Setting Up Internet Connection Sharing (ICS) on a Server
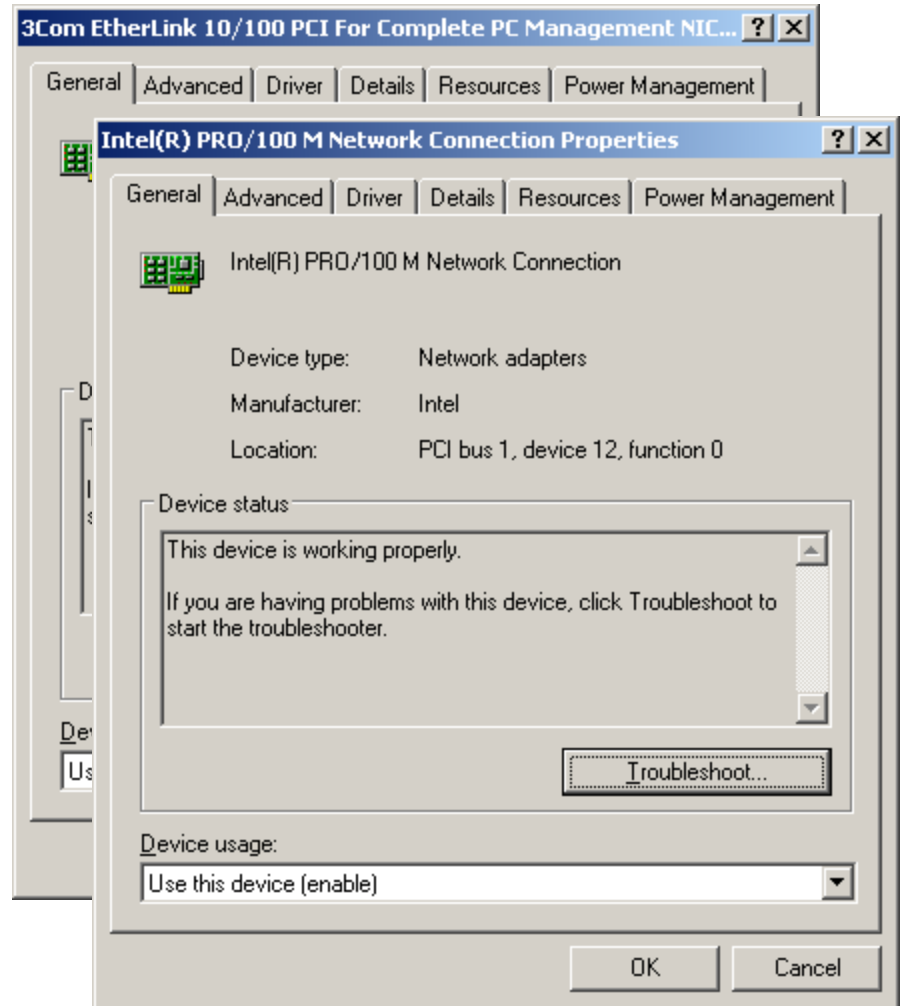
May 10. 2010

Why ICS?

Internet Connection Sharing (ICS) will enable us to build a small network and connect our client to the server.

What equipment will we need? We will want to have two Network Interface Cards (NICs) setup on the server. Their drivers should be loaded and they should be working properly.

Next, we will want to rename both NICs.

Naming the External NIC

We should give the NICs identifiers that will allow us to quickly determine what they control just by reading. The card that connects the server to the outside networks can be called such names as external, Internet or outside.

