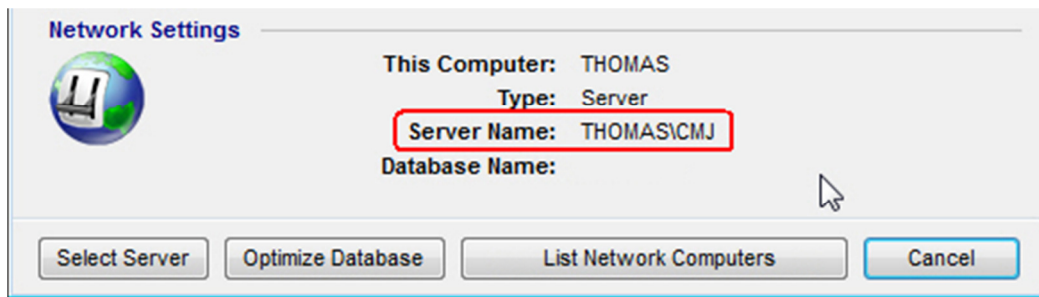


The Definitive Guide to Network Troubleshooting

These instructions will help you connect your client computer(s) when the connection to the server computer is lost. These instructions assume that the software on your server computer is currently installed and functioning properly.

Check Server Connection

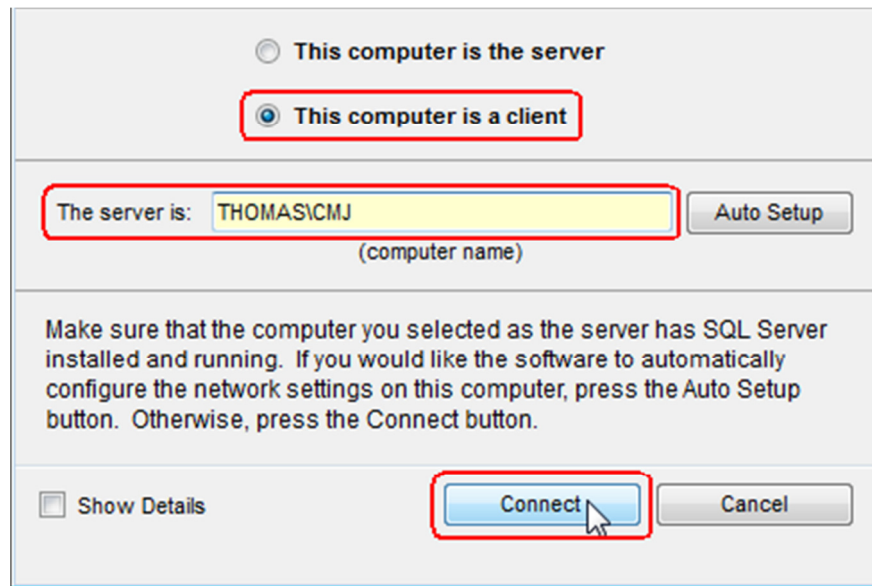
1. Obtain the correct server name by opening the program on a computer that is working (either another client or the server itself). While Inside the program go to the **File** drop-down menu at the top-left, and then select **Database Controls**. This window will display the correct **Server Name** near the bottom. Record this information so that you may use it to configure your client computer(s)¹.



2. Go to the client computer that is not working and try opening the program.
 - If you get a message stating that the **SQL Server** could not be found click on the **Continue without Connecting** button. This should bring you to a screen that says **No Database Open**. Go to the **File** drop-down menu at the top-left and select **Database Controls**. Then click the **Select Server** button at the bottom.
 - If you get a window indicating that the program is attempting to establish a connection with the database that stays on your screen for more than a few moments, click the **Cancel** button once it becomes available. This will bring you to the **Select Server** screen.
 - If the program opens but appears to be using a different database than the server computer, go to the **File** drop-down menu at the top-left and select **Database Controls**. Then click on the **Select Server** button at the bottom.

1: You will encounter problems if your client computer(s) and your server computer share the same computer name(s), i.e. DESKTOP-WORK and DESKTOP-WORK. If this is the case, one or more of the computer names will have to be changed through your computer's properties before a connection between the client and server computers can be established.

- On this screen, select the **This computer is a client** option. Type in the name of the server computer you found from **Step 1** in the text box labeled **The server is**. Click the **Connect** button (or **OK** if you have a version of the software prior to version 7).



