

Nox DB

Version 2.0.0
Release Bulletin



LBL-0603-REV02

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Nox T3s®, Nox A1s®, Nox C1 and Noxturnal® are manufactured by:

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nox medical

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Overview

This Release Bulletin announces an updated version of the **Nox DB**, a **database** solution from Nox Medical. **Nox DB** collects statistics from Nox sleep study data (T3/A1) on a local/networked sleep facility storage. After collecting statistics, the tool can filter and query data for export to Excel (.xlsx and .csv) data formats for further data processing or reporting.

The **Nox DB** runs as a Microsoft Windows application but requires Noxturnal 6.3.1 and an SQL database installed on the same computer. The following are required to complete the setup of the Nox DB:

- Noxturnal 6.3.1 or later
- SQL Server 2019
- SQL Server Management (Optional with Nox DB 2.0.0)

Downloads

Nox DB

You can **download** the latest version of Nox DB from the [Nox Medical Website](#) or from this [Dropbox link](#).

Note: The SQL Server and (optional) SQL Server Management Tool must be installed before Nox DB.

SQL Server 2019

The install file can be downloaded from the Microsoft [download center here](#).

SQL Server Management Tool (Optional)

Install the SQL Server Management tool from the [Microsoft download center](#).

Changelog for Nox DB 2.0.0

New Features & Functional Enhancements

- Introduced a report generation feature in the Records tab. Each row has a report icon that opens a dialog listing all available reports for the selected study.
- Enabled recursive scanning of subfolders when a parent folder containing multiple study folders is selected as a datastore.
- Added UI support for enabling scheduled scan via Windows service.
- Automatic scanning configurable via settings, executed through a Windows service based on user input.
- Users are allowed to represent Number, Datetime, or Timespan values as raw strings.
- Disabled the database list when the "create new database" radio button is selected. Included a fix for the loading indicator.
- Added buttons and descriptions for preset creation and editing.
- Displayed estimated time and elapsed time during the scanning process.
- All paging, filtering, and sorting operations in the Record View use headers from the materialized table, which is recreated upon data import or preset changes.

- Enabled opening a study in Noxturnal directly from NoxDB.
- Enabled export functionality for large databases.

Install Instructions

Noxturnal Requirements

Noxturnal or Noxturnal US 6.3.1.34324 is required for Nox DB to function. The version on your Noxturnal installation can be found in the Help Menu – About.

The Noxturnal software is available at www.noxmedical.com/download

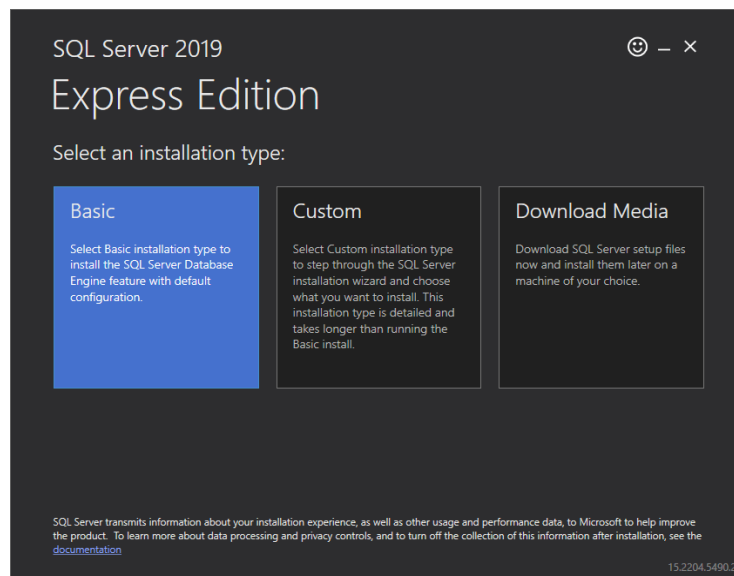
Windows Administrative privileges are required to install Nox DB.

Install SQL Server 2019

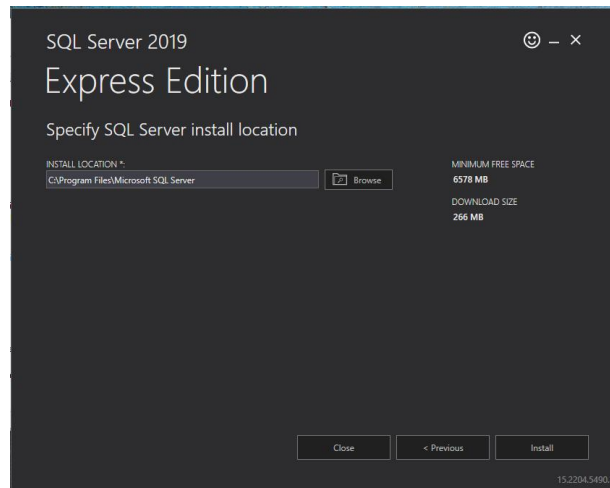
The user must install SQL Server 2019 Express for the database functionality of Nox DB. The recommended SQL Server is a free version. Download the installation file from the Microsoft [download center here](#).

To install SQL Server 2019:

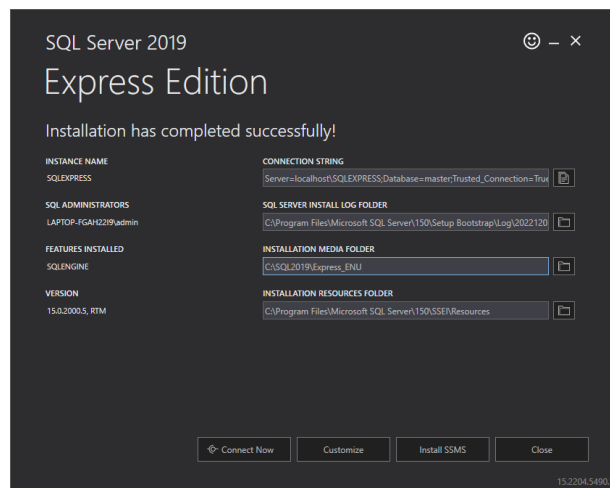
1. Run the install file (SQL2019-SSEI-Expr.exe)
2. Select the “Basic” installation type:



3. Accept the license agreement.
4. Select the default installation location:



5. The SQL Server 2019 Express edition has been successfully installed on the computer. Do not change the settings listed after the installation has been completed.








6. Close SQL Server Installation

Install SQL Server Management Studio (optional)


For some additional server functionalities, users can install the SQL Server Management tool from [Microsoft](#). Locate and click the **Download SSMS** link in the table at the top of the page


Install SQL Server Management Studio

08/21/2025

Applies to:  SQL Server  Azure SQL Database  Azure SQL Managed Instance  Azure Synapse Analytics  SQL database in Microsoft Fabric

This article describes how to install SQL Server Management Studio (SSMS).

 Expand table

Key information	Action required
SSMS 21 is installed with the Visual Studio Installer	The Download SSMS 21 link downloads a stub installer (<code>vs_ssms.exe</code>) that opens Visual Studio Installer to install SSMS. There's no standalone MSI.
How to install SSMS	Download SSMS 21  , run <code>vs_ssms.exe</code> , pick any optional workloads/components, then select Install .
Use the Visual Studio Installer to update SSMS 21	To update SSMS 21, follow the instructions in Update SQL Server Management Studio .
Offline or enterprise deployment	To create an offline layout for disconnected or managed installs, see Create an offline installation of SQL Server Management Studio .
Database Engine compatibility	SSMS 21 works with SQL Server 2014 (12.x) and later versions. If you need to manage older versions, see the Release history . SSMS 21 also works with Azure SQL Database, Azure SQL Managed Instance, Azure Synapse Analytics, and SQL database in Microsoft Fabric.

Installing SQL Server requires Admin privileges.

Follow the instructions provided by Microsoft in the link above to complete the installation. No additional workloads or individual components are required to run NoxDB.

Once installed, the program can be launched by clicking the **Launch** button

Visual Studio Installer

Installed Available

All installations are up to date.



