Table of Contents

Part I What's New 1

Part II General Information 1

1 Overview ... 2
2 Features ... 3
3 Compatibility ... 6
4 Requirements ... 9
5 Licensing ... 9
6 Getting Support ... 13

Part III Using ODBC Driver 14

1 Installation ... 15
- Windows ... 15
- Silent ... 19

2 Product Activation ... 19
- Obtaining Activation Key ... 20
- Activation on Windows ... 20
- Where to See the License Information? ... 24

3 Connecting to Snowflake ... 27
4 Connection String Parameters ... 29
5 Enabling ODBC Tracing ... 32
6 Supported Data Types ... 33
7 Supported ODBC API Functions ... 35

Part IV Using in Third-Party Tools 45

1 Using in DBeaver ... 45
2 Using in Oracle DBLink ... 50
3 Using in DBxtra ... 52
4 Using in Microsoft Access ... 53
5 Using in Microsoft Excel ... 55
6 Using in SQL Server Management Studio ... 62
- Creating a Linked Server ... 62
- Troubleshooting in SSMS ... 67

7 Using in OpenOffice and LibreOffice ... 71
8 Using in PHP ... 81
9 Using in Power BI ... 83
10 Using in Python ... 84
11 Using in QlikView ... 85
12 Using in SSIS ... 90

© 2024 Enter your company name

13 Using in Tableau 91

© 2024 Enter your company name

1 What's New

New features in ODBC Driver for Snowflake 1.2

- Fixed connection timeout setting before opening connection
- Now passwords are stored in an encrypted form in the DSN record

New features in ODBC Driver for Snowflake 1.1

- Added support for SQL_ATTR_MAX_ROWS attribute
- Improved compatibility with Visual Basic in Visual Studio
- Improved compatibility with Linked Server in SQL Server
- Improved compatibility with Alteryx

New features in ODBC Driver for Snowflake 1.0

- Initial release of ODBC Driver for ODBC Driver for Snowflake
- Windows 32-bit is supported
- Windows 64-bit is supported

© 2015-2024 Devart. All Rights Reserved.

2 General Information

1. Overview
2. Features
3. Compatibility
4. Requirements
5. Licensing
6. Getting Support

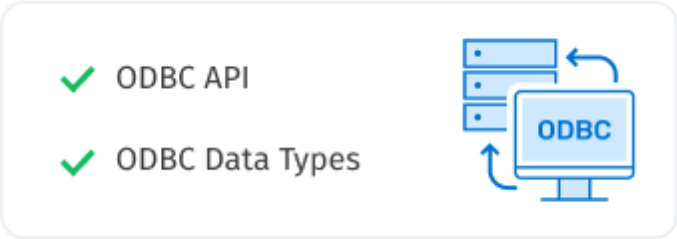
© 2015-2024 Devart. All Rights Reserved.

© 2024 Enter your company name

2.1 Overview

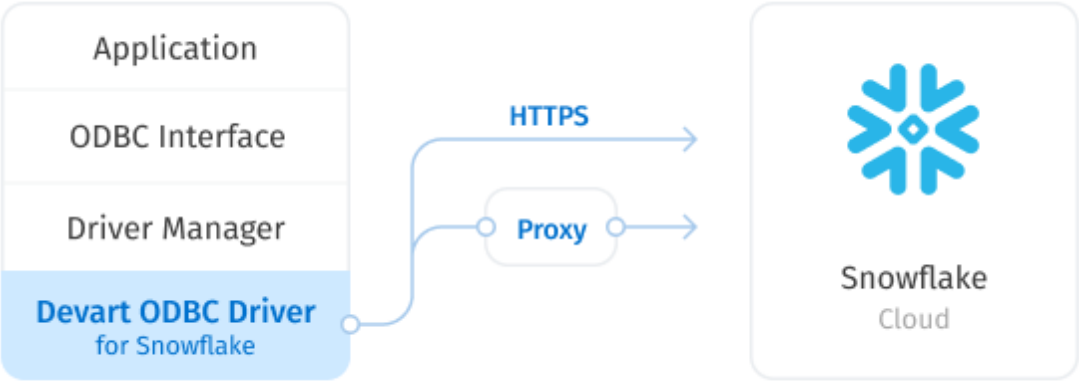
Overview

Devart ODBC Driver for Snowflake is a high-performance connectivity security with enterprise-level features for accessing Snowflake from ODBC-compliant reporting, analytics, BI, and ETL tools on both 32-bit and 64-bit Windows. Our ODBC driver fully supports standard ODBC API functions and data types and enables easy and secure access to live Snowflake data from anywhere.



Connection to Snowflake

Our data connector enables various ODBC-aware applications to connect to Snowflake directly via HTTPS. If you have no direct access to Snowflake via HTTPS, you have the option of establishing a connection through a proxy server.

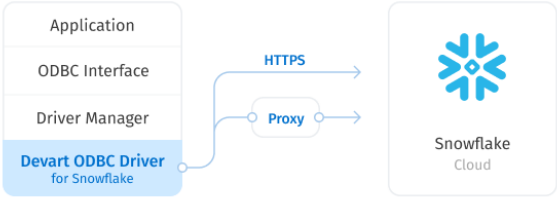


© 2015-2024 Devart. All Rights

Request Support ODBC Forum Provide Feedback

Reserved.

2.2 Features

<table>
<tr>
<td> 
</td>
<td>

Connection to Snowflake

Our connectivity solution enables various ODBC-aware applications to connect to Snowflake directly via HTTPS. If you have no direct access to Snowflake, you have the option of establishing a connection through a proxy server.
</td>
</tr>
<tr>
<td>

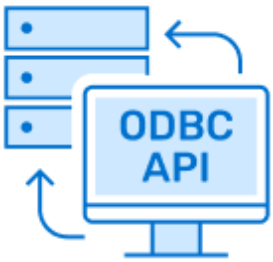
Extended SQL Syntax

Our ODBC driver provides an unrivalled opportunity to work with Snowflake objects just as with SQL tables. The extended SQL syntax allows you to use all the SQL benefits in SQL-92 compatible SELECT statements:

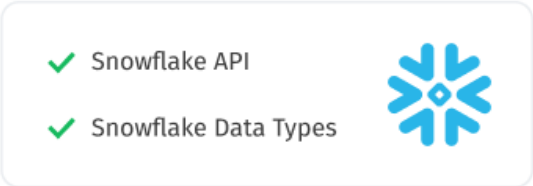
- Complex JOINs
- WHERE conditions
- Subqueries
- GROUP statements
- Aggregation functions
- ORDER statements
</td>
<td>

```
select
  c.FirstName,
  c.MailingCountry,
  c.MailingStreet,
  c.MobilePhone,
  a.AccountNumber
from
  (select
     FirstName,
     MailingCountry,
     MailingStreet,
     MobilePhone,
     AccountId
   from
     Contact
   where
     MailingCountry = 'USA') c
  left join Account a
  on c.AccountId = a.Id
where
  a.Rating in ('Warm', 'Hot')
```
</td>
</tr>
</table>

© 2024 Enter your company name

• and more.	
 ## DML Operations Devart ODBC Driver for Snowflake provides support for DML (INSERT, UPDATE, DELETE) operations, which allows you to modify data in Snowflake in the same way as in SQL databases.	 ## Bulk Updates Moreover, with our driver you can perform bulk updates to Snowflake by combining SQL statements into batches, thus simplifying and speeding up large data modification with Snowflake.
## ODBC Conformance The driver provides full support for common ODBC interface: • ODBC API Functions support • ODBC Data Types support In addition, we provide support for Advanced Connection String parameters. Thus allowing any desktop and web applications to connect to Snowflake from various environments and platforms, that support ODBC.	

© 2024 Enter your company name

	## Snowflake Compatibility Our ODBC driver fully supports all data types defined in the Snowflake API. Moreover, the driver is compatible with the Snowflake API itself.
## Advanced Data Conversion We have implemented advanced Data Conversion mechanisms that provide bi-directional mapping between any Snowflake and ODBC data types.	## Integration The driver is compatible with 3rd-party data analysis tools, such as Microsoft Excel, and integrates with various IDEs and systems like Visual Studio, etc. For a complete list of compatible tools and platforms, see Compatibility.
## Platforms Variety Devart ODBC Driver for Snowflake can be used with 32-bit and 64-bit applications on both x32 and x64 platforms, so there is no need to additionally configure the driver, applications or environment.	## Fully Unicode Driver With our fully Unicode driver, you can retrieve and work with any data from multi-lingual Snowflake databases correctly, not depending on whether its charset is Latin, Cyrillic, Hebrew, Chinese, etc., in any environment localization.
## High Performance	## Support

© 2024 Enter your company name

Every operation with Snowflake becomes significantly faster using such capabilities of our driver as Local data caching, connection pooling, query optimization and much more.	Visit our Support page to get instant help from knowledgeable and experienced professionals, a quick resolution of your problems, and nightly builds with hotfixes.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

2.3 Compatibility

Snowflake Compatibility

Snowflake API	✓
Snowflake Data Types	✓

Supported Platforms

- Windows 32-bit and 64-bit (including Windows Terminal Server)
- Compatible with all Windows versions (Windows Vista and higher) that support .NET Framework 4.5.

Compatibility with Third-Party Tools

Application Development Tools

Adobe ColdFusion	✓
Embarcadero Delphi & C++Builder UniDAC, FireDAC, dbGo (ADO), BDE and dbExpress	✓
FileMaker	✓
Lazarus	✓

Microsoft Visual FoxPro	✓
Microsoft Visual Studio Server Explorer and ADO.NET ODBC Provider	✓
Omnis Studio	✓
PHP	✓
PowerBASIC	✓
Python	✓

Database Management

Aqua Data Studio	✓
DBArtisan	✓
dbForge Studio	✓
dBeaver	✓
EMS SQL Management Studio	✓
Informatica Cloud	✓
RazorSQL	✓
SQL Server Data Tools	✓
SQL Server Management Studio	✓
SQL Server Reporting Services	✓

BI & Analytics Software

Alteryx	✓
DBxtra	✓
Dundas BI	✓

© 2024 Enter your company name

FICO Xpress Mosel	✓
IBM SPSS Statistics	✓
MicroStrategy	✓
Oracle BI	✓
Power BI	✓
Qlik Sense	✓
QlikView	✓
RStudio	✓
SAP Crystal Reports	✓
SAS JMP	✓
Tableau	✓
TARGIT	✓
TIBCO Spotfire	✓

Office Software Suites

LibreOffice	✓
Microsoft Access	✓
Microsoft Excel	✓
OpenOffice	✓
StarOffice	✓

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

2.4 Requirements

The following requirements must be met for ODBC Driver for Snowflake:

- Only one version of ODBC Driver for Snowflake is installed on your system.
- .NET Framework 4.5 or later is installed on your system.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

2.5 Licensing

ODBC Driver License Agreement

PLEASE READ THIS LICENSE AGREEMENT CAREFULLY. BY INSTALLING OR USING THIS SOFTWARE, YOU INDICATE ACCEPTANCE OF AND AGREE TO BECOME BOUND BY THE TERMS AND CONDITIONS OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, DO NOT INSTALL OR USE THIS SOFTWARE AND PROMPTLY RETURN IT TO DEVART.

INTRODUCTION

This Devart end-user license agreement ("Agreement") is a legal agreement between you (either an individual person or a single legal entity) and Devart, for the use of the ODBC Driver software application, demos, intermediate files, printed materials, and online or electronic documentation contained in this installation file. For the purpose of this Agreement, the software program(s) and supporting documentation will be referred to as the "Software".

LICENSE

1. GRANT OF LICENSE

The enclosed Software is licensed, not sold. You have the following rights and privileges, subject to all limitations, restrictions, and policies specified in this Agreement.

1.1. If you are a legally licensed user, depending on the Software Edition specified in the registration letter you have received from Devart upon purchase of the Software:

- the "Desktop Edition" allows you to install and use the Software on a single desktop

computer, provided it is accessed by no more than one person at a time, either directly or remotely, for sole purposes only in accordance with this Agreement. If more than one person can simultaneously use the computer where you plan to install the product, you must purchase a Server License. A Desktop License is valid for one single desktop installation;

- the "Server Edition" allows you to install and use the Software on a single server, provided it is accessed by more than one person at a time, either directly or remotely. This definition includes, but is not limited to, Web servers, application servers, batch servers, and desktop workstations, where more than one concurrent users can access the Software. A Server License is valid for one single server installation, provided it is used by 1 (one) legal entity in accordance with this Agreement.

1.2. If you are a legally licensed user, depending on the License Type specified in the registration letter you have received from Devart upon purchase of the Software:

- the "Subscription-based License" allows you to install and use the Software on a single computer only during the subscription term specified at purchase. An Internet connection is required to activate the license and check the license status when the Software is used. Once the subscription term is over, you will be able to either stop using the Software or renew the license for a new subscription term;

- the "Perpetual License" allows you to install and use the specific Software product version on a single computer without an active subscription. A subscription provides access to new product releases, regular upgrades, and support for new server versions provided during the subscription term;

- the "Site License" allows you to install and use the Software on one or more computers in a single company in accordance with this Agreement;

- the "OEM License" allows you to install and use the Software on one or more computers in a single company as well as deploy the Software as part of a licensee's application to web servers, application servers, batch servers, desktops, and other end-user devices. This definition includes the ability to install and use the application containing the Software without any additional fees in favor of the licensor.

1.3. If you are a legally licensed user of the Software, you are also entitled to:

- make one copy of the Software for archival purposes only, or copy the Software onto the hard disk of your computer and retain the original for archival purposes;

© 2024 Enter your company name

- develop and test Applications with the Software, subject to the Limitations below.

1.4. If you have the "OEM License", you are also entitled to:

- make any number of copies of the Software to deploy it to your end-user.

- deploy the Software to your end-user as a Software installation package or integrate it into your Applications.

1.5. You are allowed to use evaluation versions of the Software as specified in the Evaluation section.

No other rights or privileges are granted in this Agreement.

2. LIMITATIONS

Only legally registered users are licensed to use the Software, subject to all of the conditions of this Agreement. Usage of the Software is subject to the following restrictions.

2.1. You may not reverse engineer, decompile, or disassemble the Software.

2.2. You may not reproduce or distribute any Software documentation without express written permission from Devart.

2.3. You may not distribute and sell any portion of the Software integrating it into your Applications.

2.4. You may not transfer, assign, or modify the Software in whole or in part. In particular, the Software license is non-transferable, and you may not transfer the Software installation package.

2.5. You may not remove or alter any Devart's copyright, trademark, or other proprietary rights notice contained in any portion of Devart files.

3. REDISTRIBUTION

The license grants you a non-exclusive right to reproduce any new software programs (Applications) created using the Software. You cannot distribute the Software integrated into your Applications unless you are an "OEM License" holder. Any Devart's files remain Devart's exclusive property.

4. TRANSFER

You may not transfer the Software to any individual or entity without express written

© 2024 Enter your company name

permission from Devart. In particular, you may not share copies of the Software under "Desktop License" with other co-developers without obtaining proper license of these copies for each individual; you may not install the Software under "Server License" on more than 1 (one) server without obtaining proper license of these installations for each server.

5. TERMINATION

Devart may immediately terminate this Agreement without notice or judicial resolution in the event of any failure to comply with any provision of this Agreement. Upon such termination you must destroy the Software, all accompanying written materials, and all copies.

6. EVALUATION

Devart may provide evaluation ("Trial") versions of the Software. You may transfer or distribute Trial versions of the Software as an original installation package only. If the Software you have obtained is marked as a "Trial" version, you may install and use the Software for a period of up to 30 calendar days from the date of installation (the "Trial Period"), subject to the additional restriction that it is used solely for evaluation of the Software and not in conjunction with the development or deployment of any application in production. You may not use Applications developed using Trial versions of the Software for any commercial purposes. Upon expiration of the Trial Period, the Software must be uninstalled, all its copies and all accompanying written materials must be destroyed.

7. WARRANTY

The Software and documentation are provided "AS IS" without warranty of any kind. Devart makes no warranties, expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose or use.

8. SUBSCRIPTION AND SUPPORT

The Software is sold on a subscription basis. The Software subscription entitles you to download improvements and enhancement from Devart's web site as they become available, during the active subscription period. The initial subscription period is one year from the date of purchase of the license. The subscription is automatically activated upon purchase, and may be subsequently renewed by Devart, subject to receipt applicable fees. Licensed users of the Software with an active subscription may request technical assistance with using the Software over email from the Software development. Devart shall use its reasonable endeavors to answer queries raised, but does not guarantee that your queries or problems

will be fixed or solved.

Devart reserves the right to cease offering and providing support for legacy Database versions.

9. COPYRIGHT

The Software is confidential and proprietary copyrighted work of Devart and is protected by international copyright laws and treaty provisions. You may not remove the copyright notice from any copy of the Software or any copy of the written materials, accompanying the Software.

This Agreement contains the total agreement between the two parties and supersedes any other agreements, written, oral, expressed, or implied.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

2.6 Getting Support

This document lists several ways you can find help with using ODBC Driver for Snowflake describes the Priority Support program.

Support Options

There are a number of resources for finding help on installing and using ODBC Driver for Snowflake:

- You can find out more about ODBC Driver for Snowflake installation or licensing by consulting Installation and License articles of this manual respectively.
- You can get community assistance and technical support on the Community Forum.
- You can get advanced technical assistance by ODBC Driver for Snowflake developers through the ODBC Driver for Snowflake Priority Support program.

Subscriptions

The ODBC Driver for Snowflake Subscription program is an annual maintenance and support service for ODBC Driver for Snowflake users.

Users with a valid ODBC Driver for Snowflake Subscription get the following benefits:

- Product support through the ODBC Driver for Snowflake Priority Support program
- Access to new versions of ODBC Driver for Snowflake when they are released
- Access to all ODBC Driver for Snowflake updates and bug fixes
- Notifications about new product versions

Priority Support

ODBC Driver for Snowflake Priority Support is an advanced product support service for getting expedited individual assistance with ODBC Driver for Snowflake-related questions from the ODBC Driver for Snowflake developers themselves. Priority Support is carried out over email and has a two business day response policy. Priority Support is available for users with an active ODBC Driver for Snowflake Subscription.

To get help through the ODBC Driver for Snowflake Priority Support program, please send an email to odbc@devart.com describing the problem you are having. Make sure to include the following information in your message:

Your ODBC Driver for Snowflake Registration number.

- Full ODBC Driver for Snowflake edition name and version number. You can find the version number in DLL version information.
- Versions of the Snowflake server and client you are using.
- A detailed problem description.
- If possible, ODBC Administrator Log, scripts for creating and filling in database objects, and the application using ODBC Driver for Snowflake.

If you have any questions regarding licensing or subscriptions, please see the FAQ or contact sales@devart.com

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

3 Using ODBC Driver

1. Installation
2. Connecting to Snowflake
3. Connection String Parameters
4. Sandboxed Apps on macOS
5. Using with iODBC
6. Enabling ODBC Tracing
7. Supported Data Types
8. Supported ODBC API Functions

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

3.1 Installation

ODBC Driver for Snowflake currently supports Windows 32-bit and 64-bit.

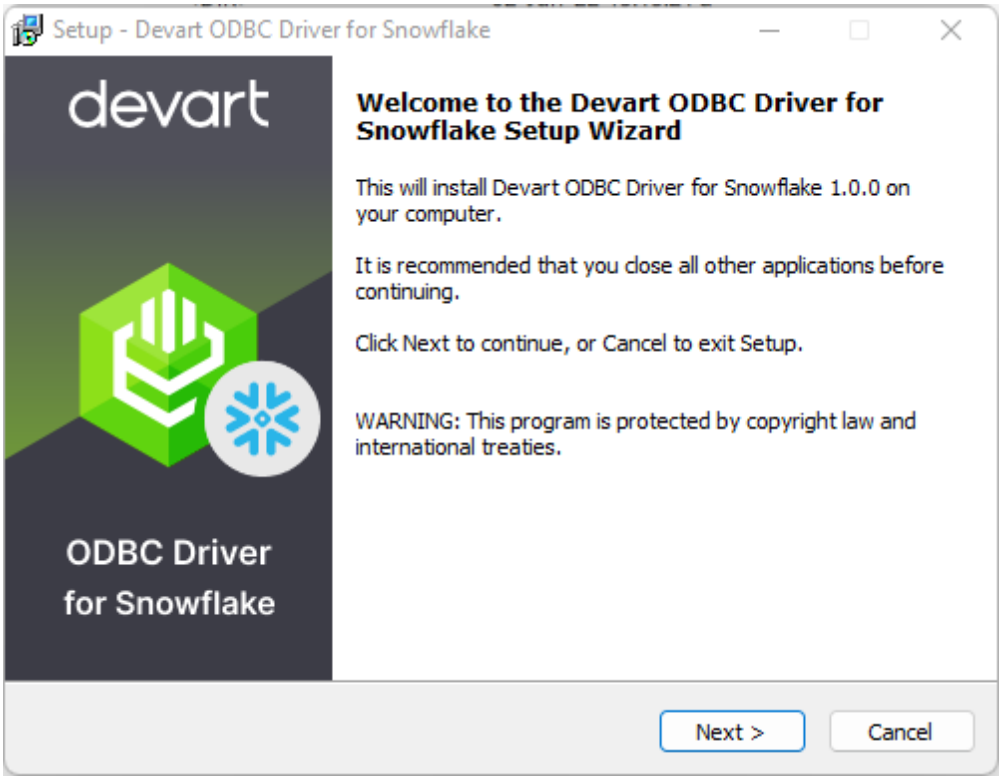
- Regular Installation
- Silent Installation

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

3.1.1 Windows

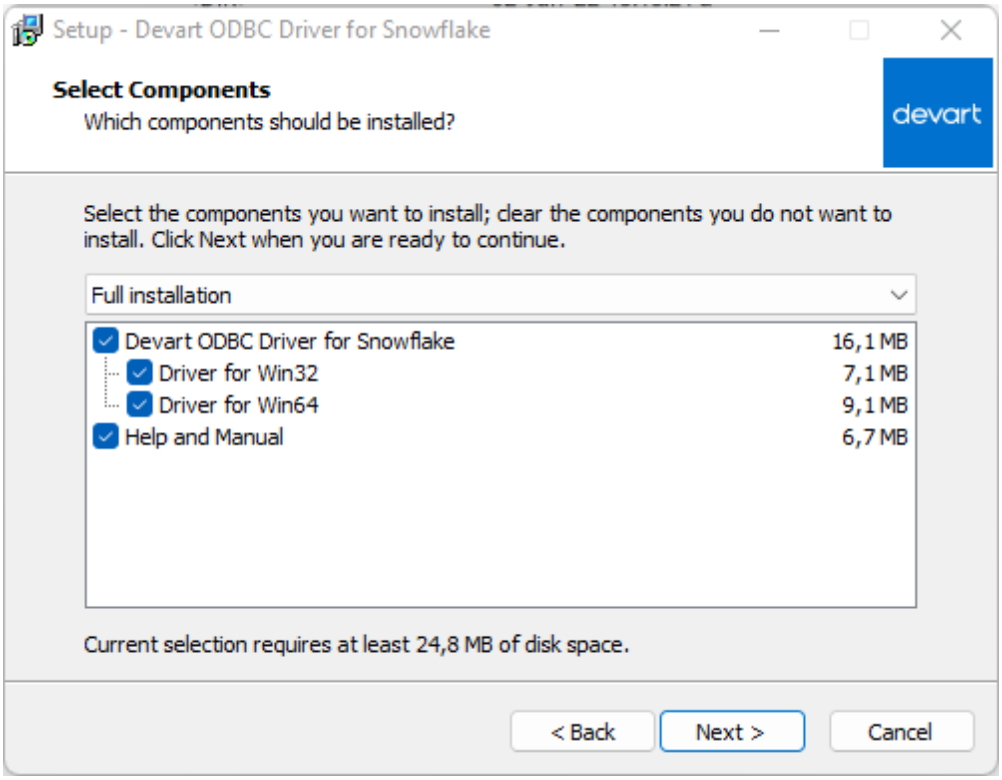
Installation on Windows

1. Download and run installer executive file.
2. Follow the instructions in the wizard.



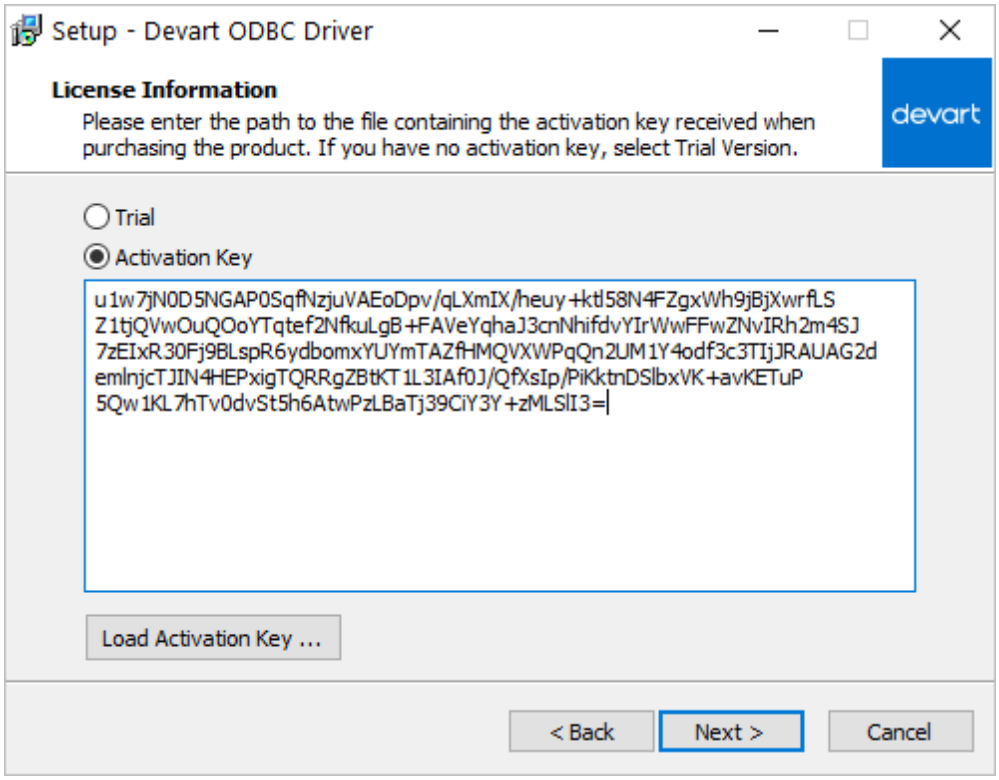
3. In case you already have the specified installation folder on the PC or another Driver version is installed, you will get a warning. Click **Yes** to overwrite the old files with the current installation, but it is recommended to completely uninstall the previous driver version first, and then install the new one.
4. On the Select Components page you can select whether to install the **64-bit** version of the driver or not. Clear the check box if you need no 64-bit installation. There is also a check box on this page, that allows you to select whether to install Help and Manual.

