



## *Guide to Troubleshooting Network Connections for Windows 2000/XP*

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This troubleshooting guide will assist you in resolving network connectivity issues for student-owned computers registered with the UNSW@ADFA Student Network Service.

**Note!** Complete the attached check sheet as you progress through the troubleshooting procedure.

This guide assumes you have set up your computer as per the tip sheets located at: [http://www.unsw.adfa.edu.au/units/ict/tip\\_sheets/](http://www.unsw.adfa.edu.au/units/ict/tip_sheets/).

Check your Defcredit Student Network Account credit and registration details at the Network Usage Statistics link: [http://www.unsw.adfa.edu.au/units/ict/ict\\_online/sns](http://www.unsw.adfa.edu.au/units/ict/ict_online/sns) and enter the details on the check sheet provided.

### **1. Hardware & Physical Connection**

#### **1.1 Is the network adapter link light “on”?**

Even with the PC turned off and a network cable connected from the wall outlet to your PC you should see a link light on the adapter indicating that the wall outlet is active.

#### **1.2 Have you checked your network cable?**

If there are no link lights on the computer, the room network port, the cable or the adapter maybe faulty.

- Reinsert the network cable to your computer and to the wall socket.
- To determine if the cable is faulty, swap it with a neighbour whose network connection is working.

#### **1.3 Is your network card physically installed correctly?**

The Network Adapter may be integrated in your PC Motherboard or separately purchased and fitted into a slot on the motherboard. If fitted into a slot on the motherboard gain access inside your computer and confirm the adapter is seated firmly and locking screw is in place. Alternatively take the computer to a reputable repairer.

## 2. Network Configuration

### 2.1 Is the network card configured correctly?

See tip sheet Connecting Student Owned Computers to the Network Using Windows 2000/XP at [http://www.unsw.adfa.edu.au/units/ict/tip\\_sheets/](http://www.unsw.adfa.edu.au/units/ict/tip_sheets/)

### 2.2 Navigate to the Command prompt.

**Start > All Programs > Accessories > Command Prompt.**

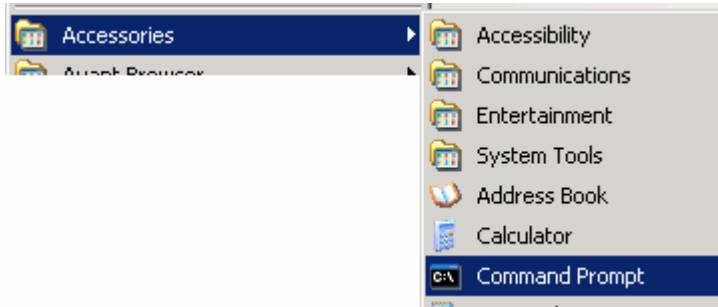


Figure 1

At the command prompt type: **ipconfig /all**

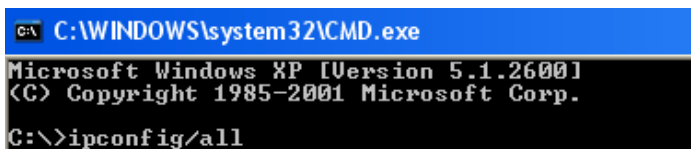


Figure 2

Information similar to figure 3 should appear.

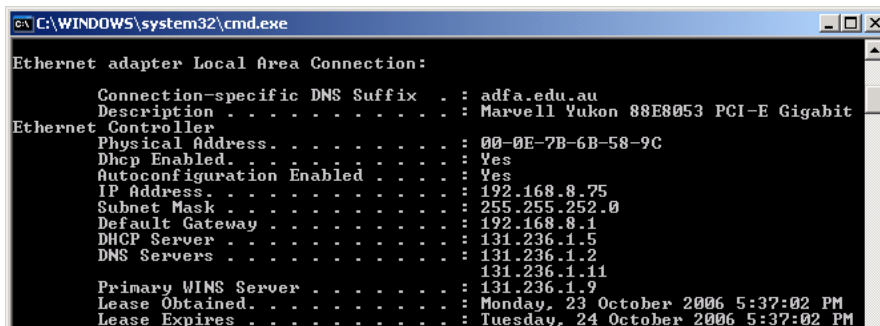


Figure 3

### 2.3 Printing out ipconfig /all.

At the command prompt as per figure 4 type: “ipconfig/all>c:\ipconfig.txt” and press Enter. This will save the file to the root level of your c:\ drive.

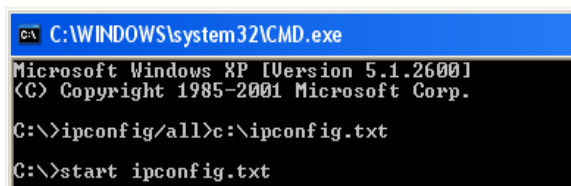


Figure 4

Whilst still at the command prompt type: “start ipconfig.txt” This will open the saved text file which can be printed.

