Package 'httr'

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Version 1.1.0

Title Tools for Working with URLs and HTTP

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).

Depends R (>= 3.0.0)

Imports jsonlite, mime, curl (>= 0.9.1), openssl (>= 0.8), R6

Suggests httpuv, jpeg, knitr, png, testthat (>= 0.8.0), readr, xml2

VignetteBuilder knitr

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URL https://github.com/hadley/httr

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Repository CRAN

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R topics documented:

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add_headers   *Add additional headers to a request.*

Description

Wikipedia provides a useful list of common http headers: http://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, ntlm_vn, 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 **RCurl**.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
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.

Details

Only works in interactive sessions.

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 http://en.wikipedia.org/wiki/Internet_media_type 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 parsed on to the parsing functions, if as = "parsed"

Details

content currently knows about the following mime types:

- text/html: htmlTreeParse
- text/xml: xmlTreeParse
- text/csv: read.csv
- text/tab-separated-values: read.delim
- application/json: fromJSON

- application/x-www-form-urlencoded: parse_query

- image/jpeg: readJPEG

- image/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("http://cran.r-project.org/Rlogo.jpg"))
plot(0:1, 0:1, type = "n")
rasterImage(rlogo, 0, 0, 1, 1)
```

---

content_type   *Set content-type and accept headers.*

Description

These are convenient wrappers aroud 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 .) will guess the mime type using [guess_type](#).

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   *Access cookies in a response.*

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   *Send a DELETE request.*

Description

Send a DELETE request.

Usage

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

Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication (authenticate), additional headers (add_headers), cookies (set_cookies) etc. See config for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
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.

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   *GET a url.*

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 (authenticate), additional headers (add_headers), cookies (set_cookies) etc. See config for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
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.

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 <http://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")
```

---

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 ([authenticate](#)), additional headers ([add_headers](#)), cookies ([set_cookies](#)) etc. See [config](#) for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to [modify_url](#). Unnamed parameters will be combined with [config](#).

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.

RFC2616

The HEAD method is identical to GET except that the server MUST NOT return a message-body in
the response. The metainformation 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 metainformation 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   *Check for an http error.*

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   *Give information on the status of a request.*

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`.

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"))
```

---

httr	**httr** *makes http easy.*

Description

httr is organised around the five most common http verbs: GET, PATCH, POST, HEAD, PUT, and DELETE.

Details

Each request returns a response object which provides easy access to status code, cookies, headers, timings, and other useful info. The content of the request is available as a raw vector (content), character vector (text_content), or parsed into an R object (parsed_content), currently for html, xml, json, png and jpeg).

Requests can be modified by various config options like set_cookies, add_headers, authenticate, use_proxy, verbose, and timeout

httr supports OAuth 1.0 and 2.0. Use oauth1.0_token and oauth2.0_token to get user tokens, and sign_oauth1.0 and sign_oauth2.0 to sign requests. The demos directory has six demos of using OAuth: three for 1.0 (linkedin, twitter and vimeo) and three for 2.0 (facebook, github, google).

---

httr_dr	*Diagnose common configuration problems*

Description

Currently one check: that curl uses nss.

Usage

```
httr_dr()
```

---

httr_options	*List available options.*

Description

This function lists all available options for config(). It provides both the short R name which you use with httr, 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

```
httr_options(matches)

curl_docs(x)
```

Arguments

matches   If not missing, this restricts the output so that either the httr or curl option matches this regular expression.

x   An option name (either short or full).

Details

RCurl and httr use slightly different names to libcurl: the initial `CURLOPT_` is removed, all underscores 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:

httr   The short name used in httr

libcurl   The full name used by libcurl

type   The type of R object that the option accepts

Examples

```
httr_options()
httr_options("post")

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

---

modify_url   *Modify a url.*

Description

Modify a url by first parsing and it 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   *Generate an oauth1.0 token.*

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 oauth_endpoint

app   An OAuth consumer application, created by oauth_app

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 read_key. Used for signed OAuth 1.0.

cache   A logical value or a string. TRUE means to cache using the default cache file .oauth-httr, FALSE means don't cache, and NA means to guess using some sensible heuristics. A string mean 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   *Generate an oauth2.0 token.*

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"), as_header = TRUE,
  use_basic_auth = FALSE, cache = getOption("httr_oauth_cache"))
```

Arguments

endpoint	An OAuth endpoint, created by oauth_endpoint
app	An OAuth consumer application, created by oauth_app
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.
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 .oauth-httr, FALSE means don't cache, and NA means to guess using some sensible heuristics. A string mean 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 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

The OAuth framework doesn't match perfectly to use from R. Each user of the package for a particular OAuth enabled site must create their own application. See the demos for instructions on how to do this for linkedin, twitter, vimeo, facebook, github and google.

Usage

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

Arguments

appname	name of the application. This is not used for OAuth, but is used to make it easier to identify different applications and provide a consistent way of storing secrets in environment variables.
key	consumer key (equivalent to a user name)
secret	consumer secret. This is not equivalent to a password, and is not really a secret. If you are writing an API wrapper package, it is fine to include this secret in your package code.
	Use NULL to not store a secret: this is useful if you're relying on cached OAuth tokens.

See Also

Other OAuth: oauth1.0_token, oauth2.0_token, oauth_endpoint, oauth_service_token

Examples

```
## Not run:
# These work on my computer because I have the right envvars set up
linkedin_app <- oauth_app("linkedin", key = "outmkw3859gy")
github_app <- oauth_app("github", "56b637a5baffac62cad9")

## End(Not run)

# If you're relying on caching, supply an explicit NULL to
# suppress the warning message
oauth_app("my_app", "mykey")
oauth_app("my_app", "mykey", NULL)
```

---

oauth_endpoint   *Describe an OAuth endpoint.*

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
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)
```

Arguments

endpoint   An OAuth endpoint, created by [oauth_endpoint](#)

secrets   Secrets loaded from JSON file, downloaded from console.

scope   a character vector of scopes to request.