At this point if everything is configured correctly, you will be asked to enter in your database password if you originally entered one. If not the client computer will be reconnected with the server computer and your database will be opened. If you instead receive an error message saying **SQL Server was not found or is not functioning properly**, then this would most likely be caused by one of two reasons:

- There is a firewall enabled on the server computer that is blocking the client computer from connecting.
- Your business's network is not functioning properly.

You can click **OK** on this message, but do not close out of the Select Server screen for now.

Firewall Troubleshooting

Go to the server computer and verify that all firewalls are turned off. This includes, but is not limited to, the **Windows Firewall** that comes installed on Windows XP, Windows Vista, and Windows 7 computers. You should also check to see if there is a firewall built into your antivirus software on the server computer, such as *Norton AntiVirus* or *McAfee AntiVirus*. Disable the firewall in these programs also. Since there are many different antivirus programs, we cannot provide these instructions. However, to disable the **Windows Firewall**, perform the following steps:

1. On your server computer go to the **Windows Start** button (bottom, left corner of your Desktop) and click on **Control Panel**.
2. Open **Security Center**.
3. Open **Windows Firewall**.
4. If you're running Windows Vista or Windows 7, click on **Turn Windows Firewall on or off**.
5. Toggle the **Windows Firewall** to be off.

With the Firewall turned off², try connecting again from the client computer by clicking the **Connect** button from the **Select Server** screen. If it is still unsuccessful, or if **Windows Firewall** was already turned off, browse through the programs on the server computer to see if there exists another firewall installed on your computer from an antivirus program.

Network Troubleshooting

Aside from a firewall issue, the other most likely reason that the client cannot connect to the server is that the client cannot see the server computer over the network. The most common symptom of this is that the client or the server computer no longer has access to the Internet. However, if the Internet is working on both computers then there may be another problem with the network configuration that prevents the two computers from communicating directly. To be certain that there is a network configuration problem, perform the following steps:

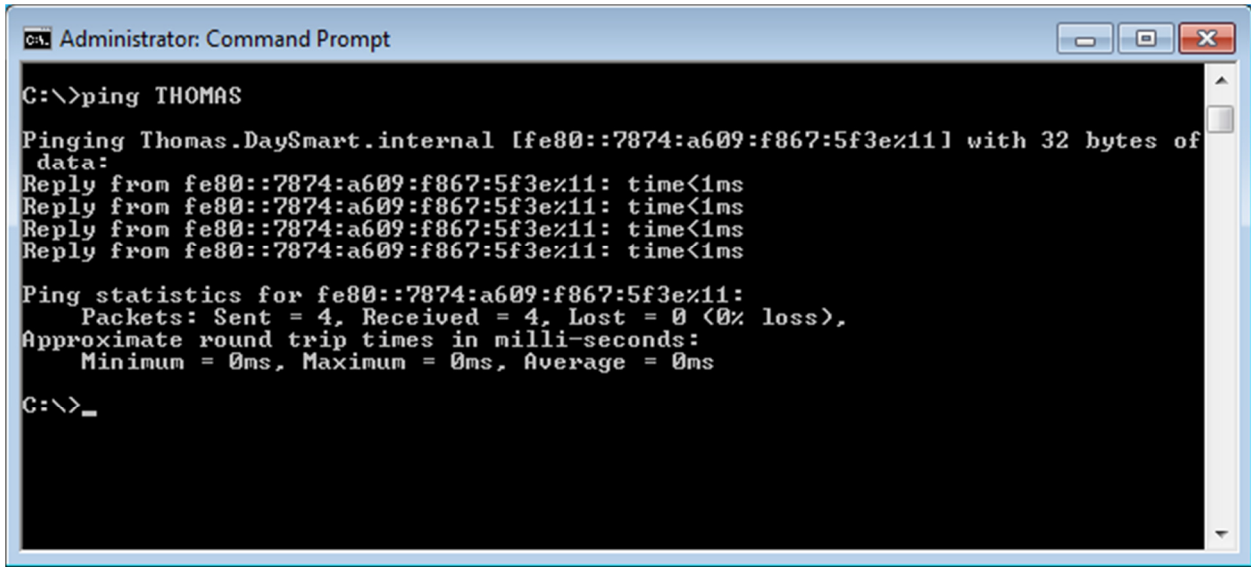
1. From the client computer you can ping the server computer. A ping test will let you know if one computer can contact another computer through a network.
2. On your client computer, go to **Windows Start > All Programs > Accessories > Command Prompt**.
3. Type in **ping [server computer's name]**, where **[server computer's name]** is replaced by the server's actual name. The server name is the name from **Step 1 on Page 1** of this document.

