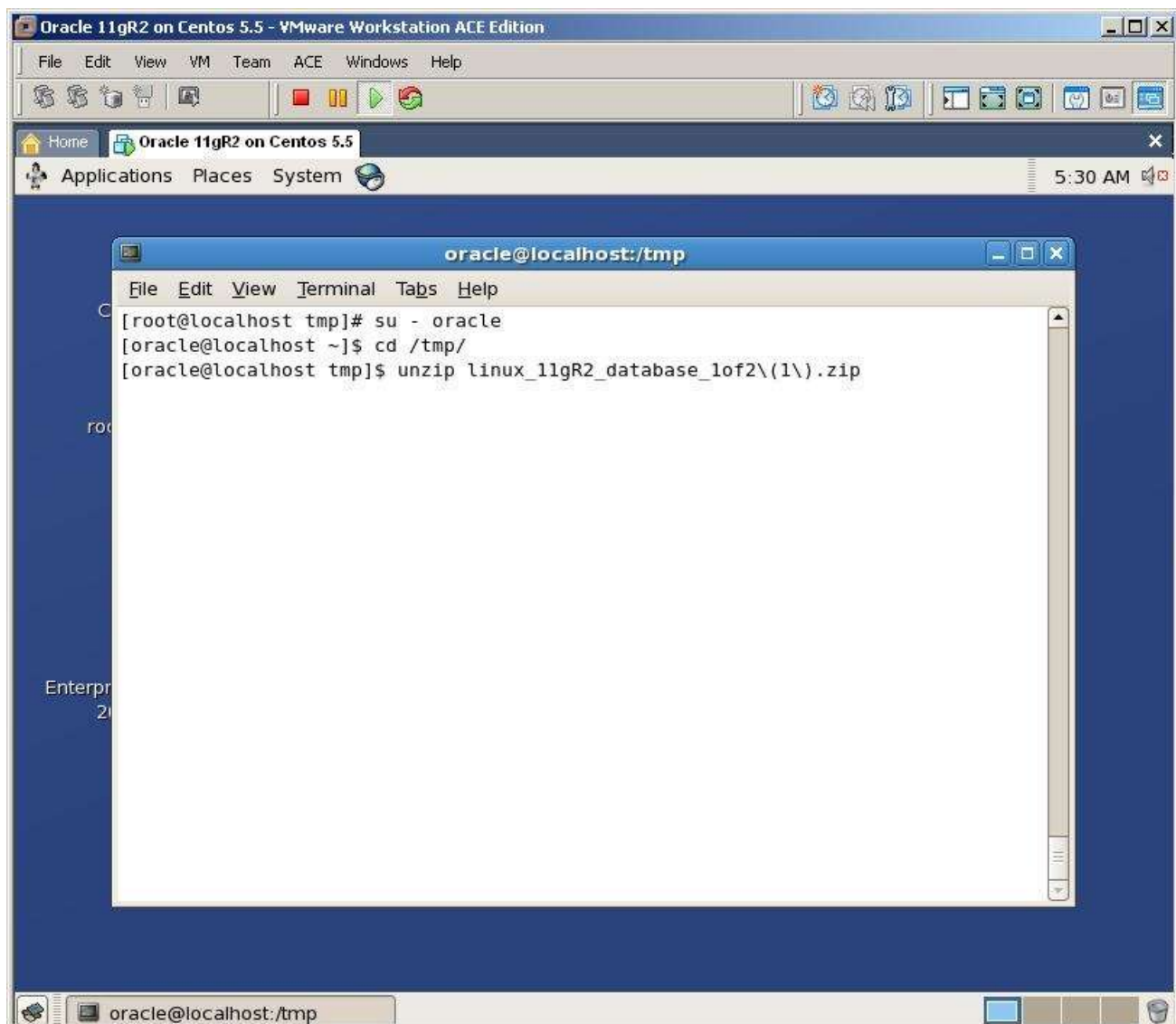
Change the entry of .bash_profile file of the oracle user and add following lines:

```
vi /home/oracle/.bash_profile
```

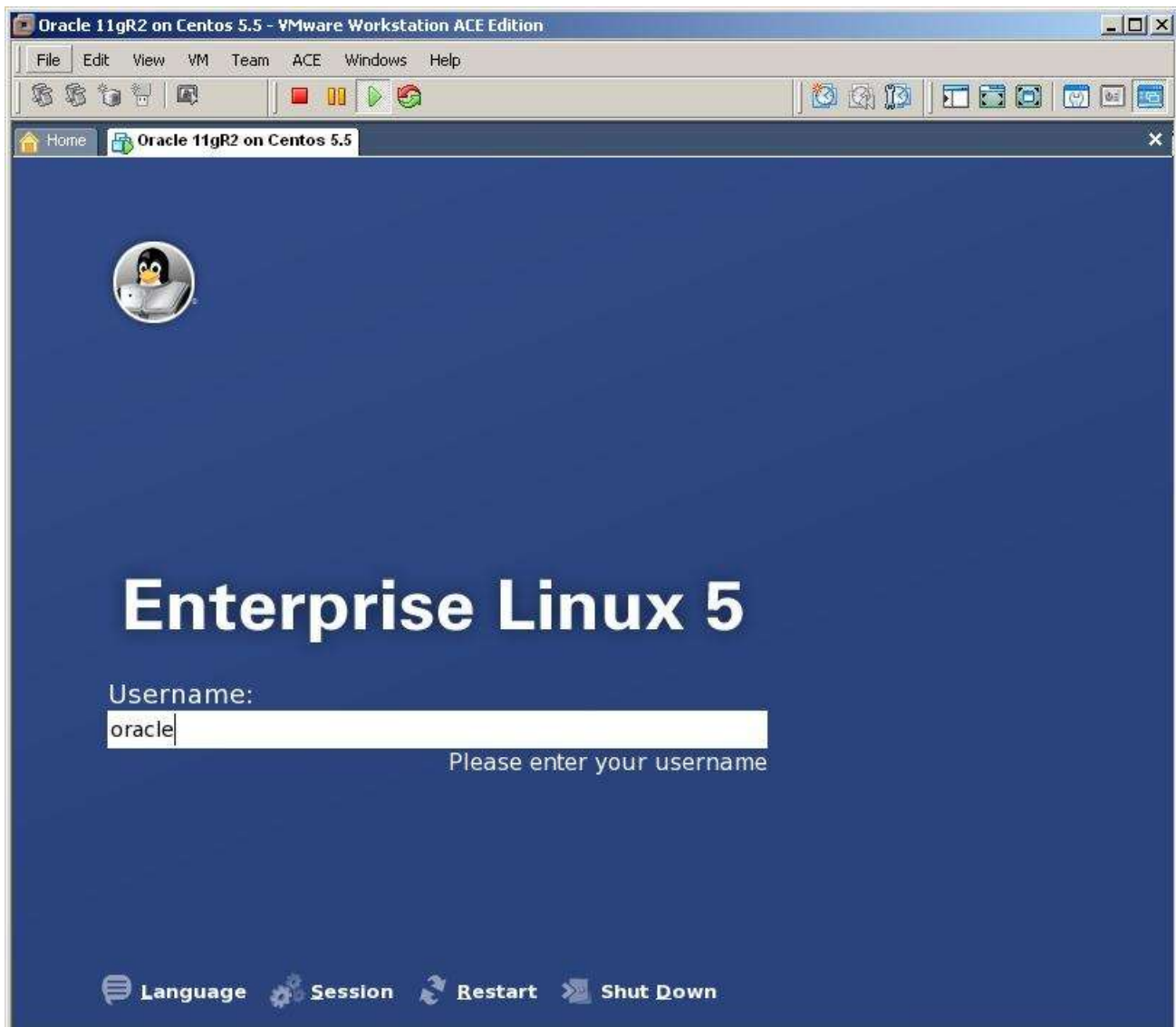
```
export ORACLE_HOME=/u01/home/oracle/product/11.2.0/db_1
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$ORACLE_HOME/lib
export PATH=$ORACLE_HOME/bin:$PATH
```



Now copy downloaded oracle installation files to the /tmp directory



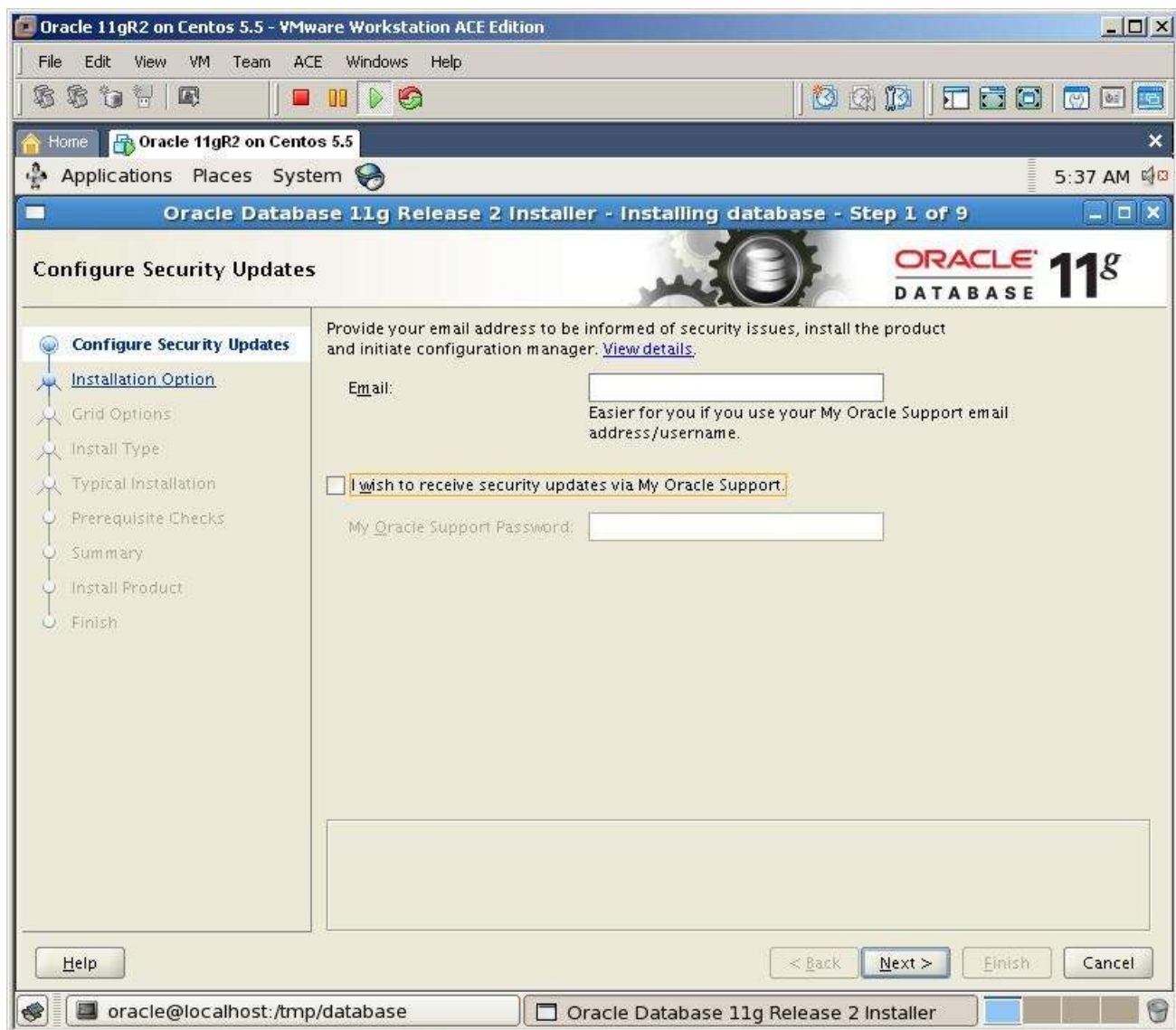
Switch to the /tmp directory and unzip both files with oracle user. This will create a new folder called "database"

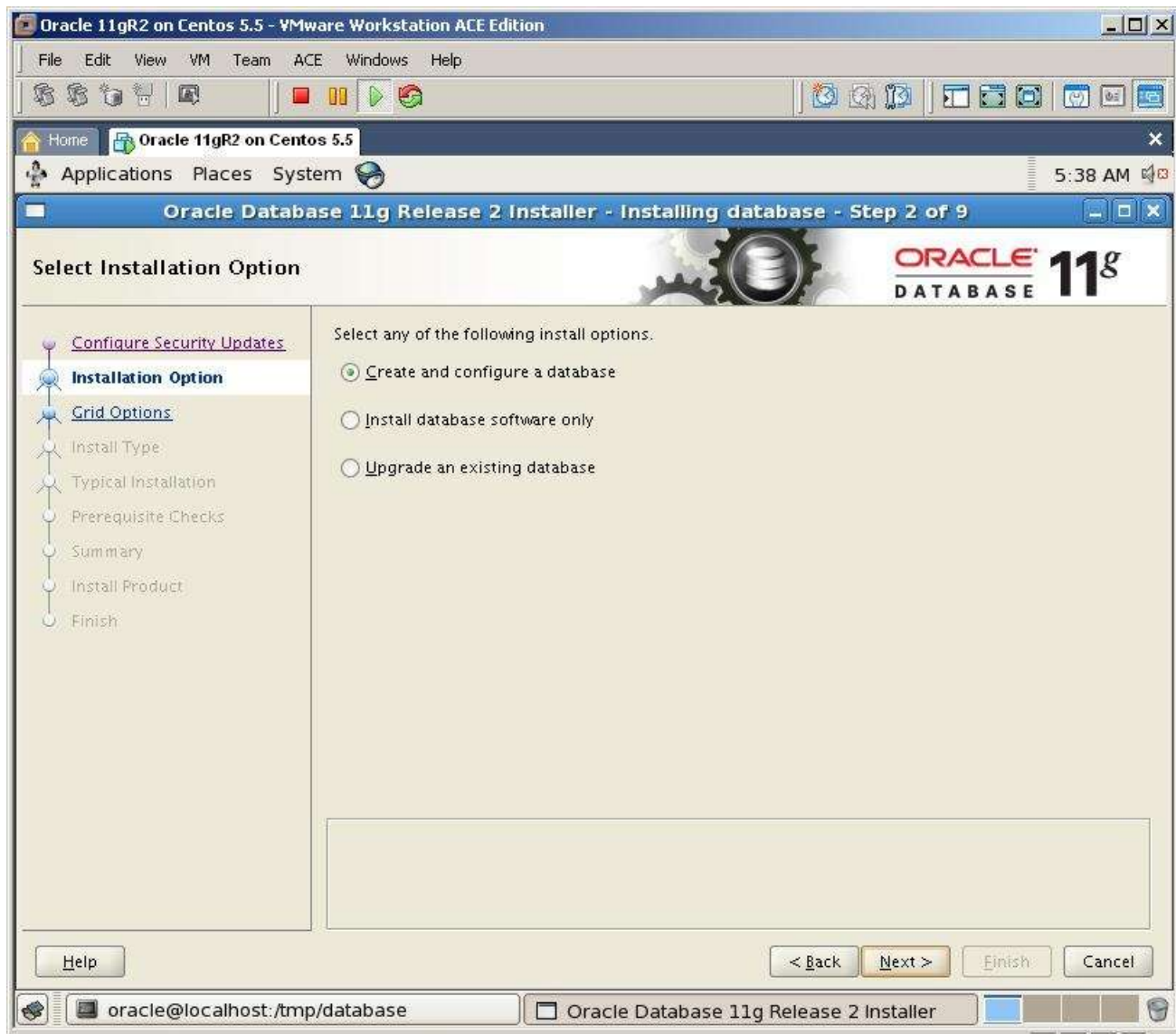


Logout from root user, login with oracle, switch to the /tmp/database directory and run installation by running the following executable

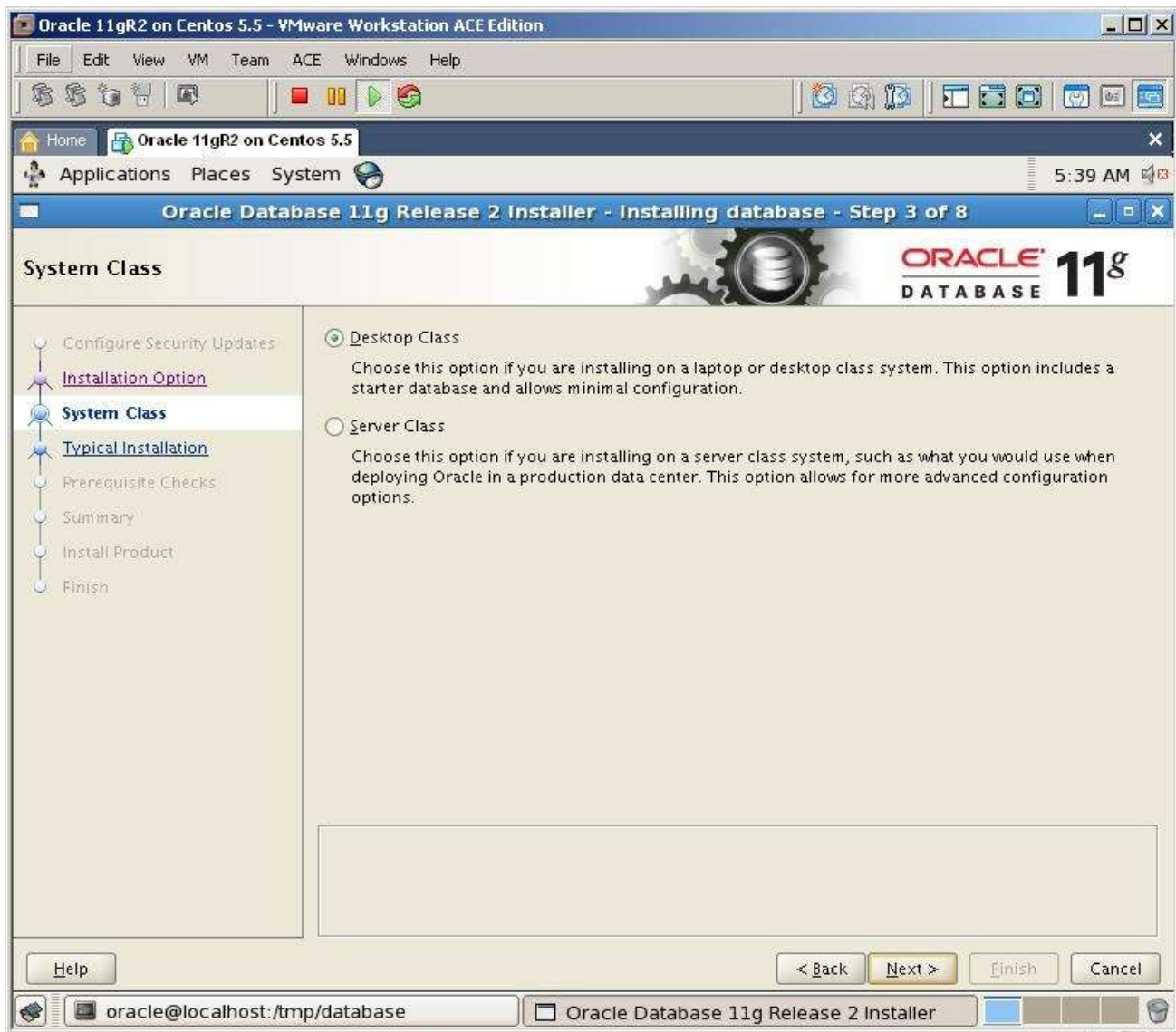
```
cd /tmp/database
```

```
./runInstaller
```

