

Oracle Database (11gR2 & 12cR1) on SUSE Linux Enterprise Server 12 SP2

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Sept. 2016

Introduction

This document is to help you understand minor difference you may encounter while installing Oracle Database on SUSE Linux Enterprise Server 12. This document covers x86_64 version but installation steps are same for other platforms. We will use latest certified versions of Oracle Database Enterprise version 12cR1 (12.1.0.2) and 11gR2 (11.2.0.4).

Oracle Software

Oracle Database Enterprise version 12.1.0.2 is available for public download at: <http://www.oracle.com/technetwork/database/enterprise-edition/downloads/database12c-linux-download-2240591.html>

Oracle Database Enterprise version 11.2.0.4 (Patch Set) is complete release and available via Oracle Support web site (<http://support.oracle.com>).

Installation

Install SUSE Linux Enterprise Server 12 SP2 with “**Oracle Server Base**” pattern. You can follow official Oracle Installation manual for selective required rpms.



```
oracle@s12-sp2:~  
File Edit View Search Terminal Help  
oracle@s12-sp2:~> uname -a  
Linux s12-sp2 4.4.19-60-default #1 SMP Fri Aug 26 12:54:34 UTC 2016 (a3a3ea6)  
x86_64 x86_64 x86_64 GNU/Linux  
oracle@s12-sp2:~> cat /etc/os-release  
NAME="SLES"  
VERSION="12-SP2"  
VERSION_ID="12.2"  
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"  
ID="sles"  
ANSI_COLOR="0;32"  
CPE_NAME="cpe:/o:suse:sles:12:sp2"  
oracle@s12-sp2:~> env |grep ORA  
ORACLE_SID=orcl  
ORACLE_BASE=/opt/oracle  
ORACLE_HOME=/opt/oracle/product/11gR2/db  
oracle@s12-sp2:~> 
```

1. Installing Oracle Database 11.2.0.4

Please use Oracle 11gR2 Installation Guide for SLES11 SP1 (http://ftp.suse.com/pub/partners/oracle/docs/11gR2_sles11_sp1_install.pdf), to get familiar with installation process.

1. Download 11.2.0.4 SW (p13390677_112040_Linux-x86-64_1of7 & p13390677_112040_Linux-x86-64_2of7) & unzip locally.

2. Set `CV_ASSUME_DISTID=SUSE11` in `database/stage/cvu/cv/admin/cvu_config`
3. Start Oracle Installer: `database/runInstaller`
4. Watch for following minor error/warning messages:

1. Prerequisite Checks - **Ignore (Check newer version is installed)**

Oracle Database 11g Release 2 Installer - Installing database - Step 9 of 12

Perform Prerequisite Checks

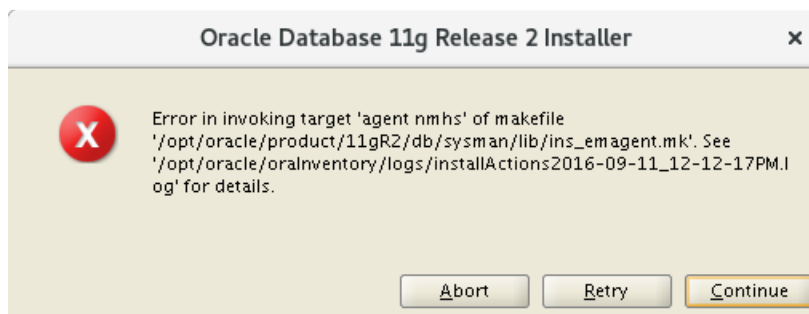
Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.

Ignore All

Checks	Status	Fixable
Checks		
OS Kernel Parameters	Succeeded	
Packages		
Package: gcc-c++-4.3 (x86_64)	Ignored	No
Package: libaio-0.3.104	Ignored	No
Package: ksh-93t	Ignored	No
Package: libstdc++33-3.3.3	Ignored	No
Package: libstdc++43-devel-4.3.3_20081022	Ignored	No
Package: libstdc++46-4.6.1_20110701	Ignored	No
Package: libgcc46-4.6.1_20110701	Ignored	No

This is a prerequisite condition to test whether the minimum required OS kernel parameters are configured on the system. ([more details](#))

2. Linking Error - "ins_emagent.mk" - **Fix & Retry**



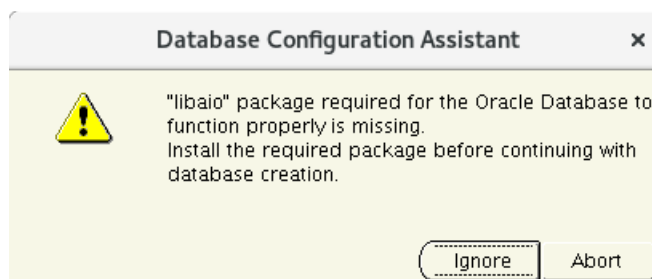
To solve this problem do following changes as user Oracle:

