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Preface

This document describes last-minute features and changes that are not included in the Oracle Database Documentation Library for Oracle Database 18c.

Starting with Oracle Database 18c, the readme and platform-specific release notes have been combined into one document. The first chapter of this document contains generic information. Subsequent chapters of this document contain platform-specific information. The last chapter of this document contains last-minute changes not included in the Oracle Database documentation library.

- Audience
- Documentation Accessibility
- Related Resources
- Conventions

Audience

This document is relevant only to Oracle Database 18c and documents new features, changes, unsupported products, preinstallation requirements, generic and platform-specific bug fixes, and known issues that are not included in the Oracle Database documentation library.

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 that have purchased support 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.

Related Resources

Refer to the following documentation for more information related to this release:

- http://docs.oracle.com/en/database/database.html
- For licensing information, refer to *Oracle Database Licensing Information User Manual*.

- Additional readme or release notes files also exist. Refer to Other Readmes, Release Notes, or Installation Guides.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Purpose of These Release Notes

This topic briefly describes the purpose of these release notes.

Updates to this document can occur after it is released. Check for updates to this document and view other Oracle documentation at:

http://docs.oracle.com/en/database/database.html

For licensing information, refer to *Oracle Database Licensing Information User Manual*.

Additional readme or release notes files also exist. Refer to the Other Readmes, Release Notes, or Installation Guides.

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Issues Affecting All Platforms for Oracle Database 19c

These topics contain last-minute features and changes that affect all platforms for Oracle Database 19c.

- Compatibility, Upgrading, Downgrading, and Installation
  This section describes compatibility, upgrading, downgrading, and installation topics for Oracle Database 19c.

- Deprecated and Desupported Features for Oracle Database
  This topic describes deprecated and desupported features for Oracle Database 19c.

- Other Readmes, Release Notes, or Installation Guides
  There are additional documents for Oracle products that are associated with this Oracle Database release.

- Open Bugs Affecting All Platforms
  This section describes known bugs in Oracle Database 19c that affect all platforms.

Compatibility, Upgrading, Downgrading, and Installation

This section describes compatibility, upgrading, downgrading, and installation topics for Oracle Database 19c.

- Core Dump ORA-00600 [8153] Error Encountered After Database Upgrade
  This topic describes the `ORA-00600` error that can occur after a database upgrade.

- Upgrading from Oracle Database 11g Release 2 (11.2.0.4) to 19c to Oracle Database Results in Errors During Upgrade
  This topic describes the `ORA-08102` error that can occur when upgrading from Oracle Database 11g release 2 (11.2.0.4) to Oracle Database 19c.

- Plugging in an Oracle Database 12.1 Non-CDB to an Oracle Database 12.2 Local Undo CDB
  This topic describes undo tablespaces are not plugged in when going from Oracle Database release 12.1 to release 12.2.

Core Dump ORA-00600 [8153] Error Encountered After Database Upgrade

This topic describes the `ORA-00600` error that can occur after a database upgrade.

A core dump `ORA-00600 [8153]` error is encountered after the database is upgraded to Oracle Database 12c release 2 (12.2) or to Oracle Database 19c and then downgraded back to its original release (reference Bug 20898997).

Always apply the patch for this bug before upgrading the database to Oracle Database 12c release 2 (12.2) or to Oracle Database 19c.

Upgrading from Oracle Database 11g Release 2 (11.2.0.4) to 19c to Oracle Database Results in Errors During Upgrade

This topic describes the `ORA-08102` error that can occur when upgrading from Oracle Database 11g release 2 (11.2.0.4) to Oracle Database 19c.

In some cases, when altering table `WRH$_SEG_STAT` to add some columns, you may encounter the `ORA-08102` error (reference Bug 28668676). For example:

```
ALTER TABLE WRH$_SEG_STAT ADD (im_membytes NUMBER DEFAULT 0);
ALTER TABLE WRH$_SEG_STAT ADD (im_membytes NUMBER DEFAULT 0)
*
ERROR at line 1:
ORA-08102: index key not found, obj# 16200, file 2, block 4765 (2)
```

Download `c18.sql` and `c1202000.sql` from the bug and restart the upgrade process.

Plugging in an Oracle Database 12.1 Non-CDB to an Oracle Database 12.2 Local Undo CDB

This topic describes undo tablespaces are not plugged in when going from Oracle Database release 12.1 to release 12.2.

When trying to plug in an Oracle Database 12c Release 1 (12.1) non-CDB to an Oracle Database 12c Release 2 (12.2) or higher CDB and local undo is enabled, undo tablespaces are not plugged in.

