

# How to use the Ping command in Linux

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Among the tools used in network administration and computer diagnostics, the ping command stands out as one of the most basic and widely used. A command-line utility available in almost every operating system, ping serves as an important diagnostic tool for network engineers, system administrators, and even technology enthusiasts. curious.

The ping command sends small data packets to a specified IP address or server and in return, it receives a response. By doing so, it helps users determine whether a network device is reachable or not and provides valuable information about network response time and reliability. Whether you're troubleshooting connectivity issues, monitoring network performance, or just starting your network management journey, the ping command is a must-know.

General syntax for the ping command:

```
ping [IP-ADDRESS]
```

## 1. Specify the number of packages

```
ping -c [number] [IP-Address]
```

Use the **-c** option to have the ping command automatically stop after a certain number of packets are sent.

For example, when you run the ping command with the **-c 5** option to send 5 packets to IP address 127.0.0.1, you may see results similar to the following:

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data. 64 bytes from 127.0.0.1: icmp_s
```

## 2. Check the Localhost network

```
ping localhost
```

If you're having trouble connecting to a remote computer or site, ping localhost to make sure you're connected.

For example, when you ping localhost, you are essentially pinging your own machine. Here is a sample result you can see:

```
PING localhost (127.0.0.1) 56(84) bytes of data. 64 bytes from localhost (127.0.0.1)
```

### 3. Only send pings for a limited period of time

```
ping -i [number] [IP-Address]
```

The **-i** option sets the timeout period in seconds before each packet is sent.

For example, the command `ping -i 5 127.0.0.1` will send ICMP Echo Request packets to loopback address 127.0.0.1 every 5 seconds. Here is a sample output:

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data. 64 bytes from 127.0.0.1: icmp_s
```

In this example, each request is responded to in less than a millisecond, and no packets are lost. Output may vary depending on your system configuration and current system load.

### 4. Flood ping the target host

```
ping -f [IP-address]
```

The **-f** option will send packets as fast as possible. This can flood the network so is often called 'flood ping'. It is mainly used to test endurance and should be used with caution.

Since packets are sent as quickly as possible, there may not be as detailed an output as a regular ping. Instead, you'll just see a series of dots and spaces that may be printed as packets are sent and received.

For example, a typical output might look something like this:

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data. ....^C --- 127.0.0.1 ping
```

Note that **^C** above represents pressing **Ctrl + C** to stop the command. It's important to know that the flood option requires root privileges, so you may need to run this command with `sudo` if you are not the root user.

### 5. Change ping packet size

```
ping -s [number] [IP-Address]
```

Using the **-s** option to increase the default packet size, you can send light and heavy packets.

For example, the command `ping -s 1000 127.0.0.1` sends an ICMP echo request to loopback address 127.0.0.1 with a packet size of 1000 bytes. Here's an example of what the output might look like:

```
PING 127.0.0.1 (127.0.0.1) 1000(1028) bytes of data. 1008 bytes from 127.0.0.1: :
```

### 6. Show only summary lines

```
ping -q [IP-Address]
```

The **-q** option outputs a line with the usual ping information, followed by statistics.

For example, when you run the ping command with the -q flag on the loopback address 127.0.0.1, it will send ICMP ECHO\_REQUEST packets to the network host. Flag -q causes the command to run in 'silent' mode, where it only displays summary statistics when completed. The output might look something like this:

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data. --- 127.0.0.1 ping statistics ---
```

## 7. Set a time limit for receiving packages

```
ping -w [seconds] [IP-Address]
```

This option stops receiving ping output after a certain period of time.

For example, when you run the ping command with the -w 10 option to the loopback address 127.0.0.1, it sends ICMP echo request packets to that address and waits up to 10 seconds to receive a response. Here is an example output you can see:

```
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data. 64 bytes from 127.0.0.1: icmp_s
```

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