

# Package ‘httr’

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**Title** Tools for Working with URLs and HTTP

**Version** 1.4.5

**Description** Useful tools for working with HTTP organised by HTTP verbs (GET(), POST(), etc). Configuration functions make it easy to control additional request components (authenticate(), add\_headers() and so on).

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---

add_headers	<i>Add additional headers to a request.</i>
-------------	---

---

## Description

Wikipedia provides a useful list of common http headers: [https://en.wikipedia.org/wiki/List\\_of\\_HTTP\\_header\\_fields](https://en.wikipedia.org/wiki/List_of_HTTP_header_fields).

## Usage

```
add_headers(..., .headers = character())
```

## Arguments

...	named header values. To stop an existing header from being set, pass an empty string: "".
.headers	a named character vector

## See Also

[accept\(\)](#) and [content\\_type\(\)](#) for convenience functions for setting accept and content-type headers.

Other config: [authenticate\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

## Examples

```
add_headers(a = 1, b = 2)
add_headers(.headers = c(a = "1", b = "2"))

GET("http://httpbin.org/headers")

# Add arbitrary headers
GET(
  "http://httpbin.org/headers",
  add_headers(version = version$version.string)
)

# Override default headers with empty strings
GET("http://httpbin.org/headers", add_headers(Accept = ""))
```

authenticate            *Use http authentication.*

---

### Description

It's not obvious how to turn authentication off after using it, so I recommend using custom handles with authentication.

### Usage

```
authenticate(user, password, type = "basic")
```

### Arguments

user	user name
password	password
type	type of HTTP authentication. Should be one of the following types supported by Curl: basic, digest, digest_ie, gssnegotiate, ntlm, any. It defaults to "basic", the most common type.

### See Also

Other config: [add\\_headers\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

### Examples

```
GET("http://httpbin.org/basic-auth/user/passwd")
GET(
  "http://httpbin.org/basic-auth/user/passwd",
  authenticate("user", "passwd")
)
```

---

BROWSE                    *Open specified url in browser.*

---

### Description

(This isn't really a http verb, but it seems to follow the same format).

### Usage

```
BROWSE(url = NULL, config = list(), ..., handle = NULL)
```

**Arguments**

url	the url of the page to retrieve
config	All configuration options are ignored because the request is handled by the browser, not <b>RCurl</b> .
...	Further named parameters, such as query, path, etc, passed on to <code>modify_url()</code> . Unnamed parameters will be combined with <code>config()</code> .
handle	The handle to use with this request. If not supplied, will be retrieved and reused from the <code>handle_pool()</code> based on the scheme, hostname and port of the url. By default <b>httr</b> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <code>handle_pool()</code> for more details.

**Details**

Only works in interactive sessions.

**Value**

A `response()` object.

**See Also**

Other http methods: `DELETE()`, `GET()`, `HEAD()`, `PATCH()`, `POST()`, `PUT()`, `VERB()`

**Examples**

```
BROWSE("http://google.com")
BROWSE("http://had.co.nz")
```

---

cache\_info

*Compute caching information for a response.*

---

**Description**

`cache_info()` gives details of cacheability of a response, `rerequest()` re-performs the original request doing as little work as possible (if not expired, returns response as is, or performs revalidation if Etag or Last-Modified headers are present).

**Usage**

```
cache_info(r)
```

```
rerequest(r)
```

**Arguments**

r	A response
---	------------

**Examples**

```

# Never cached, always causes redownload
r1 <- GET("https://www.google.com")
cache_info(r1)
r1$date
rerequest(r1)$date

# Expires in a year
r2 <- GET("https://www.google.com/images/srpr/logo11w.png")
cache_info(r2)
r2$date
rerequest(r2)$date

# Has last-modified and etag, so does revalidation
r3 <- GET("http://httpbin.org/cache")
cache_info(r3)
r3$date
rerequest(r3)$date

# Expires after 5 seconds
## Not run:
r4 <- GET("http://httpbin.org/cache/5")
cache_info(r4)
r4$date
rerequest(r4)$date
Sys.sleep(5)
cache_info(r4)
rerequest(r4)$date

## End(Not run)

```

---

config

*Set curl options.*


---

**Description**

Generally you should only need to use this function to set CURL options directly if there isn't already a helpful wrapper function, like [set\\_cookies\(\)](#), [add\\_headers\(\)](#) or [authenticate\(\)](#). To use this function effectively requires some knowledge of CURL, and CURL options. Use [httr\\_options\(\)](#) to see a complete list of available options. To see the libcurl documentation for a given option, use [curl\\_docs\(\)](#).

**Usage**

```
config(..., token = NULL)
```

**Arguments**

...	named Curl options.
token	An OAuth token (1.0 or 2.0)

**Details**

Unlike Curl (and RCurl), all configuration options are per request, not per handle.

**See Also**

[set\\_config\(\)](#) to set global config defaults, and [with\\_config\(\)](#) to temporarily run code with set options.

All known available options are listed in [httr\\_options\(\)](#)

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

Other ways to set configuration: [set\\_config\(\)](#), [with\\_config\(\)](#)

**Examples**

```
# There are a number of ways to modify the configuration of a request
# * you can add directly to a request
HEAD("https://www.google.com", verbose())

# * you can wrap with with_config()
with_config(verbose(), HEAD("https://www.google.com"))

# * you can set global with set_config()
old <- set_config(verbose())
HEAD("https://www.google.com")
# and re-establish the previous settings with
set_config(old, override = TRUE)
HEAD("https://www.google.com")
# or
reset_config()
HEAD("https://www.google.com")

# If available, you should use a friendly httr wrapper over RCurl
# options. But you can pass Curl options (as listed in httr_options())
# in config
HEAD("https://www.google.com/", config(verbose = TRUE))
```

---

content

*Extract content from a request.*

---

**Description**

There are currently three ways to retrieve the contents of a request: as a raw object (as = "raw"), as a character vector, (as = "text"), and as parsed into an R object where possible, (as = "parsed"). If as is not specified, content does its best to guess which output is most appropriate.

**Usage**

```
content(x, as = NULL, type = NULL, encoding = NULL, ...)
```

**Arguments**

x	request object
as	desired type of output: raw, text or parsed. content attempts to automatically figure out which one is most appropriate, based on the content-type.
type	MIME type (aka internet media type) used to override the content type returned by the server. See <a href="https://en.wikipedia.org/wiki/Internet_media_type">https://en.wikipedia.org/wiki/Internet_media_type</a> for a list of common types.
encoding	For text, overrides the charset or the Latin1 (ISO-8859-1) default, if you know that the server is returning the incorrect encoding as the charset in the content-type. Use for text and parsed outputs.
...	Other parameters passed on to the parsing functions, if as = "parsed"

**Details**

content currently knows about the following mime types:

- text/html: [xml2::read\\_html\(\)](#)
- text/xml: [xml2::read\\_xml\(\)](#)
- text/csv: [readr::read\\_csv\(\)](#)
- text/tab-separated-values: [readr::read\\_tsv\(\)](#)
- application/json: [jsonlite::fromJSON\(\)](#)
- application/x-www-form-urlencoded: [parse\\_query](#)
- image/jpeg: [jpeg::readJPEG\(\)](#)
- image/png: [png::readPNG\(\)](#)

as = "parsed" is provided as a convenience only: if the type you are trying to parse is not available, use as = "text" and parse yourself.

**Value**

For "raw", a raw vector.

For "text", a character vector of length 1. The character vector is always re-encoded to UTF-8. If this encoding fails (usually because the page declares an incorrect encoding), `content()` will return NA.

For "auto", a parsed R object.

**WARNING**

When using `content()` in a package, DO NOT use on as = "parsed". Instead, check the mime-type is what you expect, and then parse yourself. This is safer, as you will fail informatively if the API changes, and you will protect yourself against changes to `httr`.

