

Package ‘Rfacebook’

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Title Access to Facebook API via R

Description Provides an interface to the Facebook API.

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Author Pablo Barbera <pablo.barbera@nyu.edu>, Michael Piccirilli
<mrp2181@columbia.edu>

Maintainer Pablo Barbera <pablo.barbera@nyu.edu>

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Rfacebook-package	<i>Access to Facebook API via R</i>
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Description

This package provides a series of functions that allow R users to access Facebook's API to get information about users and posts, and collect public status updates that mention specific keywords.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[fbOAuth](#), [getUsers](#), [getPost](#), [searchFacebook](#), [updateStatus](#), [getFriends](#), [getNetwork](#), [getPage](#)

fbOAuth	<i>Create OAuth token to Facebook R session</i>
---------	---

Description

fbOAuth creates a long-lived OAuth access token that enables R to make authenticated calls to the Facebook API. The token can be saved as a file in disk to be re-used in future sessions. This function relies on the `httr` package to create the OAuth token, and is a simplified version of one of its examples.

This function will automatically detect the API version for the token you create.

Usage

```
fbOAuth(app_id, app_secret, extended_permissions = TRUE)
```

Arguments

`app_id` numeric, App ID of application to be used to create OAuth token. Available at <https://developers.facebook.com/apps>

`app_secret` string, App Secret of application to be used to create OAuth token. Available at <https://developers.facebook.com/apps>, in Basic Settings panel.

`extended_permissions`

If TRUE, the token will give access to some of the authenticated user's private information (birthday, hometown, location, relationships) and that of his/her friends, and permissions to post status updates as well as to access checkins, likes, and the user's newsfeed. If FALSE, token will give access only to public information. Note that `updateStatus` will only work for tokens with extended permissions.

Details

There are two different ways of making authenticated requests. One is to obtain a temporary access token from <https://developers.facebook.com/tools/explorer/>, which can be used as argument in any of the functions in Rfacebook. An example is shown below.

However, this token has a 2-hour lifetime by default and after it expires, it needs to be renewed. The second alternative is to create an OAuth token. The process to create it is a bit more tedious. It is divided in three steps.

First, go to <https://developers.facebook.com/apps>, register as a developer and create a new app. You will also need a verified Facebook account. After that, click in "Show" under "App Secret" to find your 'App ID' and 'App Secret'.

Second, run the fbOAuth function with your "App ID" and "App Secret" as arguments. It will return a URL, which you will need to paste into the "Website with Facebook login" field in your App Settings on Facebook. Once you've done so, press Enter.

Third, after pressing Enter, R will try to open a browser window to sign the token. If everything works well, you will get a message that says you can return to R. If not, try again in a few minutes to make sure your app had its settings updated properly.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](#), [getPost](#), [searchFacebook](#)

Examples

```
## Not run:
## an example of an authenticated request after creating the OAuth token
## where app_id and app_secret are fictitious, and token is saved for
## future sessions
fb_oauth <- fbOAuth(app_id="123456789", app_secret="1A2B3C4D")
save(fb_oauth, file="fb_oauth")
load("fb_oauth")
me <- getUsers("me", token=fb_oauth)
me$username

## an example of a request using a temporary access token
token <- "XXXXXXXXXXXXXXXX1111"
me <- getUsers("me", token=token)

## End(Not run)
```

`getCheckins`*Extract list of checkins of a Facebook friend*

Description

`getCheckins` retrieves information about a friend's checkins

Usage

```
getCheckins(user, n = 10, token, tags = FALSE)
```

Arguments

<code>user</code>	A user ID or screen name.
<code>n</code>	Maximum number of checkins to return for each user.
<code>token</code>	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
<code>tags</code>	If TRUE, output of function will be a list of two elements: a data frame with user's checkins and a list of data frames, where each element contains information about users tagged in each checkin.

Details

This function requires the use of an OAuth token with the following permissions: `user_status`, `user_checkins`, `friends_status`, `friends_checkins`

Check-in search was deprecated with version 2.0 of the Facebook Graph API.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getFriends](#)

Examples

```
## Not run:  
token <- 'XXXXX'  
my_checkins <- getCheckins(user="me", token=token)  
  
## End(Not run)
```

`getFQL`*Executes a FQL query to the Facebook Graph API*

Description

getFQL connects to Facebook's Graph API and executes a FQL query. See <https://developers.facebook.com/docs/technical-guides/fql/> for an overview of the Facebook Query Language.

