



Installation Guidelines

Below are step by step instructions for installing the Express Maintenance software and the required Microsoft SQL Server database engine. These instructions also apply to existing customers wishing to transfer the application and data from one server to another. Where applicable, the difference is noted. Though this guide appears lengthy, the steps below only take a few minutes.

Note: These steps are to be performed using a **login with full administrative rights**. They should be done at the server computer or at a standalone computer functioning as its own server. We recommend carefully following each step below checking them off as they are completed. Should you need to email our support department (support@mas.systems), please be specific about which steps you have completed and where you are having trouble as well as any error messages you receive.

SQL Server

Installing the Database Engine – Microsoft SQL Server Express

Express Maintenance uses the very powerful and robust Microsoft SQL Server for database storage and retrieval. Below are the recommended versions of SQL Server that may be used. You will find Links to the appropriate download page below along with links to the HW and SW requirements.

We recommend using SQL Server 2017 or higher if installing on a stand-alone server. Or 2016 if it will be installed on the same computer as Express Maintenance. If you already have an existing copy of SQL Server that fulfills the above requirements installed on your server / computer, you do not need to install Microsoft SQL Server and you should proceed to step 3 below. Otherwise decide what version you want to install and follow the appropriate download link below. *-note: 32bit (x86) is now longer supported by SQL Server or SQL Server Express.*

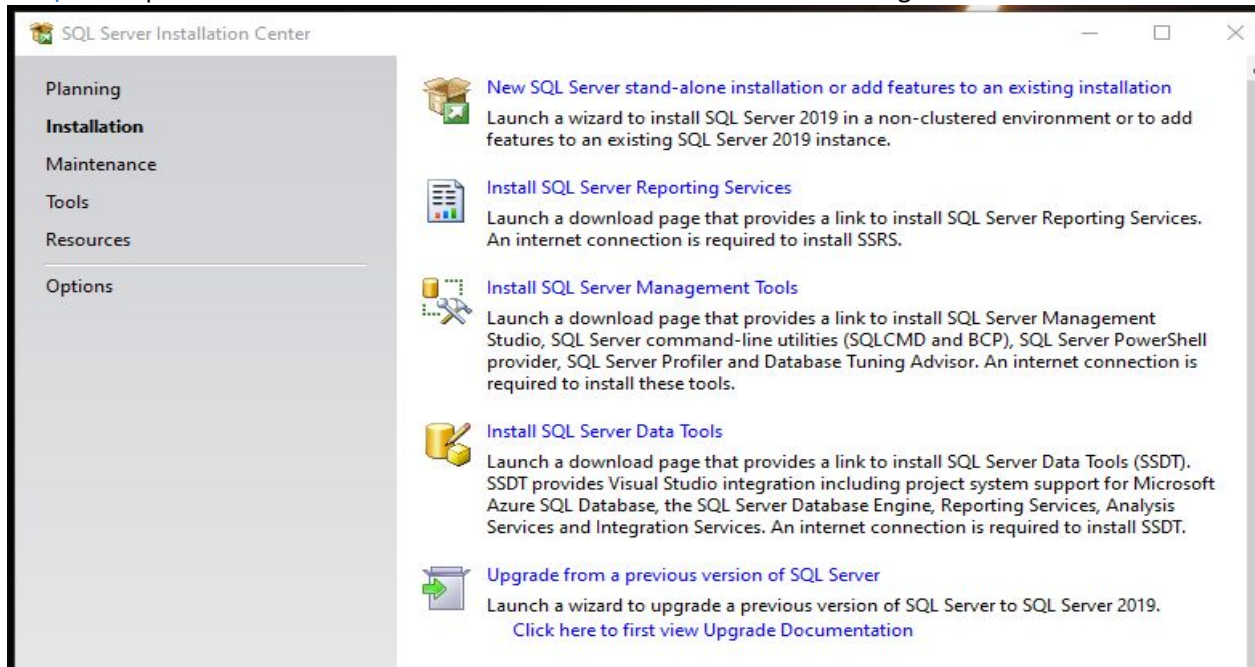
Select Database Engine Version To Download	Download Link
MS SQL Server 2016 Express Install 64 Bit Only HW/SW Requirements	Microsoft SQL 2016
MS SQL Server 2017 Express Install 64 Bit Only HW/SW Requirements	Microsoft SQL 2017
MS SQL Server 2019 Express Install 64 Bit Only HW/SW Requirements	Microsoft SQL 2019

