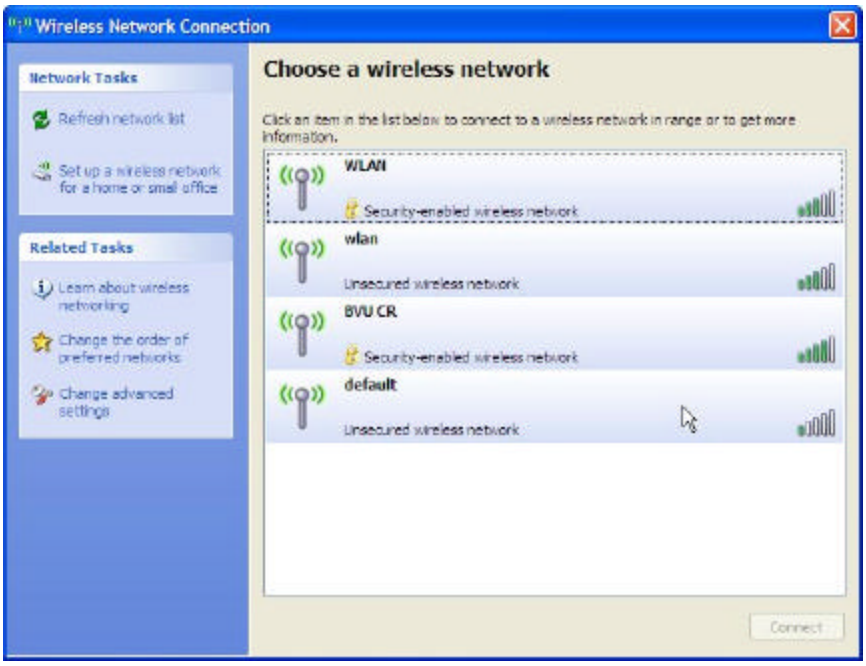
# WiFi 101

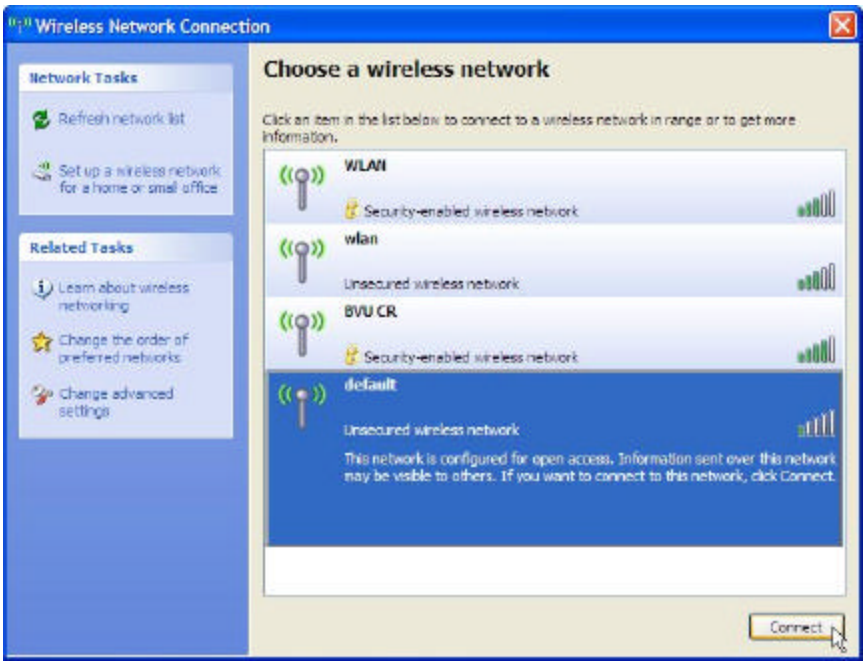
WiFi, or wireless fidelity, is the method by which computers with wireless networking capability connect. Here is a brief introduction to how this works from the user's standpoint within WindowsXPsp2. (All of the methods are similar in other versions of Windows. The main differences are in the screens as presented here.)

When wireless networking is enabled, a small icon will appear in the system tray. When opened the following screen is displayed, showing the user what wireless networks the computer is currently in range of. The user is also informed of the signal strength and whether or not the connection is secure.




In this example, I have four different networks that are potentially available for me to connect to.

Selecting any of the networks will give you brief additional information on whether or not that network is secure. In this example you see the description you'll receive when you select an unsecured network.

