

**NAME**

curl – transfer a URL

**SYNOPSIS**

**curl** [**options**] [*URL...*]

**DESCRIPTION**

**curl** is a tool to transfer data from or to a server, using one of the supported protocols (DICT, FILE, FTP, FTPS, GOPHER, HTTP, HTTPS, IMAP, IMAPS, LDAP, LDAPS, POP3, POP3S, RTMP, RTSP, SCP, SFTP, SMB, SMBS, SMTP, SMTPS, TELNET and TFTP). The command is designed to work without user interaction.

curl offers a busload of useful tricks like proxy support, user authentication, FTP upload, HTTP post, SSL connections, cookies, file transfer resume, Metalink, and more. As you will see below, the number of features will make your head spin!

curl is powered by libcurl for all transfer-related features. See *libcurl(3)* for details.

**URL**

The URL syntax is protocol-dependent. You'll find a detailed description in RFC 3986.

You can specify multiple URLs or parts of URLs by writing part sets within braces as in:

```
http://site.{one,two,three}.com
```

or you can get sequences of alphanumeric series by using [] as in:

```
ftp://ftp.example.com/file[1-100].txt
```

```
ftp://ftp.example.com/file[001-100].txt (with leading zeros)
```

```
ftp://ftp.example.com/file[a-z].txt
```

Nested sequences are not supported, but you can use several ones next to each other:

```
http://example.com/archive[1996-1999]/vol[1-4]/part{a,b,c}.html
```

You can specify any amount of URLs on the command line. They will be fetched in a sequential manner in the specified order.

You can specify a step counter for the ranges to get every Nth number or letter:

```
http://example.com/file[1-100:10].txt
```

```
http://example.com/file[a-z:2].txt
```

When using [] or {} sequences when invoked from a command line prompt, you probably have to put the full URL within double quotes to avoid the shell from interfering with it. This also goes for other characters treated special, like for example '&', '?' and '\*'.

Provide the IPv6 zone index in the URL with an escaped percentage sign and the interface name. Like in

```
http://[fe80::3%25eth0]/
```

If you specify URL without protocol:// prefix, curl will attempt to guess what protocol you might want. It will then default to HTTP but try other protocols based on often-used host name prefixes. For example, for

host names starting with "ftp." curl will assume you want to speak FTP.

curl will do its best to use what you pass to it as a URL. It is not trying to validate it as a syntactically correct URL by any means but is instead **very** liberal with what it accepts.

curl will attempt to re-use connections for multiple file transfers, so that getting many files from the same server will not do multiple connects / handshakes. This improves speed. Of course this is only done on files specified on a single command line and cannot be used between separate curl invokes.

## PROGRESS METER

curl normally displays a progress meter during operations, indicating the amount of transferred data, transfer speeds and estimated time left, etc.

curl displays this data to the terminal by default, so if you invoke curl to do an operation and it is about to write data to the terminal, it *disables* the progress meter as otherwise it would mess up the output mixing progress meter and response data.

If you want a progress meter for HTTP POST or PUT requests, you need to redirect the response output to a file, using shell redirect (>), -o [file] or similar.

It is not the same case for FTP upload as that operation does not spit out any response data to the terminal.

If you prefer a progress "bar" instead of the regular meter, -# is your friend.

## OPTIONS

Options start with one or two dashes. Many of the options require an additional value next to them.

The short "single-dash" form of the options, -d for example, may be used with or without a space between it and its value, although a space is a recommended separator. The long "double-dash" form, --data for example, requires a space between it and its value.

Short version options that don't need any additional values can be used immediately next to each other, like for example you can specify all the options -O, -L and -v at once as -OLv.

In general, all boolean options are enabled with **--option** and yet again disabled with **--no-option**. That is, you use the exact same option name but prefix it with "no-". However, in this list we mostly only list and show the --option version of them. (This concept with --no options was added in 7.19.0. Previously most options were toggled on/off on repeated use of the same command line option.)

-#, --progress-bar

Make curl display progress as a simple progress bar instead of the standard, more informational, meter.

-, --next

Tells curl to use a separate operation for the following URL and associated options. This allows you to send several URL requests, each with their own specific options, for example, such as different user names or custom requests for each. (Added in 7.36.0)

-0, --http1.0

(HTTP) Tells curl to use HTTP version 1.0 instead of using its internally preferred: HTTP 1.1.

--http1.1

(HTTP) Tells curl to use HTTP version 1.1. This is the internal default version. (Added in 7.33.0)

--http2

(HTTP) Tells curl to issue its requests using HTTP 2. This requires that the underlying libcurl was built to support it. (Added in 7.33.0)

**--http2-prior-knowledge**

(HTTP) Tells curl to issue its non-TLS HTTP requests using HTTP/2 without HTTP/1.1 Upgrade. It requires prior knowledge that the server supports HTTP/2 straight away. HTTPS requests will still do HTTP/2 the standard way with negotiated protocol version in the TLS handshake.

HTTP/2 support in general also requires that the underlying libcurl was built to support it. (Added in 7.49.0)

**--no-npn**

Disable the NPN TLS extension. NPN is enabled by default if libcurl was built with an SSL library that supports NPN. NPN is used by a libcurl that supports HTTP 2 to negotiate HTTP 2 support with the server during https sessions.

(Added in 7.36.0)

**--no-alpn**

Disable the ALPN TLS extension. ALPN is enabled by default if libcurl was built with an SSL library that supports ALPN. ALPN is used by a libcurl that supports HTTP 2 to negotiate HTTP 2 support with the server during https sessions.

(Added in 7.36.0)

**-1, --tlsv1**

(SSL) Forces curl to use TLS version 1.x when negotiating with a remote TLS server. You can use options *--tlsv1.0*, *--tlsv1.1*, and *--tlsv1.2* to control the TLS version more precisely (if the SSL backend in use supports such a level of control).

**-2, --ssl2**

(SSL) Forces curl to use SSL version 2 when negotiating with a remote SSL server. Sometimes curl is built without SSLv2 support. SSLv2 is widely considered insecure (see RFC 6176).

**-3, --ssl3**

(SSL) Forces curl to use SSL version 3 when negotiating with a remote SSL server. Sometimes curl is built without SSLv3 support. SSLv3 is widely considered insecure (see RFC 7568).

**-4, --ipv4**

This option tells curl to resolve names to IPv4 addresses only, and not for example try IPv6.

**-6, --ipv6**

This option tells curl to resolve names to IPv6 addresses only, and not for example try IPv4.

**-a, --append**

(FTP/SFTP) When used in an upload, this makes curl append to the target file instead of overwriting it. If the remote file doesn't exist, it will be created. Note that this flag is ignored by some SFTP servers (including OpenSSH).

**-A, --user-agent <agent string>**

(HTTP) Specify the User-Agent string to send to the HTTP server. Some badly done CGIs fail if this field isn't set to "Mozilla/4.0". To encode blanks in the string, surround the string with single quote marks. This can also be set with the *-H*, *--header* option of course.

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

**--anyauth**

(HTTP) Tells curl to figure out authentication method by itself, and use the most secure one the remote site claims to support. This is done by first doing a request and checking the response-headers, thus possibly inducing an extra network round-trip. This is used instead of setting a specific authentication method, which you can do with *--basic*, *--digest*, *--ntlm*, and *--negotiate*.

Note that using *--anyauth* is not recommended if you do uploads from stdin, since it may require

data to be sent twice and then the client must be able to rewind. If the need should arise when uploading from stdin, the upload operation will fail.

**-b, --cookie <name=data>**

(HTTP) Pass the data to the HTTP server as a cookie. It is supposedly the data previously received from the server in a "Set-Cookie:" line. The data should be in the format "NAME1=VALUE1; NAME2=VALUE2".

If no '=' symbol is used in the line, it is treated as a filename to use to read previously stored cookie lines from, which should be used in this session if they match. Using this method also activates the cookie engine which will make curl record incoming cookies too, which may be handy if you're using this in combination with the *-L*, *--location* option. The file format of the file to read cookies from should be plain HTTP headers (Set-Cookie style) or the Netscape/Mozilla cookie file format.

The file specified with *-b*, *--cookie* is only used as input. No cookies will be written to the file. To store cookies, use the *-c*, *--cookie-jar* option.

Exercise caution if you are using this option and multiple transfers may occur. If you use the NAME1=VALUE1; format, or in a file use the Set-Cookie format and don't specify a domain, then the cookie is sent for any domain (even after redirects are followed) and cannot be modified by a server-set cookie. If the cookie engine is enabled and a server sets a cookie of the same name then both will be sent on a future transfer to that server, likely not what you intended. To address these issues set a domain in Set-Cookie (doing that will include sub-domains) or use the Netscape format.

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

**-B, --use-ascii**

(FTP/LDAP) Enable ASCII transfer. For FTP, this can also be enforced by using an URL that ends with ";type=A". This option causes data sent to stdout to be in text mode for win32 systems.

**--basic** (HTTP) Tells curl to use HTTP Basic authentication with the remote host. This is the default and this option is usually pointless, unless you use it to override a previously set option that sets a different authentication method (such as *--ntlm*, *--digest*, or *--negotiate*).

Used together with *-u*, *--user* and *-x*, *--proxy*.

See also *--proxy-basic*.

**-c, --cookie-jar <file name>**

(HTTP) Specify to which file you want curl to write all cookies after a completed operation. Curl writes all cookies previously read from a specified file as well as all cookies received from remote server(s). If no cookies are known, no data will be written. The file will be written using the Netscape cookie file format. If you set the file name to a single dash, "-", the cookies will be written to stdout.

This command line option will activate the cookie engine that makes curl record and use cookies. Another way to activate it is to use the *-b*, *--cookie* option.

If the cookie jar can't be created or written to, the whole curl operation won't fail or even report an error clearly. Using *-v* will get a warning displayed, but that is the only visible feedback you get about this possibly lethal situation.

Since 7.43.0 cookies that were imported in the Set-Cookie format without a domain name are not exported by this option.

If this option is used several times, the last specified file name will be used.

**-C, --continue-at <offset>**

Continue/Resume a previous file transfer at the given offset. The given offset is the exact number of bytes that will be skipped, counting from the beginning of the source file before it is transferred to the destination. If used with uploads, the FTP server command SIZE will not be used by curl.

Use "-C -" to tell curl to automatically find out where/how to resume the transfer. It then uses the given output/input files to figure that out.

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

**--ciphers <list of ciphers>**

(SSL) Specifies which ciphers to use in the connection. The list of ciphers must specify valid ciphers. Read up on SSL cipher list details on this URL: <https://www.openssl.org/docs/apps/ciphers.html>

NSS ciphers are done differently than OpenSSL and GnuTLS. The full list of NSS ciphers is in the NSSCipherSuite entry at this URL: [https://git.fedora-hosted.org/cgit/mod\\_nss.git/plain/docs/mod\\_nss.html#Directives](https://git.fedora-hosted.org/cgit/mod_nss.git/plain/docs/mod_nss.html#Directives)

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

**--compressed**

(HTTP) Request a compressed response using one of the algorithms curl supports, and save the uncompressed document. If this option is used and the server sends an unsupported encoding, curl will report an error.

