

A+Project Software Book Lesson 12_w screens (working).docx

Lenny Bailes

AZIMUTH INTERACTIVE PRESS | PEEKSKILL, NY

Project	A+ Exam Objective	
12.1 Exploring Windows 2000/Windows XP Networking Features	4.1 Identify the networking capabilities of Windows. Given configuration parameters, configure the operating system to connect to a network.	
12.2 Exploring Windows 9x Networking Features	4.1 Identify the networking capabilities of Windows. Given configuration parameters, configure the operating system to connect to a network.	

Introduction

Networking technology is used, almost universally, in business computing environments to facilitate employee communications, improve productivity, cut system maintenance costs and reduce hardware costs.

The three common business implementations of networks are:

- **Client-server:** in which users store files and access applications located on a server or group of servers. This type of network simplifies system administration tasks such as data backup by centralizing data storage in a single location. User account maintenance is also centralized when a client-server network uses the Windows domain model to centralize the login process on a computer designated as a domain controller. (There are two types of Windows domains: “Native Mode” in which domain controllers all use Active Directory Services under Windows Server 2000 or Server 2003, and “Mixed Mode” which permits the presence of non-ADS Windows NT4 domain controllers.
- **Peer-to-peer:** in which each workstation manages the user accounts for its own users under the Windows workgroup model. Peer-to-peer networks are easy to configure and generally used on networks that support ten or less workstations. They have the advantage of permitting de-centralized resource sharing (one computer may be designated a file server, another may be a printer server, and a third computer may become an Internet gateway). This type of distributed network also has the advantage of reducing the demand upon any single computer, but it tends to require more maintenance overhead from a network administrator.
- **Mixed networks:** (not to be confused with Mixed-mode domains) may include centralized file servers and account management and also use individual workstations to share local resources, such as a printer that is directly cabled to the workstation.

The logical topology of a network (discussed above) is independent of the physical topology of a network, which describes the way individual computers are cabled to one another or to a hub, switch, or router). Bus, ring, and star

physical topologies may be used to implement either a client-server or peer-to-peer logical configuration.

In this lesson, you will execute hands-on projects that show you how to perform the most common tasks on a Windows local area network, which include installing and configuring a network interface card, sharing work folders for users on the network, and using Windows network browsing features to establish connections and work with shared network folders.

Key points to remember while performing the exercises in this lesson are:

- After installing a NIC in your PC, your the next step is to configure protocols.
- On most networks, DHCP is used to automatically provide a unique IP address, gateway address, and DNS server IP addresses.
- To configure clients to log on to and use network resources, you must load and configure the correct network client service
- After you have installed the proper protocols and network client service, you should verify that the TCP/IP protocol configuration is correct. The TCP/IP protocol is the only protocol installed by default for both Windows 2000 and Windows XP.
- The Packet Internet Groper utility (Ping) is run from the command prompt and used to verify network connectivity to a specific host.
- The ipconfig command displays the basic IP configuration under Windows NT4, Windows 2000, and Windows XP. When you add the /all switch, ipconfig /all, you can view the complete system IP configuration. (Under Windows 9.x, the command WINIPCFG, activated from the Start->Run menu supplies this information.)

By drive mapping a shared network folder to a drive letter on your local computer, Windows automatically establishes a connection to the resource each time the computer boots.