1. Download and Run File

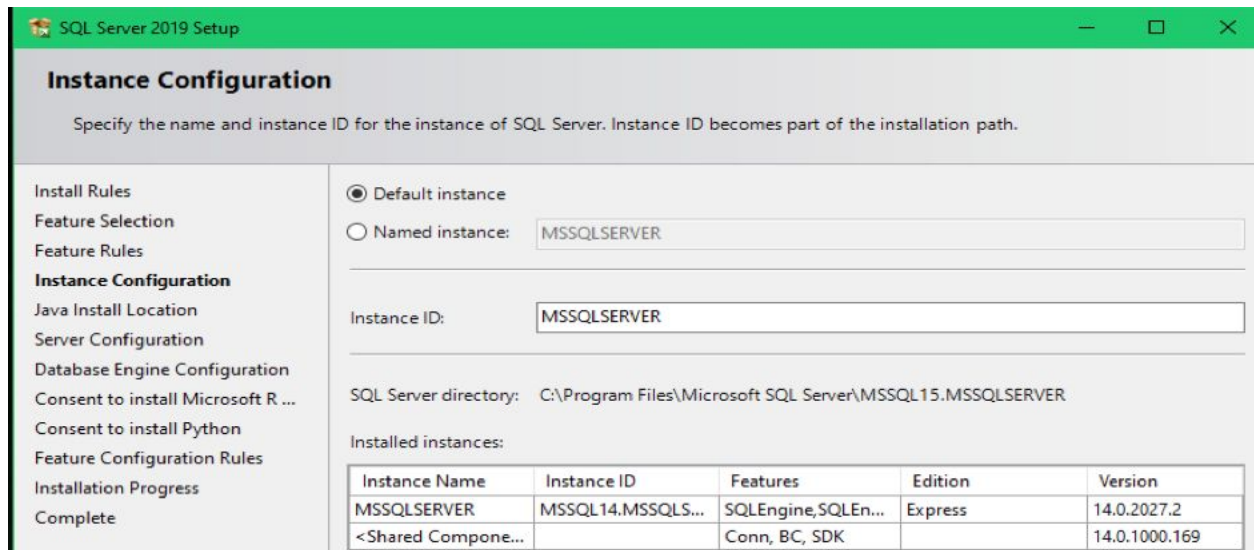
- i) Download and save the desired MS SQL Server installation file to the **server**.
- ii) Execute the file to start the installation process and select the **“Custom”** installation option when prompted.
- iii) Select a location to install the SW then select **“Install”**. The installation package will start downloading to the selected location. This **may take several minutes** to complete.
- iv) When the download is complete a menu will open with several options. Select the **“New SQL Server stand-alone or”** option.



v) Accept the **license terms** and select **Next** and the installation will begin.



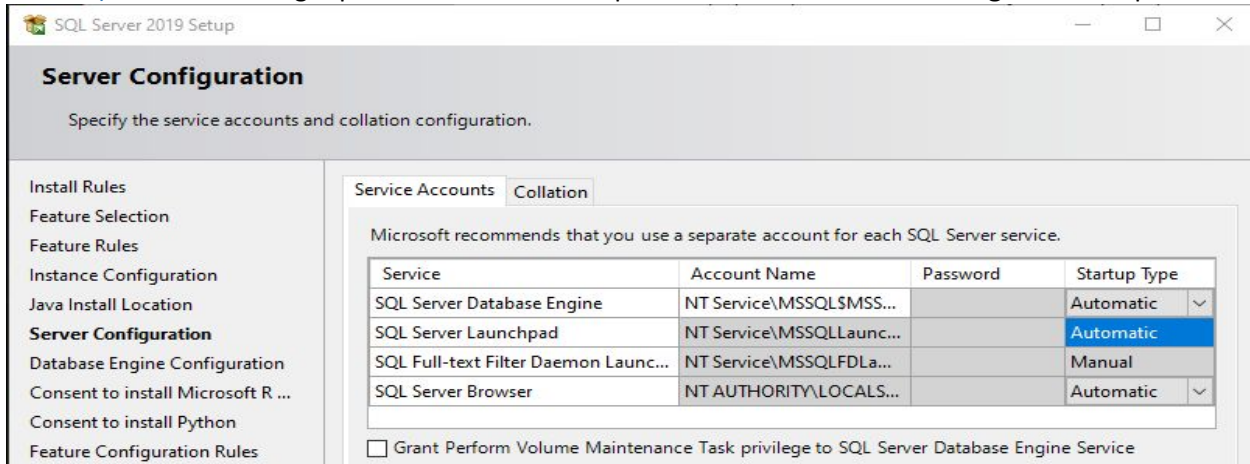
vi) Select Next then Next again to bring up the **Instance Configuration** step. Select the **Default instance** as shown below and **Next**.