**See Also**

Other response methods: [http\\_error\(\)](#), [http\\_status\(\)](#), [response\(\)](#), [stop\\_for\\_status\(\)](#)

## Examples

```
r <- POST("http://httpbin.org/post", body = list(a = 1, b = 2))
content(r) # automatically parses JSON
cat(content(r, "text"), "\n") # text content
content(r, "raw") # raw bytes from server

rlogo <- content(GET("https://httpbin.org/image/png"))
plot(0:1, 0:1, type = "n")
rasterImage(rlogo, 0, 0, 1, 1)
```

---

content_type	<i>Set content-type and accept headers.</i>
--------------	---

---

## Description

These are convenient wrappers around [add\\_headers\(\)](#).

## Usage

```
content_type(type)

content_type_json()

content_type_xml()

accept(type)

accept_json()

accept_xml()
```

## Arguments

type	A mime type or a file extension. If a file extension (i.e. starts with <code>.</code> ) will guess the mime type using <a href="#">mime::guess_type()</a> .
------	---

## Details

`accept_json/accept_xml` and `content_type_json/content_type_xml` are useful shortcuts to ask for json or xml responses or tell the server you are sending json/xml.

## Examples

```
GET("http://httpbin.org/headers")

GET("http://httpbin.org/headers", accept_json())
GET("http://httpbin.org/headers", accept("text/csv"))
GET("http://httpbin.org/headers", accept(".doc"))
```

```
GET("http://httpbin.org/headers", content_type_xml())
GET("http://httpbin.org/headers", content_type("text/csv"))
GET("http://httpbin.org/headers", content_type(".xml"))
```

---

cookies	<i>Access cookies in a response.</i>
---------	--------------------------------------

---

### Description

Access cookies in a response.

### Usage

```
cookies(x)
```

### Arguments

x                   A response.

### See Also

[set\\_cookies\(\)](#) to send cookies in request.

### Examples

```
r <- GET("http://httpbin.org/cookies/set", query = list(a = 1, b = 2))
cookies(r)
```

---

DELETE	<i>Send a DELETE request.</i>
--------	-------------------------------

---

### Description

Send a DELETE request.

### Usage

```
DELETE(  
  url = NULL,  
  config = list(),  
  ...,  
  body = NULL,  
  encode = c("multipart", "form", "json", "raw"),  
  handle = NULL  
)
```

**Arguments**

<code>url</code>	the url of the page to retrieve
<code>config</code>	Additional configuration settings such as http authentication ( <code>authenticate()</code> ), additional headers ( <code>add_headers()</code> ), cookies ( <code>set_cookies()</code> ) etc. See <code>config()</code> for full details and list of helpers.
<code>...</code>	Further named parameters, such as <code>query</code> , <code>path</code> , etc, passed on to <code>modify_url()</code> . Unnamed parameters will be combined with <code>config()</code> .
<code>body</code>	One of the following: <ul style="list-style-type: none"> <li>• <code>FALSE</code>: No body. This is typically not used with <code>POST</code>, <code>PUT</code>, or <code>PATCH</code>, but can be useful if you need to send a bodyless request (like <code>GET</code>) with <code>VERB()</code>.</li> <li>• <code>NULL</code>: An empty body</li> <li>• <code>""</code>: A length 0 body</li> <li>• <code>upload_file("path/")</code>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <code>upload_file()</code></li> <li>• A character or raw vector: sent as is in body. Use <code>content_type()</code> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for <code>encode</code>.</li> </ul>
<code>encode</code>	If the body is a named list, how should it be encoded? Can be one of <code>form</code> ( <code>application/x-www-form-urlencoded</code> ), <code>multipart</code> , ( <code>multipart/form-data</code> ), or <code>json</code> ( <code>application/json</code> ). For "multipart", list elements can be strings or objects created by <code>upload_file()</code> . For "form", elements are coerced to strings and escaped, use <code>I()</code> to prevent double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector, wrap in <code>I()</code> . For "raw", either a character or raw vector. You'll need to make sure to set the <code>content_type()</code> yourself.
<code>handle</code>	The handle to use with this request. If not supplied, will be retrieved and reused from the <code>handle_pool()</code> based on the scheme, hostname and port of the url. By default <code>httr</code> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <code>handle_pool()</code> for more details.

**Value**

A `response()` object.

**RFC2616**

The `DELETE` method requests that the origin server delete the resource identified by the Request-URI. This method MAY be overridden by human intervention (or other means) on the origin server. The client cannot be guaranteed that the operation has been carried out, even if the status code returned from the origin server indicates that the action has been completed successfully. However, the server SHOULD NOT indicate success unless, at the time the response is given, it intends to delete the resource or move it to an inaccessible location.

A successful response SHOULD be 200 (OK) if the response includes an entity describing the status, 202 (Accepted) if the action has not yet been enacted, or 204 (No Content) if the action has been enacted but the response does not include an entity.

If the request passes through a cache and the Request-URI identifies one or more currently cached entities, those entries SHOULD be treated as stale. Responses to this method are not cacheable.

### See Also

Other http methods: [BROWSE\(\)](#), [GET\(\)](#), [HEAD\(\)](#), [PATCH\(\)](#), [POST\(\)](#), [PUT\(\)](#), [VERB\(\)](#)

### Examples

```
DELETE("http://httpbin.org/delete")
POST("http://httpbin.org/delete")
```

---

GET	<i>GET a url.</i>
-----	-------------------

---

### Description

GET a url.

### Usage

```
GET(url = NULL, config = list(), ..., handle = NULL)
```

### Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ( <a href="#">authenticate()</a> ), additional headers ( <a href="#">add_headers()</a> ), cookies ( <a href="#">set_cookies()</a> ) etc. See <a href="#">config()</a> for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to <a href="#">modify_url()</a> . Unnamed parameters will be combined with <a href="#">config()</a> .
handle	The handle to use with this request. If not supplied, will be retrieved and reused from the <a href="#">handle_pool()</a> based on the scheme, hostname and port of the url. By default <b>httr</b> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <a href="#">handle_pool()</a> for more details.

### Value

A [response\(\)](#) object.

## RFC2616

The GET method means retrieve whatever information (in the form of an entity) is identified by the Request-URI. If the Request-URI refers to a data-producing process, it is the produced data which shall be returned as the entity in the response and not the source text of the process, unless that text happens to be the output of the process.

The semantics of the GET method change to a "conditional GET" if the request message includes an If-Modified-Since, If-Unmodified-Since, If-Match, If-None-Match, or If-Range header field. A conditional GET method requests that the entity be transferred only under the circumstances described by the conditional header field(s). The conditional GET method is intended to reduce unnecessary network usage by allowing cached entities to be refreshed without requiring multiple requests or transferring data already held by the client.

The semantics of the GET method change to a "partial GET" if the request message includes a Range header field. A partial GET requests that only part of the entity be transferred, as described in <https://www.w3.org/Protocols/rfc2616/rfc2616-sec14.html#sec14.35> The partial GET method is intended to reduce unnecessary network usage by allowing partially-retrieved entities to be completed without transferring data already held by the client.

## See Also

Other http methods: [BROWSE\(\)](#), [DELETE\(\)](#), [HEAD\(\)](#), [PATCH\(\)](#), [POST\(\)](#), [PUT\(\)](#), [VERB\(\)](#)

## Examples

```
GET("http://google.com/")
GET("http://google.com/", path = "search")
GET("http://google.com/", path = "search", query = list(q = "ham"))

# See what GET is doing with httpbin.org
url <- "http://httpbin.org/get"
GET(url)
GET(url, add_headers(a = 1, b = 2))
GET(url, set_cookies(a = 1, b = 2))
GET(url, add_headers(a = 1, b = 2), set_cookies(a = 1, b = 2))
GET(url, authenticate("username", "password"))
GET(url, verbose())

# You might want to manually specify the handle so you can have multiple
# independent logins to the same website.
google <- handle("http://google.com")
GET(handle = google, path = "/")
GET(handle = google, path = "search")
```

**Description**

Supported callback functions:

**‘request’** This callback is called before an HTTP request is performed, with the request object as an argument. If the callback returns a value other than NULL, the HTTP request is not performed at all, and the return value of the callback is returned. This mechanism can be used to replay previously recorded HTTP responses.

