



BACnet® Troubleshooting Simplified

# Installation Instructions

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## Prerequisites for Installation

- .NET Framework 4.72: <https://dotnet.microsoft.com/download/dotnet-framework/net472>
- Adobe Acrobat Reader: <https://get.adobe.com/>
- Wireshark 3.2.5 or later with Npcap .994 or later: <https://www.wireshark.org/#download>  
Note: You can uninstall Wireshark if the app is not allowed, just leave nPCAP on the system during the un-install. Optionally install nPCAP from here <https://nmap.org/npcap/>.
- SQL Express 2017 or 2019: <https://www.microsoft.com/en-us/sql-server/sql-server-downloads>  
**NOTE:** SQL Express can be installed locally or remotely. For remote installations, once BACPro is setup and licensed, you can configure a remote database from the Settings tab.  
**OPTIONAL:** We recommend that you also install SQL Server Management Studio (see *Installing SQL Express*).
- PowerPoint: Required to run the Audit Report. Optional if the Audit Report is not needed.

## Disk Space Requirements

BACPro saves all BACnet packets in the /CaptureFiles directory for 1 week by default. On a large jobsite (1000+ devices), this will use approximately 25 GB. The SQL database normally uses less than 1 GB. We recommend 30 GB of disk space for BACPro.

## Installing Wireshark

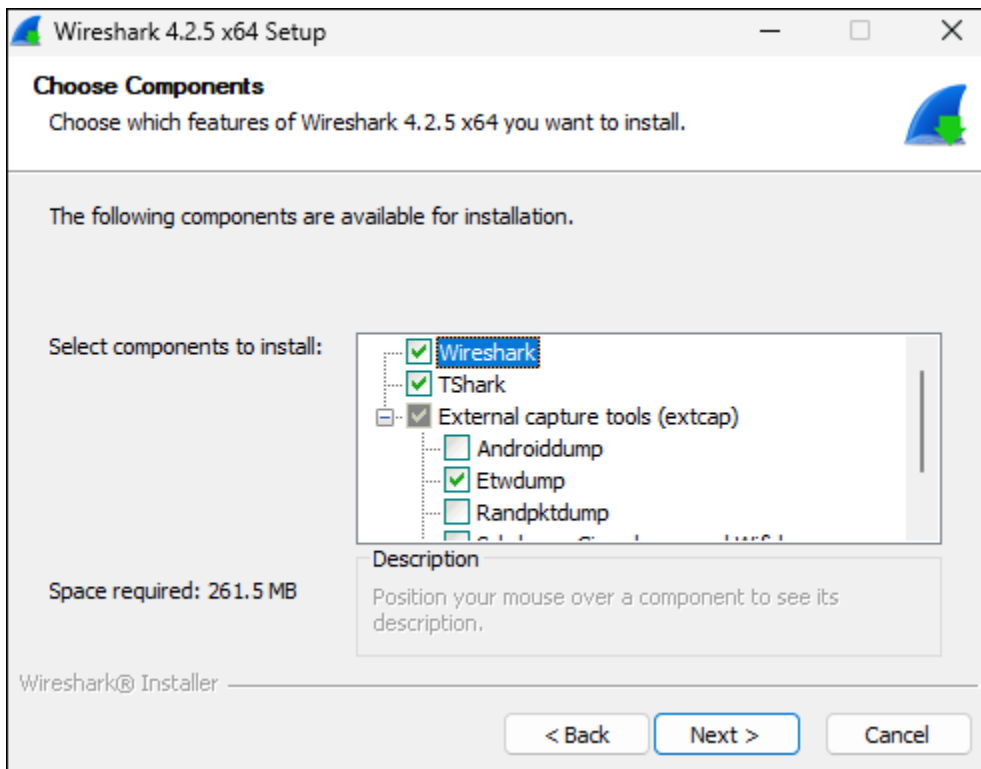
Wireshark 3.2.5 or later with Npcap .994 or later is recommended. If you already have Wireshark and are not sure what version you have, run the application, and it should check for updates.

