

# How do I deal with certificates using cURL while trying to access an HTTPS url?

Asked 14 years, 9 months ago Modified 8 months ago Viewed 444k times



I am getting the following error using curl:

292

```
curl: (77) error setting certificate verify locations:
CAfile: /etc/ssl/certs/ca-certificates.crt
CApath: none
```



How do I set this certificate verify locations?



curl https

Share Improve this question Follow

edited Nov 2, 2021 at 7:41



Nimantha

6,484 ● 6 ● 31 ● 76

asked Jul 1, 2010 at 19:08



moorecats

3,492 ● 4 ● 22 ● 23

2 What OS/distro are you on? You should install the ca-certificates package (that's what it's called on debian/ubuntu). – igorw Jul 1, 2010 at 19:34

50 For future reference, I had already ca-certificates installed but the error persisted. The problem was that my certificates were located in /etc/ssl/certs/ca-certificates.crt instead of /etc/pki/tls/certs/ca-bundle.crt, so I just had to set the environmental variable CURL\_CA\_BUNDLE to the correct path. – r\_31415 Dec 11, 2014 at 4:28

17 Cool! It works for me when I set export CURL\_CA\_BUNDLE=/etc/ssl/certs/ca-certificates.crt. – tidy Mar 18, 2016 at 7:06

and where do you change this variable? In what file? – john-jones Nov 29, 2023 at 10:46

hit this when pycurl==7.45.3 was released in pypi in debian bullseye (docker image python:3.8-slim-bullseye) with ca-certificates installed – bigbear3001 Feb 26, 2024 at 8:23

26 Answers

Sorted by:

Highest score (default)





I also had the newest version of ca-certificates installed but was still getting the error:

**173**

```
curl: (77) error setting certificate verify locations:
CAfile: /etc/pki/tls/certs/ca-bundle.crt
Cpath: none
```



The issue was that curl expected the certificate to be at the path `/etc/pki/tls/certs/ca-bundle.crt` but could not find it because it was at the path `/etc/ssl/certs/ca-certificates.crt`.

Copying my certificate to the expected destination by running

```
sudo cp /etc/ssl/certs/ca-certificates.crt /etc/pki/tls/certs/ca-bundle.crt
```

worked for me. You will need to create folders for the target destination if they do not exist by running

```
sudo mkdir -p /etc/pki/tls/certs
```

If needed, modify the above command to make the destination file name match the path expected by curl, i.e. replace `/etc/pki/tls/certs/ca-bundle.crt` with the path following "CAfile:" in your error message.

Share Improve this answer Follow

edited May 20, 2015 at 13:53

answered May 10, 2015 at 18:02



Nicolas Ivanov

838 ● 10 ● 15



Scott Emmons

1,891 ● 3 ● 13 ● 9

41 You could also create a symbolic link with `ln -s` if don't want to re-copy it every time you update it. – [starbeamrainbowlabs](#) Aug 28, 2015 at 8:41

4 Had same problem for `rescuetime` app on Fedora 25. `sudo ln -s /etc/pki/tls/certs/ca-bundle.crt /etc/pki/tls/certs/ca-certificates.crt` solved the problem. (`CURL_CA_BUNDLE` env var didn't work) – [GabLeRoux](#) Feb 14, 2017 at 3:33

On my ubuntu this fixed the issue: `sudo ln -s /etc/ssl/certs/ca-certificates.crt /etc/ssl/certs/ca-certificates.pem`. I was actually getting `The repository ... does not have a Release file` which was caused by missing certificate (`Could not load certificates from ...`). – [Marinos An](#) Oct 1, 2019 at 10:02



This error is related to a *missing package*: `ca-certificates`. Install it.

**161**

In Ubuntu Linux (and similar distro):



```
# apt-get install ca-certificates
```



In CygWin via [Apt-Cyg](#)



```
# apt-cyg install ca-certificates
```



In Arch Linux (Raspberry Pi)

```
# pacman -S ca-certificates
```

The documentation tells:

This package includes PEM files of CA certificates to allow SSL-based applications to check for the authenticity of SSL connections.