**‘response’** This callback is called after an HTTP request is performed. The callback is called with two arguments: the request object and the response object of the HTTP request. If this callback returns a value other than NULL, then this value is returned by `httr`.

**Usage**

```
get_callback(name)
```

```
set_callback(name, new_callback = NULL)
```

**Arguments**

<code>name</code>	Character scalar, name of the callback to query or set.
<code>new_callback</code>	The callback function to install, a function object; or NULL to remove the currently installed callback (if any).

**Details**

Note that it is not possible to install multiple callbacks of the same type. The installed callback overwrites the previously installed one. To uninstall a callback function, set it to NULL with `set_callback()`.

See the `httrmock` package for a proper example that uses callbacks.

**Value**

`get_callback` returns the currently installed callback, or NULL if none is installed.

`set_callback` returns the previously installed callback, or NULL if none was installed.

**Examples**

```
## Not run:
## Log all HTTP requests to the screen
req_logger <- function(req) {
  cat("HTTP request to", sQuote(req$url), "\n")
}

old <- set_callback("request", req_logger)
g1 <- GET("https://httpbin.org")
g2 <- GET("https://httpbin.org/ip")
set_callback("request", old)

## Log all HTTP requests and response status codes as well
```

```

req_logger2 <- function(req) {
  cat("HTTP request to", sQuote(req$url), "... ")
}
res_logger <- function(req, res) {
  cat(res$status_code, "\n")
}

old_req <- set_callback("request", req_logger2)
old_res <- set_callback("response", res_logger)
g3 <- GET("https://httpbin.org")
g4 <- GET("https://httpbin.org/ip")
set_callback("request", old_req)
set_callback("response", old_res)

## Return a recorded response, without performing the HTTP request
replay <- function(req) {
  if (req$url == "https://httpbin.org") g3
}
old_req <- set_callback("request", replay)
grec <- GET("https://httpbin.org")
grec$date == g3$date
set_callback("request", old_req)

## End(Not run)

```

---

handle

*Create a handle tied to a particular host.*


---

### Description

This handle preserves settings and cookies across multiple requests. It is the foundation of all requests performed through the httr package, although it will mostly be hidden from the user.

### Usage

```
handle(url, cookies = TRUE)
```

### Arguments

url	full url to site
cookies	DEPRECATED

### Note

Because of the way argument dispatch works in R, using `handle()` in the http methods (See [GET\(\)](#)) will cause problems when trying to pass configuration arguments (See examples below). Directly specifying the handle when using http methods is not recommended in general, since the selection of the correct handle is taken care of when the user passes an url (See [handle\\_pool\(\)](#)).

**Examples**

```

handle("http://google.com")
handle("https://google.com")

h <- handle("http://google.com")
GET(handle = h)
# Should see cookies sent back to server
GET(handle = h, config = verbose())

h <- handle("http://google.com", cookies = FALSE)
GET(handle = h)$cookies
## Not run:
# Using the preferred way of configuring the http methods
# will not work when using handle():
GET(handle = h, timeout(10))
# Passing named arguments will work properly:
GET(handle = h, config = list(timeout(10), add_headers(Accept = "")))

## End(Not run)

```

---

HEAD

*Get url HEADers.*


---

**Description**

Get url HEADers.

**Usage**

```
HEAD(url = NULL, config = list(), ..., handle = NULL)
```

**Arguments**

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ( <a href="#">authenticate()</a> ), additional headers ( <a href="#">add_headers()</a> ), cookies ( <a href="#">set_cookies()</a> ) etc. See <a href="#">config()</a> for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to <a href="#">modify_url()</a> . Unnamed parameters will be combined with <a href="#">config()</a> .
handle	The handle to use with this request. If not supplied, will be retrieved and reused from the <a href="#">handle_pool()</a> based on the scheme, hostname and port of the url. By default <b>httr</b> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <a href="#">handle_pool()</a> for more details.

**Value**

A [response\(\)](#) object.

**RFC2616**

The HEAD method is identical to GET except that the server **MUST NOT** return a message-body in the response. The meta-information contained in the HTTP headers in response to a HEAD request **SHOULD** be identical to the information sent in response to a GET request. This method can be used for obtaining meta-information about the entity implied by the request without transferring the entity-body itself. This method is often used for testing hypertext links for validity, accessibility, and recent modification.

The response to a HEAD request **MAY** be cacheable in the sense that the information contained in the response **MAY** be used to update a previously cached entity from that resource. If the new field values indicate that the cached entity differs from the current entity (as would be indicated by a change in Content-Length, Content-MD5, ETag or Last-Modified), then the cache **MUST** treat the cache entry as stale.

**See Also**

Other http methods: [BROWSE\(\)](#), [DELETE\(\)](#), [GET\(\)](#), [PATCH\(\)](#), [POST\(\)](#), [PUT\(\)](#), [VERB\(\)](#)

**Examples**

```
HEAD("http://google.com")
headers(HEAD("http://google.com"))
```

---

headers

*Extract the headers from a response*

---

**Description**

Extract the headers from a response

**Usage**

```
headers(x)
```

**Arguments**

x                    A request object

**See Also**

[add\\_headers\(\)](#) to send additional headers in a request

**Examples**

```
r <- GET("http://httpbin.org/get")
headers(r)
```

---

http_error	<i>Check for an http error.</i>
------------	---------------------------------

---

### Description

Check for an http error.

### Usage

```
http_error(x, ...)
```

### Arguments

`x` Object to check. Default methods are provided for strings (which perform an [HEAD\(\)](#) request), responses, and integer status codes.

`...` Other arguments passed on to methods.

### Value

TRUE if the request fails (status code 400 or above), otherwise FALSE.

### See Also

Other response methods: [content\(\)](#), [http\\_status\(\)](#), [response\(\)](#), [stop\\_for\\_status\(\)](#)

### Examples

```
# You can pass a url:
http_error("http://www.google.com")
http_error("http://httpbin.org/status/404")

# Or a request
r <- GET("http://httpbin.org/status/201")
http_error(r)

# Or an (integer) status code
http_error(200L)
http_error(404L)
```

---

http_status	<i>Give information on the status of a request.</i>
-------------	---

---

### Description

Extract the http status code and convert it into a human readable message.

### Usage

```
http_status(x)
```

### Arguments

x                    a request object or a number.

### Details

http servers send a status code with the response to each request. This code gives information regarding the outcome of the execution of the request on the server. Roughly speaking, codes in the 100s and 200s mean the request was successfully executed; codes in the 300s mean the page was redirected; codes in the 400s mean there was a mistake in the way the client sent the request; codes in the 500s mean the server failed to fulfill an apparently valid request. More details on the codes can be found at [http://en.wikipedia.org/wiki/Http\\_error\\_codes](http://en.wikipedia.org/wiki/Http_error_codes).