© 2024 Enter your company name

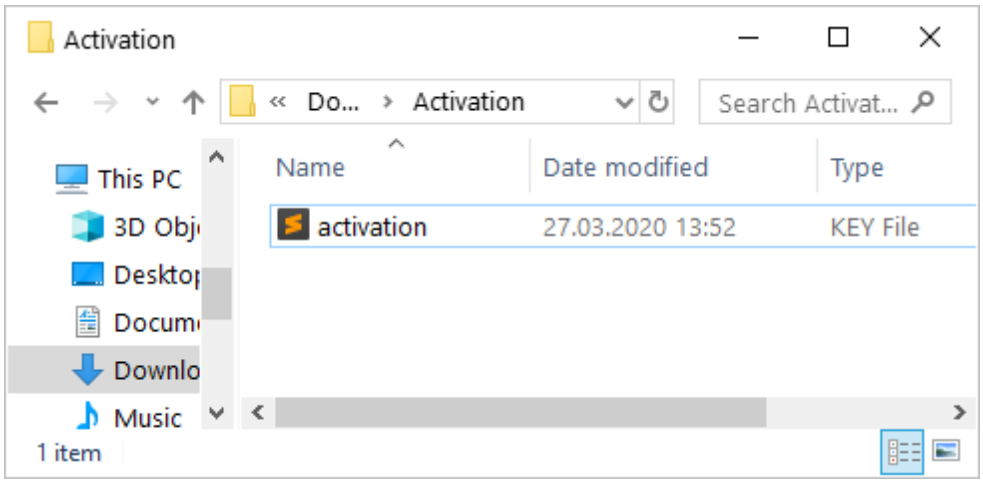


5. In the License Information dialog box, you should select the license type and activate the product. If you have no activation key, you can select Trial and use the driver for evaluation purposes.
6. If you have an activation key, select the Activation Key option. Copy the activation key from the registration email or your Customer Portal account and paste it into the Activation Key edit box.

© 2024 Enter your company name



7. If you have the activation key file, click the Load Activation Key button and browse to it.



8. Click Next.

9. Click Install, then Finish.

10. After the installation is completed, you need to configure the driver.

© 2015-2024 Devart. All Rights Reserved.

3.1.2 Silent

Silent Installation with OEM license on Windows

1. Run the Command Prompt as an administrator.

2. Use the following command-lines to perform the driver silent/very silent installation:

```
DevartODBCSnowflake.exe /SILENT /ActivationKey=y1c7nmgdu234laszxcvONGurjfhxm
```

```
DevartODBCSnowflake.exe /VERYSILENT /ActivationKey=ekhdh765mhO9ukr237gfHRtri
```

Note: The installation is performed by entering a license key.

```
DevartODBCSnowflake.exe /SILENT /ActivationFile=d:\lic.key
```

```
DevartODBCSnowflake.exe /VERYSILENT /ActivationFile=d:\lic.key
```

Note: The installation is performed by specifying the path to a license key file with any name.

When /SILENT is used, the installation progress is displayed, but no user interaction is required during installation.

When /VERYSILENT is used, the installation wizard dialog is hidden and the installation process is performed without user interference.

© 2015-2024 Devart. All Rights Reserved.

3.2 Product Activation

- Obtaining Activation Key
- Activation on Windows
- Where to see the license information

© 2015-2024 Devart. All Rights Reserved.

3.2.1 Obtaining Activation Key

To obtain a product activation key, follow these instructions:

1. After purchasing the license, you receive a registration email to the email address, specified when ordering the product.
2. This email contains a Driver Activation Key and Login Credentials for the Customer Portal. Keep this information secret.
3. You can copy the Activation Key either from the registration email or at the Customer Portal account.
4. To login to the Customer Portal, use your Username and Password from the registration email.
5. To obtain your Activation Key, click the View link on the right. You will get the following dialog box:

6. Copy the Activation Key with the Copy to Clipboard button.

See also:

- Activation on Windows

© 2015-2024 Devart. All Rights Reserved.

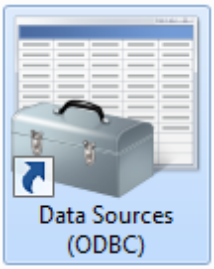
Request Support ODBC Forum Provide Feedback

3.2.2 Activation on Windows

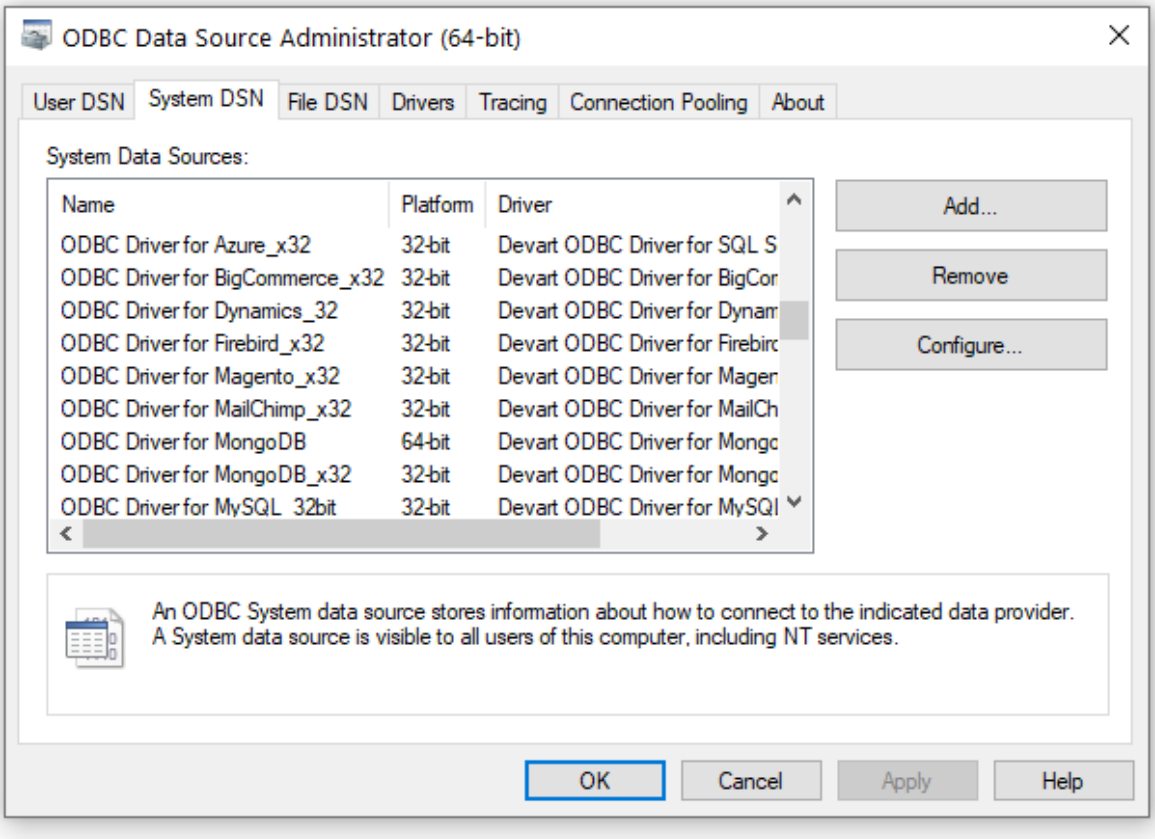
Driver Activation After Installation

To activate your installed driver using ODBC Administrator, perform the following steps:

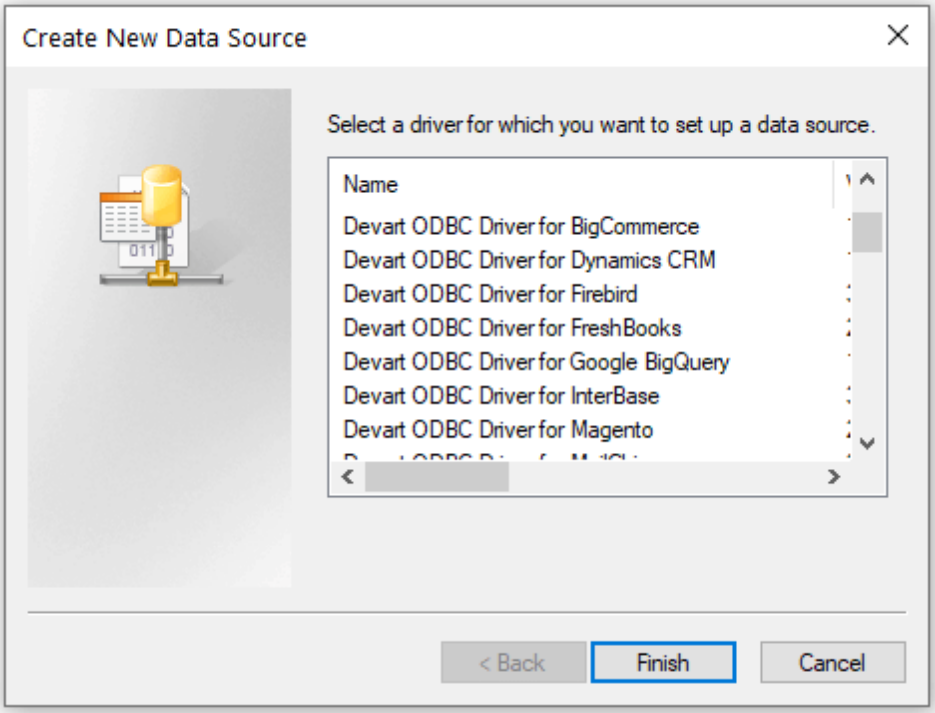
1. Run ODBC Administrator.



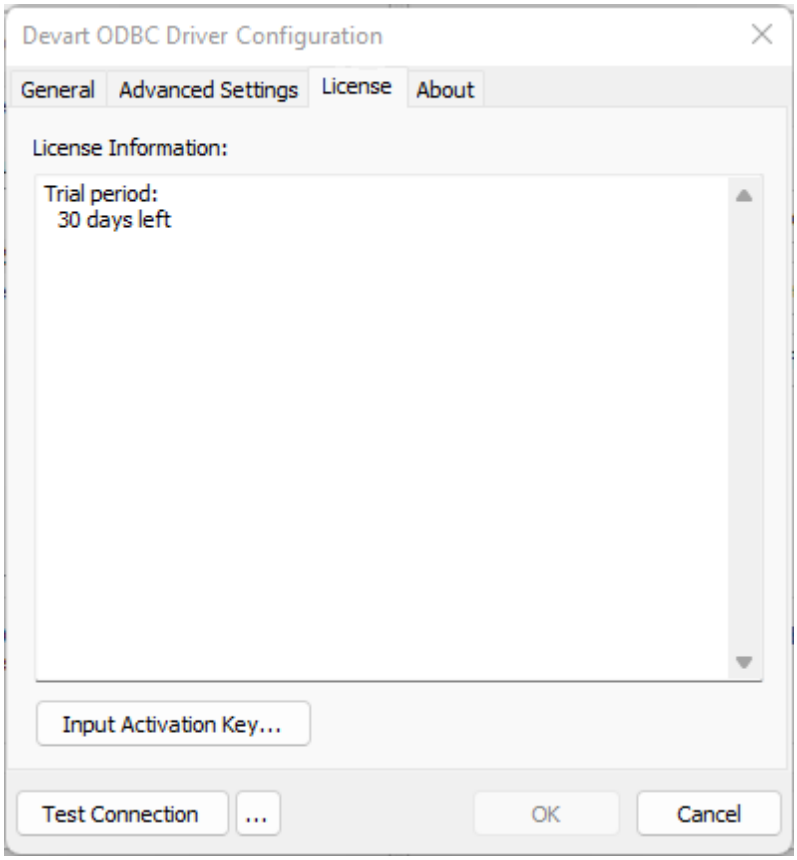
2. In the System DSN tab click the Add button.



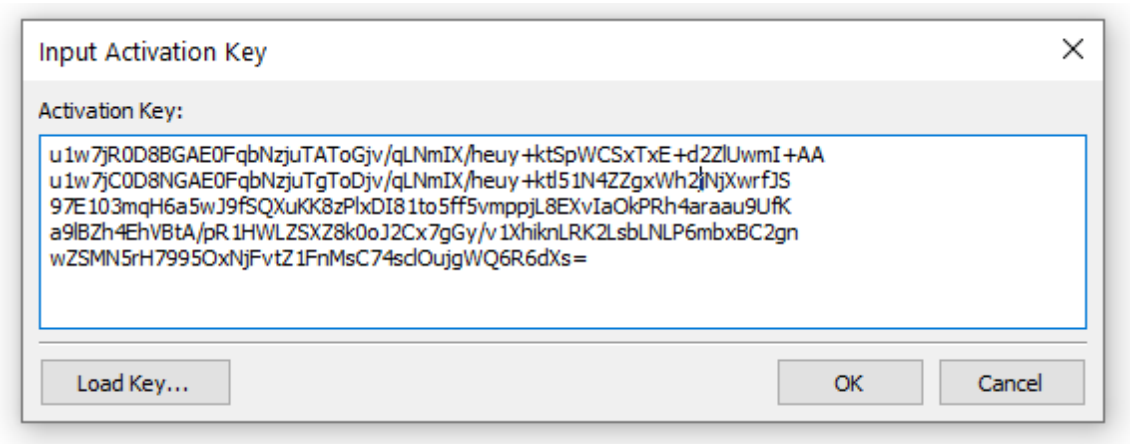
3. In the appeared dialog box, select the installed driver, click Finish.



4. In the Driver Configuration dialog box, on the License tab, click the Input Activation Key button.



5. Copy the activation key from the registration email carefully and paste it into the Input Activation Key edit box.



6. If you have the activation key file, click the Load Key button and browse to it.

7. Click OK.

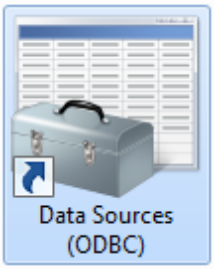
© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

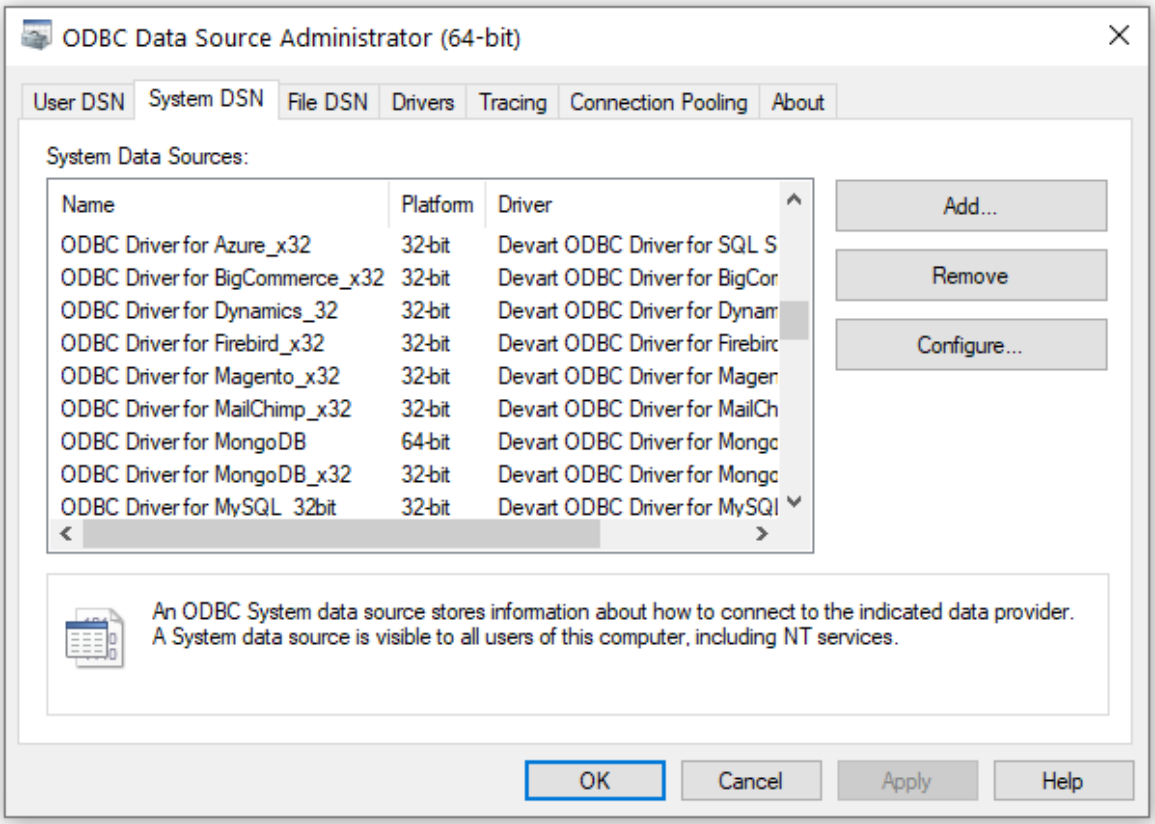
3.2.3 Where to See the License Information?

To see the license information of your installed driver, do the following:

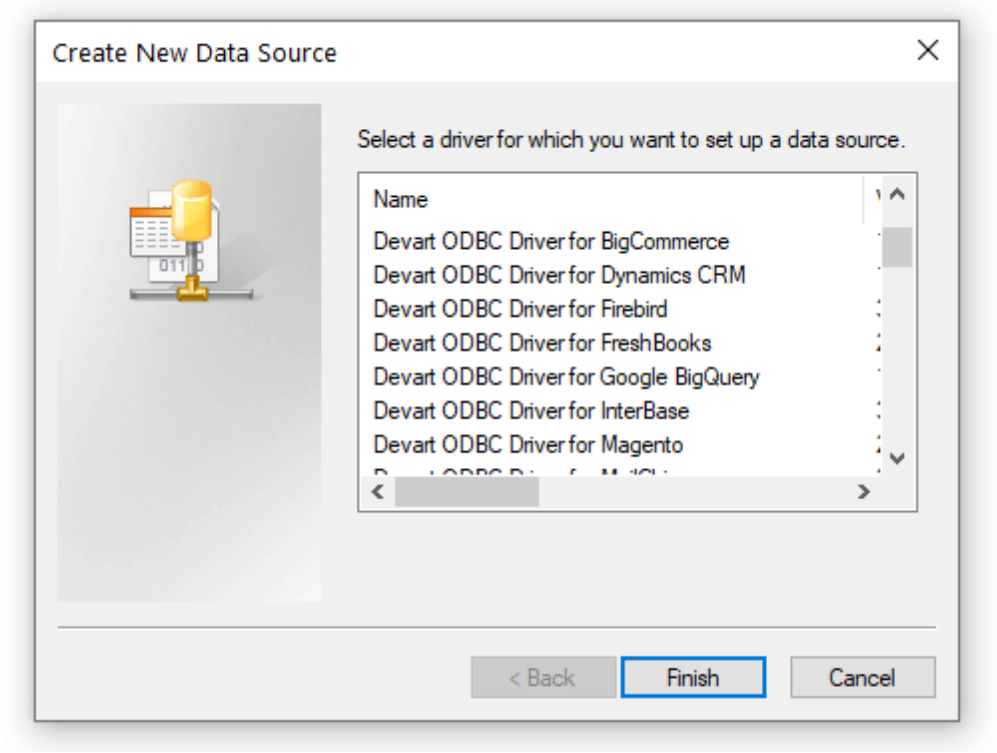
1. In the Control Panel run ODBC Administrator



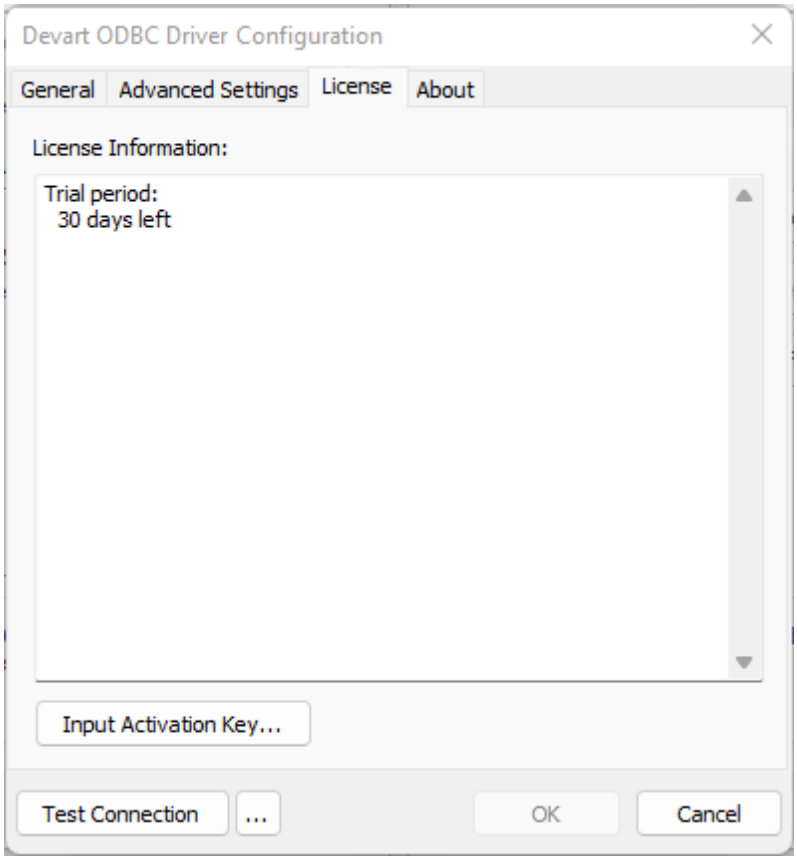
2. Open the System DSN tab and click the Add button



3. Select the driver and click Finish



4. In the appeared dialogue, select the License tab



See also

- Product Activation

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

3.3 Connecting to Snowflake

Windows DSN Configuration

After installing the driver, create a DSN for Snowflake in the ODBC Data Source Administrator.

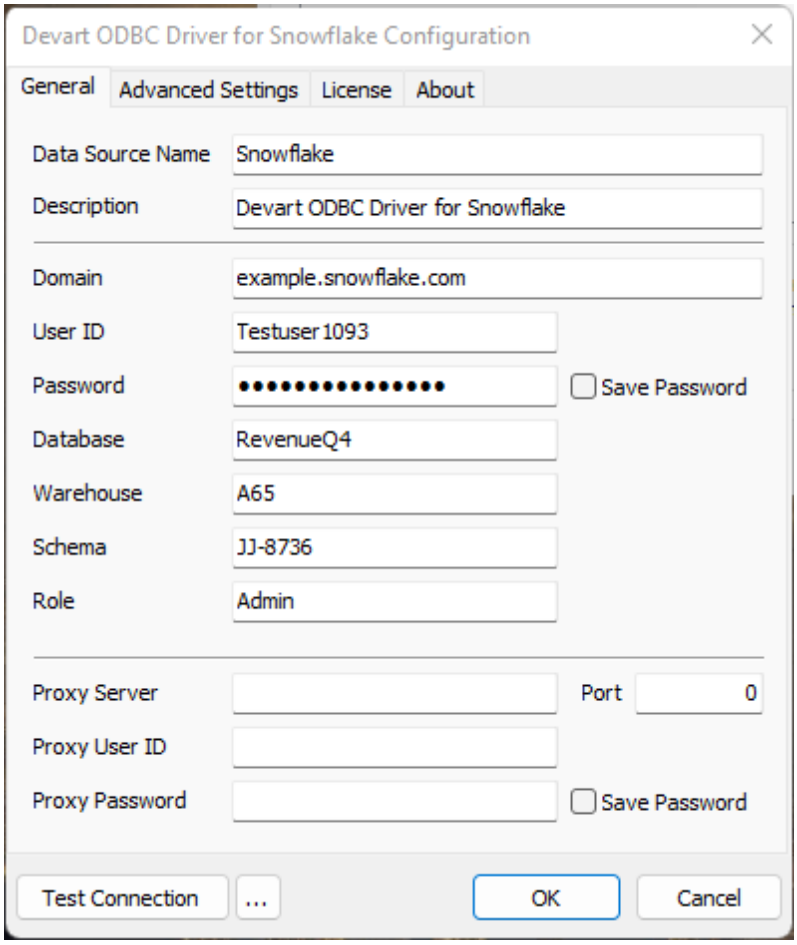
1. Open the ODBC Data Source Administrator.

- Type `ODBC Data Sources` in the Windows search box and choose the application that matches the bitness of the third-party application (32-bit or 64-bit). You can also open

ODBC Data Sources from **Control Panel** > **Administrative Tools**. Note that before Windows 8, the icon was named **Data Sources (ODBC)**.

- Alternatively, you can run `C:\Windows\SysWOW64\odbcad32.exe` to create a 32-bit DSN or `C:\Windows\System32\odbcad32.exe` to create a 64-bit DSN.

2. Select the **User DSN** or **System DSN** tab. Most applications work with both types, yet some applications require a specific type of DSN.
3. Click **Add**. The **Create New Data Source** dialog will appear.
4. Select **Devart ODBC Driver for Snowflake** and click **Finish**. The driver setup dialog will open.
5. Enter the connection information in the appropriate fields.



See Also

Connection Options

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

3.4 Connection String Parameters

Snowflake ODBC Connection String Parameters

The following table lists the connection string options for ODBC Driver for Snowflake.

Parameter	Description
Database	Use this parameter to specify the full path to the database to connect to.
Domain	Use the parameter to specify the URL of your ODBC Driver for Snowflake admin panel.
Schema	Use the parameter to change the current session schema to the specified schema.
Password	Use the parameter to specify your password.
Role	Use the option to indicate the role you are using to connect to the system.
User ID	Use the parameter to indicate the ODBC Driver for Snowflake login name.
Warehouse	Use the option to indicate the warehouse you are going to work with.
Proxy Settings	
Proxy Server	The proxy hostname or IP address.
Proxy User ID	The proxy server account ID.
Proxy Password	The proxy password.

