Introduction to Oracle 10*g* R1 (10.1.0.3)
on
SUSE LINUX Professional 9.3

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Introduction

This paper is designed to help you get started with Oracle 10g on SUSE LINUX 9.3. This will help you to work on latest SUSE OS and latest Oracle Database 10g from Oracle. Oracle 10g is supported and certified only on SUSE LINUX Enterprise Server (SLES) but occasionally for development and testing purposes you will prefer to have it up and running on your desktop for quick access. Instruction provided here will also work on SUSE LINUX 9.2.

Hardware Requirements

The system must meet the following minimum hardware requirements:

Requirement	Minimum Value
RAM	512 MB
Swap space	Approx. twice the size of RAM
Disk space in /tmp	400 MB
Disk space for software files	2.5 GB (2621440 KB)
Disk space for database files	1.2 GB

Required Software

You need SUSE LINUX 9.3 and Oracle 10g. Also, Novell/SUSE orarun package will help you to make Oracle pre-Install task simple.

Novell/SUSE

1. Novell SUSE LINUX 9.3 (ftp install location: ftp://ftp.suse.com/pub/suse/i386/9.3/)

2. orarun : Get latest version from (http://ftp.novell.com/partners/oracle/sles-9/)

3. Novell/SUSE Documents are available here:
   http://www.novell.com/documentation/

4. For more "Oracle on SUSE" related information visit
   http://www.novell.com/oracle .

Oracle

Oracle database 10g R1(10.1.0.3) Software is available for download from Oracle web site. File name: ship.db.lnx32.cpio.gz .

1. URL to Download:
   (http://www.oracle.com/technology/software/products/database/oracle10g/h

tdocs/linuxsoft.html).

2. Oracle Documents are available on
   http://www.oracle.com/technology/documentation/database10g.html)

3. Oracle Development Tools : http://www.oracle.com/tools/index.html

Installation Steps

1. Install SUSE LINUX Operating System

Follow the Installation instructions provided in the SUSE LINUX 9.3 installation manual. We will focus on Oracle related component and make sure you meet Oracle software space requirement.

SUSE LINUX 9.3 with default packages along with "C/C++ Compiler and Tools" is sufficient for Oracle 10g R1 (10.1.0.3) install. Here is snap-shot from my system.

Check whether C/C++ compiler is installed. "gcc --version" will show "gcc (GCC) 3.3.3 (SUSE LINUX)". If gcc is not installed, then use YaST setup tool to install "C/C++ Compiler and Tools".

```
sl93:/mnt/temp # gcc --version
gcc (GCC) 3.3.5 20050117 (prerelease) (SUSE Linux)
Copyright (C) 2003 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

sl93:/mnt/temp # █
```

2. Oracle Install prerequisites

Refer to Oracle installation document for complete list of prerequisites.
Novell/SUSE provides orarun packages to automate most of the Oracle pre-
install task. orarun package is not included in SUSE LINUX 9.3 as this is for
SUSE LINUX Enterprise Server.

Note: orarun is only available on x86. You can use orarun on other
platforms (x86-64), but on these platforms please comment out the
following line from the file "/etc/profile.d/oracle.sh" and "/etc/init.d/oracle":
`#test -d /lib/i686 && export LD_ASSUME_KERNEL=2.2.5`

orarun :

1. Install orarun package. It will ask to install dependent packages first.

     # rpm -ivh --nodeps orarun-1.8-109.12.i586.rpm

2. Install libaio, libaio-devel and pdksh from SUSE LINUX 9.3 media.

3. Please ignore xshared not available conflict reported by YaST. here is
   snap-shot:

4. Now orarun package is installed. Please enable newly created "oracle"
   user for Oracle 10g installation.

1. The account for oracle user is disabled. Enable it, by changing the shell for the "oracle" user from "/bin/false" to "/bin/bash", either by using YaST setup tool or 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 tasks.

/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:

5. Now set your Oracle environment variables.

1. Change Oracle home directory by editing ORACLE_HOME variable in

"/etc/profile.d/oracle.sh" file.
ORACLE_HOME=$ORACLE_BASE/product/10g
2. Default ORACLE_SID set by orarun install is "mydb". Change it to your preferred name in "/etc/profile.d/oracle.sh" file.

6. 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.

7. Exit from current root user session and login as new "**oracle**" user. Following is snap-shot verifying current user.

```
oracle@sl92:~ - Shell - Konsole <2>
Session  Edit  View  Bookmarks  Settings  Help
oracle@sl93:~> id
uid=59(oracle) gid=54(oinstall) groups=6(disk),54(oinstall),55(dba)
oracle@sl93:~>
```