**--connect-timeout <seconds>**

Maximum time in seconds that you allow curl's connection to take. This only limits the connection phase, so if curl connects within the given period it will continue - if not it will exit. Since version 7.32.0, this option accepts decimal values.

See also the *-m, --max-time* option.

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

**--create-dirs**

When used in conjunction with the *-o* option, curl will create the necessary local directory hierarchy as needed. This option creates the dirs mentioned with the *-o* option, nothing else. If the *-o* file name uses no dir or if the dirs it mentions already exist, no dir will be created.

To create remote directories when using FTP or SFTP, try *--ftp-create-dirs*.

**--crlf** Convert LF to CRLF in upload. Useful for MVS (OS/390).

(SMTP added in 7.40.0)

**--crlfile <file>**

(HTTPS/FTPS) Provide a file using PEM format with a Certificate Revocation List that may specify peer certificates that are to be considered revoked.

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

(Added in 7.19.7)

**-d, --data <data>**

(HTTP) Sends the specified data in a POST request to the HTTP server, in the same way that a browser does when a user has filled in an HTML form and presses the submit button. This will

cause curl to pass the data to the server using the content-type application/x-www-form-urlencoded. Compare to *-F, --form*.

*-d, --data* is the same as *--data-ascii*. *--data-raw* is almost the same but does not have a special interpretation of the @ character. To post data purely binary, you should instead use the *--data-binary* option. To URL-encode the value of a form field you may use *--data-urlencode*.

If any of these options is used more than once on the same command line, the data pieces specified will be merged together with a separating &-symbol. Thus, using *'-d name=daniel -d skill=lousy'* would generate a post chunk that looks like *'name=daniel&skill=lousy'*.

If you start the data with the letter @, the rest should be a file name to read the data from, or - if you want curl to read the data from stdin. Multiple files can also be specified. Posting data from a file named 'foobar' would thus be done with *--data @foobar*. When *--data* is told to read from a file like that, carriage returns and newlines will be stripped out. If you don't want the @ character to have a special interpretation use *--data-raw* instead.

*-D, --dump-header <file>*

Write the protocol headers to the specified file.

This option is handy to use when you want to store the headers that an HTTP site sends to you. Cookies from the headers could then be read in a second curl invocation by using the *-b, --cookie* option! The *-c, --cookie-jar* option is a better way to store cookies.

When used in FTP, the FTP server response lines are considered being "headers" and thus are saved there.

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

*--data-ascii <data>*

See *-d, --data*.

*--data-binary <data>*

(HTTP) This posts data exactly as specified with no extra processing whatsoever.

If you start the data with the letter @, the rest should be a filename. Data is posted in a similar manner as *--data-ascii* does, except that newlines and carriage returns are preserved and conversions are never done.

If this option is used several times, the ones following the first will append data as described in *-d, --data*.

*--data-raw <data>*

(HTTP) This posts data similarly to *--data* but without the special interpretation of the @ character. See *-d, --data*. (Added in 7.43.0)

*--data-urlencode <data>*

(HTTP) This posts data, similar to the other *--data* options with the exception that this performs URL-encoding. (Added in 7.18.0)

To be CGI-compliant, the <data> part should begin with a *name* followed by a separator and a content specification. The <data> part can be passed to curl using one of the following syntaxes:

**content** This will make curl URL-encode the content and pass that on. Just be careful so that the content doesn't contain any = or @ symbols, as that will then make the syntax match one of the other cases below!

**=content**

This will make curl URL-encode the content and pass that on. The preceding = symbol is not included in the data.

**name=content**

This will make curl URL-encode the content part and pass that on. Note that the name part is expected to be URL-encoded already.

**@filename**

This will make curl load data from the given file (including any newlines), URL-encode that data and pass it on in the POST.

**name@filename**

This will make curl load data from the given file (including any newlines), URL-encode that data and pass it on in the POST. The name part gets an equal sign appended, resulting in *name=urlencoded-file-content*. Note that the name is expected to be URL-encoded already.

**--delegation LEVEL**

Set *LEVEL* to tell the server what it is allowed to delegate when it comes to user credentials. Used with GSS/kerberos.

**none** Don't allow any delegation.

**policy** Delegates if and only if the OK-AS-DELEGATE flag is set in the Kerberos service ticket, which is a matter of realm policy.

**always** Unconditionally allow the server to delegate.

**--digest** (HTTP) Enables HTTP Digest authentication. This is an authentication scheme that prevents the password from being sent over the wire in clear text. Use this in combination with the normal *-u*, *--user* option to set user name and password. See also *--ntlm*, *--negotiate* and *--anyauth* for related options.

If this option is used several times, only the first one is used.

**--disable-eprt**

(FTP) Tell curl to disable the use of the EPRT and LPRT commands when doing active FTP transfers. Curl will normally always first attempt to use EPRT, then LPRT before using PORT, but with this option, it will use PORT right away. EPRT and LPRT are extensions to the original FTP protocol, and may not work on all servers, but they enable more functionality in a better way than the traditional PORT command.

**--eprt** can be used to explicitly enable EPRT again and **--no-eprt** is an alias for **--disable-eprt**.

If the server is an IPv6 host, this option will have no effect as EPRT is necessary then.

Disabling EPRT only changes the active behavior. If you want to switch to passive mode you need to not use *-P*, *--ftp-port* or force it with *--ftp-pasv*.

**--disable-epsv**

(FTP) Tell curl to disable the use of the EPSV command when doing passive FTP transfers. Curl will normally always first attempt to use EPSV before PASV, but with this option, it will not try using EPSV.

**--epsv** can be used to explicitly enable EPSV again and **--no-epsv** is an alias for **--disable-epsv**.

If the server is an IPv6 host, this option will have no effect as EPSV is necessary then.

Disabling EPSV only changes the passive behavior. If you want to switch to active mode you need

to use *-P*, *--ftp-port*.

**--dns-interface** <interface>

Tell curl to send outgoing DNS requests through <interface>. This option is a counterpart to *--interface* (which does not affect DNS). The supplied string must be an interface name (not an address).

This option requires that libcurl was built with a resolver backend that supports this operation. The c-ares backend is the only such one. (Added in 7.33.0)

**--dns-ipv4-addr** <ip-address>

Tell curl to bind to <ip-address> when making IPv4 DNS requests, so that the DNS requests originate from this address. The argument should be a single IPv4 address.

This option requires that libcurl was built with a resolver backend that supports this operation. The c-ares backend is the only such one. (Added in 7.33.0)

**--dns-ipv6-addr** <ip-address>

Tell curl to bind to <ip-address> when making IPv6 DNS requests, so that the DNS requests originate from this address. The argument should be a single IPv6 address.

This option requires that libcurl was built with a resolver backend that supports this operation. The c-ares backend is the only such one. (Added in 7.33.0)

**--dns-servers** <ip-address,ip-address>

Set the list of DNS servers to be used instead of the system default. The list of IP addresses should be separated with commas. Port numbers may also optionally be given as *:<port-number>* after each IP address.

This option requires that libcurl was built with a resolver backend that supports this operation. The c-ares backend is the only such one. (Added in 7.33.0)

**-e, --referer** <URL>

(HTTP) Sends the "Referrer Page" information to the HTTP server. This can also be set with the *-H, --header* flag of course. When used with *-L, --location* you can append ";auto" to the *--referer* URL to make curl automatically set the previous URL when it follows a Location: header. The ";auto" string can be used alone, even if you don't set an initial *--referer*.

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

**-E, --cert** <certificate[:password]>

(SSL) Tells curl to use the specified client certificate file when getting a file with HTTPS, FTPS or another SSL-based protocol. The certificate must be in PKCS#12 format if using Secure Transport, or PEM format if using any other engine. If the optional password isn't specified, it will be queried for on the terminal. Note that this option assumes a "certificate" file that is the private key and the client certificate concatenated! See *--cert* and *--key* to specify them independently.

If curl is built against the NSS SSL library then this option can tell curl the nickname of the certificate to use within the NSS database defined by the environment variable `SSL_DIR` (or by default `/etc/pki/nssdb`). If the NSS PEM PKCS#11 module (`libnsspem.so`) is available then PEM files may be loaded. If you want to use a file from the current directory, please precede it with `./` prefix, in order to avoid confusion with a nickname. If the nickname contains `:`, it needs to be preceded by `"\"` so that it is not recognized as password delimiter. If the nickname contains `"\"`, it needs to be escaped as `"\"` so that it is not recognized as an escape character.

(iOS and Mac OS X only) If curl is built against Secure Transport, then the certificate string can either be the name of a certificate/private key in the system or user keychain, or the path to a PKCS#12-encoded certificate and private key. If you want to use a file from the current directory,



please precede it with `"/"` prefix, in order to avoid confusion with a nickname.

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

`--engine <name>`

Select the OpenSSL crypto engine to use for cipher operations. Use `--engine list` to print a list of build-time supported engines. Note that not all (or none) of the engines may be available at run-time.

`--environment`

(RISC OS ONLY) Sets a range of environment variables, using the names the `-w` option supports, to allow easier extraction of useful information after having run curl.

`--egd-file <file>`

(SSL) Specify the path name to the Entropy Gathering Daemon socket. The socket is used to seed the random engine for SSL connections. See also the `--random-file` option.

`--expect100-timeout <seconds>`

(HTTP) Maximum time in seconds that you allow curl to wait for a 100-continue response when curl emits an `Expect: 100-continue` header in its request. By default curl will wait one second. This option accepts decimal values! When curl stops waiting, it will continue as if the response has been received.

(Added in 7.47.0)

`--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.

curl recognizes the environment variable named `'CURL_CA_BUNDLE'` if it is set, and uses the given path as a path to a CA cert bundle. This option overrides that variable.

The windows version of curl will automatically look for a CA certs file named `'curl-ca-bundle.crt'`, either in the same directory as `curl.exe`, or in the Current Working Directory, or in any folder along your `PATH`.

If curl is built against the NSS SSL library, the NSS PEM PKCS#11 module (`libnsspem.so`) needs to be available for this option to work properly.

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

`--capath <CA certificate directory>`

(SSL) Tells curl to use the specified certificate directory to verify the peer. Multiple paths can be provided by separating them with `":"` (e.g. `"path1:path2:path3"`). The certificates must be in PEM format, and if curl is built against OpenSSL, the directory must have been processed using the `c_rehash` utility supplied with OpenSSL. Using `--capath` can allow OpenSSL-powered curl to make SSL-connections much more efficiently than using `--cacert` if the `--cacert` file contains many CA certificates.

If this option is set, the default `capath` value will be ignored, and if it is used several times, the last one will be used.

