

ICS Installation [Win98SE]

If you don't have your computers connected together into a network, you'd better **start** at cable modem/DSL/broadband connection or **at** dialup connection. Come back here when you get to the **Choose Sharing Method** page by choosing the *Use ICS* option.

Before you can install ICS, **you first need to install Win98 SE**, because ICS is part of the operating system.



NOTE! You need to install Win SE *only on the computer that you want to install ICS on*. The other computers on your network **do not** need to be upgraded to Win98 SE, and can run on any operating system, as long as it supports the TCP/IP protocol.

WARNING #1! If you already have another sharing application like Sygate or Wingate installed, **UNINSTALL IT** before installing ICS. Some sharing programs (ICS included) take control of one or more of your Network adapters and/or Protocols. The last thing you need is a fight among these programs for control of your Network!

WARNING #2! If any of your client computers are set to "*Obtain an IP address automatically*" (from a DHCP server), **SHUT DOWN** those computers before you install ICS.

The reason for this is to make sure that the IP information assigned by the old DHCP server doesn't interfere with the information assigned by the ICS DHCP server.

If you do get conflicts, you'll probably get a popup message on the two machines that are conflicting. Reboot **BOTH** machines that are conflicting and you should be all set.

WARNING #2a! Some users report better results by setting all NICs (including the second NIC in the computer that you are installing ICS on) to "*Obtain an IP address automatically*". My install worked with a manually assigned IP address in the second NIC, but setting all NICs to "*Obtain an IP address automatically*" gives ICS maximum flexibility in setting itself up.

WARNING #3! If you're going to share a broadband connection with ICS, you'll need two Network Adapters in the computer that you install ICS on. (The ICS installer will check for the proper network configuration and won't let the install proceed if it's incorrect.)



Tip: With the many alternatives in Network adapters and broadband "modems" today, the "two Network Adapters" requirement can be a little confusing. See [this page](#) for help!



Tip: If your computer has USB ports, you can use a USB to Ethernet adapter to easily add a second NIC. Check [this page](#) for more information.

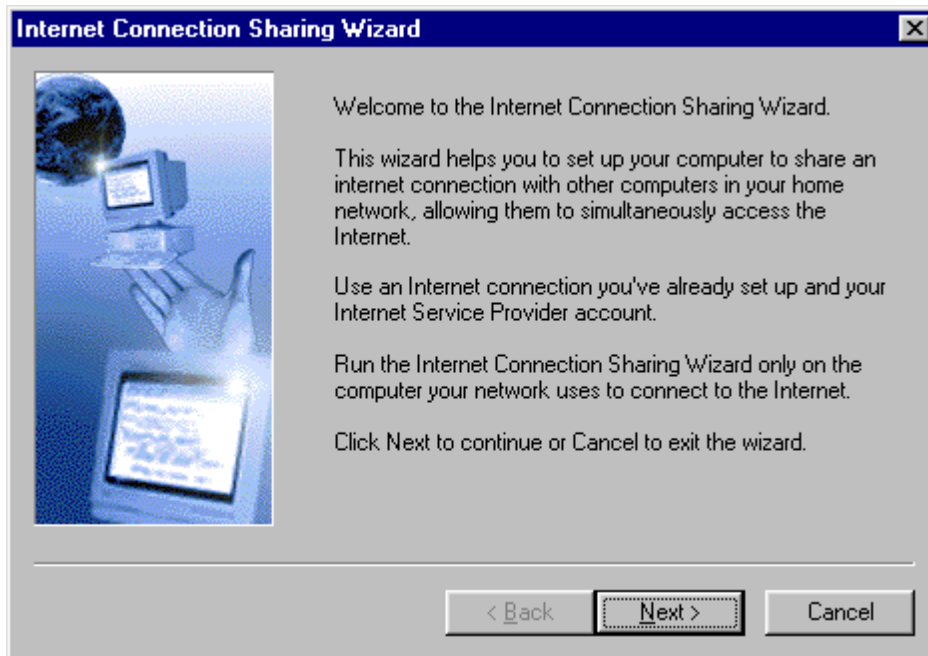
WARNING #4! Install ICS only on the computer that is connected directly to the Internet. This will be the computer that is connected to your cable, DSL or dialup modem.

Let's get started with your ICS installation!

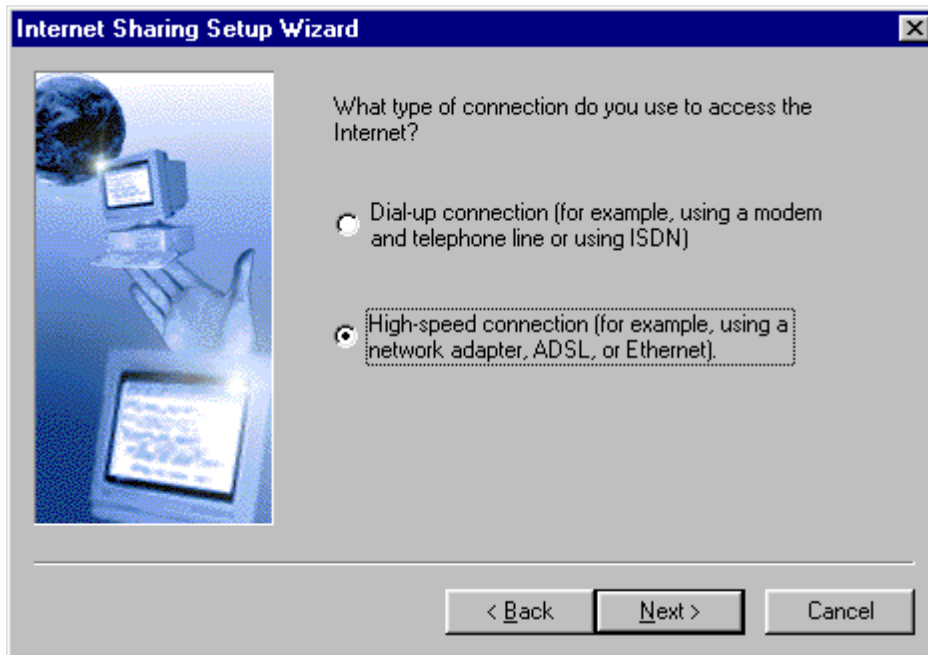
Follow the steps below to install ICS.

- After you install WIN98SE, go to **Start > Settings > Control Panels > Add/Remove Programs**.
- Click on the **Windows Setup** tab, let Windows find the installed components.
- Double click on the **Internet Tools** icon, check the **Internet Connection Sharing** box and click **OK** to close the **Internet Tools** window and **OK** to close the **Add/Remove Programs** window.