3. Oracle 10g R1 (10.1.0.3) Installation

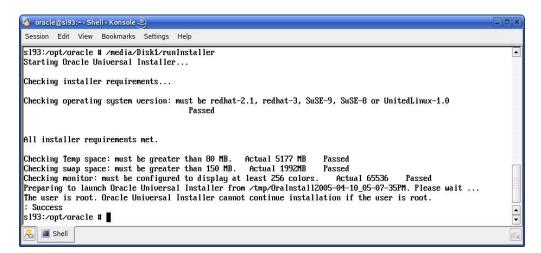1. Get Oracle 10g R1 (10.1.0.3) Software from oracle web or use your Oracle Database 10g CD. If you have downloaded SW (ship.db.lnx32.cpio.gz) then use gunzip and cpio to extract files:

a) gunzip ship.db.lnx32.cpio.gz
b) cpio -idmv < ship.db.lnx32.cpio

2. Make sure you are logged in as "**oracle**" user.
You will get following Oracle Install error If logged as a root:

```
oracle@sl93:~ - Shell - Konsole
Session  Edit  View  Bookmarks  Settings  Help
sl93:/opt/oracle # /media/Disk1/runInstaller
Starting Oracle Universal Installer...

Checking installer requirements...

Checking operating system version: must be redhat-2.1, redhat-3, SuSE-9, SuSE-8 or UnitedLinux-1.0
                              Passed


All installer requirements met.

Checking Temp space: must be greater than 80 MB.   Actual 5177 MB    Passed
Checking swap space: must be greater than 150 MB.   Actual 1992MB    Passed
Checking monitor: must be configured to display at least 256 colors.   Actual 65536    Passed
Preparing to launch Oracle Universal Installer from /tmp/OraInstall2005-04-10_05-07-35PM. Please wait ...
The user is root. Oracle Universal Installer cannot continue installation if the user is root.
: Success
sl93:/opt/oracle #
```

3. Run Oracle Universal installer : ./runInstaller
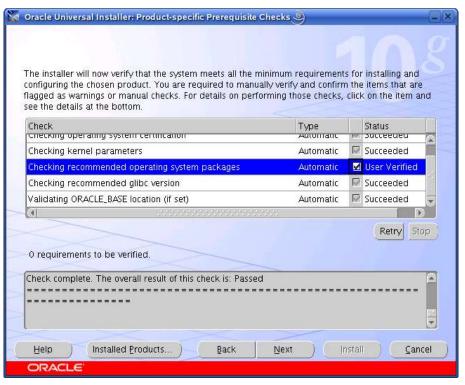
If you are installing from CD mounted as /media/cdrom then "cd /tmp && /media/cdrom/runInstaller" will be helpful.

Note: SUSE LINUX 9.3 comes with latest version of openmotif package. Please ignore openmotif warning and continue with the installation.

4. Installation will walk you through with self explanatory instructions. Here are screen-shots from simple Oracle 10g Installation:
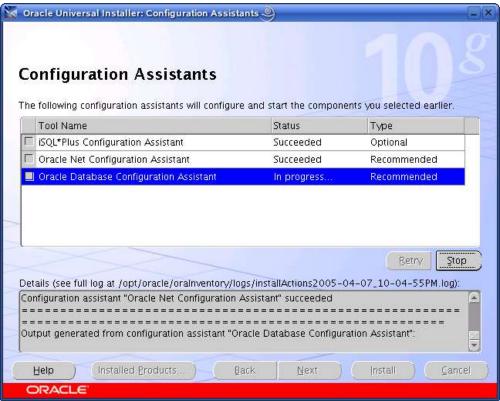
Oracle Universal Installer: Product-specific Prerequisite Checks

The installer will now verify that the system meets all the minimum requirements for installing and configuring the chosen product. You are required to manually verify and confirm the items that are flagged as warnings or manual checks. For details on performing those checks, click on the item and see the details at the bottom.

Check	Type	Status
Checking operating system certification	Automatic	☑ Succeeded
Checking kernel parameters	Automatic	☑ Succeeded
Checking recommended operating system packages	Automatic	☑ User Verified
Checking recommended glibc version	Automatic	☑ Succeeded
Validating ORACLE_BASE location (if set)	Automatic	☑ Succeeded

Retry Stop

0 requirements to be verified.

```
Check complete. The overall result of this check is: Passed
=================================================================
===============
```

Help   Installed Products...   Back   Next   Install   Cancel

ORACLE

Oracle Universal Installer: Summary

Summary

Oracle Database 10g 10.1.0.3.0

- **Global Settings**
  - Source: /media/Disk1/install/../stage/products.xml
  - Oracle Home: /opt/oracle/product/10g (OUIHome1)
  - Installation Type: Enterprise Edition
- **Product Languages**
  - English
- **Space Requirements**
  - / Required 1.78GB (includes 129MB temporary) : Available 7.51GB
- **New Installations (151 products)**
  - Advanced Queueing (AQ) API 10.1.0.3.0
  - Advanced Replication 10.1.0.3.0
  - Agent Required Support Files 10.1.0.3.0
  - Assistant Common Files 10.1.0.3.0
  - Authentication and Encryption 10.1.0.3.0

Help   Installed Products...   Back   Next   Install   Cancel

ORACLE

Install

✔ Copy successful

✔ Link successful

✔ Setup successful

Configuration pending...

Application Development

- HTML DB database-centric Web applications
- Database Web services
- Regular expressions
- Faster PL/SQL

instantiating '/opt/oracle/product/10g/olap/admin/catawxml.sql'.