1. From the Wireshark website, download the **Windows Installer (64-bit)** version.

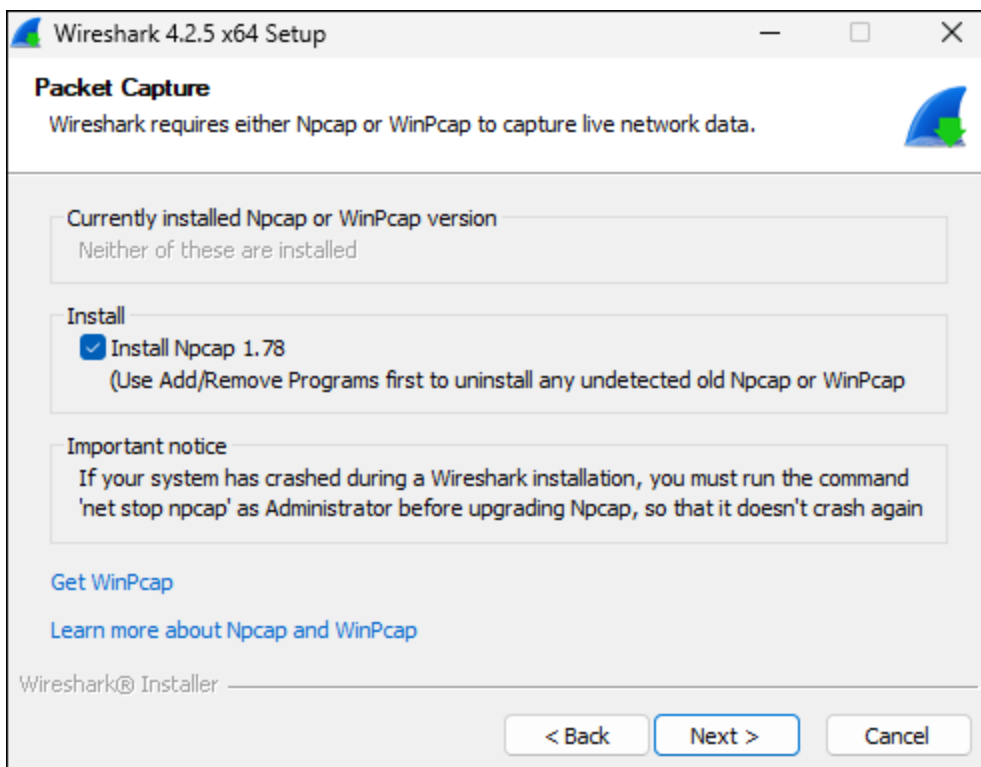


2. Run **Wireshark.exe**.

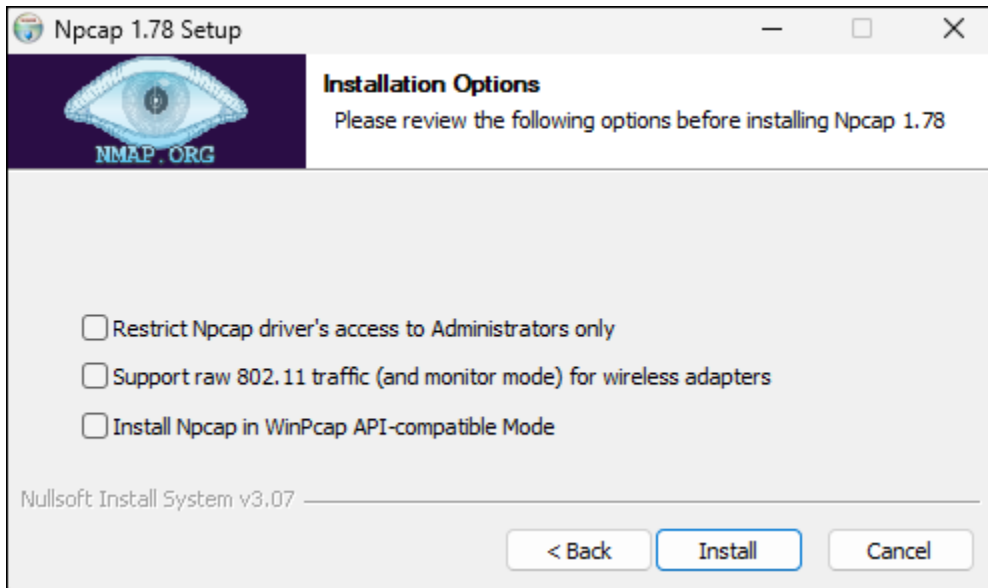
3. Accept the selected default components.