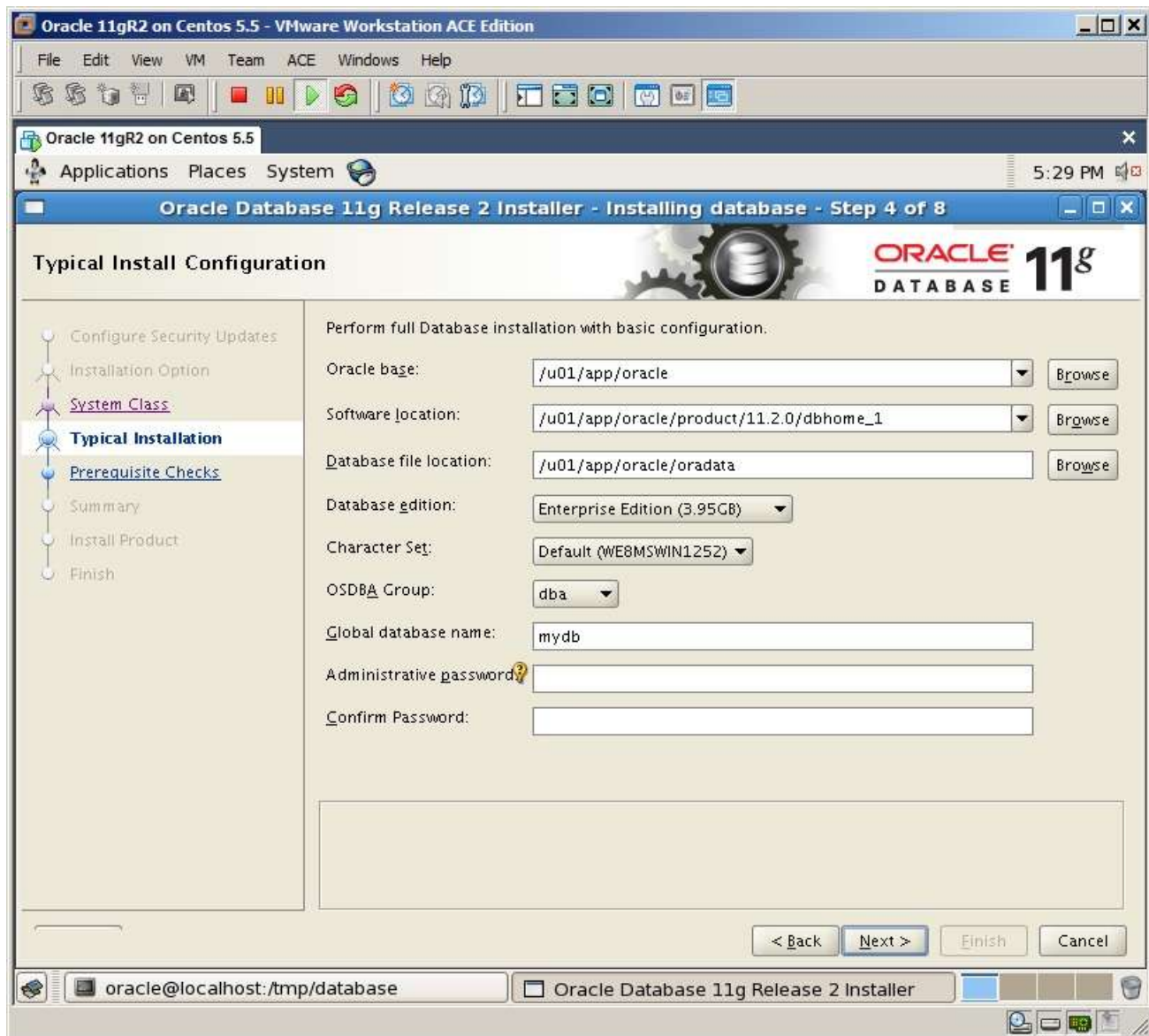




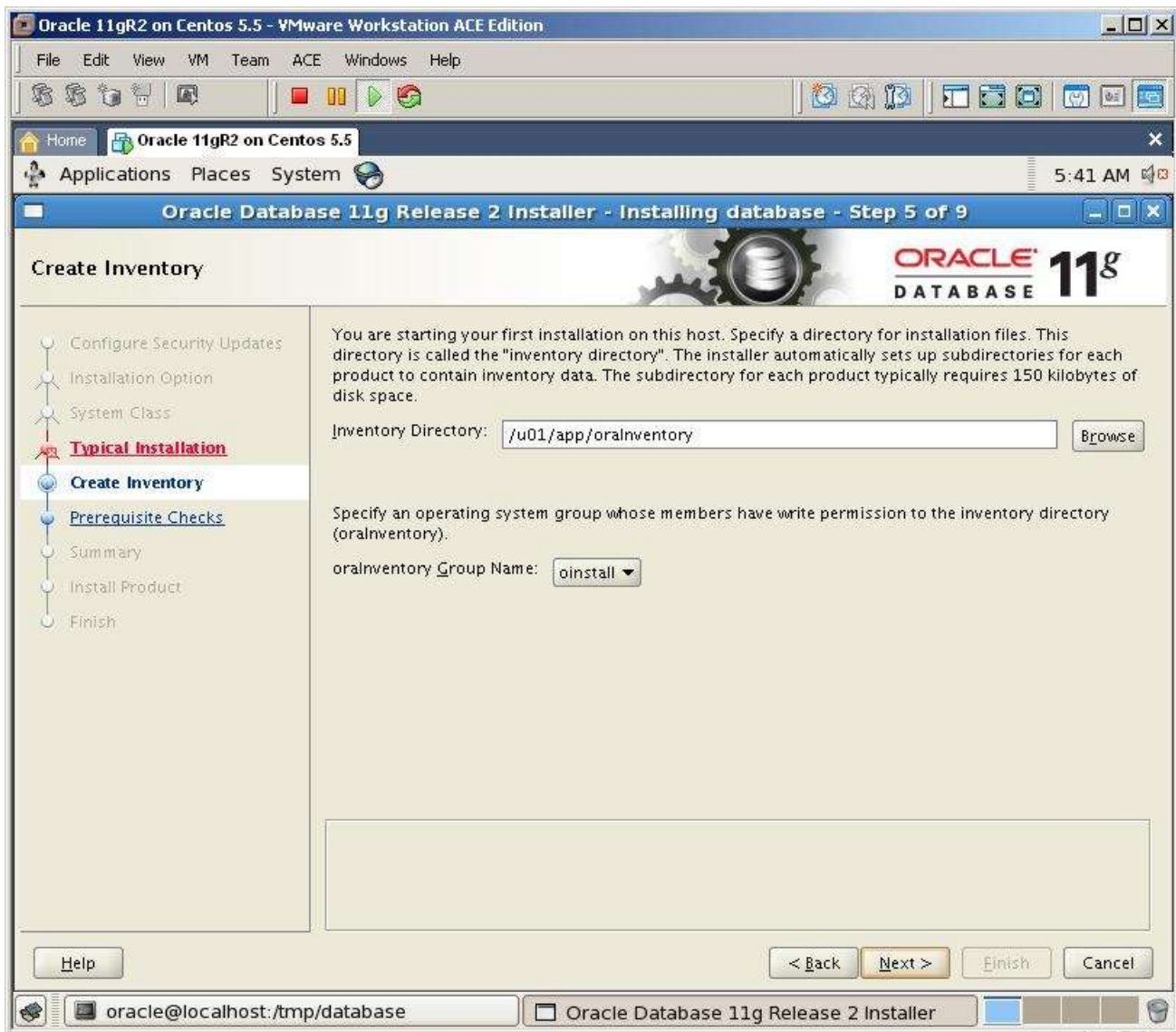
Select Create and configure a database and click next



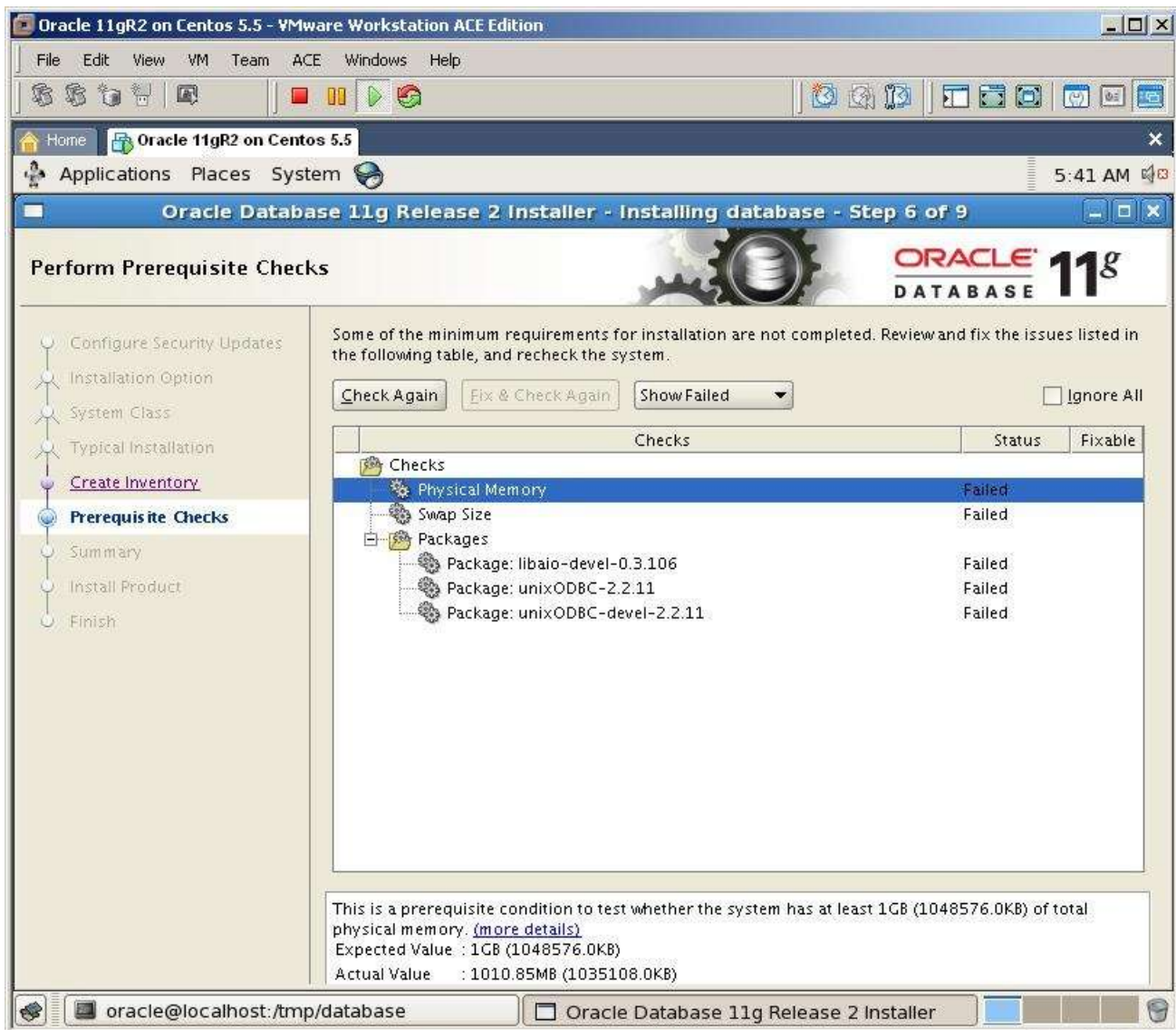
Select the first option and click Next



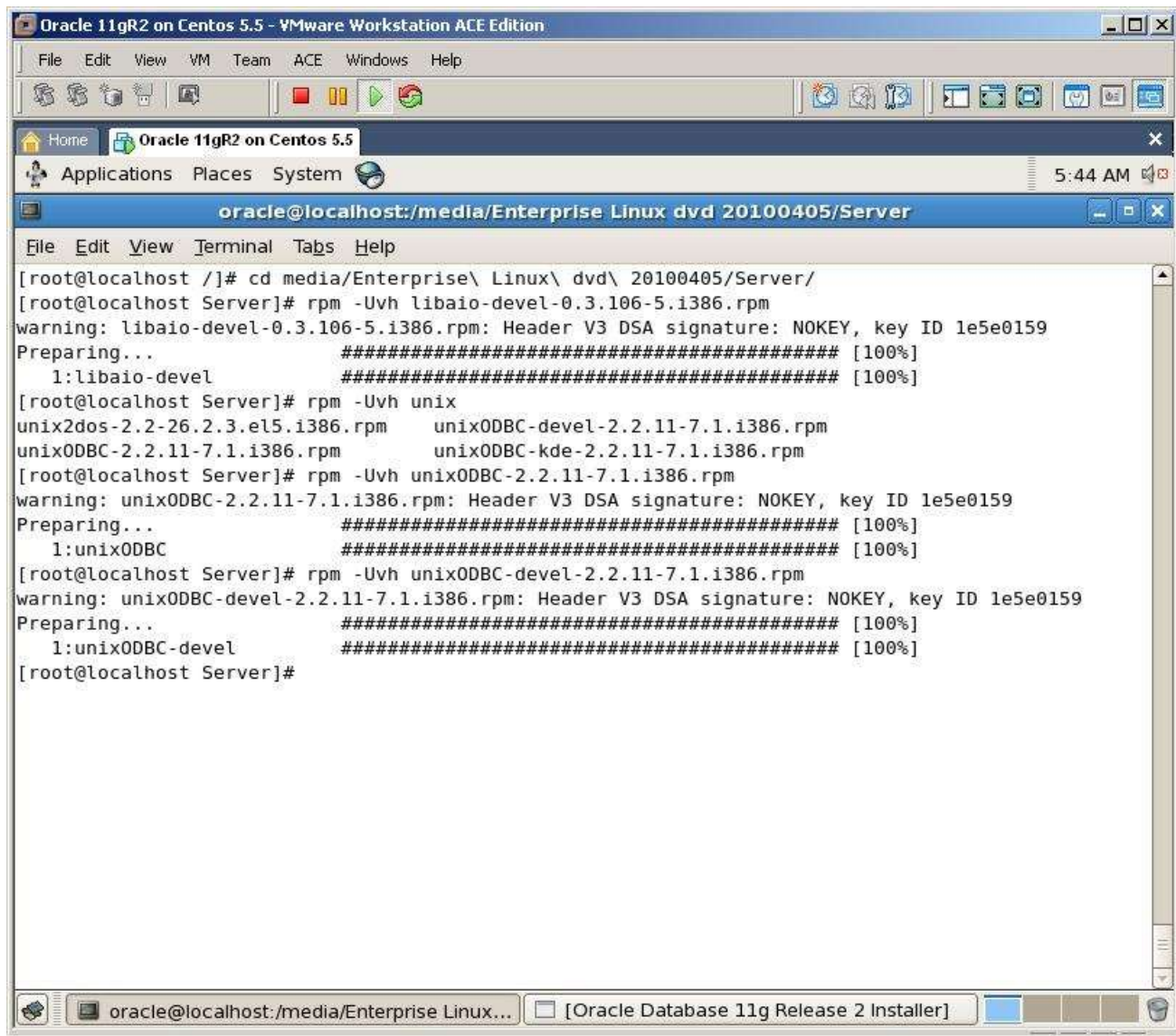
Provide the name of the database and the password and click next



Specify the folder for the inventory directory and click Next

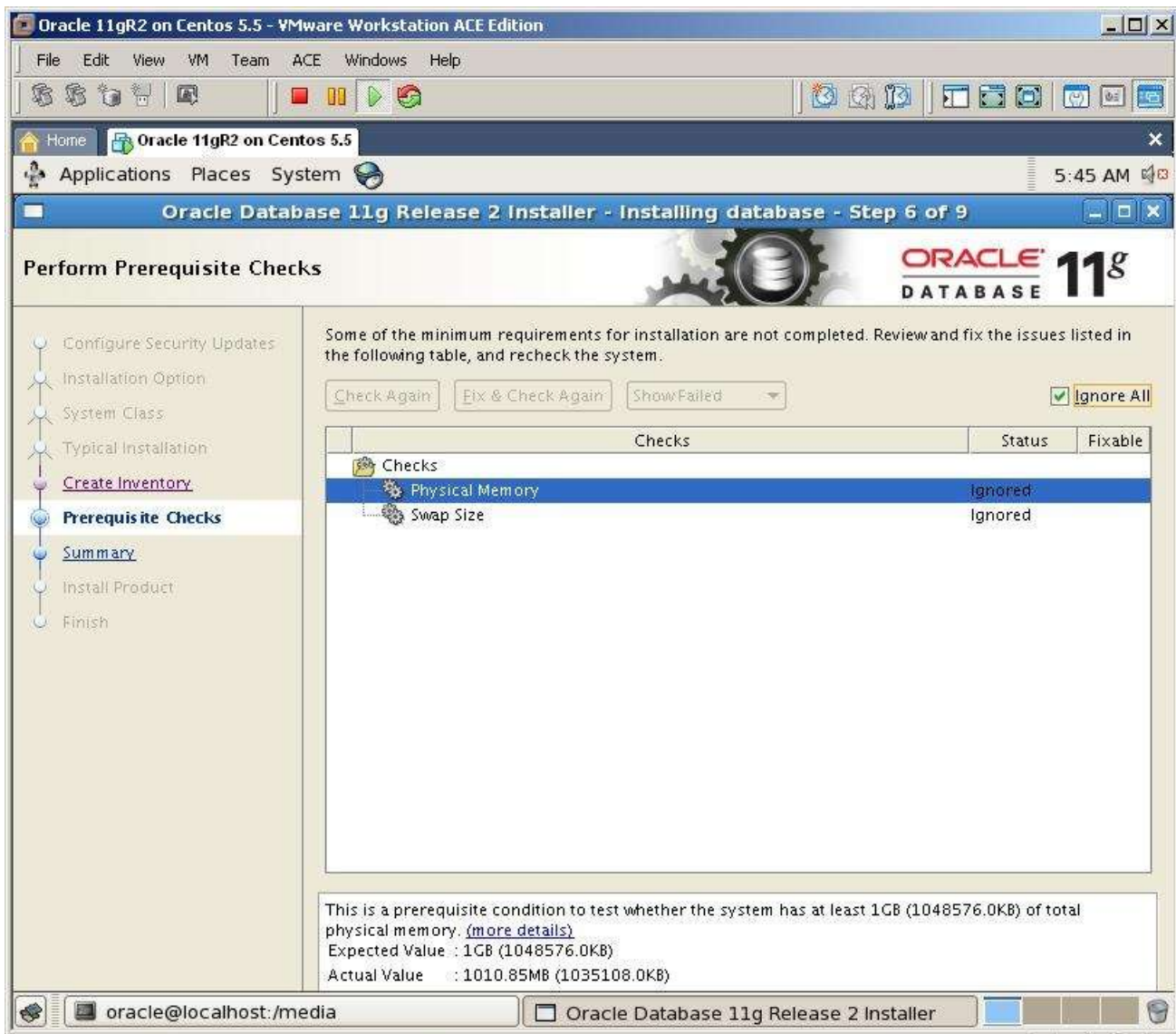


In the prerequisite check we was informed that we need to install three packages as well. So mount the .iso file of the OEL installation, switch to the Server folder

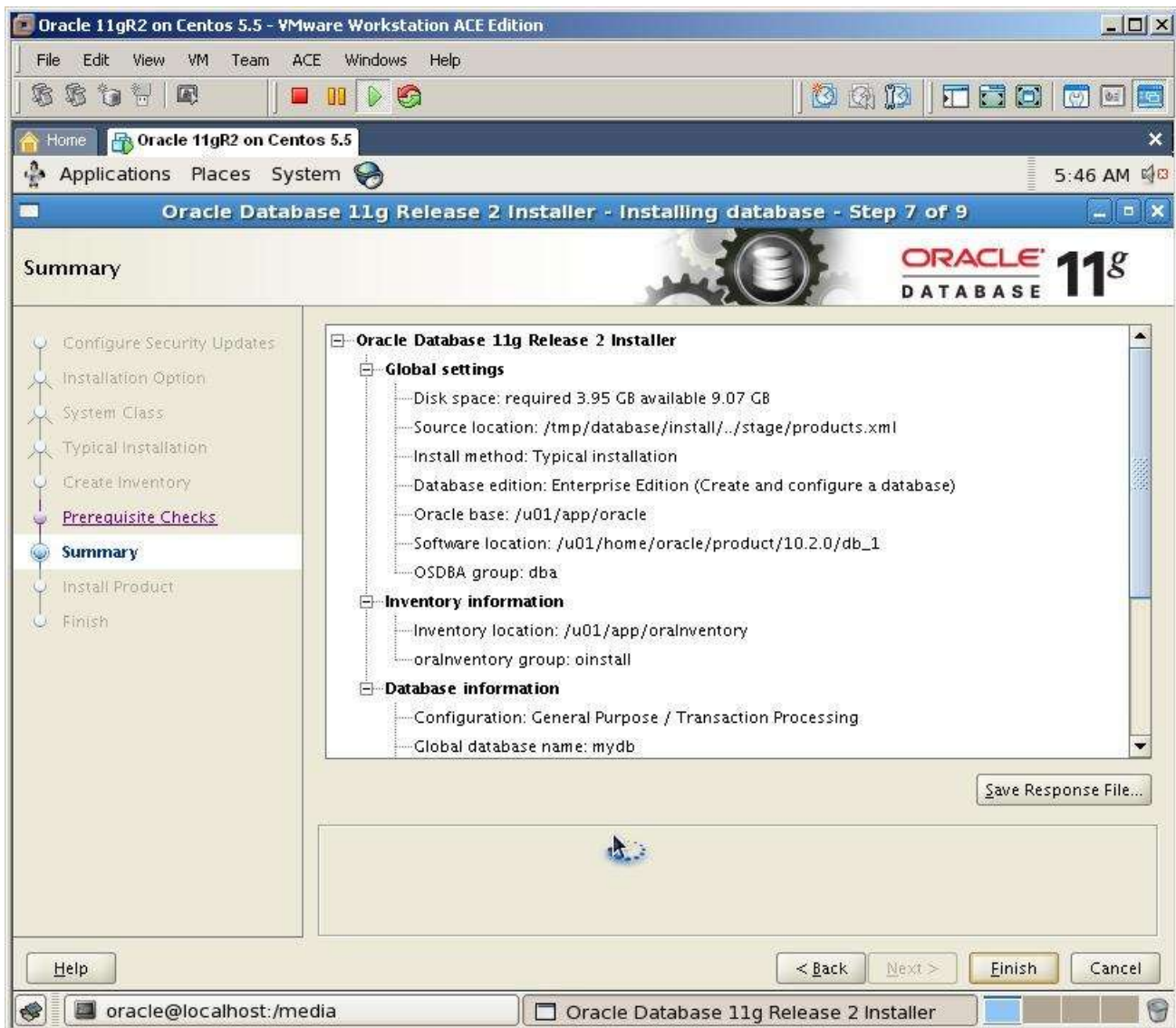


```
Oracle 11gR2 on Centos 5.5 - VMware Workstation ACE Edition
File Edit View VM Team ACE Windows Help
Home Oracle 11gR2 on Centos 5.5
Applications Places System 5:44 AM
oracle@localhost:/media/Enterprise Linux dvd 20100405/Server
File Edit View Terminal Tabs Help
[root@localhost /]# cd media/Enterprise\ Linux\ dvd\ 20100405/Server/
[root@localhost Server]# rpm -Uvh libaio-devel-0.3.106-5.i386.rpm
warning: libaio-devel-0.3.106-5.i386.rpm: Header V3 DSA signature: NOKEY, key ID 1e5e0159
Preparing... ##### [100%]
1:libaio-devel ##### [100%]
[root@localhost Server]# rpm -Uvh unix
unix2dos-2.2-26.2.3.el5.i386.rpm      unixODBC-devel-2.2.11-7.1.i386.rpm
unixODBC-2.2.11-7.1.i386.rpm        unixODBC-kde-2.2.11-7.1.i386.rpm
[root@localhost Server]# rpm -Uvh unixODBC-2.2.11-7.1.i386.rpm
warning: unixODBC-2.2.11-7.1.i386.rpm: Header V3 DSA signature: NOKEY, key ID 1e5e0159
Preparing... ##### [100%]
1:unixODBC ##### [100%]
[root@localhost Server]# rpm -Uvh unixODBC-devel-2.2.11-7.1.i386.rpm
warning: unixODBC-devel-2.2.11-7.1.i386.rpm: Header V3 DSA signature: NOKEY, key ID 1e5e0159
Preparing... ##### [100%]
1:unixODBC-devel ##### [100%]
[root@localhost Server]#
```