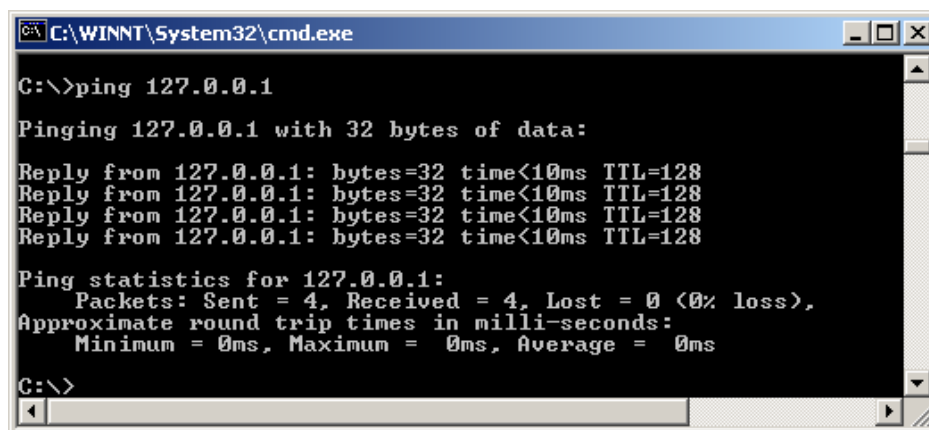
Confirm the IP address listed in the printout information is the same as that leased to you upon registering on the student network. The leased IP address allocated to your computer, can be found at: [http://www.unsw.adfa.edu.au/units/ict/ict\\_online/sns](http://www.unsw.adfa.edu.au/units/ict/ict_online/sns)

If the IP address is not correct go back and double-check all the settings against the tip sheets at: [http://www.unsw.adfa.edu.au/units/ict/tip\\_sheets/](http://www.unsw.adfa.edu.au/units/ict/tip_sheets/)

## 2.4 Test Local Machine Connectivity

### 2.4.1 “Ping 127.0.0.1”

This is a local loop back test on your network card and checks the TCP/IP protocol is loaded correctly.



```
C:\WINNT\System32\cmd.exe
C:\>ping 127.0.0.1
Pinging 127.0.0.1 with 32 bytes of data:
Reply from 127.0.0.1: bytes=32 time<10ms TTL=128
Reply from 127.0.0.1: bytes=32 time<10ms TTL=128
Reply from 127.0.0.1: bytes=32 time<10ms TTL=128
Reply from 127.0.0.1: bytes=32 time<10ms TTL=128
Ping statistics for 127.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

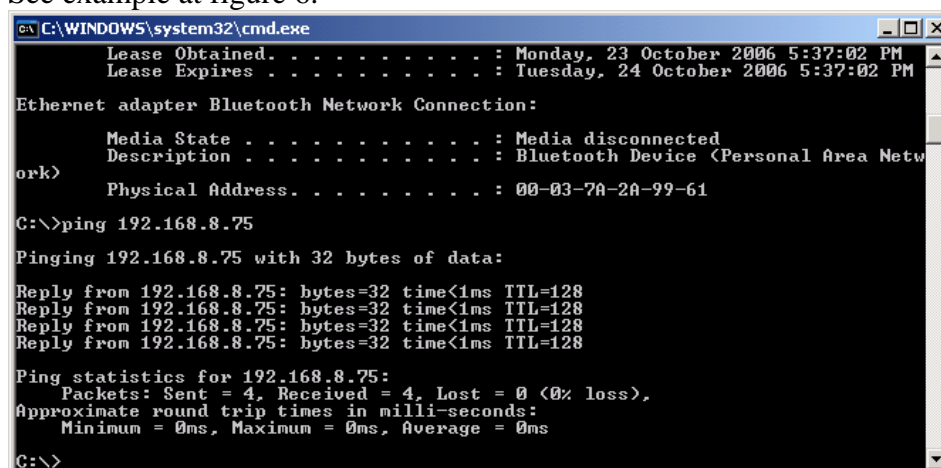
Figure 5

### 2.4.2 Ping Your Computer’s IP Address 192.168.xx.xxx

This is the address that you found with the ‘ipconfig /all’ command.

A reply confirms that your computer’s network card is working correctly.

See example at figure 6.



