qualiware®
Enabling positive change

Database Guide

1 Contents

1 MS SQL Server Configuration

MS SQL Server can be installed on the same server or development machine as QualiWare application server. Depending on where it is installed, there may be additional steps required to perform.

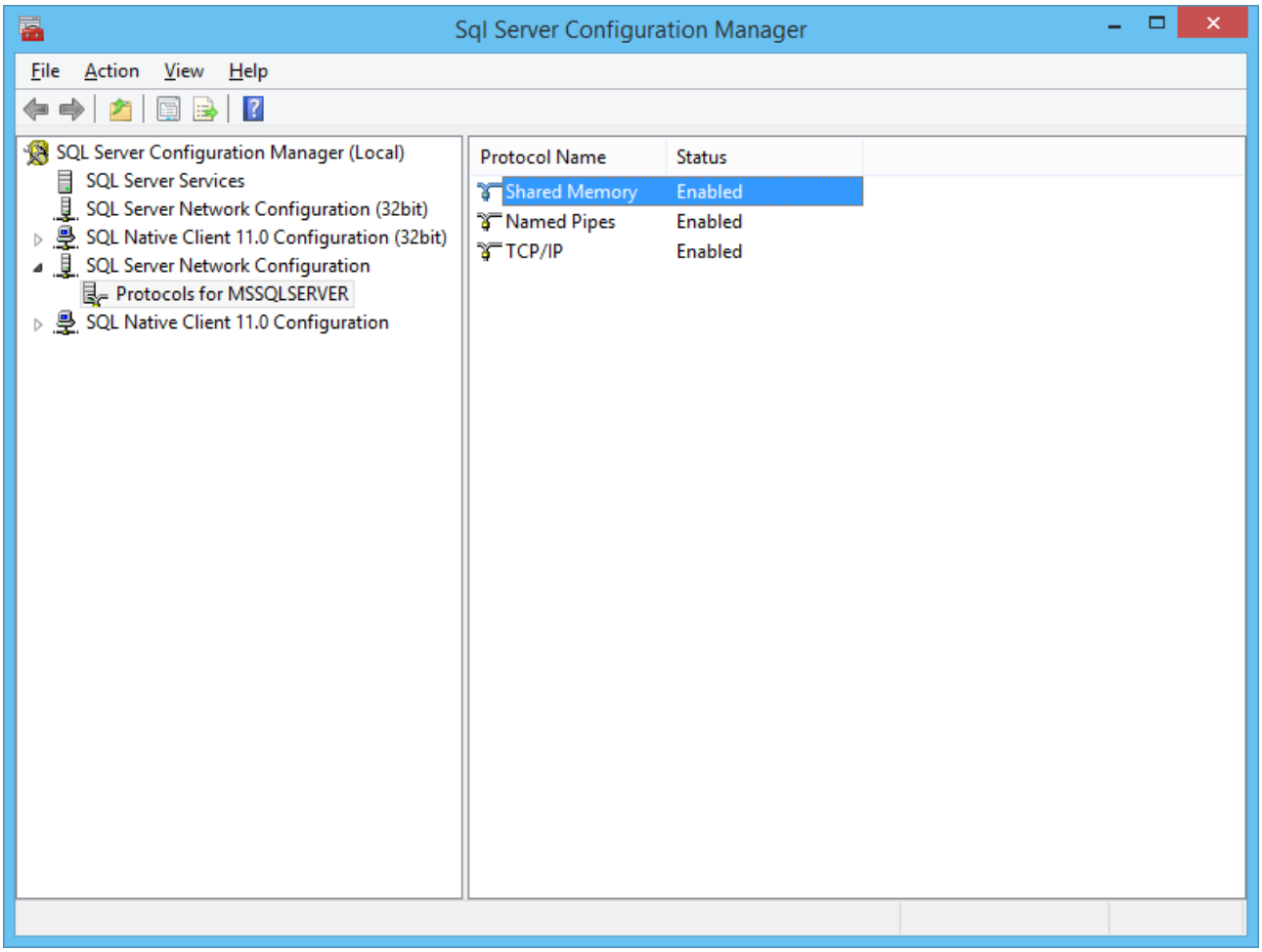
1.1 Same Server

If MS SQL Server and QualiWare application server are installed on the same server or development machine, MS SQL Server will choose shared memory as a communication protocol between client and server. By default the latter is enabled. To make sure that it is enabled, follow the steps:

