



Dialing Into PittNet With PPP on Your Windows 98 Machine

What is PPP?

Point-to-point Protocol (PPP) is a method for connecting a personal computer to PittNet and the Internet using a standard phone line and a modem. The difference between PPP and other, older dial-up procedures is that a PPP setup will establish a direct Internet connection that allows the PC to use TCP/IP (Internet-based) applications as if it had its own direct Internet port instead of just a phone jack. Communication programs such as Telnet, FTP and PopMail, as well as Gopher and Netscape, will all run from a Windows-based PC with a good PPP connection. The University of Pittsburgh offers PPP communication to its computing community through all available dial-up lines.

In order to make a connection using PPP, you must have a modem capable of at least 14,400 bps communication. A slower modem may be successful, but the performance may be too slow to be of any practical use.

You do not need to install a communications package such as Trumpet Winsock or LAN WorkPlace in order to initiate PPP communication using a modem on a Windows 98 PC.

Do not install the "PittSLIP" package currently being distributed via the CIS computing lab file servers or any other outside communications package on your Windows 98 PC as they may severely impede your machine's communications ability.

If you have a PC with an older version of Windows (Windows 95 or earlier) then these directions do not apply to your PC setup. See the help sheets listed under *Remote Access* on the **Documentation Archives** Web page at <http://technology.pitt.edu>.

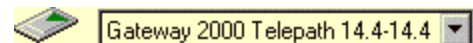
Fortunately for users of Windows 98, no additional software is needed in order to set up PPP communication using a modem. However, your PC must be instructed to use Internet protocols, including PPP.

Getting Your Modem Installed

1. To see if your PC can recognize your modem, click on the "Control Panel" folder icon, available under "My Computer." In the Control Panel window, click on the "Modems" icon.



2. If Windows 98 detects a modem, then the modem will be listed on the Modem's window.



If this appears, then you can skip ahead to the section titled Installing Dial-up Networking.

3. If Windows 98 does not detect a modem, then you will be prompted to go through the installation process. If you have not physically installed the modem, turn off your machine and install the modem card. Then, restart your PC to see if the modem is recognized by plug-and-play.

The "Install New Modem" screen that appears will give you options for installing either a PC Card (PCMCIA) modem or an internal or external modem. Both the PC Card modem and the external modem installation process use "wizard" screens that will take you through the installation as a series of steps, represented by different screens.

Modem Installation Tips

- ?? After the install process has been initiated by the wizard program, it will attempt to automatically recognize your modem again. Click the "Yes" button when the wizard program asks you if you wish it to attempt to locate the modem automatically.
- ?? The "wizard" procedures have been set up intelligently enough so that if you follow along with the suggested or default settings, you should have few problems.
- ?? The wizard installation program will try to set the modem up on your PC's COM1 communications port. Some PCs will require that Windows 98 install both the port and the modem at the same time. If this is not possible, then the wizard program will install just the port using the "Add New Hardware" wizard program. If this happens, follow the "New Hardware" process to the end and then click "Finish." Then restart your PC and click on the "Modems" icon again to start a separate process for the modem installation.
- ?? Some internal modems on Windows 98 PCs cannot be recognized properly due to conflicts with certain sound cards. If your PC is not correctly recognizing your internal modem, try removing the sound card and restarting the PC. With this possible conflict temporarily eliminated, the PC may be able to recognize the modem properly and the sound card can then be re-installed and the PC started again with all equipment recognized and functioning.
- ?? If you are using an **external** modem on an *older* PC, you should make sure that the COM port that the modem will be using has a "16550 UART" chip controlling it. Check your PC's specifications or use the MSD program (if you have installed this program) in "DOS Prompt" mode to check your PC's COM ports. If necessary, you may have to reconfigure the COM port that your modem uses or attempt to use a port controlled by an older 8250 UART chip. PC Cards (PCMCIA modems) will have this chip built in.

Installing Dial-up Networking

NOTE: You should follow the directions in this section only if you DO NOT see a folder icon for "Dial-up Networking" after you double-click on the icon for "My Computer."



