

SETTING UP NETWORKING FOR LOOKOUT™ 4.0

The purpose of this document is to help you with basic configuration of your computers in order to run Lookout 4. This document is not intended as a tutorial in networking. If possible, you should consult your network system administrator to help with any configuration problems you may have with networking.

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Testing TCP/IP Capability

Any computer on which you plan to run Lookout 4 must be able to ping, by name, all computers with which it will be communicating. This includes the local computer itself. To test this, try the following in a DOS prompt for each computer, replacing *computername* with the host name of the computer:

```
> ping computername
```

If TCP/IP is installed and properly configured, then this should produce an output similar to the following:

```
Pinging computername [123.45.67.89] with 32 bytes of data:  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=12
```

Installing TCP/IP

If your computer participates in a local network that is not connected to the Internet, your computer may be networked without having the TCP/IP protocol installed on it. For example, it might only have the NetBEUI protocol installed. If this is the case, then it is necessary to install TCP/IP on all machines that will be running Lookout 4. If you have a network system administrator, it is best to let that person configure your computers for TCP/IP. Otherwise, you can use these instructions, which require that you assign unique IP addresses to each computer.

This process requires that you have the original installation disk that was used to install Windows onto your machine. That disk contains the necessary files for installing networking components into your operating system.

Installing TCP/IP for Windows 98/95

1. Right-click on **Network Neighborhood** and select **Properties**. This brings up the **Network** dialog box.
2. Select the **Configuration** tab and click on the **Add** button. This brings up the **Select Network Component type** dialog box.
3. Select **Protocol** and click on the **Add** button.
4. In the **Select Network Protocol** dialog box, select **Microsoft** in the **Manufacturers:** list and **TCP/IP** in the **Network Protocols:** list.
5. Click on **OK**.
6. In the **Network Protocol:** list, select **TCP/IP Protocol**.
7. Click on **OK**. This returns you to the **Network** dialog box.
8. Double-click on the **TCP/IP** component:
 - a. Under the **DNS Configuration** tab, select **Disable DNS**.
 - b. Under the **Gateway** tab, leave all of the entries blank.
 - c. Under the **WINS Configuration** tab, select **Disable WINS Resolution**.

- d. Under the **IP Address** tab, specify an IP address. Make sure that you select an address different from any others on your local area network. If your network is connected to the Internet, ask your network administrator for a set of suitable IP addresses and subnet masks. Otherwise, set the **IP Address** to 100.100.100.x where x is greater than one and is different for each computer you configure. Set the **Subnet Mask** to 255.255.0.0.
 - e. Make no changes under the **Bindings, Advanced, and NetBIOS** tabs.
 - f. Click **OK**. This returns you to the **Network** dialog box.
9. In the **Identification** tab, assign a name, workgroup, and optional description to your computer.
 10. Under the **Access Control** tab, leave **Share-level access control** selected.
 11. Click on **OK**. At this point, Windows may prompt you to insert your Windows installation CD into the CD-ROM drive.
 12. When you are prompted **Do you want to restart your computer now?** click the **Yes** button. When Windows restarts, you will be asked to provide a password. Provide something that you can easily remember.
 13. Start a command prompt (**Start»Programs»MS-DOS Prompt** or enter `command.com` in the **Run** box, accessed by choosing **Start»Run**). Enter the following command:

```
C:\>ping computername
```

where *computername* is the name that you assigned to your computer in step 9. You should see something like this:

```
Pinging computername [100.100.100.2] with 32 bytes of data:  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=32  
Reply from 100.100.100.2: bytes=32 time=1ms TTL=32  
Reply from 100.100.100.2: bytes=32 time=1ms TTL=32  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=32
```

This indicates that TCP/IP is working correctly.

If your computer still cannot ping itself, check the settings you have just made, and then consult with your system administrator if necessary.