### Value

If the status code does not match a known status, an error. Otherwise, a list with components

category	the broad category of the status
message	the meaning of the status code

### See Also

Other response methods: [content\(\)](#), [http\\_error\(\)](#), [response\(\)](#), [stop\\_for\\_status\(\)](#)

### Examples

```
http_status(100)
http_status(404)

x <- GET("http://httpbin.org/status/200")
http_status(x)

http_status(GET("http://httpbin.org/status/300"))
http_status(GET("http://httpbin.org/status/301"))
http_status(GET("http://httpbin.org/status/404"))

# errors out on unknown status
## Not run:
```

```
http_status(GET("http://httpbin.org/status/320"))  
## End(Not run)
```

---

http_type	<i>Extract the content type of a response</i>
-----------	---

---

### Description

Extract the content type of a response

### Usage

```
http_type(x)
```

### Arguments

x                    A response

### Value

A string giving the complete mime type, with all parameters stripped off.

### Examples

```
r1 <- GET("http://httpbin.org/image/png")  
http_type(r1)  
headers(r1)[["Content-Type"]]  
  
r2 <- GET("http://httpbin.org/ip")  
http_type(r2)  
headers(r2)[["Content-Type"]]
```

---

httr_dr	<i>Diagnose common configuration problems</i>
---------	---

---

### Description

Currently one check: that curl uses nss.

### Usage

```
httr_dr()
```

---

htrr_options	<i>List available options.</i>
--------------	--------------------------------

---

### Description

This function lists all available options for `config()`. It provides both the short R name which you use with htrr, and the longer Curl name, which is useful when searching the documentation. `curl_doc` opens a link to the libcurl documentation for an option in your browser.

### Usage

```
htrr_options(matches)
```

```
curl_docs(x)
```

### Arguments

matches	If not missing, this restricts the output so that either the htrr or curl option matches this regular expression.
x	An option name (either short or full).

### Details

RCurl and htrr use slightly different names to libcurl: the initial `CURLOPT_` is removed, all under-scores are converted to periods and the option is given in lower case. Thus `"CURLOPT_SSLENGINE_DEFAULT"` becomes `"sslengine.default"`.

### Value

A data frame with three columns:

htrr	The short name used in htrr
libcurl	The full name used by libcurl
type	The type of R object that the option accepts

### Examples

```
htrr_options()
htrr_options("post")

# Use curl_docs to read the curl documentation for each option.
# You can use either the htrr or curl option name.
curl_docs("userpwd")
curl_docs("CURLOPT_USERPWD")
```

---

modify_url	<i>Modify a url.</i>
------------	----------------------

---

**Description**

Modify a url by first parsing it and then replacing components with the non-NULL arguments of this function.

**Usage**

```
modify_url(  
    url,  
    scheme = NULL,  
    hostname = NULL,  
    port = NULL,  
    path = NULL,  
    query = NULL,  
    params = NULL,  
    fragment = NULL,  
    username = NULL,  
    password = NULL  
)
```

**Arguments**

url	the url to modify
scheme, hostname, port, path, query, params, fragment, username, password	components of the url to change

---

oauth1.0_token	<i>Generate an oauth1.0 token.</i>
----------------	------------------------------------

---

**Description**

This is the final object in the OAuth dance - it encapsulates the app, the endpoint, other parameters and the received credentials.

**Usage**

```
oauth1.0_token(  
    endpoint,  
    app,  
    permission = NULL,  
    as_header = TRUE,  
    private_key = NULL,  
    cache = getOption("httr_oauth_cache")  
)
```

**Arguments**

endpoint	An OAuth endpoint, created by <code>oauth_endpoint()</code>
app	An OAuth consumer application, created by <code>oauth_app()</code>
permission	optional, a string of permissions to ask for.
as_header	If TRUE, the default, sends oauth in header. If FALSE, adds as parameter to url.
private_key	Optional, a key provided by <code>openssl::read_key()</code> . Used for signed OAuth 1.0.
cache	A logical value or a string. TRUE means to cache using the default cache file <code>.httr-oauth</code> , FALSE means don't cache, and NA means to guess using some sensible heuristics. A string means use the specified path as the cache file.

**Details**

See `Token()` for full details about the token object, and the caching policies used to store credentials across sessions.

**Value**

A `Token1.0` reference class (RC) object.

**See Also**

Other OAuth: `oauth2.0_token()`, `oauth_app()`, `oauth_endpoint()`, `oauth_service_token()`

---

oauth2.0_token	<i>Generate an oauth2.0 token.</i>
----------------	------------------------------------

---

**Description**

This is the final object in the OAuth dance - it encapsulates the app, the endpoint, other parameters and the received credentials. It is a reference class so that it can be seamlessly updated (e.g. using `$refresh()`) when access expires.

**Usage**

```
oauth2.0_token(
  endpoint,
  app,
  scope = NULL,
  user_params = NULL,
  type = NULL,
  use_oob = getOption("httr_oob_default"),
  oob_value = NULL,
  as_header = TRUE,
  use_basic_auth = FALSE,
  cache = getOption("httr_oauth_cache"),
```

```

    config_init = list(),
    client_credentials = FALSE,
    credentials = NULL,
    query_authorize_extra = list()
  )

```

### Arguments

endpoint	An OAuth endpoint, created by <code>oauth_endpoint()</code>
app	An OAuth consumer application, created by <code>oauth_app()</code>
scope	a character vector of scopes to request.
user_params	Named list holding endpoint specific parameters to pass to the server when posting the request for obtaining or refreshing the access token.
type	content type used to override incorrect server response
use_oob	if FALSE, use a local webserver for the OAuth dance. Otherwise, provide a URL to the user and prompt for a validation code. Defaults to the of the "httr_oob_default" default, or TRUE if httpuv is not installed.
oob_value	if provided, specifies the value to use for the redirect_uri parameter when retrieving an authorization URL. Defaults to "urn:ietf:wg:oauth:2.0:oob". Requires use_oob = TRUE.
as_header	If TRUE, the default, configures the token to add itself to the bearer header of subsequent requests. If FALSE, configures the token to add itself as a url parameter of subsequent requests.
use_basic_auth	if TRUE use http basic authentication to retrieve the token. Some authorization servers require this. If FALSE, the default, retrieve the token by including the app key and secret in the request body.
cache	A logical value or a string. TRUE means to cache using the default cache file .httr-oauth, FALSE means don't cache, and NA means to guess using some sensible heuristics. A string means use the specified path as the cache file.
config_init	Additional configuration settings sent to <code>POST()</code> , e.g. <code>user_agent()</code> .
client_credentials	Default to FALSE. Set to TRUE to use <i>Client Credentials Grant</i> instead of <i>Authorization Code Grant</i> . See <a href="https://www.rfc-editor.org/rfc/rfc6749#section-4.4">https://www.rfc-editor.org/rfc/rfc6749#section-4.4</a> .
credentials	Advanced use only: allows you to completely customise token generation.
query_authorize_extra	Default to <code>list()</code> . Set to named list holding query parameters to append to initial auth page query. Useful for some APIs.

### Details

See `Token()` for full details about the token object, and the caching policies used to store credentials across sessions.

**Value**

A `Token2.0` reference class (RC) object.

**See Also**

Other OAuth: [oauth1.0\\_token\(\)](#), [oauth\\_app\(\)](#), [oauth\\_endpoint\(\)](#), [oauth\\_service\\_token\(\)](#)

---

oauth\_app

*Create an OAuth application.*

---

**Description**

See the demos for instructions on how to create an OAuth app for linkedin, twitter, vimeo, facebook, github and google. When wrapping an API from a package, the author may want to include a default app to facilitate early and casual use and then provide a method for heavy or advanced users to supply their own app or key and secret.

**Usage**

```
oauth_app(appname, key, secret = NULL, redirect_uri = oauth_callback())
```

**Arguments**

appname	name of the application. This is not used for OAuth, but is used to make it easier to identify different applications.
key	consumer key, also sometimes called the client ID
secret	consumer secret, also sometimes called the client secret. Despite its name, this does not necessarily need to be protected like a password, i.e. the user still has to authenticate themselves and grant the app permission to access resources on their behalf. For example, see Google's docs for <a href="#">OAuth2 for installed applications</a> .
redirect_uri	The URL that user will be redirected to after authorisation is complete. You should generally leave this as the default unless you're using a non-standard auth flow (like with shiny).