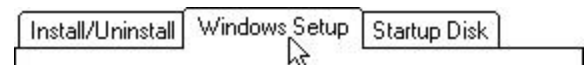
If this icon **does appear**, then you can skip ahead to the section entitled *Configuring Your Dial-Up Networking for the Pitt Environment*.

To Install Dial-up Networking Components:

1. Double-click on the "Add/Remove Programs" icon in the "Control Panel" folder.



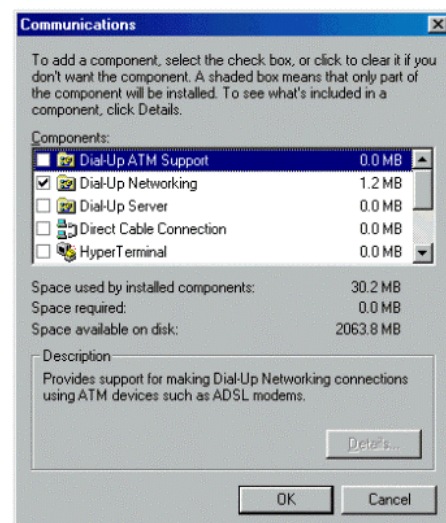
2. Click on the tab icon for "Windows Setup" so that the "Windows Setup" section is prominent.



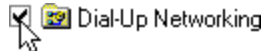
3. Highlight the "Communications" line by clicking the mouse once on the line and then clicking the "Details" button on the lower part of the screen.



4. The "Communications" window will appear.



Make sure that the box next to "Dial-up" Networking" is checked. This can be done by positioning the arrow-shaped pointer onto the box and clicking the left mouse button once so that a check mark appears.



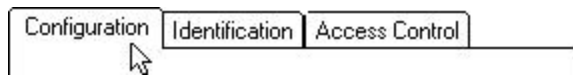
5. Click on the "OK" button on the "Communications" window and then click the "OK" button in the lower section of the "Add/Remove Programs Properties" screen.

Windows 98 will install the necessary communication components from files stored on the hard disk, or it may prompt you for the Windows 98 installation disks or CD.

6. Next, double click on the "Network" icon located in the "Control Panel" folder.



7. The "Network" window appears. If the "Configuration" section of the window is not prominent, click on the tab icon for "Configuration."

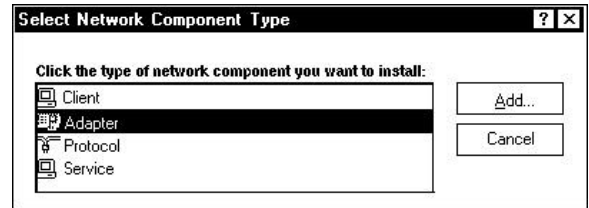


8. This section lists various communications components that must be installed in order to establish network and PPP communication. The first of these that you must check for is the Dial-up adapter. If a line and icon for "DialUp Adapter" is present, skip to the next section.

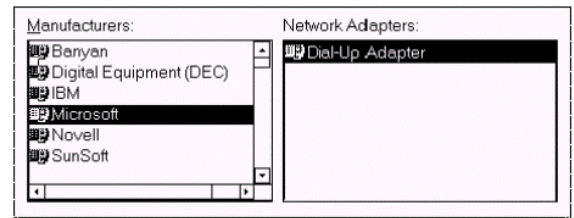


If such a line is not visible, click on the "Add" button.

9. A dialog box will appear entitled "Select Network Component Type." Use the down arrow key to highlight "Adapter" and then click on the "Add" button.



10. The "Select Network Adapters" window will appear with two different sections. Double click on the "Microsoft" line in the Manufacturer's box on the left, and then on the "DialUp Adapter" line. The icon should appear in the section on the right, under the "Network Adapters" line.



Click on the "DialUp Adapter" line once so that it is highlighted and click the "OK" button.

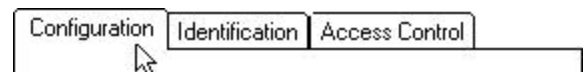
Configuring Your Dial-Up Networking for the Pitt Environment

This section contains instructions for the specific configuration of your Windows 98 PC to use Pitt's SLIP/PPP environment. If you are currently at the "Configuration" section of the "Network" window (having come from the previous section) then you can skip ahead to step #4 of this procedure.

