

# Test your network connection

Who is this article for?

✓✗ Code42 for Enterprise See [product plans and features \(https://support.code42.com/Terms\\_and\\_conditions/Code42\\_customer\\_support\\_resources/Code42\\_product\\_plans\)](https://support.code42.com/Terms_and_conditions/Code42_customer_support_resources/Code42_product_plans)



✓✗ CrashPlan for Small Business

CrashPlan for Small Business, yes.

Code42 for Enterprise, yes.

Link: Product plans and features.

This article applies to **version 6**.

Other available versions:

[Version 5 \(https://support.code42.com/CrashPlan/5/Troubleshooting/Test\\_your\\_network\\_connection\)](https://support.code42.com/CrashPlan/5/Troubleshooting/Test_your_network_connection) | [Version 4 \(https://support.code42.com/CrashPlan/4/Troubleshooting/Test\\_your\\_network\\_connection\)](https://support.code42.com/CrashPlan/4/Troubleshooting/Test_your_network_connection)



[Identify version \(https://support.code42.com/CrashPlan/Identify\\_version\)](https://support.code42.com/CrashPlan/Identify_version)

## Overview

Sometimes the Code42 app can't make a network connection even if the Internet appears to be working. This is because the Code42 app relies on specific ports to be open. This article describes how to test connectivity on the correct ports to rule out problems with firewalls, anti-virus products, or other network issues.

This article describes the following tools to check network connections:

- [PowerShell \(Windows only\)](#)
- [Netcat \(Mac and Linux\)](#)
- [Telnet](#)

# What are ports?

Ports are specific doorways for Internet traffic to travel through. If your computer were a building, ports would be numbered doors leading outside. If a door is locked, you can't get out. The Code42 app needs to open either of two specific doors: #443 or #4287. Other applications on your computer use other doors. So if your email and the Internet work, but the Code42 app does not, you should make sure that the proper ports are unlocked.

## Before you begin

To troubleshoot a connection, you need to know the address and port you are attempting to connect to. If you do not know the address for your Code42 instance, contact your Code42 administrator or our Customer Champions for [Code42 for Enterprise support \(https://my.code42.com\)](https://my.code42.com) or [CrashPlan for Small Business support \(https://helpdesk.code42.com/hc/en-us/requests/new\)](https://helpdesk.code42.com/hc/en-us/requests/new).

Following are common addresses and ports:

- CrashPlan for Small Business:
  - `central.crashplanpro.com` 443
  - `central.crashplan.com` 443
- Code42 cloud
  - `central.crashplan.com` 443
  - `clients.us.code42.com` 4287
  - `clients.ie.code42.com` 4287
- Code42 on-premises authority servers: Contact your Code42 administrator for the address.

### Ensure port 4287 is open

To communicate with the Code42 cloud, ensure that [port 4287 \(https://support.code42.com/Administrator/6/Planning\\_and\\_installing/IP\\_addresses\\_and\\_ports\\_used\\_by\\_the\\_Code42\\_platform\)](https://support.code42.com/Administrator/6/Planning_and_installing/IP_addresses_and_ports_used_by_the_Code42_platform) is open.

## PowerShell (Windows only)

[PowerShell \(https://docs.microsoft.com/en-us/powershell/\)](https://docs.microsoft.com/en-us/powershell/) is a scripting tool for Windows. Windows PowerShell comes installed by default in every Windows version starting with Windows 7 SP1 and Windows Server 2008 R2 SP1.

1. In the lower-left corner, click the Windows icon and type: `PowerShell`
2. At the PowerShell prompt, enter the command: `New-Object System.Net.Sockets.TcpClient("<address>", <port>)`  
*The Code42 app uses port 443 or 4287 ([https://support.code42.com/Administrator/6/Planning\\_and\\_installing/IP\\_addresses\\_and\\_ports\\_used\\_by\\_the\\_Code42\\_platform#Code42\\_app\\_ports](https://support.code42.com/Administrator/6/Planning_and_installing/IP_addresses_and_ports_used_by_the_Code42_platform#Code42_app_ports)) to connect to authority servers and the Code42 cloud. If you are unsure which port to include, test all.*  
Examples:

```
New-Object System.Net.Sockets.TcpClient("code42.example.com", 443)
New-Object System.Net.Sockets.TcpClient("code42.example.com", 4287)
```

