Table of Contents

Part II General Information 1 1 Overview 1 2 Features 2 3 Compatibility 6 4 Requirements 8 5 Licensing 8 6 Getting Support 12 Part III Using ODBC Driver 1 Installation 14 Windows 14 Silent Windows 14 2 Remote Installation 18 Package Transformation 18 Objury Transformation 18 Package Transformation 37 Obtaining Activation May 37 Obtaining Activation Ney 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details	Part I	What's New	1
2 Features 2 3 Compatibility 6 4 Requirements 8 5 Licensing 8 6 Getting Support 12 Part III Using ODBC Driver 1 Installation 14 Windows 14 Silent Windows 14 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation on Windows 31 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Activation Details 44 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in	Part II	General Information	1
3 Compatibility 6 4 Requirements 8 5 Licensing 8 6 Getting Support 12 Part III Using ODBC Driver 1 Installation 14 Windows 14 Silent Windows 18 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation Mey 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 1 Using in Deaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Excel 77 6 Using	1	Overview	. 1
4 Requirements 8 5 Licensing 8 6 Getting Support 12 Part III Using ODBC Driver 1 Installation 14 Windows 14 Silent Windows 18 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 1 Using in Deaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Excel 77 6 Using in Microsoft Excel 77	2	Features	. 2
5 Licensing 8 6 Getting Support 12 Part III Using ODBC Driver 1 Installation 14 Windows 14 Sillent Windows 18 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in Deaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 34 Troubles hooting in SSMS	3	Compatibility	. 6
6 Getting Support	4	Requirements	. 8
Part III Using ODBC Driver 14 1 Installation 14 Windows 14 Silent Windows 18 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in Deaver 66 2 Using in Microsoft Access 75 5 Using in Microsoft Access 75 5 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84	5	Licensing	. 8
1 Installation	6	Getting Support	12
Windows 14 Silent Windows 18 2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	Part III	Using ODBC Driver	14
Silent Windows	1	Installation	14
2 Remote Installation 18 Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Trouble shooting in SSMS 89		*******	
Package Transformation 18 Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Troubleshooting in SSMS 89	•		
Deployment and Activation 23 Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	2		-
Software Upgrade 31 3 Product Activation 37 Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in Deaver 66 2 Using in Oracle DBLink 72 3 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89			
Obtaining Activation Key 37 Activation on Windows 38 Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89		Software Upgrade	. 31
Activation on Windows	3		
Where to See the License Information? 42 4 Connecting to Trello 44 Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89			
Driver Configuration 44 Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89			
Obtaining Connection Details 46 5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	4	Connecting to Trello	44
5 Connection String Parameters 52 6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89			
6 Enabling ODBC Tracing 55 7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubles hooting in SSMS 89	_	-	
7 Supported ODBC API Functions 56 Part IV Using in Third-Party Tools 66 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	_	•	
Part IV Using in Third-Party Tools 1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubles hooting in SSMS 89	_		
1 Using in DBeaver 66 2 Using in Oracle DBLink 72 3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	/	Supported ODBC API Functions	56
2 Using in Oracle DBLink			
3 Using in DBxtra 74 4 Using in Microsoft Access 75 5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89			
4 Using in Microsoft Access	2		
5 Using in Microsoft Excel 77 6 Using in Microsoft Visual Studio 83 7 Using in SQL Server Management Studio 84 Creating a Linked Server 84 Troubleshooting in SSMS 89	3		
6 Using in Microsoft Visual Studio	4	Using in Microsoft Access	75
7 Using in SQL Server Management Studio	5	•	
Creating a Linked Server	6	Using in Microsoft Visual Studio	83
Troubleshooting in SSMS89	7	· ·	
-			
	8	_	

9	Using in PHP	104
10	Using in Power BI	105
11	Using in Python	106
12	Using in QlikView	107
13	Using in SSIS	114
14	Using in Tableau	115
	Index	0

1 What's New

New features in ODBC Driver for Trello 1.0

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

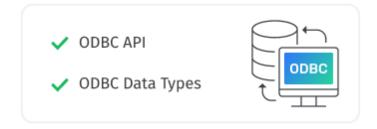
2 General Information

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

2.1 Overview

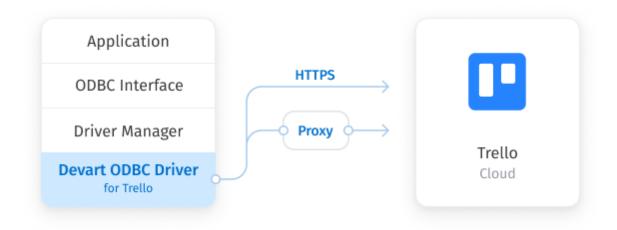
Overview

Devart ODBC Driver for Trello is a high-performance connectivity solution with enterprise-level <u>features</u> for accessing Trello 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 Trello data from anywhere.

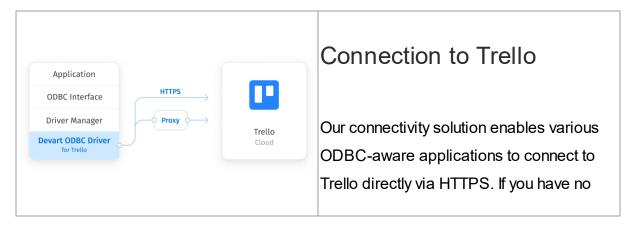


Connection to Trello

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



2.2 Features



of establishing a connection through a proxy server.

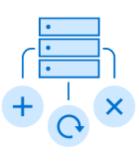
Extended SQL Syntax

Our ODBC driver provides an unrivalled opportunity to work with <u>Trello</u> 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
- and more.

```
Select A.Name,
A.LastName,
A.Status
From Agents A
Where RoleID In (Select Id
From Profiles
Where (Permissions_Contacts_View = True)
Or Permissions_Tickets_View = True)
And Type = 'Administrator'

Order By A.Zuid
```





DML Operations

Devart ODBC Driver for Trello provides support for DML (INSERT, UPDATE, DELETE) operations, which allows you to modify data in Trello in the same way as in SQL databases.

Bulk Updates

Moreover, with our driver you can perform bulk updates to Trello by combining SQL statements into batches, thus simplifying and speeding up large data modification with Trello.

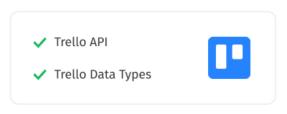
ODBC Conformance

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 Trello from various environments and platforms, that support ODBC.





Trello Compatibility

Our ODBC driver fully supports all data types defined in the Trello API.

Moreover, the driver is compatible with the

problems, and nightly builds with hotfixes.

Trello API itself. Integration Advanced Data Conversion The driver is compatible with 3rd-party data We have implemented advanced Data analysis tools, such as Microsoft Excel, and Conversion mechanisms that provide biintegrates with various IDEs and systems directional mapping between any Trello like Visual Studio, etc. and ODBC data types. For a complete list of compatible tools and platforms, see Compatibility. Fully Unicode Driver Platforms Variety With our fully Unicode driver, you can Devart ODBC Driver for Trello can be used retrieve and work with any data from multiwith 32-bit and 64-bit applications on both lingual Trello databases correctly, not x32 and x64 platforms, so there is no need depending on whether its charset is Latin, to additionally configure the driver, Cyrillic, Hebrew, Chinese, etc., in any applications or environment. environment localization. High Performance Support Every operation with Trello becomes Visit our Support page to get instant help significantly faster using such capabilities from knowledgeable and experienced of our driver as Local data caching, professionals, a quick resolution of your connection pooling, query optimization and

much more.

2.3 Compatibility

Trello Compatibility

Trello API	~
Trello 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	~
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	~

2.4 Requirements

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

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

2.5 Licensing

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2.6 Getting Support

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

Support Options

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

- You can find out more about ODBC Driver for Trello 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 Trello developers through the ODBC Driver for Trello Priority Support program.

Subscriptions

The <u>ODBC Driver for Trello</u> Subscription program is an annual maintenance and support service for ODBC Driver for Trello users.

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

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

Priority Support

ODBC Driver for Trello Priority Support is an advanced product support service for getting expedited individual assistance with ODBC Driver for Trello-related questions from the ODBC Driver for Trello 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 Trello Subscription.

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

Your ODBC Driver for Trello Registration number.

 Full ODBC Driver for Trello edition name and version number. You can find the version number in DLL version information.

- Versions of the Trello 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 Trello.

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

3 Using ODBC Driver

- 1. Installation
- 2. Connecting to Trello
- 3. Connection String Parameters
- 4. Enabling ODBC Tracing
- 5. Supported ODBC API Functions

3.1 Installation

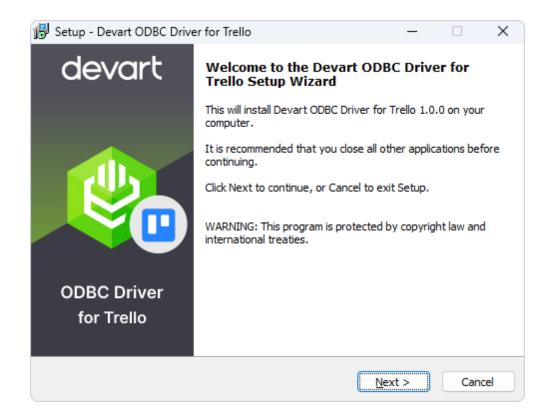
ODBC Driver for Trello currently supports Windows 32-bit and 64-bit.

- Regular Installation
- Silent Installation

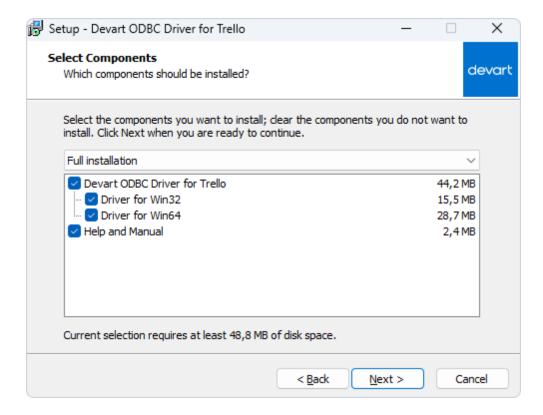
3.1.1 Windows

Installation on Windows

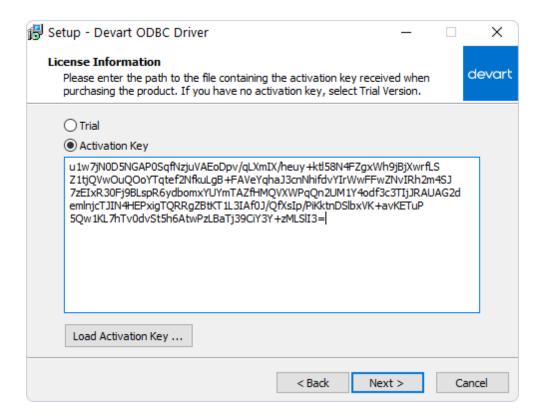
- 1. Download and run installer executive file.
- 2. Follow the instructions in the wizard.



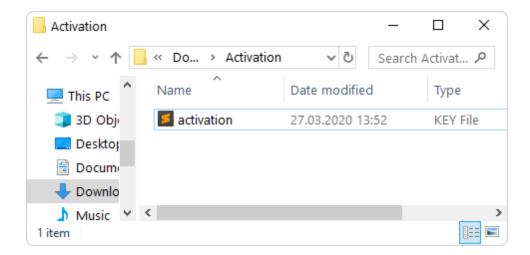
- 3. In case you already have the specified installation folder on the PC or another Driver version is installed, you will get a warning. Click Yes to overwrite the old files with the current installation, but it is recommended to completely uninstall the previous driver version first, and then install 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.



- 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.



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.

3.1.2 Silent Windows

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:

DevartODBCTrello.exe /SILENT /ActivationKey=y1c7nmgdu234laszxcvONGurjfhxm90LDevartODBCTrello.exe /VERYSILENT /ActivationKey=ekhdh765mh09ukr237gfHRtrilwq

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

DevartODBCTrello.exe /SILENT /ActivationFile=d:\lic.key

DevartODBCTrello.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.

3.2 Remote Installation

One of the key advantages of Group Policy is the ability to deploy software remotely using MSI files. This section explains how to use Group Policy to remotely install the ODBC Driver for Trello on client computers.