4. Select the **Install Npcap** checkbox.



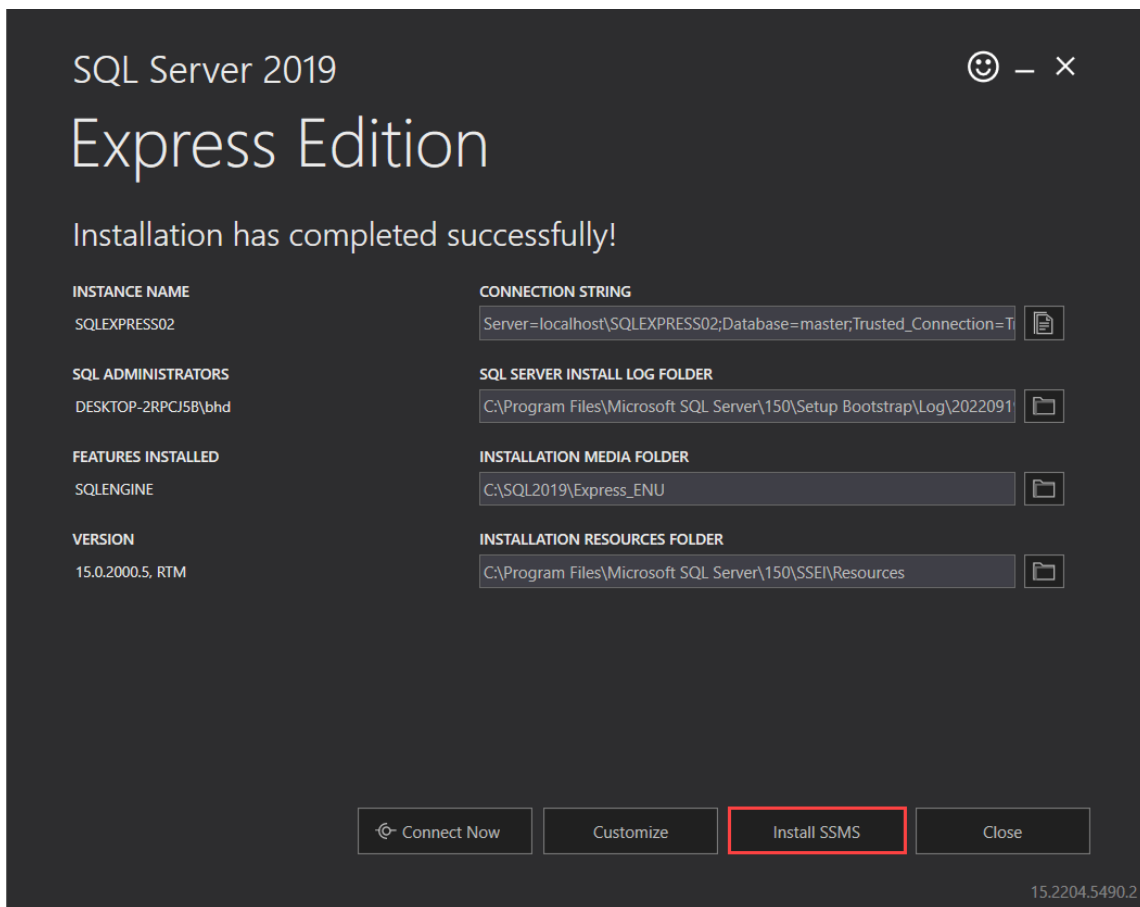
5. When the **Npcap Installation Options** dialog box displays, accept the default settings.



6. Complete the prompts to finish the installation.


## Installing SQL Express

1. Download **SQL Express** (see *Prerequisites for Installation*).
2. Run **SQL Express**.
3. From the **installation type** dialog box, select **Basic**.
4. Click **Accept**.
5. In the **install location** dialog box, accept the default location, and then click **Install**.
6. (*Optional*) To help with troubleshooting and debugging SQL database issues, we recommend that you install SSMS (SQL Server Management Studio) by selecting the **Install SSMS** button.