Workaround:

None.

Deprecated and Desupported Features for Oracle Database

This topic describes deprecated and desupported features for Oracle Database 19c.

Oracle Database 19c introduces behavior changes for your database in addition to new features. Changes in behavior include deprecated and desupported initialization parameters, options, syntax, and the deprecation and desupport of features and components. For more information, see the *Oracle Database Upgrade Guide*.

Other Readmes, Release Notes, or Installation Guides

There are additional documents for Oracle products that are associated with this Oracle Database release.

Refer to the following Oracle products and the location of their associated readme, release notes, or installation guide for additional information:

Table 2-1   Other Oracle Products Documentation

Product	Document
Oracle Application Express	*Oracle Application Express Release Notes* and the *Oracle Application Express Installation Guide.*
Oracle Multimedia	*ORACLE_HOME*/ord/im/admin/README.txt
Oracle ODBC Driver	*Oracle ODBC Driver Release Notes*
Oracle SQL Developer	*ORACLE_HOME*/sqldeveloper/readme.html
Pro*C	*Pro*C/C++ Release Notes*
Pro*COBOL	*Pro*COBOL Release Notes*
SQL*Plus	*SQL*Plus Release Notes*

Open Bugs Affecting All Platforms

This section describes known bugs in Oracle Database 19c that affect all platforms.

- Analytic Workspace Manager Known Bugs
  These are the Analytic Workspace Manager bugs in Oracle Database 19c.

- Oracle ASM Cluster File System (Oracle ACFS) Known Bugs
  These are the Oracle Automatic Storage Management (Oracle ASM) Cluster File System (Oracle ACFS) bugs in Oracle Database 19c.

- Oracle ASM Dynamic Volume Manager (Oracle ADVM) Known Bugs
  These are the Oracle Automatic Storage Management (Oracle ASM) Dynamic Volume Manager (Oracle ADVM) bugs in Oracle Database 19c.

- Oracle Data Pump Known Bugs
  These are the Oracle Data Pump bugs in Oracle Database 19c.

- Oracle Database Enterprise Edition Known Bugs
  These are the Oracle Database Enterprise Edition bugs in Oracle Database 19c.

- Oracle Grid Infrastructure Known Bugs
  These are the Oracle Grid Infrastructure bugs in Oracle Database 19c.

- Oracle Universal Installer Known Bugs
  These are the Oracle Universal Installer (OUI) bugs in Oracle Database 19c.

Analytic Workspace Manager Known Bugs

These are the Analytic Workspace Manager bugs in Oracle Database 19c.

- Bug 28937717
- Bug 28532773

Bug 28937717

Measures cannot be calculated in the Create Calculation Measure wizard.

Workaround:

None.

Bug 28532773

Cube Storage Advisor fails with the following error:

```
ORA-00942 table or view not found
```

Workaround:

None.

Oracle ASM Cluster File System (Oracle ACFS) Known Bugs

These are the Oracle Automatic Storage Management (Oracle ASM) Cluster File System (Oracle ACFS) bugs in Oracle Database 19c.

- Bug 29391849

Bug 29391849

After an upgrade to either Oracle Grid 18.x or 19.x is complete, a subsequent upgrade to Oracle Grid 18.y or 19.y results in the Oracle Automatic Storage Management Cluster File System (Oracle ACFS) being offline on the first node being upgraded. This issue does not occur on a fresh installation of Oracle Grid 19c or 18c.

Workaround:

- To avoid this issue:
    1. Complete the upgrade from Oracle Grid 12c Release 1 (12.1.0.2) or Oracle Grid 12c Release 2 (12.2) to Oracle Grid 18.x or 19.x.
    2. Restart Cluster Ready Services (CRS) on each node, restarting the master node last. For example:
        a. Run `acfsutil clusterinfo | grep -i master`.
        b. Restart CRS on each non-master node, in any order.
        c. Restart CRS on the master node last.
    3. Then, upgrade from Oracle Grid 18.x or 19.x to Oracle Grid 18.y or 19.y.
- If you have completed the upgrade from Oracle Grid 12.1.0.2 or 12.2 to Oracle Grid 18.x or 19.x, and have started the upgrade to Oracle Grid 18.y or 19.y, and if you see the Oracle Automatic Storage Management Dynamic Volume Manager (Oracle ADVM) volumes offline on the node that you have upgraded, then:
    1. Roll back that node to Oracle Grid 18.x or 19.x.
    2. Restart CRS on each node, restarting the master node last.
        a. Run `acfsutil clusterinfo | grep -i master`.
        b. Restart CRS on each non master node, in any order.
        c. Restart CRS on the master node last.
    3. Then, upgrade from Oracle Grid 18.x or 19.x to Oracle Grid 18.y or 19.y.

