Oracle® Database

Database Release Notes

23c
F47542-07
September 2023

Oracle Database Database Release Notes, 23c

F47542-07

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Contents

Preface

This document describes last-minute features and changes that are not included in the Oracle Database Documentation Library for Oracle Database 23c.

Starting with Oracle Database 18c, the readme and platform-specific release notes have been combined into one document. The second 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

This document is relevant only to Oracle Database 23c 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.

More recent versions of some Oracle Database release 23c, version 23.3 documentation may be available in either HTML or PDF format.

Updates to this release note 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 23c

These topics contain last-minute features and changes that affect all platforms for Oracle Database 23c.

- Restrictions for JSON-Relational Duality Views
  The following are restrictions for JSON-relational duality views in Oracle Database 23c.
- Property Graph Features That Work With Oracle Database 23c
  Oracle Graph Server and Client Release 23.3 works with the following Property Graph features of Oracle Database 23c:
- Oracle Base Database Service
  Oracle Base Database Service enables you to maintain absolute control over your data while leveraging the combined capabilities of Oracle Database and Oracle Cloud Infrastructure.
- Features Not Available, Restricted or Changed in This Release of Oracle Database Release 23c, Version 23.3
  This topic describes features that are not available or are restricted for Oracle Database release 23c, version 23.3.
- Deprecated and Desupported Features for Oracle Database
  This topic describes deprecated and desupported features for Oracle Database 23c.
- 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 23c that affect all platforms.

2.1 Restrictions for JSON-Relational Duality Views

The following are restrictions for JSON-relational duality views in Oracle Database 23c.

- The following column data types cannot be used with duality views:
  - `TIMESTAMP WITH LOCAL TIME ZONE`
  - `BFILE`
  - `ROWID`
  - `UROWID`
  - `XMLTYPE`
  - `ANYTYPE`
  - `ANYDATA`
  - `ANYDATASET`

  - HTTPURIType
  - XDBURIType
  - DBURIType
  - SDO_POINT_TYPE
  - SDO_ELEM_INFO_ARRAY
  - SDO_ORDINATE_ARRAY
  - SDO_GEOMETRY
  - SDO_TOPO_GEOMETRY
  - Object types (Abstract Data Types)
- You cannot use JSON-relational duality views with Simple Oracle Document Access (SODA) APIs.
- Duality views cannot be created on:
  - System-partitioned tables
  - Partitioned-extended tables
  - Sharded tables
  - Views (except editioning views). Views include materialized views and duality views.
  - External tables
  - Hybrid partitioned tables
  - Global or private temporary tables
  - Remote tables (for example, tables over database links)
- Updates of duality views across database links are not supported.
- You cannot create a functional index, JSON search index, or JSON multivalue index on the DATA column of a duality view.
- The use of a JSON search index on the column of an underlying table is not supported.
- Virtual private database (VPD) and Oracle Real Application Security (RAS) on duality views are not supported.
- VPD on underlying tables are supported only if all statements (INSERT, UPDATE, DELETE, or SELECT) are included in the policy. However, when all statement types are not included in the VPD policy, there is no error returned but DML and query results may be unexpected or may fail.
- Transparent Sensitive Data Protection is not supported with duality views and underlying tables.
- Table columns of a duality view cannot be redacted if the redacted columns are part of the ETAG.
- Because JSON-relational duality views rely on JSON type, a 19c or earlier SQL*Plus client cannot be used for queries, DML or other SQL opertions that use the DATA column which is of data type JSON.
- Duality views cannot be created on base tables with textual JSON columns (VC2/CLOB/BLOB with IS-JSON constraint) in the base table.

- The same subquery cannot be used multiple times to define nested JSON structures (object or array) in the same parent object.
- Fine-grained auditing policies are not supported with duality views.
- DML error logging is not supported with duality views.
- Duality view names should use ASCII characters. The use of some non-ASCII characters with non-UTF8 database characters can fail in some operations.
- JSON path expressions with the type( ) item method are not supported when querying the `DATA` column of a duality view.

2.2 Property Graph Features That Work With Oracle Database 23c

Oracle Graph Server and Client Release 23.3 works with the following Property Graph features of Oracle Database 23c:

- Native representation of graphs in Oracle Database.
- Support for the ISO/IEC SQL Property Graph Queries (SQL/PGQ) standard.
- Use JSON collections as a graph data source.
- Use Native Representation of Graphs in Oracle Database with Graph Tools.

See the topics SQL Property Graphs and Visualizing GRAPH_TABLE Queries on SQL Property Graphs in *Oracle Database Graph Developer's Guide for Property Graph*.

2.3 Oracle Base Database Service

Oracle Base Database Service enables you to maintain absolute control over your data while leveraging the combined capabilities of Oracle Database and Oracle Cloud Infrastructure.

For a list of limitations with Oracle Database 23c, see Limitations of Database 23c on Base Database.

2.4 Features Not Available, Restricted or Changed in This Release of Oracle Database Release 23c, Version 23.3

This topic describes features that are not available or are restricted for Oracle Database release 23c, version 23.3.

- This release is available on the Linux platform (OL8 and RH8). Other platforms are not supported.
- Upgrade and downgrade from Oracle Database 19c or Oracle Database 21c to Oracle Database release 23c, version 23.3 are supported.
- 23c Windows 64-bit clients are not supported in this release.
- For this release, the Unrestricted Parallel DMLs feature is:
  - Not compatible with In-Memory Undo (IMU). (IMU is already disabled for Oracle RAC.)