ICS will install and then launch its setup wizard.

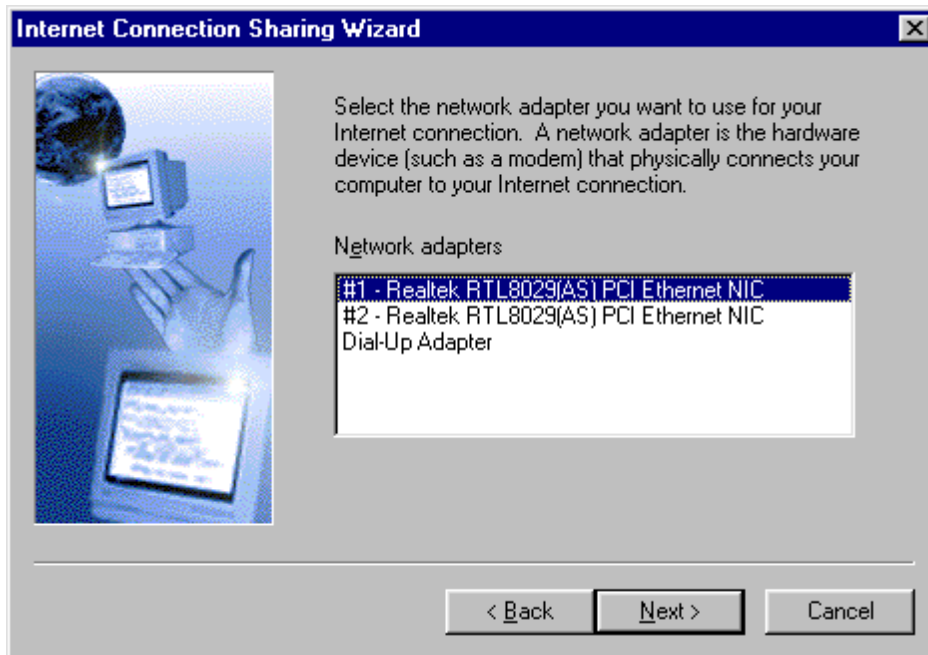


Make sure you select the correct choice for your setup. In this example, I'm setting up for a cable modem connection



This window asks you to select a Network adapter. **Be sure you choose the Network adapter (NIC) that provides your Internet connection.** If you don't choose the correct NIC, ICS won't install correctly and you'll probably have to remove and reinstall it and try again. (In my case, things got so confused that I had to reinstall WIN98SE to get things straightened out!)

You can also see the benefit to having two **different** NICs. In the example below, you see that the Wizard nicely numbers the NICs #1 and #2, but there's no clue as to which is connected to the cable modem and which is connected to your LAN. You have to guess, and if you guess wrong, you get to go through the whole process over again!



In my opinion, you can skip this next step. Just make sure your browser is set to connect directly to the Internet or via a LAN.



The next window will just finish the installation. Click **Finish** and let the system reboot.

If you've done everything right, upon reboot, ICS should be installed and running. [Let's go see what ICS looks like when it's installed.](#)

ICS Server Check [Win98SE]

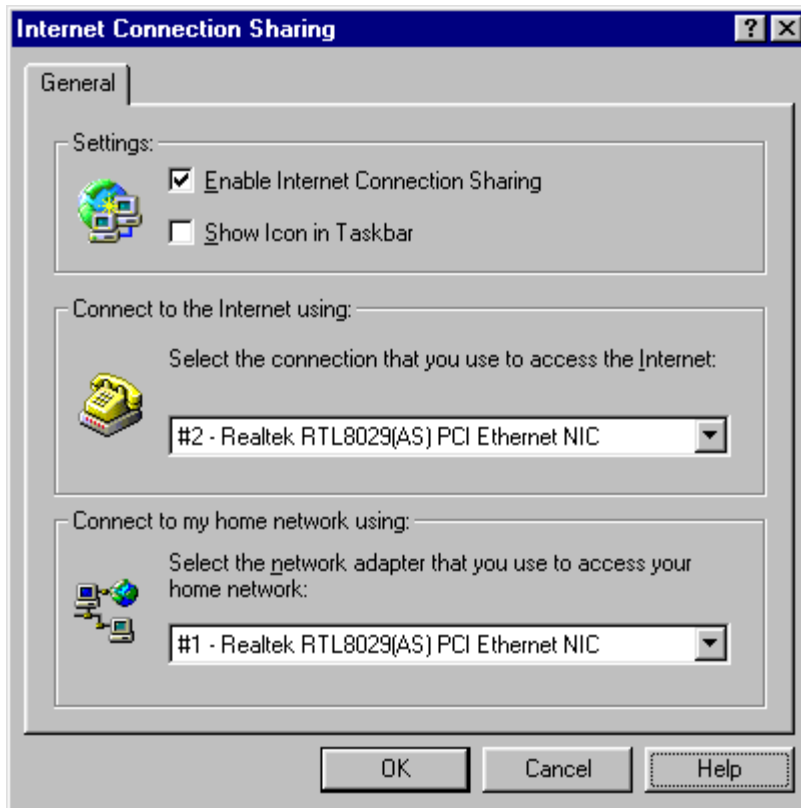
If you've done everything correctly, ICS should be ready to go. Unfortunately, it doesn't really announce itself or give you much information on how to work with it.

Where is this thing?

You access ICS' controls via the Internet Control panel. When ICS is installed, you'll see the addition of a new **Sharing** button on this Control Panel as shown below



Clicking on the **Sharing** button brings up the ICS Control Panel. As you can see below, there's not a lot you can do. No control of logging, no ability to open special ports, no control over Client network access (other than to shut off ICS), no control over ICS' DHCP server. (I suggest checking the "Show Icon in Taskbar" box so that you'll be reminded that ICS is running and be able to easily access its Control Panel.)



HELP!