Advanced Settings	
Allow NULL strings	To retrieve metadata, not all parameters according to MSDN can accept a null value. If NULL, the driver should return an error. But some 3rd-party tools pass NULL to the parameters. These options should be enabled for compatibility with such tools.
Empty strings as NULL	
Connection Timeout	The time (in seconds) to wait for a connection to open before terminating an attempt. The default value is 60.
ODBC Behavior	Used to set the behavior corresponding to the ODBC specification version that a third-party tool expects. The behavior of ODBC driver can be changed by setting a value for the SQL_ATTR_ODBC_VERSION attribute by calling the SQLSetEnvAttr function. But some third-party tools expect the driver to exhibit ODBC 2.x behavior, but forget to call SQLSetEnvAttr with the specified version or pass an incorrect value there. In this case, the required behavior can be explicitly specified in the Connection String by setting the ODBC Behavior parameter. The possible values are: • Default - default ODBC behavior determined by a third-party tool. • Ver 2.x - ODBC 2.x behavior is explicitly

	set. • Ver 3.x - ODBC 3.x behavior is explicitly set.
RegionalNumberSettings	Enables the use of local regional settings when converting numbers to strings.
RegionalDateTimeSettings	Enables the use of local regional settings when converting dates and times to strings.
ReturnForeignKeys	Use the option to specify whether the driver must return foreign keys. Retrieving metadata about foreign key constraints is a time-consuming operation; many third-party tools request foreign key metadata even whey they do not actually need this information. Note that enabling the option may degrade performance of data access operations. The default value is False.
String Types	Sets the string value types returned by the driver as Default, Ansi or Unicode. • Default - the driver defines the string types. • Ansi - all string types will be returned as SQL_CHAR, SQL_VARCHAR and SQL_LONGVARCHAR. • Unicode - all string types will be returned as SQL_WCHAR, SQL_WVARCHAR and SQL_WLONGVARCHAR.
	The parameter value should be changed if any third-party tool supports only Ansi string types or Unicode ones.

© 2024 Enter your company name

QueryTimeout	The time to wait for a query execution result before terminating and generating an error.
UTC Dates	Specifies whether all the datetime values retrieved from the data source are returned as UTC values or converted to local time and whether the date values specified on the application side (e.g., in SQL statements) are considered UTC or local. The default value is false.

ODBC Driver for Snowflake Connection String sample

```
DRIVER={Devart ODBC Driver for ODBC Driver for
Snowflake};Domain=example.snowflake.com;UserID=youruserid;Password
=yourpassword
```

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

3.5 Enabling ODBC Tracing

Creating an ODBC Trace Log on Windows

When you start or stop tracing in the 64-bit ODBC Administrator, the tracing is also enabled or disabled in the 32-bit ODBC Administrator, and vice versa.

If the ODBC client application you need to trace runs under Local System account or any other user login than your own, select `Machine-Wide tracing for all user identities`. For example, this option may be necessary for SSMS.

To generate a trace file using ODBC Source Administrator on Windows, follow the steps below.

1. Type `ODBC Data Sources` in the Windows 10 search box (in earlier versions of Windows, open `Control Panel` > `Administrative Tools`) and choose the application of the needed bitness.

2. Select the `Tracing` tab.
3. If necessary, change the default `Log File Path`. Make sure that the path is writable by the application, then click `Apply`.
4. Click `Start Tracing Now`.
5. Restart all application processes.
6. Click `Test Connection` in the DSN settings to make sure the driver is able to connect.
7. Reproduce the issue.
8. Click `Stop Tracing Now` on the `Tracing` tab.
9. Send us the obtained log file (for example, devart.log).

Creating an ODBC Trace Log on macOS

To enable the trace option on macOS, use the Tracing tab within ODBC Administrator.

1. Open the ODBC Administrator.
2. Select the `Tracing` tab.
3. If necessary, change the default `Log file path`.
4. Select `All the time` in the `When to trace` option.

Creating an ODBC Trace Log on Linux

To trace the ODBC calls on Linux, set the `Trace` and `TraceFile` keyword/value pairs in the `[ODBC]` section of the `/etc/odbcinst.ini` file, for example:

```
[ODBC]
Trace=Yes
TraceFile=/home/test/devart.log
```

Make sure to disable logging after obtaining a log file since it affects the read/write speed.

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

3.6 Supported Data Types

Data Type Mapping

The Devart ODBC Driver for Snowflake supports all Snowflake data types.

The following table describes how the Snowflake data types are mapped to the ODBC data types.

Snowflake Data Types	ODBC Data Types
NUMBER NUMERIC	SQL_NUMERIC
DECIMAL	SQL_DECIMAL
TINYINT BYTEINT	SQL_TINYINT
SMALLINT	SQL_SMALLINT
INTEGER INTE	SQL_INTEGER
BIGINT	SQL_BIT
DOUBLE DOUBLE PRECISION	SQL_DOUBLE
FLOAT FLOAT4 FLOAT8	SQL_FLOAT
REAL	SQL_REAL
CHAR, CHARACTER	SQL_CHAR
VARCHAR STRING TEXT	Length <= 4000: SQL_VARCHAR Length > 4000: SQL_LONGVARCHAR
VARBINARY BINARY	Length <= 4000: SQL_VARBINARY Length > 4000: SQL_LONGVARBINARY
BOOLEAN	SQL_BIT
DATE	SQL_DATE
TIME	SQL_TIME
DATETIME TIMESTAMP	SQL_TIMESTAMP

© 2024 Enter your company name

TIMESTAMP_NTZ TIMESTAMP_LTZ TIMESTAMP_TZ	
PICKLIST VARIANT OBJECT ARRAY GEOGRAPHY	SQL_LONGVARCHAR

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

3.7 Supported ODBC API Functions

Supported ODBC Functions

The SQLGetInfo function returns information about the driver and data source. To find out whether a specific function is supported in the driver, call SQLGetFunctions.

For more information about the ODBC interface, see the ODBC Programmer's Reference.

ODBC Driver for Snowflake supports all deprecated functions for backward compatibility.

The following table lists the currently supported ODBC functions.

Function Name	Support	Standard	Purpose
SQLAllocHandle	✓	ISO 92	Obtains an environment, connection, statement, or descriptor handle.
SQLConnect	✓	ISO 92	Connects to a specific driver by data source name,

			user ID, and password.
SQLDriverConnect	✓	ODBC	Connects to a specific driver by connection string or requests that the Driver Manager and driver display connection dialog boxes for the user.
SQLAllocEnv	✓	Deprecated	Obtains an environment handle allocated from driver.
SQLAllocConnect	✓	Deprecated	Obtains a connection handle

ODBC API Calls for Obtaining Information about a Driver and Data Source

Function Name	Support	Standard	Purpose
SQLDataSources	✓	ISO 92	Returns the list of available data sources, handled by the Driver Manager
SQLDrivers	✓	ODBC	Returns the list of installed drivers and their attributes, handles by Driver Manager
SQLGetInfo	✓	ISO 92	Returns information

© 2024 Enter your company name

			about a specific driver and data source.
SQLGetFunctions	✓	ISO 92	Returns the functions supported by the driver.
SQLGetTypeInfo	✓	ISO 92	Returns information about supported data types.

ODBC API Calls for Setting and Retrieving Driver Attributes

Function Name	Support	Standard	Purpose
SQLSetConnectAttr	✓	ISO 92	Sets a connection attribute.
SQLGetConnectAttr	✓	ISO 92	Returns the value of a connection attribute.
SQLSetConnectOption	✓	Deprecated	Sets a connection option
SQLGetConnectOption	✓	Deprecated	Returns the value of a connection option
SQLSetEnvAttr	✓	ISO 92	Sets an environment attribute.
SQLGetEnvAttr	✓	ISO 92	Returns the value of an environment attribute.
SQLSetStmtAttr	✓	ISO 92	Sets a statement attribute.

© 2024 Enter your company name

SQLGetStmtAttr	✓	ISO 92	Returns the value of a statement attribute.
SQLSetStmtOption	✓	Deprecated	Sets a statement option
SQLGetStmtOption	✓	Deprecated	Returns the value of a statement option

ODBC API Calls for Preparing SQL Requests

Function Name	Support	Standard	Purpose
SQLAllocStmt	✓	Deprecated	Allocates a statement handle
SQLPrepare	✓	ISO 92	Prepares an SQL statement for later execution.
SQLBindParameter	✓	ODBC	Assigns storage for a parameter in an SQL statement.
SQLGetCursorNam e	✓	ISO 92	Returns the cursor name associated with a statement handle.
SQLSetCursorNam e	✓	ISO 92	Specifies a cursor name.
SQLSetScrollOption s	✓	ODBC	Sets options that control cursor behavior.

ODBC API Calls for Submitting Requests

Function Name	Support	Standard	Purpose

© 2024 Enter your company name

SQLExecute	✓	ISO 92	Executes a prepared statement.
SQLExecDirect	✓	ISO 92	Executes a statement
SQLNativeSql	✓	ODBC	Returns the text of an SQL statement as translated by the driver.
SQLDescribeParam	✓	ODBC	Returns the description for a specific parameter in a statement.
SQLNumParams	✓	ISO 92	Returns the number of parameters in a statement.
SQLParamData	✓	ISO 92	Used in conjunction with SQLPutData to supply parameter data at execution time. (Useful for long data values.)
SQLPutData	✓	ISO 92	Sends part or all of a data value for a parameter. (Useful for long data values.)

ODBC API Calls for Retrieving Results and Information about Results

Function Name	Support	Standard	Purpose

SQLRowCount	✓	ISO 92	Returns the number of rows affected by an insert, update, or delete request.
SQLNumResultCols	✓	ISO 92	Returns the number of columns in the result set.
SQLDescribeCol	✓	ISO 92	Describes a column in the result set.
SQLColAttribute	✓	ISO 92	Describes attributes of a column in the result set.
SQLColAttributes	✓	Deprecated	Describes attributes of a column in the result set.
SQLFetch	✓	ISO 92	Returns multiple result rows.
SQLFetchScroll	✓	ISO 92	Returns scrollable result rows.
SQLExtendedFetch	✓	Deprecated	Returns scrollable result rows.
SQLSetPos	✓	ODBC	Positions a cursor within a fetched block of data and enables an application to refresh data in the rowset or to update or delete data in the result set.

© 2024 Enter your company name

SQLBulkOperations	✓	ODBC	Performs bulk insertions and bulk bookmark operations, including update, delete, and fetch by bookmark.

ODBC API Calls for Retrieving Error or Diagnostic Information

Function Name	Support	Standard	Purpose
SQLError	✓	Deprecated	Returns additional error or status information
SQLGetDiagField	✓	ISO 92	Returns additional diagnostic information (a single field of the diagnostic data structure).
SQLGetDiagRec	✓	ISO 92	Returns additional diagnostic information (multiple fields of the diagnostic data structure).

ODBC API Calls for Obtaining Information About Database Objects (Catalog Functions)

Function Name	Support	Standard	Purpose

© 2024 Enter your company name

SQLColumnPrivileges	✓	ODBC	Returns a list of columns and associated privileges for one or more tables.
SQLColumns	✓	X/Open	Returns the list of column names in specified tables.
SQLForeignKeys	✓	ODBC	Returns a list of column names that make up foreign keys, if they exist for a specified table.
SQLPrimaryKeys	✓	ODBC	Returns the list of column names that make up the primary key for a table.
SQLProcedureColumns	✓	ODBC	Returns the list of input and output parameters, as well as the columns that constitute the result set for the specified procedures.
SQLProcedures	✓	ODBC	Returns the list of procedure names stored in a specific data source.
SQLSpecialColumn	✓	X/Open	Returns information

© 2024 Enter your company name

s			about the optimal set of columns that uniquely identifies a row in a specified table, or the columns that are automatically updated when any value in the row is updated by a transaction.
SQLStatistics	✓	ISO 92	Returns statistics about a single table and the list of indexes associated with the table.
SQLTablePrivileges	✓	ODBC	Returns a list of tables and the privileges associated with each table.
SQLTables	✓	X/Open	Returns the list of table names stored in a specific data source.

ODBC API Calls for Performing Transactions

Function Name	Support	Standard	Purpose
SQLTransact	✓	Deprecated	Commits or rolls

			back a transaction
SQLEndTran	✓	ISO 92	Commits or rolls back a transaction.

ODBC API Calls for Terminating a Statement

Function Name	Support	Standard	Purpose
SQLFreeStmt	✓	ISO 92	Ends statement processing, discards pending results, and, optionally, frees all resources associated with the statement handle.
SQLCloseCursor	✓	ISO 92	Closes a cursor that has been opened on a statement handle.
SQLCancel	✓	ISO 92	Cancels an SQL statement.

ODBC API Calls for Terminating a Connection

Function Name	Support	Standard	Purpose
SQLDisconnect	✓	ISO 92	Closes the connection.
SQLFreeHandle	✓	ISO 92	Releases an environment, connection, statement, or descriptor handle.
SQLFreeConnect	✓	Deprecated	Releases connection

© 2024 Enter your company name

			handle.
SQLFreeEnv	✔	Deprecated	Releases an environment handle.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4 Using in Third-Party Tools

This section discusses how to use ODBC Driver for Snowflake with ODBC-compliant tools.

- DBeaver
- Oracle Database Link
- Microsoft Access
- Microsoft Excel
- OpenOffice and LibreOffice
- PHP
- Power BI
- Python
- QlikView
- SQL Server Management Studio
- SSIS
- Tableau

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.1 Using in DBeaver

DBeaver Overview

DBeaver is a free, open source multiplatform database management tool and SQL client for

developers and database administrators. DBeaver can be used to access any database or cloud application that has an ODBC or JDBC driver, such as Oracle, SQL Server, MySQl, Salesforce, or Mailchimp. Devart DBeaver provides you with the most important features you'd need when working with a database in a GUI tool, such as:

- SQL queries execution
- Metadata browsing and editing
- SQL scripts management
- Data export/import
- Data backup
- DDL generation
- ER diagrams rendering
- Test data generation
- BLOB/CLOB support
- Database objects browsing
- Scrollable resultsets

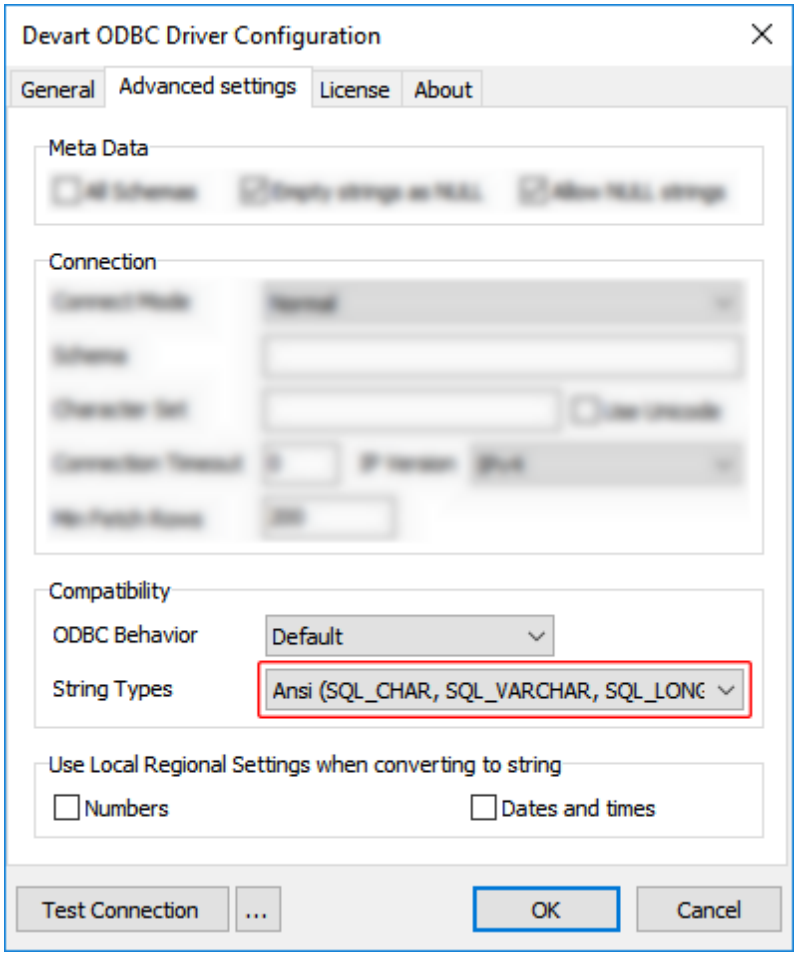
The tool comes in two editions — Community and Enterprise. Enterprise Edition supports NoSQL databases, such as MongoDB or Cassandra, persistent query manager database, SSH tunneling, vector graphics (SVG) and a few other enterprise-level features. Note though that you can access a MongoDB database from DBeaver Community Edition using the respective Devart ODBC driver. For the purposes of this guide, we'll use the Community Edition of DBeaver to retrieve data from Snowflake via the Open Database Connectivity driver.

Creating an ODBC Data Source to Use Snowflake Data in DBeaver

1. Click the **Start** menu and select **Control Panel**.
2. Select **Administrative Tools**, then click **ODBC Data Sources**.
3. Click on the **System DSN** tab if you want to set up a DSN name for all users of the system or select **User DSN** to configure DSN only for your account.
4. Click the **Add** button and double-click Devart ODBC Driver for Snowflake in the list.

5. Give a name to your data source and set up the connection parameters.
6. Click the **Test Connection** button to verify that you have properly configured the DSN.

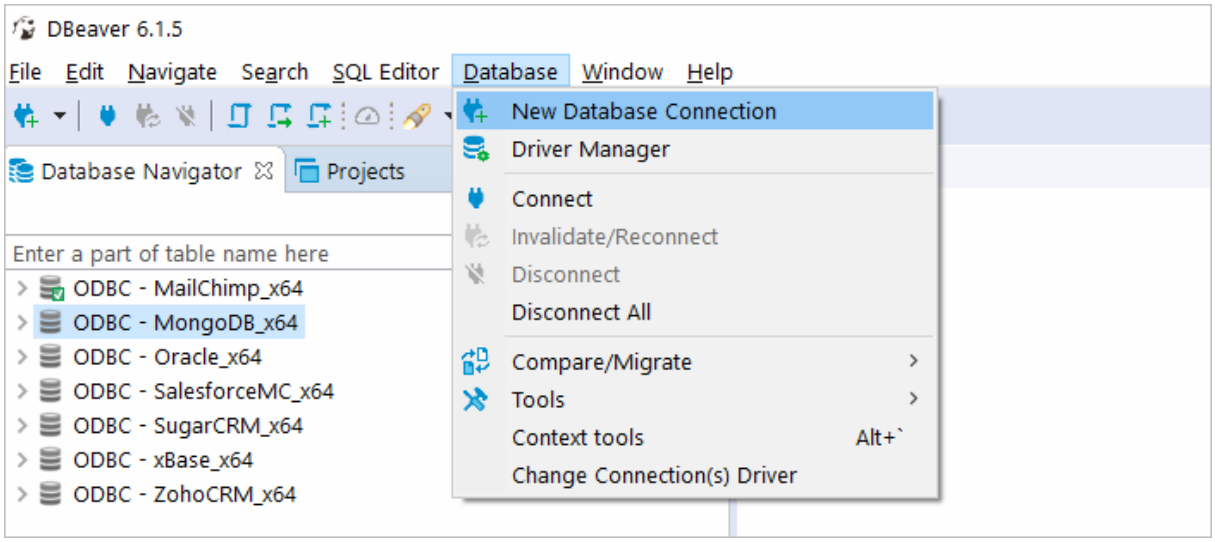
When using ODBC driver for Snowflake with DBeaver, SQL_WVARCHAR data types may be displayed incorrectly in DBeaver. To prevent this, you need to set the string data types to Ansi either in the **Advanced Settings** tab of the driver configuration dialog or directly in the connection string (String Types=Ansi) — all string types will be returned as SQL_CHAR, SQL_VARCHAR and SQL_LONGVARCHAR.



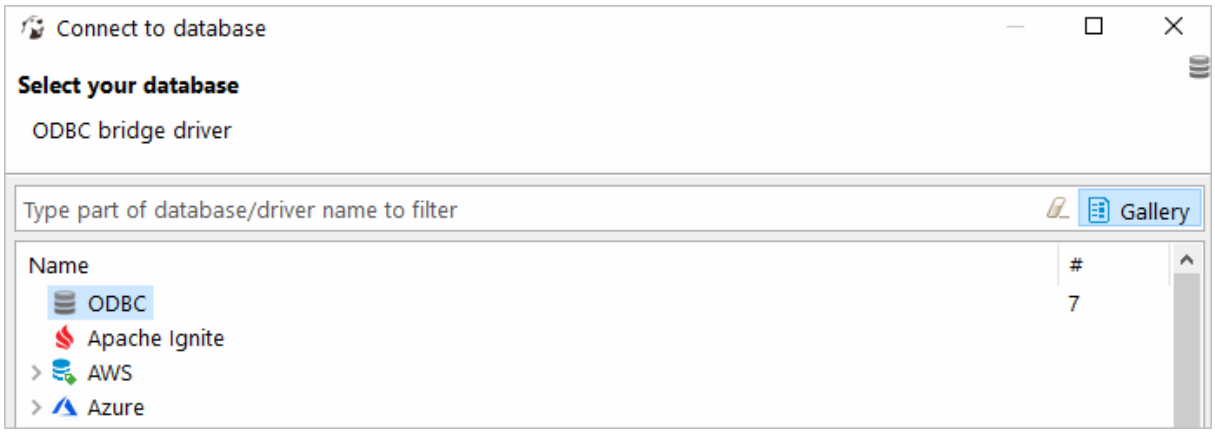
Connecting to Snowflake Data from DBeaver via ODBC Driver for Snowflake

Follow the steps below to establish a connection to Snowflake in DBeaver.

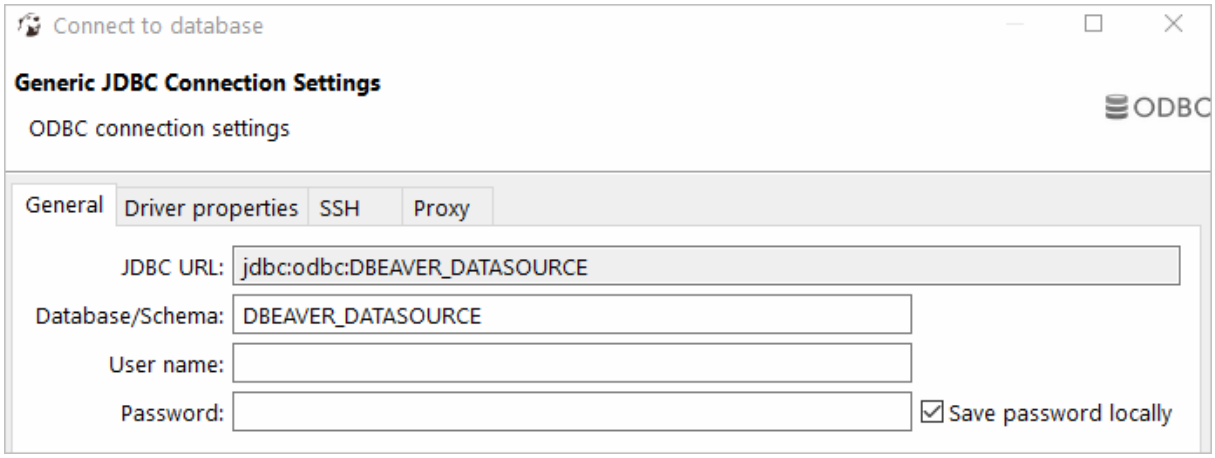
1. In the **Database** menu, select **New Database Connection.**



2. In the **Connect to database** wizard, select **ODBC** and click **Next**.



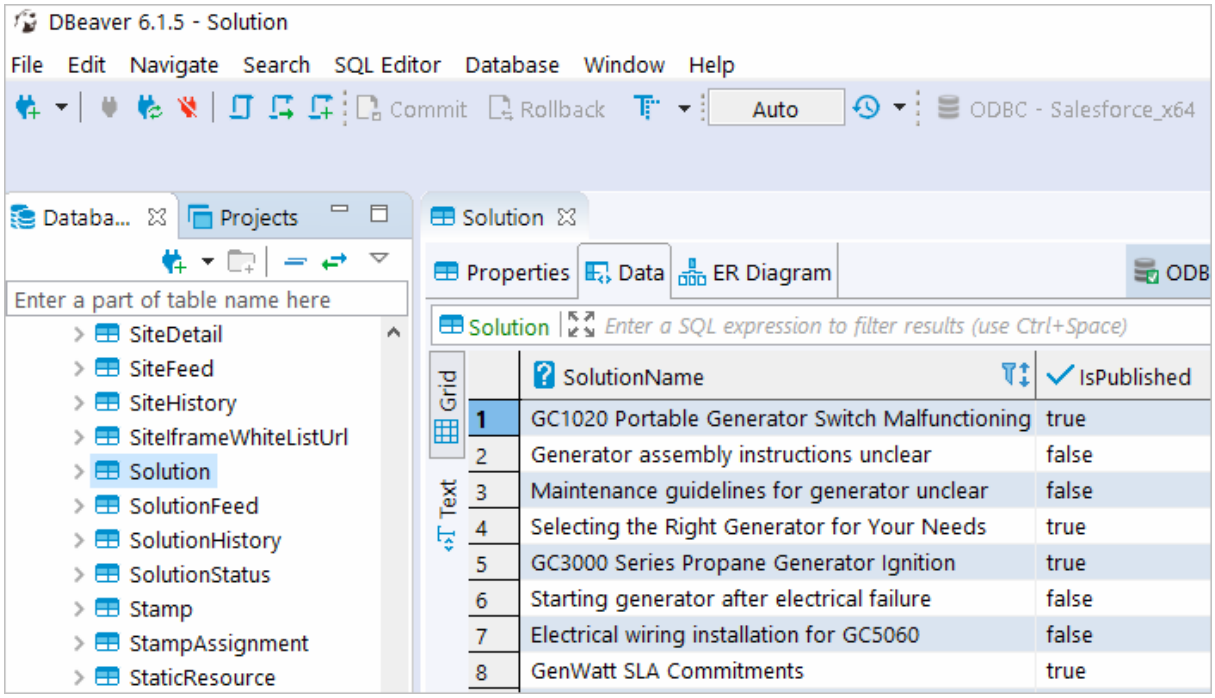
3. Enter the previously configured DSN in the **Database/Schema** field.



