

ipconfig

```
ipconfig /displaydns
ipconfig /registerdns
ipconfig /flushdns
```

ping - [cls clears the screen]

```
ping [name, ip or address]
-t 192.168.1.144 [continues ping until cease command sent]
-n 10 LT-4151 [for 10 replies]
-6 192.168.1.144 [forces the use of IPv6]
-l [edit the packet]
-f [do not fragment packet] i.e. usage ping -f -l 130 0 8.8.8.8
errors if receiver MTU is lower than sender
```

tracert [all router hops from sender to receiver]

```
tracert [ip or hostname]
-d [drops the dns request]
-h [changes the max hops]
pathping [tracert with a 25 sec ping on each hop]
-h [max number of hops]
```

arp [address resolution protocol]

```
arp -a [arp table cached on current host]
[static - user or system created]
[dynamic - learned from a neighbor]
arp -d 192.168.1.1 [deletes this address from arp table]
*by default the broadcast MAC is FF:FF:FF:FF:FF:FF
arp -s 192.168.1.1 00-AA-22-BB-33-CC [adds entry to arp table]
```

Telnet [test for established TCP session]

```
telnet 104.47.48.36 25
[tests connectivity to email or relay server via port 25]
telnet google.com 80
[tests connectivity to a web server via port 80]
searched for ats.coop mx record = 104.47.48.36
default port for telnet is 23 but for smtp it is 25
```

netstat [assists with port & session issues]

```
netstat [reply provides protocol, local IP:port #, remote IP:port #]
-a [includes listening ports]
-b [includes application listening 'in brackets']
-o [includes process id for listening application]
a listening port may be "locked" open, blocked
if a host listens on 0.0.0.0, it will respond
-n [places list in numerical order]
-s provides statistical information
i.e. IPv4, IPv6, TCP, UDP and ICMP information
```

nbtstat

```
nbtstat name resolution via netbios
-c [displays interface and local netbios cache]
-a [displays the netbios name table of this host]
-s lists open sessions
```

nslookup

```
nslookup [interactive mode]
nslookup www.google.com [returns FQDN]
opens an interactive window allowing other commands
set q=mx ats.coop
set q=cname ats.coop
```



route

route print

route delete 192.168.1.1

route add 192.168.1.1

* route table should always have the default route of 0.0.0.0 to 10.0.0.0.

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Still Pending

pathping

netdiag

hostname

Other Tools

speedtest.com throughput tester

environmental monitors cable certifier

network sniffer [protocol analyzer] cable tester

BER = bit errors/bits transferred bit error rate tester [BERT] t1

wireless analyzer

looking glass sites Board gateway protocol[BGP]

Microsoft Network Monitor



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