

Server Installation

1 Contents

1	Introduction.....	3
2	Installing QEF.....	3
2.1	Preface.....	3
2.2	Pre-Installation Checklist.....	3
2.3	Installing QEF.....	3
2.3.1	Starting Installer.....	3
2.3.2	Instance Name.....	4
2.3.3	Checking Prerequisites.....	5
2.3.4	Registering Instance and Deploying Binaries.....	6
2.3.5	Configuring QEF.....	8
2.3.6	Setting up Database.....	12
2.3.7	Starting QEF Service.....	16
2.3.8	Finishing Installation.....	16
3	Installing QualiWare Lifecycle Manager (QLM).....	17
3.1	Installing Files.....	18
3.2	Configuring and Testing Connection to QEF.....	19
3.2.1	Configuring Connection to QEF.....	19
3.2.2	Testing Connection to QEF.....	20
3.3	Sharing Installation Folder for Client Access.....	21
3.4	Configuring Client Computers for Easy Access to QLM in a Network Installation.....	21
4	Firewall Configuration.....	22
4.1	Preface.....	22
4.2	General Information.....	22
4.3	Configuration.....	24
4.3.1	Firewall as External Device.....	24
4.3.2	Firewall Installed on the Server and/or Client.....	24
5	SharePoint WebService.....	25
5.1	Preface.....	25
5.2	Prerequisites.....	25

5.3	Supported Servers	25
6	OLE DB Provider	25
6.1	Preface.....	25
6.2	Prerequisites.....	25
6.3	Installing Visual C++ Redistributable	26
6.4	Installing QIS OLE DB Provider.....	26
6.5	Using QIS OLE DB Provider from Microsoft Excel.....	27
6.6	Using QIS OLE DB Provider from Crystal Reports.....	32
6.7	Scope and language settings	36
6.8	Uninstalling QIS OLE DB Provider	37
6.9	Appendix A: Quick QSQL reference.....	38
6.10	Appendix B: Full list of support QSQL textual queries	43

1 Introduction

Three components of QualiWare requires installers to be run directly on the server. These components are:

- QualiWare Execution Framework (QEF)
- QualiWare Lifecycle Manager (QLM)
- QualiWare SharePoint Webservice (optionally)

Each of those components are installed by executing their corresponding installer packages directly on the server. All three packages requires administrative rights.

Each component requires further configuration after installation. However since this configuration often contains references to the other components, it is recommended to run all installers before starting any configuration. That way all files and folders are ready for referencing between components.

This has the added benefit that all administrative server tasks is done in one process. When completed, administrative server rights are no longer needed, and all configuration can be done from workstations, mostly through web interfaces.

The three components should be installed in the above order.

2 Installing QEF

2.1 Preface

This document describes the installation of the **QualiWare Execution Framework** (hereinafter QEF) instance onto the server.

The document assumes the reader has installed all prerequisites described in “Prerequisites” and configured database as described in “Database Guide”.

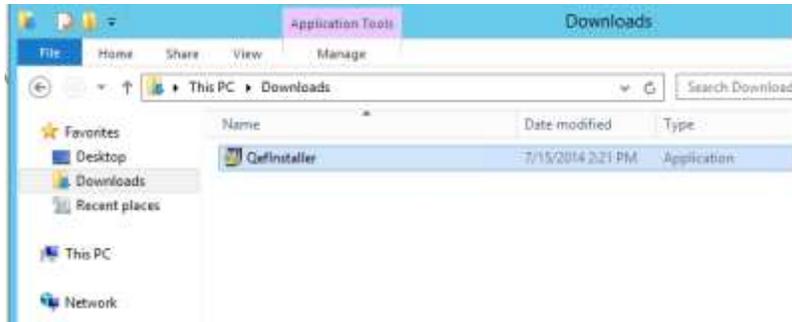
2.2 Pre-Installation Checklist

1. The current user doing installation has the Administrator rights on the local machine.
2. There is a dedicated AD account created for running QEF service (further will be referred as QEFServiceAccount).

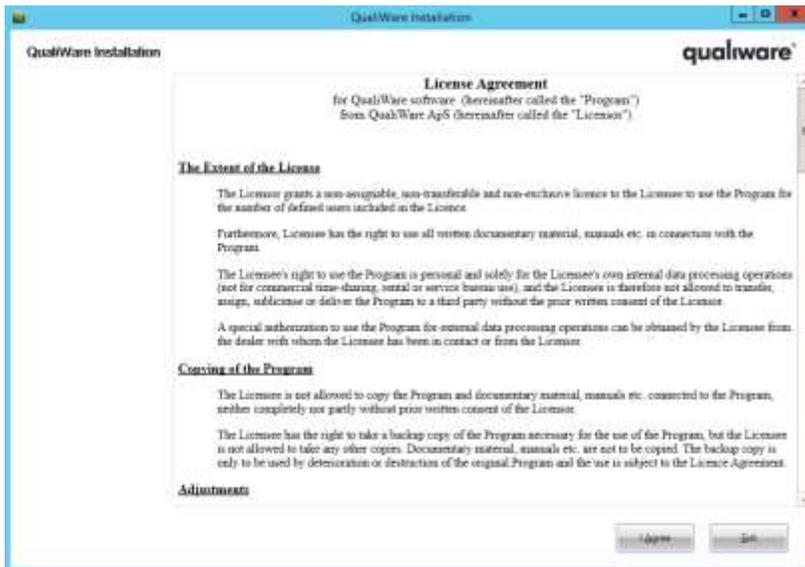
2.3 Installing QEF

2.3.1 Starting Installer

1. Run `QefInstaller.exe`.

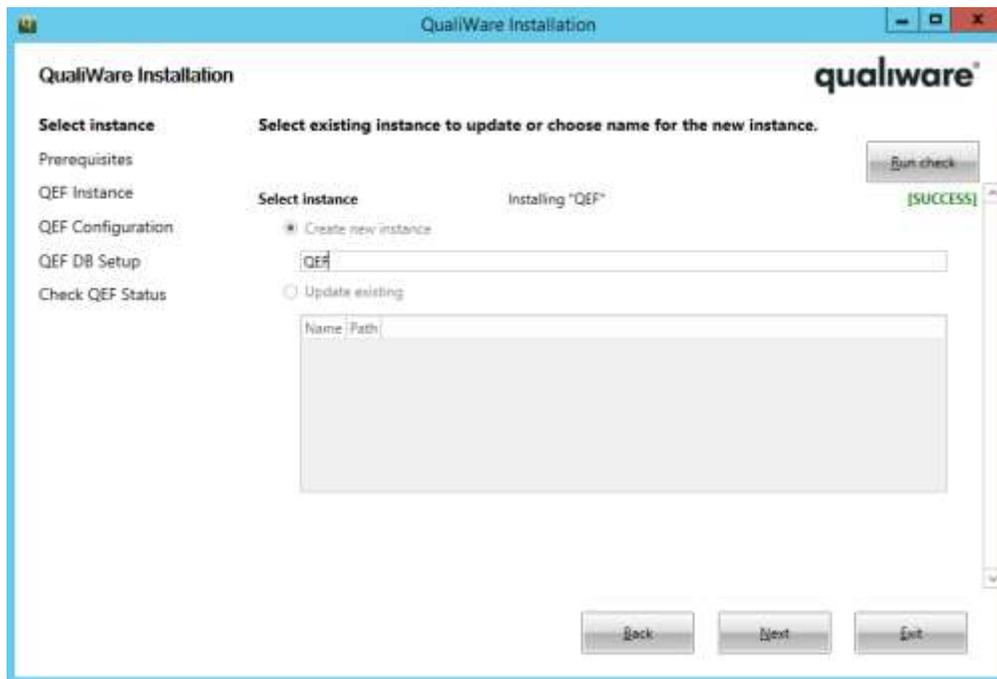


2. Read the license agreement and press I Agree button.



2.3.2 Instance Name

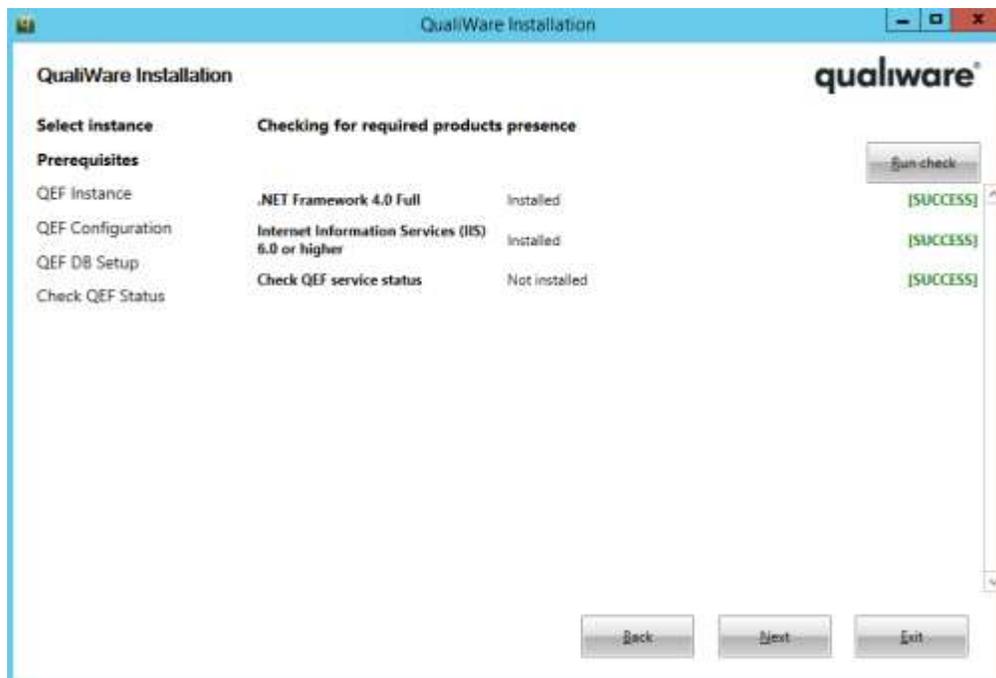
1. Check suggested instance name and edit it if necessary.



2. Press **Next**.

2.3.3 Checking Prerequisites

Ensure all prerequisite steps are in **Success** state.

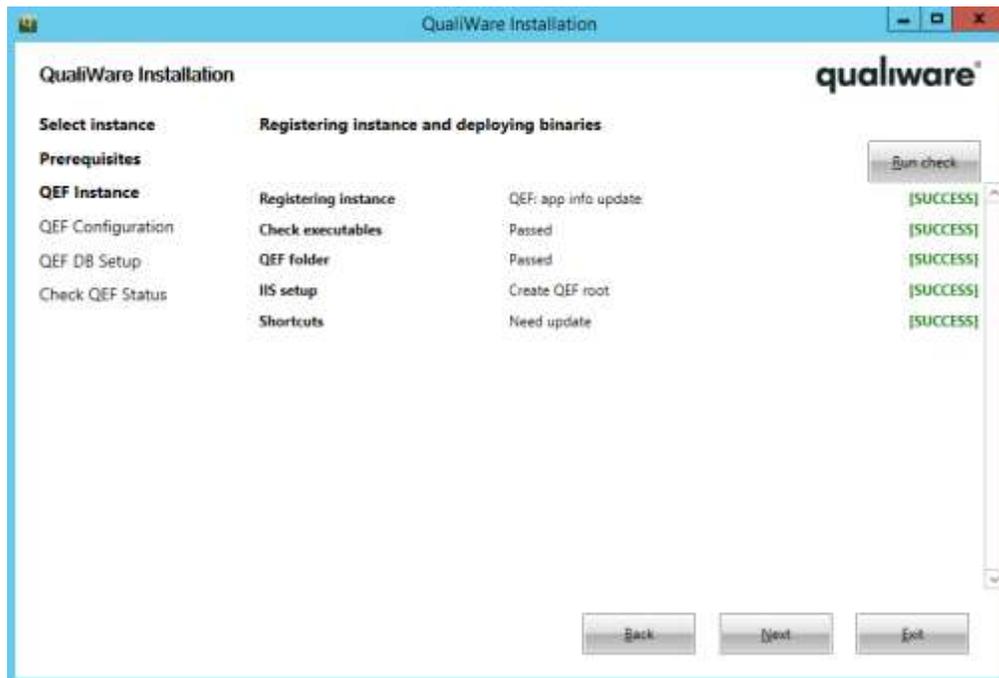


If .NET Framework or Internet Information Services are not installed, follow the instructions from **Server installation - Prerequisites, Databases**. After required components are installed, press **Run check** button or restart installer.

Press **Next** button.