To make the name alteration, we enter the Control Panel and then Network Connections. Select the Local Area Connection that joins to the Internet and right click on the name. When the submenu pops up, we select rename and type External in the new name textbox. We press the OK button to accept the change.
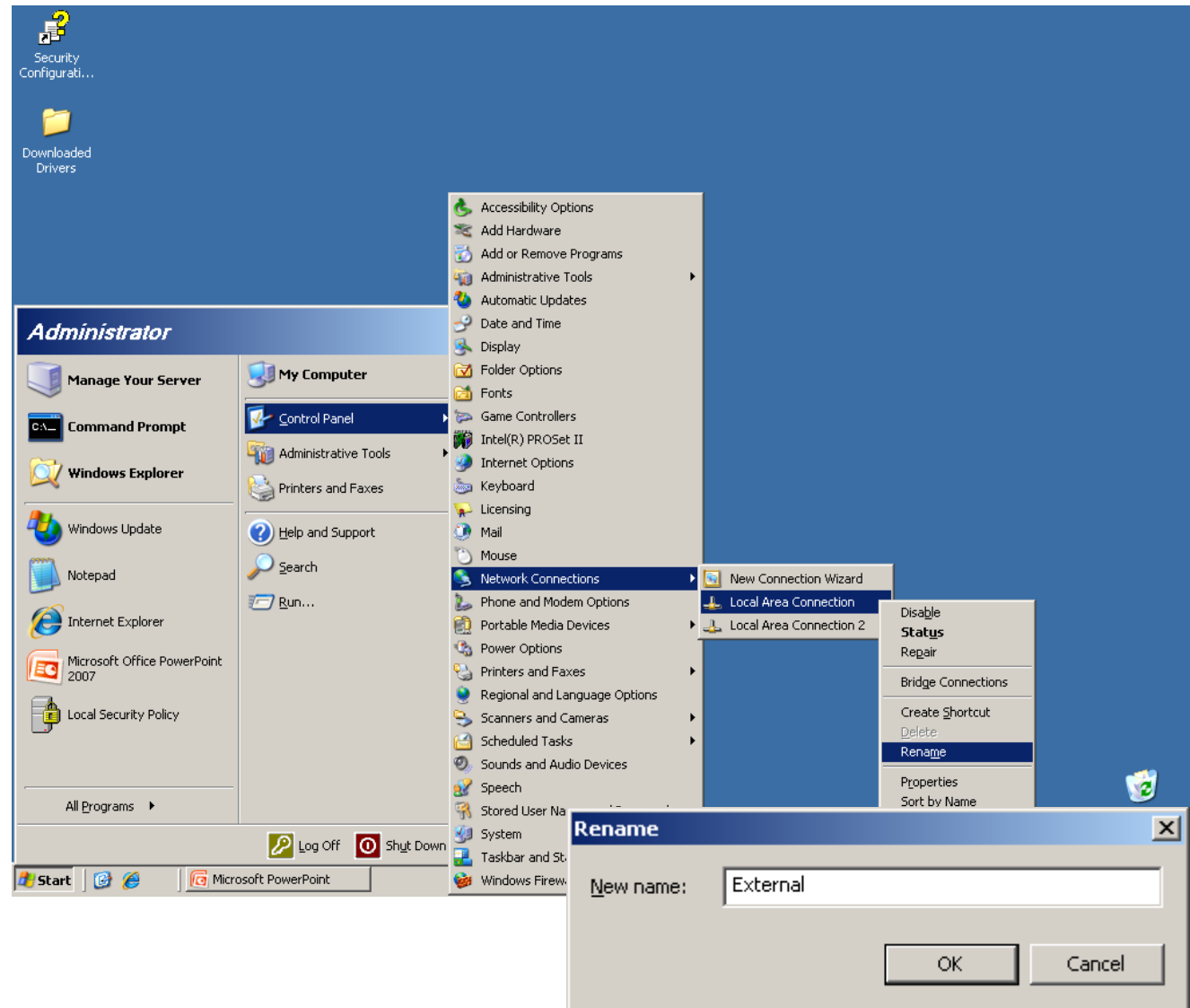
Naming the Internal NIC

The card that connects the server to the inside networks can be called such names as internal, Intranet or inside.