As seen at: [Debian -- Details of package ca-certificates in squeeze](#)

Share Improve this answer Follow

edited Feb 14, 2017 at 18:09

answered Nov 15, 2012 at 15:41



[Ionică Bizău](#)

114k ● 94 ● 310 ● 487



[Rubens Mariuzzo](#)

29.3k ● 27 ● 123 ● 149

- 128 ca-certificates is already the newest version, yet I'm still getting the error – [Pastor Bones](#) Jan 10, 2013 at 17:09
- 2 Of course, you'll get this same error if you try to install apt-cyg via the recommended method using curl and [raw.github.com](#). – [10gistic](#) Jun 23, 2013 at 22:26
- 11 On Arch Linux, you might also need `pacman -S ca-certificates-utils`. I did. – [Mark Grimes](#) Sep 8, 2016 at 20:23
- 14 This package is already installed. This answer is not helpful. – [JimmyJames supports Canada](#) Jun 9, 2017 at 20:12
- 30 @PastorBones I had the same issue that the package was already latest, I think it had however been corrupted so a `sudo apt install --reinstall ca-certificates` reinstalled the package and resolved the errors I was seeing – [Will](#) Aug 5, 2018 at 9:40



Put this into your `.bashrc`

114

```
# fix CURL certificates path
export CURL_CA_BUNDLE=/etc/ssl/certs/ca-certificates.crt
```



(see comment from Robert)



Share Improve this answer Follow

answered Jun 25, 2015 at 20:43



Yauhen Yakimovich

14.2k ● 8 ● 62 ● 68

- 12 Thank you for providing a method that doesn't require me to muck up system files by hand, but still keeps the security of using certificates! – [Stephen Johnson](#) Aug 7, 2015 at 20:44

Thank you. This solved my similar problem with pyenv & curl. I was using Ubuntu 14.04 and already had ca-certificates installed. – [davidA](#) Jul 12, 2016 at 0:18

This approach also works with xonsh (add `$CURL_CA_BUNDLE = "/etc/ssl/certs/ca-certificates.crt"` to the `.xonshrc`). – [m00am](#) Nov 27, 2017 at 8:45

- 1 Just in case: The one liner version of this: `CURL_CA_BUNDLE=/path/to/bundle.crt curl http://example.com` – [jmathew](#) Jan 9, 2018 at 4:29

This was a life-saver. Curl kept looking for certificates at a path that didn't exist on my system - specifically `{USER}/Desktop/src/master/cert.ca`. I have no idea where it got that from. This single export solved everything. – [brugia](#) Feb 24, 2024 at 13:37

Create a file `~/.curlrc` with the following content

38

```
cacert=/etc/ssl/certs/ca-certificates.crt
```



as follows



```
echo "cacert=/etc/ssl/certs/ca-certificates.crt" >> ~/.curlrc
```

Share Improve this answer Follow

edited Nov 2, 2020 at 18:57

answered Jul 15, 2015 at 8:13



Henke - Навальный П с М

5,827 ● 6 ● 41 ● 51



prabeesh

945 ● 9 ● 11

- 2 the best answer, this worked for me on Linux Mint 17 – [Santiago](#) May 23, 2018 at 14:15

- 1 On Mac, it worked with following in `~/.curlrc` `cacert=/etc/openssl/cert.pem` – [amirathi](#) Mar 3, 2020 at 10:37

did not work for me / ubuntu 18 – [pascal sautot](#) Sep 20, 2021 at 14:37

@pascalsautot Were you able to solve it ? – [Zuha Karim](#) Apr 22, 2022 at 1:20



The quickest way to get around the error is add on the `-k` option somewhere in your curl request. That option "allows connections to SSL sites without certs." (from `curl --help`)

24



Be aware that this may mean that you're not talking to the endpoint you think you are, as they are presenting a certificate not signed by a CA you trust.



