Release Notes

Amazon Redshift ODBC Data Connector 1.4.45

Released November 2021

These release notes provide details of enhancements, features, known issues, and workflow changes in Amazon Redshift ODBC Connector 1.4.45, as well as the version history.

Enhancements & New Features

Support for the serverless endpoint

The connector now supports the serverless endpoint.

SHA-256 password hashing algorithm support

The connector now supports the SHA-256 password hashing algorithm.

Authentication Profile support

You can now use an authentication profile to authenticate your connections. For more information, see the *Installation and Configuration Guide*.

Support for Redshift and STS endpoints

When authenticating, the connector now supports using endpoints to communicate with the Redshift cluster or the AWS Security Token Service (AWS STS). For more information, see the *Installation and Configuration Guide*.

Updated Ubuntu support

The connector now supports Ubuntu 20.04. For more information on supported versions, see the *Installation and Configuration Guide*.

Updated third-party libraries

The connector has been updated to use the following libraries:

- AWS SDK 1.9.136 (previously 1.7.41)

- libcurl 7.78.0 (previously 7.74.0)

- OpenSSL 1.1.1l (previously 1.1.1k)

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.45.

- Expired certificates in the root.crt file causes the connector to return an error.

  This issue has been resolved. Expired and unnecessary certificates have been removed from the Root CA certificate.

- When a new user connects to SQL Server with Linked Server using ADFS Windows Integrated Authentication, the connector uses incorrect cached credentials.

- On Linux, when using the Amazon EC2 instance profile and IMDSv1 is disabled, the connection fails.

- When using UPDATE, INSERT, or DELETE statements, the connector returns an "a statement is already in progress" error message.

- When rounding floating point numbers, the connector returns an incorrect value.

- When calling SQLColumns() for boolean columns in external tables, the connector returns the boolean data type and causes the Boolean column to be unsearchable in PowerBI.

- When remotely connecting to SQL Server Linked Server using ADFS Windows Integrated Authentication and Kerberos authentication is expected, the connection fails.

Known Issues

The following are known issues that you may encounter due to limitations in the data source, the connector, or an application.

- Limited support for stored procedures.

  The connector does not support parameterized procedure call queries if there is more than one procedure of different argument types that share the same name in the server.

- Timestamps do not accept negative values.

  The connector does not support the use of negative values in timestamps.

Workflow Changes

The following changes may disrupt established workflows for the connector.

Version 1.4.45

Updated JWT configuration properties

The configuration properties required for JWT authentication has been updated as the web identity token is now directly handled by the Redshift cluster instead of the STS. The new Provider Name option (`provider_name` connection property) is used instead of Role ARN, Duration, and Role Session Name. For more information, see the *Installation and Configuration Guide*.

Removing support for macOS 32-bit

Beginning with this release, the macOS connector no longer supports 32-bit client applications. For more information, see the *Installation and Configuration Guide*.

Version 1.4.40

Updated IAM authentication behavior

The connector's behavior when using IAM authentication has been updated. Now, the cached IAM credentials are disabled and the connector authenticates the user's identity with the identify provider.

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Updated EnforceSingleStatement and UseMultipleStatements description

The description of the `EnforceSingleStatement` and `UseMultipleStatements` options have been changed to reflect the actual behaviour. For more information, see the *Installation and Configuration Guide*.

Updated query processing modes behavior

The driver's behavior for the query processing modes have been updated. For more information, see the *Installation and Configuration Guide*.

Removed support for CentOS 6 and RHEL 6

Beginning with this release, support for CentOS 6 and RHEL 6 have been removed. For a list of supported Linux versions, see the *Installation and Configuration Guide*.

Version 1.4.18

Removing support for earlier versions of operating systems

Beginning with this release, the driver no longer supports the following operating systems:

- Windows 7 SP1

- Windows Server 2008 R2 SP1

- SUSE Linux Enterprise Server (SLES) 11

- Debian 7

- Ubuntu 14.04

For a list of supported operating systems, see the Installation and Configuration Guide.

