

Oracle® Database

ODBC Driver Release Notes

Release 12.1.0.2.0

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Description

The Oracle ODBC Driver enables applications to connect to Oracle database from a Windows client as well as from a UNIX client that use Microsoft Open Database Connectivity (ODBC) API to read from and write to Oracle databases.

The Oracle ODBC Driver distribution kit consists of Dynamic Link Libraries and shared libraries (for UNIX platforms), help file (on UNIX and Windows platforms), a copy of the license and this product description. To use an ODBC enabled application the following software is required in addition to the Oracle ODBC Driver:

- Oracle Client & Net version 12.1
- Oracle Database Server

Oracle ODBC Driver complies with ODBC 3.52 specifications.

New Features

Oracle ODBC Driver new features are described for the following releases:

- [ODBC 12.1.0.1.0](#) (page 2)
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ODBC 12.1.0.1.0

Features of the Oracle ODBC Driver release 12.1.0.1.0 software for the Microsoft Windows Server 2008, Windows Server 2008 R2, Windows 7, Windows 8, Windows Server 2012, Linux X86-64 (32-bit, 64-bit), Sun Solaris SPARC64 (32-bit, 64-bit), IBM AIX 5L (32-bit, 64-bit), Sun Solaris X64 (32-bit, 64-bit), HP-UX IA64 (32-bit, 64-bit), ZLinux (32-bit, 64-bit) operating systems are described as follows:

- Oracle ODBC Driver now supports 32 KB data columns with `VARCHAR2`, `NVARCHAR2`, and `RAW` data. See *Oracle Database PL/SQL Packages and Types Reference* and *Oracle Database SQL Language Reference* for information about creating 32 KB columns.
- ODBC driver supports the migration of third-party applications to Oracle Databases by using the SQL Translation Framework. This enables non-Oracle database SQL statements to run against Oracle Database. For using this feature with an ODBC application, you must specify the service name, which was created as part of SQL Translation Framework setup, as the `ServerName=` entry in the `odbc.ini` file. If you require support for translation of Oracle errors (ORA errors) to your the native database, once your application starts running against Oracle Database, then you must enable the `SQLTranslateErrors=T` entry in the `odbc.ini` file.

See *Oracle Database SQL Translation and Migration Guide* on "How to Use SQL Translation Framework" before migrating a third-party ODBC application to Oracle Database.

- Oracle ODBC driver now supports executing a stored procedure, which can return implicit results without using `RefCursor`. This support eases any third party ODBC application, which migrated to Oracle and wants to use this same functionality that was provided by their previous vendors.

See *Oracle Database SQL Translation and Migration Guide* for more information about implicit results support by Oracle Database.

- Extended support of `SQLColAttribute()` field identifiers to support Oracle Database auto increment feature. You can use this feature by including Oracle ODBC driver specific header file `sqora.h` in the application. See *Oracle Call Interface Programmer's Guide* for more information about auto increment:

- `SQL_COLUMN_AUTO_INCREMENT`

Starting from Oracle Database Release 12c Release 1 (12.1), Oracle supports auto increment columns so the Oracle ODBC Driver has extended the same support through the existing `SQLColAttribute()` identifier `SQL_COLUMN_AUTO_INCREMENT`. This property is read only and returns `SQL_TRUE` if the column is auto increment; otherwise, it returns `SQL_FALSE`.

- `SQL_ORCLATTR_COLUMN_PROP`

Starting from Oracle Database Release 12c Release 1 (12.1), Oracle ODBC Driver supports a new driver specific field identifier `SQL_ORCLATTR_COLUMN_PROP`, which returns the attributes of the column. This identifier returns `SQLULEN` value, which has all the column properties, shown as follows:

```

+-----+
| 32 | ... | 10 | 9 | 8 | ..... | 3 | 2 | 1 |
+-----+
|           |           |           |
|           |           | -> Column is auto-increment?
|           |           | -> Auto value is always generated?
|           |           | -> If generated by default when null?

