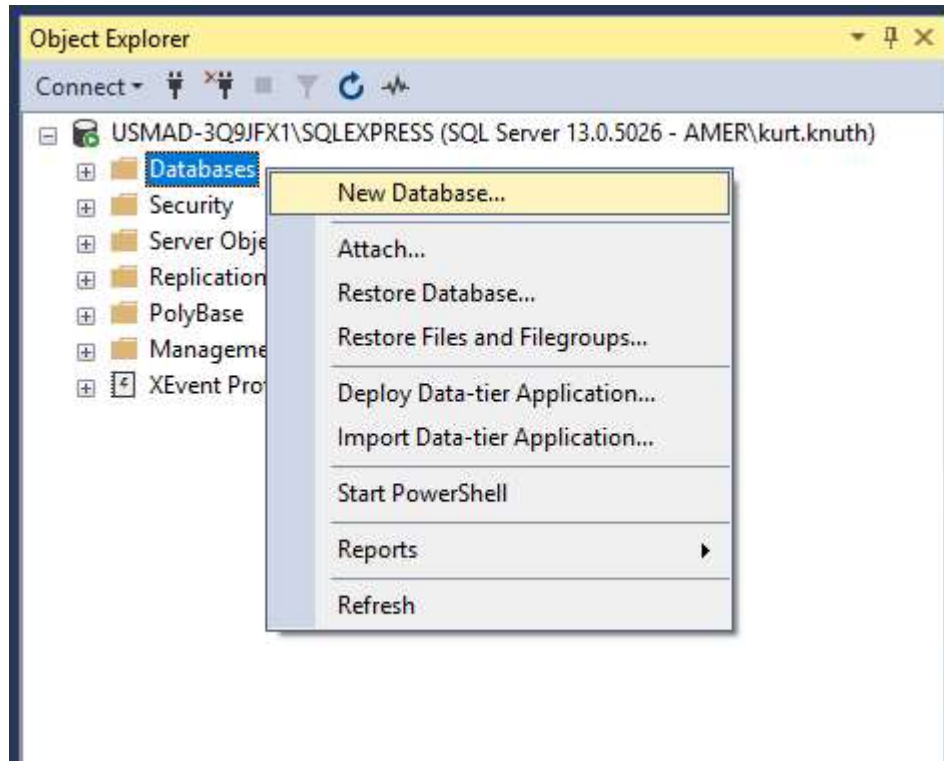


## Basic Setup for SQL Server Database for use with Insight Pro

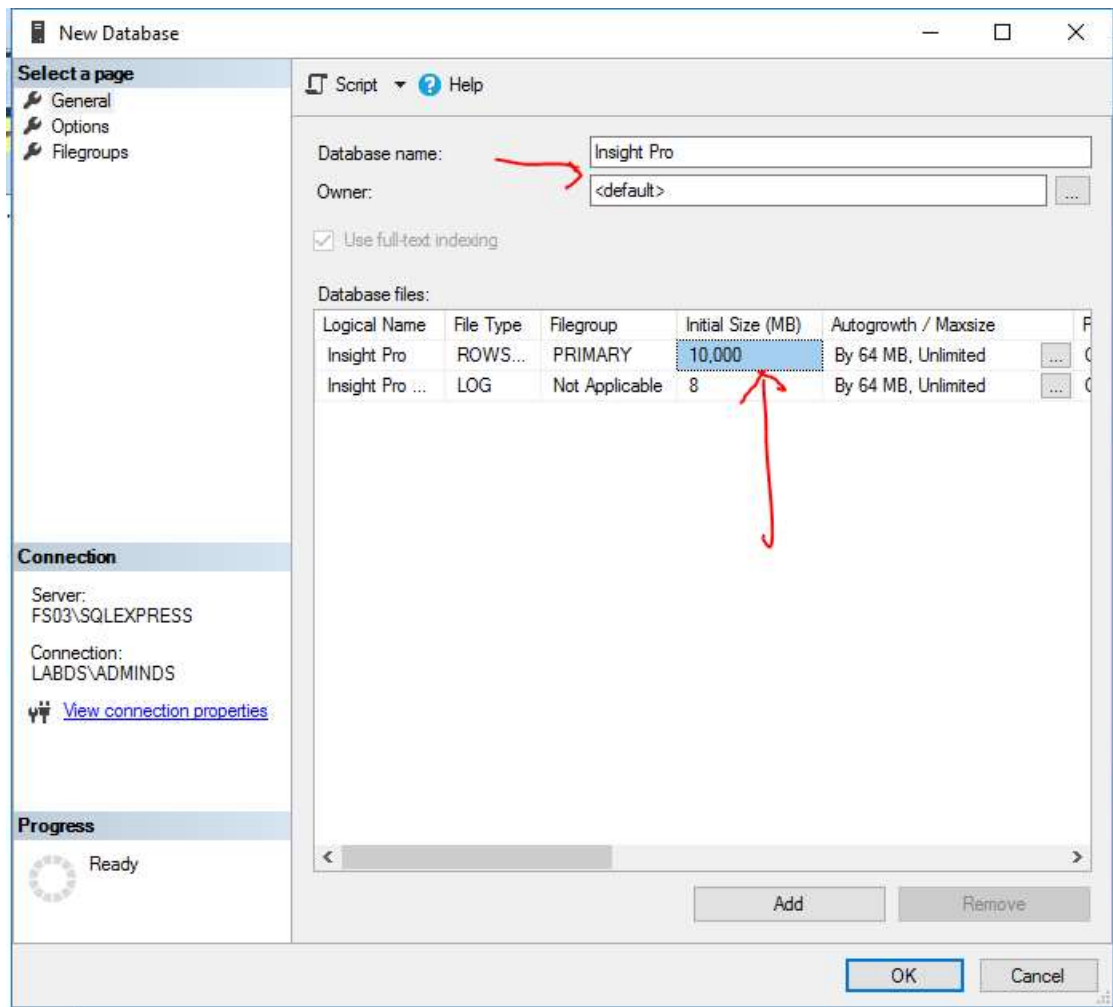
One of the options for the spectral database in the Insight Pro software is to use SQL Server. While the setup of the SQL Server database falls upon the customer to complete, they may occasionally ask Technical Support for help or may have setup the database incorrectly. This document is meant to be a basic guide for the steps needed to create and configure a SQL Server database for use with the Insight Pro program.

1. Open the SQL Server Management Studio program.
2. In the Object Explorer window, right click on the Databases item and choose "New Database" from the popup menu.



