



UNLIMITED PLM PERFORMANCE **DEVELOPED BY ISD**

Microsoft SQL Server 2022

Installation guide

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isdgroup.com



THE WORLD OF CAD AND PDM SOLUTIONS

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1 Introduction

The HELiOS PDM Modules (Document management, Part management, Workflow etc.) are based on a relational database. Before putting HELiOS into operation, the Microsoft SQL database control system must be installed on the server, a database must be imported and the clients ODBC connection must be established.

The following installation instructions refer to the installation of the English Version of SQL Server 2022 Evaluation Edition. Other editions may have slight divergences.

For further information about Microsoft SQL Server 2022 please refer to the Microsoft documentation or the Help on the Microsoft homepage as follows:

<https://www.microsoft.com/en-us/sql-server/sql-server-2022>

<https://msdn.microsoft.com/de-de/library/ms143531.aspx>

Please note:

- If you work with HELiOS and ordered the SQL Server via ISD, please use only the DVD or ISO file provided by ISD.
- If a German SQL Server must be installed on a foreign OS, Region as well as Language must be switched to DE/DE, otherwise the setup routine will not start. After installation, the settings can be restored (this also applies to German/Swiss or German/Austrian)

2 Installation Database Server

2.1 Installation of the Database Modules

After starting the setup, the installation screen will appear as shown below:

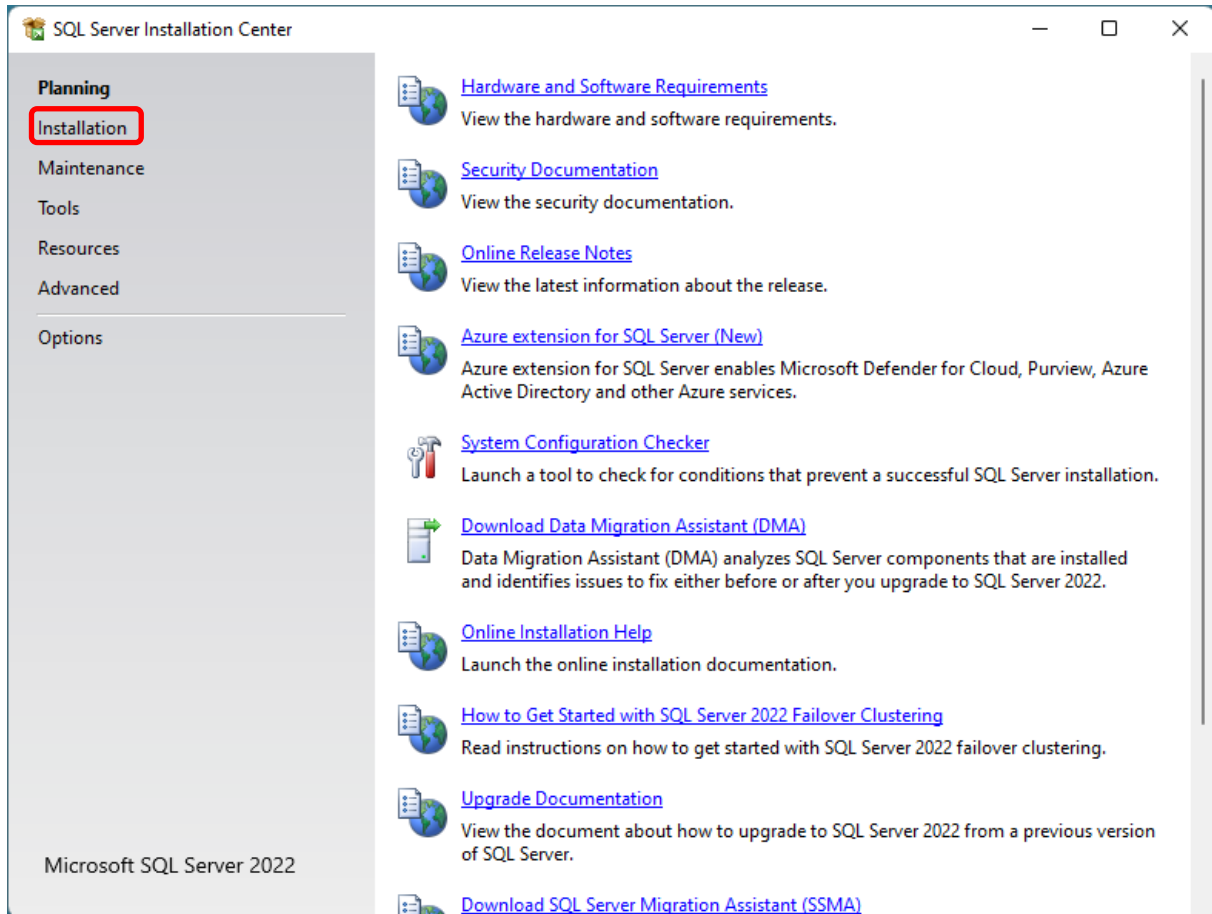


Image 1: Start page of SQL Server Installation Centre

In the option menu, select **Installation**.

On the right side of the screen, click **New SQL Server stand-alone installation or add features to an existing installation**.

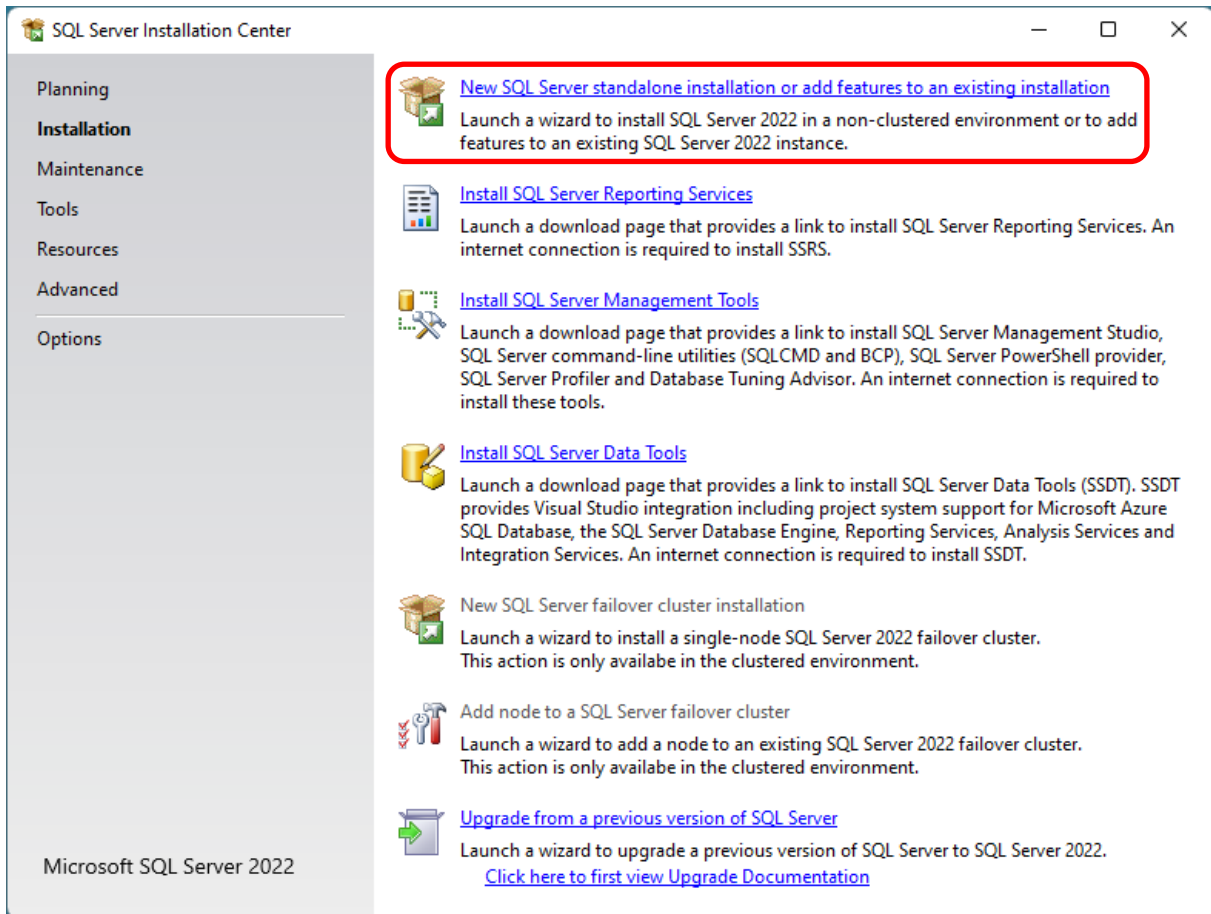


Image 2: Begin Installation

Select the field below to enter the **Product Key** and click **Next**.

SQL Server 2022 Setup

Edition

Select the edition of SQL Server 2022 you want to install.

Edition

- License Terms
- Global Rules
- Product Updates
- Install Setup Files
- Install Rules
- Azure Extension for SQL Server
- Feature Selection
- Feature Rules
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Select an edition of SQL Server to install. You can choose to either use a SQL Server license that you have already purchased by entering the product key or choose pay-as-you-go billing through Microsoft Azure. You can also specify a free edition of SQL Server: Developer, Evaluation, or Express. Evaluation has the largest set of SQL Server features, as documented in SQL Server Books Online, and is activated with a 180-day expiration. Developer edition does not have an expiration, has the same set of features found in Evaluation, but is licensed for non-production database application development only. To upgrade from one installed edition to another, run the Edition Upgrade Wizard.

☐ Specify a free edition:

Evaluation

☐ Use pay-as-you-go billing through Microsoft Azure:

Warning: To enable this option, you must have an active Azure subscription that you will be required to provide along with a resource group, Azure region, and tenant ID later in setup. For more information, see <https://aka.ms/ArcEnabledSqlPAYG>.

Standard

☒ Enter the product key:

- - - -

☐ I have a SQL Server license with Software Assurance or SQL Software Subscription

☒ I have a SQL Server license only

< Back Next > Cancel

Image 3: Product Key

Agree on the License Terms and Privacy Statement and click **Next**.

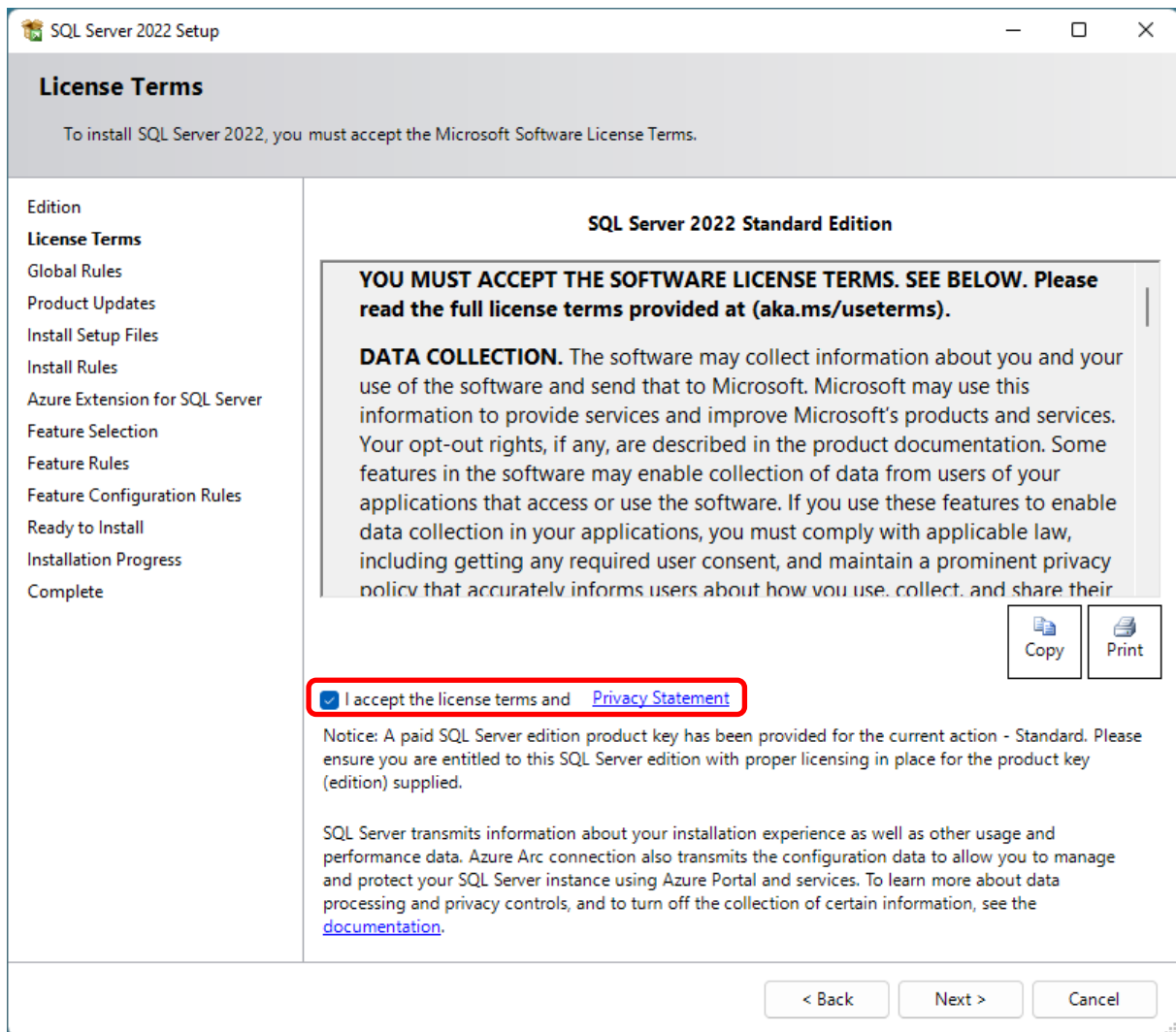


Image 4: Accept Licence Terms

After completing the preparation, click **Next**.

