Ping

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Verifies IP-level connectivity to another TCP/IP computer by sending Internet Control Message Protocol (ICMP) Echo Request messages. The receipt of corresponding Echo Reply messages are displayed, along with round-trip times. Ping is the primary TCP/IP command used to troubleshoot connectivity, reachability, and name resolution. Used without parameters, **ping** displays help.

Syntax

ping [**-t**] [**-a**] [**-n** *Count*] [**-l** *Size*] [**-f**] [**-i** *TTL*] [**-v** *TOS*] [**-r** *Count*] [**-s** *Count*] [{**-j** *HostList* | **-k** *HostList*}] [**-w** *Timeout*] [*TargetName*]

Parameters

-t : Specifies that ping continue sending Echo Request messages to the destination until interrupted. To interrupt and display statistics, press CTRL-BREAK. To interrupt and quit ping, press CTRL-C.

-a : Specifies that reverse name resolution is performed on the destination IP address. If this is successful, ping displays the corresponding host name.

-n ***Count*** : Specifies the number of Echo Request messages sent. The default is 4.

-l ***Size*** : Specifies the length, in bytes, of the Data field in the Echo Request messages sent. The default is 32. The maximum *size* is 65,527.

-f : Specifies that Echo Request messages are sent with the Don't Fragment flag in the IP header set to 1. The Echo Request message cannot be fragmented by routers in the path to the destination. This parameter is useful for troubleshooting path Maximum Transmission Unit (PMTU) problems.

-i ***TTL*** : Specifies the value of the TTL field in the IP header for Echo Request messages sent. The default is the default TTL value for the host. For Windows XP hosts, this is typically 128. The maximum *TTL* is 255.

-v ***TOS*** : Specifies the value of the Type of Service (TOS) field in the IP header for Echo Request messages sent. The default is 0. *TOS* is specified as a decimal value from 0 to 255.

-r ***Count*** : Specifies that the Record Route option in the IP header is used to record the path taken by the Echo Request message and corresponding Echo Reply message. Each hop in the path uses an entry in the Record Route option. If possible, specify a *Count* that is equal to or greater than the number of hops between the source and destination. The *Count* must be a minimum of 1 and a maximum of 9.

-s ***Count*** **:** Specifies that the Internet Timestamp option in the IP header is used to record the time of arrival for the Echo Request message and corresponding Echo Reply message for each hop. The *Count* must be a minimum of 1 and a maximum of 4.

-j ***HostList*** **:** Specifies that the Echo Request messages use the Loose Source Route option in the IP header with the set of intermediate destinations specified in *HostList*. With loose source routing, successive intermediate destinations can be separated by one or multiple routers. The maximum number of addresses or names in the host list is 9. The host list is a series of IP addresses (in dotted decimal notation) separated by spaces.

-k ***HostList*** **:** Specifies that the Echo Request messages use the Strict Source Route option in the IP header with the set of intermediate destinations specified in *HostList*. With strict source routing, the next intermediate destination must be directly reachable (it must be a neighbor on an interface of the router). The maximum number of addresses or names in the host list is 9. The host list is a series of IP addresses (in dotted decimal notation) separated by spaces.

-w ***Timeout*** **:** Specifies the amount of time, in milliseconds, to wait for the Echo Reply message that corresponds to a given Echo Request message to be received. If the Echo Reply message is not received within the time-out, the "Request timed out" error message is displayed. The default time-out is 4000 (4 seconds).

TargetName **:** Specifies the destination, which is identified either by IP address or host name.

/? **:** Displays help at the command prompt.

- You can use **ping** to test both the computer name and the IP address of the computer. If pinging the IP address is successful, but pinging the computer name is not, you might have a name resolution problem. In this case, ensure that the computer name you are specifying can be resolved through the local Hosts file, by using Domain Name System (DNS) queries, or through NetBIOS name resolution techniques.
- This command is available only if the **Internet Protocol (TCP/IP)** protocol is installed as a component in the properties of a network adapter in Network Connections

Examples

The following example shows **ping** command output:

C:\>ping example.microsoft.com

Pinging example.microsoft.com [192.168.239.132] with 32 bytes of data:

Reply from 192.168.239.132: bytes=32 time=101ms TTL=124

Reply from 192.168.239.132: bytes=32 time=100ms TTL=124

Reply from 192.168.239.132: bytes=32 time=120ms TTL=124

Reply from 192.168.239.132: bytes=32 time=120ms TTL=124

To ping the destination 10.0.99.221 and resolve 10.0.99.221 to its host name, type:

ping -a 10.0.99.221

To ping the destination 10.0.99.221 with 10 Echo Request messages, each of which has a Data field of 1000 bytes, type:

ping -n 10 -l 1000 10.0.99.221

To ping the destination 10.0.99.221 and record the route for 4 hops, type:

ping -r 4 10.0.99.221

To ping the destination 10.0.99.221 and specify the loose source route of 10.12.0.1-10.29.3.1-10.1.44.1, type:

ping -j 10.12.0.1 10.29.3.1 10.1.44.1 10.0.99.221

Formatting legend

Format	Meaning
Italic	Information that the user must supply
Bold	Elements that the user must type exactly as shown
Ellipsis (...)	Parameter that can be repeated several times in a command line
Between brackets ([])	Optional items
Between braces ({}); choices separated by pipe (|). Example: {even|odd}	Set of choices from which the user must choose only one
Courier font	Code or program output

Command-line reference A-Z