4. Click **Test Connection**. If everything goes well, you'll see the **Success** message.

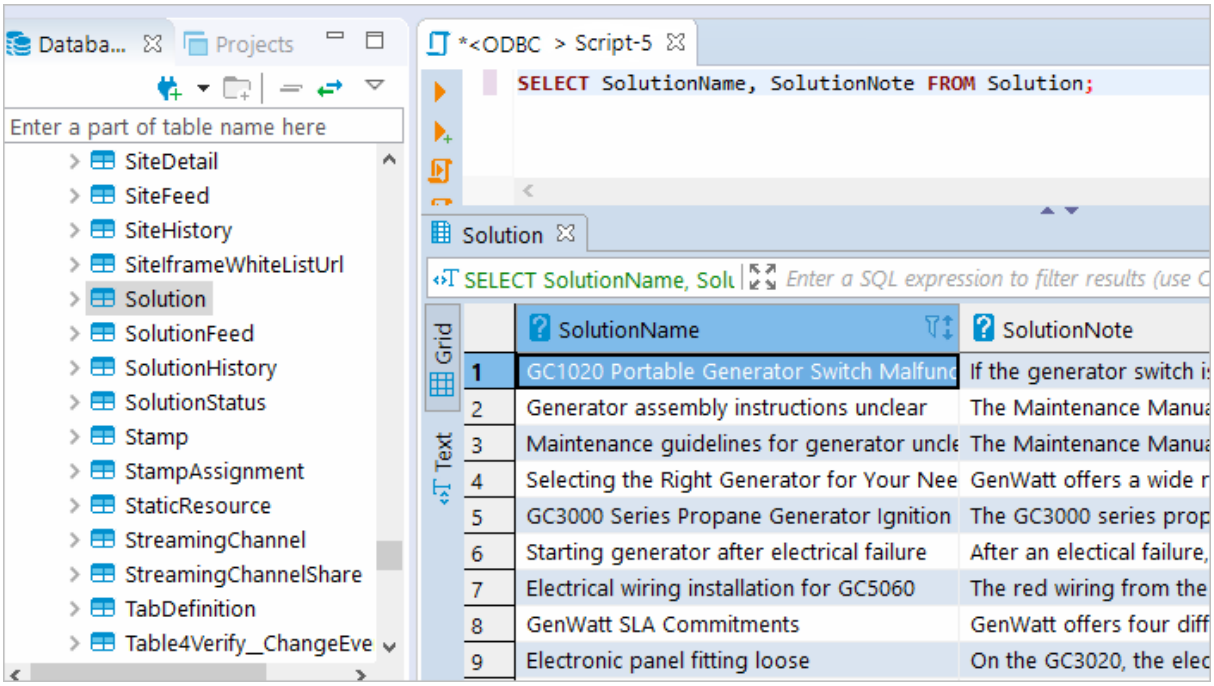
Viewing Snowflake Database Objects and Querying Data

You can expand out the database structure in DBeaver's **Database Navigator** to visualize all the tables in Snowflake database. To view and edit the data in a table, you need to right-click on the target table name and select **View data**.The content of the table will be displayed in the main workspace.



If you want to write a custom SQL query that will include only the necessary columns from the

table, you can select **New SQL Editor** in the **SQL Editor** main menu. Create your query and run it by clicking **Execute SQL Statement** to view the results in the same window.



© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.2 Using in Oracle DBLink

Configuring Oracle Database Gateway for ODBC

This article explains how to configure Oracle Database Gateway for ODBC. If your data is stored in a non-Oracle database system or cloud application, and you need to access it from an Oracle Database server, you can create a database link to an Oracle Database Gateway for ODBC. The gateway works with an ODBC driver to access non-Oracle systems or other, remote Oracle servers. Any ODBC-compatible data source can be accessed using the gateway and the appropriate ODBC driver. The driver must be installed on the same machine as the gateway. The non-Oracle system can run on the same machine as the Oracle server or on a different machine. The gateway can be installed on the machine running the non-Oracle system, the machine running the Oracle database or on a third machine as a standalone.

Configure the Initialization File

After installing the gateway and the ODBC driver for Snowflake, create an initialization file for your Oracle Database Gateway for ODBC. The sample file `initdg4odbc.ora` is stored in the `ORACLE_HOME\hs\admin` directory. To create an initialization file for the gateway, copy the sample initialization file and rename it. The name must be prefixed with init — for example, `initSnowflake.ora`. You need a separate initialization file for each ODBC data source. After creating the file, set the `HS_FDS_CONNECT_INFO` parameter to the system DSN that you created earlier, for example:

```
HS_FDS_CONNECT_INFO=Snowflake
```

Configure Oracle Net Listener

After configuring the gateway, you need to configure Oracle Net Listener to communicate with the Oracle database. Information about the gateway must be added to the `listener.ora` configuration file which is located in the `ORACLE_HOME\NETWORK\ADMIN\` directory. The following example is the address on which the Oracle Net Listener listens (`HOST` is the address of the machine on which the gateway is installed):

```
LISTENER =
    (DESCRIPTION_LIST =
        (DESCRIPTION =
          (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1521))
        )
    )
```

Add an entry to the `listener.ora` file to start the gateway in response to connection requests. The SID of the gateway (`SID_NAME`) must be the same in `listener.ora` and `tnsnames.ora`. `ORACLE_HOME` is the Oracle home directory where the gateway resides. To apply the new settings, stop and restart the Oracle Net Listener service.

```
SID_LIST_LISTENER=
   (SID_LIST=
      (SID_DESC=
         (SID_NAME=Snowflake)
         (ORACLE_HOME=D:\ORACLE_HOME)
         (PROGRAM=dg4odbc)
      )
   )
```

Configure Oracle for Gateway Access

Add a connect descriptor for the gateway to the `tnsnames.ora file`, which is located in `ORACLE_HOME\NETWORK\ADMIN` directory. The `SID` must match the value specified in the

`listener.ora` file.

```
Snowflake =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = tcp)(HOST = localhost)(PORT = 1521))
    (CONNECT_DATA =
      (SID = Snowflake)
    )
    (HS = OK)
  )
```

Create Database Links

To access an ODBC data source, you must create a database link using a database tool like SQL Plus or dbForge Studio for Oracle: connect to your database server and execute the `CREATE DATABASE LINK` statement, as follows:

```
CREATE DATABASE LINK dblink CONNECT TO "username"  IDENTIFIED BY "password"
```

`dblink` is the complete database link name. `tns_name_entry` is the Oracle Net connect descriptor specified in the `tnsnames.ora` file.

When you create the database link in dbForge Studio for Oracle, you can see your newly created link in Database Links on the left panel. After creating the database link, you can run a query against the ODBC data source using the following syntax:

```
SELECT * FROM table_name@"dblink_name"
```

See also

Configuring Oracle Database Gateway for ODBC

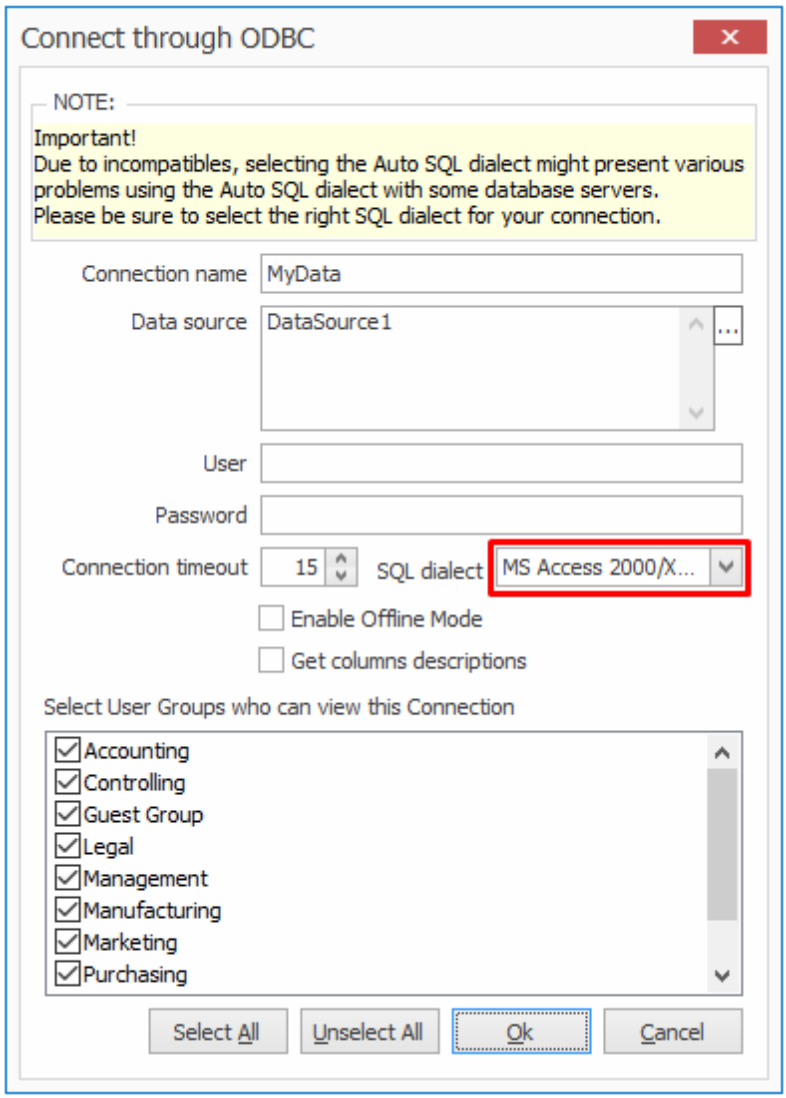
© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.3 Using in DBxtra

Troubleshooting Snowflake ODBC Connection in DBxtra

This page explains how to troubleshoot your ODBC connection to Snowflake in DBxtra.

Due to incompatibilities between DBxtra and Snowflake, leaving the `SQL dialect` property to its default might present various issues. To resolve compatibility issues, set the property to `MS Access 2000/XP/2003` or `ANSI SQL/2003` for DBxtra version 11.0.1 or newer, and to `ANSI SQL/2003` for versions prior to 11.0.1.



© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.4 Using in Microsoft Access

Connecting Microsoft Access to Snowflake Using an ODBC Driver

This article explains how to connect Microsoft Access to Snowflake through the standard ODBC interface. Microsoft Access is a dababase management system that combines the relational database engine with a graphical user interface. Access can be used as a

substitution for spreadsheet applications like Excel to organize, store, and retrieve large amounts of related data that can be difficult to manage in spreadsheets.

In Microsoft Access, you can connect to your Snowflake data either by importing it or creating a table that links to the data. Devart ODBC drivers support all modern versions of Access. It is assumed that you have already installed and configured a DSN for ODBC driver for Snowflake. For the purpose of this article, we tested an ODBC connection to Snowflake through our ODBC drivers in Microsoft Access 2003, Microsoft Access 2007, Microsoft Access 2010, Microsoft Access 2013, Microsoft Access 2016, Microsoft Access 2019. The following steps describe how to use Microsoft Access 2019 to import or link to your data in Snowflake.

Importing Snowflake Data Into Microsoft Access Through an ODBC Connection

1. Open your Microsoft Access database.
2. Select the **External Data** tab in the ribbon.
3. Expand the **New Data Source** drop-down and select **From Other Sources**, then select **ODBC Dababase**.
4. In the **Get External Data - ODBC Database** dialog box, select **Import the source data into a new table in the curent database**, and click **OK**.
5. In the **Select Data Source** dialog box, select the **Machine Data Source** tab.
6. Select the DSN that you have configured for Snowflake and click **OK**.
7. In the **Import Objects** dialog box, select the tables that you want to import, and click **OK**.
8. If the database objects have been successfully imported, you should the see the corresponding message in the dialog box. If you want to save the import steps to quickly repeat the process without using the wizard at a later time, select the **Save import steps** checkbox. Click **Close**.
9. The imported tables should appear in the **Tables** navigation pane on the left.
10. Double-click on the needed table to display its contents.

Linking to Snowflake Data in Microsoft Access Through an ODBC Connection

1. Open your Microsoft Access database.

2. Select the **External Data** tab in the ribbon.
3. Expand the **New Data Source** drop-down and select **From Other Sources**, then select **ODBC Dababase**.
4. In the **Get External Data - ODBC Database** dialog box, select **Link to the data source by creating a linked table**.
5. In the **Select Data Source** dialog box, select the **Machine Data Source** tab.
6. Select the DSN that you have configured for Snowflake and click **OK**.
7. In the **Link Tables** dialog box, select the table or tables that you want to link to, and click **OK**.
8. The **Select Unique Record Identifier** dialog box will prompt you to choose a field or fields that uniquely identify each record in the table. To avoid inconsistencies, it is recommended to select the primary key in the Snowflake table as the unique record identifier. You are linking multiple tables, you will be prompted to select unique record identifiers for each of the selected tables.
9. The linked tables should appear in the **Tables** navigation pane on the left.
10. Double-click on the needed table to display its contents.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.5 Using in Microsoft Excel

Connecting to Snowflake from Microsoft Excel using ODBC Driver for Snowflake

You can use Microsoft Excel to access data from a Snowflake database using ODBC connector. With ODBC Driver, you can import the data directly into an Excel Spreadsheet and present it as a table. Make sure that you use matching Excel and ODBC Driver, e.g. if you have installed a 64-bit ODBC Driver, you will need to use the 64-bit version of Excel.

When working with Microsoft Excel, there are different ways of retrieving data from various data sources using our ODBC drivers.

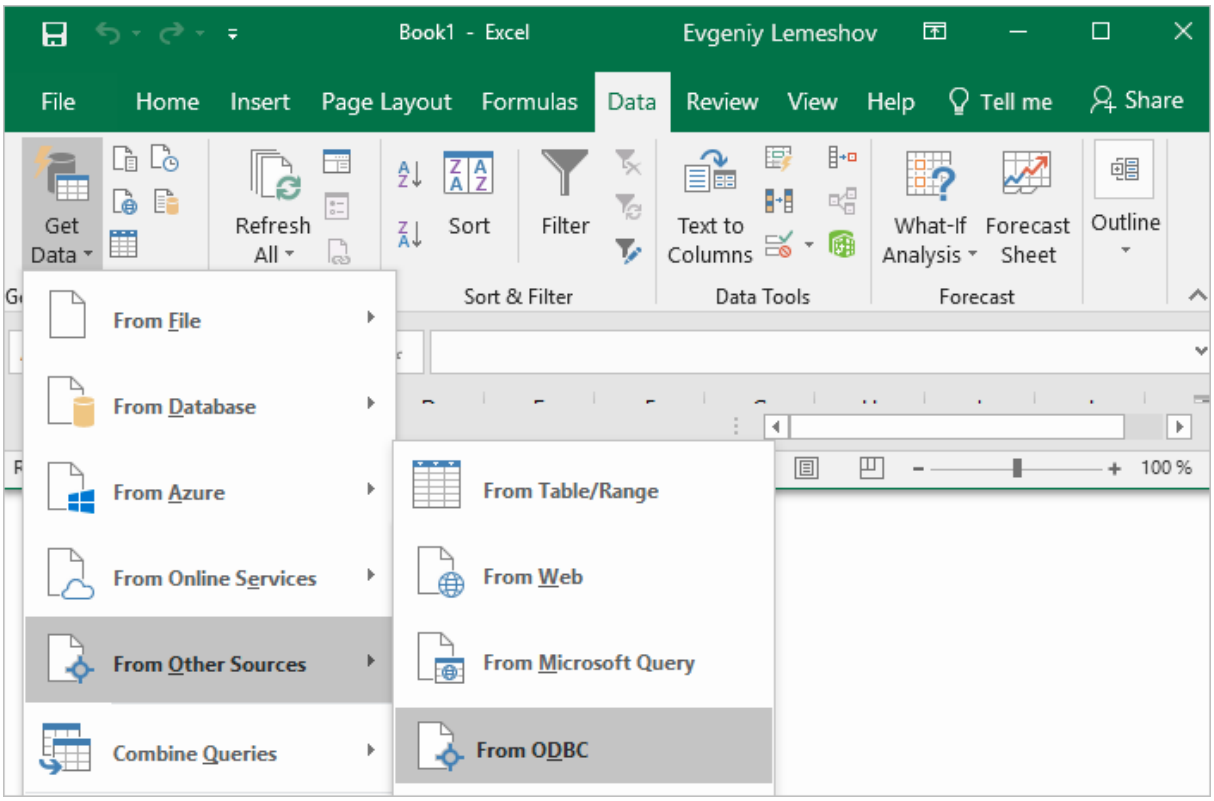
- Connecting Excel to Snowflake with Get & Transform (Power Query)

- Connecting Excel to Snowflake with Data Connection Wizard (Legacy Wizard)
- Connecting Excel to Snowflake with the Query Wizard
- Connecting Excel to Snowflake with Microsoft Query
- Connecting Excel to Snowflake with PowerPivot

Connecting Excel to Snowflake with Get & Transform (Power Query)

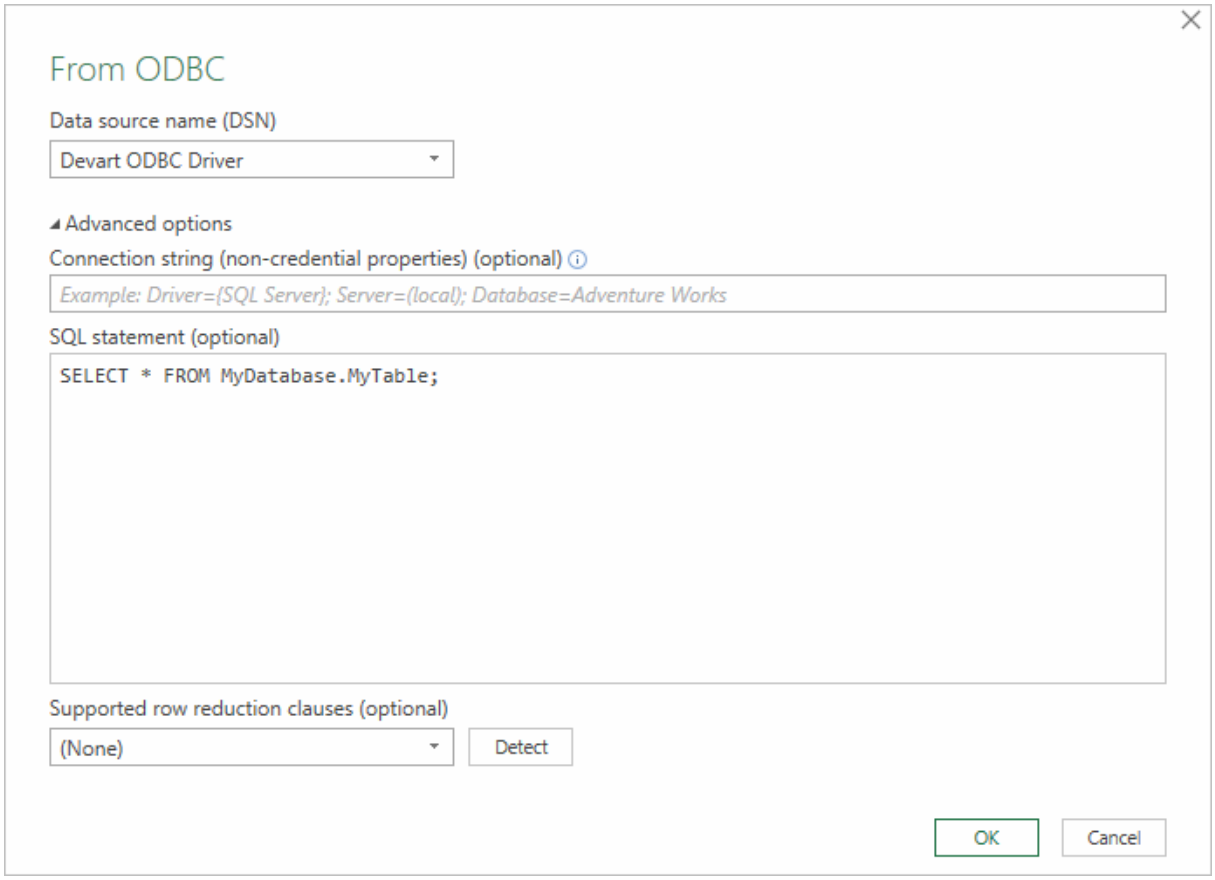
You can use Get & Transform (Power Query) to connect to Snowflake from Excel with ODBC. This method assumes that you've installed an ODBC driver for Snowflake.

1. Click the **Data** in Excel, then expand the **Get Data** drop-down list. Click **From Other Sources > From ODBC**.

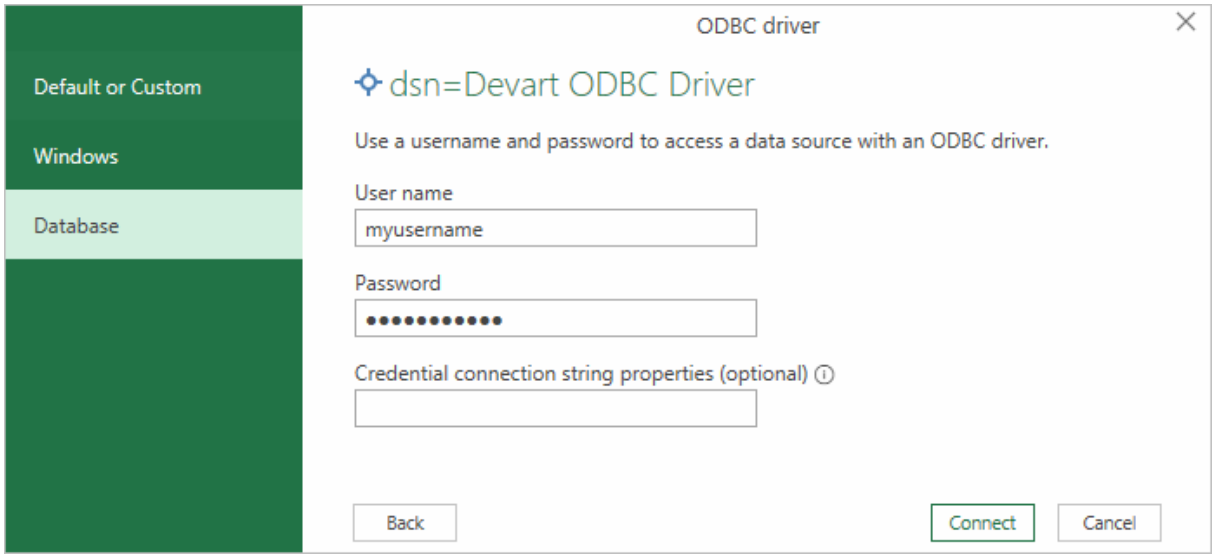


2. In the **From ODBC** dialog, choose your data source name (DSN). If you haven't configured your ODBC driver yet, you can expand the **Advanced Options** dialog box and enter the connection string for your data source (without credentials, which are defined in the

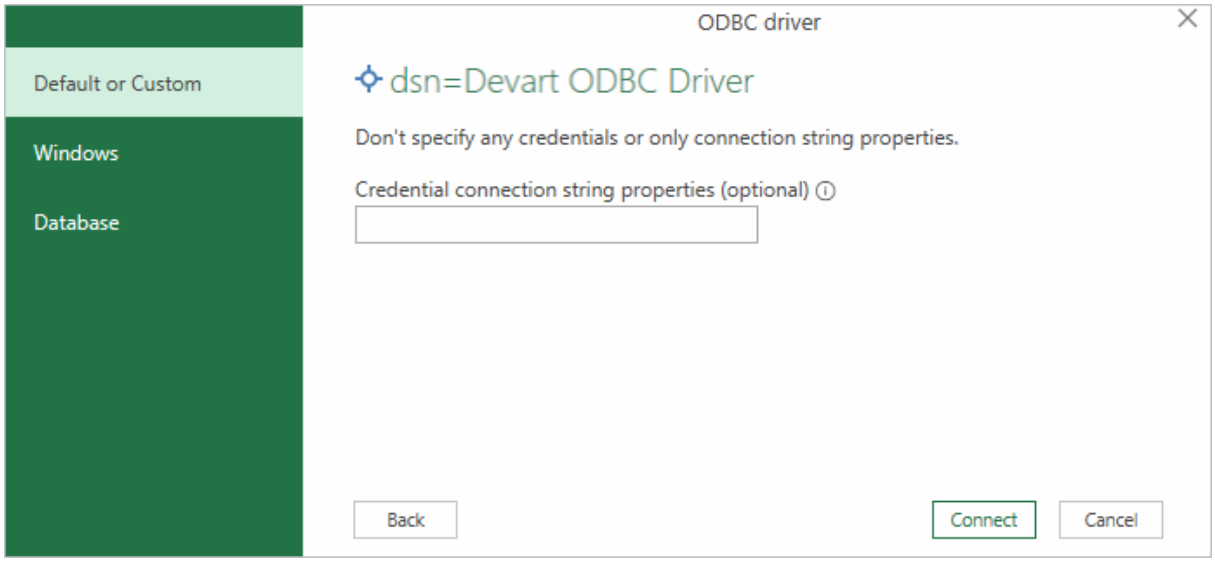
credentials dialog box in the next step). Additionally, you can enter an SQL statement that will be executed right after establishing a connection to the data source. Click **OK**.



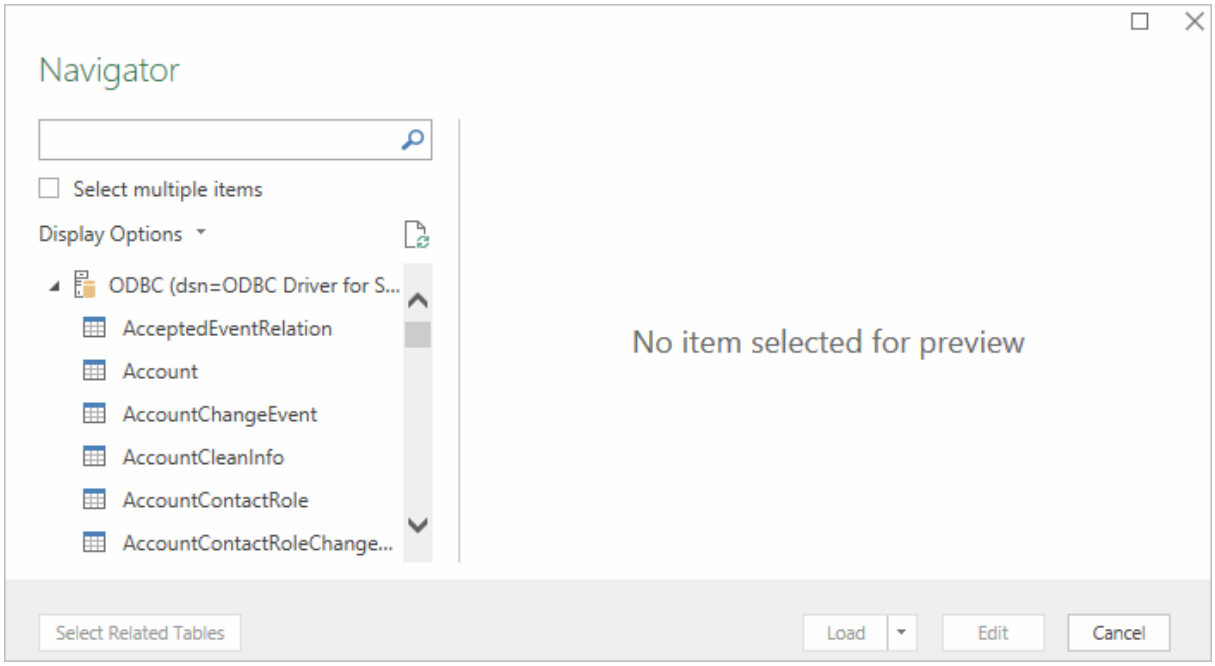
3. If you're using a database username or password, select **Database** and enter your credentials in the dialox bog, then click **Connect**.