If the connection passes, a **Connected: True** message displays similar to the following:

```
PS C:\Users\johndoe> New-Object System.Net.Sockets.TcpClient("code42.example.com", 443)

Client      : System.Net.Sockets.Socket
Available   : 0
Connected    : True
ExclusiveAddressUse : False
ReceiveBufferSize  : 65536
SendBufferSize    : 65536
ReceiveTimeout   : 0
SendTimeout      : 0
LingerState     : System.Net.Sockets.LingerOption
NoDelay        : False
```

If the connection fails, a failure message displays, for example:

```
New-Object : Exception calling ".ctor" with "2" argument(s): "A connection attempt failed because the connected
party
did not properly respond after a period of time, or established connection failed because connected host has
failed to
respond 192.0.2.0:443"
At line:1 char:1
+ New-Object System.Net.Sockets.TcpClient("code42.example.com", 443)
+ ~~~~~
+ CategoryInfo          : InvalidOperation: (:) [New-Object], MethodInvocationException
+ FullyQualifiedErrorId : ConstructorInvokedThrowException,Microsoft.PowerShell.Commands.
NewObjectCommand
```

If the connection fails, [troubleshoot the failed connection](#).

## Netcat (Mac and Linux only)

[Netcat](https://en.wikipedia.org/wiki/Netcat) (<https://en.wikipedia.org/wiki/Netcat>) is a networking utility for reading from and writing to network connections using TCP or UDP. It is installed by default on Mac and Linux.

### Mac


1. Select **Utilities > Terminal**.
2. Enter the command: `nc -vz <address> <port>`

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Examples:

```
nc -vz code42.example.com 443
nc -vz code42.example.com 4287
```

If the connection passes, a **CONNECTED** message displays similar to the following:

```
nc -vz code42.example.com 443
found 0 associations
found 1 connections:
  1: flags=82<CONNECTED,PREFERRED>
outif en4
src 192.0.0.0 port 59064
dst 192.0.2.0 port 443
rank info not available
TCP aux info available
```

If the connection fails, a failure message displays, for example:

```
nc: connectx to code42.example.com port 444 (tcp) failed: Operation timed out
```

If the connection fails, [troubleshoot the failed connection](#).

## Linux

1. Open **Terminal**.
2. Enter the command: `nc -vz <address> <port>`

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Examples:

```
nc -vz code42.example.com 443
nc -vz code42.example.com 4287
```

If the connection passes, a success message displays similar to the following:

```
Connection to code42.example.com 443 port [tcp/https] succeeded!
```

If the connection fails, a failure message displays, for example:

```
connect to code42.example.com port 443 (tcp) failed: Connection timed out
```

If the connection fails, [troubleshoot the failed connection](#).

# Telnet

[Telnet \(https://en.wikipedia.org/wiki/Telnet\)](https://en.wikipedia.org/wiki/Telnet) is a protocol to provide communication over the Internet or a LAN using a virtual terminal connection. It is installed by default on Linux and older Mac operating systems, but must be installed on Windows and macOS High Sierra 10.13 and later.

1. [Install Telnet \(https://support.code42.com/CrashPlan/5/Troubleshooting/Test\\_your\\_network\\_connection#Install\\_Telnet\)](https://support.code42.com/CrashPlan/5/Troubleshooting/Test_your_network_connection#Install_Telnet) if it is not already installed.
2. Open the command prompt:
  - **Windows:**
    - i. Select **Start**.
    - ii. Choose **Run** or **Search**.
    - iii. Enter: `cmd.exe`
  - **OS X:** Select **Utilities > Terminal**.
  - **Linux:** Open **Terminal**.

3. Enter the command: `telnet <address> <port>`

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Examples:

```
telnet code42.example.com 443
```

```
telnet code42.example.com 4287
```

If Telnet successfully connects, a message displays similar to the following:

- Linux and Mac