<p>Scenario</p>	<ul style="list-style-type: none"> You are the chief of IT for a startup company that has just recently networked its user workstations on a local area network. The user workstations run several different Windows operating systems (Windows 9x, Windows NT4 Workstation, Windows 2000 Professional, and Windows XP Professional) installed on desktop and laptop computers. (Some employees run Windows XP Home Edition on their home computers.) <p>You are responsible for providing helpdesk support to employees, as well as training and supervising the company's IT technicians. You decide to prepare for these tasks by exploring the basic network browsing features built into all of the Windows operating systems.</p>	<p>.</p>
<p>General Requirements</p>	<p>Administrative access to two or more computers running Microsoft Windows 9x, Windows 2000 Professional and Windows XP Professional Edition operating systems (with Windows XP Home Edition optional). Each computer should include an installed and properly configured network interface card cabled to a hub, switch, or router on a local area network.</p> <p>The project computers should be configured to support TCP/IP network connections and file sharing on the local network. (You will also need administrative access to at least one computer that can be opened and experimented on. In some of the projects in this lesson, you will be asked to disable, enable, and reconfigure its network interface card and Windows networking support.)</p>	

Project 12.1	Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)	Notes
Exam Objective	4.1 Identify the networking capabilities of Windows. Given configuration parameters, configure the operating system to connect to a network.	
Overview	<p>Your company has recently established a peer-to-peer local area network for its desktop workstations, many of which run the Windows 2000 Professional, and Windows XP Professional operating systems.</p> <p>To support users on the company’s new LAN, you decide to familiarize yourself with the “My Network Places” feature built into Windows Millenium, Windows 2000, and Windows XP. You will use “My Network Places to determine the network ID (NETBIOS name) for each workstation, inspect the configuration of each computer’s active network connection, and browse the network for available shared resources.</p>	
Learning Objective	After completing this project, you will know how to use “My Network Places” to determine the network ID for a computer, determine the configuration of an active network connection, and browse a local area network for shared resources..	
Specific Requirements	Access to at least one computer running Windows XP Professional, or Windows 2000 Professional. This computer should be pre-configured with TCP/IP (Internet Protocol) installed for network access.	
Estimated Completion Time	45 minutes	
Project Steps	<ol style="list-style-type: none"> 1. To explore the network features of Windows 2000 or Windows XP Professional: 2. Boot a computer running the Windows XP Professional, Windows XP Home, or Windows 2000 Professional operating system normally to the desktop. 3. Verify that the computer has a working LAN connection as follows: Open the My Network Places properties sheet. (Under 	

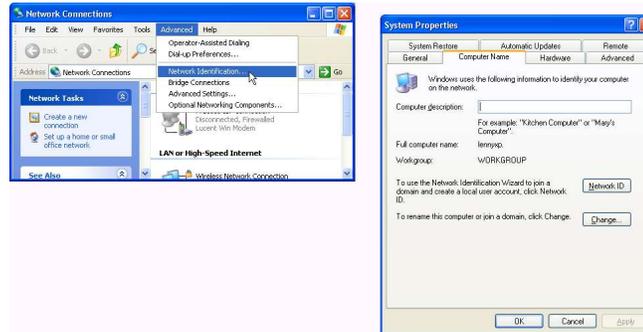
Project 12.1	Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)	Notes
	<p>Windows 2000 Professional, right-click on the My Network Places icon on the desktop and choose Properties from the popup menu.)</p> <p>4. Under Windows XP, click the Start button, choose Control Panel, click Network and Internet Connections on the Control Panel “Pick a Category” screen, and click Network Connections on the “Pick A Task” screen. (Figure 12-1).</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div data-bbox="532 751 824 989" style="text-align: center;">  <p>Windows XP Network Connections</p> </div> <div data-bbox="873 701 1117 915" style="text-align: center;">  <p>Windows 2000 Network and DialUp Connections</p> </div> </div> <p>5. Determine the Network ID (Computer name) and workgroup for the computer by clicking Network Identification on the Advanced pulldown menu in the Network Connections window:</p>	

