

Oracle® Database

Release Notes

11g Release 1 (11.1) for Linux

B32001-12

August 2012

This document contains important information that was not included in the platform-specific or product-specific documentation for this release. This document supplements *Oracle Database Readme*.

This document may be updated after it is released. To check for updates to this document and to view other Oracle documentation, refer to the Documentation section on the Oracle Technology Network (OTN) Web site:

<http://www.oracle.com/technetwork/indexes/documentation/index.html>

For additional information about this release, refer to the readme files located in the \$ORACLE_HOME/relnotes directory.

Note: The Database Quick Installation Guides are no longer available in printed format. These documents are available with the media in the same location as the software and on Oracle Technology Network.

This document contains the following topics:

- [Certification Information](#)
- [Unsupported Products](#)
- [Preinstallation Requirements](#)
- [Installation, Configuration, and Upgrade Issues](#)
- [Other Known Issues](#)
- [Documentation Corrections and Additions](#)
- [Documentation Accessibility](#)

1 Certification Information

The latest certification information for Oracle Database 11g Release 1 (11.1) is available on My Oracle Support (formerly OracleMetaLink) at:

<https://support.oracle.com>

ODBC Certification

Starting with Oracle Database 11g release 1 (11.1.0.7), Oracle ODBC driver is supported on Linux x86-64 operating systems.

2 Unsupported Products

A list of unavailable features and products is available in Section 2, "Features Not Available or Restricted in This Release", in *Oracle Database Readme*.

3 Preinstallation Requirements

Apart from the requirements mentioned in this section, refer to the Oracle Database installation guides for the preinstallation requirements.

- [Linux-PAM Library](#)
- [Swap Space Guidance](#)

3.1 Linux-PAM Library

Install the latest Linux-PAM (Pluggable Authentication Modules for Linux) library to enable the system administrator to choose how applications authenticate users.

3.2 Swap Space Guidance

Contact your operating system vendor for swap space allocation guidance for your server. The vendor guidelines supersede the swap space requirements listed in *Oracle Database Installation Guide* and *Oracle Clusterware Installation Guide*.

4 Installation, Configuration, and Upgrade Issues

Review the following section for information about issues that affect Oracle Database installation, configuration, and upgrade:

- [Latest Upgrade Information](#)
- [New Installation Media to Install Oracle HTTP Server](#)
- [Error in Copying Files While Upgrading Oracle Database 10g Release 2 to Oracle Database 11g](#)
- [The /etc/oratab File Lists Multiple Automatic Storage Management Instances](#)
- [The ORA-12157 Error Message is Displayed When Using Shared Oracle Home on OCFS2](#)
- [Minimum glibc Version](#)
- [Installation, Configuration, and Upgrade Issues on Linux x86](#)
- [Installation, Configuration, and Upgrade Issues on Linux x86-64](#)

4.1 Latest Upgrade Information

For late-breaking updates and best practices about preupgrade, post-upgrade, compatibility, and interoperability discussions, refer to Note 601807.1 on My Oracle Support (formerly OracleMetaLink)(<https://support.oracle.com/>) that links to "Oracle 11g Upgrade Companion" page.

4.2 New Installation Media to Install Oracle HTTP Server

Use the *Oracle Fusion Middleware Web Tier Utilities 11g (11.1.1.2.0)* media to install Oracle HTTP Server.

4.3 Error in Copying Files While Upgrading Oracle Database 10g Release 2 to Oracle Database 11g

When you start upgrading second node from Oracle Database 10g Release 2 to Oracle Database 11g, an error message is displayed while copying files during the upgrade process.

Workaround: Run the upgrade session from the node on which you initially installed Oracle RAC.

This issue is tracked with Oracle bug 6501871.

4.4 The `/etc/oratab` File Lists Multiple Automatic Storage Management Instances

If you install Oracle Clusterware on shared Oracle home, the `/etc/oratab` file lists multiple Automatic Storage instances.

When Automatic Storage Management Oracle home is installed in shared file system to create Automatic Storage Management instances from Oracle Universal Installer, multiple Automatic Storage Management instances are listed in the `/etc/oratab` file.

Workaround: Oracle Universal Installer detects this issue during the prerequisite checks. You can edit the `/etc/oratab` file in each node and remove the entries that are not part of that node. The alternative is to install the software, run the `root.sh` script on all nodes and create Automatic Storage Management instance by running Database Configuration Assistant.