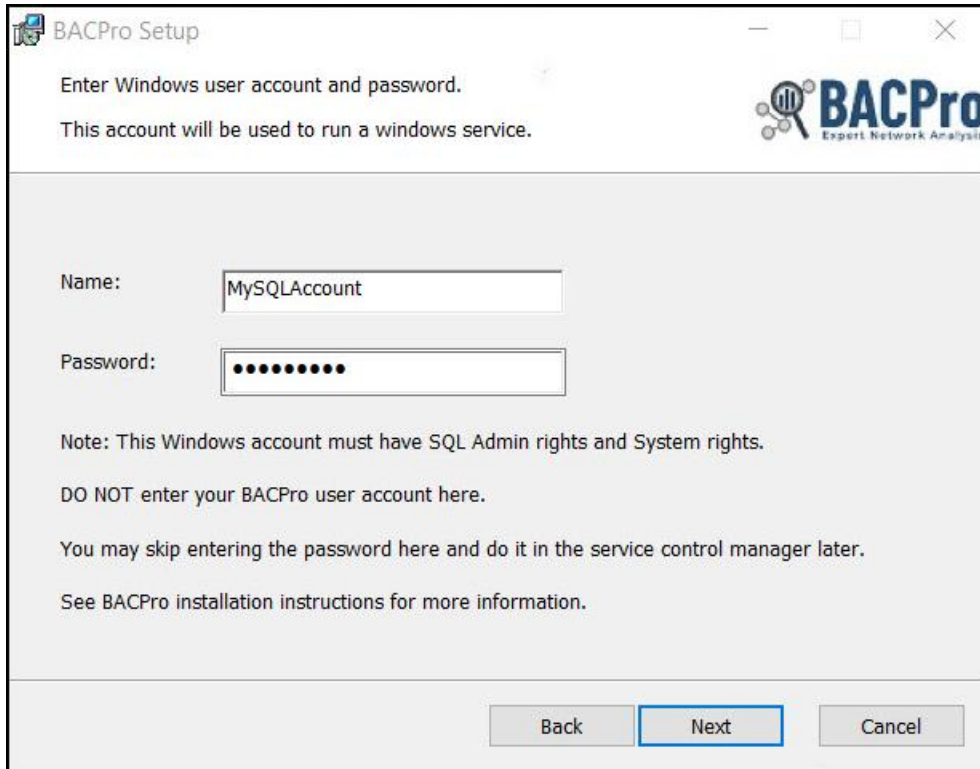


7. To complete the installation, click **Close**.

## Installing BACPro

 The Windows user account used must have SQL administrator permissions. Part of BACPro runs as a windows service, and it needs administrator access to SQL. For more information, see *Setting Up SQL Permissions*.

1. Enter the **Name** and **Password** that has SQL administrator rights, and then click **Next**.  
**NOTE:** You can skip this step and enter the password after installation from the Windows Service Control Manager.



BACPro Setup

Enter Windows user account and password.  
This account will be used to run a windows service.

Name:


Password:

Note: This Windows account must have SQL Admin rights and System rights.  
DO NOT enter your BACPro user account here.  
You may skip entering the password here and do it in the service control manager later.  
See BACPro installation instructions for more information.

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2. After installation, run the **BACPro** application.  
**NOTE:** For information about using BACPro, see the *User Guide* in **BACPro > Settings > Documents**.

## Using a SQL Authentication Account (Optional)

 The following screenshots, workflows, and troubleshooting tips use and reference SQL Server Management Studio.

If multiple users are logging in to use BACPro from different Windows user accounts, we recommend using a single SQL Authentication user account to connect to the SQL database.