```
C:\WINDOWS\system32\cmd.exe
Lease Obtained. . . . . : Monday, 23 October 2006 5:37:02 PM
Lease Expires . . . . . : Tuesday, 24 October 2006 5:37:02 PM

Ethernet adapter Bluetooth Network Connection:

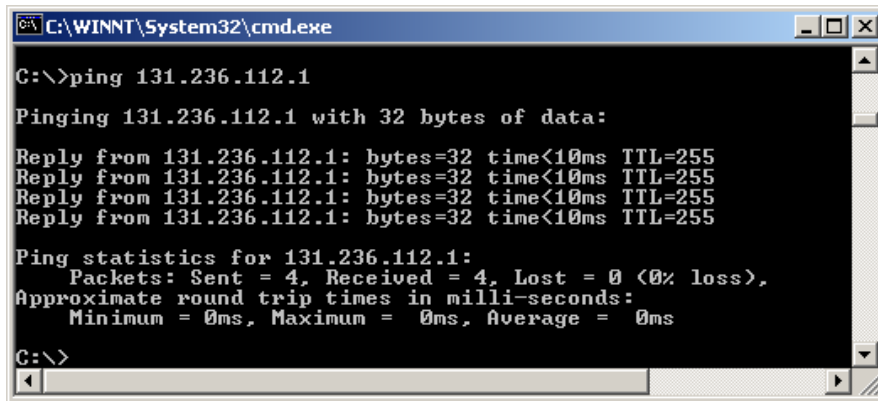
    Media State . . . . . : Media disconnected
    Description . . . . . : Bluetooth Device (Personal Area Netw
ork)
    Physical Address. . . . . : 00-03-7A-2A-99-61

C:\>ping 192.168.8.75
Pinging 192.168.8.75 with 32 bytes of data:
Reply from 192.168.8.75: bytes=32 time<1ms TTL=128
Reply from 192.168.8.75: bytes=32 time<1ms TTL=128
Reply from 192.168.8.75: bytes=32 time<1ms TTL=128
Reply from 192.168.8.75: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.8.75:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Figure 6

### 2.4.3 Ping the gateway between your PC and the UNSW@ADFA Network 131.236.112.1

This confirms your computer has communicated with a router located at ICTS and eliminates any faults from your computer to ICTS.



```
C:\WINNT\System32\cmd.exe
C:\>ping 131.236.112.1
Pinging 131.236.112.1 with 32 bytes of data:
Reply from 131.236.112.1: bytes=32 time<10ms TTL=255
Reply from 131.236.112.1: bytes=32 time<10ms TTL=255
Reply from 131.236.112.1: bytes=32 time<10ms TTL=255
Reply from 131.236.112.1: bytes=32 time<10ms TTL=255
Ping statistics for 131.236.112.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

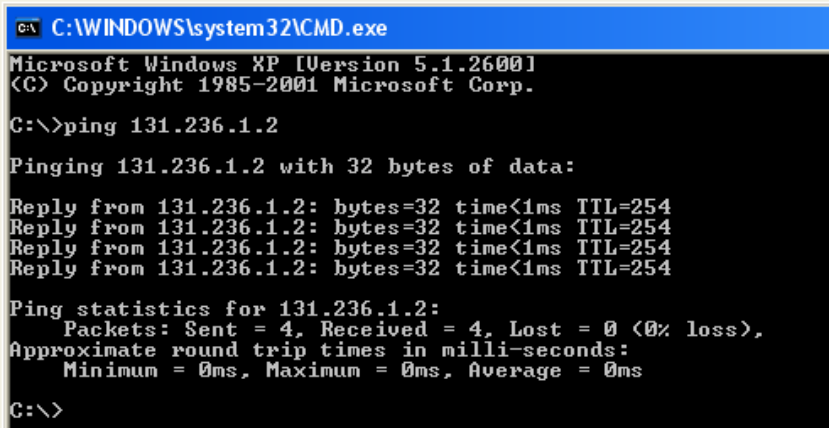
Figure 7

## 2.4.4 Ping ICTS Servers

This is to test connectivity to two important servers located in ICTS that you need access to. These servers are:

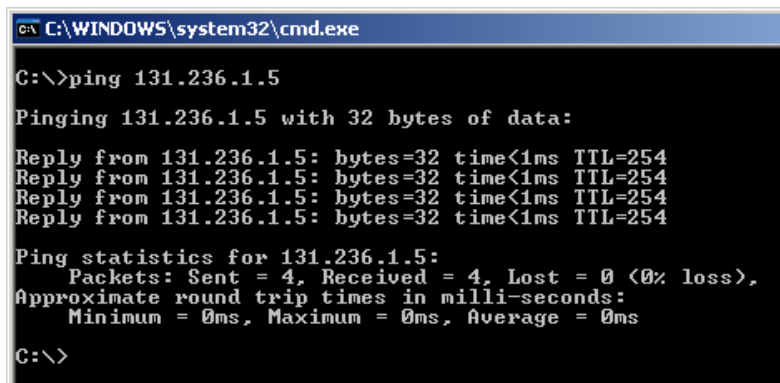
IP Address	Name
131.236.1.2	www.unsw.adfa.edu.au
131.236.1.5	euryale.its.adfa.edu.au

Ping both the above servers by address and by name as illustrated by Figures 8 to 11.