(1) We recommend you change the default setting for instances. You must specifically select the option that reads “**Default Instance.**” This will allow the SQL Server to be referenced as the same name as the computer name on which it is installed. If you must use instances, be sure to change and note the instance name (default is \SQLEXPRESS) you select as you will need to reference it as your SQL Server database engine.

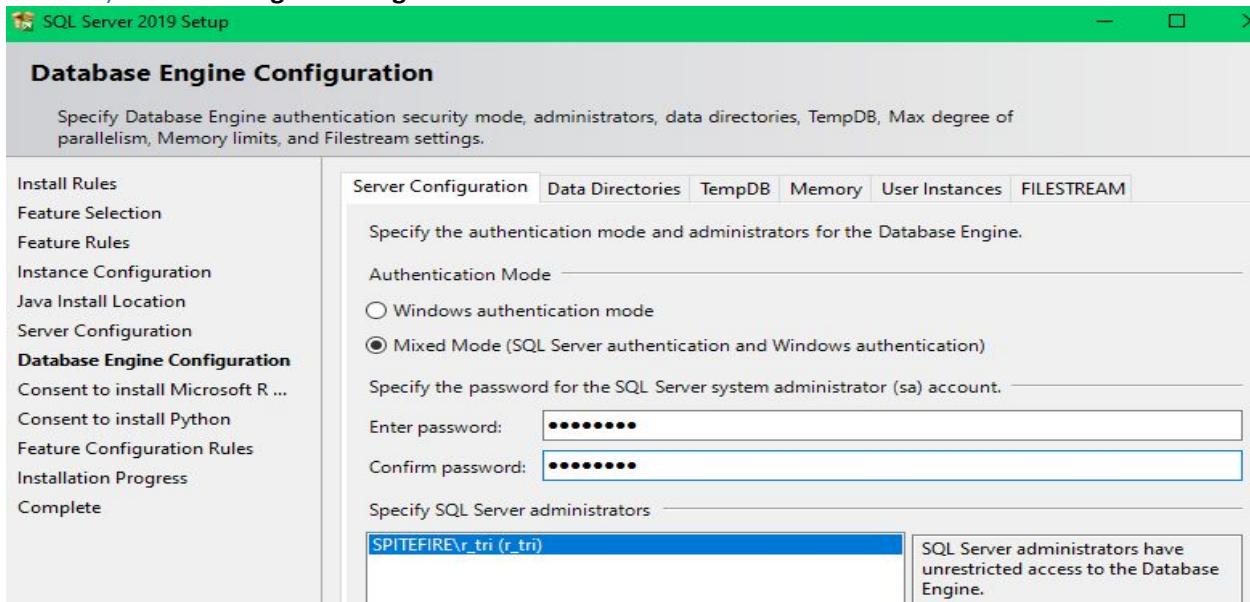


vii) Select **Next** to get past the Java Install step and arrive at the **Server Configuration** step.



- (1) select **“Automatic”** startup for the **SQL Server Database Engine** service and the **SQL Server Browser** service. The SQL Server Agent service is **not** used and does not matter for Express Maintenance
- (2) Select **Next**

viii) **Database Engine Configuration** screen



- (1) Select **Mixed Mode**
- (2) Enter a **password** for the SQL Server admin account and **write it down** for later use.
-Note: the UN is sa
- (3) Select **Next**

- ix) Consent to Install
- (1) Click **Accept** on the Consent to Install page.
 - (2) Then the **Next** button when it is available.

- x) Consent to Install **Python**
- (1) Select **Accept** then **Next**

__ b. **Server Configuration:** You will be prompted for the accounts and way you want the SQL Server services to startup. Be sure to **select “Automatic” startup for the SQL Server service and select Automatic for the SQL Server Browser service.** The SQL Server Agent service is not used and does not matter for our software.

__ c. **Database Engine Configuration (Authentication Method):** We strongly recommend you **select “Mixed Mode Authentication” (SQL & Windows)** and **enter a password for the ‘sa’ login account.** Be sure to **note the password you select for the ‘sa’ login to the SQL Server.** Mixed mode authentication will allow the program to connect to the SQL Server using Windows or SQL authentication. If you do not select Windows and SQL authentication (mixed mode), your workstations will not likely be able to connect to the SQL Server.