SQL Server Management Studio 21

21.4.12

An integrated environment for managing any SQL infrastructure, from SQL Server to Azure SQL

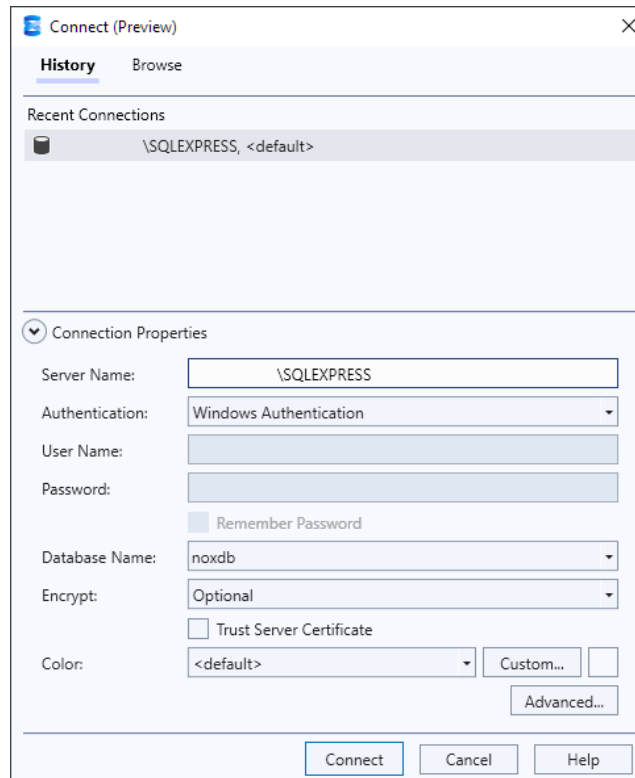
[Release notes](#)

Modify

Launch

More ▾

In the Connection window, select the Server and database name and click **Connect**. The names below are examples. Names will differ between installations.

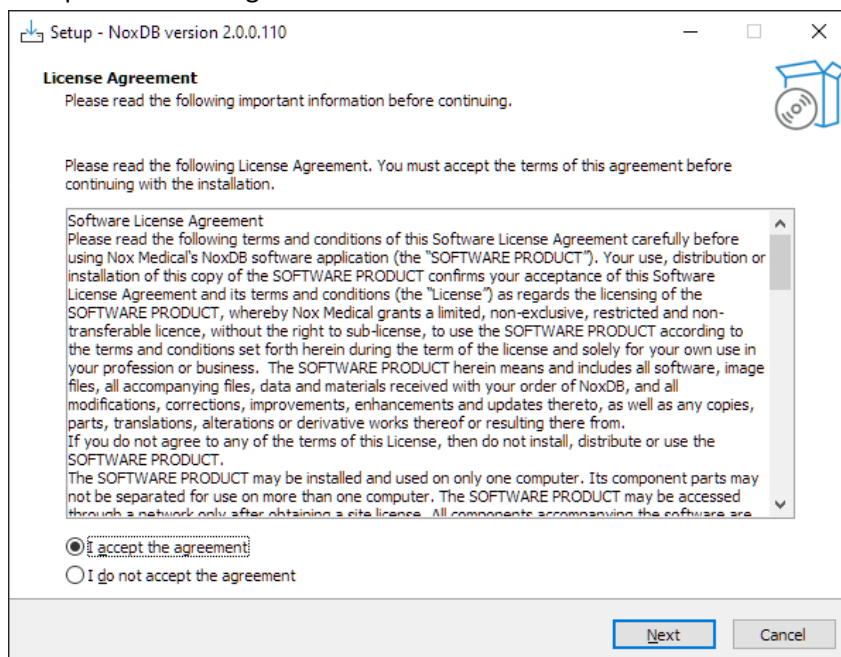


SQL Server Management Studio has now been successfully installed and connected.

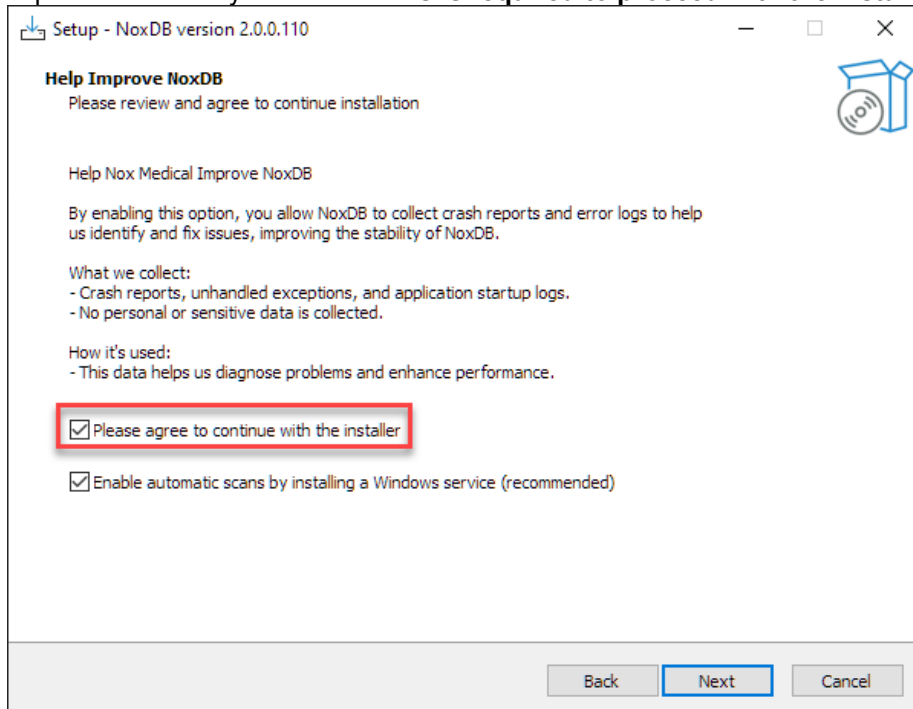
Install Nox DB

To install Nox DB:

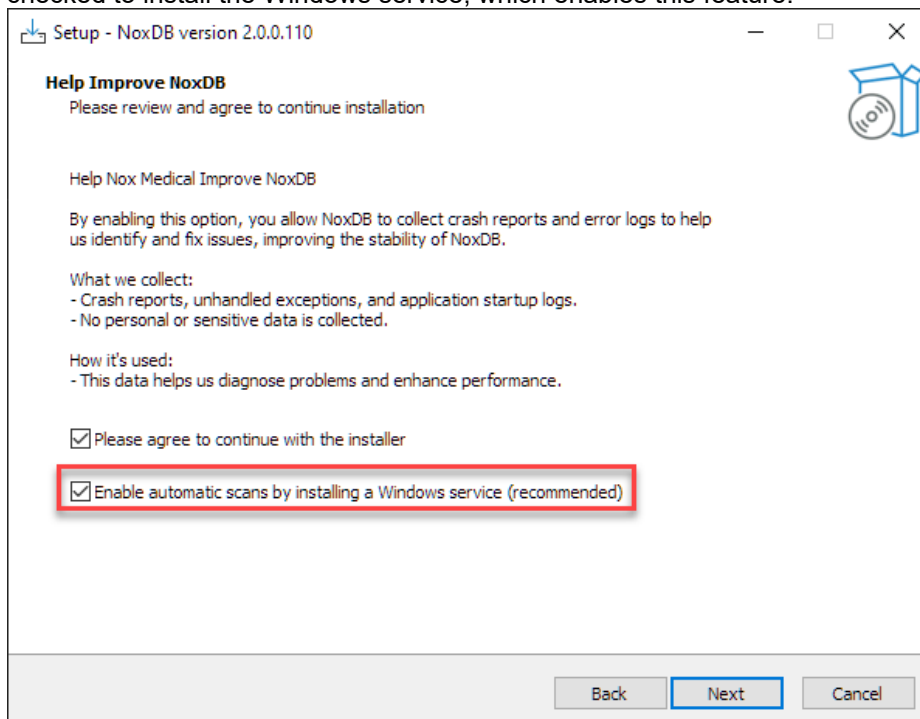
1. Run the executable file (NoxDB_X.X.X.exe)
2. Accept the license agreement.



