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1 What's New

New features in ODBC Driver for Zoho Projects 1.3

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

New features in ODBC Driver for Zoho Projects 1.2

- Added support for Japanese Data Center

New features in ODBC Driver for Zoho Projects 1.1

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

New features in ODBC Driver for Zoho Projects 1.0

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

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2 General Information

1. [Overview](#)
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6. [Getting Support](#)

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2.1 Overview

Overview

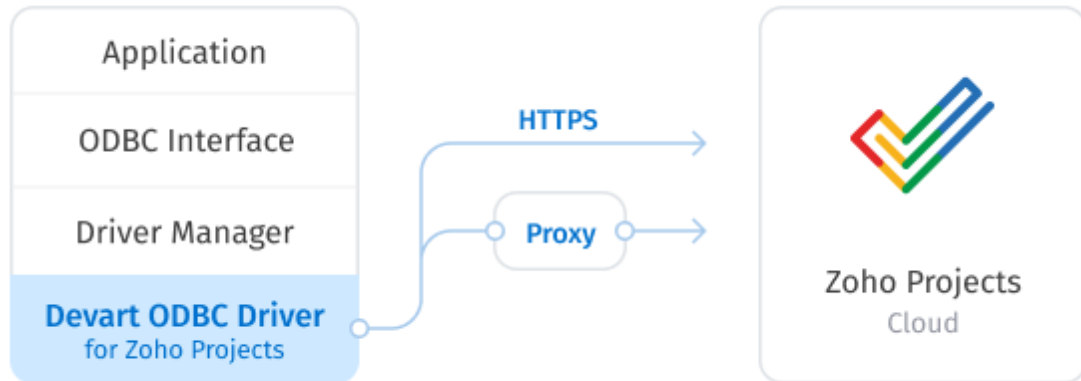
Devart ODBC Driver for Zoho Projects is a high-performance connectivity solution with enterprise-level [features](#) for accessing Zoho Projects from ODBC-compliant reporting, analytics, BI, and ETL tools on both 32-bit and 64-bit Windows. Our ODBC driver fully supports standard ODBC API functions and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

- ✓ ODBC API
- ✓ ODBC Data Types



Connection to Zoho Projects

Our data connector enables various ODBC-aware applications to [connect](#) to Zoho Projects directly via HTTPS. If you have no direct access to Zoho Projects via HTTPS, you have the option of establishing a connection through a proxy server.



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2.2 Features

	<h3>Connection to Zoho Projects</h3> <p>Our connectivity solution enables various ODBC-aware applications to connect to Zoho Projects directly via HTTPS. If you have no direct access to Zoho Projects, you have the option of establishing a connection through a proxy server.</p>
--	---

Extended SQL Syntax

Our ODBC driver provides an unrivalled opportunity to work with [Zoho Projects](#) 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
```



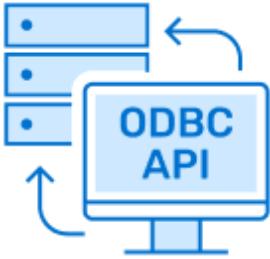

DML Operations

Devart ODBC Driver for Zoho Projects provides support for DML (INSERT,



Bulk Updates

Moreover, with our driver you can perform bulk updates to Zoho Projects by

<p>UPDATE, DELETE) operations, which allows you to modify data in Zoho Projects in the same way as in SQL databases.</p>	<p>combining SQL statements into batches, thus simplifying and speeding up large data modification with Zoho Projects.</p>
<h2>ODBC Conformance</h2> <p>The driver provides full support for common ODBC interface:</p> <ul style="list-style-type: none"> • ODBC API Functions support • ODBC Data Types support <p>In addition, we provide support for Advanced Connection String parameters. Thus allowing any desktop and web applications to connect to Zoho Projects from various environments and platforms, that support ODBC.</p>	
<div data-bbox="300 1346 829 1530"> <ul style="list-style-type: none"> ✓ Zoho Projects API ✓ Zoho Projects Data Types  </div>	<h2>Zoho Projects Compatibility</h2> <p>Our ODBC driver fully supports all data types defined in the Zoho Projects API. Moreover, the driver is compatible with the Zoho Projects API itself.</p>
<h2>Advanced Data Conversion</h2> <p>We have implemented advanced Data</p>	<h2>Integration</h2> <p>The driver is compatible with 3rd-party data</p>

<p>Conversion mechanisms that provide bi-directional mapping between any Zoho Projects and ODBC data types.</p>	<p>analysis tools, such as Microsoft Excel, and integrates with various IDEs and systems like Visual Studio, etc.</p> <p>For a complete list of compatible tools and platforms, see Compatibility.</p>
<h2>Platforms Variety</h2> <p>Devart ODBC Driver for Zoho Projects can be used with 32-bit and 64-bit applications on both x32 and x64 platforms, so there is no need to additionally configure the driver, applications or environment.</p>	<h2>Fully Unicode Driver</h2> <p>With our fully Unicode driver, you can retrieve and work with any data from multi-lingual Zoho Projects databases correctly, not depending on whether its charset is Latin, Cyrillic, Hebrew, Chinese, etc., in any environment localization.</p>
<h2>High Performance</h2> <p>Every operation with Zoho Projects becomes significantly faster using such capabilities of our driver as Local data caching, connection pooling, query optimization and much more.</p>	<h2>Support</h2> <p>Visit our Support page to get instant help from knowledgeable and experienced professionals, a quick resolution of your problems, and nightly builds with hotfixes.</p>

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2.3 Compatibility

[Zoho Projects](#) Compatibility

Zoho Projects API	✓
Zoho Projects 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 <small>UniDAC, FireDAC, dbGo (ADO), BDE and dbExpress</small>	✓
FileMaker	✓
Lazarus	✓
Microsoft Visual FoxPro	✓
Microsoft Visual Studio <small>Server Explorer and ADO.NET ODBC Provider</small>	✓
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	✓
DBExtra	✓
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	✓

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2.4 Requirements

The following requirements must be met for ODBC Driver for Zoho Projects:

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

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Once the subscription term is over, you will be able to either stop using the Software or renew the license for a new subscription term;

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2.6 Getting Support

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

Support Options

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

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

Subscriptions

The [ODBC Driver for Zoho Projects](#) Subscription program is an annual maintenance and support service for ODBC Driver for Zoho Projects users.

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

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

Priority Support

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

To get help through the ODBC Driver for Zoho Projects Priority Support program, please send

an email to odbc@devart.com describing the problem you are having. Make sure to include the following information in your message:

Your ODBC Driver for Zoho Projects Registration number.

- Full ODBC Driver for Zoho Projects edition name and version number. You can find the version number in DLL version information.
- Versions of the Zoho Projects 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 Zoho Projects.

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

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3 Using ODBC Driver

1. [Installation](#)
2. [Connecting to Zoho Projects](#)
3. [Connection String Parameters](#)
4. Sandboxed Apps on macOS
5. Using with iODBC
6. [Enabling ODBC Tracing](#)
7. [Supported Data Types](#)
8. [Supported ODBC API Functions](#)

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3.1 Installation

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

- [Regular Installation](#)
- [Silent Installation](#)

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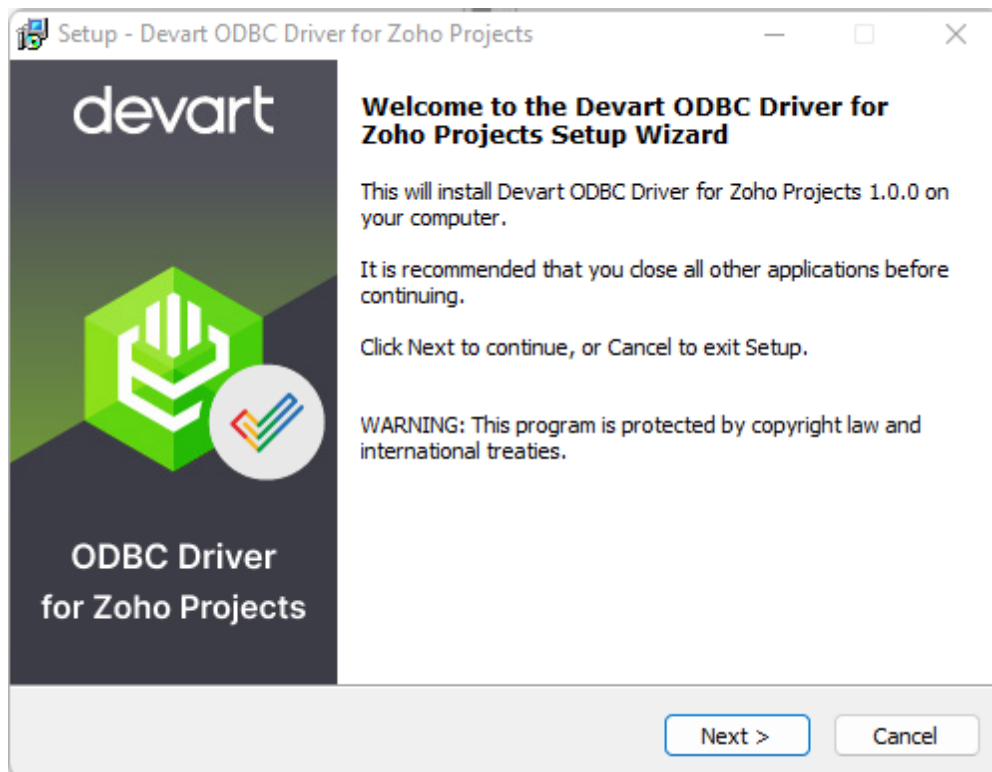
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3.1.1 Windows

Installation on Windows

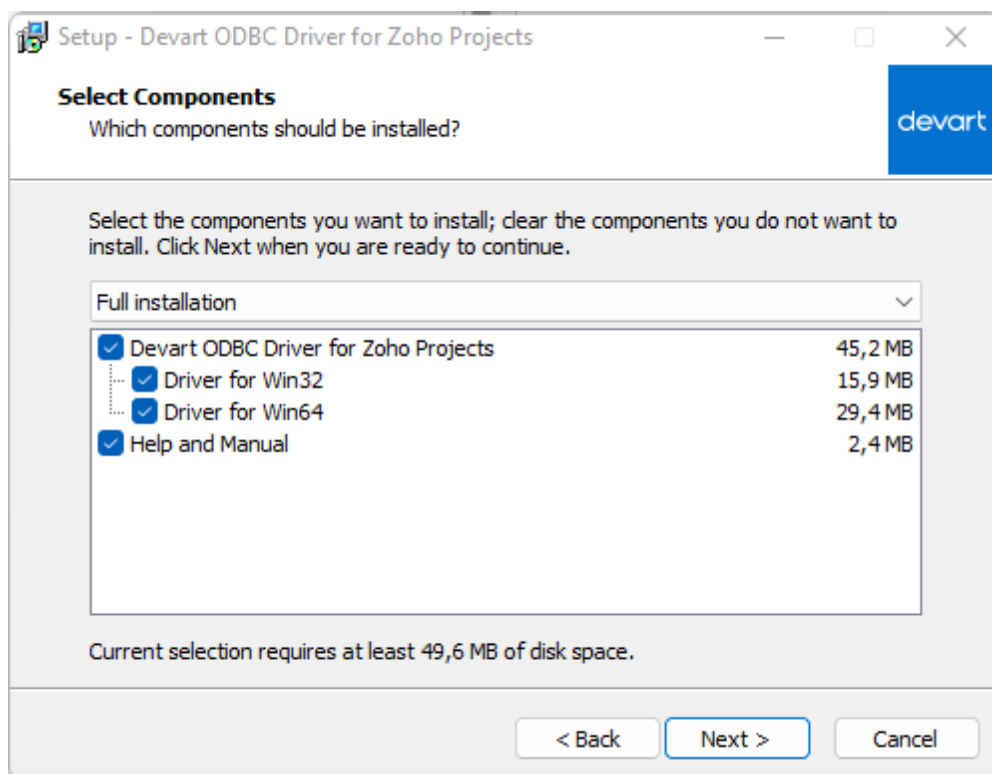
1. [Download](#) and run installer executive file.
2. Follow the instructions in the wizard.



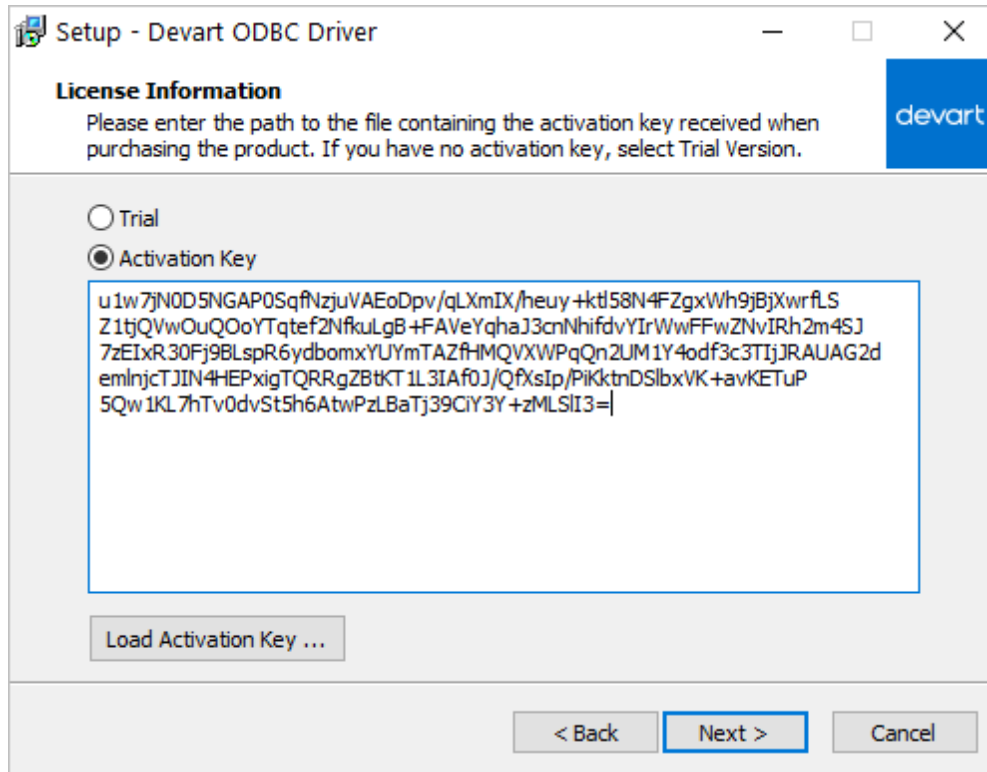
3. In case you already have the specified installation folder on the PC or another Driver

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.

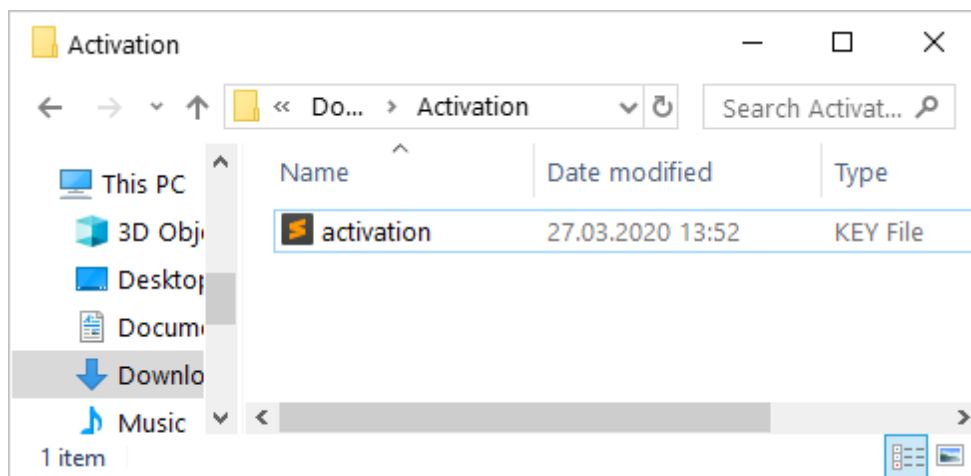
4. On the Select Components page you can select whether to install the **64-bit** version of the driver or not. Clear the check box if you need no 64-bit installation. There is also a check box on this page, that allows you to select whether to install Help and Manual.



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](#).

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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:

```
DevartODBCZoho Projects.exe /SILENT /ActivationKey=y1c7nmgdu2341aszxcvONGurj
```

```
DevartODBCZoho Projects.exe /VERYSILENT /ActivationKey=ekhdh765mh09ukr237gfH
```

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

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

```
DevartODBCZoho Projects.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.

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3.2 Product Activation

- [Obtaining Activation Key](#)
- [Activation on Windows](#)
- [Where to see the license information](#)

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3.2.1 Obtaining Activation Key

To obtain a product activation key, follow these instructions:

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



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

See also:

- [Activation on Windows](#)

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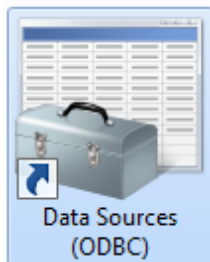
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3.2.2 Activation on Windows

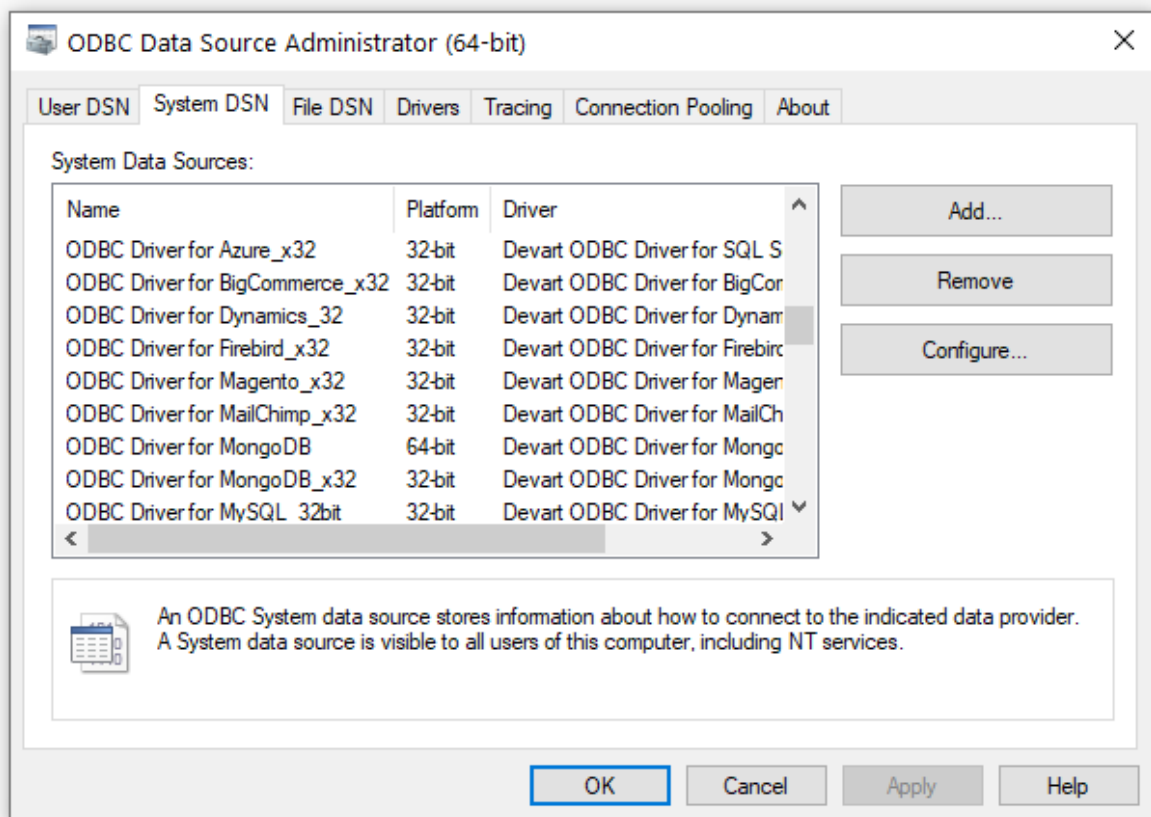
Driver Activation After Installation

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

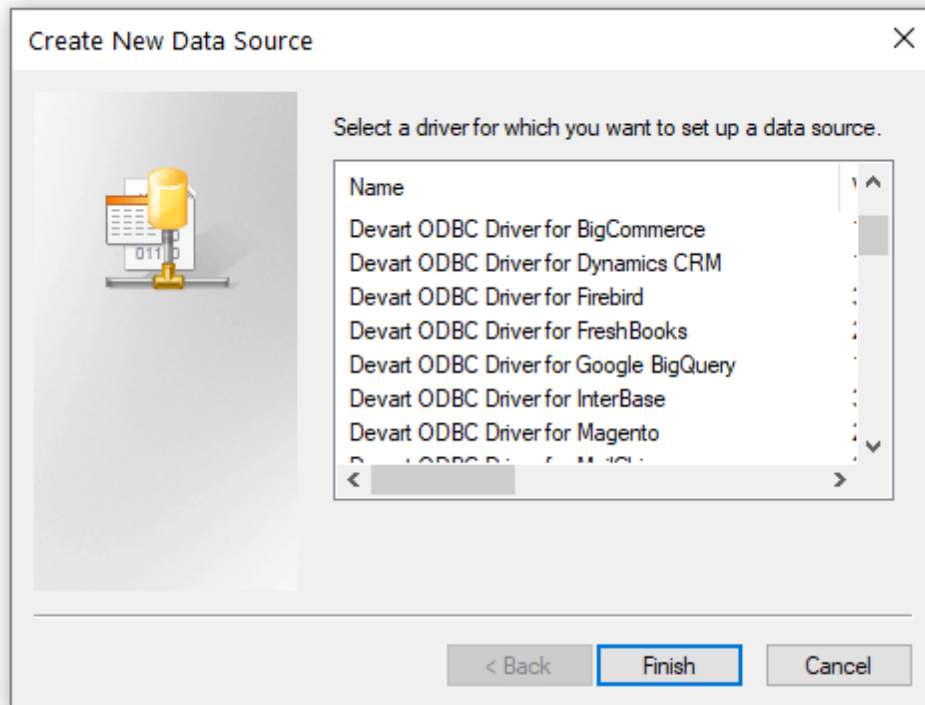
1. Run ODBC Administrator.