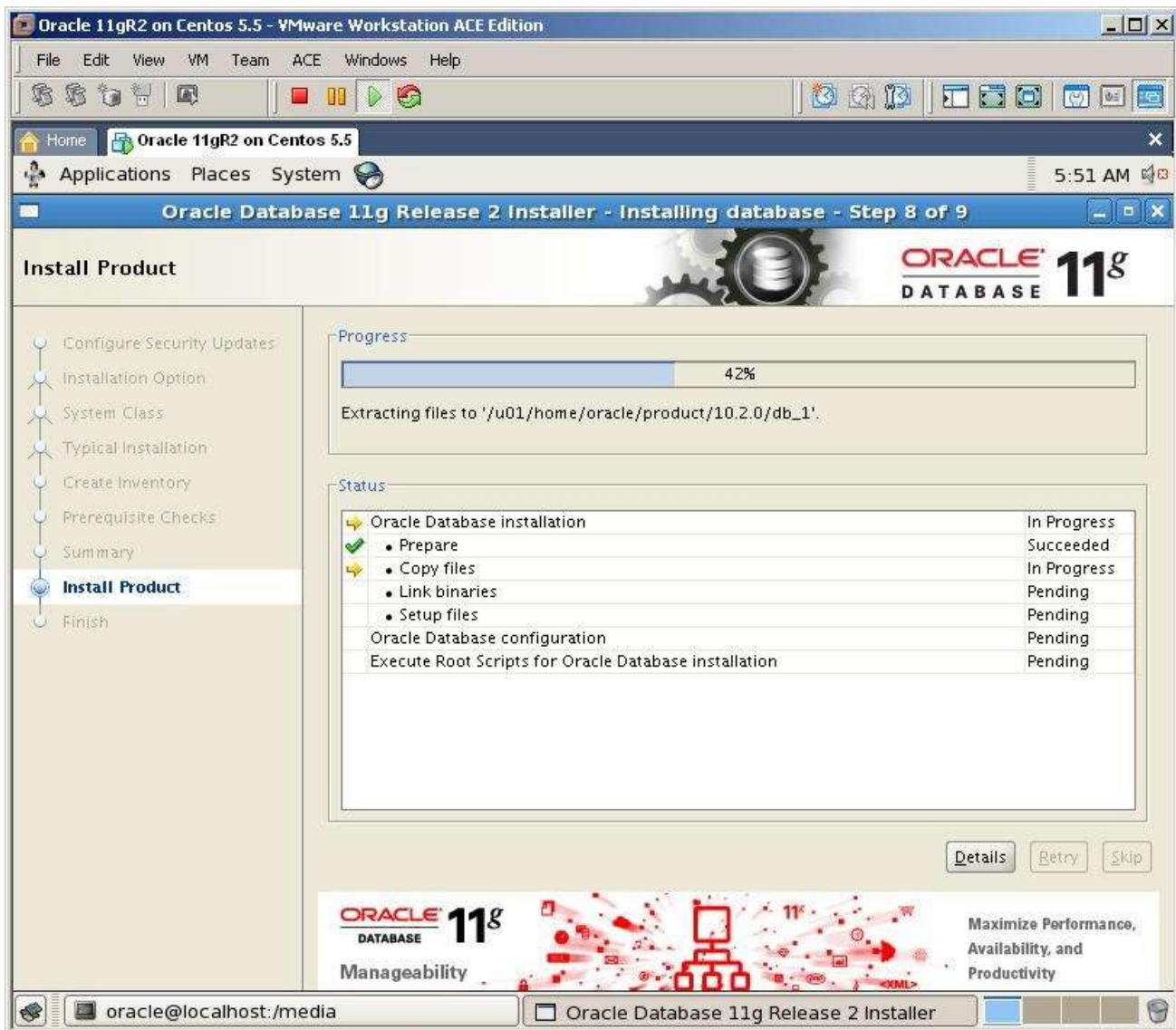
Install all three packages with rpm -Uvh command as it's shown above

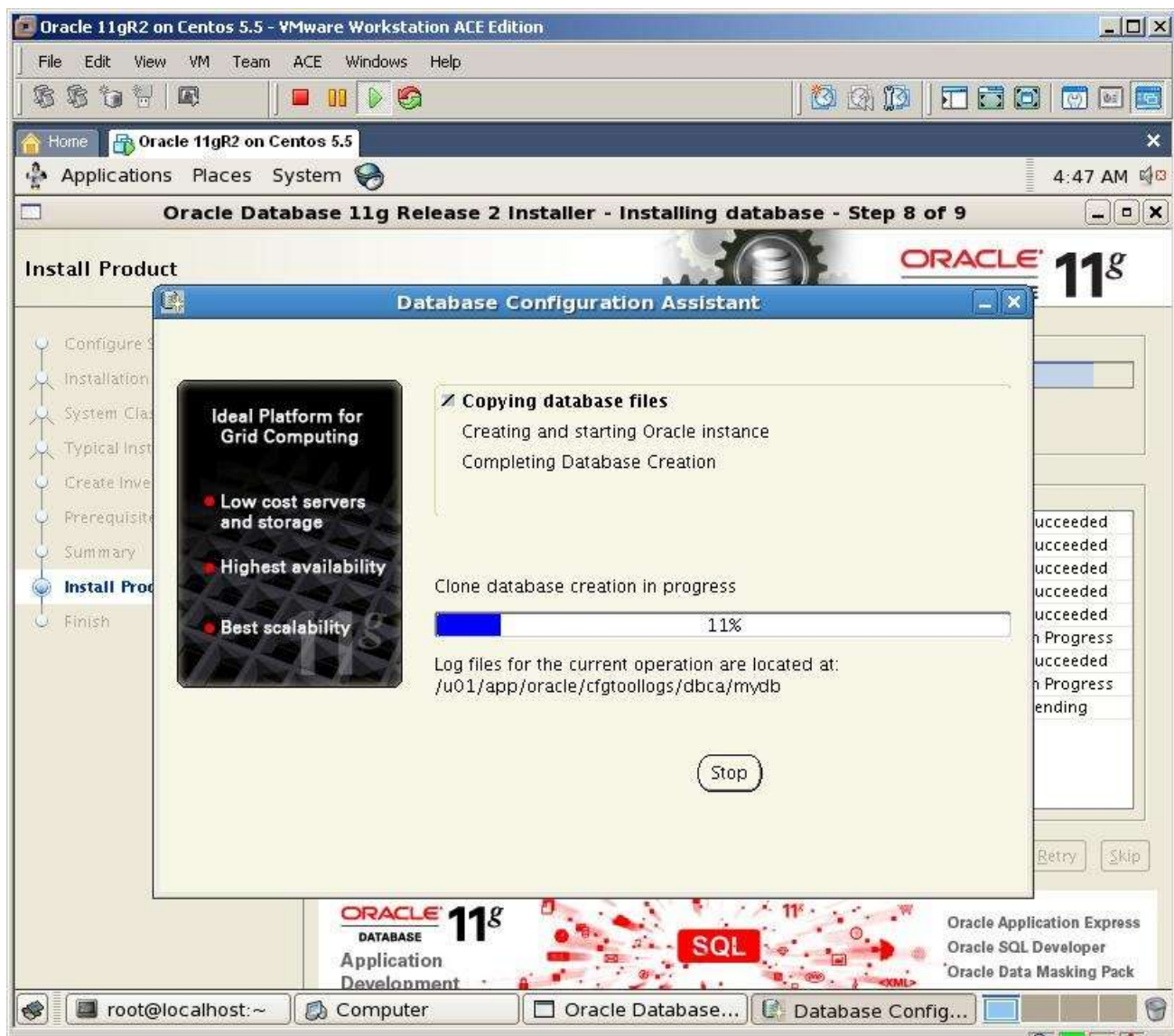


Click on Check Again button and you'll see that those notifications are disappeared. Check "Ignore all" checkbox and click Next

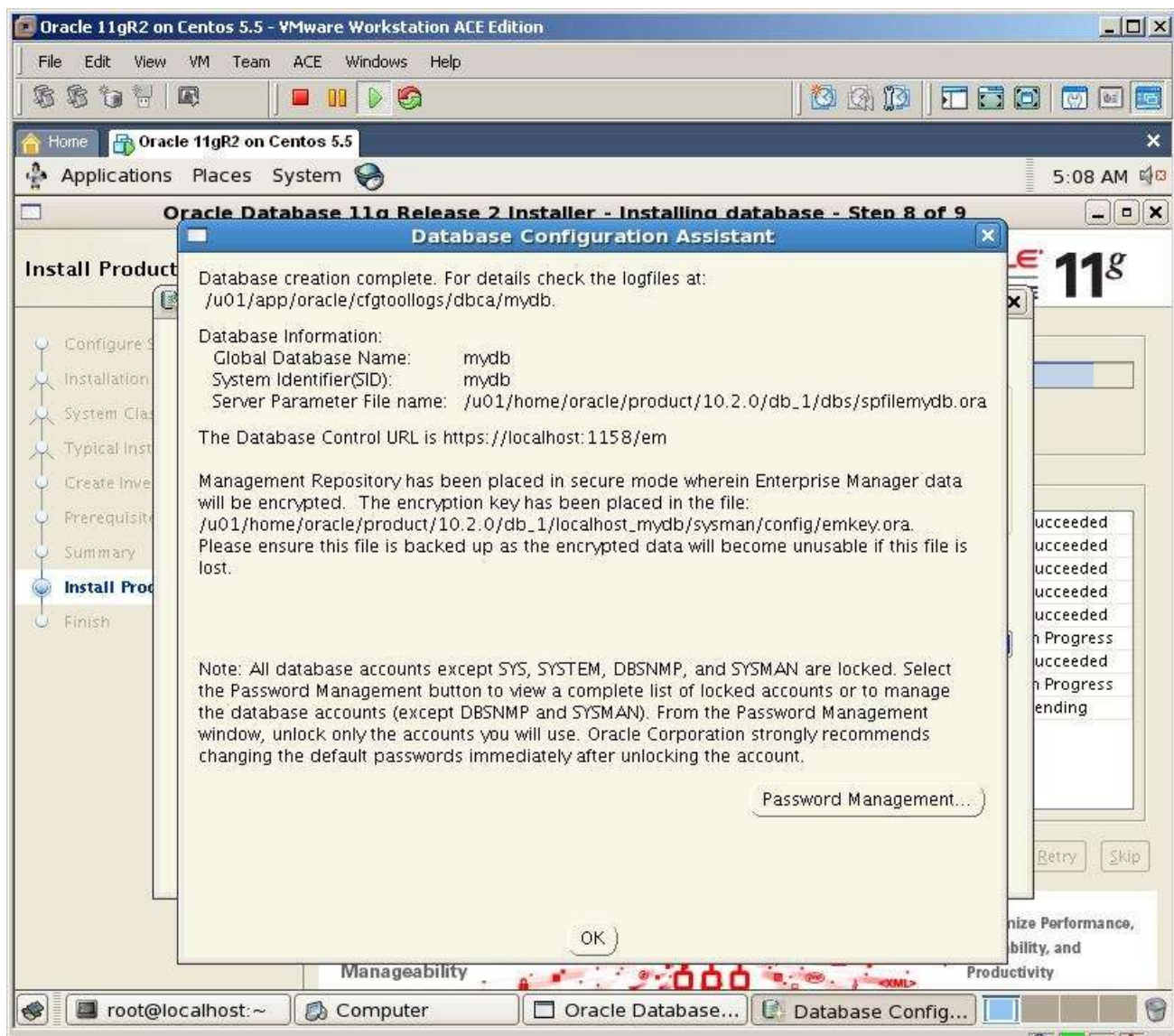


Click Finish button to start the installation

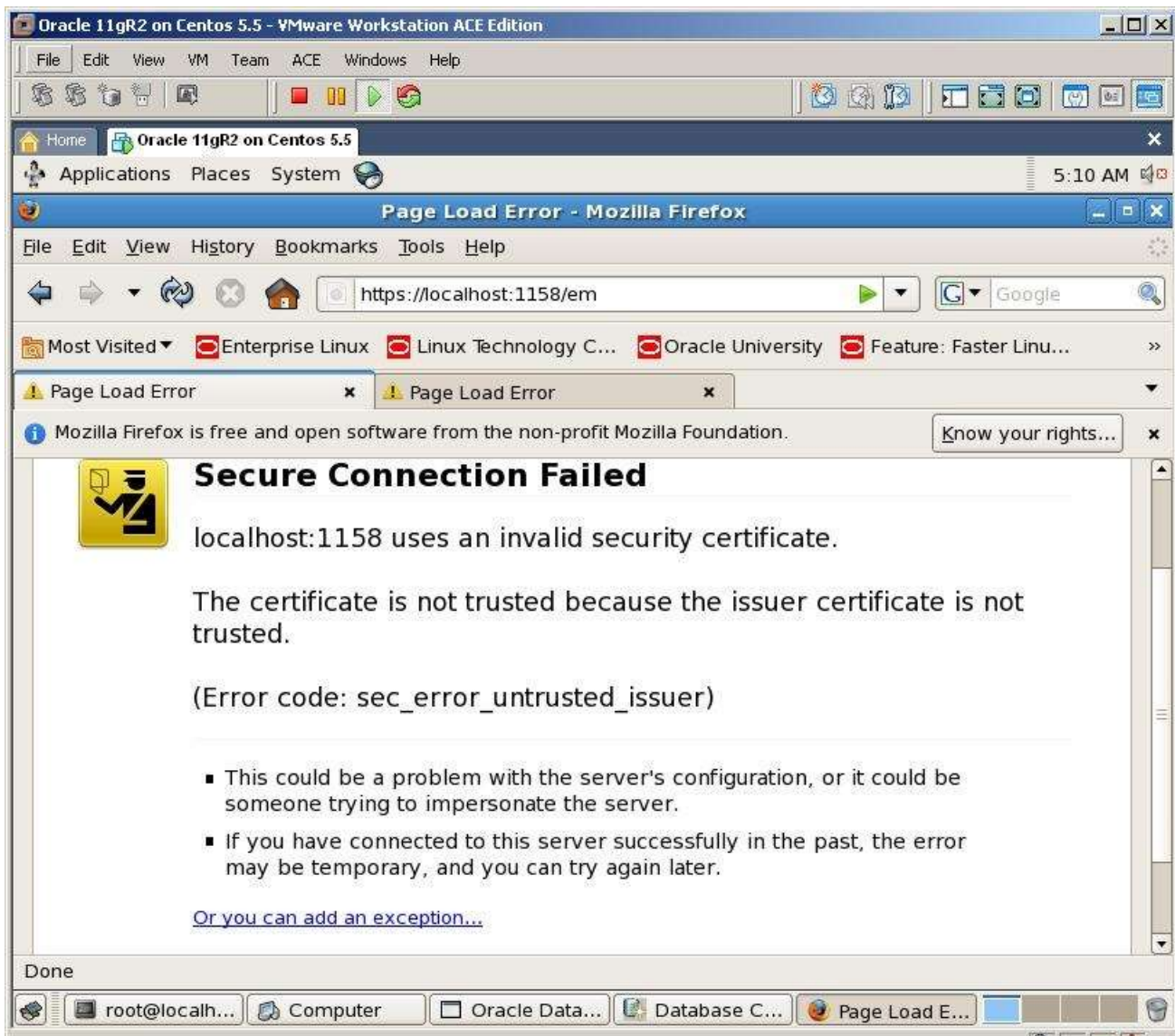




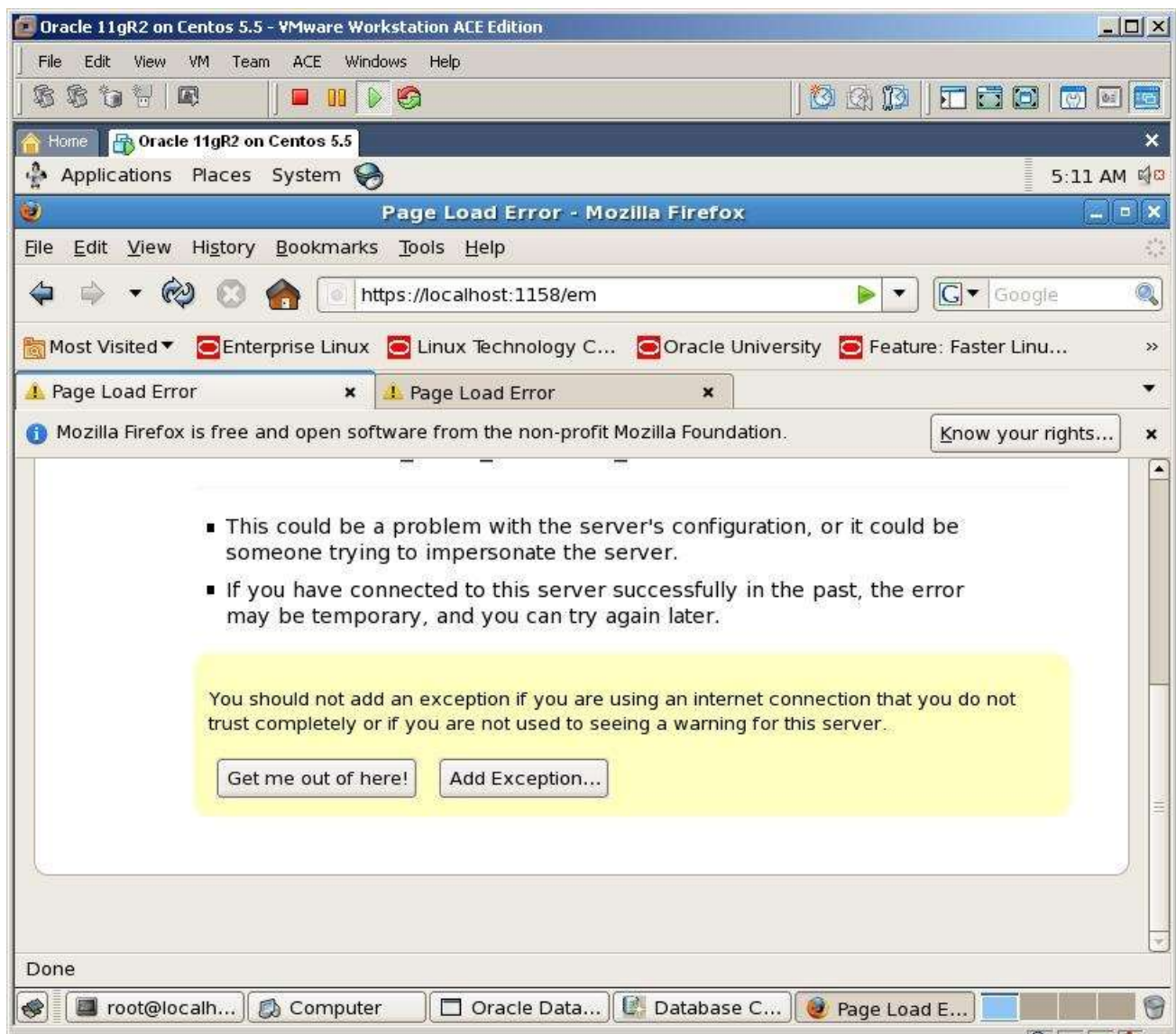
DBCA tools automatically will start to create the database named mydb



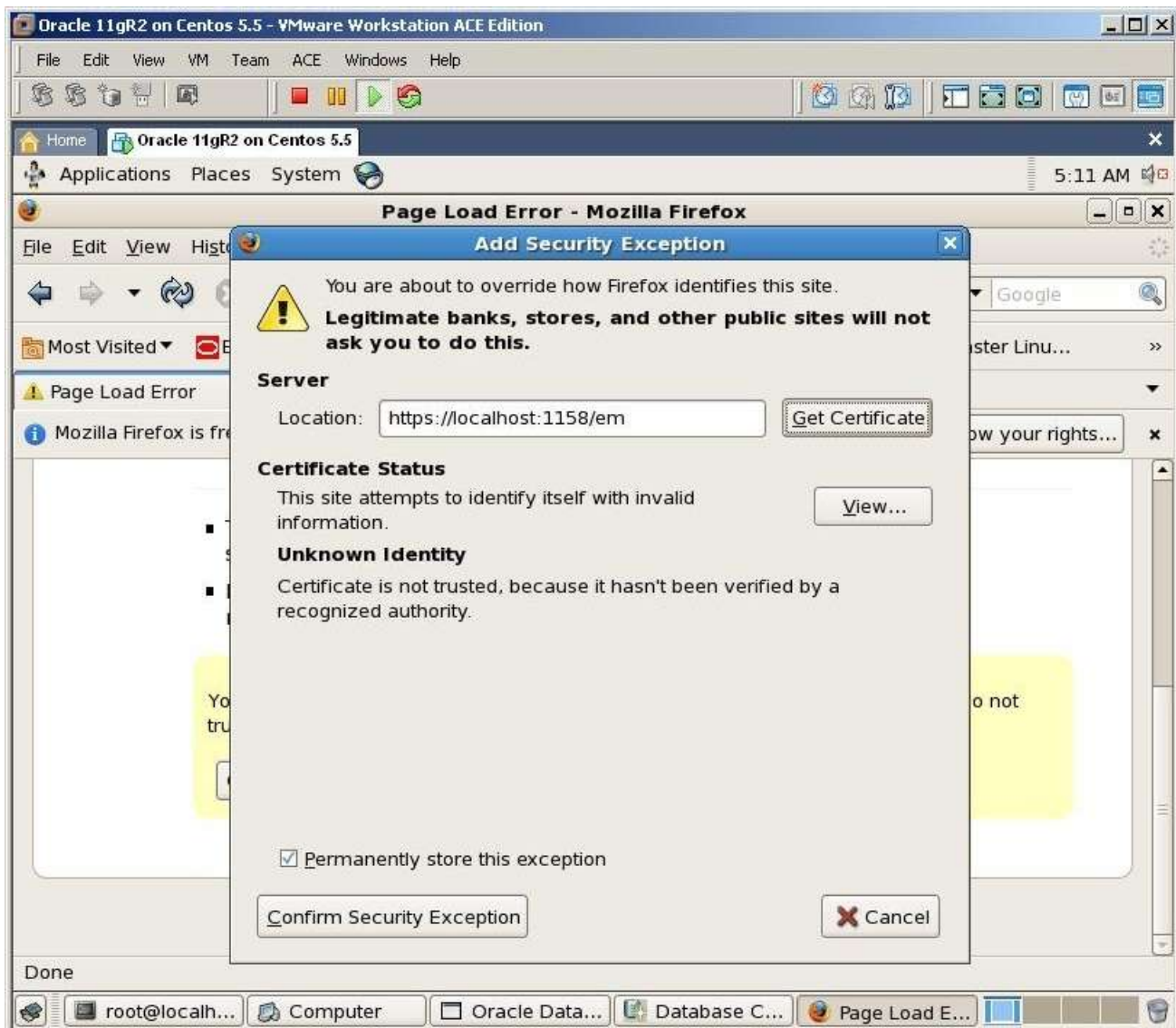
After all, the installation finished successfully. Get the url of the database control