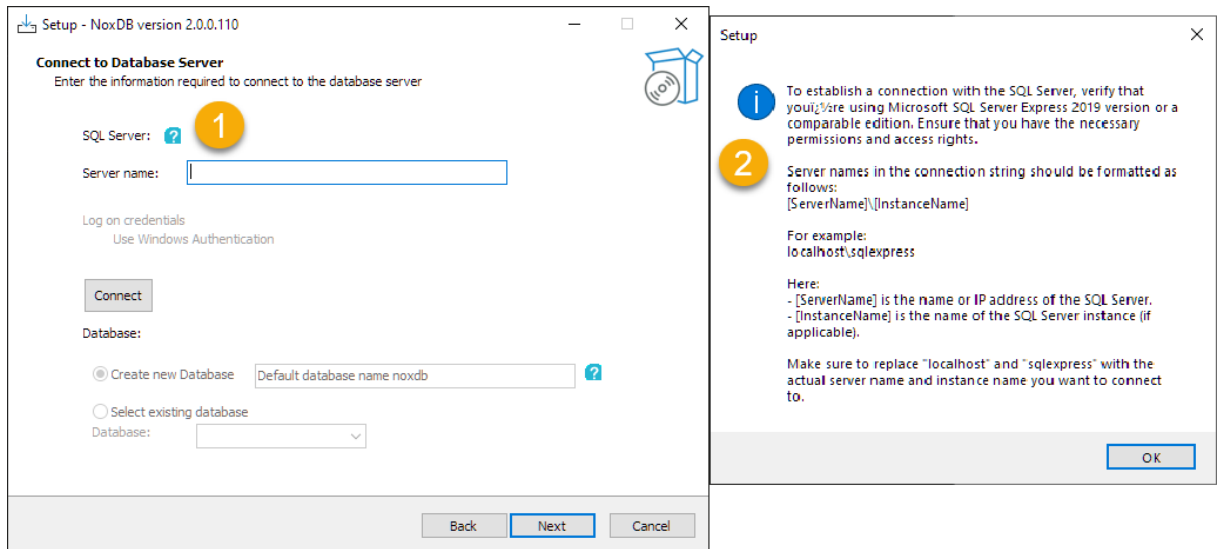
3. Agree to send crash reports and technical information to Nox to help identify and fix issues to improve the stability of NoxDB. **This is required to proceed with the installation.**



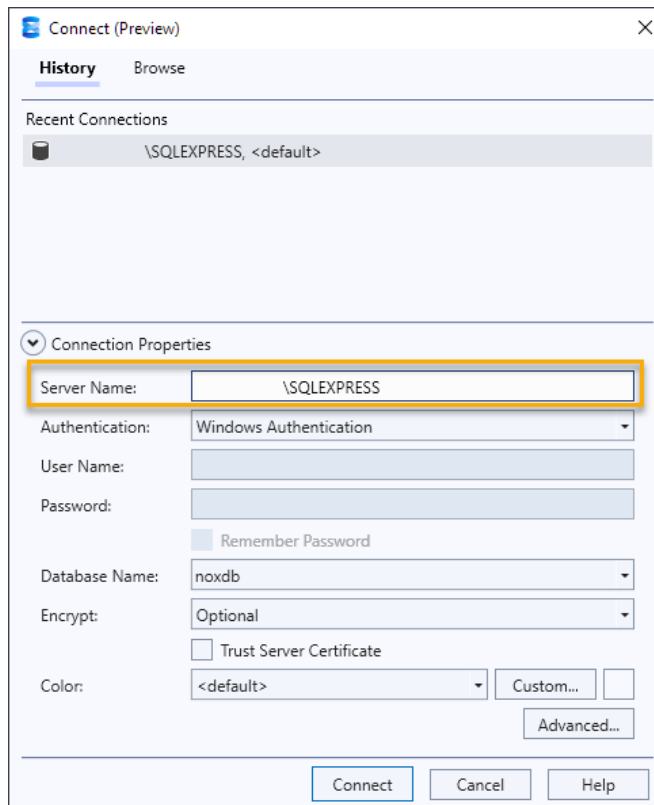
4. To have the option to set up automatic scanning of data locations, make sure the box is checked to install the Windows service, which enables this feature.



5. Insert the server's name into the SQL Version field. Windows Authentication will suffice to connect to the database. Users can click on the blue help icon (1) to find details (2) for the default server and other details to help set up the local server.



- a. **Sidestep:** Use Microsoft SQL Server Management Studio to find the Server name:



See the download link in the [download section](#) and install instructions in the [Install section](#)

6. Paste the server's name into the server name section (1) and click Connect (2). A green tick will appear when the connection to the database is made.

Setup - NoxDB version 2.0.0.110

Connect to Database Server
Enter the information required to connect to the database server

SQL Server: ?

1 Server name: [REDACTED] \SQLEXPRESS

Log on credentials
Use Windows Authentication

2 Connect

Database:

☒ Create new Database Default database name noxdb ?

☐ Select existing database
Database: [REDACTED]

Back Next Cancel

7. If this is an initial installation of NoxDB, create a new database and give it a name. The default database name is noxdb.


Setup - NoxDB version 2.0.0.110

Connect to Database Server
Enter the information required to connect to the database server

SQL Server: ?

Server name: NOX-AEVAR\SQLEXPRESS

Log on credentials
Use Windows Authentication

Connect 

Database:

☒ Create new Database Default database name noxdb ?

☐ Select existing database
Database: noxdb

Back Next Cancel

8. If NoxDB has already been installed on the computer and is being updated, choose the existing database from the dropdown menu.

Setup - NoxDB version 2.0.0.110

Connect to Database Server
Enter the information required to connect to the database server

SQL Server: ?

Server name: NOX-AEVAR\SQLEXPRESS

Log on credentials
Use Windows Authentication

Connect

Database:

☐ Create new Database Default database name noxdb ?

☒ Select existing database

Database: noxdb

Back Next Cancel

9. Proceed to the next page and choose the default shortcut settings.

Setup - NoxDB version 2.0.0.110

Select Additional Tasks
Which additional tasks should be performed?

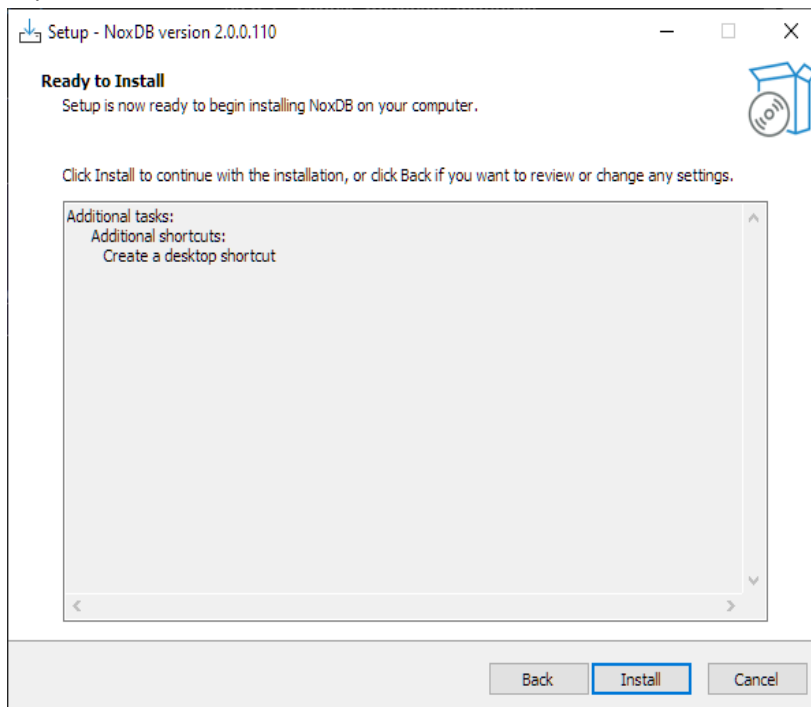
Select the additional tasks you would like Setup to perform while installing NoxDB, then click Next.