1. Press **Win + R** to open **Run** window.
2. Type **SQLServerManager10.msc** for MS SQL 2008, **SQLServerManager11.msc** for MS SQL 2012 or **SQLServerManager12.msc** for MS SQL 2014 and press **OK**.
3. Go to the following nodes:

   SQL Server Configuration Manager | SQL Server Network Configuration | Protocols for {SQL Server instance}

4. Right-click **Shared Memory** and select **Enable**.



5. Go to the following node:

   SQL Server Configuration Manager | SQL Server Services

6. Right-click SQL Server instance and select **Restart**.

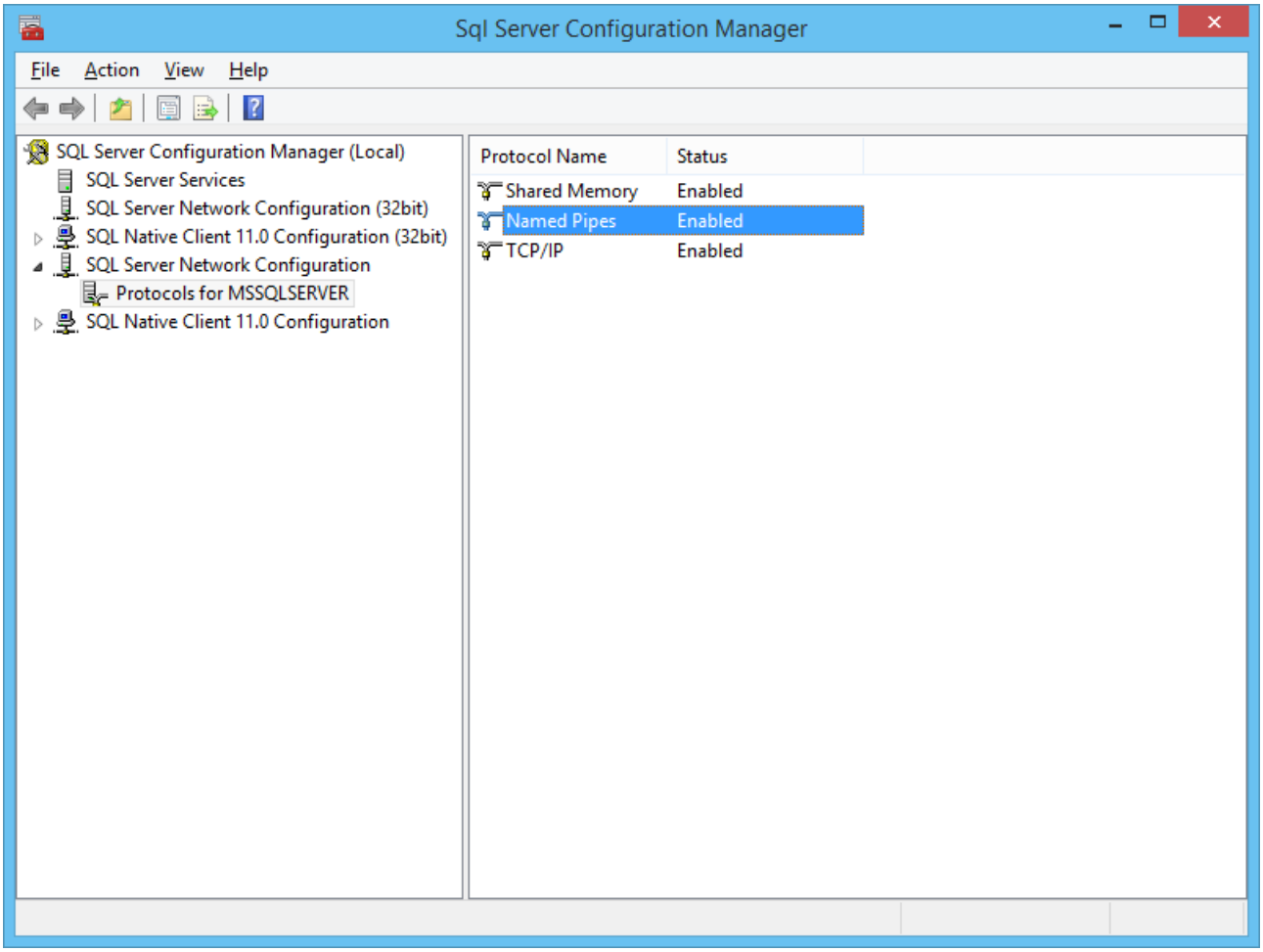
1.2 Different Servers

If MS SQL Server and QualiWare application server are installed on different servers or development machines, MS SQL Server will choose named pipes or TCP/IP as a communication protocol between client and server. By default the latter two are disabled. To enable it, follow the steps:

1. Press **Win + R** to open **Run** window.
2. Type **SQLServerManager10.msc** for MS SQL 2008, **SQLServerManager11.msc** for MS SQL 2012 or **SQLServerManager12.msc** for MS SQL 2014 and press **OK**.
3. Go to the following nodes:

SQL Server Configuration Manager | SQL Server Network Configuration | Protocols for {SQL Server instance}

7. Right-click **Named Pipes** and **TCP/IP** and select **Enable**.



4. Go to the following node:

   SQL Server Configuration Manager | SQL Server Services

5. Right-click SQL Server instance and select **Restart**.

1.3 Cannot Connect to MS SQL Server

Provided proper configuration of MS SQL Server, it cannot be connected, there can be several reason.

1.3.1 Firewall

Ports used by MS SQL Server instance are not allowed by Firewall. Please refer to Firewall documentation on how to allow ports.