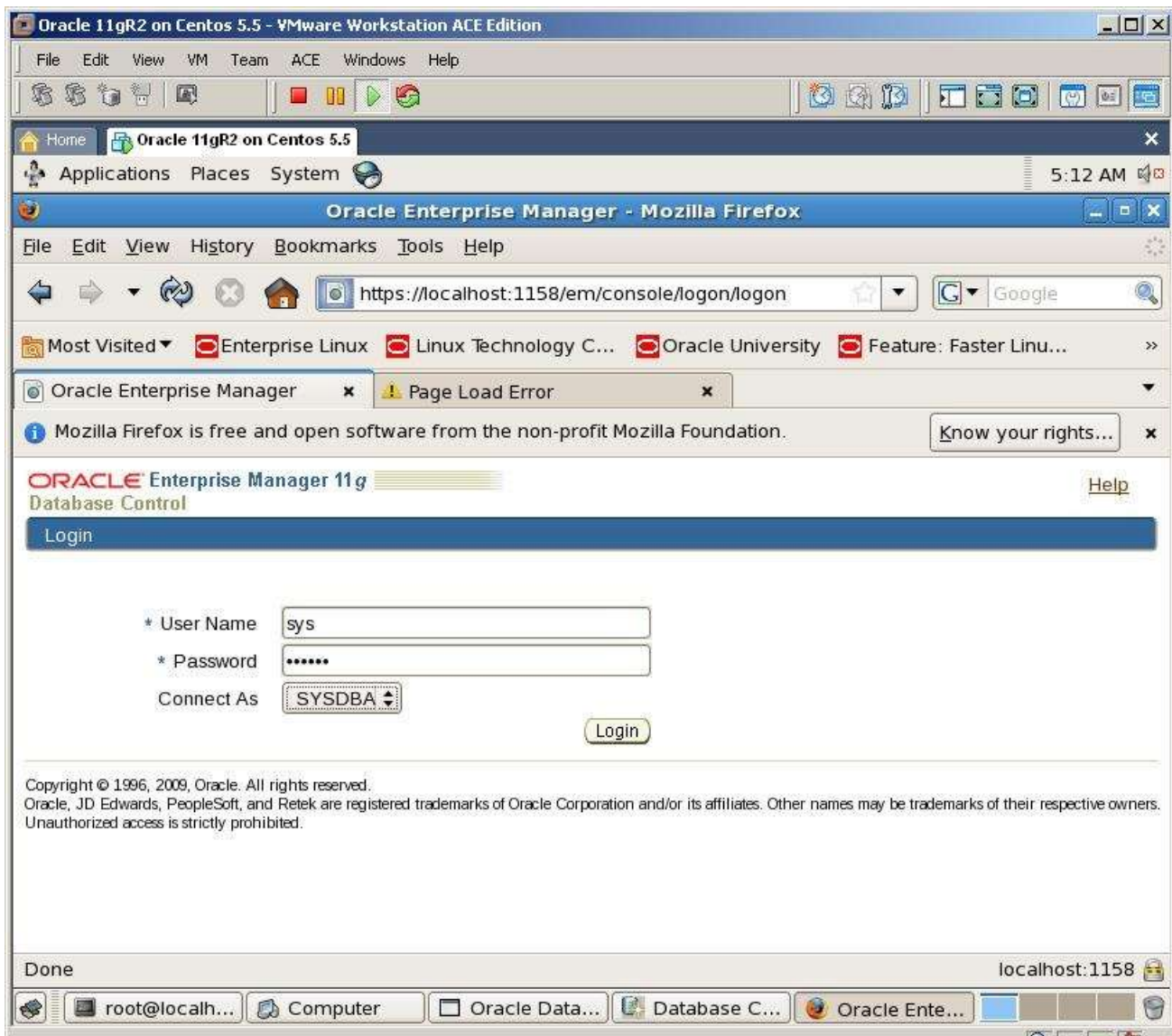
Open a web browser and paste that url to the address field. Click “or you can add an exception” link



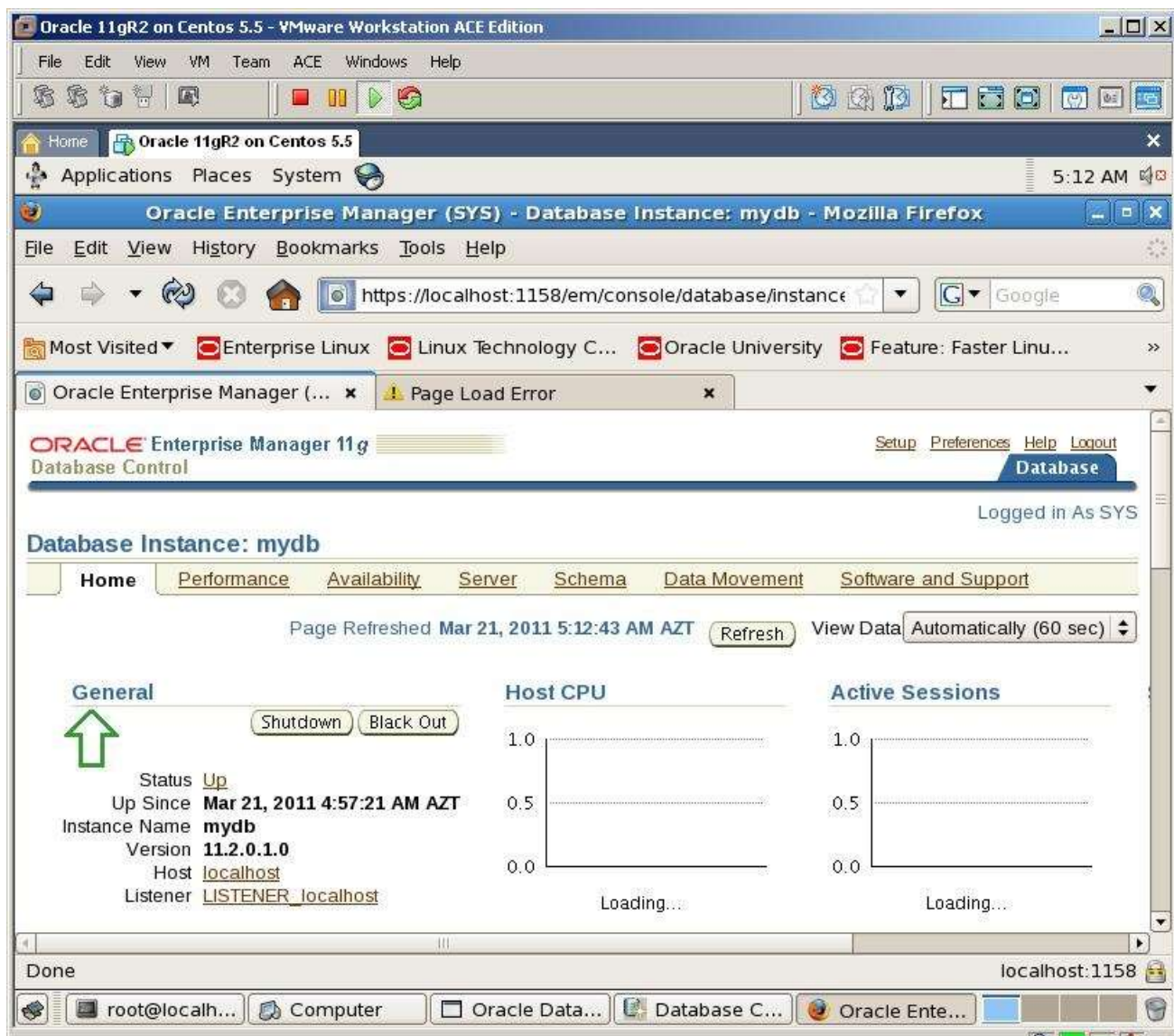
Click on “Add Exception” button

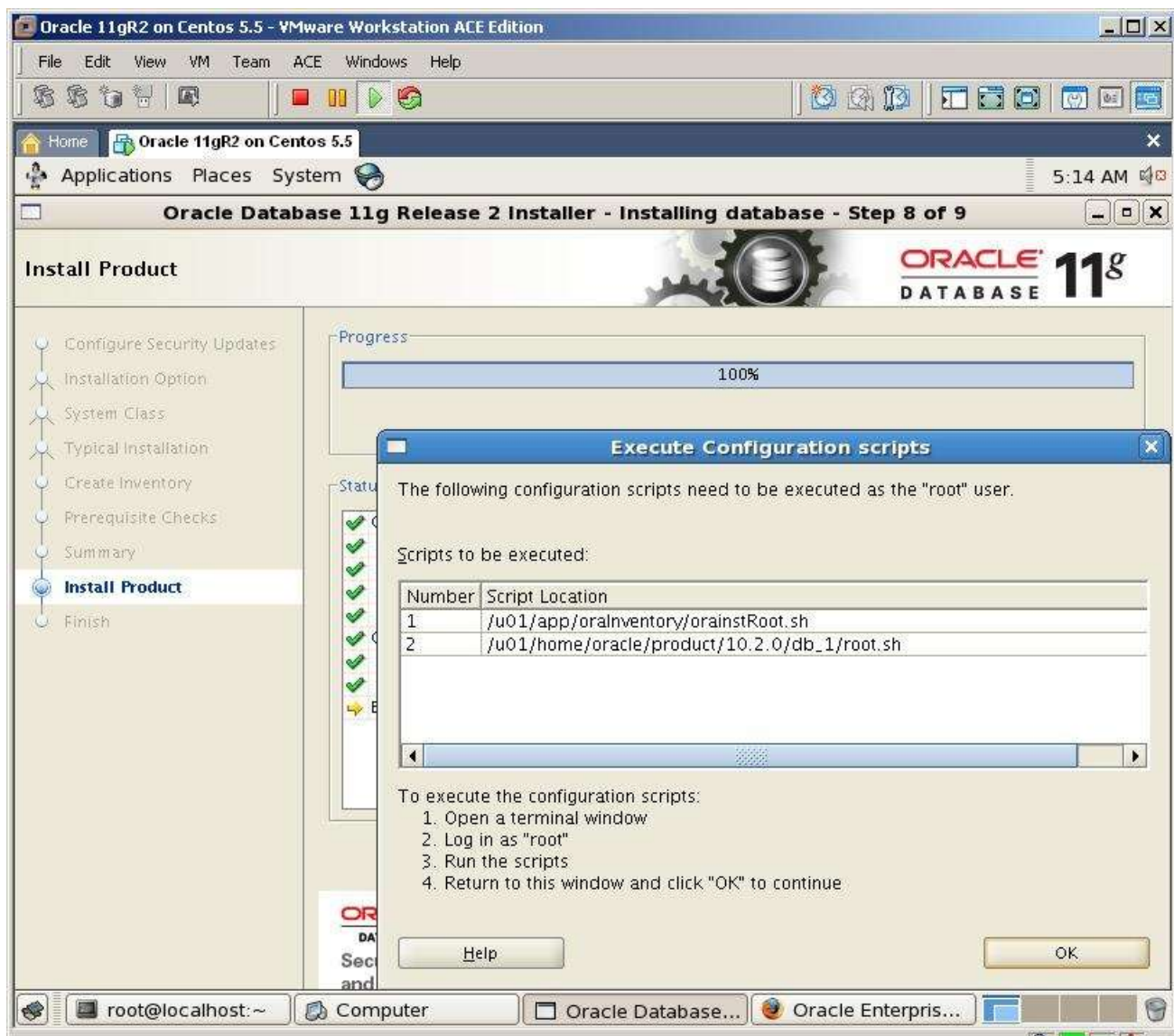


Click Get Certificate and Confirm Security Exception buttons

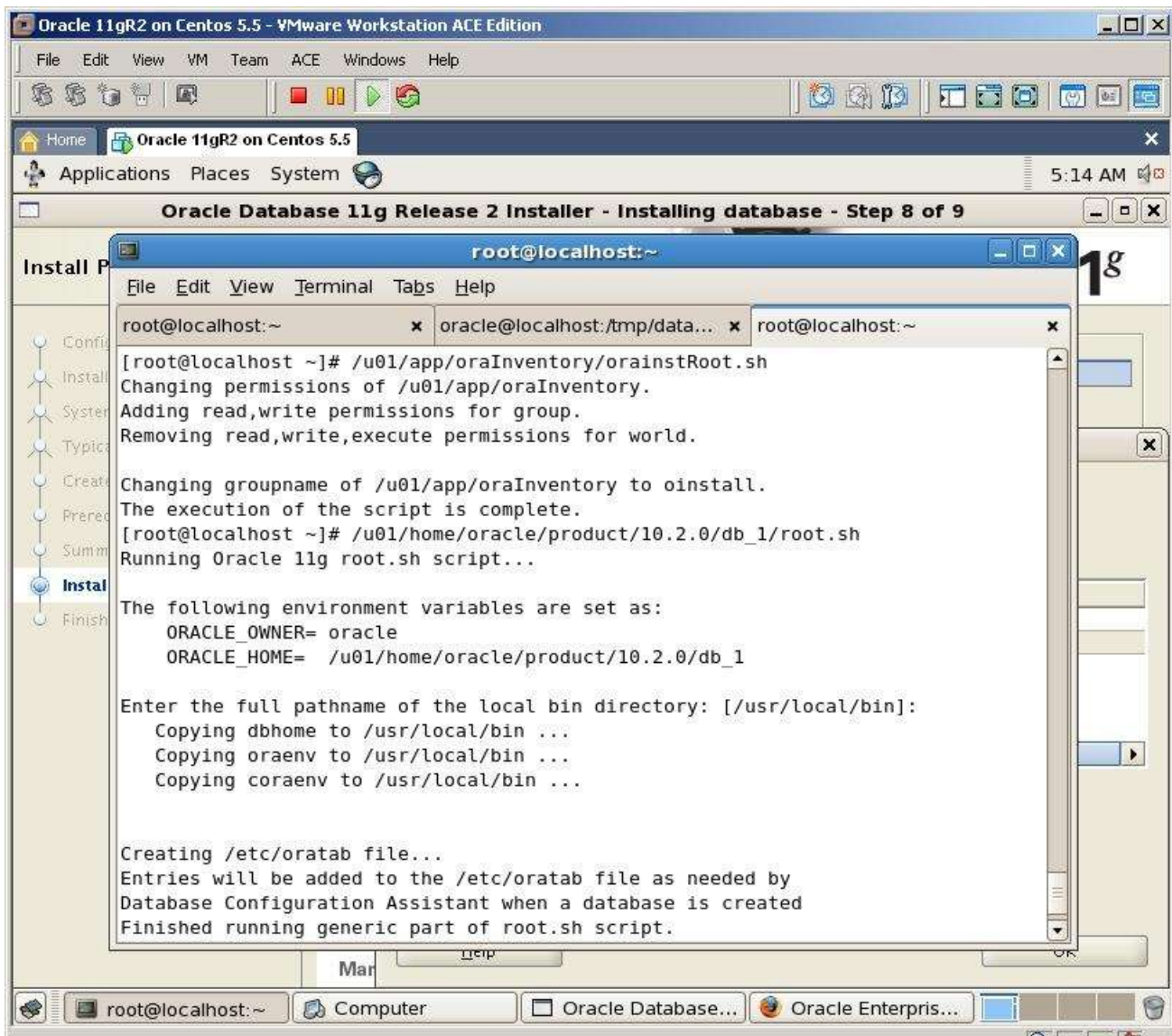


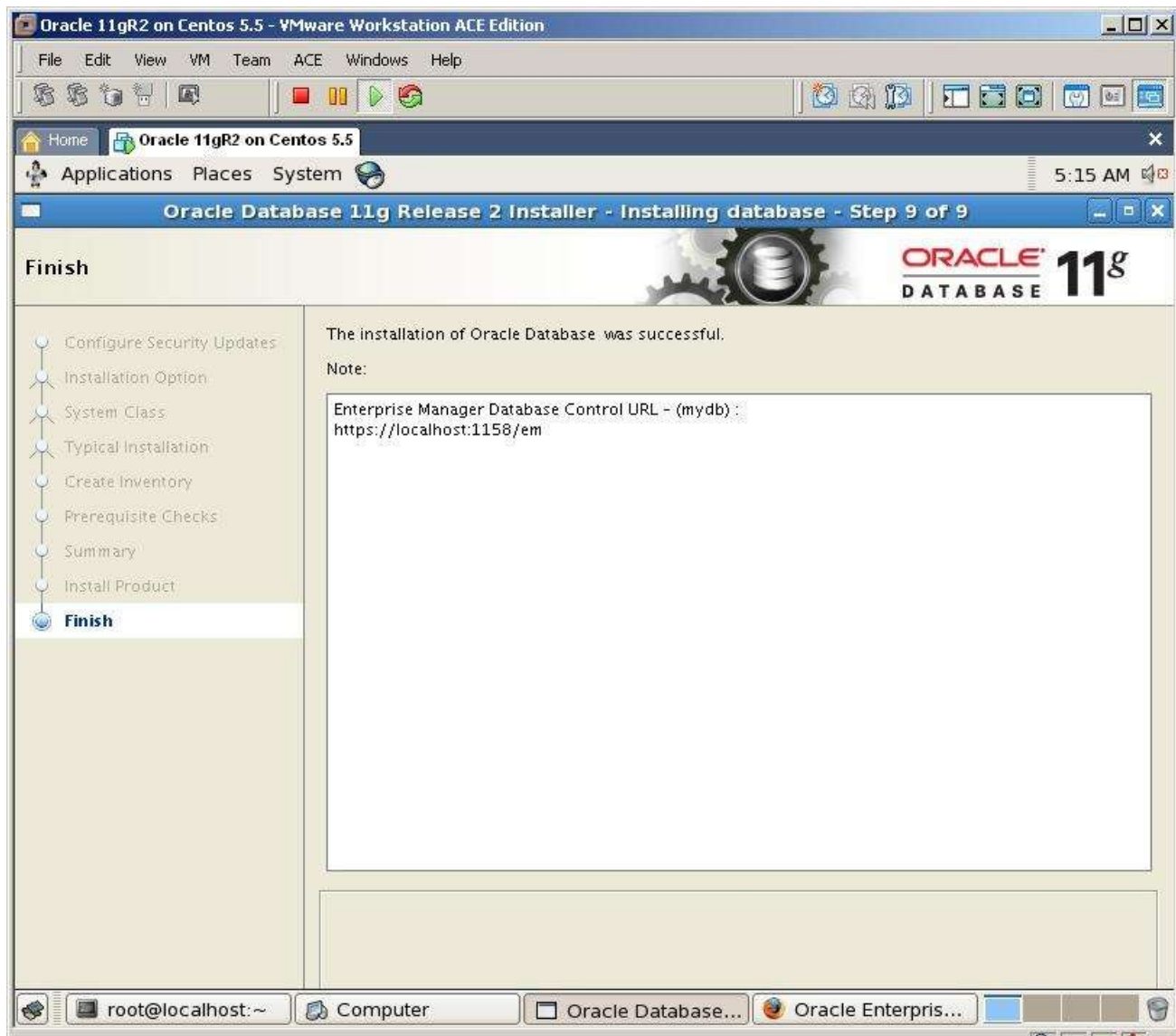
Provide the password for sys user and password, select SYSDBA and click Login button