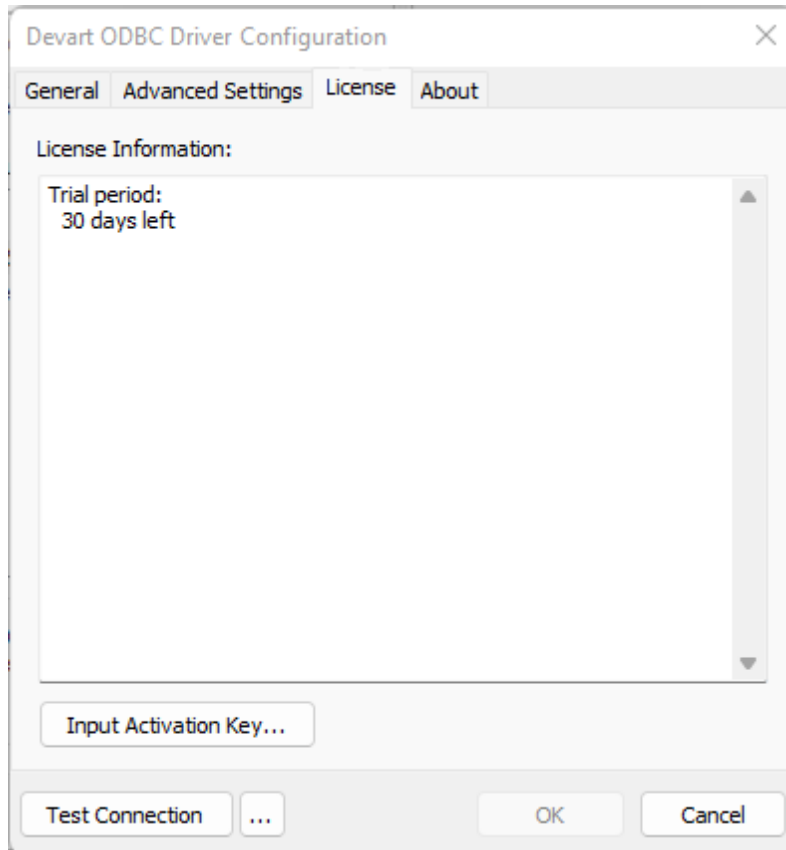
2. In the System DSN tab click the Add button.



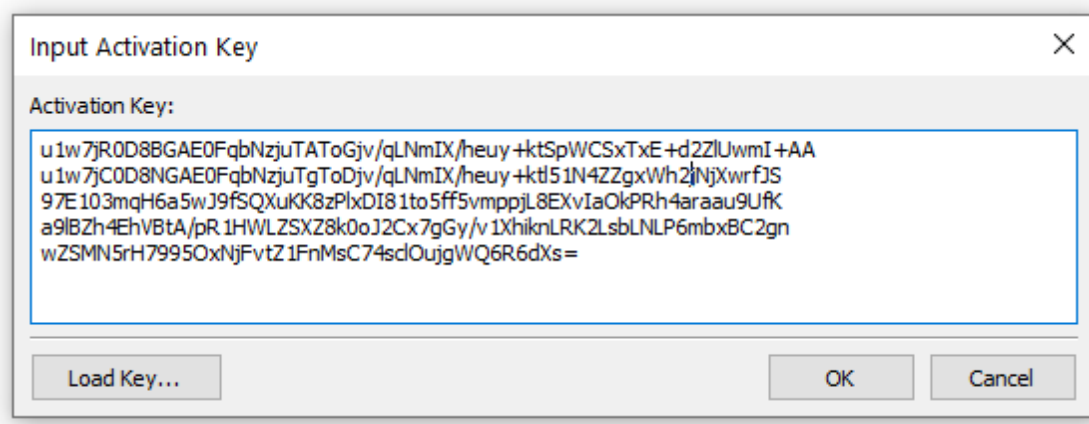
3. In the appeared dialog box, select the installed driver, click Finish.



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



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



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

7. Click OK.

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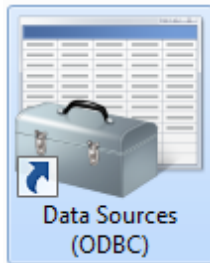
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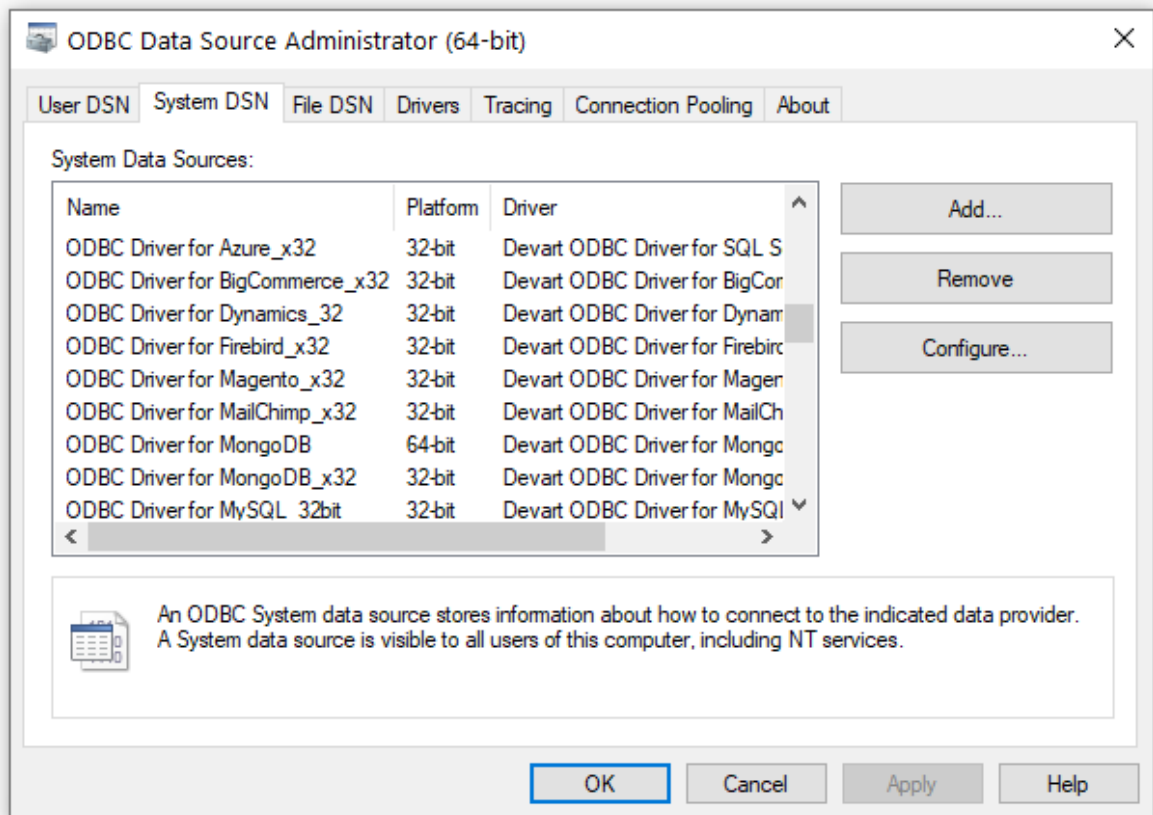
3.2.3 License Information

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

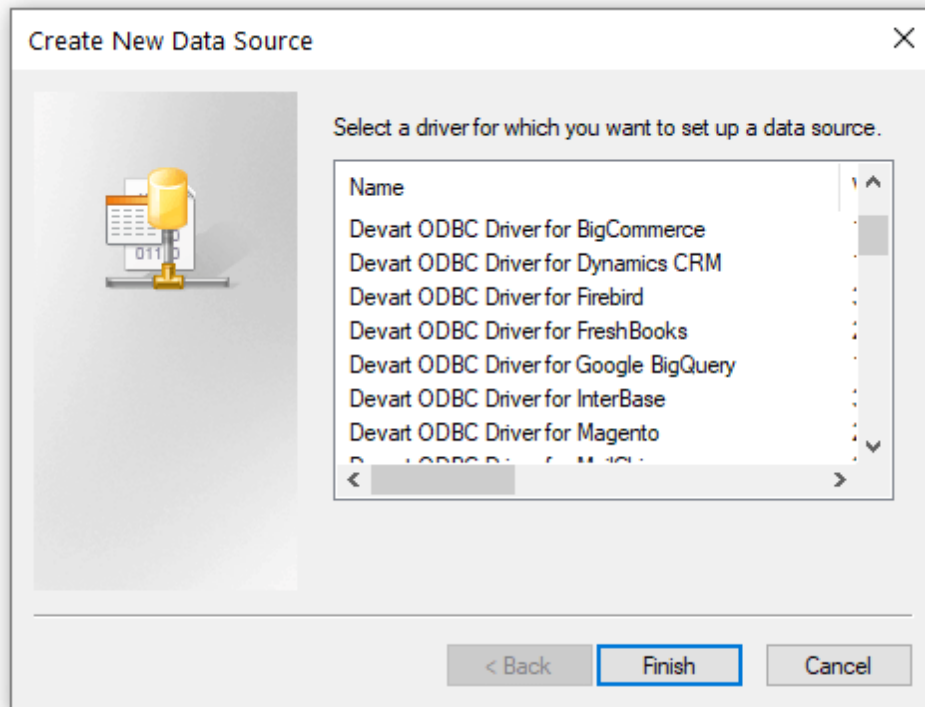
1. In the Control Panel run ODBC Administrator



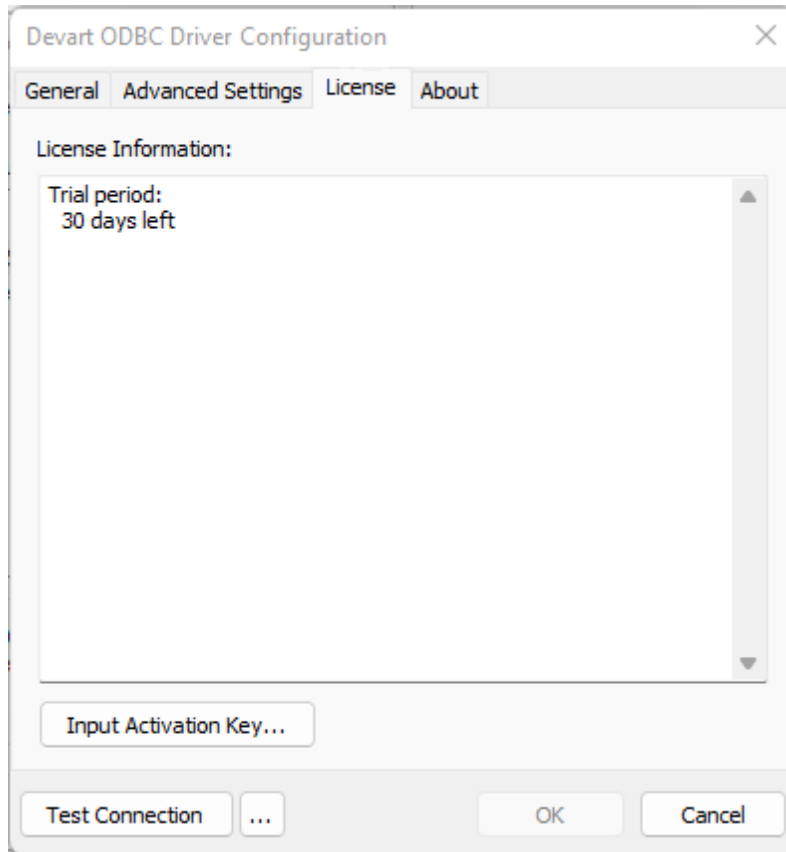
2. Open the System DSN tab and click the Add button



3. Select the driver and click Finish



4. In the appeared dialogue, select the License tab



See also

- [Product Activation](#)

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3.3 Connecting to Zoho Projects

Windows DSN Configuration

After installing the driver, create a DSN for Zoho Projects 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\System32\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 Zoho Projects** and click **Finish**. The driver setup dialog will open.
 5. Enter the connection information in the appropriate fields.
 6. You may test the connectivity by clicking **Test Connection**.
 7. Click **OK** to save the DSN.

The screenshot shows the "Devart ODBC Driver for Zoho Projects Configuration" dialog box. It has four tabs: "General", "Advanced Settings", "License", and "About". The "General" tab is active. The fields are as follows:

- Data Source Name:** DevartZohoProjects
- Description:** Devart ODBC Driver for Zoho Projects
- Data Center:** Europe (dropdown menu)
- Portal Name:** default@gmail.com
- Refresh Token:** A field with 20 dots and a checked "Save Token" checkbox.
- Sign in to Zoho:** A button.
- Proxy Server:** An empty text field.
- Port:** 0
- Proxy User ID:** An empty text field.
- Proxy Password:** An empty text field with an unchecked "Save Password" checkbox.

At the bottom, there are four buttons: "Test Connection", "...", "OK", and "Cancel".

See Also

[Connection Options](#)

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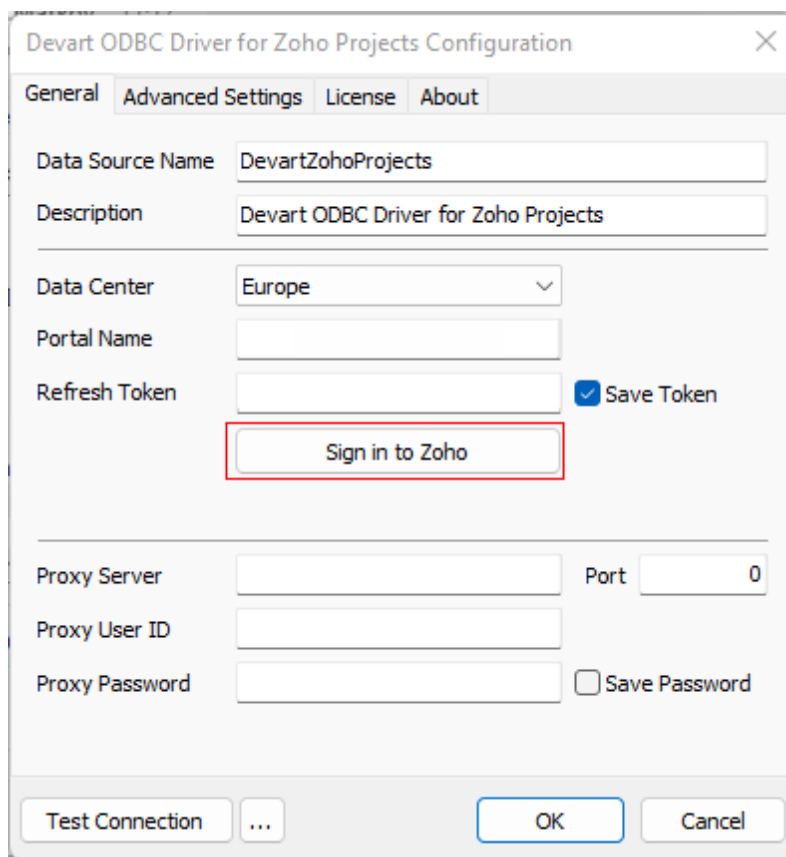
[ODBC Forum](#)

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3.4 Obtaining Connection Details

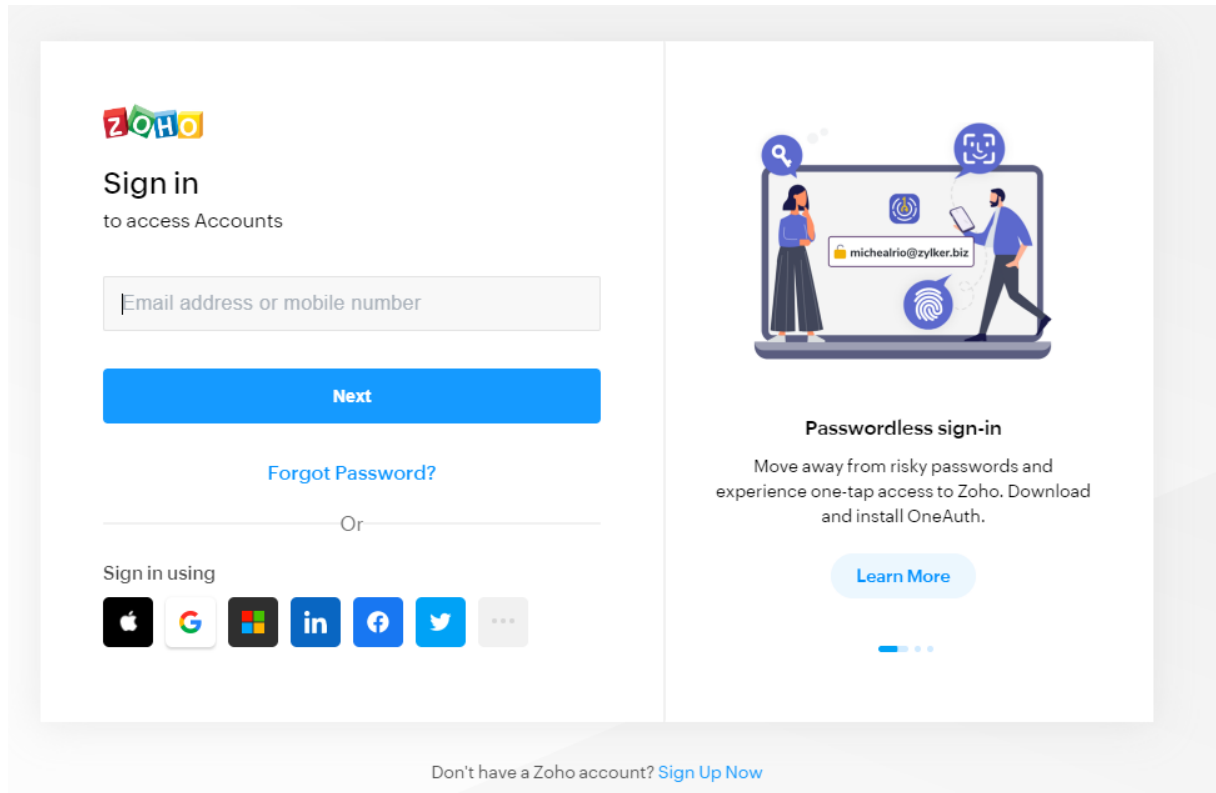
To generate a Zoho Projects Refresh Token, perform these steps:

1. Run the ODBC Administrator utility and open the Configuration dialog of the driver.
2. Click the **Sign In to Zoho** button.



The screenshot shows the 'Devart ODBC Driver for Zoho Projects Configuration' dialog box. The 'General' tab is active. The 'Data Source Name' is 'DevartZohoProjects' and the 'Description' is 'Devart ODBC Driver for Zoho Projects'. The 'Data Center' is set to 'Europe'. The 'Refresh Token' field is empty, and the 'Save Token' checkbox is checked. The 'Sign in to Zoho' button is highlighted with a red box. The 'Proxy Server' field is empty, and the 'Port' is set to '0'. The 'Proxy User ID' and 'Proxy Password' fields are empty, and the 'Save Password' checkbox is unchecked. The 'Test Connection' button is disabled, and the 'OK' and 'Cancel' buttons are enabled.

3. In the appeared Web Login dialog, enter your Zoho account credentials and click **Sign in**



4. Then click the **Accept** button.



Devart ODBC Driver

Devart ODBC Driver would like to access the following information.



Projects

- Give permission to view your documents.
- Give permission to read, create, update, and delete your project.
- Give permission to view your portals.
- Give permission to read, create, update, and delete your task list.
- Give permission to read, create, update, and delete your issue.
- Give permission to read, create, update, and delete your milestone.
- Give permission to read, create, update, and delete your forum.
- Give permission to read, create, update, and delete your user.
- Give permission to read, create, update, and delete your time log.
- Give permission to view your activities.
- Give permission to view your statuses.
- Give permission to read, create, update, and delete your event.
- Give permission to read, create, update, and delete your task.

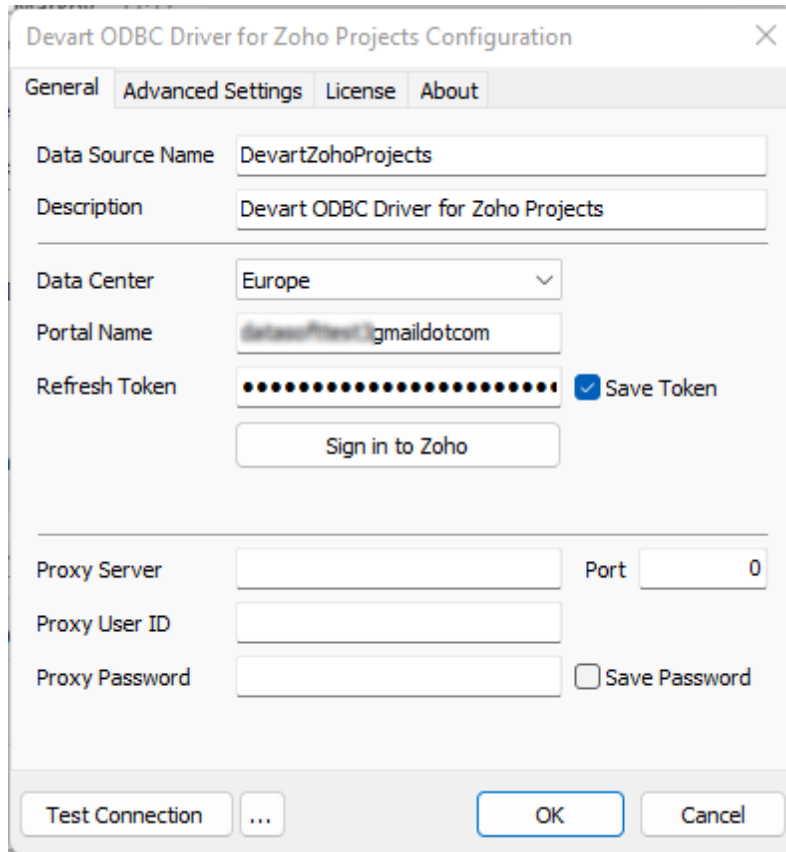


Docs

- get users files

By clicking the "Accept" button you allow Devart ODBC Driver to access data in your Zoho account.