For example:

```
$ curl -o /usr/bin/apt-cyg https://raw.githubusercontent.com/cfg/apt-cyg/master/apt-cyg
```

gave me the following error response:

```
curl: (77) error setting certificate verify locations:
  CAfile: /usr/ssl/certs/ca-bundle.crt
  CApath: none
```

I added on -k:

```
curl -o /usr/bin/apt-cyg https://raw.githubusercontent.com/cfg/apt-cyg/master/apt-cyg -k
```

and no error message. As a bonus, now I have apt-cyg installed. And ca-certificates.

Share Improve this answer Follow

edited Jul 14, 2015 at 18:15

answered Jun 23, 2013 at 22:32



[10gistic](#)

565 ● 3 ● 13

14 That might get around the error, but it also makes the "secure" connection become insecure. – [Tim](#) Jul 10, 2013 at 18:18

2 Not really. As far as I know, you can't just bypass the encryption of a secure connection, so it's still encrypted and going to only one endpoint. Somebody correct me if I'm wrong, but the only risk you run is that you could fall prey to a man-in-the-middle attack. Still not likely a risk if you're using curl. – [10gistic](#) Jul 29, 2013 at 16:46

26 Yes, really. The "-k" option is shorthand for "--insecure". If you have man-in-the-middle what do you think he's doing with your data ? Spoiler alert: he's decrypting it, stealing it, and possibly modifying it and injecting back into the insecure stream. Straight from the man page : "-k, --insecure (SSL) This option explicitly allows curl to perform "insecure" SSL connections and transfers. All SSL connections are attempted to be made secure by using the CA certificate bundle installed by default. This makes all connections considered "insecure" fail unless -k, --insecure is used." – [Tim](#) Aug 3, 2013 at 10:59

2 If you need SSL you need privacy and verification — the `-k` flag means you're **losing** verification. Depending on your needs this may be acceptable. MITM are non-trivial attacks if you assume your network and the server you're communicating with are secured from interlopers (can you make that assumption?). The risk increases depending on the type of you data (sourcecode and certs are riskier than images). You can verify the integrity of the data after the transfer (checksums etc.) but now you're shifting your trust onto that checksum channel. In the end `-k` gives you quite a bit more work. – [Mark Fox](#) Mar 4, 2014 at 20:12

So does it mean that if i am using a Self signed certificate. I should be using the option -k. As it may not be possible to verify the Self signed certificate ? – [Linus](#) Jul 25, 2014 at 10:04



From `$ man curl`:

17



```
--cert-type <type>
(SSL) Tells curl what certificate type the provided certificate
is in. PEM, DER and ENG are recognized types. If not specified,
PEM is assumed.
```

If this option is used several times, the last one will be used.

```
--cacert <CA certificate>
(SSL) Tells curl to use the specified certificate file to verify
the peer. The file may contain multiple CA certificates. The
certificate(s) must be in PEM format. Normally curl is built to
use a default file for this, so this option is typically used to
alter that default file.
```

Share Improve this answer Follow

edited Mar 4, 2014 at 19:54



Mark Fox

8,924 ● 9 ● 56 ● 77

answered Mar 29, 2012 at 13:03



Purnachandar Rao  
Voleti

586 ● 4 ● 12



@roens is correct. This affects all **Anaconda** users, with below error

```
curl: (77) error setting certificate verify locations:
```

```
CAfile: /etc/pki/tls/certs/ca-bundle.crt
```

```
CAPath: none
```

16



The workaround is to use the default system curl and **avoid** messing with the prepended Anaconda `PATH` variable. You can either



1. Rename the Anaconda curl binary :)

```
mv /path/to/anaconda/bin/curl /path/to/anaconda/bin/curl_anaconda
```

2. **OR** remove Anaconda curl

```
conda remove curl
```

```
$ which curl
```

```
/usr/bin/curl
```

[0] **Anaconda Ubuntu curl Github issue** <https://github.com/conda/conda-recipes/issues/352>

Share Improve this answer Follow

edited Jun 14, 2016 at 6:56

answered Jun 14, 2016 at 6:41



**Harsha Manjunath**

599 ● 6 ● 12

Good find, I didn't realize Anaconda was stealing my path precedence. It worked once I replaced `curl` with the full path `/usr/bin/curl` – [jxramos](#) Nov 19, 2018 at 1:22



If anyone is still having trouble, try this, it worked for me. Delete the files in your `/etc/ssl/certs/` directory then reinstall ca-certificates:

13

```
sudo apt install ca-certificates --reinstall
```



Did this when I tried installing Linuxbrew.