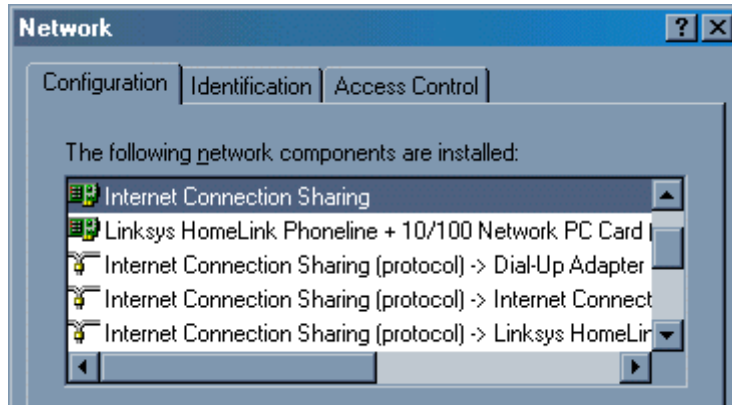
Note the **HELP** button in the above screenshot. Clicking on it will bring up ICS help. You may find some useful information there, but I thought that most of it wasn't much help. The Client machine setup information wasn't much help and was confusing because it referred to the LINKLOCAL 169.254.X.X addresses, when ICS uses the 192.168.0.X series of address for the LAN.

Fortunately, Microsoft has a few helpful articles in its Knowledge Base that can help you figure out whether ICS has installed correctly. In particular, [Q236465 - Description of How ICS Appears in Network Properties](#) tells you what your Network Control Panel should look like after you install ICS. For links to other MS Knowledge Base articles, check the [ICS Troubleshooting page](#). **SOHOinter.net** also has a [ICS debugging page](#) that tells you how to check ICS' install logs.

Is this thing on?

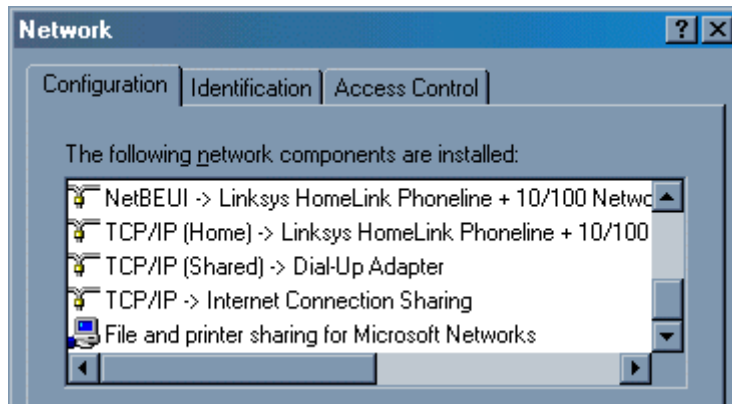
I know you're excited to get started sharing, so go ahead and try your browser on your sharing Client computers. If, however, things don't work, you may want to see if ICS installed properly. Check for the following things **on the computer where you installed ICS**.

1. If you check out the Network Control Panel, you'll see some new additions:
 - o a new Internet Connection Sharing adapter
 - o copies of a new Internet Connection Sharing protocol installed and bound to each of your Network adapters



ICS protocols Added

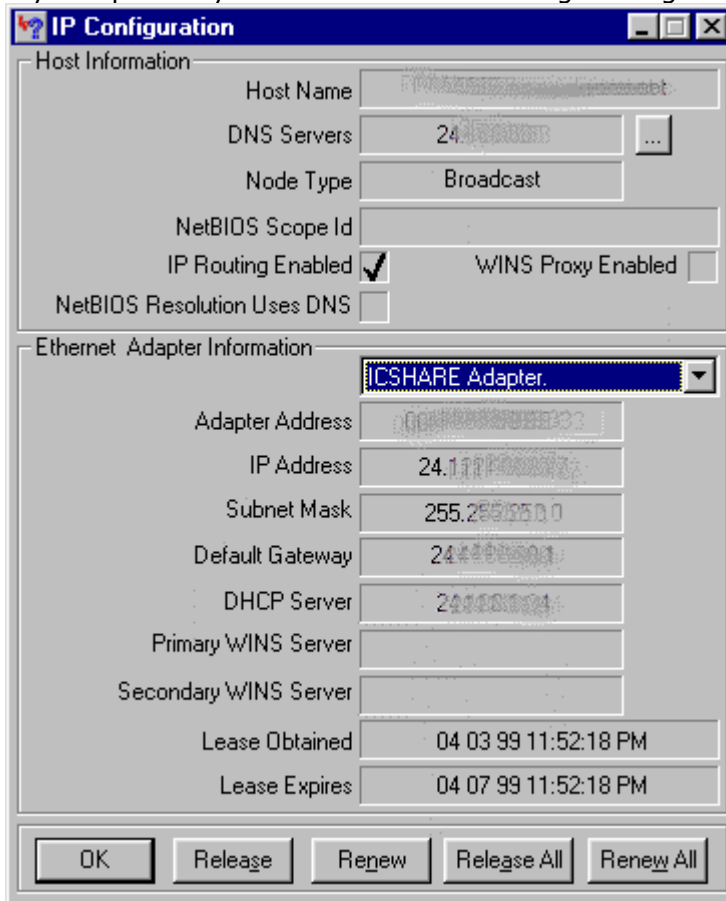
- a copy of TCP/IP installed and bound to the new Internet Connection Sharing adapter
- the copy of TCP/IP that is bound to the adapter that you selected to Connect to the Internet in the ICS setup wizard will be marked with (Shared).
- the copy of TCP/IP that is bound to the adapter that you selected to Connect to your home network in the ICS setup wizard will be marked with (Home).



TCP/IP modifications by ICS

2. Run **winipcfg** and you should find an **ICSHARE** adapter replacing your cable modem NIC as shown below. You should see the information assigned by your ISP's DHCP server. If you don't, ICS isn't set up properly. You can try clicking the Release then the Renew button to see if you can get a DHCP

lease, but you'll probably have to reinstall ICS to get things



working.

3. Finally, bring up the Network Control Panel and check the Properties for the copy of TCP/IP that is bound to your LAN NIC. It should be assigned an IP of **192.168.0.1** or **192.168.0.2**, with subnet mask **255.255.255.0**

If your network settings don't look like what is described above, **try uninstalling and reinstalling ICS. Make sure you uninstall ICS via the Add/Remove Control Panel and not just by deleting the ICS adapters in the Network Control panel.** If ICS still doesn't work, you can try [this procedure](#) if you're comfortable editing the Registry, or you can try reinstalling Win98SE, then reinstalling ICS.

If after checking all this, you still can't access the Internet from your other computers, you probably will need to check the TCP/IP and Internet application settings for your Client computers.

ICS Client Setup [Win98SE/Me]

[ICS Intro](#)
[ICS Client](#)
[Manual TCP/IP](#)
[setup](#)
[Auto TCP/IP](#)



NOTE: This information is for configuring **Win95/98/Me** as an ICS client. If you are configuring a **Windows 2000** client, go to [this page](#).