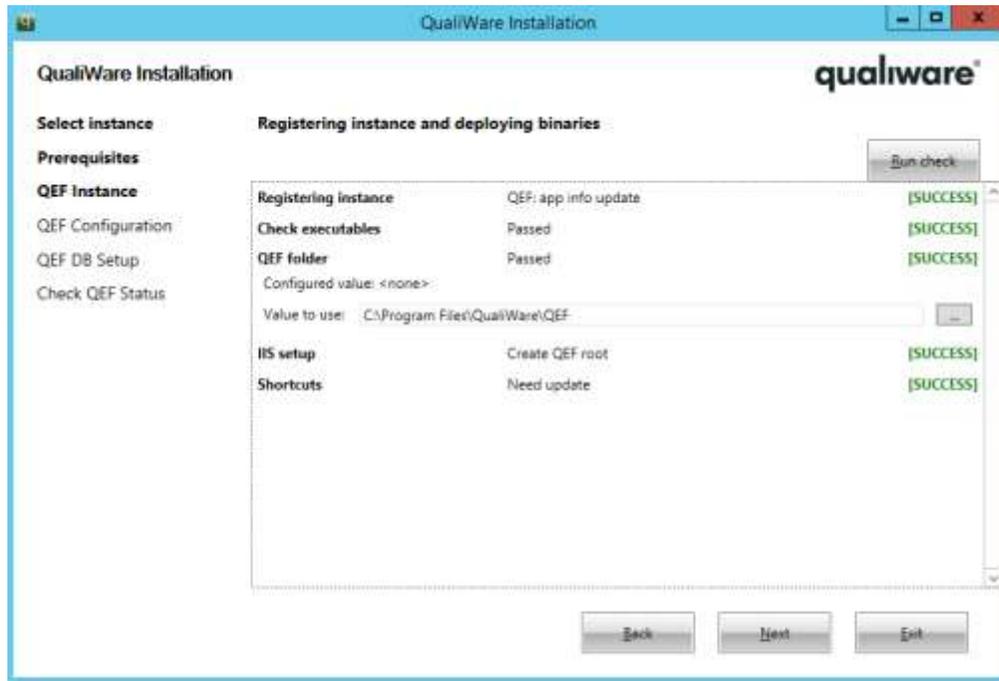
2.3.4 Registering Instance and Deploying Binaries

Check all steps are in **Success** state.

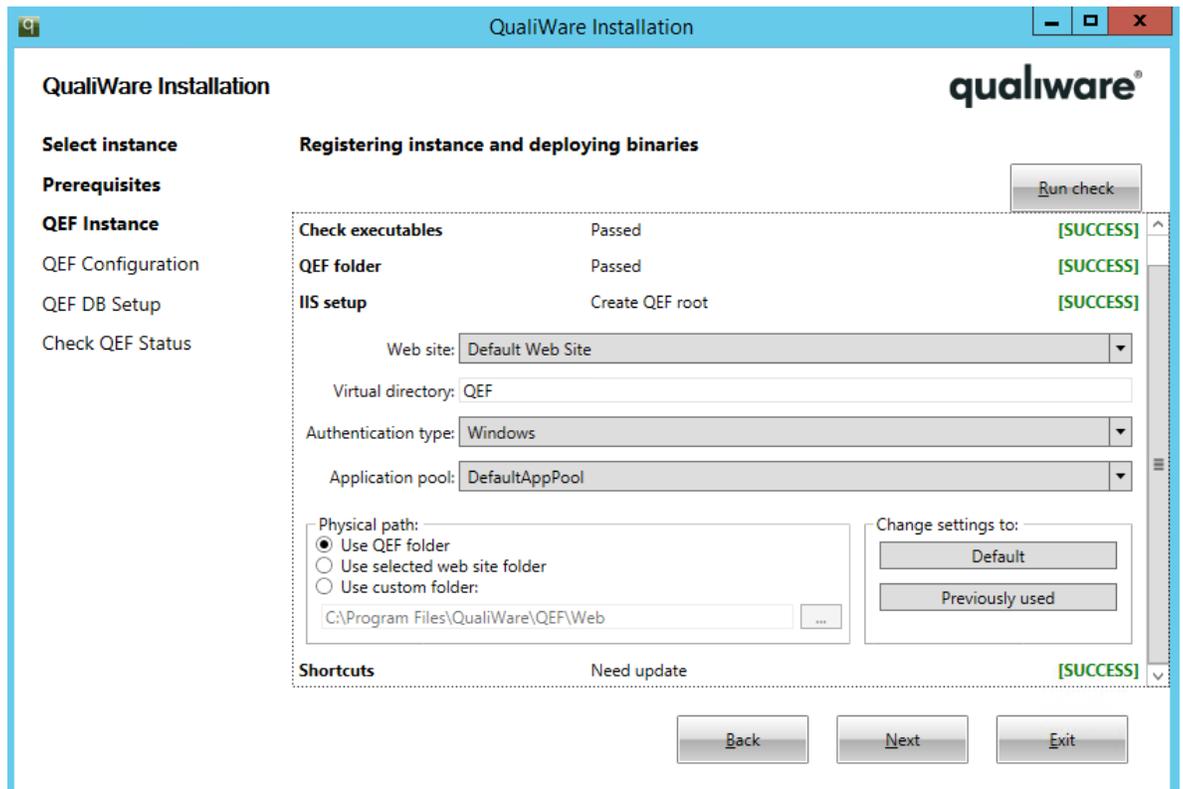


Some of the steps contain settings, which can be changed by user:

1. Path to QEF folder. Default value: **C:\Program Files\QualiWare\<Instance name>**. To change it, open the step contents by clicking on the name of the step:



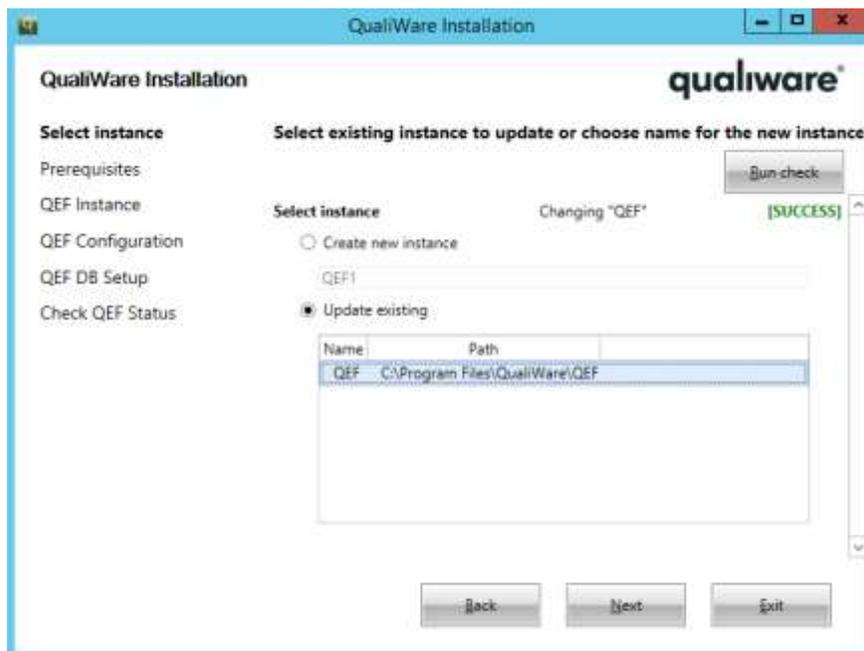
2. IIS setup. Default value: all web content is stored inside QEF folder, name of virtual directory equals to instance name. To change settings, open the step contents by clicking on the name of the step:



- Shortcuts. By default, shortcuts are created for all users on desktop and in start menu. To change settings, open the step contents by clicking on the name of the step.

After all settings are checked, click **Next** button.

Please note, after this stage is finished, the QEF instance is registered in Windows Registry and considered existing. In case installer is restarted by any reason, to continue configuring this instance, user must select **Update existing** option and proper item from the list of instances on the **Instance name** stage:



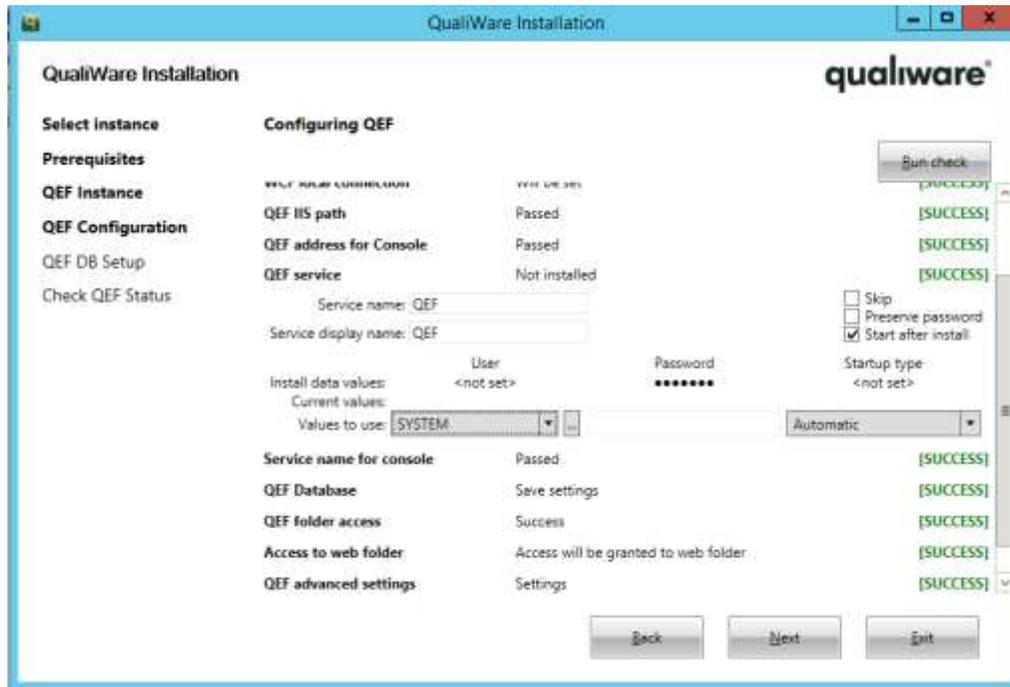
2.3.5 Configuring QEF

Most of the steps in this stage use auto-generated values based on previously selected settings or available system resources. But some of the steps require special attention:

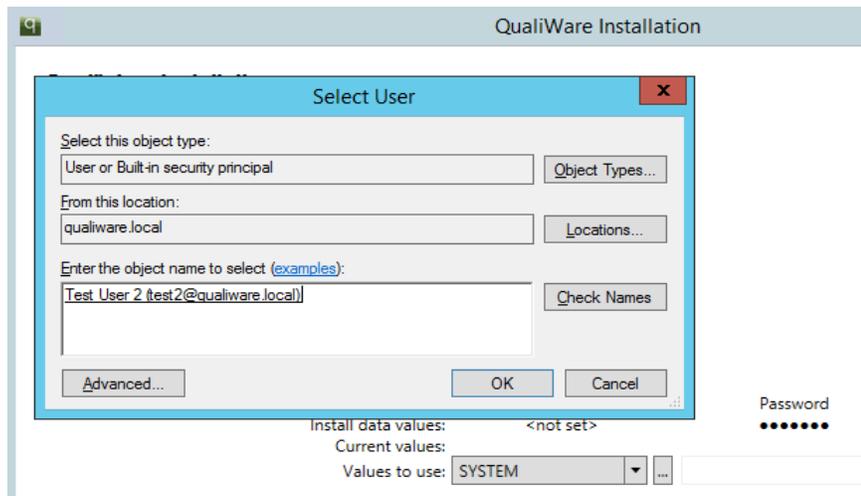
2.3.5.1 QEF Service

By default, QEF service executes under **SYSTEM** account, which is appropriate for test installations only. In production environment dedicated Active Directory account must be used for running QEF service.

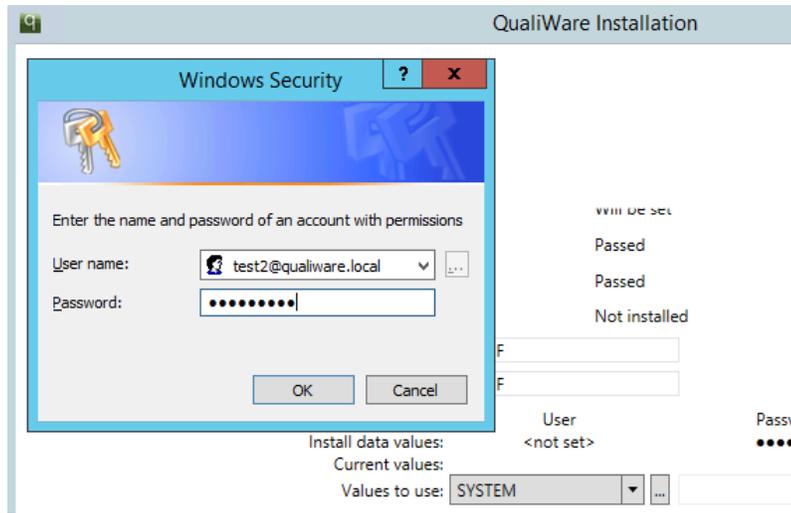
- To change account, open the step contents by clicking the name of the step:



2. In **User** column press ... button and select **QEFServiceAccount** in **Select User** dialog:



3. In **Windows Security** dialog type the password for the selected account:



4. If Windows Security window did not appear, ensure correct password is typed in Password column:



2.3.5.2 QEF Database

By default, QEF database is placed on (local) MS SQL server instance, which is appropriate for test installations only. In production environment standalone SQL server must be used.