Share Improve this answer Follow

edited Jan 20, 2020 at 0:56

answered Nov 24, 2019 at 22:36



**brian d foy**

133k ● 31 ● 212 ● 605



**Michael Enitan**

562 ● 6 ● 10

2 This helped me but I didn't delete the files on my machine. Just ran the simple command and curl started working. – [Josefhu15](#) May 17, 2020 at 18:50

This was the solution for me – [iMe](#) Nov 27, 2021 at 13:23

Another alternative to fix this problem is to disable the certificate validation:



```
echo insecure >> ~/.curlrc
```

**10**

Share Improve this answer Follow

answered Aug 12, 2015 at 15:31

**Pablo R. Mier**

757 ● 1 ● 8 ● 14



2 Workaround, but it helps me after too much time with curl certificates. Thanks. – [K. Gol](#) Apr 12, 2018 at 11:06



I had the exact same problem. As it turns out, my `/etc/ssl/certs/ca-certificates.crt` file was malformed. The last entry showed something like this:

**9**

```
-----BEGIN CERTIFICATE-----
MIIEDTCCA.VgAwIBAgIJAN..lots of certificate text...AwIBAgIJAN-----END CERTIFICATE-----
-
```



After adding a newline before `-----END CERTIFICATE-----`, curl was able handle the certificates file.

This was very annoying to find out since my `update-ca-certificates` command did not give me any warning.

This may or may not be a version specific problem of curl, so here is my version, just for completeness:

```
curl --version
# curl 7.51.0 (x86_64-alpine-linux-musl) libcurl/7.51.0 OpenSSL/1.0.2j zlib/1.2.8
libssh2/1.7.0
# Protocols: dict file ftp ftps gopher http https imap imaps pop3 pop3s rtsp scp sftp
smb smbs smtp smtps telnet tftp
# Features: IPv6 Largefile NTLM NTLM_WB SSL libz TLS-SRP UnixSockets
```

Share Improve this answer Follow

answered Dec 21, 2016 at 13:51

**ShrimpPhaser**

3,507 ● 1 ● 24 ● 22



For PHP code running on XAMPP on Windows I found I needed to edit php.ini to include the below

**7**

```
[curl]
; A default value for the CURLOPT_CAINFO option. This is required to be an
```

```
; absolute path.
curl.cainfo = curl-ca-bundle.crt
```

and then copy to a file <https://curl.haxx.se/ca/cacert.pem> and rename to curl-ca-bundle.crt and place it under \xampp path (I couldn't get curl.capath to work). I also found the CAbundle on the cURL site wasn't enough for the remote site I was connecting to, so used one that is listed with a pre-compiled Windows version of curl 7.47.1 at <http://winampplugins.co.uk/curl/>

Share Improve this answer Follow

answered Mar 12, 2016 at 10:18



LJT

1,289 ● 3 ● 20 ● 25

On windows you can also just add "xampp" before php like so: curl.cainfo = "C:\xampp\php\extras\cacert.pem" – [Ryan Steyn](#) Oct 28, 2016 at 6:55 ✎

This worked for me

5

```
sudo apt-get install ca-certificates
```

then go into the certificates folder at

```
sudo cd /etc/ssl/certs
```

then you copy the ca-certificates.crt file into the `/etc/pki/tls/certs`

```
sudo cp ca-certificates.crt /etc/pki/tls/certs
```

***if there is no tls/certs folder: create one and change permissions using `chmod 777 -R folderNAME`***

Share Improve this answer Follow

edited Mar 16, 2015 at 13:12

answered Mar 16, 2015 at 12:52



Opal

85k ● 29 ● 200 ● 218



Kwame Yeboah

79 ● 1 ● 1

2 I tried this but this didn't work for me and I still get the same error. Any ideas ? – [Anirudh](#) Mar 21, 2015 at 11:34

2 `chmod 777` is very insecure (anyone - any process - on that box can change the certs and MitM attack you) - `chmod 755` is much better – [Gedge](#) May 11, 2021 at 8:36 ✎

5 curl performs `ssl` certificate verification by default, using a "bundle" of `Certificate Authority (CA)` public keys (CA certs). The default bundle is named `curl-ca-bundle.crt`; you can specify an alternate file using the `--cacert` option.