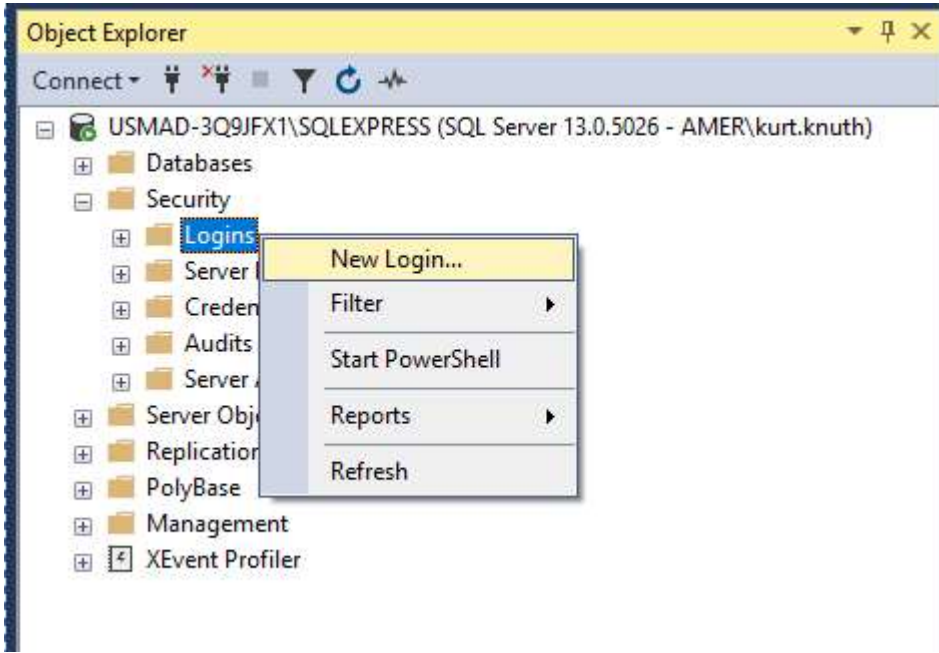
3. A dialog box will open for setting up the new database. Enter a Database Name, select an Owner if desired (if <default> is selected, the currently logged in user will be the owner), and in the table enter an initial size for the database on the first line. Our recommended initial size for this database is 50 GB (50,000 MB), but it can be whatever the customer desires. **Note:** If the customer is using SQL Server Express, the maximum size limit set by Microsoft for a database will be 10 GB (10,000 MB). Click Ok when done.

This step of the process will create a new database on the SQL Server that will later be specified from the Configure Database option in the Insight Pro software.

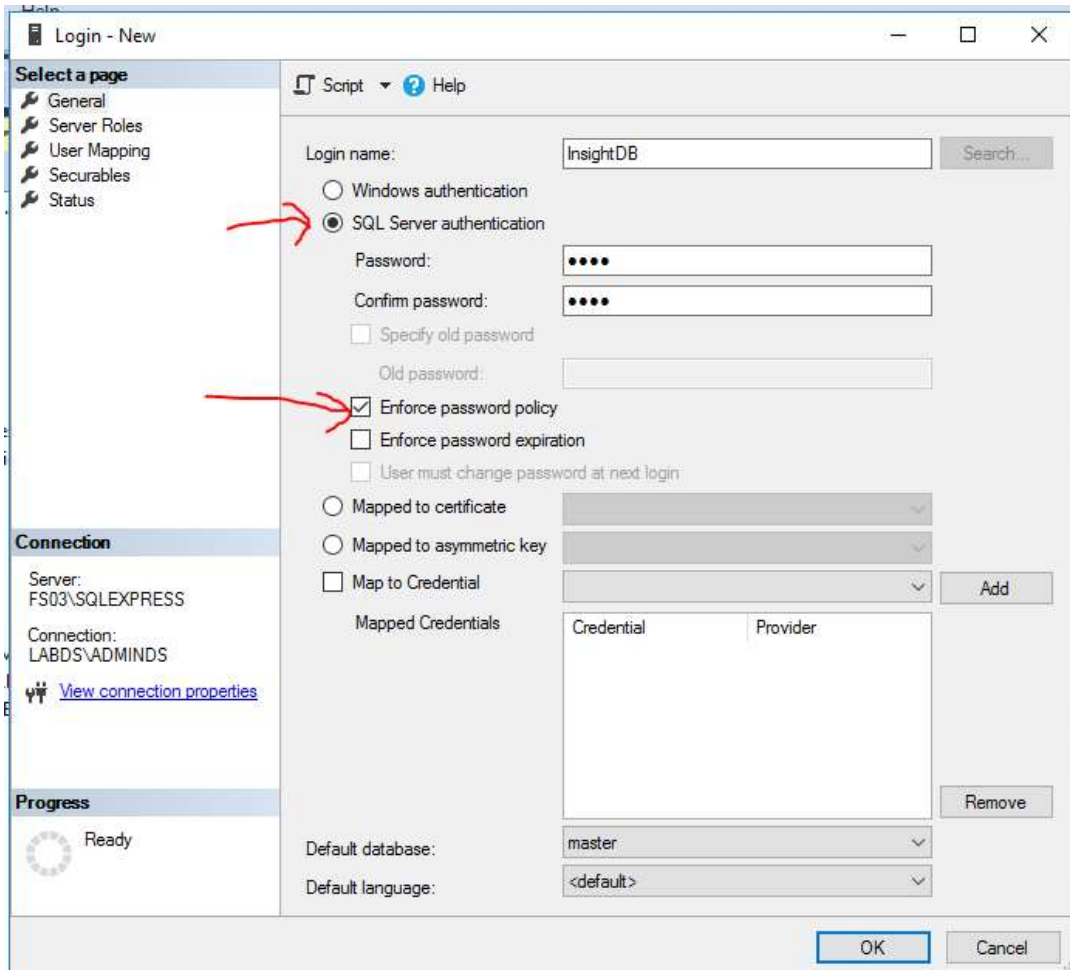


4. When connecting to a SQL Server database, the Insight Pro software requires the use of the SQL native user accounts. Therefore, the next step is to setup a native user account within the SQL Server.

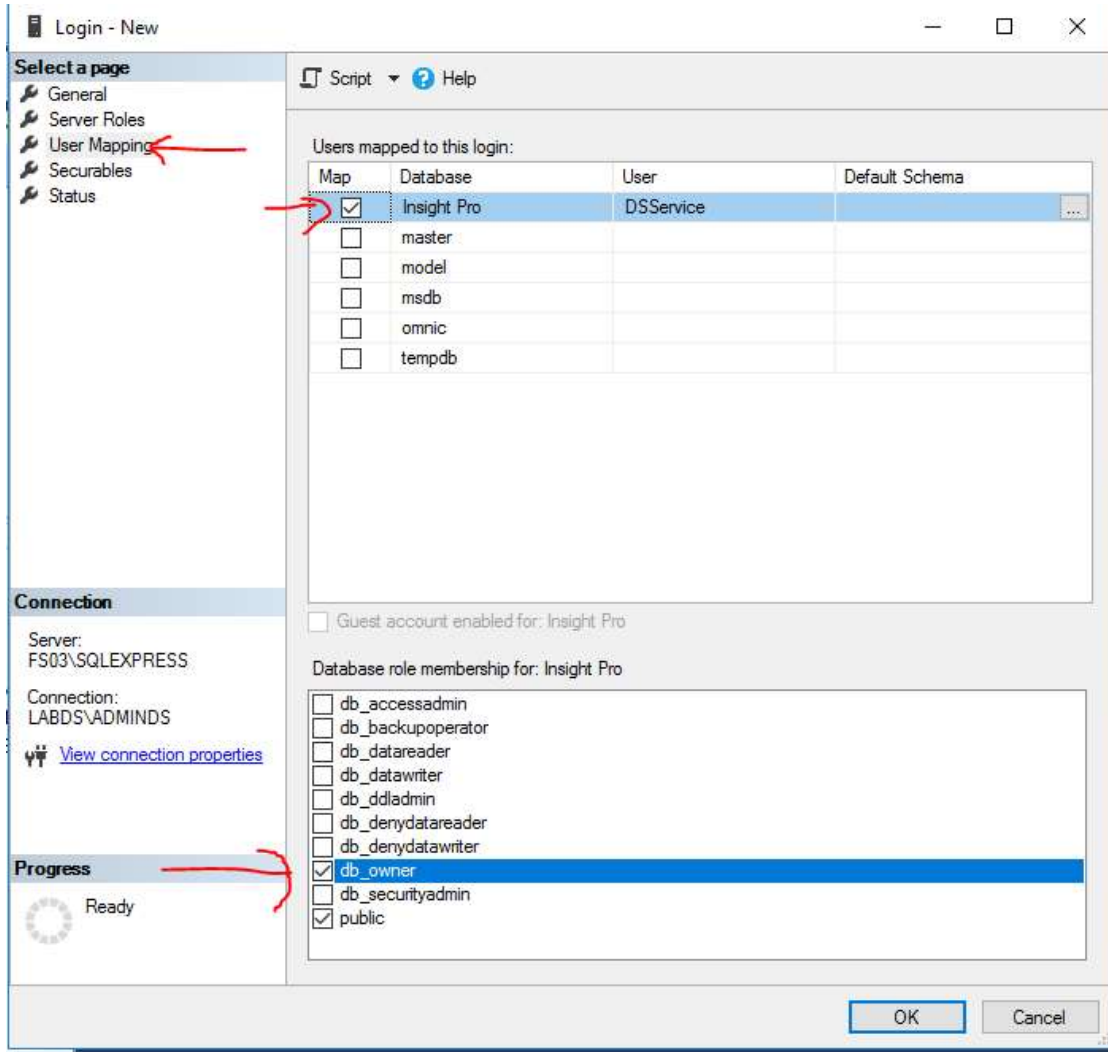
Click on the “+” next to the Security folder and then right click on the Logins folder and choose the New Login command.