If during install you did not make the three changes as noted in a, b and c above you can click on the Customize button once the installation is complete, to make the changes.

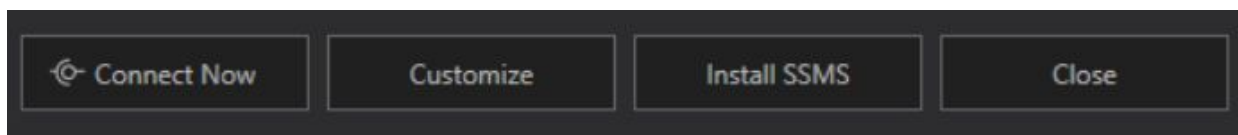


Figure 2 above - from SQL Server Express 2017 install

Configuring and Starting SQL Server Database Engine

Name	State	Start Mode	Log On As
SQL Server (SQLEXPRESS)	Stopped	Automatic	NT Service\SQL
SQL Server (MSSQLSERVER)	Running	Automatic	NT Service\SQL
SQL Server Agent (SQLEXPRESS)	Stopped	Other	THOR
SQL Server Browser	Running	Automatic	THOR
SQL Server Agent (MSSQLSERVER)	Stopped	Other	THOR

__ 3. You will now need to configure SQL Server and restart the SQL Server service. **This only takes a few seconds but is very important.** To configure SQL Server, go to the **Windows Start button** and go to **All Programs / Microsoft SQL Server / Configuration Tools** and run SQL Server Configuration Manager. Once in the configuration manager, click on **SQL Server Services** in the left panel and **make sure SQL Server Service and Browser service are running** in the right panel -see Figure 3 below.



EXPRESS MAINTENANCE

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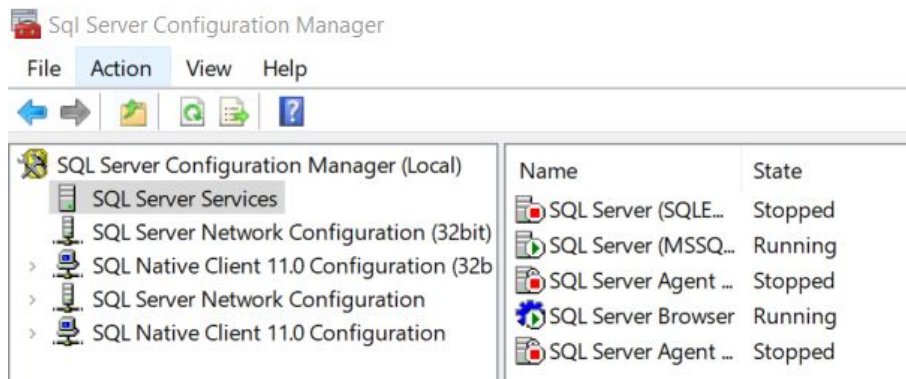


Figure 3 -SQL Server Config Manager

4. While in the Configuration Manager, you also need to turn on certain protocols which will enable your workstations to communicate with the SQL Server. In the left panel, open each subsection and note if there is a subsection for Protocols. At each Protocols section, you must enable Shared Memory, TCP/IP and Named Pipes -see figure 4 below. To enable a protocol that is disabled, right click on it and left click on Enable.

