

Installation Instructions



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Prerequisites for Installation

- .NET Framework 4.8: <u>https://dotnet.microsoft.com/en-us/download/dotnet-framework/net48</u>
- Adobe Acrobat Reader: <u>https://get.adobe.com/</u>
- Wireshark 3.2.5 or later with Npcap .994 or later: <u>https://www.wireshark.org/#download</u> 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 later: <u>https://www.microsoft.com/en-us/sql-server/sql-server-downloads</u> 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.



Even if your site only forwards packets to perform offline imports, you need a SQL database for every BACPro installation. If needed, you can configure a remote database from the Settings tab.

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.

🚄 Wireshark 4.2.5 x64 Setup		-		×	
Choose Components Choose which features of Wireshark 4.2.5 x64 you want to install.					
The following components are a	vailable for installation.				
Select components to install:	Wireshark Wireshark ✓ TShark ✓ TShark ✓ TShark ✓ External capture tools (extcap) ✓ Etwdump ✓ Etwdump ✓ Androiddump)			
Space required: 261.5 MB	Description Position your mouse over a componen description,	it to see i	ts		
Wireshark® Installer	< Back Next	:>	Car	ncel	

4. Select the Install Npcap checkbox.



5. When the **Npcap Installation Options** dialog box displays, verify that all options are unchecked.

🌍 Npcap 1.78 Setup		_		×
MMAP. ORG	Installation Options Please review the following options befor	e installin <u>ç</u>) Npcap 1	1.78
Do not check these boxes. Restrict Npcap drive Support raw 802.11 Install Npcap in Wind	er's access to Administrators only . traffic (and monitor mode) for wireless adap Pcap API-compatible Mode	oters		
Nullsoft Install System v3.07				
	< Back Ins	tall	Can	cel

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.

ost\SQLEXPRESS02;Database=master;Trusted_Connection=T
sTALL LOG FOLDER es\Microsoft SQL Server\150\Setup Bootstrap\Log\2022091
es\Microsoft SQL Server\150\Setup Bootstrap\Log\2022091
MEDIA FOLDER
xpress_ENU
RESOURCES FOLDER
es\Microsoft SQL Server\150\SSEI\Resources
i

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*.

 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.

Enter Window This account v	is user account and password. will be used to run a windows service.	"R	BACP
Name:	MySQLAccount		
Password:	•••••		
Note: This Wi	ndows account must have SQL Admin rights and S	ystem rights.	
Note: This Wi DO NOT enter	ndows account must have SQL Admin rights and S r your BACPro user account here.	ystem rights.	
Note: This Wi DO NOT enter You may skip	ndows account must have SQL Admin rights and S r your BACPro user account here. entering the password here and do it in the service	ystem rights. e control manage	r later.
Note: This Wi DO NOT enter You may skip See BACPro ir	ndows account must have SQL Admin rights and S r your BACPro user account here. entering the password here and do it in the service nstallation instructions for more information.	ystem rights. e control manage	r later.

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.

Server Properties - DESKTOP-2	2RPCJ5B\SQLEXPRESS	_		×
Select a page	∏ Script ▼ ♀ Help			
 Memory Processors Security Connections Database Settings Advanced Permissions 	Server authentication Windows Authentication mode SQL Server and Windows Authentication mode Login auditing None Failed logins only Successful logins only Both failed and successful logins Server proxy account Enable server proxy account			
Connection	Password:			
Server: DESKTOP-2RPCJ5B\SQLEXPRES	Options			
DESKTOP-2RPCJ5B	Enable C2 audit tracing Cross database ownership chaining			
Progress				
Ready				
		ОК	Car	ncel

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.

Login Properties - BP_User		_		×
Select a page General Server Roles User Mapping Securables Status	Script Help Server role is used to grant server-wide security privileges to a user. Server roles: bulkadmin docreator diskadmin processadmin public securityadmin serveradmin setupadmin			
Connection Server: DESKTOP-9F51SV5\SQL_AUTH Connection: BP_User YT View connection properties Progress Ready	sysadmin			
	[ОК	Can	ncel

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.

Login Properties - BP_User				-		×	
Select a page	Script	🔻 🕜 Help					
General Server Roles							
🖋 User Mapping	Users mapped to this login:						
Securables	Мар	Database	User	Default Schema			
Julius Status		BACPro_DESKTOP9F51SV5	BP_User				
		Capture_Sample_DESKTOP9F51SV5	BP_User				
		Connection_Ethemet2	BP_User				
		master					
		model				_	
		tempdh					
		tempub					
Connection Server:	Gues	t account enabled for: BACPro_DESKTOP9	F51SV5				
DESKTOP-9F51SV5\SQL_AUTH	Database	e <u>r</u> ole membership for: BACPro_DESKTOP9	51SV5				
Connection: BP User	db_a	ccessadmin					
Y [™] <u>View connection properties</u>	d_db_ b_db db_d db_d db_d db_d db_d	ackupoperator atareader atawriter dladmin enydatareader enydatawriter					
Progress	✓ db_o	wner					
Ready	db_s ✓ public	ecurityadmin C					
 				ОК	Car	ncel	

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.

BACProService Properties (Local Computer)							
General	General Log On Recovery Dependencies						
Log on as:							
⊖ Local	System a	ccount					
	Allow service to interact with desktop						
This account: AccountWithSQLAccess Browse							
Pas	Password:						
Con	firm passw	vord:	•••••]			
			OK Cancel	Apply			

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