To make the name alteration, we enter the Control Panel and then Network Connections Select the Local Area Connection 2 that joins to the Local Area Network (LAN) and right click on the name. When the submenu pops up, we select rename and type Internal in the new name textbox. We press the OK button to accept the change.
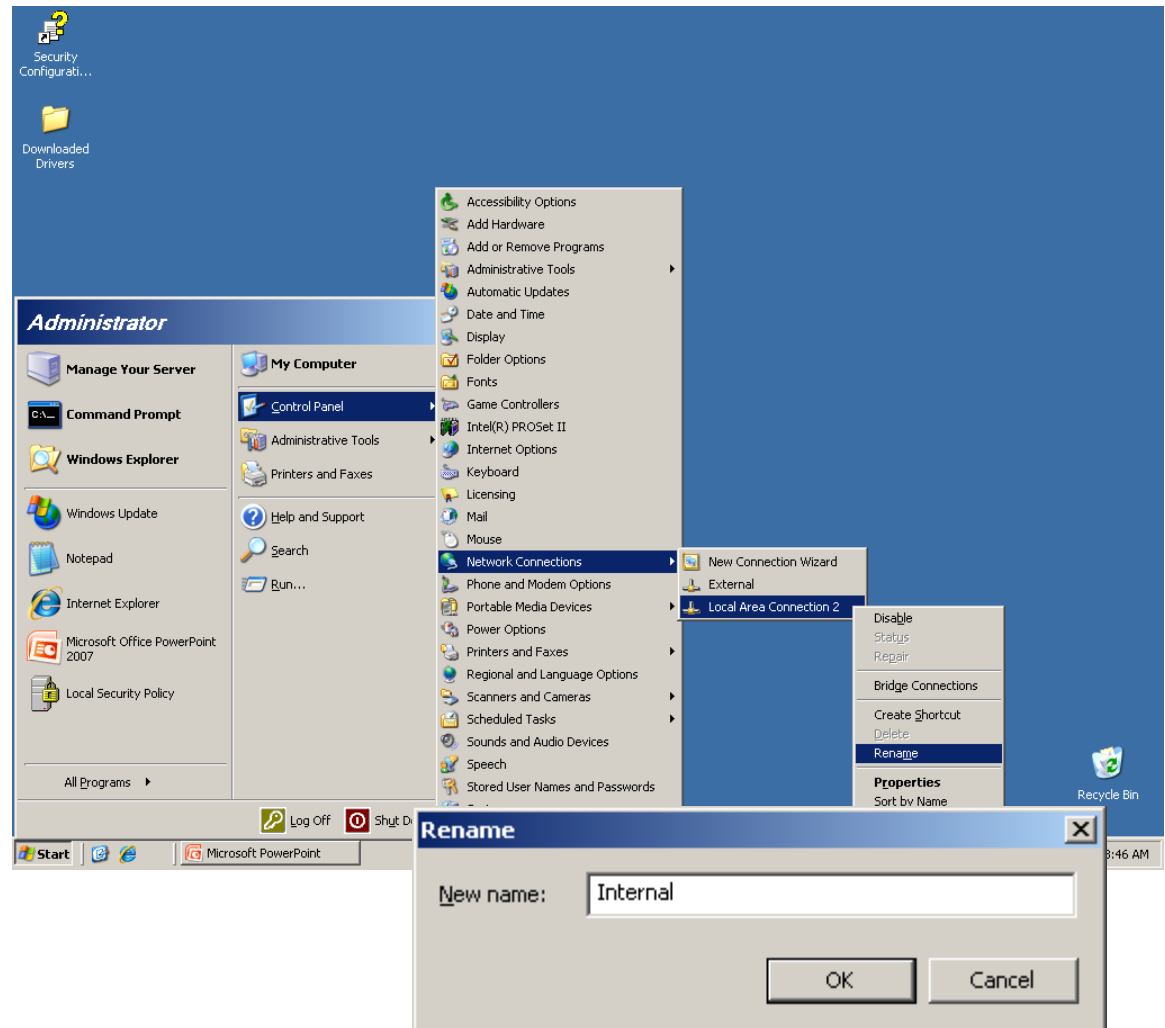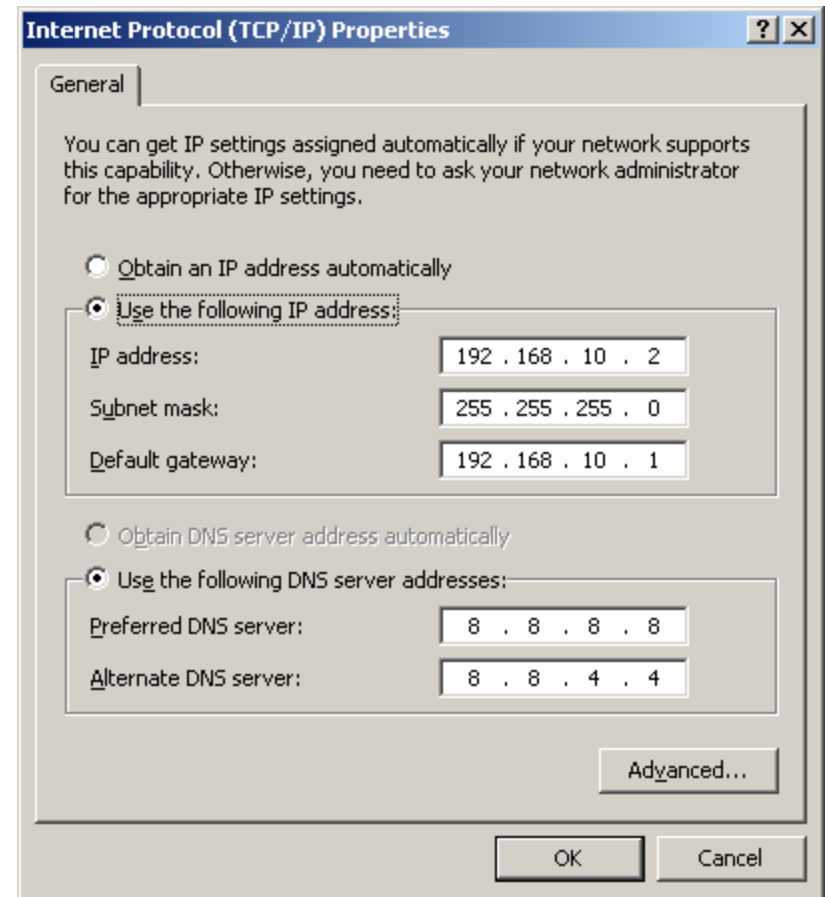
The External NIC

