OpenScape Business V2

Description

Open Directory Service

ODBC-ODBC Bridge

Version 1.5

Table of Contents

1. Overview 6

1.1. ODBC-Bridge Client 6

1.2. ODBC-Server 7

1.3. Access Control 7

1.4. Licensing 7

2. ODBC to ODBC Bridge 8

2.1. HW / SW Prerequisites 8

2.1.1. ODBC to ODBC Bridge Client 8

2.1.2. ODBC to ODBC Bridge Server 8

2.2. ODBC to ODBC Bridge SW Deployment 8

2.2.1. ODBC to ODBC Bridge Server 8

2.2.2. ODBC to ODBC Bridge Client 8

2.2.3. SW Update 8

3. Installation and Administration 10

3.1. Configuring the Data Source Name (DSN) 11

3.2. ODBC to ODBC Bridge Server Installation 12

3.3. ODBC to ODBC Bridge Server Configuration 14

3.3.1. Server Settings 15

3.3.2. Role Management 17

3.3.3. Monitoring 18

3.3.4. Log Settings 19

3.3.5. Appearance Tab 20

3.3.6. About Tab 21

3.4. ODBC to ODBC Bridge Client Installation 21

3.5. ODBC to ODBC Bridge Client configuration 21

3.5.1. ODBC to ODBC Bridge Client - Data Source configuration within ODS 22

3.5.2. ODBC to ODBC Bridge Client - Data Access configuration within ODS 23

3.5.3. ODBC to ODBC Bridge Client – Field mapping 24

3.5.4. ODBC to ODBC Bridge Client - Data Source configuration within ODS 24

4. Examples 25

4.1. MySQL database 25

4.1.1. Prerequisites 25

4.1.2. DSN configuration 25

4.1.3. ODBC to ODBC Bridge server configuration 27

4.1.4. ODBC to ODBC Bridge client configuration 28
4.1.5. Database tab 28
4.2. Microsoft SQL Server 31
4.2.1. Prerequisites 31
4.2.2. DSN configuration 31
4.2.3. ODBC to ODBC Bridge server configuration 34
4.2.4. ODBC to ODBC Bridge client configuration 35
4.3. MS Access 38
4.3.1. Prerequisites 38
4.3.2. DSN configuration 38
4.3.3. ODBC to ODBC Bridge server configuration 39
4.3.4. ODBC to ODBC Bridge client configuration 40
4.4. MS Excel Spreadsheet 41
4.4.1. Prerequisites 41
4.4.2. DSN configuration 41
4.4.3. ODBC to ODBC Bridge server configuration 43
4.4.4. ODBC to ODBC Bridge client configuration 43
5. Functional Restrictions 45
5.1. General Hints 45
5.2. SQL specific Hints 45
5.3. Supported ODBC functions 45
5.4. Access to Data Sources on shared Network Drive 46

Table of History

Date	Version	Changes
2015-07-24	1.0	Initial Creation
2016-10-06	1.1	Several Enhancements and corrections
2016-11-16	1.2	Example enhancements in Chapter 4
2018-05-17	1.3	Chapter 5 -Amendments deleted Revision of Chapter 4 - Examples New Chapter 5 – Functional Restrictions

2018-07-10	1.4	Chapter 1 –List of databases and associated note were revised Chapter 5 – Test recommendation revised
2019-04-05	1.4	Add chapter 5.4 - Access to Data Sources on shared Network Drive

Preface

This document describes the functionality of the Open Directory OBC to ODBC Bride connector and provides general information regarding the successful connection of ODBC data sources.

The document contains also specific configuration examples for the connection of some popular ODBC data sources to the OSBC-ODBC Bridge.

Disclaimer:

This description refers to OpenScape Business V2R5.

The information provided in this document contains general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Availability and technical specifications are subject to change without notice.

1. Overview

The ODBC connector of the Open Directory Service (ODS) of Open Scape Business is realized as an ODBC to ODBC Bridge, which allows ODS to access ODBC data sources running on Microsoft Windows based machines.

It is now possible to access any database running on MS Windows OS for which an ODBC Driver is available like:

- MS Excel
- MS Access
- MS CSV files
- Microsoft SQL Server
- MySQL
- Postgres
- Microsoft SQL Server (Express)
- Microsoft Access

Note:

The list above contains those databases that were tested in some versions and released in combination with OpenScape Business. Nevertheless other databases that are not listed can be connected observing the restrictions formulated in chapter 5.

The ODBC to ODBC Bridge connector bases on a client-server model.

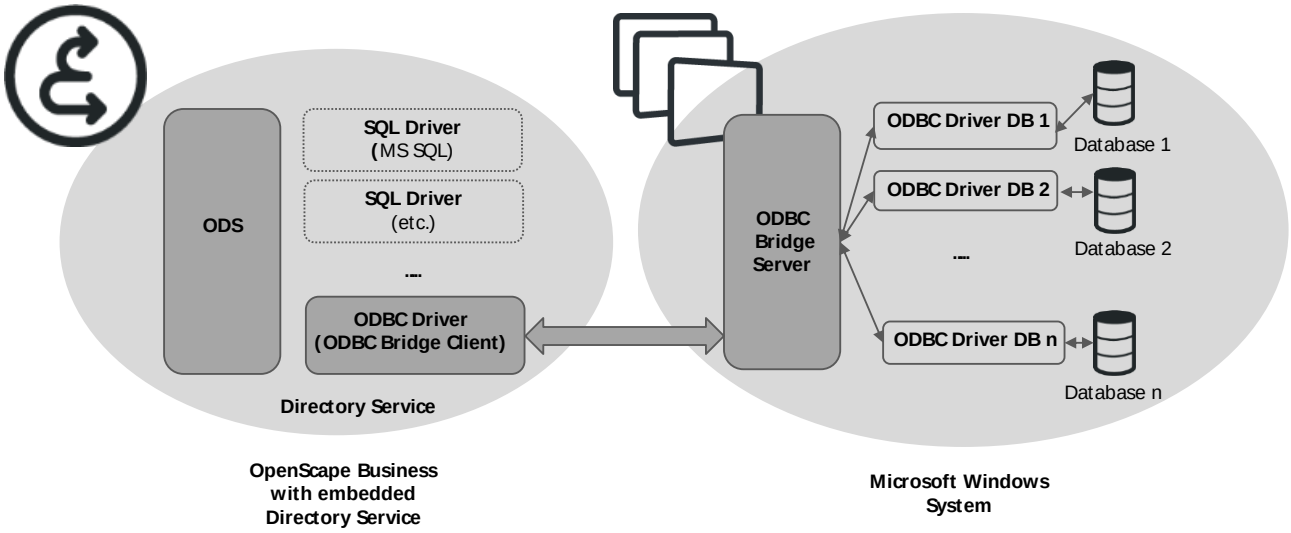


Figure 1 OpenDirectory Service with ODBC to ODBC Bridge (ODBC -Connector)

1.1. ODBC-Bridge Client

The ODBC to ODBC Bridge Client is a fully ODBC 3.5 compliant ODBC driver running on the OpenScape Business system accepting requests from Open Directory Service (ODS). It provides access to remote ODBC drivers installed on machines other than the one where the ODBC application is running. The basic set of ODBC functions will be supported to provide:

- Connection to a data source

- Obtain information
- Submitting requests
- Retrieving results
- Terminating a connection
- Etc.

In addition ODBC to ODBC Bridge Client

- Includes a function to check that an ODBC to ODBC Bridge Server is alive.
- Administration is part of the Administration Portal (WBM) of OpenScape Business system.
- Encrypts sensitive information (like connection strings which often contain passwords) passed across the network.
- Supports UTF8 character encoding.

1.2. ODBC-Server

The ODBC to ODBC Bridge Server is a multi-threaded service running under the Windows operating system. It receives ODBC API calls from the ODBC Bridge client and directs them to the requested ODBC driver.

For each ODBC function called in the ODBC to ODBC Bridge Client side, a request will be sent to the ODBC to ODBC Bridge Server in order to call the same function on the respective 3rd party ODBC driver installed on the Server system. After function return on the server side, a response will be generated and sent back to the client. In addition, the ODBC Bridge Server:

- Contains an administration section, which is used to configure, monitor and control the ODBC Bridge Server.
- Uses native OS authentication to protect access to data sources and the ODBC Bridge administration section.
- Supports access control rules that restrict access to the ODBC Bridge Server by user, machine or network address.
- Can limit the total number of concurrent connections or connections from a particular client and logs all clients which are connected.
- Supports access control lists to restrict access to DSNs by user, machine or network address.
- Logs failing SQL database queries and the reason for the failure.
- Supports auto-update mechanism by OpenScape Business to ensure SW consistency between ODBC to ODBC Bridge client and server part

1.3. Access Control

It is possible to connect several ODBC to ODBC Bridge clients (OpenScape Business systems) to one ODBC to ODBC Bridge server. It is also possible to connect to several ODBC to ODBC Bridge servers located on different machines from one OpenScape Business system.

Each ODBC to ODBC Bridge client connecting to the ODBC to ODBC Bridge server must provide a valid username and password via the ODS configuration page in the Administration Portal (WBM). User access control will be handled by the ODBC to ODBC Bridge server. Users are created in the ODBC to ODBC Bridge Server configuration. By default every user will have access to every data source available in the ODBC to ODBC Bridge Server. Server administrator may control access of specific users to specific data sources. The same username-password pair may be used in different OpenScape systems.

1.4. Licensing

Licensing is exactly the same as the current Open Directory Service Licensing. The ODBC to ODBC Bridge is a new type of ODS connector for the OpenScape systems which is also enabled by the existing ODS connector license. Each new ODS data source of type “ODBC Bridge” one ODS connector license is required.

2. ODBC to ODBC Bridge

2.1. HW / SW Prerequisites

For actual HW / SW prerequisites have a look into the SW version specific OpenScape Business Technical Release Note

2.1.1. ODBC to ODBC Bridge Client

The ODBC to ODBC Bridge Client is supported by the following Systems

- OpenScape Business X3,X5, X8 from V2 on
  (OpenScape Business UC Booster card or server is required)
- OpenScape Business S from V2 on
  (Virtualization under VMware VSphere is supported.

2.1.2. ODBC to ODBC Bridge Server

The ODBC to ODBC Bridge Server is supported by the following Microsoft OS Systems:

- Microsoft Server
  - Windows Server 2008 , 2008 R2
  - Windows Server 2012
  - Also in virtualized environment (VMware)
- MS Windows Clients
  - Windows 7
  - Windows 8
  - Windows 10

Older OS Version are not explicitly blocked, but are not sustained in case of malfunctions

In addition the “DotNet” 4.x Framework is required for the ODBC to ODBC Bridge Server.

2.2. ODBC to ODBC Bridge SW Deployment

2.2.1. ODBC to ODBC Bridge Server

The ODBC to ODBC Bridge Server SW is an MS Windows based application and is part of the OpenScape Business SW package. It is deployed as an executable Setup file and can be downloaded from OpenScape Business Service Center by using the Administration Portal (WBM).

2.2.2. ODBC to ODBC Bridge Client

The ODBC to ODBC Bridge client and is native part of the OpenScape Business and is installed together with the OpenScape Business SW. Administration is done via OpenScape Business Administration Portal within the Open Directory Service section.

2.2.3. SW Update

ODBC to ODBC Bridge Client and Server software (within the OpenScape Business) is be updated together with an OpenScape Business SW image update. This is done either automatically or manually.

The ODBC to ODBC Bridge Server SW component has to be updated manually.

Whenever a ODBC to ODBC Bridge Server is connected to a ODBC to ODBC Bridge Client a version check is performed.

If a newer ODBC to ODBC Bridge Client version is available within the OpenScape Business system which is compatible with the current ODBC to ODBC Bridge Server SW component, only a notification will appear in the ODBC to ODBC Bridge Server tray icon and Control Application.

If the version of the ODBC to ODBC Bridge server is not compatible (e.g. due to a protocol change) with the ODBC client within OpenScape Business system, a notification appears in the ODBC to ODBC Bridge Server tray Icon and Control Application indicating that the ODBC to ODBC Bridge clients server communication is not possible until a ODBC to ODBC Bridge Server SW update is done.

In both cases, the server administrator will get information for the updated software availability.

3. Installation and Administration

Before configuring/using the ODBC to ODBC Bridge server the database and the appropriate ODBC driver have to be installed within the Windows system. It has to be checked that the bit depth of database and driver (32 or 64 bit) fits together.

After the database and the ODBC driver are installed an ODBC data source has to be configured within the Windows operating system by executing the ODBC administration manager.

Note: It is important to choose the right ODBC administration manager program.

- ODBCAD.EXE has to be used for 64-bit ODBC drivers in a 64-bit operating system
- ODBCAD32.EXE has to be used for 32-bit ODBC drivers, also in a 64-bit operating system.

Excerpt from Microsoft Technet Entry: https://support.microsoft.com/de-de/kb/2721825

"*On a 64-Bit Windows operating system, there are two versions of the ODBC Administrator tool. The 64-bit ODBC Administrator tool is the default dialog that is launched from the control panel and is used to manage the 64-bit drivers and DSNs on the machine. The second ODBC Administrator tool to manage the 32-bit drivers and DSNs on the machine can be launched from the SysWow64 folder.*

To determine whether Office 2010 64-bit or 32-bit is installed, take the following steps:
1) Open an Office application like Excel.
2) Click on the File tab in the upper left corner.
3) Select Help on the left-hand side
4) Underneath "About Microsoft Excel" you will see a version number and in parentheses 32-bit or 64-bit will be listed.
Note: All Office versions prior to Office 2010 can only be installed as 32-bit applications."

Windows OS	***Office Version***	***Data Source Administrator tool***
Windows 64-bit	*Office 2010 64-bit*	*64-bit ODBC Administrator tool* *%systemdrive%\Windows\System32\odbcad32.exe* *Or* *Control Panel\System and Security\Administrative Tools\Data Sources (ODBC)*
Windows 64-bit	*Office 2010, 2007, or 2003 32-bit*	*32-bit ODBC Administrator tool* *%windir%\SysWOW64\odbcad32.exe*
Windows 32-bit	*Office 2010, 2007, or 2003 32-bit*	*32-bit ODBC Administrator tool* *%systemdrive%\Windows\System32\odbcad32.exe* *Or* *Control Panel\System and Security\Administrative Tools\Data Sources (ODBC)*

Table 1 Use of Microsoft ODBC Data Source Administrator Tool

3.1. Configuring the Data Source Name (DSN)

The program ODBCAD.EXE can be executed either via the Windows Control Panel (always in the bit depth of the OS) or by typing in the program name into the search line of start menu and double-clicking to the correct search result.

The required ODBC data sources have to be configured as **System DSNs**.

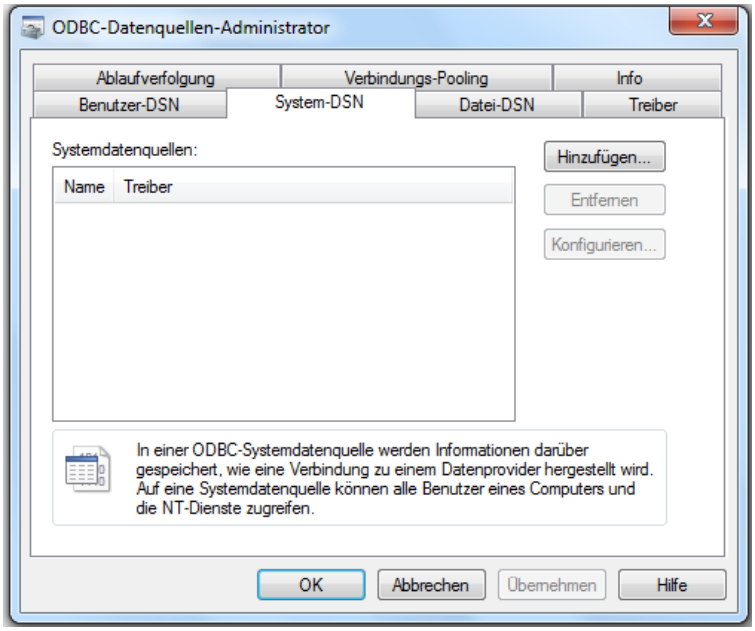


Figure 1 ODBCAD Configuring System DSN

After clicking “Add” a dialog with all installed ODBC drives appear.