The issue is tracked with Oracle bug 5942123.

4.5 The ORA-12157 Error Message is Displayed When Using Shared Oracle Home on OCFS2

When you install Oracle RAC in a shared Oracle home on OCFS2, the ORA-12157 error message is displayed for multiple files.

The health check of Oracle database instances and Automatic Storage Management instances by Oracle Clusterware (CRS) does not work correctly if the Oracle database home is installed on a file system that does not support memory mapped files, such as OCFS2 on Linux.

Workaround: Oracle Clusterware (CRS) and Oracle Enterprise Manager agent try to access the `$ORACLE_HOME/dbs/hc_SID.dat` file and the Automatic Storage Management instance tries to access the `$ORACLE_HOME/dbs/ab_SID.dat` file by using the `mmap` function. This means that the `$ORACLE_HOME/dbs/hc_SID.dat` and `$ORACLE_HOME/dbs/ab_SID.dat` files must be moved to a file system that supports the `mmap` functions on all nodes in the cluster. Complete the following procedure to use a location on the local disk drive to store the file:

1. Use commands similar to the following on all nodes in the cluster, to copy the files to a local drive:

```
cp $ORACLE_HOME/dbs/hc_SID.dat /local_dir/hc_SID.dat
```

```
cp $ORACLE_HOME/dbs/ab_SID.dat /local_dir/ab_SID.dat
```

2. Use commands similar to the following to remove the file from the cluster file system:

```
rm $ORACLE_HOME/dbs/hc_SID.dat
rm $ORACLE_HOME/dbs/ab_SID.dat
```

3. Use commands similar to the following to create a symbolic link to the file in the \$ORACLE_HOME/dbs directory:

```
ln -s /local_dir/hc_SID.dat $ORACLE_HOME/dbs/hc_SID.dat
ln -s /local_dir/ab_SID.dat $ORACLE_HOME/dbs/ab_SID.dat
```

See Also: Frequently asked question number 49 from the http://oss.oracle.com/projects/ocfs2/dist/documentation/ocfs2_faq.html#RAC link for more information about OCFS2

This issue is tracked with Oracle bug 4961541.

4.6 Minimum glibc Version

The following glibc package versions or later are required for Linux x86 and Linux x86-64 systems:

Operating System	Requirement
SUSE Linux Enterprise Server 10 SP2	glibc-2.4-31.63
OracleLinux4 and Red Hat Enterprise Linux 4	glibc-2.3.4-2.40
OracleLinux5 and Red Hat Enterprise Linux 5	glibc-2.5-24

4.7 Installation, Configuration, and Upgrade Issues on Linux x86

The following are the Linux x86-specific issues that affect Oracle Database installation, configuration, and upgrade:

- [Oracle Database Configuration Assistant Does not Respond After Specifying Backup and Recovery Options](#)
- [Oracle Universal Installer Shows Oracle Database Configuration Assistant Status as Failed](#)
- [Setting Environment Variable ORA_FPU_PRECISION for extended precision on Linux x86](#)

Note: The issues mentioned in this section are observed only on Linux x86.

4.7.1 Oracle Database Configuration Assistant Does not Respond After Specifying Backup and Recovery Options

If you are creating a database without using Automatic Storage Management and specify Automatic Storage Management to store backup and recovery data, then Oracle Database Configuration Assistant stops responding.

Workaround: Select **Do not enable Automated Backups** while creating the database and finish the installation process. After the installation process has finished, run Oracle Database Configuration Assistant and configure Backup and Recovery storage.

This issue is tracked with Oracle bug 6417211.

4.7.2 Oracle Universal Installer Shows Oracle Database Configuration Assistant Status as Failed

Oracle Universal Installer intermittently displays Oracle Database Configuration Assistant status as failed even after it finishes the installation process successfully.

This behavior is seen intermittently if you leave Oracle Database installation running for a long time without acknowledging the confirmation dialog shown by Oracle Database Configuration Assistant at the end of the database creation. The configured Oracle database and Oracle Database Control function normally. This error can be safely ignored.

This issues is tracked with Oracle bug 6238219.

4.7.3 Setting Environment Variable ORA_FPU_PRECISION for extended precision on Linux x86

For all precompiled applications where calculations are done using the extended precision of the x86 Floating Point Unit, you must set the environment variable ORA_FPU_PRECISION to EXTENDED before running the application.