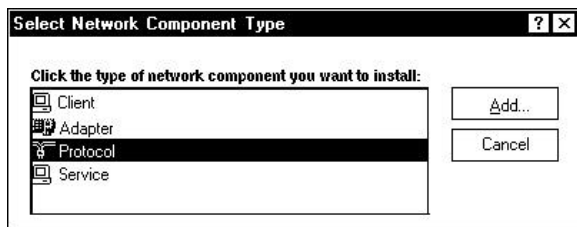
1. Double click on the "Network" icon located in the "Control Panel" folder.



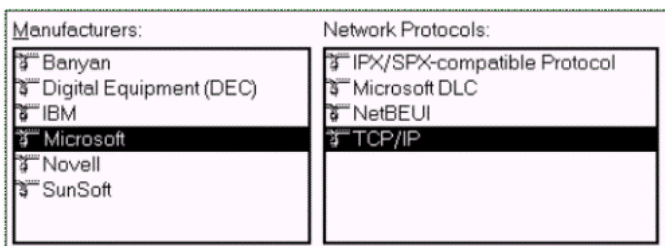
2. The "Network" window appears. If the "Configuration" section of the window is not prominent, click on the tab icon for "Configuration."



- This window lists various communications components that must be installed in order to establish network and PPP communication. The first of these that you must check for is the Dial-Up Adapter. If a line and icon for "Dial-Up Adapter" is not present, follow the procedure in the previous section.
- The second component that you need to establish via this window is a listing for TCP/IP (Internet) protocol. The official name for this component is "TCP/IP." If, for some reason, this is already listed on the screen, skip ahead to step #7. Otherwise, click on the "Add" button.
- A dialog box will appear titled "Select Network Component Type." Click on "Protocol" and then click on the "Add" button.



- The "Select Network Protocol" window will appear with two different sections. Double click on the "Microsoft" line in the Manufacturer's box on the left. Listings for different network protocols should appear in the right box under "Network Protocols".

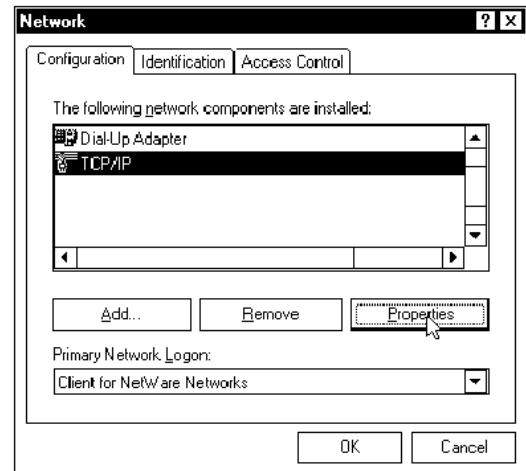


Locate the listing for "TCP/IP" and click on it once so that it is highlighted. Then, click the "OK" button.

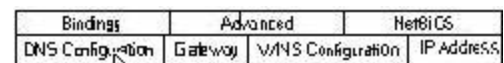
The "Network" window should reappear with the "Configuration" section still prominent.

- On the "Network" window, remove any network components other than "Dial-Up Adapter," "Microsoft Network" and "TCP/IP." This is done by selecting the component to be deleted and then clicking the "Remove" button.

- Click the line for "TCP/IP" once so that it is highlighted. Then, click on the "Properties" button.



- When the "TCP/IP Properties" window appears, click on the tab icon for the "DNS Configuration" section.



- The "DNS Configuration" screen will appear. Make sure that the radio button next to "Enable DNS" is selected.



- Click in the field next to "Host:" so a blinking bar cursor appears in the box. Enter "MyComputer" in the box or some other name for your PC while it is connected.

It does not really matter what you enter in this field as long as you do not leave the field blank. It is recommended that the name you enter in this space contain only standard alphabetic or numeric characters with no spaces, punctuation marks or special characters. Actually, Windows 98 is tolerant of spaces and strange characters in this box. However, if you try to send mail from your PC using Netscape or another PC-based mail program, the mail utility may get confused if it encounters a name with spaces and special characters in this box.