5. The token is automatically generated and inserted in the corresponding field of the driver configuration window.



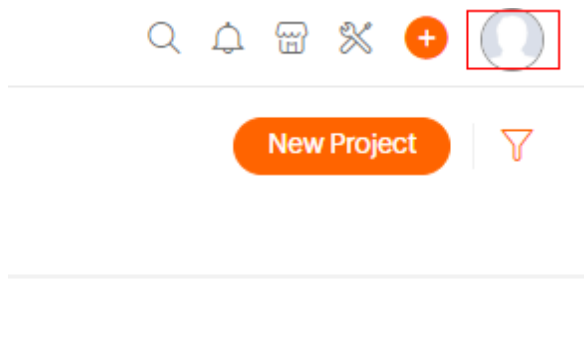
The screenshot shows the "Devart ODBC Driver for Zoho Projects Configuration" dialog box with the "Advanced Settings" tab selected. The fields are as follows:

- Data Source Name: DevartZohoProjects
- Description: Devart ODBC Driver for Zoho Projects
- Data Center: Europe (dropdown menu)
- Portal Name: [redacted]@gmaildotcom
- Refresh Token: [redacted] (with "Save Token" checkbox checked)
- Sign in to Zoho button
- Proxy Server: [empty] Port: 0
- Proxy User ID: [empty]
- Proxy Password: [empty] (with "Save Password" checkbox unchecked)

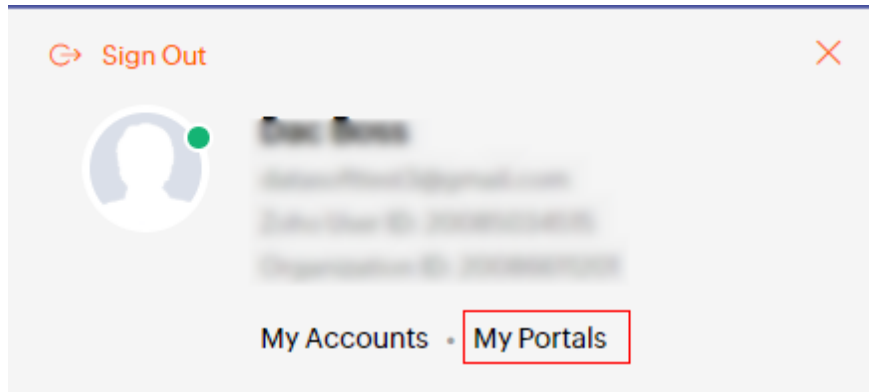
Buttons at the bottom: Test Connection, ..., OK, Cancel.

To obtain a portal name, go to Zoho Projects dashboard either manually or using the following [link](#). In the dashboard, perform the following steps:

1. Click the **Profile Icon** in the top-right corner of your Zoho Projects dashboard:



2. In the appeared pop-up window, click the **My Portal** button:



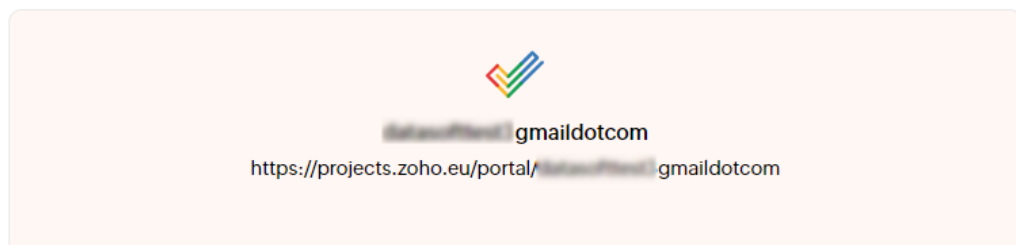
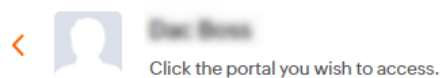
Your portal is currently in Free plan

[Subscription Details](#)

[Display Preferences](#)

[Help and Guide](#)

3. On the next page you will see the list of your portals. Copy the **Portal Name** to use for connection creation:



4. Insert the **Portal Name** into the corresponding connection field:

The screenshot shows the 'Devart ODBC Driver for Zoho Projects Configuration' dialog box with the 'Advanced Settings' tab selected. The fields are as follows:

- Data Source Name:** DevartZohoProjects
- Description:** Devart ODBC Driver for Zoho Projects
- Data Center:** Europe (dropdown menu)
- Portal Name:** [redacted]@gmaildotcom
- Refresh Token:** [redacted] with a checked 'Save Token' checkbox and a 'Sign in to Zoho' button below it.
- Proxy Server:** [empty field] and **Port:** 0
- Proxy User ID:** [empty field]
- Proxy Password:** [empty field] with an unchecked 'Save Password' checkbox.

Buttons at the bottom include 'Test Connection', '...', 'OK', and 'Cancel'.

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3.5 Connection String Parameters

Zoho Projects ODBC Connection String Parameters

The following table lists the connection string parameters for Zoho Projects.

Parameter	Description
Data Center	The location of your Zoho Projects data center to connect to.
Refresh Token	The renewed access token. Sign in with Zoho Projects. The renewed token is assigned automatically.

Proxy Settings	
Proxy Server	The proxy hostname or IP address.
Proxy User ID	The proxy server account ID.
Proxy Password	The proxy password.
Advanced Settings	
Allow NULL strings	To retrieve metadata, not all parameters according to MSDN can accept a null value. If NULL, the driver should return an error. But some 3rd-party tools pass NULL to the parameters. These options should be enabled for compatibility with such tools.
Empty strings as NULL	
Connection Timeout	The time (in seconds) to wait for a connection to open before terminating an attempt. The default value is 60.
ODBC Behavior	<p>Used to set the behavior corresponding to the ODBC specification version that a third-party tool expects. The behavior of ODBC driver can be changed by setting a value for the <code>SQL_ATTR_ODBC_VERSION</code> attribute by calling the <code>SQLSetEnvAttr</code> function. But some third-party tools expect the driver to exhibit ODBC 2.x behavior, but forget to call <code>SQLSetEnvAttr</code> with the specified version or pass an incorrect value there. In this case, the required behavior can be explicitly specified in the Connection String by setting the ODBC Behavior parameter. The possible values are:</p> <ul style="list-style-type: none"> • Default - default ODBC behavior determined by a third-party tool. • Ver 2.x - ODBC 2.x behavior is explicitly set.

	<ul style="list-style-type: none"> • Ver 3.x - ODBC 3.x behavior is explicitly set.
RegionalNumberSettings	Enables the use of local regional settings when converting numbers to strings.
RegionalDateSettings	Enables the use of local regional settings when converting dates and times to strings.
ReturnForeignKeys	Use the option to specify whether the driver must return foreign keys. Retrieving metadata about foreign key constraints is a time-consuming operation; many third-party tools request foreign key metadata even when they do not actually need this information. Note that enabling the option may degrade performance of data access operations. The default value is False.
String Types	<p>Sets the string value types returned by the driver as Default, Ansi or Unicode.</p> <ul style="list-style-type: none"> • Default - the driver defines the string types. • Ansi - all string types will be returned as SQL_CHAR, SQL_VARCHAR and SQL_LONGVARCHAR. • Unicode - all string types will be returned as SQL_WCHAR, SQL_WVARCHAR and SQL_WLONGVARCHAR. <p>The option value should be changed if any third-party tool supports only Ansi string types or Unicode ones.</p>
QueryTimeout	The time to wait for a query execution result before terminating and generating an error.
UTC Dates	Specifies whether all the datetime values retrieved from the data source are returned as UTC values or converted to local time and whether the date values specified on the application side (e.g., in SQL statements) are considered UTC or local. The default value is false.

Zoho Projects Connection String sample

```
DRIVER={Devart ODBC Driver for Zoho Projects};Refresh  
Token=2000.5b7d40a77a03d2c3bd60383050b6de99508c4.f3473e88b3f49da1c  
fa6a40ee1cea254
```

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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.

1. Type `ODBC Data Sources` in the Windows 10 search box (in earlier versions of Windows, open `Control Panel > Administrative Tools`) and choose the application of the needed bitness.
2. Select the `Tracing` tab.
3. If necessary, change the default `Log File Path`. Make sure that the path is writable by the application, then click `Apply`.
4. Click `Start Tracing Now`.
5. Restart all application processes.
6. Click `Test Connection` in the DSN settings to make sure the driver is able to connect.
7. Reproduce the issue.
8. Click `Stop Tracing Now` on the `Tracing` tab.
9. Send us the obtained log file (for example, `devart.log`).

Creating an ODBC Trace Log on macOS

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

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

Creating an ODBC Trace Log on Linux

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

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

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

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3.7 Supported Data Types

Data Type Mapping

The Devart ODBC Driver for Zoho Projects supports all Zoho Projects data types.

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

Zoho Projects Data Types	ODBC Data Types
BINARY	SQL_VARBINARY
STRING	SQL_VARCHAR
	SQL_LONGVARCHAR
	SQL_WVARCHAR
	SQL_WLONGVARCHAR

BOOLEAN	SQL_BIT
BYTE	SQL_TINYINT
INTEGER	SQL_INTEGER
	SQL_SMALLINT
DOUBLE	SQL_FLOAT
	SQL_DOUBLE
TIME	SQL_TYPE_TIME
DATE	SQL_TYPE_DATE
DATETIME	SQL_TYPE_TIMESTAMP

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3.8 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 Zoho Projects supports all deprecated functions for backward compatibility.

The following table lists the currently supported ODBC functions.

Function Name	Support	Standard	Purpose
SQLAllocHandle	✓	ISO 92	Obtains an environment, connection, statement, or descriptor handle.
SQLConnect	✓	ISO 92	Connects to a

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

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

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

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

ODBC API Calls for Setting and Retrieving Driver Attributes

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

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

ODBC API Calls for Preparing SQL Requests

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

ODBC API Calls for Submitting Requests

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

ODBC API Calls for Retrieving Results and Information

about Results

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

			data in the rowset or to update or delete data in the result set.
SQLBulkOperations	✓	ODBC	Performs bulk insertions and bulk bookmark operations, including update, delete, and fetch by bookmark.

ODBC API Calls for Retrieving Error or Diagnostic Information

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

ODBC API Calls for Obtaining Information About

Database Objects (Catalog Functions)

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

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

ODBC API Calls for Performing Transactions

Function Name	Support	Standard	Purpose
SQLTransact	✓	Deprecated	Commits or rolls back a transaction
SQLEndTran	✓	ISO 92	Commits or rolls back a transaction.

ODBC API Calls for Terminating a Statement

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

ODBC API Calls for Terminating a Connection

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

			descriptor handle.
SQLFreeConnect	✓	Deprecated	Releases connection handle.
SQLFreeEnv	✓	Deprecated	Releases an environment handle.

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4 Using in Third-Party Tools

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

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

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4.1 Using in DBeaver

DBeaver Overview

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

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

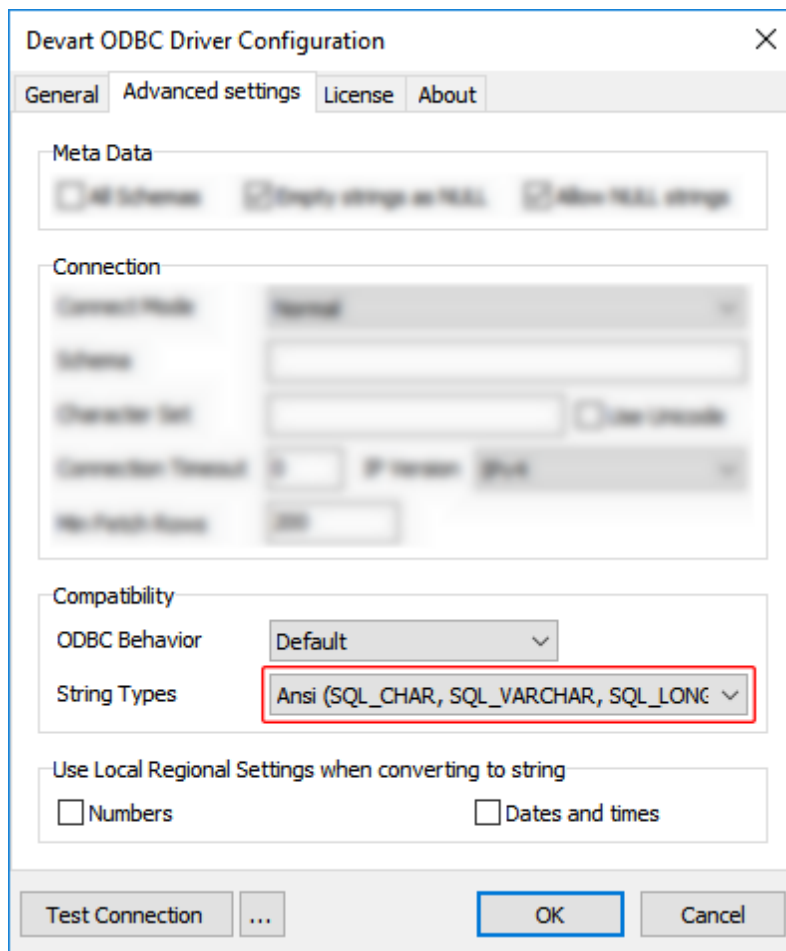
The tool comes in two editions — Community and Enterprise. Enterprise Edition supports NoSQL databases, such as MongoDB or Cassandra, persistent query manager database, SSH tunneling, vector graphics (SVG) and a few other enterprise-level features. Note though that you can access a MongoDB database from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

Creating an ODBC Data Source to Use Zoho Projects 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 Zoho Projects 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.

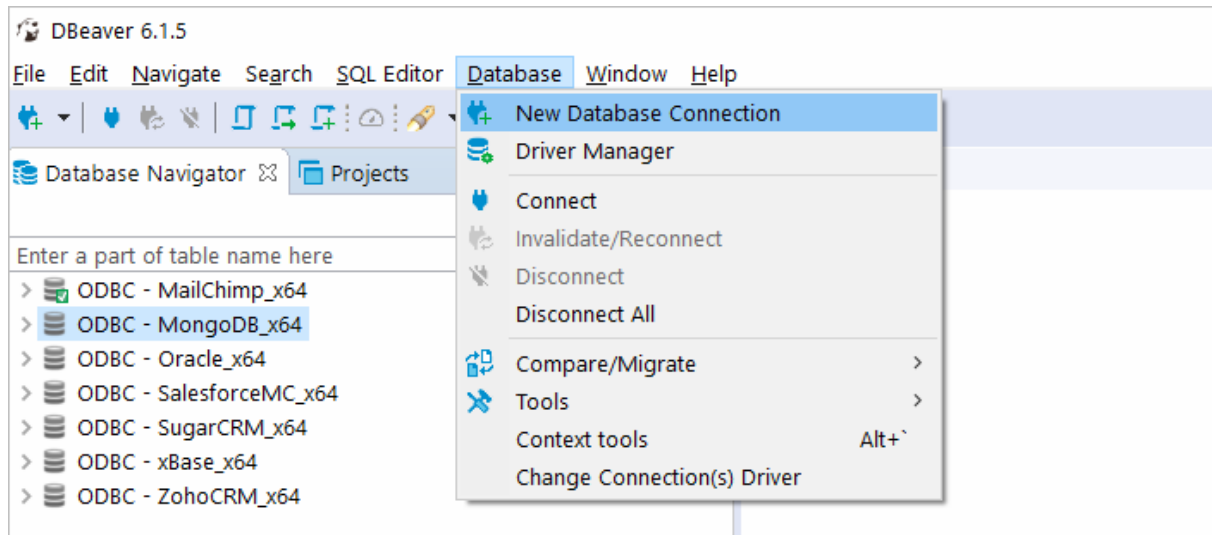
When using ODBC driver for Zoho Projects with DBeaver, SQL_WVARCHAR data types may be displayed incorrectly in DBeaver. To prevent this, you need to set the string data types to Ansi either in the **Advanced Settings** tab of the driver configuration dialog or directly in the connection string (String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



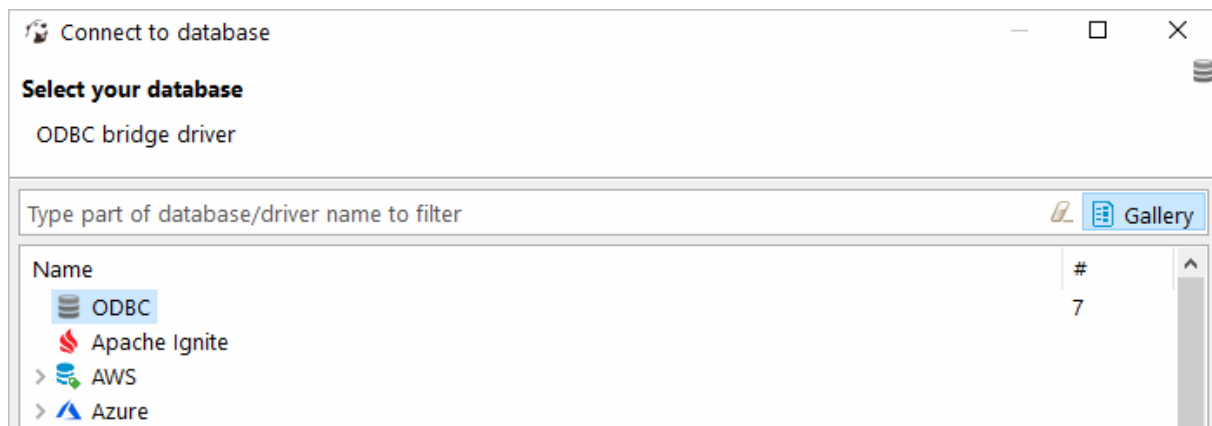
Connecting to Zoho Projects Data from DBeaver via ODBC Driver for Zoho Projects

Follow the steps below to establish a connection to Zoho Projects in DBeaver.

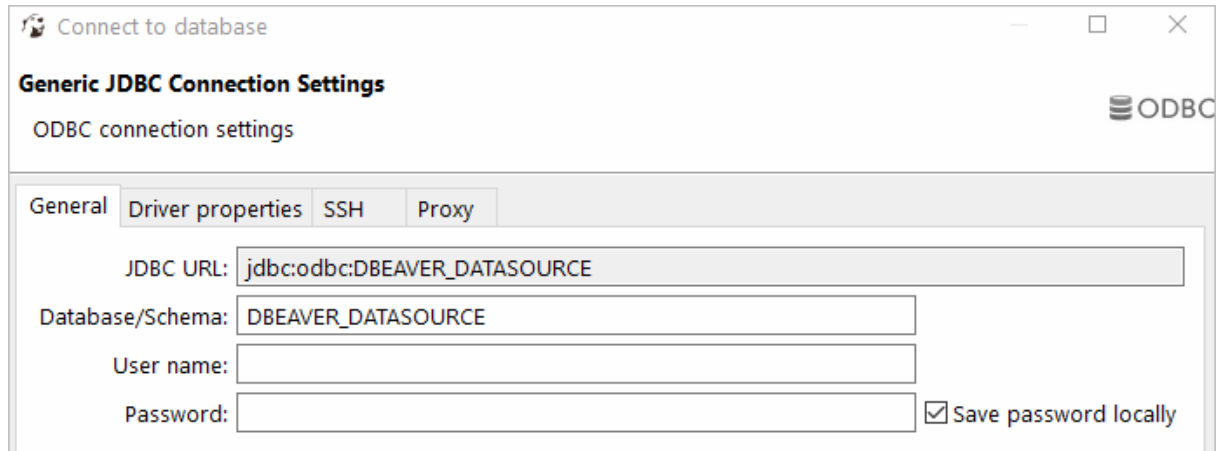
1. In the **Database** menu, select **New Database Connection**.



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



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



Connect to database

Generic JDBC Connection Settings

ODBC connection settings

General Driver properties SSH Proxy

JDBC URL: jdbc:odbc:DBEAVER_DATASOURCE

Database/Schema: DBEAVER_DATASOURCE

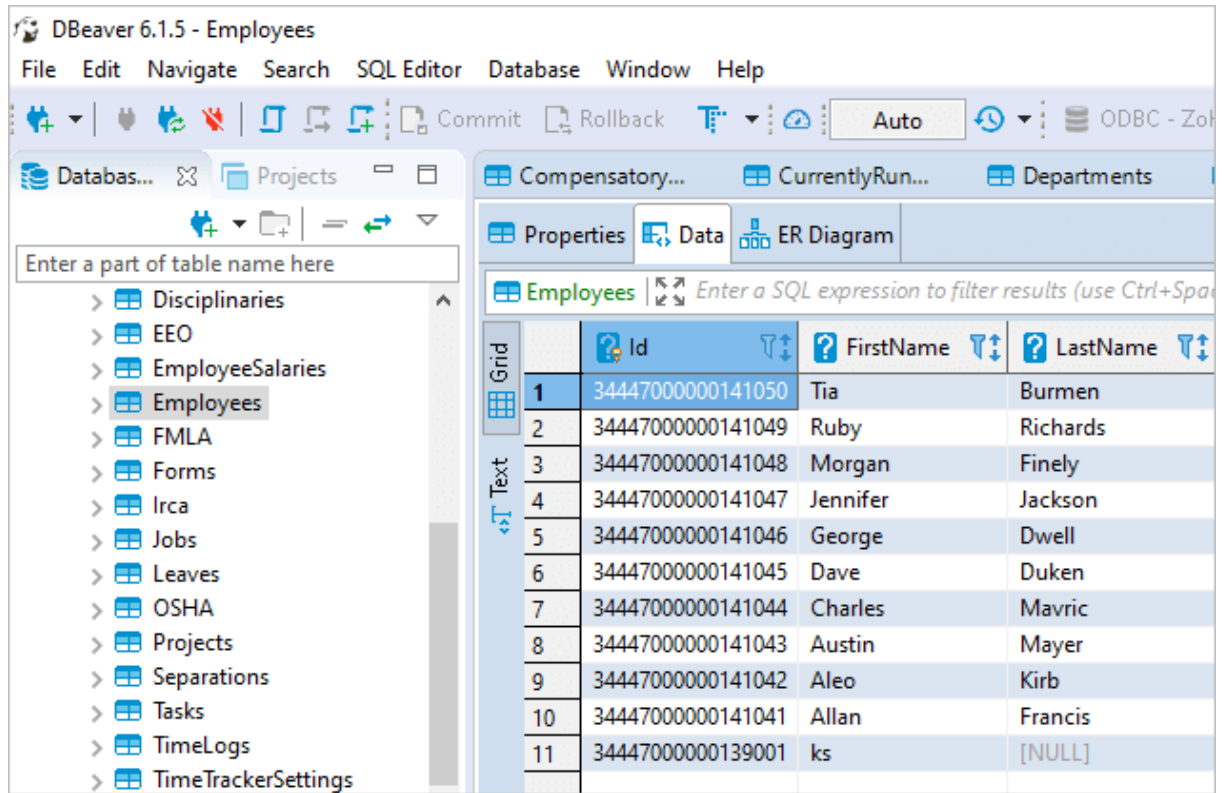
User name:

Password: Save password locally

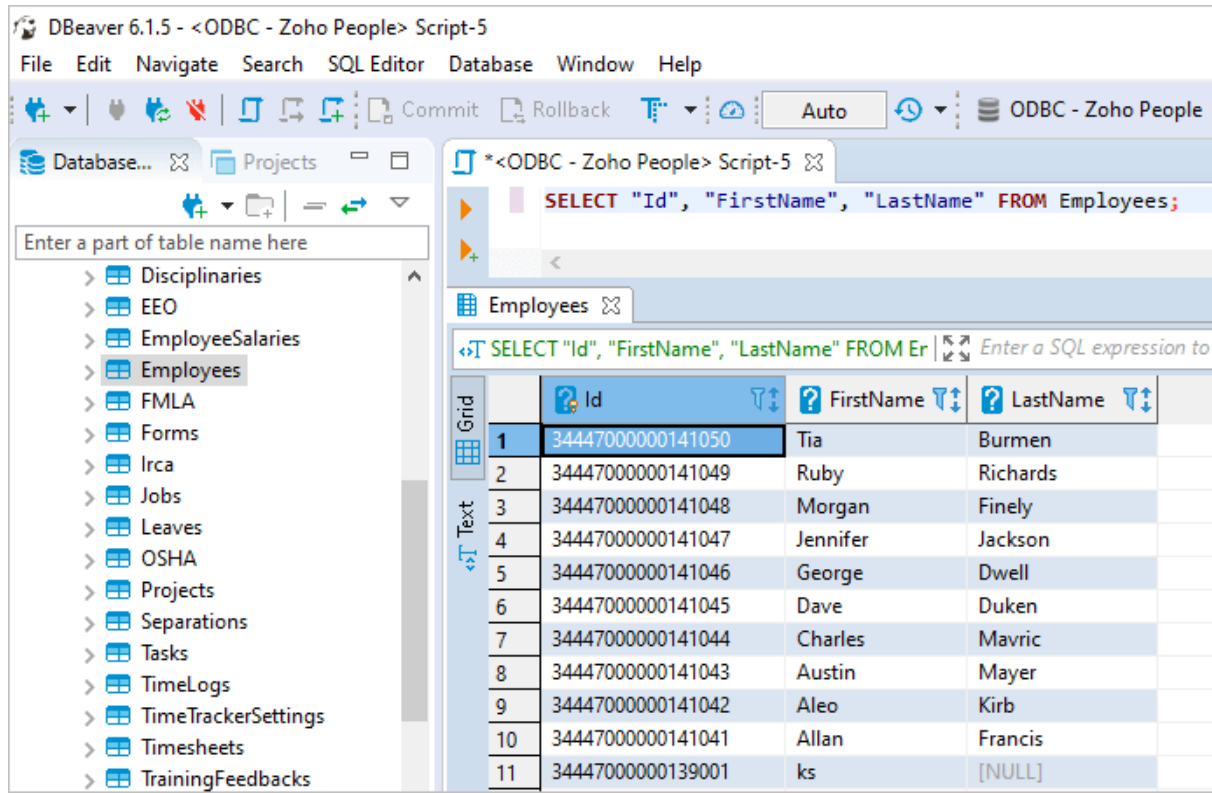
4. Click **Test Connection**. If everything goes well, you'll see the **Success** message.