The information is organized into the following sections:

- Creating the MST File Using Orca
- Remote Deployment and Activation
- Upgrading Driver Version and License Key

3.2.1 Package Transformation

Creating the MST File Using Orca

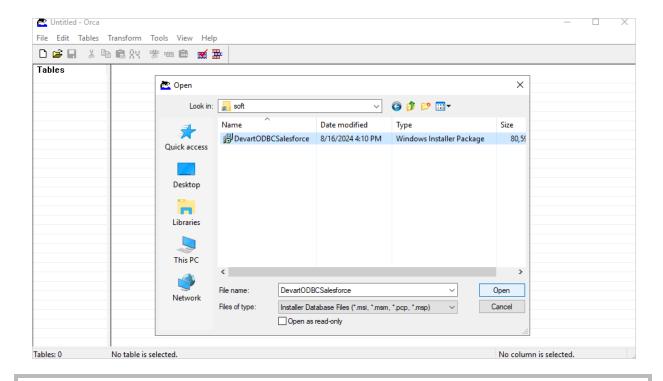
To customize the installation of the ODBC Driver for Trello, you first need to edit the Windows Installer Package (MSI) by creating an MST file. This will allow for customized installation of an original Windows Installer (MSI) Package.

An MST file, or Windows Installer Setup Transform file, contains program configuration settings. In our case, the MST file for the ODBC Driver for Trello will include the correct license information. This MST file is used together with the original MSI package in the Group Policy software distribution system.

There are many tools available for customizing MSI file settings, so you can choose the one that best suits your needs. In this example, we'll be using **Orca**, which is available as part of the Windows SDK Components for Windows Installer Developers. For more information about Orca, visit the official Microsoft website

To start the process of MST file generation using the Orca editor, follow the steps below:

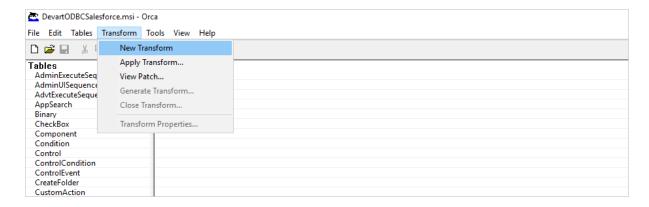
 Launch the Orca application, then open the required MSI file by selecting Open in the File menu or click the Open icon on the toolbar below.



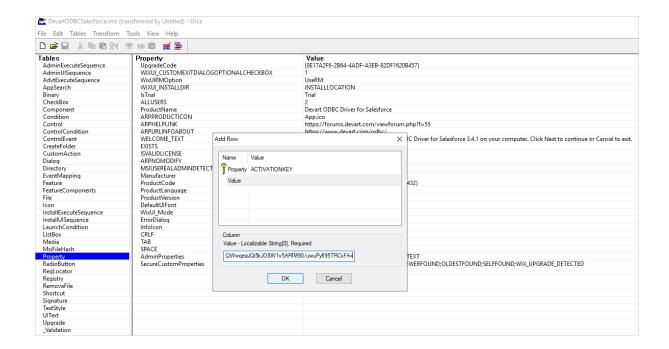
The MSI file for the ODBC Driver for Salesforce is taken as an example to illustrate the Group

Policy installation process. Use the same steps described in this section when installing the ODBC Driver for Trello.

- As a result, the **Tables** menu on the left side of the main application window will display the properties of the selected MSI file.
- 3. Next, navigate Transform -> New Transform.



4. To proceed, select **Property** from the **Tables** menu, then double-click any empty row on the right side of the application window.

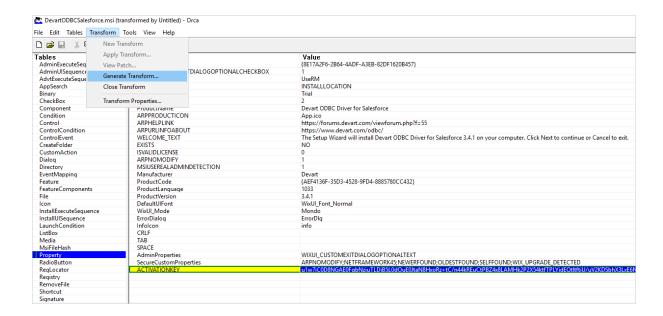


In the **Add Row** dialog that opens, make the following settings and press **OK** to apply the changes:

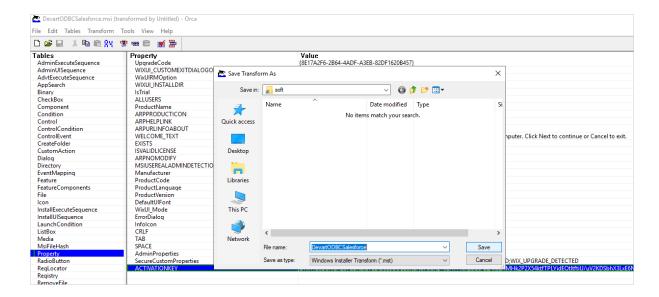
- Property enter ACTIVATIONKEY with capital letters only.
- Value enter the valid OEM license key for the ODBC Driver for Trello.

As shown in the following screen, a new property, **ACTIVATIONKEY**, has been added, with the license key displayed in the value column next to it.

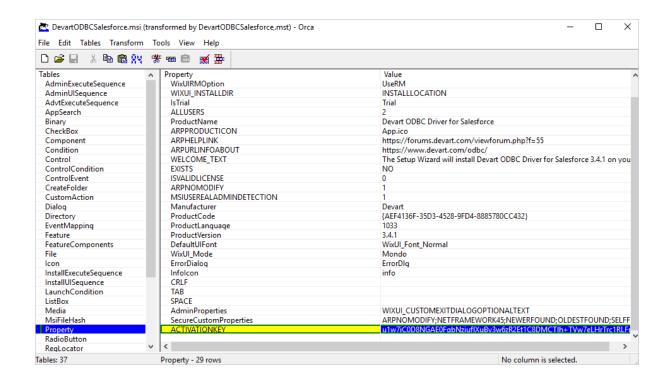
Once the configuration changes have been made, select Transform -> Generate
 Transform.



6. In the Save Transform As dialog that appears, enter a suitable name for the new MST file and click Save to apply your settings.



7. If successful, the encryption message *DevartODBCSalesforce.msi* (transformed by *DevartODBCSalesforce.mst*) - *Orca* will be displayed at the top of the Orca application window.



In case of a positive outcome, the newly created MST file will be located in the folder you

specified, alongside the MSI file.

3.2.2 Deployment and Activation

Installing and Activating Software Remotely

Group Policy automated-program installation is specifically designed for deploying Windows Installer packages (MSI files). Therefore, when deploying the ODBC Driver for Trello using Group Policy, be sure to use the corresponding MSI file for the ODBC Driver for Trello.

Prerequisites: Locating the MSI Installation File

Prior to making configuration settings in the Group Policy, you'll need to create a distribution folder:

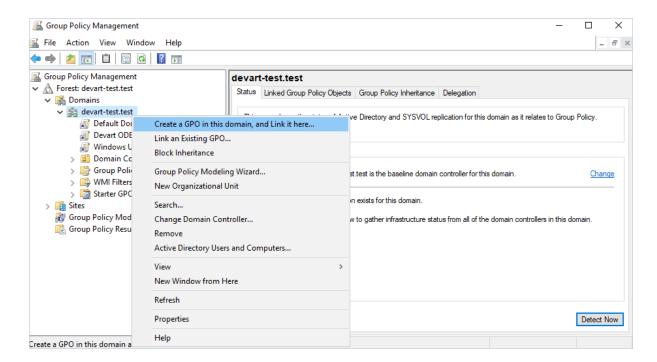
- 1. Create a shared network folder on the publishing server.
- 2. Set the appropriate sharing permissions on this folder to allow read access to the driver installation package for all domain users.
- 3. Download the ODBC Driver for Trello MSI file, and place it in the network folder.

The MSI file for the ODBC Driver for Salesforce is taken as an example to illustrate the Group Policy installation process. Use the same steps described in this section when installing the ODBC Driver for Trello.

Further in this section, you'll find more detailed information on how to deploy and activate the ODBC Driver for Trello on remote client computers using Group Policy.

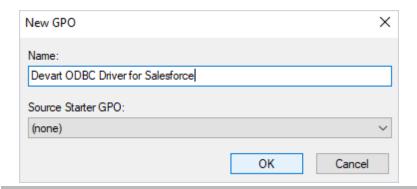
Server-Side Actions

- 1. Open the **Group Policy Management** desktop application.
- 2. In the Group Policy Management window, navigate to the desired forest node, then expand the appropriate option under the Domains node. For this example, we'll select devart-test.test. Right-click the Domains node, and from the context menu, select Create a GPO in this domain, and Link it here.



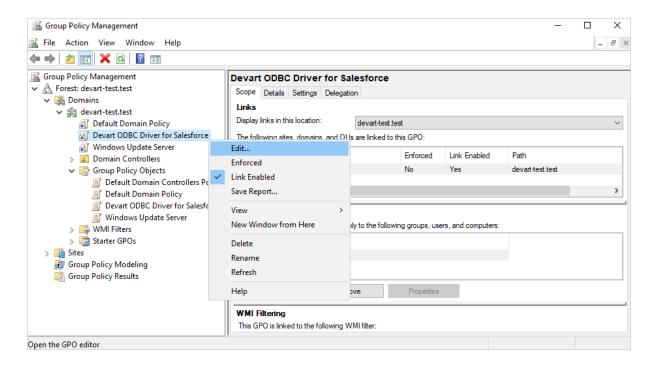
 You can now create a New Group Policy Object. In the New GPO dialog enter a name for the new object and click OK. The new GPO will then appear within the Group Policy Management container.

For example, let's create a GPO named after the ODBC driver name.

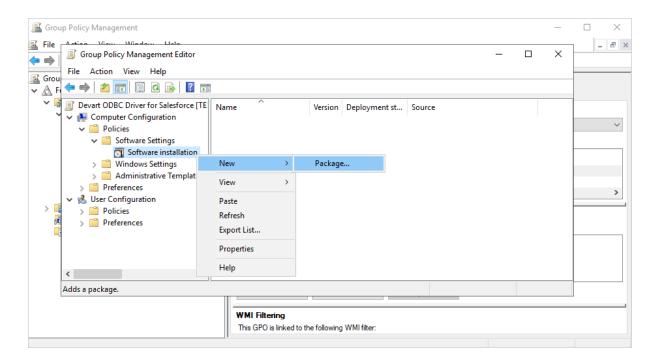


Keep in mind that each ODBC Driver for Trello Windows installation package corresponds to one Group Policy Object (GPO), which is important for managing future software upgrades. To install multiple drivers using Group Policy, you need to create a separate GPO for each driver you want to deploy.

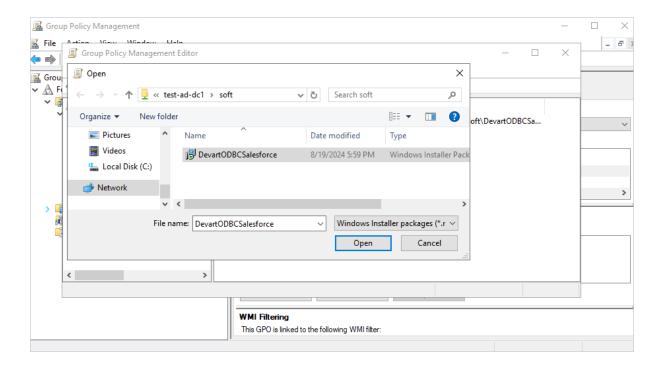
4. Right-click the new object and select **Edit** from the context menu.



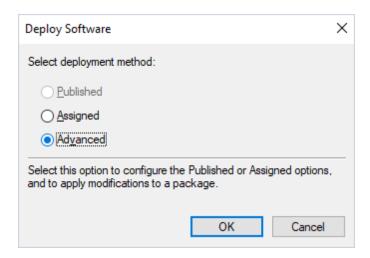
5. In the left pane of the Group Policy Management Editor, navigate to Computer Configuration --> Policies --> Software Settings --> Software installation. Your current deployment package will appear in the right pane. Right-click Software installation, then select New --> Package.



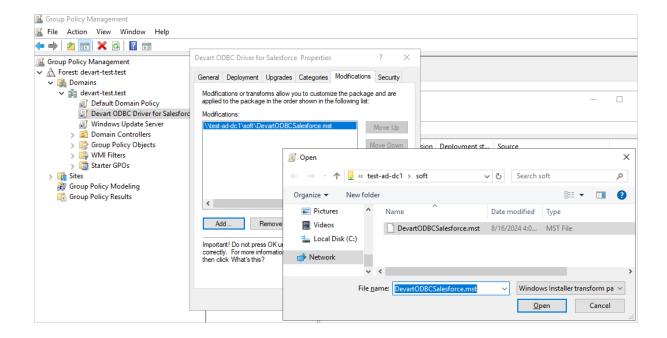
 In the Group Policy Management Editor dialog that opens, select the desired MSI installation file and click Open.



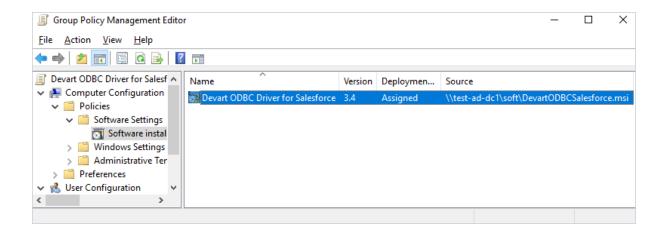
7. In the **Deploy Software** dialog, select **Advanced** to specify the software deployment method. The **Advanced** deployment method allows you to make necessary modifications to the MSI file, such as creating the MST file in Orca.



