

Practical 1

Aim:- List and practice various “net” commands on Dos & Linux

- **IPCONFIG**

```
C:\Users\Dell>IPCONFIG

Windows IP Configuration

Ethernet adapter Ethernet:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

Wireless LAN adapter Wi-Fi:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

Wireless LAN adapter Local Area Connection* 11:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

Wireless LAN adapter Local Area Connection* 12:

   Media State . . . . . : Media disconnected
   Connection-specific DNS Suffix  . : 

C:\Users\Dell>TRACERT

Usage: tracert [-d] [-h maximum_hops] [-j host-list] [-w timeout]
              [-R] [-S srcaddr] [-4] [-6] target_name

Options:
  -d          Do not resolve addresses to hostnames.
  -h maximum_hops  Maximum number of hops to search for target.
  -j host-list  Loose source route along host-list (IPv4-only).
  -w timeout    Wait timeout milliseconds for each reply.
  -R           Trace round-trip path (IPv6-only).
  -S srcaddr    Source address to use (IPv6-only).
  -4           Force using IPv4.
  -6           Force using IPv6.

C:\Users\Dell>
```

- **NETSTAT**

```
C:\Users\Dell>NETSTAT

Active Connections

Proto Local Address           Foreign Address         State
TCP    127.0.0.1:1521          DESKTOP-0TP08E9:49674  ESTABLISHED
TCP    127.0.0.1:49674         DESKTOP-0TP08E9:1521   ESTABLISHED

C:\Users\Dell>
```

- **PING**

```
Command Prompt
Microsoft Windows [Version 10.0.18363.836]
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C:\Users\Dell>PING

Usage: ping [-t] [-a] [-n count] [-l size] [-f] [-i TTL] [-v TOS]
           [-r count] [-s count] [[-j host-list] | [-k host-list]]
           [-w timeout] [-R] [-S srcaddr] [-c compartment] [-p]
           [-4] [-6] target_name

Options:
  -t             Ping the specified host until stopped.
                  To see statistics and continue - type Control-Break;
                  To stop - type Control-C.
  -a             Resolve addresses to hostnames.
  -n count       Number of echo requests to send.
  -l size        Send buffer size.
  -f            Set Don't Fragment flag in packet (IPv4-only).
  -i TTL         Time To Live.
  -v TOS         Type Of Service (IPv4-only. This setting has been deprecated
                  and has no effect on the type of service field in the IP
                  Header).
  -r count       Record route for count hops (IPv4-only).
  -s count       Timestamp for count hops (IPv4-only).
  -j host-list   Loose source route along host-list (IPv4-only).
  -k host-list   Strict source route along host-list (IPv4-only).
  -w timeout     Timeout in milliseconds to wait for each reply.
  -R            Use routing header to test reverse route also (IPv6-only).
                  Per RFC 5095 the use of this routing header has been
                  deprecated. Some systems may drop echo requests if
                  this header is used.
  -S srcaddr     Source address to use.
  -c compartment Routing compartment identifier.
  -p            Ping a Hyper-V Network Virtualization provider address.
  -4            Force using IPv4.
  -6            Force using IPv6.

C:\Users\Dell>
```

• PATHPING

```
Command Prompt
Microsoft Windows [Version 10.0.18363.836]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Dell>PATHPING

Usage: pathping [-g host-list] [-h maximum_hops] [-i address] [-n]
               [-p period] [-q num_queries] [-w timeout]
               [-4] [-6] target_name

Options:
  -g host-list   Loose source route along host-list.
  -h maximum_hops Maximum number of hops to search for target.
  -i address     Use the specified source address.
  -n            Do not resolve addresses to hostnames.
  -p period      Wait period milliseconds between pings.
  -q num_queries Number of queries per hop.
  -w timeout     Wait timeout milliseconds for each reply.
  -4            Force using IPv4.
  -6            Force using IPv6.

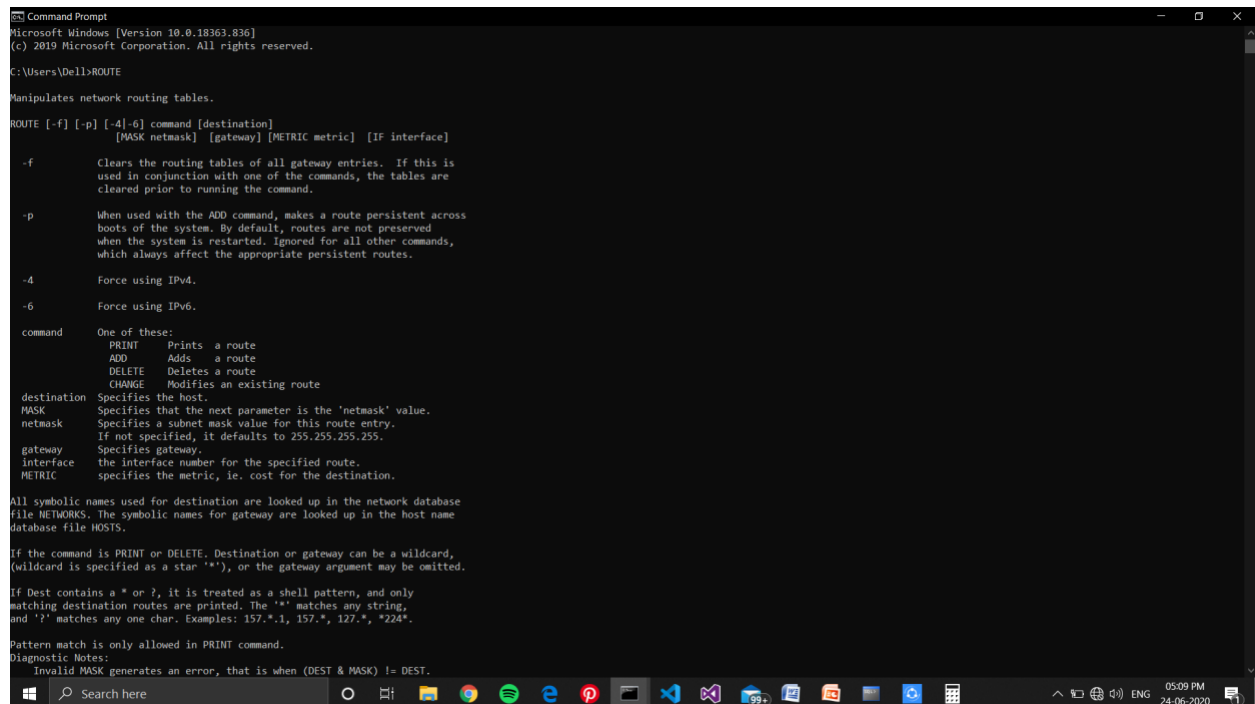
C:\Users\Dell>
```