Viewing Zoho Projects Database Objects and Querying Data

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



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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 Zoho Projects](#), 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, `initZoho Projects.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=Zoho Projects
```

Configure Oracle Net Listener

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

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

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

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

Configure Oracle for Gateway Access

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

listener.ora file.

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

Create Database Links

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

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

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

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

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

See also

[Configuring Oracle Database Gateway for ODBC](#)

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Reserved.

4.3 Using in DBxtra

Troubleshooting Zoho Projects ODBC Connection in DBxtra

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

Due to incompatibilities between DBxtra and Zoho Projects, 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.

Connect through ODBC

NOTE:
Important!
Due to incompatibles, selecting the Auto SQL dialect might present various problems using the Auto SQL dialect with some database servers.
Please be sure to select the right SQL dialect for your connection.

Connection name: MyData

Data source: DataSource1

User:

Password:

Connection timeout: 15 SQL dialect: MS Access 2000/X...

Enable Offline Mode

Get columns descriptions

Select User Groups who can view this Connection

- Accounting
- Controlling
- Guest Group
- Legal
- Management
- Manufacturing
- Marketing
- Purchasing

Select All Unselect All Ok Cancel

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4.4 Using in Microsoft Access

Connecting Microsoft Access to Zoho Projects Using an ODBC Driver

This article explains how to connect Microsoft Access to Zoho Projects through the standard ODBC interface. Microsoft Access is a database 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 Zoho Projects 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 Zoho Projects. For the purpose of this article, we tested an [ODBC connection to Zoho Projects](#) 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 Zoho Projects.

Importing Zoho Projects Data Into Microsoft Access Through an ODBC Connection

1. Open your Microsoft Access database.
2. Select the **External Data** tab in the ribbon.
3. Expand the **New Data Source** drop-down and select **From Other Sources**, then select **ODBC Database**.
4. In the **Get External Data - ODBC Database** dialog box, select **Import the source data into a new table in the current 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 Zoho Projects 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 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 Zoho Projects 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 Database**.
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 Zoho Projects 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 Zoho Projects 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.

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4.5 Using in Microsoft Excel

Connecting to Zoho Projects from Microsoft Excel using ODBC Driver for Zoho Projects

You can use Microsoft Excel to access data from a Zoho Projects 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.

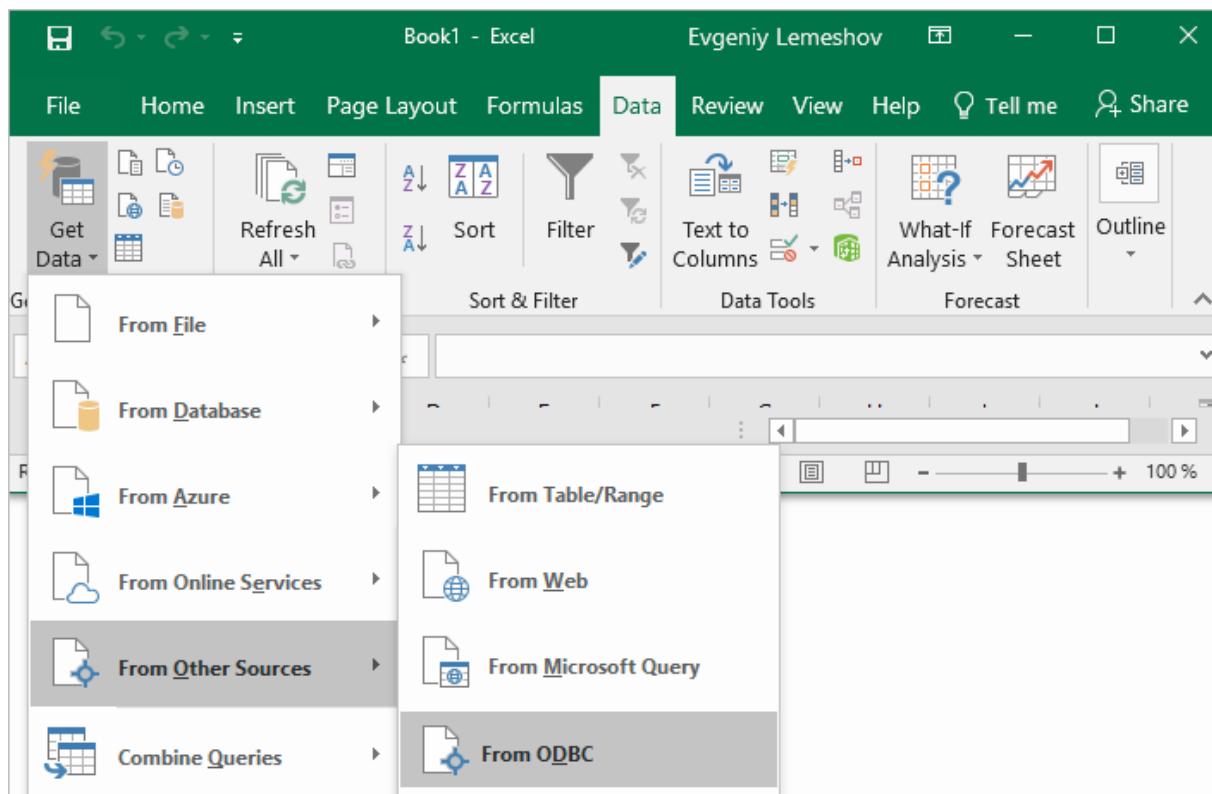
- [Connecting Excel to Zoho Projects with Get & Transform \(Power Query\)](#)

- [Connecting Excel to Zoho Projects with Data Connection Wizard \(Legacy Wizard\)](#)
- [Connecting Excel to Zoho Projects with the Query Wizard](#)