8. In the **Properties** dialog of the installation package that opens, go to the **Modifications** tab and select **Add**. Browse for the corresponding MST file, select it, and click **Open** to apply the settings.



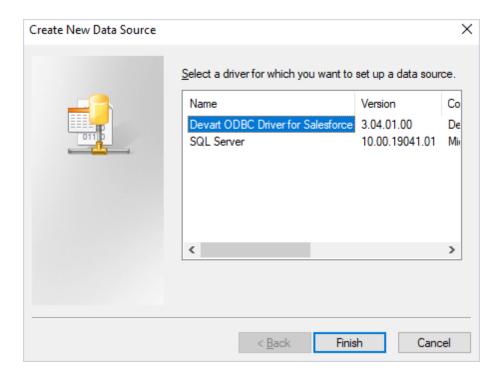
9. If configured correctly, the Group Policy Management Editor window should look as follows:



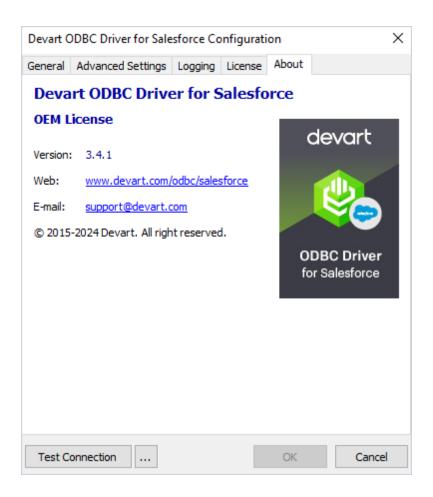
Client-Side Actions

For the ODBC Driver for Trello to be successfully installed on remote client machines, all domain users must restart their computers after logging in for the first time.

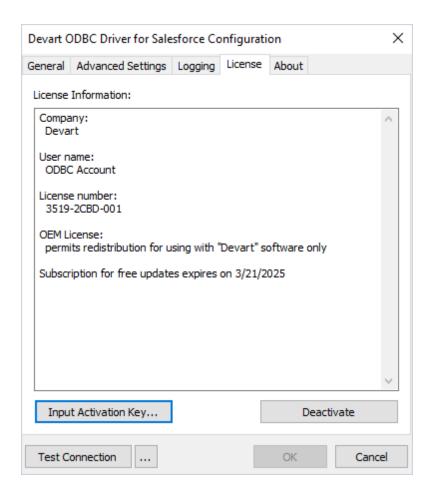
In case of successful deployment, the ODBC driver will be installed on the client's computer. To verify, open the <u>ODBC Data Source Administrator</u> on the client's machine and add the deployed ODBC driver.



All information on the deployed driver is accessible upon clicking the **About** tab.



Similarly, the valid license key will be automatically activated after the successful installation of the ODBC Driver for Trello.



See Also

- Creating the MST File Using Orca
- Activating on Windows ODBC Driver for Trello
- License Information ODBC Driver for Trello

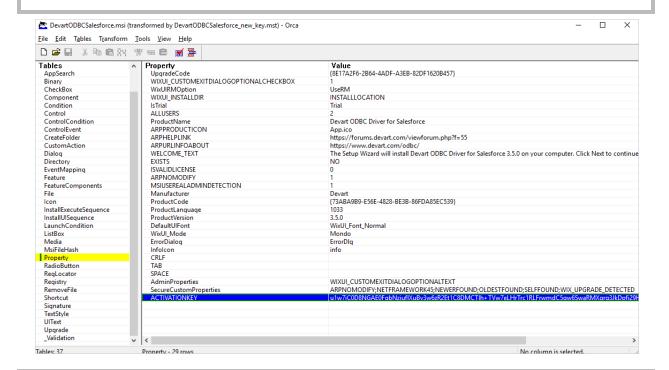
3.2.3 Software Upgrade

Automatic Software Update Using Group Policy

If the ODBC Driver for Trello was initially deployed through Group Policy, it can be easily updated to a newer version. Follow the steps below to update both the ODBC Driver for Trello and the license to newer versions on all remote computers in the domain.

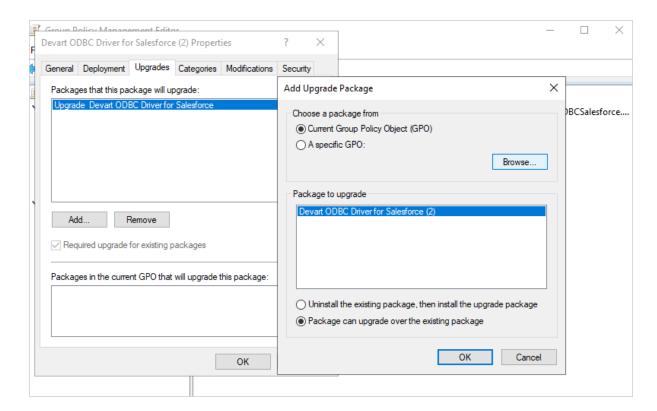
 Download the ODBC Driver for Trello installation MSI file of a newer version and place it in the shared network folder. 2. Create a new MST file with a new license key using Orca.

If your license is still valid, there's no need to create a new MST file. Use the current MST file instead.



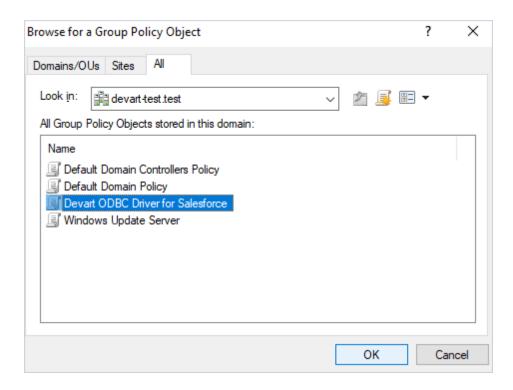
The MSI file for the ODBC Driver for Salesforce is taken as an example to illustrate the Group Policy installation process. Use the same steps described in this section when installing the ODBC Driver for Trello.

- Follow the same workflow as outlined in <u>Step 4 to Step 7</u> of the <u>ODBC Driver for Trello</u> <u>Remote Deployment and Activation</u> section.
- 4. In the **Properties** dialog that appears after selecting the **Advanced** deployment method, go to the **Upgrades** tab and click **Add**.

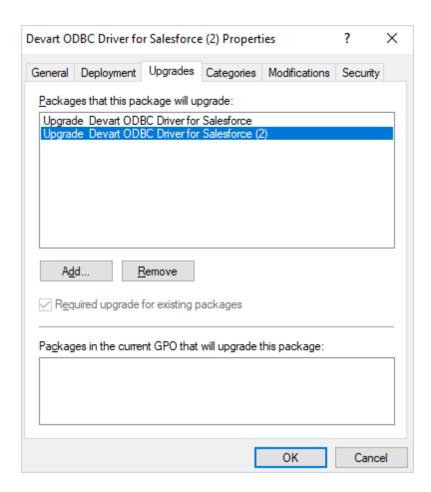


Make sure to select the following check boxes while adding the package:

- Current Group Policy Object
- Package can upgrade over the existing package
- 5. Browse for the corresponding GPO object and click **OK** to apply the settings.

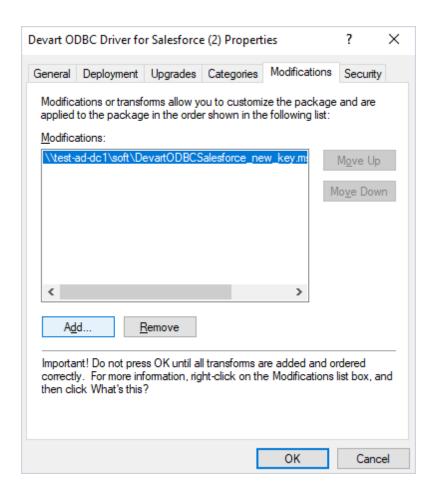


Now the **Upgrades** tab of the **Properties** dialog will list a new package with a newer version.

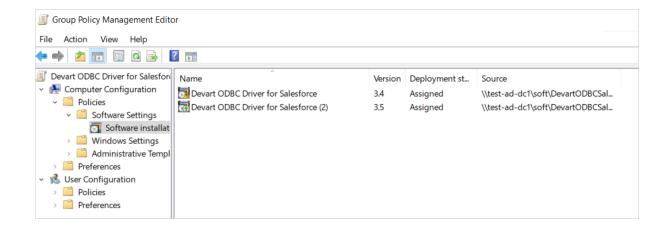


 Go to the **Modifications** tab in the same properties dialog, click **Add** and browse to the MST file.

We have already created a new MST file with a new license key in <a>Step 2.



8. In case of a positive outcome both the old and new versions of the driver package will be displayed in the Group Policy Management Editor.



Once the GPO configuration on the server is complete, the ODBC Driver for Trello will

automatically update to the latest version each time a client computer restarts.

Client-Side Actions

To update the ODBC Driver for Trello to a newer version on remote client machines, all domain users must restart their computers after their first login.

If successful, both the driver and the license key will be automatically updated to the new version on remote computers. For detailed instructions on how to view the technical details of the ODBC Driver for Trello after upgrading, refer to Client-Side Actions.

See Also

- Creating the MST File Using Orca
- Remote Deployment and Activation ODBC Driver for Microsoft Access
- Activating on Windows ODBC Driver for Trello
- License Information ODBC Driver for Trello

3.3 Product Activation

See how to activate Devart ODBC Driver for Trello:

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

3.3.1 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.
- This email contains a Driver Activation Key and Login Credentials for the <u>Customer Portal</u>.
 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

3.3.2 Activation on Windows

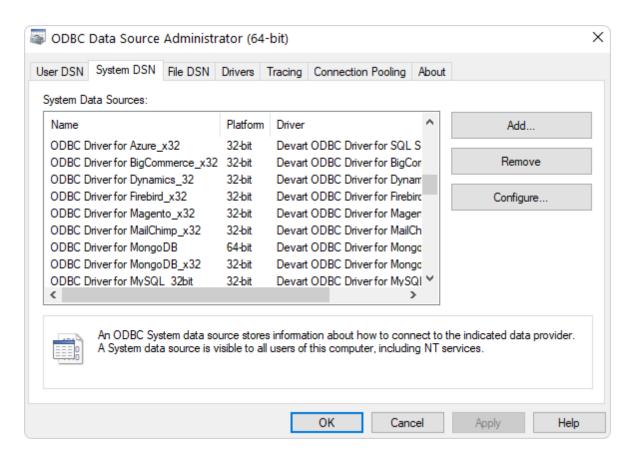
Driver Activation After Installation

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

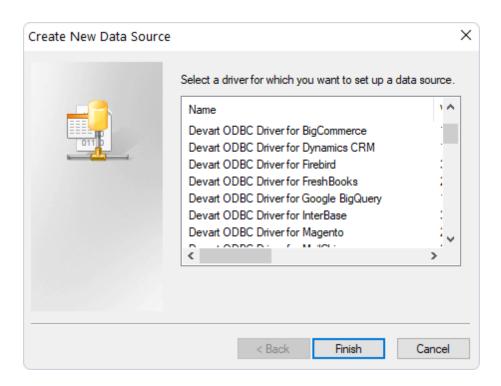
1. Run ODBC Administrator.



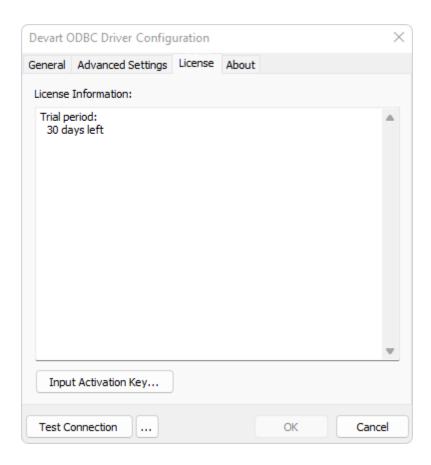
2. In the System DSN tab click the Add button.



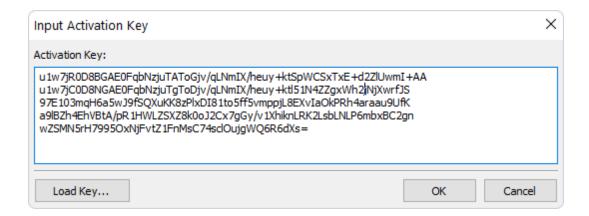
3. In the appeared dialog box, select the installed driver, click Finish.



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



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.