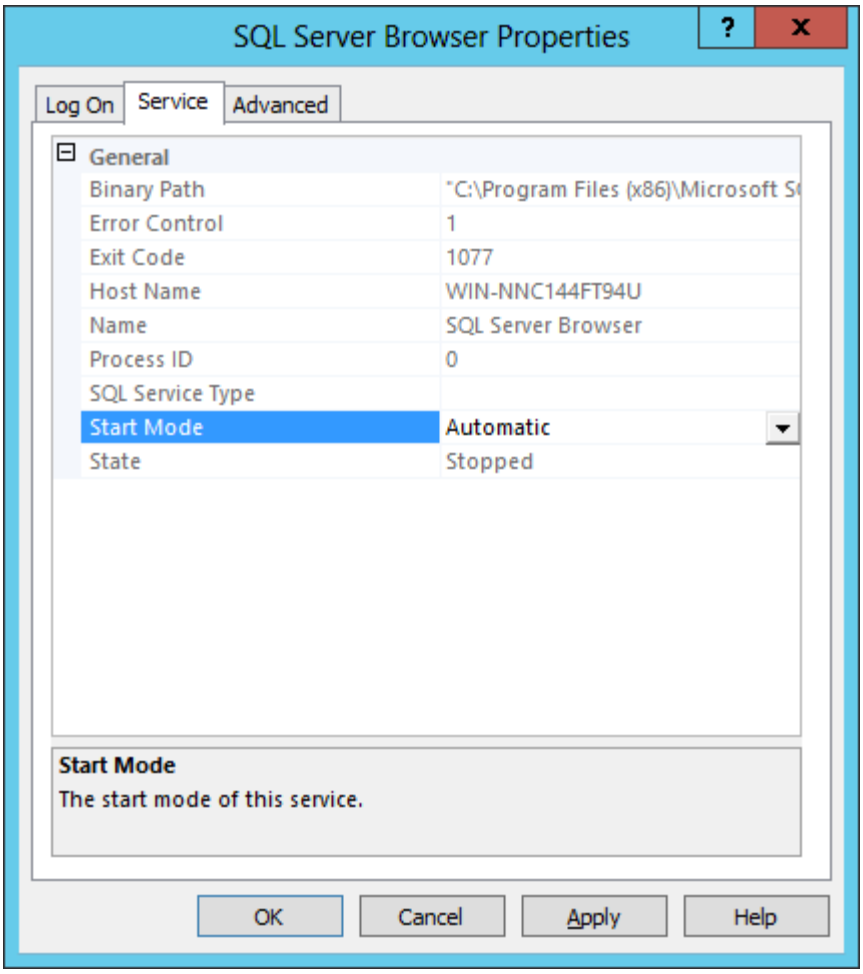
1.3.2 Non-default Port

If MS SQL Server instance is configured to listen on a non-default port (default port is 1433) or server has more than one MS SQL Server instance installed and port is not specified in connection string, then connection will be refused. To resolve this case, MS SQL Browser service must be running. To run it, follow the steps:

1. Press **Win + R** to open **Run** window.
2. Type **SQLServerManager10.msc** for MS SQL 2008, **SQLServerManager11.msc** for MS SQL 2012 or **SQLServerManager12.msc** for MS SQL 2014 and press **OK**.
3. Go to the following node:

   SQL Server Configuration Manager | SQL Server Services

4. Double-click **SQL Server Browser**.
5. Go the **Service** tab.