Oracle ASM Dynamic Volume Manager (Oracle ADVM) Known Bugs

These are the Oracle Automatic Storage Management (Oracle ASM) Dynamic Volume Manager (Oracle ADVM) bugs in Oracle Database 19c.

- Bug 29520544

Bug 29520544

Upgrading to Oracle Grid 19c or 18c can cause unnecessary disk resilvering (if using more than 1 MB of allocation units (AU)). This issue does not occur on a fresh installation of Oracle Grid 19c or 18c.

Workaround:

Apply the patch for 29520544 before upgrading to Oracle Grid 19c or 18c. Note that the patch can be applied on the initiating system (Oracle Grid 12c Release 1 (12.1.0.2) or Oracle Grid 12c Release 2 (12.2)) before the upgrade or the patch can be applied on the receiving system (Oracle Grid 19c or 18c) before the upgrade.

Allow resilvering to complete. This is a one-time operation. Once the resilvering completes, performance returns to normal.

Oracle Data Pump Known Bugs

These are the Oracle Data Pump bugs in Oracle Database 19c.

- Bug 27133957
- Bug 27092988

Bug 27133957

If you use the `%U` or `%L` wildcard character in the file name component of a Uniform Resource Identifier (URI) during a Data Pump load, you receive the following errors:

```
ORA-31640: unable to open dump file

ORA-17503: ksfdopn:11 Failed to open file

ORA-17500: ODM err:ODM HTTP Bad Request
```

Workaround:

Do not use wildcards. Instead, list every file name as part of the `DUMPFILE` parameter.

Bug 27092988

In releases prior to Oracle Database 19c, the Oracle Data Pump always enabled secure roles that were granted to the user running the data pump. Starting in Oracle Database 19c, the data pump no longer enables these roles by default. There is a new parameter, `ENABLE_SECURE_ROLES`, to control whether those roles should be enabled for the data pump job.

Workaround:

None.

Oracle Database Enterprise Edition Known Bugs

These are the Oracle Database Enterprise Edition bugs in Oracle Database 19c.

- Bug 23569490
- Bug 24291322
- Bug 27254644

Bug 23569490

If you have a large number of collections and are working with clients earlier than Oracle Database 12c release 2 (12.2), then you need a larger object cache, due to a change in snapshot size and thus a need for collection image conversion.

Workaround:

The object cache size can be set using the `OBJECT_CACHE_OPTIMAL_SIZE` initialization parameter. This is set to a low value by default.

Bug 24291322

Symbolic links are not allowed in the directory object paths or filenames when opening BFILEs. The entire directory path and filename is checked and the following error is returned if any symbolic link is found:

```
ORA-22288: file or LOB operation FILEOPEN failed soft link in path
```

Workaround:

If the database directory object or filename that you are trying to open contains symbolic links, then change it to provide the real path and filename.

Bug 27254644

During the Oracle Scheduler agent register database process (`schagent -registerdatabase`), the following warning message might be issued:

```
"Warning: The JKS keystore uses a proprietary format. It is recommended to migrate
to PKCS12 which is an industry standard format using..."
```

Workaround:

This warning message is due to a new Java runtime update. There is no change in the Oracle Scheduler agent usage of keystores (`jks` files). You can ignore this warning message.

Oracle Grid Infrastructure Known Bugs

These are the Oracle Grid Infrastructure bugs in Oracle Database 19c.

- Bug 29414664
- Bug 29053083
- Bug 21559133

Bug 29414664

The Help text for command `rhpctl instantiate image` does not show the `-server` option.

Workaround:

When instantiating an image between two Fleet Patching and Provisioning (FPP) servers whose peer-to-peer relationship has already been established, use the command `rhpctl instantiate image` with the `-server` option specifying the remote FPP server from which to instantiate the given image.

Bug 29053083

The Grid Naming Service (GNS) manifest file validation fails.

Workaround:

Do not add GNS while creating a member cluster manifest file.

Bug 21559133

This issue affects rolling upgrades from Oracle Grid Infrastructure 12c release 1 (12.1) to Oracle Grid Infrastructure 19c of Oracle Clusterware standard Cluster with Oracle ASM. A node running Oracle Grid Infrastructure 12c release 1 (12.1) cannot join the cluster after the first node has been upgraded to Oracle Grid Infrastructure 19c. The nodes running Oracle Grid Infrastructure 12c release 1 (12.1) that are in `ONLINE` status continue to be members of the cluster.