  - Not compatible with distributed and clusterwide global transactions.
  - Parallel DML (PDML) and global indexes may lead to deadlocks resulting in error `ORA-00060`.
- The blockchain log history table implemented using Flashback Data Archive is not available with this release.

2.5 Deprecated and Desupported Features for Oracle Database

This topic describes deprecated and desupported features for Oracle Database 23c.

Oracle Database 23c 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*.

Oracle OLAP Desupported

Analytic workspaces, the OLAP DML programming language, and the OLAP Java API are desupported in Oracle Database 23c.

For new applications requiring advanced analytic capabilities, Oracle recommends that you consider analytic views (a feature of Oracle Database), or Oracle Essbase for forecasting and what-if analysis. Oracle analytic views are a feature of every Oracle Database edition. If your application uses OLAP for dimensional query and reporting applications, then Oracle recommends that you consider Oracle analytic views as a replacement for OLAP. Analytic views provide a fast and efficient way to create analytic queries of data stored in existing database tables and views. With Oracle analytic views, you obtain a dimensional query model and supporting metadata without requiring a "cube build/update" process. The elimination of the cube build/update process relieves scalability constraints (model complexity and data volume), simplifies the data preparation pipeline, and reduces or eliminates data latency.

2.6 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 APEX Release Notes* and the *Oracle APEX Installation Guide.*
Oracle ODBC Driver	*ODBC Driver Release Notes*

2.7 Open Bugs Affecting All Platforms

This section describes known bugs in Oracle Database 23c that affect all platforms.

- Oracle Globally Distributed Database Known Bugs
  These are the Oracle Globally Distributed Database known bugs in Oracle Database 23c.
- Oracle Net Manager Known Bugs
  These are the known bugs in Oracle Net Manager in Oracle Database 23c.
- Oracle Real Application Clusters on Podman Containers Known Bugs
  These are the known bugs in Oracle Real Application Clusters on Podman Containers in Oracle Database 23c.
- Portable Clusterware Known Bugs
  These are the known bugs in Portable Clusterware in Oracle Database 23c.

2.7.1 Oracle Globally Distributed Database Known Bugs

These are the Oracle Globally Distributed Database known bugs in Oracle Database 23c.

- Bug 33156635

2.7.1.1 Bug 33156635

When running Oracle Real Application Clusters (Oracle RAC) or Oracle Restart in a role-separated environment, where the Oracle RAC or Oracle Restart account is different from the Oracle Database account, performing administrative operations for sharding or for Global Data Services (GDS) can result in error `GSM-45029: SQL ERROR NO MORE DATA TO READ FROM SOCKET` when connected through a listener that runs in the Oracle RAC or Oracle Restart account.

Workaround:

In order to mitigate this issue, start a listener in the Oracle Database account on the sharded catalog database, and on each shard, if one is not already running. This listener can be used to connect and perform administrative operations, and can also be used when providing an Oracle Database Transparent Network Substrate (TNS) address when one is required for administrative commands such as `ADD SHARD`.

2.7.2 Oracle Net Manager Known Bugs

These are the known bugs in Oracle Net Manager in Oracle Database 23c.

- Bug 35522036

2.7.2.1 Bug 35522036

There is a known JDK11 compatibility issue with Oracle Net Manager in Oracle Database release 23c, version 23.3.

Workaround:

Use an earlier version of Oracle Net Manager or refer to the Oracle Net Services page on OTN for Technical Briefs about alternate methods for configuration.

2.7.3 Oracle Real Application Clusters on Podman Containers Known Bugs

These are the known bugs in Oracle Real Application Clusters on Podman Containers in Oracle Database 23c.

- Bug 34235460

2.7.3.1 Bug 34235460

For Oracle Real Application Clusters on Podman Containers, passwordless SSH is not set up between cluster member nodes. When you start `Gridsetup.sh` or use the `runInstaller.sh` script for Oracle RAC, and check SSH connectivity between cluster member nodes, you receive the following error:

```
[INS-06003] Failed to setup passwordless SSH connectivity with the
following node(s): [<nodes>]
```

Workaround:

Configure the SSH setup manually as shown in the *Oracle Database Grid Infrastructure Installation and Upgrade Guide for Linux* in the section titled Configuring SSH Manually on All Cluster Nodes.

2.7.4 Portable Clusterware Known Bugs

These are the known bugs in Portable Clusterware in Oracle Database 23c.

- Bug 35674857

2.7.4.1 Bug 35674857

Database upgrade fails with error `PRCD-01231` when the Oracle Database user and Oracle Grid Infrastructure user are different.

Workaround:

For a single instance database, use the `srvctl remove -db <dbname> -f` command to unregister the database and its service resource before the database upgrade. The database resource is re-created after the database upgrade if the Database Upgrade Assistant (DBUA) is used. In the case of AutoUpgrade, the user needs to manually re-create the database resource using the `srvctl add database` and `srvctl add instance` commands. Finaly, the user needs to manually re-create the service resource using the `srvctl add service` command.

For an Oracle Real Application Clusters (Oracle RAC) database, apply the one-off patch of bug 35674857 to the database home before the database upgrade. It is also applicable to a single instance database and the workaround to unregister the database and service resource is not needed if the one-off patch is applied.