Version 1.4.17

New default value for Bytea As LongVarBinary

The default value of the Bytea As LongVarBinary option (`ByteaAsLongVarBinary` connection property) is now Enabled (`1`). Previously, the default value was Disabled (`0`). For more information, see the *Installation and Configuration Guide*.

Version 1.4.11

Removed support for the Visual C++ Redistributable for Visual Studio 2013

Beginning with this release, the driver now requires the 2015 version of this dependency instead of the 2013 version.

To download the installation packages for the Visual C++ Redistributable for Visual Studio 2015, go to https://www.microsoft.com/en-ca/download/details.aspx?id=48145.

Version History

Version 1.4.40

Released September 2021

Enhancements & New Features

Support for VARBYTE data

The connector now supports data of type VARBYTE. For more information, see the *Installation and Configuration Guide*.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.40

- On Linux and macOS, when a query is executed and the results are retrieved from different threads, the connector becomes unresponsive.

- When calling SQLMoreResults without retrieving the current result set in a statement containing multiple queries, the connector does not return SQL_SUCCESS.

- When using ADFS authentication, WinHttpRecieveResponse returns an ERROR_WINHTTP_CLIENT_AUTH_CERT_NEEDED error.

- When using JWT authentication, and the Role Session Name is not specified, the connector assigns a default name.

  This issue has been resolved. Now, the connector uses the derived user name from the JWT assertion as the Role Session Name.

- The precision and scale of SQLProcedureColumns do not match its definition.

  This issue has been resolved. Now, SQLProcedureColumns is set to the following:

  - COLUMN_SIZE for NUMERIC type: the defined number of digits
  - BUFFER_LENGTH for NUMERIC type: the defined number of digits plus two (a sign and a decimal point)
  - DECIMAL_DIGITS for NUMERIC type: the defined number of digits to the right of the decimal point
  - DECIMAL_DIGITS for INTEGER type: 0

- SQL_MAX_CATALOG_NAME_LEN, SQL_MAX_SCHEMA_NAME_LEN, and SQL_MAX_COLUMN_NAME_LEN in SQLGetInfo are set to a maximum of 64 characters.

  This issue has been resolved. These properties are now set to the Redshift maximum of 127 characters.

- When SQLTables is called and the schema and/or table name is over 124 characters, the name is truncated.

Version 1.4.34

Released July 2021

Enhancements & New Features

Updated third-party libraries

The connector has been updated to use the following libraries:

- libcurl 7.74.0 (previously 7.66.0)

- OpenSSL 1.1.1k (previously 1.1.1i)

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.34.

- When a query in a statement handle fails when using SQLPrepare(), the connector incorrectly returns an "Error occurred while trying to run statement: a statement is already in progress" error message.

- When executing DDL and DML statements, the connector becomes unresponsive without closing the cursor or freeing the statement handle.

- During IAM authentication, when the connector retrieves the STS API, the AWS region setting in the DSN is not used.

Version 1.4.30

Released June 2021

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.30.

- When calling SQL_DESC_DISPLAY_SIZE, SQL_COLUMN_LENGTH, and SQL_DESC_OCTET_LENGTH geometry data types, the connector returns 0.

  This issue has been resolved. The connector now returns SQL_NO_TOTAL for SQL_DESC_DISPLAY_SIZE, SQL_COLUMN_LENGTH, and SQL_DESC_OCTET_LENGTH geometry data types. Note that the connector returns 0 for SQL_DESC_LENGTH and SQL_COLUMN_PRECISION.

- When querying SQLSpecialColumns(), the connector returns incorrect results.

- When querying SQLForeignKeys(NULL, 0, PKSchemaName, SQL_NTS, PKTableName, SQL_NTS, NULL, 0, FKSchemaName, SQL_NTS, NULL, 0) or SQLForeignKeys(NULL, 0, PKSchemaName, SQL_NTS, NULL, 0, NULL, 0, FKSchemaName, SQL_NTS, FKTableName, SQL_NTS), the connector returns an error.