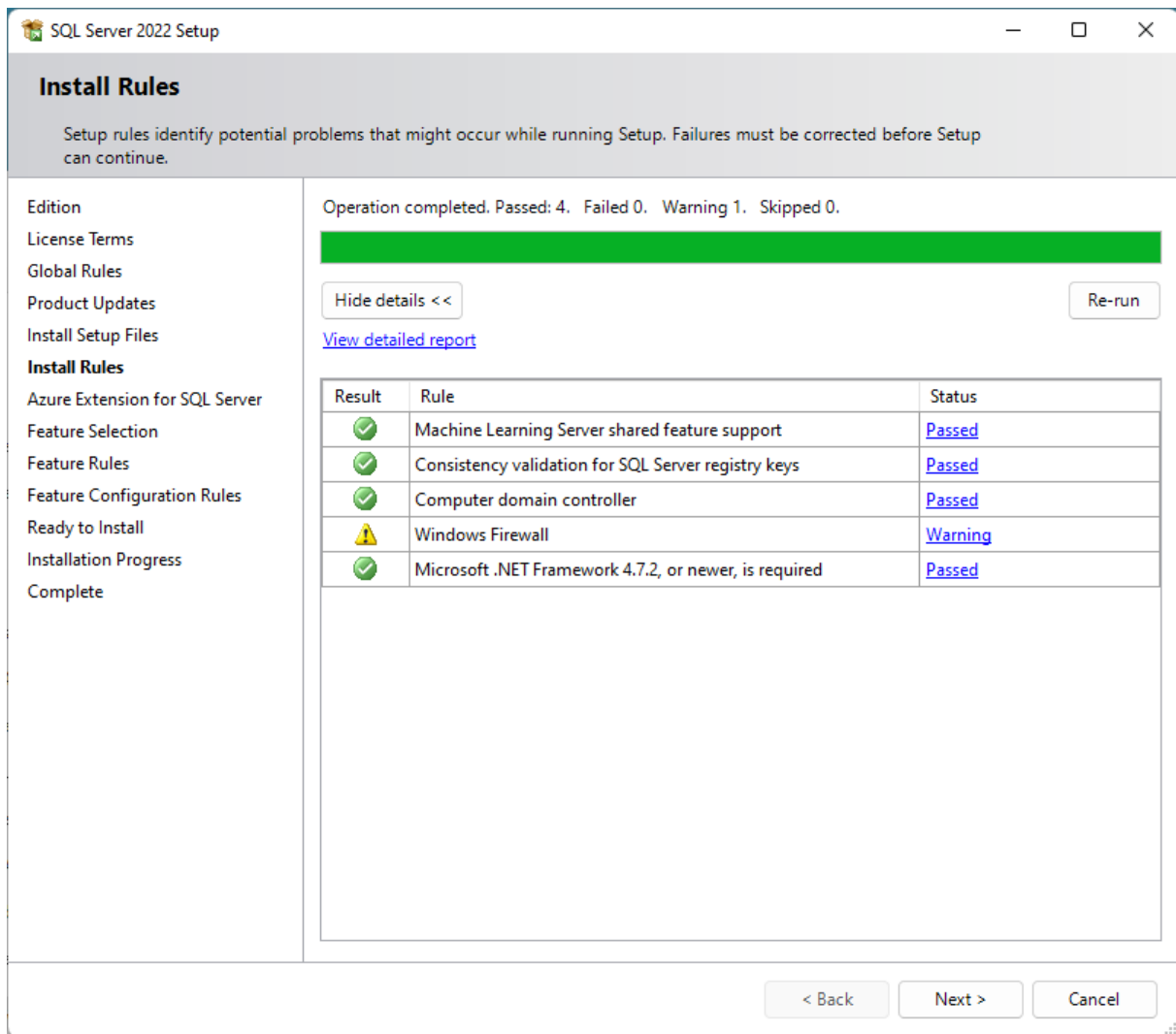


Image 5: Setup ready

Deactivate the Azure Extension for SQL-Server

SQL Server 2022 Setup

Azure Extension for SQL Server

Azure Extension for SQL Server is required to enable Microsoft Defender for Cloud, Purview, and Azure Active Directory.

Edition
License Terms
Global Rules
Product Updates
Install Setup Files
Install Rules
Azure Extension for SQL Serv...
Feature Selection
Feature Rules
Feature Configuration Rules
Ready to Install
Installation Progress
Complete

☐ Azure Extension for SQL Server

To install Azure extension for SQL Server, provide your Azure account or a service principal to authenticate the SQL Server instance to Azure. You also need to provide the Subscription ID, Resource Group, Region, and Tenant ID where this instance will be registered. For more information for each parameter, visit <https://aka.ms/arc-sql-server>.

☐ Use Azure Login
☒ Use Service Principal

Azure Service Principal ID*

Azure Service Principal Secret*

Azure Subscription ID*

Azure Resource Group*

Azure Region*

Azure Tenant ID*

Proxy Server URL (optional)

< Back Next > Cancel

Image 6: Deactivate Azure Extension

Select the highlighted feature: **Database Engine Services**

Confirm the selection and click **Next**.

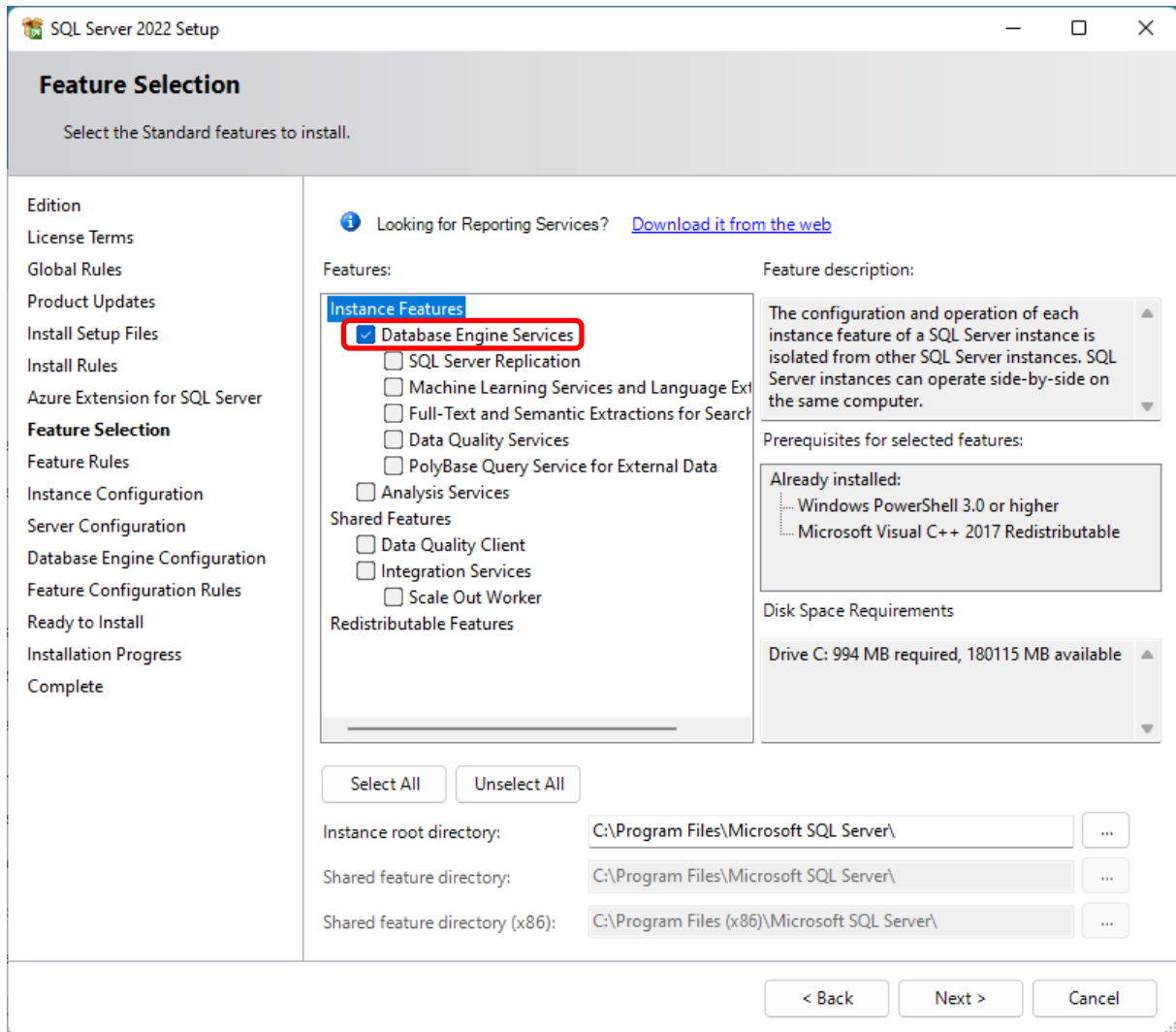


Image 7: Feature Selection

In the dialogue shown below, specify the name of the SQL Server instance. In this manual, the **Default instance** is used.

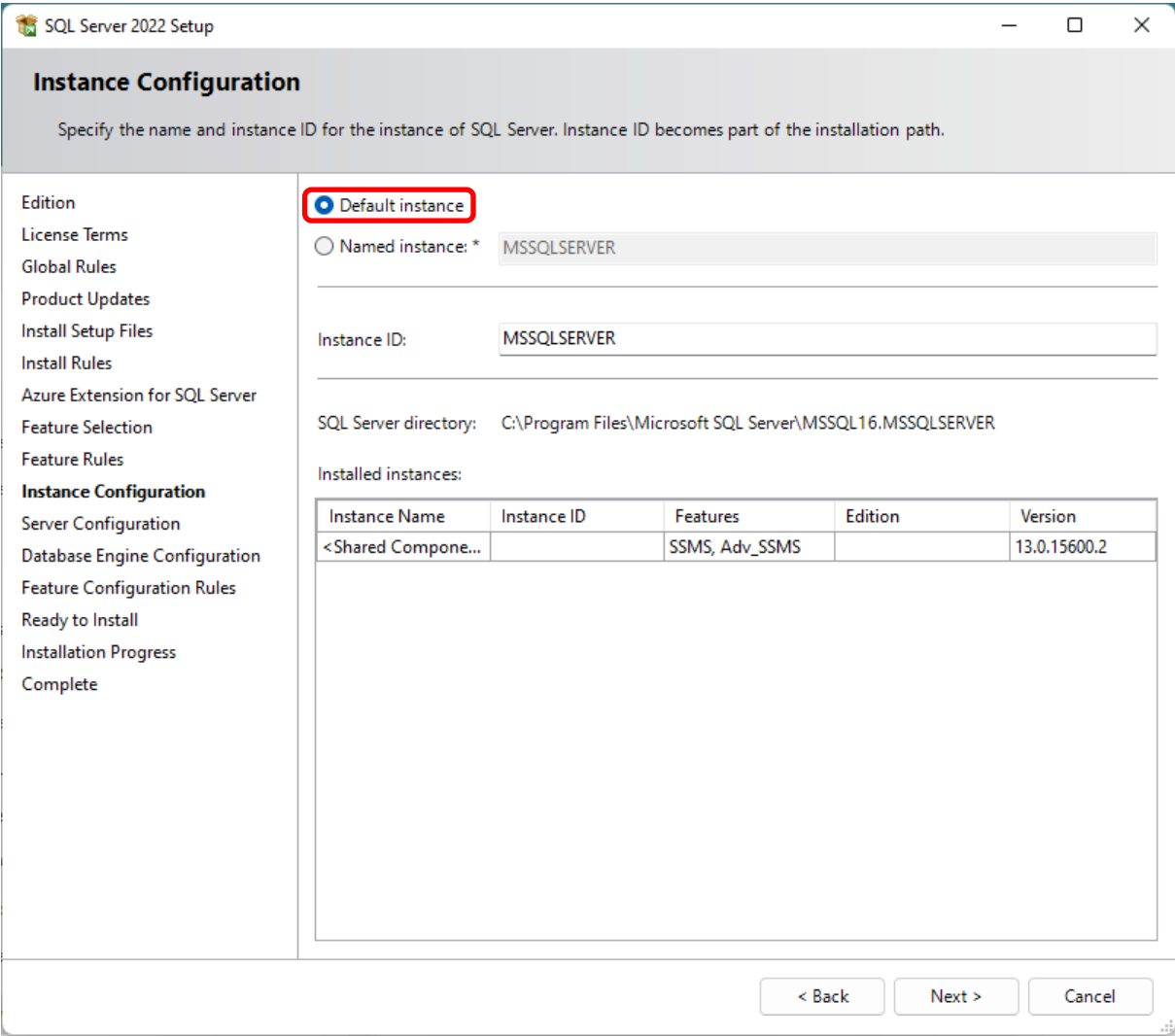


Image 8: Instance Configuration

Afterwards, specify on which accounts the services is to be started.

Apply the settings as shown below and click **Next**.

