

Oracle 10g R2 (10.2.0.1)
on
SUSE Linux Enterprise Server 10

(How to Install)

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Introduction

Oracle 10g R2 is the latest release from Oracle and it's released on all supported SUSE Linux platforms. Oracle 10gR2 on SUSE Linux Enterprise Server 10 (SLES10) is certified, please check Oracle Metalink (<http://www.oracle.com/technology/support/metalink/index.html>) for official Oracle Support/Certification. This document is not a replacement of Oracle Installation manual but help you to install Oracle 10g R2 on SLES10.

In this paper, x86_64 version of both Oracle and SUSE Linux Server is used. Similar steps applies to other platforms (x86, ia64, etc.). If you encounter any problem, please post your question to suse-oracle@suse.com.

Note: Information provided here will work for SUSE Linux Enterprise Desktop 10 and SUSE LINUX Professional 10.1 (not supported in production environment).

Required Software and Reference Documents

Novell

- SUSE Linux Enterprise Server 10 (<http://www.novell.com/products/server/eval.html>)
- SUSE Linux Enterprise Server 10 Documentation (<http://www.novell.com/documentation/sles10/>)

Oracle

- Oracle Database 10g Release 2 (10.2.0.1) Enterprise/Standard Edition (<http://www.oracle.com/technology/software/products/database/oracle10g/index.html>)
- Oracle Database 10g Release 2 Documentation
<http://www.oracle.com/technology/documentation/database10gr2.html>

Hardware Requirements

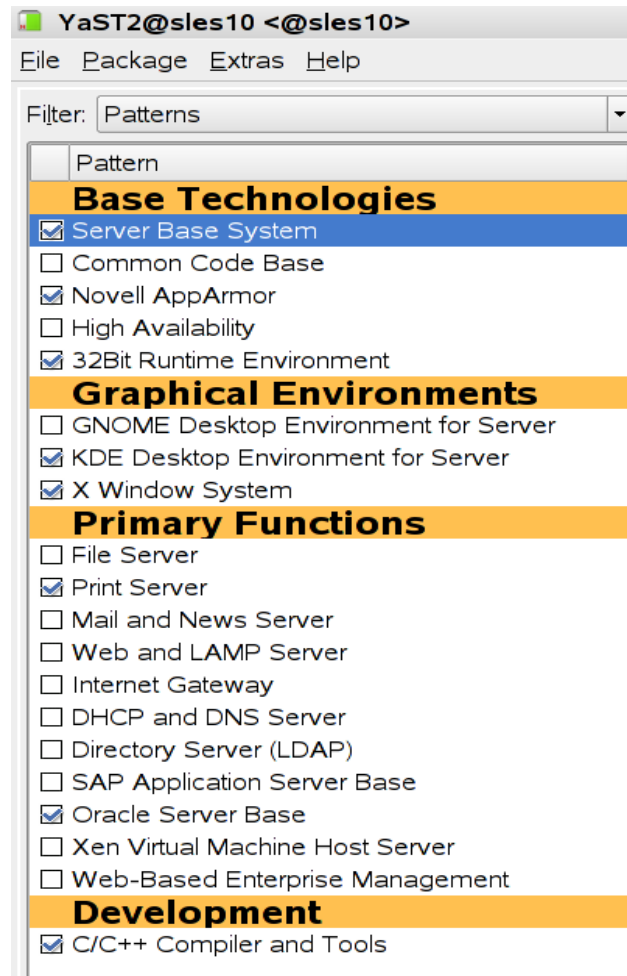
The system must meet the following minimum hardware requirements:

Requirement	Minimum Value
RAM	1024 MB
Swap space	Approx. twice the size of RAM
Disk space in /tmp	400 MB
Disk space for software files	3.5 GB
Disk space for database files	1.2 GB

Installation Steps

1. Install SUSE Linux Operating System

Follow the Installation instructions provided in the SLES10 install manual. SLES10 with default packages along with Oracle Server Base, and “C/C++ Compiler and Tools” is sufficient for Oracle 10g R2 (10.2.0.1) install. Oracle Server Base provides orarun package. Here is screen-shot from SLES10 (x86_64) server.



Check whether C/C++ compiler is installed using “gcc --version”. If gcc is not installed, then use YaST setup tool to install “C/C++ Compiler and Tools”.

2. Install SLES10 Service Pack (Future: When Service Pack is released)

At this point no Service Pack for SLES10 is released. Use SPident or 'cat /etc/SuSE-release' to verify.

```
oracle@sles10:~> cat /etc/SuSE-release
SUSE Linux Enterprise Server 10 (x86_64)
VERSION = 10
oracle@sles10:~> SPident -v

Summary                                (using 778 packages)
Product/ServicePack                    conflict  match  update  (shipped)
SLES-10-x86_64-current                  0      0%    778 100%    0      (2099 37.1%)

CONCLUSION: System is up-to-date!
found   SLES-10-x86_64-current
```

3. **/etc/hosts** - Comment out 127.0.0.2 and put your server's IP address.

```
# 127.0.0.2          sles10.novell.com sles10
192.168.0.2        sles10.novell.com sles10
```

4. Oracle Install prerequisites

SUSE provides orarun packages to automate most of the Oracle pre-install task. Refer to Oracle installation document for complete list of prerequisites.

orarun :

1. If you have selected “**Oracle Server Base**” option at install time, orarun package is already installed on your server.

For SUSE Linux Enterprise Desktop 10 and SUSE Linux Professional 10.1 products, you can download orarun package (<http://ftp.novell.com/partners/oracle/sles-10/>) and install manually.