• FTP

```
Command Prompt - FTP
Microsoft Windows [Version 10.0.18363.836]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Dell>FTP
ftp>
```

- **ROUTE 1.1**



```
Command Prompt
Microsoft Windows [Version 10.0.18363.836]
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C:\Users\Dell>ROUTE

Manipulates network routing tables.

ROUTE [-f] [-p] [-4] [-6] command [destination]
        [MASK netmask] [gateway] [METRIC metric] [IF interface]

-f      Clears the routing tables of all gateway entries. If this is
        used in conjunction with one of the commands, the tables are
        cleared prior to running the command.

-p      When used with the ADD command, makes a route persistent across
        boots of the system. By default, routes are not preserved
        when the system is restarted. Ignored for all other commands,
        which always affect the appropriate persistent routes.

-4      Force using IPv4.

-6      Force using IPv6.

command One of these:
        PRINT   Prints a route
        ADD     Adds a route
        DELETE  Deletes a route
        CHANGE  Modifies an existing route

destination Specifies the host.
MASK         Specifies that the next parameter is the 'netmask' value.
netmask      Specifies a subnet mask value for this route entry.
             If not specified, it defaults to 255.255.255.255.
gateway      Specifies gateway.
interface    the interface number for the specified route.
METRIC       specifies the metric, ie. cost for the destination.

All symbolic names used for destination are looked up in the network database
file NETWORKS. The symbolic names for gateway are looked up in the host name
database file HOSTS.

If the command is PRINT or DELETE, Destination or gateway can be a wildcard,
(wildcard is specified as a star '*'), or the gateway argument may be omitted.

If Dest contains a * or ?, it is treated as a shell pattern, and only
matching destination routes are printed. The '*' matches any string,
and '?' matches any one char. Examples: 157.*.1, 157.*, 127.*, *224*.

Pattern match is only allowed in PRINT command.

Diagnostic Notes:
  Invalid MASK generates an error, that is when (DEST & MASK) != DEST.
```

- **ROUTE 1.2**

```
Command Prompt
Example> route ADD 157.0.0.0 MASK 155.0.0.0 157.55.80.1 IF 1
The route addition failed: The specified mask parameter is invalid. (Destination & Mask) != Destination.

Examples:
> route PRINT
> route PRINT -4
> route PRINT -6
> route PRINT 157*      .... Only prints those matching 157*
> route ADD 157.0.0.0 MASK 255.0.0.0 157.55.80.1 METRIC 3 IF 2
    destination^      ^mask      ^gateway      metric^      ^
    Interface^
If IF is not given, it tries to find the best interface for a given
gateway.
> route ADD 3ffe::/32 3ffe::1
> route CHANGE 157.0.0.0 MASK 255.0.0.0 157.55.80.5 METRIC 2 IF 2
    CHANGE is used to modify gateway and/or metric only.
> route DELETE 157.0.0.0
> route DELETE 3ffe::/32

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```

- **ARP**

```
Command Prompt
Microsoft Windows [Version 10.0.18363.836]
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C:\Users\Dell>ARP

Displays and modifies the IP-to-Physical address translation tables used by
address resolution protocol (ARP).

ARP -s inet_addr eth_addr [if_addr]
ARP -d inet_addr [if_addr]
ARP -a [inet_addr] [-N if_addr] [-v]

-a      Displays current ARP entries by interrogating the current
        protocol data. If inet_addr is specified, the IP and Physical
        addresses for only the specified computer are displayed. If
        more than one network interface uses ARP, entries for each ARP
        table are displayed.
-g      Same as -a.
-v      Displays current ARP entries in verbose mode. All invalid
        entries and entries on the loop-back interface will be shown.
inet_addr Specifies an internet address.
-N if_addr Displays the ARP entries for the network interface specified
        by if_addr.
-d      Deletes the host specified by inet_addr. inet_addr may be
        wildcarded with * to delete all hosts.
-s      Adds the host and associates the Internet address inet_addr
        with the Physical address eth_addr. The Physical address is
        given as 6 hexadecimal bytes separated by hyphens. The entry
        is permanent.
eth_addr Specifies a physical address.
if_addr  If present, this specifies the Internet address of the
        interface whose address translation table should be modified.
        If not present, the first applicable interface will be used.

Example:
> arp -s 157.55.85.212 00-aa-00-62-c6-09 .... Adds a static entry.
> arp -a ..... Displays the arp table.

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```

- **GETMAC**

```
Command Prompt
Microsoft Windows [Version 10.0.18363.836]
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C:\Users\Dell>GETMAC

Physical Address      Transport Name
-----
50-9A-4C-BF-5D-3E     Media disconnected
04-6A-6A-5F-08-1B     Media disconnected

C:\Users\Dell>
```