Note: Setting this variable will result in non-IEEE compliant floating point results. Hence, the environment variable ORA_FPU_PRECISION should not be set if you are using either of the new datatypes BINARY_FLOAT or BINARY_DOUBLE, documented in My Oracle Support (formerly Oracle*MetaLink*) note 246916.1.

4.8 Installation, Configuration, and Upgrade Issues on Linux x86-64

The following are the Linux x86-64 specific issues that affect Oracle Database installation, configuration, and upgrade:

- [Error When Installing Oracle Database 11g on Asianux Server 3](#)
- [Oracle Universal Installer May Alert for Incorrect Value](#)
- [The Oracle Home Directory Structure is Changed for Instant Client](#)

Note: The issues mentioned in this section are not observed on Linux x86.

4.8.1 Error When Installing Oracle Database 11g on Asianux Server 3

When installing Oracle Database 11g on Asianux Server 3, the Product-Specific Prerequisite Checks screen reports that the operating system requirement checks fail.

Workaround: Change the contents of `/etc/asianux-release` from Asianux Server 3 (Quartet) to Asianux release 3 (Quartet).

This issue is tracked with Oracle bug 6457598.

4.8.2 Oracle Universal Installer May Alert for Incorrect Value

The Product-Specific Prerequisite Checks screen may alert about incorrect value for the `rmm_default` variable.

Workaround: If you have set the value for the variable according to the installation guide, you can ignore this alert by selecting the check box available against it and continue with the installation process.

This issue is tracked with Oracle bug 6445078.

4.8.3 The Oracle Home Directory Structure is Changed for Instant Client

In the earlier releases, the `$ORACLE_HOME/lib` directory contained all the libraries. However, when installing Oracle Database Instant Client, the 32-Bit libraries are missing from the installation. To resolve this issue, `$ORACLE_HOME/lib32` directory is added to the directory structure to store the 32-Bit libraries.

This issue is tracked with Oracle bug 6338225.

5 Other Known Issues

The following sections contain information about issues related to Oracle Database 11g and associated products:

- [Collecting CPU Usage Metric Displays an Error](#)
- [Error While Loading Shared Library When SELinux is Enforcing on Oracle Linux 5.0 and Red Hat Enterprise Linux 5.0](#)
- [Host Administration Tab on Oracle Enterprise Manager Database Control Fails on Oracle Linux 5](#)
- [Linking Applications With Oracle Client Libraries](#)
- [Pro*C Does not Support all C99 Syntax](#)
- [The rstor File Linking Fails](#)
- [The Uploading Patches Feature Crashes in Mozilla Firefox 1.5 on Linux](#)
- [Using Block Devices](#)
- [Using Raw Logical Volumes](#)
- [Regenerating Instant Client Fails With mktemp Error on Linux x86](#)
- [Known Issues on Linux x86-64](#)

5.1 Collecting CPU Usage Metric Displays an Error

If Oracle Enterprise Manager Database Control is running on Oracle Linux 5 or Red Hat Enterprise Linux 5, Metric Collection Error is displayed for the CPU Usage metric. Due to this issue, the CPU usage information for the host is not displayed. Therefore, you cannot set alert threshold on the host CPU usage.

This issue is tracked with Oracle bug 6316367.

5.2 Error While Loading Shared Library When SELinux is Enforcing on Oracle Linux 5.0 and Red Hat Enterprise Linux 5.0

SQL*Plus and Oracle Call Interface (OCI) program calls fail with SELinux in the Enforcing mode on Oracle Linux 5.0 and Red Hat Enterprise Linux 5.0. Refer to the My Oracle Support (formerly OracleMetaLink) note 454196.1 for more details about the issue.

Workaround: Shift SELinux to Permissive mode on the system.

This issue is tracked with Oracle bugs 6140224 and 6342166.

5.3 Host Administration Tab on Oracle Enterprise Manager Database Control Fails on Oracle Linux 5

When you click the Host Administration tab of the Oracle Enterprise Manager Database Control on Oracle Linux 5, the following error is displayed:

This feature is only available on hosts running Red Hat Linux and SUSE Linux Operating Systems.

Due to this issue, you cannot administer the host using Oracle Enterprise Manager Database Control on Oracle Linux 5.

This issue is tracked with Oracle bug 6316469.

5.4 Linking Applications With Oracle Client Libraries

The use of the client static library is not supported.