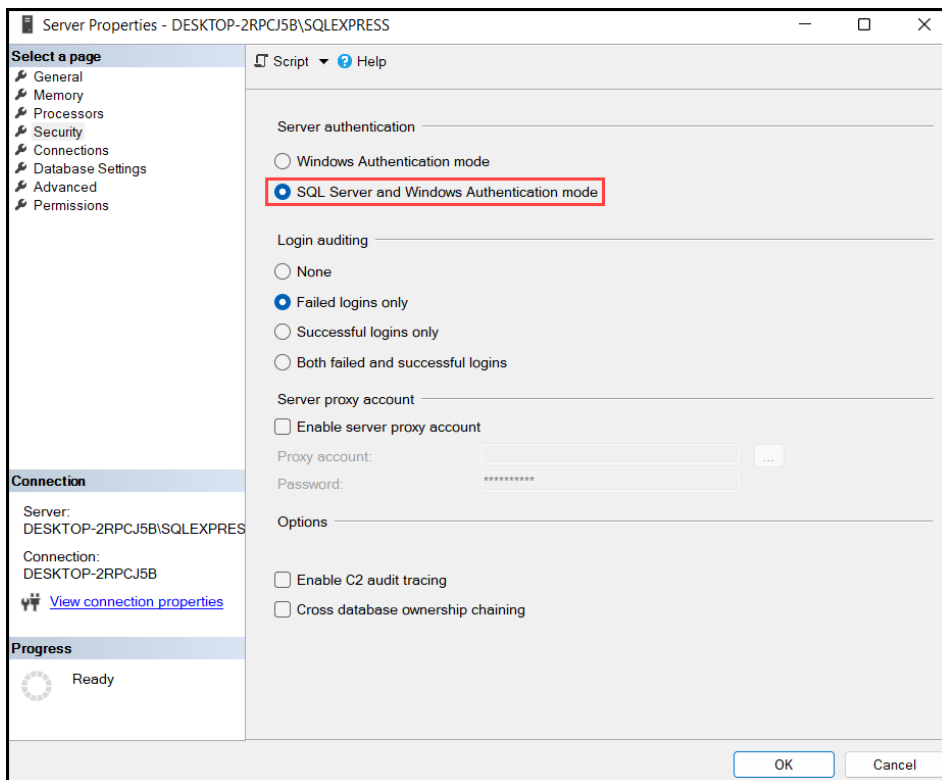
Use the following link to add a new SQL login or update an existing SQL login with the required permissions:

[Create a Login - SQL Server | Microsoft Docs](#)

By default, SQL only allows Windows Authentication. If you have added a new SQL user to use SQL Authentication, complete the following steps:


### To Select SQL Server and Windows Authentication Mode

1. Open **SQL Server Management Studio** and connect to your server.
2. From the **Object Explorer**, right-click your server and select **Properties**. The Server Properties dialog box displays.
3. In the **Select a page** section, click **Security**, and then select **SQL Server and Windows Authentication mode**.
4. Click **OK**, and then restart SQL services.





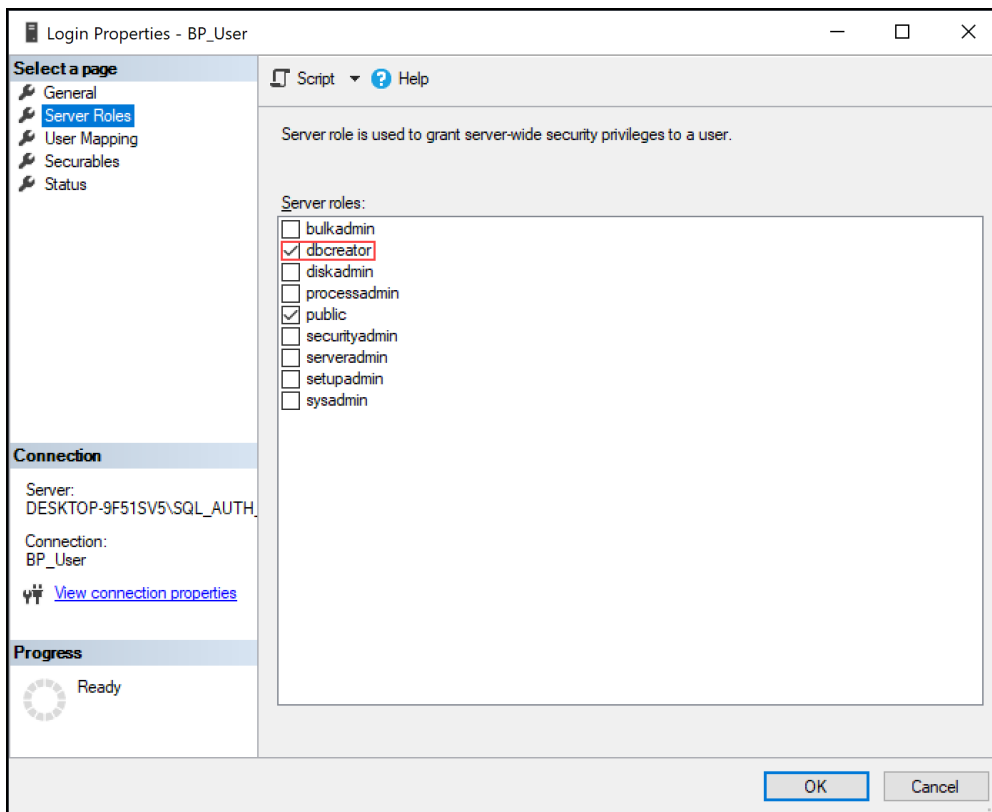
## Setting Up SQL Permissions

 The following screenshots, workflows, and troubleshooting tips use and reference SQL Server Management Studio.