- Enter "pitt.edu " in the field next to "Domain:".

13. Enter "cis.pitt.edu " in the field under "Domain Suffix Search Order" and then click the "Add" button. Enter "pitt.edu" in this field in the same manner.
14. Click on the "OK" button at the bottom of the window.
15. Click on the "OK" button at the bottom of the "Network" window.

Creating a New Dial-Up Connection Icon

This procedure explains how to create an icon for connecting to the University's Dial-up lines. If it is done correctly, you will have an icon in your "Dial-Up Networking" folder that will establish a PPP connection for you with only a few clicks of the mouse and some keystrokes.

1. Double click on the folder icon for "Dial-up Networking" accessed via the "My Computer" icon.



If this icon does not appear, then follow the instructions in the section entitled *Installing Dial-Up Networking*.

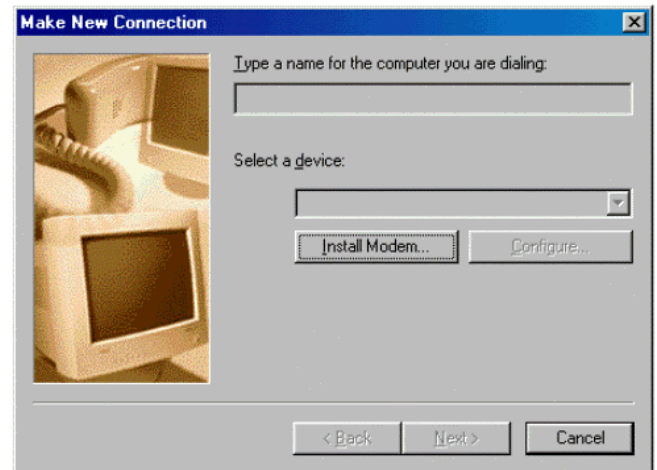
If Windows 98 cannot detect an installed internal or external modem, it will automatically go to the "Install New Modem" procedure. If this is the case, check your modem's install documentation and the section of your Windows 98 manual that goes over installing and recognizing peripherals, such as modems. Also, check out the section of this help sheet entitled *Getting Your Modem Installed*.

2. Double-click on the "Make New Connection" icon.



This will begin the Make New Connection Wizard screens that will ask you for important information in a series of steps.

3. The first wizard screen will ask you to create a name for the icon that will appear after the process is complete. This is the name that will appear under the icon so pick a descriptive title, such as "Connect to Pitt", and then click "Next."



4. The next wizard screen will feature fields for the area code, the phone number and the country code. The character string that you place in the "Telephone number" field will vary, depending on where you are dialing from and what University dial-up line you wish to use.
 - The dial-up number for the Pittsburgh campus is (412) 297-7488 (PITT). If you wish to dial into a regional campus, use one of the following numbers:

Bradford campus (814) 362-7597

Greensburg campus (724) 836-9997

Johnstown campus (814) 269-7950

Titusville campus (814) 827-4486
 - If you are dialing from on-campus, remember to add a "9" before the number (for example, 9 412-297-7488)
 - To shut off call waiting from an on-campus phone, add "#9" before the "9" (for example, #9 9 412-297-7488). The code to shut off call waiting for most phone systems outside of the Pitt system is *70 . (For example, *70 412-297-7488).

Place the area code you use to access the dial-up phone number in the "Area Code:" field.

The field for "Country Code" should read "United States of America."

- Click the "Next" button to move onto the next screen and then click the "Finish" button. This should create a new icon in the "Dial-up Networking" folder. However, the setup process is not yet complete.

Do not attempt to initiate a PPP dial-up session unless you have completed steps 6 through 10 in this section.

- Bring up the connection's "Properties" menu by positioning the arrow-shaped pointer until it is over the new icon and then clicking the **right** mouse button once.