2: If you don't want disable a firewall entirely for safety purposes, then you can set up firewall exceptions for **Microsoft SQL Server** instead of turning the firewall completely off by following the instructions in our document **Using Windows Firewall in Network Environment** located at: <http://www.DaySmart.com/Downloads/winfirewall.pdf>

However, because it is generally a lot faster you should consider turning the firewall entirely off first just to verify that this is the actual problem. If you disable the firewall and find your client can connect, then you can always go back to the server and enable the firewall again to set up the firewall exceptions.

For example, if you found the server name from **Step 1** on **Page 1** to be THOMAS\CMJ, then the server computer's name is THOMAS. In this case you would type **ping THOMAS**, and then hit the **Enter** key on your keyboard.

A successful ping will give you a response similar to this:



```
Administrator: Command Prompt

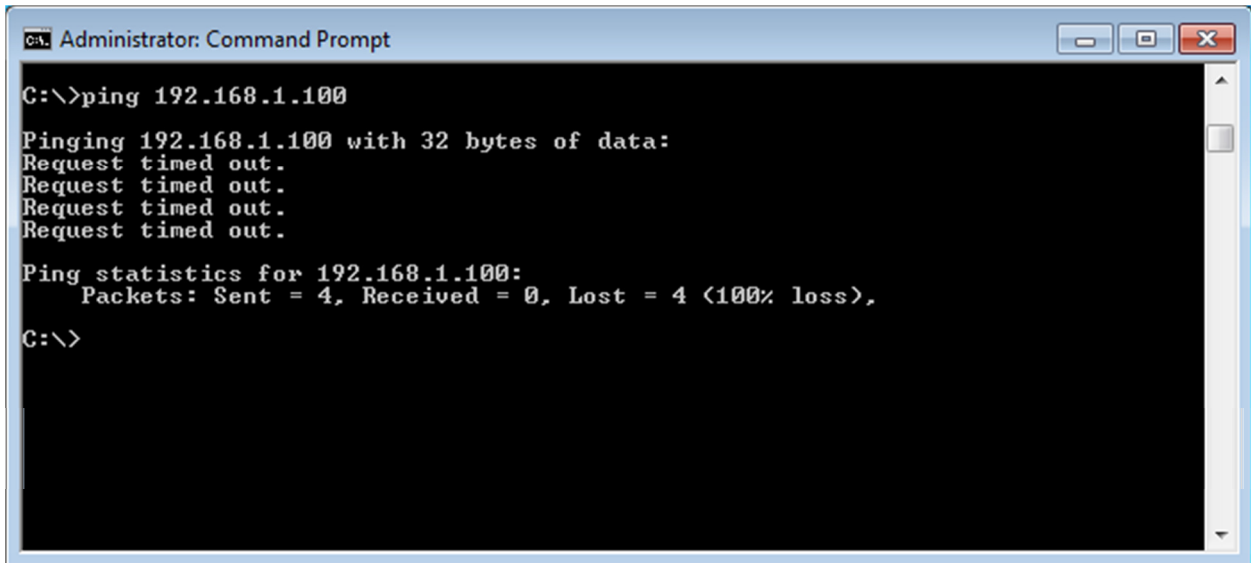
C:\>ping THOMAS

Pinging Thomas.DaySmart.internal [fe80::7874:a609:f867:5f3e%11] with 32 bytes of data:
Reply from fe80::7874:a609:f867:5f3e%11: time<1ms
Reply from fe80::7874:a609:f867:5f3e%11: time<1ms
Reply from fe80::7874:a609:f867:5f3e%11: time<1ms
Reply from fe80::7874:a609:f867:5f3e%11: time<1ms

Ping statistics for fe80::7874:a609:f867:5f3e%11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>_
```

