

## 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 (HTTP, HTTPS, FTP, FTPS, TFTP, DICT, TELNET, LDAP or FILE). 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 (https:) connections, cookies, file transfer resume and more. As you will see below, the amount 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.numericals.com/file[1-100].txt

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

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

No nesting of the sequences is supported at the moment, but you can use several ones next to each other:

http://any.org/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.

Since curl 7.15.1 you can also specify step counter for the ranges, so that you can get every Nth number or letter:

http://www.numericals.com/file[1-100:10].txt

http://www.letters.com/file[a-z:2].txt

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 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 amount of transferred data, transfer speeds and estimated time left etc.

However, since curl displays data to the terminal by default, 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 is not spitting out any response data to the terminal.

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

## OPTIONS

-a/--append

(FTP) When used in an FTP upload, this will tell curl to append to the target file instead of overwriting it. If the file doesn't exist, it will be created.

If this option is used twice, the second one will disable append mode again.

-A/--user-agent <agent string>

(HTTP) Specify the User-Agent string to send to the HTTP server. Some badly done CGIs fail if its not 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 set more than once, the last one will be the one that's used.

--anyauth

(HTTP) Tells curl to figure out authentication method by itself, and use the most secure one the remote site claims it supports. This is done by first doing a request and checking the response-headers, thus 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.

If this option is used several times, the following occurrences make no difference.

-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 '=' letter 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 parser" 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 or the Netscape/Mozilla cookie file format.

**NOTE** that the file specified with -b/--cookie is only used as input. No cookies will be stored in the file. To store cookies, use the -c/--cookie-jar option or you could even save the HTTP headers to a file using -D/--dump-header!

If this option is set more than once, the last one will be the one that's used.

-B/--use-ascii

Enable ASCII transfer when using FTP or LDAP. 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.

If this option is used twice, the second one will disable ASCII usage.

**--basic** (HTTP) Tells curl to use HTTP Basic authentication. 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* and *--negotiate*).

If this option is used several times, the following occurrences make no difference.

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

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

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

**--compressed**

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

If this option is used several times, each occurrence will toggle it on/off.

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

Maximum time in seconds that you allow the connection to the server to take. This only limits the connection phase, once curl has connected this option is of no more use. See also the *-m/--max-time* option.

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

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

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 file 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.

**NOTE** 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.

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 counted 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.

**--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, try *--ftp-create-dirs*.

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

If this option is used several times, the following occurrences make no difference.

-d/--data <data>

(HTTP) Sends the specified data in a POST request to the HTTP server, in a way that can emulate as if a user has filled in a HTML form and pressed the submit button. Note that the data is sent exactly as specified with no extra processing (with all newlines cut off). The data is expected to be "url-encoded". This will cause curl to pass the data to the server using the content-type application/x-www-form-urlencoded. Compare to *-F/--form*. If this option is used more than once on the same command line, the data pieces specified will be merged together with a separating &-letter. 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. The contents of the file must already be url-encoded. Multiple files can also be specified. Posting data from a file named 'foobar' would thus be done with *--data @foobar*".

To post data purely binary, you should instead use the *--data-binary* option.

*-d/--data* is the same as *--data-ascii*.

If this option is used several times, the ones following the first will append data.

--data-ascii <data>

(HTTP) This is an alias for the *-d/--data* option.

If this option is used several times, the ones following the first will append data.

--data-binary <data>

(HTTP) This posts data in a similar manner as *--data-ascii* does, although when using this option the entire context of the posted data is kept as-is. If you want to post a binary file without the strip-newlines feature of the *--data-ascii* option, this is for you.

If this option is used several times, the ones following the first will append data.

--digest (HTTP) Enables HTTP Digest authentication. This is a authentication 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, the following occurrences make no difference.

--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, may not work on all servers but enable more functionality in a better way than the traditional PORT command.

If this option is used several times, each occurrence will toggle this on/off.

--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.

If this option is used several times, each occurrence will toggle this on/off.