If this `HTTPS` server uses a certificate signed by a CA represented in the bundle, the certificate verification probably failed due to a problem with the certificate (it might be expired, or the name might not match the domain name in the URL).

If you'd like to turn off curl's verification of the certificate, use the `-k` (or `--insecure`) option.

for example

```
curl --insecure http://.....
```

Share Improve this answer Follow

edited Oct 21, 2015 at 1:38

answered Oct 8, 2014 at 15:27



**meda**

45.5k ● 14 ● 95 ● 123

3 Just an aside that "trusting the source" is pretty irrelevant here, since without properly validating the cert against a CA, you have no idea who "the source" is. – [Jeff Allen](#) May 30, 2015 at 23:06

4 It seems your curl points to a non-existing file with CA certs or similar.

For the primary reference on CA certs with curl, see: <https://curl.se/docs/sslcerts.html>

Share Improve this answer Follow

edited Nov 30, 2023 at 8:40

answered Jul 1, 2010 at 21:52



**Daniel Stenberg**

58.4k ● 19 ● 159 ● 232

Just create the folders, which is missing in your system..

3

```
| /etc/pki/tls/certs/
```

and create the file using the following command,

1

```
| sudo apt-get install ca-certificates
```

and then copy and paste the certificate to the destination folder, which is showing in your error.. mine was " with message `'error setting certificate verify locations: CAfile:`

`/etc/pki/tls/certs/ca-bundle.crt Cpath: none' in "` make sure you paste the file to the exact location mentioned in the error. Use the following command to copy paste..

```
sudo cp /etc/ssl/certs/ca-certificates.crt /etc/pki/tls/certs/ca-bundle.crt
```

Fixed.

Share Improve this answer Follow

answered Mar 18, 2019 at 6:56



**Manu R S**

980 ● 9 ● 6

1 None of the top answers worked for me but this did! – [Prachiti Prakash Prabhu](#) Feb 28, 2020 at 20:46



For windows :-

3

1. Download the certificate from <https://curl.se/docs/caextract.html>
2. Rename cacert.pem to curl-ca-bundle.crt
3. Add the file to any of the below locations



If you are using the curl command line tool on Windows, curl will search for a CA cert file named "curl-ca-bundle.crt" in these directories and in this order:

1. application's directory
2. current working directory
3. Windows System directory (e.g. C:\windows\system32)
4. Windows Directory (e.g. C:\windows)
5. all directories along %PATH%

Check this for details <https://curl.se/docs/sslcerts.html>

Share Improve this answer Follow

answered Jan 12, 2022 at 21:44



**ssilas777**

9,762 ● 4 ● 47 ● 69

I did `curl https://curl.se/ca/cacert.pem -o /etc/ssl/certs/ca-certificates.crt -k` to get a copy of the root certificate curl needs. I am building linux from scratch. – [exebook](#) Mar 4, 2023 at 14:46



I came across this curl 77 problem while was trying to access elasticsearch running in docker container on Ubuntu 20.04 localhost. After container was started:

3

1. Check curl without ssl: `curl --cacert http_ca.crt -u elastic https://localhost:9200 -k` lowercase `-k` for insecure connection.





- Build your image

Then, when you'll build your docker image from alpine, do the following :

```
FROM alpine
RUN apk add ca-certificates curl
COPY mycompanyRootCA.crt /usr/local/share/ca-certificates/mycompanyRootCA.crt
RUN update-ca-certificates
```

Your image will now work properly!