6. Select **Automatic** as **Start Mode**.



7. Press **OK.**
8. Right-click on **SQL Server Browser** and select **Start**.

2 MS SQL Server Roles

2.1 QEF

One server or development machine can have one or more instances of **QualiWare Execution Framework** (hereinafter QEF) installed. Installation of instance creates a single database. Configuring and running different instances against the same database will result in unexpected behavior. In the current version it is not possible to use custom schema, which makes it impossible to use one database for more than one instance.

Installation of each instance of QEF creates a single database with tables.

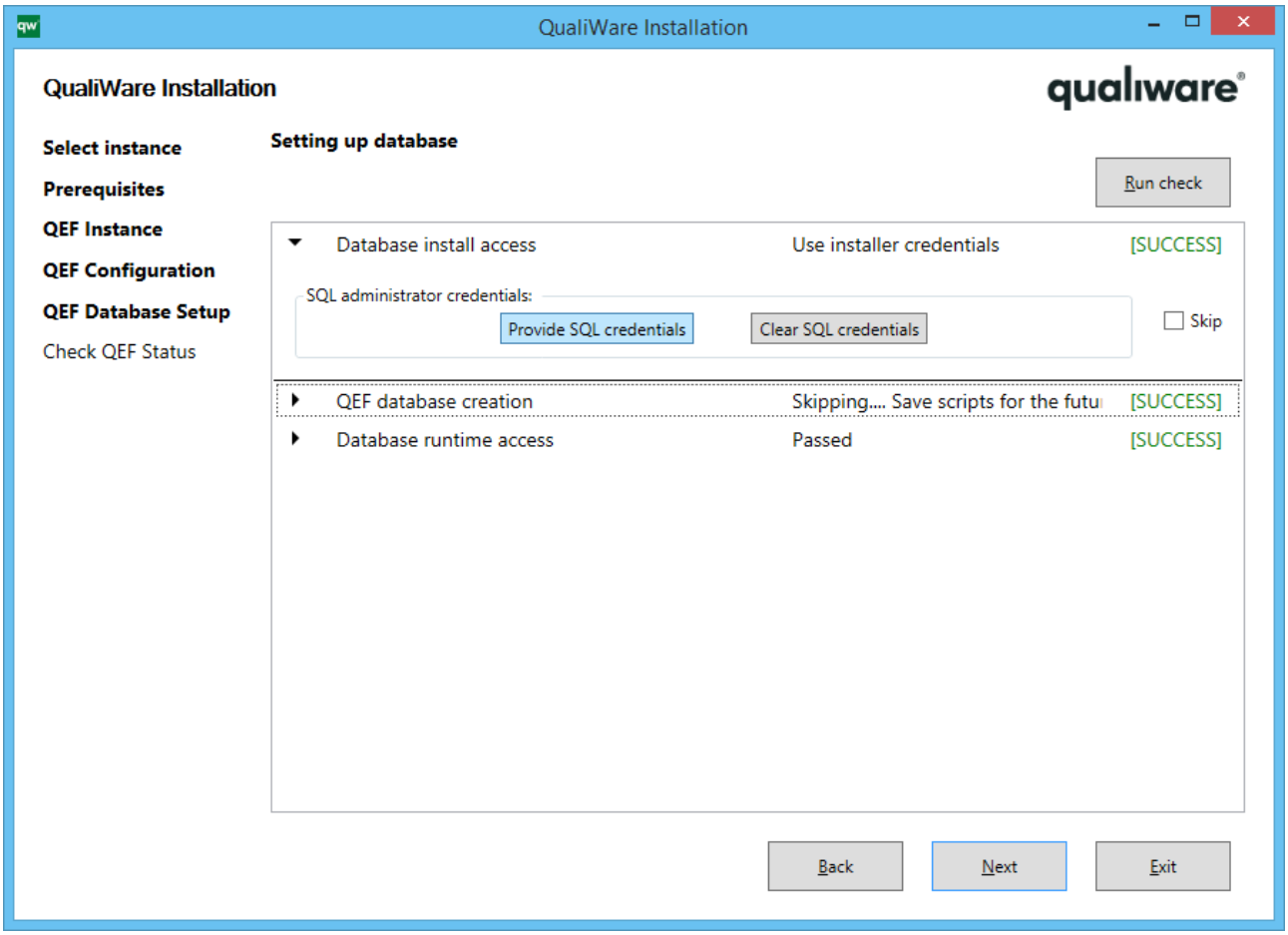
Required server roles for creating new database:

- dbcreator (required only if new database is created; not required if existing database is used);
- db_owner.

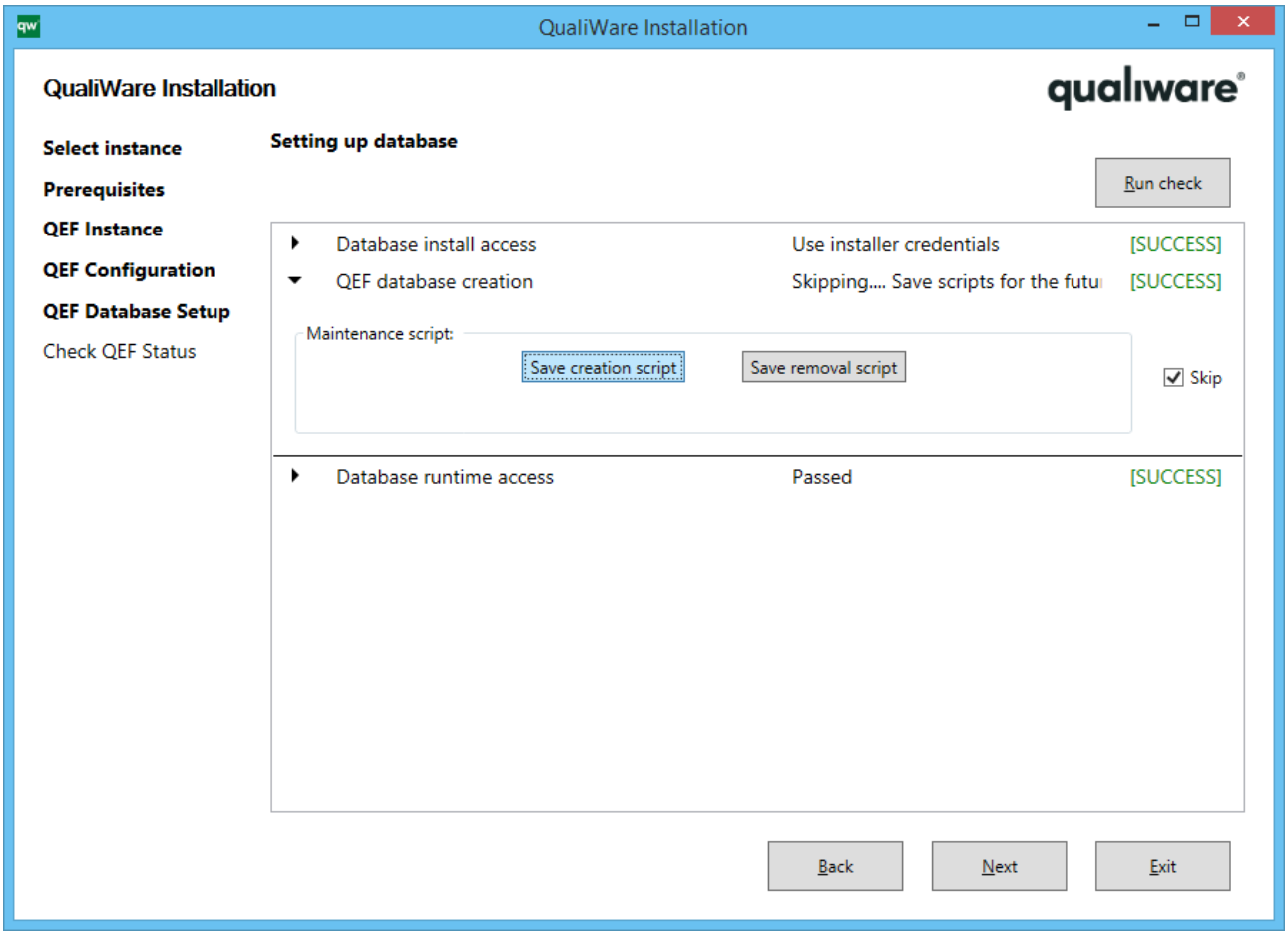
Required server roles for upgrade existing data storage:

- db_owner

When installing QEF and executing SQL initialization scripts, by default Windows authentication is used. This means that the same user account as used to run QEF installation is used to execute SQL initialization scripts. To use MS SQL Server user account to execute SQL initialization scripts, provide user credentials during QEF installation on the **QEF Database Setup** step.



If for some reason SQL initialization scripts fail to execute, they can be saved into a file on the **QEF Database Setup** step and send to database administrators to be executed manually.



2.2 QIS

One server or development machine can have one or more instances of QualiWare Integration Server (hereinafter QIS) installed. Installation of instance creates a single database. Configuring and running different instances against the same database will result in unexpected behavior. In the current version it is not possible to use custom schema, which makes it impossible to use one database for more than one instance.

Installation of each instance of QIS creates a single database with tables.

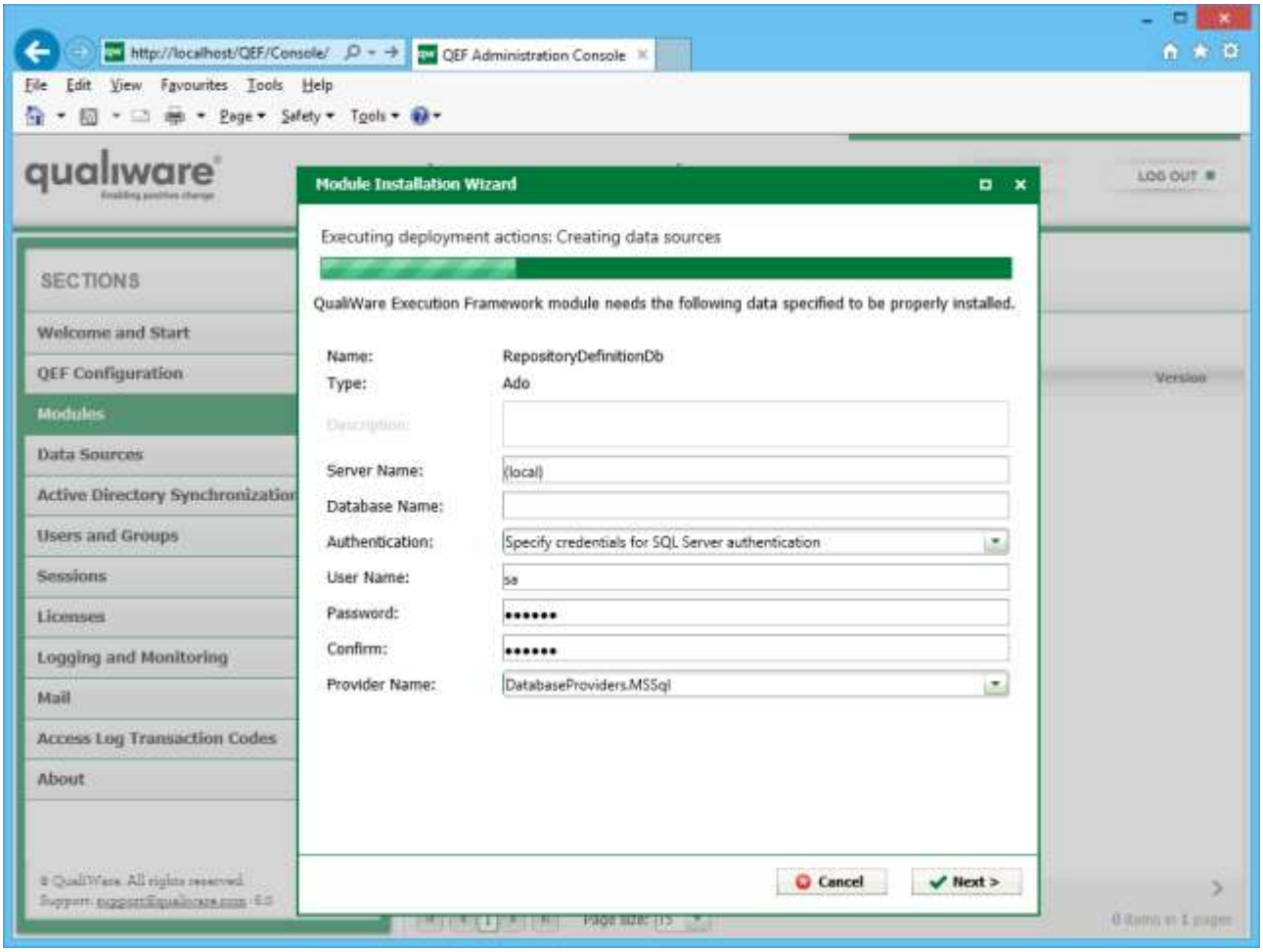
Required server roles for creating new database:

- dbcreator (required only if new database is created; not required if existing database is used);
- db_owner.

Required server roles for upgrade existing data storage:

- db_owner

When installing QIS and executing SQL initialization scripts, by default Windows authentication is used. This means that the same user account as used to run QEF is used to execute SQL initialization scripts. To use MS SQL Server user account to execute SQL initialization scripts, provide user credentials during QIS installation on the Creating data source step. Having provided user credentials, these will be used when running QIS as well.



2.3 Repositories

One QIS installation can have one or more repositories. Creating of repository creates a single data storage. Configuring and running different repositories against the same data storage will result in unexpected behavior. It is possible to use custom schema, which makes it possible to use one database for more than one repository.

Creating of each repository creates a single data storage with tables.