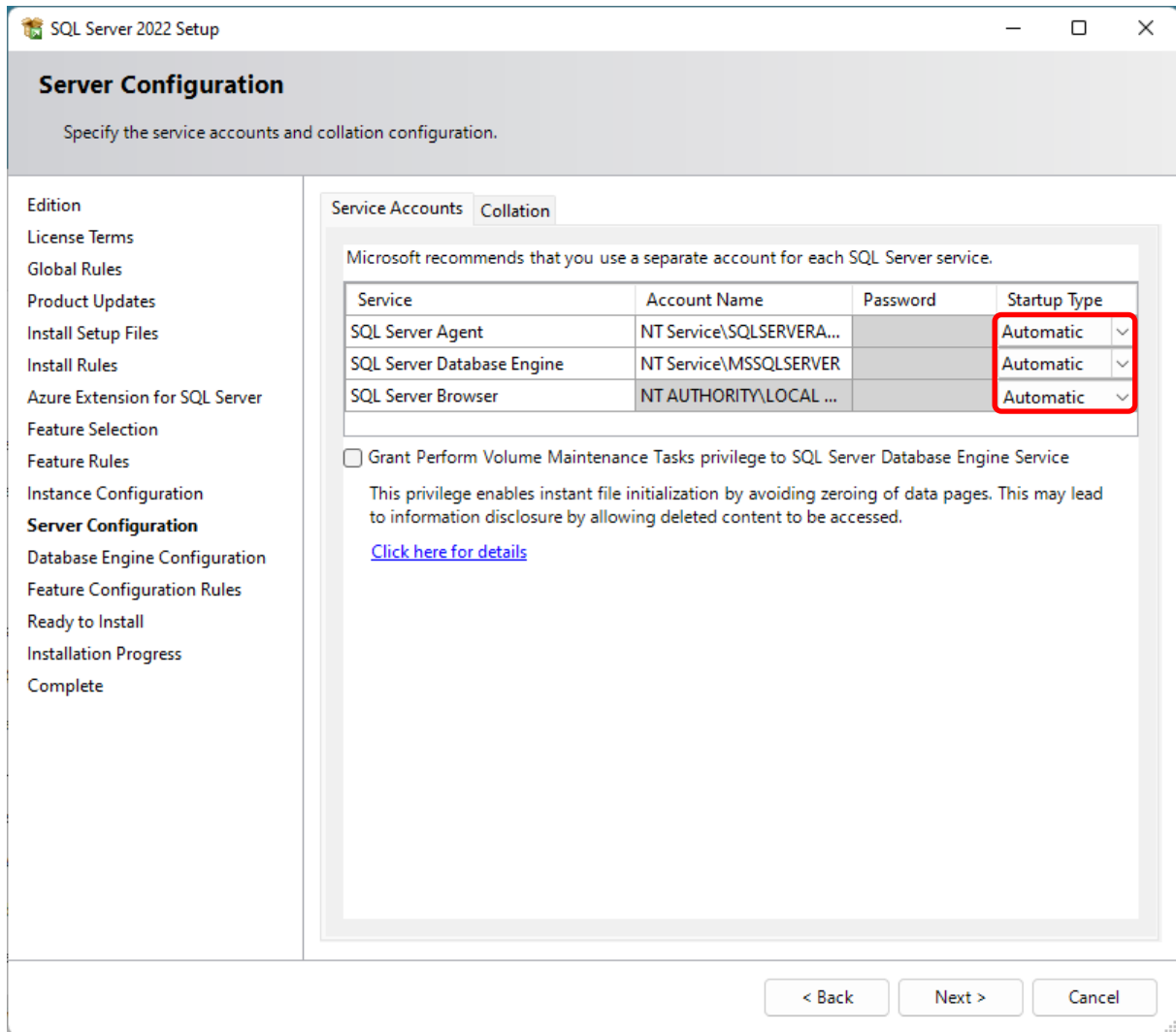


Image 9: Server Configuration: Set Start Type to "Automatic"

After clicking **Next**, the authentication mode shall be specified. For this, **Mixed mode** is required. Enter the password for the internal database administrator (SA).

Important: Make sure not to select a password that contains special characters such as a semicolon. This can cause problems when exporting and importing the HELIOS database.

In **Specify SQL Server administrators**, enter the current user as well as the group of Windows – Administrators (may be added if necessary).

SQL Server 2022 Setup

Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories, TempDB, Max degree of parallelism, Memory limits, and Filestream settings.

Edition
 License Terms
 Global Rules
 Product Updates
 Install Setup Files
 Install Rules
 Azure Extension for SQL Server
 Feature Selection
 Feature Rules
 Instance Configuration
 Server Configuration
Database Engine Configuration
 Feature Configuration Rules
 Ready to Install
 Installation Progress
 Complete

Server Configuration | Data Directories | TempDB | MaxDOP | Memory | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

☐ Windows authentication mode
☒ **Mixed Mode (SQL Server authentication and Windows authentication)**

Specify the password for the SQL Server system administrator (sa) account.

Enter password: •••••

Confirm password: •••••

Specify SQL Server administrators

QS01\qs (qs)

SQL Server administrators have unrestricted access to the Database Engine.

Add Current User | Add... | Remove

< Back | Next > | Cancel

Image 10: Authentication Mode

An overview of the configuration follows. Now click **Install** to install the SQL Server 2022.

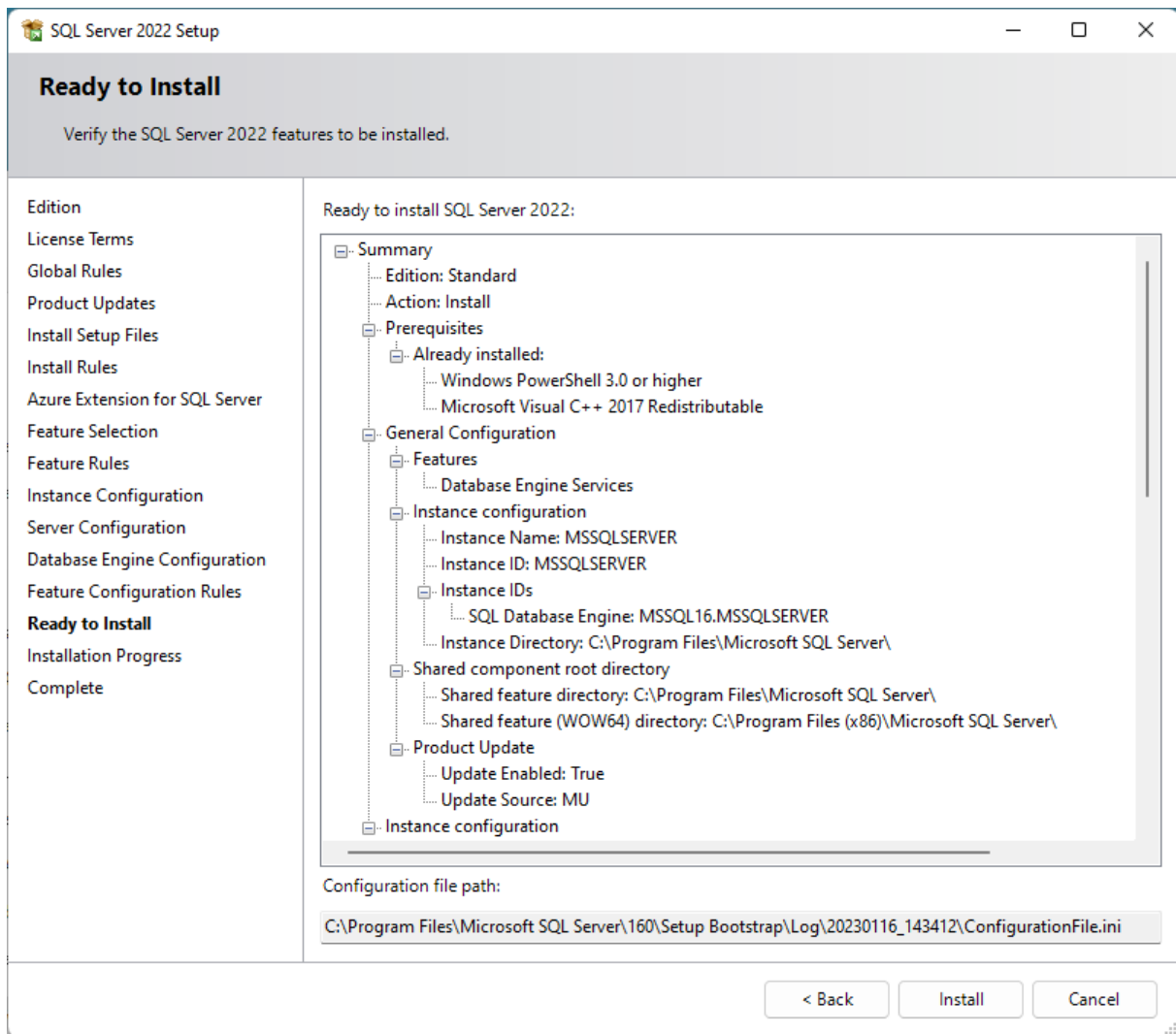


Image 11: Installation Configuration

After successful installation, additional information about the setup operation will be shown.

Click **Close** to end the installation.

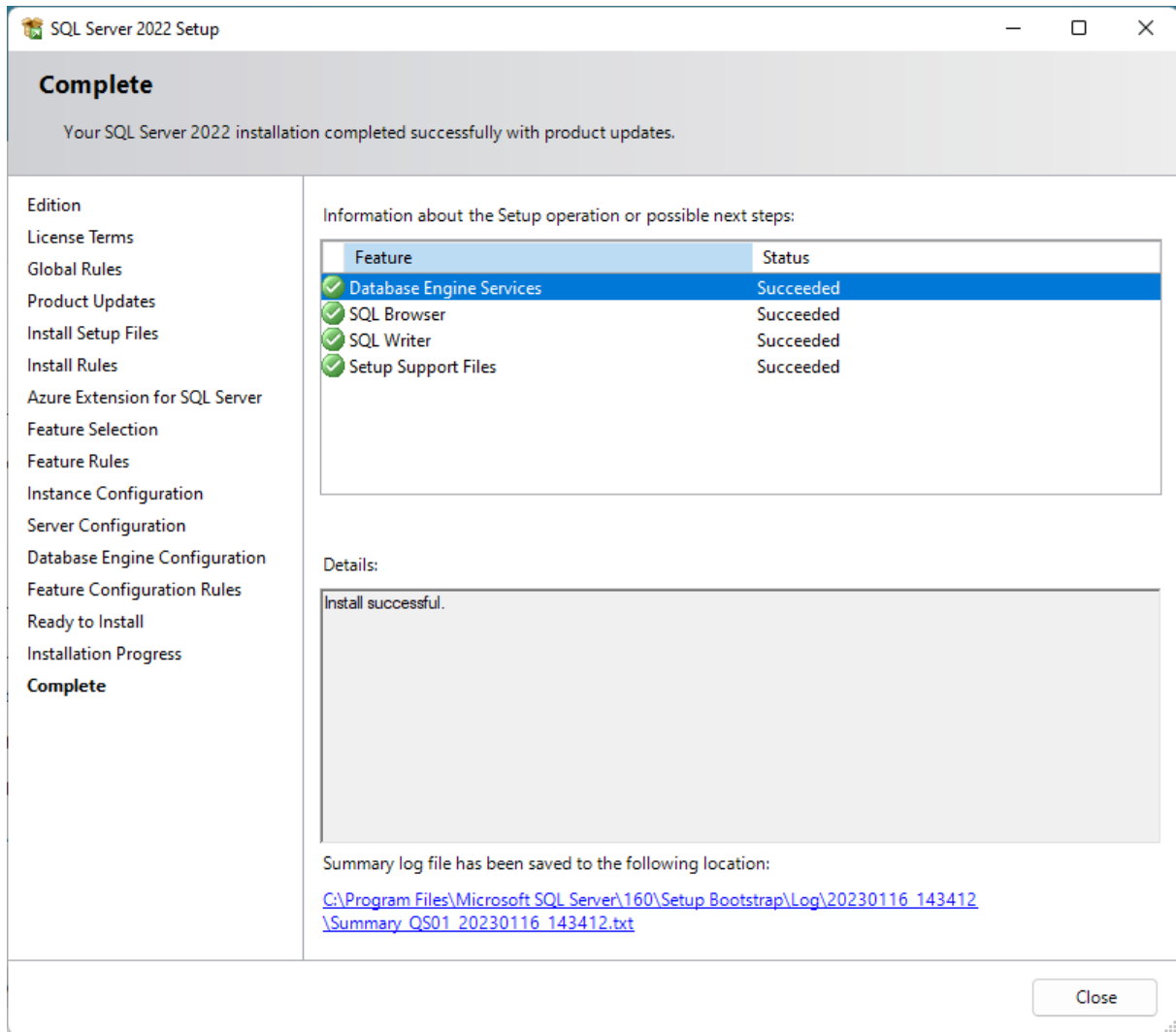


Image 12: Completion

To configure SQL Server 2022, the tool **SQL Server Management Studio** is required.

The tool can be downloaded directly from the Microsoft homepage:

<https://learn.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver16>

Click **Install** to perform the installation automatically.