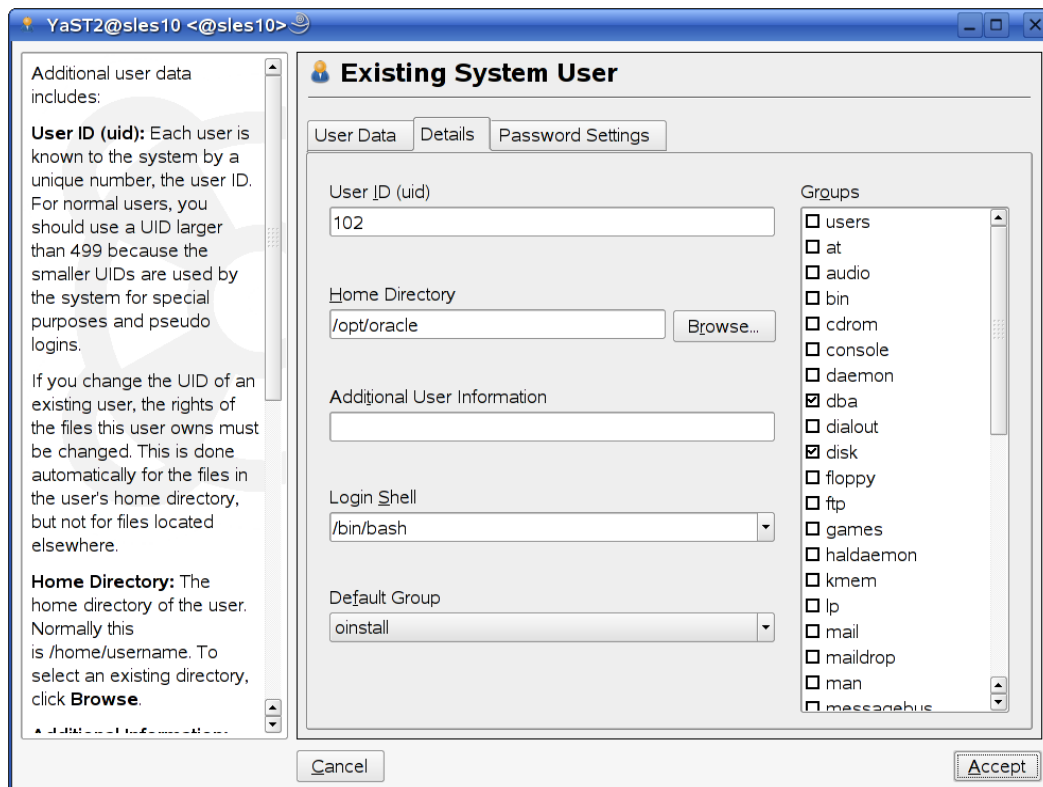
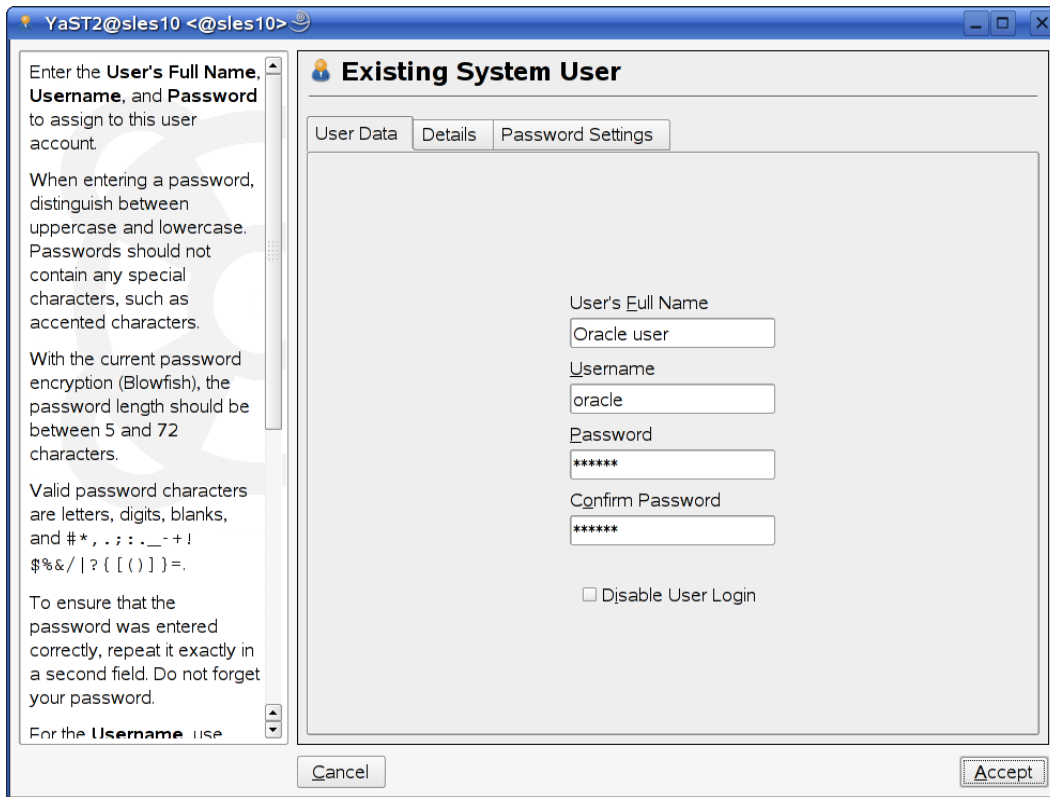
```
#rpm -ivh orarun-1.9-21.2.x86_64.rpm
```

2. The account for **oracle** user is disabled. Please enable it by:
 1. Changing the shell for the "oracle" user from "/bin/false" to "/bin/bash", either by editing the "/etc/passwd" file.
 2. Set a new password for user “oracle” i.e. “/usr/bin/passwd oracle”.