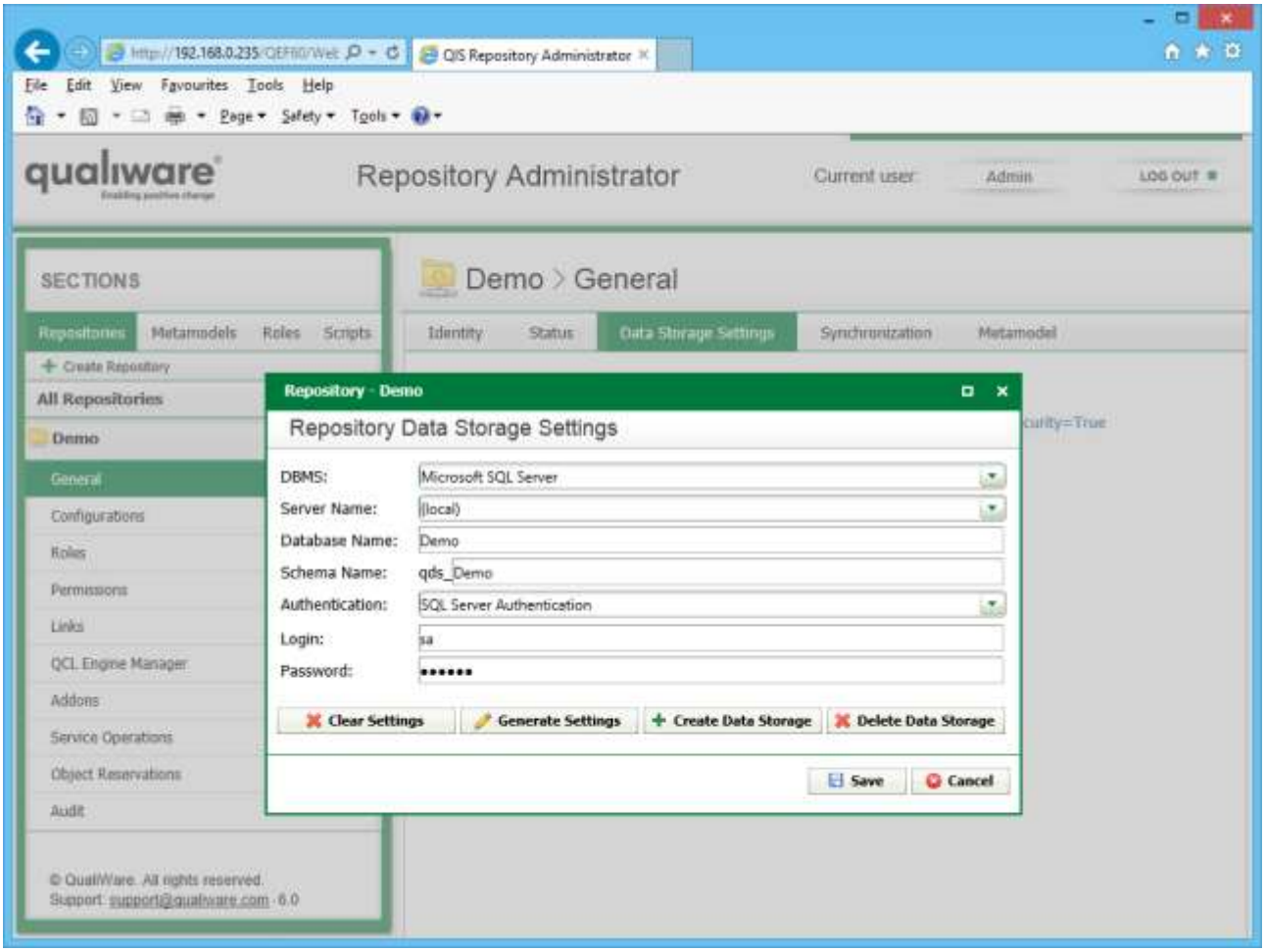
Required server roles for creating new data storage:

- dbcreator (required only if new database is created; not required if existing database is used);
- db_owner.

Required server roles for upgrade existing data storage:

- db_owner

When creating repository data storage and executing SQL initialization scripts, by default Windows authentication is used. This means that the same user account as used to run QEF is used to execute SQL initialization scripts. To use MS SQL Server user account to execute SQL initialization scripts, provide user credentials during repository data storage creation. Having provided user credentials, these will be used when connecting to repository as well.



2.4 Addons

Each repository can have one and more addons. Addon may require a data storage. Configuring and running different addons against the same data storage can only be done according to the documentation for a given addon, otherwise it will result in unexpected behavior. It is possible to use custom schema, which makes it possible to create addon data storage in the same database as repository data storage.

Required server roles for creating new data storage:

- dbcreator (required only if new database is created; not required if existing database is used);
- db_owner.

Required server roles for upgrade existing data storage:

- db_owner

When creating addon data storage and executing SQL initialization scripts, by default Windows authentication is used. This means that the same user account as used to run QEF is used to execute SQL initialization scripts. To use MS SQL Server user account to execute SQL initialization scripts, provide user credentials during addon data storage creation. Having provided user credentials, these will be used when connecting to addon data storage as well.