`--pinnedpubkey <pinned public key (hashes)>`

(SSL) Tells curl to use the specified public key file (or hashes) to verify the peer. This can be a path to a file which contains a single public key in PEM or DER format, or any number of base64 encoded sha256 hashes preceded by 'sha256/' and separated by ';

When negotiating a TLS or SSL connection, the server sends a certificate indicating its identity. A public key is extracted from this certificate and if it does not exactly match the public key provided to this option, curl will abort the connection before sending or receiving any data.

PEM/DER support:

7.39.0: OpenSSL, GnuTLS and GSKit

7.43.0: NSS and wolfSSL/CyaSSL

7.47.0: mbedtls

7.49.0: PolarSSL sha256 support:

7.44.0: OpenSSL, GnuTLS, NSS and wolfSSL/CyaSSL.

7.47.0: mbedtls

7.49.0: PolarSSL Other SSL backends not supported.

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

`--cert-status`

(SSL) Tells curl to verify the status of the server certificate by using the Certificate Status Request (aka. OCSP stapling) TLS extension.

If this option is enabled and the server sends an invalid (e.g. expired) response, if the response suggests that the server certificate has been revoked, or no response at all is received, the verification fails.

This is currently only implemented in the OpenSSL, GnuTLS and NSS backends. (Added in 7.41.0)

`--false-start`

(SSL) Tells curl to use false start during the TLS handshake. False start is a mode where a TLS client will start sending application data before verifying the server's Finished message, thus saving a round trip when performing a full handshake.

This is currently only implemented in the NSS and Secure Transport (on iOS 7.0 or later, or OS X 10.9 or later) backends. (Added in 7.42.0)

`-f, --fail`

(HTTP) Fail silently (no output at all) on server errors. This is mostly done to better enable scripts etc to better deal with failed attempts. In normal cases when an HTTP server fails to deliver a document, it returns an HTML document stating so (which often also describes why and more). This flag will prevent curl from outputting that and return error 22.

This method is not fail-safe and there are occasions where non-successful response codes will slip through, especially when authentication is involved (response codes 401 and 407).

`-F, --form <name=content>`

(HTTP) This lets curl emulate a filled-in form in which a user has pressed the submit button. This causes curl to POST data using the Content-Type multipart/form-data according to RFC 2388. This enables uploading of binary files etc. To force the 'content' part to be a file, prefix the file name with an @ sign. To just get the content part from a file, prefix the file name with the symbol <. The difference between @ and < is then that @ makes a file get attached in the post as a file upload, while the < makes a text field and just get the contents for that text field from a file.

Example: to send an image to a server, where 'profile' is the name of the form-field to which portrait.jpg will be the input:

```
curl -F profile=@portrait.jpg https://example.com/upload.cgi
```

To read content from stdin instead of a file, use - as the filename. This goes for both @ and < constructs. Unfortunately it does not support reading the file from a named pipe or similar, as it needs the full size before the transfer starts.

You can also tell curl what Content-Type to use by using 'type=', in a manner similar to:

```
curl -F "web=@index.html;type=text/html" example.com
```

or

```
curl -F "name=daniel;type=text/foo" example.com
```

You can also explicitly change the name field of a file upload part by setting filename=, like this:

```
curl -F "file=@localfile;filename=nameinpost" example.com
```

If filename/path contains ',' or ';', it must be quoted by double-quotes like:

```
curl -F "file=@\"localfile\";filename=\"nameinpost\"" example.com
```

or

```
curl -F 'file=@"localfile";filename="nameinpost"' example.com
```

Note that if a filename/path is quoted by double-quotes, any double-quote or backslash within the filename must be escaped by backslash.

See further examples and details in the MANUAL.

This option can be used multiple times.

**--ftp-account** [data]

(FTP) When an FTP server asks for "account data" after user name and password has been provided, this data is sent off using the ACCT command. (Added in 7.13.0)

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

**--ftp-alternative-to-user** <command>

(FTP) If authenticating with the USER and PASS commands fails, send this command. When connecting to Tumbleweed's Secure Transport server over FTPS using a client certificate, using "SITE AUTH" will tell the server to retrieve the username from the certificate. (Added in 7.15.5)

**--ftp-create-dirs**

(FTP/SFTP) When an FTP or SFTP URL/operation uses a path that doesn't currently exist on the server, the standard behavior of curl is to fail. Using this option, curl will instead attempt to create missing directories.

**--ftp-method** [method]

(FTP) Control what method curl should use to reach a file on an FTP(S) server. The method argument should be one of the following alternatives:

**multicwd**

curl does a single CWD operation for each path part in the given URL. For deep hierarchies this means very many commands. This is how RFC 1738 says it should be done. This is the default but the slowest behavior.

**nocwd** curl does no CWD at all. curl will do SIZE, RETR, STOR etc and give a full path to the server for all these commands. This is the fastest behavior.

**singlecwd**

curl does one CWD with the full target directory and then operates on the file "normally" (like in the multicwd case). This is somewhat more standards compliant than 'nocwd' but without the full penalty of 'multicwd'.

(Added in 7.15.1)

**--ftp-pasv**

(FTP) Use passive mode for the data connection. Passive is the internal default behavior, but using this option can be used to override a previous *-P/-ftp-port* option. (Added in 7.11.0)

If this option is used several times, only the first one is used. Undoing an enforced passive really isn't doable but you must then instead enforce the correct *-P, --ftp-port* again.

Passive mode means that curl will try the EPSV command first and then PASV, unless *--disable-epsv* is used.

**--ftp-skip-pasv-ip**

(FTP) Tell curl to not use the IP address the server suggests in its response to curl's PASV command when curl connects the data connection. Instead curl will re-use the same IP address it already uses for the control connection. (Added in 7.14.2)

This option has no effect if PORT, EPRT or EPSV is used instead of PASV.

**--ftp-pret**

(FTP) Tell curl to send a PRET command before PASV (and EPSV). Certain FTP servers, mainly drftpd, require this non-standard command for directory listings as well as up and downloads in PASV mode. (Added in 7.20.x)

**--ftp-ssl-ccc**

(FTP) Use CCC (Clear Command Channel) Shuts down the SSL/TLS layer after authenticating. The rest of the control channel communication will be unencrypted. This allows NAT routers to follow the FTP transaction. The default mode is passive. See *--ftp-ssl-ccc-mode* for other modes. (Added in 7.16.1)

**--ftp-ssl-ccc-mode [active/passive]**

(FTP) Use CCC (Clear Command Channel) Sets the CCC mode. The passive mode will not initiate the shutdown, but instead wait for the server to do it, and will not reply to the shutdown from the server. The active mode initiates the shutdown and waits for a reply from the server. (Added in 7.16.2)

**--ftp-ssl-control**

(FTP) Require SSL/TLS for the FTP login, clear for transfer. Allows secure authentication, but non-encrypted data transfers for efficiency. Fails the transfer if the server doesn't support SSL/TLS. (Added in 7.16.0) that can still be used but will be removed in a future version.

**--ftp-ssl**

(FTP) This deprecated option is now known as *--ssl*.

**--ftp-ssl-reqd**

(FTP) This deprecated option is now known as *--ssl-reqd*.

**--form-string** <name=string>

(HTTP) Similar to *--form* except that the value string for the named parameter is used literally. Leading '@' and < characters, and the 'type=' string in the value have no special meaning. Use this in preference to *--form* if there's any possibility that the string value may accidentally trigger the '@' or < features of *--form*.

**-g, --globoff**

This option switches off the "URL globbing parser". When you set this option, you can specify URLs that contain the letters {}[] without having them being interpreted by curl itself. Note that these letters are not normal legal URL contents but they should be encoded according to the URI standard.

**-G, --get**

When used, this option will make all data specified with *-d*, *--data*, *--data-binary* or *--data-urlencode* to be used in an HTTP GET request instead of the POST request that otherwise would be used. The data will be appended to the URL with a '?' separator.

If used in combination with *-I*, the POST data will instead be appended to the URL with a HEAD request.

If this option is used several times, only the first one is used. This is because undoing a GET doesn't make sense, but you should then instead enforce the alternative method you prefer.

**-H, --header** <header>

(HTTP) Extra header to include in the request when sending HTTP to a server. You may specify any number of extra headers. Note that if you should add a custom header that has the same name as one of the internal ones curl would use, your externally set header will be used instead of the internal one. This allows you to make even trickier stuff than curl would normally do. You should not replace internally set headers without knowing perfectly well what you're doing. Remove an internal header by giving a replacement without content on the right side of the colon, as in: *-H "Host:"*. If you send the custom header with no-value then its header must be terminated with a semicolon, such as *-H "X-Custom-Header;"* to send "X-Custom-Header:".

curl will make sure that each header you add/replace is sent with the proper end-of-line marker, you should thus **not** add that as a part of the header content: do not add newlines or carriage returns, they will only mess things up for you.

See also the *-A*, *--user-agent* and *-e*, *--referer* options.

Starting in 7.37.0, you need *--proxy-header* to send custom headers intended for a proxy.

Example:

```
# curl -H "X-First-Name: Joe" http://example.com/
```

**WARNING:** headers set with this option will be set in all requests - even after redirects are followed, like when told with *-L*, *--location*. This can lead to the header being sent to other hosts than the original host, so sensitive headers should be used with caution combined with following redirects.

This option can be used multiple times to add/replace/remove multiple headers.

**--hostpubmd5** <md5>

(SCP/SFTP) Pass a string containing 32 hexadecimal digits. The string should be the 128 bit MD5 checksum of the remote host's public key, curl will refuse the connection with the host unless the md5sums match. (Added in 7.17.1)

**--ignore-content-length**

For HTTP, Ignore the Content-Length header. This is particularly useful for servers running Apache 1.x, which will report incorrect Content-Length for files larger than 2 gigabytes.

For FTP (since 7.46.0), skip the RETR command to figure out the size before downloading a file.

**-i, --include**

(HTTP) Include the HTTP-header in the output. The HTTP-header includes things like server-name, date of the document, HTTP-version and more...

**-I, --head**

(HTTP/FTP/FILE) Fetch the HTTP-header only! HTTP-servers feature the command HEAD which this uses to get nothing but the header of a document. When used on an FTP or FILE file, curl displays the file size and last modification time only.

**--interface <name>**

Perform an operation using a specified interface. You can enter interface name, IP address or host name. An example could look like:

```
curl --interface eth0:1 https://www.example.com/
```

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

**-j, --junk-session-cookies**

(HTTP) When curl is told to read cookies from a given file, this option will make it discard all "session cookies". This will basically have the same effect as if a new session is started. Typical browsers always discard session cookies when they're closed down.

**-J, --remote-header-name**

(HTTP) This option tells the *-O*, *--remote-name* option to use the server-specified Content-Disposition filename instead of extracting a filename from the URL.

If the server specifies a file name and a file with that name already exists in the current working directory it will not be overwritten and an error will occur. If the server doesn't specify a file name then this option has no effect.

There's no attempt to decode %-sequences (yet) in the provided file name, so this option may provide you with rather unexpected file names.

**WARNING:** Exercise judicious use of this option, especially on Windows. A rogue server could send you the name of a DLL or other file that could possibly be loaded automatically by Windows or some third party software.