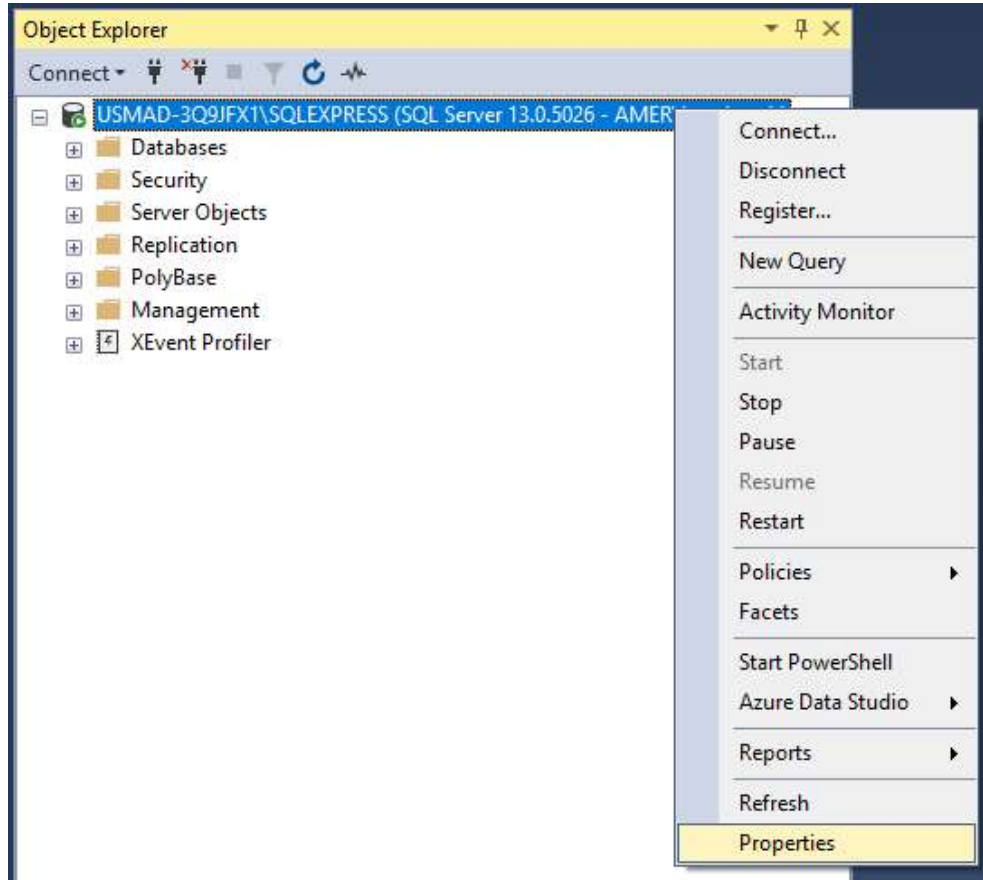
5. In the Login-New dialog box, enter a login name that will be used to connect to the Insight Pro database. Select the option for “SQL Server authentication” and create a password in the Password and Confirm Password boxes. Be sure to uncheck the box for “Enforce password expiration” so that the password for this account never expires. **NOTE:** If the password is allowed to expire, the connection from Insight Pro to the database would be lost when the password changes and the login information would need to be updated in Insight Pro before the connection could be reestablished.



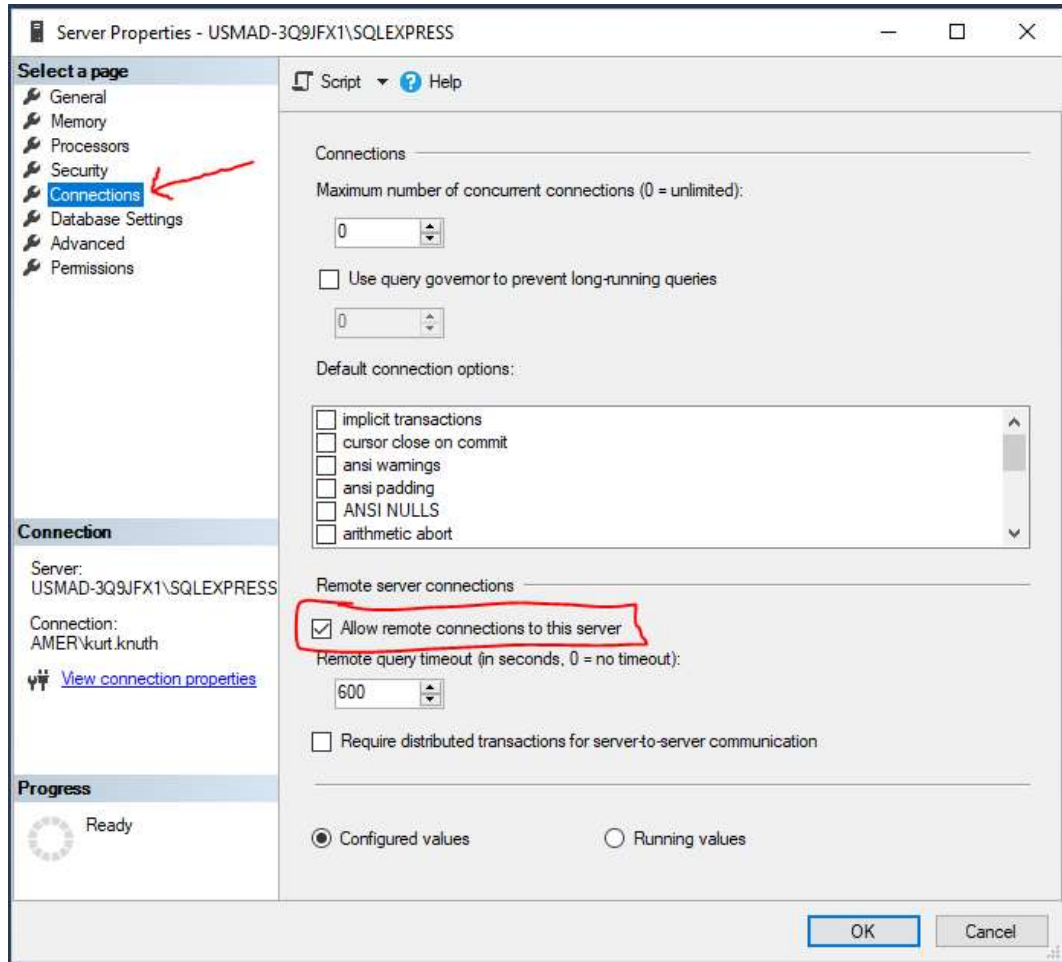
- Now select the User Mapping item on the left side of the Login-New dialog box. This option will allow the newly created user to be granted access to a specific database and with a specific set of permissions. In the upper box (Users mapped to this login), check the box next to the newly created database for the Insight Pro software. In the lower box (Database role membership for), check the box next to "db\_owner", which will give this account the proper permissions for the database selected. Now click OK to close this dialog box.