- [setup](#)
- [ICS Troubleshoot](#)
- [ICS Configuration](#)
- [ICS Configuration Maps](#)
- [Special Applications](#)

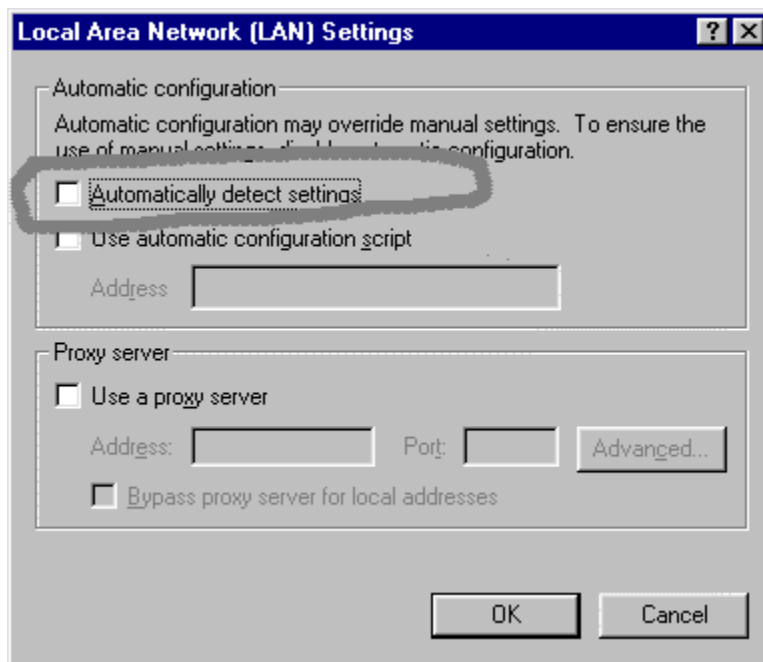
You need to do two things to check your ICS Client computers:

1. Check the application settings to be sure that you are not trying to use a Proxy.
2. Check your Client's TCP/IP settings.

Application Settings

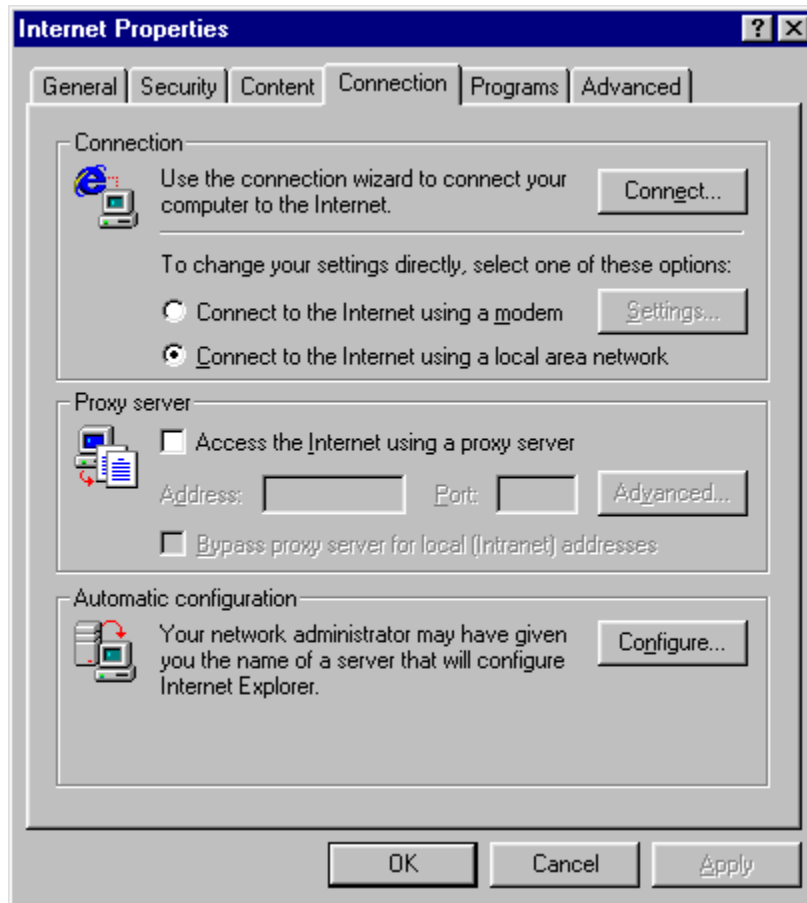
If you've been using Wingate or other **Proxy**-based server, your browser, email and other applications may be set to work via a proxy. Go to the Preferences settings of **each** application and make sure you change them to "Direct connection to the Internet" or to use a LAN. Note that this is the setting to use, even if the ICS computer is connecting using a DialUp connection.


Also, open the Internet Control Panel and click on the **Connection** tab. After ICS is installed, you'll have **LAN Settings** and **Sharing** buttons near the bottom of the window. Click on the **LAN Settings** and you'll see the window below

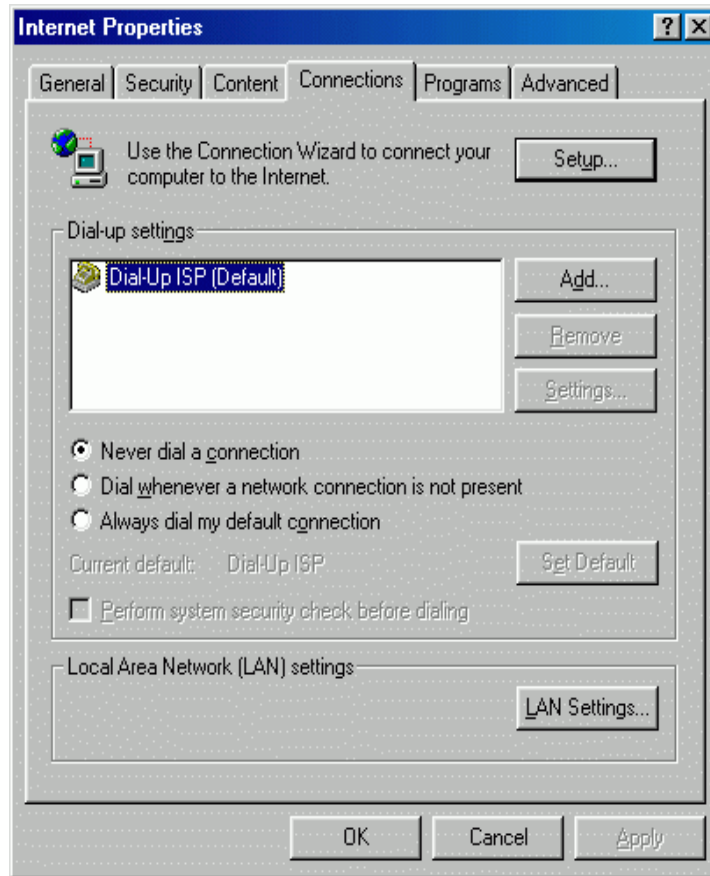


Make sure the "**Automatically detect settings**" is **not checked** as shown above.