**-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.

See this online resource for further details: <https://curl.haxx.se/docs/sslcerts.html>

**-K, --config <config file>**

Specify which config file to read curl arguments from. The config file is a text file in which command line arguments can be written which then will be used as if they were written on the actual command line.

Options and their parameters must be specified on the same config file line, separated by white-space, colon, or the equals sign. Long option names can optionally be given in the config file without the initial double dashes and if so, the colon or equals characters can be used as separators. If the option is specified with one or two dashes, there can be no colon or equals character between

the option and its parameter.

If the parameter is to contain whitespace, the parameter must be enclosed within quotes. Within double quotes, the following escape sequences are available: `\\`, `\'`, `\t`, `\n`, `\r` and `\v`. A backslash preceding any other letter is ignored. If the first column of a config line is a `'#'` character, the rest of the line will be treated as a comment. Only write one option per physical line in the config file.

Specify the filename to `-K`, `--config` as `'-'` to make curl read the file from stdin.

Note that to be able to specify a URL in the config file, you need to specify it using the `--url` option, and not by simply writing the URL on its own line. So, it could look similar to this:

```
url = "https://curl.haxx.se/docs/"
```

When curl is invoked, it always (unless `-q` is used) checks for a default config file and uses it if found. The default config file is checked for in the following places in this order:

1) curl tries to find the "home dir": It first checks for the `CURL_HOME` and then the `HOME` environment variables. Failing that, it uses `getpwuid()` on Unix-like systems (which returns the home dir given the current user in your system). On Windows, it then checks for the `APPDATA` variable, or as a last resort the `'%USERPROFILE%\Application Data'`.

2) On windows, if there is no `_curlrc` file in the home dir, it checks for one in the same dir the curl executable is placed. On Unix-like systems, it will simply try to load `.curlrc` from the determined home dir.

```
# --- Example file ---
# this is a comment
url = "example.com"
output = "curlhere.html"
user-agent = "superagent/1.0"

# and fetch another URL too
url = "example.com/docs/manpage.html"
-O
referer = "http://nowhereatall.example.com/"
# --- End of example file ---
```

This option can be used multiple times to load multiple config files.

`--keepalive-time <seconds>`

This option sets the time a connection needs to remain idle before sending keepalive probes and the time between individual keepalive probes. It is currently effective on operating systems offering the `TCP_KEEPIIDLE` and `TCP_KEEPIIDLE` socket options (meaning Linux, recent AIX, HP-UX and more). This option has no effect if `--no-keepalive` is used. (Added in 7.18.0)

If this option is used several times, the last one will be used. If unspecified, the option defaults to 60 seconds.

`--key <key>`

(SSL/SSH) Private key file name. Allows you to provide your private key in this separate file. For SSH, if not specified, curl tries the following candidates in order: `'~/.ssh/id_rsa'`, `'~/.ssh/id_dsa'`, `'./id_rsa'`, `'./id_dsa'`.

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

`--key-type <type>`

(SSL) Private key file type. Specify which type your `--key` provided private key is. DER, PEM, and ENG are supported. If not specified, PEM is assumed.

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

`--krb <level>`

(FTP) Enable Kerberos authentication and use. The level must be entered and should be one of 'clear', 'safe', 'confidential', or 'private'. Should you use a level that is not one of these, 'private' will instead be used.

This option requires a library built with kerberos4 support. This is not very common. Use `-V`, `--version` to see if your curl supports it.

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

`--krb4 <level>`

(FTP) This is the former name for `--krb`. Do not use.

`-l`, `--list-only`

(FTP) When listing an FTP directory, this switch forces a name-only view. This is especially useful if the user wants to machine-parse the contents of an FTP directory since the normal directory view doesn't use a standard look or format. When used like this, the option causes a NLST command to be sent to the server instead of LIST.

Note: Some FTP servers list only files in their response to NLST; they do not include sub-directories and symbolic links.

(POP3) When retrieving a specific email from POP3, this switch forces a LIST command to be performed instead of RETR. This is particularly useful if the user wants to see if a specific message id exists on the server and what size it is.

Note: When combined with `-X`, `--request <command>`, this option can be used to send an UIDL command instead, so the user may use the email's unique identifier rather than it's message id to make the request. (Added in 7.21.5)

`-L`, `--location`

(HTTP/HTTPS) If the server reports that the requested page has moved to a different location (indicated with a Location: header and a 3XX response code), this option will make curl redo the request on the new place. If used together with `-i`, `--include` or `-I`, `--head`, headers from all requested pages will be shown. When authentication is used, curl only sends its credentials to the initial host. If a redirect takes curl to a different host, it won't be able to intercept the user+password. See also `--location-trusted` on how to change this. You can limit the amount of redirects to follow by using the `--max-redirs` option.

When curl follows a redirect and the request is not a plain GET (for example POST or PUT), it will do the following request with a GET if the HTTP response was 301, 302, or 303. If the response code was any other 3xx code, curl will re-send the following request using the same unmodified method.

You can tell curl to not change the non-GET request method to GET after a 30x response by using the dedicated options for that: `--post301`, `--post302` and `--post303`.

`--libcurl <file>`

Append this option to any ordinary curl command line, and you will get a libcurl-using C source code written to the file that does the equivalent of what your command-line operation does!



If this option is used several times, the last given file name will be used. (Added in 7.16.1)

**--limit-rate <speed>**

Specify the maximum transfer rate you want curl to use - for both downloads and uploads. This feature is useful if you have a limited pipe and you'd like your transfer not to use your entire bandwidth. To make it slower than it otherwise would be.

The given speed is measured in bytes/second, unless a suffix is appended. Appending 'k' or 'K' will count the number as kilobytes, 'm' or 'M' makes it megabytes, while 'g' or 'G' makes it gigabytes. Examples: 200K, 3m and 1G.

The given rate is the average speed counted during the entire transfer. It means that curl might use higher transfer speeds in short bursts, but over time it uses no more than the given rate.

If you also use the *-Y*, *--speed-limit* option, that option will take precedence and might cripple the rate-limiting slightly, to help keeping the speed-limit logic working.

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

**--local-port <num>[-num]**

Set a preferred number or range of local port numbers to use for the connection(s). Note that port numbers by nature are a scarce resource that will be busy at times so setting this range to something too narrow might cause unnecessary connection setup failures. (Added in 7.15.2)

**--location-trusted**

(HTTP/HTTPS) Like *-L*, *--location*, but will allow sending the name + password to all hosts that the site may redirect to. This may or may not introduce a security breach if the site redirects you to a site to which you'll send your authentication info (which is plaintext in the case of HTTP Basic authentication).

**-m, --max-time <seconds>**

Maximum time in seconds that you allow the whole operation to take. This is useful for preventing your batch jobs from hanging for hours due to slow networks or links going down. Since 7.32.0, this option accepts decimal values, but the actual timeout will decrease in accuracy as the specified timeout increases in decimal precision. See also the *--connect-timeout* option.

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

**--login-options <options>**

Specify the login options to use during server authentication.

You can use the login options to specify protocol specific options that may be used during authentication. At present only IMAP, POP3 and SMTP support login options. For more information about the login options please see RFC 2384, RFC 5092 and IETF draft draft-earhart-url-smtp-00.txt (Added in 7.34.0).

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

**--mail-auth <address>**

(SMTP) Specify a single address. This will be used to specify the authentication address (identity) of a submitted message that is being relayed to another server.

(Added in 7.25.0)

**--mail-from <address>**

(SMTP) Specify a single address that the given mail should get sent from.

(Added in 7.20.0)

**--max-filesize <bytes>**

Specify the maximum size (in bytes) of a file to download. If the file requested is larger than this value, the transfer will not start and curl will return with exit code 63.

**NOTE:** The file size is not always known prior to download, and for such files this option has no effect even if the file transfer ends up being larger than this given limit. This concerns both FTP and HTTP transfers.

**--mail-rcpt <address>**

(SMTP) Specify a single address, user name or mailing list name. Repeat this option several times to send to multiple recipients.

When performing a mail transfer, the recipient should specify a valid email address to send the mail to. (Added in 7.20.0)

When performing an address verification (VRFY command), the recipient should be specified as the user name or user name and domain (as per Section 3.5 of RFC5321). (Added in 7.34.0)

When performing a mailing list expand (EXPN command), the recipient should be specified using the mailing list name, such as "Friends" or "London-Office". (Added in 7.34.0)

**--max-redirs <num>**

Set maximum number of redirection-followings allowed. If *-L*, *--location* is used, this option can be used to prevent curl from following redirections "in absurdum". By default, the limit is set to 50 redirections. Set this option to -1 to make it limitless.

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

**--metalink**

This option can tell curl to parse and process a given URI as Metalink file (both version 3 and 4 (RFC 5854) are supported) and make use of the mirrors listed within for failover if there are errors (such as the file or server not being available). It will also verify the hash of the file after the download completes. The Metalink file itself is downloaded and processed in memory and not stored in the local file system.

Example to use a remote Metalink file:

```
curl --metalink http://www.example.com/example.metalink
```

To use a Metalink file in the local file system, use FILE protocol (file://):

```
curl --metalink file://example.metalink
```

Please note that if FILE protocol is disabled, there is no way to use a local Metalink file at the time of this writing. Also note that if *--metalink* and *--include* are used together, *--include* will be ignored. This is because including headers in the response will break Metalink parser and if the headers are included in the file described in Metalink file, hash check will fail.

(Added in 7.27.0, if built against the libmetalink library.)

**-n, --netrc**

Makes curl scan the *.netrc* (*\_netrc* on Windows) file in the user's home directory for login name and password. This is typically used for FTP on Unix. If used with HTTP, curl will enable user authentication. See *netrc(5)* *ftp(1)* for details on the file format. Curl will not complain if that file doesn't have the right permissions (it should not be either world- or group-readable). The environment variable "HOME" is used to find the home directory.

A quick and very simple example of how to setup a *.netrc* to allow curl to FTP to the machine *host.domain.com* with user name 'myself' and password 'secret' should look similar to:

**machine host.domain.com login myself password secret**

**-N, --no-buffer**

Disables the buffering of the output stream. In normal work situations, curl will use a standard buffered output stream that will have the effect that it will output the data in chunks, not necessarily exactly when the data arrives. Using this option will disable that buffering.

Note that this is the negated option name documented. You can thus use *--buffer* to enforce the buffering.

**--netrc-file**

This option is similar to *--netrc*, except that you provide the path (absolute or relative) to the netrc file that Curl should use. You can only specify one netrc file per invocation. If several *--netrc-file* options are provided, only the **last one** will be used. (Added in 7.21.5)

This option overrides any use of *--netrc* as they are mutually exclusive. It will also abide by *--netrc-optional* if specified.

**--netrc-optional**

Very similar to *--netrc*, but this option makes the *.netrc* usage **optional** and not mandatory as the *--netrc* option does.

**--negotiate**

(HTTP) Enables Negotiate (SPNEGO) authentication.