```

ODBC 11.2.0.1.0

- Oracle ODBC driver has been enhanced to prefetch `LONG` and `LONG RAW` data to improve performance of ODBC applications. To do this, the maximum size of `LONG` data (`MaxLargeData`) has to be set in registry on Windows (also need to add the registry key `MaxLargeData=` in the DSN), and in `odbc.ini` file on UNIX platforms manually. This enhancement has improved the performance of Oracle ODBC driver up to 10 times, depending on the `MaxLargeData` size set by the user. The default value of `MaxLargeData` is 0. The maximum value for `MaxLargeData` that can be set by the user is 64 KB (65536 bytes). Even if the value of `MaxLargeData` is set to some value greater than 65536, the data fetched will be 65536 bytes only. If a user has `LONG` and `LONG RAW` data in database, which is greater than 65536 bytes, `MaxLargeData` should be set to 0 (the default value), which will result in single row fetch and the complete `LONG` data can be fetched. In case the user has passed the buffer less than `MaxLargeData` size in non-polling mode, the data truncation error will occur if `LONG` data size in the database is greater than the buffer size. (Enhancement Request 7006879).
- Oracle ODBC Driver is now made to support `OCIDescribeAny()` call (to get metadata) to improve performance when the application is making heavy calls to small packaged procedures that return `REF CURSORS` through the option called `UseOCIDescribeAny` in `odbc.ini`. To use `OCIDescribeAny()` on UNIX platforms, set `UseOCIDescribeAny` to `T` (True) in `odbc.ini` file, and on Windows through the registry in DSN. (Enhancement Request 7704827).

ODBC 11.1.0.1.0

- Added support for Disable `RULE` Hint. Oracle ODBC Driver now allows user to specify the option to select whether to use `RULE` Hint in catalog APIs. The change has been done to increase the performance of ODBC driver for catalog APIs. The default value for the option is `TRUE` which means that `RULE` Hint will not be used in catalog APIs by default. (Bug4150034).
- Added support for Bind Number As `FLOAT`. By introducing Column Binding for `NUMBER` Column as `FLOAT` when the column contains `FLOAT` data speeds up the query execution that uses bind variables as `FLOAT`. (Bug4608183).
- Added support for OCI statement caching feature that provides and manages a cache of statements for each session. By implementing the support for OCI Statement Caching option, Oracle ODBC Driver will see the increase in

performance where users have to parse the same statement multiple times in the same connection. The default value for the statement cache flag is `FALSE`.

- Changed the behavior of Result-set cache by saving the unnecessary memory calls to increase the ODBC Driver Performance.

ODBC 10.2.0.1.0

- Added support for named parameter, binding parameters by name. Oracle ODBC Driver now allows application to specify the parameters to a stored procedure by name, in the procedure call. Named parameters are only to be used in calls to stored procedures, and not to be used in other SQL statements. (Bug3617324)
- Changed the behavior of describing metadata for stored procedures that exist in some package. The change has been done to increase the performance of ODBC Driver for stored procedure calls. Now if the stored procedure is in some package, then the metadata will be described using a PL/SQL procedure. (Bug4030664)
- The support for Oracle ODBC Driver for Linux and Solaris platforms is introduced in release 10.2.0.1. From release 10.2.0.4 ODBC Driver was made available for the AIX platform as well.

ODBC 10.1.0.2.0

- Added support for NCHAR columns in `INSERT/UPDATE` statements with parameter markers, (Bug 2827132). Previously, the driver did not notice that the column was of NCHAR type and failed to set the proper attribute when binding at the OCI level. As a side effect, the `SQLDescribeParam` call now returns useful information for parameters in `INSERT/UPDATE` statements, though not in other statement types.
- Added support for LOBs larger than 4 GB. Requires the Oracle Client and Database to both be Oracle Database 10g (10.1) or later.
- Added support for the new `BINARY_FLOAT` and `BINARY_DOUBLE` data types in Oracle Database 10g and later servers.
- Added support for `MONTHNAME` and `DAYNAME` functions in SQL statements.

Functionality

The Oracle ODBC Driver complies with Version 3.52 of the Microsoft ODBC specification.

Software Required

Oracle ODBC driver was certified against:

- Windows operating system versions: Windows Server 2008, Windows Server 2008 R2, Windows 7, Windows 8, and Windows Server 2012
- UNIX operating system versions: 32-bit and 64-bit ports of Linux X86-64, AIX5L, Solaris.Sparc64, Solaris X64, HPUNIX.IA64, and ZLinux

Oracle Net Client 12.1

Oracle Universal Installer shipping with Oracle Database 12.1

Server Software Requirements

Oracle Database Server 10.2 or later is the server software required to support ODBC enabled applications through the Oracle ODBC Driver.

Hardware Required

The Oracle ODBC Driver requires a system configuration supported by certified Windows platforms as mentioned in [Software Required](#) (page 4) and on few UNIX platforms as documented in Oracle ODBC Driver for UNIX Platforms Readme.

