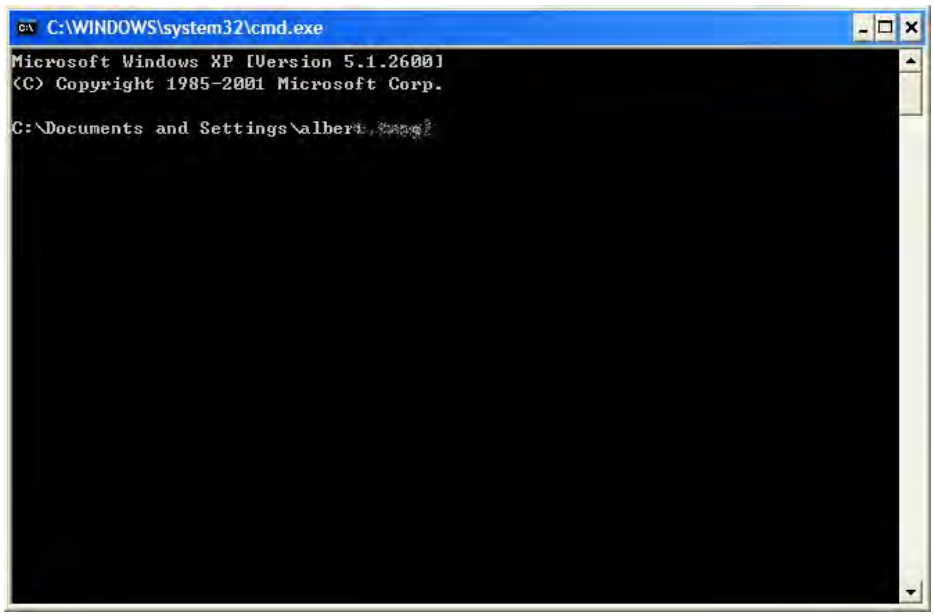
PEAK Class 101: Networking Part III

Now we've learned some of the basic concepts and terminology of networking, we'll introduce some useful DOS commands associated with networking which will help us troubleshoot any connectivity issues. These commands are easy to remember. Using them often is probably the easiest way to remember them.

Before you can issue any of the commands, you'll need to run DOS command under Windows. Follow the instructions below.

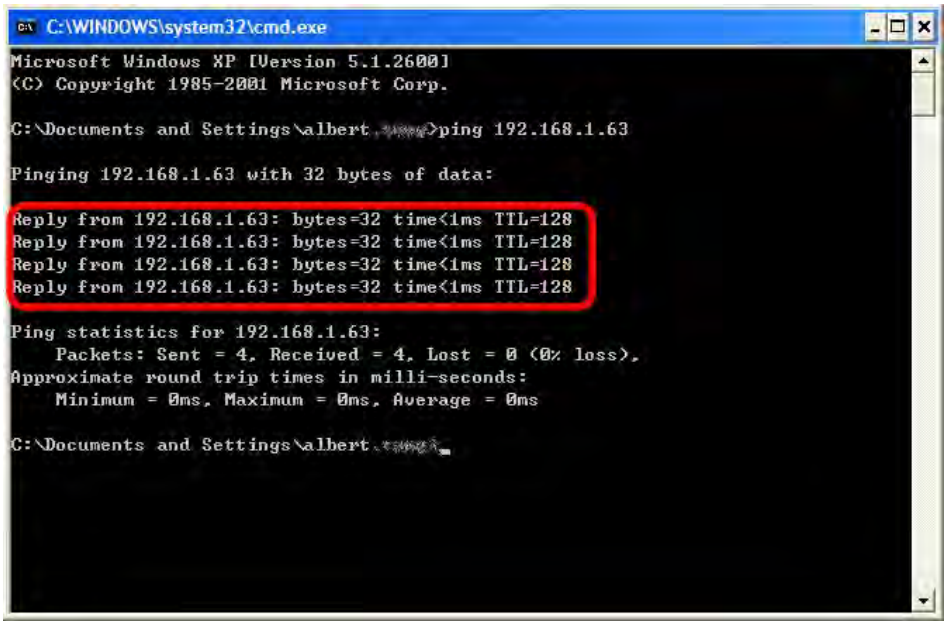
- Under the Windows operating system, click on Start ➡ Run ➡ type "cmd" and press the Enter key. You should see a screen similar to the one below.