Project 12.1

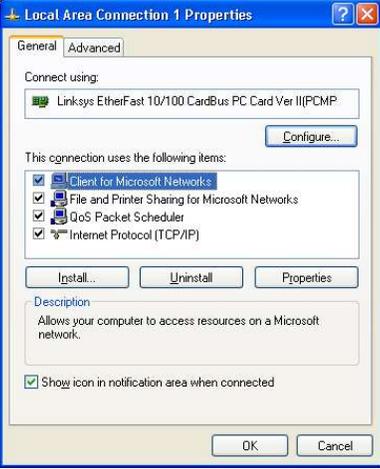
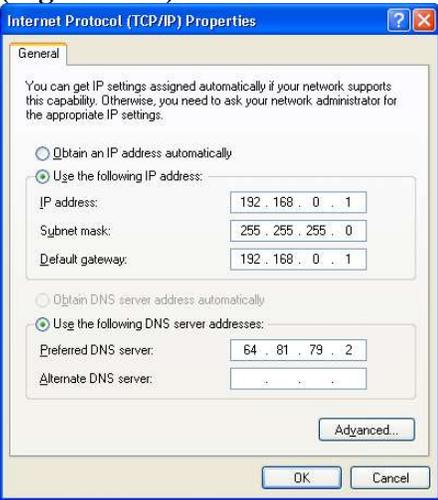
Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)

Notes

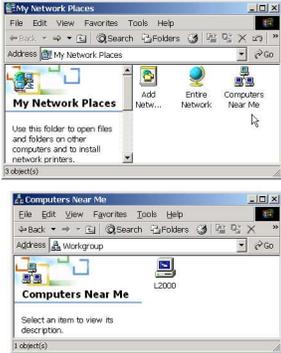
(Figure 12-2)



6. Close the System Properties window that displays the computer name and workgroup.
7. In the Network Connections window, examine the listed connection profile icons. You may find more than one. Dial-up connection profiles can be created for modems, and each physical network adapter in the computer should have its own Local Area Connection profile.
8. Right-click the first Local Area Connection profile in the list and choose Properties from the popup menu to open the Local Area Connection properties.
9. On the General tab of the Local Area Connection properties, record the network adapter model used for this connection (listed under “Connect Using”) Record the installed software components for this connection

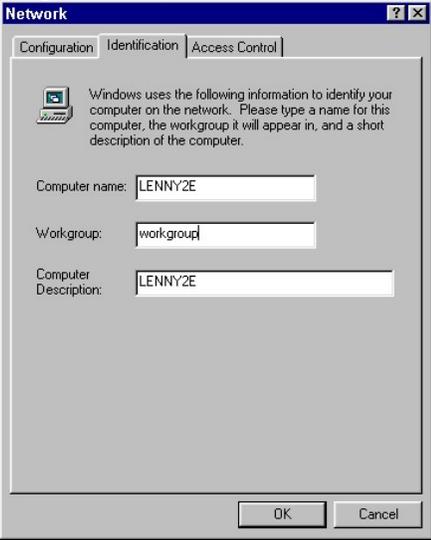
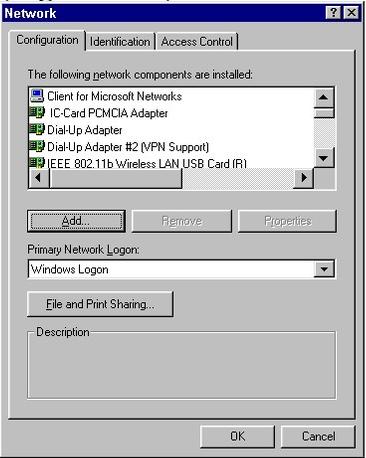
Project 12.1	Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)	Notes
	<p>(Figure 12-3).</p>  <p>10. You should see listings for at least three components: “Client for Microsoft Networks,” “File and Printer Sharing for Microsoft Networks,” and “Internet Protocol (TCP/IP).” If a checkmark appears next to the component listing, then the component is currently active. Place a checkmark next to “File and Printer Sharing” or verify that this component has already been checkmarked to enable it.</p> <p>11. Highlight the Internet Protocol component on General tab of the Local Area Connection properties screen and click the Properties button to open the Internet Protocol properties sheet</p> <p>(Figure 12-4)</p> 	