7. If the SQL Server is installed on a Network Server and/or needs to be accessed from remote computers, then the remote connection also needs to be enabled. This is also the time to verify the correct server authentication mode is selected. Right click on the SQL Server item at the top of the window and select the Properties command in the drop-down menu.

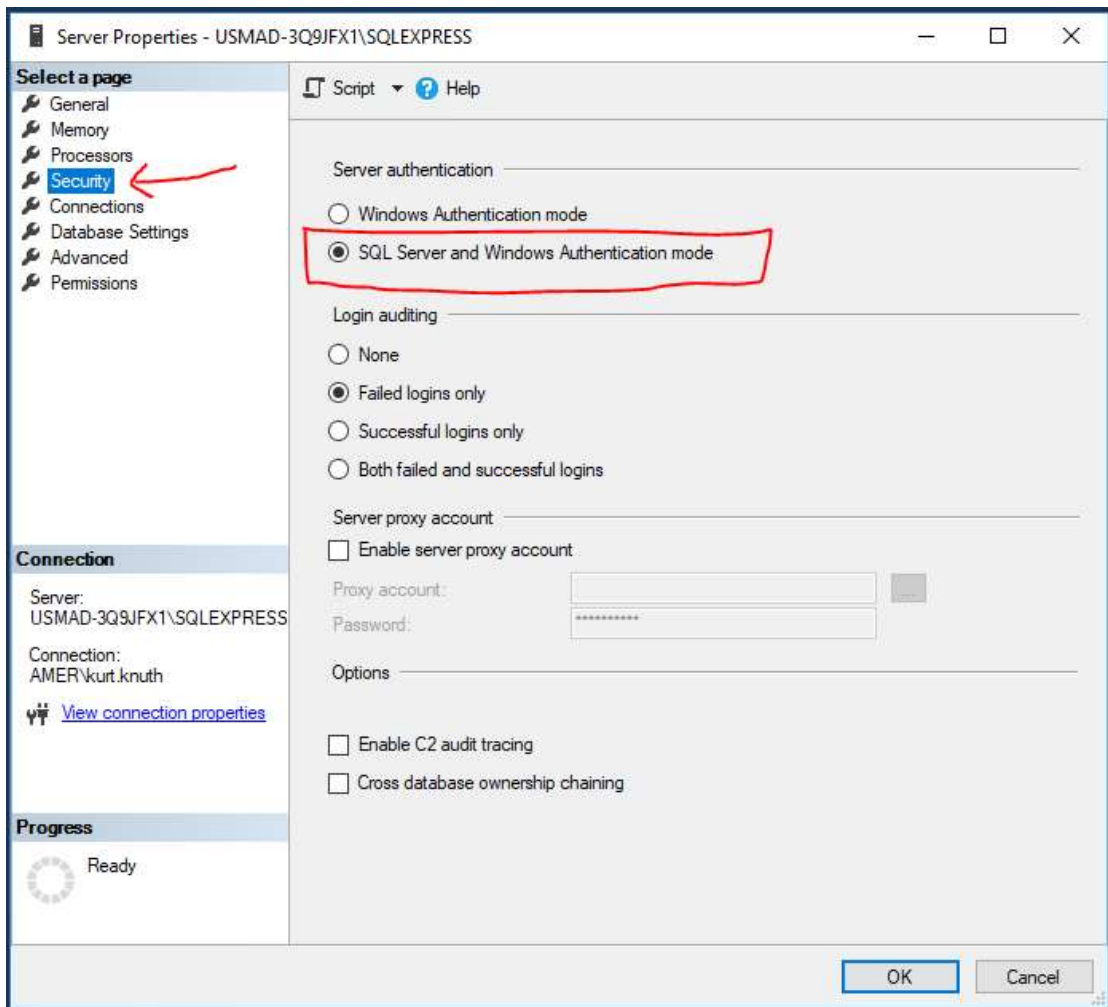


In the Server Properties dialog box, select the Connections item in the list in the upper left, and make sure the box for “Allow remote connections to this server” is checked.

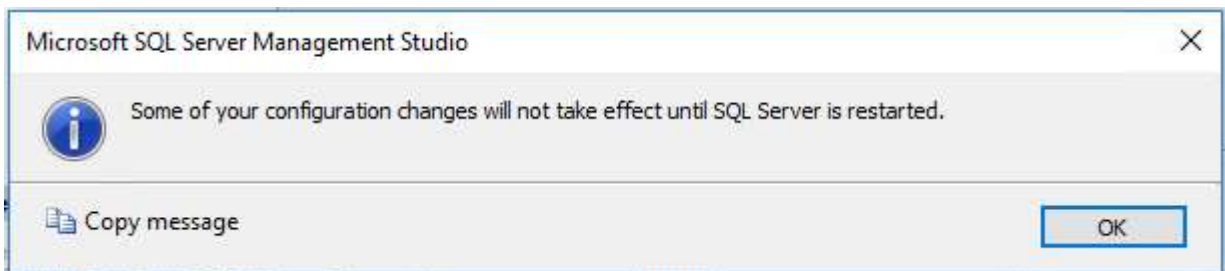




In the same dialog box, select the Security item on the left side. Under the Server Authentication mode box, select the option for “SQL Server and Windows Authentication mode”. Then click Ok to close the dialog box.