- The flashing cursor is referred to as the "command prompt", or simply "prompt".

ping

At the prompt, type **ping** followed by a space and the IP address or name of any remote host on the network.
Ping command will send out a series of data packets to the remote host and then wait for a reply. This is the perfect way to test the physical connection between any two systems. If you are able to receive a reply from the remote host, chances are the connection between them is working as it should.

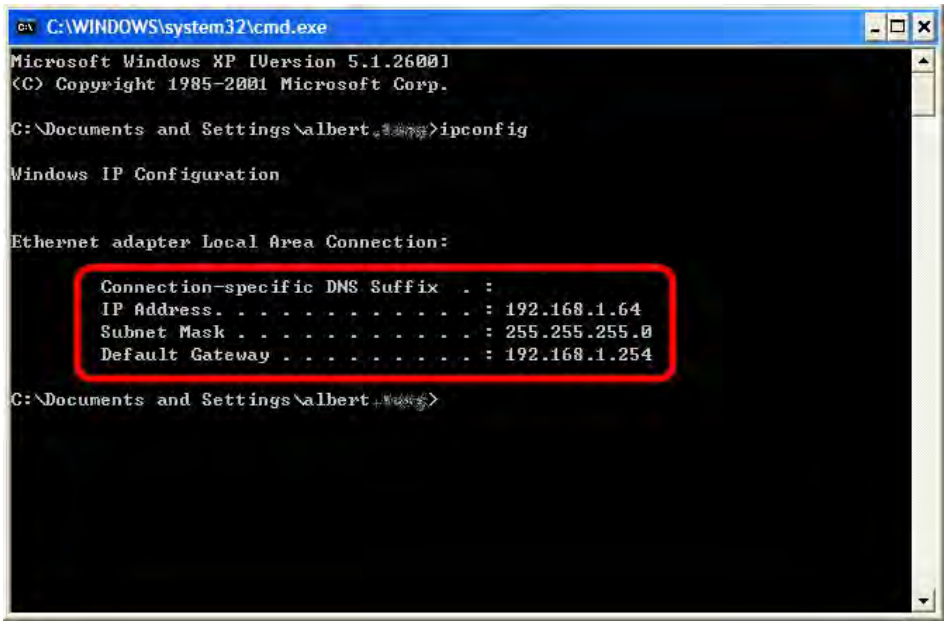


The item circled in red is the reply from the remote host, a computer with the IP address 192.168.1.63. If you are not able to receive any (or partial) reply from remote host, check the connection on the network (both software and hardware) for interference or error. If you are connected to the Internet, you can ping any website on the internet. For example, you can **ping** www.yahoo.com

ipconfig

This is a useful command that will display a host of network information on your network. This DOS command can be tagged with a switch at the end for a specific function.

For example, you can type **ipconfig /all** to display all networking adaptors on the host system. **ipconfig /release** will release any IP address on your network adaptors, and **ipconfig /renew** will force your system to get a new IP address from the DHCP server on the network. If you just need to find out the IP settings on your system, just type **ipconfig** and press enter. See the screenshots below.



The items circled in red are the return you get when you issue the **ipconfig** command. All the important network information is listed. Keep in mind you may have a different network setup, so the IP address, subnet mask and default gateway may be different as well. **ipconfig /all** will display even more network information including the DHCP server and MAC address.

ipconfig /release and **ipconfig /renew** are often used together to obtain a new IP address from the DHCP server on the network. Make sure the DHCP server (under most conditions, this will be your wireless router) is configured correctly so you can receive an IP address for your system. If you made any modification to the network, you can use these commands to obtain a new IP address without restarting your system.

To be continued…