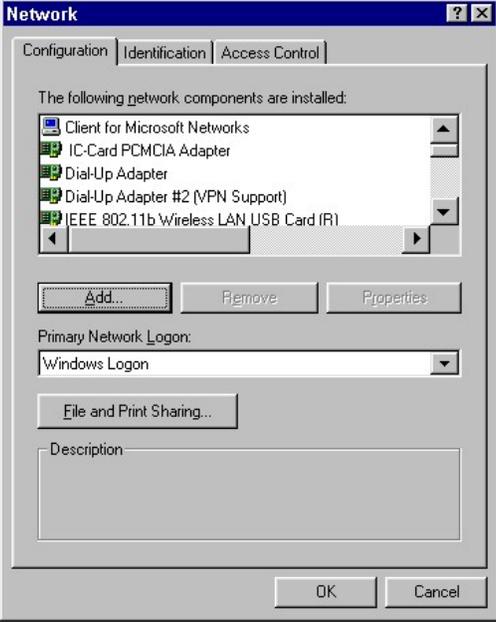
Project 12.1	Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)	Notes
	<p>12. Inspect the configuration on the General tab to determine whether the network connection is assigned a specific IP address (called a static IP address) or whether it obtains an IP address automatically.</p> <p>13. Click OK to close the Internet Protocol properties sheet and click OK to close the Network Connections window on the desktop. (Be sure to click OK, not Cancel, if you have changed the status of the File and Printer Sharing Component.)</p> <p>14. Open “My Network Places” by double-clicking the “My Network Places” icon on the desktop. (Under Windows XP, you may first need to add the “My Network Places” icon to the desktop, as follows: Right-click an empty area of the desktop and click Properties on the popup menu. Click the Desktop tab in the Display Properties window. Click the Customize Desktop button on the Desktop tab Place a checkmark next to My Network Places on the General tab of the Desktop Items window and click OK.</p> <p>(Figure 12-5)</p>  <p>15. Close the Desktop Properties window.</p> <p>16. Under Windows 2000, click Computers Near me to display the names of any computers that share your computer’s workgroup and have been configured to share resources over the network. Under Windows XP,</p>	

Project 12.1	Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)	Notes
	<p>you must click “View Workgroup Computers” under Network Tasks to display this list.</p> <p>(Figure 12-6).</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="526 506 812 772">  <p>This screenshot shows the Windows XP Workgroup window. The 'Network Tasks' pane on the left includes options like 'Add a network place', 'View network connections', and 'View workgroup computers'. The 'Other Places' pane shows 'Microsoft Windows Network' selected.</p> </div> <div data-bbox="886 489 1167 842">  <p>Two screenshots from Windows 2000. The top one shows the 'My Network Places' window with 'Entire Network' and 'Computers Near Me' icons. The bottom one shows the 'Computers Near Me' window displaying a list of nearby computers, including 'L2000'.</p> </div> </div> <p style="text-align: center;">Windows XP View Workgroup Computers</p> <p style="text-align: center;">Windows 2000 Computers Near Me</p> <p>Note: If “File and Printer Sharing” has been enabled in the Local Connection Profile for any computer in the workgroup, the Network ID for that computer will appear in the workgroup list. (The Network ID for the computer that you are currently using should appear in the list.)</p> <ol style="list-style-type: none"> 17. Under Windows 2000, click the Back button in the “Computers Near Me” window. 18. Double-click “Entire Network icon in the “My Network Places” window, then click the “Entire Contents” link in the Entire Network window. Under Windows XP, click the “Microsoft Windows Network” link under Other Places. This action will display all of the Microsoft Windows workgroups and domains that are currently accessible on the Local Area Network 	