You can use SUSE setup tool YaST to accomplish above task.

/sbin/yast2 -> “security and Users” -> ”Edit and create groups”
(Select users tab and set “System Users” filter to see oracle user.)

Following are the screen shots of “oracle” user properties:



3. Change Default Oracle environment set by orarun (If required)

1. Change Oracle home directory by editing ORACLE_HOME variable in “/etc/profile.d/oracle.sh” file. **ORACLE_HOME=**
\$ORACLE_BASE/product/10.2/db_1
2. Default ORACLE_SID set by orarun install is “**orcl**”. Change it to your preferred name in “/etc/profile.d/oracle.sh” file.

Note: Oracle Installer will ask this database name and it should match to ORACLE_SID to avoid any problem.

4. Run “**/usr/sbin/rcoracle start** “ to set kernel parameters. Ignore ORACLE_HOME not set message as this will get fixed once Oracle 10g is installed.
5. Exit from current session and login as new “**oracle**” user. Following is a snap-shot verifying current user:

```
oracle@sles10:~> id
uid=102(oracle) gid=103(oinstall) groups=6(disk),103(oinstall),104(dba)
oracle@sles10:~> █
```

5. Oracle 10g R2 Installation

Get Oracle 10g R2 (10.2.0.1) Software from oracle web site depending on your platform ([10201_database_linux_x86_64.cpio.gz](#)) and extract files:

```
#gunzip 10201_database_linux_x86_64.cpio.gz
#cpio -idmv < 10201_database_linux_x86_64.cpio
```

1. Make sure you are logged in as “**oracle**” user.
2. Run Oracle Universal installer : `./runInstaller`

You will get error . Do any of the following to fix this:

1. Modify “database/install/oraparam.ini” file to add support for SUSE Linux 10. After modifying oraparam.ini file “[Certified Versions]” line will look like:

```
[Certified Versions]
Linux=redhat-3,SuSE-9,SuSE-10,redhat-4,UnitedLinux-1.0,asianux-1,asianux-2
```