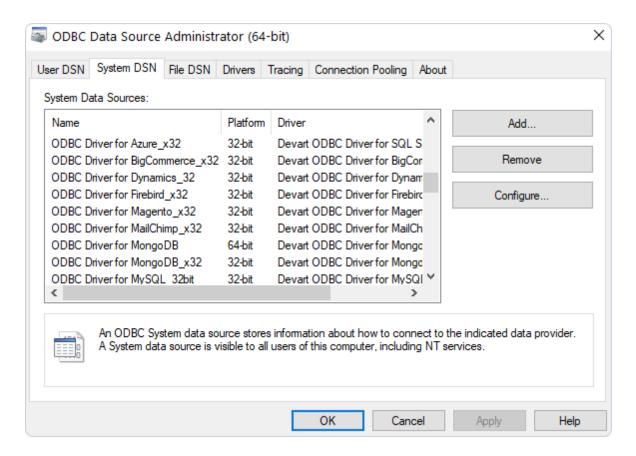
3.3.3 Where to See the License Information?

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

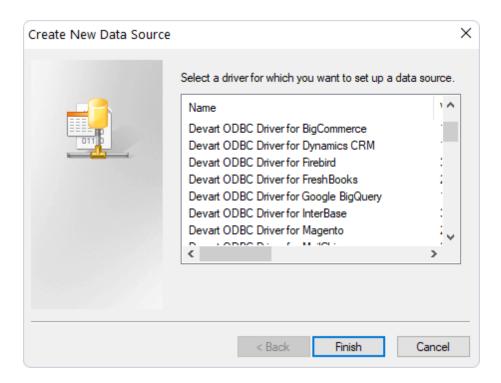
1. In the Control Panel run ODBC Administrator



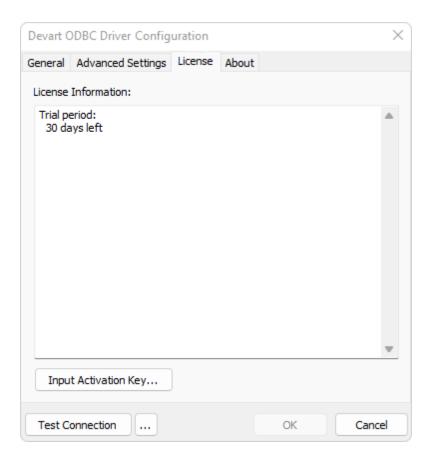
2. Open the System DSN tab and click the Add button



3. Select the driver and click Finish



4. In the appeared dialogue, select the License tab



See also

Product Activation

3.4 Connecting to Trello

This section describes how to connect to Trello using ODBC Driver for Trello

- 1. Driver Configuration
- 2. Obtaining a Refresh Token

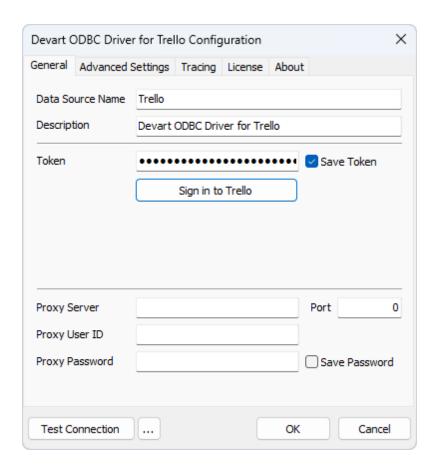
3.4.1 Driver Configuration

Windows DSN Configuration

After installing the driver, create a DSN for ODBC Driver for Trello 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 Trello** and click **Finish**. The driver setup dialog will open.
- 5. Enter the connection information in the appropriate fields. To proceed, click <u>Sign in to Trello</u> to obtain a refresh token.



6. You may test the connectivity by clicking **Test Connection**.



7. Click **OK** to save the DSN.

See Also

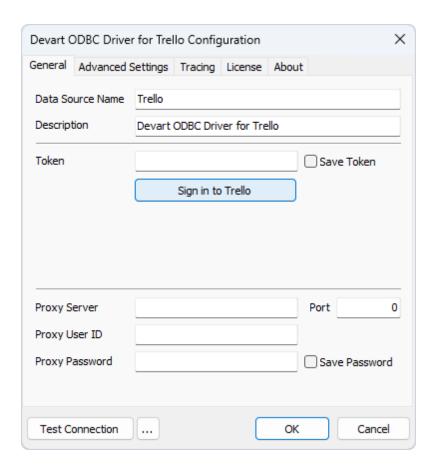
Connection String Parameters

Obtaining a Token

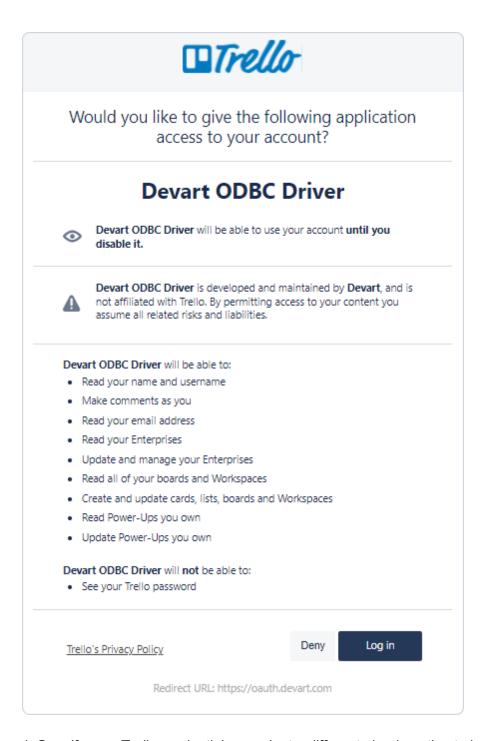
3.4.2 Obtaining Connection Details

To start the process of generating a token for the ODBC driver for Trello, follow the steps below:

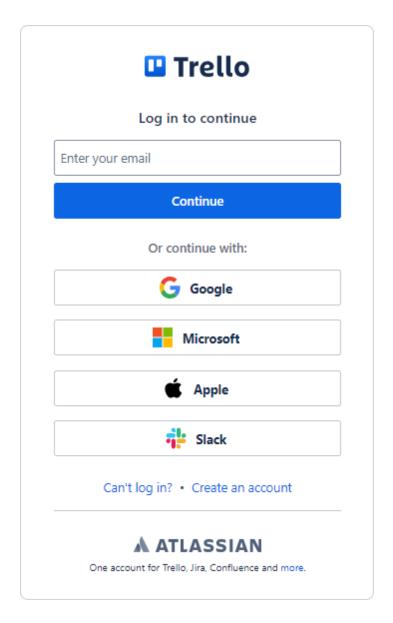
- 1. Run the ODBC Administrator utility and <u>make proper settings in the driver's Configuration</u> dialog.
- 2. Click Sign in to Trello.



3. In the window that opens, click **Log in** to proceed.



4. Specify your Trello credentials or select a different sign-in option to log in.



5. Next, create your Trello account by clicking **Create your account**.



Create your account

Email address

s. femiliaka (Fgmail.com

Codio Business

Full name

By creating an account, I accept the Atlassian Cloud Terms of Service and acknowledge the Privacy Policy.

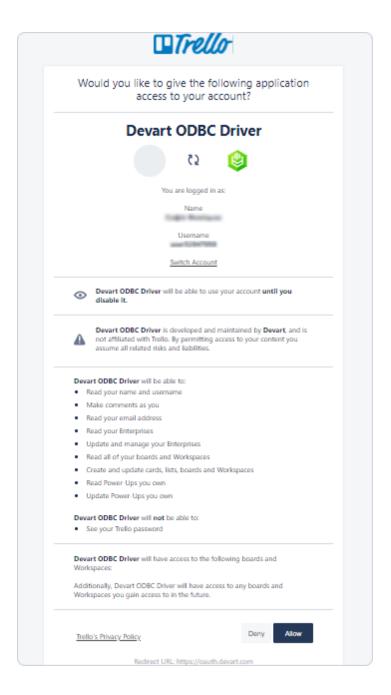
Create your account

Already have an Atlassian account? Log in

A ATLASSIAN

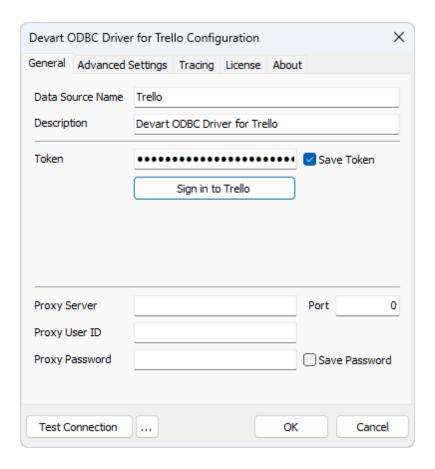
One account for Trello, Jira, Confluence and more.

6. Now, click Allow.



If the process is successful, the token will be automatically generated and inserted in the corresponding field of the driver configuration window.

7. Therefore, click **OK** to save your configuration settings.



8. Finally, you can access your Trello account data.

See Also

Configuring ODBC Driver for Trello

3.5 Connection String Parameters

ODBC Driver for Trello Connection String Parameters

The following table lists the connection string parameters for ODBC Driver for Trello.

Parameter	Description
Token	The token that authorizes the driver to access your account data.

Proxy Settings	
Proxy Server	The proxy hostname or IP address.
Proxy User ID	The proxy username.
Proxy Password	The proxy password.
Port	The proxy port.
Advanced Settin	gs
Allow NULL	To retrieve metadata, not all parameters, according to MSDN, can
Strings	accept a null value. If NULL, the driver should return an error. But
Empty Strings as	some 3rd-party tools pass NULL to the parameters. These options
NULL	should be enabled for compatibility with such tools.
	Use the option to specify whether the driver must return foreign
	keys. Retrieving metadata about foreign key constraints is a time-
ReturnForeignKeys	consuming operation; many third-party tools request foreign key
Recurricoreignikeys	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.
Connection	The time (in seconds) to wait for a connection to open before
Timeout	terminating an attempt. The default value is 60.
O	The time to wait for a query execution result before terminating and
Query Timeout	generating an error.
	Specifies whether all the datetime values retrieved from the data
	source are returned as UTC values or converted to local time and
UTC Dates	whether the date values specified on the application side (e.g., in
	SQL statements) are considered UTC or local. The default value is
	false.
Suppress Extended	Select this option to reduce the number of API calls. Otherwise,

	additional extended ADI requests will be performed to guerry values		
Requests	additional extended API requests will be performed to query values		
	of lacking fields.		
RegionalNumberSet	Enables the use of local regional settings when converting numbers		
tings	to strings.		
RegionalDateTimeS	Enables the use of local regional settings when converting dates		
ettings	and times to strings.		
ODBC Behavior	Sets the behavior corresponding to the ODBC specification version expected by a third-party tool. The behavior of the ODBC driver can be changed by calling the SQLSetEnvAttr function to set the SQL_ATTR_ODBC_VERSION environment attribute. Some third-party tools expect the driver to exhibit ODBC 2.x behavior, but forget to call SQLSetEnvAttr with the needed version, or pass the incorrect value. In this case, the behavior can be explicitly set in the Connection String. • Default - The default value. The ODBC behavior is 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.		
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 are returned as SQL_CHAR, SQL_VARCHAR, and SQL_LONGVARCHAR. Unicode - All string types are returned as SQL_WCHAR, SQL_WCHAR, SQL_WVARCHAR, and SQL_WLONGVARCHAR. Set the parameter to Ansi or Unicode, if your third-party tool supports only Ansi or Unicode strings. 		

Sample Trello ODBC Connection String

DRIVER={Devart ODBC Driver for ODBC Driver for Trello};Token=mytoken

3.6 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.

- 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.

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 Trello supports all deprecated functions for backward compatibility.

The following table lists the currently supported ODBC functions.

Support	Standard	Purpose
~		Obtains an
		environment,
	ISO 92	connection,
		statement, or
		descriptor handle.
~		Connects to a
		specific driver by
	ISO 92	data source name,
		user ID, and
		password.
~	ODDO	Connects to a
	ODBC	specific driver by
	Support	✓ ISO 92

		1	1
			connection string or
			requests that the
			Driver Manager and
			driver display
			connection dialog
			boxes for the user.
	~	Deprecated	Obtains an
SQLAllocEnv			environment handle
			allocated from driver.
SQLAllocConnect	~	Depresented	Obtains a
		Deprecated	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 about a specific driver and data source.
SQLGetFunctions	~	ISO 92	Returns the functions

			supported by the
			driver.
			Returns information
SQLGetTypeInfo	~	ISO 92	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.
SQLSetConnectOpti on	~	Deprecated	Sets a connection option
SQLGetConnectOpti on	~	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.
SQLGetStmtAttr	~	ISO 92	Returns the value of a statement attribute.
SQLSetStmtOption	~	Deprecated	Sets a statement option

SQLGetStmtOption		Deprecated	Returns the value of
OQLOCIO II II OPIIO II	~		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
SQLExecute		150.03	Executes a prepared
	~	ISO 92	statement.
SQLExecDirect	~	ISO 92	Executes a
		150 92	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			Returns the number
		of rows affe	of rows affected by
	~	130 92	an insert, update, or
			delete request.