While you're in the Internet Control Panel, make sure your Client is set to **connect via a Local area network**. This is the setting to use no matter how you connect to the Internet. This makes sure your Client uses the LAN to get to the ICS Server, instead of trying to dial up the Internet itself.



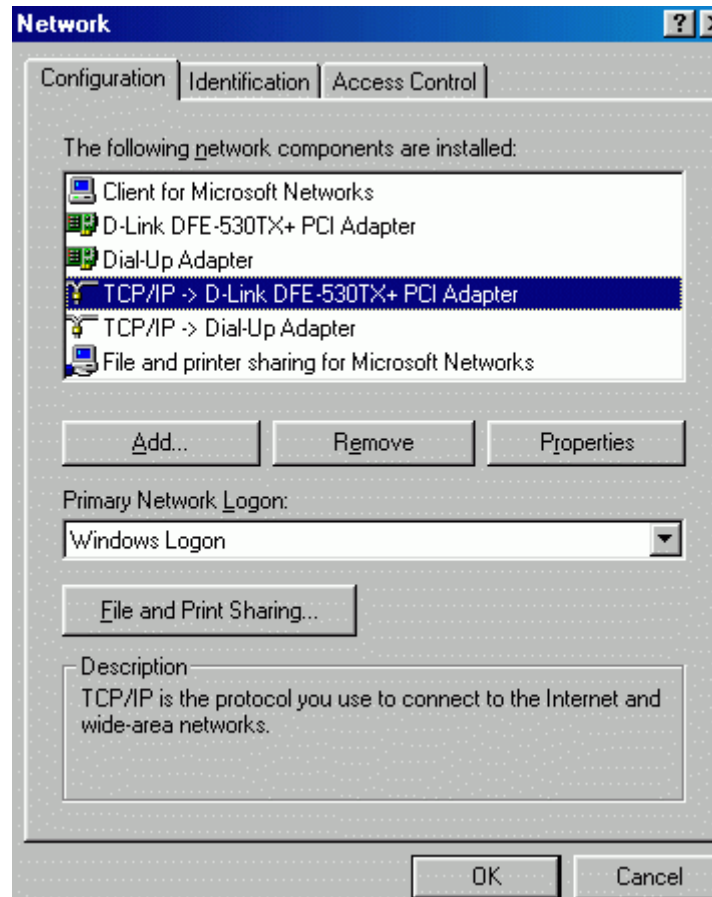
 If you have either Win98SE or Internet Explorer 5.X, your Internet Properties box may look more like this:



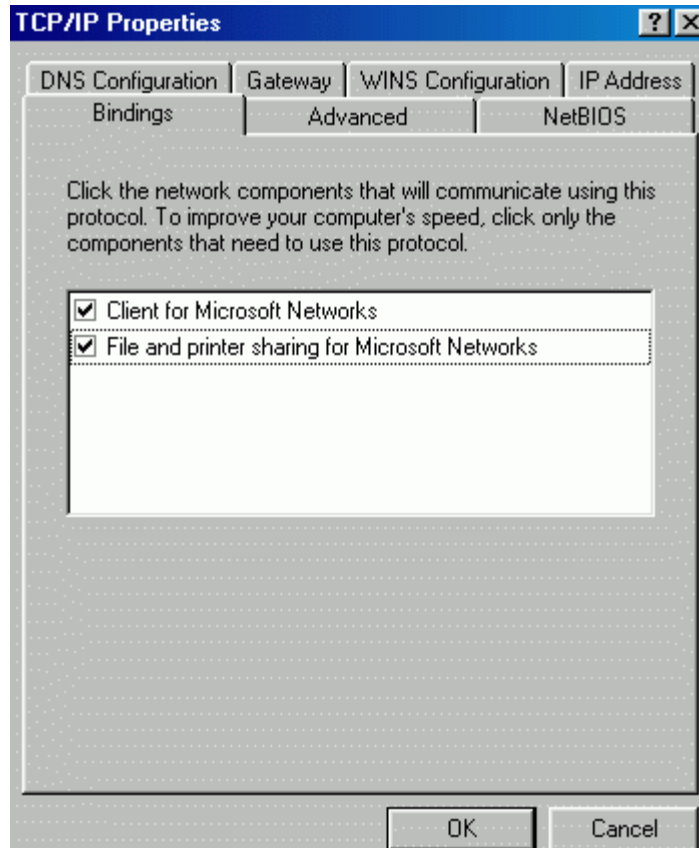
Select **Never dial a connection**. If you don't have any Dial-Up Networking connections on the client computer, the selections are grayed out and **Never dial a connection** is selected automatically.

Setting up TCP/IP

Open the **Network Control Panel** by right clicking **Network Neighborhood** (Win95/98) or **My Network Places** (WinMe) on the Desktop. Select the TCP/IP protocol binding to your LAN NIC and click **Properties**.




Click the **Bindings** tab. If you want to use TCP/IP for File and Printer Sharing, check **Client for Microsoft Networks** and **File and Printer Sharing for Microsoft Networks**. If you use an other protocol (NetBEUI, IPX/SPX) for File and Printer Sharing, un-check both of them.




Now decide whether to have the client receive its TCP/IP settings automatically from the ICS Server or to make the settings manually. Follow the steps in the appropriate section below.