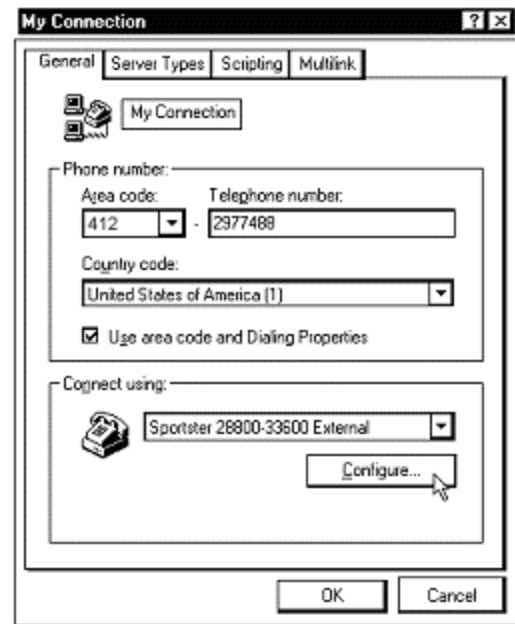


NOTE: The title of your new icon may not read "Connect to Pitt," as shown in the example above. It will be named whatever you entered into the first field at step #3.

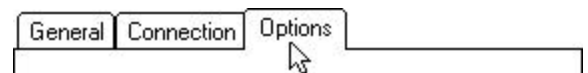
A pop-up menu will appear with different choices. Move the mouse down until "Properties" is selected and then click the left mouse button to select the option.



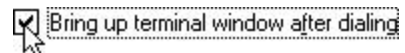
- The properties box for your newly-created icon should appear with the "General" section prominent. Click on the "Configure" button in the lower part of the section.



- The configuration box for your particular make of modem will appear. Make sure that the "Options" section of the window is prominent by clicking on the "Options" tab icon.

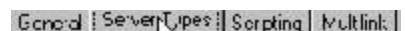


- The box next to "Bring up terminal window after dialing" should be selected, indicated by a check mark. If this box is not checked, position the arrow-shaped pointer over the box and click the left mouse button once. This should leave a check mark in the box.



- Click the "OK" button at the bottom of the window. This should return the "General" window.

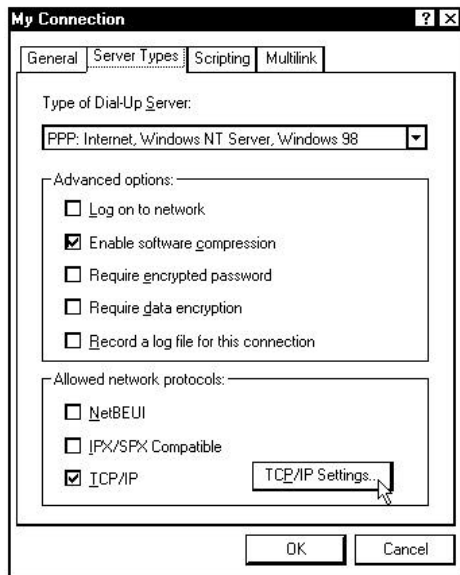
- Click on the "Server Types" tab icon.



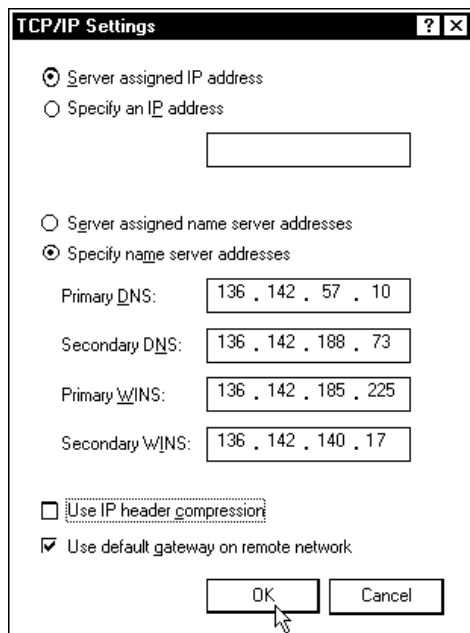
- The "Server Types" window will appear. In this window, make sure that the field under "Type of Dial-Up Server" reads: **"PPP: Internet, Windows NT Server, Windows 98."** If this is not the case, click on the down-arrow to the right of the field and hold down the left mouse button. This should present a pop-up menu of choices. Move the mouse so that the "PPP" line is selected and release the mouse button.