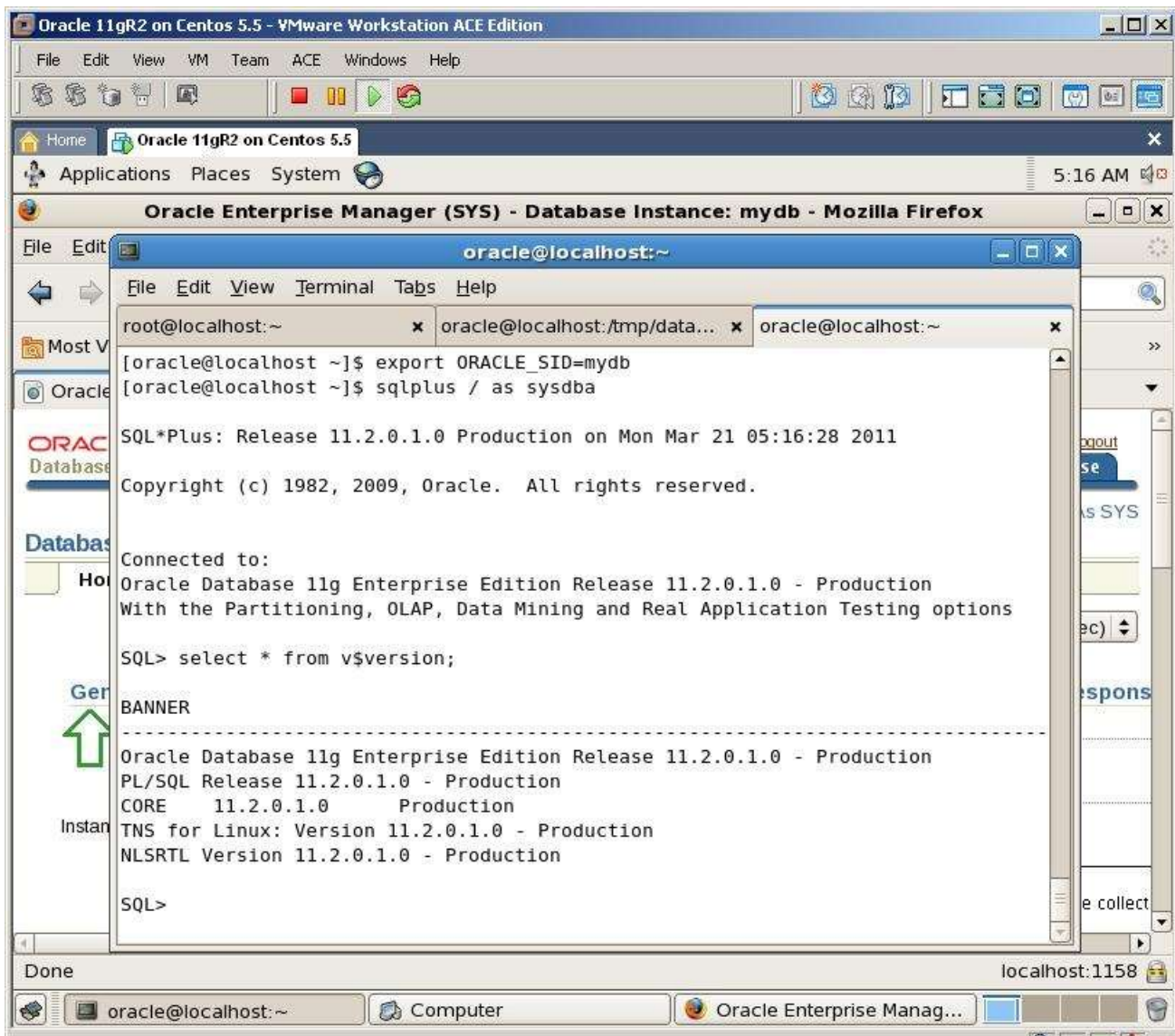




Switch to the installation page and run both shell scripts with root user







Open a new terminal, export ORACLE_SID variable and connect to the database

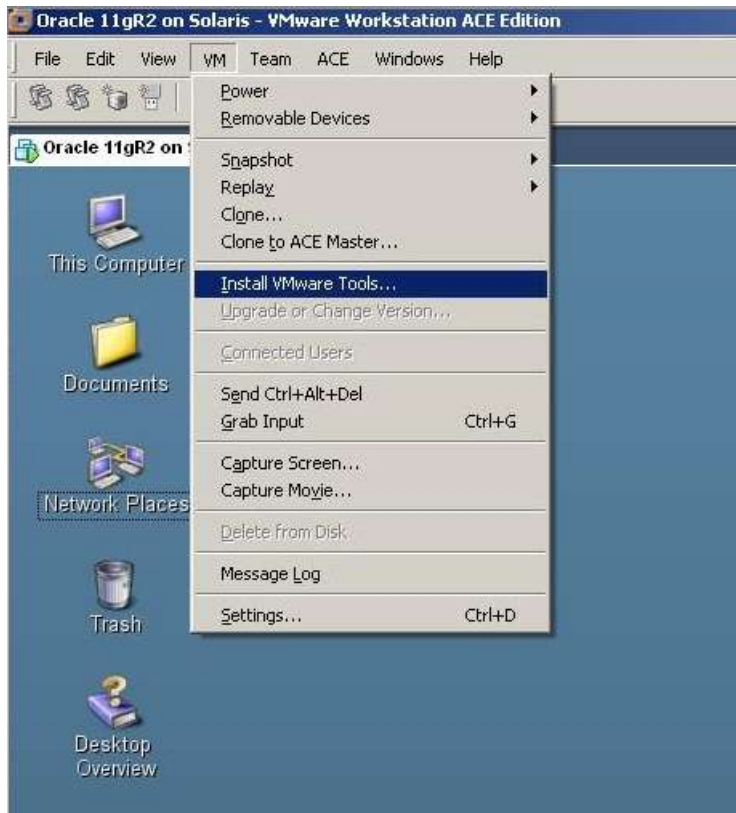
I hope by following my step by step instruction, you'll also install Oracle 11gR2 on OEL successfully

Step by Step installing Oracle 11g R2 on Oracle Solaris 10

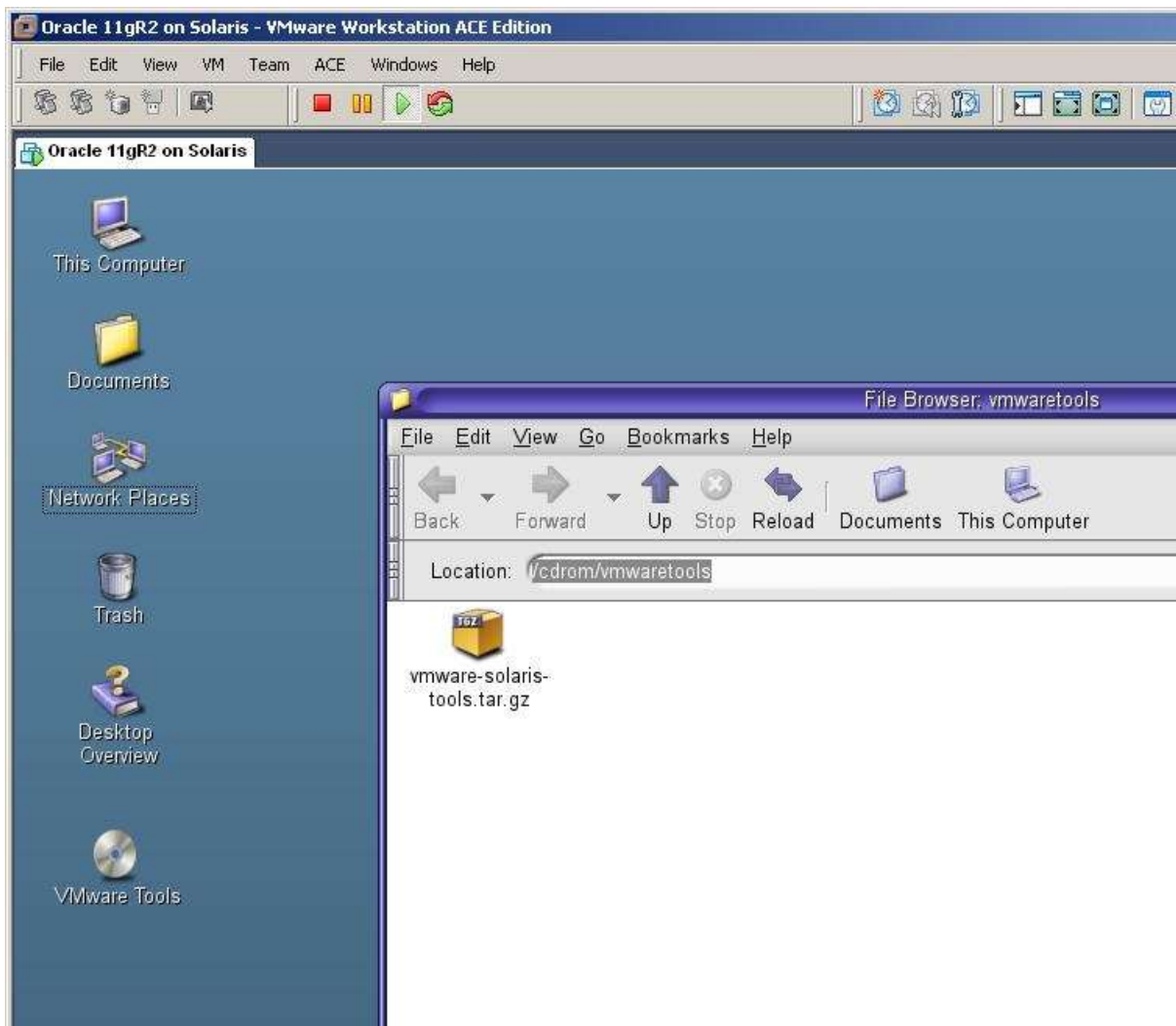
In this step by step tutorial I'm going to show you the steps of installing Oracle 11gR2 on Oracle Solaris 10. For this, download Oracle 11gR2 and Oracle Solaris 10, create virtual machine and install Oracle Solaris 10 using my following step by step tutorial:

<http://kamranagayev.wordpress.com/2010/11/03/step-by-step-installing-oracle10gr2-on-oracle-solaris/>

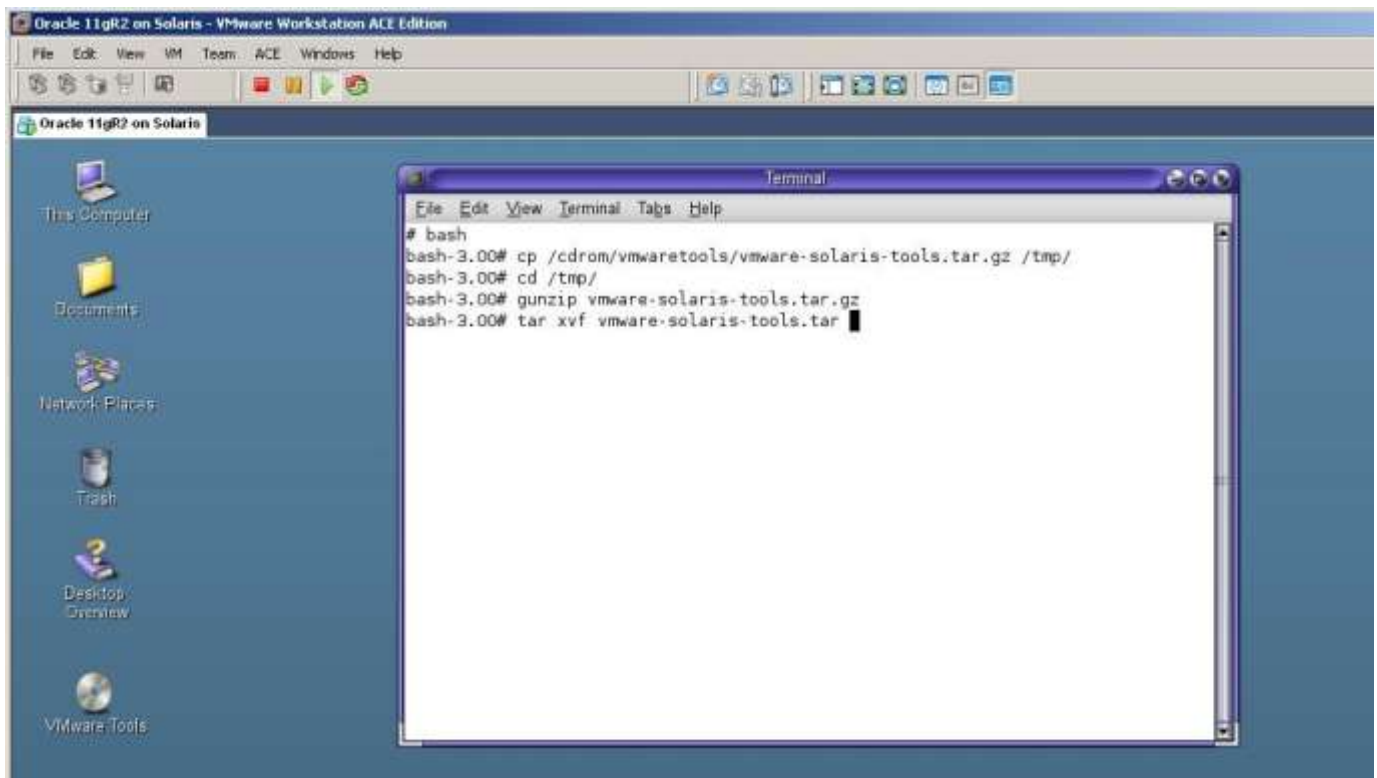
After installing the Solaris, login with root user. As a first step let's install VMware tools. For this, disconnect the installation dvd and select "Install VMware tools" from the VM menu



After some seconds a new window will appear.



Get its address, copy the file from to the /tmp directory using a terminal window, unzip and install it



Get into the unzipped folder and run the installation file.

```
cd vmware-tools-distrib  
./vmware-install.pl
```

After the installation completes, logout from the root user and login again

Now, let's check the installed OS packages that are required for the Oracle installation. For this, run the following command:

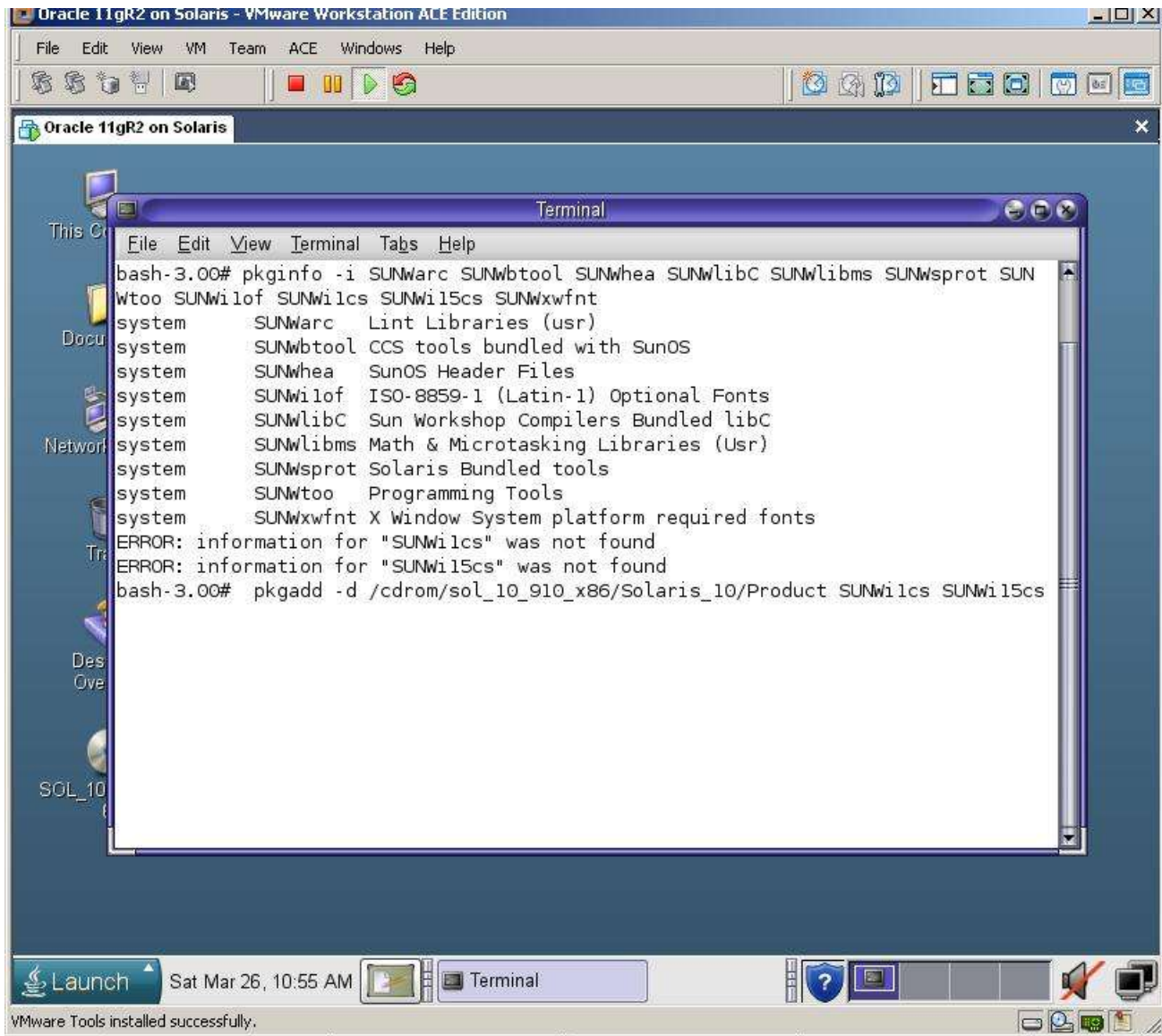
```
pkginfo -i SUNWarc SUNWbtool SUNWhea SUNWlibC SUNWlibms SUNWsprot SUNWtoo  
SUNWi1of SUNWi1cs SUNWi15cs SUNWxwfont
```

You should miss two packages – 1) SUNWi1cs 2) SUNWi15cs

To install them, mount the Solaris installation dvd and run the following command:

```
pkgadd -d /cdrom/sol_10_910_x86/Solaris_10/Product SUNWi1cs SUNWi15cs
```

If the mount point of the cdrom is different in your environment, specify the correct path to the dvd



After installation completed perform the following steps:

1) Create necessary groups and a user

groupadd oinstall

groupadd dba

useradd -g oinstall -G dba -d /export/home/oracle -s /usr/bin/bash oracle

passwd oracle

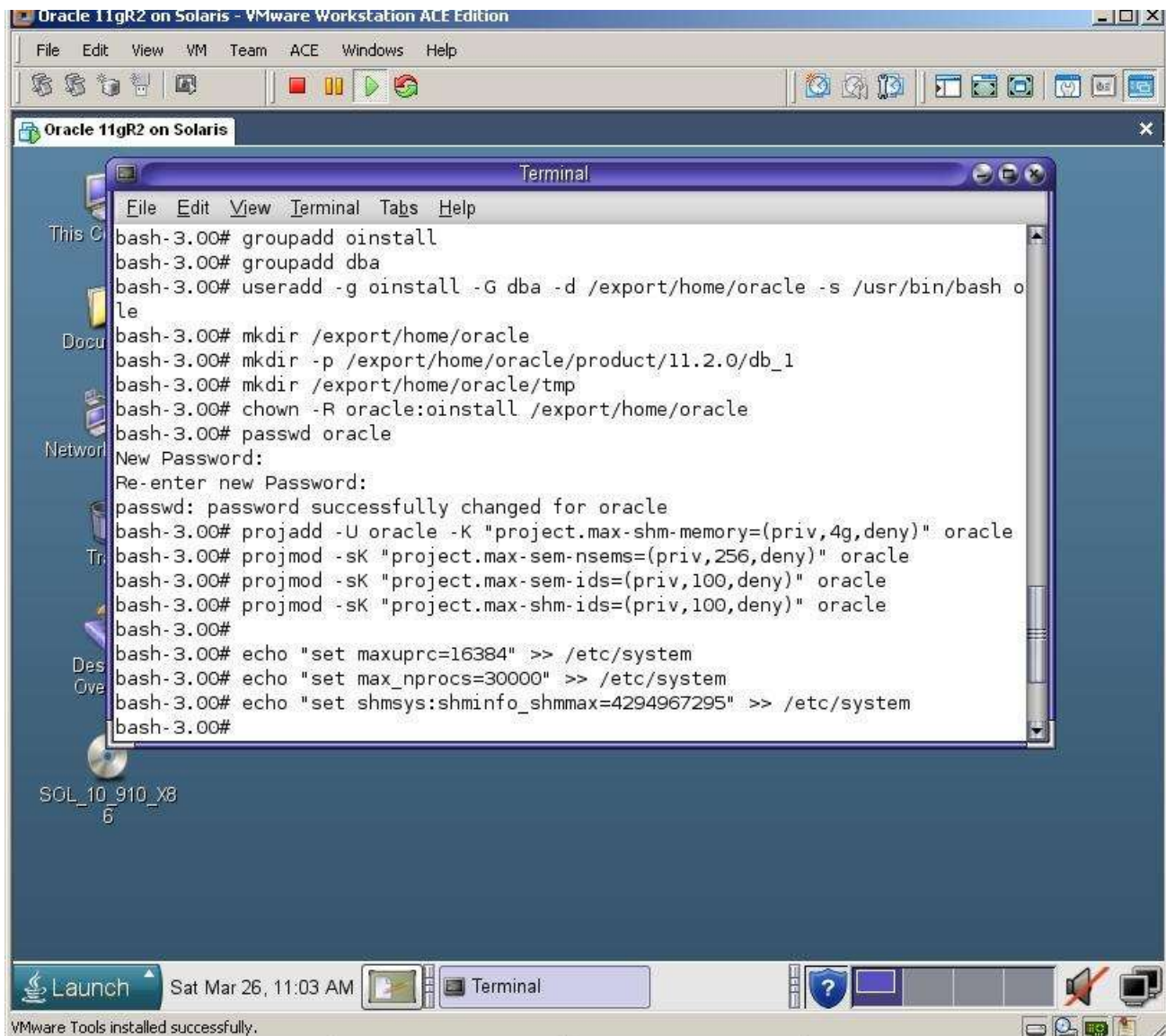
2) Create necessary folder for the installation

```
mkdir -p /export/home/oracle/product/11.2.0/db_1  
mkdir /export/home/oracle/tmp
```

```
chown -R oracle:oinstall /export/home/oracle
```