2. Install with option `-ignoreSysPrereqs`
i.e. `./runInstaller -ignoreSysPrereqs`

3. You can modify /etc/SuSE-release file.

```
SUSE Linux Enterprise Server 10 (x86_64)
VERSION = 10

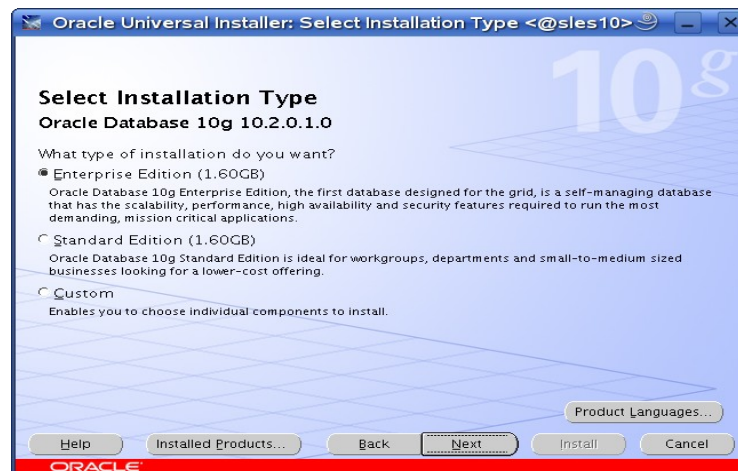
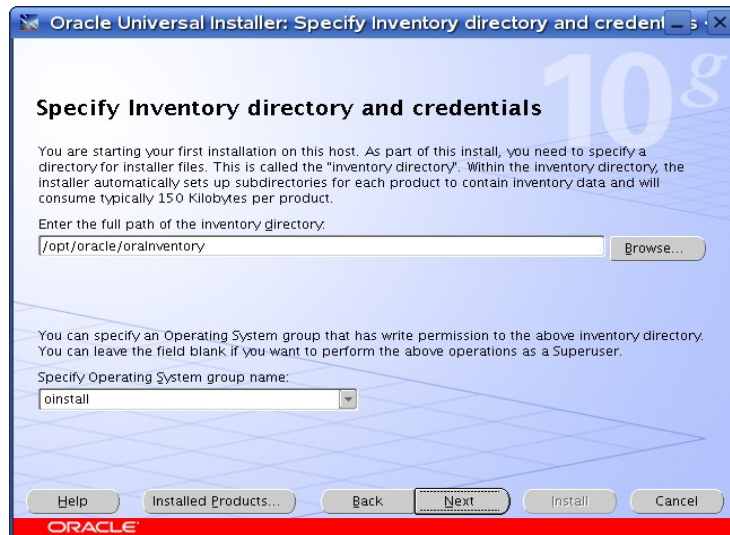
to

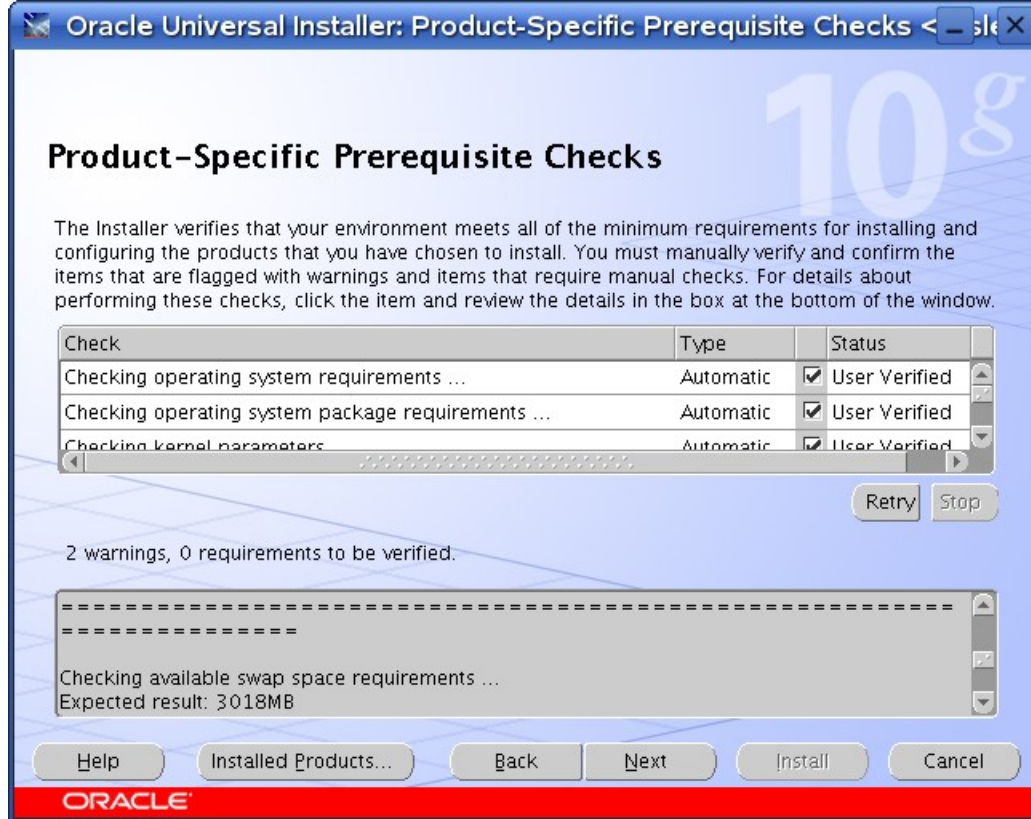
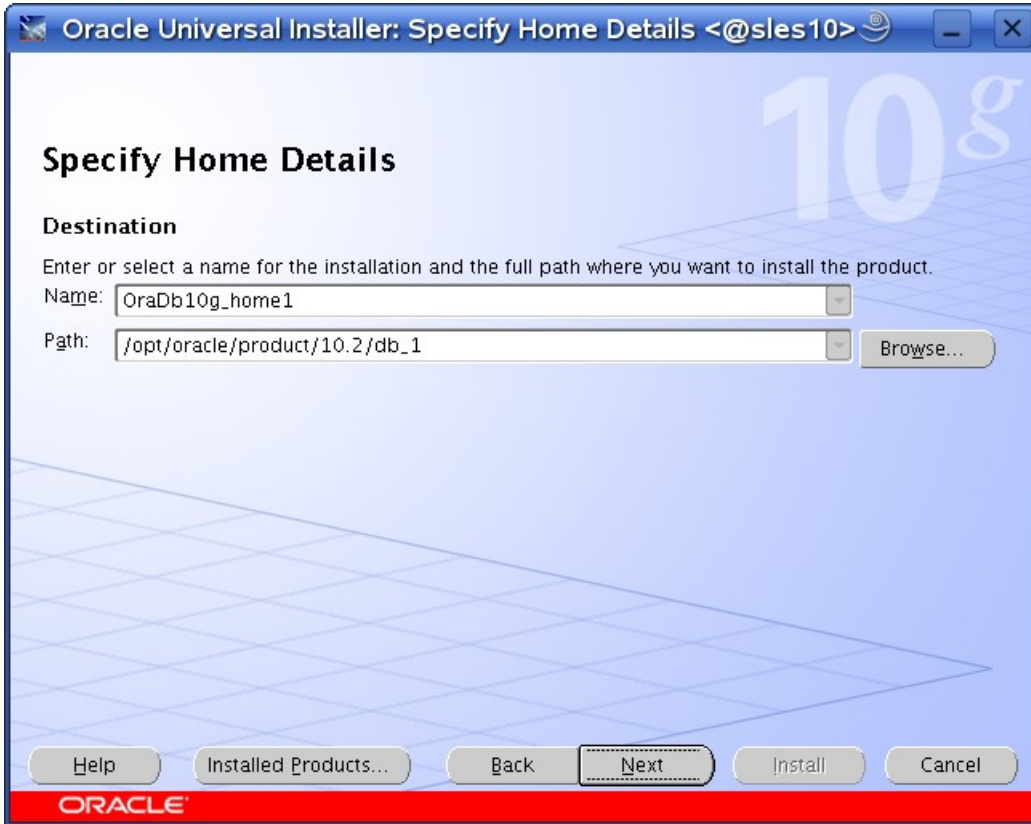
SUSE Linux Enterprise Server 9 (x86_64)
VERSION = 9
```