Edit \$ORACLE_HOME/sysman/lib/ins_emagent.mk, search for the line \$(MK_EMAGENT_NMECTL) and replace the line with \$(MK_EMAGENT_NMECTL) -lnnz11

```
oracle@sle12:~/product/11gR2/db/sysman/lib> diff ins_emagent.mk ins_emagent.mk.bak
176c176
<      $(MK_EMAGENT_NMECTL) -lnnz11
---
>      $(MK_EMAGENT_NMECTL)
oracle@sle12:~/product/11gR2/db/sysman/lib> █
```

then click "Retry" button to continue.

3. dbca - libaio missing – Ignore



Oracle Database 11gR2 Working Screen:

```

oracle@s1s12-sp2:~
File Edit View Search Terminal Help

oracle@s1s12-sp2:~> sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Sun Sep 11 12:42:54 2016

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> show sga

Total System Global Area 1.0088E+10 bytes
Fixed Size                2261928 bytes
Variable Size             1711279192 bytes
Database Buffers          8355053568 bytes
Redo Buffers              19595264 bytes
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
oracle@s1s12-sp2:~>

```

Oracle Enterprise Manager (SYS) - Database Instance: orcl.suse - Mozilla Firefox

Oracle Enterprise Manag... x

http://s1s12-sp2.suse:1158/em/console/database/instance/sitema

Most Visited SUSE Getting Started Latest Headlines Mozilla Firefox

ORACLE Enterprise Manager 11g Database Control Setup Preferences Help Logout Database

Logged in As SYS

Database Instance: orcl.suse

Home Performance Availability Server Schema Data Movement Software and Support

Page Refreshed Sep 11, 2016 2:36:06 PM PDT Refresh View Data Automatically (60 sec)

General

↑ Shutdown Black Out

Status **Up**

Up Since **Sep 11, 2016 12:31:57 PM PDT**

Instance Name **orcl**

Version **11.2.0.4.0**

Host **s1s12-sp2.suse**

Listener **LISTENER_s1s12-sp2.suse**

[View All Properties](#)

Host CPU

Load **0.00** Paging **0.00**

Active Sessions

Core Count **12**

SQL Response Time

Reference collection is empty.

SQL Response Time Unavailable (%)

[Reset Reference Collection](#)

Diagnostic Summary

ADDM Findings **0**

Alert Log **No ORA- errors**

Active Incidents **0**

Key SQL Profiles **0**

[Database Instance Health](#)

Space Summary

Database Size (GB)	1.687
Problem Tablespaces	0
Segment Advisor Recommendations	0
Policy Violations	0
Dump Area Used (%)	37

High Availability

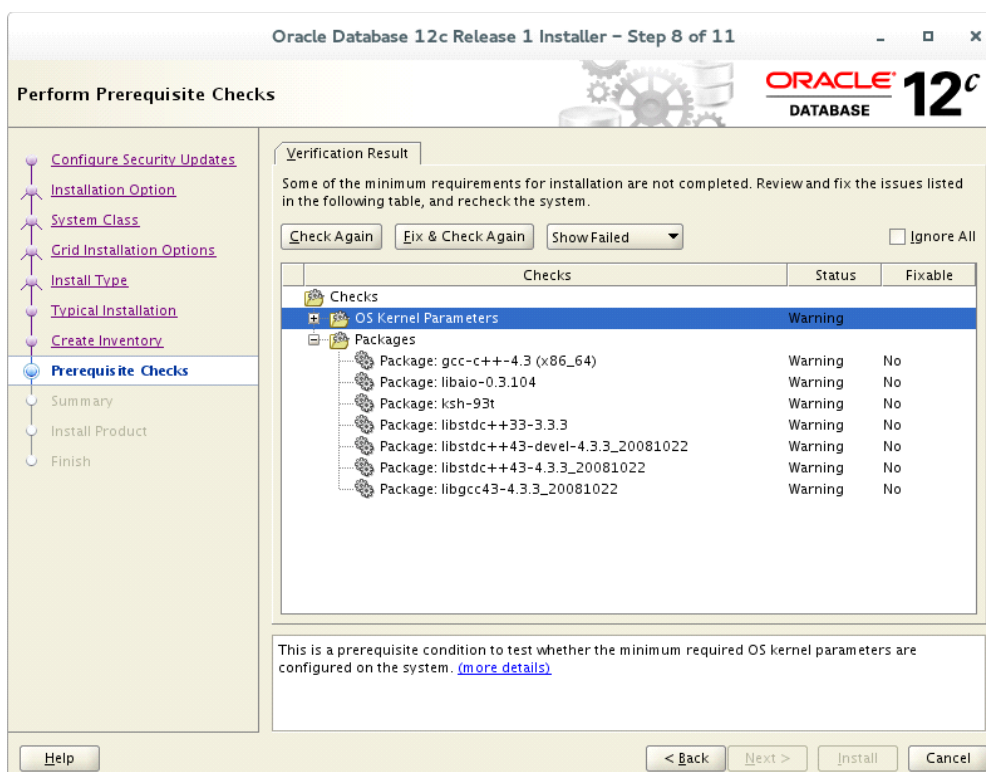
Console	Details
Oracle Restart	n/a
Instance Recovery Time (sec)	23
Last Backup	n/a
Usable Fast Recovery Area (%)	100
Flashback Database Logging	Disabled