**See Also**

Other OAuth: [oauth1.0\\_token\(\)](#), [oauth2.0\\_token\(\)](#), [oauth\\_endpoint\(\)](#), [oauth\\_service\\_token\(\)](#)

**Examples**

```
## Not run:
google_app <- oauth_app(
  "google",
  key = "123456789.apps.googleusercontent.com",
  secret = "abcdefghijklmnopqrstuvwxy"
)
```

```
## End(Not run)
```

---

oauth_endpoint	<i>Describe an OAuth endpoint.</i>
----------------	------------------------------------

---

### Description

See [oauth\\_endpoints\(\)](#) for a list of popular OAuth endpoints baked into httr.

### Usage

```
oauth_endpoint(request = NULL, authorize, access, ..., base_url = NULL)
```

### Arguments

request	url used to request initial (unauthenticated) token. If using OAuth2.0, leave as NULL.
authorize	url to send client to for authorisation. Set to NULL if not needed
access	url used to exchange unauthenticated for authenticated token.
...	other additional endpoints.
base_url	option url to use as base for request, authorize and access urls.

### See Also

Other OAuth: [oauth1.0\\_token\(\)](#), [oauth2.0\\_token\(\)](#), [oauth\\_app\(\)](#), [oauth\\_service\\_token\(\)](#)

### Examples

```
linkedin <- oauth_endpoint("requestToken", "authorize", "accessToken",
  base_url = "https://api.linkedin.com/uas/oauth"
)
github <- oauth_endpoint(NULL, "authorize", "access_token",
  base_url = "https://github.com/login/oauth"
)
facebook <- oauth_endpoint(
  authorize = "https://www.facebook.com/dialog/oauth",
  access = "https://graph.facebook.com/oauth/access_token"
)

oauth_endpoints
```

---

oauth\_endpoints      *Popular oauth endpoints.*

---

### Description

Provides some common OAuth endpoints.

### Usage

```
oauth_endpoints(name)
```

### Arguments

name	One of the following endpoints: linkedin, twitter, vimeo, google, facebook, github, azure.
------	--

### Examples

```
oauth_endpoints("twitter")
```

---

oauth\_service\_token      *Generate OAuth token for service accounts.*

---

### Description

Service accounts provide a way of using OAuth2 without user intervention. They instead assume that the server has access to a private key used to sign requests. The OAuth app is not needed for service accounts: that information is embedded in the account itself.

### Usage

```
oauth_service_token(endpoint, secrets, scope = NULL, sub = NULL)
```

### Arguments

endpoint	An OAuth endpoint, created by <a href="#">oauth_endpoint()</a>
secrets	Secrets loaded from JSON file, downloaded from console.
scope	a character vector of scopes to request.
sub	The email address of the user for which the application is requesting delegated access.

### See Also

Other OAuth: [oauth1.0\\_token\(\)](#), [oauth2.0\\_token\(\)](#), [oauth\\_app\(\)](#), [oauth\\_endpoint\(\)](#)

**Examples**

```
## Not run:
endpoint <- oauth_endpoints("google")
secrets <- jsonlite::fromJSON("~/Desktop/htttrtest-45693cbfac92.json")
scope <- "https://www.googleapis.com/auth/bigquery.readonly"

token <- oauth_service_token(endpoint, secrets, scope)

## End(Not run)
```

---

parse_http_date	<i>Parse and print http dates.</i>
-----------------	------------------------------------

---

**Description**

As defined in RFC2616, <https://www.w3.org/Protocols/rfc2616/rfc2616-sec3.html#sec3.3>, there are three valid formats:

- Sun, 06 Nov 1994 08:49:37 GMT ; RFC 822, updated by RFC 1123
- Sunday, 06-Nov-94 08:49:37 GMT ; RFC 850, obsoleted by RFC 1036
- Sun Nov 6 08:49:37 1994 ; ANSI C's asctime() format

**Usage**

```
parse_http_date(x, failure = structure(NA_real_, class = "Date"))
http_date(x)
```

**Arguments**

x	For parse_http_date, a character vector of strings to parse. All elements must be of the same type. For http_date, a POSIXt vector.
failure	What to return on failure?

**Value**

A POSIXct object if succesful, otherwise failure

**Examples**

```
parse_http_date("Sun, 06 Nov 1994 08:49:37 GMT")
parse_http_date("Sunday, 06-Nov-94 08:49:37 GMT")
parse_http_date("Sun Nov 6 08:49:37 1994")

http_date(Sys.time())
```

---

parse_url	<i>Parse and build urls according to RFC3986.</i>
-----------	---

---

**Description**

See <https://www.rfc-editor.org/rfc/rfc3986> for details of parsing algorithm.

**Usage**

```
parse_url(url)
```

```
build_url(url)
```

**Arguments**

`url` For `parse_url` a character vector (of length 1) to parse into components; for `build_url` a list of components to turn back into a string.

**Value**

a list containing:

- `scheme`
- `hostname`
- `port`
- `path`
- `params`
- `fragment`
- `query`, a list
- `username`
- `password`

**Examples**

```
parse_url("http://google.com/")
parse_url("http://google.com:80/")
parse_url("http://google.com:80/?a=1&b=2")
```

```
url <- parse_url("http://google.com/")
url$scheme <- "https"
url$query <- list(q = "hello")
build_url(url)
```

---

PATCH *Send PATCH request to a server.*

---

### Description

Send PATCH request to a server.

### Usage

```
PATCH(
  url = NULL,
  config = list(),
  ...,
  body = NULL,
  encode = c("multipart", "form", "json", "raw"),
  handle = NULL
)
```

### Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ( <a href="#">authenticate()</a> ), additional headers ( <a href="#">add_headers()</a> ), cookies ( <a href="#">set_cookies()</a> ) etc. See <a href="#">config()</a> for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to <a href="#">modify_url()</a> . Unnamed parameters will be combined with <a href="#">config()</a> .
body	One of the following: <ul style="list-style-type: none"> <li>• FALSE: No body. This is typically not used with POST, PUT, or PATCH, but can be useful if you need to send a bodyless request (like GET) with VERB().</li> <li>• NULL: An empty body</li> <li>• "": A length 0 body</li> <li>• <a href="#">upload_file("path/")</a>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <a href="#">upload_file()</a></li> <li>• A character or raw vector: sent as is in body. Use <a href="#">content_type()</a> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for <a href="#">encode</a>.</li> </ul>
encode	If the body is a named list, how should it be encoded? Can be one of form (application/x-www-form-urlencoded), multipart, (multipart/form-data), or json (application/json). For "multipart", list elements can be strings or objects created by <a href="#">upload_file()</a> . For "form", elements are coerced to strings and escaped, use <a href="#">I()</a> to prevent double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector, wrap in <a href="#">I()</a> . For "raw", either a character or raw vector. You'll need to make sure to set the <a href="#">content_type()</a> yourself.

`handle` The handle to use with this request. If not supplied, will be retrieved and reused from the `handle_pool()` based on the scheme, hostname and port of the url. By default `httr` requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See `handle_pool()` for more details.

### Value

A `response()` object.

### See Also

Other http methods: `BROWSE()`, `DELETE()`, `GET()`, `HEAD()`, `POST()`, `PUT()`, `VERB()`

---

POST

*POST file to a server.*

---

### Description

POST file to a server.