	~	ISO 92	Returns the number
SQLNumResultCols			of columns in the
			result set.
SQLDescribeCol		ISO 92	Describes a column
	•		in the result set.
			Describes attributes
SQLColAttribute	✓	ISO 92	of a column in the
			result set.
			Describes attributes
SQLColAttributes	✓	Deprecated	of a column in the
			result set.
SOI Fotob		ISO 92	Returns multiple
SQLFetch	~	100 92	result rows.
SQLFetchScroll	~	ISO 92	Returns scrollable
SQLFEIGISGOII		130 92	result rows.
SQLExtendedFetch	~	Deprecated	Returns scrollable
SQLEXIENCECT			result rows.
		ODBC	Positions a cursor
			within a fetched
			block of data and
SQLSetPos			enables an
SQLSEIF 05	~		application to refresh
			data in the rowset or
			to update or delete
			data in the result set.
SQLBulkOperations	~		Performs bulk
		ODBC	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
SQLColumnPrivileg es	~	ODBC	Returns a list of columns and associated privileges for one or

			more tables.
SQLColumns			Returns the list of
	✓	X/Open	column names in
			specified tables.
			Returns a list of
			column names that
SQLForeignKeys	✓	ODBC	make up foreign
			keys, if they exist for
			a specified table.
			Returns the list of
SQLPrimaryKeys		ODBC	column names that
oger maryrtoyo	~	0000	make up the primary
			key for a table.
	~		Returns the list of
			input and output
SQLProcedureColu		ODBC	parameters, as well
mns			as the columns that
			constitute the result
			set for the specified
			procedures.
			Returns the list of
SQLProcedures	~	ODBC	procedure names
			stored in a specific
			data source.
			Returns information
SOI SpecialColumn	~		about the optimal set
SQLSpecialColumn		X/Open	of columns that
S			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.
			Returns statistics
	~		about a single table
SQLStatistics		ISO 92	and the list of
			indexes associated
			with the table.
	~	ODBC	Returns a list of
			tables and the
SQLTablePrivileges			privileges
			associated with
			each table.
SQLTables			Returns the list of
	~	X/Open	table names stored
			in a specific data
			source.

ODBC API Calls for Performing Transactions

Function Name	Support	Standard	Purpose
SQLTransact		Deprecated	Commits or rolls
	~	Берговаюч	back a transaction
SQLEndTran		ISO 92	Commits or rolls
	~	190 92	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
		180 92	connection.
		Releases an environment,	Releases an
			environment,
SQLFreeHandle	~	ISO 92	connection,
			statement, or
			Releases an environment, connection, statement, or descriptor handle. Releases connection handle. Releases an
SQLFreeConnect		Deprecated	Releases connection
SQLFIEECOIIIEC	~		handle.
SQLFreeEnv		Deprecated	Releases an
	~	Deprecated	environment handle.

4 Using in Third-Party Tools

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

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

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, MySQI, Salesforce, or Mailchimp. 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

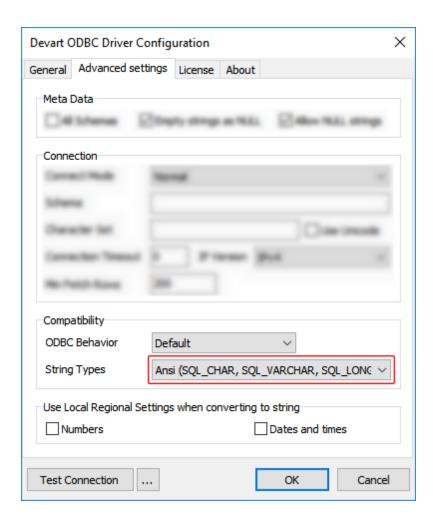
- Data export/import
- Data backup
- DDL generation
- ER diagrams rendering
- Test data generation
- BLOB/CLOB support
- Database objects browsing
- Scrollable resultsets

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 Trello via the Open Database Connectivity driver.

Creating an ODBC Data Source to Use Trello 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 Trello 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.

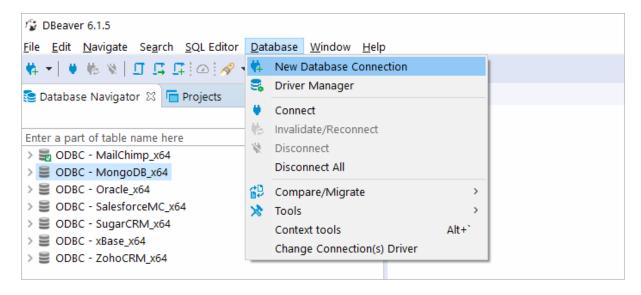
When using ODBC driver for Trello with DBeaver, SQL_WVARCHAR data types may be displayed incorrectly in DBeaver. To prevent this, you need to set the string data types to Ansi either in the **Advanced Settings** tab of the driver configuration dialog or directly in the connection string (String Types=Ansi)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



Connecting to Trello Data from DBeaver via ODBC Driver for Trello

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

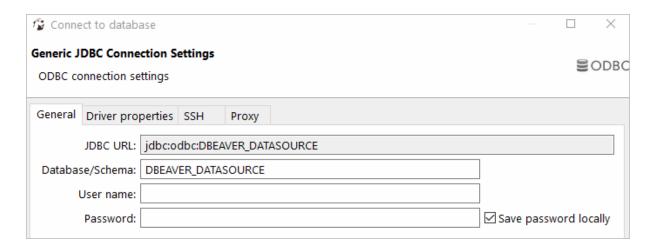
1. In the Database menu, select New Database Connection.



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



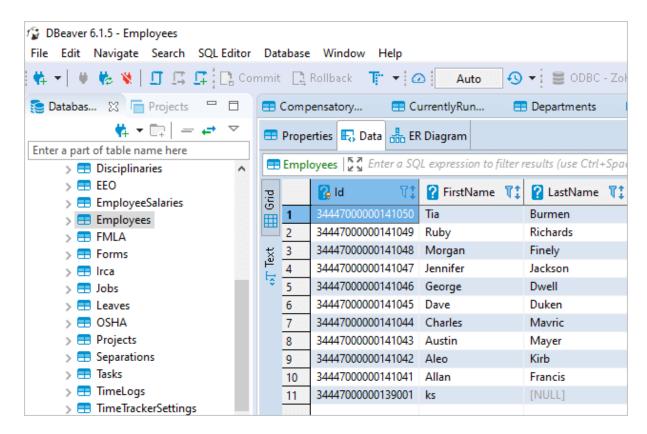
3. Enter the previously configured DSN in the **Database/Schema** field.



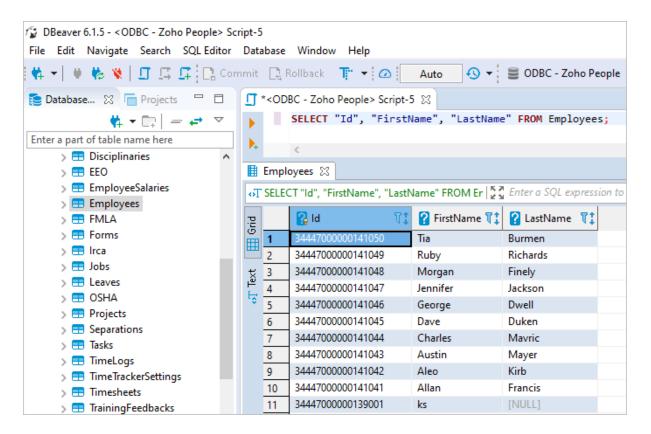
4. Click **Test Connection**. If everything goes well, you'll see the **Success** message.

Viewing Trello Database Objects and Querying Data

You can expand out the database structure in DBeaver's **Database Navigator** to visualize all the tables in Trello 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.



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 Trello, 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, initTrello.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=Trello
```

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 <code>listener.ora</code> configuration file which is located in the <code>ORACLE_HOME\NETWORK\ADMIN\</code> directory. The following example is the address on which the Oracle Net Listener listens (<code>HOST</code> is the address of the machine on which the gateway is installed):

Add an entry to the <code>listener.ora</code> file to start the gateway in response to connection requests. The SID of the gateway (<code>SID_NAME</code>) must be the same in <code>listener.ora</code> and <code>tnsnames.ora</code>. <code>ORACLE_HOME</code> 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=Trello)

(ORACLE_HOME=D:\ORACLE_HOME)

(PROGRAM=dg4odbc)

)
```