**-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 a HTTP site sends to you. Cookies from the headers could then be read in a second curl invoke by using the *-b/--cookie* option! The *-c/--cookie-jar* option is however a better way to store cookies.

When used on 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.

**-e/--referer <URL>**

(HTTP) Sends the "Referer 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.

**--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 easier allow extraction of useful information after having run curl.

If this option is used several times, each occurrence will toggle this on/off.

**--egd-file <file>**

(HTTPS) 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.

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

(HTTPS) Tells curl to use the specified certificate file when getting a file with HTTPS. The certificate must be in PEM format. If the optional password isn't specified, it will be queried for on the terminal. Note that this certificate is the private key and the private certificate concatenated!

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

**--cert-type <type>**

(SSL) Tells curl what certificate type the provided certificate is in. PEM, DER and ENG are recognized types.

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

**--cacert <CA certificate>**

(HTTPS) 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.

curl recognizes the environment variable named 'CURL\_CA\_BUNDLE' if that 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 this option is used several times, the last one will be used.

**--capath** <CA certificate directory>

(HTTPS) Tells curl to use the specified certificate directory to verify the peer. The certificates must be in PEM format, and the directory must have been processed using the `c_rehash` utility supplied with openssl. Using **--capath** can allow curl to make https connections much more efficiently than using **--cacert** if the **--cacert** file contains many CA certificates.

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

**-f/--fail** (HTTP) Fail silently (no output at all) on server errors. This is mostly done like this to better enable scripts etc to better deal with failed attempts. In normal cases when a 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.

If this option is used twice, the second will again disable silent failure.

**--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 twice, the second will override the previous use.

**--ftp-create-dirs**

(FTP) When an FTP 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.

If this option is used twice, the second will again disable directory creation.

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

(FTP) Control what method curl should use to reach a file on a 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 RFC1738 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'.

**--ftp-pasv**

(FTP) Use PASV when transferring. PASV is the internal default behavior, but using this option can be used to override a previous **--ftp-port** option. (Added in 7.11.0)

If this option is used several times, the following occurrences make no difference.

**--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-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.

If this option is used twice, the second will again use the server's suggested address.

**--ftp-ssl**

(FTP) Try to use SSL/TLS for the FTP connection. Reverts to a non-secure connection if the server doesn't support SSL/TLS. (Added in 7.11.0)

If this option is used twice, the second will again disable this.

**--ftp-ssl-reqd**

(FTP) Require SSL/TLS for the FTP connection. Terminates the connection if the server doesn't support SSL/TLS. (Added in 7.15.5)

If this option is used twice, the second will again disable this.

**-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 RFC1867. 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 letter <. 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 your password file to the server, where 'password' is the name of the form-field to which /etc/passwd will be the input:

```
curl -F password=@/etc/passwd www.mypasswords.com
```

To read the file's content from stdin instead of a file, use - where the file name should've been. This goes for both @ and < constructs.

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" url.com
```

or

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

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

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

See further examples and details in the MANUAL.

This option can be used multiple times.

**--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* or *--data-binary* to be used in a 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, the following occurrences make no difference.

*-h/--help*

Usage help.

*-H/--header <header>*

(HTTP) Extra header to use when getting a web page. 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. Replacing an internal header with one without content on the right side of the colon will prevent that header from appearing.

curl will make sure that each header you add/replace get 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.

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

*--ignore-content-length*

(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.

*-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...

If this option is used twice, the second will again disable header include.

*--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 http://www.netscape.com/
```

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

*-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 a FTP or FILE file, curl displays the file size and last modification time only.



If this option is used twice, the second will again disable header only.

**-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.

If this option is used several times, each occurrence will toggle this on/off.

**-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" to fail unless *-k/--insecure* is used.

If this option is used twice, the second time will again disable it.

**--key <key>**

(SSL) Private key file name. Allows you to provide your private key in this separate file.

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

**--krb4 <level>**

(FTP) Enable kerberos4 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 that the library was 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.