- [Connecting Excel to Zoho Projects with Microsoft Query](#)
- [Connecting Excel to Zoho Projects with PowerPivot](#)

Connecting Excel to Zoho Projects with Get & Transform (Power Query)

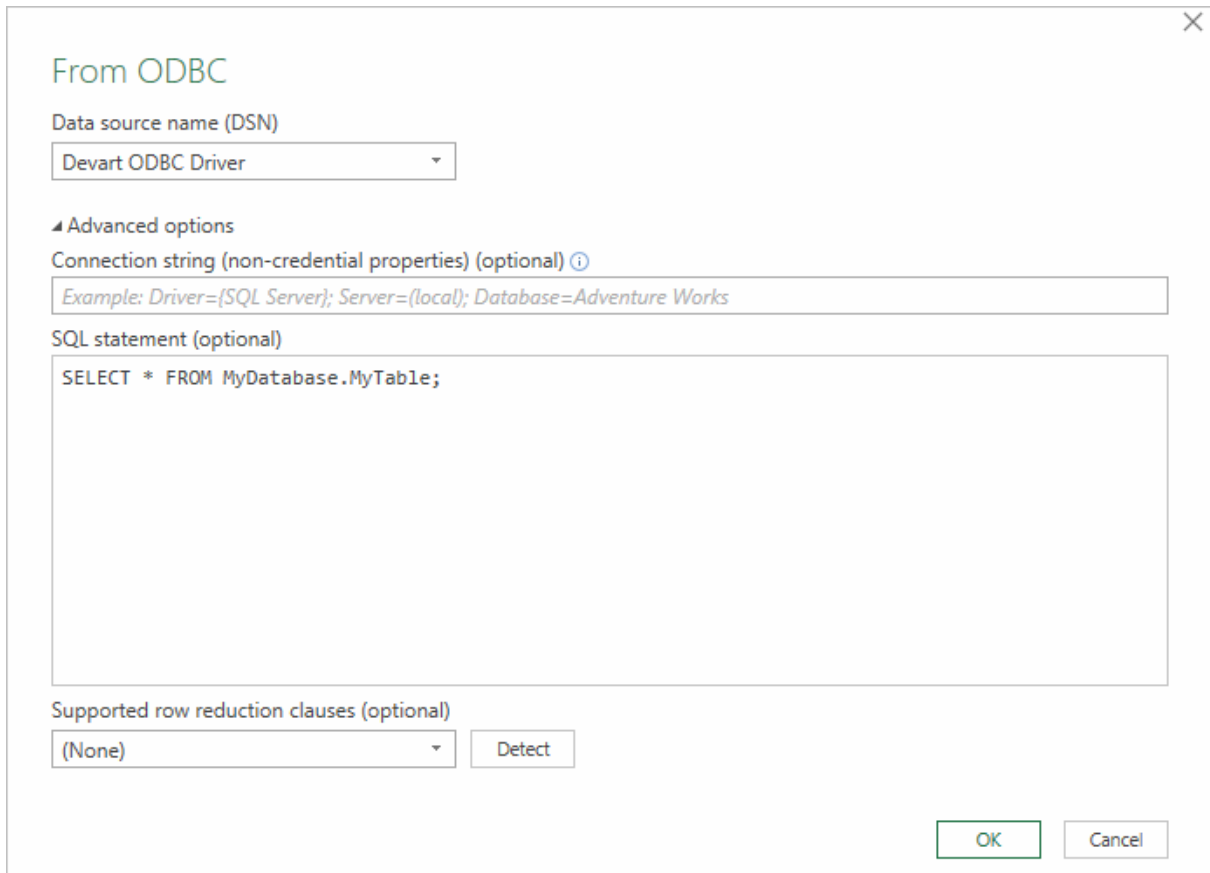
You can use Get & Transform (Power Query) to connect to Zoho Projects from Excel with ODBC. This method assumes that you've installed an ODBC driver for Zoho Projects.

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



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

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



From ODBC

Data source name (DSN)
Devart ODBC Driver

Advanced options

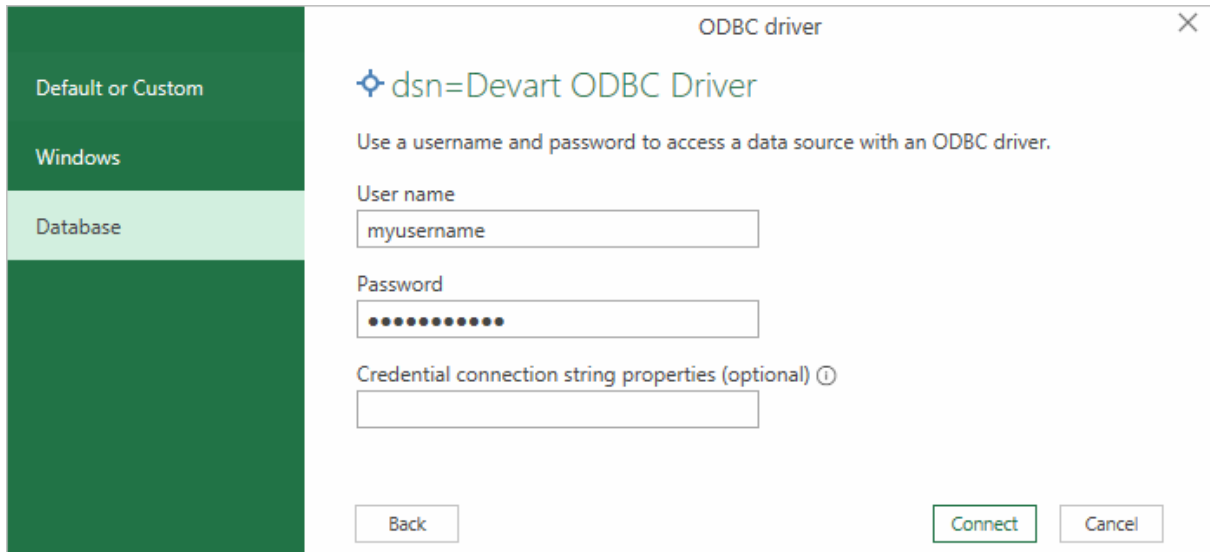
Connection string (non-credential properties) (optional) ⓘ
Example: Driver={SQL Server}; Server={local}; Database=Adventure Works

SQL statement (optional)
SELECT * FROM MyDatabase.MyTable;

Supported row reduction clauses (optional)
(None) Detect

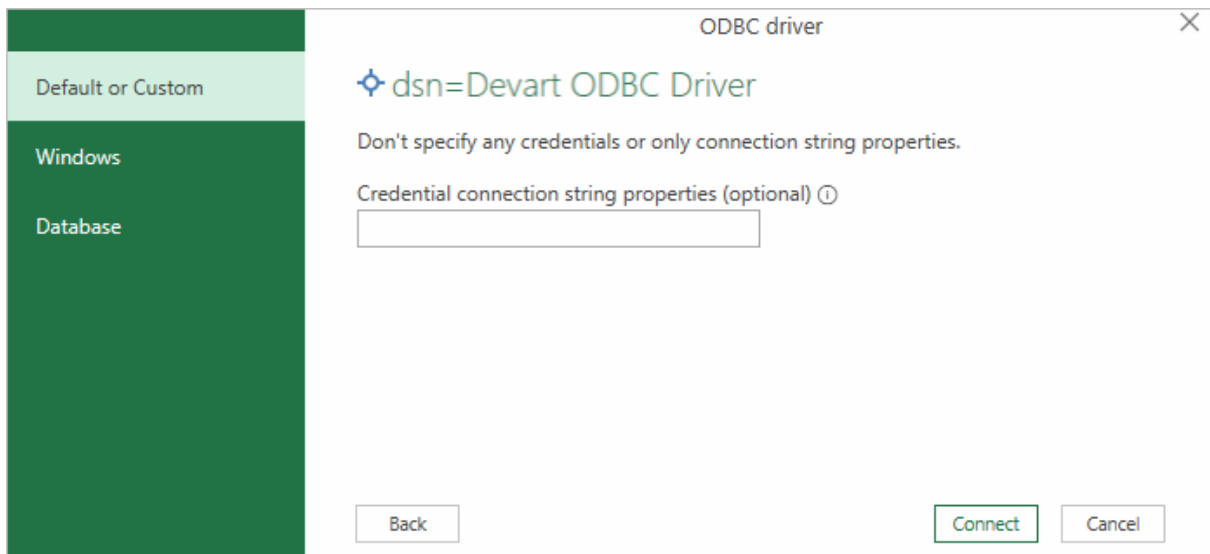
OK Cancel

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



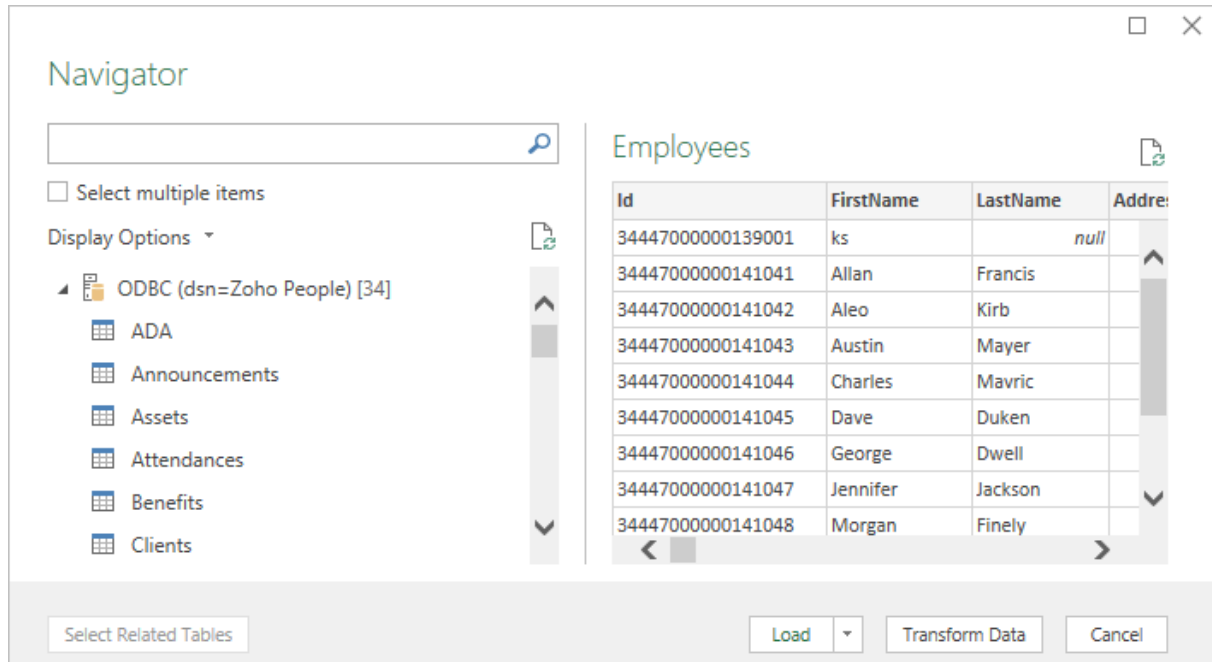
The screenshot shows the 'ODBC driver' configuration window. The left sidebar has three tabs: 'Default or Custom', 'Windows', and 'Database'. The 'Database' tab is selected and highlighted in light green. The main area displays the driver name 'dsn=Devart ODBC Driver' and the instruction 'Use a username and password to access a data source with an ODBC driver.' Below this, there are three input fields: 'User name' containing 'myusername', 'Password' filled with ten dots, and 'Credential connection string properties (optional)' which is empty. At the bottom, there are three buttons: 'Back', 'Connect', and 'Cancel'.

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**

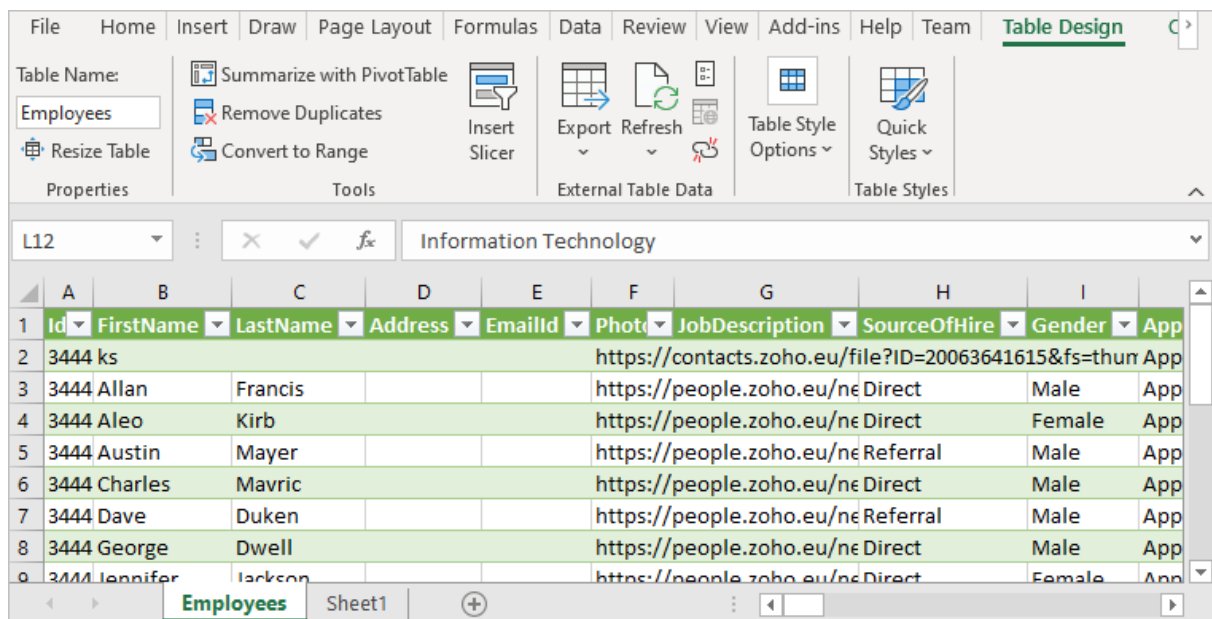


The screenshot shows the 'ODBC driver' configuration window. The left sidebar has three tabs: 'Default or Custom', 'Windows', and 'Database'. The 'Default or Custom' tab is selected and highlighted in light green. The main area displays the driver name 'dsn=Devart ODBC Driver' and the instruction 'Don't specify any credentials or only connection string properties.' Below this, there is one input field: 'Credential connection string properties (optional)' which is empty. At the bottom, there are three buttons: 'Back', 'Connect', and 'Cancel'.

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 displayed in an Excel spreadsheet where you can further work with it.



Connecting Excel to Zoho Projects 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.

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

Connecting Excel to Zoho Projects with the Query Wizard

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

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

Connecting Excel to Zoho Projects with Microsoft Query

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

1. Start Excel, click the **Data** tab.
2. In the appeared ribbon, click **From Other Sources**, and then click **From Microsoft Query**.
3. In the next dialog, choose the data source you want to connect to (e.g., using data source name - Devart ODBC Zoho Projects). 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 Zoho Projects with PowerPivot

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

1. In Excel, click the **PowerPivot** tab, then click **Manage** to go to the PowerPivot window.
2. In the opened window, click **From Other Sources**.
3. When the **Table Import Wizard** opens, select **Others (OLEDB/ODBC)** and click **Next**.
4. In the **Specify a Connection String** window, click the **Build** button.
5. In the **Data Link Properties** dialog, specify the data source you want to connect (e.g., using data source name - Devart ODBC Zoho Projects), 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.

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4.6 Using in SQL Server Management Studio

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

- [Creating a Linked Server](#)
- [Troubleshooting in SSMS](#)

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4.6.1 Creating a Linked Server