5.5 Pro*C Does not Support all C99 Syntax

On Red Hat Enterprise Linux 5 and SUSE Linux Enterprise Server 10, standard C header files may contain symbols, such as `__LDBL_REDIR1_DECL`, which Pro*C parser fails to recognize.

Workaround: You can use one of the following code in the .pc files so that the header file does not get included during precompilation:

```
#ifndef ORA_PROC
#include <filename.h>
#endif
```

or

```
#ifdef ORA_PROC
#define _HEADERFILENAME_H__
#endif
```

This issue is tracked with Oracle bug 6142780.

5.6 The rstora File Linking Fails

When installing Oracle Database 11g, Oracle Universal Installer removes third party library paths from the `LD_LIBRARY_PATH` variable for security reasons. Due to this, the relinking of the `rstora` file fails during installation. The `rstora` file can be relinked by updating the `LD_LIBRARY_PATH` variable with the path where Cobol libraries are

available and calling an appropriate make target. You can use the following commands to make the `rstora` file:

```
$ cd $ORACLE_HOME/precomp/lib
$ make -f ins_precomp.mk rstora
```

5.7 The Uploading Patches Feature Crashes in Mozilla Firefox 1.5 on Linux

When uploading patches through Oracle Enterprise Manager Database Control using the Mozilla Firefox 1.5 Web browser on Linux, the Web browser window crashes.

Workaround: Start the Mozilla Firefox 1.5 Web browser client from a non-Linux environment or use an alternate Web browser, such as Internet Explorer.

This issue is tracked with Oracle bug 6008421.

5.8 Using Block Devices

Use the following procedure to create block device partitions:

1. Use `fdisk` to create disk partitions on block devices for database files
2. On each node, create or modify the permissions file in `/etc/udev/permissions.d`, to change the permissions of the datafiles from default `root` ownership. On Asianux 2, Oracle Linux 4, and Red Hat Enterprise Linux 4, this file should be called `49-oracle.permissions`, so that the kernel loads it before the `50-udev.permissions` file. On Asianux Server 3, Oracle Linux 5, Red Hat Enterprise Linux 5, and SUSE Linux Enterprise Server 10, this file should be called `51-oracle.permissions`, so that the kernel loads it after the `50-udev.permissions` file.

For each partition, use the following syntax in the `xx-oracle.permissions` to set access permissions:

```
devicepartition:oracle_db_install_owner:OSDBA:0660
```

5.9 Using Raw Logical Volumes

You can also use raw logical volumes as shared storage media for Oracle Database files. After you have created the required partitions, you must bind the partitions to raw devices on every node. However, you must first determine what raw devices are already bound to other devices. Refer to the "5.6.4 Using Raw Logical Volumes on Linux" section of Chapter 5, "Configuring Oracle Real Application Clusters Storage" in *Oracle Clusterware Installation Guide for Linux* for the procedure to be followed to use raw logical volumes as shared storage media for Oracle Database files.

5.10 Regenerating Instant Client Fails With `mktemp` Error on Linux x86

Install the following operating system packages on Red Hat Enterprise Linux 5/Oracle Linux 5 before regenerating Instant Client:

- `redhat-rpm-config-8.0.45-24.el5.0.1` (Oracle Linux 5)
- `redhat-rpm-config-8.0.45-24.el5` (Red Hat Enterprise Linux 5)

5.11 Known Issues on Linux x86-64

The following are the Linux x86-64 specific known issues:

- [Junk Characters Displayed in the Locale Builder Screen](#)
- [Reactivate the OC4JADMIN User for Oracle Ultra Search](#)
- [Linux GLIBC Bug Causes Clusterware Instability](#)

Note: The issues mentioned in this section are not observed on Linux x86.

5.11.1 Junk Characters Displayed in the Locale Builder Screen

If you use ZH_TW, ZH_CN, or KO_KR locales, the locale builder screen may display multibyte words as square boxes. This is a known JDK font issue for the east Asian languages.

This issue is tracked with Oracle bug 6446186.