Now, we go to the Network Connection window and select the External NIC. The External NIC Status window will open and we will select the Properties button. At the External Properties window, we choose the Advanced tab on the top right of the dialogue box. At this time, we can see the Internet Connection Sharing checkbox. We will place a check in the box.
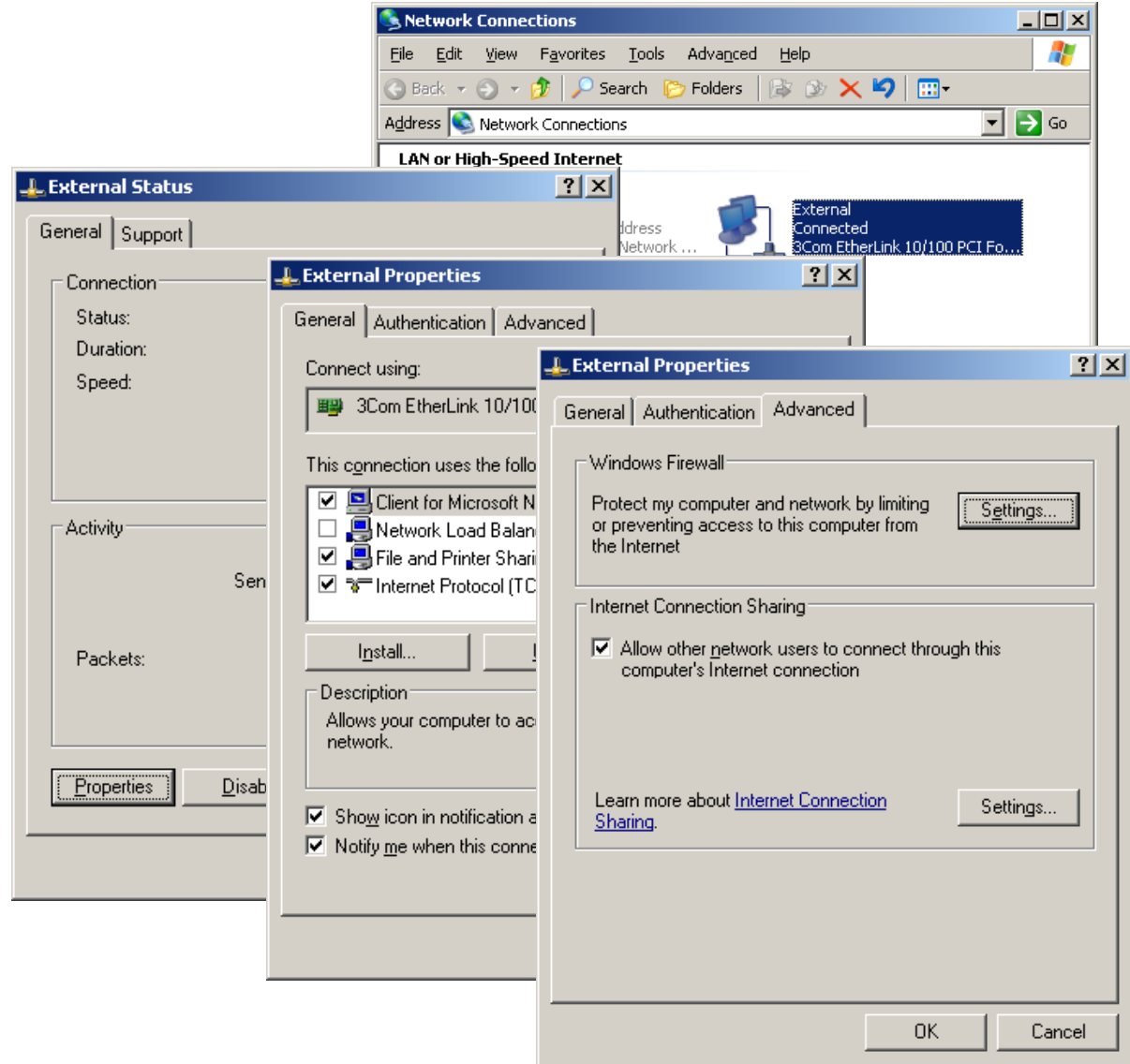
# The External NIC TCP/IP Settings

The computer will tell us that the IP address 192.168.0.1 will be used for our system. We will continue to utilize the external IP address scheme, gateway IP and DNS IP addresses that we previously had installed on the External network interface card.