Testing Matrix

The following table summarizes the Windows operating system versions on which ODBC driver was certified.

Table 1-1 Oracle ODBC Driver Is Certified on Windows Operating Systems

Oracle ODBC Driver Is Certified on Windows Operating Systems		
Driver Version	Database Version	Operating Systems
12.1.0.2	As Supported by OCI	See Software Required (page 4).

More Information

The sections that follow describe more information about the Oracle ODBC Driver:

- [Post-Installation](#) (page 5)
- [Known Software Problems for Oracle ODBC Driver](#) (page 5)
- [ODBC Driver For UNIX Platforms](#) (page 6)
- [Software Problems Fixed](#) (page 7)

Post-Installation

Use the Microsoft ODBC Administrator to configure your Oracle ODBC Driver data sources on Windows. See the information about configuring the data source in *Oracle Database Development Guide* for more information.

For the UNIX Client, see [ODBC Driver For UNIX Platforms](#) (page 6).

Known Software Problems for Oracle ODBC Driver

- The `SQLSetStmtOption SQL_QUERY_TIMEOUT` does not work if the database server is running on Windows NT. As a workaround, setting `BREAK_POLL_SKIP=1` in the server's `sqlnet.ora` file solves the problem. By default, this is set to 100, and the database would not check for a time out set by the ODBC application.

- `SQLBindParameter` when use to bind a buffer as `SQL_PARAM_INPUT_OUTPUT` and having a PL/SQL procedure with `IN OUT` parameter and if the parameter is not changed in the procedure, then the driver will not return `SQL_NULL_DATA` in `StrLen_or_IndPtr`.
- Oracle ODBC driver does not support the usage of `Keyset` cursors with the `CASE` clause in a `SQL SELECT` query.

ODBC Driver For UNIX Platforms

Oracle ODBC Driver for UNIX platforms complies with ODBC 3.52 specifications. It is based on features of Oracle 12.1 client. See the [Certification Matrix](#) (page 7), to learn more about the platforms on which Oracle ODBC Driver 12.1 is supported.

Pre-installation Task – Install ODBC DM from [unixODBC.org](http://www.unixodbc.org)

Please install ODBC Driver Manager after downloading `.tar` file from <http://www.unixodbc.org/>.

Post-installation Task

- Configure Oracle ODBC driver on UNIX platforms.

You can configure Oracle ODBC Driver by running `install-home/odbc/utl/odbc_update_ini.sh`.

The utility `odbc_update_ini.sh` takes four command-line arguments:

- `arg-1` : Complete path where `unixODBC DM` has been installed.
 - `arg-2` : Complete path of driver install location (optional); if this argument is not passed, the driver path is set to the directory from where the utility is run.
 - `arg-3` : Driver name (optional); if this argument is not passed, driver name is set to `Oracle 12c ODBC driver`.
 - `arg-4` : Data Source Name (optional); if no value is passed, DSN is set to `OracleODBC-12c`.
- Update and verify values of environment variables such as: `PATH`, `LD_LIBRARY_PATH`, `LIBPATH`, and `TNS_ADMIN`.

Uninstalling ODBC Driver

- Update `~/.odbc.ini` file:
 - Remove the DSN entry (for example, `OracleODBC-12c`) from `[ODBC Data Sources]`.
 - Remove the complete DSN information for the corresponding DSN.
- Update `ODBCDM_HOME/etc/odbcinst.ini` file:
 - Remove the driver information for Oracle 12c ODBC driver.
- Remove Oracle ODBC driver for UNIX platforms
 - Delete `libsqora.so.12.1`

- Reset environment variables such as: PATH, LD_LIBRARY_PATH, LIBPATH, and TNS_ADMIN.

Bugs Fixed

See [Software Problems Fixed](#) (page 7).

Certification Matrix

Oracle has certified Oracle ODBC Driver for release 12.1 against DM 2.3.1 on the following UNIX platforms shown in [Table 1-2](#) (page 7). On 64bit UNIX platforms, DM 2.3.1 is built with the `-DBUILD_REAL_64_BIT_MODE -DSIZEOF_LONG=8 -fshort-wchar` flags and then certified.