5.11.2 Reactivate the OC4JADMIN User for Oracle Ultra Search

The OC4JADMIN user is deactivated during the Oracle Database 11g installation process. After the installation is complete, you must modify the \$ORACLE_HOME/oc4j/j2ee/OC4J_SEARCH/config/system-jazn-data.xml file. Replace the following content of the file:

```
<user deactivated="true">
<name>oc4jadmin</name>
<display-name>OC4J Administrator</display-name>
<description>OC4J Administrator</description>
```

with:

```
<user>
<name>oc4jadmin</name>
<display-name>OC4J Administrator</display-name>
<description>OC4J Administrator</description>
```

Use the following commands to restart the Oracle Ultra Search middle tier in the Oracle Database:

```
$ $ORACLE_HOME/bin/searchctl stop
$ $ORACLE_HOME/bin/searchctl start
```

5.11.3 Linux GLIBC Bug Causes Clusterware Instability

With Oracle Clusterware releases 10.2.0.3 CRS Bundle Patch #3, 10.2.0.4, 11.1.0.6 and 11.1.0.7, the CSS Daemon, ocssd, is vulnerable to a Linux GLIBC bug that exists in all Linux distributions supported by Oracle RAC. This bug most commonly appears in the CSS Daemon as a segmentation violation (SEGV), with a CSS Daemon log entry similar to the following:

```
ERROR:  clssscExit: CSSD signal 11 in thread GMClientListener
```

The bug also causes an error that is registered in the Linux /var/log/messages file:

```
Oracle CSSD failure 139
Oracle clsomom failed with fatal status 13
```

If you encounter general instability in Oracle Clusterware, such as random reboots, then you should consider this as an indication of the Linux GLIBC bug, even in the absence of these error messages.

If you require further diagnostic tests before you apply the recommended kernel patches, then refer to My Oracle Support (formerly Oracle*MetaLink*) node 559365.1 for further information.

The following glibc versions are known to have this problem:

- Red Hat and Oracle Linux 4 glibc-2.3.4-2.39 (fixed in glibc-2.3.4-2.40, glibc-2.3.4-2.41 included in EL4u7)
- Red Hat and Oracle Linux 5 glibc-2.5-18 (fixed in glibc-2.5-20, glibc-2.5-24 included in EL5u2)
- SUSE Linux Enterprise Server 10 Service Pack 2 glibc-2.4-31.54 (bug 416838 filed for this problem). Contact Novell for fix availability.

For a description of the glibc bug, refer to the following URLs:

- <http://bugs.debian.org/cgi-bin/bugreport.cgi?bug=473812>
- https://bugzilla.redhat.com/show_bug.cgi?id=405781
- <http://rhn.redhat.com/errata/RHBA-2008-0083.html>

The distribution version or glibc version must be updated before you install Oracle Clusterware version 10.2.0.3 CRS Bundle Patch #3, 10.2.0.4 or 11.1.0.6 (or later) to avoid instability, in the form of random node reboots, caused by the glibc bug. For more details about this issue, refer to My Oracle Support (formerly Oracle*MetaLink*) note 731599.1.

6 Documentation Corrections and Additions

The following section contains corrections related to Oracle Database 11g and associated products:

- [Incorrect Oracle ODBC Package Values](#)
- [Incorrect /etc/profile Reference](#)
- [Incorrect Control File Size Limits](#)
- [Oracle ASMLib Download Location](#)

6.1 Incorrect Oracle ODBC Package Values

The "Oracle ODBC Drivers" section in chapter 2 of *Oracle Database Installation Guide for Linux*, lists the incorrect values unixODBC-2.2.11 and unixODBC-devel-2.2.11 for Oracle ODBC packages. The correct Oracle ODBC package values are unixODBC-2.2.12 and unixODBC-devel-2.2.12.

6.2 Incorrect /etc/profile Reference

In *Oracle Database Installation Guide for Linux*, Section 2.7, "Configure Oracle Installation Owner Shell Limits", the third list item has an incorrect reference to the `/etc/profile` file. Ignore the entire third list item as making changes in the `/etc/profile` file is not required.

6.3 Incorrect Control File Size Limits

Table H-2, "File Size Limits" of Appendix H, "Database Limits" in *Oracle Database Administrator's Reference for UNIX-Based Operating Systems Guide*, states incorrect value

of 20000 database blocks as control file size. The correct value is 25000 control file blocks with a block size of 4096 bytes.

6.4 Oracle ASMLib Download Location

To download the Oracle ASMLib kernel driver, go to the following URL:

<http://www.oracle.com/technetwork/topics/linux/asmlib/index-101839.html>

This location supersedes any other download location listed in documentation for Oracle ASMLib.

7 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

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