1. To change database settings, open the step contents by clicking on the name of the step:

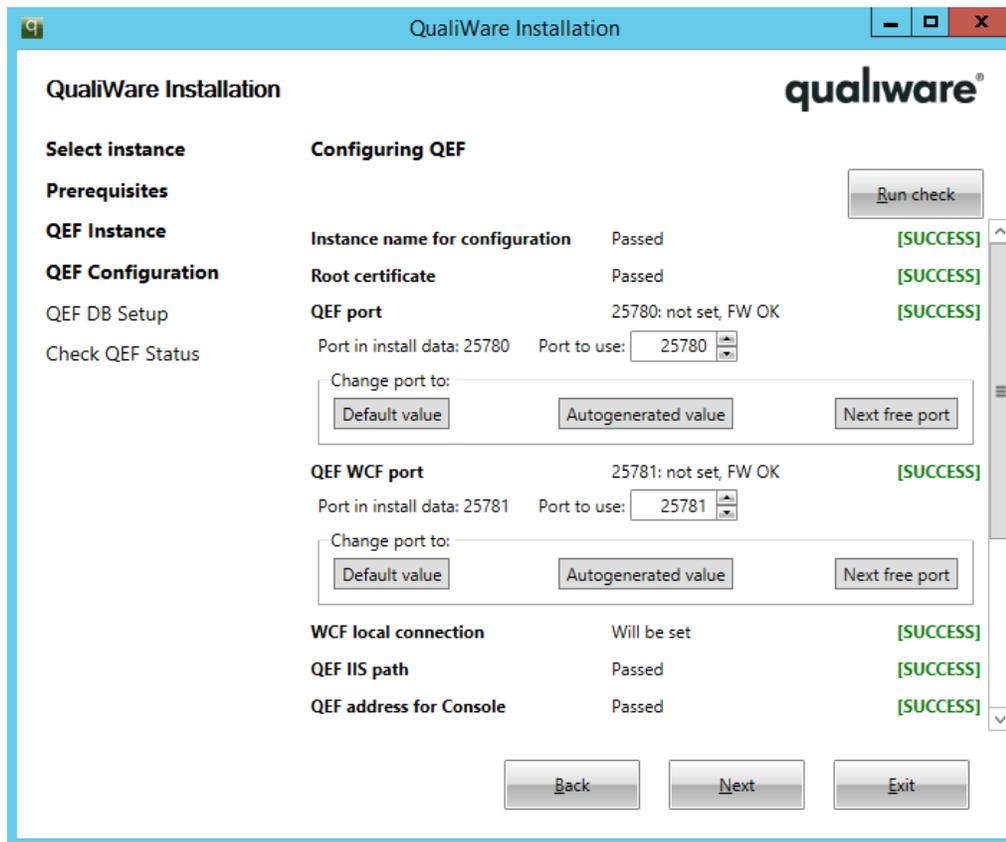


2. Set correct server name, database name and authentication type. In case **Windows authentication** is selected, QEF will access database using **QEFServiceAccount** credentials.

After all settings are checked, press **Next** button.

2.3.5.3 QEF Ports selection and Firewall Setup (optional)

QEF communicates with clients by TCP-based protocol, which requires two TCP ports to be opened for listening. By default, installer automatically selects first two free ports starting from 25780. If automatically generated values are not acceptable by any reason, port numbers can be set manually in “**QEF port**” and “**QEF WCF port**” steps (Open the step contents by clicking on the name of the step):



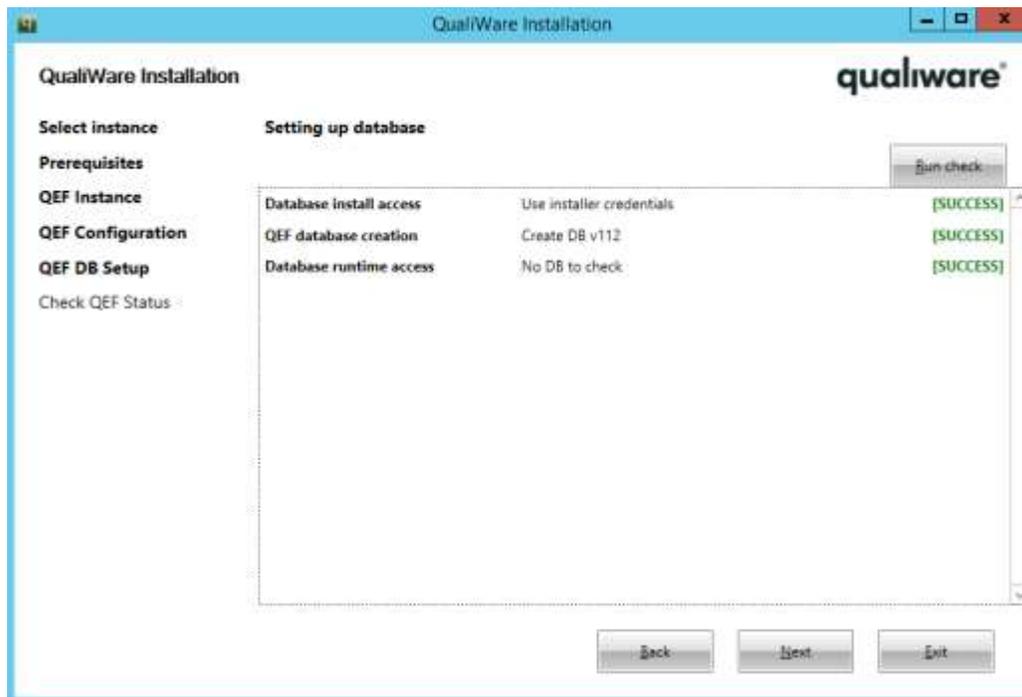
In most cases the local server, QEF installed into, is protected by some kind of firewall. QEF installer supports automatic configuration of Windows firewall which installed on the local server. If server is protected by remote firewall or third-party local firewall, configuration must be done manually: incoming TCP connections on port numbers from “QEF port” and “QEF WCF port” steps must be allowed for **Qef.exe** application.

2.3.6 Setting up Database

This stage ensures database presence on server, checks database schema version and permissions for **QEFServiceAccount** to access database. There are three scenarios which differ by SQL server access rights available at installation time.

2.3.6.1 Current User (installer) has Enough Rights to Manage Database

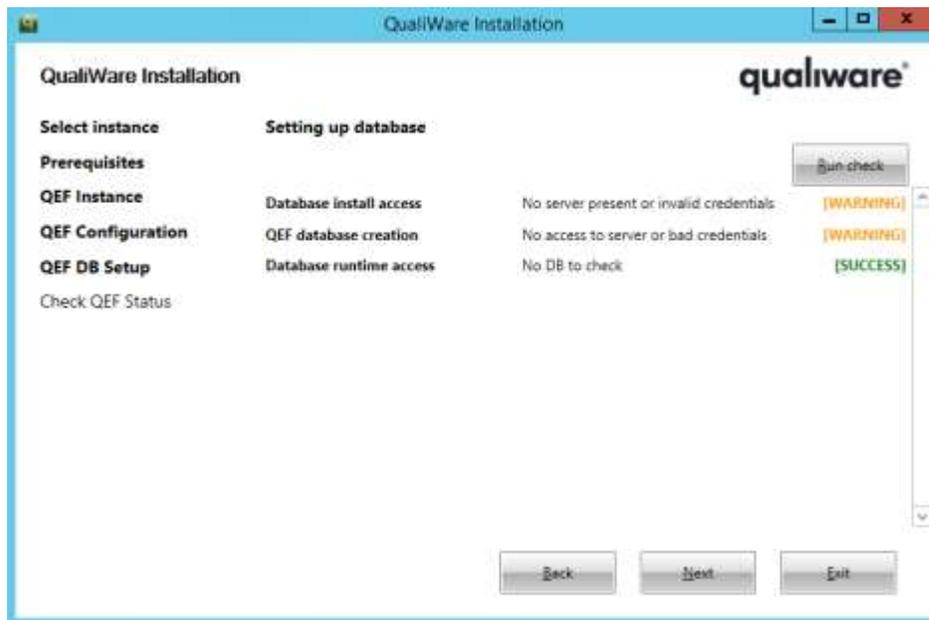
In this case all database management steps will be done automatically: database will be created, if not exists, or it will be updated if schema is old, access rights to use database will be granted to **QEFServiceAccount**, if necessary.



In case all steps are in **Success** state, press **Next** button.

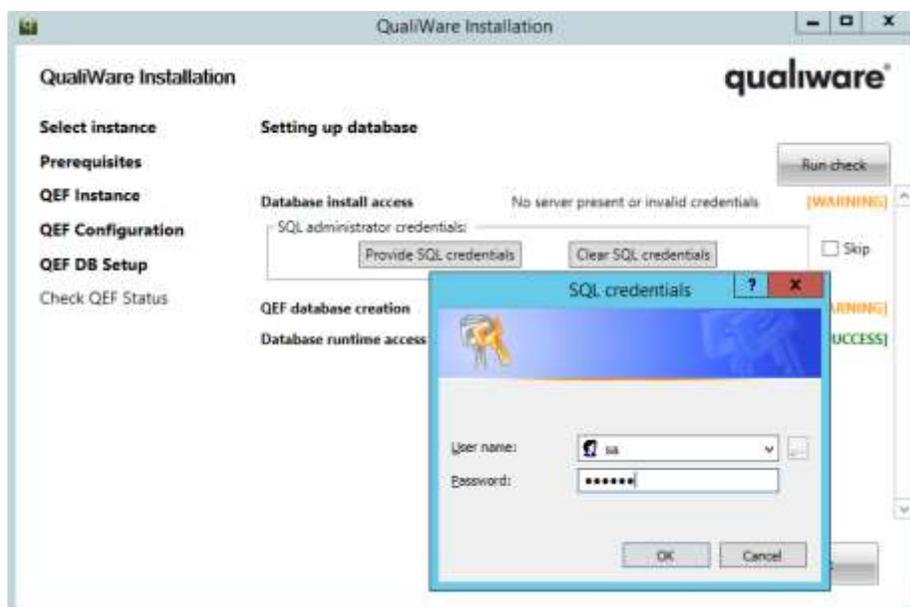
2.3.6.2 SQL Credentials with Enough Rights are Available at Install Time

In case installer doesn't have access to server, **Database install access** step will be in **Warning** state with message "No server present or invalid credentials":

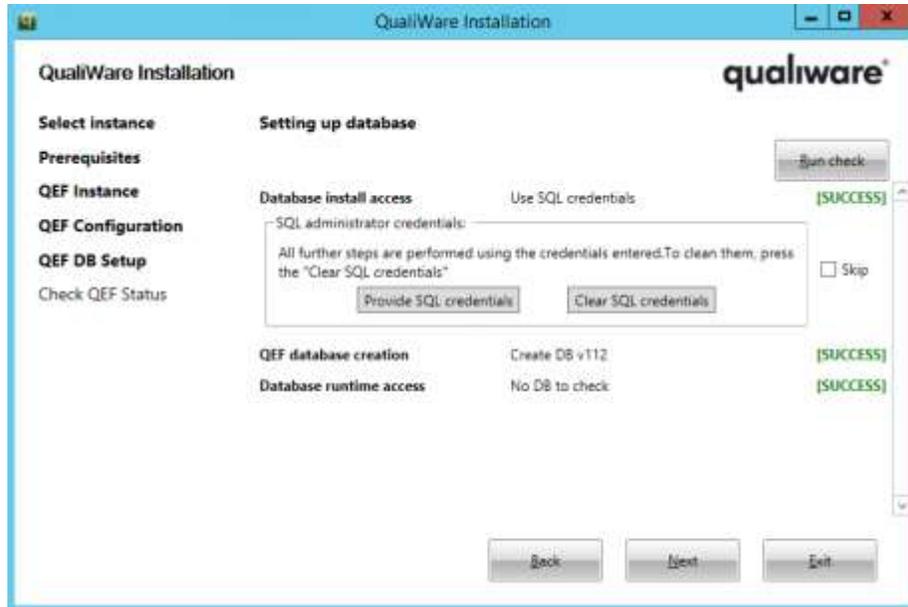


One-time SQL credentials can be used to configure SQL server:

1. Open the **Database install access** step contents by clicking on the name of the step.
2. Press button **Provide SQL credentials**.
3. In **SQL credentials** dialog set login, password and press **OK** button:



4. After changing SQL credentials you need to recheck status of the stage. Press **Run check** button. If provided credentials are valid, status of all steps will change to **Success**:



Please note that only SQL credentials can be used in this scenario, **SQL authentication** must be enabled on the server. No Windows (Active Directory) credentials can be used here.

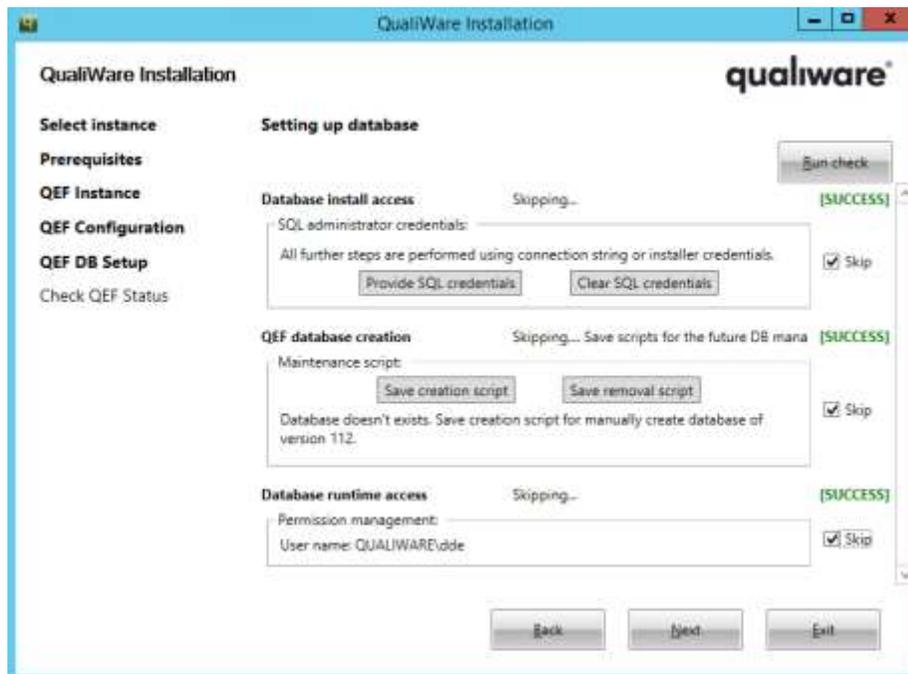
5. Press **Next** button.