The correct ODBC driver has to be selected by a click.

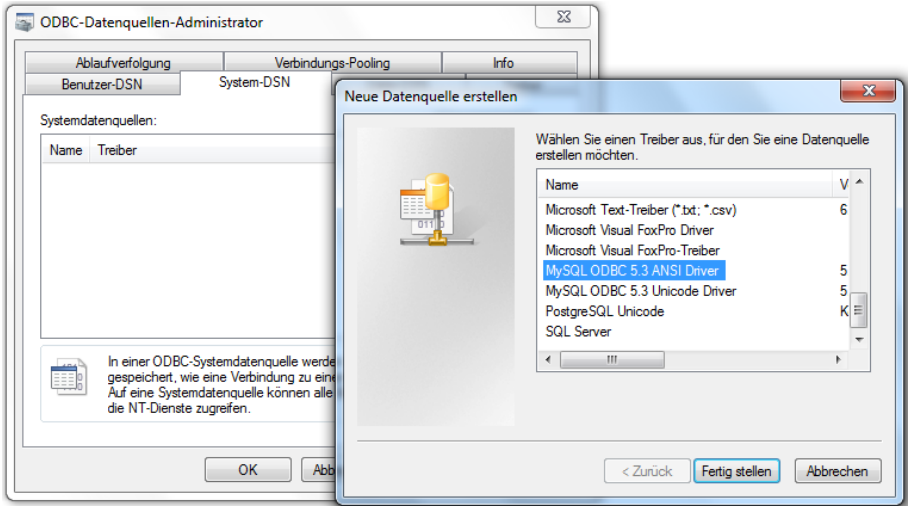


Figure 2 ODBC Datasource - Driver selection for new System DSN

After clicking “Finish”, the driver configuration dialog appears.

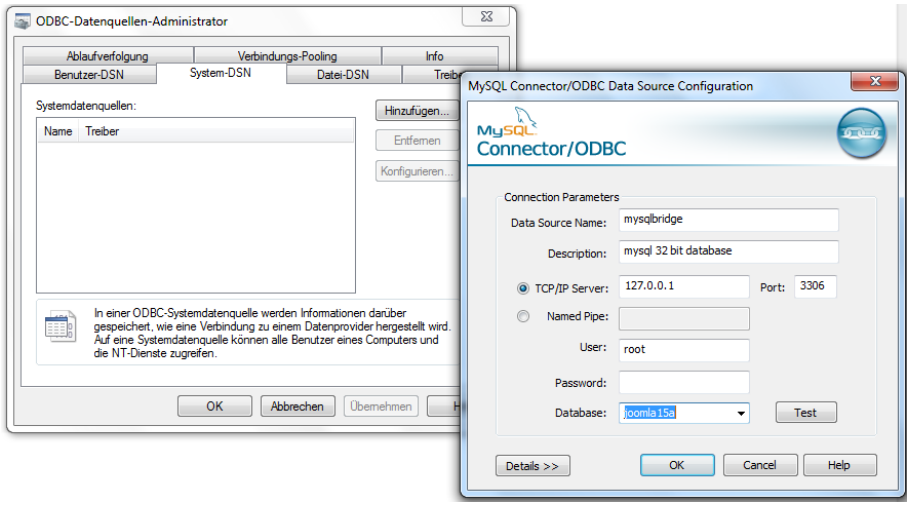


Figure 3 ODBC Datasource Configuration dialog

The parameters, which have to be entered here, depend on the type of the ODBC driver. If required the IP address, port, login credentials and database name have to be retrieved from the system administrator and entered here for database access. Depending on the kind of ODBC driver a test button is offered, which allows to check the database access with the configured data.

3.2. ODBC to ODBC Bridge Server Installation

Installation of the ODBC to ODBC Bridge Server SW component is done via the Setup program. It is started by opening the “ODBC to ODBC Bridge.exe” program. The language of the Setup program is English.

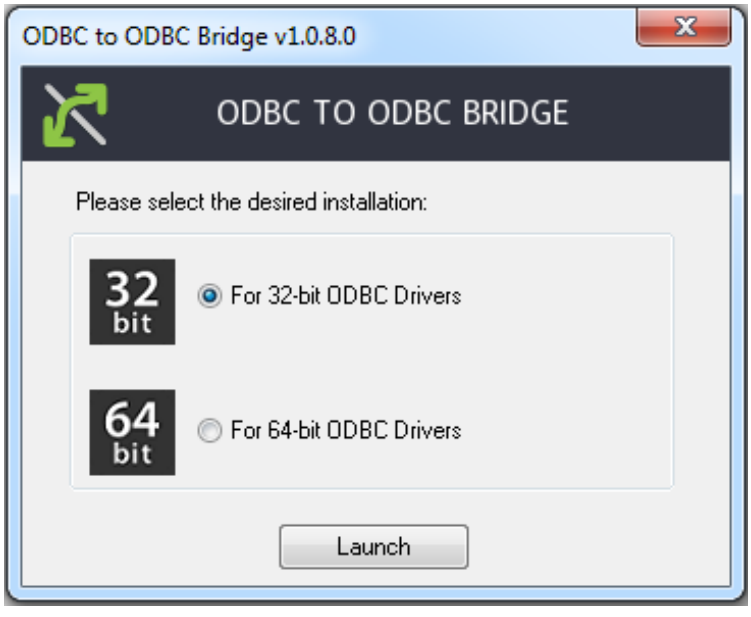


Figure 4 ODBC to ODBC Bridge Server Installation. Selection of Driver Bit Depth

The ODBC to ODBC Bridge Server needs to be separated as a 32-bit service or a 64-bit service depending on the bit depth of the used **data source**. Therefore, the installer will offer the selection to install either a 32bit or a 64bit MS Windows service. If the MS

Windows ODBC drivers used are 32-bit, the 32-bit service has to be used. If the Windows ODBC drivers are 64-bit, the 64-bit service has to be used.

Note:

It is possible to install a 32 Bit and a 64 Bit version of the ODBC to ODBC Bridge Server on the same computer in case that several databases in 32 and 64 bit-depth are available on the computer. Both ODBC Servers versions can also be operated simultaneously on one computer with 64 bit Operating System.

In case that a previous version of the ODBC to ODBC Bridge server is already installed, the installer asks if the SW should be upgraded or not

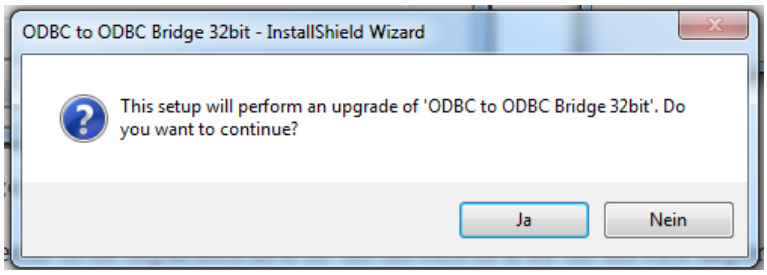


Figure 5 ODBC to ODBC Bridge Server Installation. Upgrade Dialog

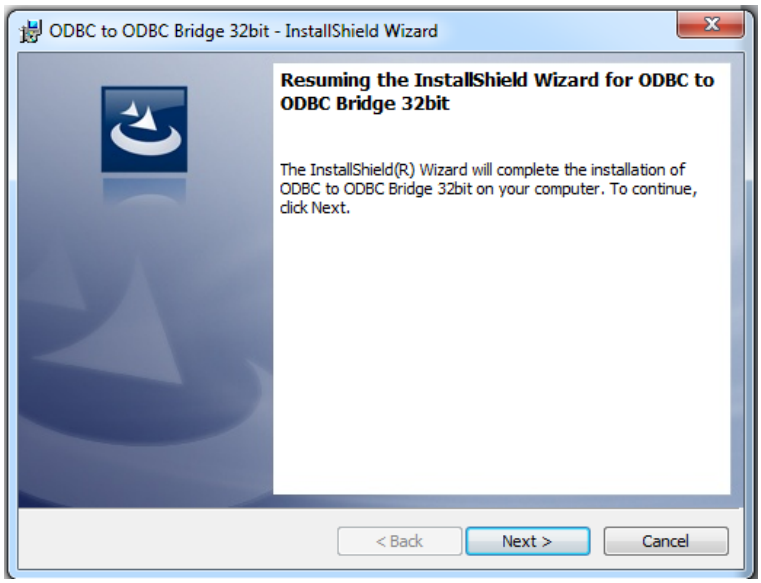


Figure 6 ODBC to ODBC Bridge Server Installation Wizard screen 1

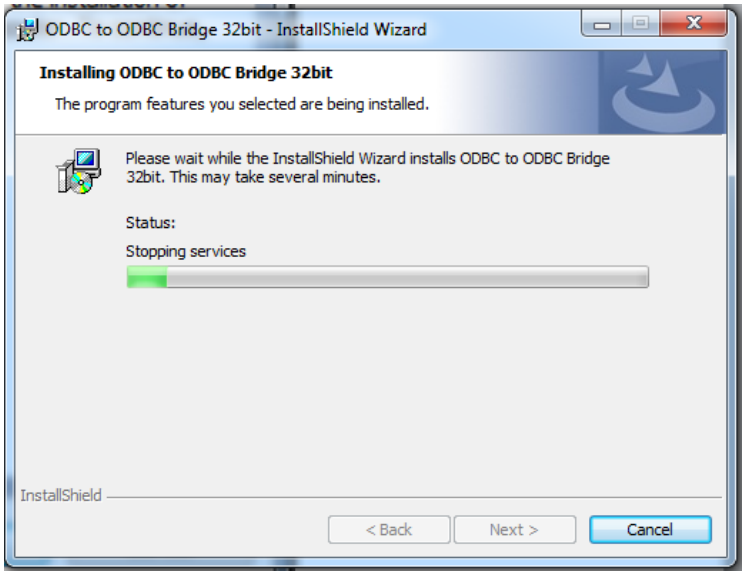


Figure 7 ODBC to ODBC Bridge Server Installation Wizard screen 2

The Wizard installs the SW in a default directory (e.g. C:\Program Files\Communication Clients\ODBC to ODBC Bridge Server).

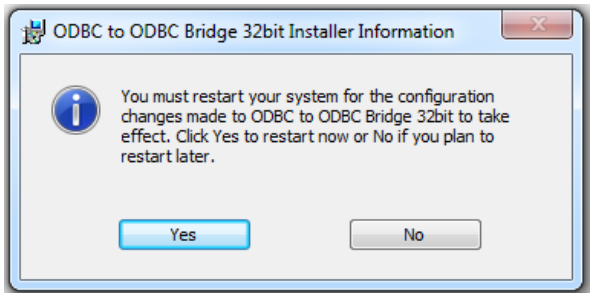


Figure 8 ODBC to ODBC Bridge Server Installation Wizard screen 3

In case that a system restart is required for activation of the SW the installer prompts accordingly.

3.3. ODBC to ODBC Bridge Server Configuration

After installation the ODBC Server can be started either manually by double-click to the desktop icon or automatically during OS start. A tray icon indicates if the ODBC to ODBC Bridge server is started or not

Figure 9: The ODBC to ODBC Bridge Server Tray Icon

A right click to the tray icon opens the menu with four options

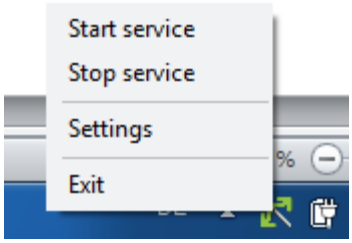


Figure 10: The ODBC to ODBC Bridge Server Tray Icon options

- Exit: Shuts down the ODBC to ODBC Bridge program
- Start: Starts the ODBC to ODBC Bridge server
- Stop: Stops the ODBC to ODBC Bridge service
- Settings: Opens the configuration dialog of the ODBC Bridge.

The ODBC to ODBC Bridge Server configuration dialog provides an interface for all configuration options of the server. It includes 5 tabs. The language for the administration dialogs and the general appearance of the user interface can be configured within the settings of the ODBC to ODBC Server under the “Appearance” tab.

3.3.1. Server Settings

The Server Settings Tab contains settings regarding the general server connectivity to the client within the ODS:

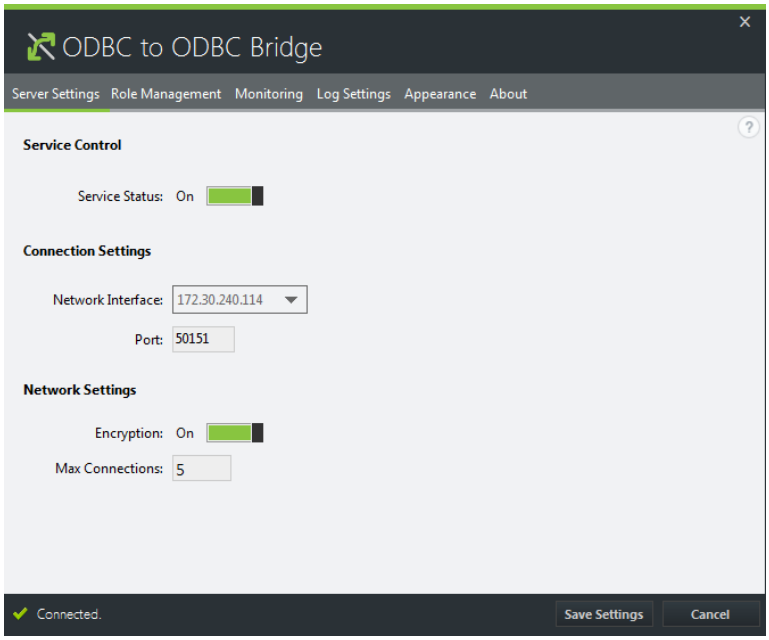


Figure 11: ODBC to ODBC Bridge Server Settings

Parameter	Description
Service Control	This slider starts or stops the OBCD Bridge service. Before the service is started the availability of IP Address and port at the local machine are checked. If these are available, the service starts otherwise an error message appears (Service could not be started). In case that the slider is moved to stop position the ODBC to ODBC Bridge service closes the active client connections and terminates. The slider field color toggles from grey to green if the server is active.
Connection settings:	• **IP Address:** This field refers to the ip address where the ODBC to ODBC Bridge service can be accessed by the clients. If there are more than one network interfaces, these will be presented in the list box. • **Port:** Port which is used by the server to listen for requests from the clients.
Network Settings	• **Encryption:** This slider enables / disables encrypted transmission between ODBC to ODBC Bridge Server and ODBC to ODBC Bridge clients. The slider field color toggles from grey to green if the encryption is active. Encryption is enabled by default. • **Max Connection:** The maximum allowed concurrent client connections to the server. **Note:** IP address and listening port are required for the ODBC to ODBC Bridge Client configuration within OpenScape Business. It has also to be ensured that the port is enabled within existing firewalls in the network.

Table 2 ODBC to ODBC Bridge Parameters Server Settings

3.3.2. Role Management

The Role Management Tab contains configuration options regarding the user access rights per data source. The administrator can add/delete users as well as to edit their access rights to each data source.

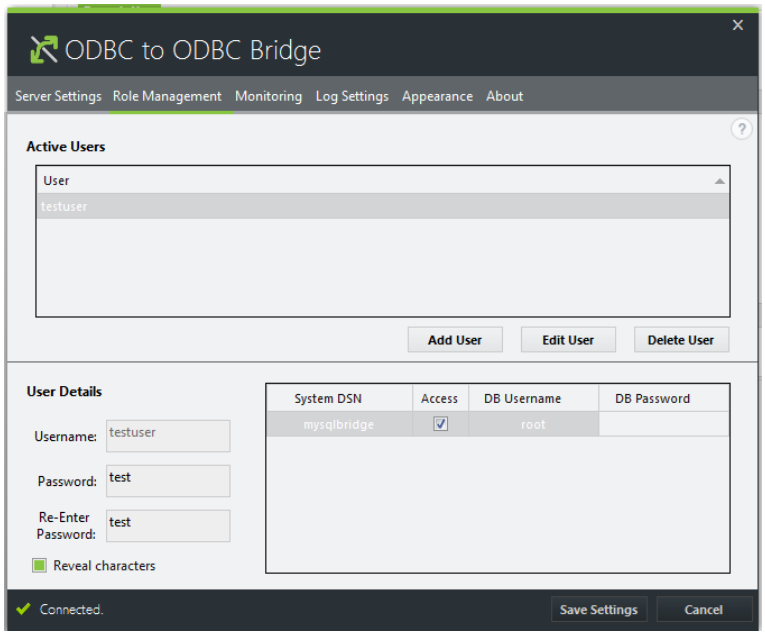


Figure 12: ODBC to ODBC Bridge Server Role Management Tab

The ODBC to ODBC Bridge Server administrator can create new, edit existing or delete no longer required users within the ODBC to ODBC Bridge server. The Active Users list contains all usernames that are already configured within the ODBC to ODBC Bridge server.