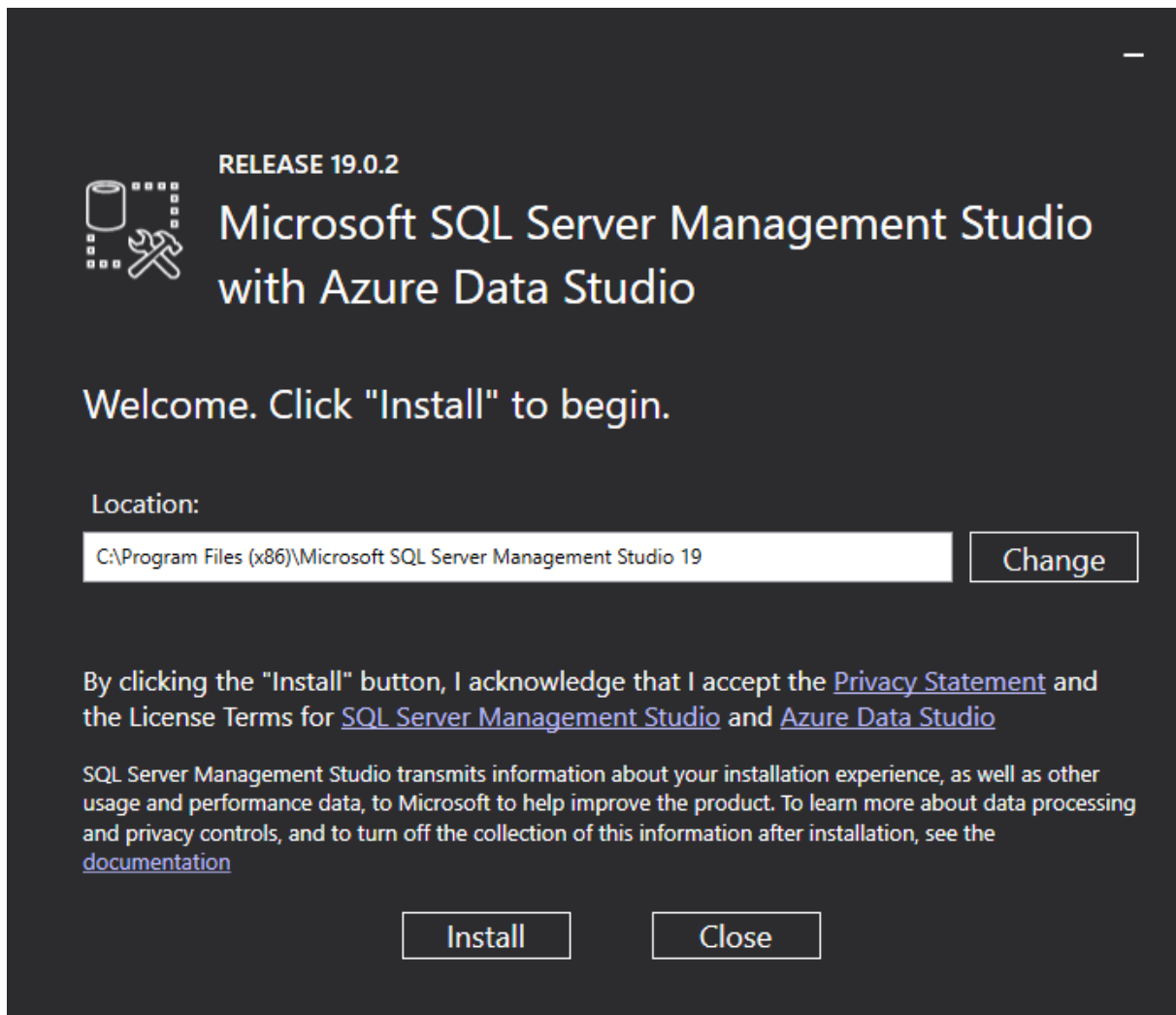


Image 13: Installation Microsoft SQL Server Management Studio

Once complete, **close** the window.

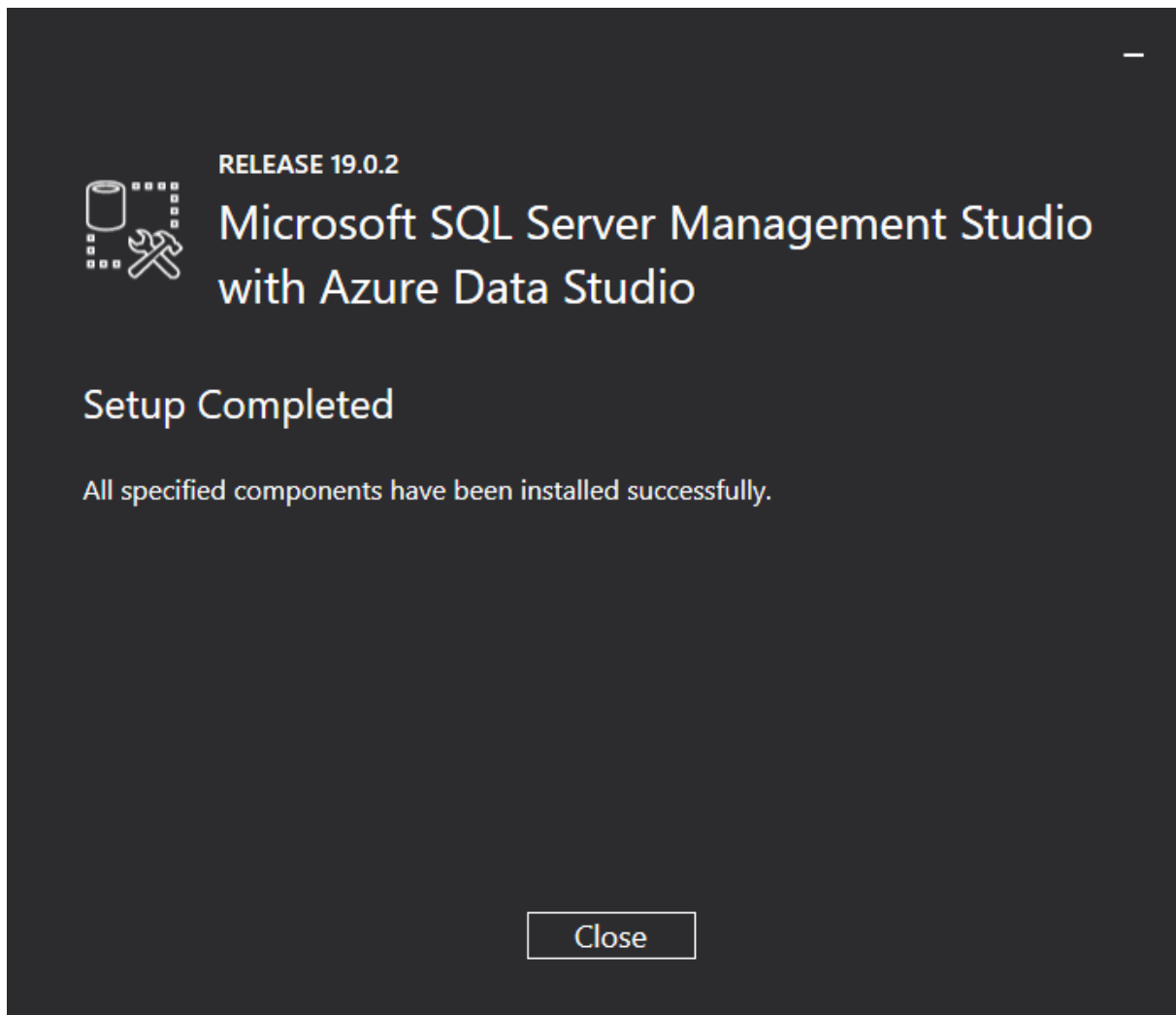


Image 14: Completion of Microsoft SQL Server Management Studio Installation

3 Set up SQL Server 2022

3.1 Set up Conditions for Database Import

Start **Microsoft SQL Server Management Studio 19** for further configuration.

For this, use Windows Search.

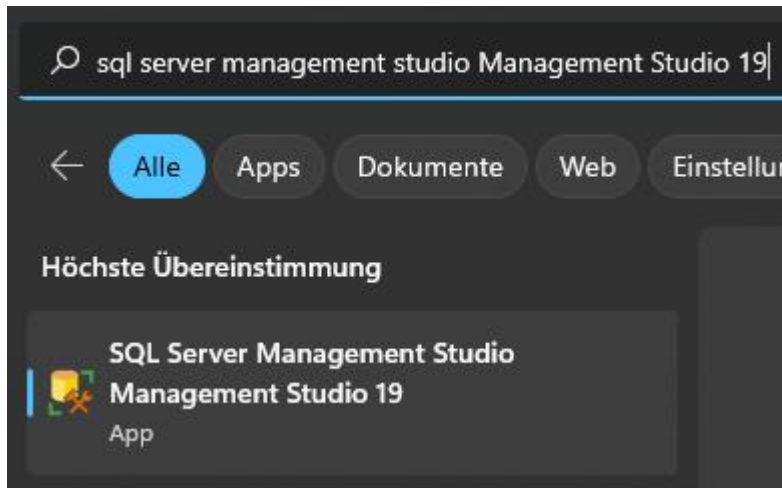


Image 15: SQL Server Management Studio 19

In the login window, specify the **Server name** and select **SQL Server Authentication** in the **Authentication** field. Connect as **sa** with the password you specified during installation in the **Password** field.

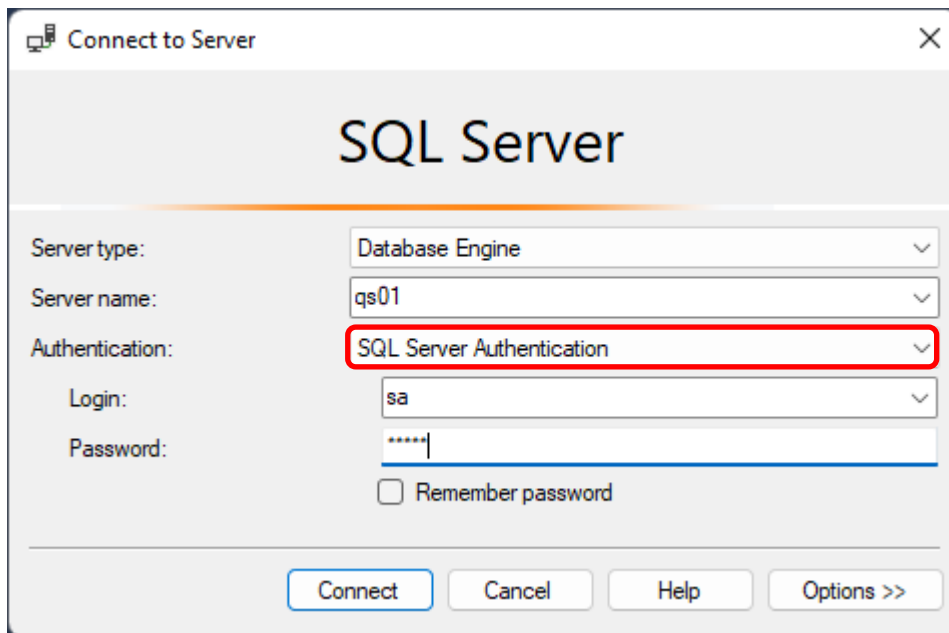


Image 16: Management Studio login

In the left area of the window, expand the folder **Security**, right-click the **Logins** sub-folder and select **New Login** in the context menu.

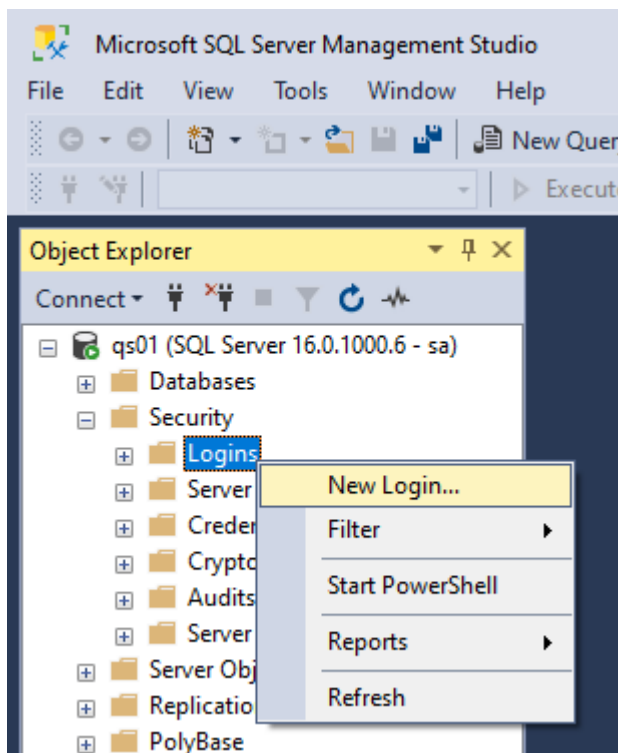


Image 17: Microsoft SQL Server Management Studio

The following window is displayed:

The screenshot shows the 'Login - New' dialog box with the following details:

- Select a page:** General (selected), Server Roles, User Mapping, Securables, Status.
- Script** and **Help** buttons are at the top.
- Login name:** hicad
- Authentication:** ☒ SQL Server authentication (highlighted with a red box), ☐ Windows authentication.
- Password:** [masked with dots]
- Confirm password:** [masked with dots]
- ☐ Specify old password
- Old password:** [empty field]
- ☐ Enforce password policy (highlighted with a red box)
- ☐ Enforce password expiration
- ☐ User must change password at next login
- ☐ Mapped to certificate
- ☐ Mapped to asymmetric key
- ☐ Map to Credential
- Mapped Credentials:** Table with columns 'Credential' and 'Provider'.
- Buttons:** Add, Remove, OK, Cancel.
- Default database:** master
- Default language:** <default>
- Progress:** Ready

Image 18: Creating the user hicad

Enter **hicad** in the **Login name** field, activate the **SQL Server authentication** option and enter a password. Deactivate the **Enforce password policy** option.

Switch to **User Mapping**. Activate Model Database as shown below and enter **hicad** in the Default Schema column. Confirm with **OK**.

