```
PS C:\Users\RAFI> ping bux.bracu.ac.bd

Pinging secure-la.edunext.co [52.38.30.184] with 32 bytes of data:
Reply from 52.38.30.184: bytes=32 time=209ms TTL=29
Reply from 52.38.30.184: bytes=32 time=209ms TTL=29
Reply from 52.38.30.184: bytes=32 time=209ms TTL=29
Reply from 52.38.30.184: bytes=32 time=208ms TTL=29

Ping statistics for 52.38.30.184:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 208ms, Maximum = 209ms, Average = 208ms
PS C:\Users\RAFI> tracert bux.bracu.ac.bd

Tracing route to secure-la.edunext.co [52.38.30.184]
over a maximum of 30 hops:

  1     1 ms     1 ms     1 ms  192.168.10.1
  2     2 ms     1 ms     1 ms  172.17.10.1
  3     1 ms     1 ms     1 ms  103.157.94.50
  4     4 ms     4 ms    10 ms  182.48.66.245
  5     4 ms     3 ms     3 ms  172.31.1.241
  6    50 ms    50 ms    50 ms  172.31.1.26
  7    48 ms    48 ms    48 ms  172.31.31.1
  8    49 ms    49 ms    51 ms  172.31.6.102
  9    48 ms    50 ms    48 ms  v151.core1.sin1.he.net [65.49.108.141]
 10   123 ms   121 ms   123 ms  100ge16-2.core1.tyo1.he.net [184.105.64.254]
 11   201 ms   199 ms   199 ms  100ge11-1.core1.sea1.he.net [184.105.213.117]
 12   209 ms   203 ms   207 ms  paix01-sea4.amazon.com [198.32.134.41]
 13   205 ms   199 ms   199 ms  52.95.52.82
 14   200 ms   200 ms   201 ms  52.95.52.93
 15     *        *        *     Request timed out.
 16     *        *        *     Request timed out.
 17     *        *        *     Request timed out.
 18     *        *        *     Request timed out.
 19     *        *        *     Request timed out.
 20   206 ms   218 ms   207 ms  150.222.251.50
 21     *        *        *     Request timed out.
 22     *        *        *     Request timed out.
 23     *        *        *     Request timed out.
 24     *        *        *     Request timed out.
 25     *        *        *     Request timed out.
 26     *        *        *     Request timed out.
 27     *        *        *     Request timed out.
 28     *        *        *     Request timed out.
 29     *        *        *     Request timed out.
 30     *        *        *     Request timed out.

Trace complete.
PS C:\Users\RAFI>
```

PING

For example: If we ping IP address, (Write in the Windows Poweshell) Ping => SPACE => then the IP Address or with a domain name, then press 'ENTER'.

Now it's going to send out 4 data packets to the destination IP address. Then the destination will send the data packets as a reply. These replies are echo reply requests. And replies will inform us about what's happening with the destination host we pinged. If we got 'request timed out' then that could mean that the host is down or it's blocking all ping requests. Or in another scenario, after we pinged, if we got a message that says "destination host unreachable", then that message is coming from the router, and it means that a router to the destination can't be found.

Suppose, the domain name pinged failed, then the next step will be typing the IP address. So, if by typing the IP address, if the ping command was successful this time that we now know that we are having a problem with DNS.

TRACEROUTE

(Write in the windows Poweshell) tracert => SPACE => then the IP Address or with a domain name, then press 'ENTER'. Now the data packet will find its way to the destination. And each time it reaches a router on its path, it will report back information about the router. Such as the IP address and the time it took between each hop. So, the TRACERT utility is a great tool that can be used to pinpoint where a problem lies on a network id a data packet can't reach the destination.

For example, if we try to ping a destination and the ping command failed, we can use the TRACERT utility to find out where the data packet is failing along its path.