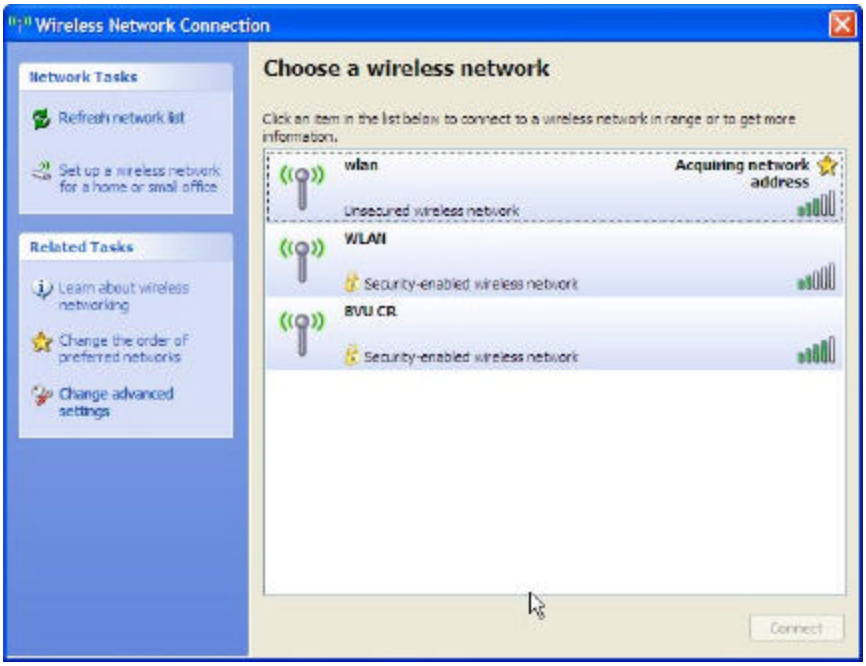



Once you have chosen the network you wish to connect to, click **Connect**. Since I'm attempting to connect to an unsecured network, I'm given the following security warning.

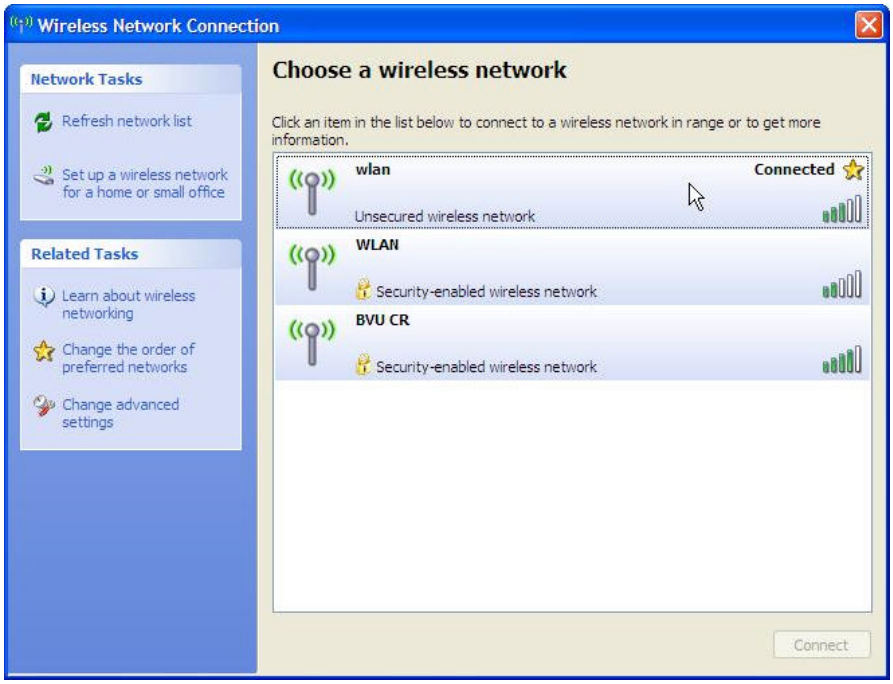

I click **Connect Anyway** in order to attempt a connection.

(At this point, that particular network connection disappeared so I repeated the process again with the "wlan" network.)

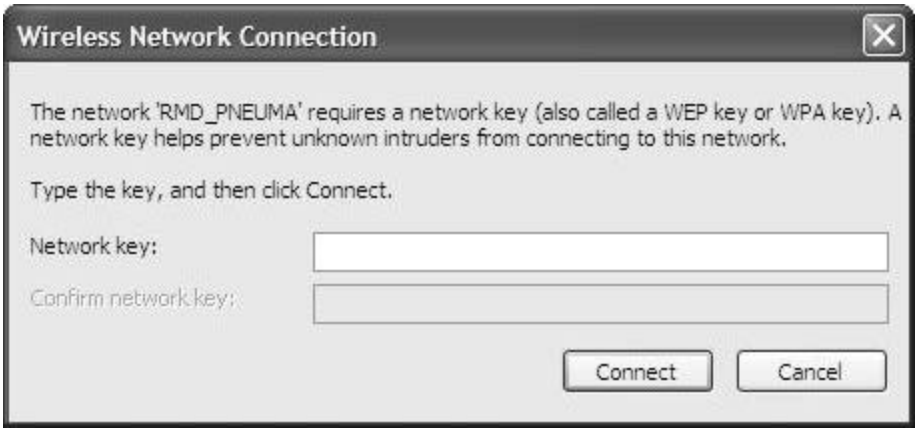
The system will then attempt to connect to the network and acquire a network address. This is the process, typically using DHCP (Dynamic Host Control Protocol,) that assigns an IP address to my computer. Without an IP address the connection will be useless.




Once My computer has been assigned an IP address the system will report “Connected” and I’m ready to surf.



If you attempt to connect to a secured network, you will be asked to enter the network's key.




A network's key can be anywhere from 24 to 128 characters long and contains both letters and numbers. (The longer the key, the more secure the network.) You will need to enter the key twice and what you are typing will not be shown on the screen. You'll only need to perform this step once as Windows will store the key and automatically send it the next time you attempt to connect to the network.

# If You'd Like to Offer WiFi to the Public

This is not a comprehensive set of instructions for how to accomplish this task; it is only a few pointers.

The largest issue in offering WiFi access to the public is to be sure that you set up different WiFi networks for different uses. At the most basic level you would want one secured network for staff access that offers access to both the library's LAN and the Internet. The second network would be unsecured, for the public, and only offer access to the Internet.

The next step is to install the wireless access points. Signal strength is based upon the distance from the access point to the computer. So, depending on the size of your building you may need or want more than one access point.