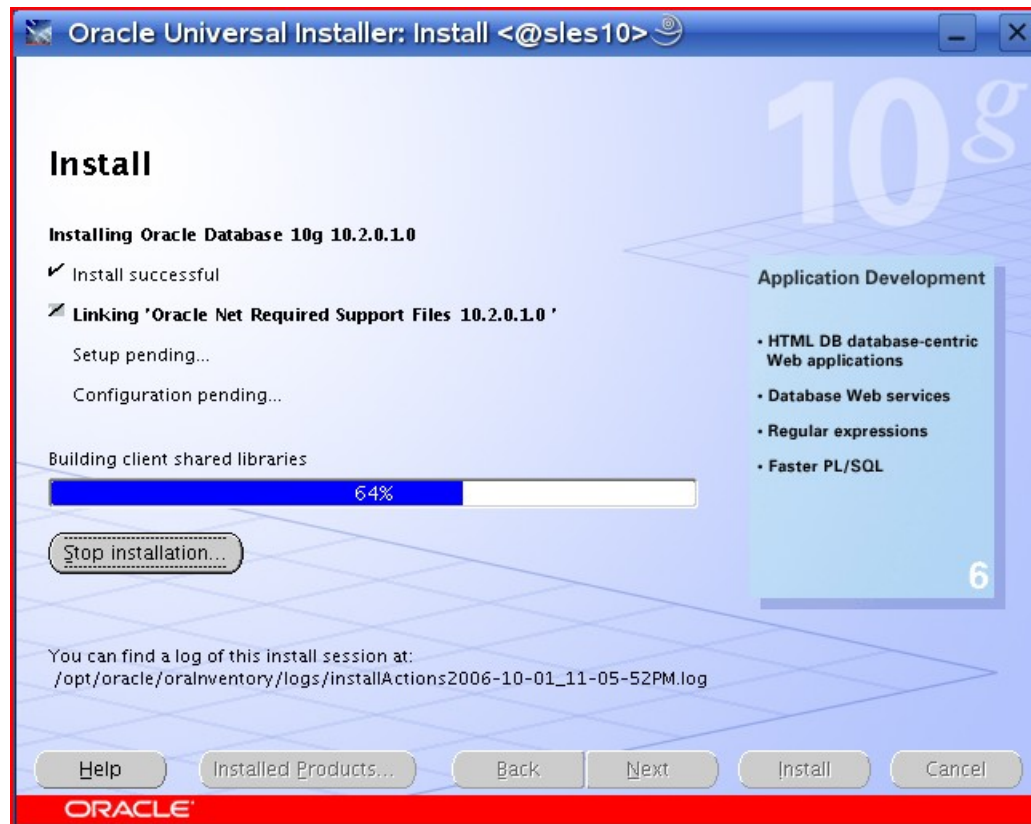
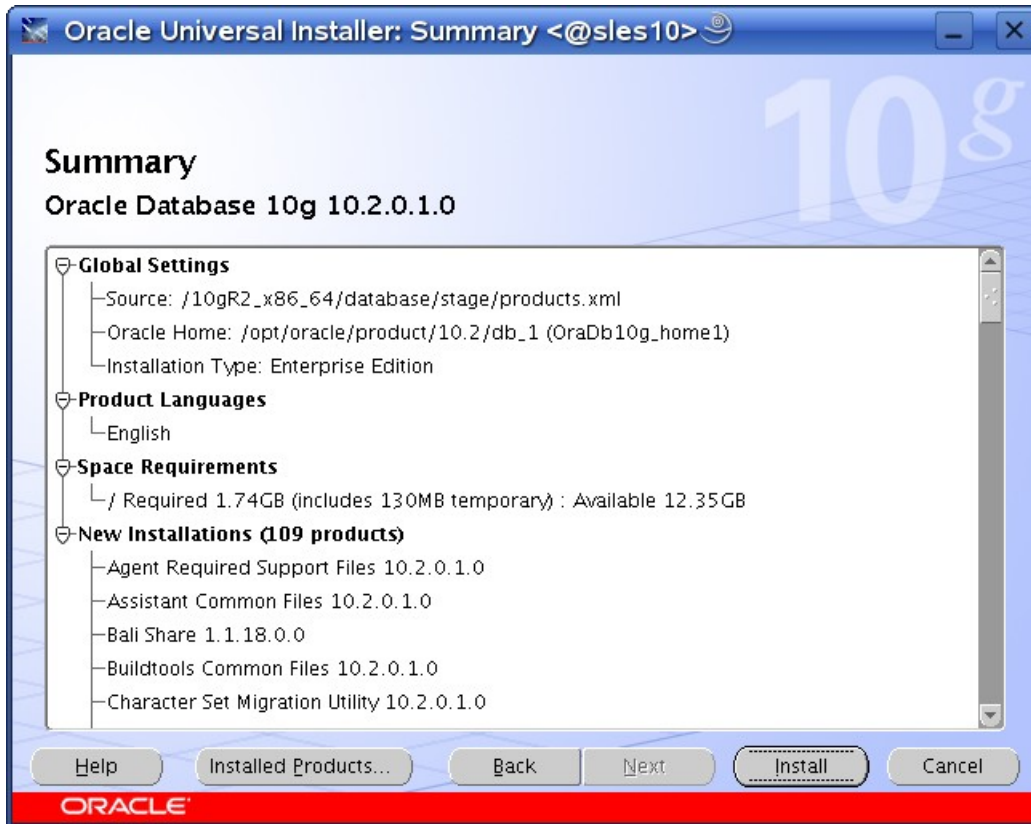
Note: Don't forget to create back-up and restore once Oracle installation is done to avoid other problems.