Services in ICS

We can check TCP/IP services such as DNS, FTP and SMTP. When we check the box, individuals can resolve domain names, transfer files and send email through the ICS enabled external NIC.

To close this window, we press the OK button.
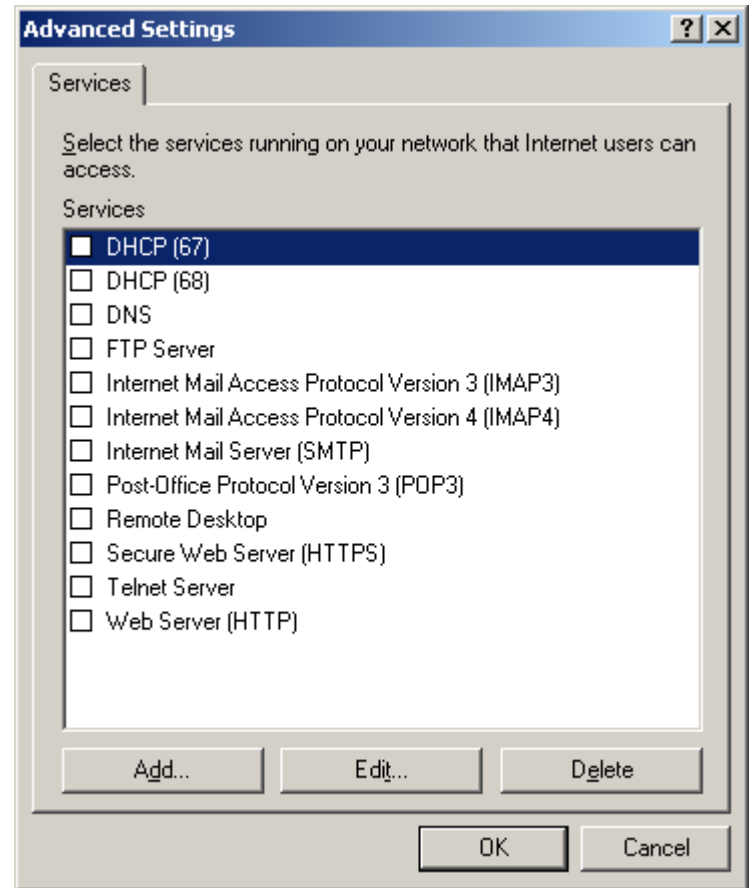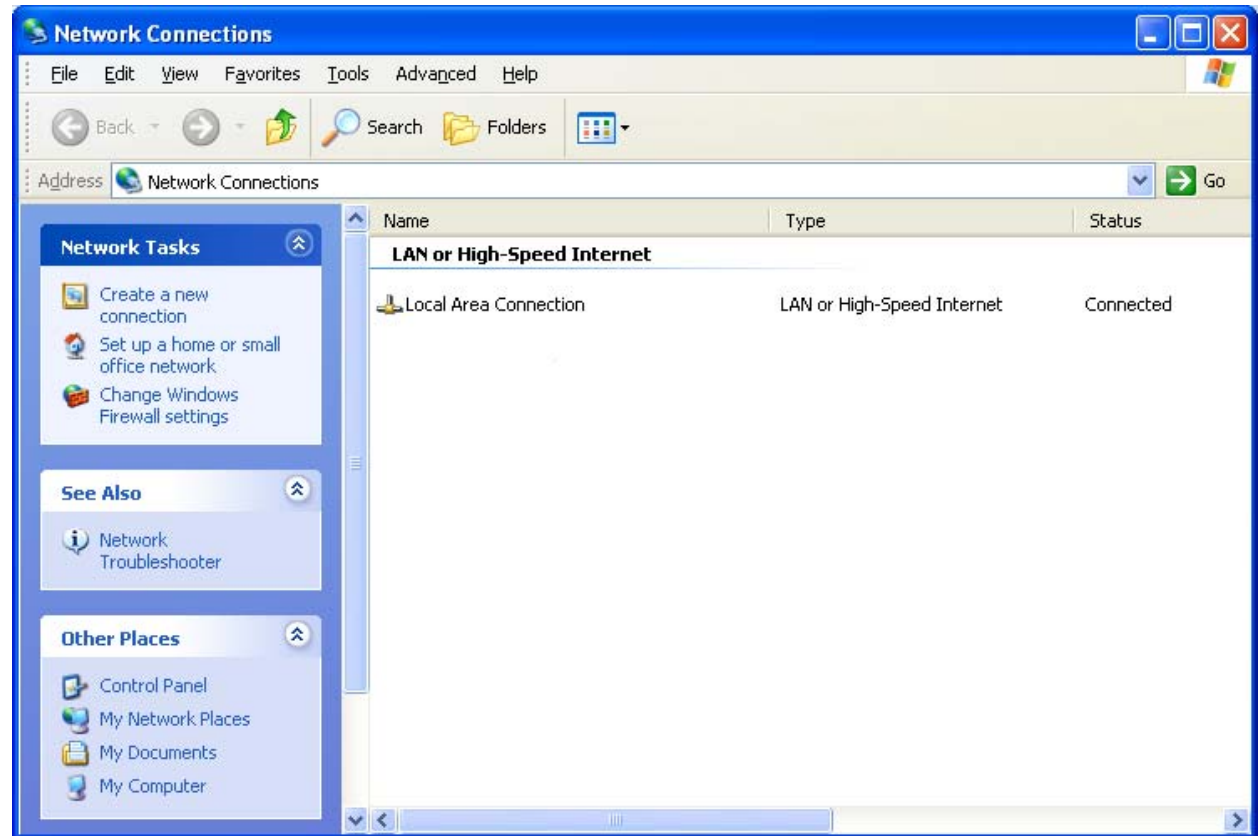
The Internal NIC