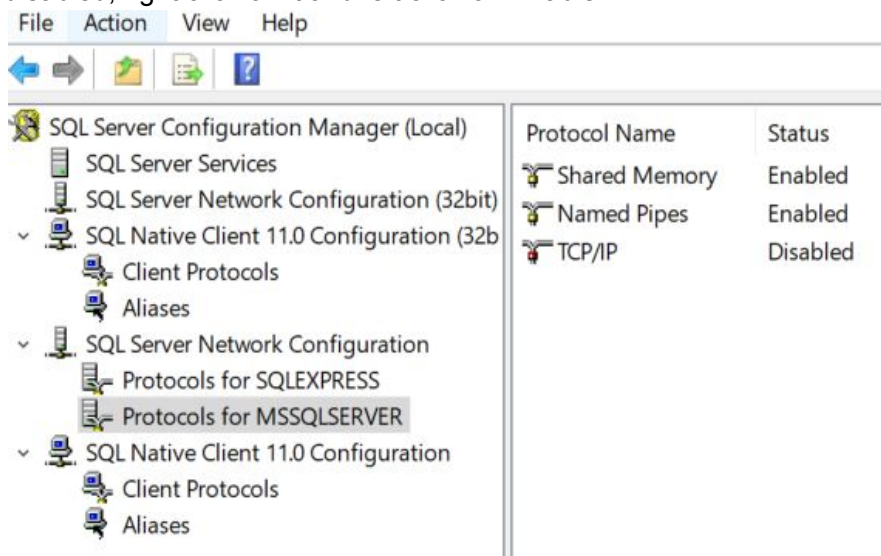


Figure 4 - Enabling Protocols

5. Once you have enabled the above noted protocols in each subsection, left click on the SQL Server Services in the left panel and then right click on the SQL Server in the right panel. Left click on the option to Restart the SQL Server and wait for it to restart. Once the SQL Server is restarted and running, exit the SQL Configuration Manager.

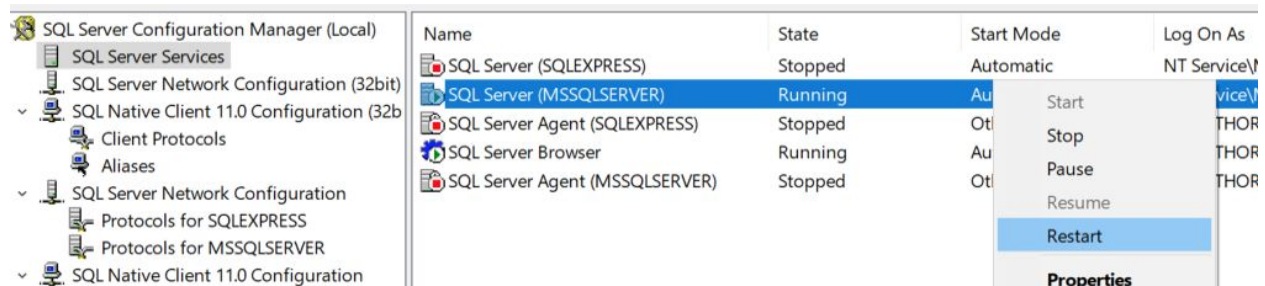




Figure 5 - Restarting SQL Server

Express Maintenance

Installing the Application – Express Maintenance

1. Download the Express Maintenance- follow the link [Take Me to The Download Page](#) and click the  button and save the install file to the hard drive on the computer where you have installed the SQL Server database engine. You may also wish to download and install Express Request . Be sure to note the folder location where you place these files.

Note: Even if you are transferring to a new server and are running an older version, you need to download the latest release of the software. When you first run Express Maintenance, your data will be upgraded to the current version.

2. Once you have downloaded the Express Maintenance install file (EMInstall.exe), run the installation file and follow the prompts. We recommend you accept the defaults including the default installation folder. If you choose to change the installation folder, be sure to note the location you specify. If you have purchased ExpressRequest, you will want to run that installation program as well.

Creating the Express Maintenance Database

3. Once Express Maintenance is installed, run the program on the server computer. Express Maintenance will indicate that the SQL database could not be found and prompt to run the Create Database Utility. Select Yes – Run the database creation application now.

Note: If you have existing Express Maintenance data from a prior server, you should copy your original data and log files from your old server and paste them in the ExpressMaintenance installation folder (default is C:\ExpressTech) to overwrite the model files. This will allow you to set-up the new database using your existing data. If this is a new installation without any prior Express Maintenance data, this note does not apply.