Installing TCP/IP for Windows NT

1. Right-click on **Network Neighborhood** and select **Properties**. This brings up the **Network dialog** box.
2. Select the **Protocols** tab, and click on the **Add** button. This brings up the **Select Network Protocol** button.
3. In the **Network Protocol:** list, select **TCP/IP Protocol**.
4. Click on **OK**.
5. In response to the question **Do you wish to use DHCP?** answer no. DHCP is a service used to assign IP addresses to computers. If TCP/IP is not already being used for networking, then you probably do not have a DHCP server on your network.

A window with the message **Setup needs to copy some Windows NT files** appears.

6. Insert your Windows NT 4.0 CD into your CD-ROM drive, and specify the location of the setup files on your CD-ROM drive (for example D:\I386), then click on **Continue**. This returns you to the **Network** dialog box.
7. Double-click on the **TCP/IP** component:
 - a. Under the **IP Address** tab, specify an IP address. Make sure that you select an address different from any others on your local area network. If your network is connected to the Internet, ask your network administrator for a set of suitable IP addresses and subnet masks. Otherwise, set the **IP Address** to 100.100.100.x where x is greater than one and is different for each computer you configure. Set the **Subnet Mask** to 255.255.0.0.
 - b. Under the **DNS** tab, assign a host name. This should already have a value in it. It should be the same as the name of your computer. Leave all of the rest of the edit boxes blank.
 - c. Under the **WINS Address** tab, do not modify any of the entries. You do not need to select **Enable LMHOSTS Lookup**.
 - d. Under the **Routing** tab, leave the **Enable IP Forwarding** check box unchecked.
 - e. Click on **OK**.
 - f. If you see the message, **At least one of the adapter cards has an empty primary WINS address. Do you want to continue?** click on **Yes**.
8. If you see a **Show Bindings for:** dialog box, click on **Next**. Click on **Next** again to start TCP/IP.

9. If you see a **Computer Name:** dialog box, leave the computer as a member of a workgroup. You may optionally change the name of the workgroup if you like. Use the same workgroup for all of the computers you are configuring. Click on **Next** and then **Finish**.
10. In response to the **Do you want to restart your computer now?** message, click on **Yes**.
11. After your computer has rebooted and you have logged back in, double-click on the **Network Neighborhood** icon. You should see your computer listed as well as an **Entire Network** icon.
12. Start a command prompt (**Start»Programs»MS-DOS Prompt** or enter `command.com` in the **Run** box, accessed by choosing **Start»Run**). Enter the following command:

```
C:\>ping computername
```

where *computername* is the name that you assigned to your computer in step 7b. You should see something like this:

```
Pinging computername [100.100.100.2] with 32 bytes of data:  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=128  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=128  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=128  
Reply from 100.100.100.2: bytes=32 time<10ms TTL=128
```

This indicates that TCP/IP is working correctly.

If your computer still cannot ping itself, check the settings you have just made, and then consult with your network administrator if necessary.

Temporarily Removing a Computer from a Network

This section shows you how to set up networking on a computer that is normally connected to a network but is being disconnected temporarily (as if often done with laptop computers).

If the command `ping computername` does not succeed, then you must change some networking settings to make it work. Use the following steps to configure your computer for stand-alone operation with TCP/IP active. Before changing any setting, make note of the current setting so you can change it back (if necessary) once you are reconnected to your network.

Temporarily Removing from Windows 98/95

1. Make note of the current settings so you can change them back (if necessary) once you are reconnected to your network.
2. Right-click on the **Network Neighborhood** icon on the desktop and select **Properties**.
3. On the **Identification** page make sure the computer name is correct.
4. On the **Configuration** page double-click on **TCP/IP Protocol** for your adapter. (Do not choose a dial-up adapter. There should be a protocol that corresponds to a network card on the computer.) The **TCP/IP Properties** page appears.
5. On the **IP Address** page, select **Specify an IP Address**. Fill in a unique **IP address**, such as 100.100.100.100. Set the **subnet mask** to 255.255.0.0.
6. On the **WINS Configuration** page, select **Disable WINS Resolution**.
7. On the **DNS Configuration** page, select **Disable DNS**.
8. Click on **OK**, and then click on **OK**. You may be asked to provide the Windows CD-ROM at this point. You may be able to get networking going even if you do not have it.
9. Restart the computer. Be sure to log in. If you cancel out of the login dialog box, networking will not be enabled.