Also, click on the boxes next to "Log on to network," "Require encrypted password," "NetBEUI" and "IPX/SPX Compatible" so they are *not* checked. The only boxes in this window that *should* be selected are "Enable software compression" and "TCP/IP."

13. Click on the "TCP/IP" Settings" button in the lower part of the "Server Types" window.



14. At the top of the "TCP/IP Settings" window, select the setting "Server assigned IP address" by clicking on the radio button beside this choice.



15. In the middle part of the window, select the setting "Specify name server addresses" by clicking on the radio button beside this choice.

16. In the box beneath "Specify name server addresses," click in the window labeled "Primary DNS."
17. Enter the numbers "136.142.57.10" in this "Primary DNS" window.
18. Hit the tab key to move to the "Secondary DNS" window. Enter the numbers "136.142.188.73" in the "Secondary DNS" window.
19. Tab down to the "Primary WINS" window. Enter the numbers "136.142.185.225" in the "Primary WINS" window.
20. Tab down to the "Secondary WINS" window. Enter the numbers "136.142.140.17" in the "Secondary WINS" window.
21. Click on the "OK" button at the bottom of the window. You should return to the "Server Types" window.
22. Click on the "OK" button at the bottom of the "Server Types" window.

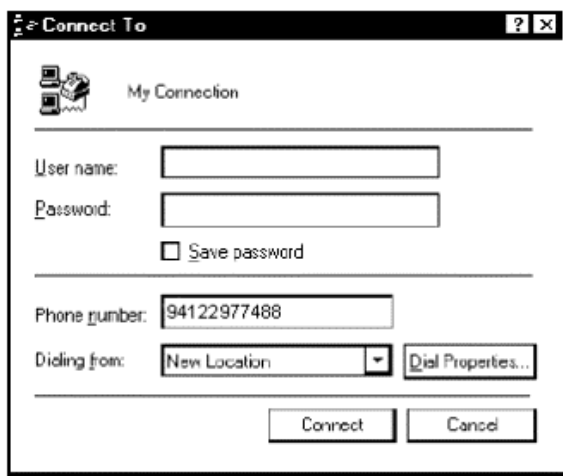
You are now ready to attempt your first PPP login.

Dialing in and Making Your PPP Connection

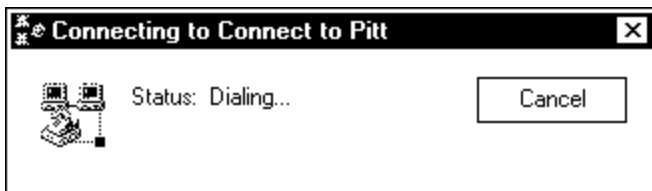
1. Double-click on the new icon that you created in the previous section of this help sheet.



2. The initial connection screen appears. You do not need to fill in the "Username" or "Password" fields. Leave them blank. The character string in the "Phone Number" field should be the number that you entered in step 4 of the previous section.

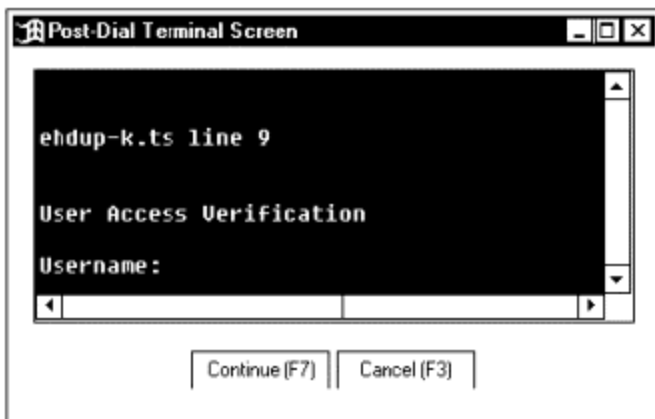


3. Click on the "Connect" button. A small connection dialog box will appear.



You will know that your modem is working correctly if you hear dialing tones, low-pitched static, high-pitched static and then silence.