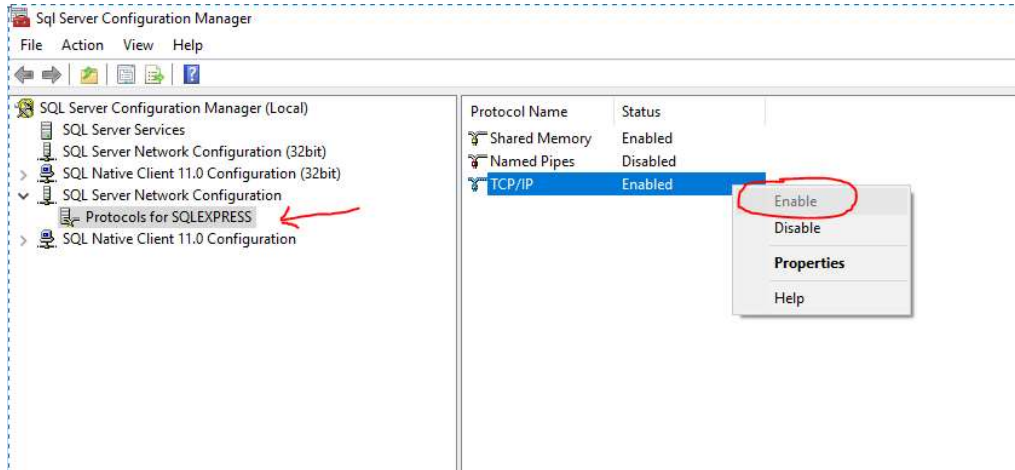


After making these changes, a message will be displayed explaining that you will need to restart the SQL Server for the configuration changes to take effect. Just click Ok to this message. The server will be restarted in a later step.

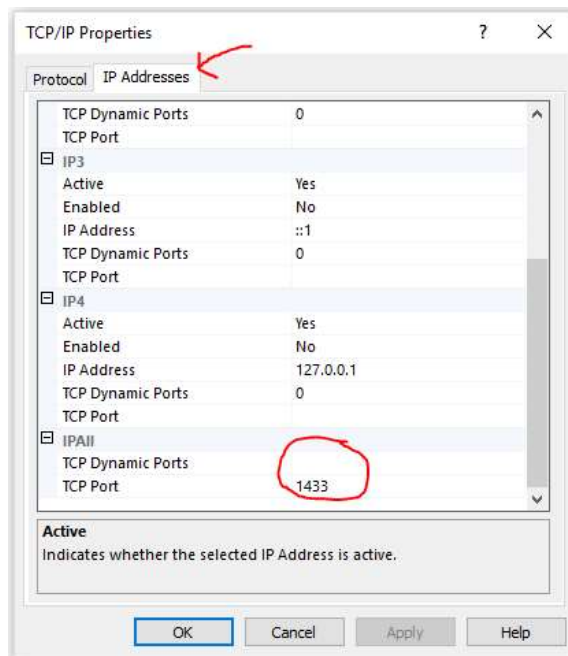




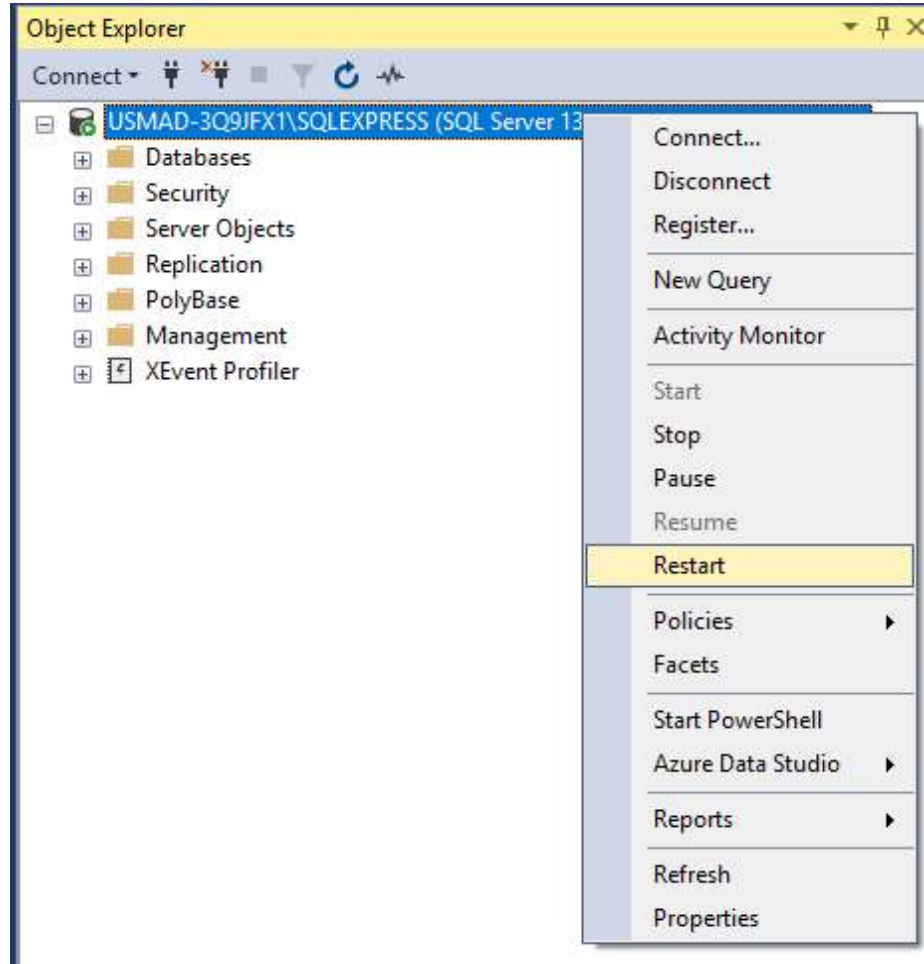
8. Open the SQL Server Configuration Manager program.
9. Open the item in the list in the left pane called SQL Server Network Connection and then select the sub item "Protocols for SQLEXPRESS". In the right hand pane, Right-click on the TCP/IP item and choose the "Enable" command from the popup menu. Click Ok to the confirmation message about restarting the SQL Server.



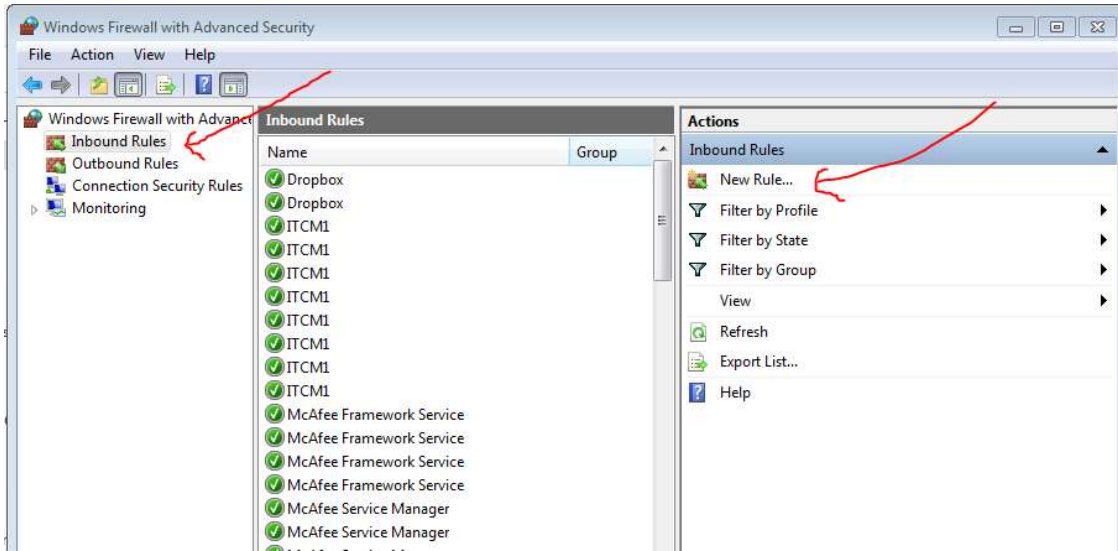
A TCP port for this connection also needs to be opened. Again, right-click on the TCP/IP item and choose the Properties item. In the dialog box, select the IP Addresses tab, scroll down the list to the "IPAll" section and enter the preferred port number in the TCP Port item. Then clear out the value for the TCP Dynamic Port item. Click Apply and then Ok. The SQL Configuration Manager program can now be closed.