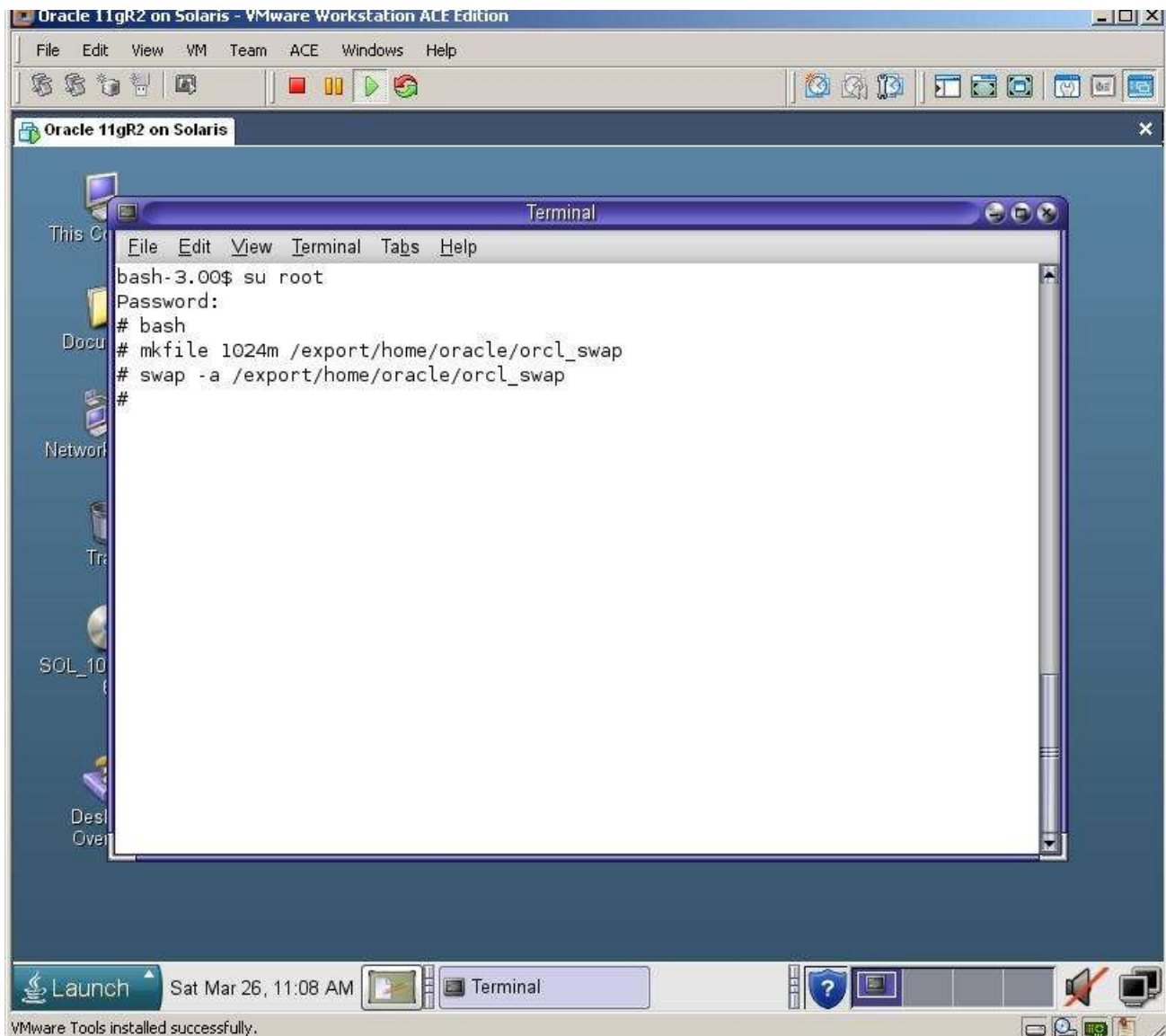
3) Change kernel parameters

```
projadd -U oracle -K "project.max-shm-memory=(priv,4g,deny)" oracle  
projmod -sK "project.max-sem-nsems=(priv,256,deny)" oracle  
projmod -sK "project.max-sem-ids=(priv,100,deny)" oracle  
projmod -sK "project.max-shm-ids=(priv,100,deny)" oracle  
echo "set maxuprc=16384" >> /etc/system  
echo "set max_nprocs=30000" >> /etc/system  
echo "set shmsys:shminfo_shmmax=4294967295" >> /etc/system
```



Now reboot the machine and login with an oracle user. Let's create a new swap file with 1Gb size, as it's required for the Oracle installation

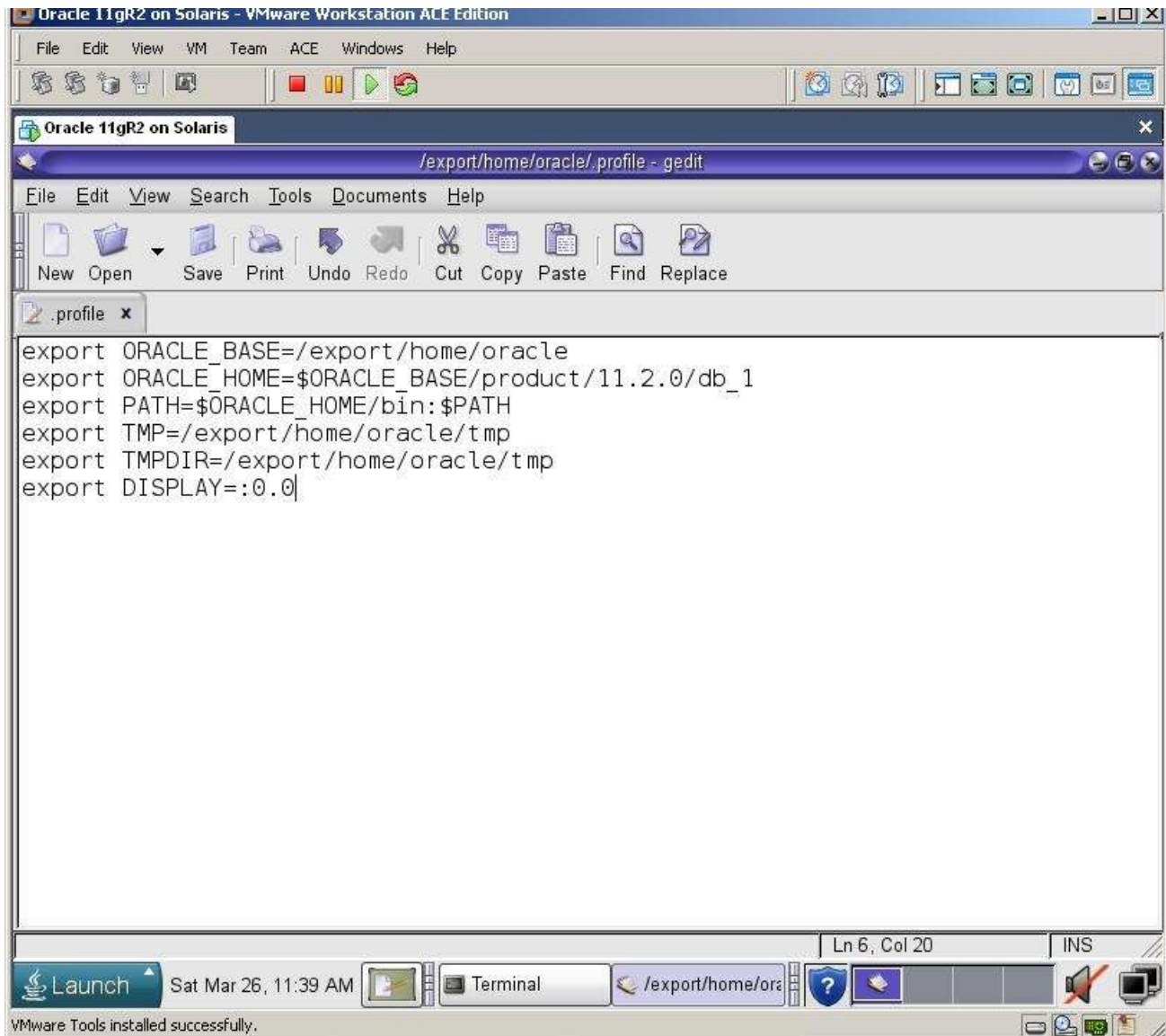
```
mkfile 1024m /export/home/oracle/orcl_swap  
swap -a /export/home/oracle/orcl_swap
```



Now change the .profile file of the oracle user and set necessary environment variables:

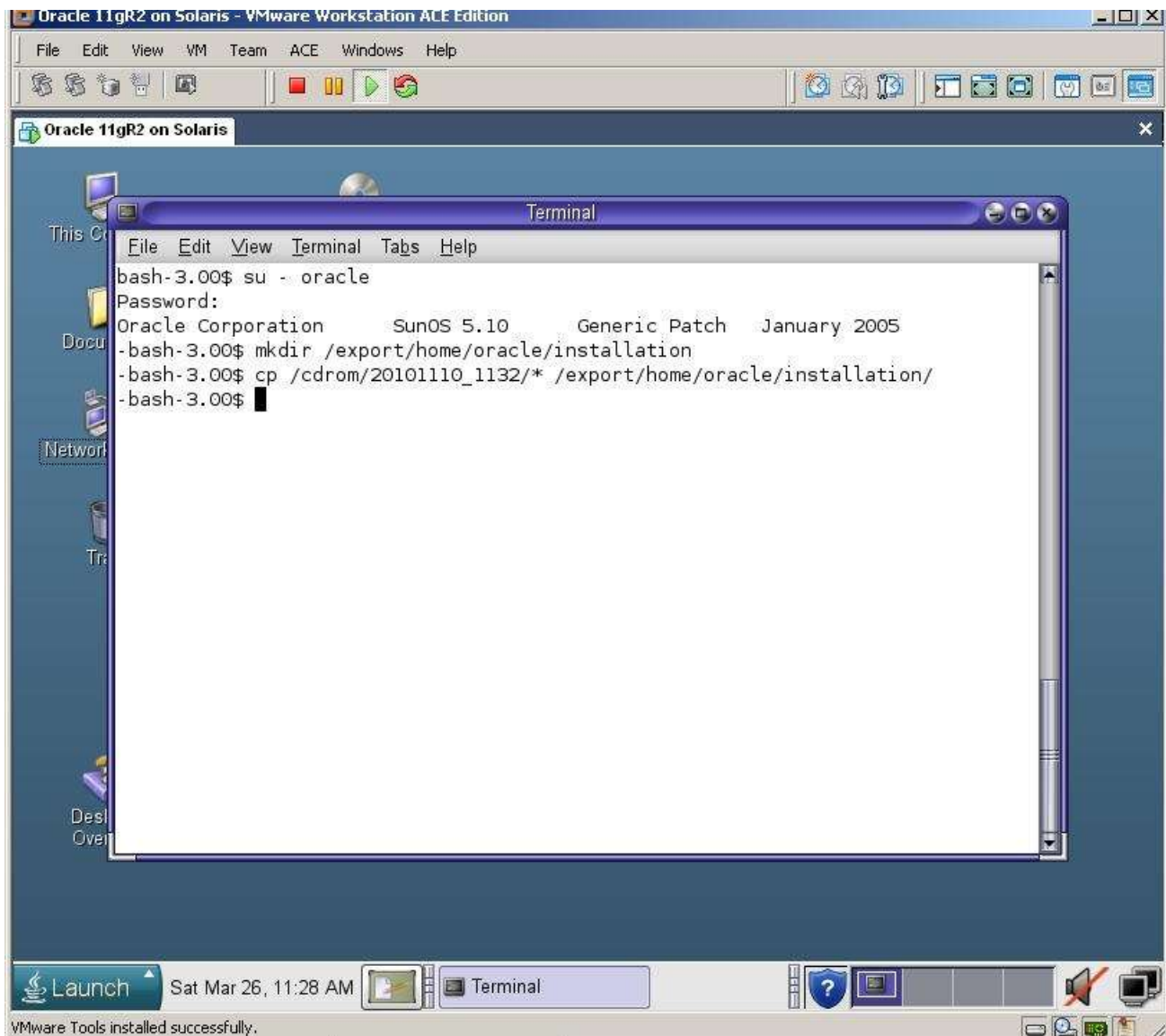
gedit /export/home/oracle/.profile

```
export ORACLE_BASE=/export/home/oracle  
export ORACLE_HOME=$ORACLE_BASE/product/11.2.0/db_1  
export PATH=$ORACLE_HOME/bin:$PATH  
export TMP=/export/home/oracle/tmp  
export TMPDIR=/export/home/oracle/tmp  
export DISPLAY=:0.0
```



Now create an “installation” direcotry under /export/home/oracle

Then mout the cdrom device and copy the installation files to that directory



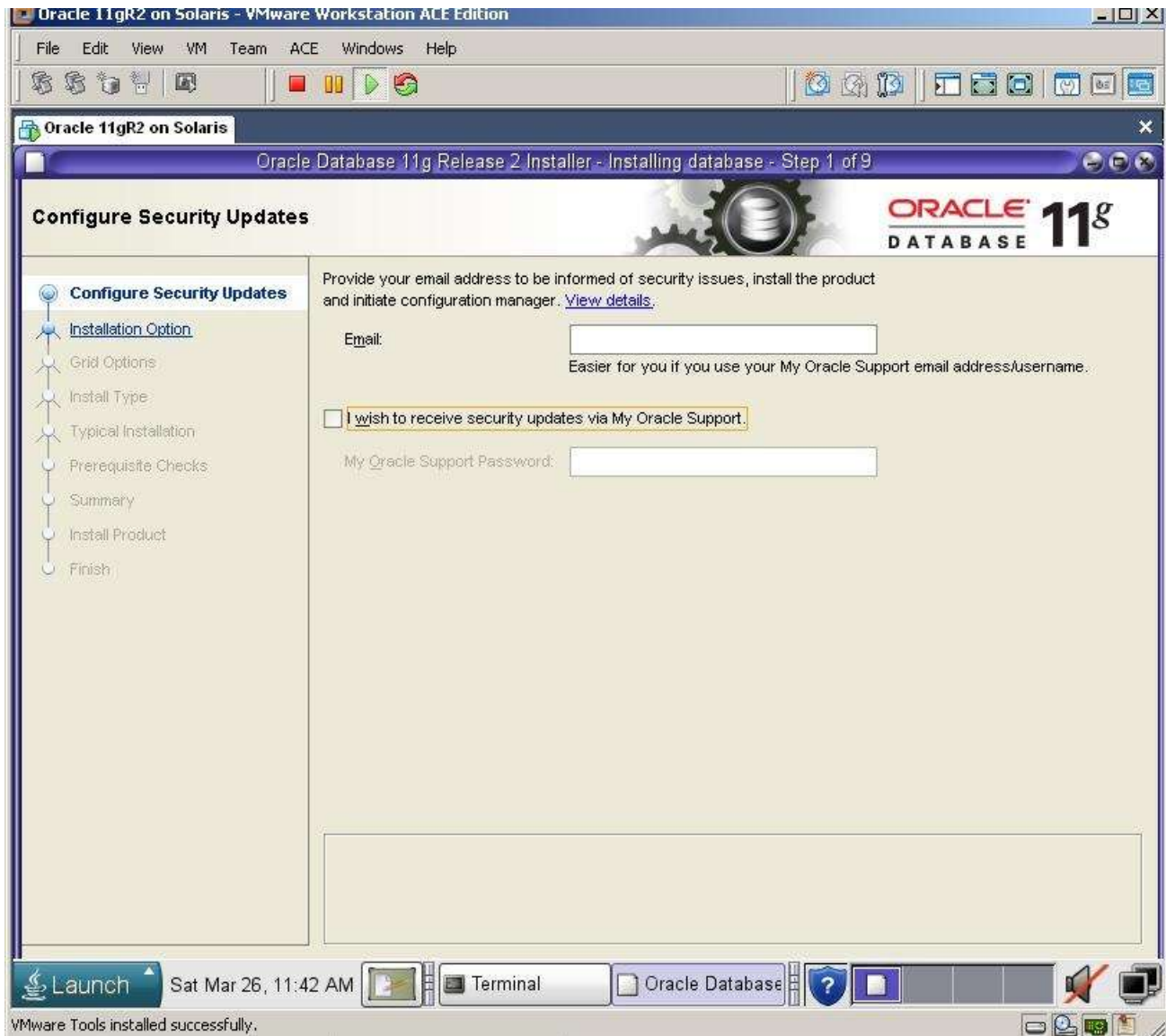
Extract both files using unzip utility, and start the installation