Configure Oracle for Gateway Access

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

```
Trello = (DESCRIPTION =
```

```
(ADDRESS = (PROTOCOL = tcp)(HOST = localhost)(PORT = 1521))
(CONNECT_DATA =
    (SID = Trello)
)
(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 <u>dbForge Studio for Oracle</u>, 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

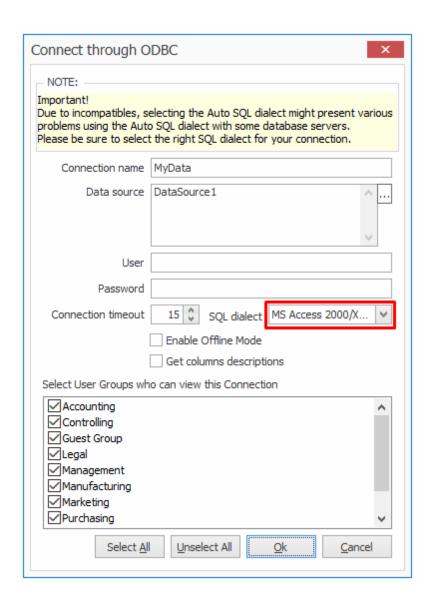
Configuring Oracle Database Gateway for ODBC

4.3 Using in DBxtra

Troubleshooting Trello ODBC Connection in DBxtra

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

Due to incompatibilities between DBxtra and Trello, 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.



4.4 Using in Microsoft Access

Connecting Microsoft Access to Trello Using an ODBC Driver

This article explains how to connect Microsoft Access to Trello 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 Trello 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 Trello. For the purpose of this article, we tested an ODBC connection to Trello 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 Trello.

Importing Trello Data Into Microsoft Access Through an ODBC Connection

- 1. Open your Microsoft Access database.
- Select the External Data tab in the ribbon.
- 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 Trello 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 Trello 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 Trello 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 Trello 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.

4.5 Using in Microsoft Excel

Connecting to Trello from Microsoft Excel using ODBC Driver for Trello

You can use Microsoft Excel to access data from a Trello 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.

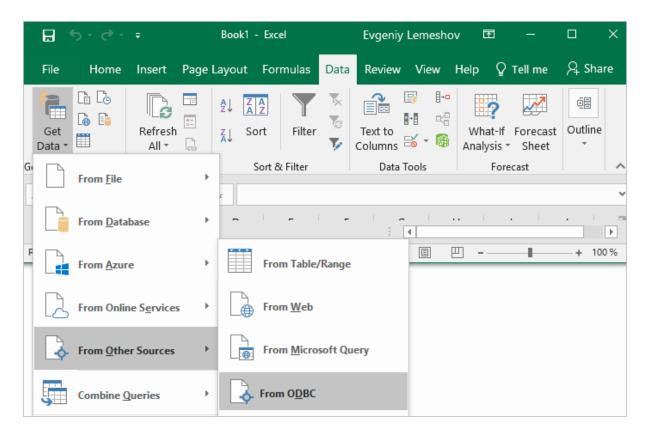
- Connecting Excel to Trello with Get & Transform (Power Query)
- Connecting Excel to Trello with Data Connection Wizard (Legacy Wizard)
- Connecting Excel to Trello with the Query Wizard
- Connecting Excel to Trello with Microsoft Query

Connecting Excel to Trello with PowerPivot

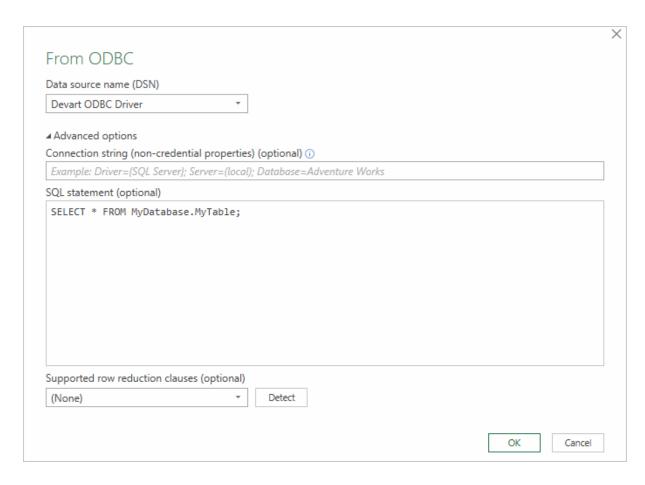
Connecting Excel to Trello with Get & Transform (Power Query)

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

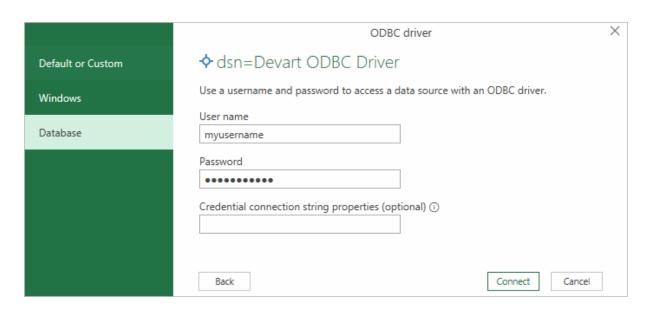
 Click the Data in Excel, then expand the Get Data drop-down list. Click From Other Sources > From ODBC.



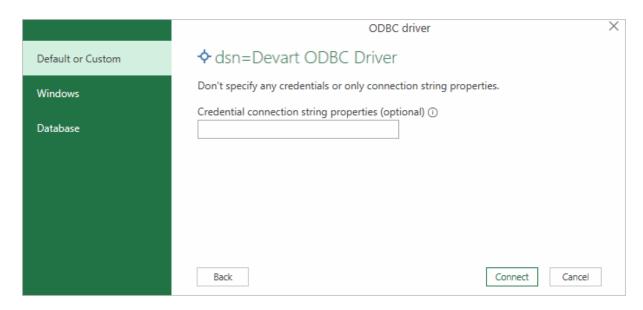
2. In the **From ODBC** dialog, choose your data source name (DSN). If you haven't configured your ODBC driver yet, you can expand the **Advanced Options** dialog box and enter the connection string for your data source (without credentials, which are defined in the credentials dialog box in the next step). Additionally, you can enter an SQL statement that will be executed right after establishing a connection to the data source. Click **OK**.



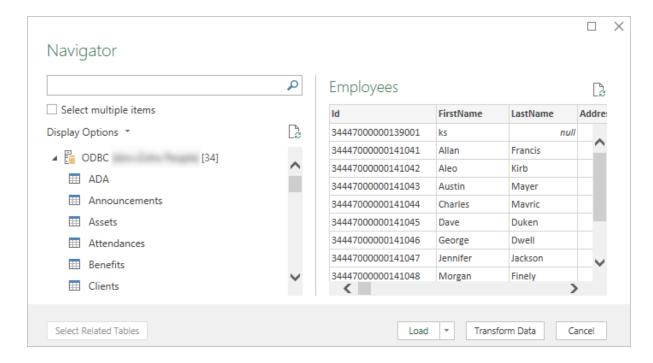
3. If you're using a database username or password, select **Database** and enter your credentials in the dialox bog, then click **Connect**.



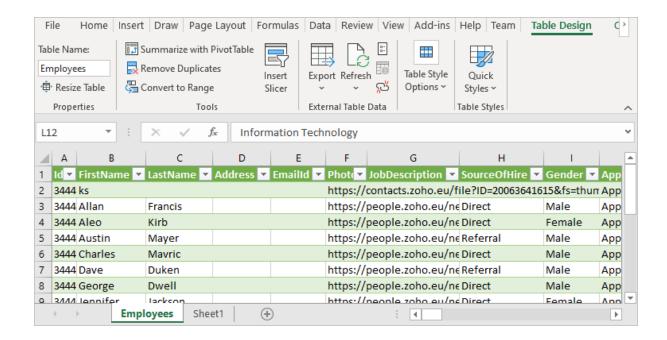
If your database is not password-protected or you've already specified your credentials in the ODBC data source settings, select **Default or Custom** and press **Connect**



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 Trello with Data Connection Wizard (Legacy Wizard)

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

- 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.
- 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 Trello with the Query Wizard

You can use this option to create a simple query for retrieving data from Trello 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**.
- 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 Trello with Microsoft Query

You can use this option to create a more complex query for retrieving Trello 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.
- In the next dialog, choose the data source you want to connect to (e.g., using data source name - Devart ODBC Trello). 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 Trello 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.
- In the Data Link Properties dialog, specify the data source you want to connect (e.g., using data source name - Devart ODBC Trello), 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.

4.6 Using in Microsoft Visual Studio

Importing Trello Data into Visual Studio Through an ODBC Connection

A Visual Studio is a powerful tool containing features that allow editing, debugging, and compilating the code and creating applications that can be connected to any databases product and services on a local machine and network, and any type of cloud (private, public, or hybrid). To connect Visual Studio to a data source such as Trello, you can use an appropriate ODBC driver.

This guide describes how to connect to Trello and retrieve data importing them to Visual Studio with an ODBC driver. It is assumed that you have already installed and configured a DSN for ODBC driver for Trello.

- 1. Run Visual Studio Desktop and click **Tool** and select **Connect to Database**.
- In the Add connection dialog box, select the Microsoft ODBC Data Source as a data source.
- 3. In the Data source specification point expand the Data Source Name (DSN) drop-down list and select the previously configured DSN for Trello. Alternatively, you can connect to the database by entering the DSN in a Use connection string field. To check whether your connection is successful, click Test connection. Click OK.
- If your data source is password-protected, Visual Studio will prompt you for user credentials. Type your **Username** and **Password** in the respective fields and click **OK**.
- 5. In the Server Explorer you can see the database structure. Choose **Tables**, right-click the

table you want to view the data of and select **Retrieve Data**. You can also preview the contents of the database objects by clicking on them.

4.7 Using in SQL Server Management Studio

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

- Creating a Linked Server
- Troubleshooting in SSMS