Requirements

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

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

Connecting to Zoho Projects from SQL Server Management Studio using ODBC Driver for Zoho Projects

You can use the Microsoft SQL Server Management Studio to connect your Zoho Projects 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 database in a single query. With linked servers, you can execute commands against different data sources such

as Zoho Projects 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 Zoho Projects:

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 Zoho Projects

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

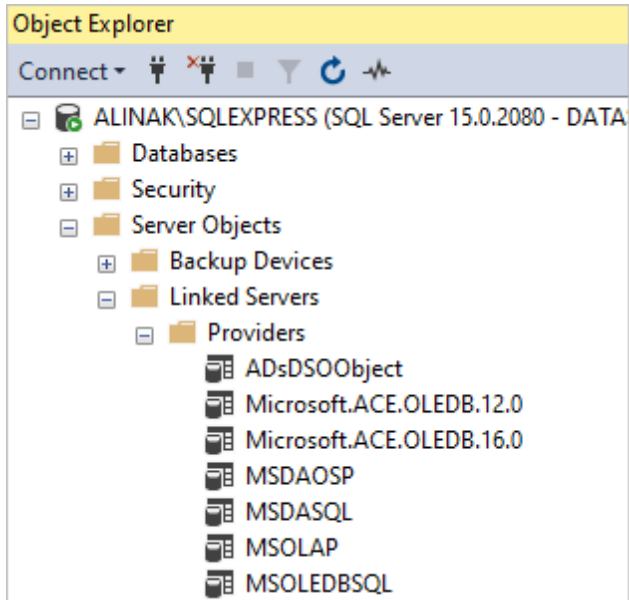
1. Start your Management Studio and choose your SQL Server instance.
2. In the **Object Explorer pane**, expand the **Server Objects**, right-click on **Linked Servers** and then click on **New Linked Server**.
3. Configure your linked server in the dialog box:
 - Give a name for your server in the **Linked 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 Zoho Projects. 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 Zoho Projects databases through SQL Server.

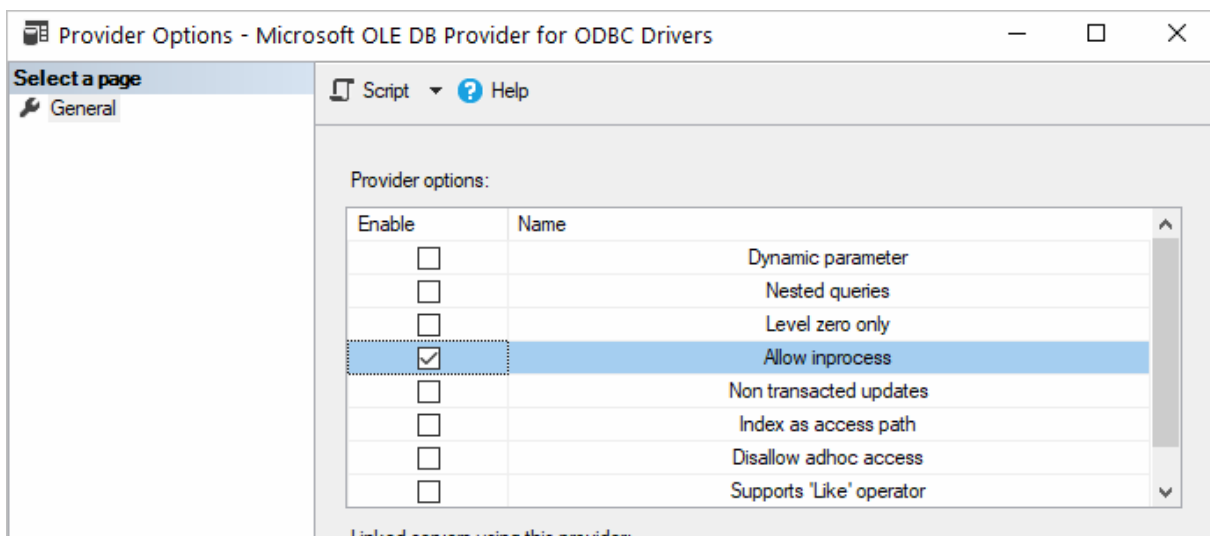
Retrieving Data From Zoho Projects

Ensure the **Allow inprocess option** of MSDASQL OLE DB Provider for ODBC Drivers is

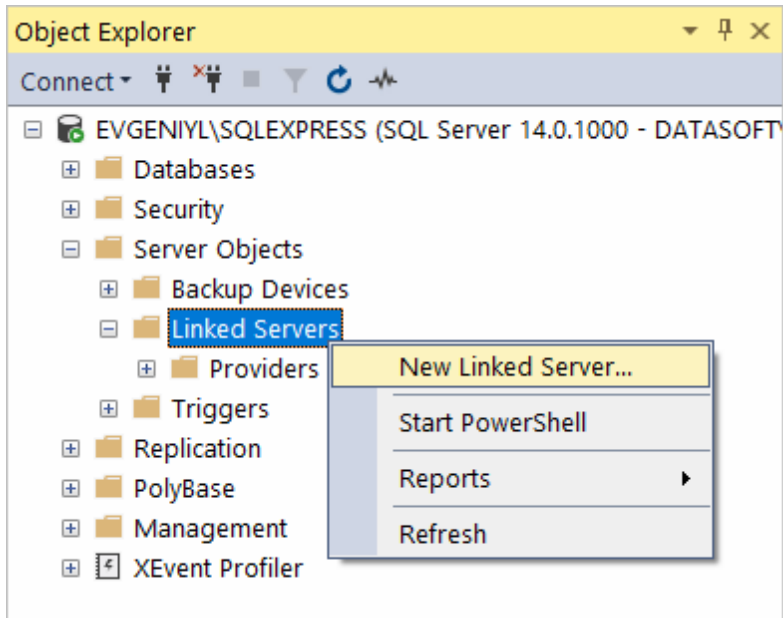
enabled. For this, find the **MSDASQL** provider in the list of Linked Servers and double-click on it



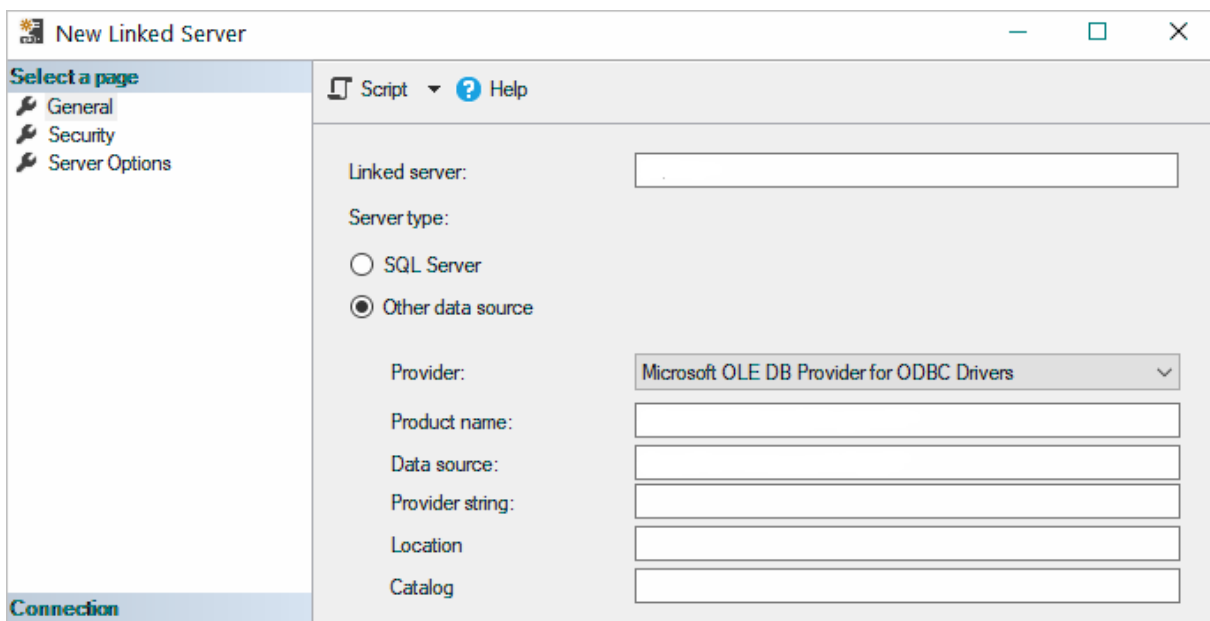
In the appeared **Provider Options** window, enable the **Allow inprocess** checkbox:



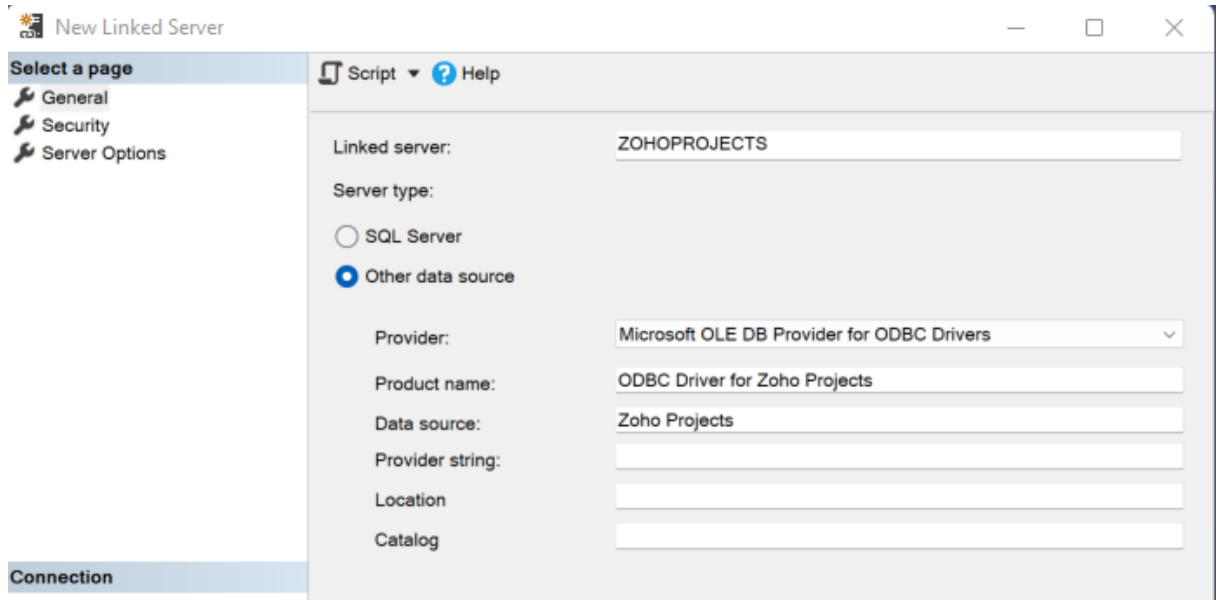
Create a new **Linked Server**



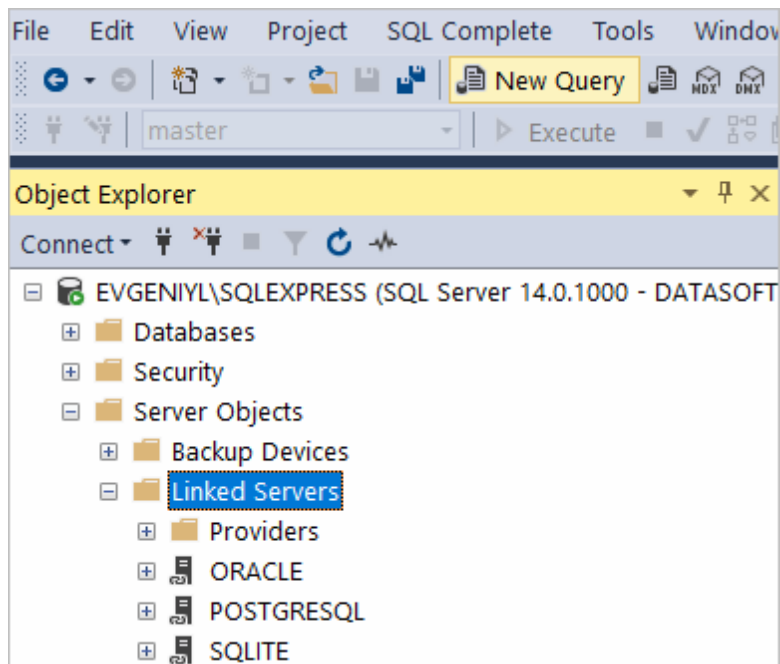
Make sure to select **Microsoft OLE DB Provider for ODBC Drivers**:



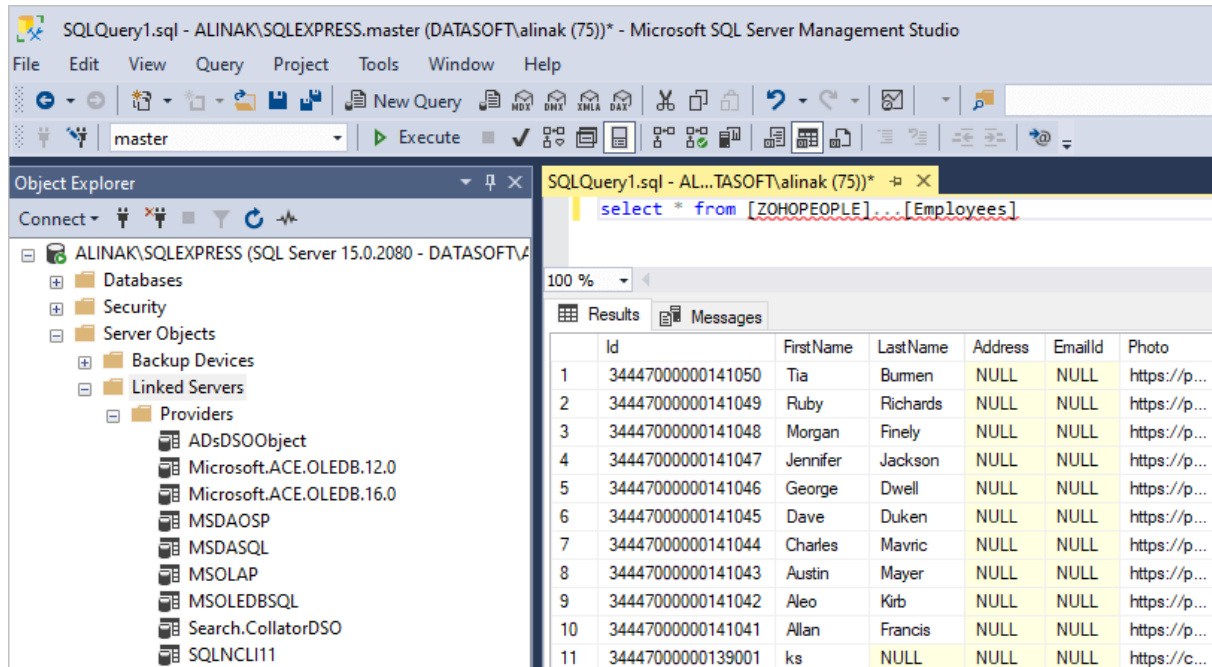
Now you need to input the Linked Server name, e.g. ZOHOPROJECTS. In the Product Name and Data Source fields you need to indicate the System DSN that you've previously created - more info on System DSN setup can be found [here](#).



The Zoho Projects 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 Zoho Projects account you are connected to.

See also

- [Troubleshooting SSMS](#)

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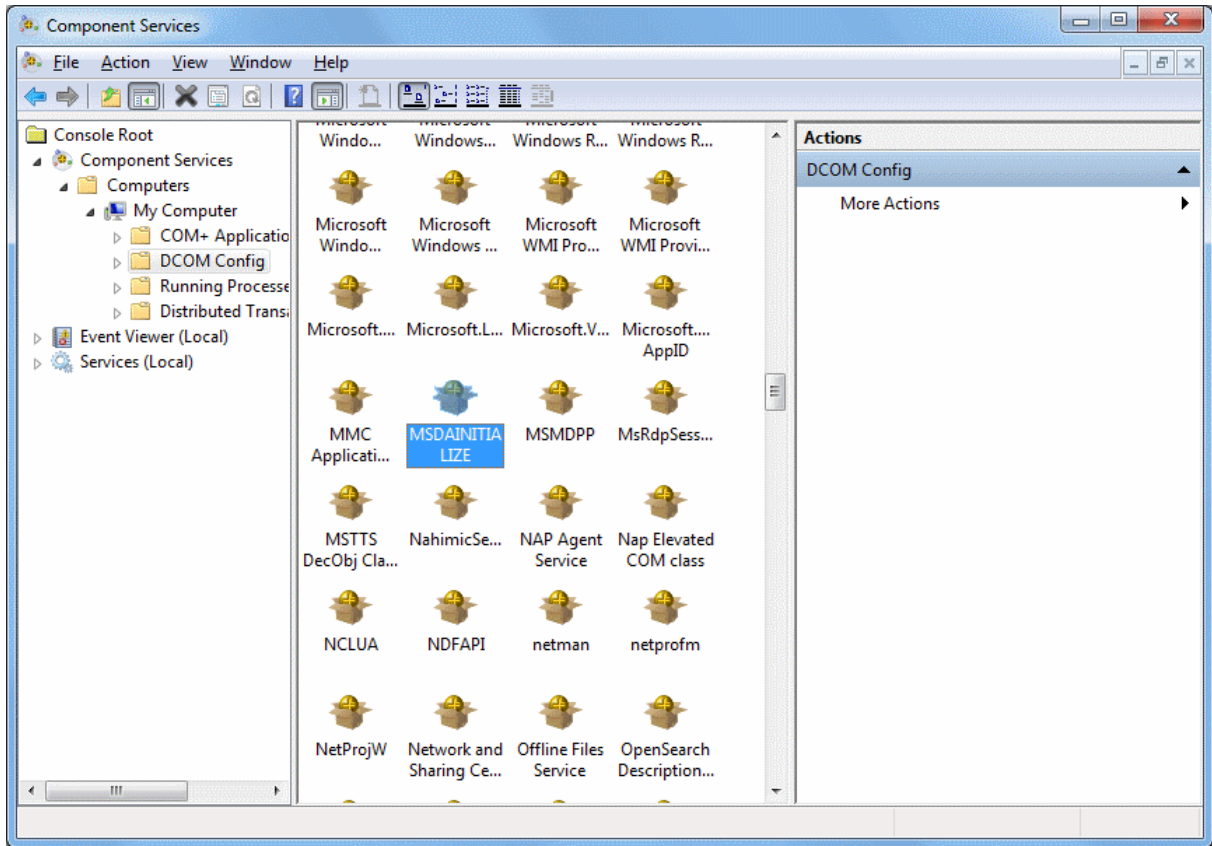
[Provide Feedback](#)

4.6.2 Troubleshooting in SSMS

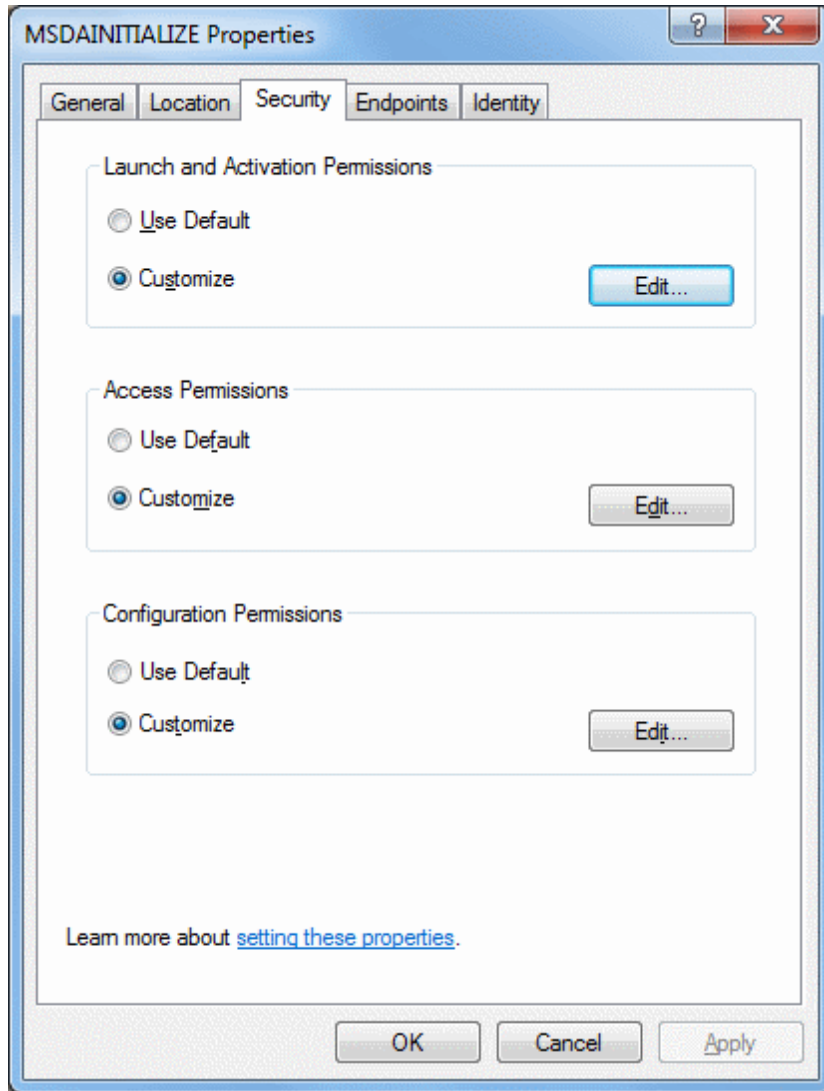
When creating a linked server in SSMS, most errors happen due to security issues with DCOM class MSDAINITIALIZE. We need to alter the DCOM Class MSDAINITIALIZE security settings to make it work.

Following are the steps:

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



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

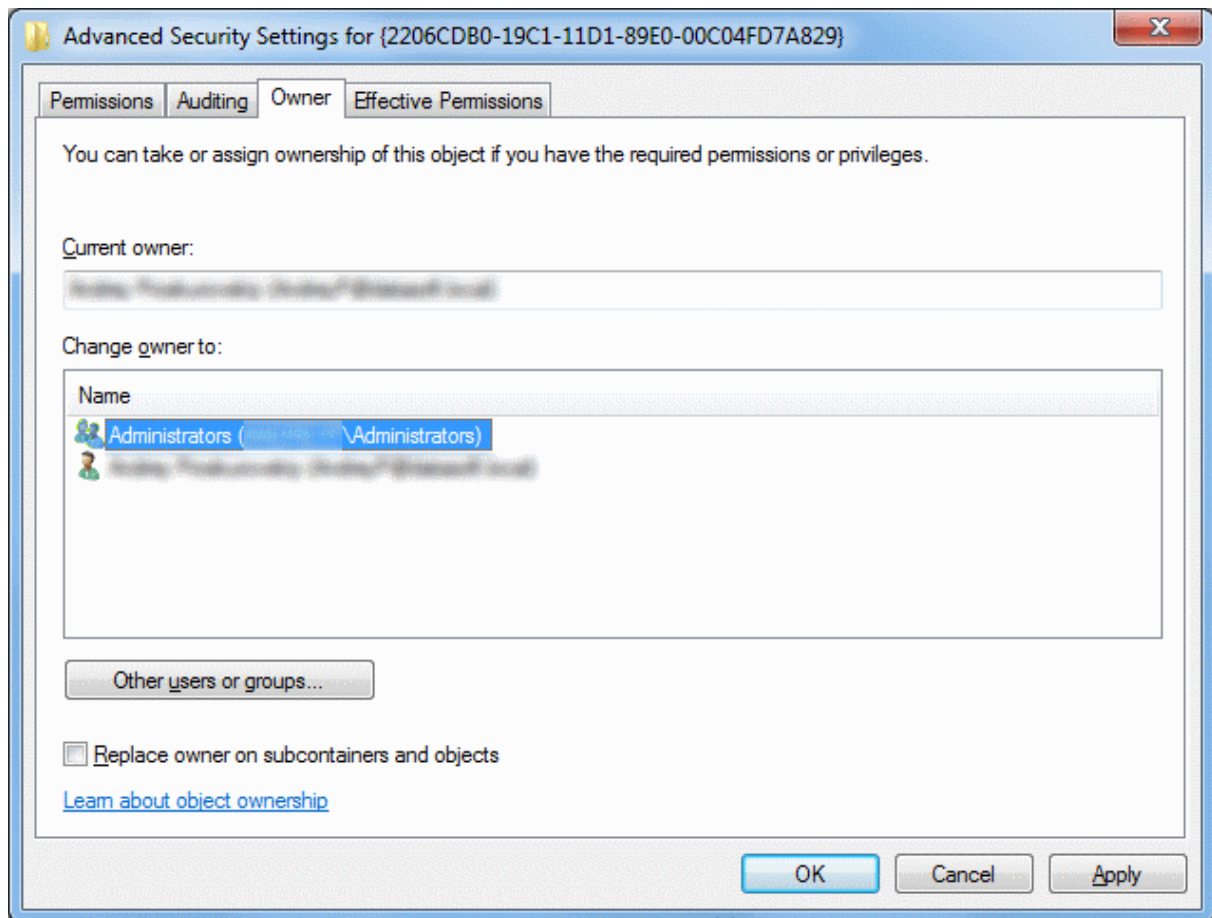


5. Add the Domain User who is accessing the linked server and 'Allow' all the permissions available (Local Launch, Remote Launch, Local Activation, Remote Activation). If you are connecting to SQL server using SQL account, you need to provide this permission to the account under which the SQL service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

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

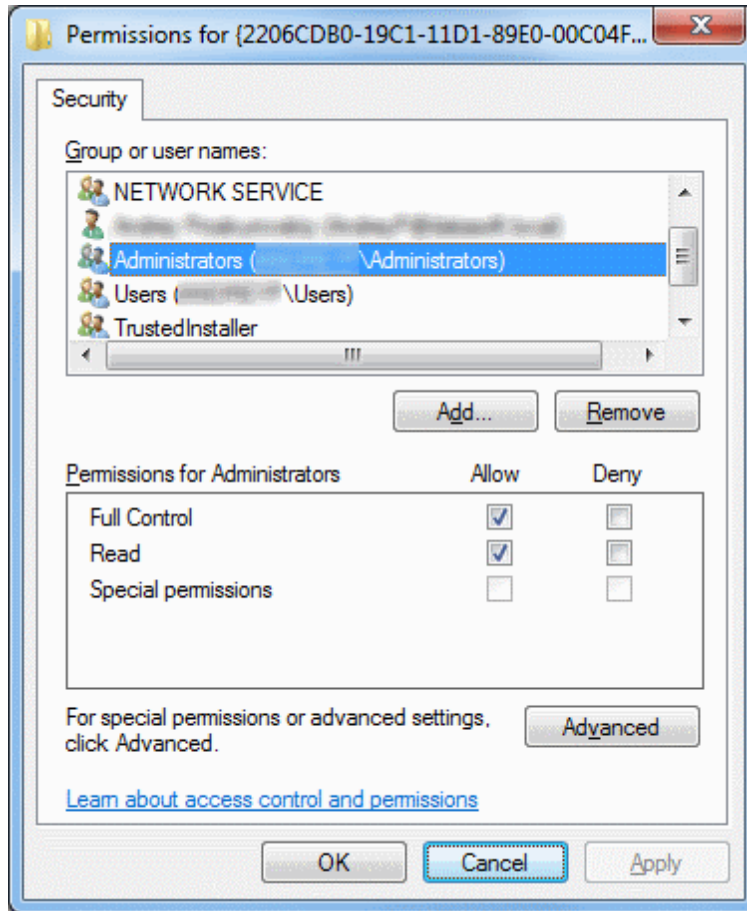
1. Start > Run > Regedit
2. Find the Key: HKEY_LOCAL_MACHINE\SOFTWARE\Classes\AppID\{2206CDB0-19C1-11D1-89E0-00C04FD7A829}

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



4. Change the owner to Administrators.

5. Now, grant 'Full Control' to Administrators:



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

See also

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

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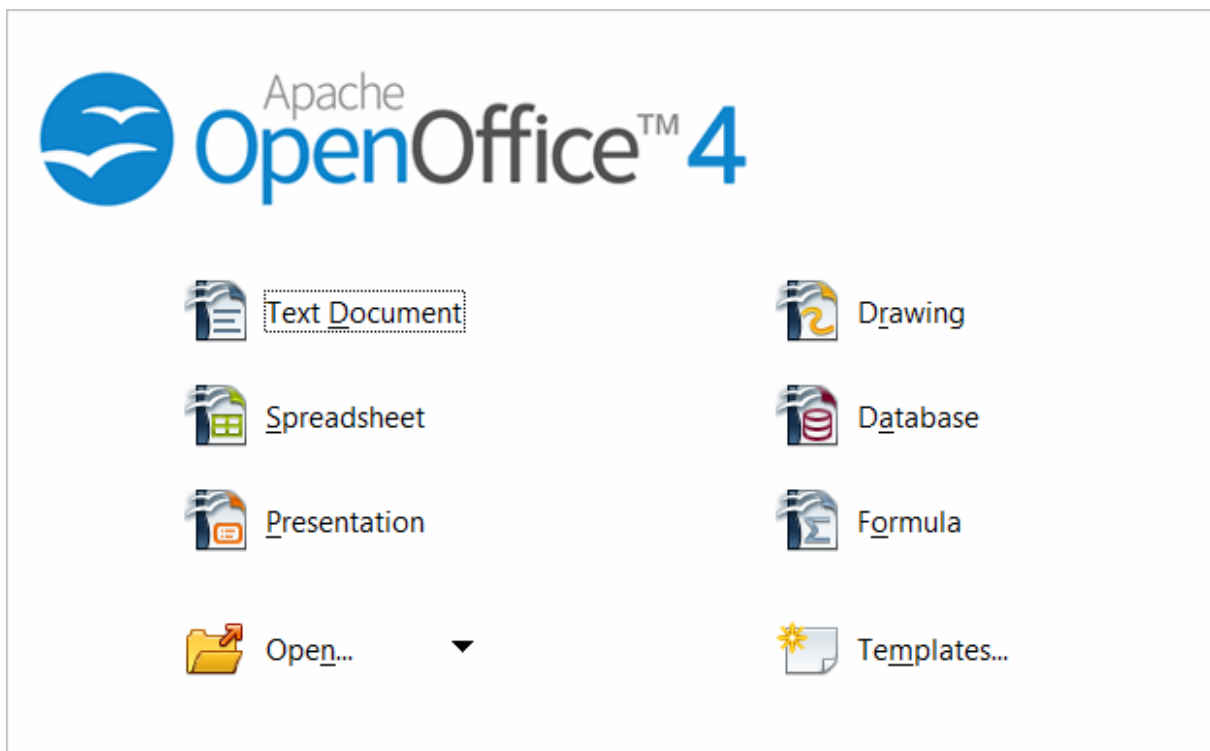
4.7 Using in OpenOffice and LibreOffice

Connecting to Zoho Projects from OpenOffice and LibreOffice using ODBC Driver for Zoho Projects

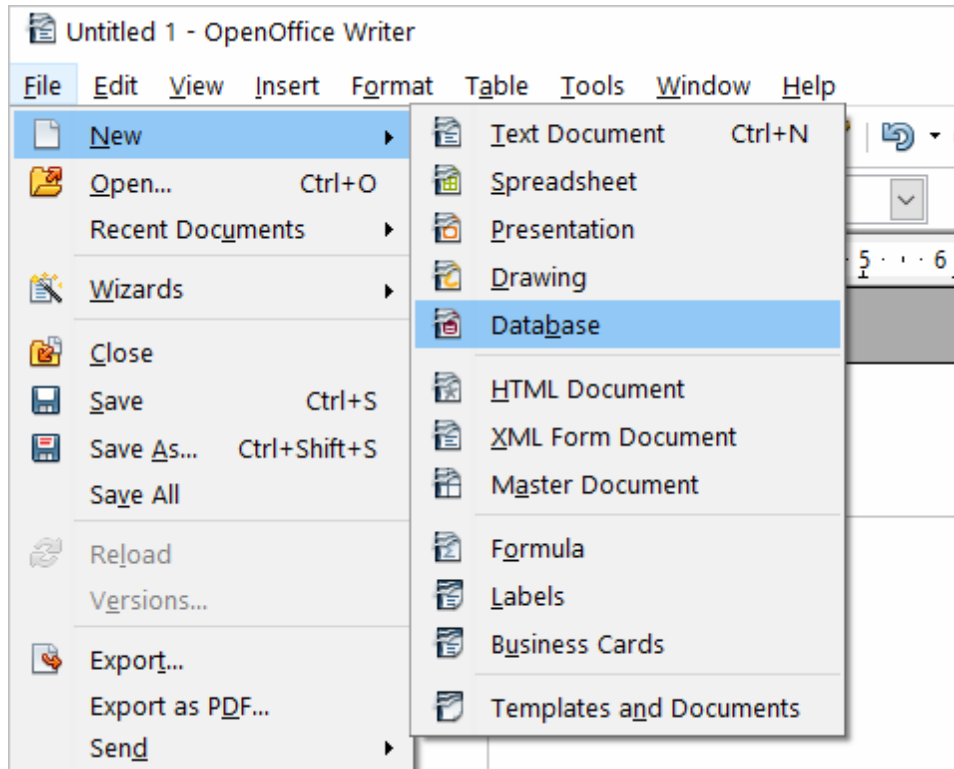