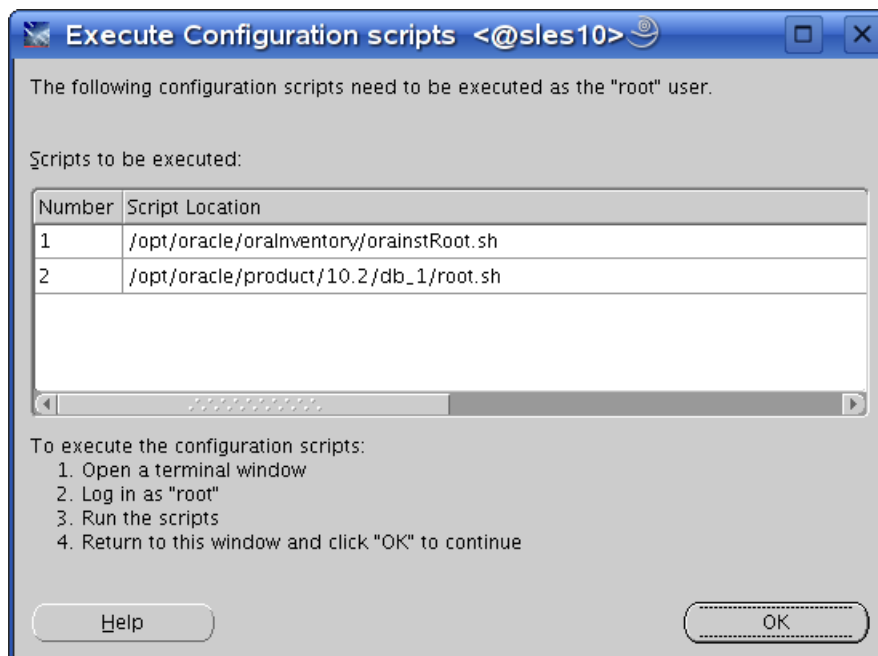
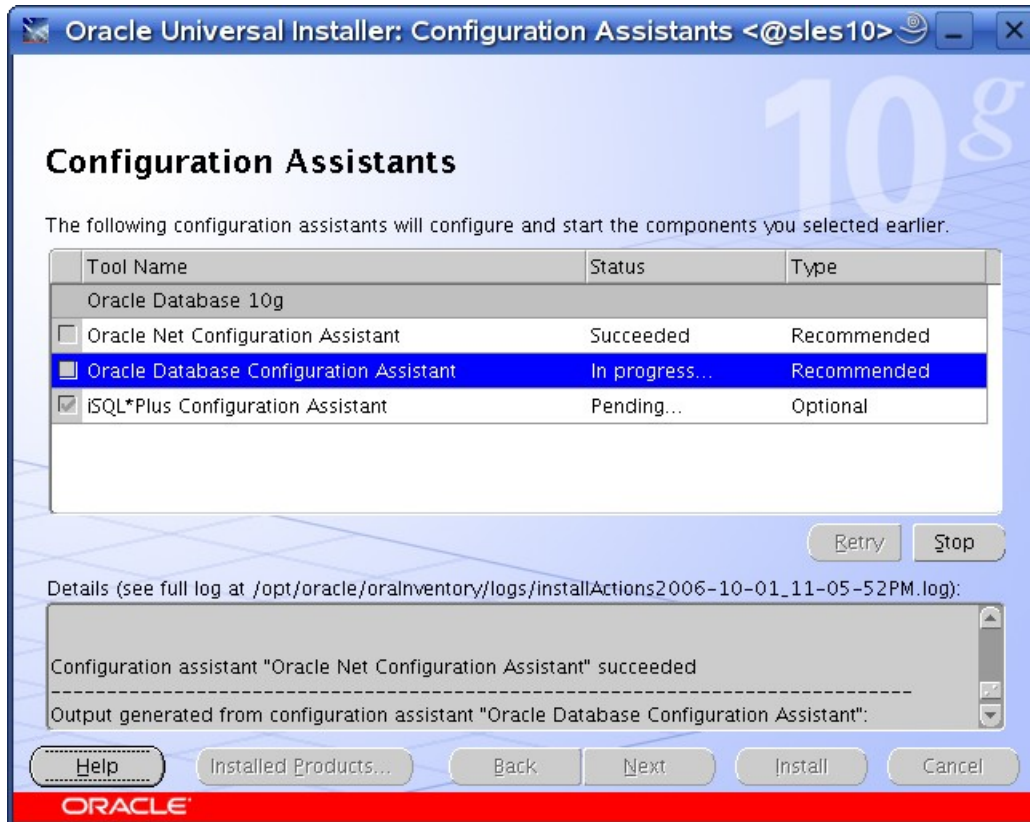
If you are installing from CD mounted as /media/cdrom then “cd /tmp && /media/cdrom/runInstaller” will be helpful.