4. If the connection is successful, the "Post-Dial Terminal Screen" will appear. This screen will display the welcome text from the Pitt Dial-up service.



Through the "Post-Dial Terminal Screen," the Dial-up server will prompt you for your University Computer Account username and password. Enter both of these.

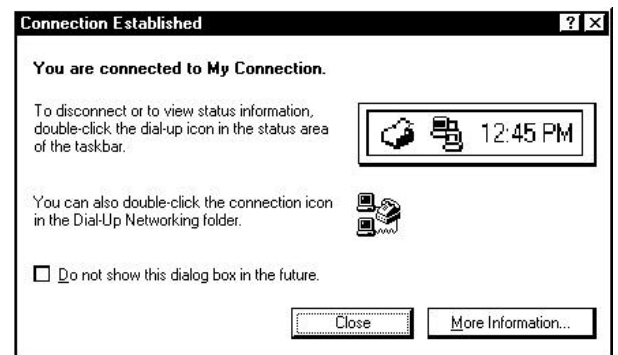
User Access Verification
Username: **chbst1**
Password: xxxxx

If your login is successful, you will be presented with a "Local>" prompt. **DO NOT** attempt to log into UNIX or VMS from this prompt. For timesharing access, use the Telnet utility. Instructions for accessing Telnet and FTP are listed in the next section.

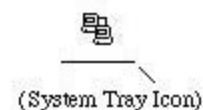
5. At the "Local>" prompt:

Type in "ppp".
Press **Enter**.
Click on the "Continue" button.

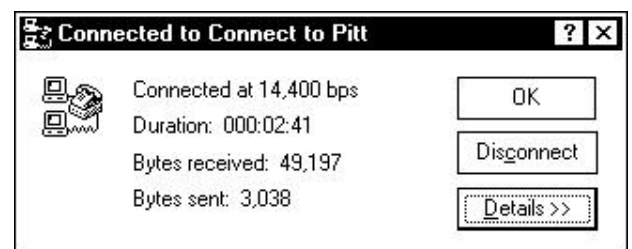
6. If your connection has been successful, a status box will appear stating that you have been connected successfully.



7. In addition to this "successful connection" box, a new section will appear in your computer's system tray, which runs along the bottom, side or top of your Windows 98 display. The section will feature two small computer icons connected together.



If you position the arrow pointer over this section of the system tray and click the **right** mouse button, a box will appear containing two choices: "status" and "disconnect." Click on "status" and a status box will appear listing the connect time and the connection speed that your modem was able to negotiate with Pitt's dial-up modems (these speeds will vary somewhat).



You can get rid of this box by clicking the close icon in the upper right corner.

Once your PPP connection is up, as signified by the new section in the system tray, you can begin working with Internet-based utilities such as Telnet and Netscape. Remember that CIS enforces a four-hour limit on logins so use your time wisely.

NOTE: To disconnect from a PPP login, double click on the minimized icon for the connection or the system tray icon and click the "Disconnect" button. Make sure that you quit from all Internet-based applications first.

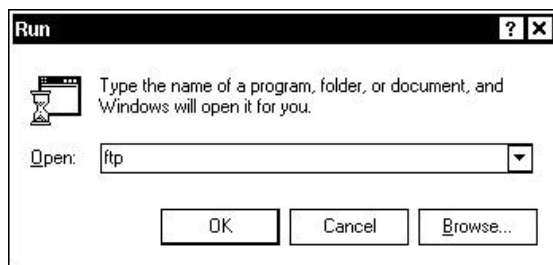
Running Telnet and FTP

In addition to PPP dial-up software, Windows 98 also includes versions of Telnet terminalemulation software as well as a file transfer protocol (FTP) utility. Both of these utilities can be accessed via the "Start" button.

1. Click on the "Start" button and hold down the mouse button. The entire "Start" menu will appear with the "Run" option accessible near the bottom of the list. While continuing to hold in the mouse button, move the pointer until it is over the "Run..." command and then release the mouse button.