Additional shortcuts:

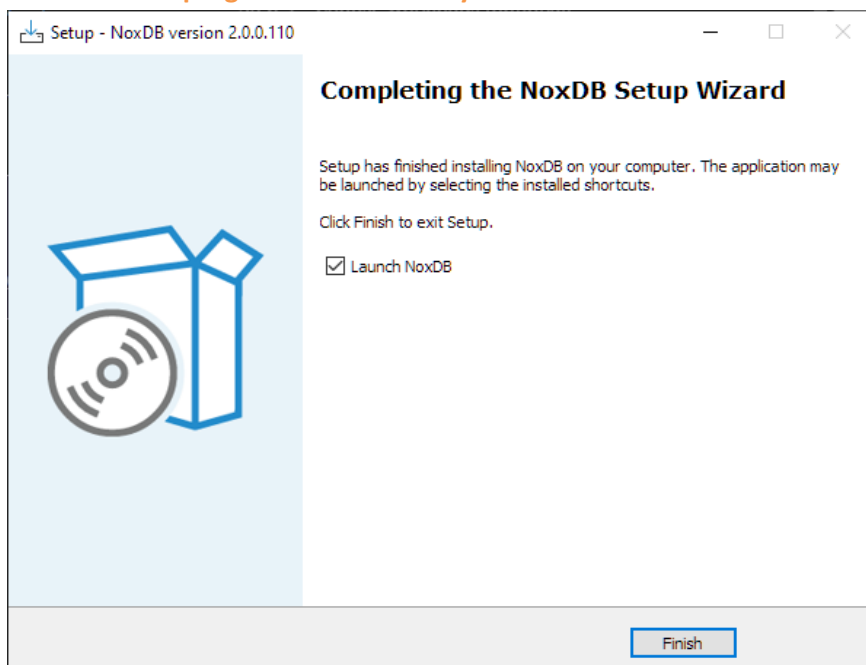
☒ Create a desktop shortcut

Back Next Cancel

10. The settings have now been configured for connecting the Nox DB interface to the SQL Express database. Click Install to continue with the installation.



11. The software is now ready to be launched. **Note that Nox DB can take a while to load initially. It is recommended to wait and not try to load the program again, as two instances of the Nox DB program will eventually load.**



Automatic Scans

Windows background service through NoxDB

Important Security Notice: Enabling this feature allows the task to run automatically even when the user is signed off. This could pose a security risk, as it may allow unauthorized access to local computer resources. Please notify your system administrator before enabling this feature to ensure proper security measures are in place.

Using the NoxDB background service is the recommended option for scanning new studies in active data stores.

The service will run under the "**Network Service**" account and will be created and started automatically during installation.

"Network Service" Windows account should also be manually added as a login in the NoxDB Database in SQL Server with data read and data write access. (See [Create a new Login for users that will operate the Nox DB](#))

You can also manually start the service by running *createScan.bat* located in the installation folder. After installation, you can configure the scanning behaviour in the **Settings** section of the NoxDB application.

Automatic Scanning

Configure how and when the system performs automatic scans

Automatic Scanning
Enabled **ON**

Enable automatic scanning ☒

Please note
*To enable automatic scanning, ensure that the account "NT AUTHORITY\Network Service" is granted read and write access to the **noxdb** database in SQL Server.*

*Make sure that the remote directories allows access for the machine account in the form of **DOMAIN\YourMachineName\$**, as this is how the Network Service identity is represented across the network.*

Days between scans

Run daily at (optional)

Last Automatic Scanning
Last scanned on Aug 19, 2025, 10:54:10 AM

Next scan
Aug 20, 2025, 12:00:00 AM

[Apply Changes](#)

The service is capable of scanning even while the PC is locked.

To stop the automatic scan, the user must open Services in Windows and stop the service named NoxDBAutoScanLauncher.

Manual setup through Windows Scheduler

Automatic scanning can also be done manually through the Windows Scheduler. Follow these steps to modify a task in Task Scheduler to run even when the user is signed off.

Note: The default installation path is: **C:\Program Files (x86)\Nox Medical\NoxDB**.

1. Open Task Scheduler:

- a. Click the Start menu and search for **Task Scheduler**.
- b. Right-click on **Task Scheduler** and select Run as administrator.

2. Create the Task:

- a. In the Task Scheduler window, click on "Create Task."
- b. In the dialog box, set the Name to **NoxDB_Scan**.
- c. In the Security options section, select the radio button "Run whether user is logged on or not."
- d. Check the box for "Do not store password. The task will only have access to local computer resources."
- e. It's recommended to use a different location than the username and specify a service account with the necessary permissions. This account should also be authenticated in SQL Server and have access to the NoxDB database.

3. Configure the Task Triggers:

- a. Go to the "Triggers" tab and click "New."
- b. Choose the desired time when the task will repeat itself and click "OK."

4. Configure the Task Actions:

- a. Go to the "Actions" tab and click "New."
- b. In the "Program/script" field, set: **(installPath)\NoDB.AutoScan.exe**
- c. Click "OK."

The task is now successfully added to the Task Scheduler, but a few steps are remaining to complete the manual automatic scanning process.

5. Edit the Configuration File:

- a. Open **(installPath)\Shared\appsettings.json** with Notepad.
- b. Change "IsAutomaticScanning" property from false to true

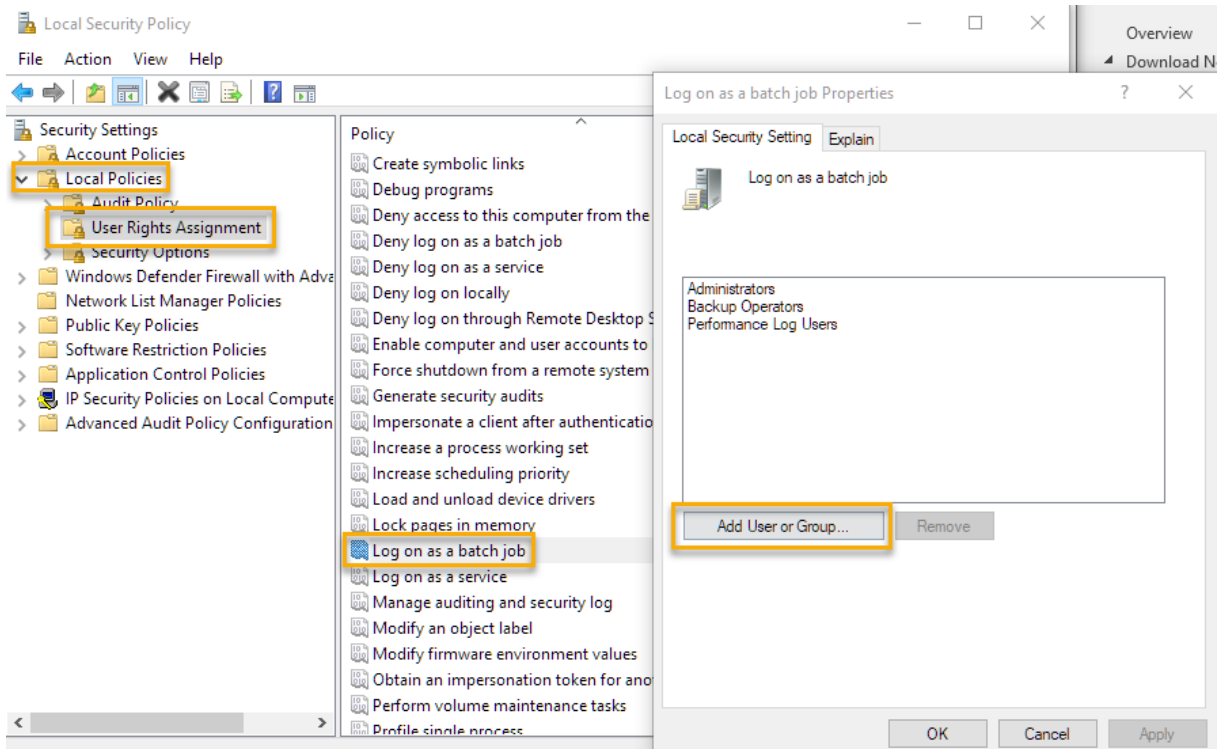
6. Configure Local Security Policy:

- a. Open the Start menu and search for **Administrative Tools**.
- b. Find and open **Local Security Policy** as an administrator.