`71%`

[Stop installation...]

You can find a log of this install session at:
/opt/oracle/oralnventory/logs/installActions2005-04-07_10-04-55PM.log

[Help] [Installed Products...] [Back] [Next] [Install] [Cancel]

ORACLE

Configuration Assistants

The following configuration assistants will configure and start the components you selected earlier.

	Tool Name	Status	Type
☐	iSQL*Plus Configuration Assistant	Succeeded	Optional
☐	Oracle Net Configuration Assistant	Succeeded	Recommended
■	Oracle Database Configuration Assistant	In progress...	Recommended

[Retry] [Stop]

Details (see full log at /opt/oracle/oralnventory/logs/installActions2005-04-07_10-04-55PM.log):

Configuration assistant "Oracle Net Configuration Assistant" succeeded
==
==
Output generated from configuration assistant "Oracle Database Configuration Assistant":

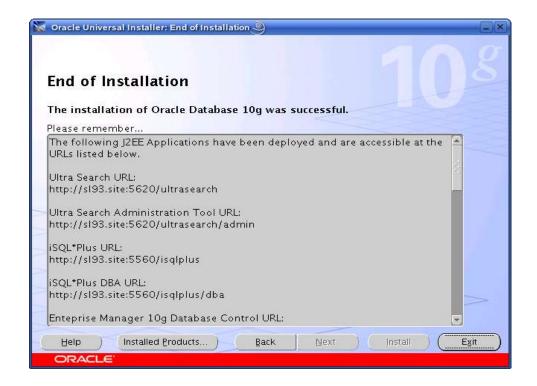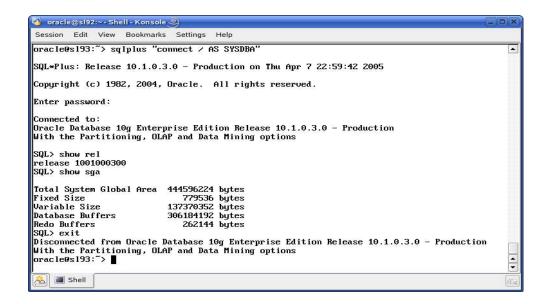[Help] [Installed Products...] [Back] [Next] [Install] [Cancel]

ORACLE

4. **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.
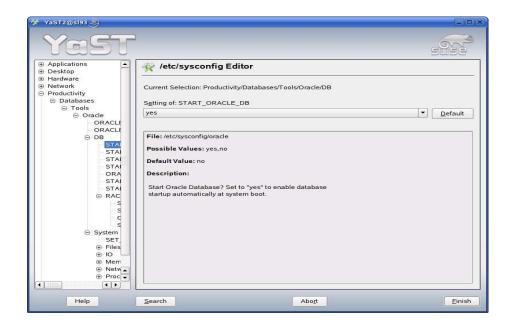

1. To startup the database:
   sl93$ sqlplus /nolog
   SQL> connect / as sysdba
   SQL> startup

2. To shutdown the database:
      sl93$ sqlplus /nolog
      SQL> connect / as sysdba
      SQL> shutdown

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

5. 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".
      i.e. mydb:/opt/oracle/product/10g:Y

2. Edit dbstart, dbshut and dbhome scripts to reflect correct location for ORATAB entry. i.e ORATAB=/etc/oratab

Note: If you are lazy in editing /etc/oratab entries then following will do:
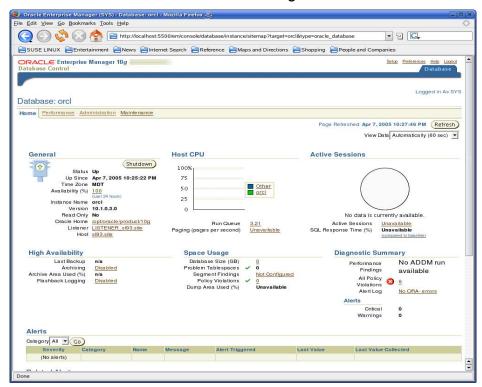#ln -s /etc/oratab /var/opt/oracle/oratab

3. Create symbolic link to start Apache Server.
    #ln -s /usr/lib/libdb.so.3 /usr/lib/libdb.so.2

6. Oracle Enterprise Manager

1. Start Oracle listener, If it is not already started by "lsnrctl start". If it fails, then make sure your listener.ora file has proper SID_DESC entry.

```
# listener.ora Network Configuration File: /
opt/oracle/product/10gR1/network/admin/listener.ora
# Generated by Oracle configuration tools.
...
   (SID_DESC =
     (SID_NAME = orcl)
     (ORACLE_HOME = /opt/oracle/product/10gR1)
     (GLOBAL_NAME = ORCL)
   )
....
```

2. If dbconsole Oracle services is not started, then start it manually by entering following command "emctl start dbconsole".

3. Enterprise Manager web interface (http://localhost:5500/em) to perform routine database administration and tuning tasks.

Conclusion

This is first step in getting familiar with Oracle Database. Enjoy and don't forget Oracle 10g is only supported and certified to be used on SUSE LINUX Enterpriser Server.