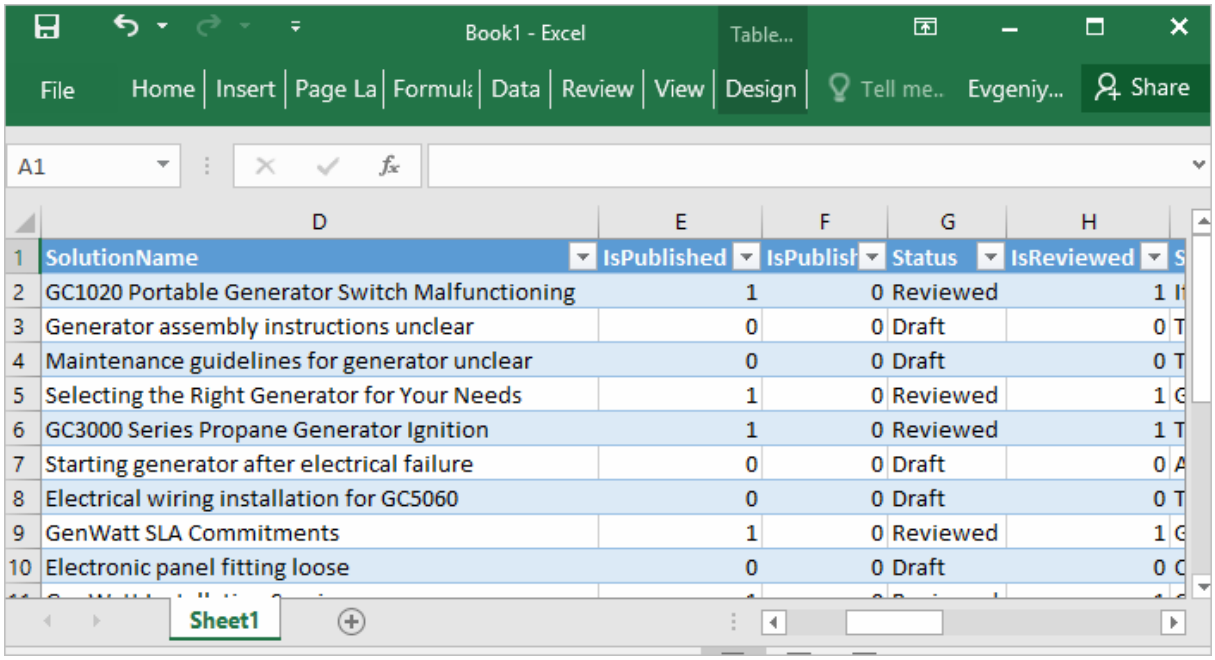
If your database is not password-protected or you've already specified your credentials in the ODBC data source settings, select **Default or Custom** and press **Connect**



4. In the window that appears, select the table you want to retrieve data from, and click **Load**.



The data from the table will be a displayed in an Excel spreadsheet where you can further work with it.



Connecting Excel to Snowflake with Data Connection

© 2024 Enter your company name

Wizard (Legacy Wizard)

You can use this option to connect to OLE DB or ODBC external data source that has already been defined.

1. In Excel, go to the **Data** tab. Click **From Other Sources**, and then click **From Data Connection Wizard**.
2. In the opened dialog, select **ODBC DSN** and click **Next** to continue.
3. Now select a data source you want to connect to, and click **Next**.
4. To connect to the table containing the required data, select its name and click **Next** to enter and save information about your new file or click **Finish**.
5. In the **Import data** dialog, you can select the way your data will be viewed in Excel and the place where to put it in the worksheet, and click **OK**.
6. The required data is now displayed in the existing Excel worksheet.

Connecting Excel to Snowflake with the Query Wizard

You can use this option to create a simple query for retrieving data from Snowflake to Excel via ODBC driver.

1. Open Excel, in the main menu, click the **Data** tab.
2. Click the **From Other Sources** dropdown menu, and then click **From Microsoft Query**.
3. In the appeared dialog, you can choose the data source you want to connect to.
4. After a successful connection, you can select the data you want to be displayed in Excel and click **Next**.
5. The next two steps allow filtering and sorting the data. Click **Next** to skip these procedures.
6. If you plan to further use the query, you can save it by clicking the **Save** button on the right.
7. Select **Return Data To Microsoft Excel** and click **Finish**.
8. In the **Import data** dialog, you can select the way your data will be viewed in Excel and the place where to put it in the worksheet, and click **OK**.
9. The required data is successfully imported to Excel.

Connecting Excel to Snowflake with Microsoft Query

© 2024 Enter your company name

You can use this option to create a more complex query for retrieving Snowflake data to Excel via ODBC driver.

1. Start Excel, click the **Data** tab.
2. In the appeared ribbon, click **From Other Sources**, and then click **From Microsoft Query**.
3. In the next dialog, choose the data source you want to connect to (e.g., using data source name - Devart ODBC Snowflake). Uncheck **Use the Query Wizard to Create/Edit Queries** and click **OK**.
4. Now you can select the tables you want to add to your query. When you finish, just click the **Add** button.
5. In the graphical editor, you can filter rows or columns of data, sort data, join multiple tables, create a parameter query, etc.

Connecting Excel to Snowflake with PowerPivot

You can use PowerPivot - an Excel add-in to perform data analysis and create complex data models. To load the required data, do the following:

1. In Excel, click the **PowerPivot** tab, then click **Manage** to go to the PowerPivot window.
2. In the opened window, click **From Other Sources**.
3. When the **Table Import Wizard** opens, select **Others (OLEDB/ODBC)** and click **Next**.
4. In the **Specify a Connection String** window, click the **Build** button.
5. In the **Data Link Properties** dialog, specify the data source you want to connect (e.g., using data source name - Devart ODBC Snowflake), and then click **Next**.
6. Now you should choose how to import the data (either select a table from the list or write a query to specify the data to be imported).
7. When the Import operation succeeded, click the **Close** button. The retrieved data is inserted in the active worksheet.

© 2015-2024 Devart. All Rights Reserved.

© 2024 Enter your company name

4.6 Using in SQL Server Management Studio

This section describes how to establish and troubleshoot a connection to Snowflake from SQL Server Management Studio using ODBC Driver for Snowflake.

- Creating a Linked Server
- Troubleshooting in SSMS

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.6.1 Creating a Linked Server

Requirements

In order to avoid incorrect integration with MS SSMS, the working environment must meet the following conditions:

- The data source must be a configured system DSN. Refer to the Driver Configuration article to learn how to configure a System DSN
- The driver, studio, and SQL Server must be of the same bitness. For example, if you are using 64-bit SQL Server Management Studio on 64-bit Windows platform, then configure the 64-bit version of the driver using ODBC Administrator launched from %windir%\system32\odbcad32.exe. Otherwise, configure the driver using the 32-bit version of ODBC Administrator - launch it from %windir%\SysWOW64\odbcad32.exe.
- ODBC Driver for Snowflake and SQL Server must be installed on the same computer.
- .NET Framework 4.5 must be installed on the computer.

Connecting to Snowflake from SQL Server Management Studio using ODBC Driver for Snowflake

You can use the Microsoft SQL Server Management Studio to connect your Snowflake data to an SQL Server instance. Linked Server is a tool of MS SQL Server that allows to execute distributed queries to refer tables stored on non-SQL Server datbase in a single query. With linked servers, you can execute commands against different data sources such as Snowflake and merge them with your SQL Server database. You can create a linked server with one of

these methods: by using the options in the Object Explorer or by executing stored procedures.

Below are major advantages of using SQL Server Linked Servers to connect to Snowflake:

1. The ability to connect other database instances on the same or remote server.
2. The ability to run distributed queries on heterogeneous data sources across the organization.
3. The ability to work with diverse data sources in the same way.

How to configure a SQL Server Linked Server to connect to Snowflake

You can follow the steps to create a linked server for Snowflake in SQL Server Management Studio by using Object Explorer:

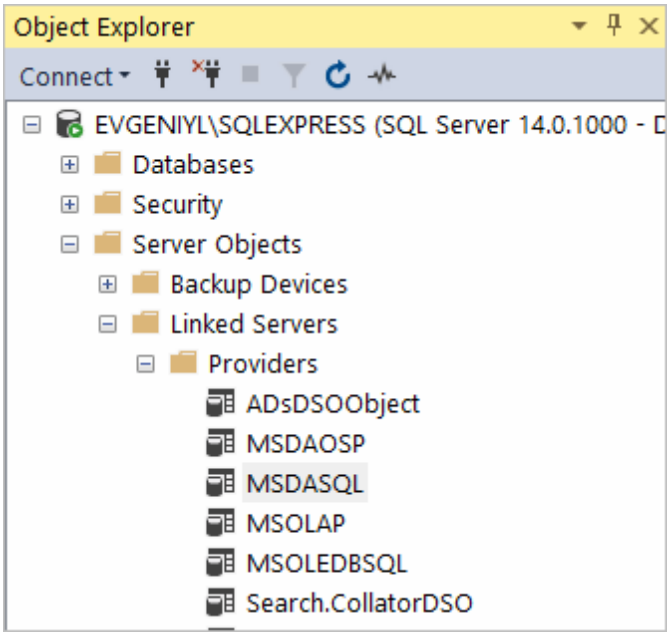
1. Start your Management Studio and choose your SQL Server instance.
2. In the **Object Explorer pane**, expand the **Server Objects**, right-click on **Linked Servers** and then click on **New Linked Server**.
3. Configure your linked server in the dialog box:
   - Give a name for your server in the **Linked server** field.
   - Under **Server type**, select **Other data source** .
   - Choose **Microsoft OLE DB Provider for ODBC Drivers** in the **Provider** drop-down list.
   - In the **Data source** field, enter the name of your DSN, e.g. Devart ODBC Driver for Snowflake . Alternatively, you can input the ODBC Driver connection string in the **Provider** field.

The linked server will appear under the Linked Servers in the Object Explorer Pane. You can now issue distributed queries and access Snowflake databases through SQL Server.

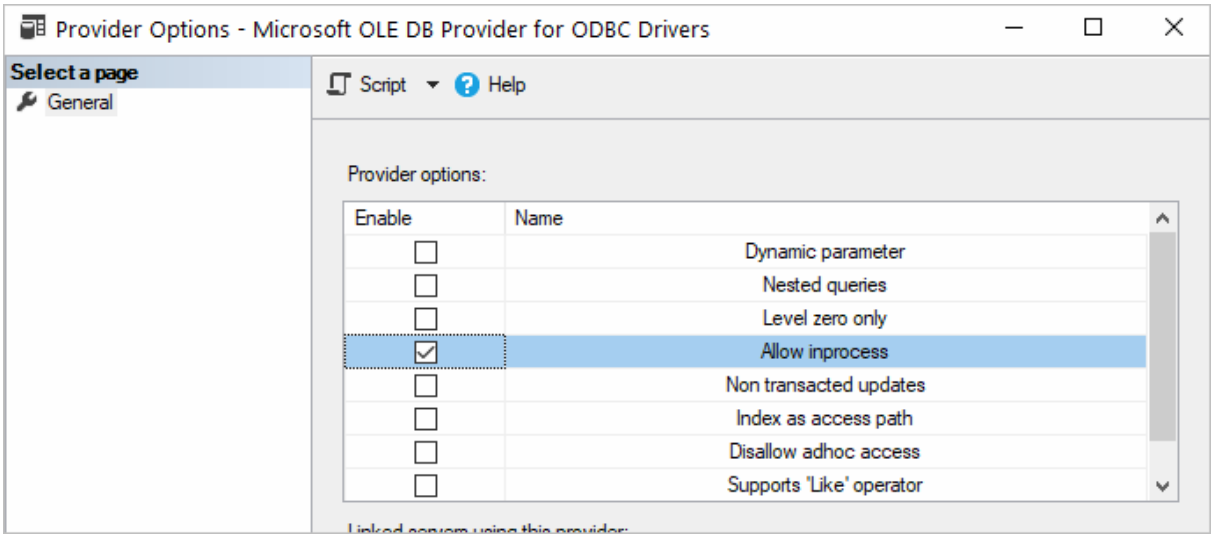
Retrieving Data From Snowflake

Ensure the **Allow inprocess option** of MSDASQL OLE DB Provider for ODBC Drivers is enabled. For this, find the **MSDASQL** provider in the list of Linked Servers and double-click on it

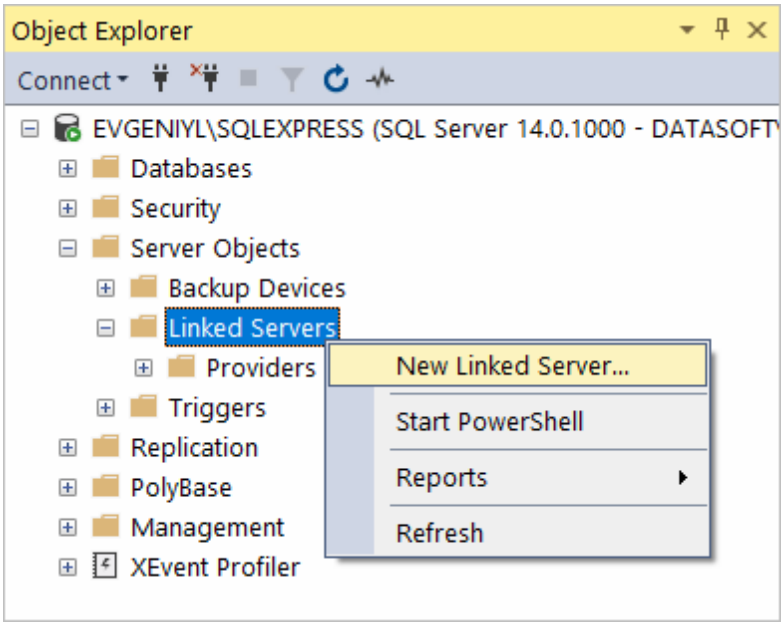
© 2024 Enter your company name



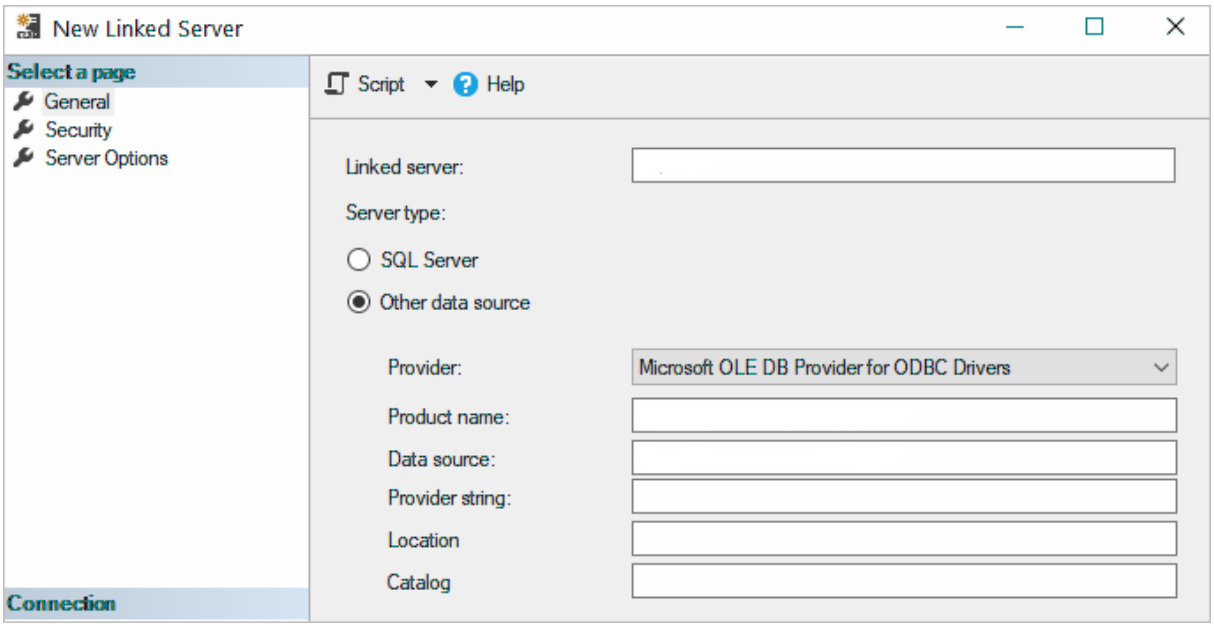
In the appeared **Provider Options** window, enable the **Allow inprocess** checkbox:



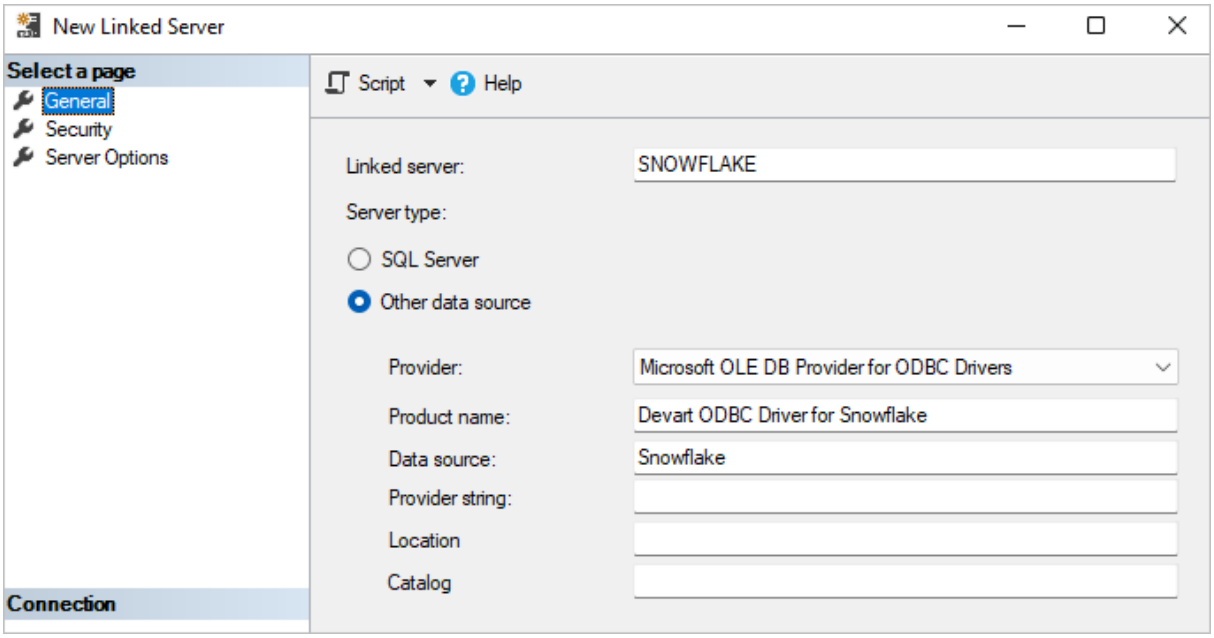
Create a new **Linked Server**



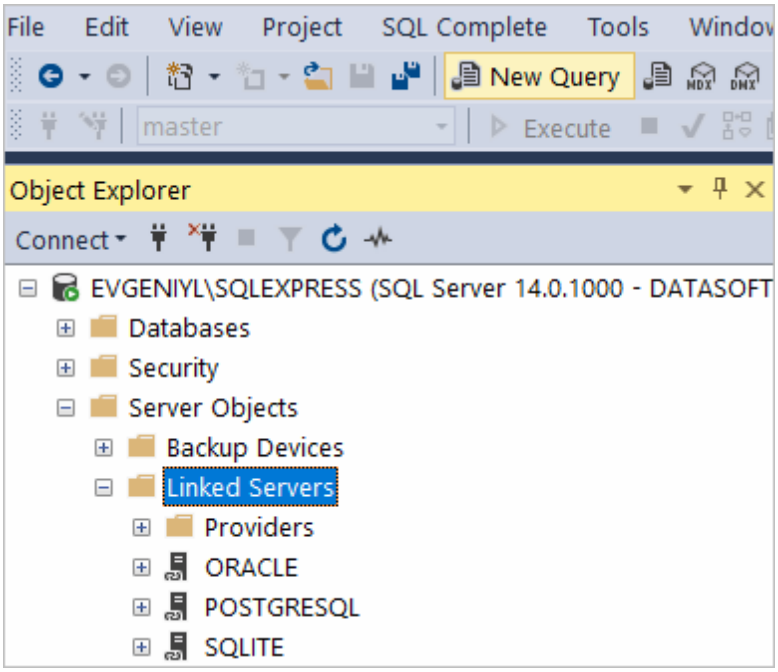
Make sure to select **Microsoft OLE DB Provider for ODBC Drivers**:



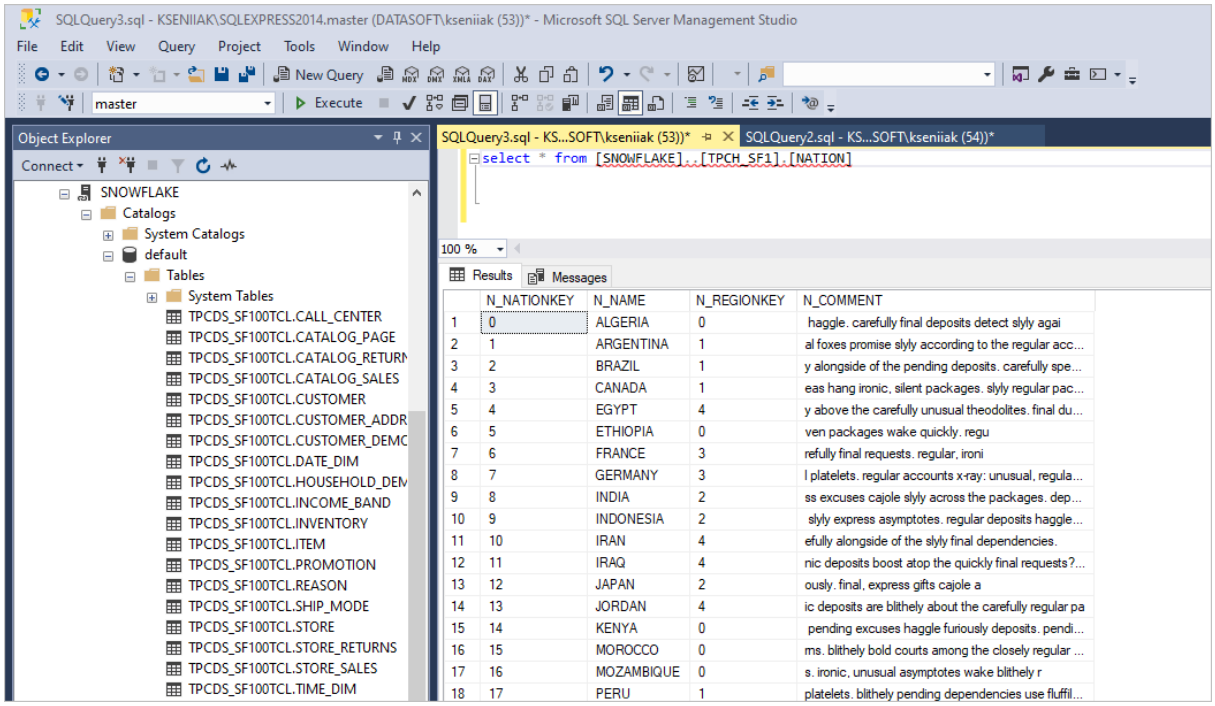
Now you need to input the Linked Server name, e.g. SNOWFLAKE. In the Product Name and Data Source fields you need to indicate the System DSN that you've previously created - more info on System DSN setup can be found here.



The Snowflake tables are already available to be fetched. To query the linked server, click **New Query** in the toolbar:



Enter your SQL query in the editor window and click **Execute** to run the query:



As a result, you can see the contents of the selected table retrieved directly from the Snowflake account you are connected to.

See also

- Troubleshooting SSMS

© 2015-2024 Devart. All Rights Reserved.

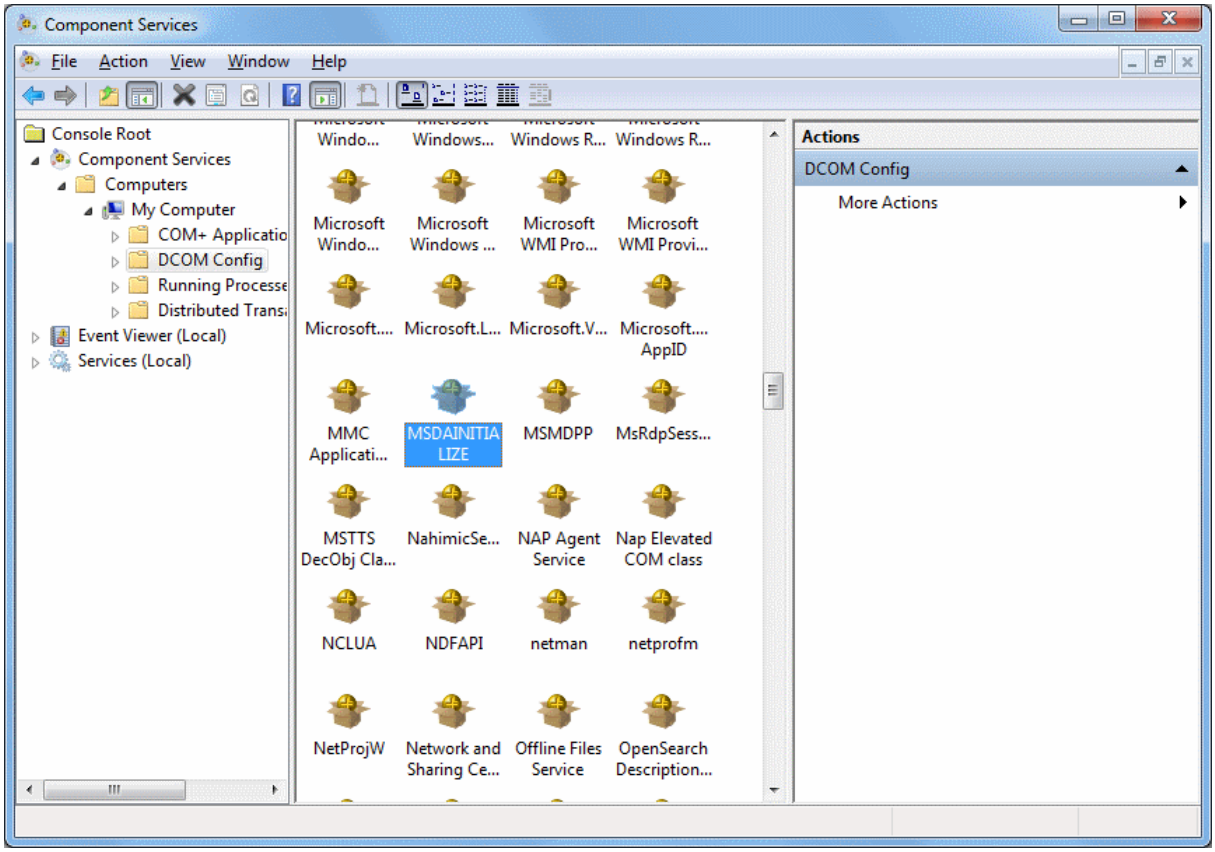
Request Support ODBC Forum Provide Feedback

4.6.2 Troubleshooting in SSMS

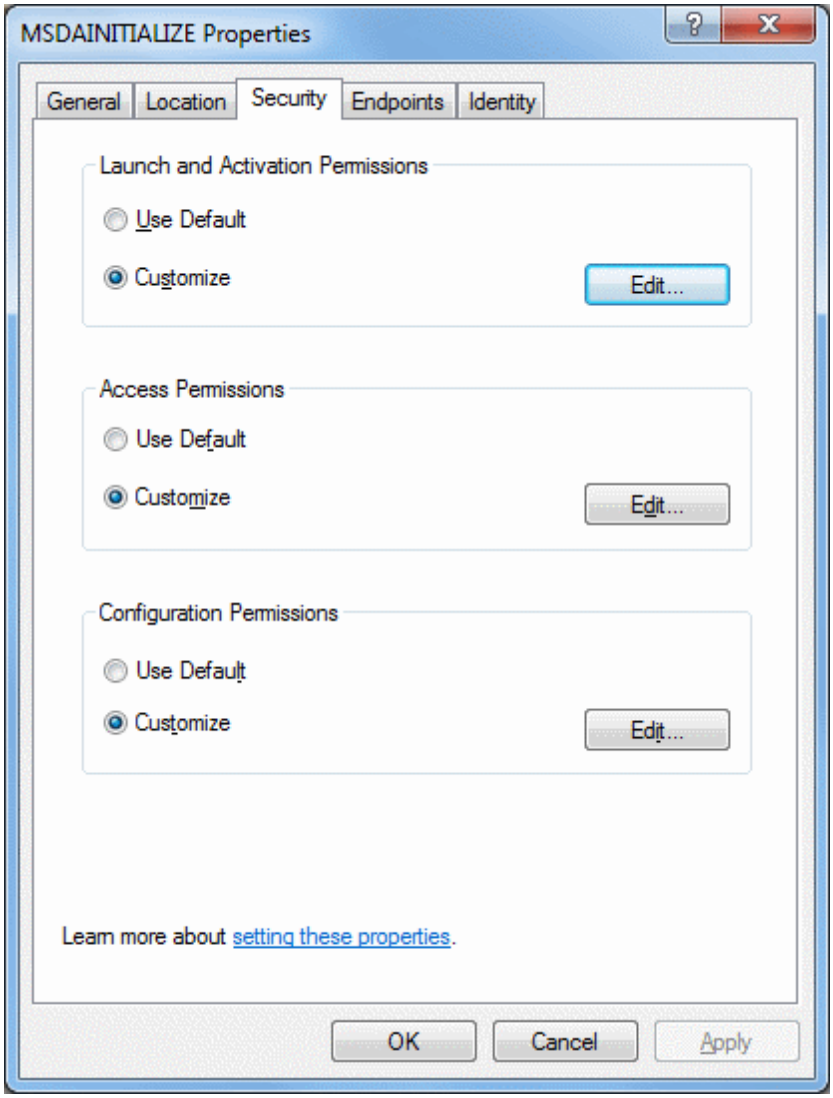
When creating a linked server in SSMS, most errors happen due to security issues with DCOM class MSDAINITIALIZE. We need to alter the DCOM Class MSDAINITIALIZE security settings to make it work.