7. Modify User Rights Assignment:

- a. In the Local Security Policy window, navigate to **Local Policies -> User Rights Assignment**.
- b. Locate and double-click **Log on as a batch job**.
- c. In the **Log on as a batch job Properties** window, click Add User or Group.

- d. Enter the name of the location that runs the task from the task scheduler and has access to the database, and click **Check Names** to validate.
- e. Click **OK** to add the user and then click Apply and OK to save the changes.

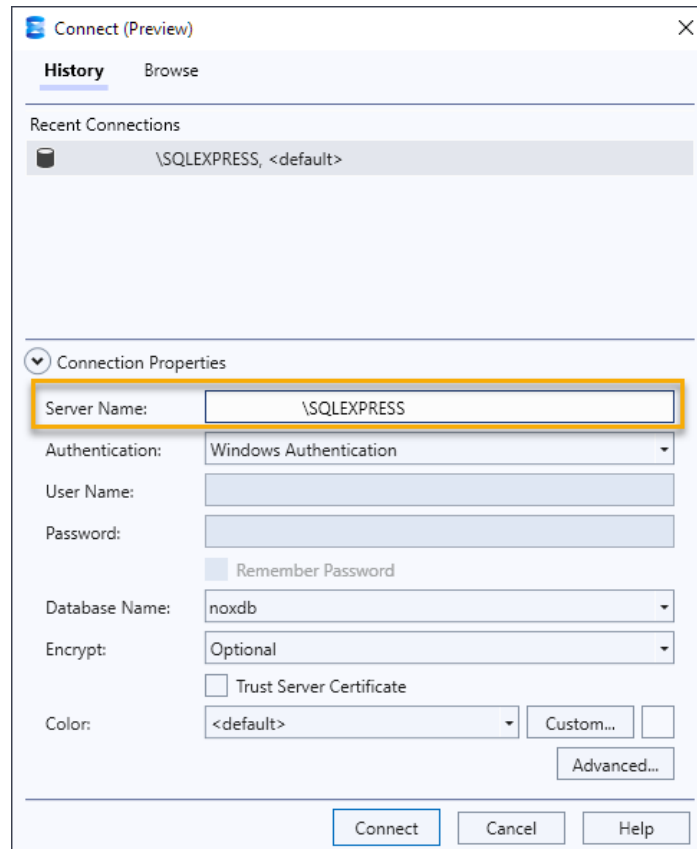


Your task NoxDB_Scan should now be configured to run automatically even when the user is signed off.

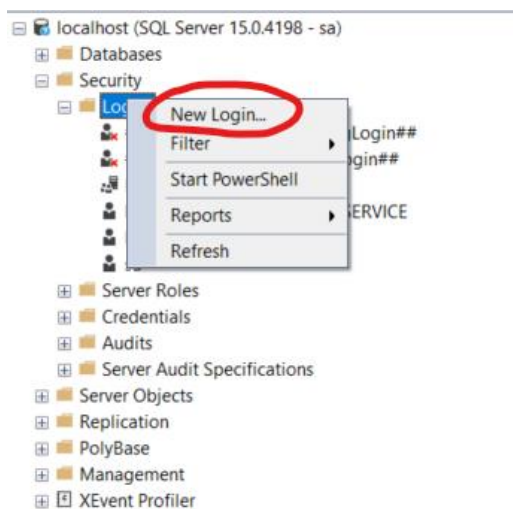
Create a new Login for users who will operate the Nox DB

Now, it's time to set up user access for the SQL server. Depending on how user access is set up on the PC, this is the trickiest part of the installation. If it's a local PC with local user access, it's relatively easy to set up, as per below.

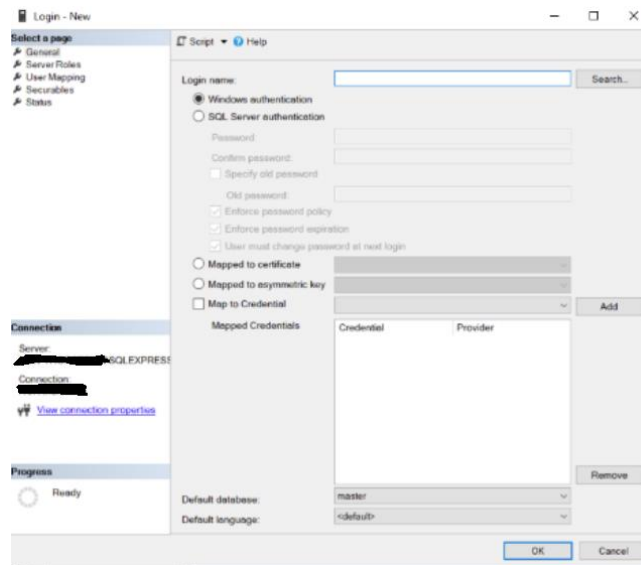
1. Make sure a connection has been established in SQL Server Management Studio. Copy the server location specifier below in the Server name menu (This server name will differ between installations). Below is an example; your Server name will be different. Click **Connect** to connect to the server.



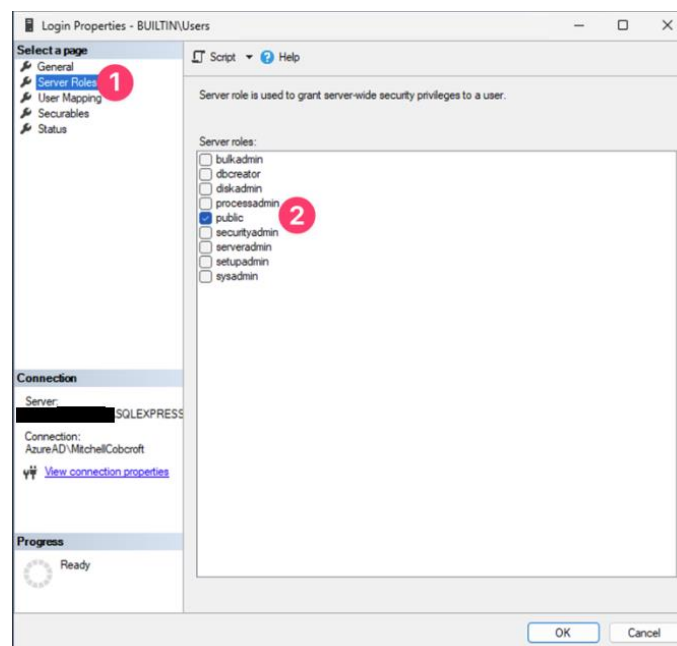
2. Next, we need to add security access for the user to access the server tools and database. We first need to give the user access to the server database to do this. Navigate to "Security", go to Login, right click, and select "New Login" from the context menu.



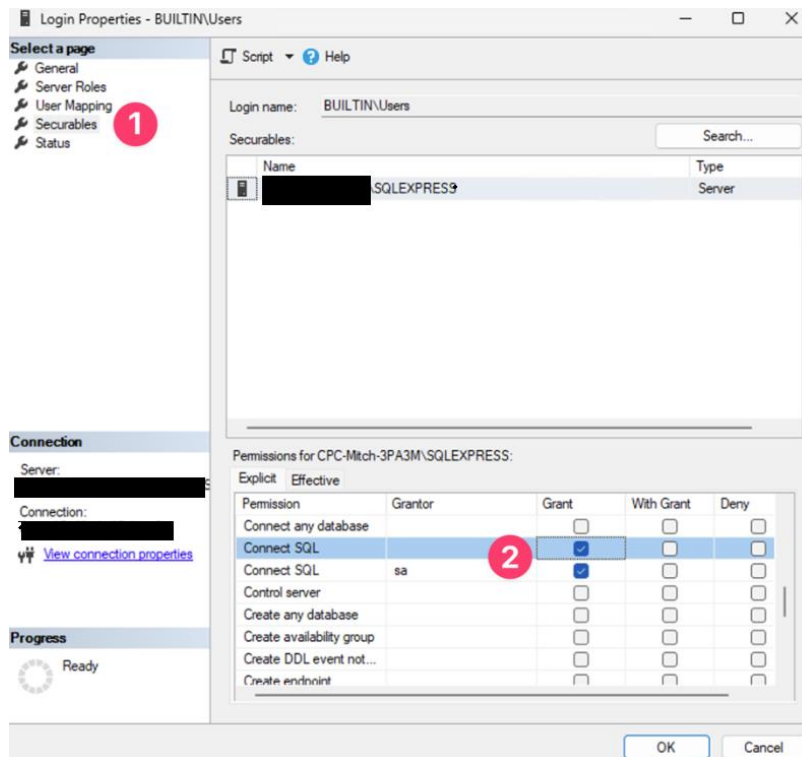
3. Click Search, type in the user account name (Windows login username or user group) for the Nox DB user and click OK.