2. The "Run" dialog box will appear. In order to run the FTP utility, enter "ftp" on the line next to "Open:." To begin running Telnet, enter "telnet" on the "Open:" line.

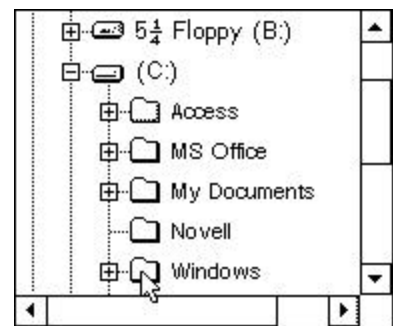


3. Click on the "OK" button. This will begin running either Telnet or FTP. If you think that you will be using either or both of these utilities a great deal in the future, you may want to create a shortcut icon for them on your desktop. This procedure is detailed in steps 4 through 7.

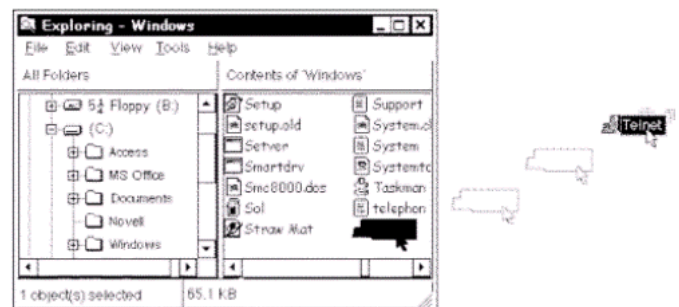
4. To create a shortcut for either Telnet or FTP, select the "Windows Explorer" option, accessible via the "Programs" option from the "Start menu.



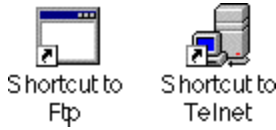
5. On the "Explorer" window, double click on the icon for "Windows" under the C drive icon (C:) so that the contents of the "Windows" folder appears on the right section of the window.



6. Position the arrow-shaped pointer until it is over the icon for Telnet or FTP and hold down the left mouse button. Move the mouse until the pointer "drags" the icon to a section of the desktop not covered by a window.



7. This will not remove the Telnet or FTP icon from its original location in the "Explorer" window. It will, however, create a shortcut icon on the desktop that can be easily accessed.



8. You can close the "Explorer" window by selecting the "Close" command under the **File** menu heading.

Getting Your Own Copy of Netscape

Most users of Internet services such as the Pitt SLIP/PPP service are anxious to use the Netscape World Wide Web browser to check out what is available on the 'Web'. You can get your own copy of Netscape by obtaining a **Software Toolkit CD**.

The Toolkit CD contains freeware and some commercial software licensed by the University of Pittsburgh, including Netscape Communicator 4.06. It contains software for, and can be used on, both a Windows-based and a Macintosh computer. The CD is available free of charge to any University of Pittsburgh faculty, staff or student. It may be obtained in any campus computing lab or from the **Software Licensing Services (SLS)** office in 203 Bellefield Hall.

To install the program on a windows-based computer:

1. From "My Computer", open up the CD-ROM drive, and then double-click on the folder called "Browsers".
2. Double-click on the folder called Netscape Communicator to open it.
3. Double-click on the icon labeled "**cc32e406**". This will start the automated installer wizard.
4. Follow the instructions as they appear in the wizard to install the program.

Once the software is fully installed and a Netscape icon appears in the "Netscape" folder, you can begin exploring the World Wide Web and customizing your copy of Netscape by double-clicking on the Netscape icon to start up the program.



Closing your PPP connection

It is important to remember to close your PPP connection when you are finished using Internet utilities since access to the Internet is becoming increasingly more valuable. This is done by double-clicking on the minimized Dial-up Networking icon (named "Connect to Pitt" in this help sheet) and then clicking on the "Disconnect" button.

Getting Help

For software usage or PPP setup questions, contact the Help Desk by phone at (412) 624-HELP [4357] or via the Web at <http://technology.pitt.edu>. The consulting staff is familiar with this procedure and most of the popular Internet utilities.