**-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. If the parameter is to contain white spaces, the parameter must be enclosed within quotes. If the first column of a config line is a '#' character, the rest of the line will be treated as a comment.

Specify the filename 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 = "http://curl.haxx.se/docs/"
```

This option can be used multiple times.

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 executable curl is placed. On unix-like systems, it will simply try to load `.curlrc` from the determined home dir.

#### `--limit-rate <speed>`

Specify the maximum transfer rate you want curl to use. This feature is useful if you have a limited pipe and you'd like your transfer not use your entire bandwidth.

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.

If you are also using 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.

#### `-l/--list-only`

(FTP) When listing an FTP directory, this switch forces a name-only view. Especially useful if you want to machine-parse the contents of an FTP directory since the normal directory view doesn't use a standard look or format.

This option causes an FTP NLST command to be sent. Some FTP servers list only files in their response to NLST; they do not include subdirectories and symbolic links.

If this option is used twice, the second will again disable list only.

#### `--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 is 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)

#### `-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.

If this option is used twice, the second will again disable location following.

#### `--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).

If this option is used twice, the second will again disable location following.

#### `--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.

**-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. See also the *--connect-timeout* option.

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

**-M/--manual**

Manual. Display the huge help text.

**-n/--netrc**

Makes curl scan the *.netrc* 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(4)** or **ftp(1)** for details on the file format. Curl will not complain if that file hasn't the right permissions (it should not be world nor 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**

If this option is used twice, the second will again disable netrc usage.

**--netrc-optional**

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

**--negotiate**

(HTTP) Enables GSS-Negotiate authentication. The GSS-Negotiate method was designed by Microsoft and is used in their web applications. It is primarily meant as a support for Kerberos5 authentication but may be also used along with another authentication methods. For more information see IETF draft draft-brezak-spnego-http-04.txt.

This option requires that the library was built with GSSAPI support. This is not very common. Use *-V/--version* to see if your version supports GSS-Negotiate.

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, the following occurrences make no difference.

**-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.

If this option is used twice, the second will again switch on buffering.

**--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, reversed 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 that the library was built with SSL support. Use *-V/--version* to see if your curl supports NTLM.

If this option is used several times, the following occurrences make no difference.

*-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}.site.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 you have number of URLs.

See also the *--create-dirs* option to create the local directories dynamically.

*-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 remote file name to use for saving is extracted from the given URL, nothing else.

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

*--pass* <phrase>

(SSL) Pass phrase for the private key

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

*--proxy-anyauth*

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

If this option is used twice, the second will again disable the proxy use-any authentication.

*--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.

If this option is used twice, the second will again disable proxy HTTP Basic authentication.

*--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.

If this option is used twice, the second will again disable proxy HTTP Digest.

*--proxy-ntlm*

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

If this option is used twice, the second will again disable proxy HTTP NTLM.

**-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.

If this option is used twice, the second will again disable proxy tunnel.

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

(FTP) Reverses the initiator/listener roles when connecting with ftp. This switch makes Curl use the PORT command instead of PASV. In practice, PORT tells the server to connect to the client's specified address and port, while PASV asks the server for an ip address and port 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 exact IP number

host name

i.e "my.host.domain" to specify 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++.

**-q** 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) Send an arbitrary command to the remote FTP server. Quote commands are sent BEFORE the transfer is taking place (just after the initial PWD command to be exact). To make commands take place after a successful transfer, prefix them with a dash '-'. To make commands get sent after libcurl has changed working directory, just before the transfer command(s), prefix the command with '+'. You may specify any amount 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 RFC959 defines.

This option can be used multiple times.

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

(HTTPS) 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.

**-r/--range <range>**

(HTTP/FTP) Retrieve a byte range (i.e a partial document) from a HTTP/1.1 or FTP server. 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(\*) (H)

**500-700,600-799**

specifies 300 bytes from offset 500(H)

**100-199,500-599**

specifies two separate 100 bytes ranges(\*) (H)

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

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 range downloads only support the simple syntax 'start-stop' (optionally with one of the numbers omitted). It depends on the non-RFC command SIZE.

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

**-R/--remote-time**

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

If this option is used twice, the second time disables this again.

**--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 5xx 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 multiple times, the last occurrence decide the amount.

**--retry-delay <seconds>**

Make curl sleep this amount of time between 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 multiple times, the last occurrence decide the amount.

**--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 multiple times, the last occurrence decide the amount.

**-s/--silent**

Silent mode. Don't show progress meter or error messages. Makes Curl mute.

If this option is used twice, the second will again disable silent mode.

**-S/--show-error**

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

If this option is used twice, the second will again disable show error.

`--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.

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

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

Use the specified SOCKS5 proxy. If the port number is not specified, it is assumed at port 1080. (Added in 7.11.1)

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

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.)

`--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. This option has no point when you're using a shell with decent redirecting capabilities.

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

`--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)

If this option is used several times, each occurrence toggles this on/off.

`-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 a http(s) server, the PUT command will be used.

Use the file name "-" (a single dash) to use stdin instead of a given file.

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.uploadtothissite.com
```