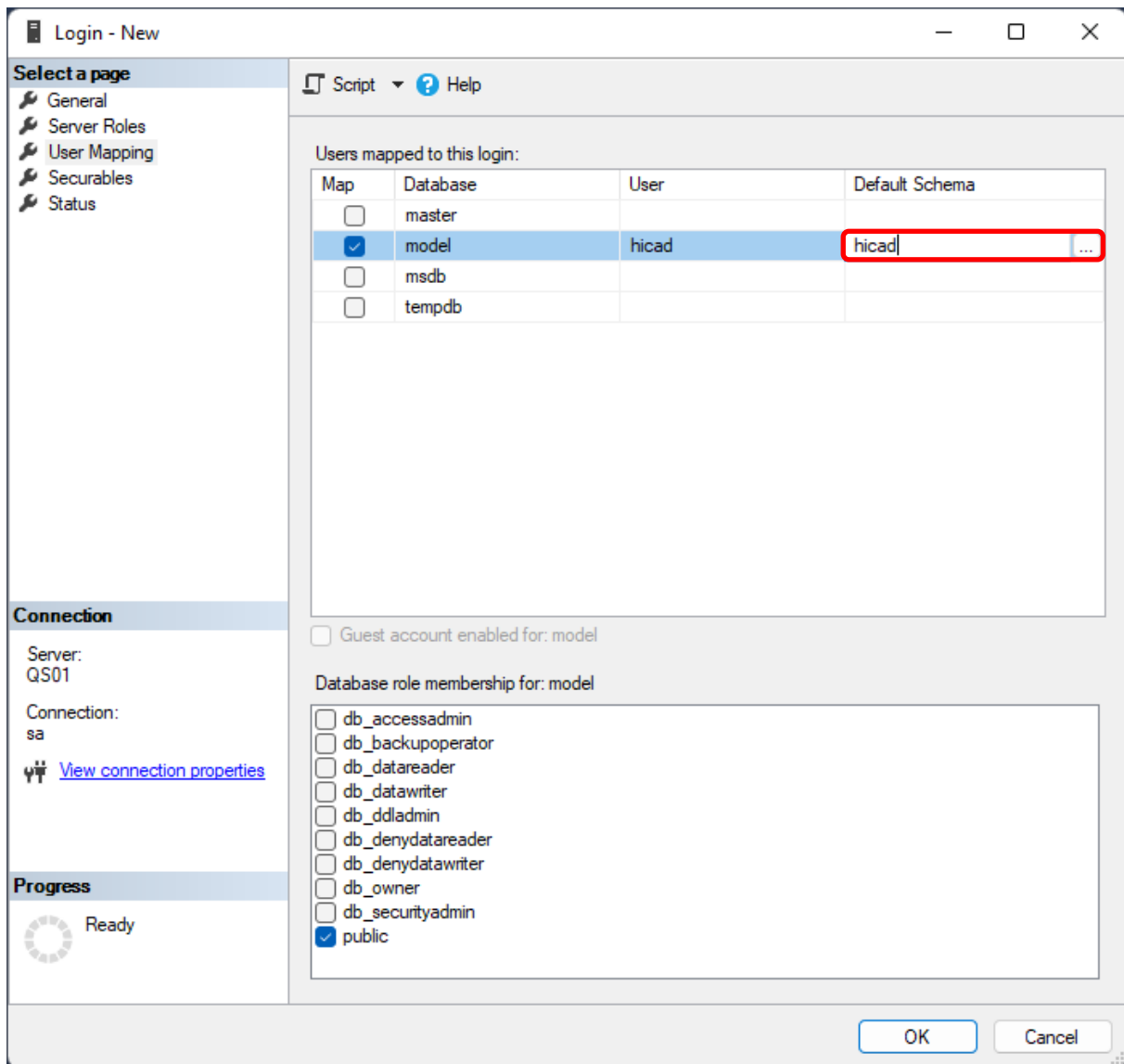


Image 19: User Mapping

4 Import HELIOS Database

4.1 Installation HELiOS Database Creator

To install the **HELiOS Database Creator**, click the corresponding button in the selection mask.

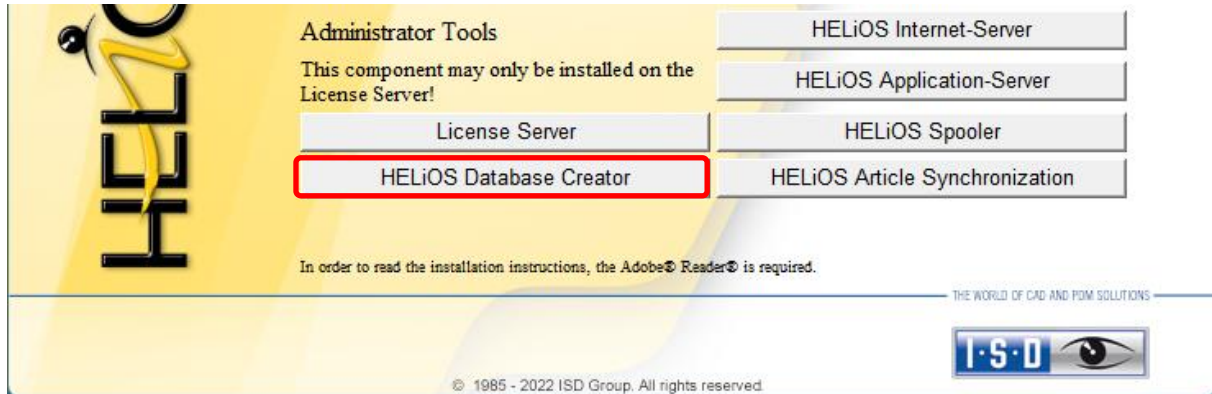


Image 20: Installation DVD with HELIOS Database Creator

The start mask of the setup wizard for **Helios Database Creator** will be displayed.

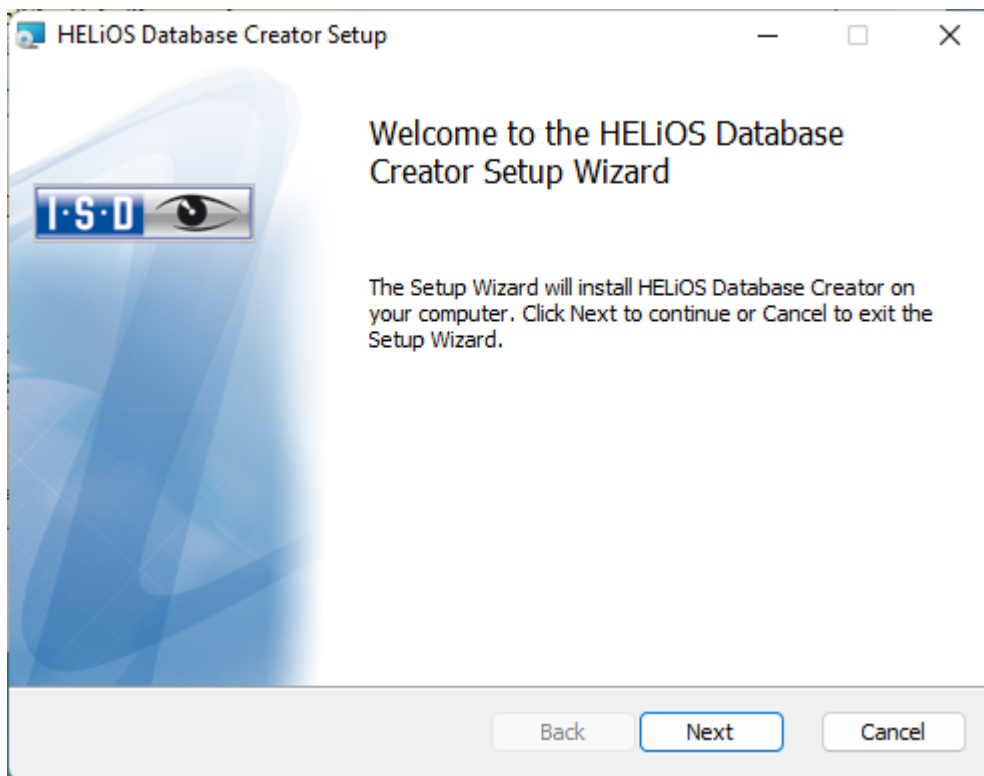


Image 21: Setup Wizard

Click **Next**.

Specify an installation directory for the **HELiOS Database Creator**, and click **Next**.

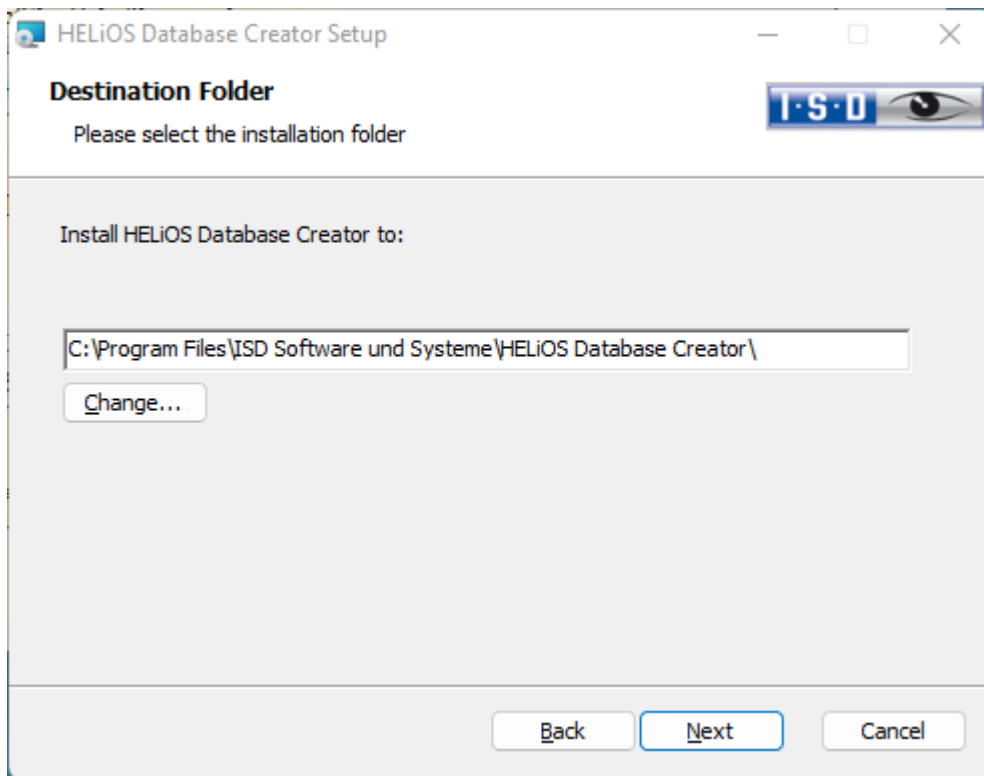


Image 22: Specify installation directory

Click **Install** to start the installation.

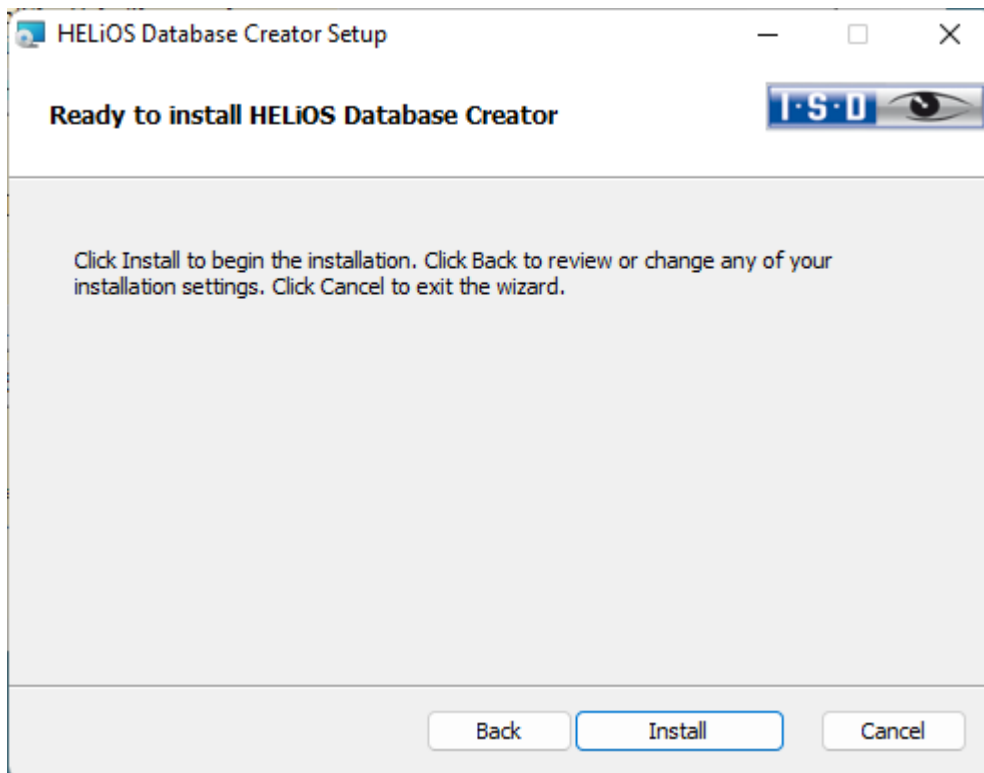


Image 23: Install Database Creator

Click **Finish** to exit the Setup Wizard.

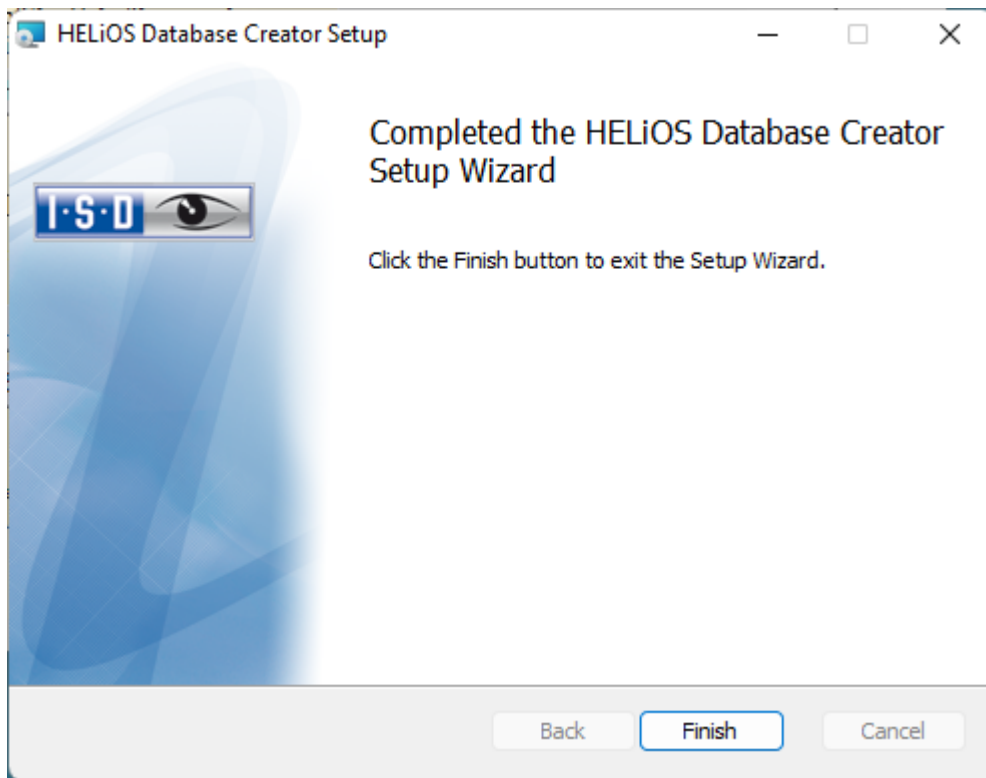


Image 24: Finalise HELIOS Database Creator installation

4.2 Import Database with HELiOS Database Creator

Enter **Database Creator** in Windows Search.