- When querying SQLForeignKeys(), the connector returns the result set in an incorrect order.

- When calling SQLColumns() or SQLProcedureColumn() for DOUBLE PRECISION column for external tables, the connector returns with the double data type in DATA_TYPE and SQL_DATA_TYPE columns.

  This issue has been resolved. Similar to internal tables, the connector now returns with the float data type in DATA_TYPE and SQL_DATA_TYPE columns.

- When calling SQLEndTran() to complete a transaction and the server has terminated the connection, the connector incorrectly returns SQL_SUCCESS.

- When Database Metadata Current Database Only is disabled and calling SQLTables with CatalogName set to SQL_ALL_CATALOGS, and SchemaName and TableName are empty strings, the connector returns query results tables in an incorrect order.

  This issue has been resolved. The connector now uses an ORDER BY clause for these queries.

Version 1.4.27

Released March 2021

Enhancements & New Features

JWT authentication

The driver can now authenticate the connection using a JSON Web Token (JWT). For more information, see the *Installation and Configuration Guide*.

Updated OpenSSL library

The driver has been updated to use version 1.1.1i of the OpenSSL library. Previously, the driver used 1.1.1g.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.27.

- When SQL_ATTR_ACCESS_MODE is set to SQL_MODE_READ_ONLY before the connection, the driver log incorrectly shows "Failed to execute query before connecting to the server: SET readonly = true" where the query is not executed.

  This issue has been resolved. The log now shows "Query is not executed because connection has not been established: SET readonly = true" in this case, and "Query executed: SET readonly = true" when the query is executed.

- On Linux, when calling ODBC API such as SQLGetCursorName(), the driver returns a bad_alloc exception.

  This issue has been resolved. This is caused by an overflow when computing the buffer size. The driver now returns a warning if the buffer size is not appropriate.

- In some cases, when multiple threads are creating and destroying the connection handle, the driver becomes unresponsive or terminates unexpectedly.

- In some cases, if SQLColumns() for external tables is called after SQLColumns() for internal tables, the driver does not return SQLColumns() metadata for external tables.

- When executing multiple concurrent queries in the same connection, the driver terminates unexpectedly.

- When calling SQLDescribeCol() for columns with the PRIMARY KEY constraint, the driver returns incorrect values for NullablePtr.

  This issue has been resolved. The driver now returns SQL_NO_NULLS for NullablePtr to indicate that a column with the PRIMARY KEY constraint does not support NULL values.

- When calling SQLDescribeCol() for columns with the NOT NULL constraint, the driver returns incorrect values for NullablePtr.

  This issue has been resolved. The driver now returns SQL_NO_NULLS for NullablePtr to indicate that a column with the NOT NULL constraint does not support NULL values.

- When calling SQL_DESC_BASE_TABLE_NAME and SQL_DESC_TABLE_NAME, the driver returns an empty string.

  This issue has been resolved. The driver now returns the base table name.

- When calling SQL_DESC_NAME, the driver returns the base column name.

  This issue has been resolved. The driver now returns the alias column name.

- When calling SQLColAttribute() for SQL_DESC_NULLABLE and the columns contain the PRIMARY KEY or NOT NULL constraint, the driver returns an incorrect value.

- When autocommit is disabled and the query fails after execution, the driver executes ROLLBACK.

  This issue has been resolved. The driver now returns a "current transaction is aborted, commands ignored until end of transaction block" error. The application must explicitly commit or roll back transactions with SQLEndTran.

- `ODBCMessages.xml` contains a duplicate error message key.

- When using Power Pivot to query the server, the driver returns a "Requested property not supported" error.

- When calling SQLExtendedFetch() and different sizes of SQL_ROWSET_SIZE is used, the driver returns incorrect data.

- When calling SQLProcedureColumns() for variable length data types, the driver returns NULL for the COLUMN_SIZE and BUFFER_LENGTH columns.

  This issue has been resolved. The driver now returns the correct values according to the ODBC specifications.