Workaround:

Upgrade Oracle Grid Infrastructure from 12c release 1 (12.1) to 19c on the failed node.

Oracle Universal Installer Known Bugs

These are the Oracle Universal Installer (OUI) bugs in Oracle Database 19c.

You should also review Compatibility, Upgrading, Downgrading, and Installation for other issues related to installation and upgrades.

- Bug 18336219
- Bug 23006768
- Bug 27080535
- Bug 27120934

Bug 18336219

Oracle Database installer does not check if the password specified for `ASMSNMP` on the Specify Management Options screen is correct. If you proceed with the configuration and specify an incorrect password, then Oracle Enterprise Manager Cloud Control cannot discover details and monitor the Oracle ASM instance.

Workaround #1:

Ensure that the correct password (the same password specified earlier during the Oracle Grid Infrastructure for a cluster installation) is specified in the Specify Management Options screen of Oracle Database installer.

Workaround #2:

On the Oracle Enterprise Manager Cloud Control portal, navigate to the Oracle ASM credentials screen and update the password for `ASMSNMP`. Once the password is saved on Oracle Enterprise Manager Cloud Control, the Oracle ASM monitoring starts working.

Bug 23006768

When installing an Oracle RAC database on an Oracle Member Cluster for Database that is configured to use an Oracle ASM service of an Oracle Domain Services Cluster (DSC) and, if the network selected for `ASM` or `ASM & Private` usage is not of the same type as the Oracle ASM network of the DSC, then the database instance terminates with the following error:

```
IOS hit ORA-00600: internal error code, arguments: [kfias_creg!net]
```

Workaround:

During the installation of the Oracle Member Cluster for Database, choose the network interface for `ASM` or `ASM & Private` so that it is on the same network as the Oracle ASM network of the DSC.

Bug 27080535

When deinstalling the Oracle Grid Infrastructure for a standalone server home with an Oracle Management Server configuration, the `emConfig.txt` file in `ORACLE_BASE/admin/emca` is not deleted.

Workaround:

To remove the `emConfig.txt` file, run the following command:

```
rm -rf $ORACLE_BASE/admin/emca/emConfig.txt
```

During the last `ORACLE_HOME` deinstallation, to remove `ORACLE_BASE`, run the following command after the deinstallation tool exits:

```
rm -rf $ORACLE_BASE
```

Bug 27120934

After downgrading Oracle Clusterware using the Grid Setup Wizard, from Oracle Database 19c to Oracle Clusterware release 12.1 or release 11.2, the unused data files of the Oracle Grid Infrastructure Management Repository (GIMR) of the 19c Oracle Grid Infrastructure home could still be present in the disk group.

Workaround:

Before starting the downgrade procedure using the Grid Setup Wizard, delete the GIMR database using the following command:

```
<Active_GI_HOME>/bin/dbca -silent -deleteDatabase -sourceDB -MGMTDB
```

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Issues Affecting Linux for Oracle Database 19c

These topics contain last-minute features and changes for Linux for Oracle Database 19c.

- Unsupported Products for Linux
  This topic describes products or features that are unavailable for Oracle Database 19c.

- Product Support
  This topic describes the supported products or features for Oracle Database 19c.

- Linking Applications with Oracle Client Libraries for Linux
  You must use the dynamic Oracle client libraries to link the client code on Linux.

- Preinstallation Requirements for the Linux Platform
  Refer to the installation guides for the preinstallation requirements for Oracle Database 19c.

- Open Bugs Affecting Linux
  This topic contains last-minute features and changes for Oracle Database 19c.

Unsupported Products for Linux

This topic describes products or features that are unavailable for Oracle Database 19c.

In addition to the list of unavailable products or features in this release of Oracle Database 19c, the following product is not supported for Linux:

- IPv6 Networks Support

  The IPv6 based IP addresses to configure the private networks for a cluster is not supported on IBM: Linux on System z. It is currently under testing and the support will be announced after testing is successfully complete.

Product Support

This topic describes the supported products or features for Oracle Database 19c.

The supported products or features are:

- Database Smart Flash Cache Support

  Database Smart Flash Cache is supported on Oracle Linux.

- Oracle ACFS and Oracle ADVM Support

  Although Oracle ADVM supports raw disks in Oracle Automatic Storage Management disk groups, Oracle ADVM device special files created through raw are not supported; Oracle ADVM only supports block device special files.