Usage

```
getFQL(query, token)
```

Arguments

query	Text of query
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Getting list of friends of authenticated user
load("fb_oauth")
d <- getFQL("SELECT uid2 FROM friend WHERE uid1=me()", token=fb_oauth)

## End(Not run)
```

`getFriends`*Extract list of friends with their information*

Description

getFriends retrieves information about the user's friends.

Usage

```
getFriends(token, simplify = FALSE)
```

Arguments

token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
simplify	If TRUE, function will return only name and id for each friend. If FALSE, it will return additional information from their profiles: gender, birthday, location, hometown, relationship status and profile picture.

Details

This function requires the use of a OAuth token with extended permissions. After the introduction of version 2.0 of the Graph API, only friends who are using the application that you used to generate the token to query the API will be returned.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](#), [fbOAuth](#)

Examples

```
## Not run:
## Copy and paste token created at FB Graph API Explorer
token <- "XXXXXX"
my_friends <- getFriends(token=token, simplify=TRUE)
## Since users are ordered by ID, this will return 10 oldest user accounts
head(my_friends, n=10)

## End(Not run)
```

getGroup

Extract list of posts from a public Facebook group

Description

getGroup retrieves information from a public Facebook group.

Usage

```
getGroup(group_id, token, n = 100, since = NULL, until = NULL)
```

Arguments

group_id	Facebook ID for the group. Note that this is different from the name on the URL. You can use <code>searchGroup</code> to find the ID.
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
n	Number of posts of page to return. Note that number can be sometimes higher or lower, depending on status of API.
since	A UNIX timestamp or strtotime data value that points to the start of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php
until	A UNIX timestamp or strtotime data value that points to the end of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](#), [getPost](#), [fbOAuth](#)

Examples

```
## Not run:
## Find Facebook ID for R-Users Facebook group
load("fb_oauth")
ids <- searchGroup(name="rusers", token=fb_oauth)
ids[1,] # id = 18533493739
## Downloading posts from R-Users Facebook group
group <- getGroup(group_id=18533493739, token=fb_oauth)
## Downloading posts from R-Users Facebook group in January 2013
group <- getGroup(group_id=18533493739, token=fb_oauth,
since='2013/01/01', until='2013/01/31')

## End(Not run)
```

getInsights

Extract Insights metric from a Facebook page (admin role required)

Description

`getInsights` retrieves information from an owned Facebook page. Note that you must specify which metric from insights you need and the period.

Usage

```
getInsights(object_id, token, metric, period = "day", parms = NA, n = 5)
```

Arguments

object_id	An object (page, post, domain) ID.
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
metric	The metric which you want to get values for.
period	Time intervals to return
parms	Optional argument that can be used to append additional parameters. For example, <code>&since=DATE&until=DATE</code> .
n	Number of time intervals of metric values to return. Note that all metrics returned will be multiple of 3, except for lifetime period. Default n is 5

Details

The current list of supported metrics and periods is: `page_fan_adds`, `page_fan_removes`, `page_views_login`, `page_views_logout`, `page_views`, `page_story_adds`, `page_impressions`, `page_posts_impressions`, `page_consumptions`, `post_consumptions_by_type`, `page_consumptions`, and `page_fans_country`.

For more information, see: <https://developers.facebook.com/docs/graph-api/reference/v2.1/insights>

Author(s)

Danilo Silva <silvadaniloc@gmail.com> Eduardo Carvalho <eduardooc.86@gmail.com> Andrew Geisler <https://github.com/andrewgeisler>

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Getting page impressions for Facebook's Facebook Page
## (only owner or admin of page)
load("fb_oauth")
insights <- getInsights(object_id="20531316728", token=fb_oauth, metric='page_impressions')
## Getting post impressions for a random Facebook's page post
## (only owner or admin of page)
insights <- getInsights(object_id='221568044327801_754789777921289',
  token=fb_oauth, metric='post_impressions', period='days_28')
## Getting page fans for date range
## (only owner or admin of page)
insights <- getInsights(object_id='221568044327801',
  token=fb_oauth, metric='page_fans', period='lifetime',
  parms='&since=2015-01-01&until=2015-01-31')
## Count of fans by country
insights <- getInsights(object_id='221568044327801_754789777921289',
  token=fb_oauth, metric='page_fans_country', period='lifetime')
```



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

getLikes	<i>Extract list of likes of a Facebook friend</i>
----------	---

Description

getLikes retrieves information about a friend's likes. To retrieve the number of likes for a page, use getUsers with the page IDs.