A user of the OSBC Bridge Server is created by defining the login credentials consisting out of user name and password and by assigning one or more system DSNs . The system DSNs are retrieved by the ODBC bridge server automatically. For access by an ODBC to ODBC Bridge user the Access Checkbox has to be ticked and the database login credentials have to be configured.

Note:

- The configured username and password are used by the ODBC to ODBC Bridge client configuration to ensure access to the ODBC to ODBC Bridge Server.
- New ODBC drivers and new data sources cannot be configured within the OBDC Bridge Server. To do so the ODBC Administration Manager has to be used. After a new system Data Source Name has been added, the ODBC to ODBC Bridge Server is updated automatically and provides the information in the configuration panel.

3.3.3. Monitoring

The Monitoring Tab contains general information about:

- the available ODBC drivers of the local machine
- the connected users / ODBC to ODBC Bridge clients

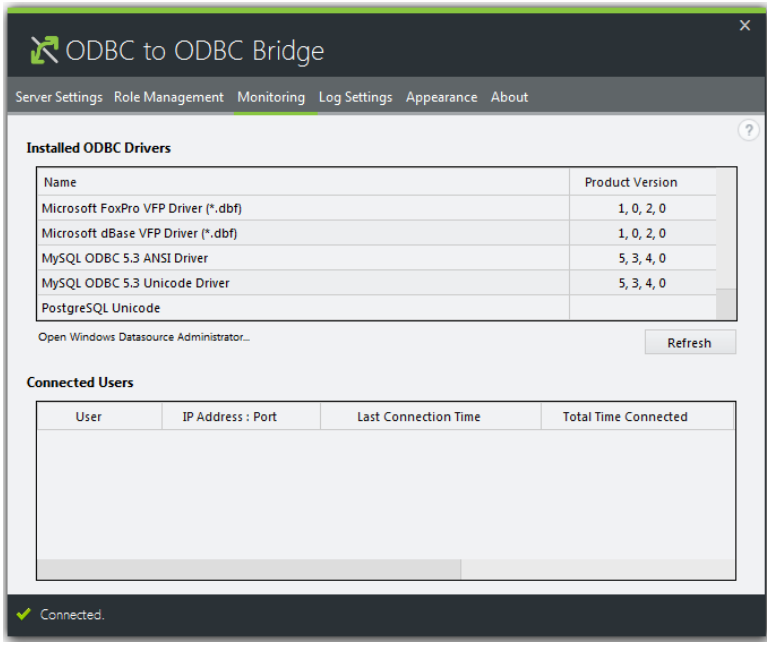


Figure 13: ODBC to ODBC Bridge Server Monitoring Tab

3.3.4. Log Settings

A logging mechanism is implemented and used in the ODBC bridge server. A library called Smart Inspect is be used to realize the logging. The Log Setting Tab contains the available options for log files and traces:

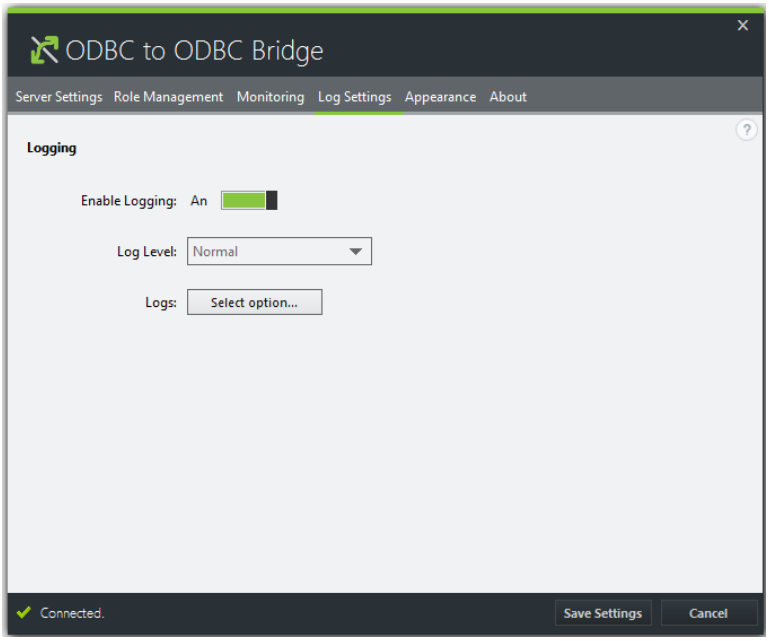
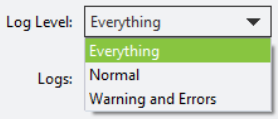


Figure 14: ODBC to ODBC Bridge Logs Tab

Parameter	Description
Enable Logging	This refers to the trace status. When enabled, the service starts to store the traces in the log file.
Log Level	
Trace level:	The trace level refers to which traces will be stored to the file. This control has three options (Errors, Warnings and All).

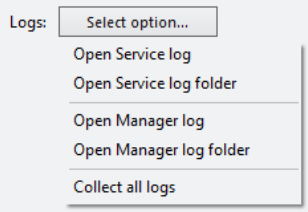
Logs	Log files can be opened directly within the Smart Inspector. For Log file export the log folder can be opened within the Windows Explorer and can be copied to the desired location within the files system. 

Table 3 ODBC to ODBC Bridge Parameters Log Settings

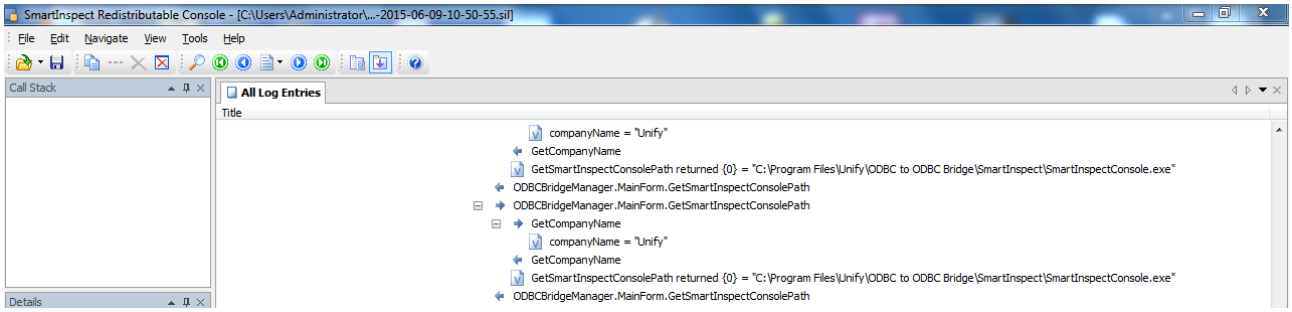


Figure 15 Smart Inspector with opened log file

3.3.5. Appearance Tab

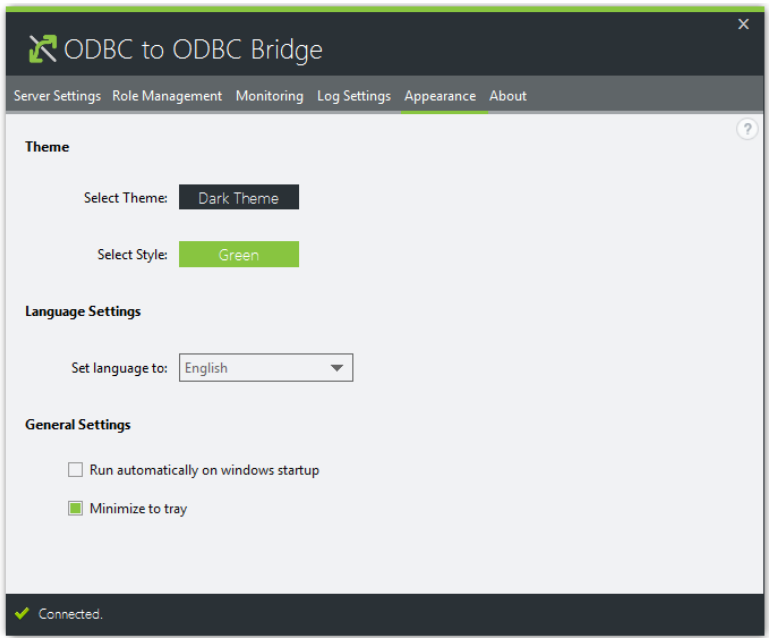


Figure 16 ODBC to ODBC Bridge Server Appearance Tab

Parameter	Description
Theme:	The color settings and the style of the user interface can be set here
Language:	Default is English. Available values are English – Deutsch – Francais – Italiano – Nederlands – Portugues - Espanol

ODBC to ODBC Bridge Parameters Appearance Settings

3.3.6. About Tab

The About Tab contains software version information and also informs the administrator about the current's version last update. If a client with a newer version has attempted to connect then a warning message is shown, which prompts for a possible update.

Figure 17: ODBC to ODBC Bridge Server About Tab

Note: An automatic SW deployment is not supported.

3.4. ODBC to ODBC Bridge Client Installation

ODBC to ODBC Bridge Client installation is done together with the OpenScape Business SW installation. No additional actions are required.

3.5. ODBC to ODBC Bridge Client configuration

As already mentioned, the client part of ODBC to ODBC Bridge is an additional ODBC driver running on the OpenScape Business system. Prerequisite is the existence of the ODS base license and at least one ODS connector license within OpenScape Business for each individual data source, which will be configured and used.

The ODBC to ODBC Bridge client configuration has to be done via the Administration Portal (WBM) of OpenScape Business within the section for Open Directory configuration.

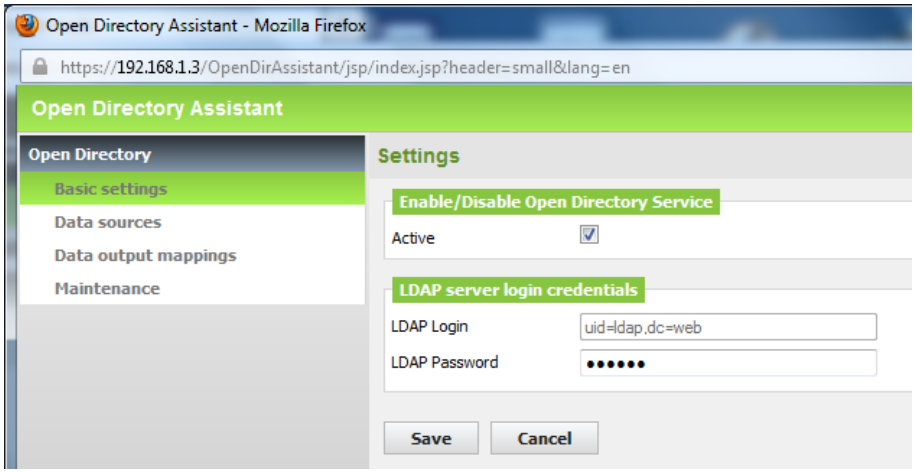


Figure 18: Open Directory Service - Basic Settings Dialog

The ODBC to ODBC Bridge client is handled as a driver for the ODS and has to be configured as a Data Source within the ODS in order to access the ODBC to ODBC Bridge Server part.

3.5.1. ODBC to ODBC Bridge Client - Data Source configuration within ODS

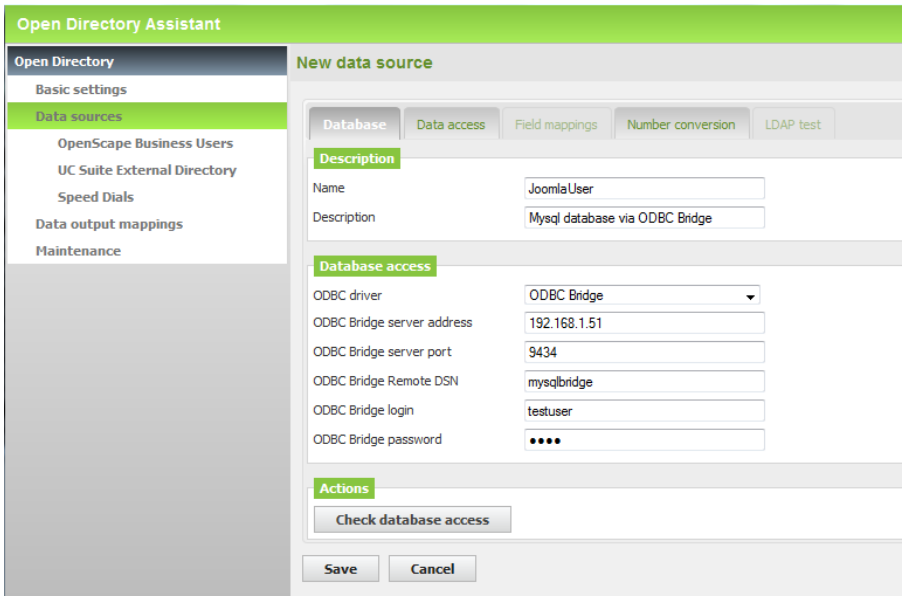


Figure 19: Open Directory Service Configuration of ODBC to ODBC Bridge

If ODBC Bridge is selected as ODBC driver following driver specific parameters have to be configured

Parameter	Description
ODBC to ODBC Bridge server address	Within this field the IP address of the computer on which the OSBD Bridge Server part is installed has to be entered. The address can be found within the “Server Settings” tab of the ODBC to ODBC Bridge server Settings dialog.
ODBC to ODBC Bridge	Within this field the listening port of the ODBC to ODBC Bridge server has to be entered here. The

server port	port information can be found within the Server tab of the ODBC to ODBC Bridge server Settings dialog.
ODBC to ODBC Bridge Remote DSN	The previously assigned Data Source Name within the ODBC to ODBC Bridge server has to be entered here. It has to be ensured that the name of Remote DSN is written correctly and that is assigned to a user within the ODBC Bridge.
ODBC to ODBC Bridge login	The username which is assigned within the ODBC to ODBC Bridge to the Remote DSN has to be entered here.
ODBC Bridge password	The password which is assigned to the user within the ODBC to ODBC Bridge has to be entered here.

A test of the overall ODBC to ODBC to ODBC Bridge configuration can be made by clicking “Check database access “ within the Data Source configuration.

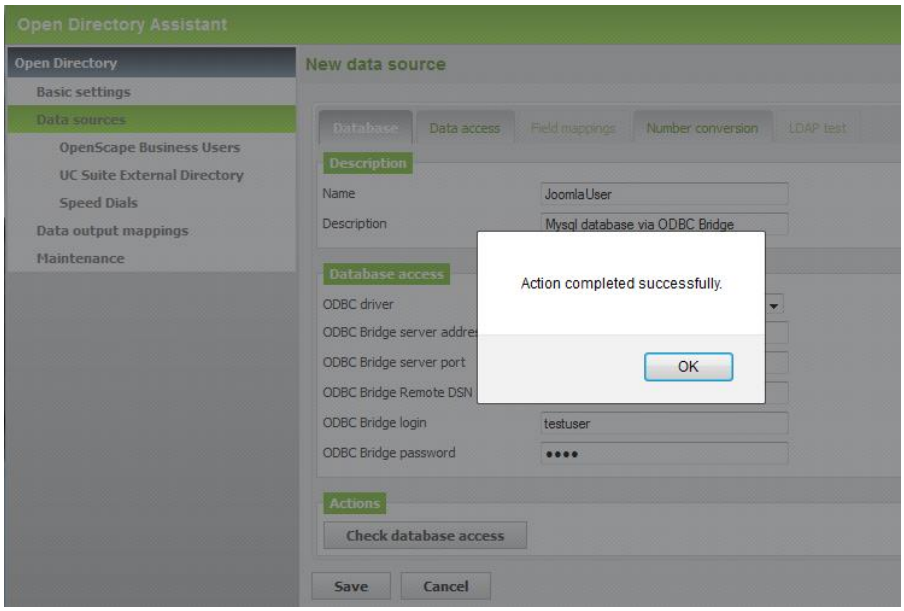


Figure 20: Open Directory Service Result of database access check

If everything is configured in the right way a success message appears as result. This indicates that the general access to the remote database via the ODBC to ODBC Bridge is given.