2.3.6.3 No Admin Access to SQL Server

In some cases nobody can change server configuration except SQL administrators. In this case the stage looks like in the previous scenario: the **Database install access** step is in the **Warning** state with message “No server present or invalid credentials”.

To continue with installation:

1. Open the contents of all steps by clicking on their names.
2. Check **Skip** check boxes for each step:



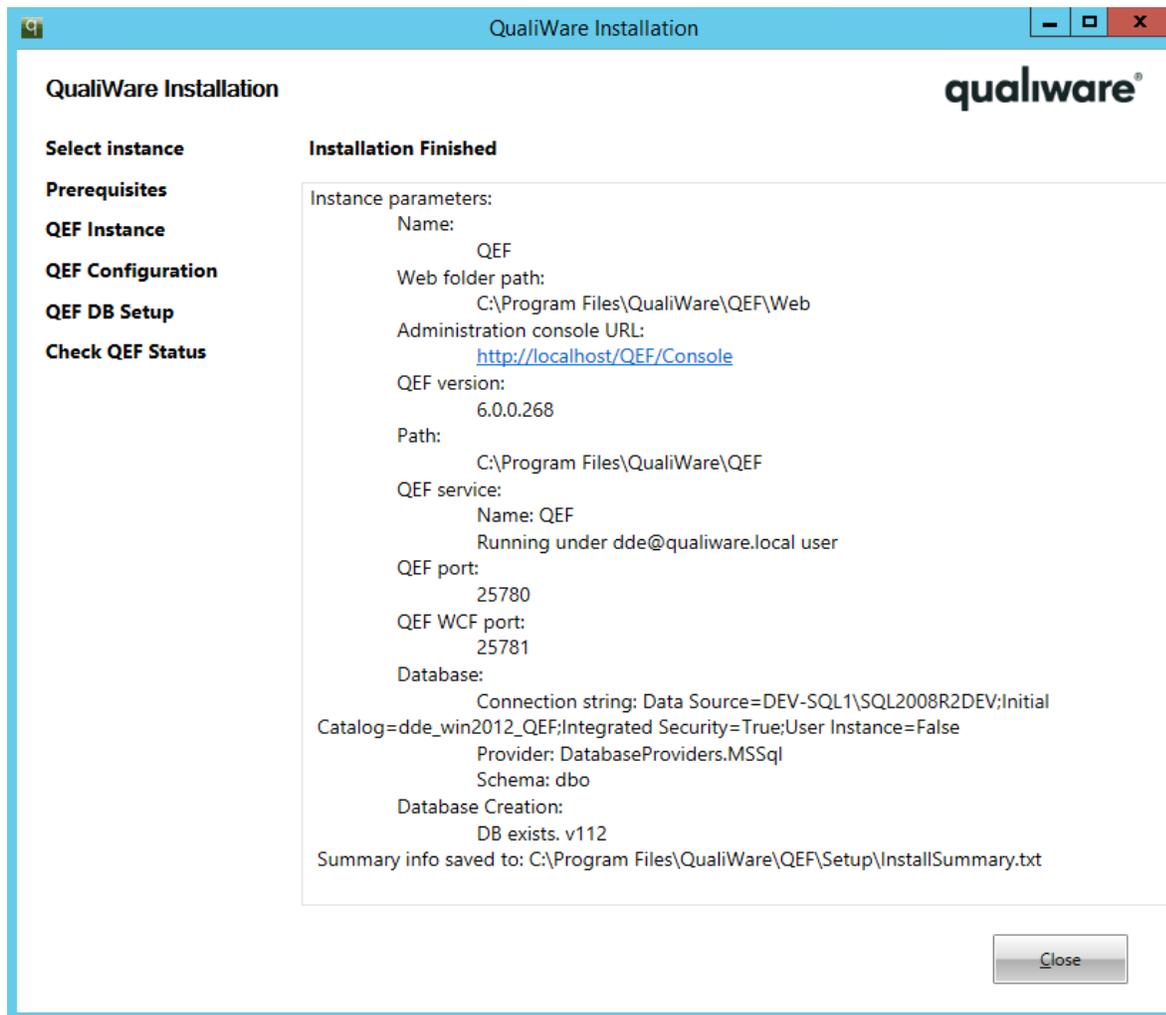
3. In the **QEF database creation** step press **Save creation script** button and save SQL script file to appropriate location.
4. Send saved script to SQL administrator along with database name and name of **QEFServiceAccount**, which must be granted access to newly created database. Steps for SQL administrator:
 - a. Create empty database with required name.
 - b. Run provided SQL script to create schema objects.
 - c. Ensure provided account has access to created database.
In case of using MS SQL Server, following permissions must be granted:
 - 'DATABASE CONNECT'
 - 'DATABASE DELETE'
 - 'DATABASE EXECUTE'
 - 'DATABASE INSERT'
 - 'DATABASE SELECT'
 - 'DATABASE UPDATE'
5. Wait for SQL administrator to confirm database creation. Press **Next** button.

2.3.7 Starting QEF Service

The last stage will start QEF service, if **Start after install** checkbox was checked in **QEF service** step. Press **Next** button.

2.3.8 Finishing Installation

After finishing all stages, installation summary will be shown:



Open QEF Administration Console by clicking on its URL in summary.

Press **Close** button.

3 Installing QualiWare Lifecycle Manager (QLM)

QLM is a thick client that connects to QualiWare Execution Framework (hereinafter QEF) to gain access to repositories.

It can be installed directly on the server and shared on the network for access by client computers (network installation), or it can be installed directly on client computers (local installation). Combinations of above is also possible.

QLM does not need to be installed on the same server as QEF, but in most cases it is recommended to have a QLM installed directly on the QEF server. This eases configuration of components inside QEF that uses QLM.

Network installation is recommended for most cases, but local installations can be used for clients with slow

connections to the QEF server. However note that each QLM installation must be maintained manually, which can require some work. Please see the last section in this chapter, on how to configure client computers.

It is possible to install several versions of QLM on the same computer, but only one installation of the same version can be made.

Installing QLM is done in three steps, explained below:

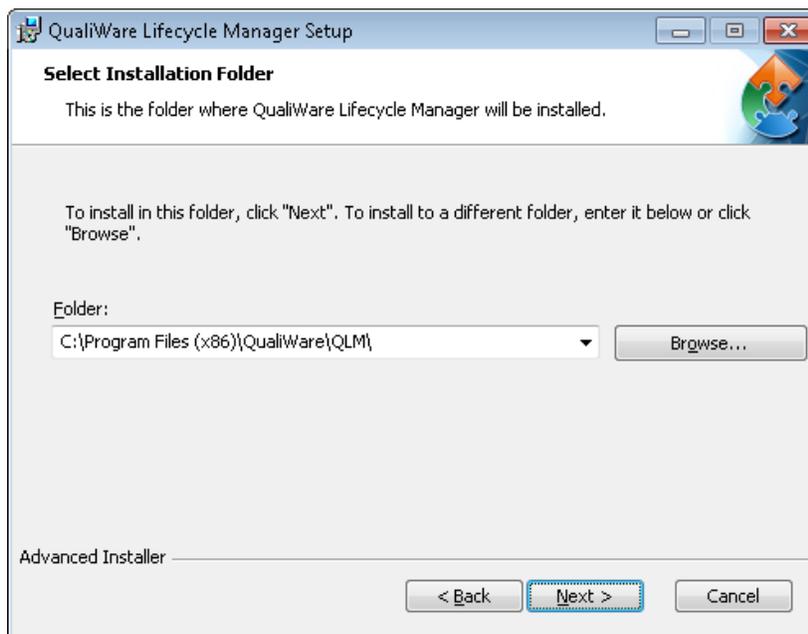
- Installing files
- Configuring and testing connection to QEF
- Sharing installation folder for client access

Finally client computers may be configured for easy access to the QLM installation in a network installation.

3.1 Installing Files

Run the installer package for QLM. This will show the welcome screen.

Click Next. This will show the Select installation folder screen:



Here you can choose the folder for installing QLM. It is recommended to use the default path. However if several versions of QLM are installed on the same computer, a different name should be chosen for the QLM folder.

Click Next. This will show the Ready to install screen.

Click Install to install the files for QLM. Note that installation of files takes some time.

Once the files are installed you will see an Indicate QEF server dialog:



Here you can enter the network name of the server on which QEF is installed. The network name of the current computer is already inserted. On a network installation this will be correct. On a local installation, this needs to be changed to the correct network name. Note that this screen might not appear if you are upgrading QLM or if QLM has previously been installed in the same location. Instead the setting from the previous QLM installation is automatically used.

Click Ok to create the setting. Clicking cancel will skip this setting, which must then be created manually (See next section).

Click Finish to exit the installation program.

3.2 Configuring and Testing Connection to QEF

QLM uses a file to store the parameters to connect to QEF. A file is automatically created by the Indicate QEF server dialog.

If only one QEF instance has been installed on the server and default TCP port settings were used, the automatically created connection file will be correct. In that case you can skip to section 1.2.2 “Testing connection to QEF”.

If several QEF instances are installed on the server, or if non default TCP port settings were chosen during QEF installation, the connection file might not contain correct parameters. In that case proceed to next section “Configuring connection to QEF”.

3.2.1 Configuring Connection to QEF

The connection file is located in the Projects folder under the QLM installation. The file name of the automatically generated file is “QEF on <QEFSERVERNAME>.qrd”, where <QEFSERVERNAME> is the name inserted in the Indicate QEF server dialog. This file can be edited in a text editor to change the parameters. The file content will look like this:

```
<Repository name="MSDNMARTINL1">
<QISconnection>
<QEFServer>MSDNMARTINL1</QEFServer>
<QEFProtocol>tcp</QEFProtocol>
<QEFPort>25780</QEFPort>
<QEFInstance>/QEF/Instance</QEFInstance>
</QISconnection>
</Repository>
```

Changing the QEFPort and QEFServer sections can be done to fix a non-working connection. The port number for QEF was chosen during QEF Setup. Other sections should not be changed.

Note that it is possible to have several connection files. This will result in a dialog when starting QLM, which prompts the user for which server to use, thereby enabling QLM to be configured for several QEF servers simultaneously. Such extra files can be created manually by copying an existing and change parameters. The repository name section contains the name shown to the user in the QLM dialog, and should therefore be changed to a different name.

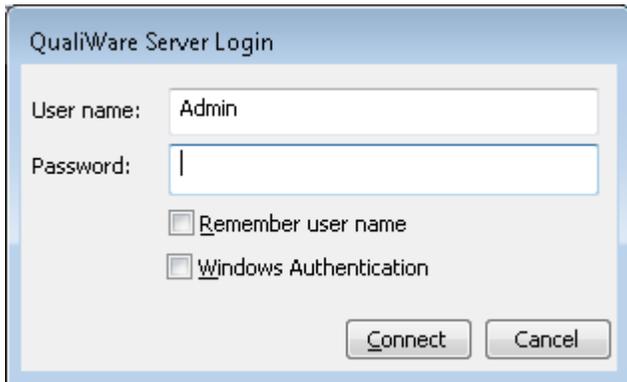
3.2.2 Testing Connection to QEF

It is possible to test QLM connection to QEF. The procedure works by starting QLM and analyzing the result shown by QLM.

Before testing the connection, make sure that QEF service is running. If several QEF installations exist on the server it is recommended to stop other QEF services than the one to test. If this is not possible, verify that the port number in the connection file corresponds to the QEF port used by the QEF installation to use (See previous section). This will ensure that QLM is not tested against another QEF installation than the intended.

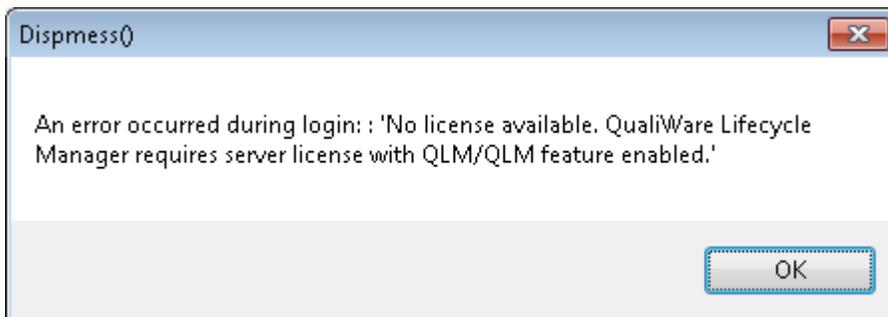
Locate the QualiWare Lifecycle Manager shortcut in the start menu (under all programs -> QualiWare) and start it.

QLM will start and display a login dialog:



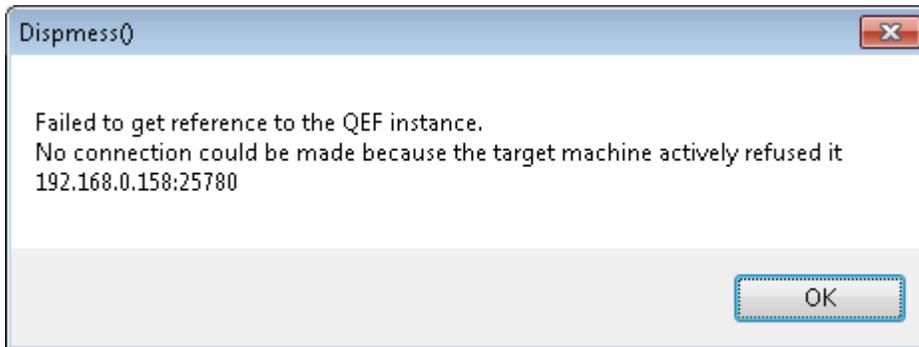
Login with user Admin and password Admin (both case sensitive).