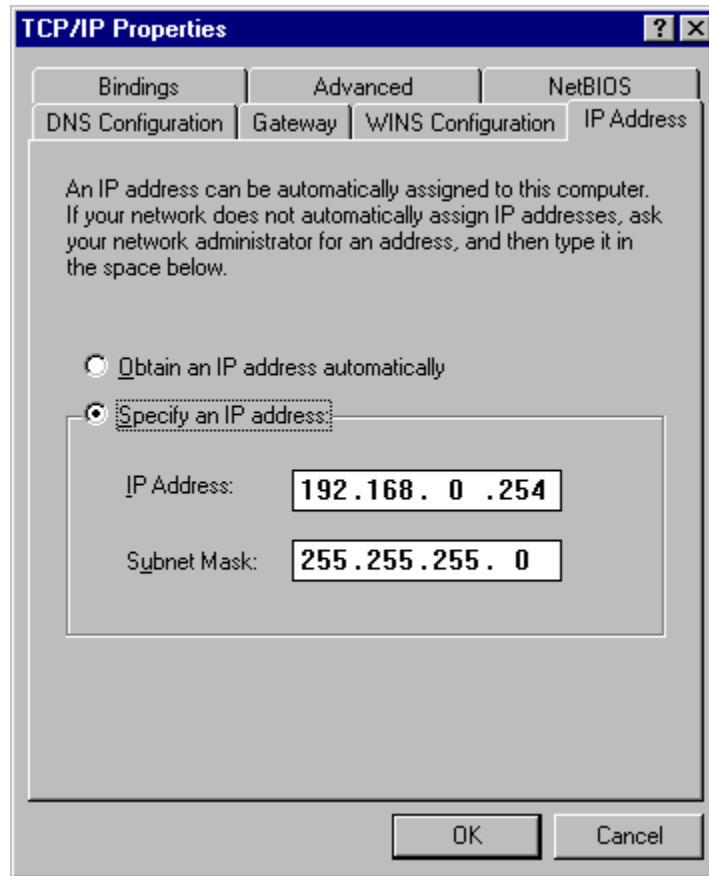
ICS Client Setup - TCP/IP Manual [Win98SE/Me]

If you'd rather set your TCP/IP properties manually, do the following:

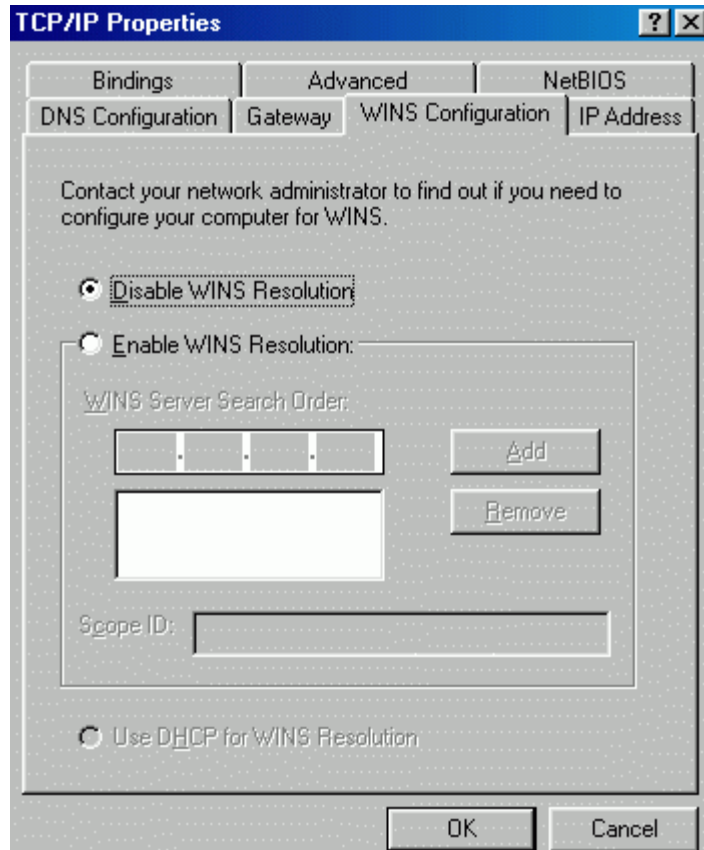
 **NOTE:** These settings assume that the **IP address of the LAN NIC in the ICS server is 192.168.0.1**. A Win2000 ICS server always uses that address, but you can specify a different one on a Win98SE or WinMe ICS server. If the IP address of the ICS Server's LAN NIC is not **192.168.0.1**, then either change it to **192.168.0.1** or **substitute the IP address that it is set to, wherever you see 192.168.0.1 in the steps below**.

 **NOTE:** You **can** have a mix of automatically and manually assigned client machines on your network. Because ICS' DHCP server assigns addresses sequentially starting at **192.168.0.2** and works **up**, assign your manual addresses starting at **192.168.0.254** and work **down**.

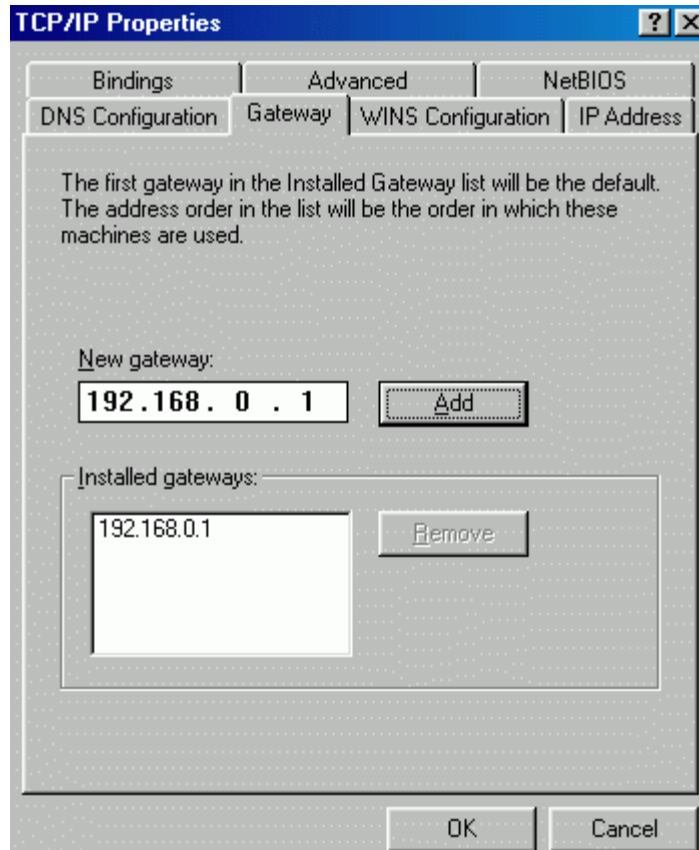
Set the client's IP address to a unique (not the same as any other machine's address) address from **192.168.0.2** to **192.168.0.254**.



Click the **WINS Configuration** tab and configure it to **Disable WINS Resolution**.