If you want to enable Negotiate (SPNEGO) for proxy authentication, then use *--proxy-negotiate*.

This option requires a library built with GSS-API or SSPI support. Use *-V, --version* to see if your curl supports GSS-API/SSPI and SPNEGO.

When using this option, you must also provide a fake *-u, --user* option to activate the authentication code properly. Sending a '*-u :*' is enough as the user name and password from the *-u* option aren't actually used.

If this option is used several times, only the first one is used.

**--no-keepalive**

Disables the use of keepalive messages on the TCP connection, as by default curl enables them.

Note that this is the negated option name documented. You can thus use *--keepalive* to enforce keepalive.

**--no-sessionid**

(SSL) Disable curl's use of SSL session-ID caching. By default all transfers are done using the cache. Note that while nothing should ever get hurt by attempting to reuse SSL session-IDs, there seem to be broken SSL implementations in the wild that may require you to disable this in order for you to succeed. (Added in 7.16.0)

Note that this is the negated option name documented. You can thus use *--sessionid* to enforce session-ID caching.

**--noproxy <no-proxy-list>**

Comma-separated list of hosts which do not use a proxy, if one is specified. The only wildcard is a single *\** character, which matches all hosts, and effectively disables the proxy. Each name in this

list is matched as either a domain which contains the hostname, or the hostname itself. For example, local.com would match local.com, local.com:80, and www.local.com, but not www.notlocal.com. (Added in 7.19.4).

**--connect-to** <host:port:connect-to-host:connect-to-port>

For a request to the given "host:port" pair, connect to "connect-to-host:connect-to-port" instead. This is suitable to direct the request at a specific server, e.g. at a specific cluster node in a cluster of servers. This option is only used to establish the network connection. It does NOT affect the host-name/port that is used for TLS/SSL (e.g. SNI, certificate verification) or for the application protocols. "host" and "port" may be the empty string, meaning "any host/port". "connect-to-host" and "connect-to-port" may also be the empty string, meaning "use the request's original host/port". This option can be used many times to add many connect rules. (Added in 7.49.0).

**--ntlm** (HTTP) Enables NTLM authentication. The NTLM authentication method was designed by Microsoft and is used by IIS web servers. It is a proprietary protocol, reverse-engineered by clever people and implemented in curl based on their efforts. This kind of behavior should not be endorsed, you should encourage everyone who uses NTLM to switch to a public and documented authentication method instead, such as Digest.

If you want to enable NTLM for your proxy authentication, then use *--proxy-ntlm*.

This option requires a library built with SSL support. Use *-V*, *--version* to see if your curl supports NTLM.

If this option is used several times, only the first one is used.

**--ntlm-wb**

(HTTP) Enables NTLM much in the style *--ntlm* does, but hand over the authentication to the separate binary ntlmauth application that is executed when needed.

**-o, --output** <file>

Write output to <file> instead of stdout. If you are using { } or [] to fetch multiple documents, you can use '#' followed by a number in the <file> specifier. That variable will be replaced with the current string for the URL being fetched. Like in:

```
curl http://{one,two}.example.com -o "file_#1.txt"
```

or use several variables like:

```
curl http://{site,host}.host[1-5].com -o "#1_#2"
```

You may use this option as many times as the number of URLs you have.

See also the *--create-dirs* option to create the local directories dynamically. Specifying the output as '-' (a single dash) will force the output to be done to stdout.

**-O, --remote-name**

Write output to a local file named like the remote file we get. (Only the file part of the remote file is used, the path is cut off.)

The file will be saved in the current working directory. If you want the file saved in a different directory, make sure you change the current working directory before invoking curl with this option.

The remote file name to use for saving is extracted from the given URL, nothing else, and if it already exists it will be overwritten. If you want the server to be able to choose the file name refer to *-J*, *--remote-header-name* which can be used in addition to this option. If the server chooses a

file name and that name already exists it will not be overwritten.

There is no URL decoding done on the file name. If it has %20 or other URL encoded parts of the name, they will end up as-is as file name.

You may use this option as many times as the number of URLs you have.

**--oauth2-bearer**

(IMAP, POP3, SMTP) Specify the Bearer Token for OAUTH 2.0 server authentication. The Bearer Token is used in conjunction with the user name which can be specified as part of the **--url** or **-u**, **--user** options.

The Bearer Token and user name are formatted according to RFC 6750.

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

**--proxy-header <header>**

(HTTP) Extra header to include in the request when sending HTTP to a proxy. You may specify any number of extra headers. This is the equivalent option to **-H**, **--header** but is for proxy communication only like in CONNECT requests when you want a separate header sent to the proxy to what is sent to the actual remote host.

curl will make sure that each header you add/replace is sent with the proper end-of-line marker, you should thus **not** add that as a part of the header content: do not add newlines or carriage returns, they will only mess things up for you.

Headers specified with this option will not be included in requests that curl knows will not be sent to a proxy.

This option can be used multiple times to add/replace/remove multiple headers.

(Added in 7.37.0)

**-p, --proxytunnel**

When an HTTP proxy is used (**-x**, **--proxy**), this option will cause non-HTTP protocols to attempt to tunnel through the proxy instead of merely using it to do HTTP-like operations. The tunnel approach is made with the HTTP proxy CONNECT request and requires that the proxy allows direct connect to the remote port number curl wants to tunnel through to.

**-P, --ftp-port <address>**

(FTP) Reverses the default initiator/listener roles when connecting with FTP. This switch makes curl use active mode. In practice, curl then tells the server to connect back to the client's specified address and port, while passive mode asks the server to setup an IP address and port for it to connect to. **<address>** should be one of:

interface

i.e "eth0" to specify which interface's IP address you want to use (Unix only)

IP address

i.e "192.168.10.1" to specify the exact IP address

host name

i.e "my.host.domain" to specify the machine

- make curl pick the same IP address that is already used for the control connection

If this option is used several times, the last one will be used. Disable the use of PORT with **--ftp-pasv**. Disable the attempt to use the EPRT command instead of PORT by using **--disable-eprt**. EPRT is really PORT++.

Starting in 7.19.5, you can append ":[start]-[end]" to the right of the address, to tell curl what TCP port range to use. That means you specify a port range, from a lower to a higher number. A single number works as well, but do note that it increases the risk of failure since the port may not be available.

**--pass <phrase>**  
(SSL/SSH) Passphrase for the private key

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

**--path-as-is**  
Tell curl to not handle sequences of `/../` or `/./` in the given URL path. Normally curl will squash or merge them according to standards but with this option set you tell it not to do that.

(Added in 7.42.0)

**--post301**  
(HTTP) Tells curl to respect RFC 7230/6.4.2 and not convert POST requests into GET requests when following a 301 redirection. The non-RFC behaviour is ubiquitous in web browsers, so curl does the conversion by default to maintain consistency. However, a server may require a POST to remain a POST after such a redirection. This option is meaningful only when using `-L`, `--location` (Added in 7.17.1)

**--post302**  
(HTTP) Tells curl to respect RFC 7230/6.4.3 and not convert POST requests into GET requests when following a 302 redirection. The non-RFC behaviour is ubiquitous in web browsers, so curl does the conversion by default to maintain consistency. However, a server may require a POST to remain a POST after such a redirection. This option is meaningful only when using `-L`, `--location` (Added in 7.19.1)

**--post303**  
(HTTP) Tells curl to respect RFC 7230/6.4.4 and not convert POST requests into GET requests when following a 303 redirection. The non-RFC behaviour is ubiquitous in web browsers, so curl does the conversion by default to maintain consistency. However, a server may require a POST to remain a POST after such a redirection. This option is meaningful only when using `-L`, `--location` (Added in 7.26.0)

**--proto <protocols>**  
Tells curl to use the listed protocols for its initial retrieval. Protocols are evaluated left to right, are comma separated, and are each a protocol name or 'all', optionally prefixed by zero or more modifiers. Available modifiers are:

- + Permit this protocol in addition to protocols already permitted (this is the default if no modifier is used).
- Deny this protocol, removing it from the list of protocols already permitted.
- = Permit only this protocol (ignoring the list already permitted), though subject to later modification by subsequent entries in the comma separated list.

For example:

**--proto -ftps** uses the default protocols, but disables ftps

**--proto -all,https,+http**  
only enables http and https

**--proto =http,https**  
also only enables http and https

Unknown protocols produce a warning. This allows scripts to safely rely on being able to disable potentially dangerous protocols, without relying upon support for that protocol being built into curl to avoid an error.

This option can be used multiple times, in which case the effect is the same as concatenating the protocols into one instance of the option.

(Added in 7.20.2)

`--proto-default <protocol>`

Tells curl to use *protocol* for any URL missing a scheme name.

Example:

```
--proto-default https ftp.mozilla.org
https://ftp.mozilla.org
```

An unknown or unsupported protocol causes error *CURLE\_UNSUPPORTED\_PROTOCOL*.

This option does not change the default proxy protocol (http).

Without this option curl would make a guess based on the host, see *--url* for details.

(Added in 7.45.0)

`--proto-redir <protocols>`

Tells curl to use the listed protocols on redirect. See *--proto* for how protocols are represented.

Example:

```
--proto-redir -all,http,https
Allow only HTTP and HTTPS on redirect.
```

By default curl will allow all protocols on redirect except several disabled for security reasons: Since 7.19.4 FILE and SCP are disabled, and since 7.40.0 SMB and SMBS are also disabled. Specifying *all* or *+all* enables all protocols on redirect, including those disabled for security.

(Added in 7.20.2)

`--proxy-anyauth`

Tells curl to pick a suitable authentication method when communicating with the given proxy. This might cause an extra request/response round-trip. (Added in 7.13.2)

`--proxy-basic`

Tells curl to use HTTP Basic authentication when communicating with the given proxy. Use *--basic* for enabling HTTP Basic with a remote host. Basic is the default authentication method curl uses with proxies.

`--proxy-digest`

Tells curl to use HTTP Digest authentication when communicating with the given proxy. Use *--digest* for enabling HTTP Digest with a remote host.

`--proxy-negotiate`

Tells curl to use HTTP Negotiate (SPNEGO) authentication when communicating with the given proxy. Use *--negotiate* for enabling HTTP Negotiate (SPNEGO) with a remote host. (Added in 7.17.1)

`--proxy-ntlm`

Tells curl to use HTTP NTLM authentication when communicating with the given proxy. Use *--ntlm* for enabling NTLM with a remote host.

`--proxy-service-name <servicename>`

This option allows you to change the service name for proxy negotiation.

Examples: `--proxy-negotiate proxy-name --proxy-service-name sockd` would use `sockd/proxy-name`. (Added in 7.43.0).

`--proxy1.0 <proxyhost[:port]>`

Use the specified HTTP 1.0 proxy. If the port number is not specified, it is assumed at port 1080.

The only difference between this and the HTTP proxy option (`-x`, `--proxy`), is that attempts to use CONNECT through the proxy will specify an HTTP 1.0 protocol instead of the default HTTP 1.1.