Now, we will setup the Internal network interface card. We double click on the Internal card and the Internal NIC Status window will open and we will select the Properties button. At the Internal Properties window, we double click on the TCP/IP Internet Protocol. We can type our own IP address scheme in for the Intranet IP of 192.168.1.1. The subnet mask will be 255.255.255.0. We leave the gateway and DNS IP addresses blank.
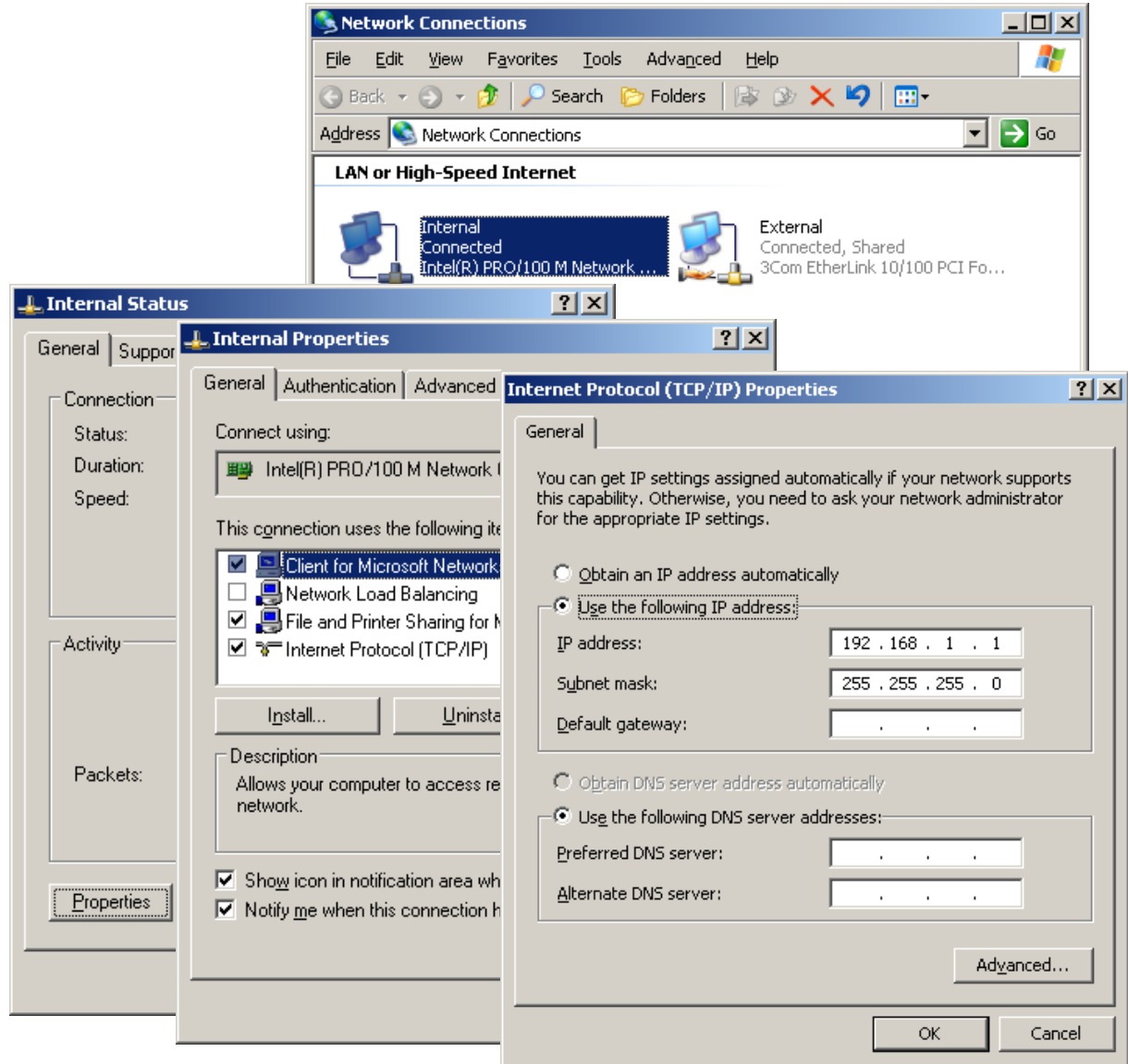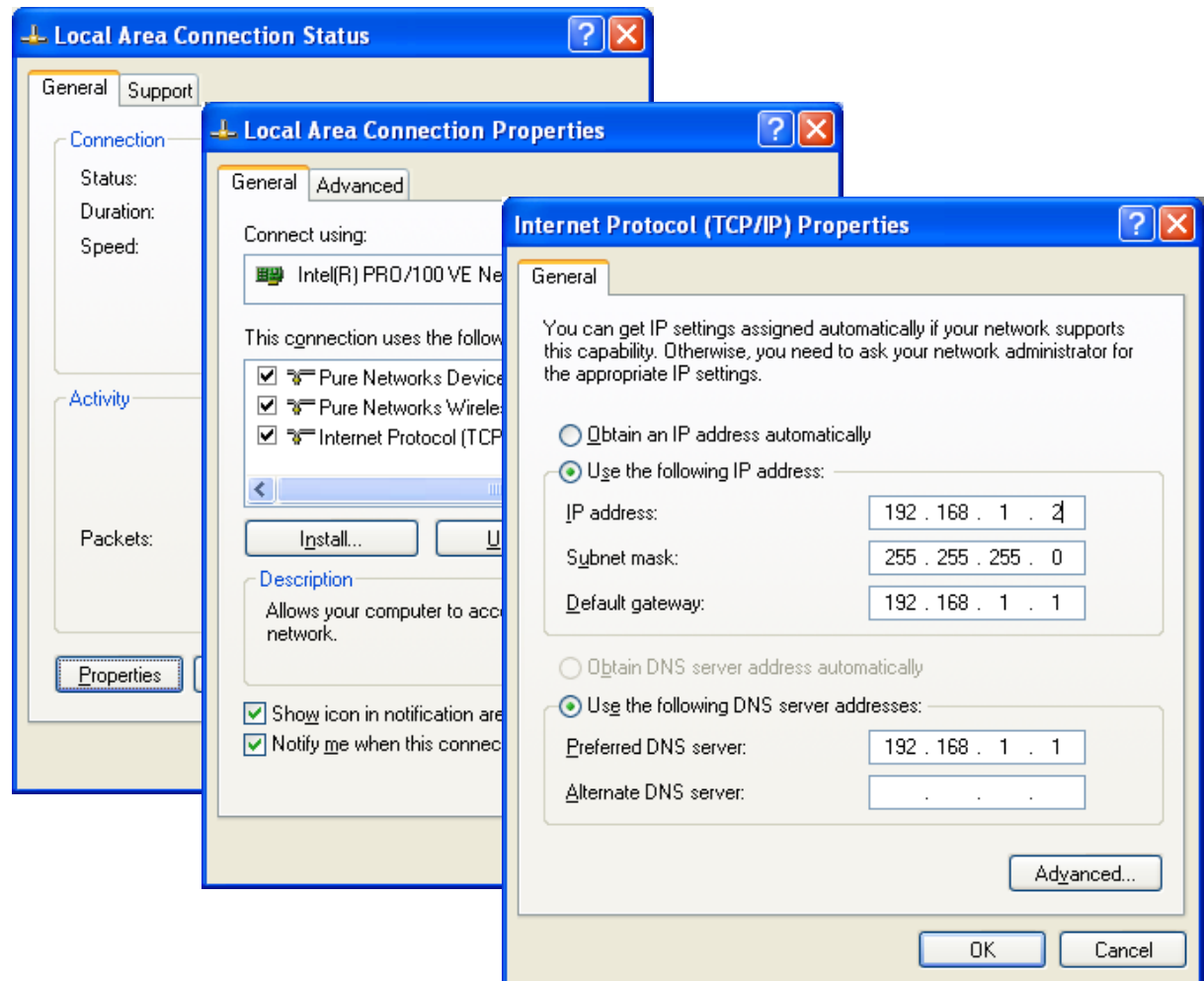
Setting Up a Client Computer

