
Lab 7A: Configuring IP Addresses for Windows XP Professional

Objectives

The goal of this lab is for the students to successfully configure Microsoft® Windows® XP Professional to use TCP/IP.

After completing this lab, you will be able to:

- Configure static IP addresses.
- Configure Windows XP Professional to use DHCP for IP Address assignment.
- Configure an alternate TCP/IP configuration.
- Configure additional IP addresses and default gateways for Windows XP Professional.

Prerequisites

Before working on this lab, you must have:

- Knowledge of the basic principles of TCP/IP.
- Understand the most common methods of assigning IP addresses.
- Basic understanding of name resolution, and name resolution services, such as DNS and WINS.
- Basic TCP/IP troubleshooting knowledge.

Estimated time to complete this lab: 45 minutes

Exercise 0

Lab Setup

Tasks	Detailed steps
1. Log on to nwtraders.msft as DomAdmin with a password of dompass .	<ul style="list-style-type: none">a. Press CTRL+ALT+DELETE to open the logon screen.b. Type DomAdmin in the User Name box.c. Type dompass in the Password box, and then click OK.


Exercise 1

Configuring Windows XP Professional to Use Static TCP/IP Addressing

In this exercise, you will configure Windows XP Professional to use a static TCP/IP address assignment. Then you will use the **Ipconfig** utility to verify the static address.

Scenario

Your organization has decided to use static IP addressing for its computers running Windows XP Professional. You are the network administrator that needs to configure the Windows XP Professional computers to use static addresses.

Tasks	Detailed steps
1. Configure the Local Area Connection to use a static TCP/IP address of 192.168.x.2yy (where <i>x</i> is your classroom number, and <i>yy</i> is your assigned student number),	<ol style="list-style-type: none"> Click Start, and then click Control Panel. On the Pick a Category page, click Network and Internet Connections. Under Pick a Control Panel Icon, click Network Connections. Right-click Local Area Connection, and then click Properties. In the Components checked are used by this connection check box, click Internet Protocol (TCP/IP), and then click Properties. Select Use the following IP address, and in the IP address box type 192.168.x.2yy (where <i>x</i> is your classroom number, and <i>yy</i> is your assigned student number), and in the Subnet mask box type 255.255.255.0. Select Use the following DNS server addresses, and in the Preferred DNS server box type 192.168.x.200 (where <i>x</i> is your classroom number), and then click OK twice Click Start, and then Run, and then in the Open box type cmd, and then click OK. At the Command Prompt type ping 192.168.x.2yy and then press ENTER. <p> <i>You should get 3 responses from your IP address.</i></p> Type exit, and then press ENTER. Close all open windows.


Exercise 2



Configuring Windows XP Professional to Use DHCP for Address Assignment

In this exercise, you will configure Windows XP Professional to use DHCP for TCP/IP address assignment. Then you will use the **Ipconfig** utility to verify DHCP configuration.

Scenario

You are responsible for supporting a number of computers running Windows XP Professional. Until now, you were assigning and supporting static TCP/IP addressing. Your organization has decided to implement DHCP to better support TCP/IP addressing and reduce support calls for portable computer users that are not able to connect to the network while moving between different office buildings and meeting rooms. You determined that this issue was caused by a user that needed a different IP address, because the buildings were located in different IP subnets.

Tasks	Detailed steps
1. Configure the Local Area Connection to use DHCP to obtain an IP address.	<ol style="list-style-type: none"> Click Start, and then click Control Panel. On the Pick a Category page, click Network and Internet Connections. Under Pick a Control Panel Icon, click Network Connections. Right-click Local Area Connection, and then click Properties. In the Components checked are used by this connection check box, click Internet Protocol (TCP/IP), and then click Properties. Verify that the Use the following IP address and Use the following DNS server addresses check boxes are selected.
<p> Is the IP address that is listed here unique to this computer? If so, what would happen if someone else tried to use this address at the same time that you did?</p> <p>Yes, this address is unique to this computer. If someone else tries to use this address, the first computer that activates its network card will function. When the second computer tries to activate its card, it will not function, and the first computer will display a message that another computer is trying to use that address.</p> <hr/> <hr/>	

Tasks	Detailed steps
Document your current Internet Protocol TCP/IP settings. IP address: _____ Subnet mask: _____ Default gateway (If listed): _____ _____ Preferred DNS server: _____ Alternate DNS server (If listed): _____ _____	
1. (continued)	g. Click Obtain an address automatically, click Obtain DNS servers address automatically, and then click OK. h. Click OK to close Local Connection Properties , and then close Network Connections .
2. Use the Ipconfig command line utility to display the TCP/IP configuration of your computer.	a. Click Start , and then click Run . b. In the Run box, type Cmd and then press ENTER. c. At the command prompt, type Ipconfig and then press ENTER.
Document your Internet Protocol TCP/IP settings. Connection-specific DNS Suffix (If present): _____ IP address: _____ Subnet mask: _____ Default gateway (If present): _____ _____	
 Can you tell by this screen if the computer is configured to obtain an address automatically? No. _____ _____	
3. Use the Ipconfig /? option to determine how to display full configuration information.	a. At the command prompt, type Ipconfig /? and then press ENTER.  You may need to maximize the <i>Cmd.exe</i> windows to see all of the Ipconfig options. b. Locate the Ipconfig switch that will display your full configuration information.