If connection to QEF server is successful a message like this is displayed by QLM:



The error shown is because QEF is not yet configured. This is not a problem. Press OK to close the dialog, then Cancel in the login dialog to exit QLM. Note that this assumes that the QEF server has just been installed and no configuration has been done inside QEF. Otherwise other behavior might be observed.

If a message like this is displayed by QLM, it means that QLM could not connect to QEF:



Note the ip address and tcp portnumber. This is the QEF server that QLM tries to connect to. Please refer to the instructions in the previous section, to correct connection parameters.

3.3 Sharing Installation Folder for Client Access

In network installations, the QLM folder needs to be shared on the network for clients to be able to start QLM. The QLM folder is the folder chosen during the installation process and contains three subfolders (Models, PrjDef and Projects) as well as a few files, notably ClientInstaller.exe.

Only read access is required to start QLM from this folder. A few advanced features in QLM will require write access to the Projects subfolder. However these features also requires login to QualiWare as an administrative user, and are used to make installation-wide configurations. It is recommended to do such configurations by running QLM directly on the server. This will remove the need for shared write access to the Projects subfolder.

3.4 Configuring Client Computers for Easy Access to QLM in a Network Installation

Running the ClientInstaller.exe from the QLM share on a client computer will automatically install shortcuts for starting QLM from this folder. The shortcuts will be created in the start menu as well as on the desktop, and will have names that corresponds to the server name of the QEF server for easy identification. Alternatively a local installation can be made on a client computer. Then it is connected to the QEF server using same steps as when installing QLM on a network share.

A second alternative is to copy the entire installation from the network share to a local computer. QLM does not use any settings on the computer it is running on, and can therefore be copied between computers freely. The benefit of this way is, that it will bring all configurations, customizations etc. to the client

computer. If changes are later made to the QLM installation on the server, files on client computers need to be updated to match those on the server. Also note that such a copied installation will not have any uninstall settings in control panel, but the entire copy can be manually deleted without leaving traces on the client computer.

QualiWare recommends running QLM from the network share. The local installation or copy should only be used in special cases.

Firewall Configuration

4 Firewall Configuration

4.1 Preface

QualiWare Execution Framework (hereinafter QEF) communicates with its modules and clients using remoting technologies. These are .NET Remoting and WCF.

This document describes configuration of firewall for QEF, **QualiWare Integration Server** (hereinafter, QIS) and **QualiWare Lifecycle Manager** (hereinafter, QLM/QEI) instances.

The document assumes the reader installed all prerequisites described in the **Server Installation - QEF Installer** and **Server Installation - QLM Installer** documents.

4.2 General Information

There are three types of ports used for communicating between QEF and its modules: HTTP, .NET Remoting and WCF.

The ports for HTTP are defined by IIS and by default are 80 for HTTP and 443 for HTTP Secure.

The ports for .NET Remoting and WCF must be unique system-wide and be in the range 1024-49151 (ports in the range 1-1023 are well-known ports and cannot be used). This implies that ports used for .NET Remoting cannot be used for WCF and vice versa.

QEF and QIS open one port each for .NET Remoting and WCF for listening and all these four ports must be able to receive incoming requests.

QLM/QEI opens one port for listening and this port must be able to receive incoming requests.

Give these ports the following names:

- **HTTP_port** – port that IIS opens to receive incoming requests. Default values are **80** for HTTP and **443** for HTTP Secure. To change it, please refer to the documentation on IIS.
- **QEF_port** and **QEF_WCF_port** – ports that QEF opens for .NET Remoting and WCF for listening to receive incoming requests. Default values are **25780** and **25790** respectively. These ports can be configured during QEF installation or upgrade. For more information, see the **QEF ports selection and firewall setup (optional)** section in the **Server Installation – QEF Installer** document.

Note: Do not change the **Qef.exe.config** file manually, because the changes will be overwritten when QEF installer is run for the given instance the next time!

- **QIS_port** and **QIS_WCF_port** – ports that QIS opens for .NET Remoting and WCF for listening to receive incoming requests. By default the first available ports are used. To make them static **Instance.config** should be modified:

```
<configuration>
...
<settings>
...
<add key="port-remoting" value="25980" ... />
<add key="port-wcf" value="25990" ... />
```

The **Instance.config** file is found in following location:

{QEF Installation Directory}\Modules\QualiWare Integration Server\6.3

{QEF Installation Directory} is configured during QEF installation. For more information, see the **Registering Instance and Deploying Binaries** section in the **Server Installation – QEF Installer** document.

- **QLM_port** – port that QLM opens for listening to receive incoming requests. By default the first available port is used. To make it static **qwc32.exe.config** should be modified:

```
<configuration>
...
<system.runtime.remoting>
<application name="QLM">
<channels>
<channel ref="tcp" port="0" ... >
```

qwc32.exe.config file is found in the following location:

{QLM installation directory}\models

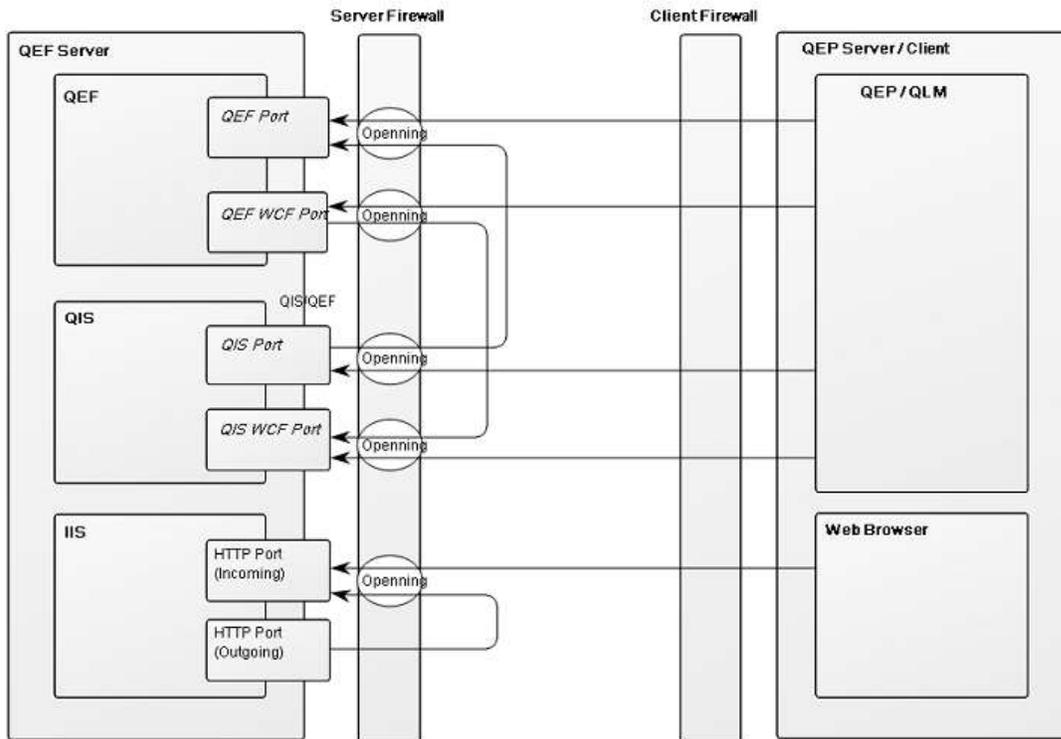
{QLM installation directory} is configured during QLM installation. For more information, see the **Installing Files** section in the **Server Installation – QLM Installer** document.

Note: Static port may prevent QLM usage on Terminal solutions like Citrix and Microsoft Terminal Server.

In general there are two possible configurations:

1. Firewall is running either on server or on server and client computers. In this case it is possible to allow all required communication for an application instead of specifying exact port number.

2. Firewall computer is located between server and client and is running on a separate computer/device. Combination of server and client firewall settings is required. Certain port numbers will be used.



The figure shows how communication is initiated between client and server and where server has to be open for incoming requests. If firewall does not allow outgoing requests by default, firewall on both server and client must be configured for this as well.

4.3 Configuration

4.3.1 Firewall as External Device

These rules must be defined on firewall:

- Server must be able to receive incoming requests from dynamic port of any client computer on **HTTP_port**;
- Server must be able to send outgoing requests from dynamic port to all client computers on **QLM_port** (both QEF and QIS require this).
- Server must be able to receive incoming requests from dynamic port of any client computer on **QEF_port**, **QEF_WCF_port**, **QIS_port** and **QIS_WCF_port**.

4.3.2 Firewall Installed on the Server and/or Client

4.3.2.1 Server configuration

- **HTTP_port** must be open for incoming requests coming from client computers;

- QEF_port, QEF_WCF_port must be open for incoming requests coming from client computers;
- QIS_port, QIS_WCF_port must be open for incoming requests coming from client computers;
- Qef.exe must be able to send outgoing requests to all client computers.
- Qis.Module.exe must be able to send outgoing requests to all client.

4.3.2.2 Client configuration

- HTTP_port must be open for outgoing requests to the server where QEF is installed;
- QLM_port must be open for incoming requests coming from the server where QEF is installed;

qwcd32.exe must be able to send outgoing requests to server where QEF is installed to each QEF_port, QEF_WCF

5 SharePoint WebService

5.1 Preface

This document describes installation of SharePoint Web Services, which enhance QualiWare Document Connector (hereinafter QDC) functionality. Installation of SharePoint Web Services is not required in order to successfully run QDC.

5.2 Prerequisites

The document assumes that SharePoint Server is installed, user has access to the server and is a farm administrator.

5.3 Supported Servers

Supported server operating systems: Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2.

Supported SharePoint Servers: SharePoint Server 2010, SharePoint Server 2013.

NOT COMPLETED

6 OLE DB Provider

6.1 Preface

QIS OLE DB Provider allows external applications such as Microsoft Excel, Crystal Reports and others connect to and use QIS repository data to create reporting solutions via standard SQL-like interface.

This document describes steps necessary to install, configure and use QIS OLE DB Provider.

6.2 Prerequisites

In order to install the provider, the following prerequisites must be met:

- Visual C++ Redistributable (msvcp120.dll) is installed.

- QEF is installed and running;
- QIS module is installed and running;
- User has administrative access to the local system.

6.3 Installing Visual C++ Redistributable

Before QIS OLE DB Provider can be registered, Visual C++ Redistributable must be installed. Follow the steps to install it:

1. Download Visual C++ Redistributable from the following location:

<https://www.microsoft.com/en-us/download/details.aspx?id=40784>

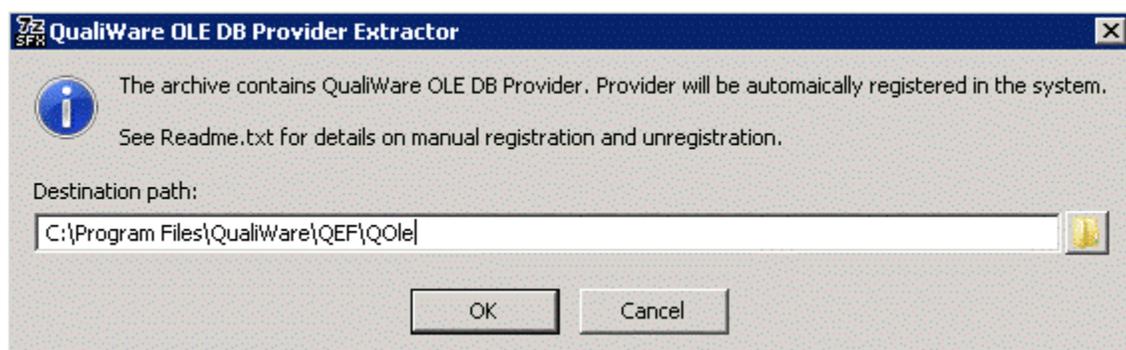
Note: Both 32-bit and 64-bit versions of Visual C++ Redistributable must be installed.