Table 1-2 Certification Matrix for Oracle ODBC Driver on UNIX Platforms

Certification Matrix for Oracle ODBC Driver on UNIX Platforms		
Platform	32-bit/64-bit	UnixODBC DM version
Linux x86-64	32-bit, 64-bit	2.3.1
Solaris SPARC64	32-bit, 64-bit	2.3.1
AIX5L	32-bit, 64-bit	2.3.1
Solaris x64	32-bit, 64-bit	2.3.1
HPUX.IA64	32-bit, 64-bit	2.3.1
ZLinux	32-bit, 64-bit	2.3.1

See the Installation guide of each platform to learn more about each operating system and Oracle Client software requirements.

Software Problems Fixed

Most of the software bug fixes are generic in nature though some may have been discovered on a particular platform. There could be a small number of platform specific software bug fixes as well. Software bug fixes are described for the following versions:

- [Version 12.1.0.2.0](#) (page 7)
- [Version 12.1.0.1.0](#) (page 8)
- [Version 11.2.0.2.0](#) (page 9)
- [Version 11.2.0.1.0](#) (page 10)
- [Version 11.1.0.1.0](#) (page 11)

Version 12.1.0.2.0

- Array insert of type LOB resulted in inserting the last element into all the rows. (Bug 16491814)

- ODBC application use to throw ORA-00918: column ambiguously defined error when join and multiple tables were used in a query with a KEYSET_DRIVEN cursor. (Bug 9642938)
- Oracle ODBC driver use to result in ODBC call failed error when the ODBC driver tried to reconnect to Oracle Database after Microsoft Access connection timed out. (Bug 16181438)
- Oracle ODBC driver use to give access violation at SQLExecute when setting an incorrect bind parameter value for TIMESTAMP database column. (Bug 16009315)
- Oracle ODBC driver use to return string truncation error S1004 when a multithreaded application having common ENV handle across all threads uses SQL_C_TCHAR C data type as the buffer type in SQLBindCol when NLS_LANG is JA16SJISTILDE. (Bug 13044472)
- Data truncation with MSADSQL and ATL library where applications rely on precision and scale field in SQL_NUMERIC_STRUCT. (Bug 16959397)
- Crash is due to array bind when the array bind is done a number of times. (Bug 17896495)
- Temporary lob not free after data is fetched. (Bug 17928169)
- When fetching data from index organized table using KEYSET-DRIVEN cursor, it results in ORA-01410 error. (Bug 17583959)

Version 12.1.0.1.0

- Oracle ODBC driver use to give ORA-1410 followed by access violation with SELECT statement where the table is created and values are inserted with database character set as AL32UTF8. (Bug 10132342)
- Oracle ODBC driver use to return ORA-1002 when the ODBC application executes and fetches a huge number of rows the second time, but does not reprepare and bind the column the second time. (Bug 10131881)
- Oracle ODBC driver use to throw ORA-932 on inserting a record view MFC Recordset. (Bug 9952132)
- Oracle ODBC driver use to return ORA-1461 or access violation when used with SQL_RESET_PARAMS in SQLFreeStmt () API. (Bug 9903704)
- Oracle ODBC function SQLSetPos () use to overwrite 2 bytes after the row status buffer is called with the SQL_UPDATE parameter. (Bug 9764806)
- Oracle ODBC driver never use to time out when SQL_ATTR_QUERY_TIMEOUT statement option is set to a non-zero value on UNIX platforms. (Bug 9714490)
- Oracle ODBC driver use to return ORA-1406 when an application with client side character set as AL32UTF8 was trying to read data from single byte character set database. (Bug 8927110)
- Oracle ODBC driver use to return ORA-1410 after applying the 11.2.0.1 Patch 7 against a UTF8 Oracle database. (Bug 10422748)

- ODBC data Source Administrator never use to show the fully qualified service name in the drop down box. (Bug 10236704)
- Oracle ODBC driver use to fail when the CREATE PROCEDURE statement has the wide character \r. (Bug 14458246)
- Oracle ODBC driver use to throw pop up window of change-password repeatedly when database password expired. (Bug 10353128)
- ODBC driver use to hang and/or crash under a multithreaded environment and when there was a memory leak during multiple connects and disconnects. (Bug 9850419)
- SQLGetData() API of Oracle ODBC driver use to consume more time during scalability of threads versus processes. The threaded version of the application use to take more time than the process version. (Bug 9835629)
- Oracle ODBC driver use to fail with access violation in SQLFetchScroll() API with the SQL_FETCH_NEXT option. (Bug 9578533)
- Oracle ODBC driver use to return wrong columns_size and buffer_length values through SQLColumns() APIs for CHAR columns. (Bug 9414079)
- Oracle ODBC driver use to return SQL_NO_DATA_FOUND when SQL_ROWSET_SIZE was set to more than the remaining rows. (Bug 9264668)
- Oracle ODBC driver use to hang when transferring Microsoft Access table data to Oracle table. (Bug 8984021)
- Oracle ODBC driver use to truncate returned data when there were more characters with multibyte in a selected row, with NLS_LENGTH_SEMANTICS=CHAR and AL32UTF8 database character set. (Bug 8771556)