unzip your_file1.zip

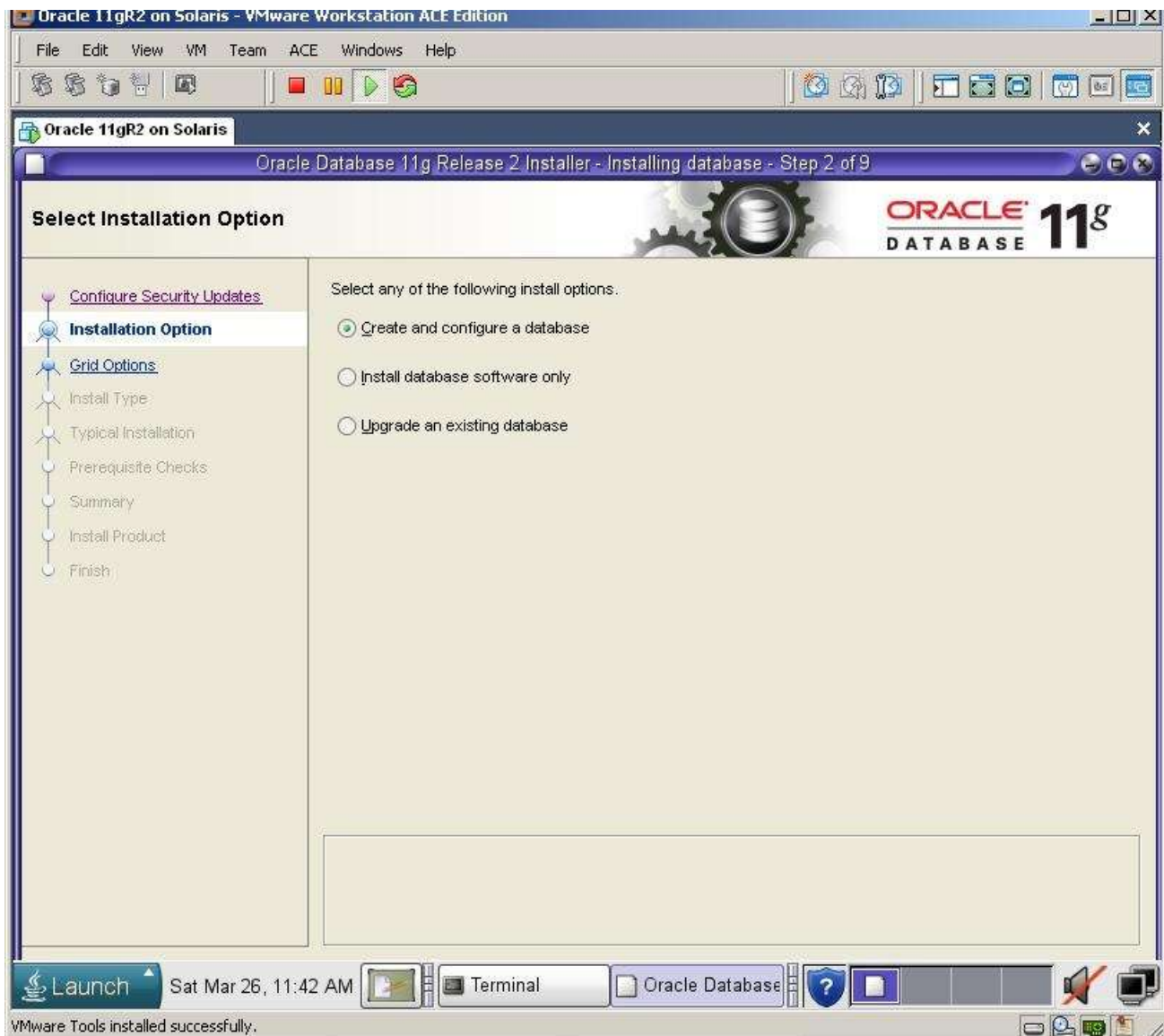
unzip your_file2.zip

cd database

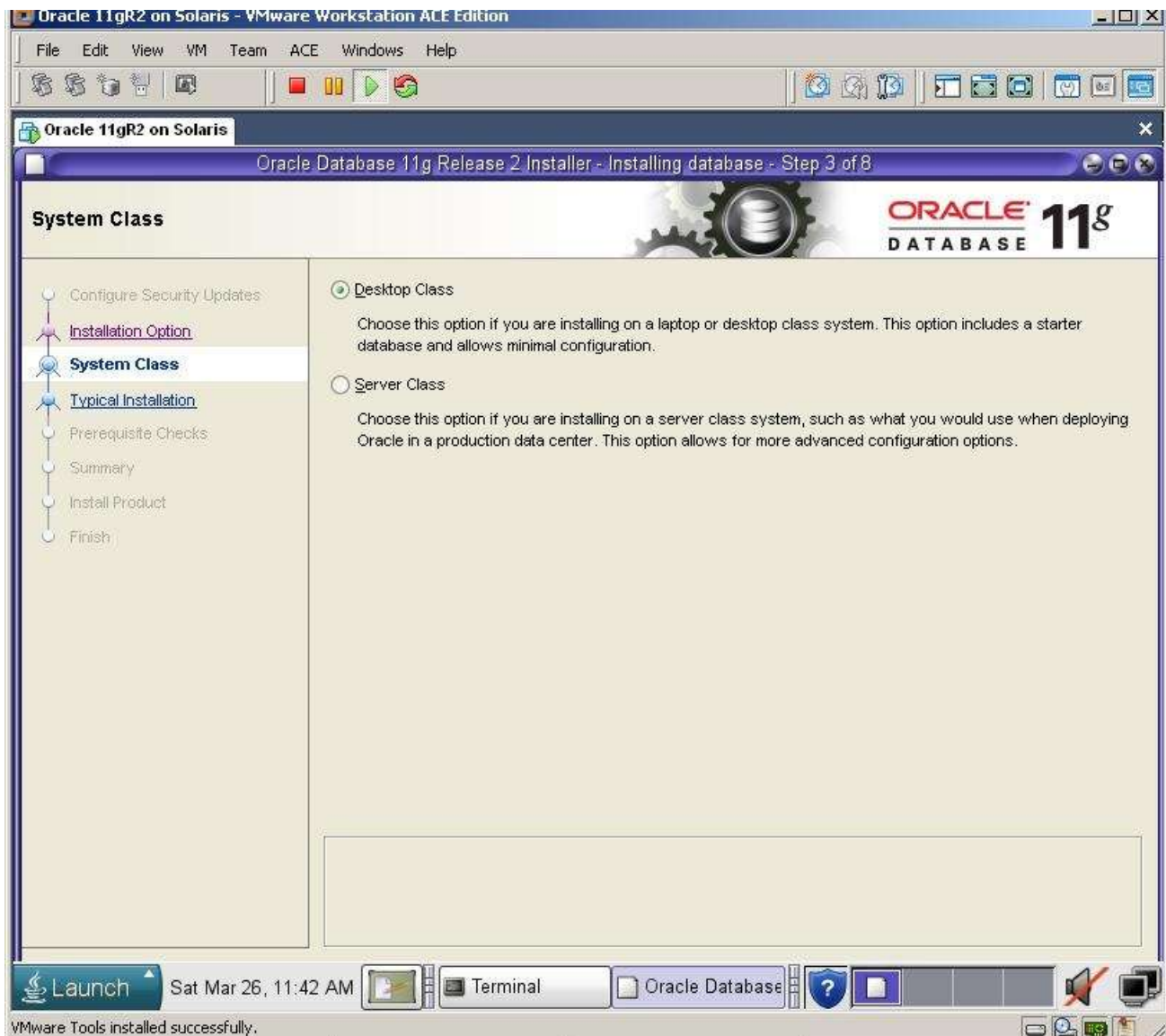
./runInstaller



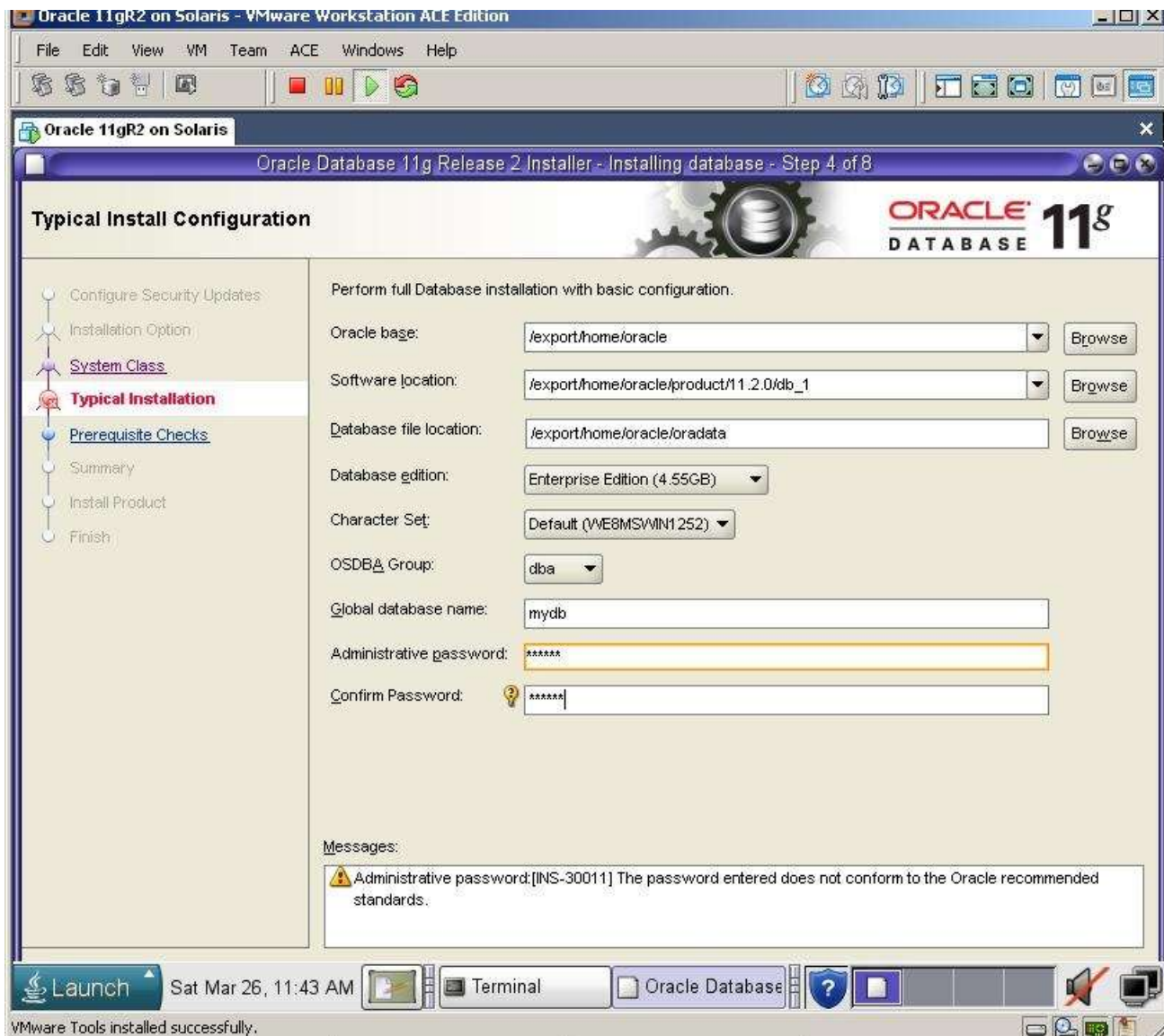
Uncheck the checkbox and click next. If you can't see the Next button, use Alt+N combination 😊



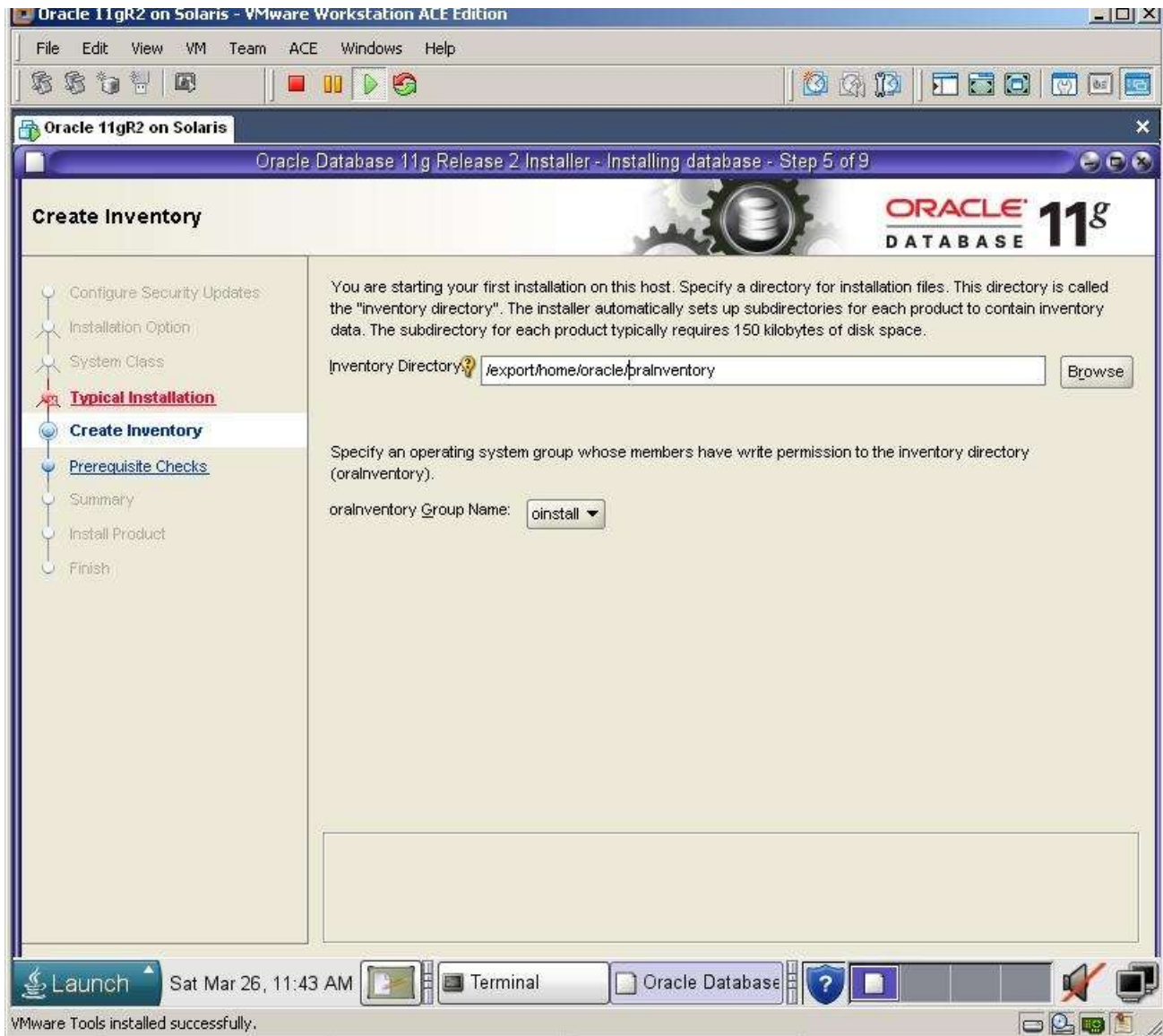
Select the first option and click next



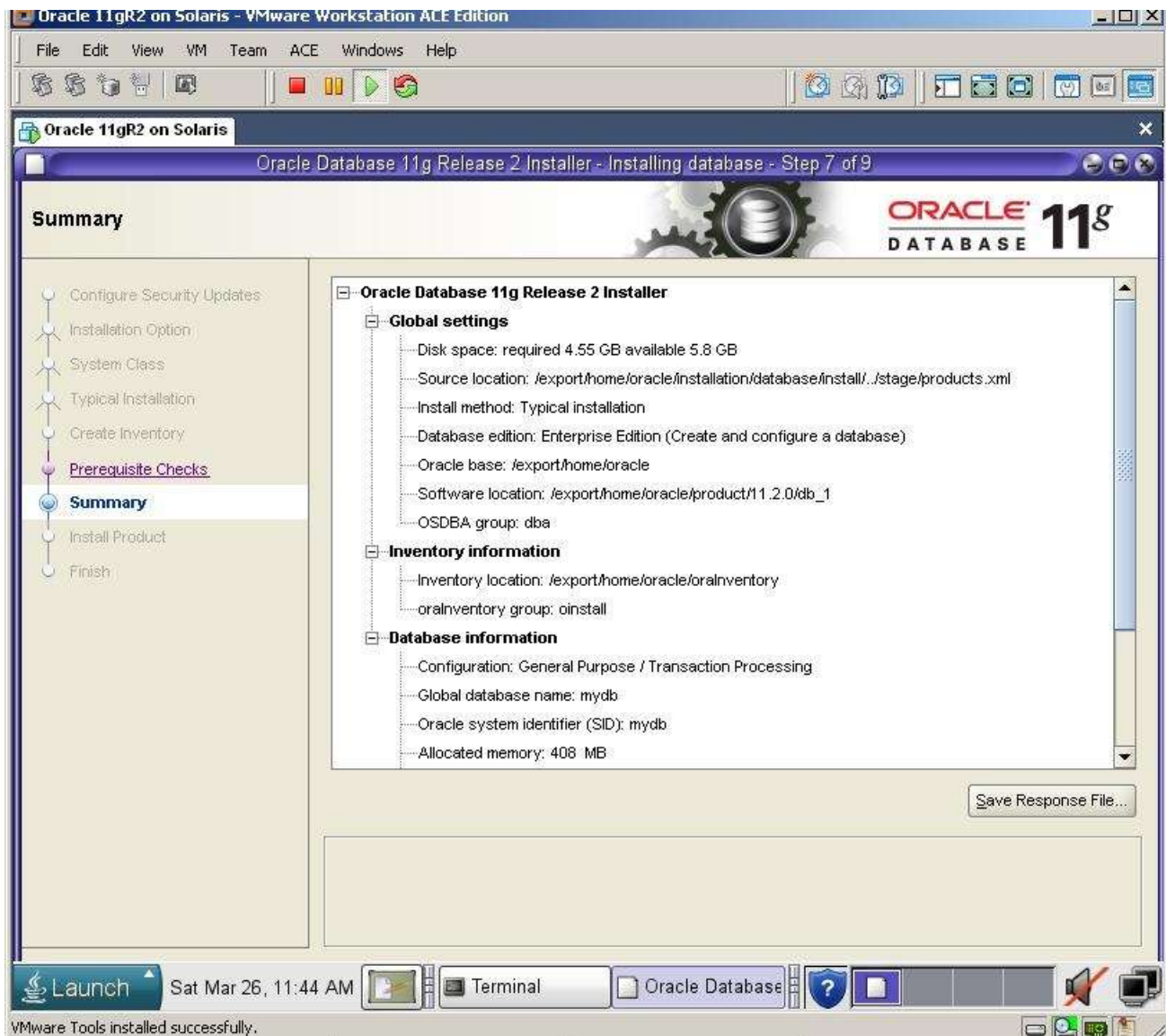
Click Next



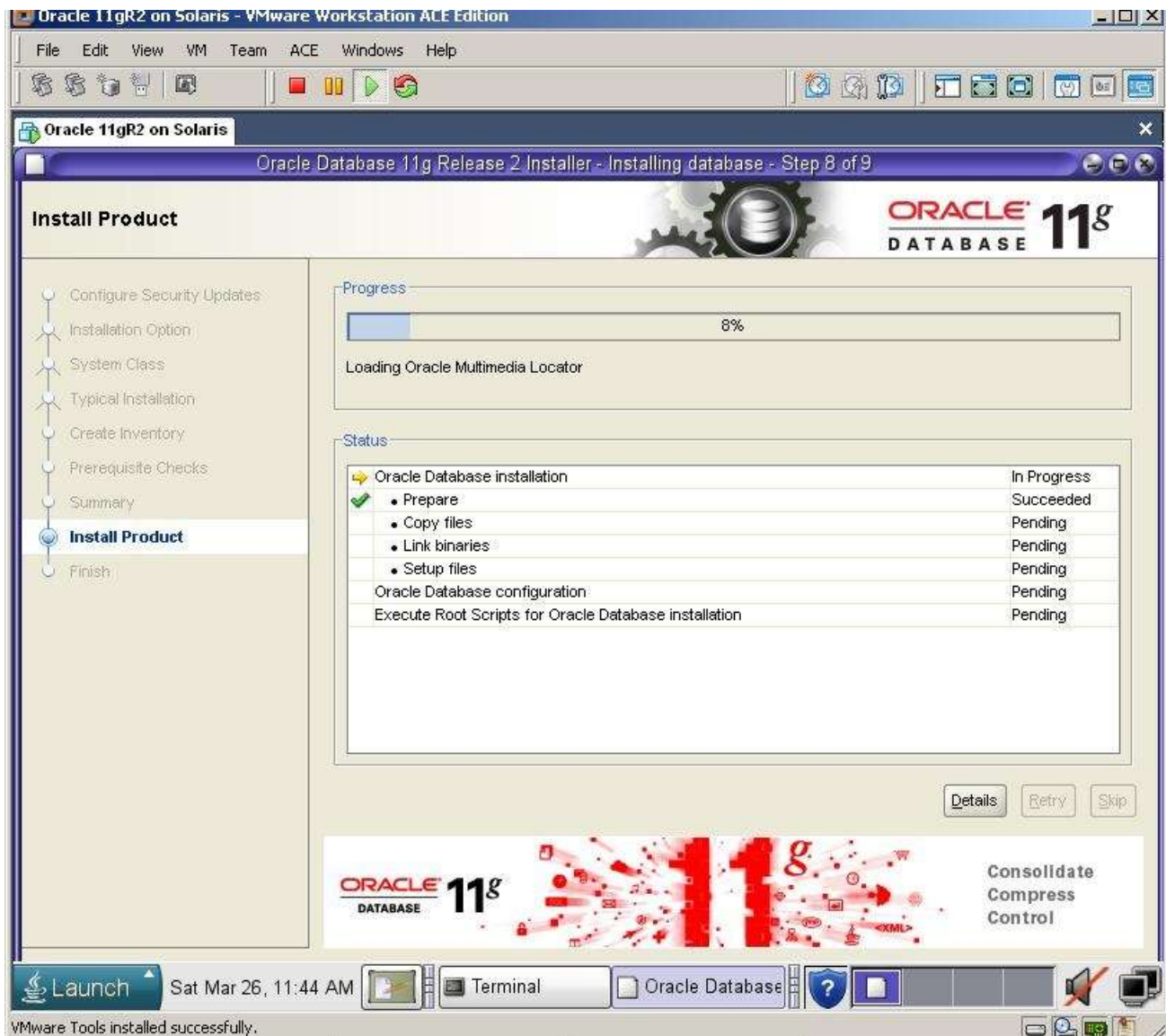
Defint the folder for Oracle installation, database name and passwords and click next

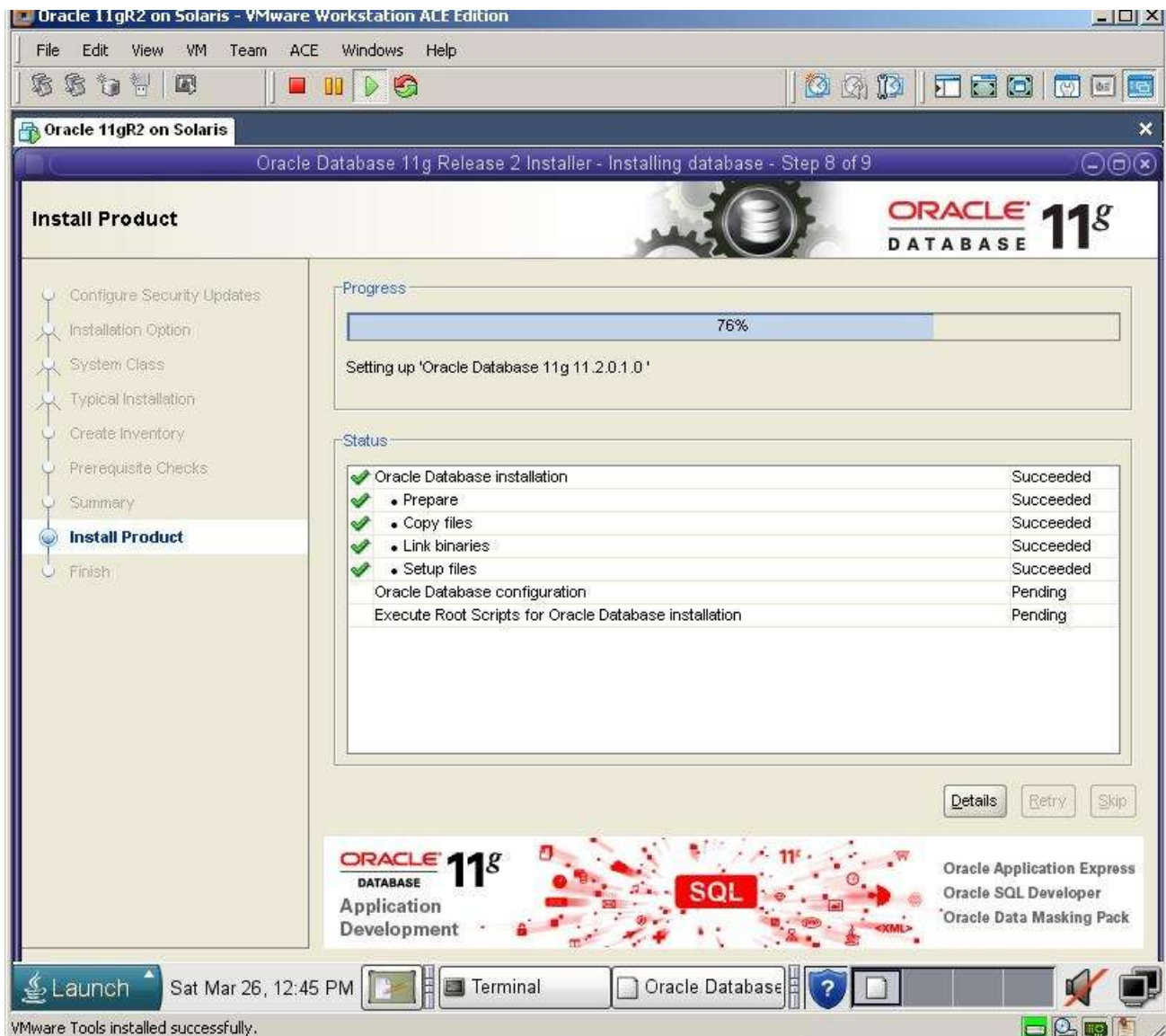


Click Next

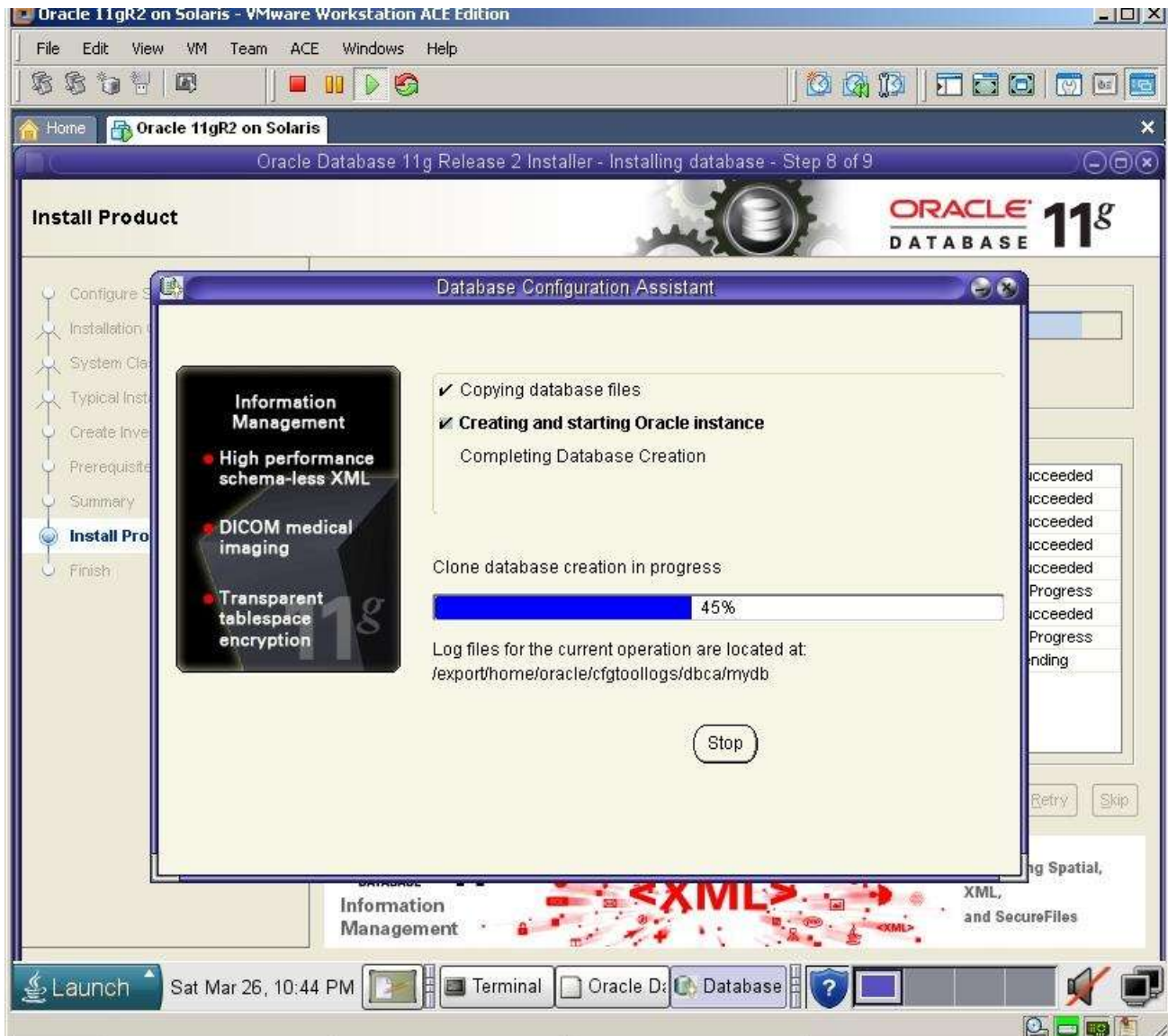


Click Finish to start the installation.