For the latest information about supported platforms and releases, see the Note 1369107.1 on My Oracle Support at https://support.oracle.com

- Oracle ASM Filter Driver Support

  Oracle Automatic Storage Management Filter Driver (Oracle ASMFD) is supported only on Linux x86-64.

- Share-based Instance Caging

  Share-based Instance Caging is supported on Oracle Linux.

Linking Applications with Oracle Client Libraries for Linux

You must use the dynamic Oracle client libraries to link the client code on Linux.

Do not link the static Oracle client libraries.

Preinstallation Requirements for the Linux Platform

Refer to the installation guides for the preinstallation requirements for Oracle Database 19c.

Open Bugs Affecting Linux

This topic contains last-minute features and changes for Oracle Database 19c.

- Bug 26708302

Bug 26708302

Deinstallation of Oracle Real Application Clusters (Oracle RAC) home on shared Network Attached Storage (NAS) fails to delete the directory *$ORACLE_HOME/deinstall* and returns the following error:

```
Failed to delete the directory $ORACLE_HOME/deinstall. Either user has no
permission to delete or it is in use.
```

Workaround:

Manually delete the *$ORACLE_HOME/deinstall* folder as either the Oracle RAC owner or as root.

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Issues Affecting Oracle Solaris for Oracle Database 19c

These topics contain last-minute features and changes for Oracle Solaris for Oracle Database 19c.

- Unsupported Products for Oracle Solaris
  In addition to the list of unavailable products or features in this release of Oracle Database 19c, the following product is not supported for Oracle Solaris:

- Product Support
  These are the supported products or features for Oracle Database 19c:

- Linking Applications with Oracle Client Libraries for Oracle Solaris
  You must use the dynamic Oracle client libraries to link the client code on Oracle Solaris.

- Preinstallation Requirements for Oracle Solaris
  Refer to the installation guides for the preinstallation requirements for Oracle Database 19c.

- Installation, Configuration, and Upgrade Issues for Oracle Solaris
  These topics describe information about issues that affect Oracle Database installation, configuration, and upgrade.

- Open Bugs Affecting Oracle Solaris
  There are no open bugs affecting Oracle Solaris at the time of the release.

Unsupported Products for Oracle Solaris

In addition to the list of unavailable products or features in this release of Oracle Database 19c, the following product is not supported for Oracle Solaris:

- Net Configuration Assistant Support

- Bug 21816875
  Net Configuration Assistant (NETCA) is not supported on Oracle Solaris on SPARC (32-Bit) and Oracle Solaris on x86 (32-Bit) client platforms.

Bug 21816875

Net Configuration Assistant (NETCA) is not supported on Oracle Solaris on SPARC (32-Bit) and Oracle Solaris on x86 (32-Bit) client platforms.

Product Support

These are the supported products or features for Oracle Database 19c:

- Oracle Solaris Support on SPARC

  Oracle Database 19c is supported on Oracle Solaris on SPARC (64-bit).

- Database Smart Flash Cache Support

  Database Smart Flash Cache is supported on Oracle Solaris.

- Oracle ACFS and Oracle ADVM Support

  Although Oracle ADVM supports raw disks in Oracle Automatic Storage
  Management disk groups, Oracle ADVM device special files created through raw
  are not supported; Oracle ADVM only supports block device special files.

  For the latest information about supported platforms and releases, see the Note
  1369107.1 on My Oracle Support at https://support.oracle.com

Linking Applications with Oracle Client Libraries for Oracle Solaris

You must use the dynamic Oracle client libraries to link the client code on Oracle
Solaris.

Do not link the static Oracle client libraries.

Preinstallation Requirements for Oracle Solaris

Refer to the installation guides for the preinstallation requirements for Oracle Database
19c.

Installation, Configuration, and Upgrade Issues for Oracle Solaris

These topics describe information about issues that affect Oracle Database
installation, configuration, and upgrade.

- Bug 21800407

Bug 21800407

When installing Oracle Database for English and Japanese environments, the
background font incorrectly displays yellow color for the Oracle Universal Installer
(OUI), Database Configuration Assistant (DBCA), and Database Upgrade Assistant
(DBUA) pages.

Workaround:

Prior to installing Oracle Database, run the following command:

```
export _JAVA_OPTIONS='-Dsun.java2d.xrender=false'
```

Open Bugs Affecting Oracle Solaris

There are no open bugs affecting Oracle Solaris at the time of the release.