2. Use default settings during installation.

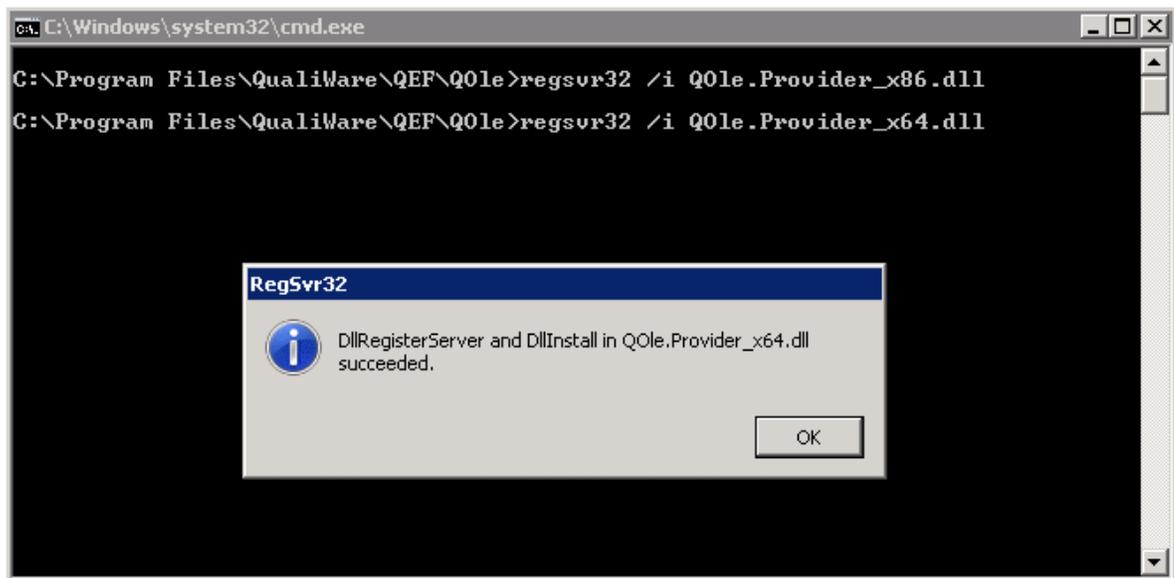
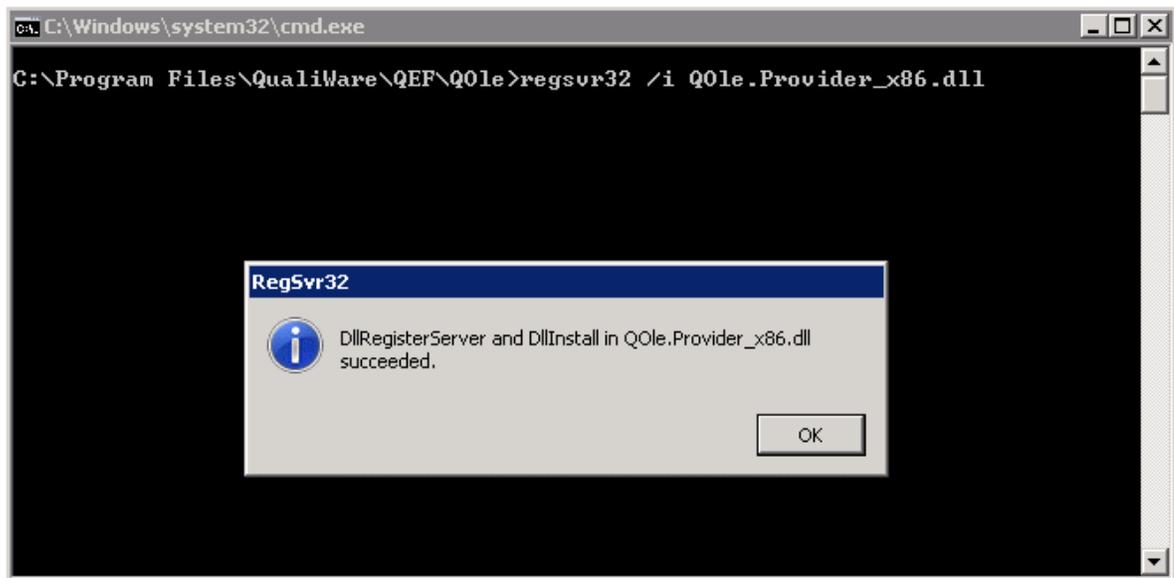
6.4 Installing QIS OLE DB Provider

To install QIS OLE DB Provider, follow the steps:

1. Start **QOle.Provider.exe**. This is a self-extract archive.
2. Select folder where QIS OLE DB Provider files will be stored. Note that they cannot be moved after registration done after unarchiving.



3. Press **OK**. After QIS OLE DB Provider files are unarchived, 32-bit and 64-bit versions QIS OLE DB Provider will be registered.

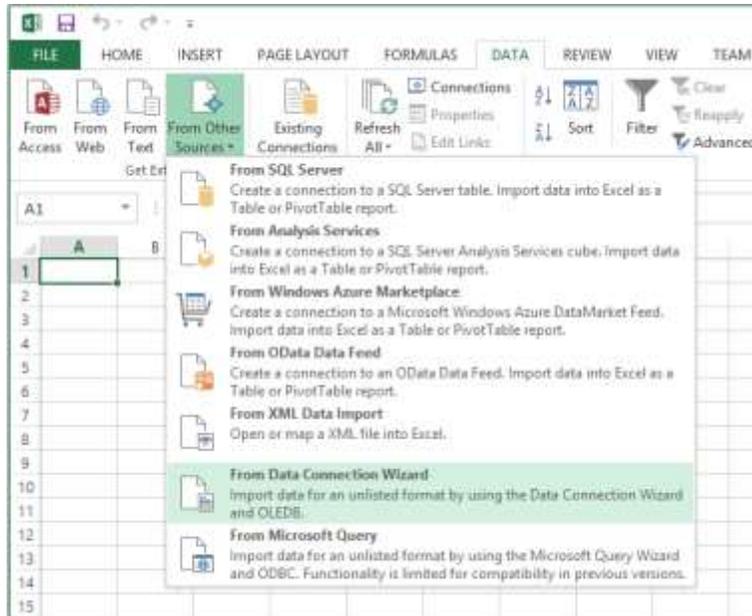


Note: Alternatively QIS OLE DB Provider can be registered by running **register.bat** file. The file is available from the location used to unarchive files in step 2. For more information, read **Readme.txt** from the same location.

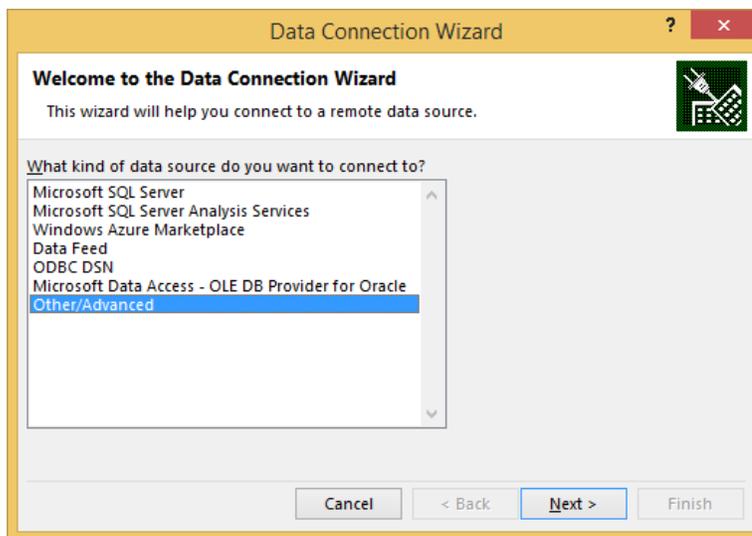
6.5 Using QIS OLE DB Provider from Microsoft Excel

To configure and use QIS OLE DB Provider from Microsoft Excel, follow the steps:

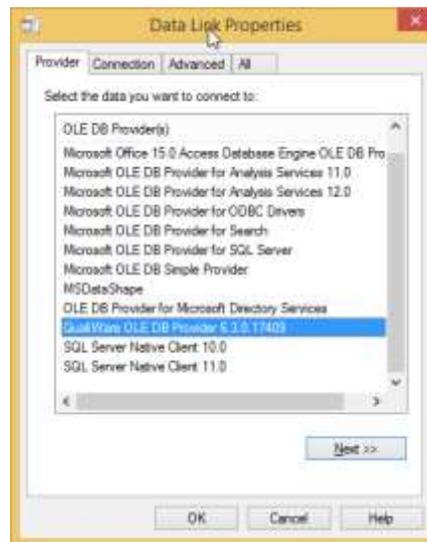
1. Start Microsoft Excel.
2. Select DATA -> From Other Sources -> From Data Connection Wizard.



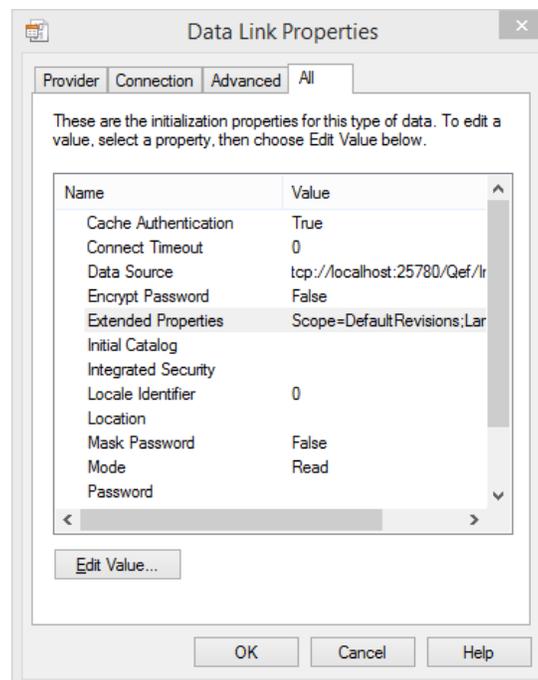
3. Select Other/Advanced.

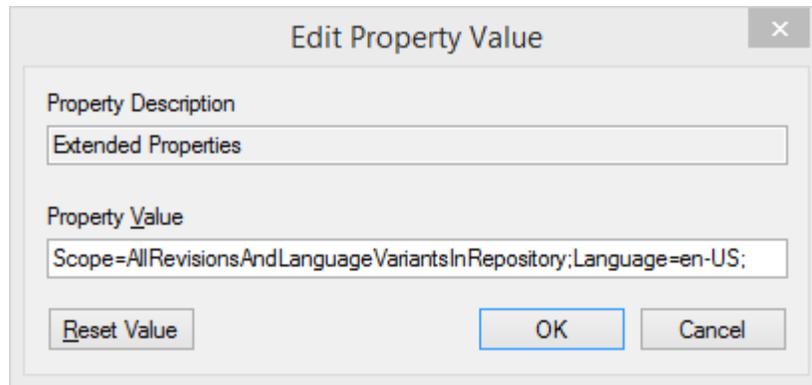


4. Select QualiWare OLE DB Provider.



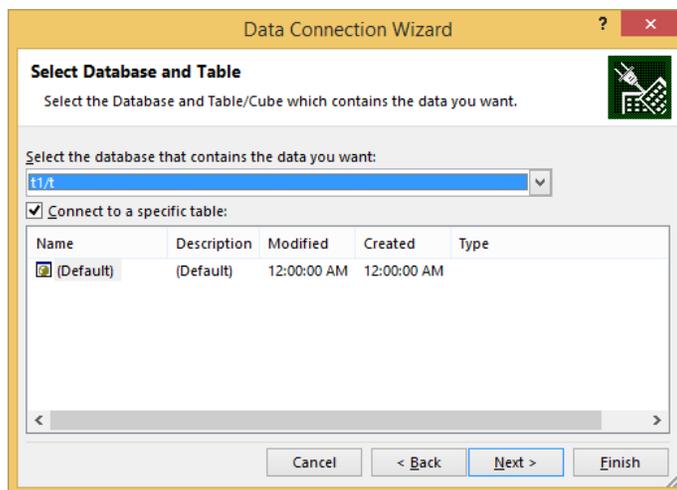
5. Enter the following information:
 - Data Source: QEF address.
 - Authentication: enter User name and Password for specific user or select Windows NT Integrated security.
 - Enter the initial catalog to use: repository and configuration.
6. If **Scope/Language** needs to be changed, go to **All** tab and specify necessary information in the **Extended Properties** field:



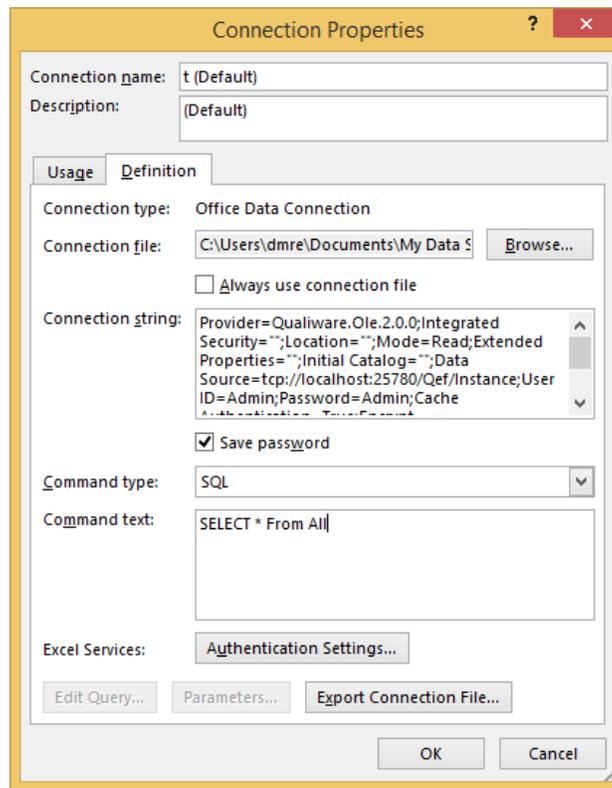


Refer to [Scope and language settings](#) for info on values for these fields.

7. Click **OK** and **Finish**.



8. Click **Properties...** -> **Definition**.
9. Check **Save Password**.
10. Select **Command Type** -> **SQL**.
11. Enter **command text**.