SQL users need Database Creation (dbcreator) permissions. To give those permissions, complete the following steps:

### To Select Database Creation Permissions

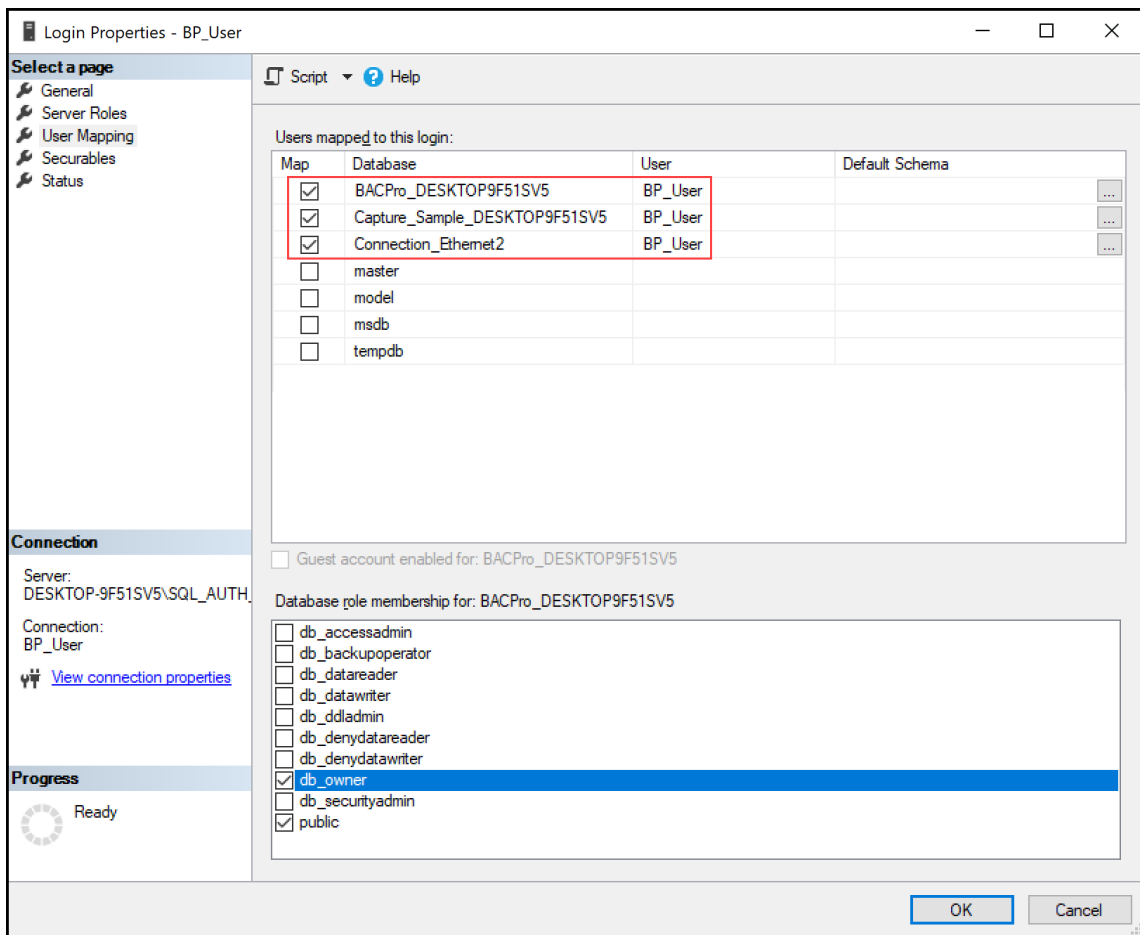
1. Open **SQL Server Management Studio** and connect to your server.
2. From the **Object Explorer**, select **Security > Logins**.
3. Right-click the desired login and select **Properties**.  
The Login Properties dialog box displays.
4. In the **Select a page** section, select **Server Roles**, and then check **dbcreator**.