```
telnet code42.example.com 443
Trying 192.0.2.0...
Connected to code42.com.
Escape character is '^]'.
Connection closed by foreign host.
```

- Windows  
The successful connection message scrolls by quickly and you are presented with a blinking cursor on a blank screen. (You can press Enter to return to the command prompt.)

If the connection fails, [troubleshoot the failed connection](#).

## Install Telnet

## Install Telnet on Windows

Telnet is not installed by default on Windows; if you try to run it you will get the message "'Telnet' is not recognized as an operable program or batch file." To install Telnet:

1. Click **Start**.
2. Select **Control Panel**.
3. Choose **Programs and Features**.
4. Click **Turn Windows features on or off**.
5. Select the **Telnet Client** option.
6. Click **OK**.

*A dialog box appears to confirm installation. The telnet command should now be available.*

## Install Telnet on Macintosh

Telnet is not installed on macOS High Sierra 10.13 and later. To install Telnet:

1. Paste the following into the Macintosh terminal prompt to install [Homebrew \(https://brew.sh/\)](https://brew.sh/), an open-source software package management system:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Run the following command in the terminal prompt to install Telnet:

```
brew install telnet
```

## Troubleshoot a failed connection

If you cannot connect, you may see one of the following messages, some other message, or no response:

- **Connection refused**
- **Operation timed out**
- **Unable to connect to remote host**

If your test did not connect to the other computer, your issue is caused by the computers or network configuration, not by the Code42 app. Check the following common causes of this issue:

- Either computer's router, including its network configuration or [port forwarding \(https://support.code42.com/Administrator/6/Configuring/Configure\\_port\\_forwarding\\_in\\_your\\_Code42\\_environment/\)](https://support.code42.com/Administrator/6/Configuring/Configure_port_forwarding_in_your_Code42_environment/) settings
- Other [conflicting software \(https://support.code42.com/CrashPlan/6/Troubleshooting/Known\\_conflicts\\_with\\_the\\_Code42\\_app/\)](https://support.code42.com/CrashPlan/6/Troubleshooting/Known_conflicts_with_the_Code42_app/) on either computer, such as antivirus, security, or parental control software


### Further isolate the issue

If the connection test passes, there probably isn't an issue with the network. However, some firewall and [anti-virus applications \(https://support.code42.com/Administrator/6/Planning\\_and\\_installing/\)](https://support.code42.com/Administrator/6/Planning_and_installing/)

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[Best practices for Code42 and antivirus#Configure Code42 for Enterprise and antivirus programs](#)) are capable of blocking connections on a per-application basis. Make sure the Code42 app has an exception configured in your security software. If the problem continues, contact your administrator.

## Related topics

- [Cannot connect to destination \(https://support.code42.com/CrashPlan/6/Troubleshooting/Cannot\\_connect\\_to\\_destination\)](https://support.code42.com/CrashPlan/6/Troubleshooting/Cannot_connect_to_destination)
- [Cannot connect to background service \(https://support.code42.com/CrashPlan/6/Troubleshooting/Cannot\\_connect\\_to\\_background\\_service\)](https://support.code42.com/CrashPlan/6/Troubleshooting/Cannot_connect_to_background_service)
- [Connect to Code42 cloud destinations from a proxy server \(https://support.code42.com/CrashPlan/6/Troubleshooting/Connect\\_to\\_Code42\\_cloud\\_destinations\\_from\\_a\\_proxy\\_server\)](https://support.code42.com/CrashPlan/6/Troubleshooting/Connect_to_Code42_cloud_destinations_from_a_proxy_server)
- [IP addresses and ports used by the Code42 platform \(https://support.code42.com/Administrator/6/Planning\\_and\\_installing/IP\\_addresses\\_and\\_ports\\_used\\_by\\_the\\_Code42\\_platform\)](https://support.code42.com/Administrator/6/Planning_and_installing/IP_addresses_and_ports_used_by_the_Code42_platform)
- [Configure port forwarding in your Code42 environment \(https://support.code42.com/Administrator/6/Configuring/Configure\\_port\\_forwarding\\_in\\_your\\_Code42\\_environment\)](https://support.code42.com/Administrator/6/Configuring/Configure_port_forwarding_in_your_Code42_environment)