or even

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

--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.

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.

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)

If this option is used several times, each occurrence will toggle it on/off.

-u/--user <user:password>

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

If you use an SSPI-enabled curl binary and do NTLM authentication, you can force curl to pick up the user name and password from your environment by simply 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 user and password to use for proxy authentication.

If you use an SSPI-enabled curl binary and do NTLM authentication, you can force curl to pick up the user name and password from your environment by simply 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.

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

Makes the fetching more verbose/talkative. Mostly usable for debugging. Lines starting with '>' means "header data" sent by curl, '<' means "header data" received by curl that is hidden in normal cases and lines starting with '\*' means additional info provided by curl.

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

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



If this option is used twice, the second will again disable verbose.

**-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     HTTPS and FTPS are supported.

libz    Automatic decompression of compressed files over HTTP is supported.

NTLM    NTLM authentication is supported.

GSS-Negotiate

Negotiate 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.

SPNEGO

SPNEGO Negotiate authentication is supported.

Largefile

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

IDN     This curl supports IDN - international domain names.

SSPI    SSPI is supported. If you use NTLM and set a blank user name, curl will authenticate with your current user and password.

**-w/--write-out <format>**

Defines what to display on stdout after a completed and successful operation. The format is a string that may contain plain text mixed with any number of variables. The string can be specified as "string", to get read from a particular file you specify it "@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 like %{variable\_name} and to output a normal % you just write them like %%. You can output a newline by using \n, a carriage return with \r and a tab space with \t.

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

Available variables are at this point:

**url\_effective**    The URL that was fetched last. This is mostly meaningful if you've told curl to follow location: headers.

**http\_code**        The numerical code that was found in the last retrieved HTTP(S) page.

<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>time_total</b>	The total time, in seconds, that the full operation lasted. The time will be displayed with millisecond resolution.
<b>time_namelookup</b>	The time, in seconds, it took from the start until the name resolving was completed.
<b>time_connect</b>	The time, in seconds, it took from the start until the connect to the remote host (or proxy) was completed.
<b>time_pretransfer</b>	The time, in seconds, it took from the start until the file transfer is 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 final transaction was started. <code>time_redirect</code> 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 is just about to be transferred. This includes <code>time_pretransfer</code> and also the time the server needs to calculate the result.
<b>size_download</b>	The total amount of bytes that were downloaded.
<b>size_upload</b>	The total amount of bytes that were uploaded.
<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>speed_download</b>	The average download speed that curl measured for the complete download.
<b>speed_upload</b>	The average upload speed that curl measured for the complete upload.
<b>content_type</b>	The Content-Type of the requested document, if there was any.
<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>ftp_entry_path</b>	The initial path libcurl ended up in when logging on to the remote FTP server. (Added in 7.15.4)

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

`-x/--proxy <proxyhost[:port]>`

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

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

**Note** that all operations that are performed over a 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 done with the `-p/--proxytunnel` option.