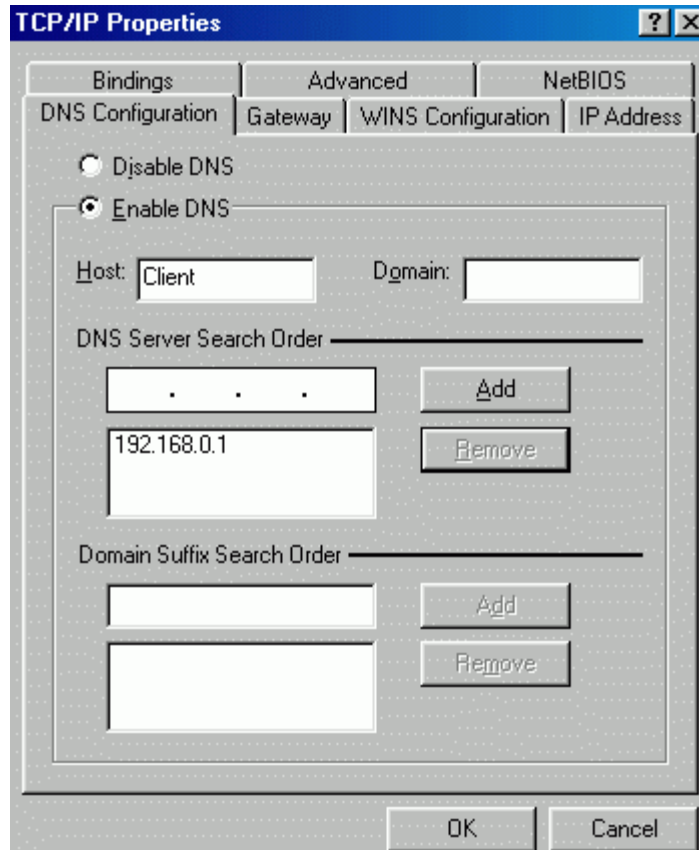


Click the **Gateway** tab and **set the default gateway to 192.168.0.1**.



Click the **DNS Configuration** tab and make these settings:

- **Enable DNS**
- **Host: Enter a unique name** (usually the same as the computer name entered in the client's Network Control Panel Identification tab).
- **Domain: leave blank**
- **DNS Server Search Order: 192.168.0.1**



After configuring TCP/IP, **reboot** your computer. When it comes back up, it should be ready to access the shared Internet connection.

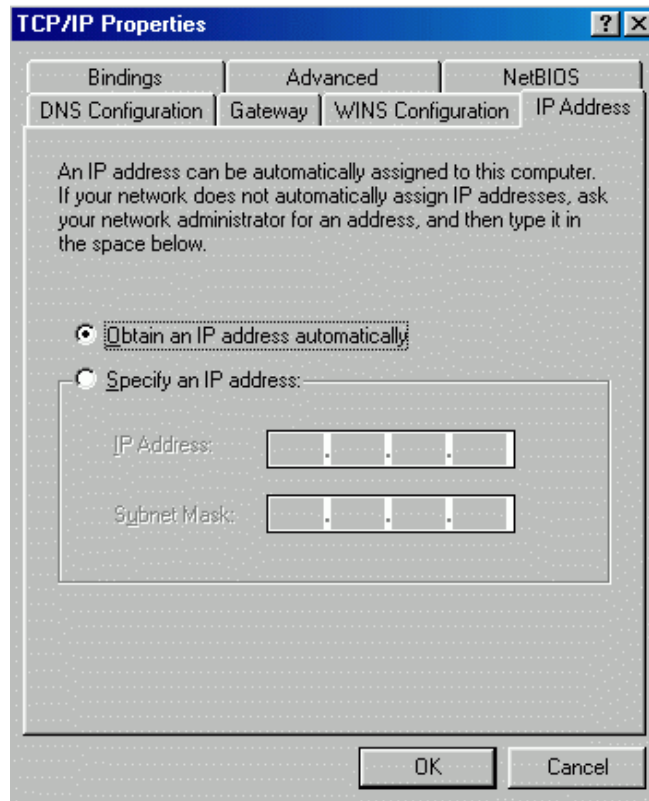
That's all there is to it! Enjoy your shared connection!

ICS Client Setup - TCP/IP Automatic [Win98SE/Me]

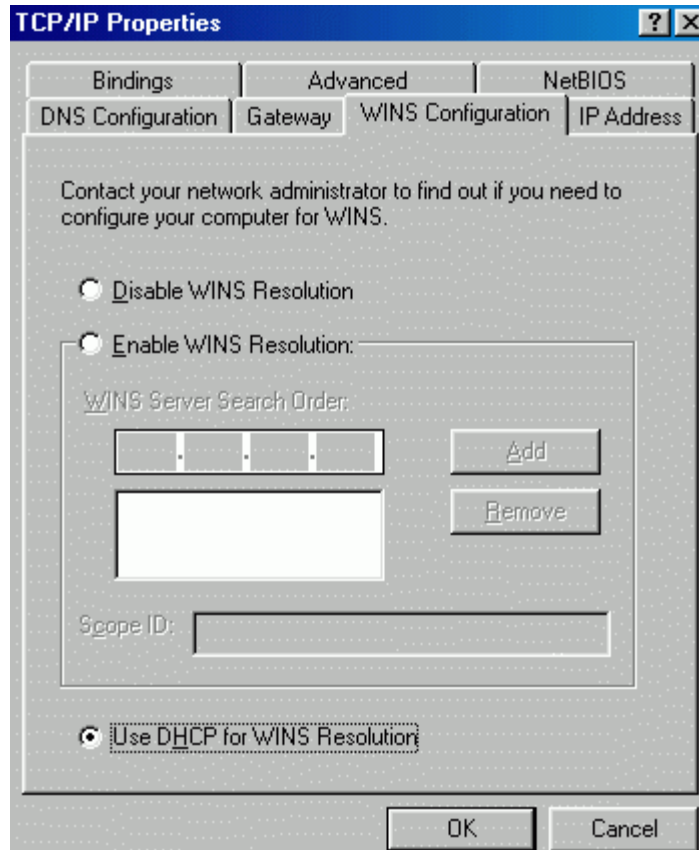
[Revised by Steve Winograd](#)

The easiest thing to do is to let ICS' DHCP server assign TCP/IP settings for the client. Go to the network card's TCP/IP properties and set it to **Obtain an IP address automatically**.