### Usage

```
POST(
  url = NULL,
  config = list(),
  ...,
  body = NULL,
  encode = c("multipart", "form", "json", "raw"),
  handle = NULL
)
```

### Arguments

<code>url</code>	the url of the page to retrieve
<code>config</code>	Additional configuration settings such as http authentication ( <code>authenticate()</code> ), additional headers ( <code>add_headers()</code> ), cookies ( <code>set_cookies()</code> ) etc. See <code>config()</code> for full details and list of helpers.
<code>...</code>	Further named parameters, such as query, path, etc, passed on to <code>modify_url()</code> . Unnamed parameters will be combined with <code>config()</code> .
<code>body</code>	One of the following: <ul style="list-style-type: none"> <li>• <code>FALSE</code>: No body. This is typically not used with POST, PUT, or PATCH, but can be useful if you need to send a bodyless request (like GET) with <code>VERB()</code>.</li> <li>• <code>NULL</code>: An empty body</li> <li>• <code>""</code>: A length 0 body</li> </ul>

	<ul style="list-style-type: none"> <li>• <code>upload_file("path/")</code>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <code>upload_file()</code></li> <li>• A character or raw vector: sent as is in body. Use <code>content_type()</code> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for <code>encode</code>.</li> </ul>
<code>encode</code>	<p>If the body is a named list, how should it be encoded? Can be one of form (<code>application/x-www-form-urlencoded</code>), <code>multipart</code>, (<code>multipart/form-data</code>), or <code>json</code> (<code>application/json</code>).</p> <p>For "multipart", list elements can be strings or objects created by <code>upload_file()</code>. For "form", elements are coerced to strings and escaped, use <code>I()</code> to prevent double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector, wrap in <code>I()</code>. For "raw", either a character or raw vector. You'll need to make sure to set the <code>content_type()</code> yourself.</p>
<code>handle</code>	<p>The handle to use with this request. If not supplied, will be retrieved and reused from the <code>handle_pool()</code> based on the scheme, hostname and port of the url. By default <code>httr</code> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <code>handle_pool()</code> for more details.</p>

### Value

A `response()` object.

### See Also

Other http methods: `BROWSE()`, `DELETE()`, `GET()`, `HEAD()`, `PATCH()`, `PUT()`, `VERB()`

### Examples

```
b2 <- "http://httpbin.org/post"
POST(b2, body = "A simple text string")
POST(b2, body = list(x = "A simple text string"))
POST(b2, body = list(y = upload_file(system.file("CITATION"))))
POST(b2, body = list(x = "A simple text string"), encode = "json")

# body can also be provided as a json string directly to deal
# with specific case, like an empty element in the json string.
# passing as string directly
POST(b2, body = '{"a":1,"b":{}}', encode = "raw")
# or building the json string before
json_body <- jsonlite::toJSON(list(a = 1, b = NULL), auto_unbox = TRUE)
POST(b2, body = json_body, encode = "raw")

# Various types of empty body:
POST(b2, body = NULL, verbose())
POST(b2, body = FALSE, verbose())
POST(b2, body = "", verbose())
```

---

progress                      *Add a progress bar.*

---

**Description**

Add a progress bar.

**Usage**

```
progress(type = c("down", "up"), con = stdout())
```

**Arguments**

type	Type of progress to display: either number of bytes uploaded or downloaded.
con	Connection to send output too. Usually stdout() or stderr.

**Examples**

```
cap_speed <- config(max_recv_speed_large = 10000)

# If file size is known, you get a progress bar:
x <- GET("http://httpbin.org/bytes/102400", progress(), cap_speed)
# Otherwise you get the number of bytes downloaded:
x <- GET("http://httpbin.org/stream-bytes/102400", progress(), cap_speed)
```

---

PUT                              *Send PUT request to server.*

---

**Description**

Send PUT request to server.

**Usage**

```
PUT(
  url = NULL,
  config = list(),
  ...,
  body = NULL,
  encode = c("multipart", "form", "json", "raw"),
  handle = NULL
)
```

**Arguments**

<code>url</code>	the url of the page to retrieve
<code>config</code>	Additional configuration settings such as http authentication ( <code>authenticate()</code> ), additional headers ( <code>add_headers()</code> ), cookies ( <code>set_cookies()</code> ) etc. See <code>config()</code> for full details and list of helpers.
<code>...</code>	Further named parameters, such as <code>query</code> , <code>path</code> , etc, passed on to <code>modify_url()</code> . Unnamed parameters will be combined with <code>config()</code> .
<code>body</code>	One of the following: <ul style="list-style-type: none"> <li>• <code>FALSE</code>: No body. This is typically not used with POST, PUT, or PATCH, but can be useful if you need to send a bodyless request (like GET) with <code>VERB()</code>.</li> <li>• <code>NULL</code>: An empty body</li> <li>• <code>""</code>: A length 0 body</li> <li>• <code>upload_file("path/")</code>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <code>upload_file()</code></li> <li>• A character or raw vector: sent as is in body. Use <code>content_type()</code> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for <code>encode</code>.</li> </ul>
<code>encode</code>	If the body is a named list, how should it be encoded? Can be one of form ( <code>application/x-www-form-urlencoded</code> ), <code>multipart</code> , ( <code>multipart/form-data</code> ), or <code>json</code> ( <code>application/json</code> ). For "multipart", list elements can be strings or objects created by <code>upload_file()</code> . For "form", elements are coerced to strings and escaped, use <code>I()</code> to prevent double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector, wrap in <code>I()</code> . For "raw", either a character or raw vector. You'll need to make sure to set the <code>content_type()</code> yourself.
<code>handle</code>	The handle to use with this request. If not supplied, will be retrieved and reused from the <code>handle_pool()</code> based on the scheme, hostname and port of the url. By default <code>httr</code> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <code>handle_pool()</code> for more details.

**See Also**

Other http methods: `BROWSE()`, `DELETE()`, `GET()`, `HEAD()`, `PATCH()`, `POST()`, `VERB()`

**Examples**

```
POST("http://httpbin.org/put")
PUT("http://httpbin.org/put")

b2 <- "http://httpbin.org/put"
PUT(b2, body = "A simple text string")
PUT(b2, body = list(x = "A simple text string"))
PUT(b2, body = list(y = upload_file(system.file("CITATION"))))
PUT(b2, body = list(x = "A simple text string"), encode = "json")
```

---

response	<i>The response object.</i>
----------	-----------------------------

---

### Description

The response object captures all information from a request. It includes fields:

- `url` the url the request was actually sent to (after redirects)
- `handle` the handle associated with the url
- `status_code` the http status code
- `header` a named list of headers returned by the server
- `cookies` a named list of cookies returned by the server
- `content` the body of the response, as raw vector. See [content\(\)](#) for various ways to access the content.
- `time` request timing information
- `config` configuration for the request

### Details

For non-http(s) responses, some parts including the status and header may not be interpretable the same way as http responses.

### See Also

Other response methods: [content\(\)](#), [http\\_error\(\)](#), [http\\_status\(\)](#), [stop\\_for\\_status\(\)](#)

---

RETRY	<i>Retry a request until it succeeds.</i>
-------	---

---

### Description

Safely retry a request until it succeeds, as defined by the `terminate_on` parameter, which by default means a response for which [http\\_error\(\)](#) is FALSE. Will also retry on error conditions raised by the underlying curl code, but if the last retry still raises one, RETRY will raise it again with [stop\(\)](#). It is designed to be kind to the server: after each failure randomly waits up to twice as long. (Technically it uses exponential backoff with jitter, using the approach outlined in <https://aws.amazon.com/blogs/architecture/exponential-backoff-and-jitter/>.) If the server returns status code 429 and specifies a `retry-after` value, that value will be used instead, unless it's smaller than `pause_min`.