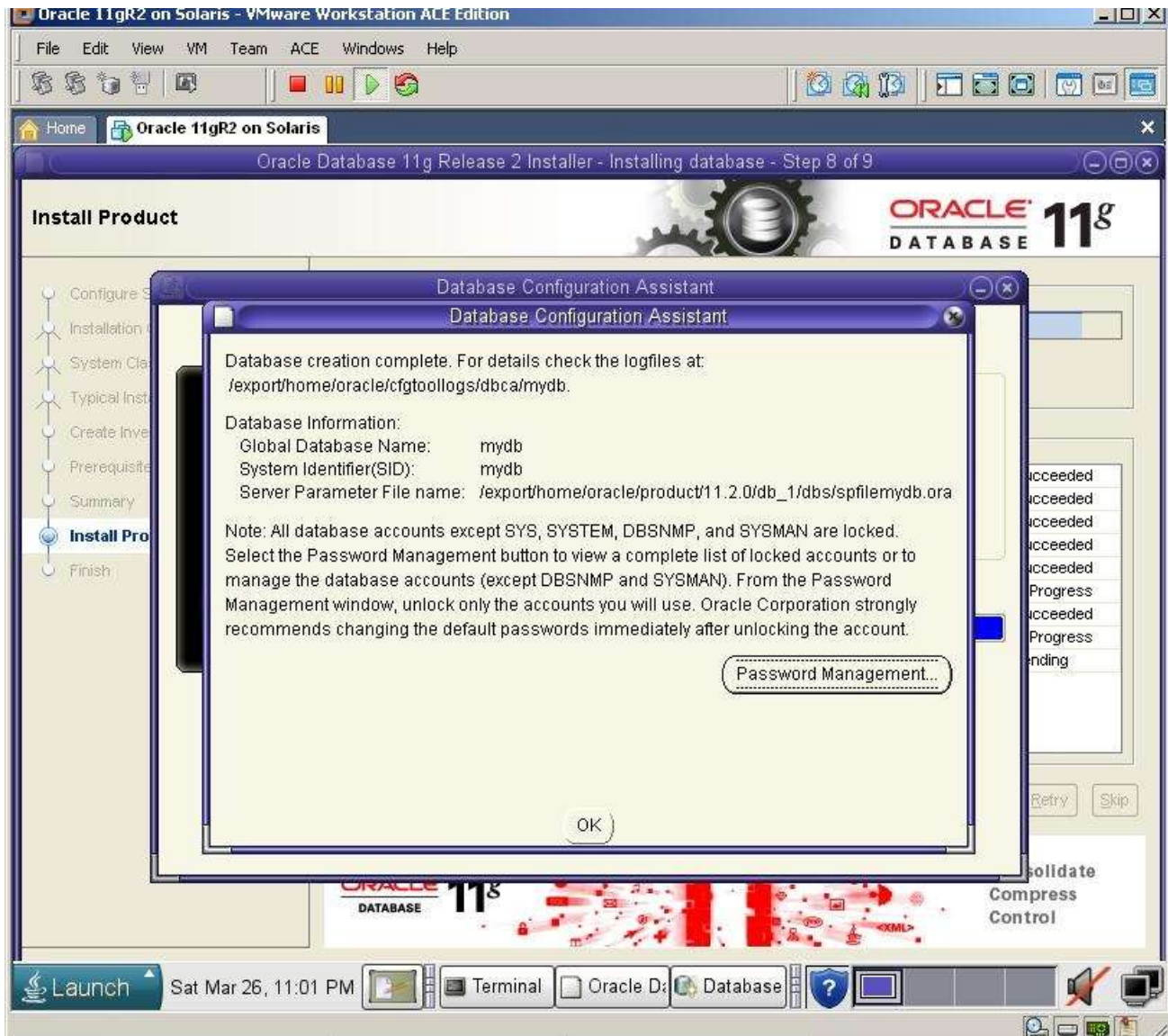




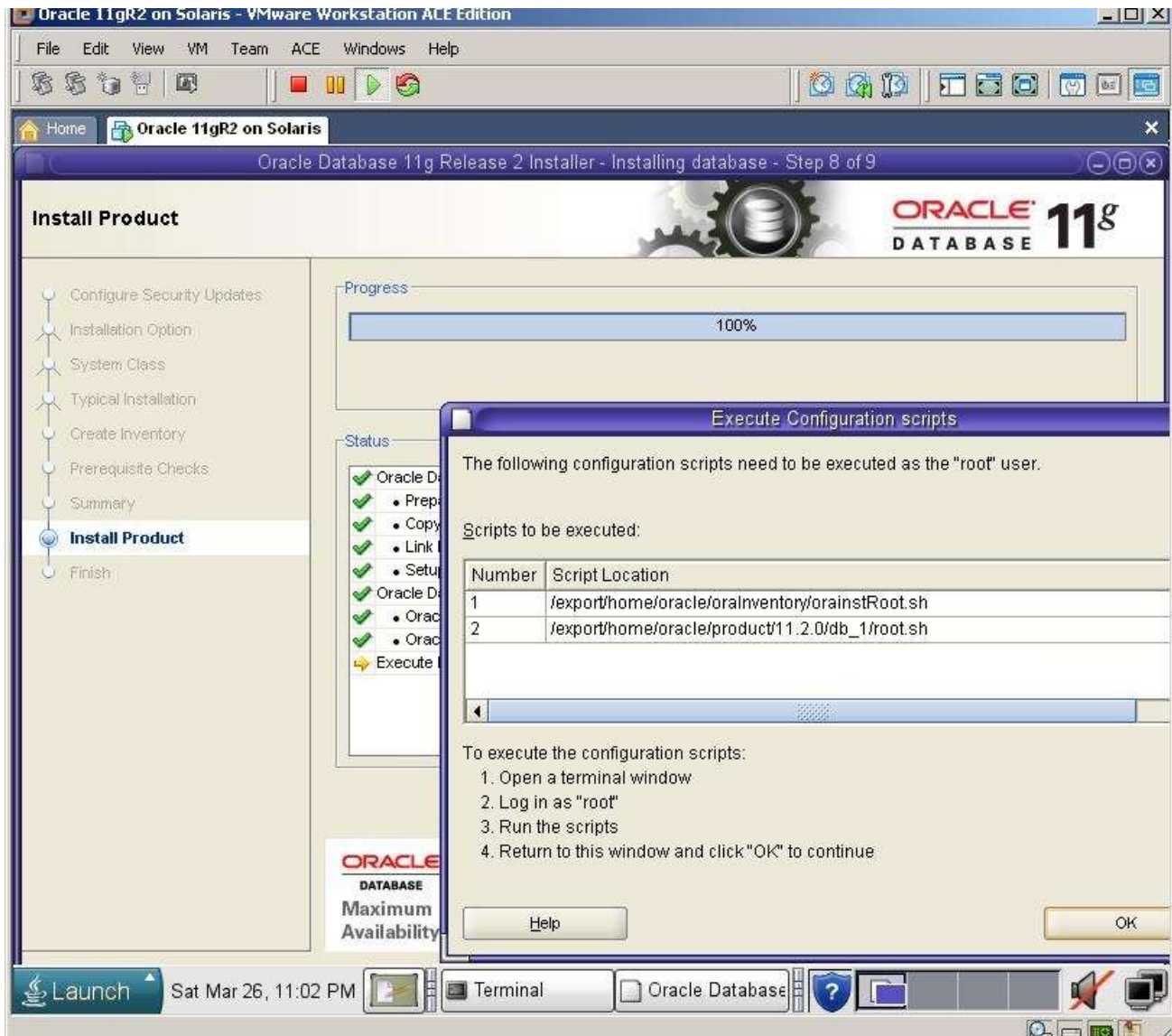
After the installation of the software finishes, installer automatically runs the DBCA to create the database



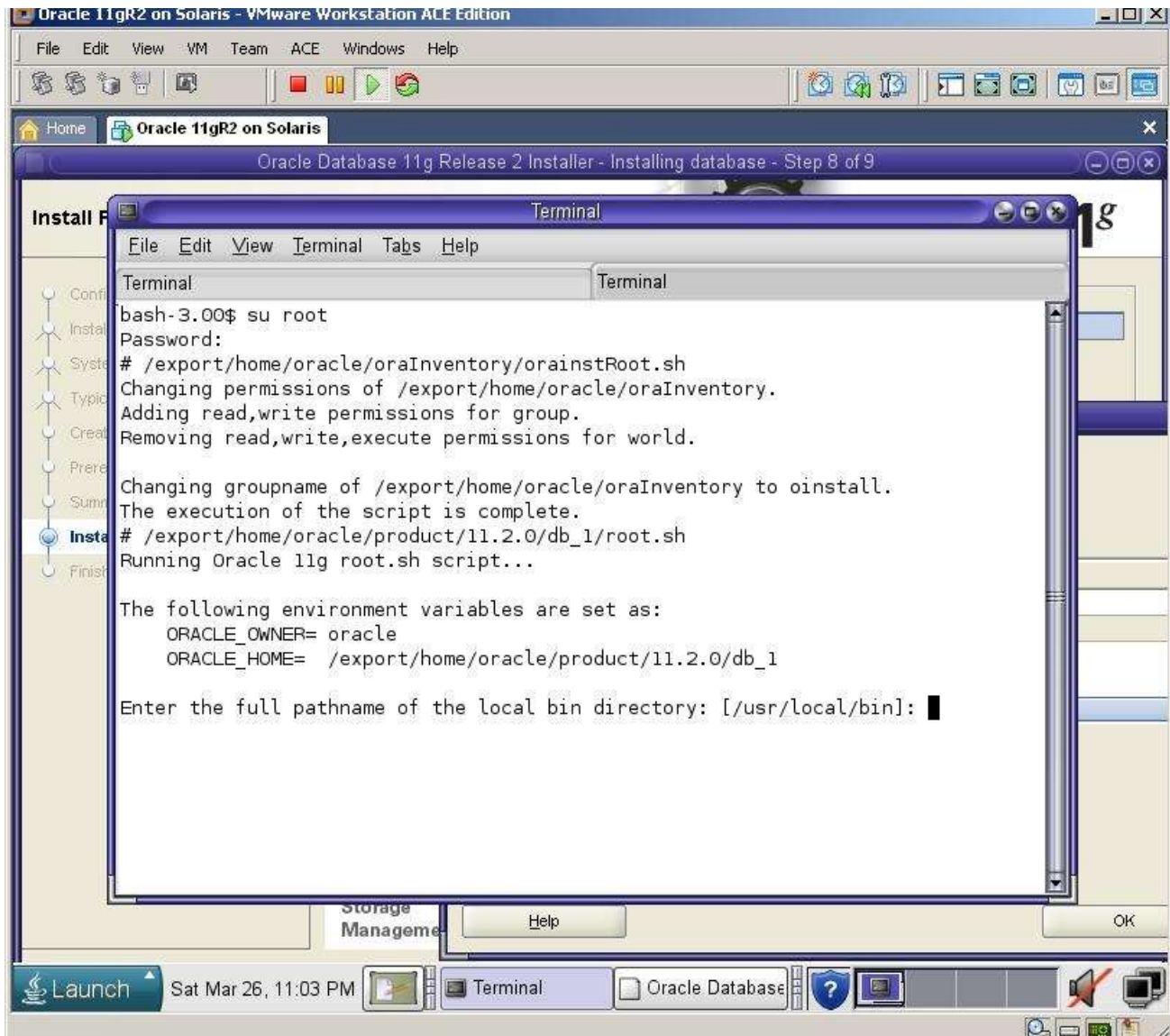
After a while, installation finishes.



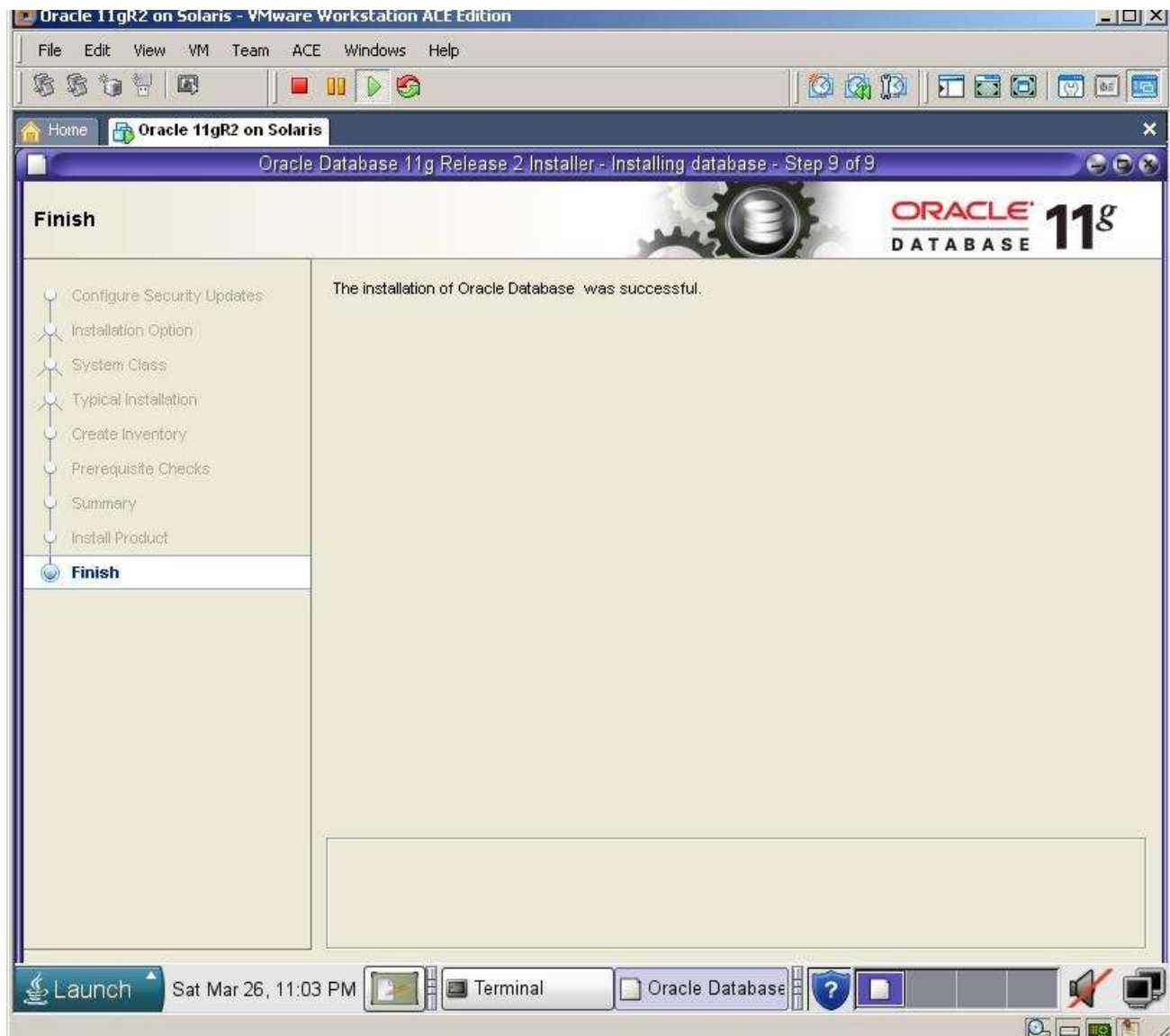
Click OK and you'll be prompted to run `orainstRoot.sh` and `root.sh`



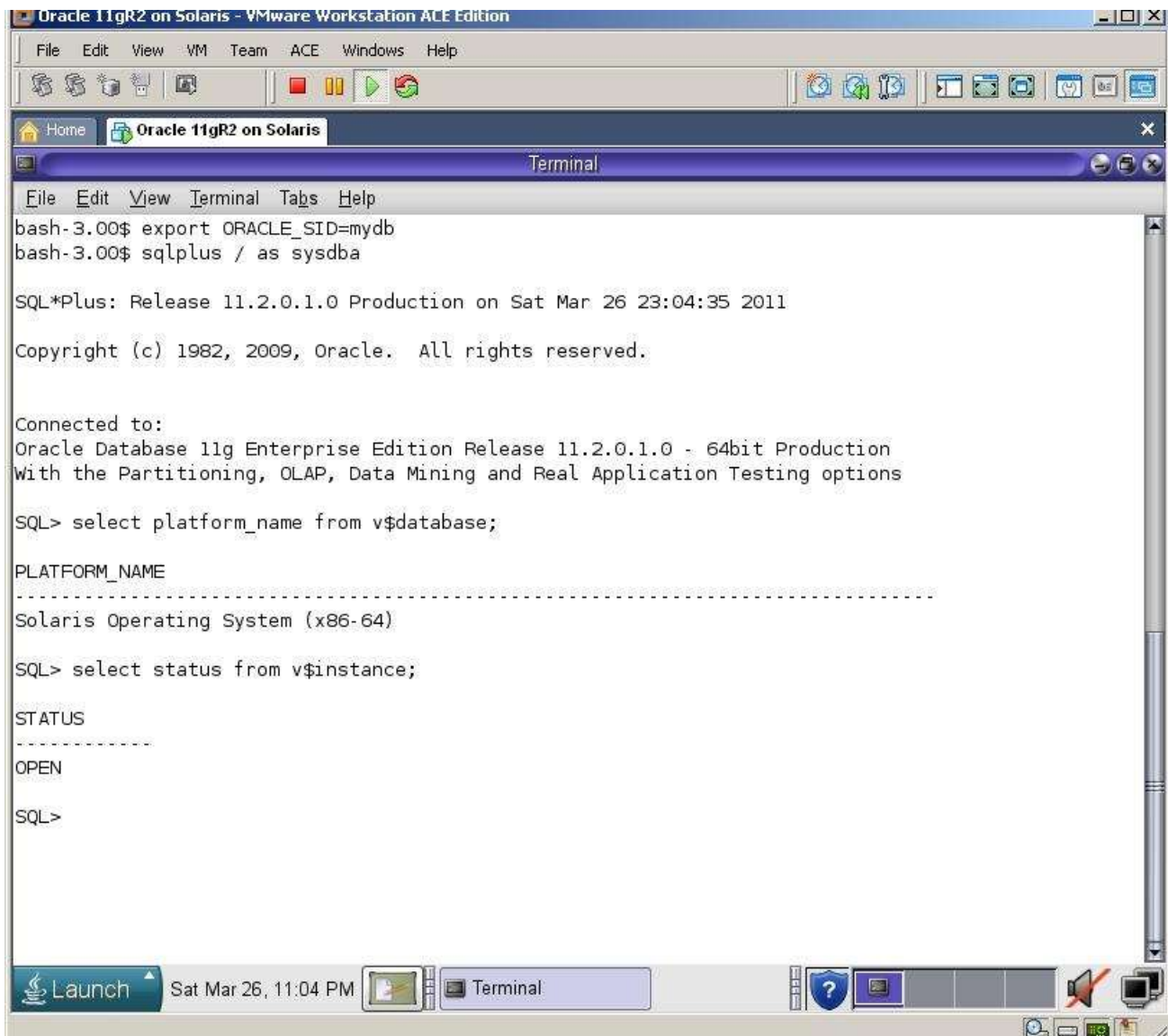
Switch to the previous Terminal, create new window, login with a root user and run both shell scripts



At last, you'll get success message



Now let's connect to the database from Sql*Plus



Oracle 11gR2 on Solaris - VMware Workstation ACE Edition

File Edit View VM Team ACE Windows Help

Home Oracle 11gR2 on Solaris

Terminal

```
File Edit View Terminal Tabs Help
bash-3.00$ export ORACLE_SID=mydb
bash-3.00$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.1.0 Production on Sat Mar 26 23:04:35 2011

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

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> select platform_name from v$database;

PLATFORM_NAME
-----
Solaris Operating System (x86-64)

SQL> select status from v$instance;

STATUS
-----
OPEN

SQL>
```

Launch Sat Mar 26, 11:04 PM Terminal