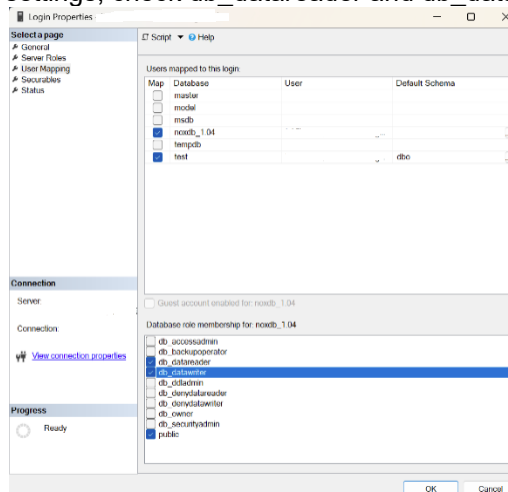
4. Now, we need to access the server for the user. In the left menu for the user, go to server roles (1) and select public (2).



5. Next, go to the Securables menu (1) and scroll through the permissions to find connect SQL and grant access.



6. Next, go to the “User Mapping” menu and mark the checkbox next to the Nox DB database. In the role membership settings, check db_datareader and db_datawriter as shown below.

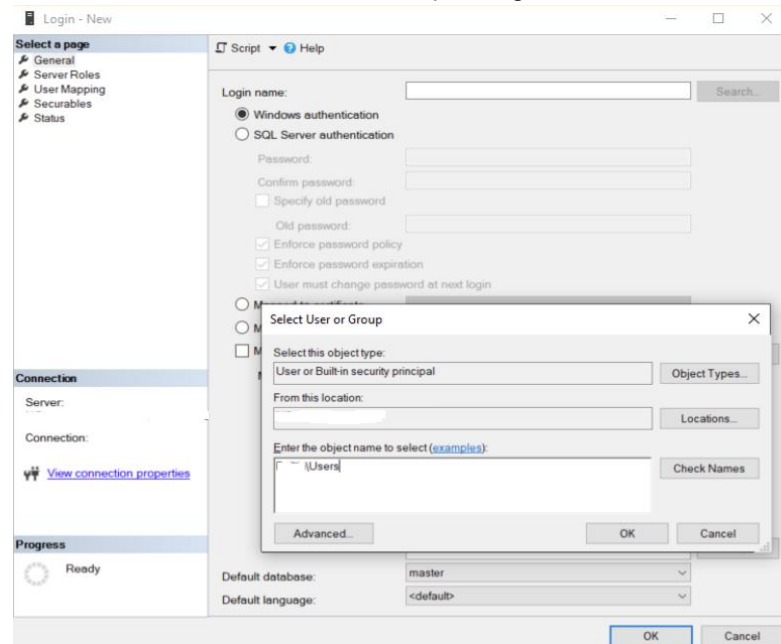


Granting User Group Permissions in SQL Server

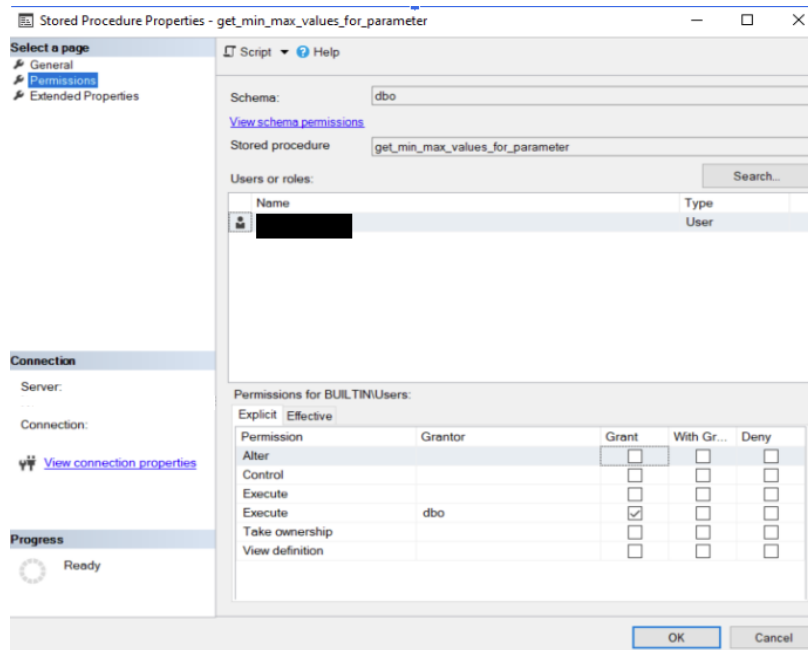
Follow these steps to grant a user group permission to access an SQL Server database and store procedures using SQL Server Management Studio (SSMS).

1. **Open SQL Server Management Studio (SSMS).**
2. **Navigate to Security:**
 - a. In the Object Explorer, expand the **Security** folder.

- b. Right-click on **Logins** and select **New Login**.
- 3. **Create a New Login:**
 - a. In the Login - New window, click the **Search** button next to the Login name field.
 - b. In the Select User or Group dialog, click Object Types and ensure **Groups** are checked.
 - c. Click **Locations** to specify the location if necessary.
 - d. Enter the name of the user group and click **Check Names** to validate.
 - e. Click **OK** to close the Select User or Group dialog.



- 4. **Configure Authentication:**
 - a. Ensure the **Windows authentication** option is selected.
- 5. **Map the User to a Database:**
 - a. In the Login - New window, select **User Mapping** from the left menu.
 - b. In the Users mapped to this login list, check the box for the database you want to assign permissions to.
 - c. In the Database role membership for section, check the roles **db_datareader** and **db_datawriter**.
 - d. Click **OK** to create the login.
- 6. **Grant Stored Procedure Permissions:**
 - a. In the Object Explorer, expand the database (e.g., **noxdb**).
 - b. Expand the **Programmability** folder, then the Stored Procedures folder.
 - c. Right-click on each stored procedure you want to grant permissions to and select **Properties**.



7. Assign Execute Permission

- In the Stored Procedure Properties window, go to the **Permissions** page.
- Click **Search** to find the user group.
- Repeat the process of selecting **Object Types**, ensuring Groups is checked, and locating the user group.
- Click Check Names to validate and **OK** to select the user group.
- In the Explicit Permissions for <user group> list, check the **Grant** box for Execute.
- Click **OK** to save the permissions.