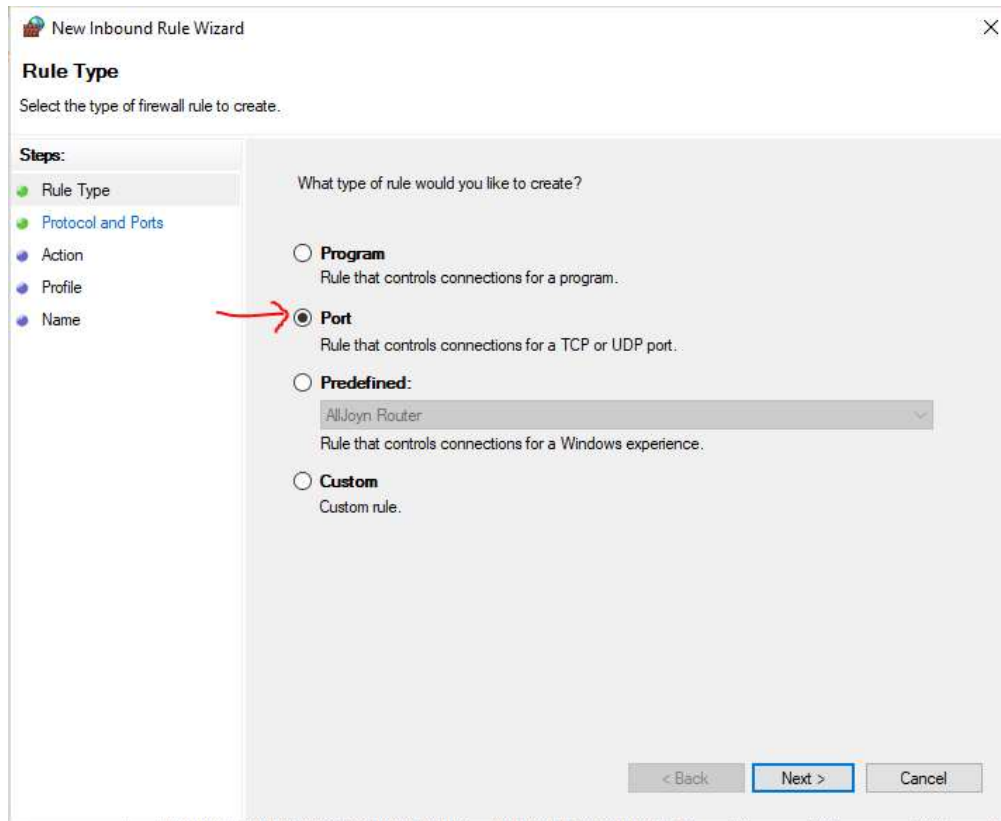
- Go back to the SQL Server Management Studio window, right click on the SQL Server and choose the Restart option in the drop down to restart the SQL server. If the SQL Server is used by other databases and users, make sure the restart does not cause them problems. If others are currently using the database, restart the SQL Server at a later convenient time.



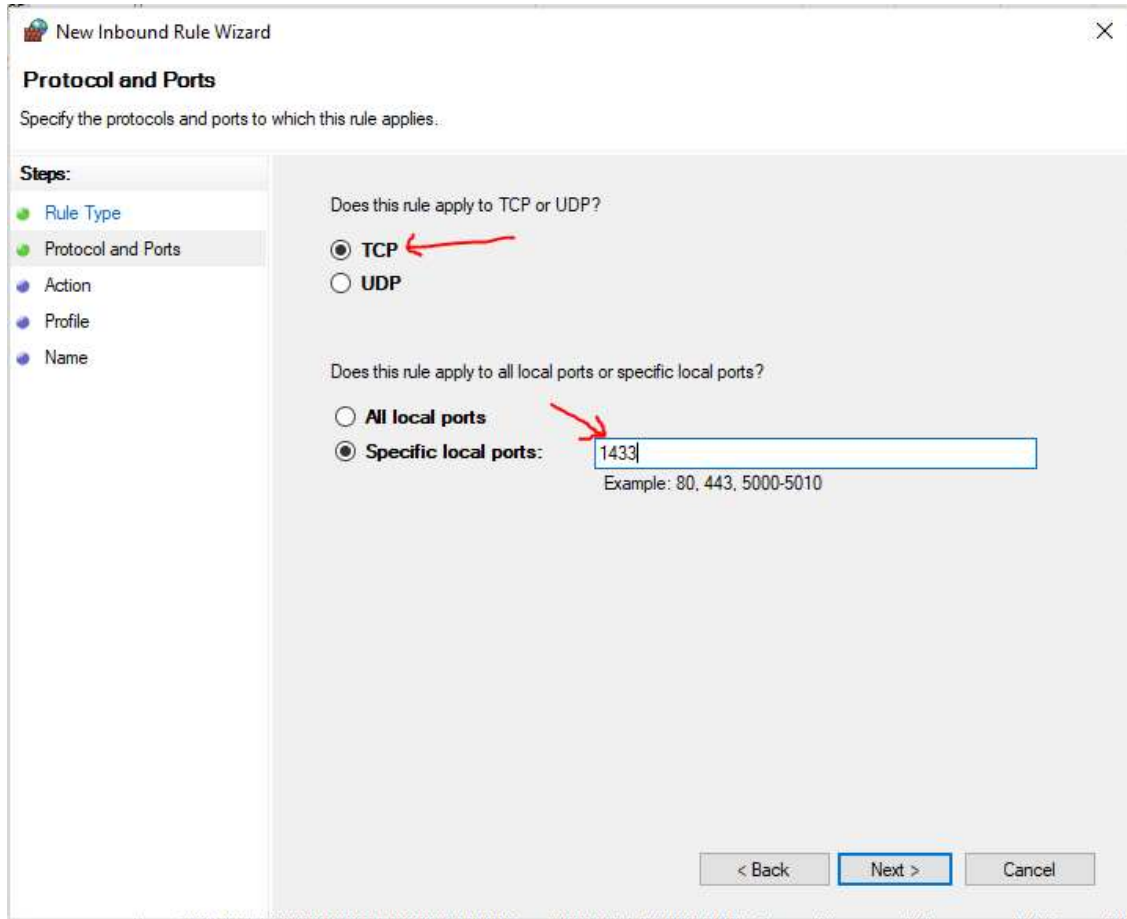
11. The port entered for use by the remote connection of the SQL Server must also be opened in the Windows Firewall to allow any remote computers to connect to the database. Open the Windows Firewall applet, Click the Advanced Settings option, then select Inbound Rules and create a new rule.