4. Installing Oracle Database 12.1.0.2

Installing Oracle Database 12c is similar to 11.2.0.4 .

1. Download 12.1.0.2 SW (linuxamd64_12102_database_1of2 & linuxamd64_12102_database_2of2) & unzip locally.
2. Start Oracle Installer: database/runInstaller
3. Watch for following minor error/warning messages:

1. Prerequisite Checks - **Ignore (Check newer version is installed)**



2. **DBCA Error:** ORA-27104: system-defined limits for shared memory was misconfigured

Fix: Increase kernel.shmmax & kernel.shmall based on your Server RAM. Please refer Oracle Metalink Note [ID 567506.1] - Maximum SHMMAX values for Linux x86 and x86-64

Example for x86_64 Server with 32GB RAM:

shmmax=34359738368 (=32*1024*1024*1024),

shmall=8388608 (=32*1024*1024*1024 / 4096) - 4096 is page size

Oracle Database 12cR1 Working Screen:

```

oracle@sls12-sp2:~
File Edit View Search Terminal Help
oracle@sls12-sp2:~> sqlplus / as sysdba

SQL*Plus: Release 12.1.0.2.0 Production on Sun Sep 11 16:04:31 2016

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Connected to:
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> show sga

Total System Global Area 1.0133E+10 bytes
Fixed Size                  4507704 bytes
Variable Size               1744832456 bytes
Database Buffers            8355053568 bytes
Redo Buffers                 29044736 bytes
SQL> exit
Disconnected from Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options
oracle@sls12-sp2:~>

```

The screenshot displays the Oracle Enterprise Manager Express (EM Express) Database Home page for Oracle Database 12cR1. The page is accessed via a Mozilla Firefox browser at the URL `https://sls12-sp2.suse:5500/em/shell#/dbhome/show_rec`. The page title is "EM Express - Database Home - Mozilla Firefox".

The main content area is titled "Database Home" and includes the following sections:

- Status:**
 - Up Time: 4 minutes, 16 seconds
 - Type: Single instance (orcl)
 - CDB (1 PDBs)
 - Version: 12.1.0.2.0 Enterprise Edition
 - Database Name: ORCL
 - Instance Name: orcl
 - Platform Name: Linux x86 64-bit
 - Host Name: sls12-sp2
 - Oracle Home: /opt/oracle/product/12cR1/db
 - Thread: 1
 - Archiver: Stopped
- Performance:**
 - Activity Class: Services, Containers
 - Graph showing Wait, User I/O, and CPU activity over time (3:00 PM to 3:50 PM).
- Resources:**
 - Host CPU: Graph showing CPU usage (0% to 5%).
 - Active Sessions: Graph showing active sessions (0 to 1).
 - Memory: Graph showing memory usage (0 GB to 10 GB) with categories like PGA, Other SGA, Shared IO Pool, Java Pool, Large Pool, Shared Pool, and Buffer Cache.
- SQL Monitor - Last Hour (20 max):**

Status	Duration	T...	ID	User	Parallel	Database Tl...	SQL Te
✓			djbn1r6k20ru		2	5.0ms	-- SQL b
✓			djbn1r6k20ru		2	5.4ms	-- SQL b
✓	0.3s		djbn1r6k20ru		2	0.3s	-- SQL b
✓	9.0s		f5cz4n8y72xdc	@CDB\$ROOT		8.6s	SELECT
- Running Jobs:**

In...	Cont...	Ow...	Na...	El...	Started
No Running Jobs					

Thank you for selecting SUSE Linux as your platform of choice.