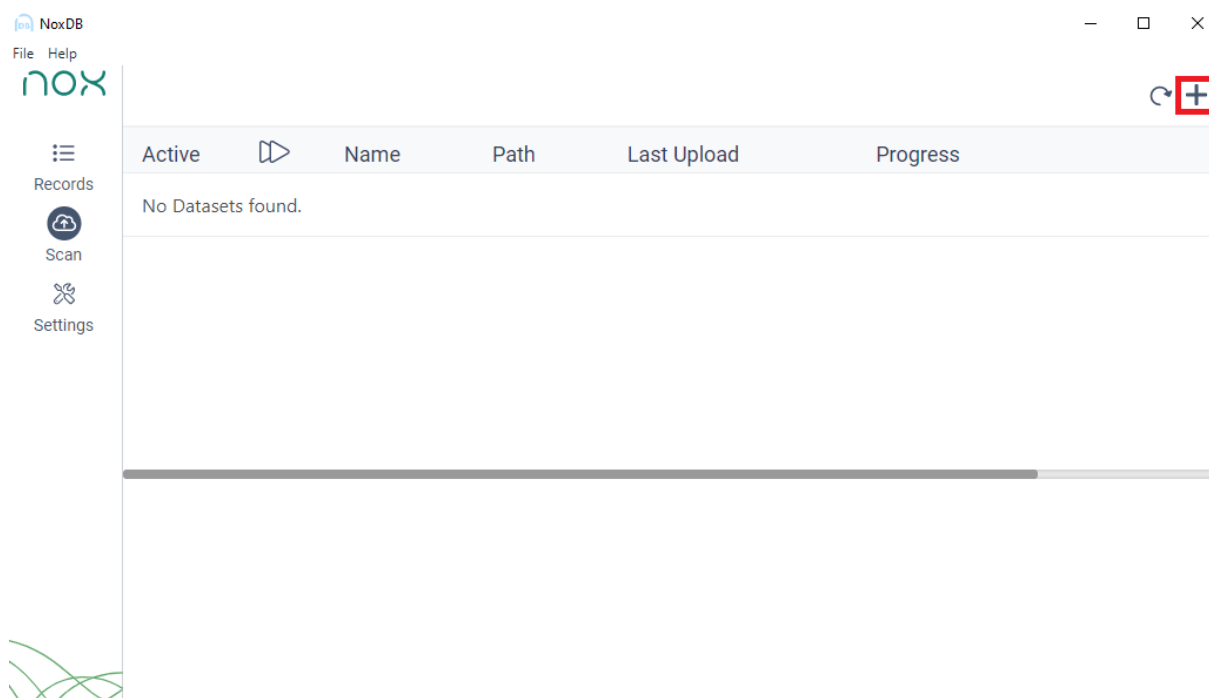
The user group should now have the correct permissions to access and execute the specified stored procedures in the database.

Getting Started with Nox DB

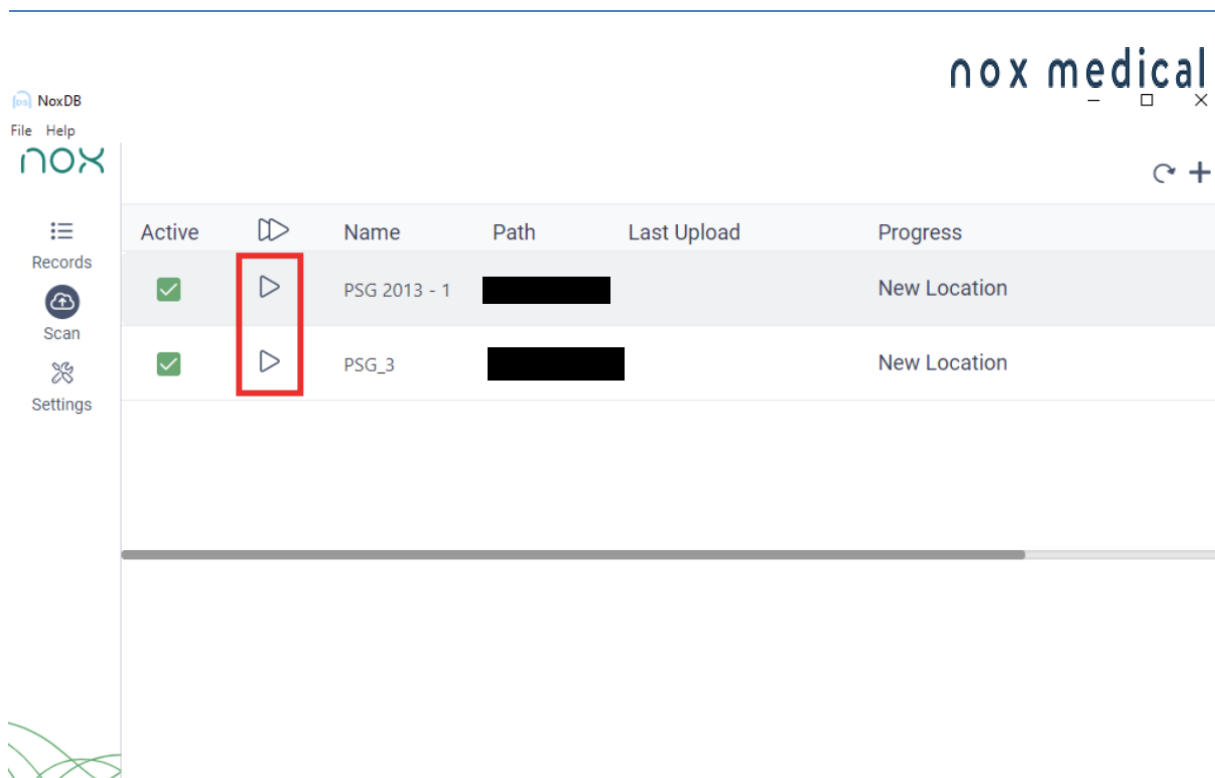
Below are the main steps for successfully operating the Nox DB.

Scan the data locations

The first step is to scan the data location with sleep studies from which the user wants to extract statistical information. Multiple locations can be selected, and a new location can be added via the “plus” icon in the top right corner.



Scanning is initiated by pressing the Play icon, and the status is displayed in the “Progress” column.



After scanning has been initiated, a status bar will be displayed about the progress of scanning.

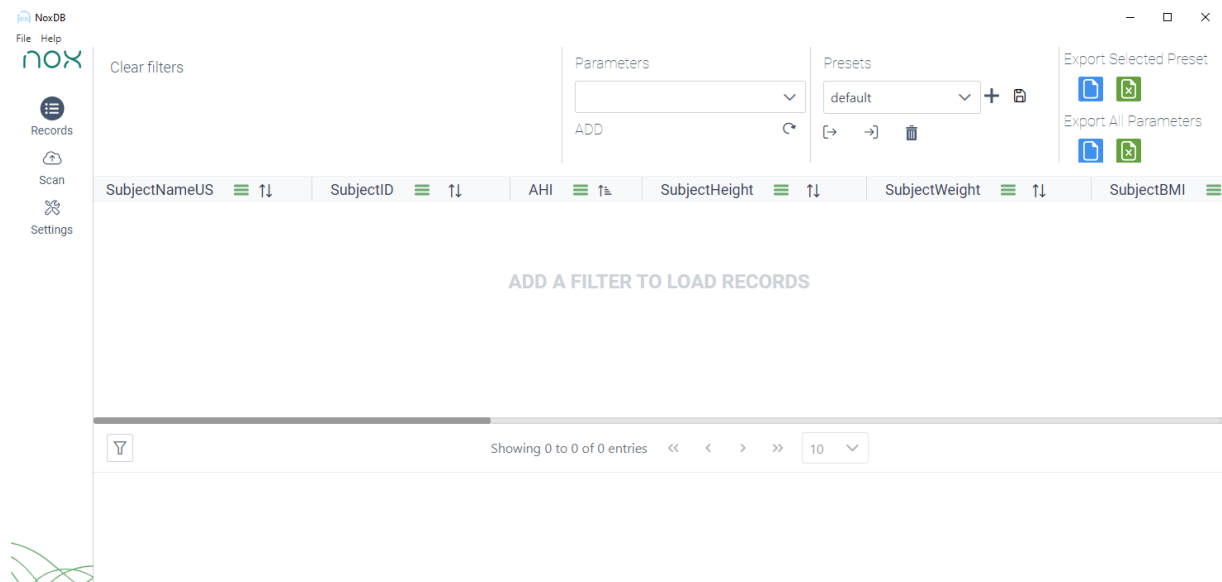
Progress	Status
7 Records successfully processed	✓
0 of 15 Processed	✗
4 of 9 Processed Time elapsed: 00:01:31. Estimated remaining: 00:01:53.	✗

Note that each study scan will take approximately 4 seconds, so scanning large data libraries can take a considerable amount of time to process, as multiple parameters are being gathered. The Nox DB will scan all parameters and custom fields that are a part of the studies being scanned.

In some cases, NoxDB is unable to process specific data folders, and this is displayed with a message indicating that the study is incomplete. Reasons can be empty study folders, e.g.