In case that the check fails the parameter entries for the ODBC to ODBC Bridge driver have to be checked. In addition the ODBC driver installation, the DSN configuration and the ODBC Server configuration within the remote computer should be checked.

3.5.2. ODBC to ODBC Bridge Client - Data Access configuration within ODS

After database access is cuccessful the database table(s) of the database can be selevted within the data access dialog. For this reason the available database tables can be queried. A specific table can be selected and the content of the selected table can be previewed.

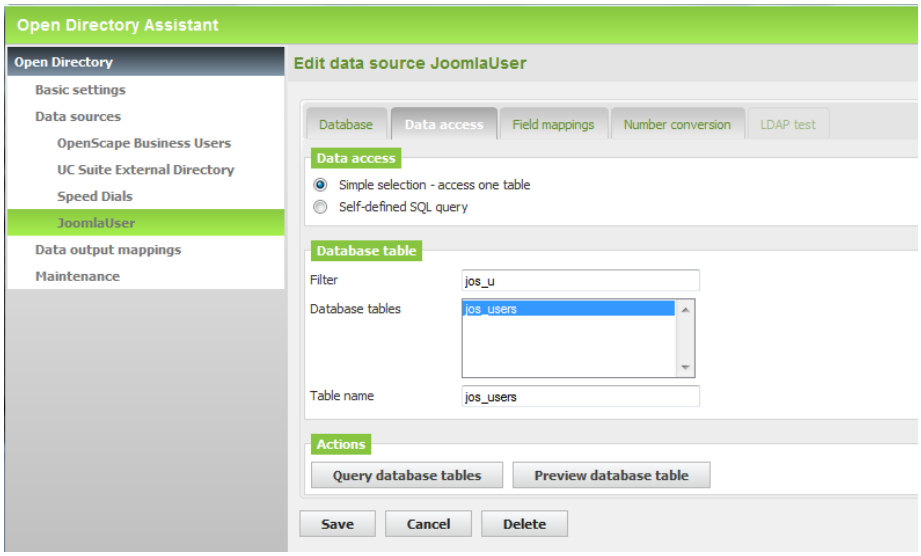


Figure 21: Open Directory Service Data Access via ODBC to ODBC Bridge client

3.5.3. ODBC to ODBC Bridge Client – Field mapping

See examples within chapter 4

3.5.4. ODBC to ODBC Bridge Client - Data Source configuration within ODS

See examples within chapter 4

4. Examples

4.1. MySQL database

4.1.1. Prerequisites

4.1.2. DSN configuration

Open the appropriate ODBC Data Source Administrator (x86 or x64 bit) from the “Open Windows data source administrator” link. And go to the **System DSN** tab.

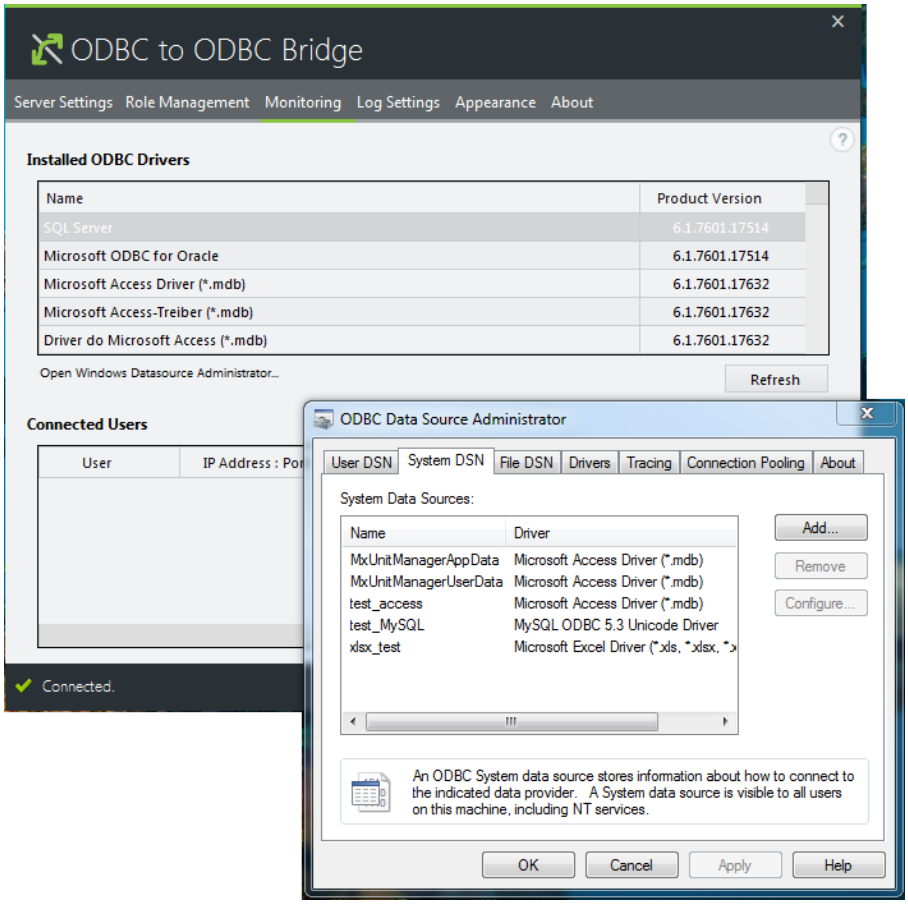


Figure 22 Example DSN for MySQL Database

Press “Add ..” new data source and choose the appropriate driver for which you want to set up the data source (e.g MySQL ODBC 5.3 Unicode Driver) and then press finish.

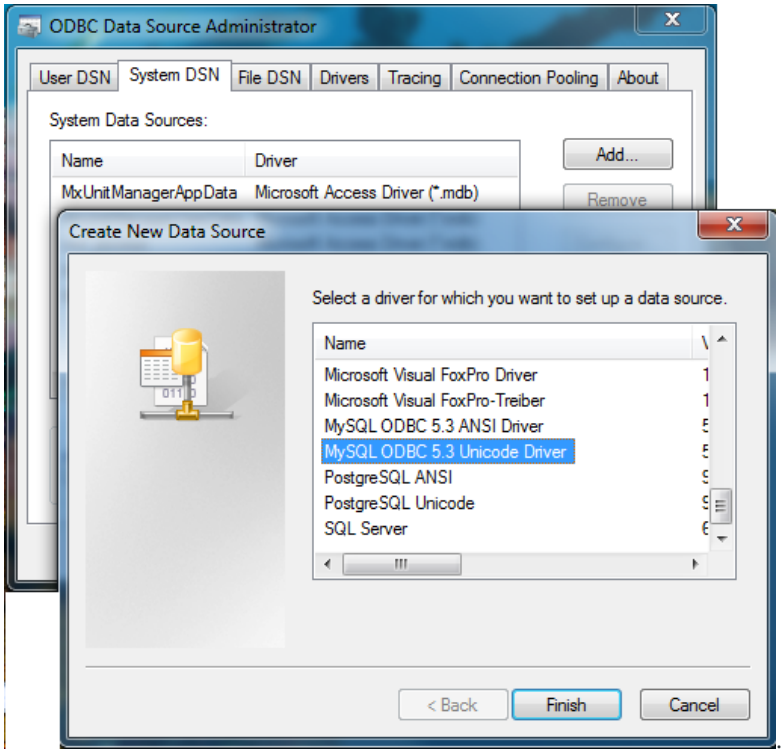


Figure 23 Example DSN for MySQL Database

Upon finish the MySQL Connector/ODBC Data Source Configuration window will pop up. The technician should fill in the relative fields and press ok.

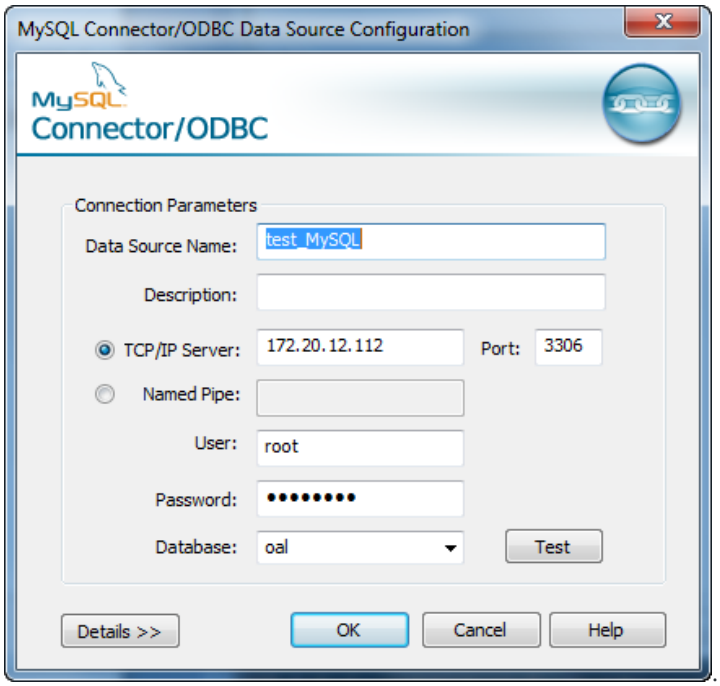


Figure 24 Example DSN for MySQL Database

The following data source specific parameters have to be configured.

Parameter	Description
Data Source Name	Within this field the name of the Data Source has to be entered.
Description	Within this field a short description of the above DSN can be entered. **Note:** If an MS- Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.
TCP/IP Server	Here the IP address where MySQL database is located should be entered.
Port	The port to which, this data source can be connected to.
User	The user who will access the relative data source has to be entered here.
Password	The password which is assigned to the user that will access the relative data source has to be entered here.
Database	The name of the specific database to which the user will have access to.

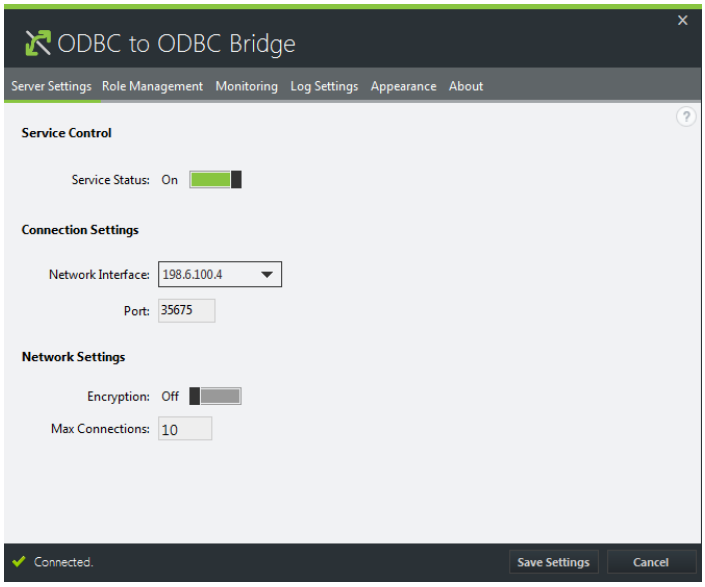
Table 4 MySQL ODBC Driver parameters

A test of the overall DSN configuration can be made by clicking “Test” within the Data Source configuration.

4.1.3. ODBC to ODBC Bridge server configuration

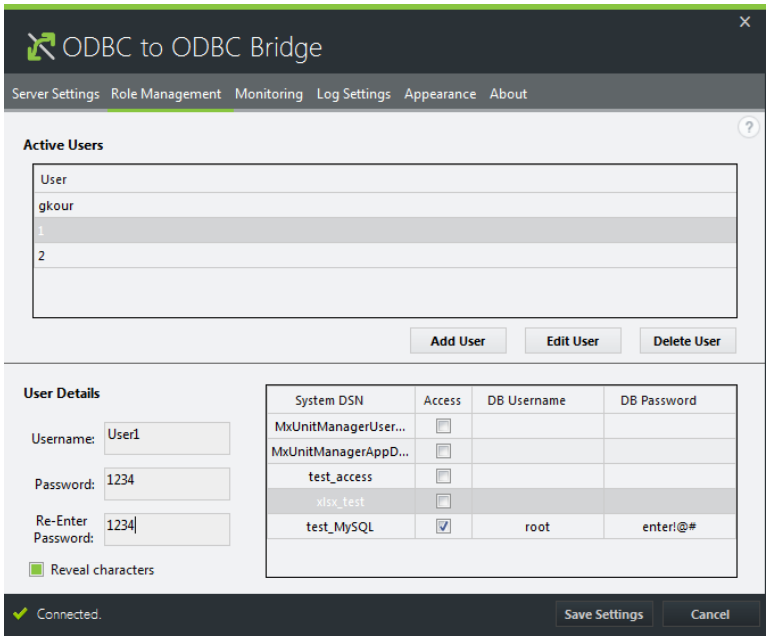
Server Settings

Service Status should be set to **on**, the appropriate network interface of the PC where ODBC to ODBC to ODBC Bridge server is installed should be chosen and the ODBC server port should be configured. The number of the port should be the same with the one configured within the ODS data source (see 3.5.1)



Role Management

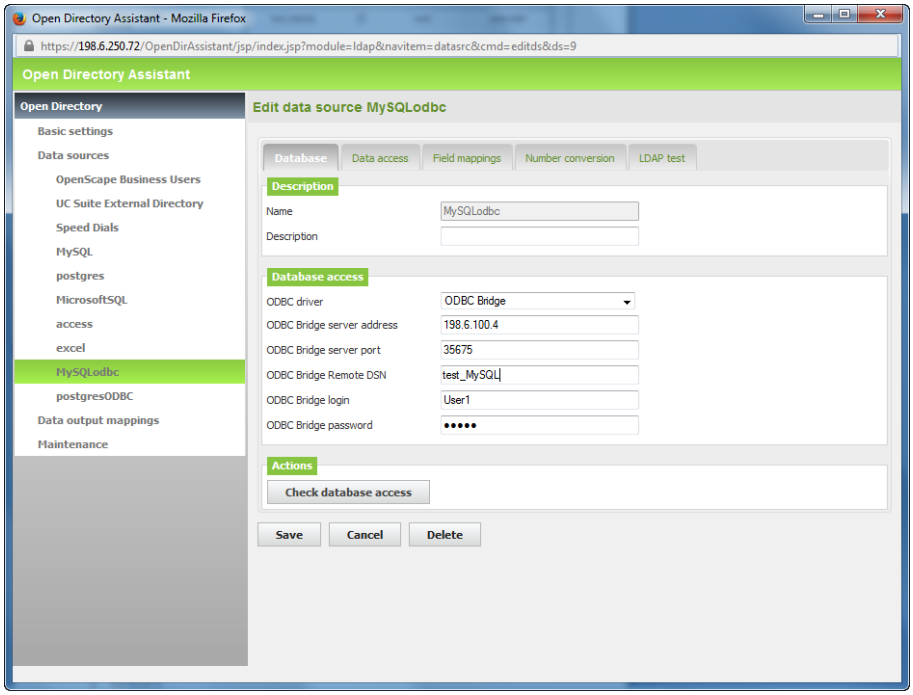
Add user with a corresponding password that should be connected to the ODS data source (e.g User1 /1234) give access to the user and save settings. Username, password and the number of the port should be the same with the one configured within the ODS data source (see 3.5.1). The same stands for the system DSN (e.g test_MySQL)



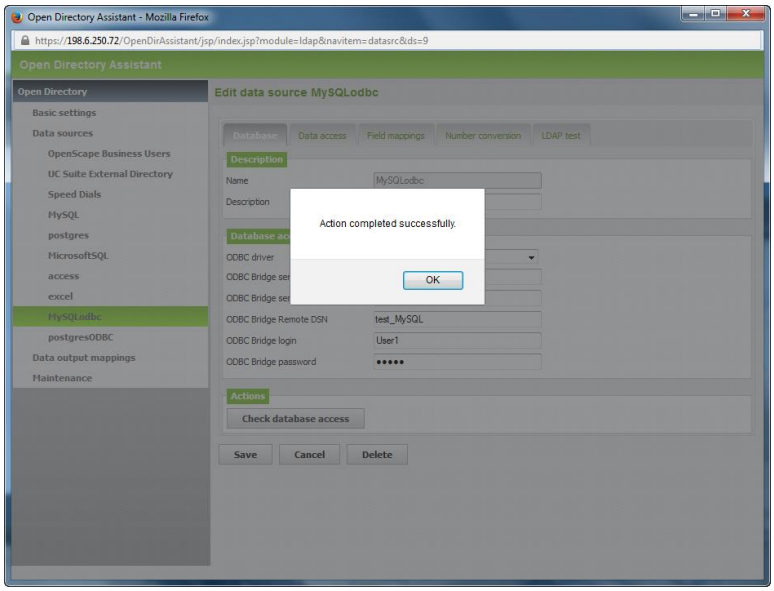
4.1.4. ODBC to ODBC Bridge client configuration

4.1.5. Database tab

Fill in the relative fields and then **check database access**.