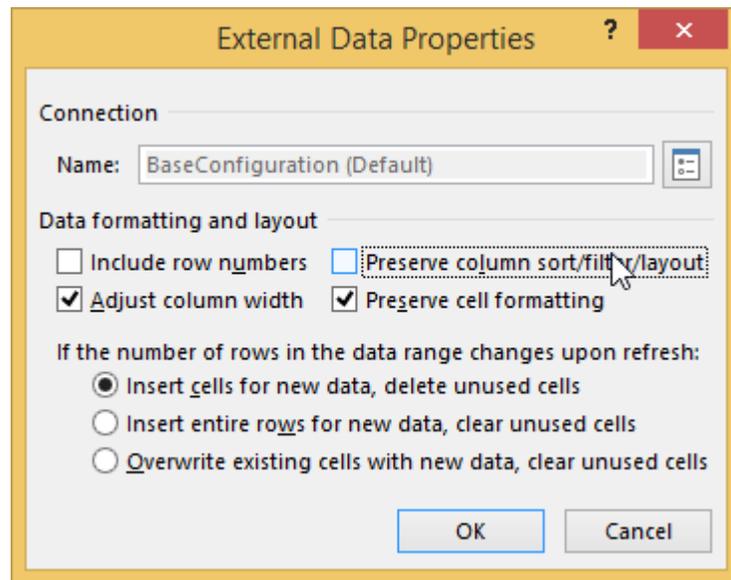


12. Click OK. The data will be exported into Excel:

sys_id	Name	template
7817e148-...-a002-3fd...	111	ActivityDiagram
b5dbc2db-...-a946-cdc...	124	ActivityDiagram
5c23e476-...-a381-2a74d...	11	ActivityDiagram
c067d6cf-...-8fe3-a253b...	12	ActivityDiagram
046220c3-...-44c5-9e38-...	New ApplicationArchitectureDiagram	ApplicationArchitectureDiagram
fd9a092a-...-47d7-9db4-...	777	BrowserDiagram
54d5bae7-...-8c74-4631-...	4444	BrowserSource
c25057a2-...-b079-4902-...	New BrowserSource by Admin	BrowserSource
6755d413-...-b897-4a76-...	1	ComplexObject
d769f181-...-7058-46d8-...	Update information	QualiWareSetup

NOTE: In case displayed results table has incorrect column order, perform the following:

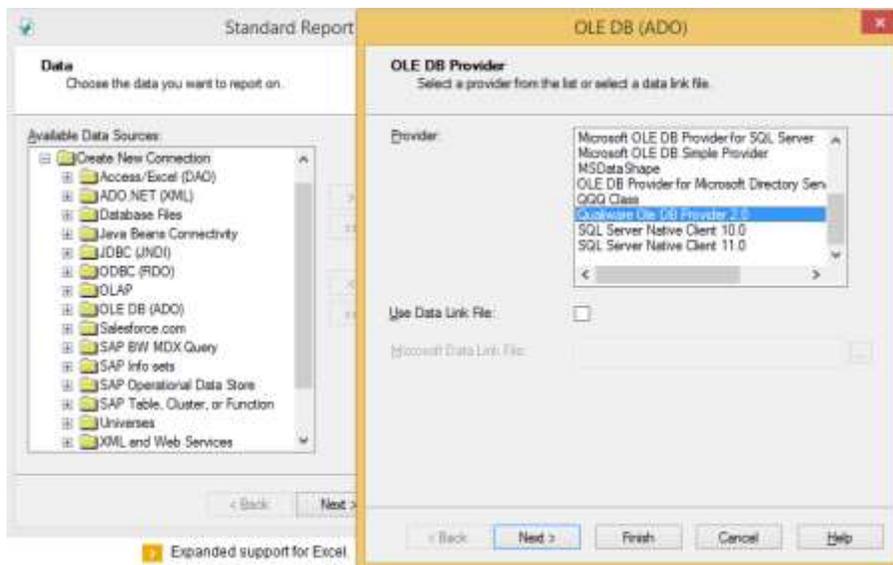
1. Go to **Data** tab.
2. Click **Properties**.
3. Uncheck **Preserve column sort/filter/layout**.
4. Click **Refresh**.



6.6 Using QIS OLE DB Provider from Crystal Reports

To configure and use QIS OLE DB Provider from Crystal Reports, follow the steps:

1. Start Crystal Reports.
2. Start Report Wizard.
3. Click Create New Connection -> OLE DB (ADO).
4. Select QualiWare OLE DB Provider.



5. Specify connection information:
 - Data Source: QEF address.

- Authentication: enter User ID and Password for specific user or select Integrated Security.
- Database: repository and configuration.

OLE DB (ADO)

Connection Information
Provide necessary information to log on to the chosen data source.

Data Source: tcp://localhost:25780/Qef/Instance

User ID: Admin

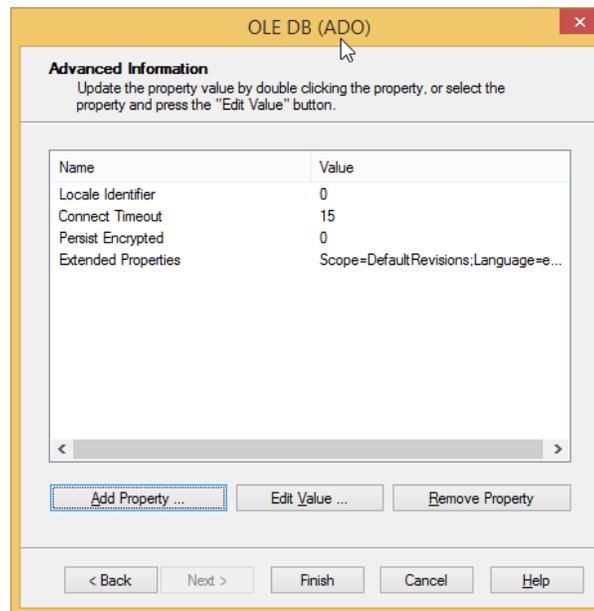
Password:

Database:

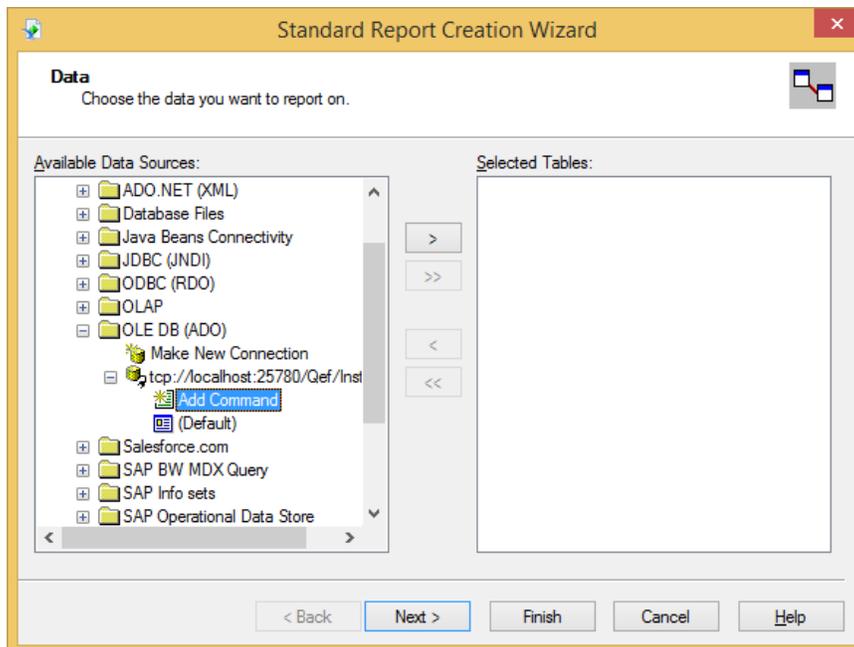
Integrated Security:

< Back Next > Finish Cancel Help

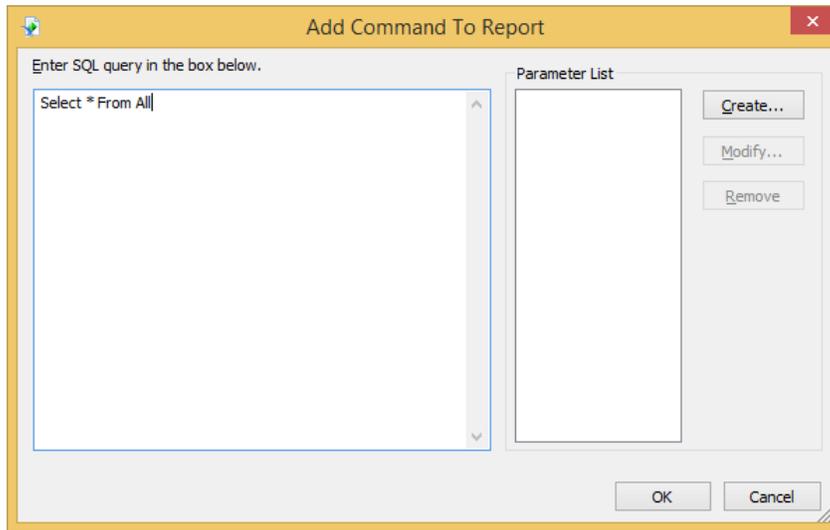
6. Click **Next**.
7. In case non-default language and/or scope should be set, perform the following steps:
 - a. Click **Add property**.
 - b. Set **Property** to “Extended Properties” and Value to “Scope={scope};Language={lang;},” where {scope} and {lang} are desired scope and language. Refer to [Scope and language settings](#) for info on values for these fields.
 - c. Click **OK**.



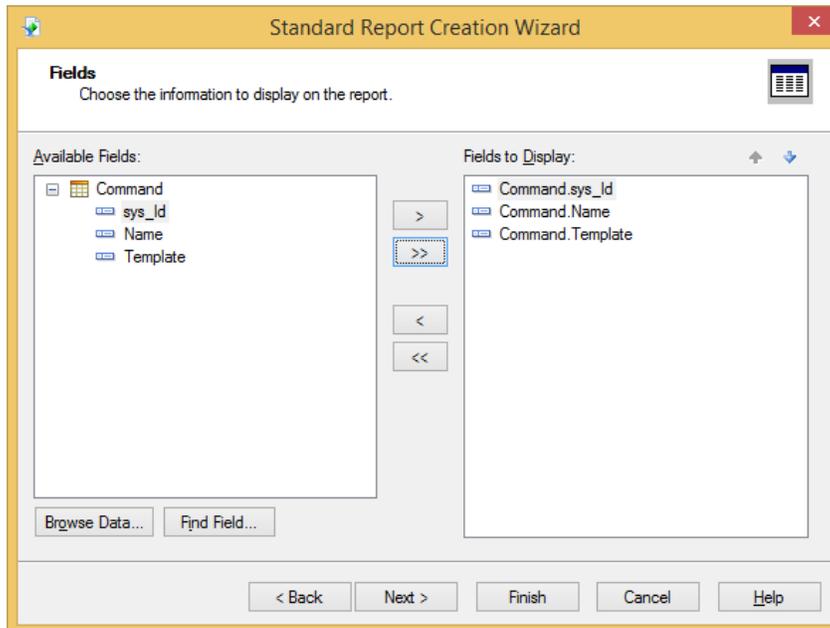
8. Click **Add Command**.

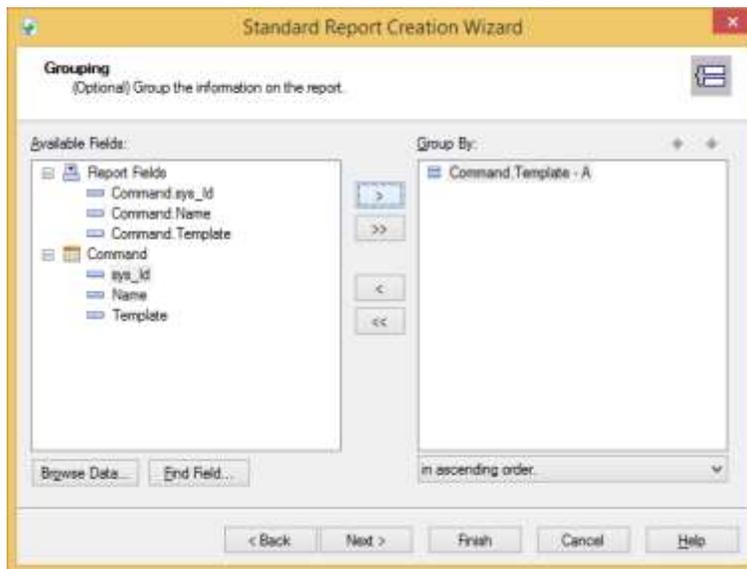


9. Enter **command text**.

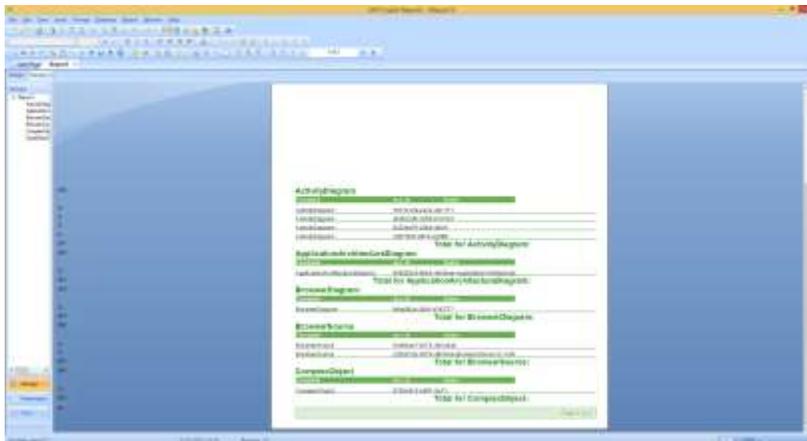


10. Click **OK**.
11. Add **Report Properties** needed.





12. Click **Finish**.
13. The data should be present in your report (if any is available).



6.7 Scope and language settings

Possible values for Scope:

- DefaultRevisions
- AllRevisionsInCurrentLanguage
- DefaultRevisionsAndLanguageVariants
- AllRevisionsAndLanguageVariants
- AllRevisionsAndLanguageVariantsInRepository

Default values for Scope "DefaultRevisions", for language - default language.

To set scope and language settings, OLE DB “Extended Properties” value should be initialized in the following way:

Scope={scope};Language={lang}

where {scope} is one of the possible scope values and {lang} is the desired language.