`--pubkey <key>`

(SSH) Public key file name. Allows you to provide your public key in this separate file.

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

(As of 7.39.0, curl attempts to automatically extract the public key from the private key file, so passing this option is generally not required. Note that this public key extraction requires libcurl to be linked against a copy of libssh2 1.2.8 or higher that is itself linked against OpenSSL.)

`-q`, `--disable`

If used as the first parameter on the command line, the *curlrc* config file will not be read and used. See the `-K`, `--config` for details on the default config file search path.

`-Q`, `--quote <command>`

(FTP/SFTP) Send an arbitrary command to the remote FTP or SFTP server. Quote commands are sent BEFORE the transfer takes place (just after the initial PWD command in an FTP transfer, to be exact). To make commands take place after a successful transfer, prefix them with a dash '-'. To make commands be sent after curl has changed the working directory, just before the transfer command(s), prefix the command with a '+' (this is only supported for FTP). You may specify any number of commands. If the server returns failure for one of the commands, the entire operation will be aborted. You must send syntactically correct FTP commands as RFC 959 defines to FTP servers, or one of the commands listed below to SFTP servers. This option can be used multiple times. When speaking to an FTP server, prefix the command with an asterisk (\*) to make curl continue even if the command fails as by default curl will stop at first failure.

SFTP is a binary protocol. Unlike for FTP, curl interprets SFTP quote commands itself before sending them to the server. File names may be quoted shell-style to embed spaces or special characters. Following is the list of all supported SFTP quote commands:

`chgrp group file`

The `chgrp` command sets the group ID of the file named by the file operand to the group ID specified by the group operand. The group operand is a decimal integer group ID.

`chmod mode file`

The `chmod` command modifies the file mode bits of the specified file. The mode operand is an octal integer mode number.

`chown user file`

The `chown` command sets the owner of the file named by the file operand to the user ID specified by the user operand. The user operand is a decimal integer user ID.

`ln source_file target_file`

The `ln` and `symlink` commands create a symbolic link at the `target_file` location pointing to the `source_file` location.

`mkdir directory_name`

The `mkdir` command creates the directory named by the `directory_name` operand.



**pwd** The pwd command returns the absolute pathname of the current working directory.

**rename source target**

The rename command renames the file or directory named by the source operand to the destination path named by the target operand.

**rm file** The rm command removes the file specified by the file operand.

**rmdir directory**

The rmdir command removes the directory entry specified by the directory operand, provided it is empty.

**symlink source\_file target\_file**

See ln.

**-r, --range <range>**

(HTTP/FTP/SFTP/FILE) Retrieve a byte range (i.e a partial document) from a HTTP/1.1, FTP or SFTP server or a local FILE. Ranges can be specified in a number of ways.

**0-499** specifies the first 500 bytes

**500-999** specifies the second 500 bytes

**-500** specifies the last 500 bytes

**9500-** specifies the bytes from offset 9500 and forward

**0-0,-1** specifies the first and last byte only(\*) (HTTP)

**100-199,500-599**

specifies two separate 100-byte ranges(\*) (HTTP)

(\*) = NOTE that this will cause the server to reply with a multipart response!

Only digit characters (0-9) are valid in the 'start' and 'stop' fields of the 'start-stop' range syntax. If a non-digit character is given in the range, the server's response will be unspecified, depending on the server's configuration.

You should also be aware that many HTTP/1.1 servers do not have this feature enabled, so that when you attempt to get a range, you'll instead get the whole document.

FTP and SFTP range downloads only support the simple 'start-stop' syntax (optionally with one of the numbers omitted). FTP use depends on the extended FTP command SIZE.

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

**-R, --remote-time**

When used, this will make curl attempt to figure out the timestamp of the remote file, and if that is available make the local file get that same timestamp.

**--random-file <file>**

(SSL) Specify the path name to file containing what will be considered as random data. The data is used to seed the random engine for SSL connections. See also the *--egd-file* option.

**--raw** (HTTP) When used, it disables all internal HTTP decoding of content or transfer encodings and instead makes them passed on unaltered, raw. (Added in 7.16.2)

**--remote-name-all**

This option changes the default action for all given URLs to be dealt with as if *-O*, *--remote-name* were used for each one. So if you want to disable that for a specific URL after *--remote-name-all* has been used, you must use *"-o -"* or *--no-remote-name*. (Added in 7.19.0)

**--resolve <host:port:address>**

Provide a custom address for a specific host and port pair. Using this, you can make the curl request(s) use a specified address and prevent the otherwise normally resolved address to be used.

Consider it a sort of `/etc/hosts` alternative provided on the command line. The port number should be the number used for the specific protocol the host will be used for. It means you need several entries if you want to provide address for the same host but different ports.

The provided address set by this option will be used even if `-4`, `--ipv4` or `-6`, `--ipv6` is set to make curl use another IP version.

This option can be used many times to add many host names to resolve.

(Added in 7.21.3)

`--retry <num>`

If a transient error is returned when curl tries to perform a transfer, it will retry this number of times before giving up. Setting the number to 0 makes curl do no retries (which is the default). Transient error means either: a timeout, an FTP 4xx response code or an HTTP 5xx response code.

When curl is about to retry a transfer, it will first wait one second and then for all forthcoming retries it will double the waiting time until it reaches 10 minutes which then will be the delay between the rest of the retries. By using `--retry-delay` you disable this exponential backoff algorithm. See also `--retry-max-time` to limit the total time allowed for retries. (Added in 7.12.3)

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

`--retry-delay <seconds>`

Make curl sleep this amount of time before each retry when a transfer has failed with a transient error (it changes the default backoff time algorithm between retries). This option is only interesting if `--retry` is also used. Setting this delay to zero will make curl use the default backoff time. (Added in 7.12.3)

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

`--retry-max-time <seconds>`

The retry timer is reset before the first transfer attempt. Retries will be done as usual (see `--retry`) as long as the timer hasn't reached this given limit. Notice that if the timer hasn't reached the limit, the request will be made and while performing, it may take longer than this given time period. To limit a single request's maximum time, use `-m`, `--max-time`. Set this option to zero to not timeout retries. (Added in 7.12.3)

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

`-s, --silent`

Silent or quiet mode. Don't show progress meter or error messages. Makes Curl mute. It will still output the data you ask for, potentially even to the terminal/stdout unless you redirect it.

`--sasl-ir`

Enable initial response in SASL authentication. (Added in 7.31.0)

`--service-name <servicename>`

This option allows you to change the service name for SPNEGO.

Examples: `--negotiate --service-name sockd` would use `sockd/server-name`. (Added in 7.43.0).

`-S, --show-error`

When used with `-s` it makes curl show an error message if it fails.

`--ssl`

(FTP, POP3, IMAP, SMTP) Try to use SSL/TLS for the connection. Reverts to a non-secure connection if the server doesn't support SSL/TLS. See also `--ftp-ssl-control` and `--ssl-reqd` for different levels of encryption required. (Added in 7.20.0)

This option was formerly known as *--ftp-ssl* (Added in 7.11.0). That option name can still be used but will be removed in a future version.

**--ssl-reqd**

(FTP, POP3, IMAP, SMTP) Require SSL/TLS for the connection. Terminates the connection if the server doesn't support SSL/TLS. (Added in 7.20.0)

This option was formerly known as *--ftp-ssl-reqd*.

**--ssl-allow-beast**

(SSL) This option tells curl to not work around a security flaw in the SSL3 and TLS1.0 protocols known as BEAST. If this option isn't used, the SSL layer may use workarounds known to cause interoperability problems with some older SSL implementations. WARNING: this option loosens the SSL security, and by using this flag you ask for exactly that. (Added in 7.25.0)

**--ssl-no-revoke**

(WinSSL) This option tells curl to disable certificate revocation checks. WARNING: this option loosens the SSL security, and by using this flag you ask for exactly that. (Added in 7.44.0)

**--socks4 <host[:port]>**

Use the specified SOCKS4 proxy. If the port number is not specified, it is assumed at port 1080. (Added in 7.15.2)

This option overrides any previous use of *-x*, *--proxy*, as they are mutually exclusive.

Since 7.21.7, this option is superfluous since you can specify a socks4 proxy with *-x*, *--proxy* using a socks4:// protocol prefix.

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

**--socks4a <host[:port]>**

Use the specified SOCKS4a proxy. If the port number is not specified, it is assumed at port 1080. (Added in 7.18.0)

This option overrides any previous use of *-x*, *--proxy*, as they are mutually exclusive.

Since 7.21.7, this option is superfluous since you can specify a socks4a proxy with *-x*, *--proxy* using a socks4a:// protocol prefix.

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

**--socks5-hostname <host[:port]>**

Use the specified SOCKS5 proxy (and let the proxy resolve the host name). If the port number is not specified, it is assumed at port 1080. (Added in 7.18.0)

This option overrides any previous use of *-x*, *--proxy*, as they are mutually exclusive.

Since 7.21.7, this option is superfluous since you can specify a socks5 hostname proxy with *-x*, *--proxy* using a socks5h:// protocol prefix.

If this option is used several times, the last one will be used. (This option was previously wrongly documented and used as *--socks* without the number appended.)

**--socks5 <host[:port]>**

Use the specified SOCKS5 proxy - but resolve the host name locally. If the port number is not specified, it is assumed at port 1080.

This option overrides any previous use of *-x*, *--proxy*, as they are mutually exclusive.

Since 7.21.7, this option is superfluous since you can specify a socks5 proxy with *-x*, *--proxy* using a socks5:// protocol prefix.

If this option is used several times, the last one will be used. (This option was previously wrongly documented and used as *--socks* without the number appended.)

This option (as well as *--socks4*) does not work with IPV6, FTPS or LDAP.

*--socks5-gssapi-service* <servicename>

The default service name for a socks server is rcmd/server-fqdn. This option allows you to change it.

Examples: *--socks5 proxy-name --socks5-gssapi-service sockd* would use sockd/proxy-name  
*--socks5 proxy-name --socks5-gssapi-service sockd/real-name* would use sockd/real-name for cases where the proxy-name does not match the principal name. (Added in 7.19.4).

*--socks5-gssapi-nec*

As part of the GSS-API negotiation a protection mode is negotiated. RFC 1961 says in section 4.3/4.4 it should be protected, but the NEC reference implementation does not. The option *--socks5-gssapi-nec* allows the unprotected exchange of the protection mode negotiation. (Added in 7.19.4).

*--stderr* <file>

Redirect all writes to stderr to the specified file instead. If the file name is a plain '-', it is instead written to stdout.

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

*-t, --telnet-option* <OPT=val>

Pass options to the telnet protocol. Supported options are:

TTYTYPE=<term> Sets the terminal type.

XDISPLOC=<X display> Sets the X display location.

NEW\_ENV=<var,val> Sets an environment variable.