Version 11.2.0.2.0

- ODBC driver use to abort when a SQL Server EXEC statement containing procedure without parameters is passed and EXECSTYX=T. (Bug 8393140)
- ODBC driver use to return wrong suffix and prefix lengths on 64-bit environment. (Bug 8429289)
- ODBC driver use to fail during SQLConnect on AIX environment when DM version is set to SQL_OV_ODBC2. (Bug 8639577)
- ODBC application use to fail on UNIX 64-bit environment when SQLFetchScroll() with bind type SQL_C_SLONG. (Bug 8735155)
- ODBC driver use to truncate the data when there is multi-byte data in a selected row with combination of NLS_LENGTH_SEMANTICS=CHAR and AL32UTF8 character set. (Bug 8771556)
- ODBC driver use to crash on Solaris sparc64 while executing the statement. (Bug 8775499)

- ODBC driver use to crash on HPUXIA64 while fetching FLOAT/DOUBLE data. (Bug 8974909)
- ODBC Driver use to hang during transfer of Microsoft Access table data to Oracle table. (Bug 8984021)
- ODBC driver use to fail on Windows 64-bit while adding data source using SQLConfigDataSource() API. (Bug 9023338)
- ODBC driver use to crash on Solaris while dealing with FLOAT/DOUBLE. Bug 9058381)
- ODBC driver used return incorrect data on big endian environment when application binds date field to SQL_C_WCHAR. (Bug 9070694)
- ODBC driver use to crash on UNIX 64-bit environment when SQLGetConnectAttr() is used with pointer to UNSIGNED INT. (Bug 9105601)
- ODBC driver use to map incorrect size for SQL_C_ULONG, SQL_C_SLONG, and SQL_C_LONG types on UNIX 64-bit environment. (Bug 9463231)
- Unicode ODBC application use to fail while SQL execution. (Bug 9743383)
- ODBC Driver Configuration of "ODBC Data Source Administrator" use to show garbage values in the drop down list for TNS Service Name when TNS_ADMIN value is set in registry and not as environment variable. (Bug 8796983)
- ODBC Driver use to return no-data-found in case of SQLROWSET_SIZE is more than remaining rows application returns no-data-found when SQLROWSET_SIZE is set more than the remaining rows after first fetch. (Bug 9264668)

Version 11.2.0.1.0

- ODBC Driver use to return the wrong length for SQLBindCol on Solaris (port specific). (Bug 7660125)
- Memory leak was reported in the ODBC driver while returning a result set from a stored procedure. (Bug 7586197)
- ODBC was failing to update the LONG RAW when the size was more than 65536 bytes. (Bug 7585970)
- ODBC application use to fail with a NULL password error when MTS was enabled. (Bug 7509964)
- ODBC Driver use to return an access violation on executing a stored procedure. (Bug 7458976)
- ODBC application use to hang when more connections were created. (Bug 7388606)
- ODBC application use to crash when SQLSetParm() was called with a string that is non NULL terminated. (Bug 7011807)
- ODBC Driver use to report an ORA-24817 error on querying a bulk operation. (Bug 6908070)

- ODBC Driver use to return the wrong length and data for a `SQLGetData()` call when using NLS character in literal and with NLS settings as `NLS_LENGTH_SEMANTICS= CHAR, NLS_CHARACTERSET = AL32UTF8`. (Bug 6801797)
- ODBC driver use to crash on 64-bit environments while fetching data. (Bug 6801211)
- ODBC Driver use to show the wrong types when using calls `SQLDescribeParam()`, `SQLDescribeCol()`, `SQLColumns()`, `SQLGetTypeInfo()`. (Bug 6598695)
- ODBC driver use to crash with `SQLGetStmtAttr()` call. (Bug 6416638)
- ODBC driver use to report SIGBUS on Solaris SPARC as memory for cache blocks was not aligned. (Bug 6411945)
- ODBC Driver use to return an [ORACLE][ODBC]Memory Allocation Error, while describing metadata for a procedure. (Bug 6085754)
- ODBC Driver use to report an error on executing a procedure after execution of the INSERT statement. (Bug 5961436)
- ODBC Driver use to report an ORA-24374 error whenever a SQL Statement was preceded by any valid tokens that did not give the SQL Statement type. (Bug 5383456)
- ODBC Driver use to return the same error message twice with a `SQLExecute()` call. (Bug 5222165)
- ODBC Driver use to return an ORA-24374 error when executing a query that included a line comment. (Bug 4743995)