4. The Create Database Utility will appear as shown below.

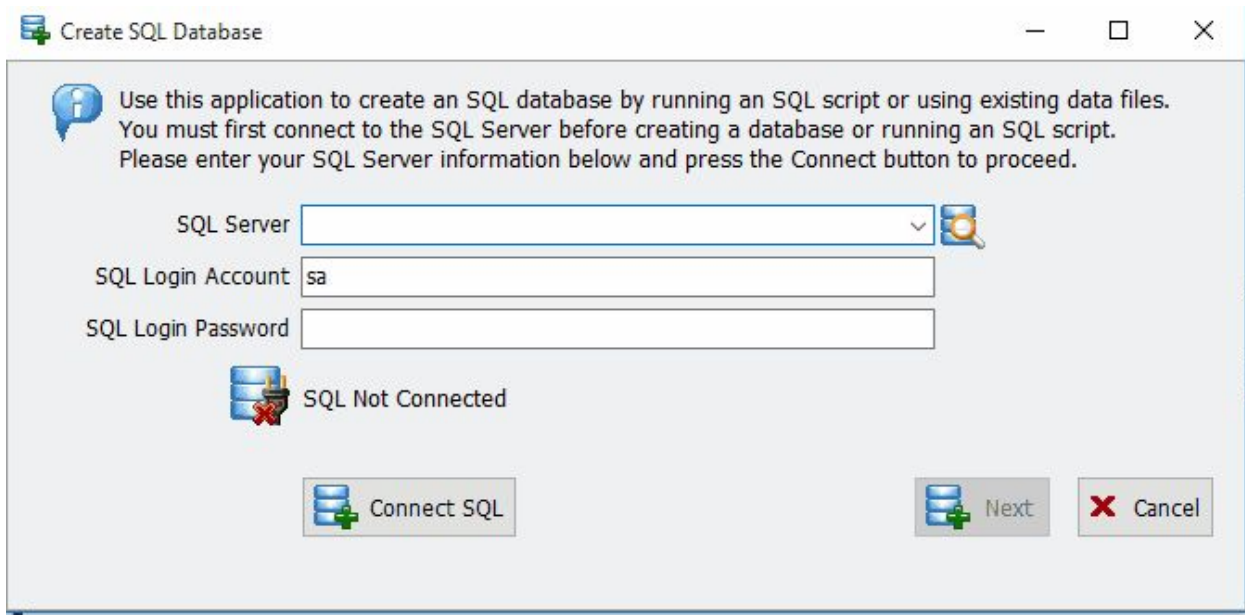


Figure 6 - Database Creation Utility

__ 5. To proceed with the creation of the Express Maintenance database, **complete the fields as shown above**. Enter the name of your SQL Server name or search for it by clicking on the search icon. Enter the 'sa' password you entered when installing SQL Server. Then **click the Connect SQL button to make the connection to the SQL Server**. After the connection is made, click the Next button to proceed.

__ 6. The next screen will appear giving you the option to select how you would like to create the new database. If this is **a new installation with a new database, select the 1st option**, 'Create an SQL database and all tables by running an SQL script file'. If you are using existing data such as moving to a new server, select the 2nd option, 'Create and SQL database using existing data and log files'. After selecting the method, click the Next button

__ 7. Once you have selected the method and click Next, the screen will be different depending on the selection made. **If creating from a script file, you will be prompted for the script file name. This should be entered for you.** You will also be prompted for the folder location where you want the data and log files to reside. **If you are using existing data and log files, you will be prompted for the location of these files.**

Note: If you are using data and log files that you previously had on another computer, you will need to select the correct data and log files from the folder where the files have been placed on the new server. If you are transferring data but only have a backup file (.bak) rather than the actual data and log files, you should create a database using the models as if this were a new installation. Once the database is created, you can then use the Restore option under Administration to restore your backup data over the new database.

__ 8. Once you have completed your selections, click the Create Database Now button.

__ 9. Once the database is created, click the Close button to exit the Database Creation Application.



__ 10. Now you are ready to run Express Maintenance. Now run Express Maintenance again and it should connect without errors. **If this is a new installation, you will see the Registration Screen.** Email the serial number and your company information to support@mas.systems We will verify your purchase and provide a permanent registration code.

If you purchased a multiple user license to Express Maintenance, you are now ready to set up shortcuts for workstations to access the program. For more information on setting up workstation shortcuts – [See Work Stations Database Instructions](#)

Troubleshooting

If the program fails to create the database, you should check the following items:

1. Make sure you enter the correct SQL Server Name. By default, the SQL Server name is the Computer Name or ComputerName\SQLEXPRESS (if using instances).
2. Make sure you are using the correct 'sa' login and password that was assigned during installation of the SQL Server.
3. Make sure you started the SQL Server service as outlined in steps 4 – 7 above.
4. If using SQL 2005, 2008 or later, make sure you have configured SQL Server as outlined in step 5 above.

If you are able to run Express Maintenance at the server but the workstations fail to connect to the SQL Server database, you should check the following items:

1. Make sure users have permission to read the ExpressMaintenance.ini file.
2. Make sure you have the SQL Server set to Windows and SQL Authentication (mixed mode).
3. If using SQL 2005, 2008 or later, make sure you have configured the SQL Server as outlined in steps 5 – 7 above.
4. Express Maintenance connects to the SQL Server using the SQL login account of 'etuser'. When the database is created, Express Maintenance will automatically setup this login for you. However, if you need to setup the 'etuser' login manually, step by step instructions are available – [see Create ET User](#)