4.7.1 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 <u>Driver Configuration</u> 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 Trello and SQL Server must be installed on the same computer.
- .NET Framework 4.5 must be installed on the computer.

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

You can use the Microsoft SQL Server Management Studio to connect your Trello 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 Trello 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 Trello:

- 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 Trello

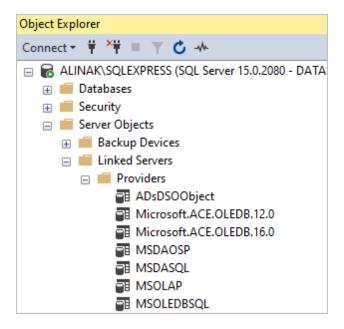
You can follow the steps to create a linked server for Trello in SQL Server Management Studio by using Object Explorer:

- 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 Trello. Alternatively, you can input the ODBC Driver connection string in the Provider field.

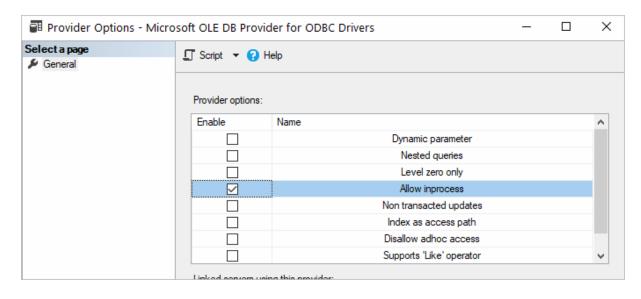
The linked server will appear under the Linked Servers in the Object Explorer Pane. You can now issue distributed queries and access Trello databases through SQL Server.

Retrieving Data From Trello

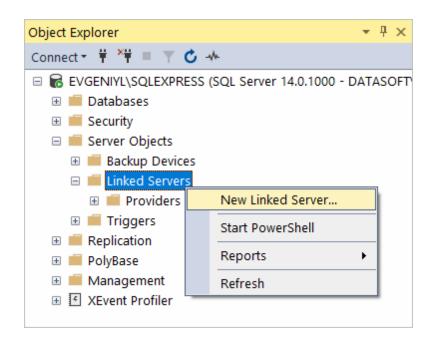
Ensure the **Allow inprocess option** of MSDASQL OLE DB Provider for ODBC Drivers is enabled. For this, find the **MSDASQL** provider in the list of Linked Servers and double-click on it



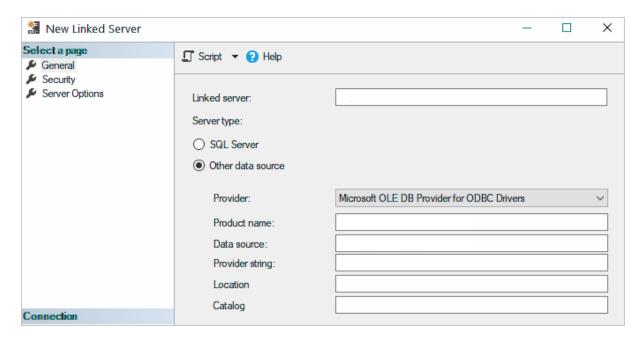
In the appeared **Provider Options** window, enable the **Allow inprocess** checkbox:



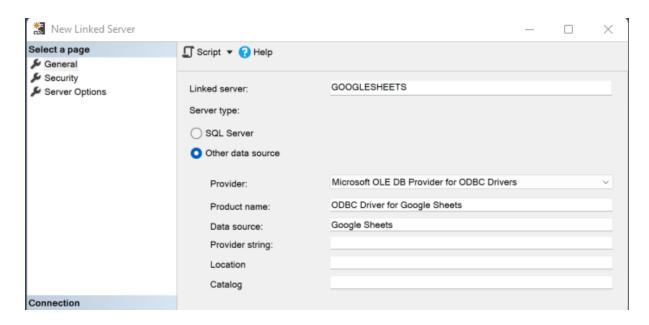
Create a new Linked Server



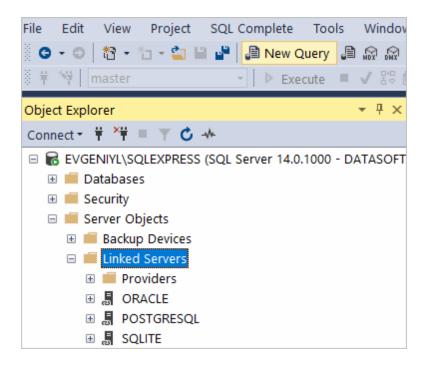
Make sure to select Microsoft OLE DB Provider for ODBC Drivers:



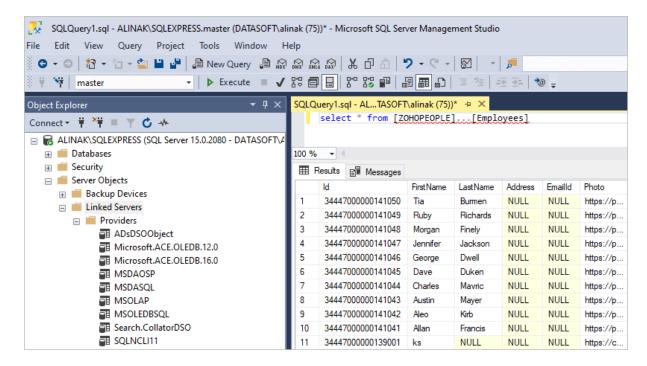
Now you need to input the Linked Server name, e.g. TRELLO. In the Product Name and Data Source fields you need to indicate the System DSN that you've previously created - more info on System DSN setup can be found here.



The Trello 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 Trello account you are connected to.

See also

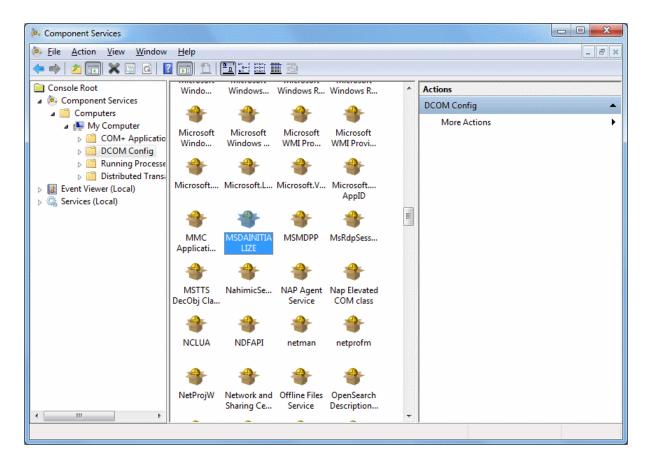
Troubleshooting SSMS

4.7.2 Troubleshooting in SSMS

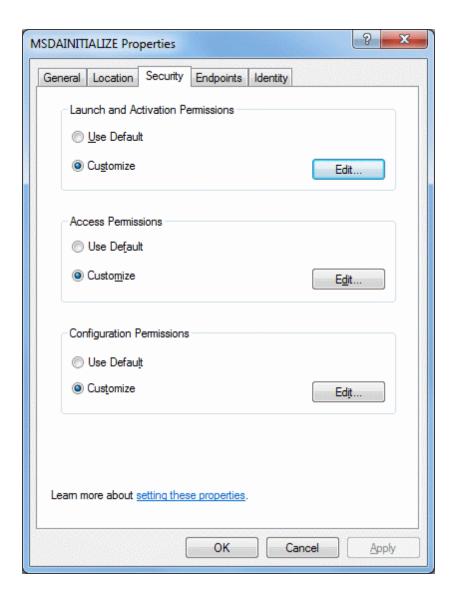
When creating a linked server in SSMS, most errors happen due to security issues with DCOM class MSDAINITIALIZE. We need to alter the DCOM Class MSDAINITIALIZE security settings to make it work.

Following are the steps:

- 1. Open Component Services (Start>Run>DCOMCNFG)
- 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:

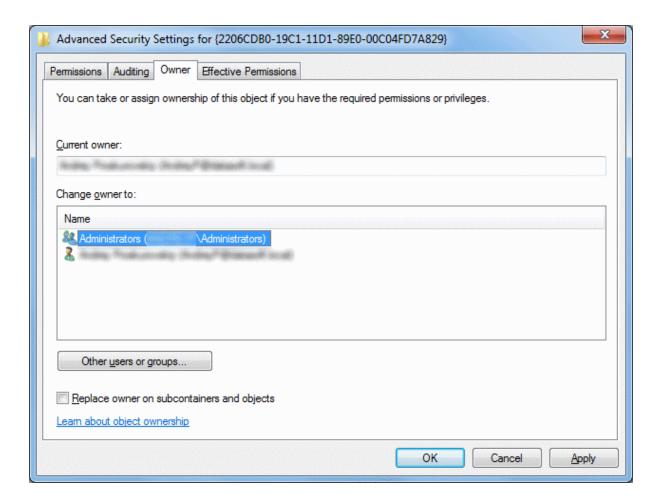


- 5. Add the Domain User who is accessing the linked server and 'Allow' all the permissions available (Local Launch, Remote Launch, Local Activation, Remote Activation). If you are connecting to SQL server using SQL account, you need to provide this permission to the account under which the SQL service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

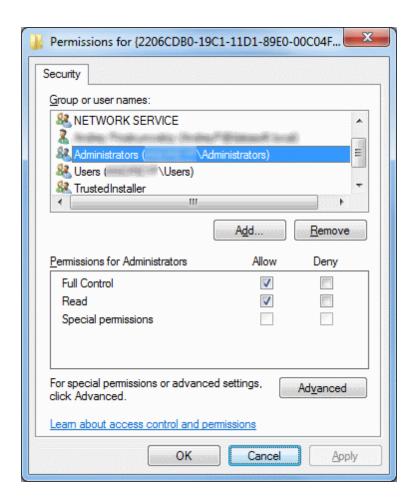
To edit the Security settings, we followed the below steps:

- 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"

4.8 Using in OpenOffice and LibreOffice

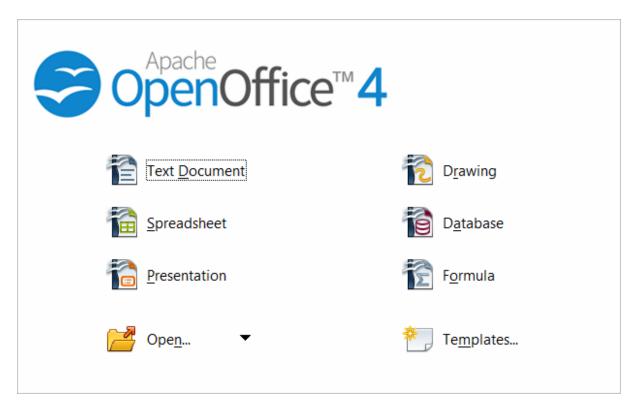
Connecting to Trello from OpenOffice and LibreOffice using ODBC Driver for Trello

The article describes how to use Apache OpenOffice and LibreOffice to access ODBC data sources using the respective driver. You can access Trello data from Open Office Base or LibreOffice Base — desktop database management systems. Note that the Windows version

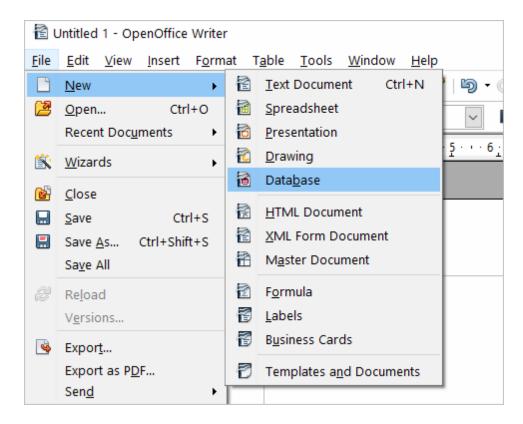
of OpenOffice is 32-bit, and you may get the error "The specified DSN contains an architecture mismatch between the Driver and Application" when trying to access a data source through a 64-bit ODBC Driver. To get rid of the error message, set up the 32-bit version of the driver.

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

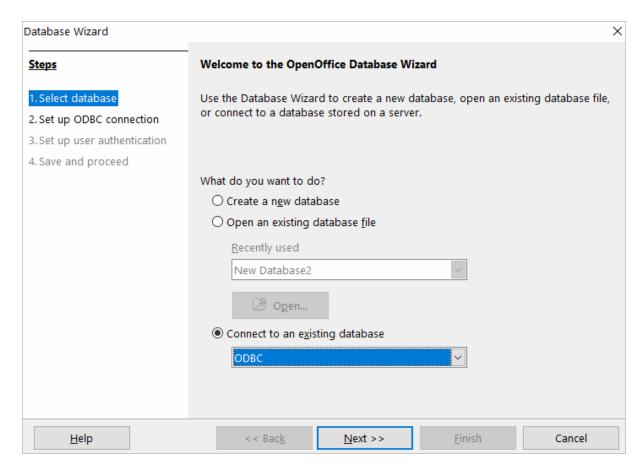
1. Start OpenOffice or LibreOffice, click **Database** to open the **Database Wizard**.



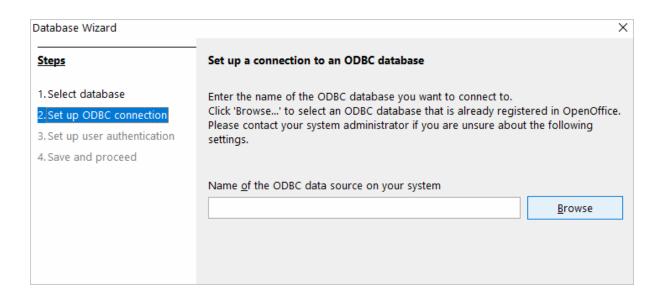
Alternatively, you can launch the **Database Wizard** from OpenOffice or LibreOffice Calc, Writer or any other tool by choosing **File > New > Database**.

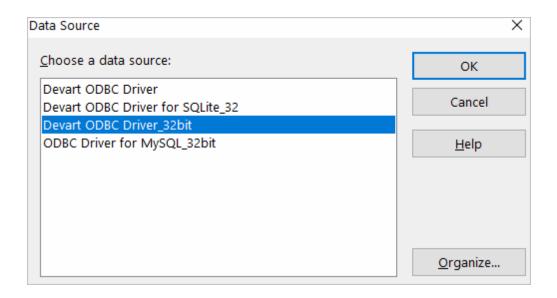


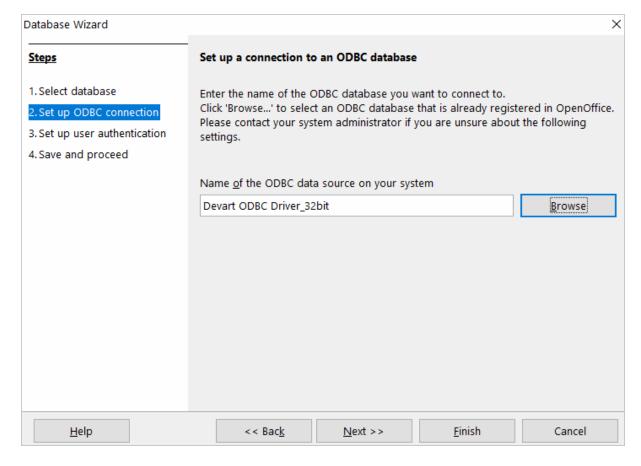
2. In the **Database Wizard dialog box**, click **Connect to an existing database**, select **ODBC** from the drop-down list, and click **Next**.



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 Trello, or you can click Browse, double-click the data source you need, and then click Next.

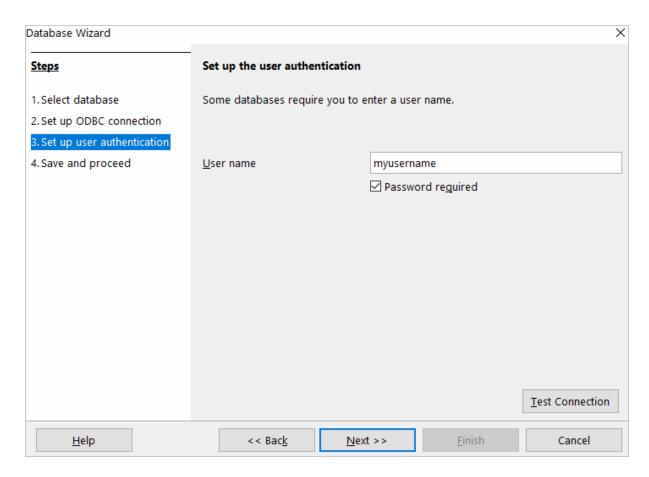




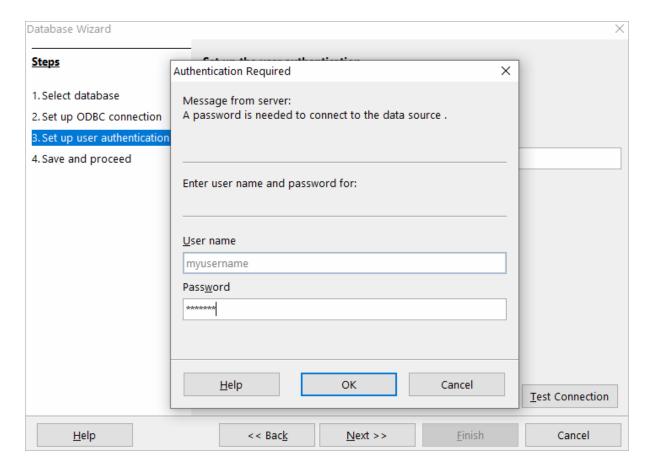


4. If your database requires a user name, type it into the **User name** field. If you are connecting to a password protected database, check the **Password required** field.
Alternatively, you can specify these parameters in the data source settings of your ODBC

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

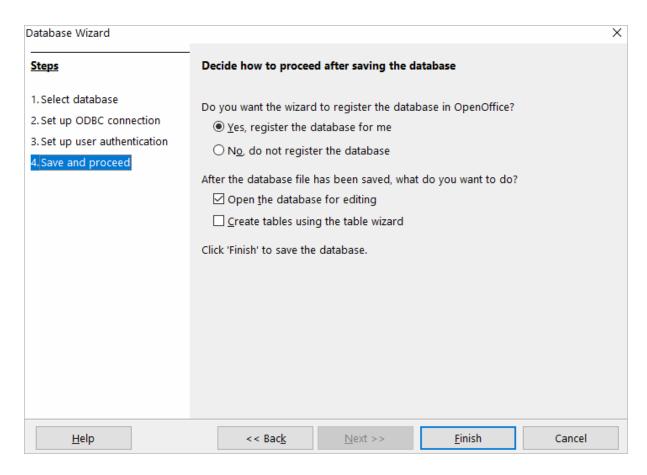


To test the connection to your data source, click **Test Connection**, input your credentials and click **OK**.

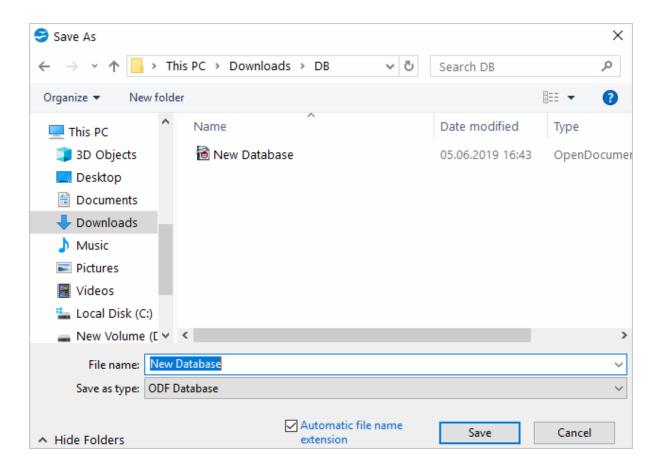


If you have entered valid credentials, you will see a success message. Click **Next** to proceed to the final step.

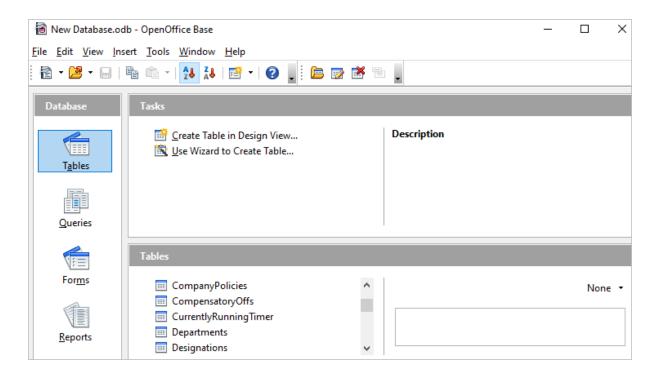
5. You can keep the default selection in this dialog box and click **Finish**.

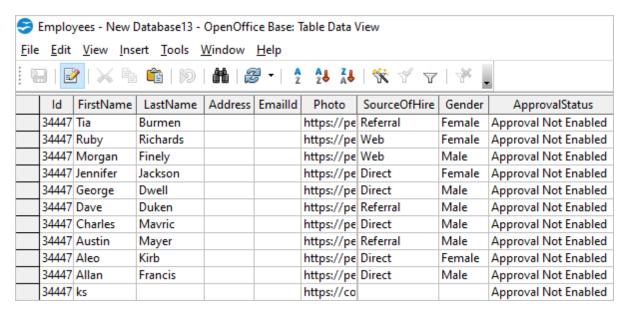


You will be prompted to give a name to your new database and select the directory where you want to store it.

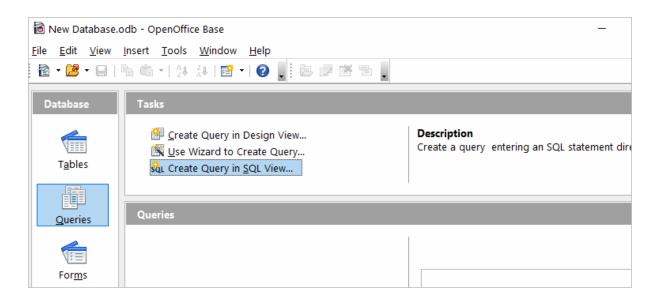


6. When the database opens, you will see the list of tables from your data source diplayed in OpenOffice or LibreOffice Base workspace. To view the data from a specific table, double-click the table name.

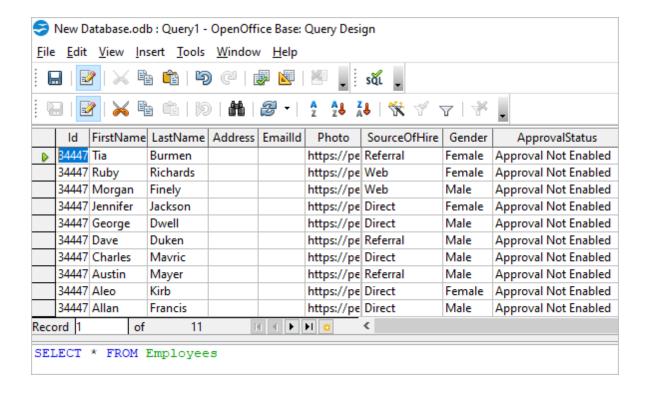




7. To create an SQL query, click **Queries** in the **Database** pane, then click **Create Query in SQL View...**



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.



4.9 Using in PHP

Connecting to Trello from PHP using ODBC Driver for Trello

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 Trello via ODBC. The script connects to Trello 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 Trello};R</pre>
```