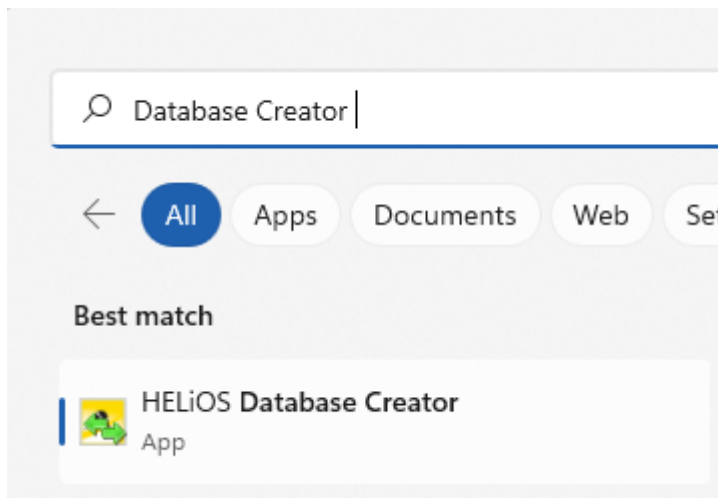
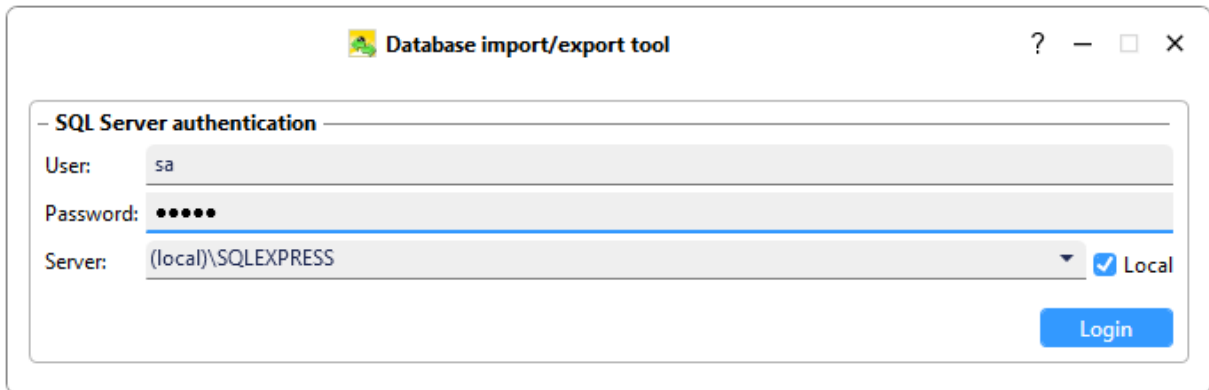


Image 25: Start HELiOS Database Creator

After entering the user data – user **sa**, password and the Server to be connected, the login is performed.



The screenshot shows a window titled "Database import/export tool" with standard Windows window controls (help, minimize, maximize, close). Inside the window, there is a section titled "– SQL Server authentication –". Below this title, there are three input fields: "User:" with the text "sa", "Password:" with masked characters "•••••", and "Server:" with the text "(local)\SQLEXPRESS". To the right of the "Server:" field, there is a dropdown arrow and a checked checkbox labeled "Local". At the bottom right of the form area, there is a blue button labeled "Login".

Image 26: HELIOS Database Import/Export Tool

For HELiOS versions from HELiOS 2024 (Major Release V. 2900) you will find the database in the directory \Databases\ , or in the subdirectory \Databases\en\ .

The log file of the process is stored under %Appdata%\Roaming\ISD Software and Systems\HELiOS\bauteil_akt_Helios_Export.log and the configuration under %Appdata%\Roaming \ISD Software and Systems\Helios.DBImportExport\DBImportExportConfig.xml.

The instructions assume that the database name **HELiOS** is used. Enter the export path and the database name and execute the import by clicking the **Import** button.

It is not possible to export to an existing directory that already contains files. In this case you will receive an error message.

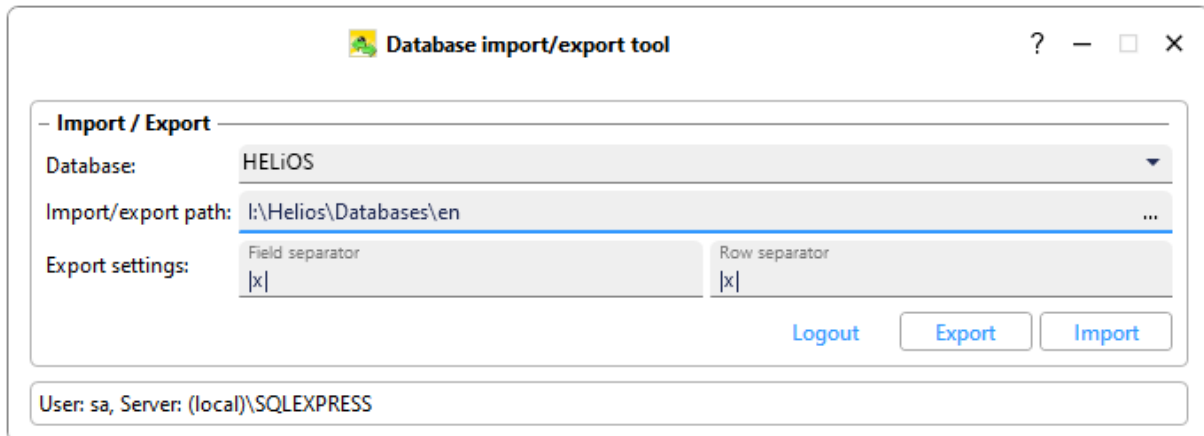


Image 27: Start of import

After successful import, an import log is displayed and a corresponding notification occurs. Confirm with **OK**.

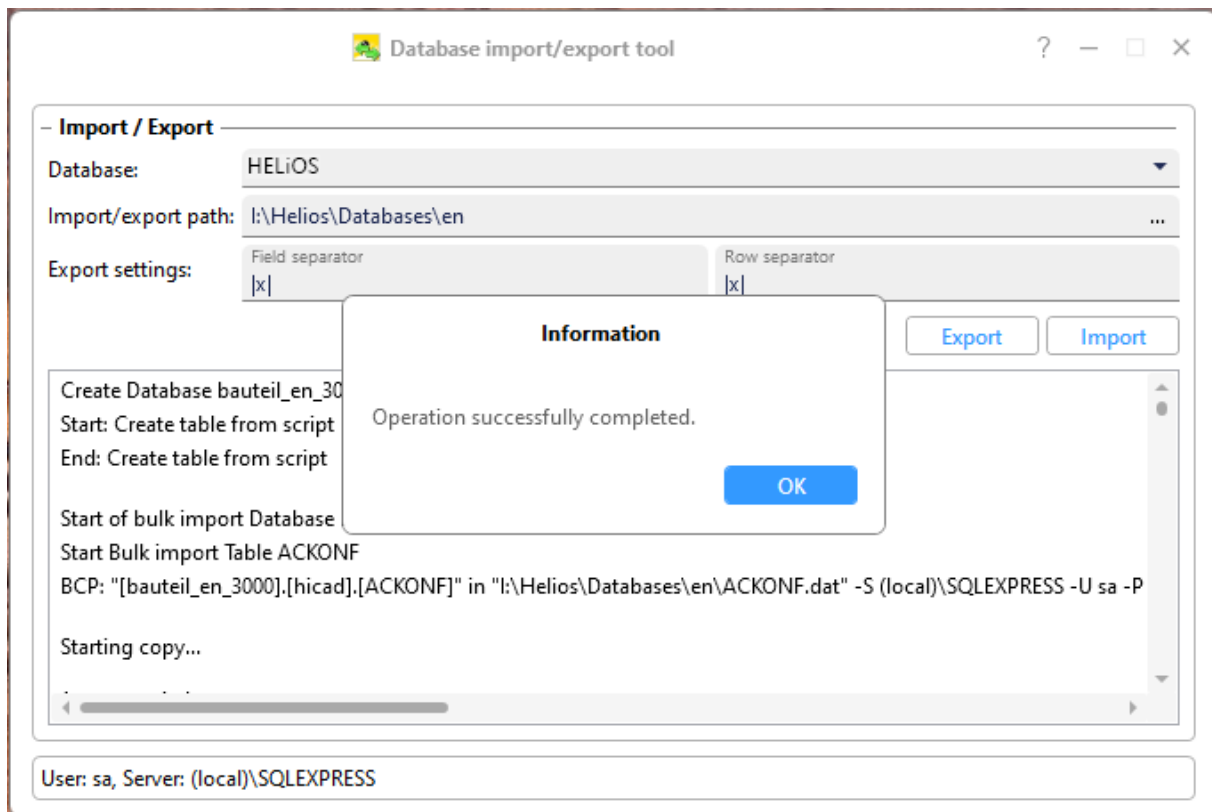


Image 28: Import successful

5 Define Permissions for the User **hicad**

Switch to the SQL Server Management Studio to define the user permissions for the Database **HELIOS**.

Expand the **Databases** folder, right-click **HELIOS** and select the **Properties** function in the context menu.

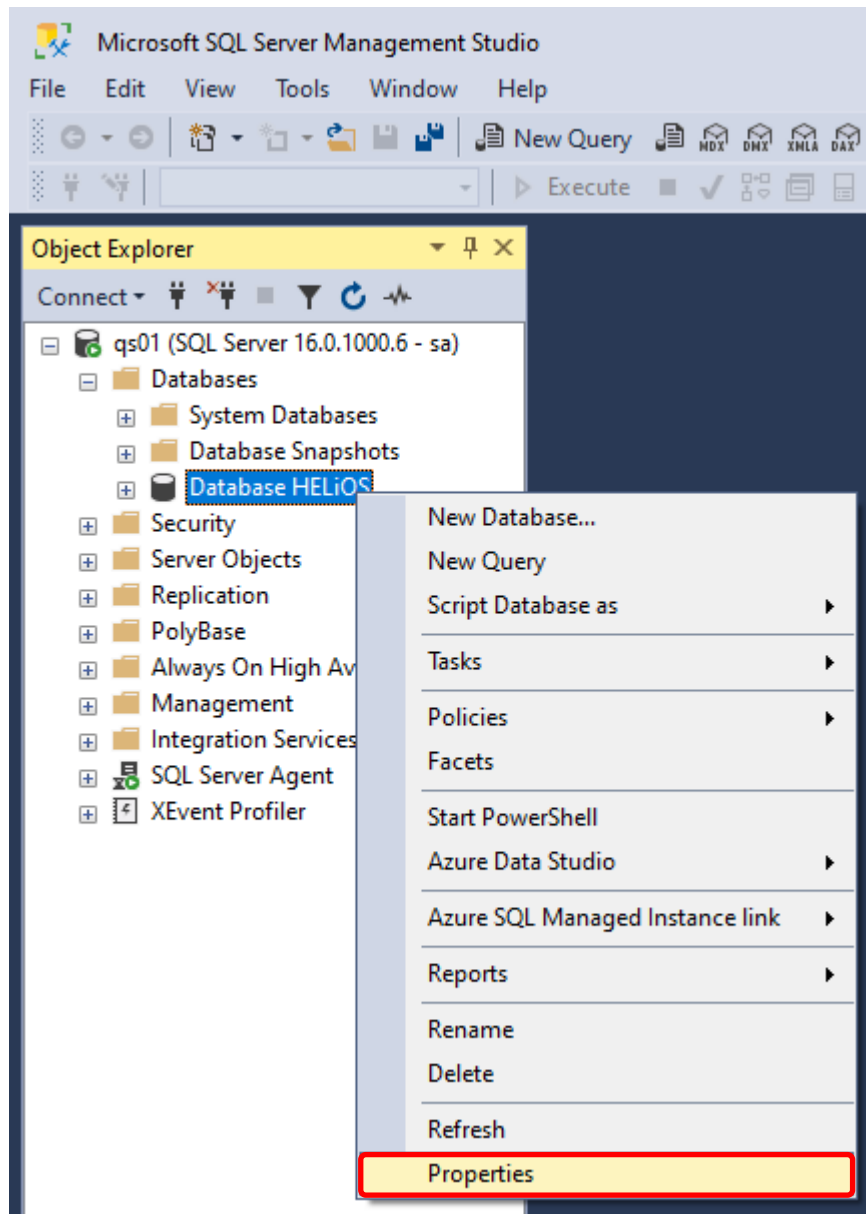


Image 29: Calling the Properties of HELIOS

Switch here to **Permissions**.