Following are the steps:

1. Open Component Services (Start>Run>DCOMCNFG)
2. Expand Component Services>Computers>My Computer>DCOM Config
3. From the list of DCOM components on the right side, select **MSDAINITIALIZE** and go to its properties:



4. Go to the Security Tab, Choose ‘Customize’ and click on the ‘Edit’ Button:

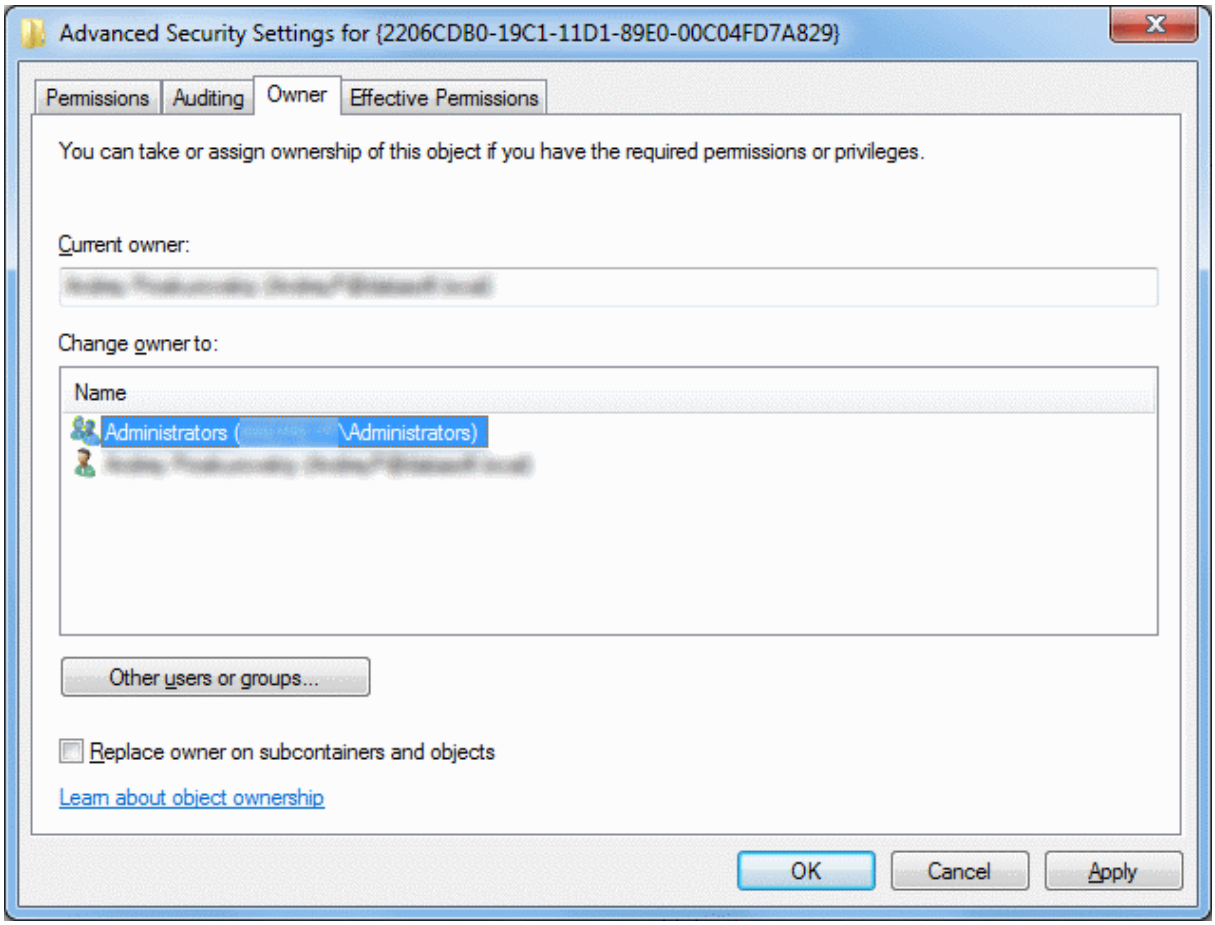


5. Add the Domain User who is accessing the linked server and 'Allow' all the permissions available (Local Launch, Remote Launch, Local Activation, Remote Activation). If you are connecting to SQL server using SQL account, you need to provide this permission to the account under which the SQL service is running.
6. Do this for all the 3 sections in the above screenshot.

To edit the Security settings, we followed the below steps:

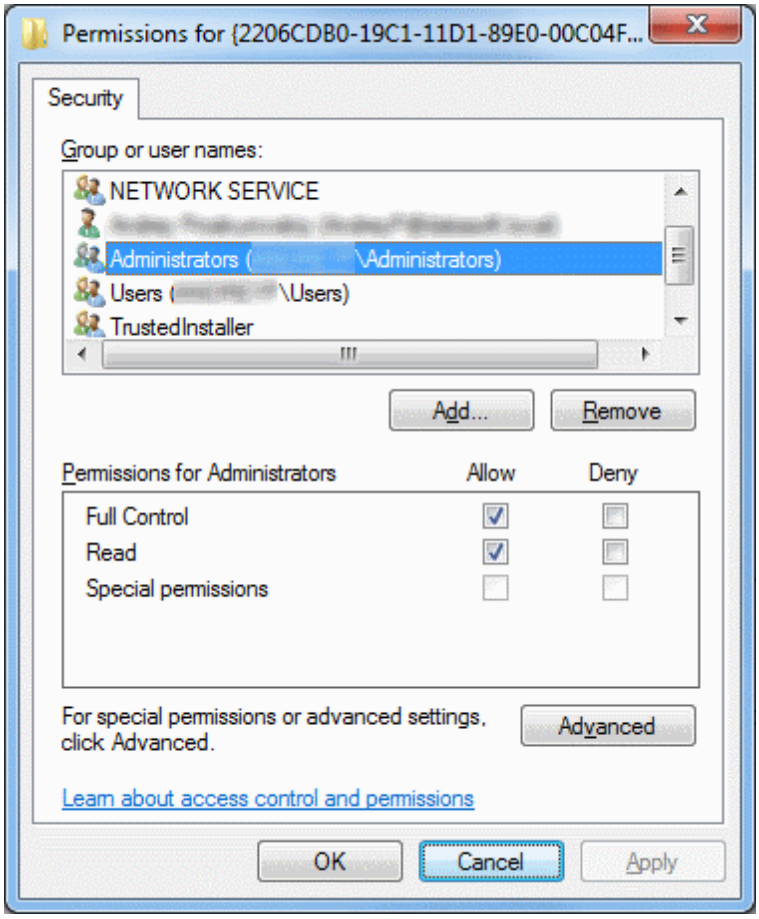
1. Start > Run > Regedit
2. Find the Key: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\AppID\{2206CDB0-19C1-11D1-89E0-00C04FD7A829}

3. Right Click>Permissions>Advanced>Owner Tab:



4. Change the owner to Administrators.

5. Now, grant ‘Full Control’ to Administrators:



After this you should be able to edit MSDAINITIALIZE security settings .

See also

- Error message when you try to create an instance of an OLE DB provider in SQL Server: "Cannot create an instance of OLE DB provider"

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

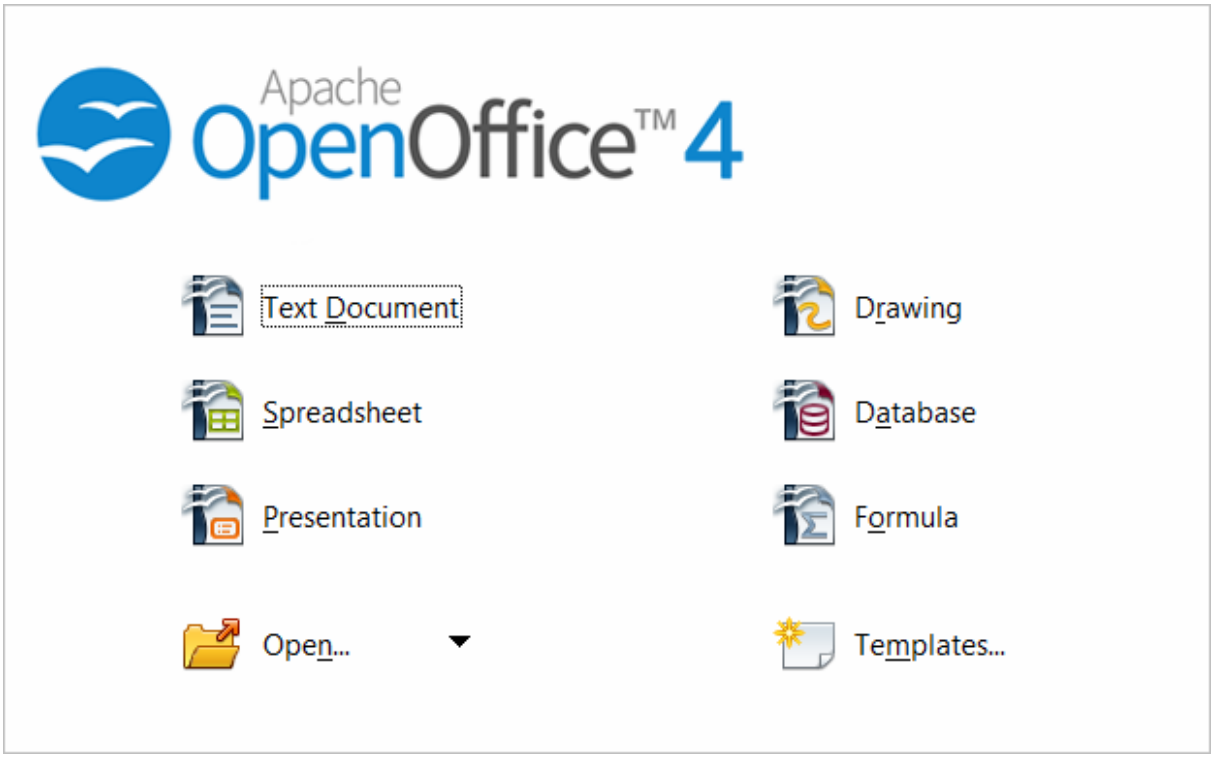
4.7 Using in OpenOffice and LibreOffice

Connecting to Snowflake from OpenOffice and LibreOffice using ODBC Driver for Snowflake

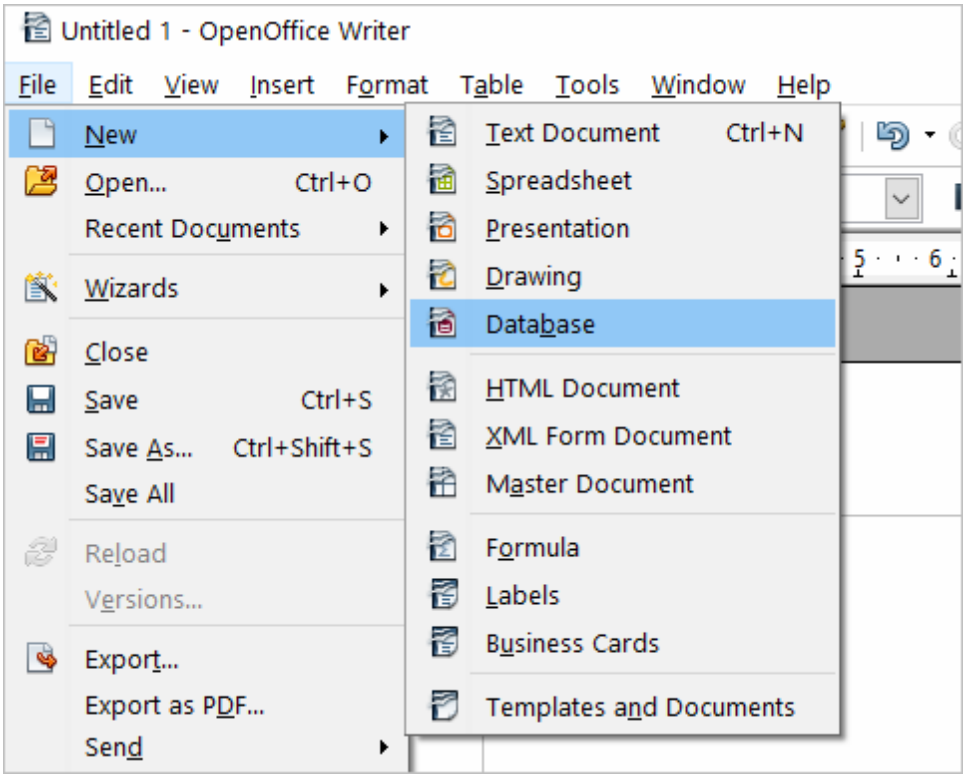
The article describes how to use Apache OpenOffice and LibreOffice to access ODBC data sources using the respective driver. You can access Snowflake data from Open Office Base or LibreOffice Base — desktop database management systems. Note that the Windows version of OpenOffice is 32-bit, and you may get the error “The specified DSN contains an architecture mismatch between the Driver and Application” when trying to access a data source through a 64-bit ODBC Driver. To get rid of the error message, set up the 32-bit version of the driver.

To connect to an ODBC data source from OpenOffice or LibreOffice using our driver for Snowflake, perform the steps below:

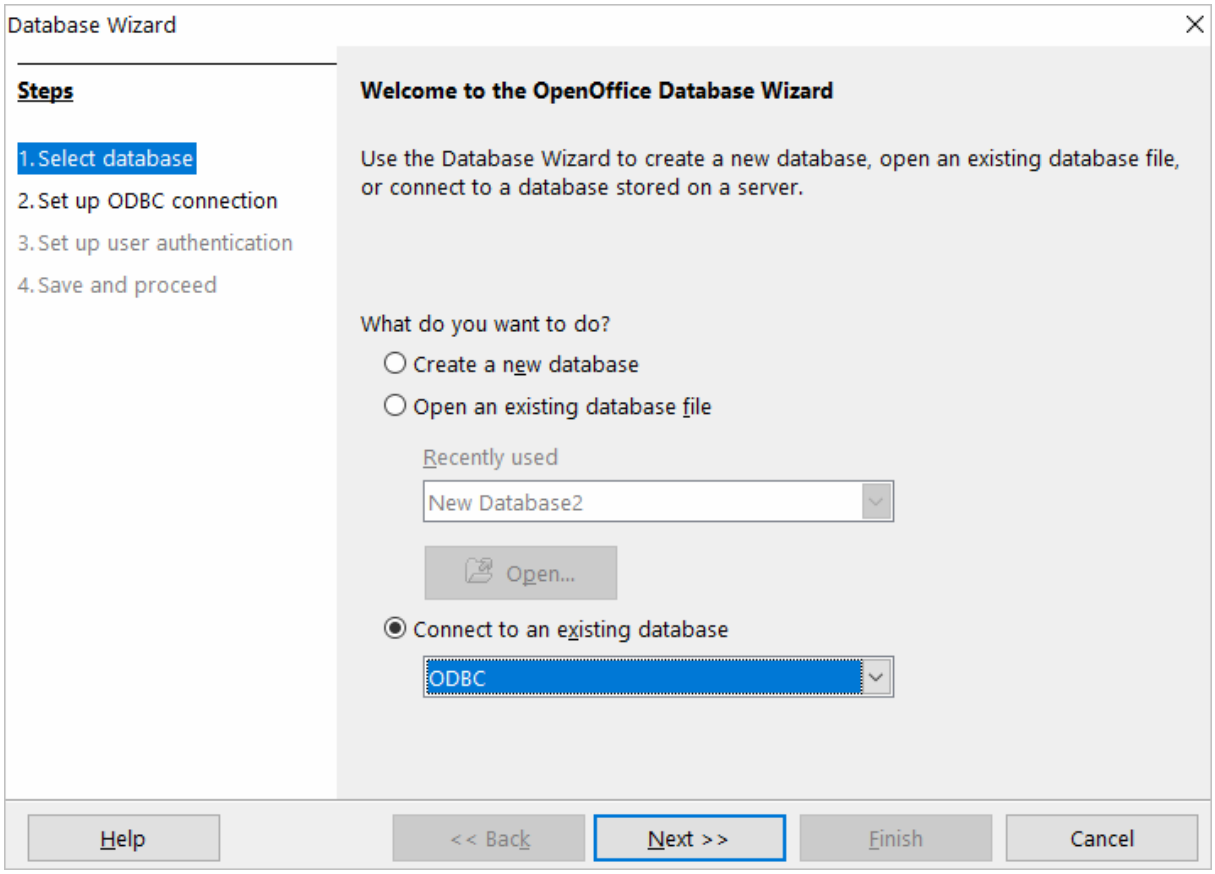
1. Start OpenOffice or LibreOffice, click **Database** to open the **Database Wizard**.



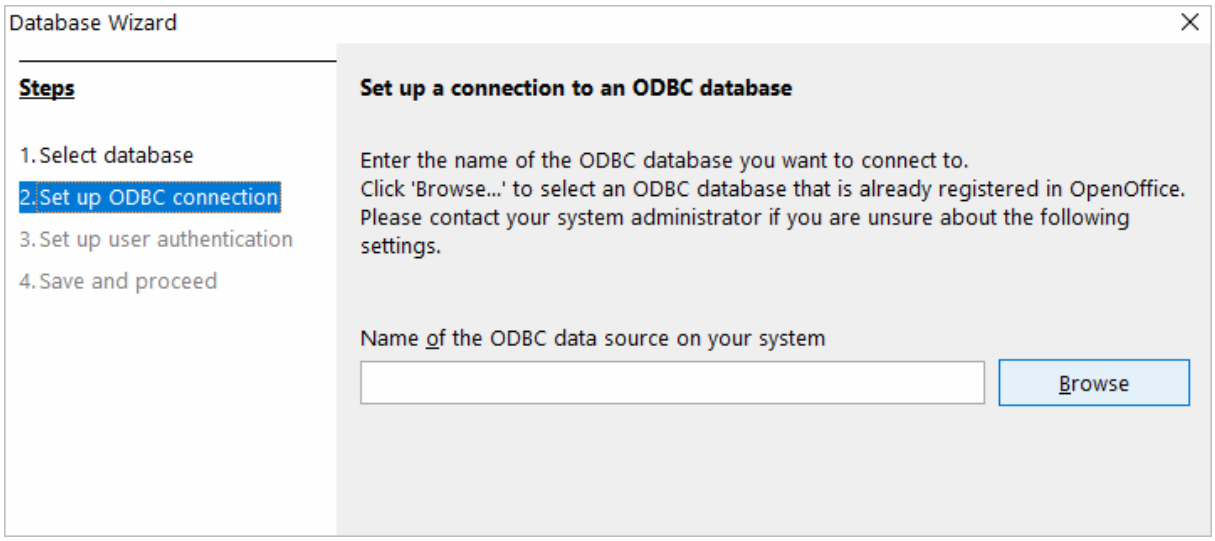
Alternatively, you can launch the **Database Wizard** from OpenOffice or LibreOffice Calc, Writer or any other tool by choosing **File > New > Database**.

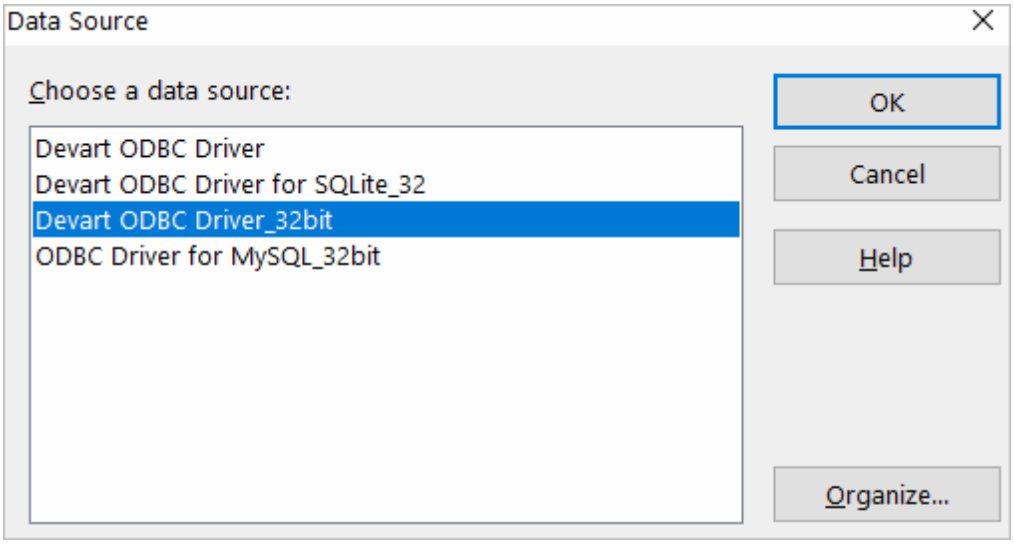


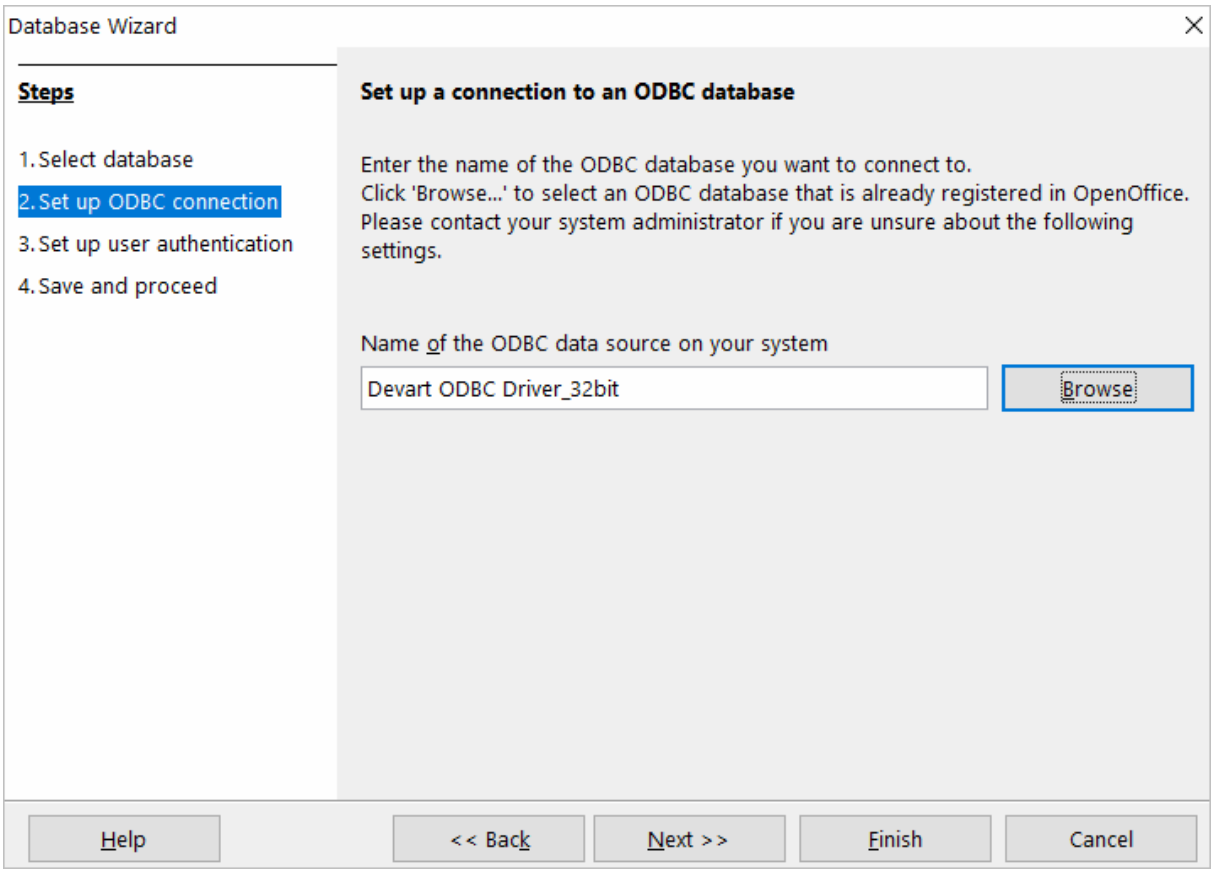
2. In the **Database Wizard dialog box**, click **Connect to an existing database**, select **ODBC** from the drop-down list, and click **Next**.