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.

```
$result = odbc_result_all($RecordSet, "border=1");
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.

4.10 Using in Power BI

Importing Trello 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 Trello, you can use a corresponding ODBC driver.

This tutorial explores how to connect to Trello 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 Trello.

- 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 Trello
- 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.
- 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 Trello data into Power BI for analysis, select the needed table and click **Load**.

4.11 Using in Python

Installing the ODBC Driver for Trello

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 <u>download the ODBC Driver</u> for Trello. To use the ODBC driver as a translation layer between the application and the database, you need to configure it by following the installation <u>instructions</u>.

Connecting to Trello from Python using ODBC Driver for Trello

Here's an example to show you how to connect to Trello 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 Trello};Refresh Token=
```

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()
cursor.close()
cnxn.close()
```

4.12 Using in QlikView

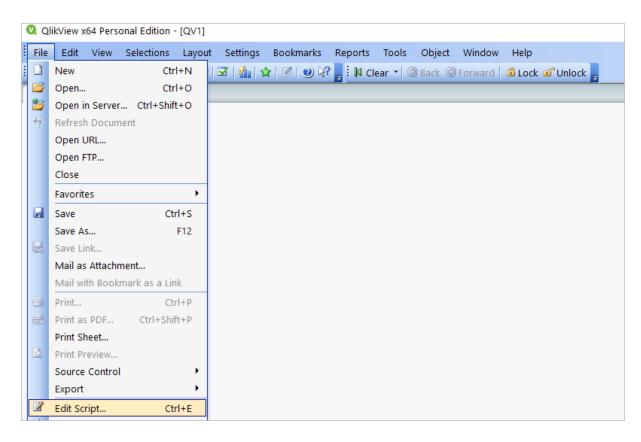
Connecting to Trello from QlikView using ODBC Driver for Trello

This tutorial describes how to connect and configure QlikView to retrieve data from Trello 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.

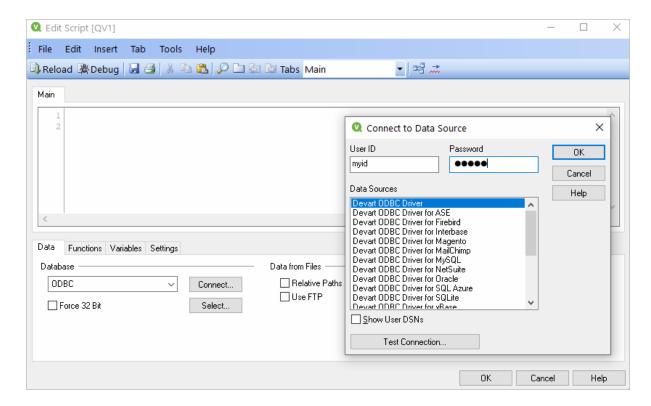
QlikView supports the ODBC connectivity interface for communication with external data sources. An ODBC data source must be configured for the database you want to access. You can create an ODBC connection using a DSN during the ODBC driver installation or later.

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

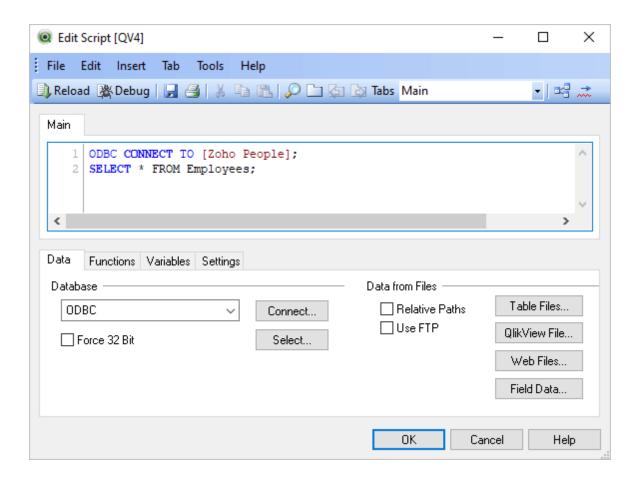
 Open the QlikView client application and click File > New. Close the Getting Started wizard and open File > Edit Script (CTRL+E).

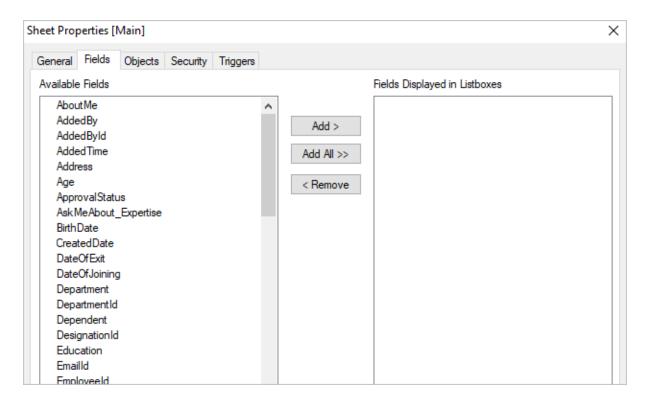


2. In the Data tab, choose ODBC from the Database drop-down and click Connect. Select the Data Source you created earlier, type in the User ID and Password if your database is password-protected. You can test the connection by choosing Test Connection. The Connection Test succeeded message should appear.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

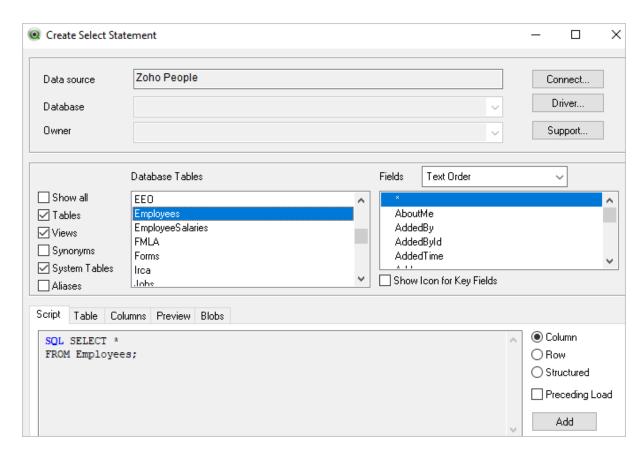


3. To retrieve the data from your data source, you can enter an SQL query and press **F5**. You will be suggested to choose fields to be displayed.

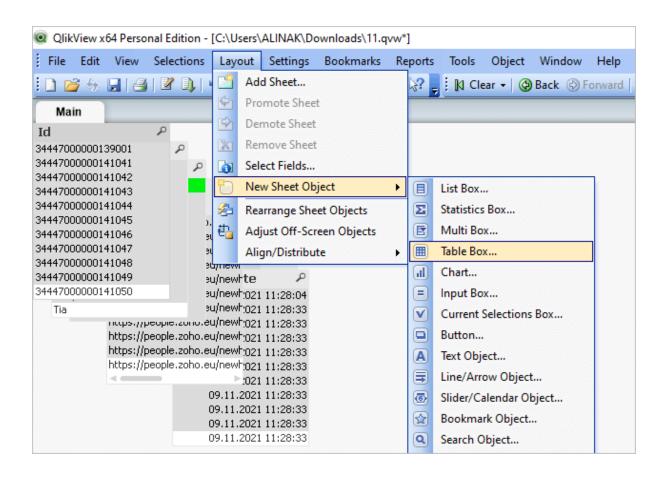


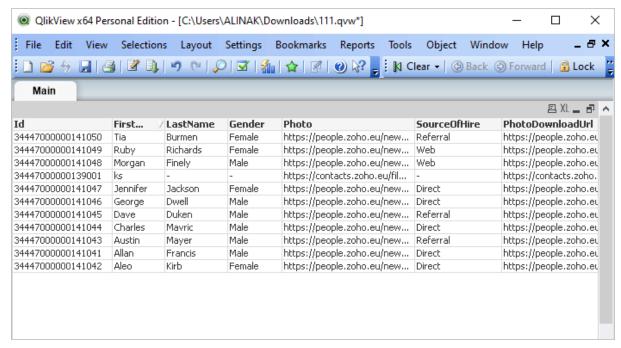


4. Alternatively, you can click **Select**, and QlikView will show you the database structure window where you can compose a SELECT statement for the data to be fetched. You can choose a different database from the database drop-down list. Select the necessary tables and fields. You can retrieve date 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.



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.

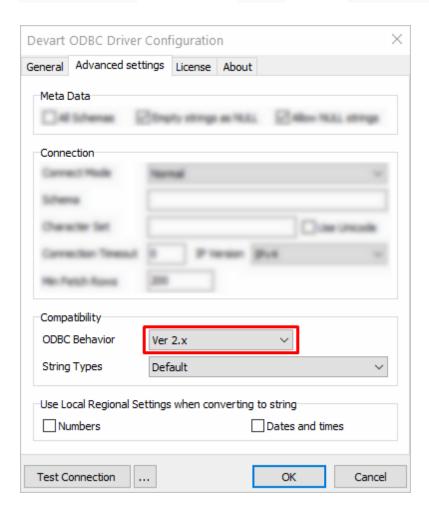




4.13 Using in SSIS

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 Trello 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.



4.14 Using in Tableau

Importing Trello Data Into Tableau Through an ODBC Connection

This article explains to establish and ODBC connection to Trello 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 Trello. Alternatively, if you have not created a DSN, you can choose the **Driver** option and select Devart ODBC Driver for Trello from the drop-down.
- 5. Click Connect.
- 6. After a successful connection, click Sign in.
- 7. Select the needed database and schema in Trello.
- 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.