Version 11.1.0.1.0

- ODBC driver use to fail in updating the output parameter of a stored procedure when it contained a large CLOB parameter as the input parameter. (Bug 5365475)
- ODBC Driver use to do an improper round off for DOUBLE data if connecting to a 10 GB database. (Bug 5389003)
- ODBC driver use to fail in updating the output parameter of a stored procedure when it contained a large CLOB parameter as an input parameter. (Bug 5365475)
- ODBC driver use to truncate CLOB data for a client UNICODE character set. (Bug 5220440)
- ODBC driver use to return old data on requesting the data for a read-only connection. (Bug 5202103)
- ODBC driver use to report an ORA-1008 error, when an MFC application requeries the database. (Bug 5147229)
- ODBC driver use to return the wrong value on fetching a NUMBER value that is converted to `SQL_C_CHAR`. (Bug 5128512)

- ODBC driver use to return the wrong information for few column types. (Bug 5015342)
- ODBC driver use to report an ORA-12704 error on the second invocation of a `SQLExecute()` call for `NCLOB` columns. (Bug 4965677)
- ODBC Driver use to report a crash on exit from an ADO and Excel applications. (Bug 4893583)
- ODBC Driver use to return 0 as the data type on calling `SQLBindCol()` after `SQLColumns()`. This problem appears only on the Solaris platform, but the software fix is generic. (Bug 4880062)
- ODBC Administrator use to show ODBC entries even after uninstalling the ODBC. (Bug 4761792)
- ODBC driver use to truncate the data retrieved with the `SQLFetchScroll()` call. (Bug 4735799)
- ODBC driver use to result in an application crash while executing a stored procedure having a large number of parameters. (Bug 4727495)
- DM from `UNIXODBC.ORG` reports error: Driver does not support `SQLSETSTMATTR()`. This is a port specific (Linux and Solaris) bug. (Bug 4710548)
- ODBC driver use to report an undefined symbol `SLEEP` when fail over happened. (Bug 4698310)
- ODBC Driver use to report a crash on inserting `NULL` data using bind offsets. (Bug 4694220)
- ODBC Driver use to set the value corresponding to attribute `SQL_ATTR_PARAMS_PROCESSED_PTR` improperly when the stored procedure execution was with array binds. (Bug 4690201)
- ODBC Driver use to report a crash when returning an array of `VARCHARs` from a stored procedure. (Bug 4690147)
- ODBC Driver use to give an incomplete result set when the stored procedure contained `REF CURSOR` arguments. (Bug 4624776)
- ODBC driver use to report an error on executing a stored procedure containing `REF CURSOR` parameters. (Bug 4622561)
- ODBC Driver use to take more time fetching data from a `NUMBER` column containing `FLOAT` data. (Bug 4608183)
- ODBC driver use to return duplicate results for a `SQLProcedures()` call. (Bug 4565416)
- ODBC Driver use to report a memory leak for a stored procedure containing `REF CURSORS`. (Bug 4551675)
- ODBC Driver use to return an ORA-1406 error when selecting a calculated number with a large precision from a view. (Bug 4546618)

- ODBC driver use to report a crash for executing queries in a multithreaded application. (Bug 4519067)
- ODBC administrator use to invoke English ODBC help in the Japanese environment. (Bug 4506552)
- ODBC driver use to report the error `Input string too long, limit 4096`, when the long string contained CRLF code (`\n \r`) and contained more than 4096 characters after the CRLF characters. (Bug 4371966)
- ODBC administrator use to fail while opening the help file under an Instant Client environment. (Bug 4309867)
- ODBC Driver use to return the wrong data for stored procedures having NCTLOB as the OUT Param. (Bug 4235212)
- ODBC catalogue functions use to take more time to complete. (Bug 4150034)

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