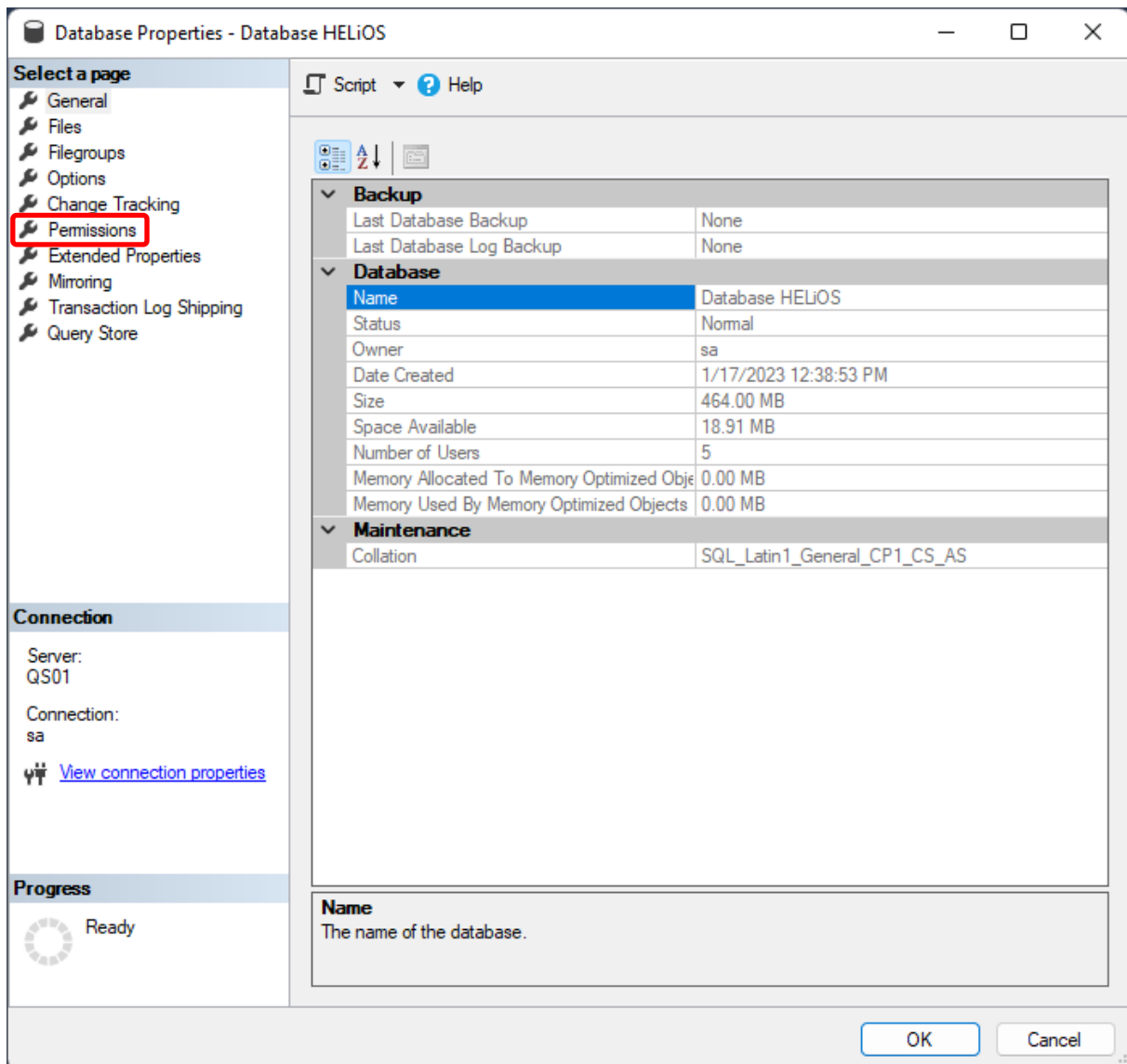


Image 30: Change to Permissions

The permissions for the user **hicad** are defined as follows:

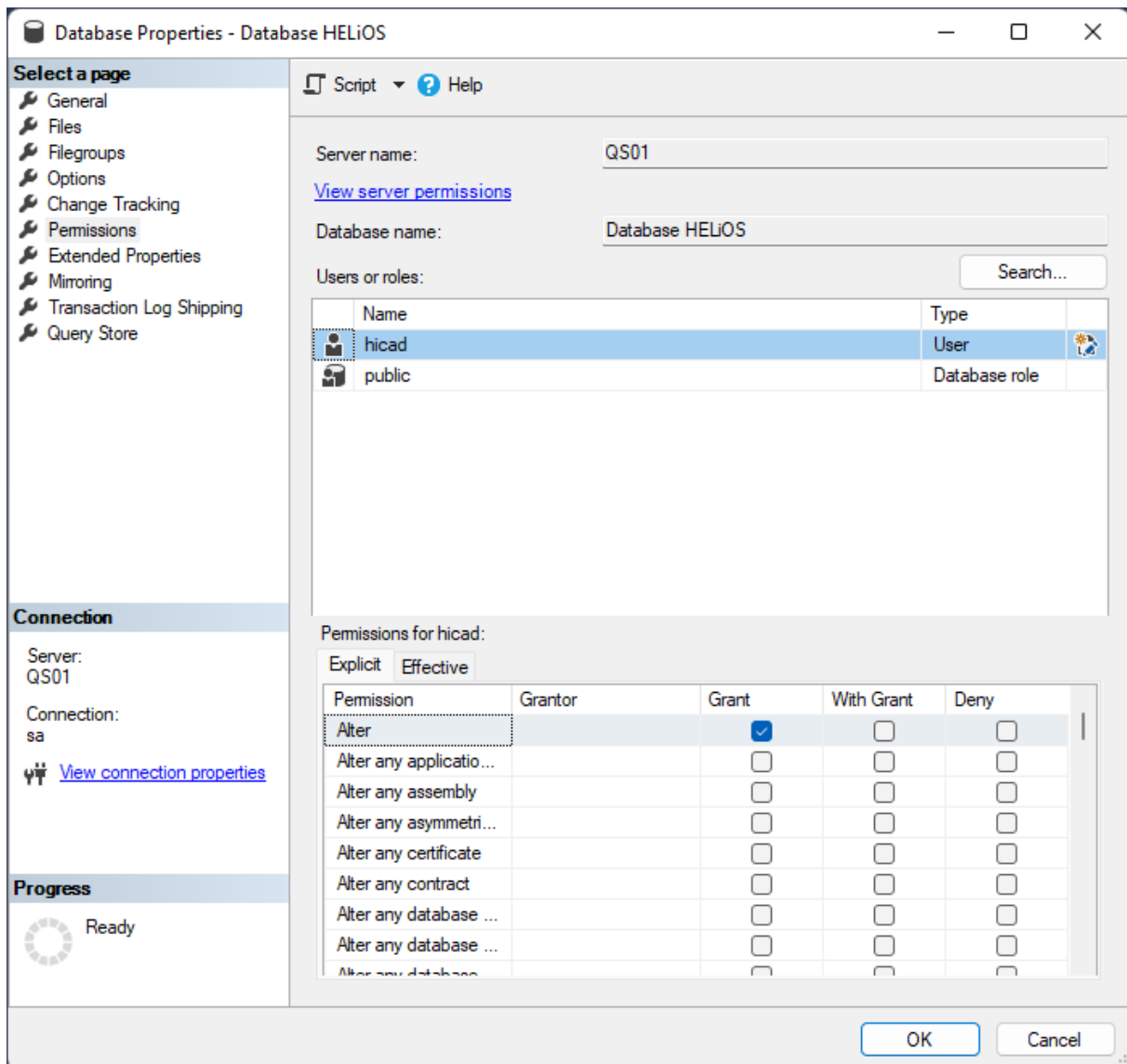


Image 31: Permissions for hicad

In the list of permissions, grant the following permissions:

- » Alter
- » Connect
- » Create table
- » Delete
- » Insert
- » Select
- » Update

6 Set up ODBC Connection

To set up the ODBC connection for the clients, open **Data Sources (ODBC)** with Windows Search.

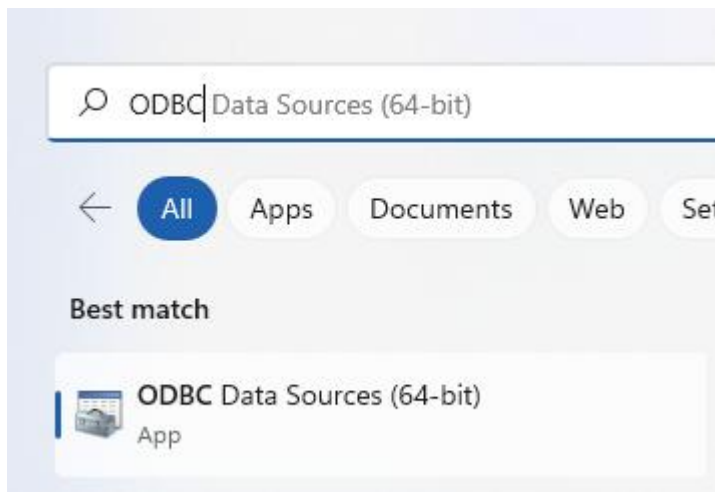


Image 32: Open Data Sources (ODBC)

The ODBC data source can either be set up as a **System DSN** (by administrator) being available to all users of the computer or as a User DSN which will be available only to the user who created it. The procedure for both options is identical.

In the ODBC Data Source Administrator, click the **Add** button.

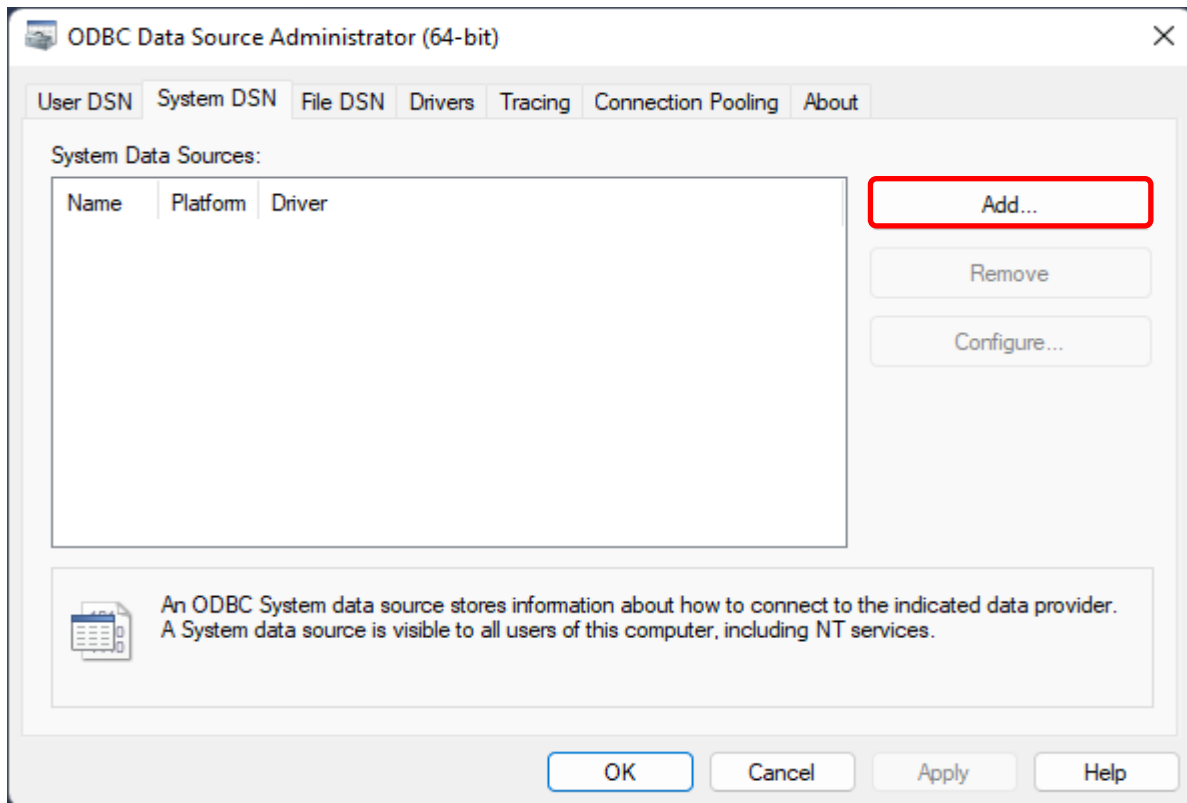


Image 33: ODBC Data Source Administrator

In the **Create Data Source** dialogue window, select the **SQL Server Native Client 11.0** and click **Finish**.