Now that the server is setup for Internet Connection Service (ICS), we can connect a client computer to the server. On the client computer, we connect to the server's Internal NIC through a switch or we can just use a lap link network cable. We double click on the local area connection to manipulate the IP addresses.

Setting Up the Client's IP Address

Now, we will setup the client's network interface card. We double click on the local area network connection and the Local Are Connection Status window will open and we will select the Properties button. At the Local Are Connection Properties window, we double click on the TCP/IP Internet Protocol. We can type our own IP address scheme of 192.168.1.2. The subnet mask will be 255.255.255.0. The gateway and DNS IP address is the server's internal NIC IP of 192.168.1.1. Press OK to exit the windows.

Setting the Internet Options

We continue to setup the client computer by opening the Internet Options window. We should pick the LAN settings button and in the Local Area Network Settings window, we check the automatically detect settings checkbox. We then press the OK buttons to close the dialogue boxes.
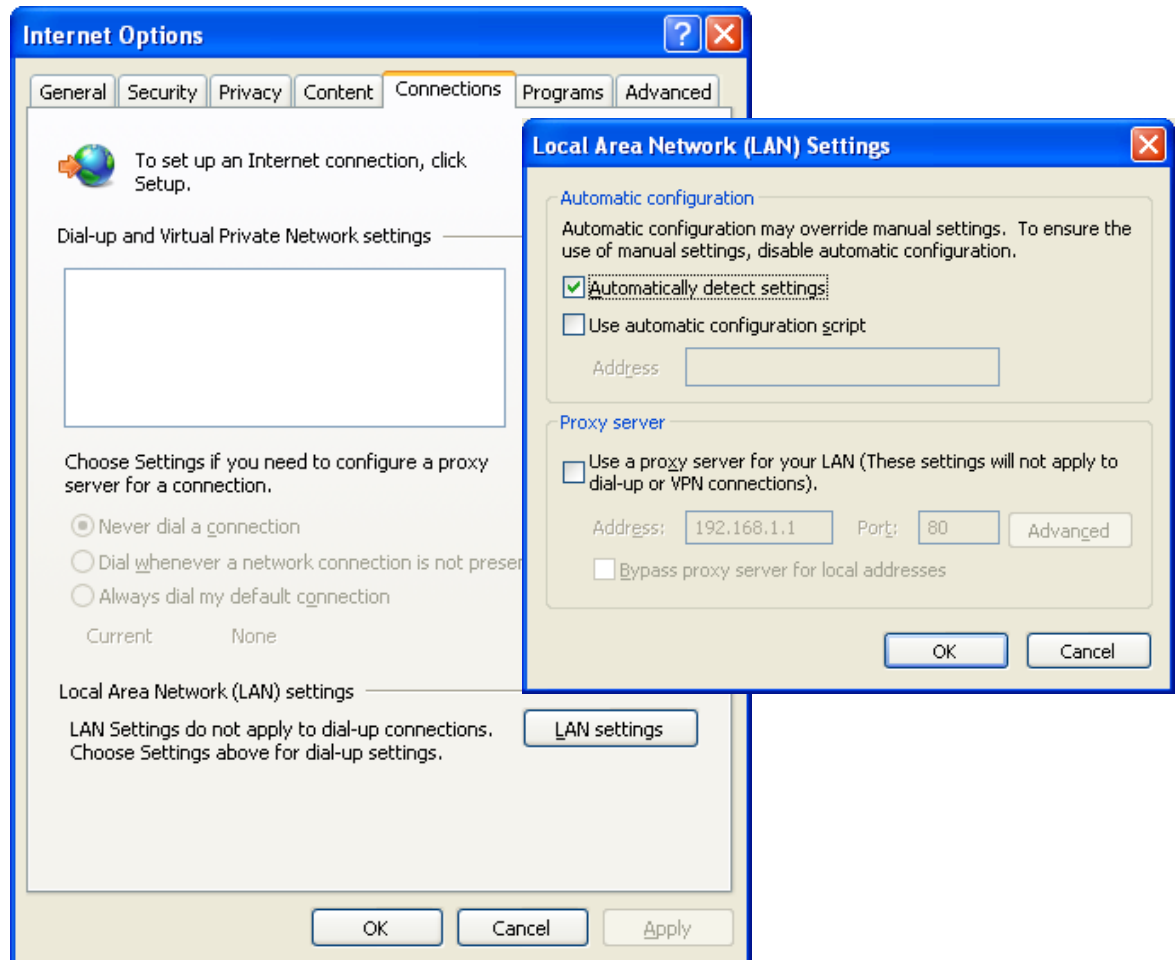
Browse the Internet on the Client Computer

At this time, we will open Internet Explorer and type [www.worldclasscad.com](http://worldclasscad.com) in the address bar.

The client computer can now browse the Internet through the server.