- When calling SQLColumns() with a percentage sign (`%`) as the schema filter, the driver does not return any rows.

  This issue has been resolved. The driver now, when using a percentage sign (`%`) as the schema filter, returns the same rows as using null as the schema filter.

Version 1.4.20

Released November 2020

Enhancements & New Features

Return metadata from multiple data stores

The driver can now return metadata from multiple Redshift databases and clusters. To enable this, clear the Database Metadata Current Database Only check box (set the `DatabaseMetadataCurrentDbOnly` property to `0`). For more information, see the *Installation and Configuration Guide*.

Updated root certificate file

The `root.crt` file has been updated to support Amazon Root CA 2, 3, and 4.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.20.

- In some cases, when multiple threads are creating and destroying the environment handle, the driver hangs or terminates unexpectedly.

- When SQLPutData() is called multiple times for the same parameter, the parameter value is incorrectly truncated.

- When SQLProcedureColumns() is called for a stored procedure with multiple OUT parameters, only one OUT parameter is returned.

- SQL_DATA_TYPE and SQL_DATETIME_SUB in SQLProcedureColumns() return incorrect values for date and time data types.

  This issue has been resolved. The driver now returns SQL_DATETIME for all date and time types in SQL_DATA_TYPE for SQLProcedureColumns(). Additionally, the driver now returns SQL_CODE_DATE, SQL_CODE_TIME, or SQL_CODE_TIMESTAMP, depending on the type of date or time column, or null otherwise, in SQL_DATETIME_SUB for SQLProcedureColumns().

- CHAR_OCTET_LENGTH in SQLProcedureColumns returns NULL for character types.

  This issue has been resolved. The driver now returns the correct length.

Version 1.4.18

Released October 2020

Enhancements & New Features

Updated logging configurations

You can now configure logging for the current connection by setting the logging configuration properties in the DSN or in a connection string. For more information, see the *Installation and Configuration Guide*.

Updated third-party libraries

The driver has been updated to use the following libraries:

- OpenSSL 1.1.1g (previously 1.1.1d)

- ICU 58.3 (previously 58.2)

Additional operating system support

The driver now supports the following additional operating systems:

- Windows Server 2019

- Red Hat Enterprise Linux (RHEL) 8

- CentOS 8

- SUSE Linux Enterprise Server (SLES) 15

- Ubuntu 18.04

For a complete list of supported operating systems, see the Installation and Configuration Guide.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.18.

- If autocommit is disabled and the query fails after execution, the driver returns a "current transaction is aborted, commands ignored until end of transaction block" error.

- Inserting multiple rows using SQLPutData() results in duplicate rows.

- Before the connection, when SQL_ATTR_ACCESS_MODE is set to read-only, and logging is enabled, the driver terminates unexpectedly.

- When using SQLSetDescRec () with SQL_TYPE_DATE and SQL_TYPE_TIMESTAMP, the driver returns an error.

- When the connection object's destructor calls SQLDisconnect(), the driver terminates unexpectedly.

  This issue has been resolved. When using the driver with an object that has static storage duration (such as a global), you may run into destruction order issues during application termination. The driver now returns SQL_SUCCESS when SQLDisconnect() is called in this case.

- The TIMESTAMPDIFF function behaves differently than the DATEDIFF function.

- In some cases, when using BrowserAzureAD with multiple connections in PowerBI, the connection fails.

  This issue has been resolved. Now, when using BrowserAzureAD, you can no longer set a value for `Listen_Port`.

- In some cases, when using authentication with browser plugins, Chrome opens two connections and the driver does not retrieve from the IdP.

- When using a column filter, SQLProcedureColumns() returns incorrect columns.

- The driver does not return an error message of missing required settings and escapes iodbctest when the key-value pair of a required setting is missing in `odbc.ini`.

Version 1.4.17

Released September 2020

Enhancements & New Features

Rename OMNI datatype to SUPER

Data of type OMNI is now known as SUPER. For more information, see the *Installation and Configuration Guide*.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.17.