**Usage**

```

RETRY(
  verb,
  url = NULL,
  config = list(),
  ...,
  body = NULL,
  encode = c("multipart", "form", "json", "raw"),
  times = 3,
  pause_base = 1,
  pause_cap = 60,
  pause_min = 1,
  handle = NULL,
  quiet = FALSE,
  terminate_on = NULL,
  terminate_on_success = TRUE
)

```

**Arguments**

verb	Name of verb to use.
url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ( <a href="#">authenticate()</a> ), additional headers ( <a href="#">add_headers()</a> ), cookies ( <a href="#">set_cookies()</a> ) etc. See <a href="#">config()</a> for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to <a href="#">modify_url()</a> . Unnamed parameters will be combined with <a href="#">config()</a> .
body	One of the following: <ul style="list-style-type: none"> <li>• FALSE: No body. This is typically not used with POST, PUT, or PATCH, but can be useful if you need to send a bodyless request (like GET) with VERB().</li> <li>• NULL: An empty body</li> <li>• "": A length 0 body</li> <li>• <code>upload_file("path/")</code>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <code>upload_file()</code></li> <li>• A character or raw vector: sent as is in body. Use <a href="#">content_type()</a> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for encode.</li> </ul>
encode	If the body is a named list, how should it be encoded? Can be one of form (application/x-www-form-urlencoded), multipart, (multipart/form-data), or json (application/json). For "multipart", list elements can be strings or objects created by <a href="#">upload_file()</a> . For "form", elements are coerced to strings and escaped, use <code>I()</code> to prevent double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector,

wrap in `I()`. For "raw", either a character or raw vector. You'll need to make sure to set the `content_type()` yourself.

<code>times</code>	Maximum number of requests to attempt.
<code>pause_base, pause_cap</code>	This method uses exponential back-off with full jitter - this means that each request will randomly wait between <code>pause_min</code> and <code>pause_base * 2 ^ attempt</code> seconds, up to a maximum of <code>pause_cap</code> seconds.
<code>pause_min</code>	Minimum time to wait in the backoff; generally only necessary if you need pauses less than one second (which may not be kind to the server, use with caution!).
<code>handle</code>	The handle to use with this request. If not supplied, will be retrieved and reused from the <code>handle_pool()</code> based on the scheme, hostname and port of the url. By default <code>httr</code> requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See <code>handle_pool()</code> for more details.
<code>quiet</code>	If FALSE, will print a message displaying how long until the next request.
<code>terminate_on</code>	Optional vector of numeric HTTP status codes that if found on the response will terminate the retry process. If NULL, will keep retrying while <code>http_error()</code> is TRUE for the response.
<code>terminate_on_success</code>	If TRUE, the default, this will automatically terminate when the request is successful, regardless of the value of <code>terminate_on</code> .

## Value

The last response. Note that if the request doesn't succeed after `times` times this will be a failed request, i.e. you still need to use `stop_for_status()`.

## Examples

```
# Succeeds straight away
RETRY("GET", "http://httpbin.org/status/200")
# Never succeeds
RETRY("GET", "http://httpbin.org/status/500")
## Not run:
# Invalid hostname generates curl error condition and is retried but eventually
# raises an error condition.
RETRY("GET", "http://invalidhostname/")

## End(Not run)
```

---

revoke_all	<i>Revoke all OAuth tokens in the cache.</i>
------------	--

---

**Description**

Use this function if you think that your token may have been compromised, e.g. you accidentally uploaded the cache file to github. It's not possible to automatically revoke all tokens - this function will warn when it can't.

**Usage**

```
revoke_all(cache_path = NA)
```

**Arguments**

cache_path	Path to cache file. Defaults to .httr-oauth in current directory.
------------	---

---

set_config	<i>Set (and reset) global httr configuration.</i>
------------	---

---

**Description**

Set (and reset) global httr configuration.

**Usage**

```
set_config(config, override = FALSE)
```

```
reset_config()
```

**Arguments**

config	Settings as generated by <a href="#">add_headers()</a> , <a href="#">set_cookies()</a> or <a href="#">authenticate()</a> .
override	if TRUE, ignore existing settings, if FALSE, combine new config with old.

**Value**

invisibility, the old global config.

**See Also**

Other ways to set configuration: [config\(\)](#), [with\\_config\(\)](#)

### Examples

```
GET("http://google.com")
set_config(verbose())
GET("http://google.com")
reset_config()
GET("http://google.com")
```

---

set_cookies	<i>Set cookies.</i>
-------------	---------------------

---

### Description

Set cookies.

### Usage

```
set_cookies(..., .cookies = character(0))
```

### Arguments

...	a named cookie values
.cookies	a named character vector

### See Also

[cookies\(\)](#) to see cookies in response.

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [config\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

### Examples

```
set_cookies(a = 1, b = 2)
set_cookies(.cookies = c(a = "1", b = "2"))

GET("http://httpbin.org/cookies")
GET("http://httpbin.org/cookies", set_cookies(a = 1, b = 2))
```

---

status_code	<i>Extract status code from response.</i>
-------------	---

---

**Description**

Extract status code from response.

**Usage**

```
status_code(x)
```

**Arguments**

x	A response
---	------------

---

stop_for_status	<i>Take action on http error.</i>
-----------------	-----------------------------------

---

**Description**

Converts http errors to R errors or warnings - these should always be used whenever you're creating requests inside a function, so that the user knows why a request has failed.

**Usage**

```
stop_for_status(x, task = NULL)
```

```
warn_for_status(x, task = NULL)
```

```
message_for_status(x, task = NULL)
```

**Arguments**

x	a response, or numeric http code (or other object with status_code method)
task	The text of the message: either NULL or a character vector. If non-NULL, the error message will finish with "Failed to task".

**Value**

If request was successful, the response (invisibly). Otherwise, raised a classed http error or warning, as generated by [http\\_condition\(\)](#)

**See Also**

[http\\_status\(\)](#) and [http://en.wikipedia.org/wiki/Http\\_status\\_codes](http://en.wikipedia.org/wiki/Http_status_codes) for more information on http status codes.

Other response methods: [content\(\)](#), [http\\_error\(\)](#), [http\\_status\(\)](#), [response\(\)](#)

## Examples

```
x <- GET("http://httpbin.org/status/200")
stop_for_status(x) # nothing happens
warn_for_status(x)
message_for_status(x)

x <- GET("http://httpbin.org/status/300")
## Not run:
stop_for_status(x)

## End(Not run)
warn_for_status(x)
message_for_status(x)

x <- GET("http://httpbin.org/status/404")
## Not run:
stop_for_status(x)

## End(Not run)
warn_for_status(x)
message_for_status(x)

# You can provide more information with the task argument
warn_for_status(x, "download spreadsheet")
message_for_status(x, "download spreadsheet")
```

---

timeout	<i>Set maximum request time.</i>
---------	----------------------------------

---

## Description

Set maximum request time.

## Usage

```
timeout(seconds)
```

## Arguments

seconds	number of seconds to wait for a response until giving up. Can not be less than 1 ms.
---------	--

## Details

This timeout is passed on to `curl::handle_setopt()`. See there and `curl::curl_options()` for more details.

**See Also**

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

**Examples**

```
## Not run:
GET("http://httpbin.org/delay/3", timeout(1))
GET("http://httpbin.org/delay/1", timeout(2))

## End(Not run)
```

---

upload_file	<i>Upload a file with <a href="#">POST()</a> or <a href="#">PUT()</a>.</i>
-------------	--

---

**Description**

Upload a file with [POST\(\)](#) or [PUT\(\)](#).

**Usage**

```
upload_file(path, type = NULL)
```

**Arguments**

path	path to file
type	mime type of path. If not supplied, will be guess by <a href="#">mime::guess_type()</a> when needed.