Tasks	Detailed steps
<p>? Which Ipconfig switch will display the full configuration information?</p> <p>Ipconfig /all.</p> <p>_____</p> <p>_____</p>	
<p>4. Run Ipconfig /all, close all open windows.</p>	<p>a. At the command prompt, type Ipconfig /all and then press ENTER</p>
<p>? Is this computer DHCP enabled? When was the DHCP lease obtained? What additional information other than DHCP is listed when the /all switch is used that was not documented before?</p> <p>Yes. Answers will vary. DNS information.</p> <p>_____</p> <p>_____</p>	
<p>4. (continued)</p>	<p>b. Close all open windows.</p>





Exercise 3




Configure a Alternate TCP/IP Configuration






In this exercise, you will configure an alternate TCP/IP configuration by using the DHCP for the primary connection, and by using alternate configuration in the event that a DHCP server is unavailable.

Scenario

A large percentage of the Windows XP Professional users that you support work with their mobile computers in the office and at their homes. The numbers of users that utilize high speed Internet access are increasing, and these users need to connect their laptops to their home networks so that they can connect to the corporate network. You have decided to implement an alternate TCP/IP configuration to help the users gain access to their home networks without needing to force the users to reconfigure TCP/IP whenever they need to connect to the corporate network from their home networks.

Tasks	Detailed steps
 Wait for the instructor to stop the DHCP service before continuing.	
1. Use the command prompt to run the Ipconfig utility to attempt to release and renew your DHCP lease. View your new settings. Then verify your automatic private IP address, by using the Ipconfig utility.	<ol style="list-style-type: none"> Click Start, and then click Run. In the Run box, type Cmd and then press ENTER. At the command prompt, type Ipconfig /release and then press ENTER. <div>  <i>It may take a few minutes to time-out looking for a DHCP service. When it is done, you may see an error message that your IP address is invalid; this is expected since the Instructor stopped the DHCP service prior to completing this task.</i> </div> At the command prompt, type Ipconfig /renew and then press ENTER. <div>  <i>This may also take a few minutes to time-out looking for a DHCP service. You may receive an error that the timeout period has expired; This is expected since there is still no DHCP service active.</i> </div> At the command prompt, type Ipconfig and then press ENTER. <div>  <i>Notice that your IP address is now 169.254.x.x This is how you can recognize an Automatic Private IP Address.</i> </div>
2. View your computer's TCP/IP properties.	<ol style="list-style-type: none"> Click Start, and then click Control Panel. On the Pick a Category page, click Network and Internet Connections. Under Pick a Control Panel Icon, click Network Connections. Right-click Local Area Connection, and then click Properties. In the Components checked are used by this connection check box, click Internet Protocol (TCP/IP), and then click Properties.

Tasks	Detailed steps
<p> Are there any additional tabs available that were not available before? If so what are they?</p> <p>Yes, there is an Alternate Configuration tab available. This tab was not available the last time we viewed this Properties page because the TCP/IP settings were static, and now they are dynamic.</p> <hr/> <hr/>	
<p>3. Configure your TCP/IP settings to use an alternate configuration of your original static configuration that was documented in the previous exercise.</p>	<p>a. Click the Alternate Configuration tab.</p>
<p> What is selected by default for an alternate configuration?</p> <p>What effect will this selection have on your computer if the DHCP server is unavailable to give your computer an IP address?</p> <p>Will you be able to connect to the instructor's computer if the DHCP server does not give you an address?</p> <p>Automatic private IP address.</p> <p>If the DHCP service is unavailable, Windows XP will automatically generate an IP address from the pool of addresses that is set aside for this process.</p> <p>No, because the Instructor computer is configured for a different IP subnet.</p> <hr/> <hr/> <hr/> <hr/>	
<p>3. <i>(continued)</i></p>	<p>b. Click User configured, and then enter the IP configuration information that you documented from the previous exercise.</p> <p> <i>Note that you will not have all the information to complete every field. You only need to enter the information that you have.</i></p> <p>c. Click OK to save the settings, and then click OK again to close Local Connection Properties.</p>

Tasks	Detailed steps
4. Use the command prompt to run the Ipconfig utility to release and renew your DHCP lease. View your new settings.	<p>a. Click Start, and then click Run.</p> <p>b. In the Run box, type Cmd and then press ENTER.</p> <p>c. At the command prompt, type Ipconfig /release and then press ENTER.</p> <p> <i>It may take a few minutes to time-out looking for a DHCP service. When it is done, you may see an error message that your IP address is invalid; this is expected since the Instructor stopped the DHCP service prior to completing this task.</i></p> <p>d. At the command prompt, type Ipconfig /renew and then press ENTER.</p> <p> <i>This may also take a few minutes to time-out looking for a DHCP service. You may receive an error that the timeout period has expired; This is expected since there is still no DHCP service active.</i></p> <p>e. At the command prompt, type Ipconfig and then press ENTER.</p>
<p> What is the listed IP configuration?</p> <p>The configuration that you entered on the Alternate Configuration tab.</p> <hr/> <hr/>	
<p> Stop here until the instructor restarts the DHCP service.</p>	
5. Configure your computer to use the DHCP server to receive TCP/IP configuration by renewing your DHCP lease. Close all open windows and then log off.	a. At the command prompt, type Ipconfig /renew and then press ENTER.
<p> Where you successful in renewing your DHCP lease?</p> <p>Yes.</p> <hr/> <hr/>	
5. (continued)	b. Close all open windows, and then log off.