- SQL_DATA_TYPE and SQL_DATETIME_SUB in SQLColumns return incorrect values for date and time data types.

  This issue has been resolved. The driver now returns SQL_DATETIME for all date and time types in SQL_DATA_TYPE for SQLColumns. Additionally, the driver now returns SQL_CODE_DATE, SQL_CODE_TIME, or SQL_CODE_TIMESTAMP, depending on the type of date or time column, or null otherwise, in SQL_DATETIME_SUB for SQLColumns.

- When SQLColumns is called for NUMERIC and DECIMAL columns in late binding view, the driver returns an error.

Version 1.4.16

Released July 2020

Enhancements & New Features

Support for TIME data

The driver now supports data of types TIME and TIMETZ. For more information, see the *Installation and Configuration Guide*.

Support for OMNI data

The driver now supports data of type OMNI. For more information, see the *Installation and Configuration Guide*.

Specify relying party trusts

You can now configure the driver to allow different relying party trusts for AD FS authentication. To do this, when the authentication type is AD FS, type the relying party in the loginToRp field (specify the relying party with the `loginToRp` connection property). For more information, see the *Installation and Configuration Guide*.

Support for read-only mode

You can now configure the driver to enable read-only mode. To do this, select the Enable Read Only check box (set the `ReadOnly` connection property to 1). For more information, see the *Installation and Configuration Guide*.

Additionally, you can change the read-only settings by setting SQL_ATTR_ACCESS_MODE to SQL_MODE_READ_WRITE or SQL_MODE_READ_ONLY.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.16.

- When you are missing required connection settings in SQLBrowseConnect(), the driver returns an error.

  This issue has been resolved. The driver now returns the appropriate output connection string with required and optional keys.

- When selecting and inserting using SQLParamData and SQLPutData, the driver returns an error.

- When using PingFederate authentication, the driver incorrectly sends the password to the passwordReset field and the authentication fails.

- The getColumns() metadata for external tables returns inconsistent type names.

- When using SQLPrimaryKeys with a schema name, the driver returns incorrect results.

- When using Browser SAML authentication, the driver can not parse SAML responses containing newlines.

- When using numeric data in late binding views, the driver returns incorrect DECIMAL_DIGITS values in SQLColumns.

Version 1.4.14

Released May 2020

Enhancements & New Features

Support for GEOMETRY data type

The driver now supports data of type GEOMETRY. For more information, see the *Installation and Configuration Guide*.

Lowercase DbGroups

You can now configure the driver to lowercase all DbGroups that are received from the identity provider. To do this, select the Force Lowercase check box (set the `ForceLowercase` connection property to `True`). For more information, see the *Installation and Configuration Guide*.

Filter DbGroups

You can now configure the driver to filter all DbGroups that are received from the SAML response in the Azure, Browser Azure, and Browser SAML authentication types. To do this, type the regular expression in the DbGroups Filter field (specify the filter with the `dbgroups_filter` connection property). For more information, see the *Installation and Configuration Guide*.

Preferred role

You can now configure the driver to use preferred role in the Azure, Browser Azure, and Browser SAML authentication types. To do this, type the role in the Preferred Role field (specify the role with the `Preferred_Role` connection property). For more information, see the *Installation and Configuration Guide*.

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.14.

- When the date, time, or timestamp escape sequences are applied, the SQLBindParameter function returns an error.

- When the driver uses SSO authentication, it sends duplicate parameters and the authentication request fails.

- When the ColumnName filter is applied, the SQLProcedureColumns function returns the incorrect column.

- In some cases, the driver returns an error when arrays of parameters are bound.

Version 1.4.13

Released May 2020

Resolved Issues

The following issues have been resolved in Amazon Redshift ODBC Connector 1.4.13.

- Fix issue with Import/Link table in Microsoft Access.

  The driver can now query tables and views in Microsoft Access.

Contact Us

For support, check the Amazon Redshift Forum at https://forums.aws.amazon.com/forum.jspa?forumID=155 or open a support case using the AWS Support Center at https://aws.amazon.com/support.