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/httrtest-45693cbfac92.json")
scope <- "https://www.googleapis.com/auth/bigquery.readonly"

token <- oauth_service_token(endpoint, secrets, scope)

## End(Not run)
```

---

parse_http_date *Parse and print http dates.*

Description

As defined in RFC2616, [http://www.w3.org/Protocols/rfc2616/rfc2616-sec3.html#sec3.
3](http://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 = NA)

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   *Parse and build urls according to RFC1808.*

Description

See <http://tools.ietf.org/html/rfc1808.html> for details of parsing algorithm.

Usage

```
parse_url(url)

build_url(url)
```

Arguments

url   a character vector (of length 1) to parse into components, or for `build_url` a url 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")

build_url(parse_url("http://google.com/"))
```

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"), multipart = TRUE,
  handle = NULL)
```

Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication ([authenticate](#)), additional headers ([add_headers](#)), cookies ([set_cookies](#)) etc. See [config](#) for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to [modify_url](#). Unnamed parameters will be combined with [config](#).
body	One of the following: • FALSE: No body • NULL: An empty body • "": A length 0 body • upload_file("path/"): The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to upload_file() • A character or raw vector: sent as is in body. Use [content_type](#) to tell the server what sort of data you are sending. • A named list: See details for encode.
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 [upload_file](#). For "form", elements are coerced to strings and escaped, use I() 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().
multipart	Deprecated. TRUE = encode = "multipart", FALSE = encode = "form". Files can not be uploaded when FALSE.
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.

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"), multipart = TRUE,
  handle = NULL)
```

Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication (authenticate), additional headers (add_headers), cookies (set_cookies) etc. See config for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
body	One of the following: • FALSE: No body • NULL: An empty body • "": A length 0 body • upload_file("path/"): The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to upload_file() • A character or raw vector: sent as is in body. Use content_type to tell the server what sort of data you are sending. • A named list: See details for encode.
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 upload_file. For "form", elements are coerced to strings and escaped, use I() 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().
multipart	Deprecated. TRUE = encode = "multipart", FALSE = encode = "form". Files can not be uploaded when FALSE.

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.

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")

# 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"))
```

Arguments

type   Type of progress to display: either number of bytes uploaded or downloaded.

Examples

```
# If file size is known, you get a progress bar:
x <- GET("http://courses.had.co.nz/12-oscon/slides.zip", progress())
# Otherwise you get the number of bytes downloaded:
x <- GET("http://httpbin.org/drip?numbytes=4000&duration=3", progress())
```

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"), multipart = TRUE,
  handle = NULL)
```

Arguments

url	the url of the page to retrieve
config	Additional configuration settings such as http authentication (authenticate), additional headers (add_headers), cookies (set_cookies) etc. See config for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
body	One of the following: • FALSE: No body • NULL: An empty body • "": A length 0 body • upload_file("path/"): The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to upload_file() • A character or raw vector: sent as is in body. Use content_type to tell the server what sort of data you are sending. • A named list: See details for encode.
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 upload_file. For "form", elements are coerced to strings and escaped, use I() 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().
multipart	Deprecated. TRUE = encode = "multipart", FALSE = encode = "form". Files can not be uploaded when FALSE.
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.

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   *The response object.*

Description

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

Details

- 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

See Also

Other response methods: content, http_error, http_status, stop_for_status

---

revoke_all	*Revoke all OAuth tokens in the cache.*

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.

---

safe_callback	*Generate a safe R callback.*

Description

Generate a safe R callback.

Usage

```
safe_callback(f)
```

Arguments

f   A function.

---

set_config	*Set (and reset) global httr configuration.*

Description

Set (and reset) global httr configuration.

Usage

```
set_config(config, override = FALSE)

reset_config()
```

Arguments

config	Settings as generated by [add_headers](#), [set_cookies](#) or [authenticate](#).
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   *Set cookies.*

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 *Extract status code from response.*

Description

Extract status code from response.

Usage

```
status_code(x)
```

Arguments

x   A response

---

stop_for_status *Take action on http error.*

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 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)
warn_for_status(x)
message_for_status(x)

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

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

---

timeout   *Set maximum request time.*

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.

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   *Upload a file with* POST *or* PUT.

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 guess_type 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   *Set user agent.*

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, ntlm_vn, 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"), 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 (authenticate), additional headers (add_headers), cookies (set_cookies) etc. See config for full details and list of helpers.
...	Further named parameters, such as query, path, etc, passed on to modify_url. Unnamed parameters will be combined with config.
body	One of the following:

- FALSE: No body
- NULL: An empty body
- "": A length 0 body
- upload_file("path/"): The contents of a file. The mime type will be guessed from the extension, or can be supplied explicitly as the second argument to upload_file()
- A character or raw vector: sent as is in body. Use content_type to tell the server what sort of data you are sending.
- A named list: See details for encode.

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 upload_file. For "form", elements are coerced to strings and escaped, use I() 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().

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.

See Also

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

data_out   Show data sent to the server.

data_in   Show data recieved from the server.

info   Show informational text from curl. This is mainly useful for debugging https
                and auth problems, so is disabled by default.

ssl   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 add_headers, set_cookies or authenticate.
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 verbose

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. It should return the length of bytes processed - if this is less than the input length, the function will terminate.

Examples

```
GET("https://jeroenooms.github.io/data/diamonds.json",
  write_stream(function(x) {
   print(length(x))
   length(x)
 })
)
```

Index