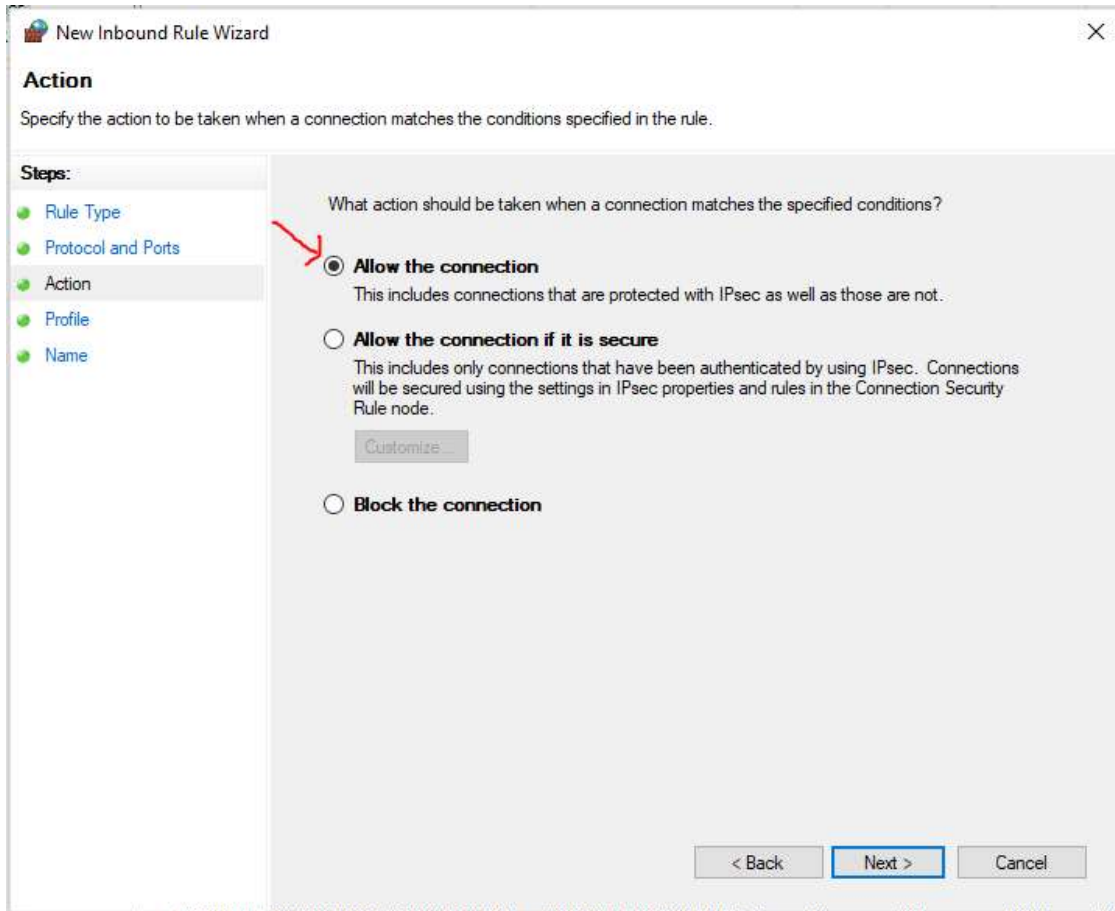
Choose the Port option and click Next.



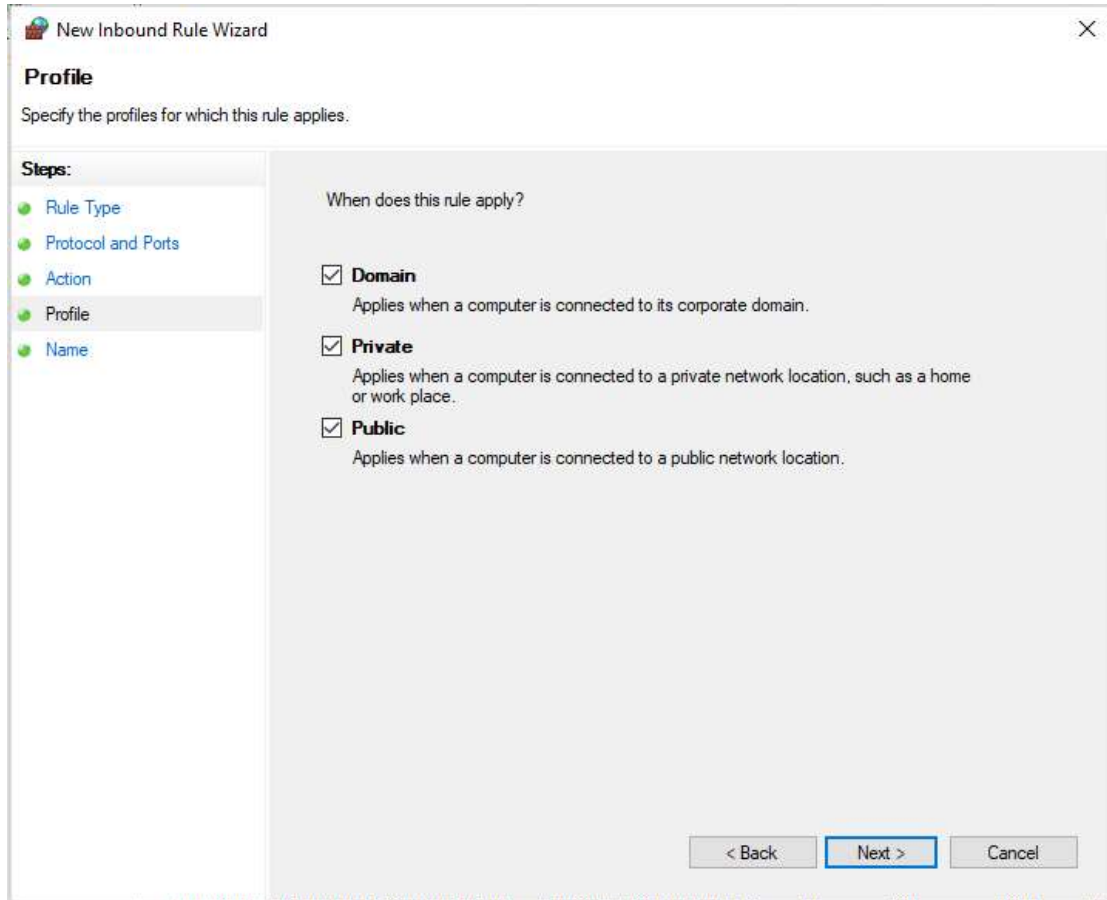
Choose the TCP port and Specific local ports options and enter the port number that was entered in Step 11.