The article describes how to use Apache OpenOffice and LibreOffice to access ODBC data sources using the respective driver. You can access Zoho Projects data from Open Office Base or LibreOffice Base — desktop database management systems. Note that the Windows version of OpenOffice is 32-bit, and you 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 Zoho Projects](#), perform the steps below:

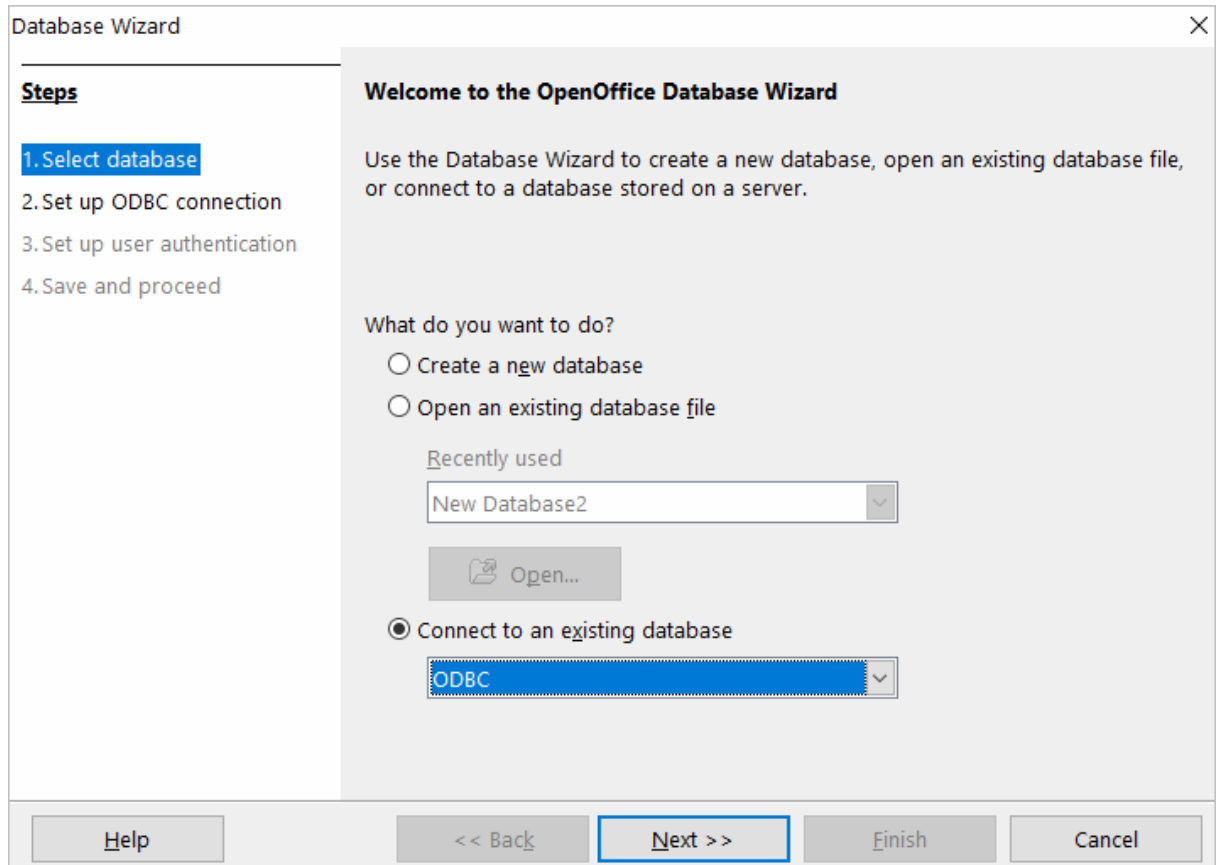
1. Start OpenOffice or LibreOffice, click **Database** to open the **Database Wizard**.



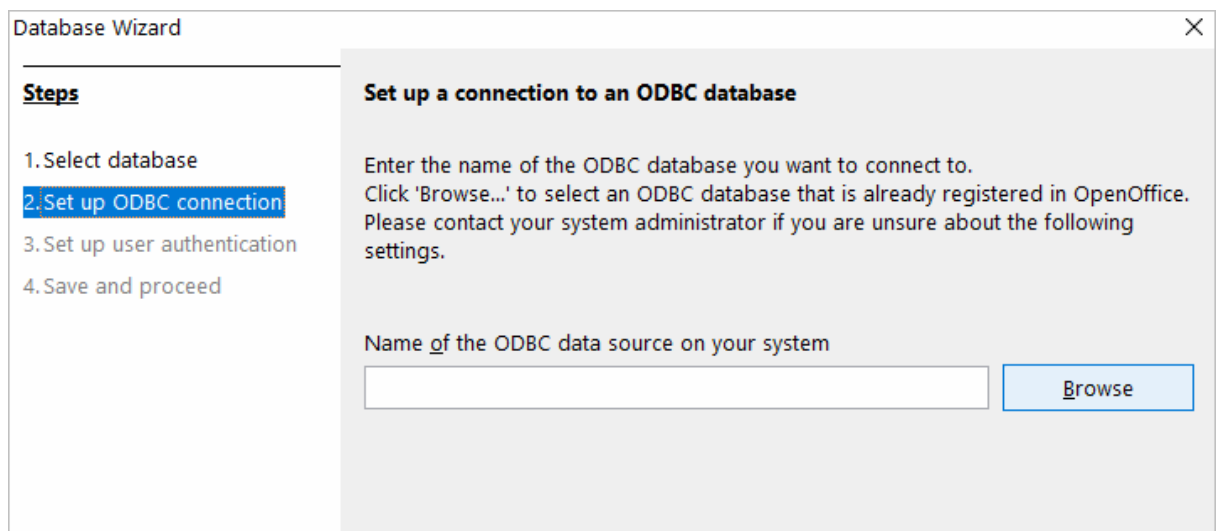
Alternatively, you can launch the **Database Wizard** from OpenOffice or LibreOffice Calc, Writer or any other tool by choosing **File > New > Database**.

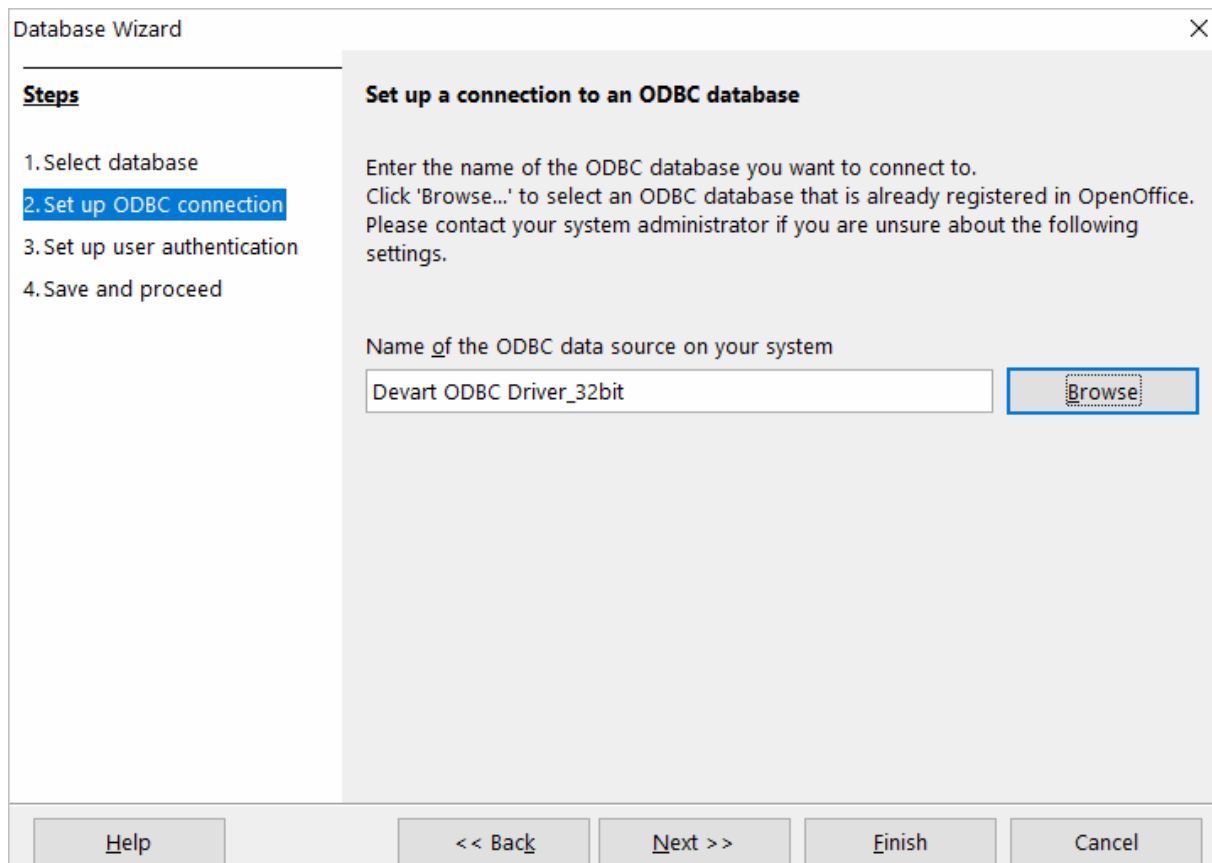
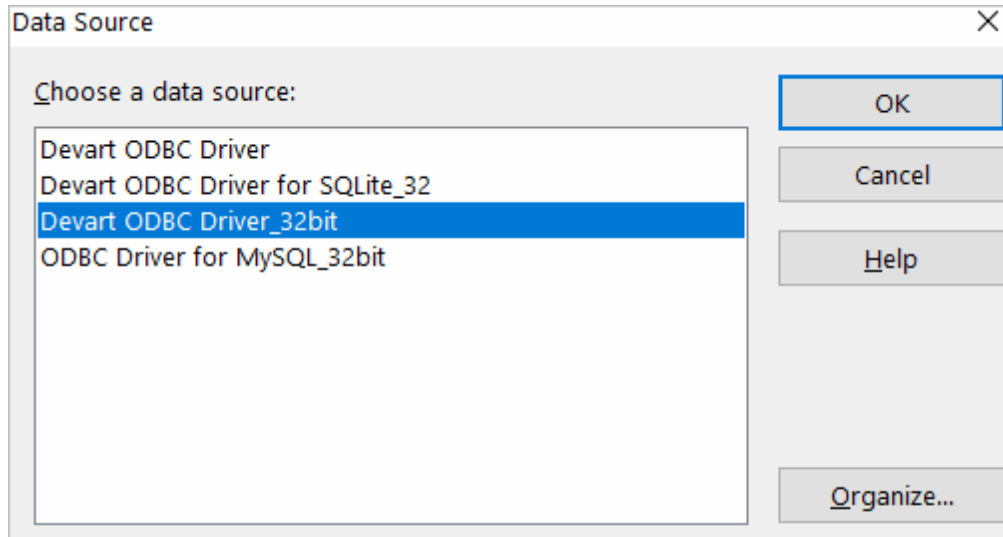


2. In the **Database Wizard dialog box**, click **Connect to an existing database**, select **ODBC** from the drop-down list, and click **Next**.



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



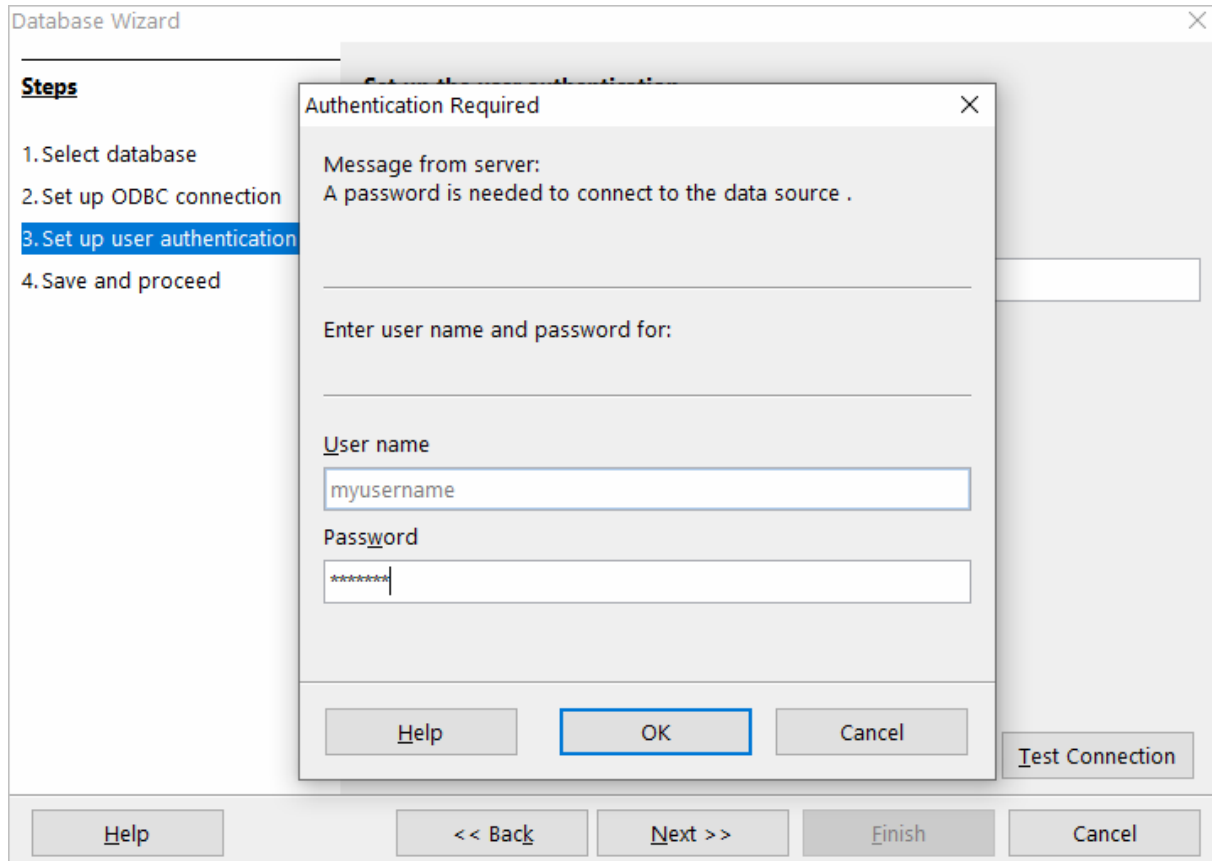


4. If your database requires a user name, type it into the **User name** field. If you are connecting to a password protected database, check the **Password required** field. Alternatively, you can specify these parameters in the data source settings of your ODBC

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

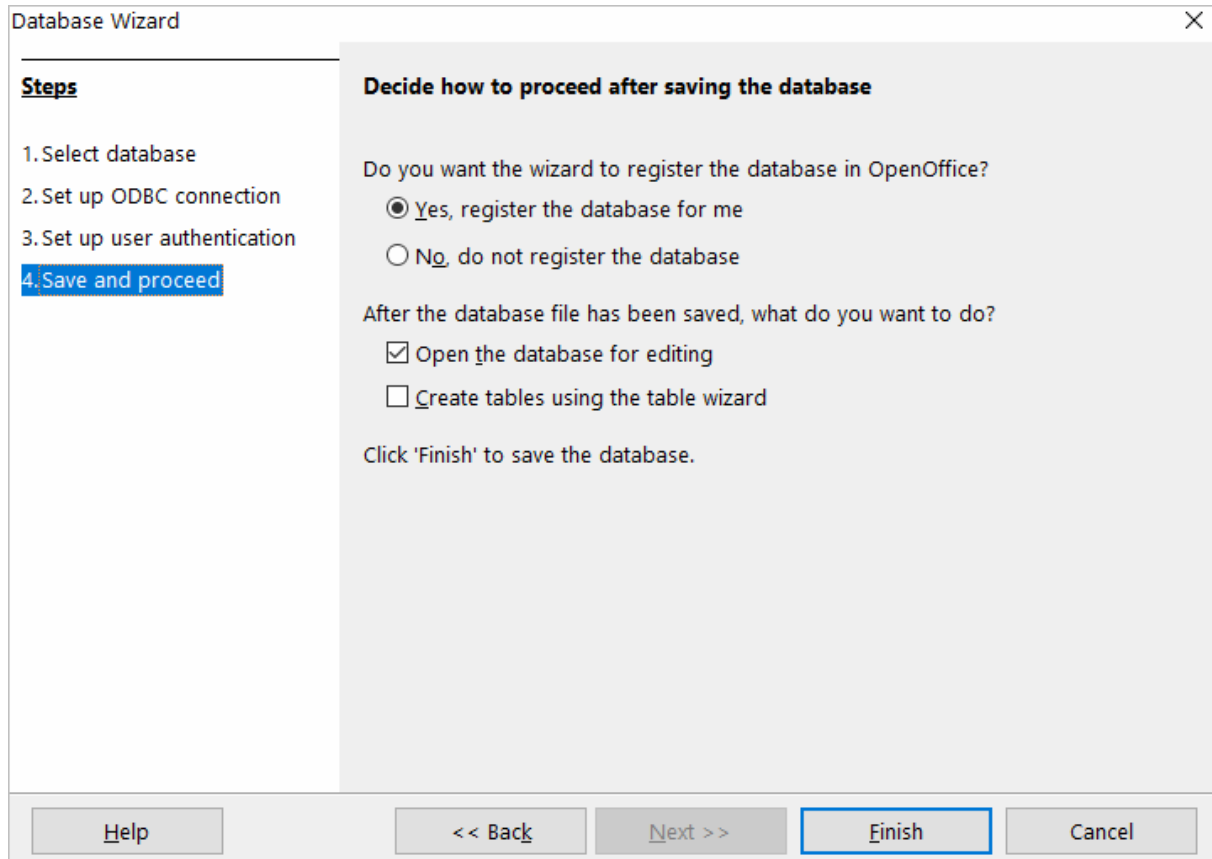
The screenshot shows the 'Database Wizard' window with the 'Set up the user authentication' step selected. The window title is 'Database Wizard' and it has a close button (X) in the top right corner. On the left, a 'Steps' list contains four items: '1. Select database', '2. Set up ODBC connection', '3. Set up user authentication' (highlighted in blue), and '4. Save and proceed'. The main area is titled 'Set up the user authentication' and contains the text 'Some databases require you to enter a user name.' Below this, there is a 'User name' label and a text input field containing 'myusername'. A checkbox labeled 'Password required' is checked. At the bottom right of the main area is a 'Test Connection' button. The bottom of the window features a navigation bar with five buttons: 'Help', '<< Back', 'Next >>' (highlighted in blue), 'Finish', and 'Cancel'.

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

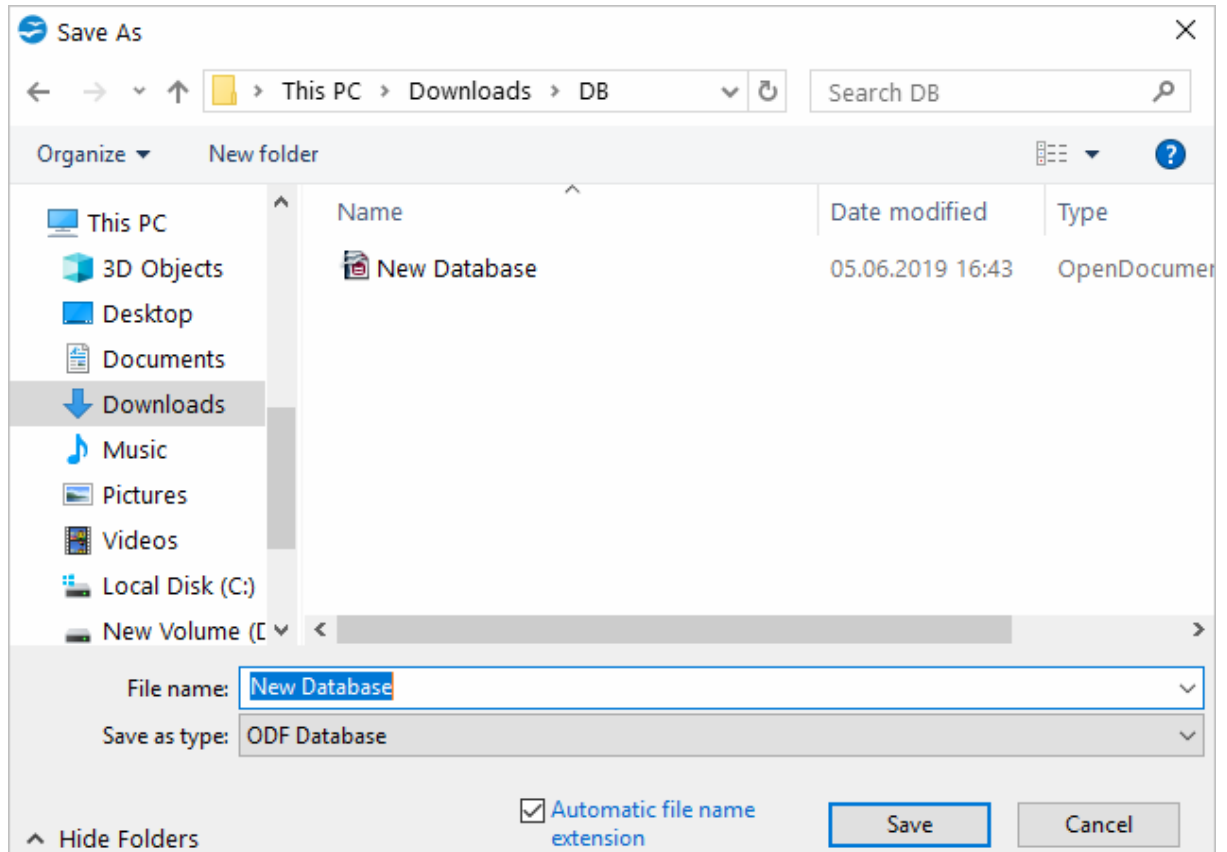


If you have entered valid credentials, you will see a success message. Click **Next** to proceed to the final step.

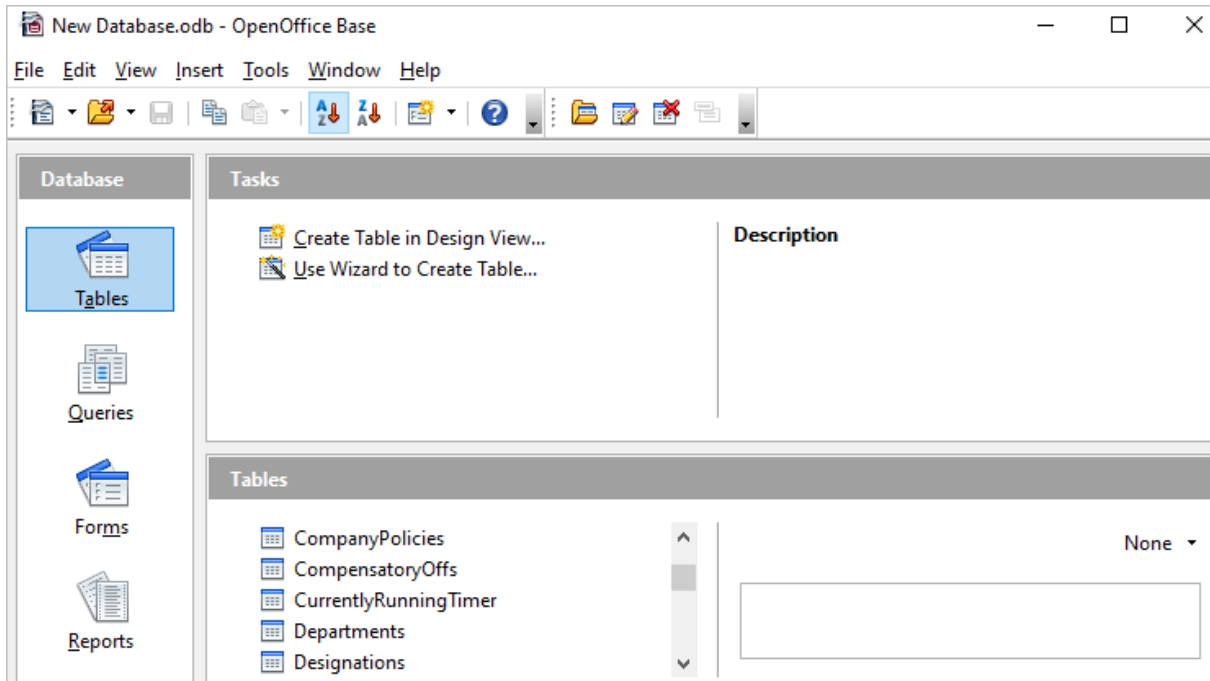
5. You can keep the default selection in this dialog box and click **Finish**.



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



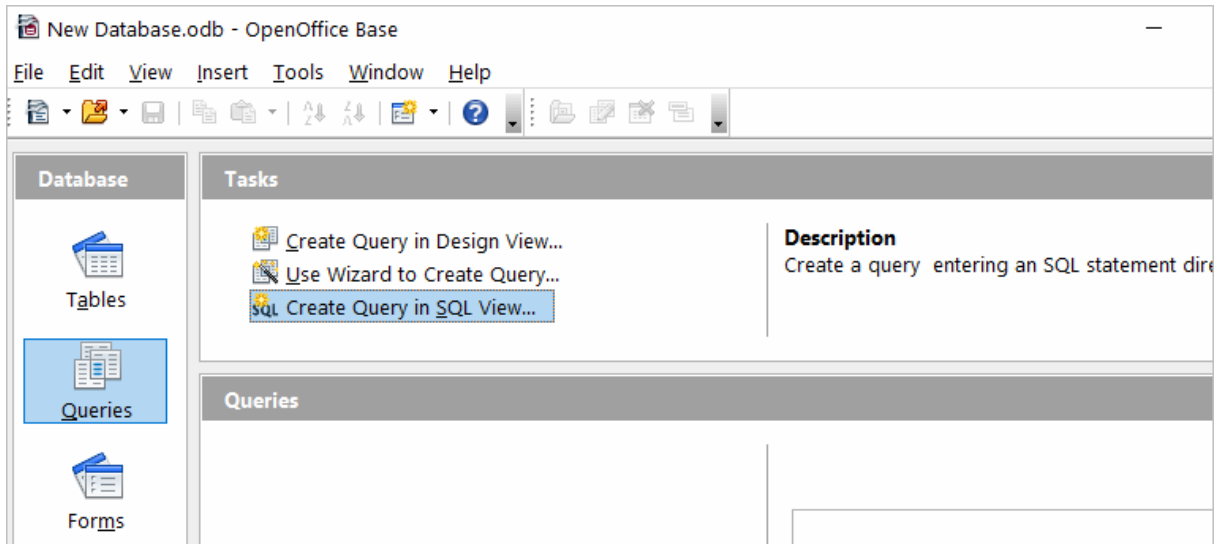
6. When the database opens, you will see the list of tables from your data source displayed in OpenOffice or LibreOffice Base workspace. To view the data from a specific table, double-click the table name.



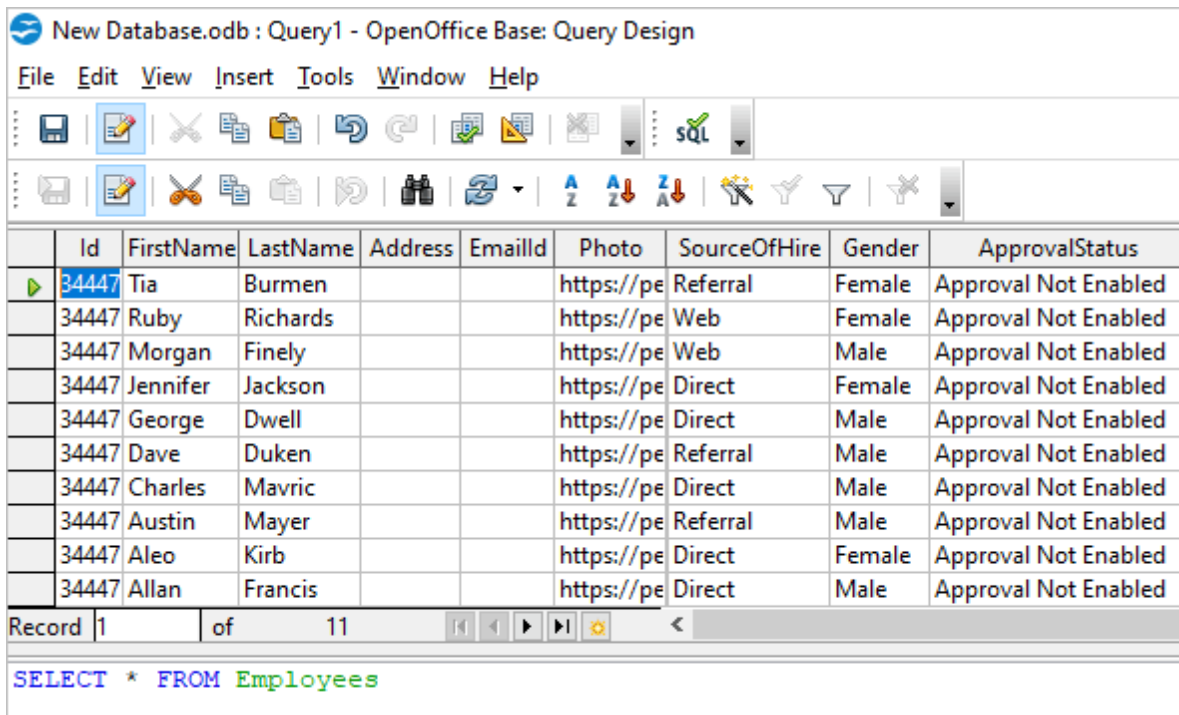
Employees - New Database13 - OpenOffice Base: Table Data View

	Id	FirstName	LastName	Address	EmailId	Photo	SourceOfHire	Gender	ApprovalStatus
	34447	Tia	Burmen			https://pe	Referral	Female	Approval Not Enabled
	34447	Ruby	Richards			https://pe	Web	Female	Approval Not Enabled
	34447	Morgan	Finely			https://pe	Web	Male	Approval Not Enabled
	34447	Jennifer	Jackson			https://pe	Direct	Female	Approval Not Enabled
	34447	George	Dwell			https://pe	Direct	Male	Approval Not Enabled
	34447	Dave	Duken			https://pe	Referral	Male	Approval Not Enabled
	34447	Charles	Mavric			https://pe	Direct	Male	Approval Not Enabled
	34447	Austin	Mayer			https://pe	Referral	Male	Approval Not Enabled
	34447	Aleo	Kirb			https://pe	Direct	Female	Approval Not Enabled
	34447	Allan	Francis			https://pe	Direct	Male	Approval Not Enabled
	34447	ks				https://co			Approval Not Enabled

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.



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4.8 Using in PHP

Connecting to Zoho Projects from PHP using ODBC Driver for Zoho Projects

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 Zoho Projects via ODBC. The script [connects to Zoho Projects 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 Zoho Proj
```