Starting with 7.14.1, the proxy host can be specified the exact same way as the proxy environment variables, include protocol prefix (`http://`) and 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 will be used instead of the method otherwise used (which defaults to GET). Read the HTTP 1.1 specification for details and explanations.

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

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

**-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>**

(HTTP) 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 tries to get the time from a given file name instead! See the *curl\_get-date(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.

**--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.

**-0/--http1.0**

(HTTP) Forces curl to issue its requests using HTTP 1.0 instead of using its internally preferred: HTTP 1.1.

**-1/--tlsv1**

(HTTPS) Forces curl to use TLS version 1 when negotiating with a remote TLS server.

**-2/--sslv2**

(HTTPS) Forces curl to use SSL version 2 when negotiating with a remote SSL server.

**-3/--sslv3**

(HTTPS) Forces curl to use SSL version 3 when negotiating with a remote SSL server.

**--3p-quote**

(FTP) Specify arbitrary commands to send to the source server. See the *-Q/--quote* option for details. (Added in 7.13.0)

--3p-url

(FTP) Activates a FTP 3rd party transfer. Specifies the source URL to get a file from, while the "normal" URL will be used as target URL, the file that will be written/created.

Note that not all FTP server allow 3rd party transfers. (Added in 7.13.0)

--3p-user

(FTP) Specify user:password for the source URL transfer. (Added in 7.13.0)

-4/--ipv4

If libcurl is capable of resolving an address to multiple IP versions (which it is if it is ipv6-capable), this option tells libcurl to resolve names to IPv4 addresses only.

-6/--ipv6

If libcurl is capable of resolving an address to multiple IP versions (which it is if it is ipv6-capable), this option tells libcurl to resolve names to IPv6 addresses only.

-#/--progress-bar

Make curl display progress information as a progress bar instead of the default statistics.

If this option is used twice, the second will again disable the progress bar.

## FILES

*~/.curlrc*

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

## ENVIRONMENT

http\_proxy [protocol://]<host>[:port]

Sets proxy server to use for HTTP.

HTTPS\_PROXY [protocol://]<host>[:port]

Sets proxy server to use for HTTPS.

FTP\_PROXY [protocol://]<host>[:port]

Sets proxy server to use for FTP.

ALL\_PROXY [protocol://]<host>[:port]

Sets 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 a asterisk '\*' only, it matches all hosts.

## EXIT CODES

There exists 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 malformat. The syntax was not correct.
- 4        URL user malformed. The user-part of the URL syntax was not correct.
- 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.

- 10 FTP user/password incorrect. Either one or both were not accepted by the server.
- 11 FTP weird PASS reply. Curl couldn't parse the reply sent to the PASS request.
- 12 FTP weird USER reply. Curl couldn't parse the reply sent to the USER 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.
- 16 FTP can't reconnect. Couldn't connect to the host 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.
- 20 FTP write error. The transfer was reported bad by the server.
- 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.
- 24 Malformed user. User name badly specified.
- 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.
- 29 FTP couldn't set ASCII. The server returned an unknown reply.
- 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.
- 32 FTP couldn't use SIZE. The SIZE command failed. The command is an extension to the original FTP spec RFC 959.
- 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.
- 40 Library not found. The LDAP library was not found.
- 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.
- 44 Internal error. A function was called in a bad order.

45	Interface error. A specified outgoing interface could not be used.
46	Bad password entered. An error was signaled when the password was entered.
47	Too many redirects. When following redirects, curl hit the maximum amount.
48	Unknown TELNET option specified.
49	Malformed telnet option.
51	The remote peer's SSL certificate wasn't 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
57	Share is in use (internal error)
58	Problem with the local certificate
59	Couldn't use specified SSL cipher
60	Problem with the CA cert (path? permission?)
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	User, password or similar was not accepted and curl failed to login
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
XX	There will appear more error codes 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**

<http://curl.haxx.se>

## **FTP**

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

**SEE ALSO**

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