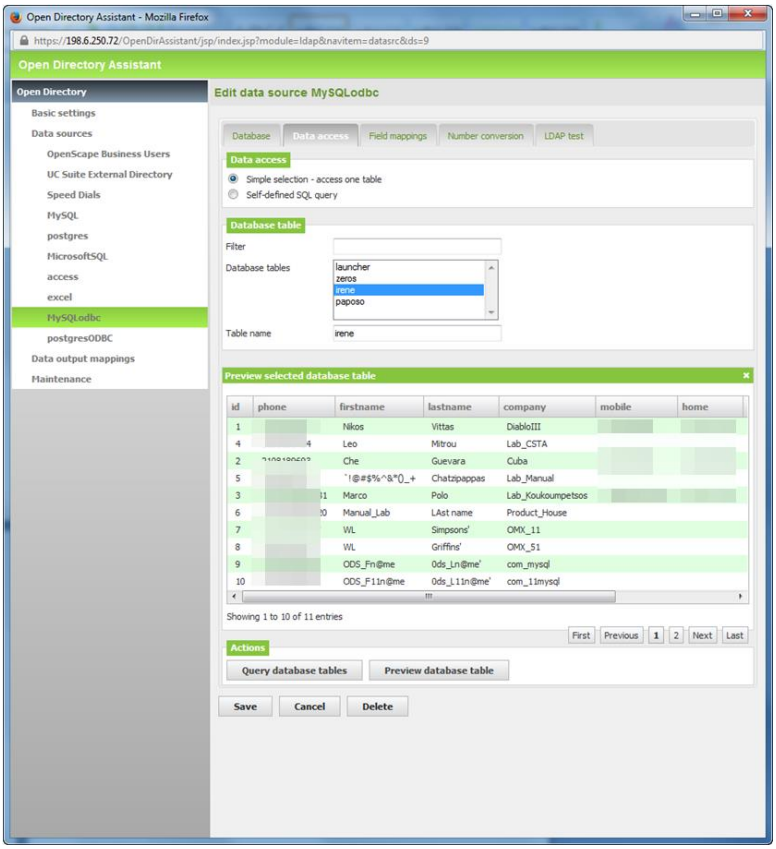


Note:
If a MS-Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.



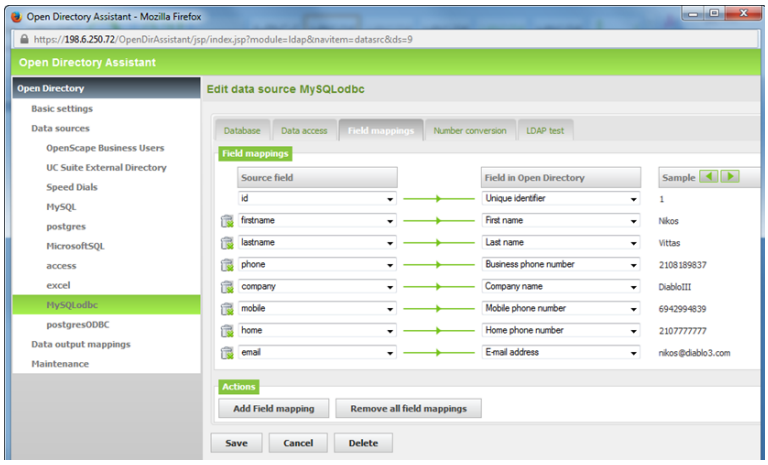
Data access tab

Choose the database table you want to access and press **preview database table** (optional).



Field mappings tab

Apply the appropriate mapping (source id in the database table <->Field in the Open Directory) and the save settings.



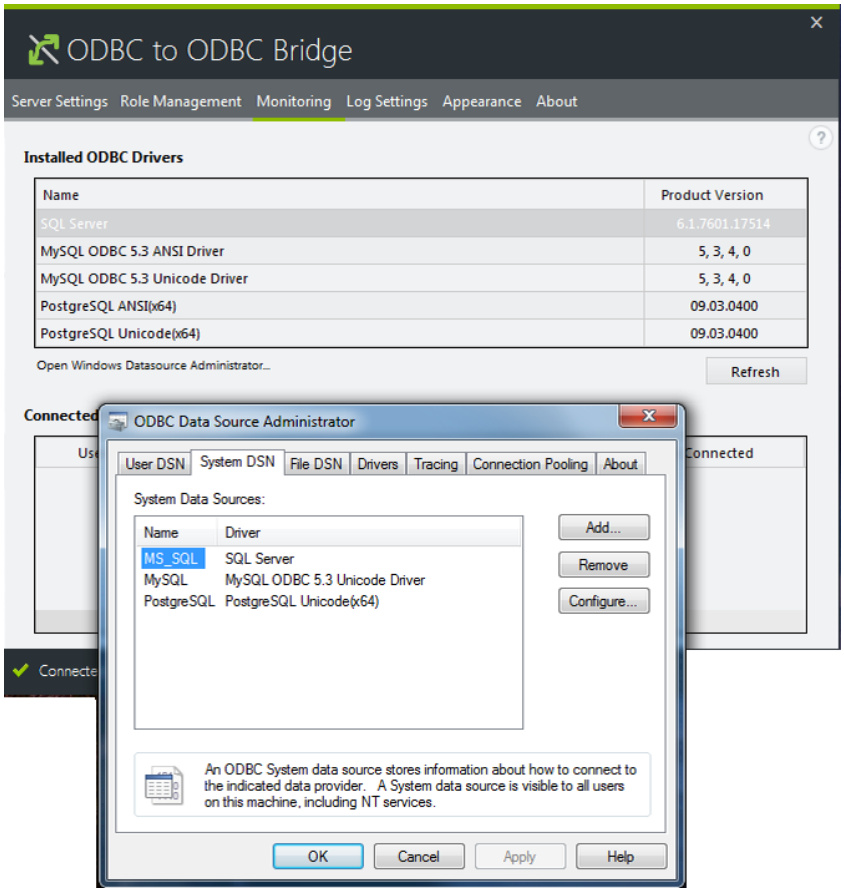
4.2. Microsoft SQL Server

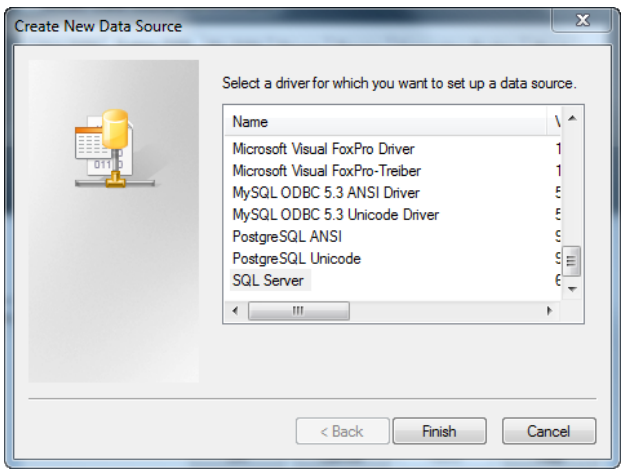
It is recommended to use the native Microsoft SQL Server connector of ODS not the ODBC – ODBC Bridge in order to get a better performance.

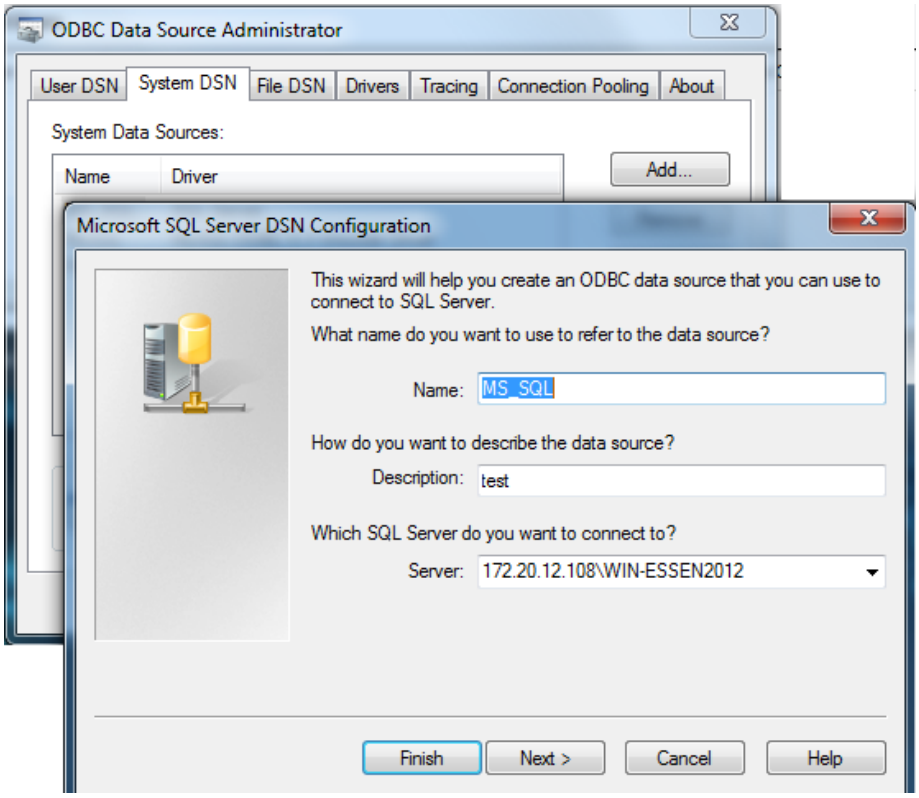
For illustration purpose the connection of the MS SQL Server via the ODBC-ODBC Bridge is shown in the following.

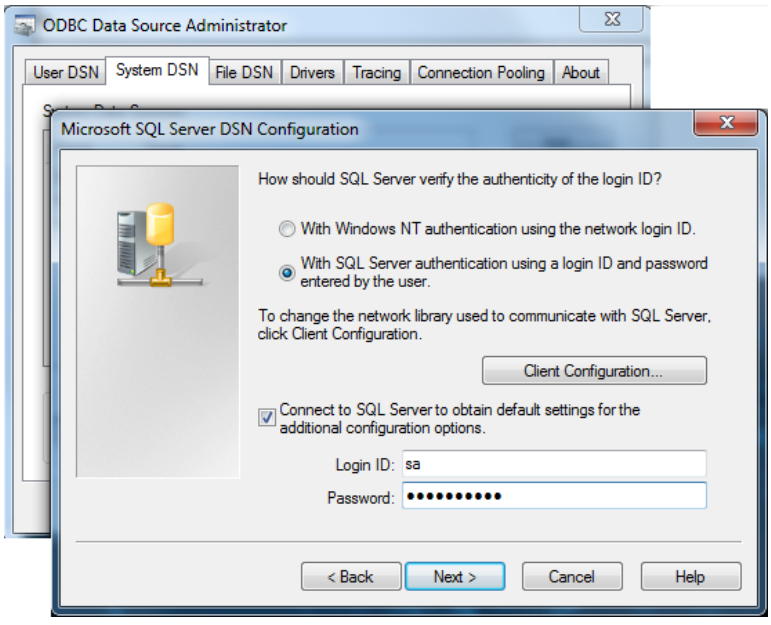
4.2.1. Prerequisites

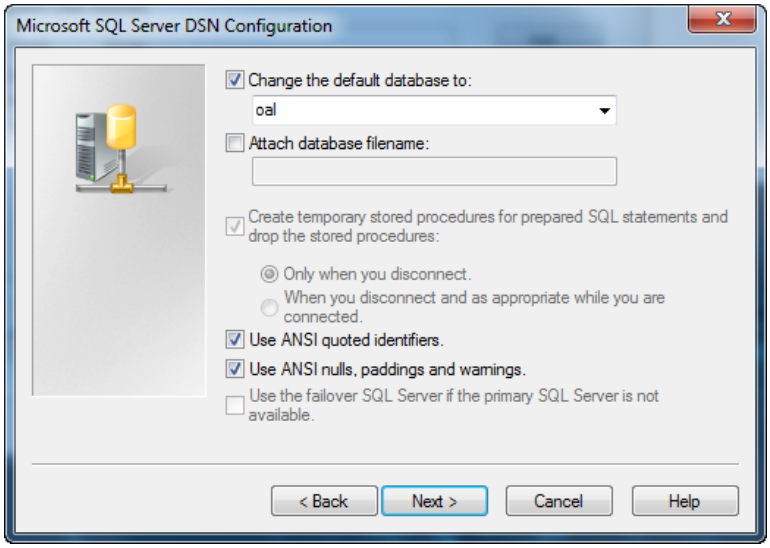
4.2.2. DSN configuration

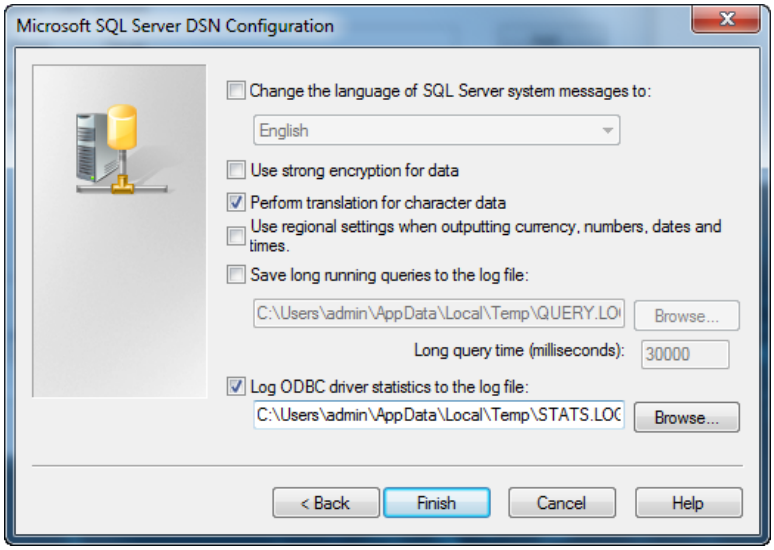


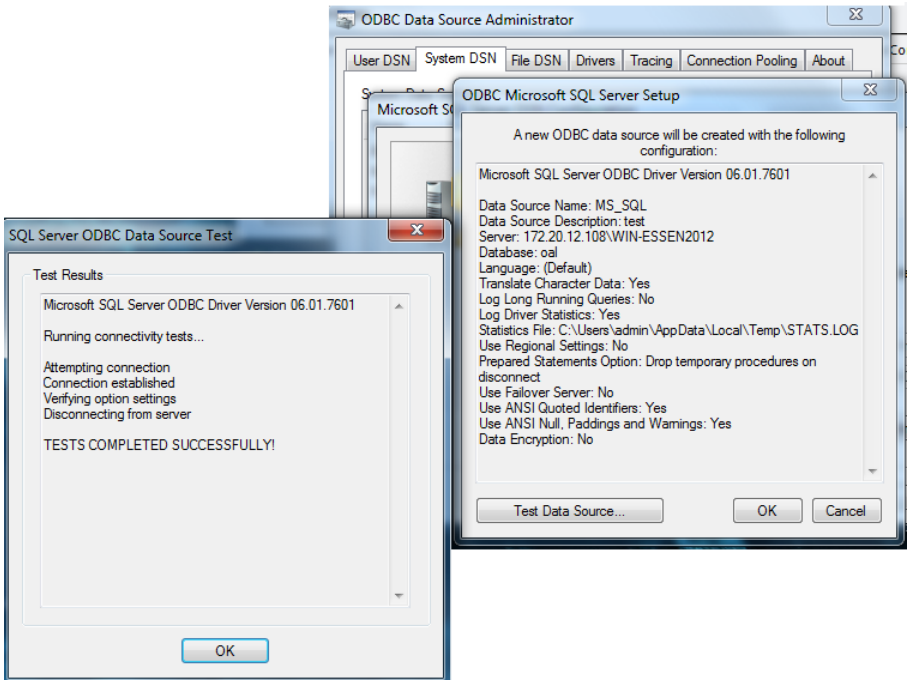



ODBC Data Source Administrator
User DSN
System DSN
File DSN
Drivers
Tracing
Connection Pooling
About
System Data Sources:
Name
Driver
Add...
Microsoft SQL Server DSN Configuration
This wizard will help you create an ODBC data source that you can use to connect to SQL Server.
What name do you want to use to refer to the data source?
Name: MS_SQL
How do you want to describe the data source?
Description: test
Which SQL Server do you want to connect to?
Server: 172.20.12.108\WIN-ESSEN2012
Finish
Next >
Cancel
Help