Working with statistical data and exporting

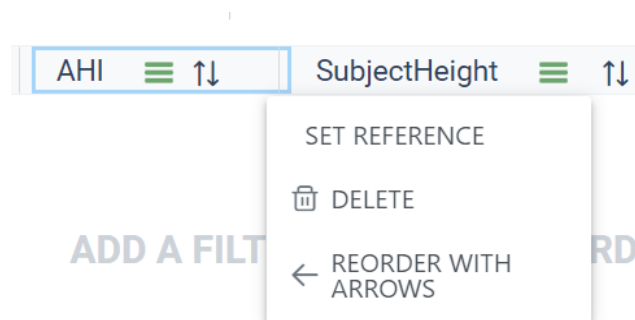
After scanning is completed, the “Records” tab will be populated with the information from the scanned locations. The “Records” tab is where the data is displayed, processed, and exported.



The “Records” tab pre-defines the most common parameters in the default Nox Medical reports. New Parameters can be added by selecting one or more from the list at the top right of the “Records” sheet.



The order of the parameters can be changed by dragging the parameter labels. They can also be reordered with arrows by right-clicking on the label and selecting “REORDER WITH ARROWS.” They can be removed by right-clicking on the label and selecting DELETE. Users can also set which parameter is a REFERENCE parameter. Setting the reference parameter will freeze that single parameter while scrolling through the records library.

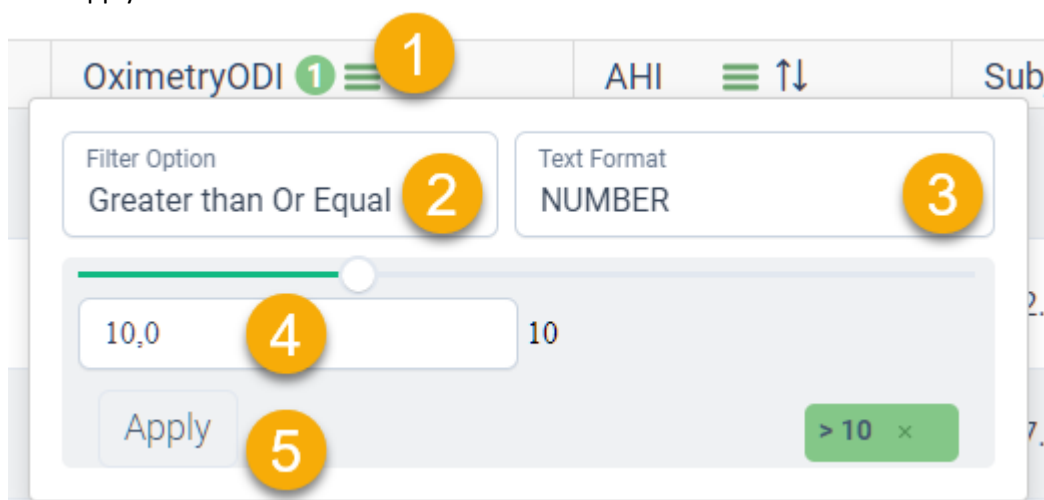


Displaying Data in Nox DB

A filter needs to be applied to display data. To activate the filter, click the hamburger button and define it.

For example, if you want to show all the studies in the database with an ODI greater than 10:

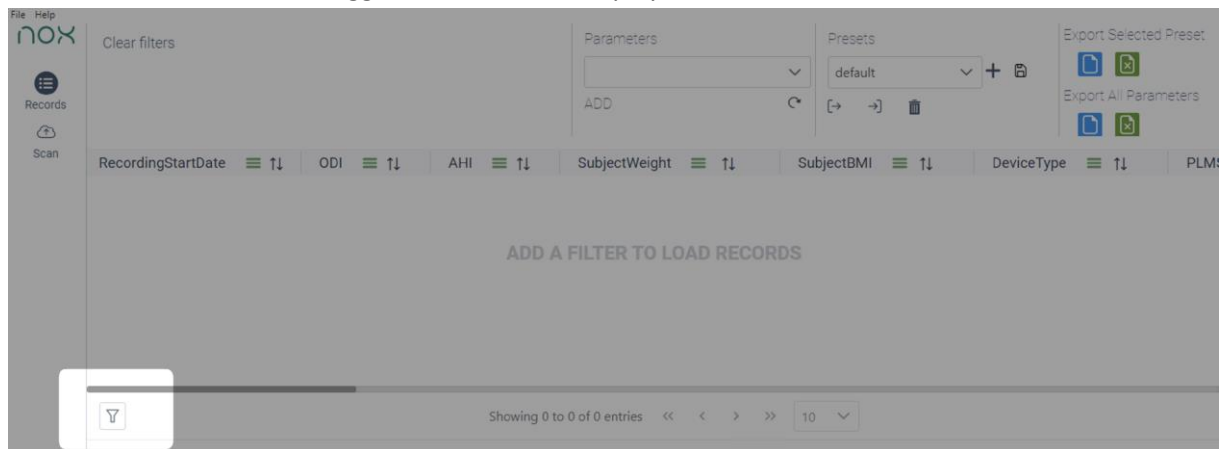
1. Click the green hamburger icon
2. Set the parameter to Greater than or Equal
3. Set the format of the text to Number
4. Adjust the numeric value to 10
5. Click Apply



The filter is now shown in Nox DB (1) in the example below. The studies that meet the filter requirements are now in the database (2). The number of studies that meet the filter requirement is shown at the bottom of the database outline (3).

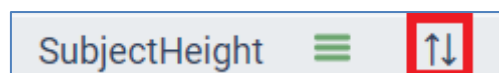
Reports	DeviceType	RecordingStartDate	OximetryODI
20210708T225610 - 14...	A1	08/07/2021	12.30
Split Night Report C...	A1	19/02/2022	31.10
20211214T220007 - 31...	A1S	14/12/2021	19.40
Adult Bruxism 1	T3	06/03/2012	10.30
Ansicht RuK,Ther.Pri...	A1S	27/07/2024	10.20

Note it is possible to show all data from a dataset without a filter. Click the "Show All" button, as shown below. This can be toggled on and off to display data.



The filters have different functionalities depending on whether the data consists of numeric values, dates, or text strings.

The data can also be sorted using the shortcut below.



The active filters will be displayed at the top of the page.

Records

Clear filters

SUBJECTHEIGHT >164 x

SUBJECTWEIGHT <75 x

ODI >47 x

The drop-down menu at the top right of the page allows you to save a combination of filter setups for future use.



The "plus" icon allows you to create a new filter preset, while the "save" icon merges the changes made to the active filter with the active filter presets.

The "arrow icons" allow the user to import and export filter presets from other users, and the "trash can" lets the user delete the active filter preset.

After completing the filter adjustments, the final step would be to export the data to either .csv format or .xlsx from the icons on the top right of the “Records” page for further statistical processing or reporting. There are two options: export selected Preset or all parameters.

Export Selected Preset



Export All Parameters



Managing Database Settings

Users can establish connections with other databases in the database settings by configuring the form in the settings tab. Additionally, options to apply new configurations for database connections are also available. In the settings, users can also create a new user with Read/Write access to the database and set up a new database. Further instructions are found below:

1. **Connection Status:** Displays the status of the NoxDB application's connection to the database.
2. **Server Name Input:** Users can enter the server name in the input field. After entering the server name, clicking the "Connect" button will verify if the database connection is successful.
3. **Apply Configuration:** Users can apply the database configuration and reload the workspace
4. **Connect Button:** Attempts to connect to the database using the current configuration.
5. **Existing Databases Dropdown:** Users can select a database from the dropdown list, connect to it, and verify if they have permission to access the databaser
6. **User Permissions** for the selected database
7. **Save Changes** Modify connection string for NoxDB
8. **Create New User:** Users can create a new user with a Windows domain in the SQL Database and be granted read and write permissions to the selected database.
9. **Create New NoxDB Database:** Users can create a new NoxDB database and start with a clean database. Creating a new user or database is only feasible if the current user holds sysadmin privileges.

Connection Status

Current configuration of your database workspace

1

Current Status

All systems operational

Online

Microsoft SQL Server:

2

\\SQLEXPRESS

Apply current configuration:

Apply

3

Select a Database:

noxdb

4

☒ Admin permission

☒ Read permission

5

☒ Write permission

Save Changes

6

Create Database

Provide the details for your new database

Database Name:

e.g. NoxDB_01Jan2025

Create Database

Create New User

Provide a domain/username and set read/write permissions

DOMAIN\USERNAME:

e.g. MYCOMPANY\john.doe

Create