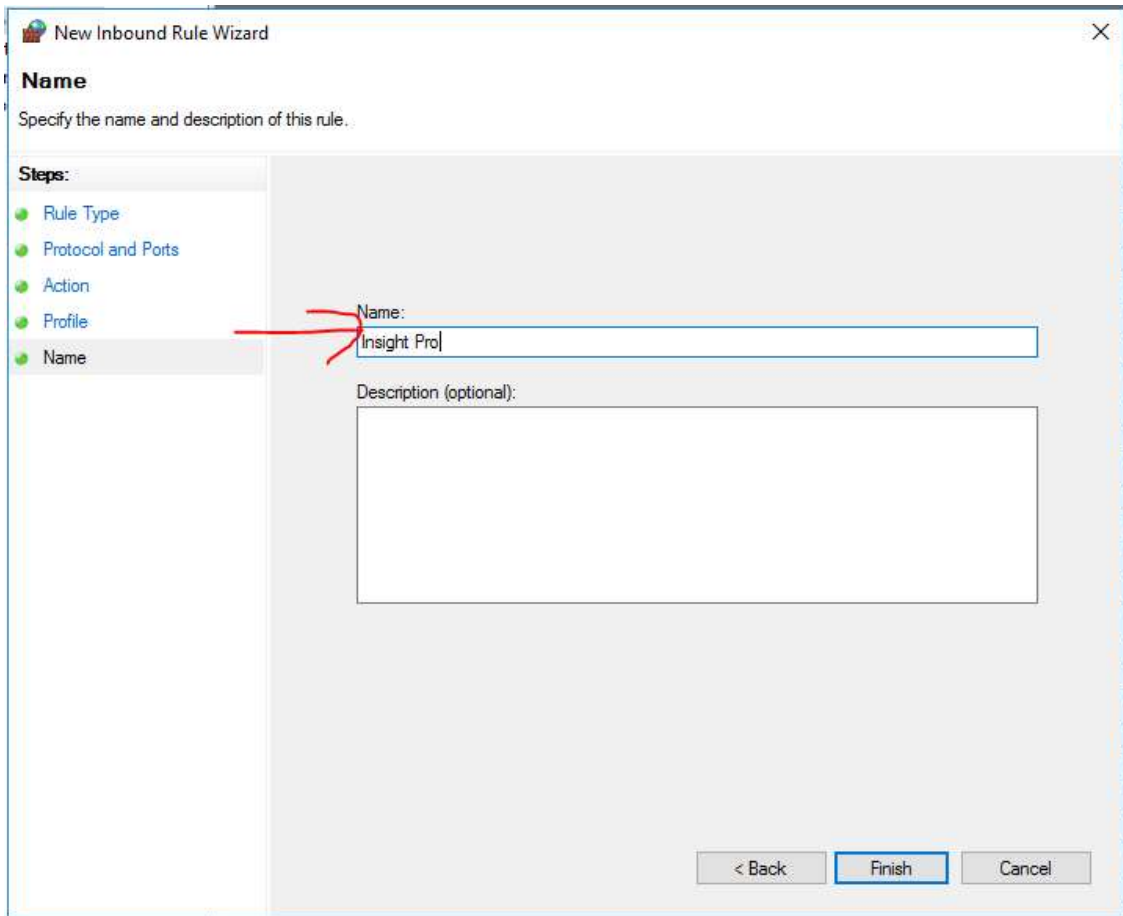
Choose the option to “Allow the Connection”.



Check the appropriate profiles for which this rule should apply. In many cases it may be desirable to uncheck the Public option.



Give the new rule a name. This name will now show up in the list of Inbound Rules.





12. This completes the basic setup of the SQL Server database for use with the Insight Pro software for the data storage.

Based on the example shown in this document, the database configuration dialog box presented during the Insight Pro database configuration would be completed as shown below. Ensure that the Insight Pro software is in Desktop mode. Then click the Configure menu and the Database command from the drop-down menu. This will open the Database Configuration dialog box.

Select "Microsoft SQL Server" from the Database dropdown and choose the correct version of SQL Server being used. The Database Name is the name given to the database in Step 3. The Port is the number that was entered in Step 9 above. The Server address or URL is typically listed in the SQL Server Management Studio program. Finally click the Edit Credentials button and enter the username and password for the account created within the SQL Server (Step 5).

After entering this information click the Test Connection button. If the connection succeeds, there will be no message displayed and when the dialog box is closed with the Ok button, the Insight Pro program will restart. If the connection fails for some reason, an error message will be displayed. Below are some example errors that may occur with a possible reason why. **NOTE:** In Insight Pro versions later than v1.6 , there may be a message stating that the connection succeeded.

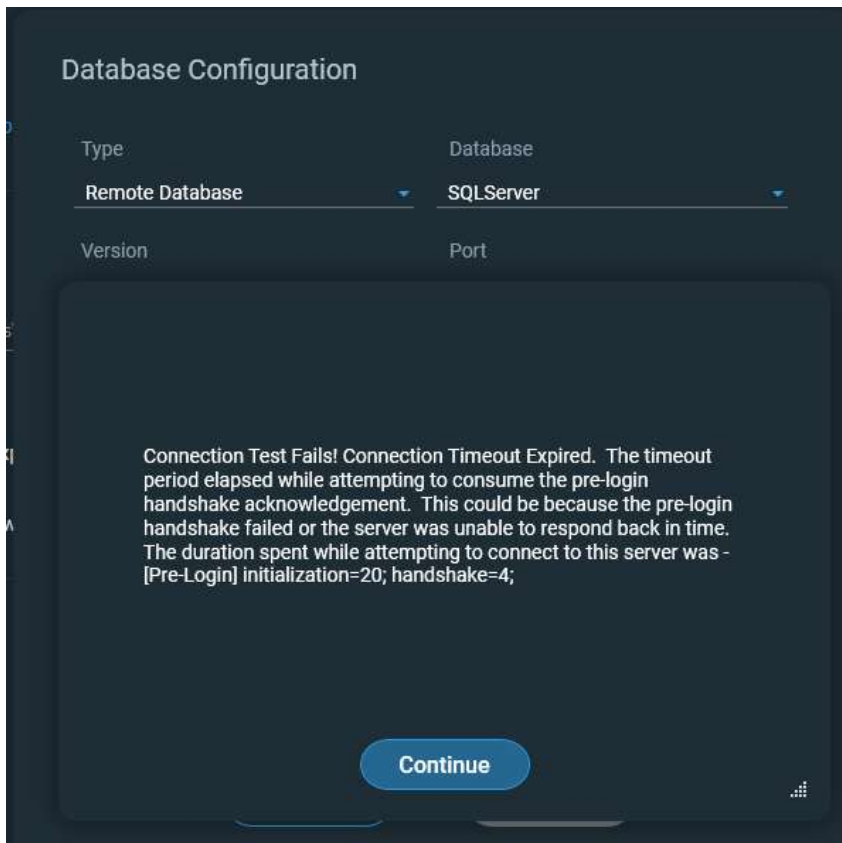
The screenshot shows a dark-themed dialog box titled "Database Configuration". It contains several input fields and buttons:

- Type:** Remote Database (dropdown)
- Database:** SQLServer (dropdown)
- Version:** SQL Server 2019 (dropdown)
- Port:** 1433
- Database Name:** insight pro
- User Name:** InsightDB
- Password:** masked with four dots
- Server Address:** FS03\SQLEXPRESS
- Buttons:** Test Connection, Cancel, Confirm
- Warning:** Choosing a new database needs restart the application manually

### Possible Error Messages after clicking the Test Connection Button.

The SQL Server database could not be contacted. There are several reasons why this may happen.

- The database has not been created
- The port entered is incorrect (see Step 9)
- The Server Address or URL is not correct (verify the correct address with Database Admin).
- The Firewall on the server is not allowing connection (see Step 11)
- The SQL Server settings are not allowing remote connection (see Step 7)



This message occurs when the Server Authentication mode is set incorrectly. See Step 7, Page 8 for proper setting to allow SQL Server Authentication. This error can also be caused by a invalid password.