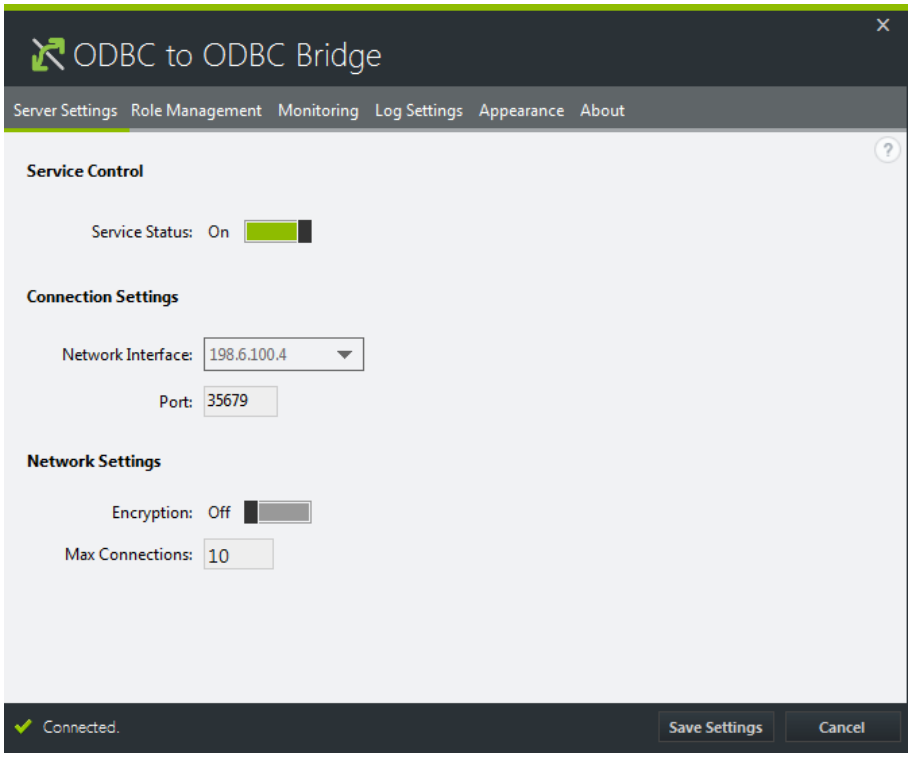

ODBC Data Source Administrator
User DSN
System DSN
File DSN
Drivers
Tracing
Connection Pooling
About
Microsoft SQL Server DSN Configuration
How should SQL Server verify the authenticity of the login ID?
With Windows NT authentication using the network login ID.
With SQL Server authentication using a login ID and password entered by the user.
To change the network library used to communicate with SQL Server, click Client Configuration.
Client Configuration...
Connect to SQL Server to obtain default settings for the additional configuration options.
Login ID: sa
Password: ••••••••••
< Back
Next >
Cancel
Help

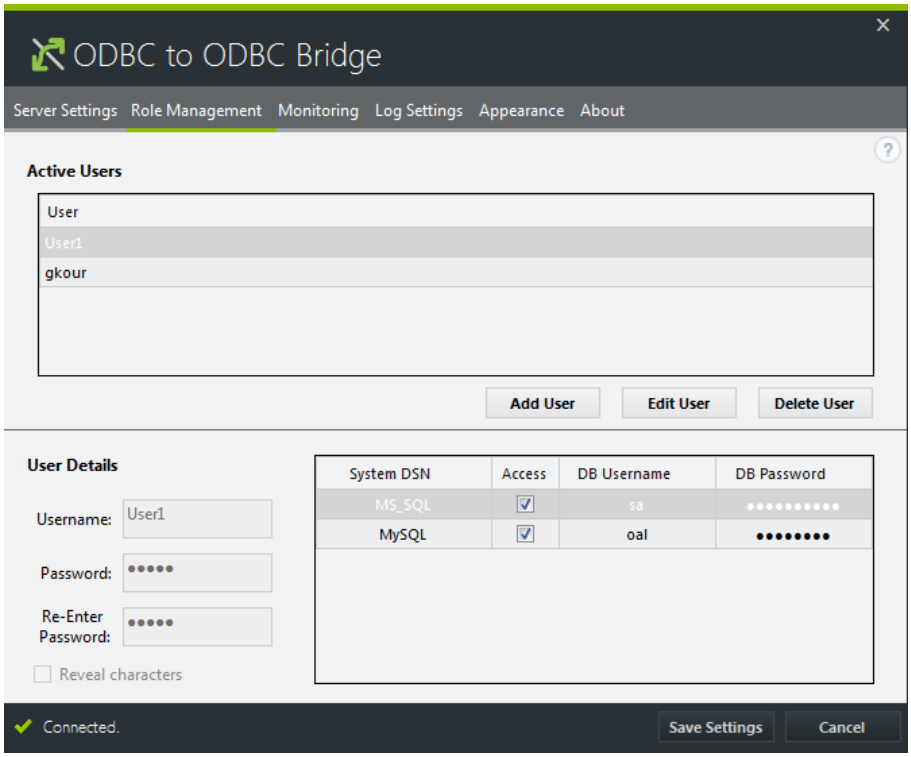

Microsoft SQL Server DSN Configuration
Change the default database to:
oal
Attach database filename:
Create temporary stored procedures for prepared SQL statements and drop the stored procedures:
Only when you disconnect.
When you disconnect and as appropriate while you are connected.
Use ANSI quoted identifiers.
Use ANSI nulls, paddings and warnings.
Use the failover SQL Server if the primary SQL Server is not available.
< Back
Next >
Cancel
Help


Microsoft SQL Server DSN Configuration
Change the language of SQL Server system messages to:
English
Use strong encryption for data
Perform translation for character data
Use regional settings when outputting currency, numbers, dates and times.
Save long running queries to the log file:
C:\Users\admin\AppData\Local\Temp\QUERY.LO
Browse...
Long query time (milliseconds):
30000
Log ODBC driver statistics to the log file:
C:\Users\admin\AppData\Local\Temp\STATS.LOC
Browse...
< Back
Finish
Cancel
Help

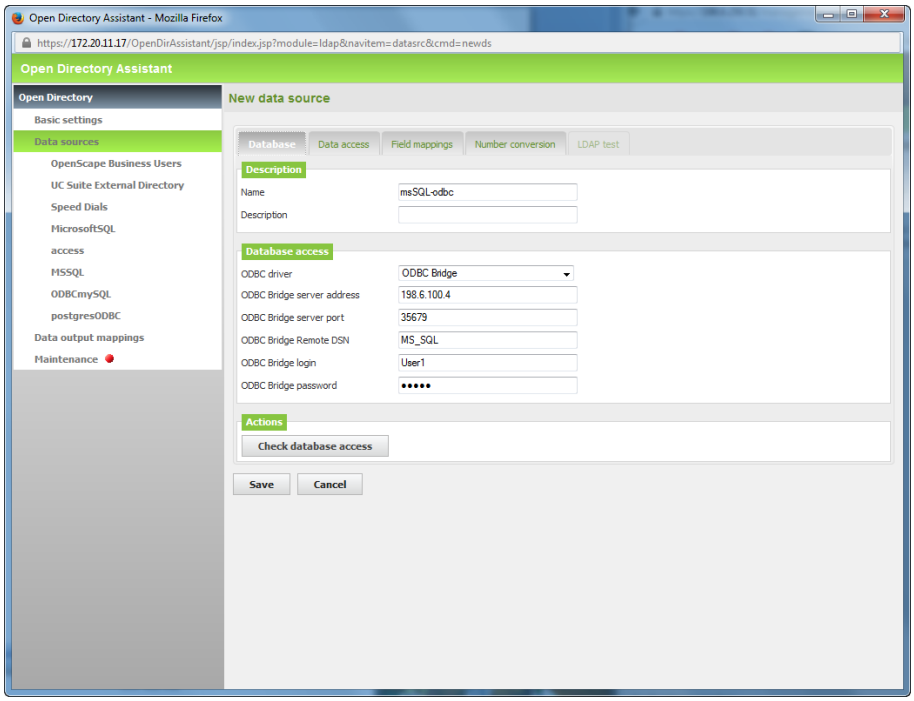


4.2.3. ODBC to ODBC Bridge server configuration

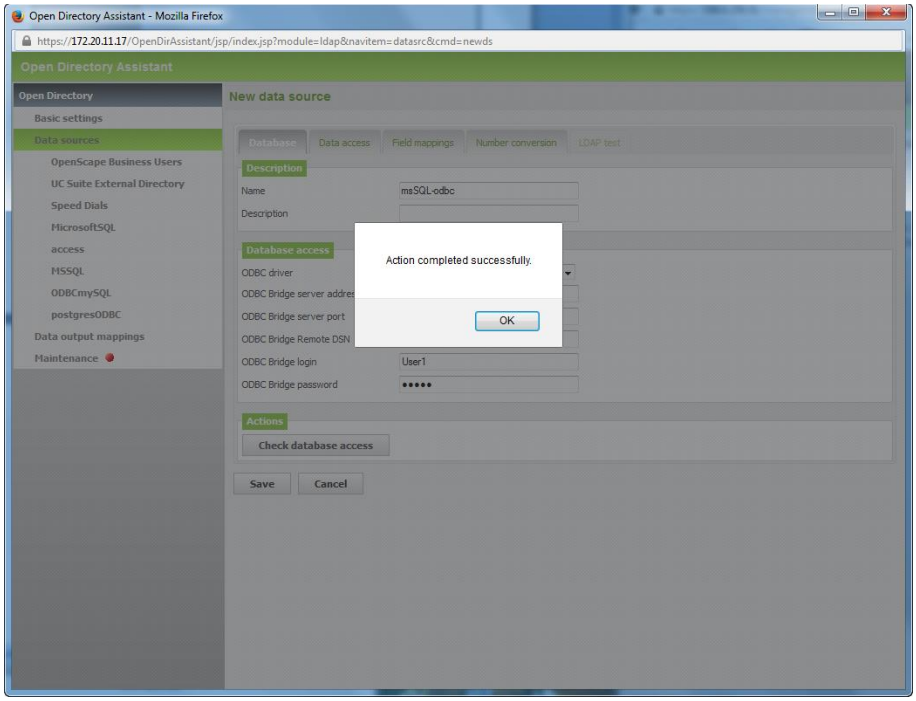


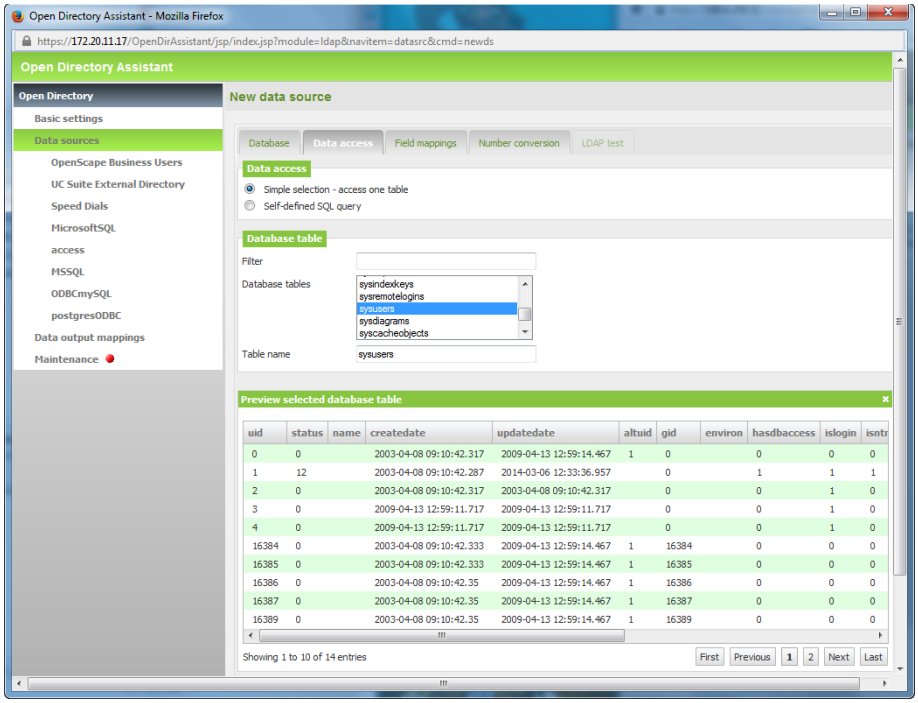


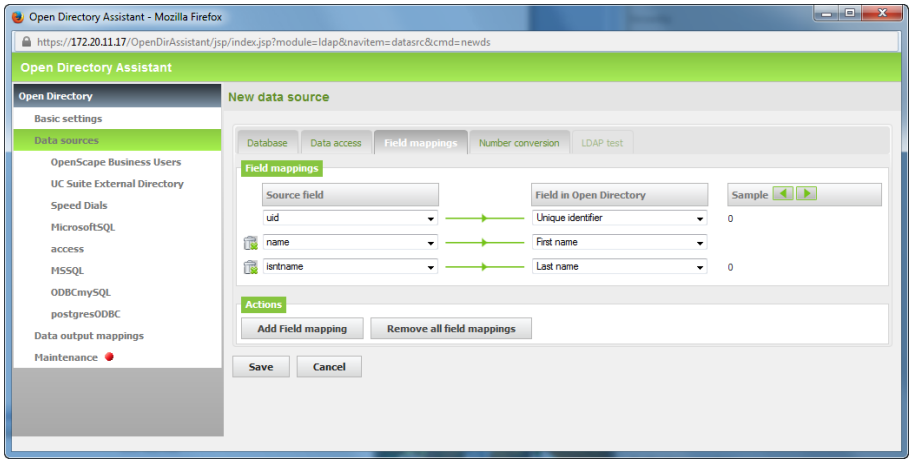
4.2.4. ODBC to ODBC Bridge client configuration



Note:
Whenever an MS- Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.