If you switch from an existing BACPro installation to a new SQL database login, you must grant database owner rights to the new SQL user for each of the existing BACPro, capture, and connection databases. To do so, complete the following steps:

## To Grant Database Owner Rights

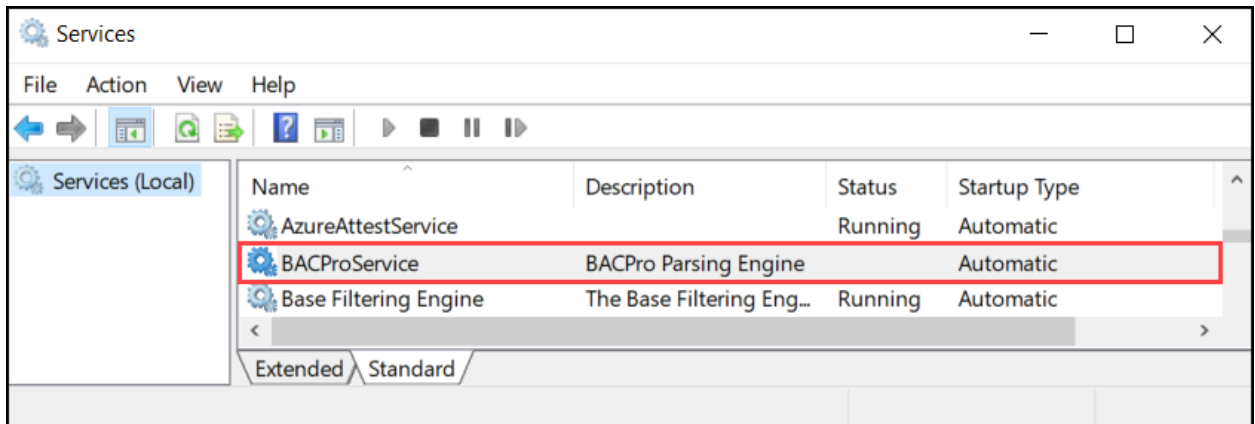
1. Open **SQL Server Management Studio** and connect to your server.
2. From the **Object Explorer**, select **Security > Logins**.
3. Right-click the desired login and select **Properties**.  
The Login Properties dialog box displays.
4. In the **Select a page** section, select **User Mapping**.
5. In the **Users mapped to this login** section, check the desired database, and then check **db\_owner**.
6. Repeat Step 5 until the selected user has ownership access to all databases created by BACPro.



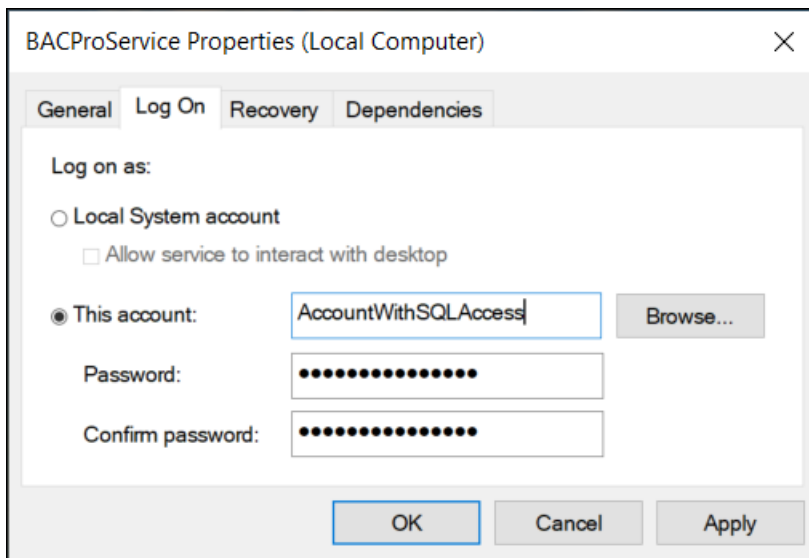
## Setting Up BACPro Service

If you chose not to enter the password in the installer, you must complete the following steps in the Services application.

1. From **Search** on the **Taskbar**, enter **Services**, and then select the **Services App**.
2. Double-click **BACProService**.



3. In the **BACProService Properties** dialog box, select the **Log On** tab.
4. Enter the **user account** and **password** of a windows account with system admin permissions to SQL.



5. Click **OK**.
6. Right-click **BACProService**, and then click **Start**.