An unsuccessful ping will give you a response similar to this:



```
Administrator: Command Prompt

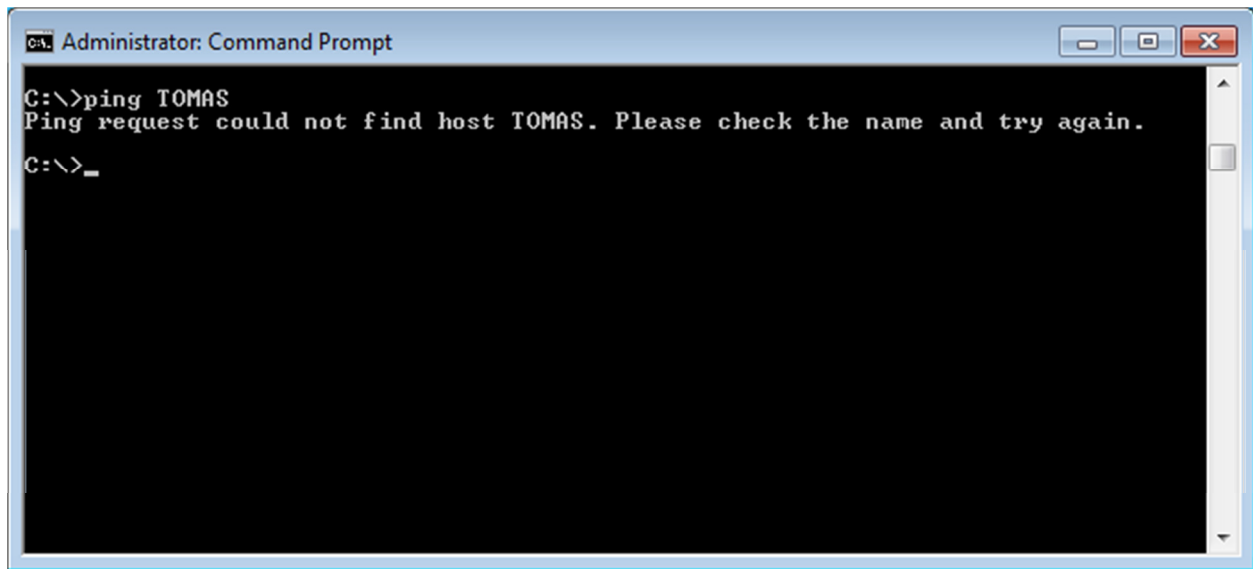
C:\>ping 192.168.1.100

Pinging 192.168.1.100 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.100:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Or this...

A screenshot of a Windows Administrator Command Prompt window. The title bar reads "Administrator: Command Prompt". The command prompt shows the user entering "ping TOMAS" at the C:\> prompt. The output is "Ping request could not find host TOMAS. Please check the name and try again." followed by a new prompt "C:\>_".

```
Administrator: Command Prompt
C:\>ping TOMAS
Ping request could not find host TOMAS. Please check the name and try again.
C:\>_
```

If you were able to successfully ping the server computer from the client, then it is most likely not a network issue. You may want to go back into looking through your system for a firewall, or continue on to the next section, **Other Suspects**.

If you were not able to ping the server, then you are experiencing a network problem. Below are a few basic troubleshooting measures to try out if you cannot ping the server:

1. Restart both the client and server computers.
2. Verify that both the server computer and the client computer are connected to the network router. You should verify that all cables are connected snugly on the back of the computer(s) and the router.
3. If one (or both) of the computers is connected to the router wirelessly, be sure that the computer has a strong signal.
4. Reset your router (using a reset button or by unplugging it for a few minutes and plugging it back in) and reconnect the computers in the network.

If you performed the above steps and still cannot connect to the server computer from your client computer, and you are certain that both computers are connected to the router, i.e. they both have Internet access, then you can try to configure the settings in the software to connect using the server computer's IP address³ instead of the server name.

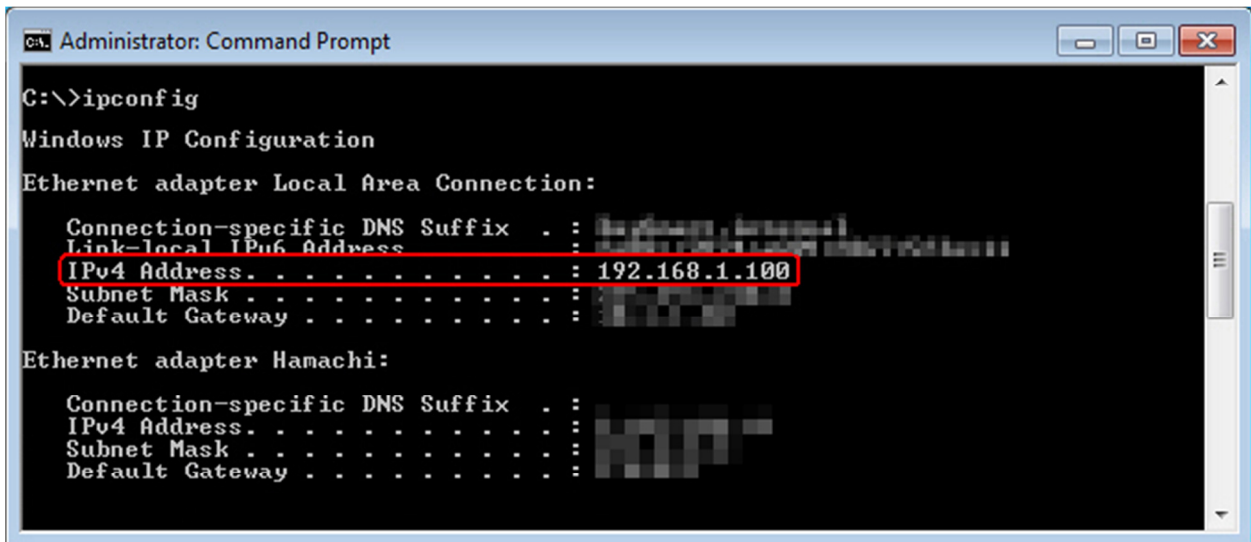
3: Connecting to your server computer using the IP address is NOT recommended if your computer is assigned an IP address dynamically.

Connecting Your Server Using an IP Address

When a computer is assigned an IP address dynamically, the computer is assigned a new IP address each time it connects to a network. In other words, your client computer(s) will lose connection to the server computer again every time they connect to the network. If you are not sure if your IP address is assigned dynamically or statically, do not use this method, as a dynamic IP address is the most common method for assigning an IP address on a PC computer, especially if you are using a wireless router or your network was set up automatically.

Perform the following steps if your server has a static IP address, or if you would like to connect to the server by the IP address as a temporary solution:

1. Go to the server computer and bring up the command prompt by going to **Windows Start > All Programs > Accessories > Command Prompt**. In the **Command Prompt** type **ipconfig**. You will see some information about your computer's network.