Running the ping program as described earlier in this document should now work. Also, you now should be able to run Lookout 4.0 without any problems.

Before you can connect to any other computers, you will have to reconnect your computer to the network and change the TCP/IP settings back to their previous values.

Temporarily Removing from Windows NT 4.0

The following assumes that TCP/IP is already installed on your computer. If it is not, please refer to section [Installing TCP/IP](#).

1. Make note of the current settings so you can change them back (if necessary) once you are reconnected to your network.
2. Right-click on the **Network Neighborhood** icon on the desktop and select **Properties**.
3. On the **Identification** page make sure the computer's name is correct.

4. On the **Protocols** page double-click on **TCP/IP Protocol** for your adapter. (Do not choose a dial-up adapter. There should be a protocol that corresponds to a network card on the computer.) The **TCP/IP Properties** page appears.
5. On the **IP Address** page, if **Specify an IP address** is already selected, proceed to step 6. Otherwise, select **Specify an IP address**. Fill in a unique **IP address**, such as 100.100.100.100. Set the **subnet mask** to 255.255.0.0. Leave the **Default Gateway** blank.
6. On the **DNS** page, set the **Host Name:** field to the computer name and leave the **Domain:** field blank. Leave the two listboxes on this page blank.
7. On the **WINS Address** page make sure the **WINS Server** fields are empty.
8. Click on **OK** and then **Close**.
9. Restart your computer.

Running the `ping` program as described earlier in this document should now work. Also, you now should be able to run Lookout 4.0 without any problems.

Before you can connect to any other computers, you will have to reconnect your computer to the network and change the TCP/IP settings back to their previous values.

Networking Two Computers

Most computers you install Lookout on will probably be on a network already. However, if the computers are not already on a network, you may have to connect them yourself.

This section shows you how to check the network connections between two computers, and how to connect two computers called *server* and *client* across a network using TCP/IP.

Checking the Network Connection between Two Computers

Lookout networking is based on TCP/IP and assumes that computer network addresses can be resolved by name. The `ping` program is also based on TCP/IP and also assumes that computers' network addresses can be resolved by name.

Use the `ping` program to check and see if two computers are properly networked before trying to run Lookout.

Run `ping` by opening a DOS window and entering the following:

```
ping server  
from the client and  
ping client  
from the server.
```

When `ping` runs successfully, it produces output similar to the following:

```
Pinging computername [123.45.67.89] with 32 bytes of data:  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128  
Reply from 123.45.67.89: bytes=32 time<10ms TTL=128
```

If you cannot successfully run `ping` from both computers, Lookout networking will not work.

If `ping` does not succeed or takes a long time to succeed, try using the Network Troubleshooter by selecting **Start»Help»Troubleshooting**. This Windows utility can sometimes diagnose a problem. In some cases, it may be necessary to use the machine's fully qualified name, such as `computername.dy.natinst.com`.

If the Network Troubleshooter does not resolve your problems, ask for help from a network administrator.

Connecting Two Windows Computers Using a Hublet

You can network two computers independently of a local area network by using an Ethernet hublet. Network cards must be properly installed and set up in both computers for this to work.

Be sure to write down all the original network settings before making changes so that you can return your computers to their home network later.

Plug in the network hublet. Connect the Ethernet port on each computer to one of the ports on the hublet.

Set Up HOSTS Files

Set up identical `HOSTS` files on both client and server so each computer can find the IP address of the other computer, as described in the following sections.