Step 2: Execute an SQL statement

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

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

Step 3: Print the result set

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

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

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4.9 Using in Power BI

Importing Zoho Projects 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 Zoho Projects, you can use a corresponding ODBC driver.

This tutorial explores how to connect to Zoho Projects 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 Zoho Projects.

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 Zoho Projects
4. If you would like to enter a SQL statement to narrow down the returned results, click the **Advanced options** arrow, which expands the dialog box, and type or paste your SQL statement.

5. Click **OK**. If your data source is password-protected, Power BI will prompt you for user credentials. Type your **Username** and **Password** in the respective fields and click.
6. Now you should see the data structures in your data source. You can preview the contents of the database objects by clicking on them.
7. To load the Zoho Projects data into Power BI for analysis, select the needed table and click **Load**.

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4.10 Using in Python

Installing the ODBC Driver for Zoho Projects

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

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

Connecting to Zoho Projects from Python using ODBC Driver for Zoho Projects

Here's an example to show you how to [connect to Zoho Projects](#) 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 Zoho Projects};Refresh
```

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()
```

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4.11 Using in QlikView

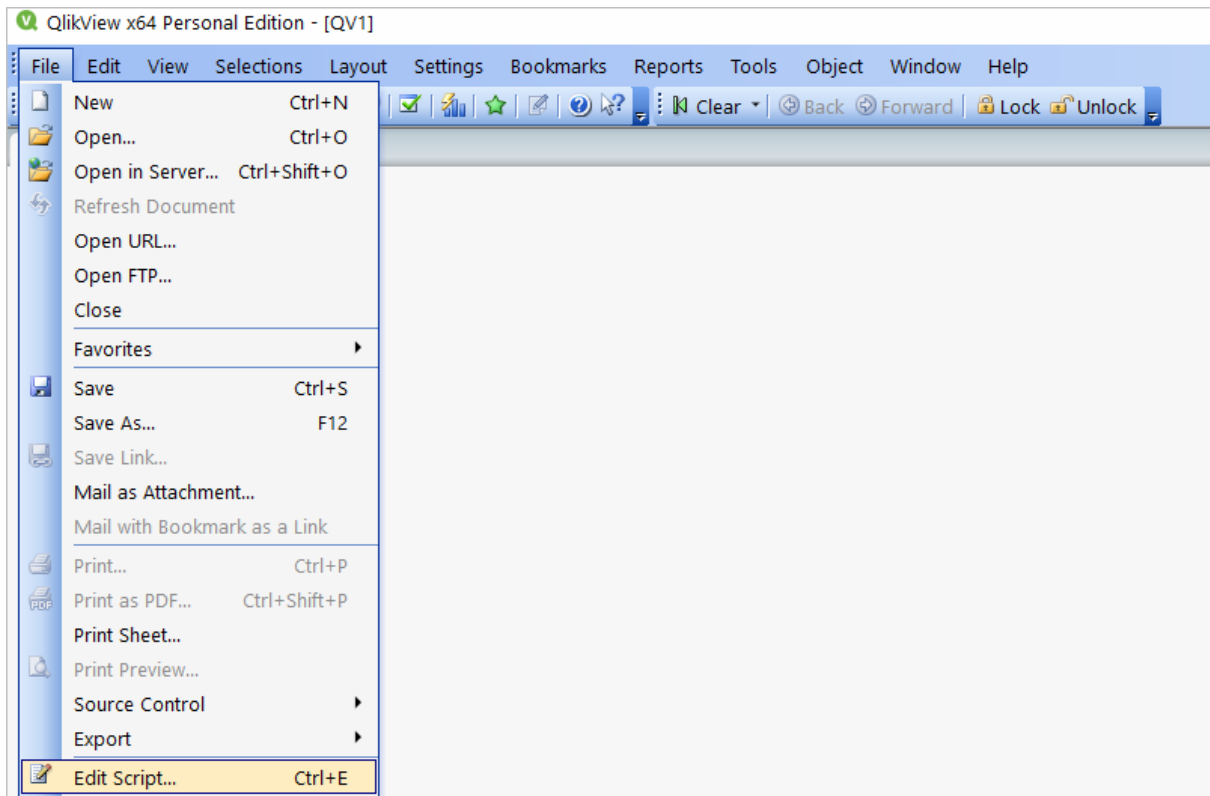
Connecting to Zoho Projects from QlikView using ODBC Driver for Zoho Projects

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

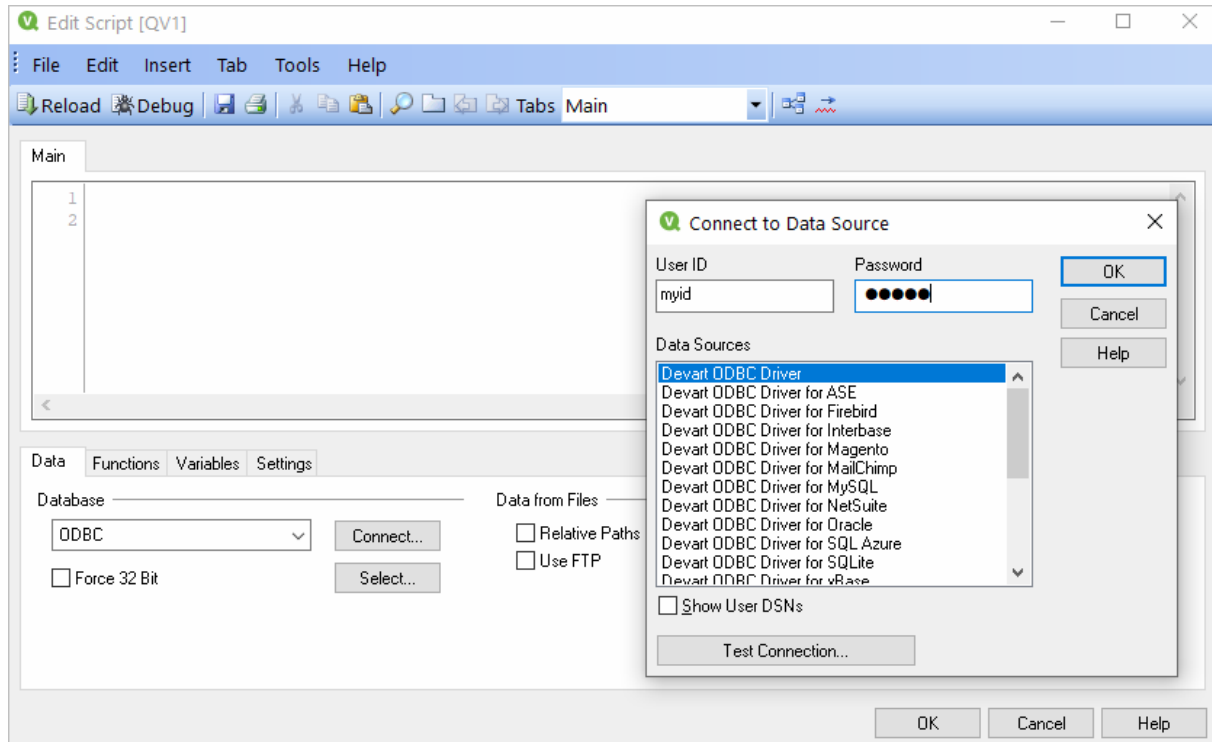
QlikView supports the ODBC connectivity interface for communication with external data sources. An ODBC data source must be configured for the database you want to access. You can create an ODBC connection using a DSN during the ODBC driver installation or later.

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

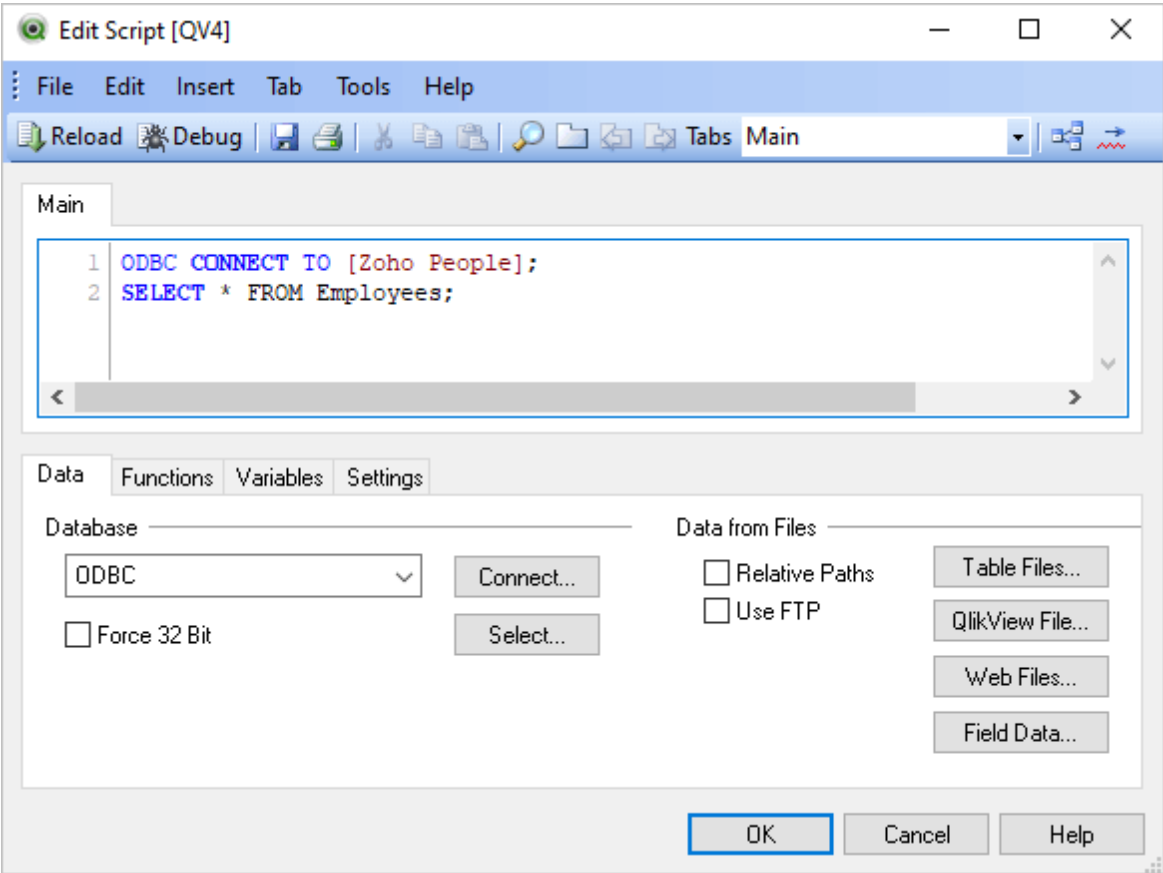
1. Open the QlikView client application and click **File > New**. Close the **Getting Started** wizard and open **File > Edit Script (CTRL+E)**.

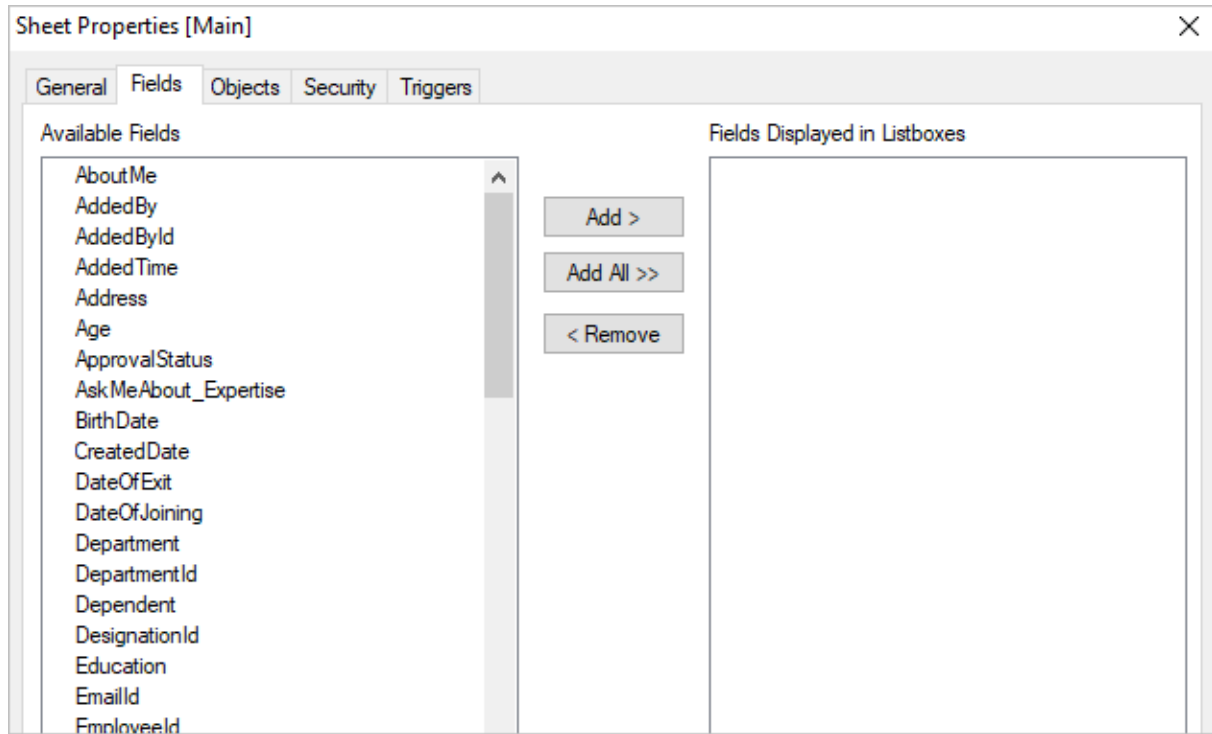


2. In the **Data** tab, choose **ODBC** from the **Database** drop-down and click **Connect**. Select the **Data Source** you created earlier, type in the **User ID** and **Password** if your database is password-protected. You can test the connection by choosing **Test Connection**. The **Connection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

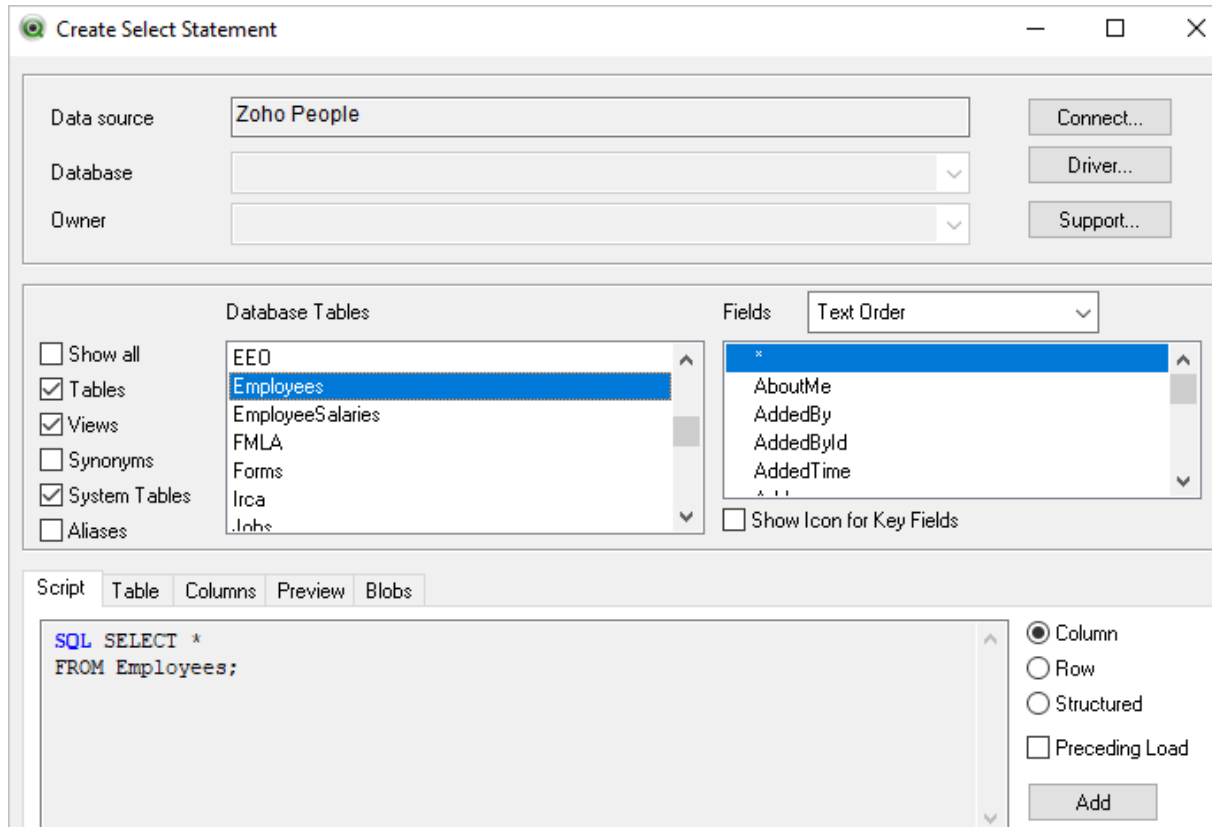


3. To retrieve the data from your data source, you can enter an SQL query and press **F5**. You will be suggested to choose fields to be displayed.

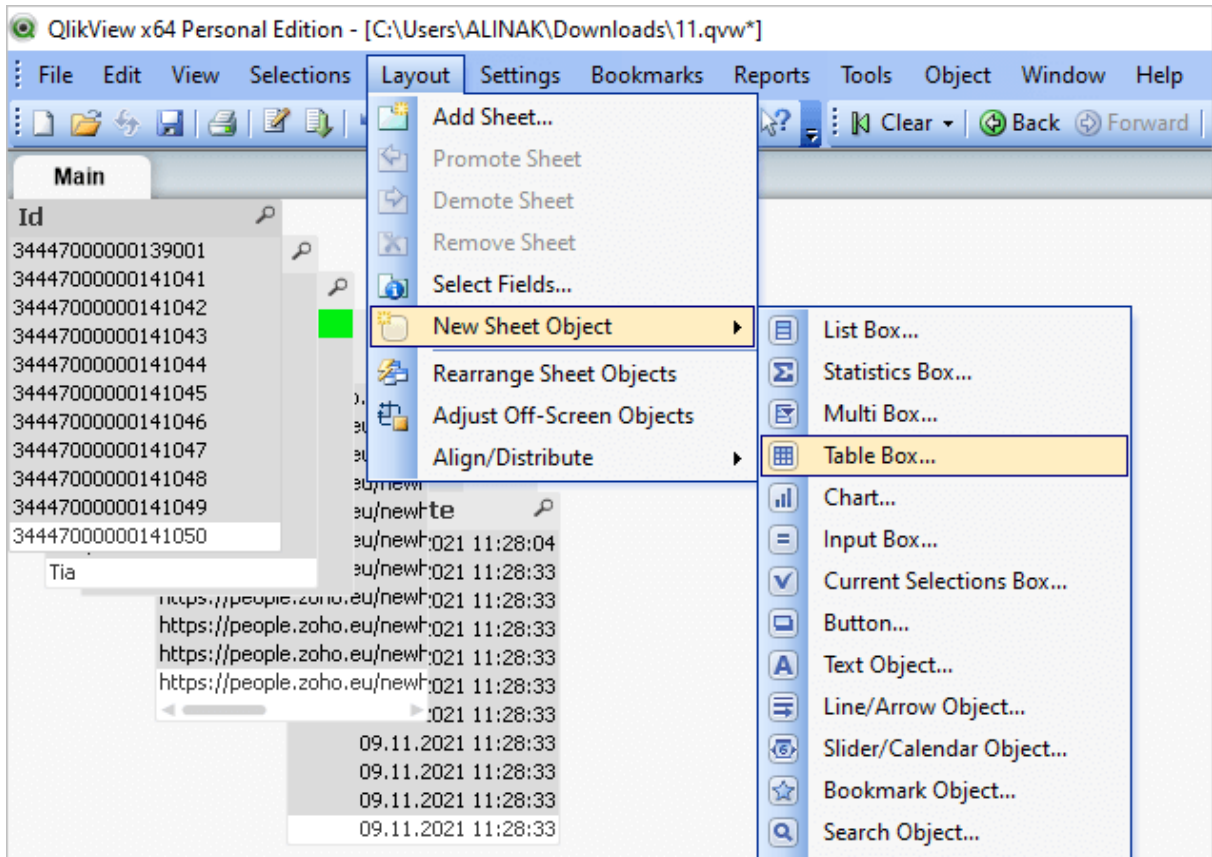




4. Alternatively, you can click **Select**, and QlikView will show you the database structure window where you can compose a SELECT statement for the data to be fetched. You can choose a different database from the database drop-down list. Select the necessary tables and fields. You can retrieve data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



The screenshot shows the QlikView x64 Personal Edition interface with a data table displayed. The table has the following columns: Id, First..., LastName, Gender, Photo, SourceOfHire, and PhotoDownloadUrl. The data rows are as follows:

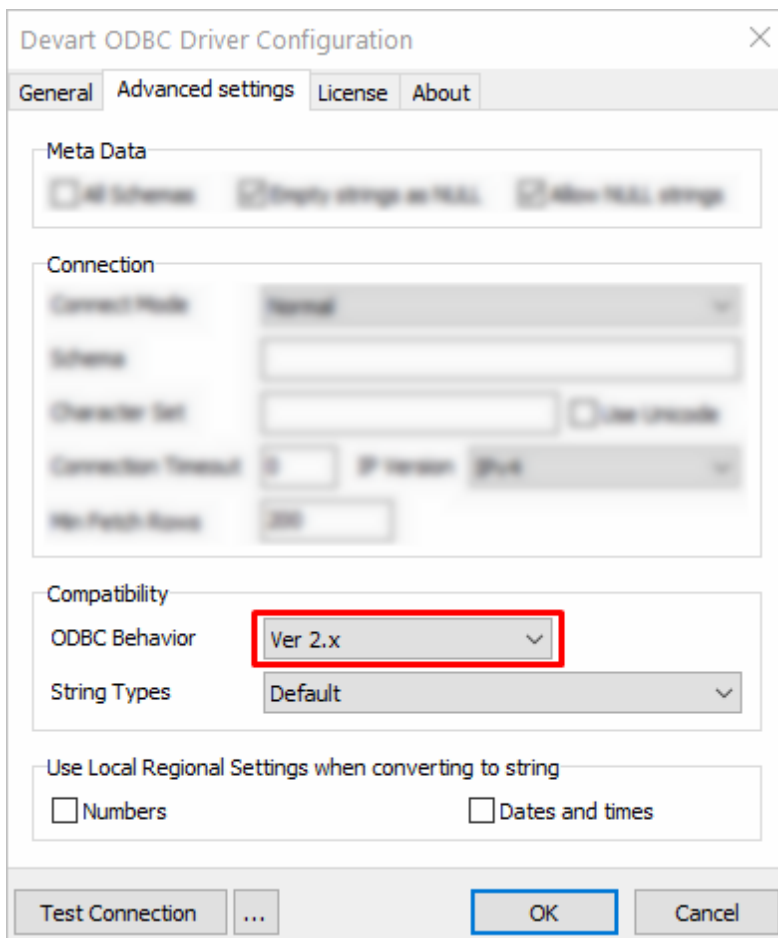
Id	First...	LastName	Gender	Photo	SourceOfHire	PhotoDownloadUrl
34447000000141050	Tia	Burmen	Female	https://people.zoho.eu/new...	Referral	https://people.zoho.eu
34447000000141049	Ruby	Richards	Female	https://people.zoho.eu/new...	Web	https://people.zoho.eu
34447000000141048	Morgan	Finely	Male	https://people.zoho.eu/new...	Web	https://people.zoho.eu/new...
34447000000139001	ks	-	-	https://contacts.zoho.eu/fil...	-	https://contacts.zoho.
34447000000141047	Jennifer	Jackson	Female	https://people.zoho.eu/new...	Direct	https://people.zoho.eu
34447000000141046	George	Dwell	Male	https://people.zoho.eu/new...	Direct	https://people.zoho.eu
34447000000141045	Dave	Duken	Male	https://people.zoho.eu/new...	Referral	https://people.zoho.eu
34447000000141044	Charles	Mavric	Male	https://people.zoho.eu/new...	Direct	https://people.zoho.eu
34447000000141043	Austin	Mayer	Male	https://people.zoho.eu/new...	Referral	https://people.zoho.eu
34447000000141041	Allan	Francis	Male	https://people.zoho.eu/new...	Direct	https://people.zoho.eu
34447000000141042	Aleo	Kirb	Female	https://people.zoho.eu/new...	Direct	https://people.zoho.eu

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4.12 Using in SSIS

SQL Server Integration Services (SSIS) is a component of SQL Server that is designed to perform various data migration tasks. When using Devart ODBC Driver for Zoho Projects 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.



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4.13 Using in Tableau

Importing Zoho Projects Data Into Tableau Through an ODBC Connection

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

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