```
Administrator: Command Prompt
C:\>ipconfig
Windows IP Configuration

Ethernet adapter Local Area Connection:

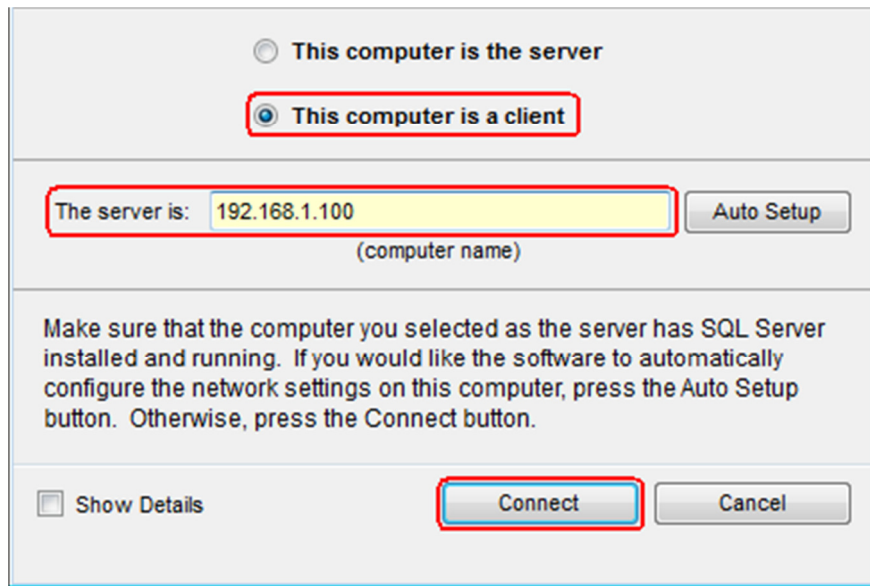
    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : 
    IPv4 Address. . . . . : 192.168.1.100
    Subnet Mask . . . . . : 
    Default Gateway . . . . . : 

Ethernet adapter Hamachi:

    Connection-specific DNS Suffix  . : 
    IPv4 Address. . . . . : 
    Subnet Mask . . . . . : 
    Default Gateway . . . . . :
```

Note: If you have Windows XP then look for the number labeled IP Address. In Windows Vista and Windows 7 this number is renamed to IPv4 Address (there is a lot more information shown that can be ignored).

2. Go back to the client computer and then go to the **Select Server** screen.
3. Replace the server name with the **IP Address** you obtained in **Step 1** on this page. Click the **Connect** button (or **OK** depending on the version you are running).



If this is unsuccessful, try to ping the IP address from the client the same way you pinged the server name.

- If it cannot ping the IP address, then your two computers are most likely not on the same network. Check all connections and verify that both are connected to the same router, or contact your business's network administrator to have them set the network up properly.
- If the client can ping the server's IP address but still not connect through the **Select Server** screen, check for firewalls on the client computer and try to establish a connection.

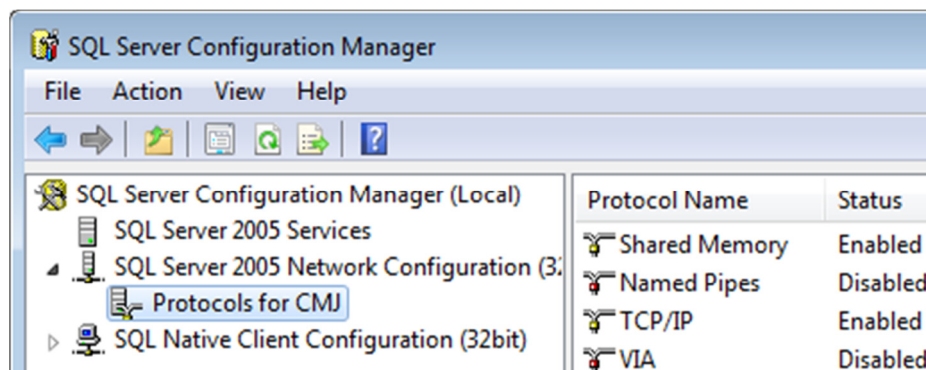
Again, connecting by the IP address should only be viewed as a *temporary* solution unless your server has a static IP address. If you can connect by the IP address but not the computer's name, this is a DNS issue within Windows. If this is the case you can either configure your server to have a static IP address or set up a new Local Area Network (LAN) in your Windows operating system. The steps to do either of these should be provided by the documentation that came with your router.

Other Suspects

Roughly 99% of all client connectivity issues result from server-side firewalls or network problems. You should not attempt any of the below until you have exhausted all of the possibilities described above, including contacting your network administrator if you have one available.

If there are no server-side firewalls and you are able to ping the server computer using the server's name or IP address, then here are a few other potential problems that could cause a client computer to be unable to connect to the server computer.

1. **Client-side outbound firewalls:** Certain antivirus packages have built-in outbound firewalls. The **Windows Firewall** discussed earlier is exclusively an **inbound** firewall, so this does not need to be disabled on the clients. If your antivirus software does have an outbound firewall, you can disable it entirely or set up the firewall exceptions the same way you would for an inbound firewall.
2. **SQL Server Browser is disabled:** SQL Server Browser is a component of **SQL Server 2005 Express** that is installed on your server computer. To check if it is disabled on your server computer go to **Windows Start > All Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager**. Click on **SQL Server 2005 Services**. In this screen you will see **SQL Server Browser**. Make sure that its state is **Running** and its start mode is **Automatic**.
3. **TCP/IP is disabled for the SQL Server instance:** To check if it is disabled on your server computer go to **Windows Start > All Programs > Microsoft SQL Server 2005 > Configuration Tools > SQL Server Configuration Manager**. Expand **SQL Server 2005 Network Configuration** and select the **Protocol for [instance name]**, i.e. CMJ. Make sure **TCP/IP** says **Enabled**. If it does not, right-click on it and select **Start**. Then go back to **SQL Server 2005 Services** and right-click on the **SQL instance** and select **Restart**.



4. **Miscellaneous SQL Server 2005 problems:** Certain errors with SQL Server 2005 will cause clients to be unable to connect. If this is the case, all client computers will be unable to connect. As a last resort and if you are absolutely sure that you have a backup of your database, then you can uninstall and reinstall SQL Server 2005 on your server computer. If you do this you will need to restore your backup onto the server computer once the new SQL installation is complete to retrieve all of your data.
5. **SQL Server Browser cannot start:** Very rarely SQL Server Browser cannot start after reinstalling, or a computer cannot accept inbound connections. If this happens you can make a different computer in your network the server computer and reconfigure each of your clients and your previous server to connect to the new server. For instructions see: <http://www.cmjdownloads.com/Docs/DocumentLibrary/SwitchingAClientAndServer.pdf>.