Note

Be sure that you are creating a file with name `hosts`, not `hosts.txt`. If you have chosen to hide MS-DOS file extensions on your computer, right-click on the file name and select **Properties**. The full DOS name is shown in the MS-DOS name field.

You could also use the command `dir hosts.*` from a DOS prompt in the folder where you created the file to make sure that there is no extension on the filename. By default, Notepad will append the `.txt` extension to any text file it creates.

Set Up HOSTS Files Under Windows 98/95

1. Create a file called `hosts`. This file must be placed in the Windows directory, for example:

```
c:\windows\hosts
```

2. The file should contain the following lines:

```
127.0.0.1      localhost
100.100.100.100 server
100.100.100.101 client
```

where *server* is the name of the server computer and *client* is the name of the client computer.

Set Up HOSTS Files Under Windows NT 4.0

1. Log on as an administrator to the local machine (not onto a domain).
2. Create a file called `hosts` in the `%SystemRoot%\system32\drivers\etc` folder, for example `c:\winnt\system32\drivers\etc\hosts`.

3. The file should contain the following lines:

```
127.0.0.1      localhost
100.100.100.100 server
100.100.100.101 client
```

where *server* is the name of the server computer and *client* is the name of the client computer.

Set TCP/IP Properties

Set up the TCP/IP properties on both client and server computer, as described in the following sections.

Set TCP/IP Properties Under Windows 98/95

1. Right-click on the **Network Neighborhood** icon and select **Properties**. On the **Configuration** page, in the listbox, double-click on **TCP/IP** (not a dial-up adapter—there should be one that corresponds to a network card in the computer). This opens the **TCP/IP Properties** page.
2. On the **IP Address** page, select the **Specify an IP address** option and fill in a unique IP address. 100.100.100.100 and 100.100.100.101 should work fine for the server and client, respectively. Set the **Subnet Mask** to 255.255.0.0.
3. On the **WINS Configuration** page, select **Disable WINS Resolution**.
4. On the **DNS Configuration** page, select the **Disable DNS** option.
5. Click on **OK** until you clear the dialog boxes. You may be asked to insert the Windows CD-ROM in your CD-ROM drive at this point. If you can, insert the CD, but you may be able to get networking going even if you do not have it.
6. Restart the computer. Be sure to log in. If you cancel the **login** dialog box, networking will not be enabled.
7. Double-click on **Network Neighborhood**. You should see both server and client computers.
8. On both client and server computer, make sure you can ping the local host, the server, and the client from each machine by entering the following commands in a DOS shell:
> ping localhost
> ping server
> ping client

Set TCP/IP Properties Under Windows NT 4.0

1. Log on as administrator onto the local machine (not onto a domain).
2. Right-click on the **Network Neighborhood** icon, and select **Properties**. On the **Identification** page, make sure that your computer is named what you think it is. You do not need to change the domain name. On the **Protocols** page, in the listbox, double-click on the **TCP/IP** adapter (not a dial-up adapter—there should be one that corresponds to a network card in the computer). This opens the **TCP/IP Properties** page.
3. On the **IP Address** page, select the **Specify an IP address** option and fill in a unique IP address. 100.100.100.100 and 100.100.100.101 should work fine for the server and client,

respectively. Set the **Subnet Mask** to 255 . 255 . 0 . 0. Leave the **Default Gateway** blank.

4. On the **DNS** page, set the **Host Name:** field to your computer name and leave the **Domain:** field blank. Leave the two listboxes on this page blank.
5. On the **WINS Address** page, leave the **Enable DNS for Windows Resolution** option unchecked. Leave the **Enable LMHOSTS Lookup** option unchecked.
6. Click on **OK** and then **Close**. Restart your computer.
7. Double-click on the **Network Neighborhood** icon. You should see both server and client computers listed.

Test your networked computer with the `ping` command again. Contact your network system administrator if you need additional assistance.