

# Package ‘httpcache’

January 11, 2021

**Type** Package

**Title** Query Cache for HTTP Clients

**Description** In order to improve performance for HTTP API clients, 'httpcache' provides simple tools for caching and invalidating cache. It includes the HTTP verb functions GET, PUT, PATCH, POST, and DELETE, which are drop-in replacements for those in the 'httr' package. These functions are cache-aware and provide default settings for cache invalidation suitable for RESTful APIs; the package also enables custom cache-management strategies. Finally, 'httpcache' includes a basic logging framework to facilitate the measurement of HTTP request time and cache performance.

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**URL** <https://enpiar.com/r/httpcache/>,  
<https://github.com/nealrichardson/httpcache/>

**BugReports** <https://github.com/nealrichardson/httpcache/issues>

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buildCacheKey	<i>Construct a unique cache key for a request</i>
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**Description**

This function encapsulates the logic of making a cache key, allowing other code or libraries to access the HTTP cache programmatically.

**Usage**

```
buildCacheKey(url, query = NULL, body = NULL, extras = c())
```

**Arguments**

url	character request URL
query	Optional query parameters for the request
body	Optional request body
extras	character Optional additional annotations to include in the cache key.

**Value**

Character value, starting with url and including hashed query and body values if provided, to be used as the cache key for this request.

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`cache-api`*HTTP Cache API*

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**Description**

These functions provide access to what's stored in the cache.

**Usage**`hitCache(key)``getCache(key)``setCache(key, value)`**Arguments**

`key` character, typically a URL or similar

`value` For `setCache`, an R object to set in the cache for `key`.

**Value**

`hitCache` returns logical whether `key` exists in the cache. `getCache` returns the value stored in the cache, or `NULL` if there is nothing cached. `setCache` is called for its side effects.

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`cache-management`*Manage the HTTP cache*

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**Description**

These functions turn the cache on and off and clear the contents of the query cache.

**Usage**`cacheOn()``cacheOff()``clearCache()`**Value**

Nothing. Functions are run for their side effects.

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cached-http-verbs      *Cache-aware versions of htr verbs*

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### Description

These functions set, read from, and bust the HTTP query cache. They wrap the similarly named functions in the htr package and can be used as drop-in replacements for them.

### Usage

```
GET(url, ...)  
  
PUT(url, ..., drop = dropCache(url))  
  
POST(url, ..., drop = dropOnly(url))  
  
PATCH(url, ..., drop = dropCache(url))  
  
DELETE(url, ..., drop = dropCache(url))
```

### Arguments

url	character URL of the request
...	additional arguments passed to the htr functions
drop	For PUT, PATCH, POST, and DELETE, code to be executed after the request. This is intended to be for supplying cache-invalidation logic. By default, POST drops cache only for the specified url (i.e. <a href="#">dropOnly()</a> ), while the other verbs drop cache for the request URL and for any URLs nested below it (i.e. <a href="#">dropCache()</a> ).

### Details

GET checks the cache before making an HTTP request, and if there is a cache miss, it sets the response from the request into the cache for future requests. The other verbs, assuming a more or less RESTful API, would be assumed to modify server state, and thus they should trigger cache invalidation. They have default cache-invalidation strategies, but you can override them as desired.

### Value

The corresponding htr response object, potentially read from cache

### See Also

[dropCache\(\)](#) [cachedPOST\(\)](#)

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cachedPOST	<i>Cache the response of a POST</i>
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**Description**

Some APIs have resources where a POST is used to send a command that returns content and doesn't modify state. In this case, it's more like a GET. This may occur where one might normally GET but the request URI would be too long for the server to accept. `cachedPOST` thus behaves more like GET, checking for a cached response before performing the request and setting cache if the request is successful. It does no cache dropping, unlike `POST()`.

**Usage**

```
cachedPOST(url, ...)
```

**Arguments**

<code>url</code>	character URL of the request
<code>...</code>	additional arguments passed to the <code>httr</code> functions

**Value**

The corresponding `httr` response object, potentially read from cache

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<code>cacheLogSummary</code>	<i>Summarize cache performance from a log</i>
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**Description**

Summarize cache performance from a log

**Usage**

```
cacheLogSummary(logdf)
```

**Arguments**

<code>logdf</code>	A logging <code>data.frame</code> , as loaded by <code>loadLogfile()</code> .
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**Value**

A list containing counts of cache hit/set/drop events, plus a cache hit rate.

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dropCache	<i>Invalidate cache</i>
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### Description

These functions let you control cache invalidation. `dropOnly` invalidates cache only for the specified URL. `dropPattern` uses regular expression matching to invalidate cache. `dropCache` is a convenience wrapper around `dropPattern` that invalidates cache for any resources that start with the given URL.

### Usage

```
dropCache(x)
```

```
dropOnly(x)
```

```
dropPattern(x)
```

### Arguments

`x` character URL or regular expression

### Value

Nothing. Functions are run for their side effects.

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halt	<i>Stop, log, and no call</i>
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### Description

Wrapper around `base::stop()` that logs the error message and then stops with `call.=FALSE` by default.

### Usage

```
halt(..., call. = FALSE)
```

### Arguments

`...` arguments passed to `stop`  
`call.` logical: print the call? Default is `FALSE`, unlike `stop`

### Value

Nothing. Raises an error.

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loadLogfile	<i>Read in a httpcache log file</i>
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**Description**

Read in a httpcache log file

**Usage**

```
loadLogfile(filename, scope = c("CACHE", "HTTP"))
```

**Arguments**

filename	character name of the log file, passed to <code>utils::read.delim()</code>
scope	character optional means of selecting only certain log messages. By default, only "CACHE" and "HTTP" log messages are kept. Other logged messages, such as "ERROR" messages from <code>halt()</code> , will be dropped from the resulting data.frame.

**Value**

A data.frame of log results.

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logMessage	<i>Log a message</i>
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**Description**

Log a message

**Usage**

```
logMessage(...)
```

**Arguments**

...	Strings to pass to <code>base::cat()</code>
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**Value**

Nothing

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requestLogSummary	<i>Summarize HTTP requests from a log</i>
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**Description**

Summarize HTTP requests from a log

**Usage**

```
requestLogSummary(logdf)
```

**Arguments**

logdf            A logging data.frame, as loaded by [loadLogfile\(\)](#).

**Value**

A list containing counts of HTTP requests by verb, as well as summaries of time spent waiting on HTTP requests.

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saveCache	<i>Save and load cache state</i>
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**Description**

Warm your query cache from a previous session by saving out the cache and loading it back in.

**Usage**

```
saveCache(file)
```

```
loadCache(file)
```

**Arguments**

file            character file path to write the cache data to, in .rds format

**Value**

Nothing; called for side effects.

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startLog	<i>Enable logging</i>
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**Description**

Enable logging

**Usage**

```
startLog(filename = "", append = FALSE)
```

**Arguments**

filename	character: a filename/path where the log can be written out. If "", messages will print to stdout (the screen). See <a href="#">base::cat()</a> .
append	logical: if the file already exists, append to it? Default is FALSE, and if not in append mode, if the filename exists, it will be deleted.

**Value**

Nothing.

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uncached	<i>Context manager to temporarily turn cache off if it is on</i>
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**Description**

If you don't want to store the response of a GET request in the cache, wrap it in `uncached()`. It will neither read from nor write to cache.

**Usage**

```
uncached(...)
```

**Arguments**

...	Things to evaluate with caching off
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**Details**

`uncached` will not invalidate cache records, if present. It only ignores them.

**Value**

Whatever ... returns.

**Examples**

```
uncached(GET("http://httpbin.org/get"))
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