<p>Project 12.1</p>	<p>Exploring “My Network Places” (Windows ME, Windows 2000, Windows XP)</p>	<p>Notes</p>
	<p>(Figure 12-7).</p>  <p>Note: The icon used to represent a workgroup has the same appearance as the icon used to represent a domain.)</p> <p>19. Double-click the name of the workgroup in the listing that the computer you are using belongs to. Note that you will again see a listing of computers in that workgroup that file and printer sharing enabled.</p> <p>The network browsing interface for Windows Millenium is similar to Windows 2000 and Windows XP, although it is classified as a Windows 9x operating system.</p>	
	<p>Graphics/Screen Shots</p>	<p>Notes</p>
	<p>Figure 12-1: Network Connections Figure 12-2: Determining Network Identification and Workgroup Figure 12-3: Local Area Connection properties Figure 12-4: Internet Protocol (TCP/IP) properties Figure 12-5: Displaying My Network Places on the Desktop Figure 12-6: Viewing Workgroup Computers Figure 12-7: Viewing the Entire Network</p>	

Project 12.2	Exploring Network Neighborhood	Notes
Exam Objective	4.1 Identify the networking capabilities of Windows. Given configuration parameters, configure the operating system to connect to a network.	
Overview	<p>Your company has recently established a peer-to-peer local area network for its desktop workstations, many of which run the Windows 2000 Professional, and Windows XP Professional operating systems. To support users on the company's new LAN, you decide to familiarize yourself with the "Network Neighborhood" feature built into Windows 95, Windows NT4, Windows 98, and Windows 98SE operating systems.</p> <p>You will use "Network Neighborhood" to determine the network ID (NETBIOS name) for each workstation, inspect the configuration of each computer's active network connection, and browse the network for available shared resources.</p>	
Learning Objective	After completing this project, you will know how to use "Network Neighborhood" to determine the network ID for a computer, determine the configuration of an active network connection, and browse a local area network for shared resources..	
Specific Requirements	Access to at least one computer running Windows 98 or Windows 98SE. (Optionally, you may also explore the "Network Neighborhood" feature on a computer running Windows NT4 Workstation.). The computer you use for this project should be pre-configured with TCP/IP (Internet Protocol) installed for network access.	
Estimated Completion Time	45 minutes	
Project Steps	<p>To explore Network Neighborhood in Windows 98 or Windows 98SE:</p> <ol style="list-style-type: none"> 1. Boot a computer running Windows 98 or Windows 98SE normally to the desktop. 2. Verify that the computer has a working LAN connection as follows: Open the Network Neighborhood properties sheet. 	

Project 12.2	Exploring Network Neighborhood	Notes
	<p>(Right-click the Network Neighborhood icon on the desktop and choose Properties from the popup menu.</p> <p>3. Determine the Network ID (Computer name) and workgroup for the computer by clicking the Identification tab and inspecting the entries in the Computer name and Workgroup fields</p> <p>(Figure 12-8).</p>  <p>4. Click the Configuration tab in the Network properties window. Scroll through the list under "The following network components are installed:" and record the names of the installed components.</p> <p>(Figure 12-9)</p> 	

Project 12.2	Exploring Network Neighborhood	Notes
	<p>5. You should see listings for at least three components: “Client for Microsoft Networks,” the network adapter, itself, and an instance of the TCP/IP protocol bound to the network adapter. (Under Windows 9x operating systems, the Configuration tab contains entries for all of network adapters, network clients, and protocols installed on the operating system.)</p>  <p>You may also see an entry for "File and Printer Sharing for Microsoft Networks" at the bottom of the list. If you don't see this entry, you should install this component by clicking the File and Print Sharing button near the bottom of the screen (Figure 12-10).</p> <p>6. Place checkmarks next to "I want to be able to give others access to my files" and "I want to be able to allow others to print to my printer(s)." Then click OK to close this dialog box and click OK to close the Network Configuration properties.</p>	