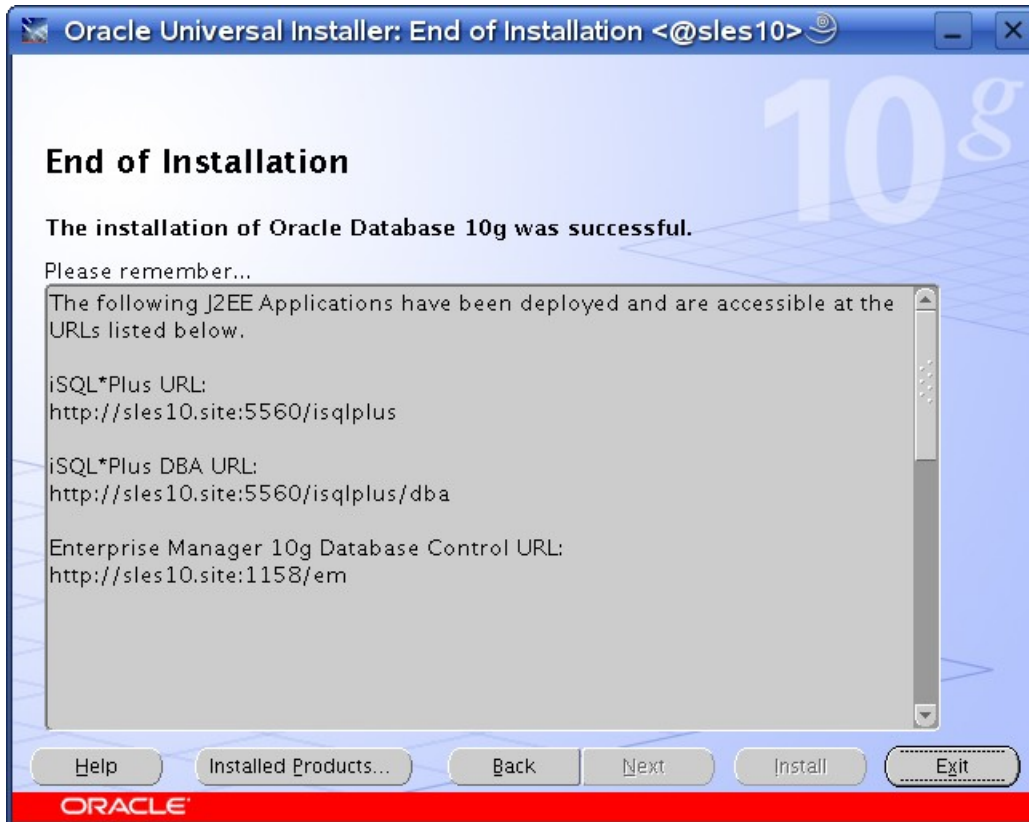
Installation will walk you through with self explanatory instructions. Here are screen-shots from simple Oracle 10g Installation:











6. Un-Installing incomplete Installation : Clean-up

Oracle Installer will give you an option to remove installed product but sometimes your installation is not complete and you would like to restart the clean installation. Here are some quick and dirty steps to clean-up your system:

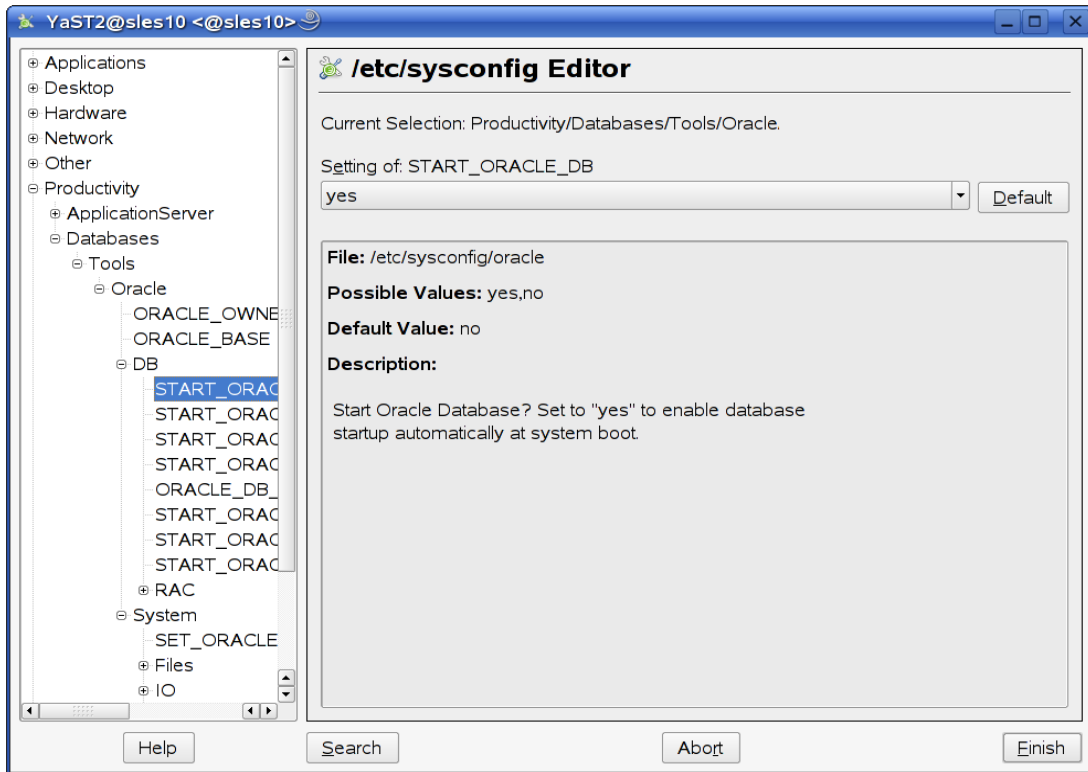
1. Remove `/usr/local/bin/{coraenv, dbhome, oraenv}`
2. Remove `/etc/oratab`, `/etc/orainst.loc`, and `/etc/oracle` directory
3. Remove all files created by Oracle installer in `/opt/oracle` (Install Directory) i.e. Directory `/opt/oracle/{product, admin, oradata, oraInventory}`

7. Oracle Database Start at boot time

Set parameter `START_ORACLE_DB="yes"` in `/etc/sysconfig/oracle` file. You can edit file `/etc/sysconfig/oracle` manually or use YaST setup tool to change oracle specific parameters.

