

# Traceroute

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## General Information

### Summary

Traceroute determines how packets are being routed to a particular host.

### Specifications

Packages required: *system*

License required: *level1*

Home menu level: */tool*

Standards and Technologies: [ICMP](#), [UDP](#), [Traceroute](#)

Hardware usage: *Not significant*

### Description

Traceroute is a TCP/IP protocol-based utility, which allows user to determine how packets are being routed to a particular host. Traceroute works by increasing the time-to-live value of packets and seeing how far they get until they reach the given destination; thus, a lengthening trail of hosts passed through is built up.

Traceroute shows the number of hops to the given host address of every passed gateway. Traceroute utility sends packets three times to each passed gateway so it shows three timeout values for each gateway in ms.

## The Traceroute Command

Command name: */tool traceroute*

### Property Description

(*IP address*) - IP address of the host you are tracing the route to

**dscp** (*integer: 0..63*) - DSCP field value for the probe packets (in case the route varies depending

on the DSCP priority)

**max-hops** (*integer*) - utmost hops through which packet can be reached

**port** (*integer: 0..65535*) - UDP port number

**protocol** (*UDP | ICMP*) - type of protocol to use. If one fails (for example, it is blocked by a firewall), try the other

**size** (*integer: 28..1500; default: 64*) - packet size in bytes

**src-address** (*IP address*) - change the source address of the packet

**timeout** (*time: 1s..8s; default: 1s*) - response waiting timeout, i.e. delay between messages

**use-dns** (*yes | no; default: no*) - specifies whether to use DNS server, which can be set in /ip dns menu

## Notes

Traceroute session may be stopped by pressing [Ctrl]+[C].

## Example

To trace the route to 216.239.39.101 host using ICMP protocol with packet size of 64 bytes, setting DSCP field to 8 and extending the timeout to 4 seconds:

```
[admin@MikroTik] tool> traceroute 216.239.39.101 protocol=icmp size=64 dscp=8
timeout=4s
  ADDRESS                                     STATUS
 1 159.148.60.227    3ms      3ms      3ms
 2 195.13.173.221   80ms     169ms    14ms
 3 195.13.173.28    6ms      4ms      4ms
 4 195.158.240.21  111ms    110ms    110ms
 5 213.174.71.49   124ms    120ms    129ms
 6 213.174.71.134  139ms    146ms    135ms
 7 213.174.70.245  132ms    131ms    136ms
 8 213.174.70.58   211ms    215ms    215ms
 9 195.158.229.130 225ms    239ms    0s
10 216.32.223.114  283ms    269ms    281ms
11 216.32.132.14   267ms    260ms    266ms
12 209.185.9.102  296ms    296ms    290ms
13 216.109.66.1    288ms    297ms    294ms
14 216.109.66.90  297ms    317ms    319ms
15 216.239.47.66  137ms    136ms    134ms
16 216.239.47.46  135ms    134ms    134ms
17 216.239.39.101 134ms    134ms    135ms
[admin@MikroTik] tool>
```