Share Improve this answer Follow

edited Feb 26, 2024 at 22:14

answered Nov 19, 2019 at 10:32



CDspace

2,689 ● 19 ● 32 ● 39



alphayax

3,110 ● 2 ● 26 ● 28



I used to get this error when run **composer update** And I tried all the commands to reinstall the cert file, but the problem was not solved.

2

***I realized that the error is due to permission*** So the problem was solved with this command



```
cd /etc/ssl
sudo chmod 755 -R certs/
```



Share Improve this answer Follow

answered Apr 24, 2023 at 13:54



fatemeh sadeghi

2,623 ● 1 ● 15 ● 15



For what it's worth, checking `which curl` is being run is significant too.

1

A user on a shared machine I maintain had been getting this error. But the cause turned out to be because they'd installed Anaconda (<http://continuum.io>). Doing so put Anaconda's binary path before the standard `$PATH`, and it comes with its own `curl` binary, which had trouble finding the default certs that were installed on this Ubuntu machine.



Share Improve this answer Follow

edited Mar 17, 2016 at 19:17

answered Dec 10, 2015 at 19:47



roens

352 ● 2 ● 9

1 I recommend checking `which -a curl` to see everything available, and of course noting which one comes on top. – [jxramos](#) Nov 19, 2018 at 1:23

Just find this solution works perfectly for me.



```
echo 'cacert=/etc/ssl/certs/ca-certificates.crt' > ~/.curlrc
```

1

I found this solution from [here](#)



Share Improve this answer Follow

answered Apr 17, 2020 at 4:32



Daniel

385 ● 4 ● 13



Run following command in git bash that works fine for me

0

```
git config --global http.sslverify "false"
```



Share Improve this answer Follow

answered Jun 19, 2017 at 18:25



Nivir

31.2k ● 9 ● 45 ● 56



I use MobaXterm which intern uses Cygwin so even after installing `ca-certificates` using `apt-cyg install ca-certificates` problem didn't resolve.

0

I was still getting the following error:



```
curl: (77) error setting certificate verify locations: CAfile: /etc/ssl/certs/ca-certificates.crt CApath: none
```



Then I tried listing the file `/etc/ssl/certs/ca-certificates.crt` and I couldn't find it. However I could find `/usr/ssl/certs/ca-bundle.crt` with all standard CA certificates so I copied the file `/usr/ssl/certs/ca-bundle.crt` as `/etc/ssl/certs/ca-certificates.crt` and problem got resolved.

Share Improve this answer Follow

answered May 24, 2021 at 16:26



Bharat Balothia

5 ● 3



I had this problem as well. My issue was this file:

0

```
/usr/ssl/certs/ca-bundle.crt
```



is by default just an empty file. So even if it exists, you'll still get the error as it doesn't contain any certificates. You can generate them like this:





```
p11-kit extract --overwrite --format pem-bundle /usr/ssl/certs/ca-bundle.crt
```

<https://github.com/msys2/MSYS2-packages/blob/master/ca-certificates/ca-certificates.install>

Share Improve this answer Follow

edited Nov 2, 2021 at 7:40

answered Oct 26, 2020 at 2:38



**Nimantha**  
6,484 ● 6 ● 31 ● 76



**Zombo**  
1



In my case (on Mac) I had a `/etc/ssl/cert_new.pem` instead of the default cert filename `/etc/ssl/cert.pem`. So I run `sudo cp cert_new.pem cert.pem` and all the ssl issues fixed.

0

Share Improve this answer Follow

answered Jul 24, 2024 at 19:27



**menepet**  
882 ● 15 ● 19



In my case, it was a permission issue

-3

try



```
sudo curl . . . . .
```



Share Improve this answer Follow

answered Feb 28, 2023 at 8:59



**Maverick**  
1,187 ● 16 ● 44

**Highly active question.** Earn 10 reputation (not counting the [association bonus](#)) in order to answer this question. The reputation requirement helps protect this question from spam and non-answer activity.

### Start asking to get answers

Find the answer to your question by asking.

Ask question

### Explore related questions

curl https

See similar questions with these tags.