Project
12.2

Exploring Network Neighborhood

Notes

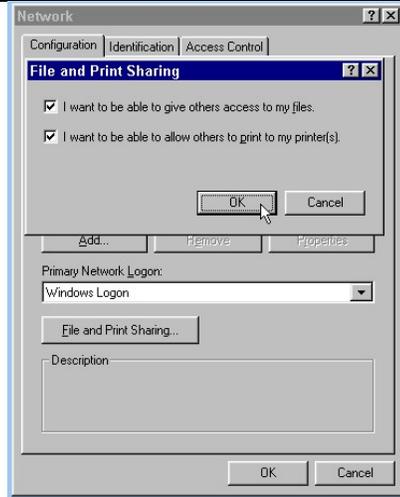
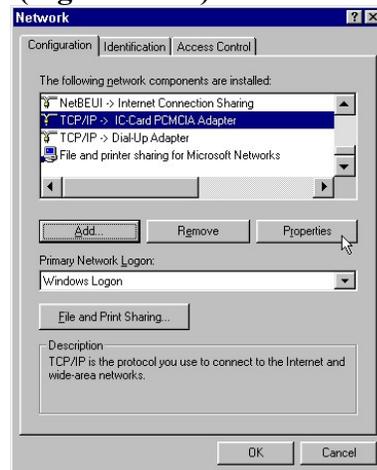
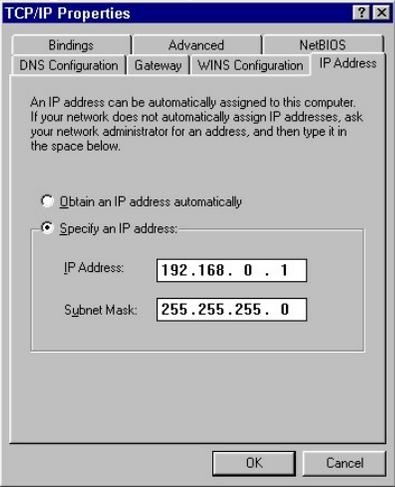


Figure 12- 10

7. Insert the Windows 9x product CD into the CD-ROM or DVD-ROM drive if the installation wizard prompts you for it. Allow the computer to restart when you are prompted to do so.
8. After the Windows 9x operating system reboots to the Desktop right-click the Network Neighborhood icon again and reopen the Network properties sheet. Scroll down through the list of installed components on the Configuration tab and highlight the instance of the TCP/IP protocol that is bound to the first network interface card installed in the computer

(Figure 12-11).



Project 12.2	Exploring Network Neighborhood	Notes
	<p>(Note that this is not the Dial-Up Adapter, a separate software component used to establish a dial-up modem connection)</p> <ol style="list-style-type: none"> 9. .Click the Properties button to open the TCP/IP properties for this instance of the TCP/IP protocol. 10. Click the IP Address tab on the TCP/IP properties screen. Inspect the configuration to determine whether this instance of TCP/IP is assigned a specific IP or whether it obtains an IP address automatically. <p>(Figure 12-12).</p>  <ol style="list-style-type: none"> 11. Click OK to close the TCP/IP properties screen and click OK to close the Network Properties screen.. Open the Network Neighborhood browser by double-clicking the Network Neighborhood icon on the desktop. 12. If “File and Printer Sharing” has been enabled in the Local Connection Profile for any computer in the workgroup, the Network ID for that computer will appear in the workgroup list 	

Project 12.2	Exploring Network Neighborhood	Notes
	<p>(Figure 12-13). (The Network ID for the computer that you are currently using should appear in the list.)</p>  <p>13. Double-click the Entire Network icon in the Network Neighborhood window to display a list of workgroups and domains that are currently accessible on the Local Area Network. (The icon used to represent a workgroup has the same appearance as the icon used to represent a domain.)</p> <p>14. Double-click the name of the workgroup in the listing that the computer you are using belongs to. (Note that you will again see a listing of computers in that workgroup that have file and printer sharing enabled.)</p>	