Open Directory Assistant - Mozilla Firefox
https://172.20.11.17/OpenDirAssistant/jsp/index.jsp?module=ldap&navitem=datasrc&cmd=newds
Open Directory Assistant
Open Directory
Basic settings
Data sources
OpenScape Business Users
UC Suite External Directory
Speed Dials
MicrosoftSQL
access
MSSQL
ODBCmySQL
postgresODBC
Data output mappings
Maintenance
New data source
Database
Data access
Field mappings
Number conversion
LDAP test
Description
Name
msSQL-odbc
Description
Database access
ODBC driver
ODBC Bridge server addres
ODBC Bridge server port
ODBC Bridge Remote DSN
ODBC Bridge login
User1
ODBC Bridge password
Action completed successfully.
OK
Actions
Check database access
Save
Cancel

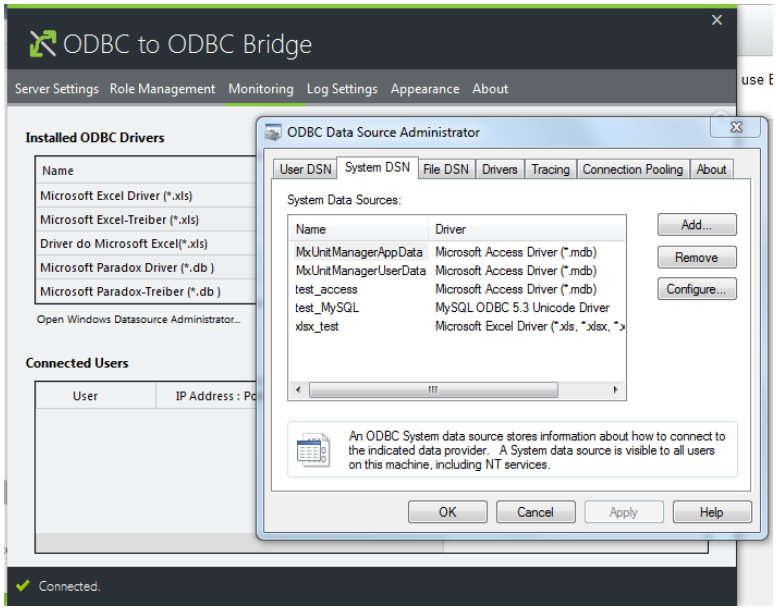

Open Directory Assistant - Mozilla Firefox
https://172.20.11.17/OpenDirAssistant/jsp/index.jsp?module=ldap&navitem=datasrc&cmd=newds
Open Directory Assistant
Open Directory
Basic settings
Data sources
OpenScape Business Users
UC Suite External Directory
Speed Dials
MicrosoftSQL
access
MSSQL
ODBCmySQL
postgresODBC
Data output mappings
Maintenance
New data source
Database
Data access
Field mappings
Number conversion
LDAP test
Data access
Simple selection - access one table
Self-defined SQL query
Database table
Filter
Database tables
sysindexkeys
sysremotelogins
sysusers
sysdiagrams
syscacheobjects
Table name
sysusers
Preview selected database table
uid status name createdate updatedate altuid gid environ hasdbaccess islogin isntr
0 0 2003-04-08 09:10:42.317 2009-04-13 12:59:14.467 1 0 0 0 0
1 12 2003-04-08 09:10:42.287 2014-03-06 12:33:36.957 0 1 1 1
2 0 2003-04-08 09:10:42.317 2003-04-08 09:10:42.317 0 0 1 0
3 0 2009-04-13 12:59:11.717 2009-04-13 12:59:11.717 0 0 1 0
4 0 2009-04-13 12:59:11.717 2009-04-13 12:59:11.717 0 0 1 0
16384 0 2003-04-08 09:10:42.333 2009-04-13 12:59:14.467 1 16384 0 0 0
16385 0 2003-04-08 09:10:42.333 2009-04-13 12:59:14.467 1 16385 0 0 0
16386 0 2003-04-08 09:10:42.35 2009-04-13 12:59:14.467 1 16386 0 0 0
16387 0 2003-04-08 09:10:42.35 2009-04-13 12:59:14.467 1 16387 0 0 0
16389 0 2003-04-08 09:10:42.35 2009-04-13 12:59:14.467 1 16389 0 0 0
Showing 1 to 10 of 14 entries
First Previous 1 2 Next Last

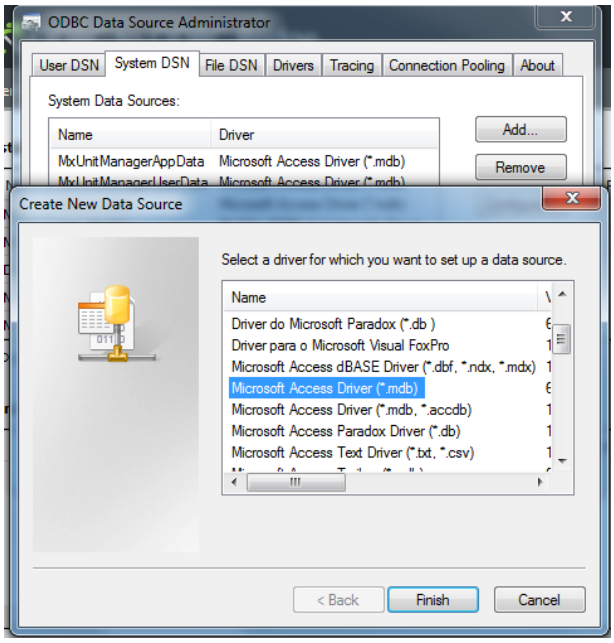

Open Directory Assistant - Mozilla Firefox
https://172.20.11.17/OpenDirAssistant/jsp/index.jsp?module=ldap&navitem=datasrc&cmd=newds
Open Directory Assistant
Open Directory
Basic settings
Data sources
OpenScape Business Users
UC Suite External Directory
Speed Dials
MicrosoftSQL
access
MSSQL
ODBCmySQL
postgresODBC
Data output mappings
Maintenance
New data source
Database
Data access
Field mappings
Number conversion
LDAP test
Field mappings
Source field
Field in Open Directory
Sample
uid
Unique identifier
0
name
First name
isntname
Last name
0
Actions
Add Field mapping
Remove all field mappings
Save
Cancel

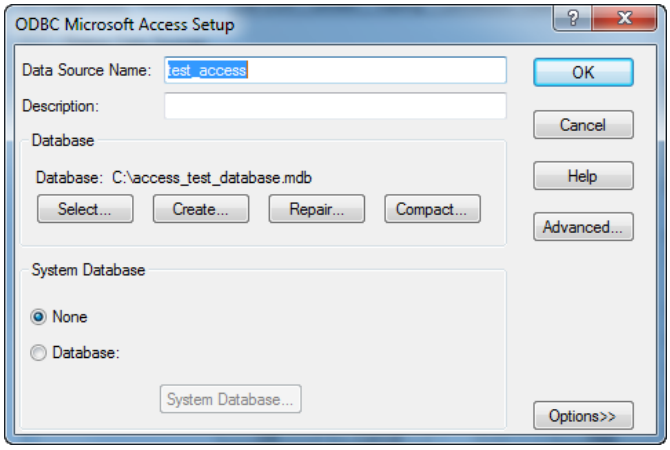
4.3. MS Access

4.3.1. Prerequisites

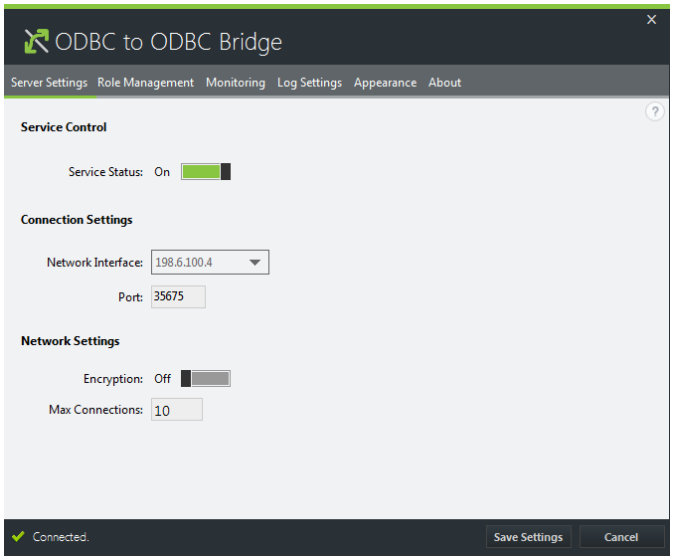
4.3.2. DSN configuration

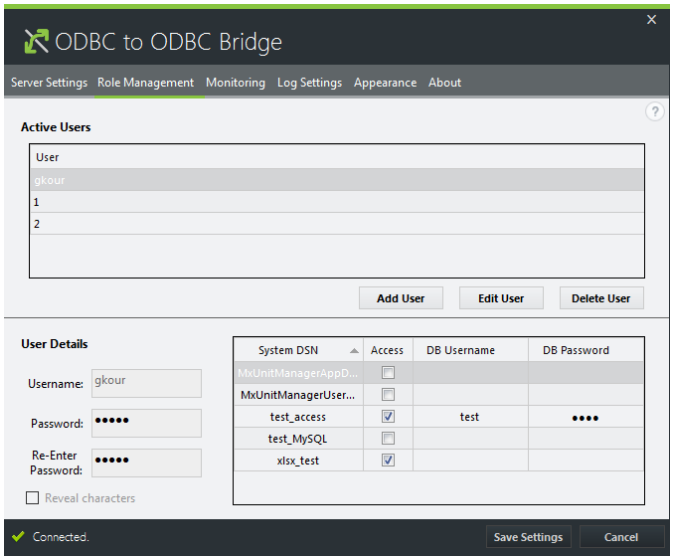




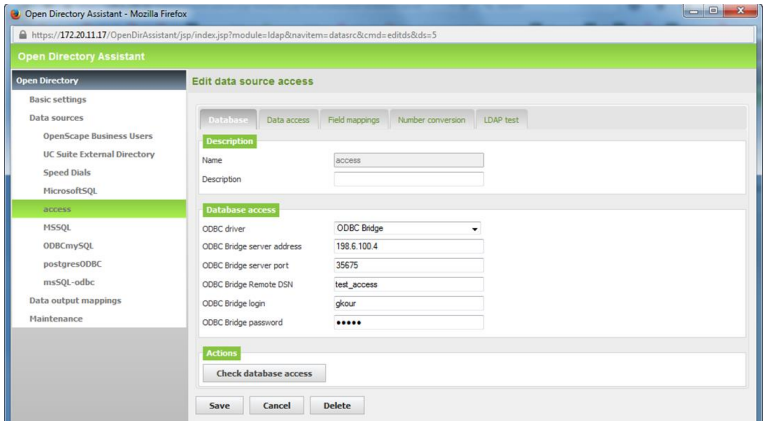


4.3.3. ODBC to ODBC Bridge server configuration

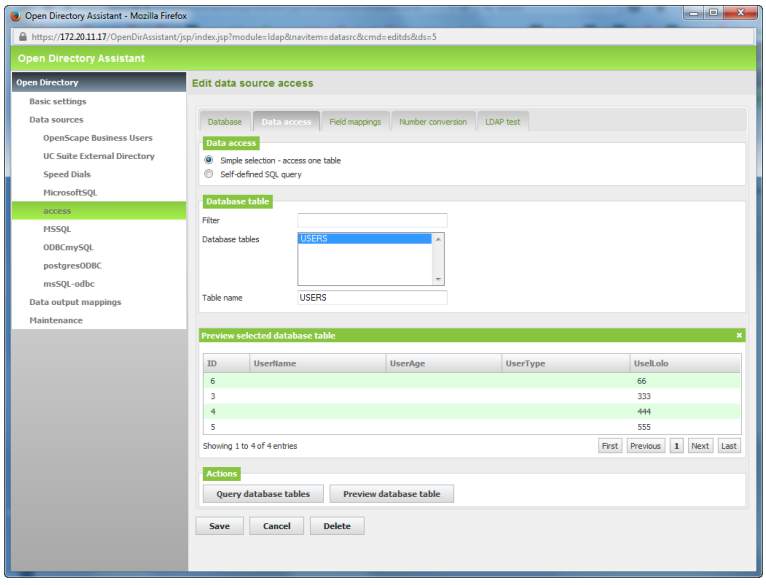


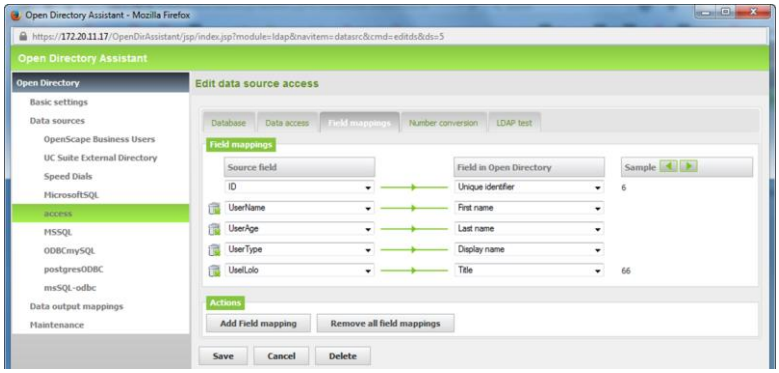


4.3.4. ODBC to ODBC Bridge client configuration



Note:
If a MS- Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.





4.4. MS Excel Spreadsheet

4.4.1. Prerequisites

It is necessary to define a Named Range within the Excel spreadsheet, before it can be accessed via the ODBC to ODBC Bridge. The definition of a Name Range within Excel (2010) is done as follows:

- Select the range of cells (don't forget the column headers) that you want to expose to ODS
- Click the Name box at the left end of the formula bar.
- Type the name that you want to use to refer to your selection. Names can be up to 255 characters in length.
- The named range will appear as the table name in the ODS configuration menu of OSBiz

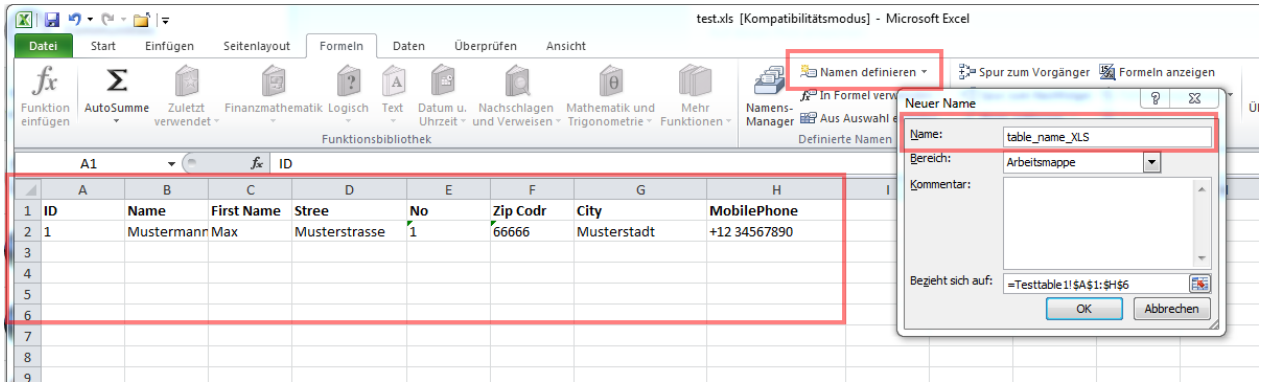
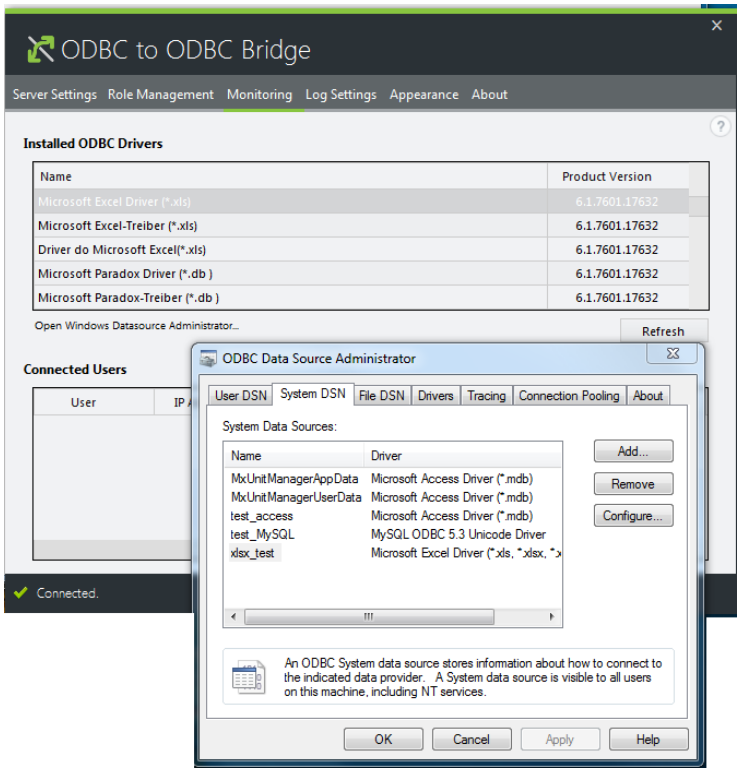
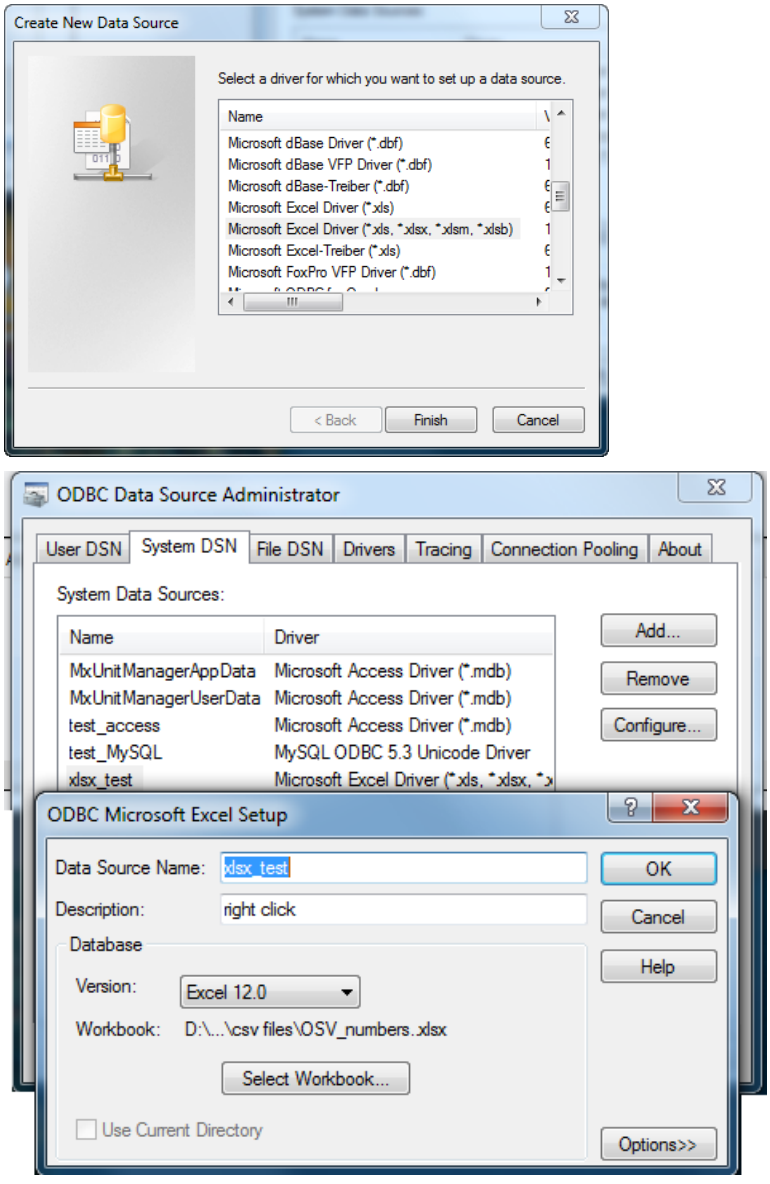