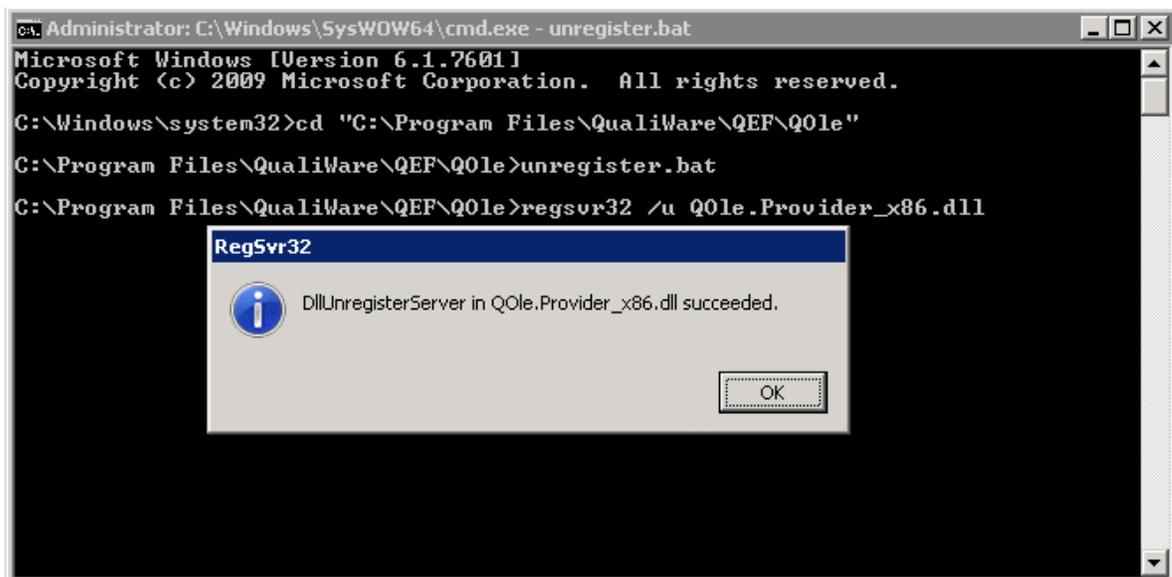
Example:

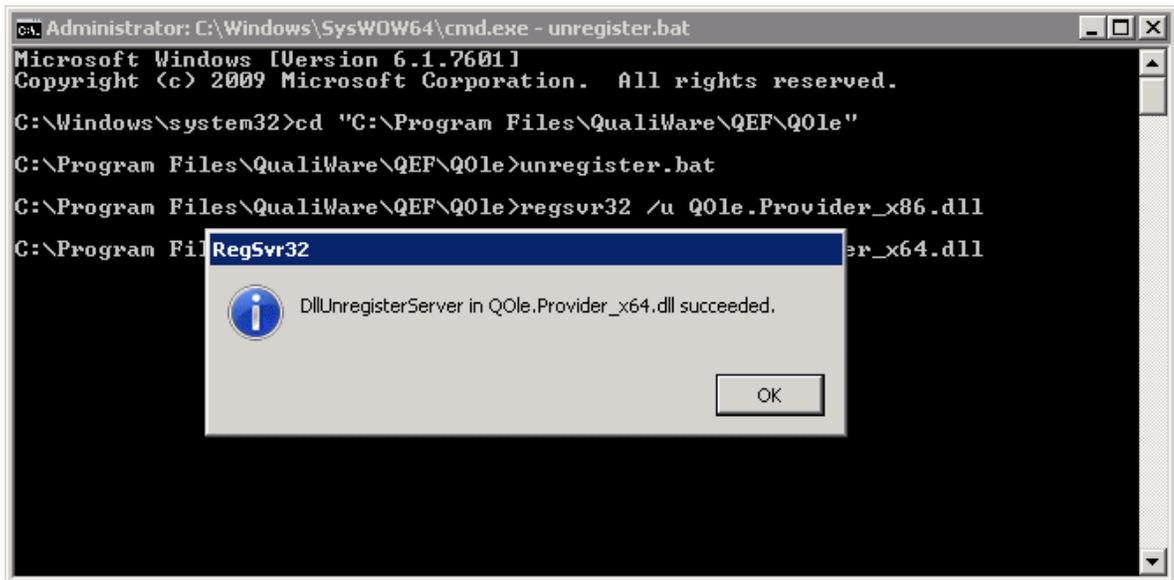
Scope=DefaultRevisions;Language=en-US;

6.8 Uninstalling QIS OLE DB Provider

To uninstall QIS OLE DB Provider, follow the steps:

1. Run command prompt as administrator.
2. Go to the folder with QIS OLE DB Provider files.
3. Run **unregister.bat** file. After the command is executed 32-bit and 64-bit versions QIS OLE DB Provider will be unregistered.





Note: For more information, read [Readme.txt](#) from the same location.

4. Delete QIS OLE DB Provider files.

6.9 Appendix A: Quick QSQL reference

Textual QSQL queries are used to obtain data from the provider. Below are examples of QSQL textual queries and supported expressions. For a full list of supported QSQL textual queries, refer to [Appendix B: Full list of support QSQL textual queries](#).

SELECT clause

Query	Comments
SELECT * FROM All	Returns predefined attributes sys_ObjectId, sys_RevisionId, sys_RepositoryId from all objects in the configuration.
SELECT o.* AS col_0 FROM BacklogItem o	Aliases
SELECT o.* AS col_0 FROM BacklogItem:Special:QualiWare o	Specific template with namespace
SELECT ts.* AS col_0 FROM TemplateSet(Person,Activity,BusinessProcess)	Template Set

SELECT DISTINCT ts.* AS col_0 FROM TemplateSet(Person,Activity,BusinessProcess) ts WHERE ts.AllAttributes LIKE '%qaaaaa%'	Distinct
SELECT bi.* AS col_0 FROM BacklogItem bi WHERE bi.Complexity = '1' ORDER BY bi.Name	Sort and Filter
SELECT TOP 10 o.* AS col_0 FROM BacklogItem o ORDER BY o.Name	Top
SELECT o.* AS col_0 FROM BacklogItem o ORDER BY o.Name OFFSET 20 ROWS FETCH NEXT 10 ROWS ONLY	Skip (returns 10 records, skipping 20)
SELECT DISTINCT bi.* AS col_0 FROM BacklogItem bi LEFT JOIN Task t ON t.sys_ObjectId = bi.Tasks	Distinct
SELECT [all].* AS col_0 FROM All all WHERE all.Template = 'Person' ORDER BY all.Name	Returns ordered by name list of Person objects
SELECT list.* AS col_0 FROM REVISION LIST('9d17469f-91c5-40be-8781-981cbc0003c4','aecc3b48-9f5b-4289-99e7-b7de3d007bcc','92974222-fce2-4b5a-83f0-7c4282f369d6','14dec2b-2ad0-457c-b0b7-f8748e9fcd10') OF Person list	Object List (returns predefined attributes of person objects from the list)

WHERE clause

Clause	Comments
SELECT o.* AS col_0 FROM BacklogItem o WHERE CAST(o.Id as int) BETWEEN 4000 AND 4100	BETWEEN
SELECT o.* AS col_0 FROM BacklogItem o WHERE CAST(o.sys_Created AS DATETIME) >= CAST('2011-01-01' AS DateTime) AND CAST(o.sys_Created AS DATETIME) <= CAST('2011-12-31' AS DateTime)	Date-time filtering
SELECT o.* AS col_0 FROM BacklogItem o WHERE CAST(o.Id as int) IN (4161, 4203)	IN

SELECT o.* AS col_0 FROM BacklogItem o WHERE CAST(o.sys_ObjectId as VARCHAR) in ('f09d4450-e0fd-45fa-aa0a-38a57632762c', '0071a04d-c27f-4e0e-a48a-7f68112da7b5')	
SELECT o.* AS col_0 FROM BacklogItem o WHERE o.Name LIKE '%change%' SELECT o.* AS col_0 FROM BacklogItem o WHERE o.Name like '[QS]%' SELECT o.* AS col_0 FROM BacklogItem o WHERE o.Name like '[q- u]%' SELECT o.* AS col_0 FROM BacklogItem o where o.Name like 'Q[^LE]%'	LIKE
SELECT o.* AS col_0 FROM BacklogItem o WHERE 4000 < CAST(o.Id AS int) SELECT o.* AS col_0 FROM BacklogItem o WHERE o.Complexity = " SELECT o.* AS col_0 FROM BacklogItem o WHERE o.Name <= 'abc' SELECT o.* AS col_0 FROM BacklogItem o WHERE o.sys_Created >= '2010.04'	>, <, >=, <=, =, <>
SELECT o.* AS col_0 FROM BacklogItem o WHERE o.IsFrozen = true or NOT(o.IsFrozen = true)	true, false
SELECT o.* AS col_0 FROM BacklogItem o WHERE o.sys_ModifiedBy = 'Jahn Smith' AND NOT(o.sys_CreatedBy = 'Smith John' OR o.IsFrozen = true)	OR, AND
SELECT Name, Template,* FROM All WHERE AllAttributes LIKE '%Analyse%' OR AllAttributes LIKE '%Analyze%' ORDER BY Template, Name	AllAttributes on Where

CAST

Clause	Comments
SELECT CAST (bi.Description AS XhtmlText) AS col_0 FROM BacklogItem bi	Standard casting types VARCHAR, DATETIME, BIT, INT, XHTML

<p>SELECT CAST (bi.ReportedBy AS SingleLink) AS col_0 FROM BacklogItem bi</p> <p>SELECT CAST (bi.Tasks AS MultiLink) AS col_0 FROM BacklogItem bi</p> <p>SELECT CAST (bi.ApprovalDate AS QDateTime) AS col_0 FROM BacklogItem bi</p> <p>SELECT CAST (bi.Id AS PlainText) AS col_0 FROM BacklogItem bi</p>	<p>QIS casting types AttributeValue, SingleLink, MultiLink, QDateTime, PlainText,</p>
<p>SELECT bi.sys_Language, CAST(bi.sys_Language AS VARCHAR) AS strLang, CAST(bi.sys_Created AS VARCHAR) as sys_Created, bi.sys_Created AS typedCreated FROM BacklogItem bi</p>	<p>CAST in SELECT</p>
<p>SELECT bi.sys_Language, CAST(bi.sys_Language AS VARCHAR) AS strLang, CAST(bi.sys_Created AS VARCHAR) as sys_Created, bi.sys_Created AS typedCreated FROM BacklogItem bi</p> <p>SELECT o.* AS col_0 FROM BacklogItem o WHERE CAST(o.ApprovalDate AS DateTime) = CAST('23.02.2009 13:08:00' AS DATETIME)</p>	<p>CAST in WHERE</p>
<p>SELECT bi.* AS col_0 FROM BacklogItem bi ORDER BY CAST(bi.Id AS int), bi.Name</p>	<p>CAST in ORDER</p>

Join

Clause	Comments
<p>SELECT DISTINCT bi.* AS col_0 FROM BacklogItem bi JOIN Task t ON bi.Tasks = t.sys_ObjectId</p> <p>SELECT DISTINCT bi.* AS col_0 FROM BacklogItem bi JOIN Task t ON t.sys_ObjectId = bi.Tasks JOIN Milestone m ON m.sys_ObjectId = bi.Milestone WHERE t.Name LIKE '%nt'</p>	

AttributeChain

Clause	Comments

SELECT bi.MoreInfoFrom.Name AS col_0 FROM BacklogItem bi	In SELECT
SELECT bi.* AS col_0 FROM BacklogItem bi WHERE bi.MoreInfoFrom.Name <> "	In WHERE
SELECT bi.* AS col_0 FROM BacklogItem bi WHERE CAST(bi.MoreInfoFrom AS SingleLink) <> " ORDER BY bi.MoreInfoFrom.Name, bi.Name	In ORDER BY

Relations

Clause	Comments
<p>SELECT backward.* AS col_0 FROM BacklogItem bi BACKWARD JOIN backward ON bi.AllAttributes = backward.sys_ObjectId</p> <p>SELECT bi.Name AS Name, bi.Links.Backward AS AllBackward, , bi.Links.Forward AS AllForward FROM BacklogItem bi ORDER BY bi.Name</p>	Backward, Forward
SELECT bi.Name AS Name1, t.Name AS Name2 FROM BacklogItem bi CROSS JOIN Task t WHERE bi.ReportedBy = t.Responsible ORDER BY bi.Name, t.Name	Cross Join
<p>SELECT bi.Graphical.Contains.Graphical.Contained.Name FROM StateDiagram bi</p> <p>SELECT recipients.* AS col_0 FROM State bi GRAPHICAL SENDSTO JOIN recipients ON recipients.sys_ObjectId = bi.AllAttributes</p> <p>SELECT DISTINCT recipients.Name FROM State bi GRAPHICAL JOIN recipients ON recipients.sys_ObjectId = bi.AllAttributes ORDER BY recipients.Name (all graphical relations)</p> <p>SELECT contains.* AS col_0 FROM StateDiagram bi GRAPHICAL CONTAINS JOIN contains ON bi.AllAttributes = contains.sys_ObjectId</p> <p>SELECT bi.Graphical.SendsTo.Graphical.ReceivesFrom.Graphical.SendsTo.Name AS N1, bi.Graphical.SendsTo.Graphical.ReceivesFrom.Name AS N2 FROM State bi</p>	<p>Graphical Relations:</p> <ul style="list-style-type: none"> • Contains\Contained • Framed\FramedBy • Sends\SendsTo • Receives\ReceivesFrom,

6.10 Appendix B: Full list of support QSQL textual queries

A full list of supported QSQL textual queries, extracted from Unit Tests, can be found in the following location:

<\\dev-kiev1\ShareWithDanes\QSQL\QsqlTextualQueries.txt>