Test your network connection

This article applies to Code42 for Enterprise version 4.

Other available versions:

Version 6 (https://support.code42.com/CrashPlan/6/Troubleshooting/Test_your_network_connection) | Version 5 (https://support.code42.com/CrashPlan/5/Troubleshooting/Test_your_network_connection)

Overview

Sometimes the CrashPlan app can't make a network connection even if the Internet appears to be working. This is because the CrashPlan 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 CrashPlan 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 CrashPlan 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 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://community.code42.com) or CrashPlan for Small Business support (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
- 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/4/Planning_and_installing/TCP_and_UDP_ports_used_by_the_Code42_platform) is open.

**PowerShell (Windows only)**


1. In the lower-left corner, click the Windows icon and type: `PowerShell`

   The CrashPlan app uses port 443, 4287 (non-TLS), or 4287 (TLS) ([https://support.code42.com/Administrator/4/Planning_and_installing/TCP_and_UDP_ports_used_by_the_Code42_platform#Code42_app_ports](https://support.code42.com/Administrator/4/Planning_and_installing/TCP_and_UDP_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", 4282)`
   - `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:suser\johndoe> New-Object System.Net.Sockets.TcpClient("code42.example.com", 443)
   Available           : 0
   Connected           : True
   ExclusiveAddressUse : False
   ReceiveBufferSize   : 65536
   SendBufferSize      : 65536
   ReceiveTimeout      : 0
   SendTimeout         : 0
   NoDelay             : False
   ```

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

   ```
   ```

   [https://support.code42.com/CrashPlan/4/Troubleshooting/Test_your_network_connection](https://support.code42.com/CrashPlan/4/Troubleshooting/Test_your_network_connection)

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   Powered by [mindtouch](https://mindtouch.com)
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
  ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
+ 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] 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>
   
   The CrashPlan app uses port 443, 4287 (non-TLS), or 4287 (TLS) [https://support.code42.com/Administrator/4/Planning_and_installing/TCP_and_UDP_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:
   
   nc -vz code42.example.com 443
   nc -vz code42.example.com 4282
   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: connect to code42.example.com port 444 (tcp) failed: Operation timed out

[https://support.code42.com/CrashPlan/4/Troubleshooting/Test_your_network_connection](https://support.code42.com/CrashPlan/4/Troubleshooting/Test_your_network_connection)
If the connection fails, **troubleshoot the failed connection**.

### Linux

1. Open **Terminal**.

2. Enter the command: `nc -vz <address> <port>`

   The CrashPlan app uses port 443, 4287 (non-TLS), or 4287 (TLS) to connect to authority servers and the Code42 cloud. If you are unsure which port to include, test all.

   Examples:
   - `nc -vz code42.example.com 443`
   - `nc -vz code42.example.com 4282`
   - `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) is a protocol to provide communication over the Internet or a LAN a 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.

1. **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>`

   The CrashPlan app uses port 443, 4287 (non-TLS), or 4287 (TLS) to connect to authority servers and the Code42 cloud. If you are unsure which port to include, test all.

   Examples:
   - `telnet code42.example.com 443`
   - `telnet code42.example.com 4282`
   - `telnet 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**.
If you are unsure which port to include, test all.

Examples:

telnet code42.example.com 443

telnet code42.example.com 4282

telnet code42.example.com 4287

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

• Linux and Mac

```bash
$ 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. To install Telnet:

1. Paste the following into the Macintosh terminal prompt to install Homebrew (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 CrashPlan 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/4/Configuring/Configure_port_forwarding_in_your_Code42_environment) settings.
- Other [conflicting software](https://support.code42.com/CrashPlan/4/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/4/Planning_and_installing/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 CrashPlan app has an exception configured in your security software. If the problem continues, contact your administrator.

### Related topics

- [Unable to back up - no connection for X days](https://support.code42.com/CrashPlan/4/Troubleshooting/Cannot_connect_to_destination)
- [Unable to connect to the backup engine](https://support.code42.com/CrashPlan/4/Troubleshooting/Cannot_connect_to_background_service)
- [Connect to Code42 cloud destinations from a proxy server](https://support.code42.com/CrashPlan/4/Troubleshooting/Connect_to_Code42_cloud_destinations_from_a_proxy_server)
- [Identify ports used by the CrashPlan app](https://support.code42.com/CrashPlan/4/Troubleshooting/Identify_ports_used_by_the_Code42_app)
- [TCP and UDP ports used by the Code42 platform](https://support.code42.com/Administrator/4/Planning_and_installing/TCP_and_UDP_ports_used_by_the_Code42_platform)
- [Configure port forwarding in your Code42 environment](https://support.code42.com/Administrator/4/Configuring/Configure_port_forwarding_in_your_Code42_environment)