*-T, --upload-file* <file>

This transfers the specified local file to the remote URL. If there is no file part in the specified URL, Curl will append the local file name. NOTE that you must use a trailing / on the last directory to really prove to Curl that there is no file name or curl will think that your last directory name is the remote file name to use. That will most likely cause the upload operation to fail. If this is used on an HTTP(S) server, the PUT command will be used.

Use the file name "-" (a single dash) to use stdin instead of a given file. Alternately, the file name "." (a single period) may be specified instead of "-" to use stdin in non-blocking mode to allow reading server output while stdin is being uploaded.

You can specify one *-T* for each URL on the command line. Each *-T* + URL pair specifies what to upload and to where. curl also supports "globbing" of the *-T* argument, meaning that you can upload multiple files to a single URL by using the same URL globbing style supported in the URL, like this:

```
curl -T "{file1,file2}" http://www.example.com
```

or even

```
curl -T "img[1-1000].png" ftp://ftp.example.com/upload/
```

**--tcp-nodelay**

Turn on the TCP\_NODELAY option. See the *curl\_easy\_setopt(3)* man page for details about this option. (Added in 7.11.2)

**--tcp-fastopen**

Enable use of TCP Fast Open (RFC7413). (Added in 7.49.0)

**--tftp-blksize <value>**

(TFTP) Set TFTP BLKSIZE option (must be >512). This is the block size that curl will try to use when transferring data to or from a TFTP server. By default 512 bytes will be used.

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

(Added in 7.20.0)

**--tftp-no-options**

(TFTP) Tells curl not to send TFTP options requests.

This option improves interop with some legacy servers that do not acknowledge or properly implement TFTP options. When this option is used *--tftp-blksize* is ignored.

(Added in 7.48.0)

**--tlsauthtype <authtype>**

Set TLS authentication type. Currently, the only supported option is "SRP", for TLS-SRP (RFC 5054). If *--tlsuser* and *--tlspassword* are specified but *--tlsauthtype* is not, then this option defaults to "SRP". (Added in 7.21.4)

**--tlspassword <password>**

Set password for use with the TLS authentication method specified with *--tlsauthtype*. Requires that *--tlsuser* also be set. (Added in 7.21.4)

**--tlsuser <user>**

Set username for use with the TLS authentication method specified with *--tlsauthtype*. Requires that *--tlspassword* also be set. (Added in 7.21.4)

**--tlsv1.0**

(SSL) Forces curl to use TLS version 1.0 when negotiating with a remote TLS server. (Added in 7.34.0)

**--tlsv1.1**

(SSL) Forces curl to use TLS version 1.1 when negotiating with a remote TLS server. (Added in 7.34.0)

**--tlsv1.2**

(SSL) Forces curl to use TLS version 1.2 when negotiating with a remote TLS server. (Added in 7.34.0)

**--tr-encoding**

(HTTP) Request a compressed Transfer-Encoding response using one of the algorithms curl supports, and uncompress the data while receiving it.

(Added in 7.21.6)

**--trace <file>**

Enables a full trace dump of all incoming and outgoing data, including descriptive information, to the given output file. Use "-" as filename to have the output sent to stdout.

This option overrides previous uses of *-v*, *--verbose* or *--trace-ascii*.

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

`--trace-ascii <file>`

Enables a full trace dump of all incoming and outgoing data, including descriptive information, to the given output file. Use "-" as filename to have the output sent to stdout.

This is very similar to `--trace`, but leaves out the hex part and only shows the ASCII part of the dump. It makes smaller output that might be easier to read for untrained humans.

This option overrides previous uses of `-v`, `--verbose` or `--trace`.

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

`--trace-time`

Prepends a time stamp to each trace or verbose line that curl displays. (Added in 7.14.0)

`--unix-socket <path>`

(HTTP) Connect through this Unix domain socket, instead of using the network. (Added in 7.40.0)

`-u`, `--user <user:password>`

Specify the user name and password to use for server authentication. Overrides `-n`, `--netrc` and `--netrc-optional`.

If you simply specify the user name, curl will prompt for a password.

The user name and passwords are split up on the first colon, which makes it impossible to use a colon in the user name with this option. The password can, still.

When using Kerberos V5 with a Windows based server you should include the Windows domain name in the user name, in order for the server to successfully obtain a Kerberos Ticket. If you don't then the initial authentication handshake may fail.

When using NTLM, the user name can be specified simply as the user name, without the domain, if there is a single domain and forest in your setup for example.

To specify the domain name use either Down-Level Logon Name or UPN (User Principal Name) formats. For example, `EXAMPLE\user` and `user@example.com` respectively.

If you use a Windows SSPI-enabled curl binary and perform Kerberos V5, Negotiate, NTLM or Digest authentication then you can tell curl to select the user name and password from your environment by specifying a single colon with this option: `"-u :"`.

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

`-U`, `--proxy-user <user:password>`

Specify the user name and password to use for proxy authentication.

If you use a Windows SSPI-enabled curl binary and do either Negotiate or NTLM authentication then you can tell curl to select the user name and password from your environment by specifying a single colon with this option: `"-U :"`.

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

`--url <URL>`

Specify a URL to fetch. This option is mostly handy when you want to specify URL(s) in a config file.

If the given URL is missing a scheme name (such as `"http://"` or `"ftp://"` etc) then curl will make a

guess based on the host. If the outermost sub-domain name matches DICT, FTP, IMAP, LDAP, POP3 or SMTP then that protocol will be used, otherwise HTTP will be used. Since 7.45.0 guessing can be disabled by setting a default protocol, see *--proto-default* for details.

This option may be used any number of times. To control where this URL is written, use the *-o*, *--output* or the *-O*, *--remote-name* options.

#### **-v, --verbose**

Be more verbose/talkative during the operation. Useful for debugging and seeing what's going on "under the hood". A line starting with '>' means "header data" sent by curl, '<' means "header data" received by curl that is hidden in normal cases, and a line starting with '\*' means additional info provided by curl.

Note that if you only want HTTP headers in the output, *-i*, *--include* might be the option you're looking for.

If you think this option still doesn't give you enough details, consider using *--trace* or *--trace-ascii* instead.

This option overrides previous uses of *--trace-ascii* or *--trace*.

Use *-s*, *--silent* to make curl quiet.

#### **-w, --write-out <format>**

Make curl display information on stdout after a completed transfer. The format is a string that may contain plain text mixed with any number of variables. The format can be specified as a literal "string", or you can have curl read the format from a file with "@filename" and to tell curl to read the format from stdin you write "@-".

The variables present in the output format will be substituted by the value or text that curl thinks fit, as described below. All variables are specified as %{variable\_name} and to output a normal % you just write them as %%. You can output a newline by using \n, a carriage return with \r and a tab space with \t.

**NOTE:** The %-symbol is a special symbol in the win32-environment, where all occurrences of % must be doubled when using this option.

The variables available are:

<b>content_type</b>	The Content-Type of the requested document, if there was any.
<b>filename_effective</b>	The ultimate filename that curl writes out to. This is only meaningful if curl is told to write to a file with the <i>--remote-name</i> or <i>--output</i> option. It's most useful in combination with the <i>--remote-header-name</i> option. (Added in 7.26.0)
<b>ftp_entry_path</b>	The initial path curl ended up in when logging on to the remote FTP server. (Added in 7.15.4)
<b>http_code</b>	The numerical response code that was found in the last retrieved HTTP(S) or FTP(s) transfer. In 7.18.2 the alias <b>response_code</b> was added to show the same info.
<b>http_connect</b>	The numerical code that was found in the last response (from a proxy) to a curl CONNECT request. (Added in 7.12.4)
<b>local_ip</b>	The IP address of the local end of the most recently done connection - can be either IPv4 or IPv6 (Added in 7.29.0)

<b>local_port</b>	The local port number of the most recently done connection (Added in 7.29.0)
<b>num_connects</b>	Number of new connects made in the recent transfer. (Added in 7.12.3)
<b>num_redirects</b>	Number of redirects that were followed in the request. (Added in 7.12.3)
<b>redirect_url</b>	When an HTTP request was made without -L to follow redirects, this variable will show the actual URL a redirect <i>would</i> take you to. (Added in 7.18.2)
<b>remote_ip</b>	The remote IP address of the most recently done connection - can be either IPv4 or IPv6 (Added in 7.29.0)
<b>remote_port</b>	The remote port number of the most recently done connection (Added in 7.29.0)
<b>size_download</b>	The total amount of bytes that were downloaded.
<b>size_header</b>	The total amount of bytes of the downloaded headers.
<b>size_request</b>	The total amount of bytes that were sent in the HTTP request.
<b>size_upload</b>	The total amount of bytes that were uploaded.
<b>speed_download</b>	The average download speed that curl measured for the complete download. Bytes per second.
<b>speed_upload</b>	The average upload speed that curl measured for the complete upload. Bytes per second.
<b>ssl_verify_result</b>	The result of the SSL peer certificate verification that was requested. 0 means the verification was successful. (Added in 7.19.0)
<b>time_appconnect</b>	The time, in seconds, it took from the start until the SSL/SSH/etc connect/handshake to the remote host was completed. (Added in 7.19.0)
<b>time_connect</b>	The time, in seconds, it took from the start until the TCP connect to the remote host (or proxy) was completed.
<b>time_namelookup</b>	The time, in seconds, it took from the start until the name resolving was completed.
<b>time_pretransfer</b>	The time, in seconds, it took from the start until the file transfer was just about to begin. This includes all pre-transfer commands and negotiations that are specific to the particular protocol(s) involved.
<b>time_redirect</b>	The time, in seconds, it took for all redirection steps include name lookup, connect, pretransfer and transfer before the final transaction was started. <b>time_redirect</b> shows the complete execution time for multiple redirections. (Added in 7.12.3)
<b>time_starttransfer</b>	The time, in seconds, it took from the start until the first byte was just about to be transferred. This includes <b>time_pretransfer</b> and also the time the server needed to calculate the result.
<b>time_total</b>	The total time, in seconds, that the full operation lasted. The time will be displayed with millisecond resolution.
<b>url_effective</b>	The URL that was fetched last. This is most meaningful if you've told curl to follow location: headers.

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



**-x, --proxy** <[protocol://][user:password@]proxyhost[:port]>  
 Use the specified proxy.

The proxy string can be specified with a protocol:// prefix to specify alternative proxy protocols. Use socks4://, socks4a://, socks5:// or socks5h:// to request the specific SOCKS version to be used. No protocol specified, http:// and all others will be treated as HTTP proxies. (The protocol support was added in curl 7.21.7)

If the port number is not specified in the proxy string, it is assumed to be 1080.

This option overrides existing environment variables that set the proxy to use. If there's an environment variable setting a proxy, you can set proxy to "" to override it.

All operations that are performed over an HTTP proxy will transparently be converted to HTTP. It means that certain protocol specific operations might not be available. This is not the case if you can tunnel through the proxy, as one with the *-p, --proxytunnel* option.

User and password that might be provided in the proxy string are URL decoded by curl. This allows you to pass in special characters such as @ by using %40 or pass in a colon with %3a.