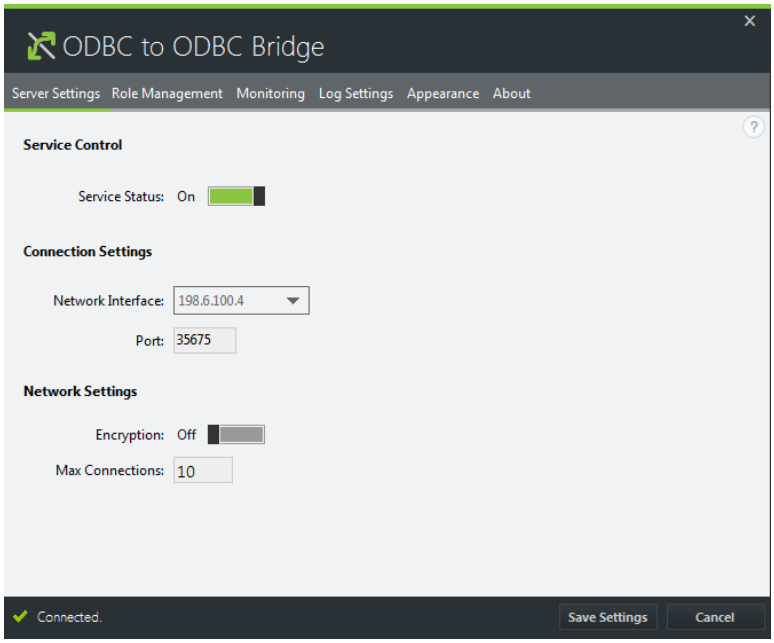
Table 5 MS Excel - Definition of a Named Range

4.4.2. DSN configuration

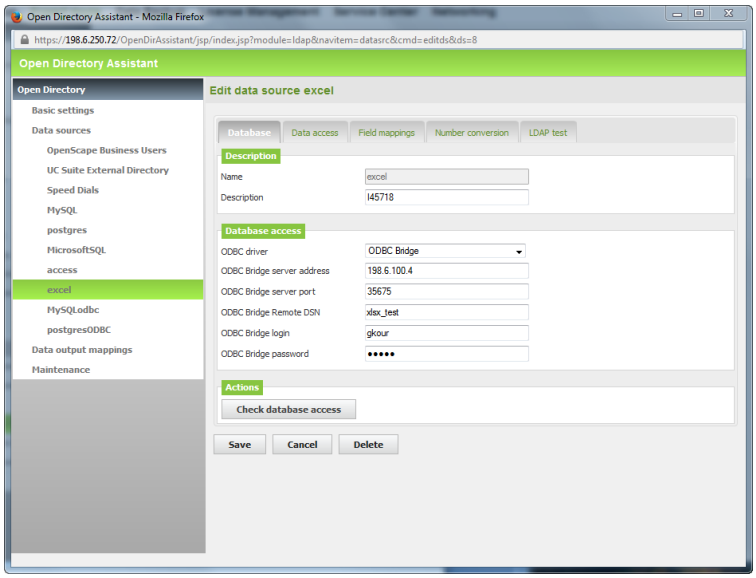



Create New Data Source
Select a driver for which you want to set up a data source.
Name
Microsoft dBase Driver (*.dbf)
Microsoft dBase VFP Driver (*.dbf)
Microsoft dBase-Treiber (*.dbf)
Microsoft Excel Driver (*.xls)
Microsoft Excel Driver (*.xls, *.xlsx, *.xlsm, *.xlsb)
Microsoft Excel-Treiber (*.xls)
Microsoft FoxPro VFP Driver (*.dbf)
< Back
Finish
Cancel
ODBC Data Source Administrator
User DSN
System DSN
File DSN
Drivers
Tracing
Connection Pooling
About
System Data Sources:
Name
Driver
MxUnitManagerAppData
Microsoft Access Driver (*.mdb)
MxUnitManagerUserData
Microsoft Access Driver (*.mdb)
test_access
Microsoft Access Driver (*.mdb)
test_MySQL
MySQL ODBC 5.3 Unicode Driver
xlsx_test
Microsoft Excel Driver (*.xls, *.xlsx, *.x
Add...
Remove
Configure...
ODBC Microsoft Excel Setup
Data Source Name:
xlsx_test
Description:
right click
Database
Version:
Excel 12.0
Workbook:
D:\...\csv files\OSV_numbers.xlsx
Select Workbook...
Use Current Directory
OK
Cancel
Help
Options>>

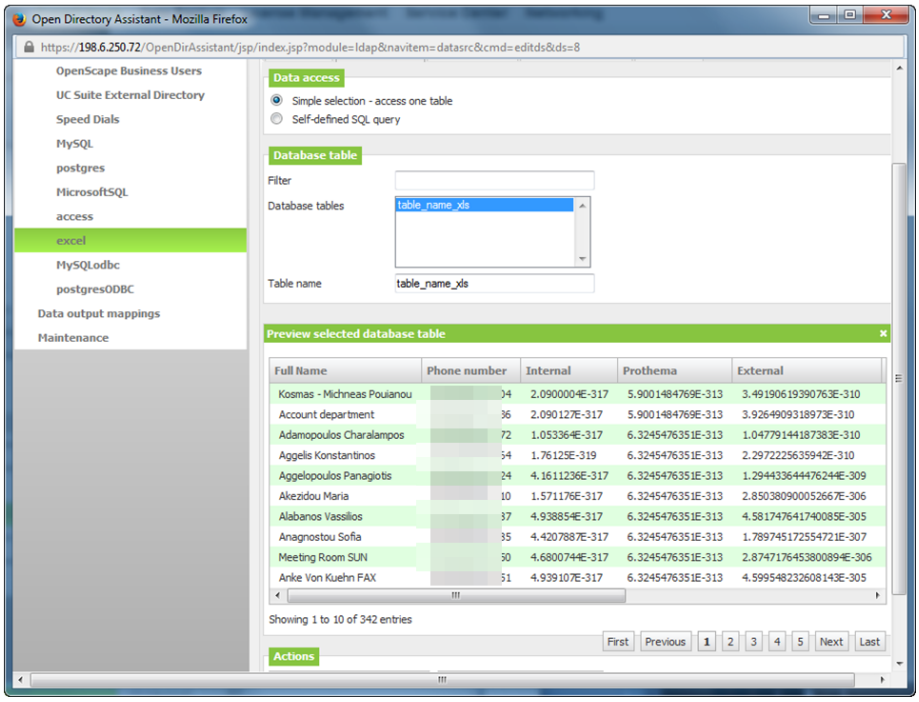
4.4.3. ODBC to ODBC Bridge server configuration

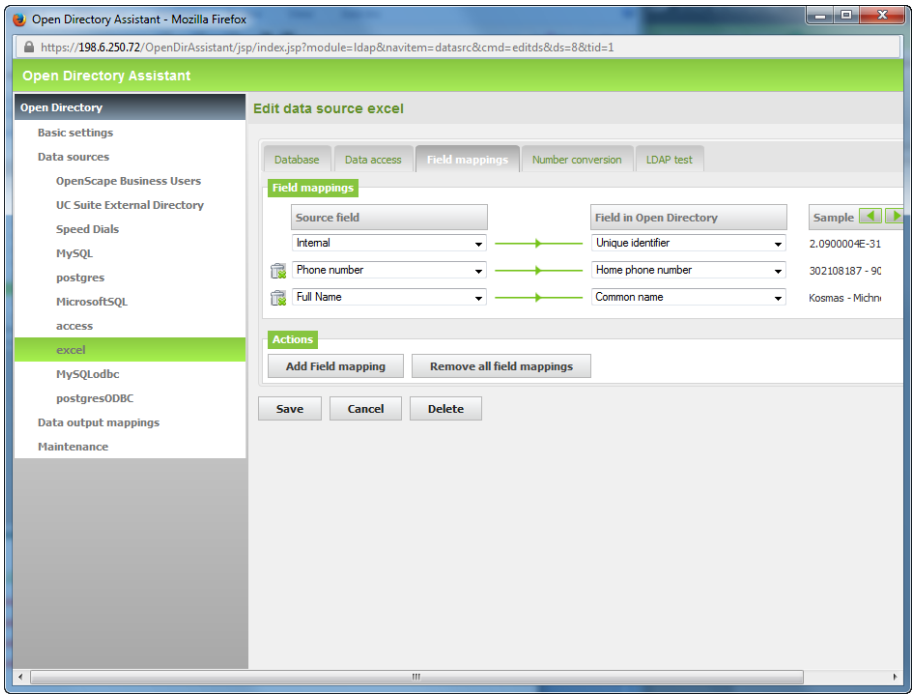


4.4.4. ODBC to ODBC Bridge client configuration



Note:
If a MS- Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.


Open Directory Assistant - Mozilla Firefox
https://198.6.250.72/OpenDirAssistant/jsp/index.jsp?module=ldap&navitem=datasrc&cmd=editds&ds=8
OpenScape Business Users
UC Suite External Directory
Speed Dials
MySQL
postgres
MicrosoftSQL
access
excel
MySQLodbc
postgresODBC
Data output mappings
Maintenance
Data access
Simple selection - access one table
Self-defined SQL query
Database table
Filter
Database tables
table_name_xls
Table name
table_name_xls
Preview selected database table
Full Name
Phone number
Internal
Prothema
External
Kosmas - Michneas Pouianou
Account department
Adamopoulos Charalampos
Aggelis Konstantinos
Aggelopoulos Panagiotis
Akezidou Maria
Alabanos Vassilios
Anagnostou Sofia
Meeting Room SUN
Anke Von Kuehn FAX
Showing 1 to 10 of 342 entries
First
Previous
1
2
3
4
5
Next
Last
Actions


Open Directory Assistant - Mozilla Firefox
https://198.6.250.72/OpenDirAssistant/jsp/index.jsp?module=ldap&navitem=datasrc&cmd=editds&ds=8&tid=1
Open Directory Assistant
Open Directory
Basic settings
Data sources
OpenScape Business Users
UC Suite External Directory
Speed Dials
MySQL
postgres
MicrosoftSQL
access
excel
MySQLodbc
postgresODBC
Data output mappings
Maintenance
Edit data source excel
Database
Data access
Field mappings
Number conversion
LDAP test
Field mappings
Source field
Field in Open Directory
Sample
Internal
Unique identifier
2.0900004E-31
Phone number
Home phone number
Full Name
Common name
Actions
Add Field mapping
Remove all field mappings
Save
Cancel
Delete

5. Functional Restrictions

Certain limitations have to be considered using the ODBC-ODBC Bridge connector. This is necessary as the several ODBC / SQL database server / data sources supports different sets of ODBC functions and has different database structures, table syntax and content coding.

Before connecting / integrating a customer database, the database administrator must check whether the provided scope of functions of the ODBC connector is sufficient for the connection of the database. In case of doubt, this has to be checked in a test environment before conclusion of contract. For this purpose the demo SW of an OpenScape Business S can be used in a virtualized environment.

The functions, SQL implementations and the character set supported by the ODBC connector are described in the subsequent chapters.

5.1. General Hints

1. The preferred default quote characters are single upper and double upper quotation mark (' ; ").
   Databases with different quote characters may not by supported properly.
2. The most preferred character set is ASCII followed by UTF-8.
   Please keep in mind that character sets may be treated in a different way depending on the DBMS used.
3. Table and column names may not contain blanks or non-ASCII characters.
4. The most appropriate column data types are VARCHAR and INT. Please try to use them if possible.
   Column data types "NCHAR" and "NVARCHAR" are not supported.
5. The column that is mapped to the unique entry id of ODS must contain unique and not null/not empty values. Use the PRIMARY KEY or UNIQUE restrictions in the table in order to enforce this property.
6. Whenever an MS- Access, Firebird, MS-Excel, CSV, or an Oracle data source is used please add the word "access", "firebird", "excel", "csv" or "oracle" respectively to the description field of the ODS data source description field.

5.2. SQL specific Hints

Open Directory Service (ODS) core process makes use of LOWER and RTRIM SQL keywords. Those keywords must be supported by the Database Management System (DBMS).

This is the reason why MS-Access, Firebird and MS-Excel data sources require the description field of the ODS data source to be filled in accordingly.

5.3. Supported ODBC functions

The following ODBC functions must be supported by the Database Management System (DBMS) and the corresponding ODBC driver:

- SQLAllocHandle
- SQLBindCol
- SQLConnect
- SQLDisconnect
- SQLDriverConnect
- SQLExecDirect
- SQLFetch
- SQLFreeHandle
- SQLFreeStmt
- SQLGetDiagRec
- SQLGetInfo

- SQLSetConnectAttr
- SQLSetEnvAttr
- SQLGetEnvAttr
- SQLGetFunctions
- SQLGetStmtAttr
- SQLNumResultCols
- SQLGetTypeInfo
- SQLColAttribute
- SQLGetData
- SQLTables

5.4. Access to Data Sources on shared Network Drive

System DSNs by definition are local data sources and as such are expected to work only via locally stored data.

If it is required for a data source to remotely access data on a shared network drive, please adapt Data Sources (ODBC) within Windows Control Panel >> Administrative Tools, to act as File DSN.

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