**Examples**

```
citation <- upload_file(system.file("CITATION"))
POST("http://httpbin.org/post", body = citation)
POST("http://httpbin.org/post", body = list(y = citation))
```

---

user_agent	<i>Set user agent.</i>
------------	------------------------

---

**Description**

Override the default RCurl user agent of NULL

**Usage**

```
user_agent(agent)
```

**Arguments**

agent                    string giving user agent

**See Also**

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [verbose\(\)](#)

**Examples**

```
GET("http://httpbin.org/user-agent")
GET("http://httpbin.org/user-agent", user_agent("httr"))
```

---

use\_proxy

*Use a proxy to connect to the internet.*

---

**Description**

Use a proxy to connect to the internet.

**Usage**

```
use_proxy(url, port = NULL, username = NULL, password = NULL, auth = "basic")
```

**Arguments**

url, port                location of proxy  
username, password        login details for proxy, if needed  
auth                    type of HTTP authentication to use. Should be one of the following: basic, digest, digest\_ie, gssnegotiate, ntlm, any.

**See Also**

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [user\\_agent\(\)](#), [verbose\(\)](#)

**Examples**

```
# See http://www.hidemyass.com/proxy-list for a list of public proxies
# to test with
# GET("http://had.co.nz", use_proxy("64.251.21.73", 8080), verbose())
```

---

VERB                                      *VERB a url.*

---

### Description

Use an arbitrary verb.

### Usage

```
VERB(
  verb,
  url = NULL,
  config = list(),
  ...,
  body = NULL,
  encode = c("multipart", "form", "json", "raw"),
  handle = NULL
)
```

### Arguments

verb	Name of verb to use.
url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ( <a href="#">authenticate()</a> ), additional headers ( <a href="#">add_headers()</a> ), cookies ( <a href="#">set_cookies()</a> ) etc. See <a href="#">config()</a> for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to <a href="#">modify_url()</a> . Unnamed parameters will be combined with <a href="#">config()</a> .
body	One of the following: <ul style="list-style-type: none"> <li>• FALSE: No body. This is typically not used with POST, PUT, or PATCH, but can be useful if you need to send a bodyless request (like GET) with VERB().</li> <li>• NULL: An empty body</li> <li>• "": A length 0 body</li> <li>• <code>upload_file("path/")</code>: The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to <code>upload_file()</code></li> <li>• A character or raw vector: sent as is in body. Use <a href="#">content_type()</a> to tell the server what sort of data you are sending.</li> <li>• A named list: See details for encode.</li> </ul>
encode	If the body is a named list, how should it be encoded? Can be one of form (application/x-www-form-urlencoded), multipart, (multipart/form-data), or json (application/json). For "multipart", list elements can be strings or objects created by <a href="#">upload_file()</a> . For "form", elements are coerced to strings and escaped, use <code>I()</code> to prevent

double-escaping. For "json", parameters are automatically "unboxed" (i.e. length 1 vectors are converted to scalars). To preserve a length 1 vector as a vector, wrap in `I()`. For "raw", either a character or raw vector. You'll need to make sure to set the `content_type()` yourself.

**handle** The handle to use with this request. If not supplied, will be retrieved and reused from the `handle_pool()` based on the scheme, hostname and port of the url. By default **httr** requests to the same scheme/host/port combo. This substantially reduces connection time, and ensures that cookies are maintained over multiple requests to the same host. See `handle_pool()` for more details.

### Value

A `response()` object.

### See Also

Other http methods: `BROWSE()`, `DELETE()`, `GET()`, `HEAD()`, `PATCH()`, `POST()`, `PUT()`

### Examples

```
r <- VERB(
  "PROPFIND", "http://svn.r-project.org/R/tags/",
  add_headers(depth = 1), verbose()
)
stop_for_status(r)
content(r)

VERB("POST", url = "http://httpbin.org/post")
VERB("POST", url = "http://httpbin.org/post", body = "foobar")
```

---

verbose

*Give verbose output.*

---

### Description

A verbose connection provides much more information about the flow of information between the client and server.

### Usage

```
verbose(data_out = TRUE, data_in = FALSE, info = FALSE, ssl = FALSE)
```

### Arguments

<code>data_out</code>	Show data sent to the server.
<code>data_in</code>	Show data recieved from the server.
<code>info</code>	Show informational text from curl. This is mainly useful for debugging https and auth problems, so is disabled by default.
<code>ssl</code>	Show even data sent/recieved over SSL connections?

## Prefixes

verbose() uses the following prefixes to distinguish between different components of the http messages:

- \* informative curl messages
- -> headers sent (out)
- >> data sent (out)
- \*> ssl data sent (out)
- <- headers received (in)
- << data received (in)
- <\*> ssl data received (in)

## See Also

[with\\_verbose\(\)](#) makes it easier to use verbose mode even when the requests are buried inside another function call.

Other config: [add\\_headers\(\)](#), [authenticate\(\)](#), [config\(\)](#), [set\\_cookies\(\)](#), [timeout\(\)](#), [use\\_proxy\(\)](#), [user\\_agent\(\)](#)

## Examples

```
GET("http://httpbin.org", verbose())
GET("http://httpbin.org", verbose(info = TRUE))

f <- function() {
  GET("http://httpbin.org")
}
with_verbose(f())
with_verbose(f(), info = TRUE)

# verbose() makes it easy to see exactly what POST requests send
POST_verbose <- function(body, ...) {
  POST("https://httpbin.org/post", body = body, verbose(), ...)
  invisible()
}
POST_verbose(list(x = "a", y = "b"))
POST_verbose(list(x = "a", y = "b"), encode = "form")
POST_verbose(FALSE)
POST_verbose(NULL)
POST_verbose("")
POST_verbose("xyz")
```

---

with\_config

*Execute code with configuration set.*

---

## Description

Execute code with configuration set.

**Usage**

```
with_config(config = config(), expr, override = FALSE)

with_verbose(expr, ...)
```

**Arguments**

config	Settings as generated by <a href="#">add_headers()</a> , <a href="#">set_cookies()</a> or <a href="#">authenticate()</a> .
expr	code to execute under specified configuration
override	if TRUE, ignore existing settings, if FALSE, combine new config with old.
...	Other arguments passed on to <a href="#">verbose()</a>

**See Also**

Other ways to set configuration: [config\(\)](#), [set\\_config\(\)](#)

**Examples**

```
with_config(verbose(), {
  GET("http://had.co.nz")
  GET("http://google.com")
})

# Or even easier:
with_verbose(GET("http://google.com"))
```

---

write\_disk

*Control where the response body is written.*

---

**Description**

The default behaviour is to use [write\\_memory\(\)](#), which caches the response locally in memory. This is useful when talking to APIs as it avoids a round-trip to disk. If you want to save a file that's bigger than memory, use [write\\_disk\(\)](#) to save it to a known path.

**Usage**

```
write_disk(path, overwrite = FALSE)

write_memory()
```

**Arguments**

path	Path to content to.
overwrite	Will only overwrite existing path if TRUE.

## Examples

```
tmp <- tempfile()
r1 <- GET("https://www.google.com", write_disk(tmp))
readLines(tmp)

# The default
r2 <- GET("https://www.google.com", write_memory())

# Save a very large file
## Not run:
GET(
  "http://www2.census.gov/acs2011_5yr/pums/csv_pus.zip",
  write_disk("csv_pus.zip"), progress()
)

## End(Not run)
```

---

write\_stream

*Process output in a streaming manner.*

---

## Description

This is the most general way of processing the response from the server - you receive the raw bytes as they come in, and you can do whatever you want with them.

## Usage

```
write_stream(f)
```

## Arguments

**f**                      Callback function. It should have a single argument, a raw vector containing the bytes recieved from the server. This will usually be 16k or less. The return value of the function is ignored.

## Examples

```
GET(
  "https://github.com/jeroen/data/raw/gh-pages/diamonds.json",
  write_stream(function(x) {
    print(length(x))
    length(x)
  })
)
```

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