The proxy host can be specified the exact same way as the proxy environment variables, including the protocol prefix (http://) and the embedded user + password.

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

**-X, --request** <command>

(HTTP) Specifies a custom request method to use when communicating with the HTTP server. The specified request method will be used instead of the method otherwise used (which defaults to GET). Read the HTTP 1.1 specification for details and explanations. Common additional HTTP requests include PUT and DELETE, but related technologies like WebDAV offers PROPFIND, COPY, MOVE and more.

Normally you don't need this option. All sorts of GET, HEAD, POST and PUT requests are rather invoked by using dedicated command line options.

This option only changes the actual word used in the HTTP request, it does not alter the way curl behaves. So for example if you want to make a proper HEAD request, using *-X HEAD* will not suffice. You need to use the *-I, --head* option.

The method string you set with *-X* will be used for all requests, which if you for example use *-L, --location* may cause unintended side-effects when curl doesn't change request method according to the HTTP 30x response codes - and similar.

(FTP) Specifies a custom FTP command to use instead of LIST when doing file lists with FTP.

(POP3) Specifies a custom POP3 command to use instead of LIST or RETR. (Added in 7.26.0)

(IMAP) Specifies a custom IMAP command to use instead of LIST. (Added in 7.30.0)

(SMTP) Specifies a custom SMTP command to use instead of HELP or VRFY. (Added in 7.34.0)

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

**--xattr** When saving output to a file, this option tells curl to store certain file metadata in extended file attributes. Currently, the URL is stored in the xdg.origin.url attribute and, for HTTP, the content type is stored in the mime\_type attribute. If the file system does not support extended attributes, a

warning is issued.

**-y, --speed-time <time>**

If a download is slower than speed-limit bytes per second during a speed-time period, the download gets aborted. If speed-time is used, the default speed-limit will be 1 unless set with *-Y*.

This option controls transfers and thus will not affect slow connects etc. If this is a concern for you, try the *--connect-timeout* option.

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

**-Y, --speed-limit <speed>**

If a download is slower than this given speed (in bytes per second) for speed-time seconds it gets aborted. speed-time is set with *-y* and is 30 if not set.

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

**-z, --time-cond <date expression>|<file>**

(HTTP/FTP) Request a file that has been modified later than the given time and date, or one that has been modified before that time. The <date expression> can be all sorts of date strings or if it doesn't match any internal ones, it is taken as a filename and tries to get the modification date (mtime) from <file> instead. See the *curl\_getdate(3)* man pages for date expression details.

Start the date expression with a dash (-) to make it request for a document that is older than the given date/time, default is a document that is newer than the specified date/time.

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

**-h, --help**

Usage help. This lists all current command line options with a short description.

**-M, --manual**

Manual. Display the huge help text.

**-V, --version**

Displays information about curl and the libcurl version it uses.

The first line includes the full version of curl, libcurl and other 3rd party libraries linked with the executable.

The second line (starts with "Protocols:") shows all protocols that libcurl reports to support.

The third line (starts with "Features:") shows specific features libcurl reports to offer. Available features include:

IPv6     You can use IPv6 with this.

krb4     Krb4 for FTP is supported.

SSL      SSL versions of various protocols are supported, such as HTTPS, FTPS, POP3S and so on.

libz      Automatic decompression of compressed files over HTTP is supported.

NTLM     NTLM authentication is supported.

Debug    This curl uses a libcurl built with Debug. This enables more error-tracking and memory debugging etc. For curl-developers only!

**AsynchDNS**

This curl uses asynchronous name resolves. Asynchronous name resolves can be done using either the c-ares or the threaded resolver backends.

**SPNEGO**

SPNEGO authentication is supported.

**Largefile**

This curl supports transfers of large files, files larger than 2GB.

**IDN**

This curl supports IDN - international domain names.

**GSS-API**

GSS-API is supported.

**SSPI**

SSPI is supported.

**TLS-SRP**

SRP (Secure Remote Password) authentication is supported for TLS.

**HTTP2** HTTP/2 support has been built-in.

**Metalink**

This curl supports Metalink (both version 3 and 4 (RFC 5854)), which describes mirrors and hashes. curl will use mirrors for failover if there are errors (such as the file or server not being available).

**FILES**

*~/.curlrc*

Default config file, see *-K*, *--config* for details.

**ENVIRONMENT**

The environment variables can be specified in lower case or upper case. The lower case version has precedence. `http_proxy` is an exception as it is only available in lower case.

Using an environment variable to set the proxy has the same effect as using the *--proxy* option.

`http_proxy [protocol://]<host>[:port]`

Sets the proxy server to use for HTTP.

`HTTPS_PROXY [protocol://]<host>[:port]`

Sets the proxy server to use for HTTPS.

`[url-protocol]_PROXY [protocol://]<host>[:port]`

Sets the proxy server to use for `[url-protocol]`, where the protocol is a protocol that curl supports and as specified in a URL. FTP, FTPS, POP3, IMAP, SMTP, LDAP etc.

`ALL_PROXY [protocol://]<host>[:port]`

Sets the proxy server to use if no protocol-specific proxy is set.

`NO_PROXY <comma-separated list of hosts>`

list of host names that shouldn't go through any proxy. If set to an asterisk '\*' only, it matches all hosts.

**PROXY PROTOCOL PREFIXES**

Since curl version 7.21.7, the proxy string may be specified with a `protocol://` prefix to specify alternative proxy protocols.

If no protocol is specified in the proxy string or if the string doesn't match a supported one, the proxy will be treated as an HTTP proxy.

The supported proxy protocol prefixes are as follows:

`socks4://`  
Makes it the equivalent of `--socks4`

`socks4a://`  
Makes it the equivalent of `--socks4a`

`socks5://`  
Makes it the equivalent of `--socks5`

`socks5h://`  
Makes it the equivalent of `--socks5-hostname`

## EXIT CODES

There are a bunch of different error codes and their corresponding error messages that may appear during bad conditions. At the time of this writing, the exit codes are:

- 1      Unsupported protocol. This build of curl has no support for this protocol.
- 2      Failed to initialize.
- 3      URL malformed. The syntax was not correct.
- 4      A feature or option that was needed to perform the desired request was not enabled or was explicitly disabled at build-time. To make curl able to do this, you probably need another build of libcurl!
- 5      Couldn't resolve proxy. The given proxy host could not be resolved.
- 6      Couldn't resolve host. The given remote host was not resolved.
- 7      Failed to connect to host.
- 8      FTP weird server reply. The server sent data curl couldn't parse.
- 9      FTP access denied. The server denied login or denied access to the particular resource or directory you wanted to reach. Most often you tried to change to a directory that doesn't exist on the server.
- 11     FTP weird PASS reply. Curl couldn't parse the reply sent to the PASS request.
- 13     FTP weird PASV reply, Curl couldn't parse the reply sent to the PASV request.
- 14     FTP weird 227 format. Curl couldn't parse the 227-line the server sent.
- 15     FTP can't get host. Couldn't resolve the host IP we got in the 227-line.
- 17     FTP couldn't set binary. Couldn't change transfer method to binary.
- 18     Partial file. Only a part of the file was transferred.
- 19     FTP couldn't download/access the given file, the RETR (or similar) command failed.
- 21     FTP quote error. A quote command returned error from the server.
- 22     HTTP page not retrieved. The requested url was not found or returned another error with the HTTP error code being 400 or above. This return code only appears if `-f`, `--fail` is used.
- 23     Write error. Curl couldn't write data to a local filesystem or similar.
- 25     FTP couldn't STOR file. The server denied the STOR operation, used for FTP uploading.
- 26     Read error. Various reading problems.
- 27     Out of memory. A memory allocation request failed.
- 28     Operation timeout. The specified time-out period was reached according to the conditions.
- 30     FTP PORT failed. The PORT command failed. Not all FTP servers support the PORT command, try doing a transfer using PASV instead!
- 31     FTP couldn't use REST. The REST command failed. This command is used for resumed FTP transfers.

- 33 HTTP range error. The range "command" didn't work.
- 34 HTTP post error. Internal post-request generation error.
- 35 SSL connect error. The SSL handshaking failed.
- 36 FTP bad download resume. Couldn't continue an earlier aborted download.
- 37 FILE couldn't read file. Failed to open the file. Permissions?
- 38 LDAP cannot bind. LDAP bind operation failed.
- 39 LDAP search failed.
- 41 Function not found. A required LDAP function was not found.
- 42 Aborted by callback. An application told curl to abort the operation.
- 43 Internal error. A function was called with a bad parameter.
- 45 Interface error. A specified outgoing interface could not be used.
- 47 Too many redirects. When following redirects, curl hit the maximum amount.
- 48 Unknown option specified to libcurl. This indicates that you passed a weird option to curl that was passed on to libcurl and rejected. Read up in the manual!
- 49 Malformed telnet option.
- 51 The peer's SSL certificate or SSH MD5 fingerprint was not OK.
- 52 The server didn't reply anything, which here is considered an error.
- 53 SSL crypto engine not found.
- 54 Cannot set SSL crypto engine as default.
- 55 Failed sending network data.
- 56 Failure in receiving network data.
- 58 Problem with the local certificate.
- 59 Couldn't use specified SSL cipher.
- 60 Peer certificate cannot be authenticated with known CA certificates.
- 61 Unrecognized transfer encoding.
- 62 Invalid LDAP URL.
- 63 Maximum file size exceeded.
- 64 Requested FTP SSL level failed.
- 65 Sending the data requires a rewind that failed.
- 66 Failed to initialise SSL Engine.
- 67 The user name, password, or similar was not accepted and curl failed to log in.
- 68 File not found on TFTP server.
- 69 Permission problem on TFTP server.
- 70 Out of disk space on TFTP server.
- 71 Illegal TFTP operation.
- 72 Unknown TFTP transfer ID.
- 73 File already exists (TFTP).
- 74 No such user (TFTP).
- 75 Character conversion failed.

- 76 Character conversion functions required.
- 77 Problem with reading the SSL CA cert (path? access rights?).
- 78 The resource referenced in the URL does not exist.
- 79 An unspecified error occurred during the SSH session.
- 80 Failed to shut down the SSL connection.
- 82 Could not load CRL file, missing or wrong format (added in 7.19.0).
- 83 Issuer check failed (added in 7.19.0).
- 84 The FTP PRET command failed
- 85 RTSP: mismatch of CSeq numbers
- 86 RTSP: mismatch of Session Identifiers
- 87 unable to parse FTP file list
- 88 FTP chunk callback reported error
- 89 No connection available, the session will be queued
- 90 SSL public key does not matched pinned public key
- XX More error codes will appear here in future releases. The existing ones are meant to never change.

### **AUTHORS / CONTRIBUTORS**

Daniel Stenberg is the main author, but the whole list of contributors is found in the separate THANKS file.

### **WWW**

<https://curl.haxx.se>

### **FTP**

<ftp://ftp.sunet.se/pub/www/utilities/curl/>

### **SEE ALSO**

**ftp(1)**, **wget(1)**