3. Specify the name of the data source you want to connect to. You can either type the name of your data source into the field, e.g. **ODBC Driver for Snowflake**, or you can click **Browse**, double-click the data source you need, and then click **Next**.

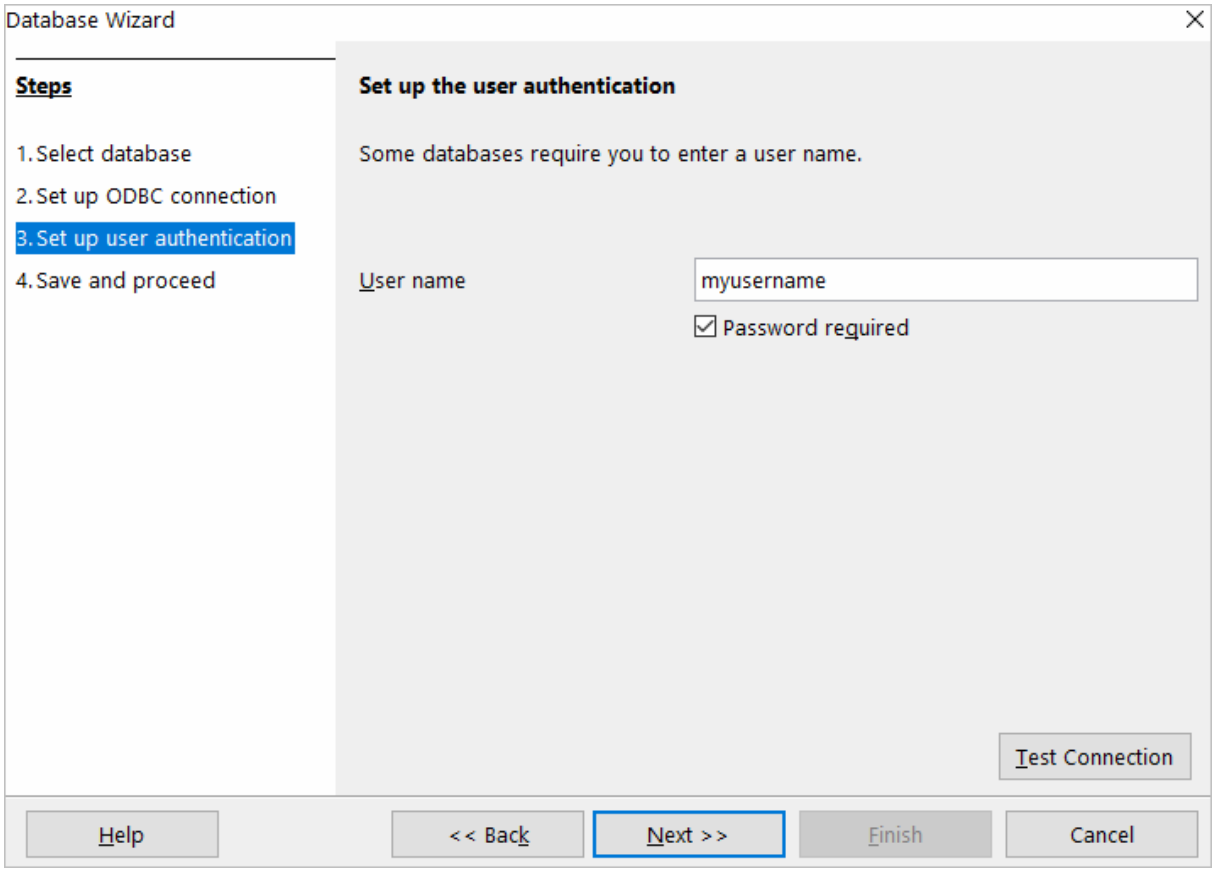




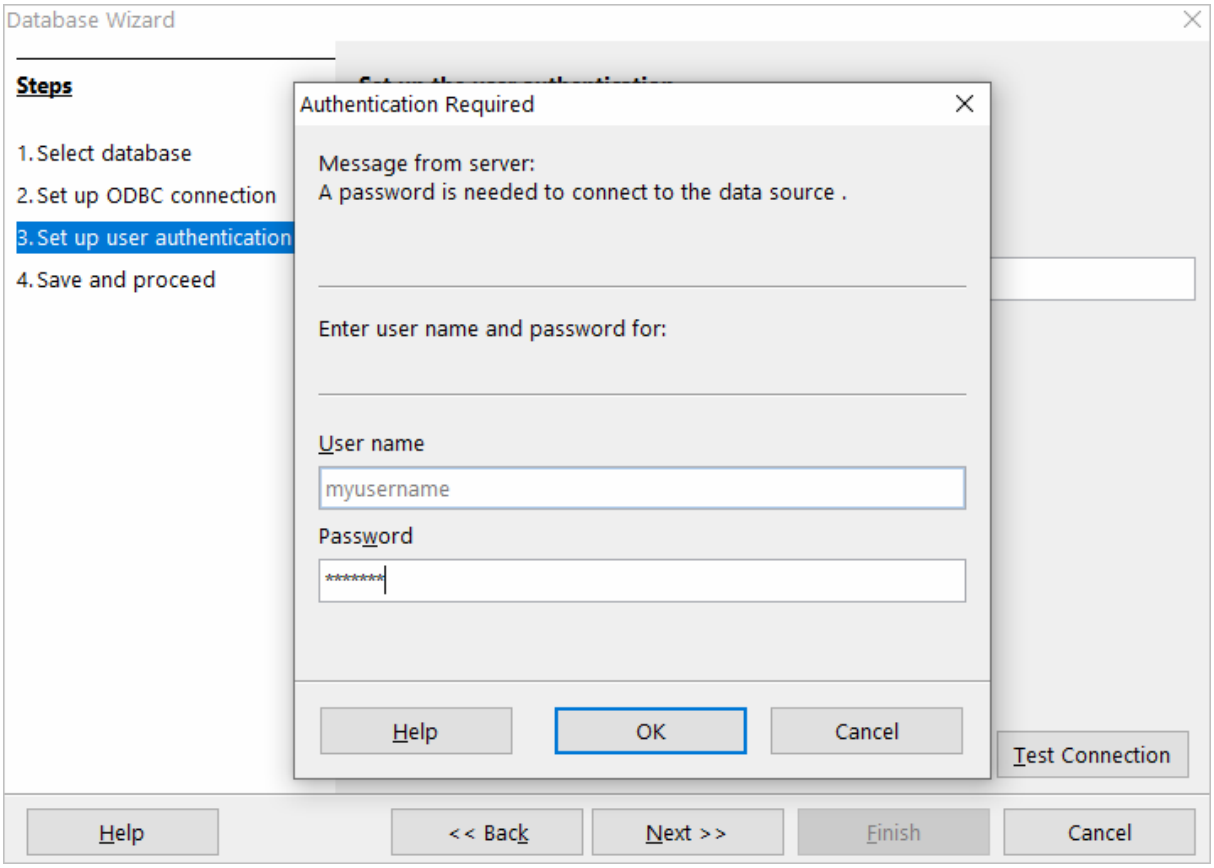


4. If your database requires a user name, type it into the **User name** field. If you are connecting to a password protected database, check the **Password required** field. Alternatively, you can specify these parameters in the data source settings of your ODBC

Driver for Snowflake and leave these fields empty in **Database Wizard**.

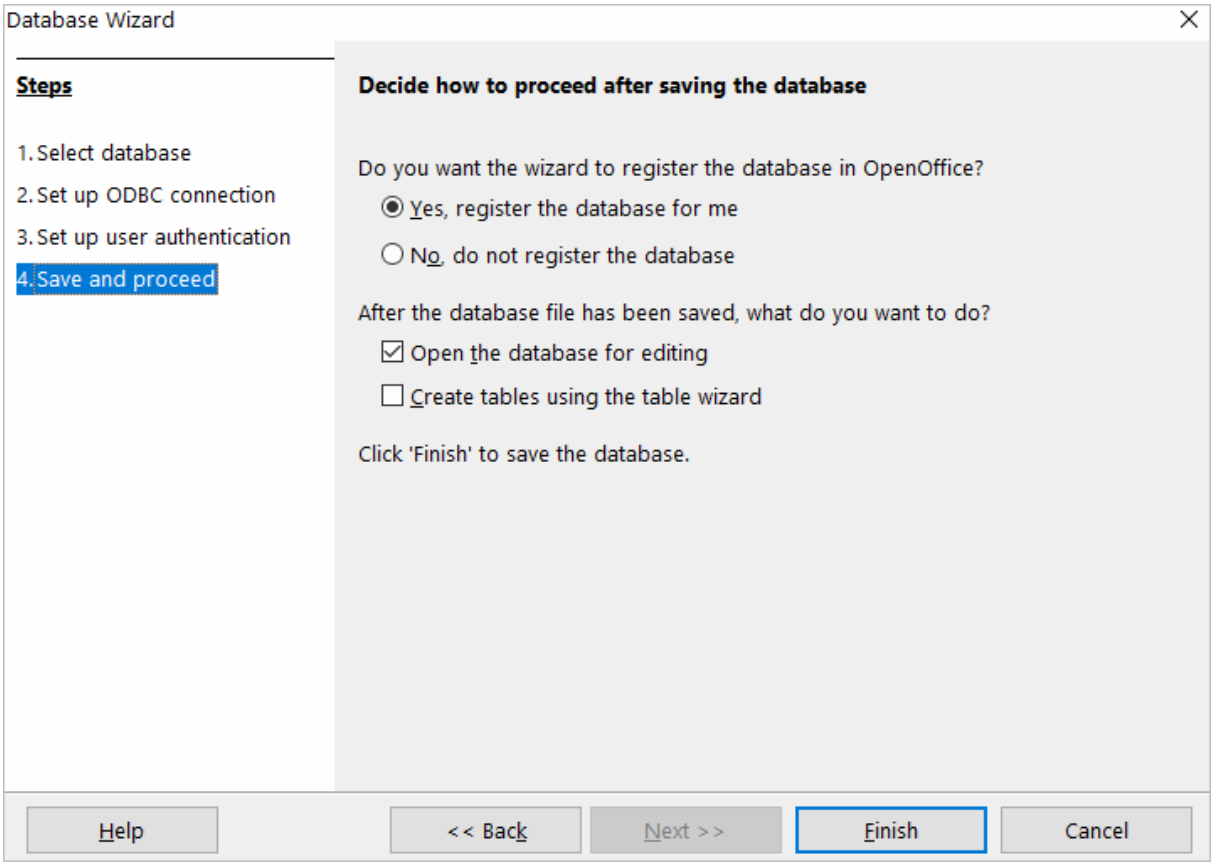


To test the connection to your data source, click **Test Connection**, input your credentials and click **OK**.

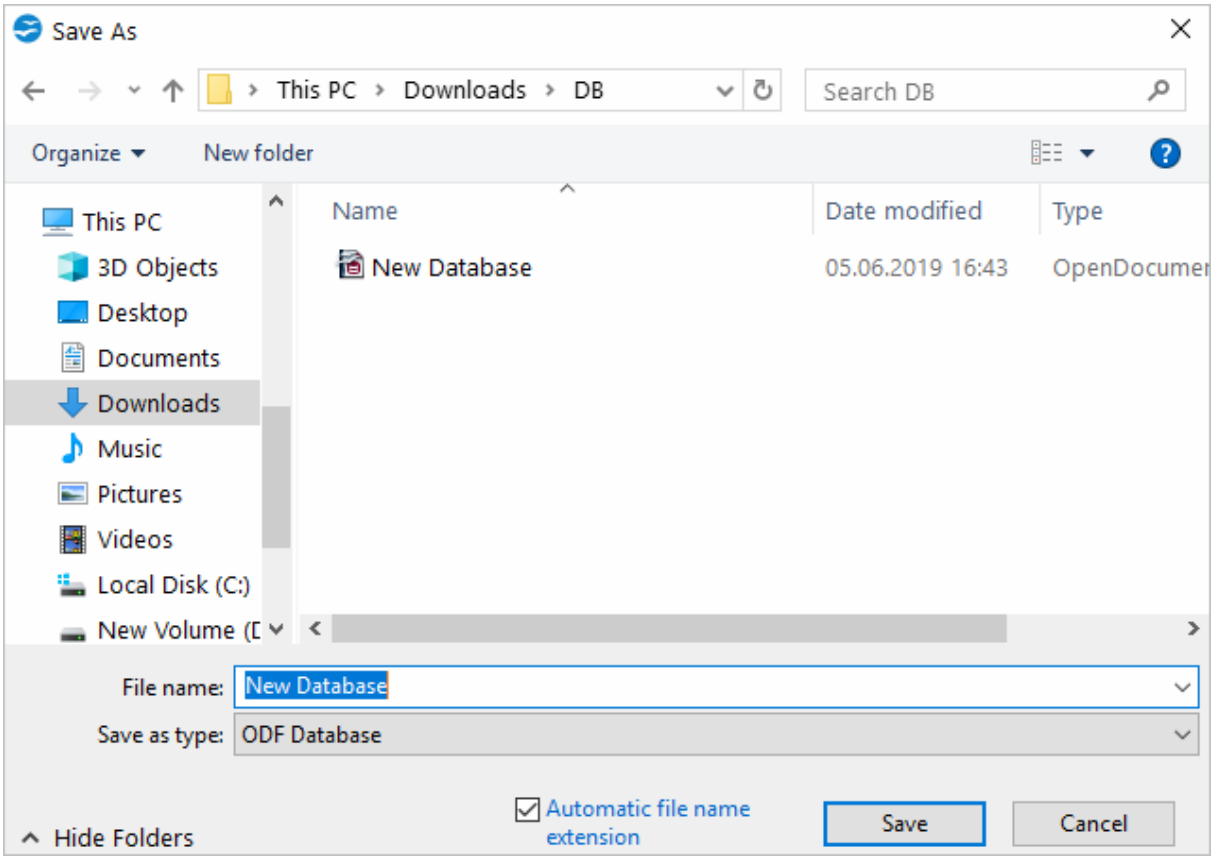


If you have entered valid credentials, you will see a success message. Click **Next** to proceed to the final step.

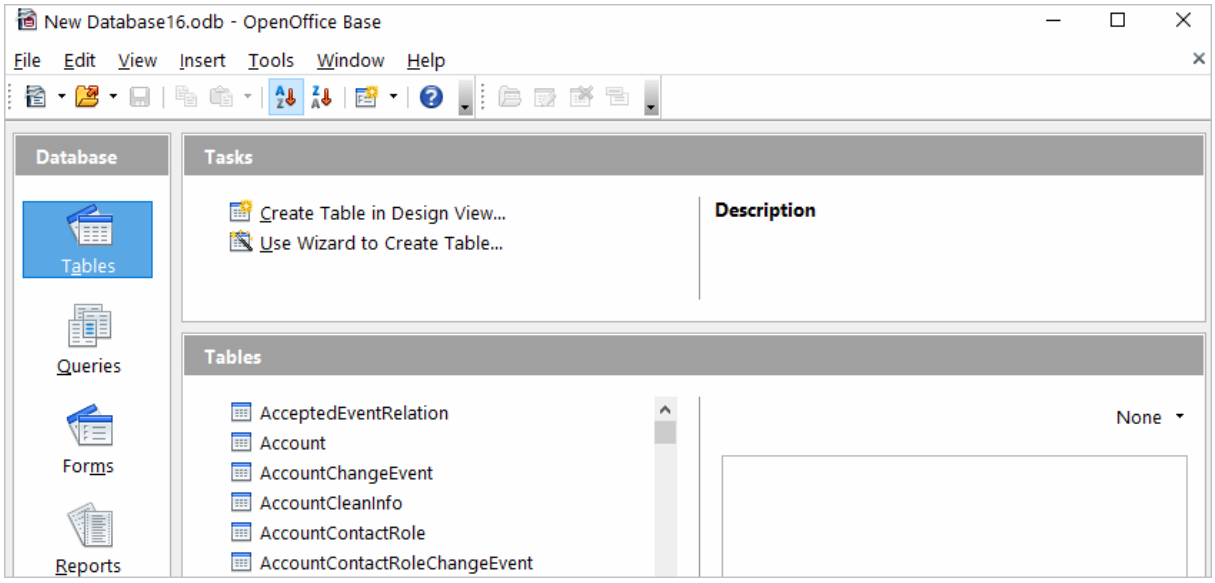
5. You can keep the default selection in this dialog box and click **Finish**.

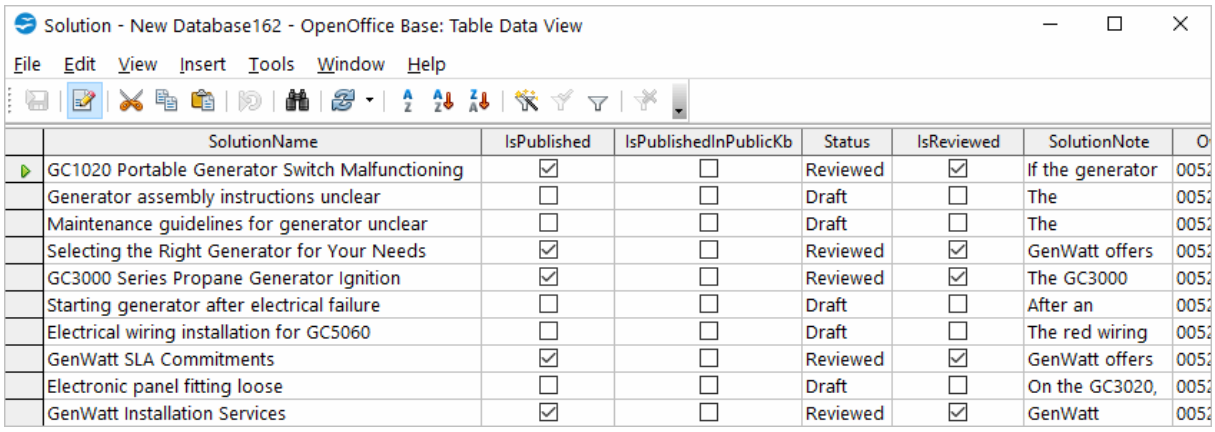


You will be prompted to give a name to your new database and select the directory where you want to store it.



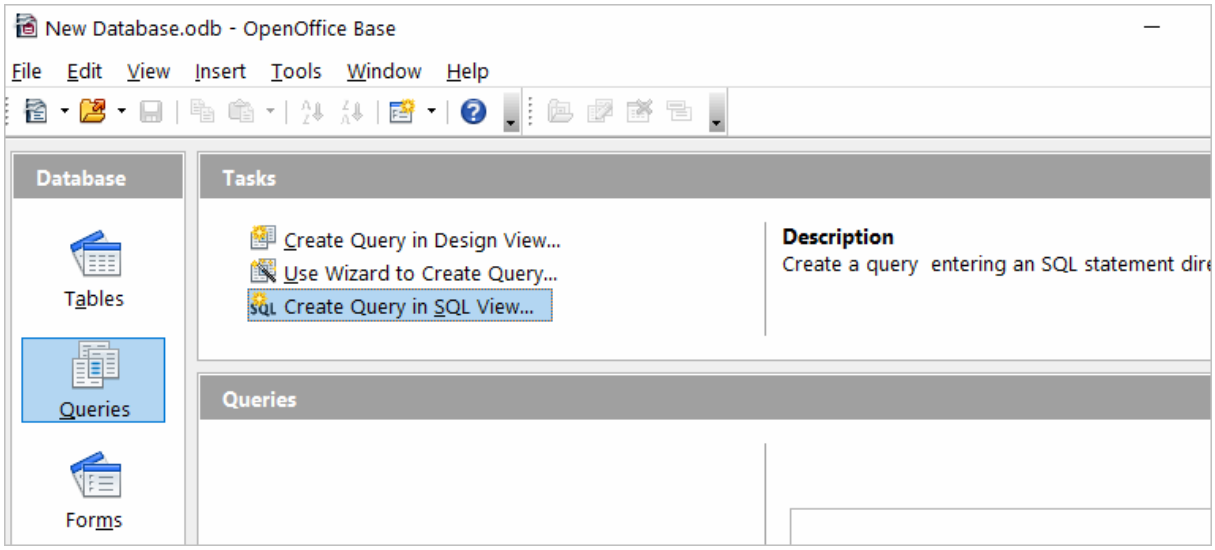
6. When the database opens, you will see the list of tables from your data source diplayed in OpenOffice or LibreOffice Base workspace. To view the data from a specific table, double-click the table name.



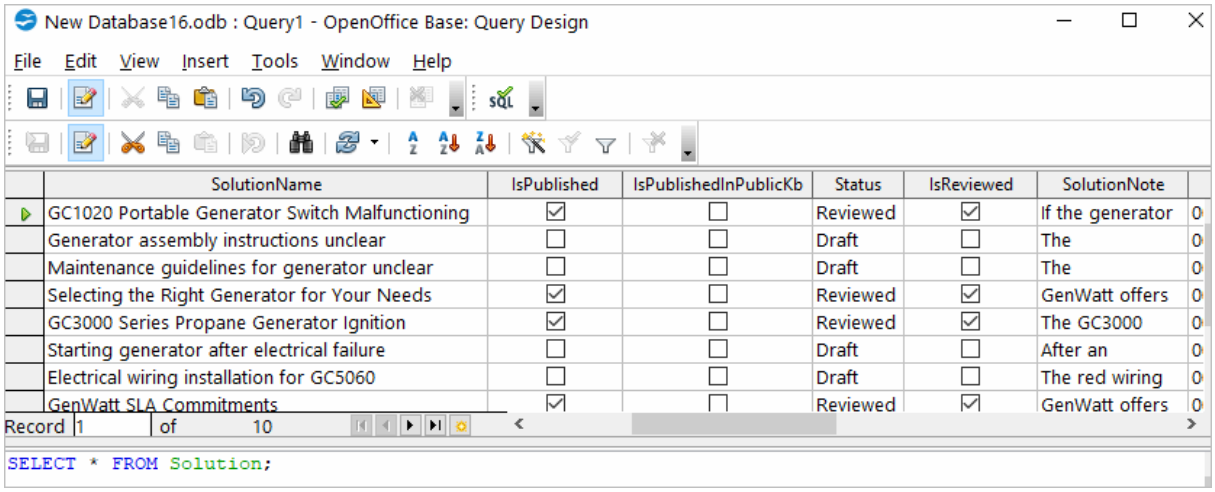


SolutionName	IsPublished	IsPublishedInPublicKb	Status	IsReviewed	SolutionNote	O
GC1020 Portable Generator Switch Malfunctioning	☑	☐	Reviewed	☑	If the generator	0052
Generator assembly instructions unclear	☐	☐	Draft	☐	The	0052
Maintenance guidelines for generator unclear	☐	☐	Draft	☐	The	0052
Selecting the Right Generator for Your Needs	☑	☐	Reviewed	☑	GenWatt offers	0052
GC3000 Series Propane Generator Ignition	☑	☐	Reviewed	☑	The GC3000	0052
Starting generator after electrical failure	☐	☐	Draft	☐	After an	0052
Electrical wiring installation for GC5060	☐	☐	Draft	☐	The red wiring	0052
GenWatt SLA Commitments	☑	☐	Reviewed	☑	GenWatt offers	0052
Electronic panel fitting loose	☐	☐	Draft	☐	On the GC3020,	0052
GenWatt Installation Services	☑	☐	Reviewed	☑	GenWatt	0052

7. To create an SQL query, click **Queries** in the **Database** pane, then click **Create Query in SQL View…**



Enter your query in the query text box and click **Run Query (F5)**. The date will be fetched from the database and displayed in Open Office or LibreOffice, respectively.



© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.8 Using in PHP

Connecting to Snowflake from PHP using ODBC Driver for Snowflake

PHP is one of the most popular programming languages for website development. ODBC drivers are connectors that make PHP development database agnostic — your software written in PHP will function with any vendor's database management system. You can use functions like odbc_exec() to prepare and execute SQL statements against any databases like MySQL, SQLite, PostgreSQL, etc.

PHP-based projects usually require a data storage, whether a traditional database or a cloud-based database. You can establish a connection to them using ODBC interface. With our ODBC drivers, you can access various data sources and retrieve tables and fields from a database.

Below is a sample PHP script for accessing Snowflake via ODBC. The script connects to Snowflake database and fetches all records from a table:

Step 1: Connect to ODBC data source

The *odbc_connect()* function is used to connect to an ODBC data source. Note that the function takes three mandatory parameters: the data source name, username and password. If your database is not password-protected or doesn't require a username, leave these parameters empty. In the following example, a connection is established using the *odbc_connect()* function in PHP.

```
<?php
    $user = "myusername";
    $password = "mypassword";
    $ODBCConnection = odbc_connect("DRIVER={Devart ODBC Driver for ODBC Driv
```

Step 2: Execute an SQL statement

If connection is successful, the *odbc_exec()* function is used to execute a SELECT statement against the *dept* table in the *autotest* database.

```
$SQLQuery = "SELECT * FROM autotest.dept";
    $RecordSet = odbc_exec($ODBCConnection, $SQLQuery);
```

Step 3: Print the result set

The *odbc_fetch_row()* function is used to return records from the result set. While *odbc_fetch_row()* returns rows, the *odbc_result_set()* function prints a set of result in HTML table. After all rows from the result set have been printed, the *odbc_close()* function closes the connection.

```
   while (odbc_fetch_row($RecordSet)) {
        $result = odbc_result_all($RecordSet, "border=1");
```

© 2024 Enter your company name

```
    }
    odbc_close($ODBCConnection);
?>
```

You can modify this script by specifying general settings for each Devart ODBC driver to use any of them with your PHP projects.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.9 Using in Power BI

Importing Snowflake Data into Power BI Through an ODBC Connection

Power BI is a popular business intelligence solution that is comprised of services, apps, and connectors that allow you to pull raw data from various sources and create meaningful reports. To connect Power BI to a data source such as Snowflake, you can use a corresponding ODBC driver.

This tutorial explores how to connect to Snowflake and import data into Power BI Desktop using an ODBC driver. It is assumed that you have already installed and configured a DSN for ODBC driver for Snowflake.