`/sbin/yast2->System->/etc/sysconfig Editor ->Productivity->Databases`

1. Edit `/etc/oratab` entry corresponding to your database to "Y".
2. Edit `dbstart`, `dbshut` and `dbhome` scripts to reflect correct location for `ORATAB` entry. i.e `ORATAB=/etc/oratab`

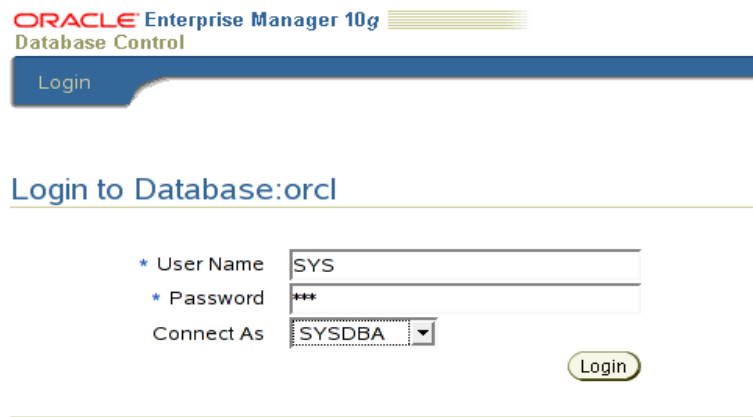


8. Oracle Enterprise Manager

1. Start Enterprise Manager services, if is not running: "emctl start dbconsole"

Note: If you want to start dbconsole services at boot-time, then set Listener (START_ORACLE_DB_LISTENER) and Enterprise Manager parameter (START_ORACLE_DB_EMANAGER) in /etc/sysconfig/oracle to yes.

2. Use Enterprise Manager web interface (<http://localhost:1158/em>) to perform routine database administration and performance tuning tasks.



Oracle Enterprise Manager (SYS) - Database Instance: orcl

Database Control

Database Instance: orcl

Home Performance Administration Maintenance

Page Refreshed Oct 1, 2006 11:47:36 PM (Refresh) View Data Automatically (60 sec)

General

Status **Up** (Shutdown)

Up Since **Oct 1, 2006 11:23:57 PM PDT**

Instance Name **orcl**

Version **10.2.0.1.0**

Host **sles10.site**

Listener **LISTENER_sles10.site**

[View All Properties](#)

Host CPU

Load **0.06** Paging **0.01** Maximum CPU **4**

Active Sessions

Wait User I/O CPU

SQL Response Time

Baseline is empty. (Reset Baseline)

Diagnostic Summary

ADDM Findings **No ADDM run available**

All Policy Violations **6**

Alert Log **No ORA- errors**

Space Summary

Database Size (GB) **Unavailable**

Problem Tablespaces **0**

Segment Advisor **Details**

Recommendations **Details**

Space Violations **0**

Dump Area Used (%) **40**

High Availability

Instance Recovery Time (sec) **6**

Last Backup **n/a**

Usable Flash Recovery Area (%) **100**

Flashback Logging **Disabled**

Alerts

Category All (Go) Critical **0** Warning **0**

Severity	Category	Name	Message	Alert Triggered
(No alerts)				

[Related Alerts](#)

Job Activity

Jobs scheduled to start no more than 7 days ago

Scheduled Executions **0** Running Executions **0** Suspended Executions **0** Problem Executions **0**

Home Performance Administration Maintenance

Related Links

Done

9. sqlplus: Startup and Shutdown of the Oracle10g Database (Manual)

From diagnostic point of view it is very important to check sqlplus is functioning properly. If not then your installation is having problems.

```

oracle@sles10:~ - Shell - Konsole
Session Edit View Bookmarks Settings Help
oracle@sles10:~$ sqlplus "connect as sysdba"

SQL*Plus: Release 10.2.0.1.0 - Production on Sun Oct 1 23:41:10 2006

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

Enter password:

Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - 64bit Production
With the Partitioning, OLAP and Data Mining options

SQL> show sga

Total System Global Area 603979776 bytes
Fixed Size 2022632 bytes
Variable Size 171967256 bytes
Database Buffers 423624704 bytes
Redo Buffers 6365184 bytes
SQL> exit

Disconnected from Oracle Database 10g Enterprise Edition Release 10.2.0.1.0 - 64bit Production
With the Partitioning, OLAP and Data Mining options
oracle@sles10:~$

```

1. To startup the database:
sles10\$ sqlplus /nolog
SQL> connect / as sysdba
SQL> startup

2. To shutdown the database:
sles10\$ sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown

Note: "/" connects you to the schema owned by SYS with the privilege SYSDBA.

10. Async I/O : Enable by Default

Unlike previous releases AIO is enable by default. You can disable/enable using init.ora parameter (filesystemio_options).

11. Known Problem - Workaround

1. **dbstart:** Set correct ORACLE_HOME_LISTNER path to avoid listener error.
2. **Applying SLES10 SP1:** There are reports that glibc-devel-32bit was missing after applying SP1. Please make sure glibc-devel-32bit package is installed to avoid linking errors during Oracle Software Installation.

History:

Date	Changes
10/20/2006	Initial Document created.
09/17/2007	Updated Section #8 (Oracle Enterprise Manager)
12/11/2007	Added SLES10 SP1 in Known Problem Section

Enjoy!