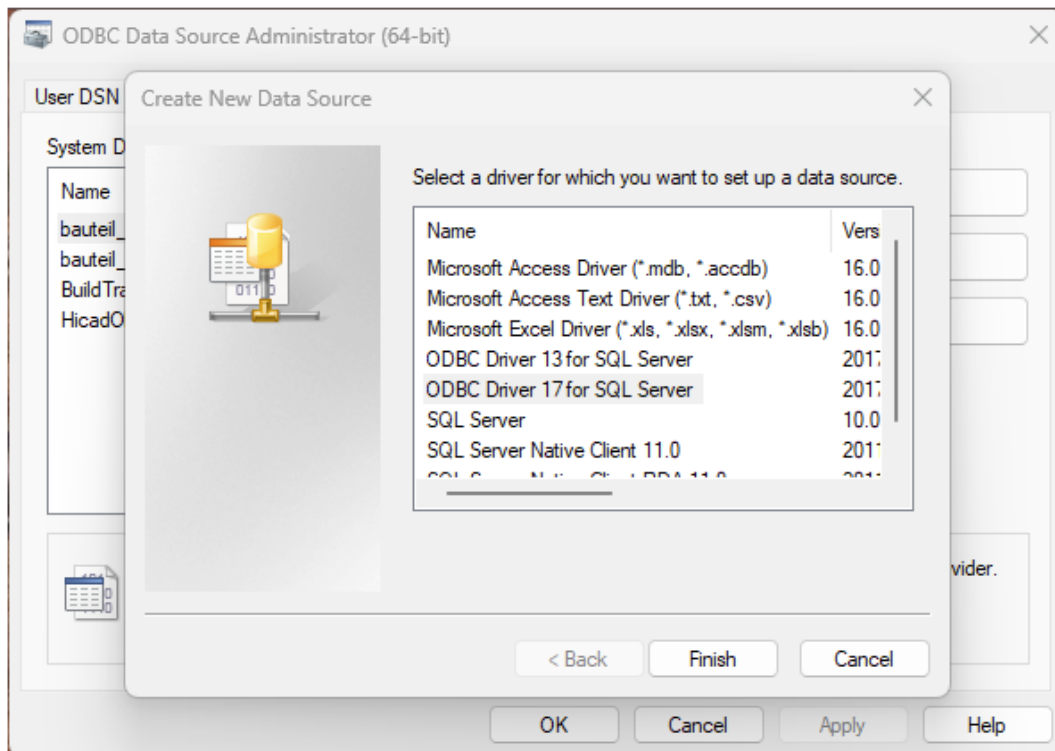


Image 34: Select ODBC driver

Enter the name of the data source (here, **Helios** is used in an exemplary manner) as well as the name of the database server or select it from the list. Confirm your entries with **Next**:

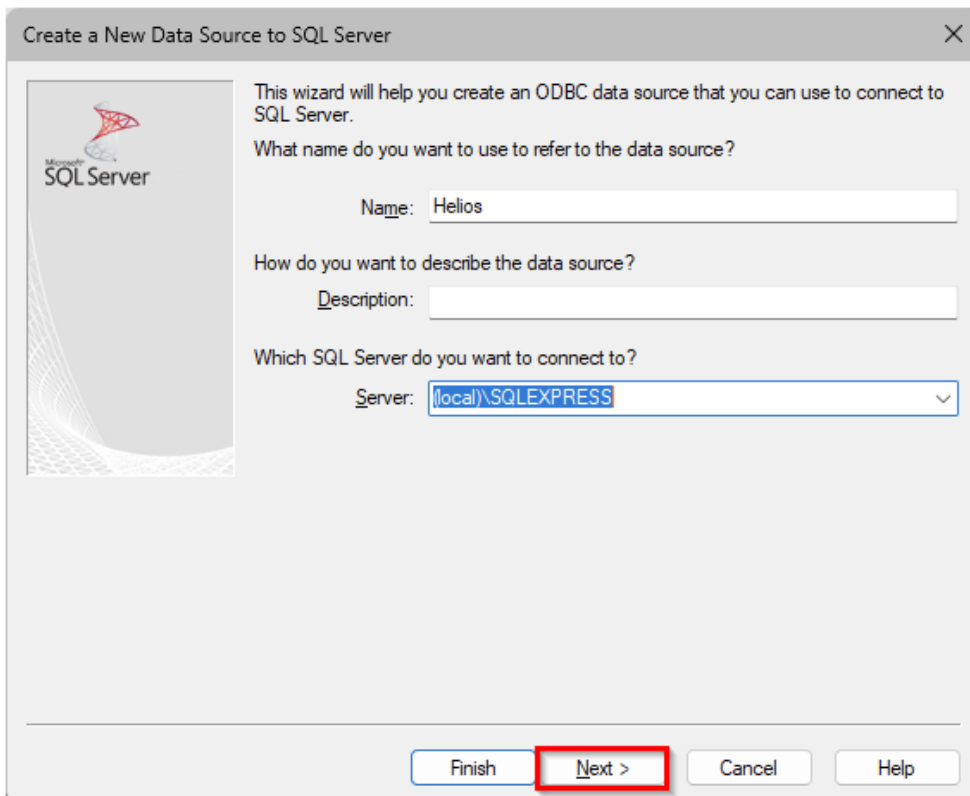


Image 35: Define data source

Activate the **With SQL Server authentication...** option, enter **hacad** in the **Login ID** field and your **Password** in the corresponding field below:

How should SQL Server verify the authenticity of the login ID?

- ☐ With Integrated Windows authentication.
SPN (Optional):
- ☒ With SQL Server authentication using a login ID and password entered by the user.
- ☐ With Azure Active Directory Password authentication using a login ID and password entered by the user.
- ☐ With Azure Active Directory Interactive authentication using a login ID entered by the user.
- ☐ With Azure Managed Service Identity authentication.
- ☐ With Azure Service Principal authentication.

Login ID: hacad

Password: •••••

< Back Next > Cancel Help

Image 36: User input

Activate the checkbox **Change the default database to:** and select **HELIOS** database. Other options must correspond to those shown in the image below:

Change the default database to: HELIOS

Mirror server:

SPN for mirror server (Optional):

☐ Attach database filename:

☒ Use ANSI quoted identifiers.

☒ Use ANSI nulls, paddings and warnings.

Application intent: READWRITE

☐ Multi-subnet failover.

☒ Transparent Network IP Resolution.

☐ Column Encryption.

Enclave Attestation Info:

Keystore Configuration...

☐ Use FMTONLY metadata discovery.

< Back Next > Cancel Help

Image 37: Database selection

Deactivate all options and click **Finish** to finalize the creation of the connection.

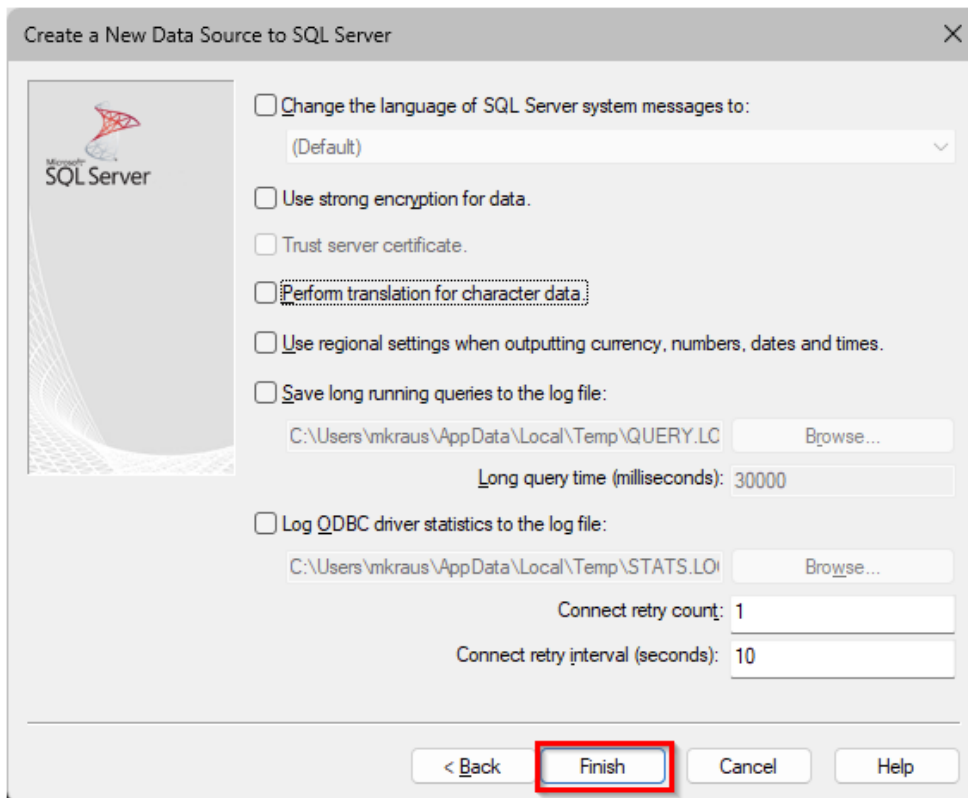


Image 38: Settings for ODBC connection

The window below offers the option to test the data source:

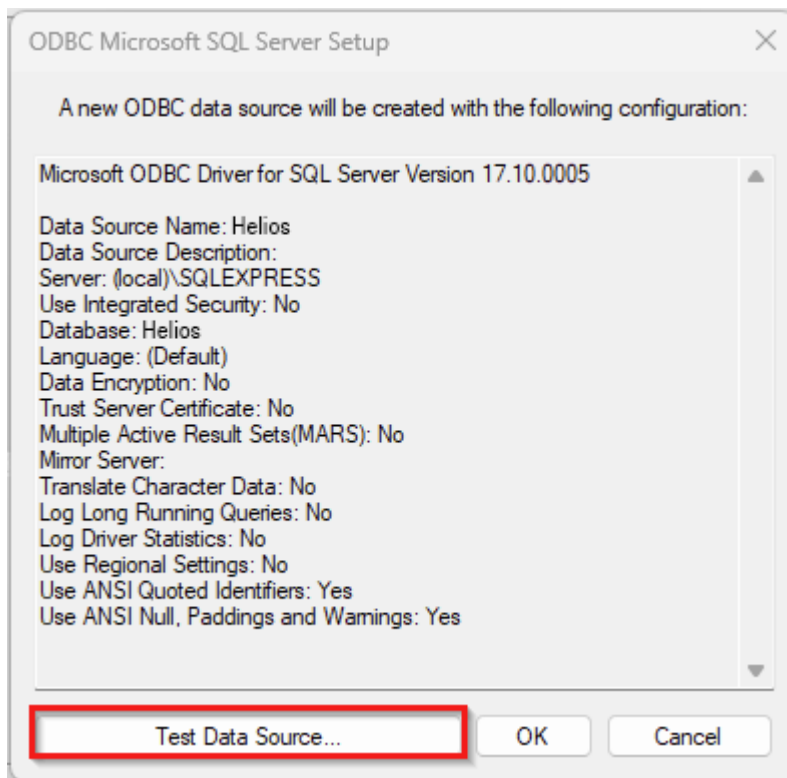


Image 39: Data Source Test

After successful testing, the creation can be closed with OK. The ODBC Data Source Administrator can now be closed as well.

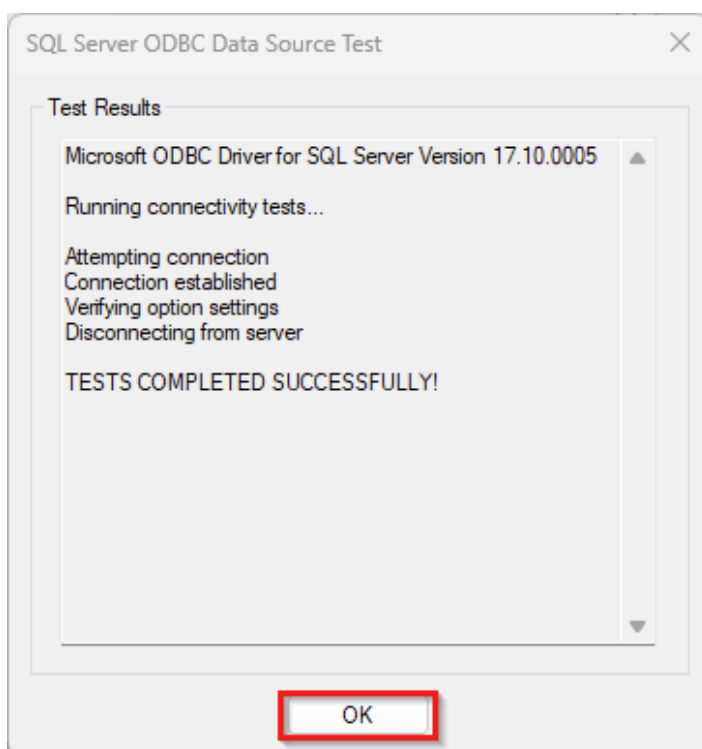


Image 40: Test completed

7 Establish HELiOS Connection

Finally, the name of the previously defined data source must be entered. For this, open DB Manager with Windows Search and switch to the tab **Connections**:

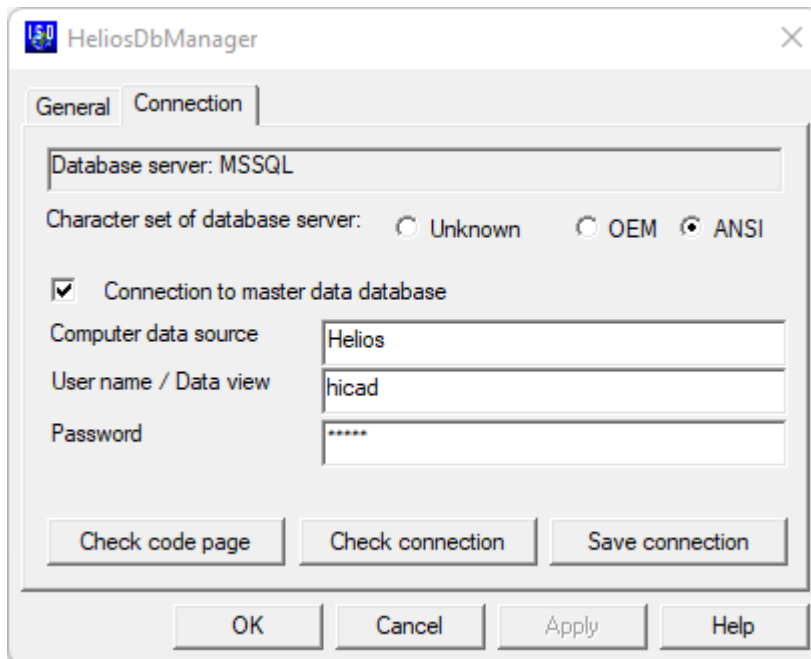


Image 41: DB Manager



Important notes on the DB Manager:

Please note the setting for **Character set of database server**: here, **ANSI** must be activated. Then, tick the checkbox **Connection to master data database** and enter the previously defined name of the ODBC data source in the **Computer data source** field, **hacad** in the **User name** field and the password. The setting options for the connection to plot manager database are there for historical reasons only and therefore of no relevance.

Click **Save connection** to save your settings, then close the DB Manager with **OK**.

All steps required for the installation are now completed. You can now start HELiOS.



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