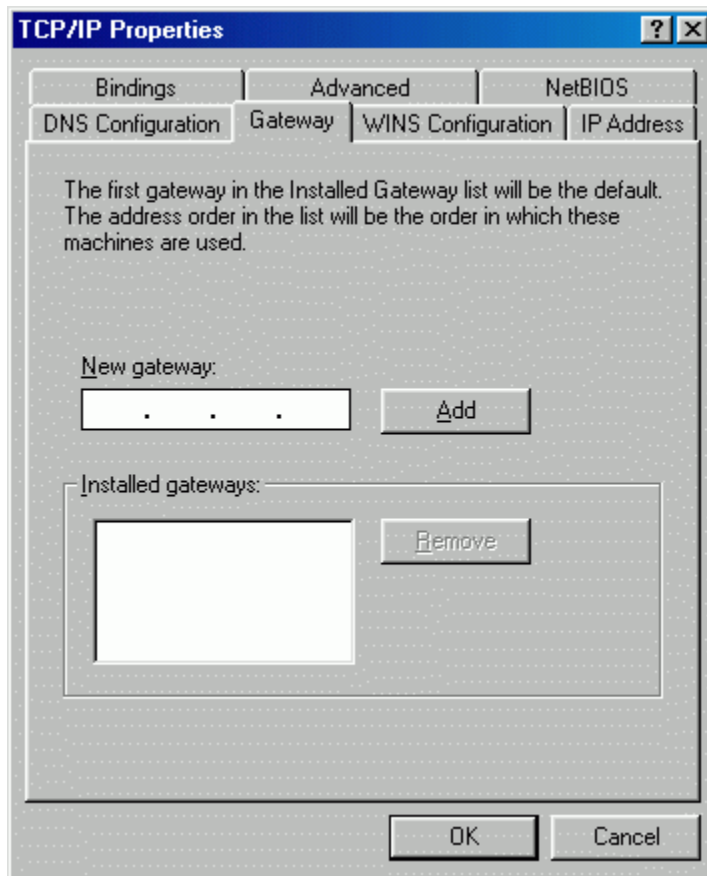
[Special Applications](#)
[Manual TCP/IP setup](#)
[Auto TCP/IP setup](#)
[ICS Troubleshoot](#)
[ICS Configuration](#)
[ICS Configuration Maps](#)



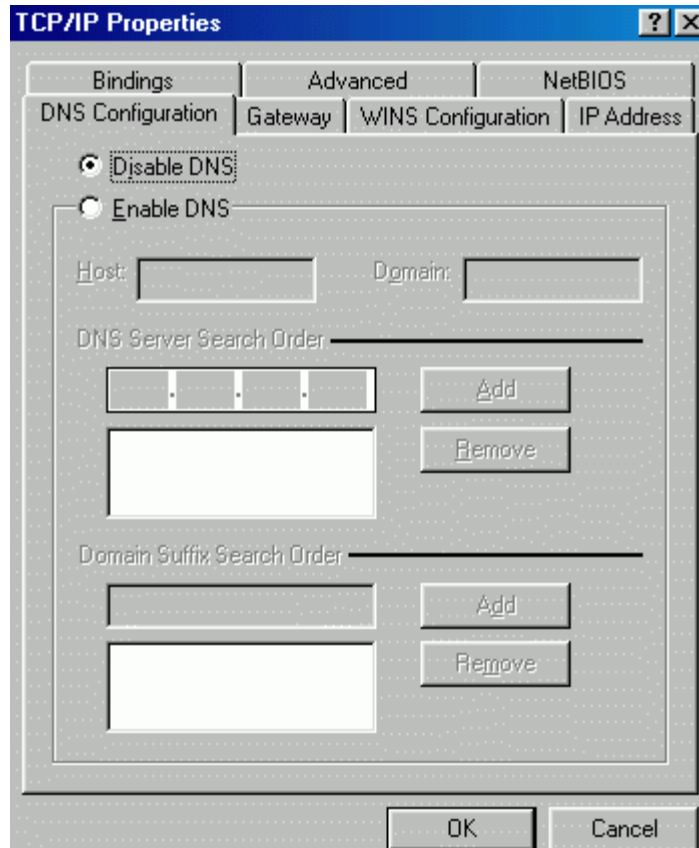
Click the **WINS Configuration** tab and configure it to **Use DHCP for WINS Resolution**.



Click the **Gateway** tab and **remove all gateways**.

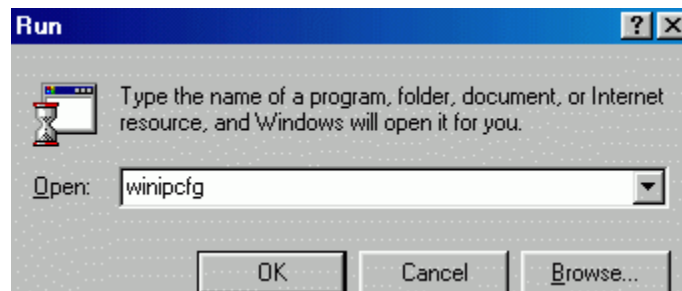


Click the **DNS** tab and **disable DNS**.

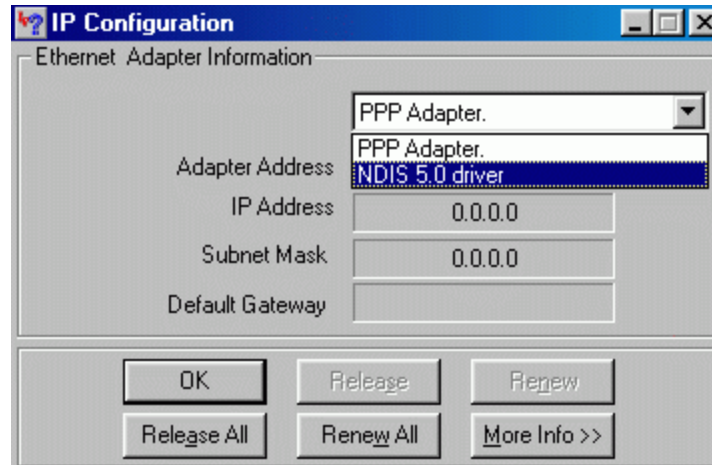


Click **OK** to exit from each screen. After configuring TCP/IP, **reboot** your computer. When it comes back up, it should have received its TCP/IP configuration from the ICS server computer and be ready to access the shared Internet connection.

The rest of this section is optional. If you want to check the TCP/IP configuration, use the **winipcfg** command. To run it, click **Start | Run**, type **winipcfg** in the box, and click **OK**.



Select the network card from the drop-down menu. Adapter names may be different than in the Network control panel. On my Win98SE computer, **PPP Adapter** is the Dial-Up Adapter, and **NDIS 5.0 driver** is the network card.



After you select the network card, its TCP/IP configuration is shown.

That's all there is to it! Enjoy your shared connection!