```
C:\WINDOWS\system32\CMD.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\>ping 131.236.1.2
Pinging 131.236.1.2 with 32 bytes of data:
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Ping statistics for 131.236.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Figure 8



```
C:\WINDOWS\system32\cmd.exe
C:\>ping 131.236.1.5
Pinging 131.236.1.5 with 32 bytes of data:
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Ping statistics for 131.236.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

Figure 9

```
C:\WINDOWS\system32\CMD.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>ping www.unsw.adfa.edu.au

Pinging icarus.its.adfa.edu.au [131.236.1.2] with 32 bytes of data:

Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254
Reply from 131.236.1.2: bytes=32 time<1ms TTL=254

Ping statistics for 131.236.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Figure 10

```
C:\WINDOWS\system32\CMD.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>ping euryale.its.adfa.edu.au

Pinging euryale.its.adfa.edu.au [131.236.1.5] with 32 bytes of data:

Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254
Reply from 131.236.1.5: bytes=32 time<1ms TTL=254

Ping statistics for 131.236.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>_
```

Figure 11

## 3. Additional Hardware Testing

- 3.1 Connect your PC to a known working connection in another room.  
Did your PC connect Ok?
- 3.2 Connect a PC that is known to have network connectivity to your port.  
Did the PC connect OK?

## 4. Antivirus Software

If your computer has a virus or has been detected scanning other computers, it may have been blocked by ICTS from accessing network resources. Either of these is sufficient for disconnection without warning. You will only be permitted access when you have satisfactorily demonstrated to ICTS staff that in future you will comply in full with the end user agreement agreed to when you registered.

### 4.1 Determine if your antivirus software is current and updated with the latest virus definition files.

- Print out a screen shot showing the date of your virus definition files.
- To do this use the keys **Alt + Print Screen** key and save to a word document.

### 4.2 RUN A VIRUS SCAN.

- Were any virus found?

Delete any virus traces found on your system. Repeat scan until no more viruses show. A removal tool for a specific virus can be downloaded from your virus software website. Print out a screen shot to confirm there are no viruses.

If you do not have an antivirus program then contact ICTS Service Desk for a copy of **Symantec Antivirus** which is free to students.

## Check Sheet

Date: ..... Name: ..... Student Number: .....

Contact Number: ..... Building Number: .....

Division No: ..... Room Port Number: .....

### Registration Check

Check your credit and registration details at the **Network Usage Statistics** link on:  
[http://www.unsw.adfa.edu.au/units/ict/ict\\_online/sns/index.html](http://www.unsw.adfa.edu.au/units/ict/ict_online/sns/index.html)

- Credit: .....
- Ethernet Adapter Physical Address: \_ \_ \_ \_ \_
- Leased IP address: 192.168.\_\_\_\_.\_\_\_\_

### [1] Hardware Check

[1.1] Do you have connectivity lights showing on the network card?

[1.2] Have you confirmed your network cable is ok?

[1.3] Have you checked the network card is installed correctly?

### [2] Configuration Check

[2.1] Have you checked network card is configured as per tip sheet?  
Connecting Student Owned Computers to the Network Using Windows 2000/XP  
[http://www.unsw.adfa.edu.au/units/ict/tip\\_sheets/](http://www.unsw.adfa.edu.au/units/ict/tip_sheets/).

[2.2] From your ipconfig check

- What is the ethernet adapter physical address? \_ \_ \_ \_ \_
- What is the IP address? \_ \_ . \_ \_ . \_ \_ . \_ \_

[2.3] Have you printed out the ipconfig information?

[2.4]	Test	Local	Machine	Connectivity
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[2.4.1] Could you Ping “127.0.0.1” IP address?

[2.4.2] Could you Ping IP address of your computer?

[2.4.3] Could you Ping “131.236.112.1” IP address?

[2.4.4] Could you Ping “131.236.1.2” IP address?

[2.4.4] Could you Ping “131.236.1.5” IP address?

[2.4.4] Could you Ping “www.unsw.adfa.edu.au” server by name?

[2.4.4] Could you Ping “euryale.its.adfa.edu.au” server by name?

### [3] Additional hardware testing

[3.1] Did your PC work from a known working port?

[3.2] Did a known network active PC work from your room port?

### [4] Virus Checks

[4.1] Have you printed out proof that your virus definition files are up to date?

[4.2] Have you carried out a Virus Scan?

What was the result?

Have you printed out proof that your computer is virus free?

**If you have carried out the check list tasks and are unable to resolve the problem, leave your computer on and bring the following documentation to the ICTS Service Desk.**

- 1. This completed checklist.**
- 2. A print out of the ipconfig information.**
- 3. A print out of your computer’s antivirus definition file current date.**
- 4. A print out of Antivirus Scan results.**