1. Run Power BI Desktop and click **Get Data**.
2. Select the **Other** category in the **Get Data** dialog box, then select **ODBC**. Click **Connect** to confirm the choice.
3. In the **From ODBC** dialog box, expand the **Data Source Name (DSN)** drop-down list and select the previously configured DSN for Snowflake
4. If you would like to enter a SQL statement to narrow down the returned results, click the **Advanced options** arrow, which expands the dialog box, and type or paste your SQL statement.
5. Click **OK**. If your data source is password-protected, Power BI will prompt you for user credentials. Type your **Username** and **Password** in the respective fields and click.
6. Now you should see the data structures in your data source. You can preview the contents of the database objects by clicking on them.
7. To load the Snowflake data into Power BI for analysis, select the needed table and click

Load.

© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.10 Using in Python

Installing the ODBC Driver for Snowflake

One of the most convenient methods to connect to an external database or access cloud data from Python is via ODBC. Devart has developed a range of ODBC Drivers for Python to work with databases and cloud services.

If you don't have Python installed on your machine, go to the Python official website, download the appropriate installer and run it. You will also need to install the **pyodbc** module — the easiest way to do that is by using the *pip install pyodbc* command in the Python interactive mode. Next, you need to download the ODBC Driver for Snowflake. To use the ODBC driver as a translation layer between the application and the database, you need to configure it by following the installation instructions.

Connecting to Snowflake from Python using ODBC Driver for Snowflake

Here's an example to show you how to connect to Snowflake via Devart ODBC Driver in Python. First we import the pyodbc module, then create a connection to the database, insert a new row and read the contents of the EMP table while printing each row to the Python interactive console. To execute the script, you can type the code directly in the interactive console or add the code to a file with the .py extension and run the file from the command prompt.

Step 1: Connect

```
import pyodbc
cnxn = pyodbc.connect('DRIVER={Devart ODBC Driver for Snowflake};User ID=myu
```

Step 2: Insert a row

Here's a simple example of how to execute an *insert* statement to test the connection to the database. The script inserts a new record to the EMP table.

```
cursor = cnxn.cursor()
cursor.execute("INSERT INTO EMP (EMPNO, ENAME, JOB, MGR) VALUES (535, 'Scott
```

Step 3: Execute query

The *cursor.execute()* function retrieves rows from the *select* query on a dataset. The *cursor.fetchone()* function iterates over the result set returned by *cursor.execute()* while the *print()* function prints out all records from the table to the console.

```
cursor = cnxn.cursor()
cursor.execute("SELECT * FROM EMP")
row = cursor.fetchone()
while row:
 print (row)
 row = cursor.fetchone()
```

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback

4.11 Using in QlikView

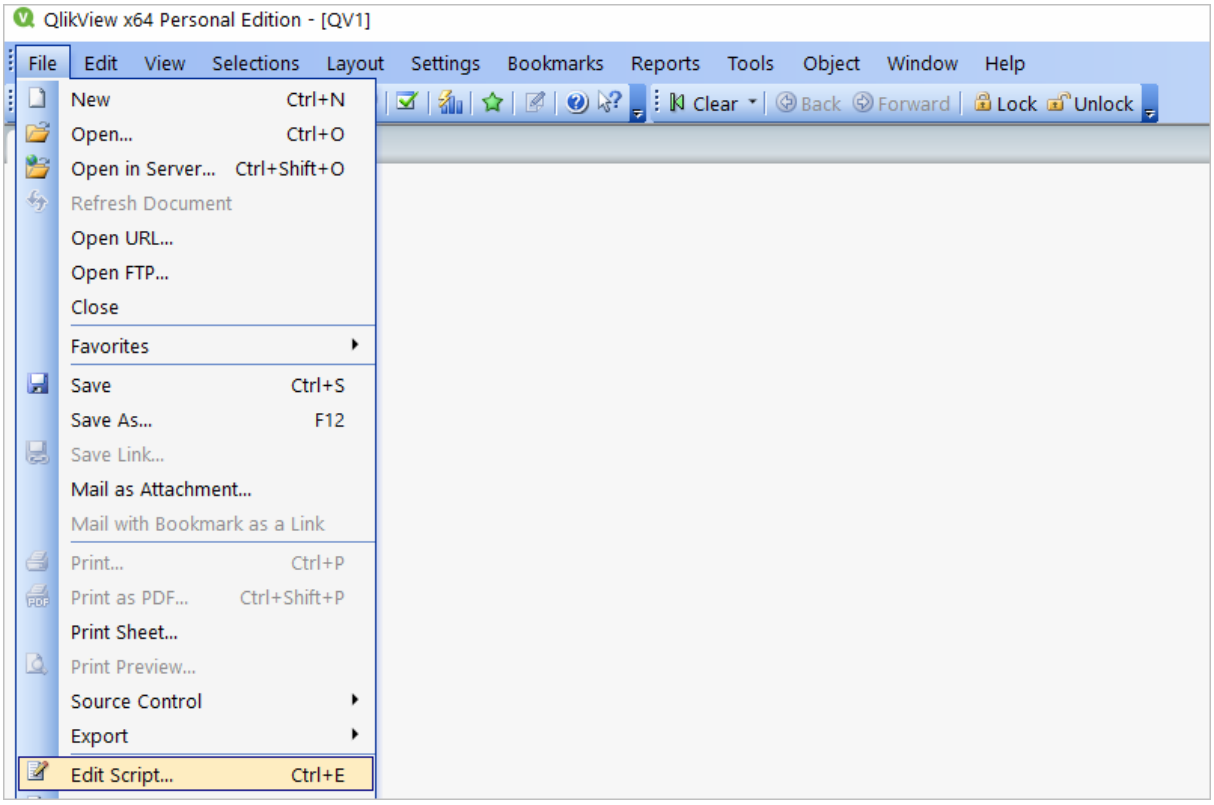
Connecting to Snowflake from QlikView using ODBC Driver for Snowflake

This tutorial describes how to connect and configure QlikView to retrieve data from Snowflake for further analysis. QlikView is a data visualization tool that connects and pulls data from different popular databases like MySQL, MongoDB, Oracle, SQL Server, Postgres, etc. to present it in a single view. The business intelligence platform identifies relationships in your data and discovers patterns and opportunities to support your decision making.

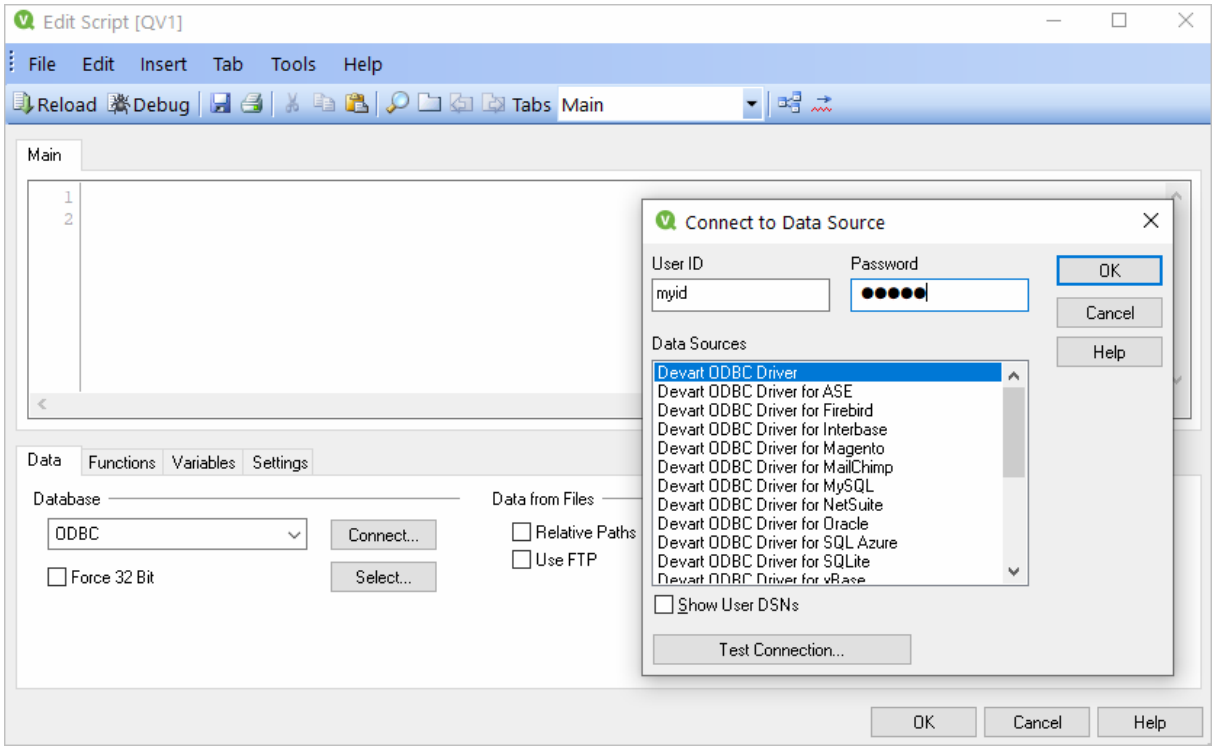
QlikView supports the ODBC connectivity interface for communication with external data sources. An ODBC data source must be configured for the database you want to access. You can create an ODBC connection using a DSN during the ODBC driver installation or later.

To connect to an ODBC data source from QlikView using our driver for Snowflake, perform the steps below:

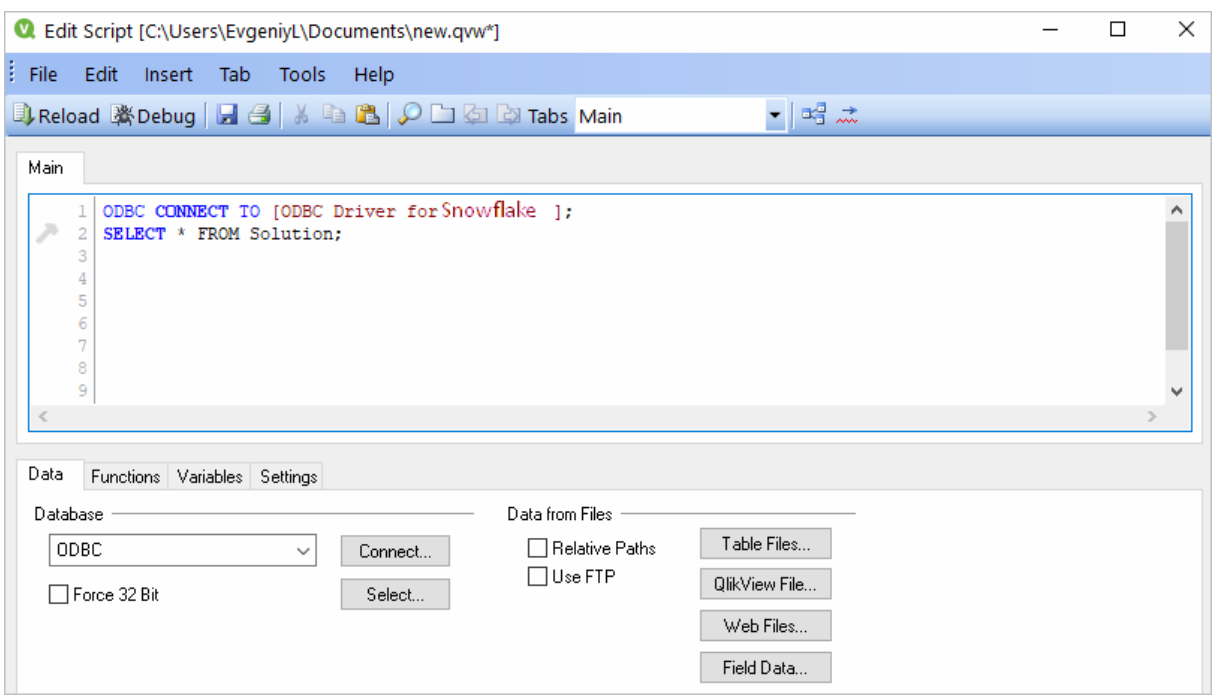
1. Open the QlikView client application and click **File > New**. Close the **Getting Started** wizard and open **File > Edit Script (CTRL+E)**.

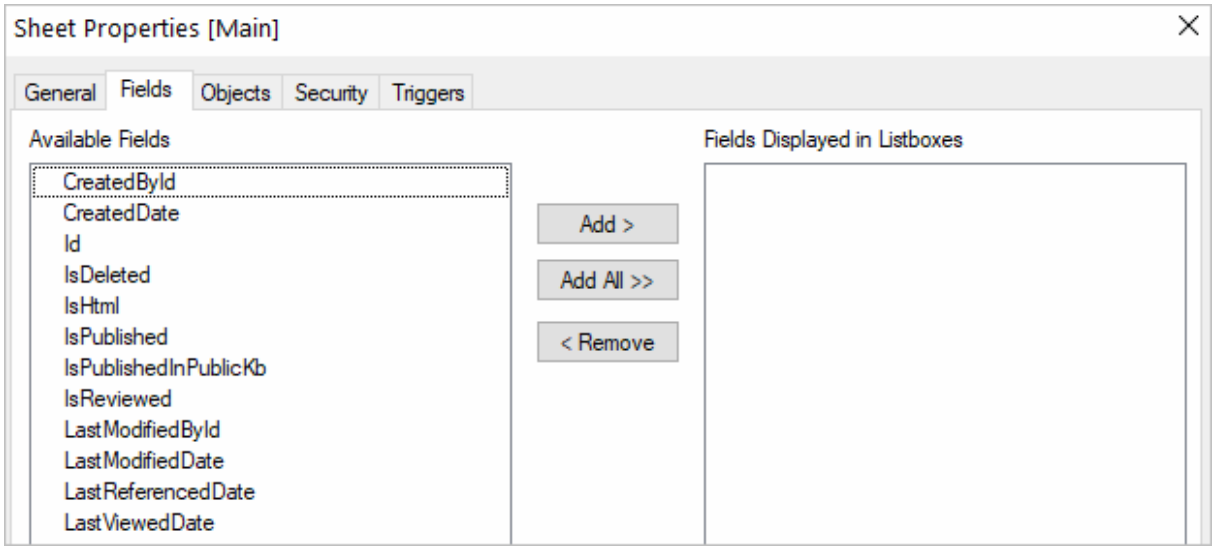


2. In the **Data** tab, choose **ODBC** from the **Database** drop-down and click **Connect**. Select the **Data Source** you created earlier, type in the **User ID** and **Password** if your database is password-protected. You can test the connection by choosing **Test Connection**. The **Connection Test succeeded** message should appear. Click **OK** to connect to your data source.



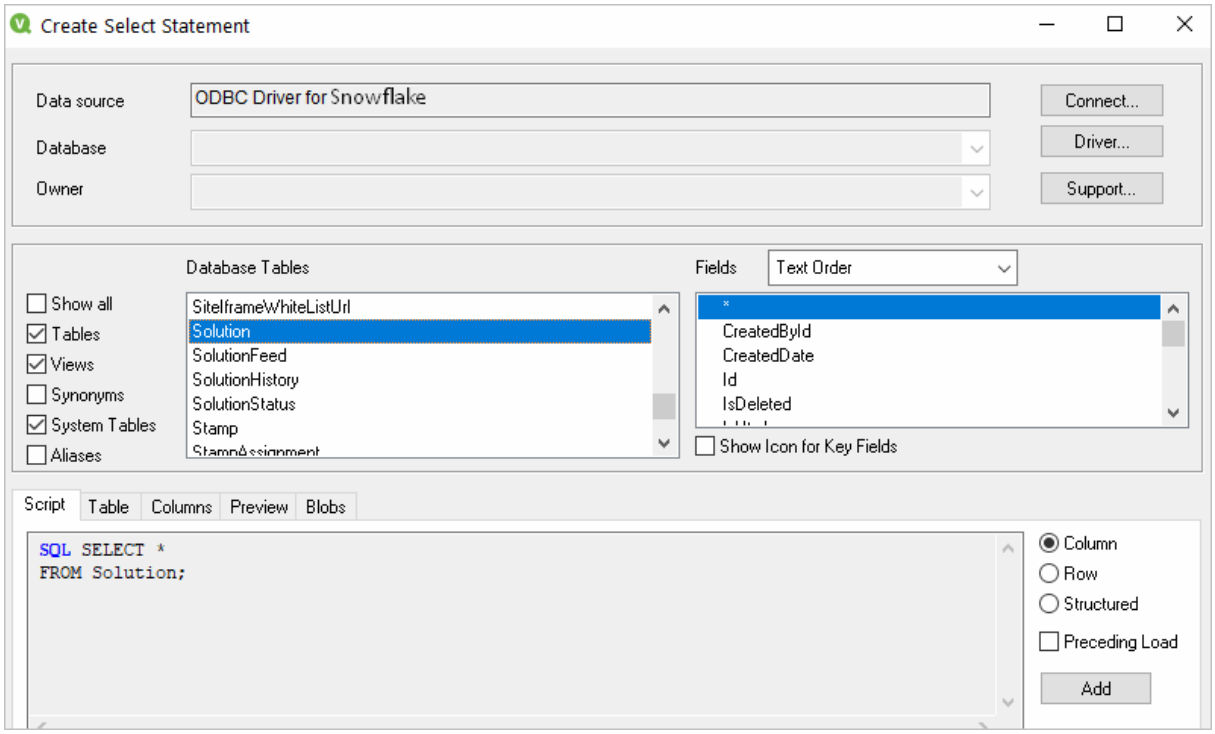
3. To retrieve the data from your data source, you can enter an SQL query and press **F5**. You will be suggested to choose fields to be displayed.



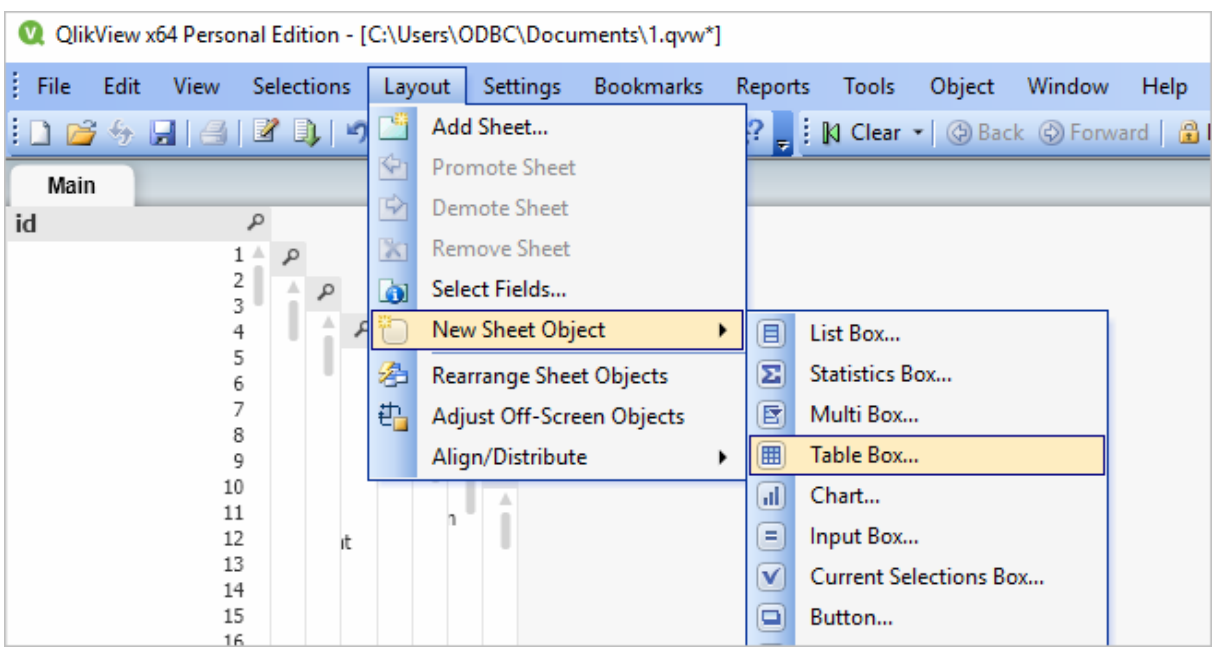


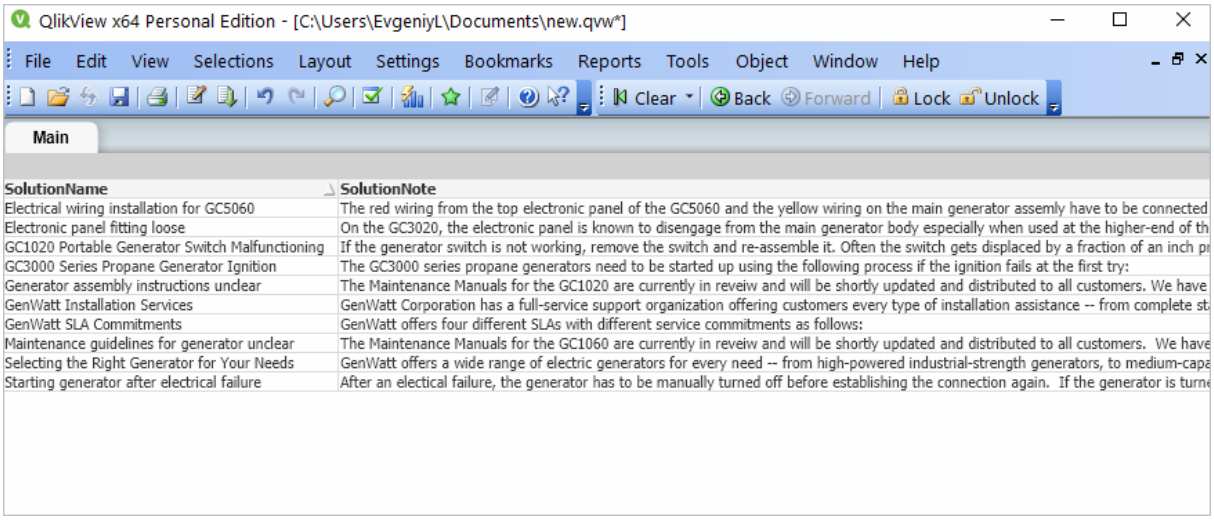
4. Alternatively, you can click **Select**, and QlikView will show you the database structure window where you can compose a SELECT statement for the data to be fetched. You can choose a different database from the database drop-down list. Select the necessary tables and fields. You can retrieve date from multiple tables and fields by selecting them and clicking **Add**. When you are ready with your SELECT statement, click **OK**. You will get back to the main script editor with your SQL statement. Press **F5** to execute the script and select the fields to be displayed in QlikView.

© 2024 Enter your company name



5. Once the data has been fetched, you can choose a table layout to present the data in a table. Choose **Layout > New Sheet Object > Table Box**. Select the fields to be added to the tablebox and click **OK**.



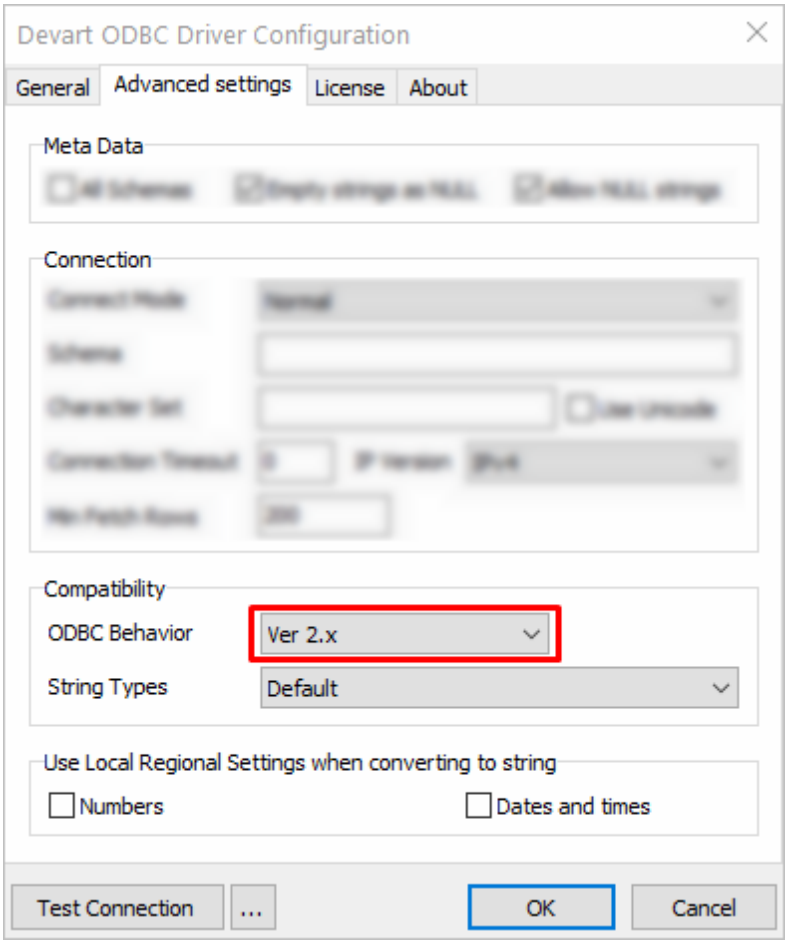


© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.12 Using in SSIS

SQL Server Integration Services (SSIS) is a component of SQL Server that is designed to perform various data migration tasks. When using Devart ODBC Driver for Snowflake as a translation layer between the data source and SSIS, the driver and SSIS communicate via Microsoft ODBC version 3.x.

Note that when you extract data from an ODBC data source using the `SQLExecDirect` function, an issue may occur: SSIS expects the ODBC 2.x behavior, while the ODBC driver continues to fetch data from a data source via ODBC version 3.x. To prevent any issues when using SQLExecDirect, you should force the ODBC 2.x behavior in the DSN settings: open the `Advanced Settings` tab and select `Ver 2.x` from the `ODBC Behavior` dropdown.



© 2015-2024 Devart. All Rights Reserved. Request Support ODBC Forum Provide Feedback

4.13 Using in Tableau

Importing Snowflake Data Into Tableau Through an ODBC Connection

This article explains to establish and ODBC connection to Snowflake from Tableau Desktop. Tableau is a data visualization tool that allows you to pull in raw data, perform analysis on it, and create meaningful reports to get actionable insights. With Tableau Desktop and our suite of ODBC drivers, you can connect to various relational and non-relational databases, both cloud and on-premise.

1. Run Tableau Desktop.

2. On the start page, select **More...** in the **Connect** pane.
3. Choose **Other Databases (ODBC)**.
4. Expand the **DSN** drop-down list and select the DSN that you have created and configured for Snowflake. Alternatively, if you have not created a DSN, you can choose the **Driver** option and select Devart ODBC Driver for Snowflake from the drop-down.
5. Click **Connect**.
6. After a successful connection, click **Sign in**.
7. Select the needed database and schema in Snowflake.
8. You should see the list of all tables you have access to in the connected data source.
9. Drag-and-drop the table name to the area where it says **Drag tables here** to retrieve the data, or click **New Custom SQL** to write a query that will select only specific data from the table.
10. Hit **Update Now** to retrieve and display the data.

© 2015-2024 Devart. All Rights Reserved.

Request Support ODBC Forum Provide Feedback