Usage

```
getLikes(user, n = 500, token)
```

Arguments

user	A user ID or screen name.
n	Maximum number of likes to return for each user.
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.

Details

This function requires the use of an OAuth token with the following permissions: user_likes, friends_likes

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getFriends](#), [fbOAuth](#)

Examples

```
## Not run:  
token <- 'XXXXX'  
my_likes <- getLikes(user="me", token=token)  
  
## End(Not run)
```

getNetwork	<i>Extract network of friends of authenticated user</i>
------------	---

Description

getNetwork retrieves the list of mutual friendships and returns the adjacency matrix or edge list for the network representing the neighborhood of the authenticated user.

Usage

```
getNetwork(token, format = "edgelist", verbose = TRUE)
```

Arguments

token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
format	Either "edgelist" for a list of edges in the network or "adj.matrix" for an adjacency matrix of dimensions (n x n), with n being the number of friends, and 0 or 1 indicating whether friend i is also friends with friend j.
verbose	logical, default is TRUE, which will print additional information on the console.

Details

This function requires the use of an OAuth token with extended permissions.

After the introduction of version 2.0 of the Graph API, only friends who are using the application will be returned.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getFriends](#), [fbOAuth](#)

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Copy and paste token created at FB Graph API Explorer
token <- "XXXXXX"
mat <- getNetwork(token=token, format="adj.matrix")
library(igraph)
network <- graph.adjacency(mat, mode="undirected")
pdf("network_plot.pdf")
plot(network)
dev.off()

## End(Not run)
```

getNewsfeed	<i>Download recent posts from the authenticated user's newsfeed</i>
-------------	---

Description

getNewsfeed retrieves status updates from the authenticated user's News Feed

Usage

```
getNewsfeed(token, n = 200)
```

Arguments

token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
n	Maximum number of posts to return.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[fbOAuth](#), [getPost](#)

Examples

```
## Not run:  
## See examples for fbOAuth to know how token was created.  
## Capture 100 most recent posts on my newsfeed  
load("fb_oauth")  
my_newsfeed <- getNewsfeed(token=fb_oauth, n=100)  
  
## End(Not run)
```

getPage	<i>Extract list of posts from a public Facebook page</i>
---------	--

Description

getPage retrieves information from a public Facebook page. Note that information about users that have turned on the "follow" option on their profile can also be retrieved with this function.

Usage

```
getPage(page, token, n = 100, since = NULL, until = NULL, feed = FALSE)
```

Arguments

page	A page ID or page name.
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
n	Number of posts of page to return. Note that number can be sometimes higher or lower, depending on status of API.
since	A UNIX timestamp or strtotime data value that points to the start of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php
until	A UNIX timestamp or strtotime data value that points to the end of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php
feed	If TRUE, the function will also return posts on the page that were made by others (not only the admin of the page).

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](#), [getPost](#), [fbOAuth](#)

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Getting information about Facebook's Facebook Page
load("fb_oauth")
fb_page <- getPage(page="facebook", token=fb_oauth)
## Getting posts on Humans of New York page, including posts by others users
## (not only owner of page)
page <- getPage(page="humansofnewyork", token=fb_oauth, feed=TRUE)
## Getting posts on Humans of New York page in January 2013
page <- getPage(page="humansofnewyork", token=fb_oauth, n=1000,
  since='2013/01/01', until='2013/01/31')

## End(Not run)
```

getPost

Extract information about a public Facebook post

Description

getPost retrieves information about a public Facebook post, including list of comments and likes.

Usage

```
getPost(post, token, n = 500, comments = TRUE, likes = TRUE,  
        n.likes = n, n.comments = n)
```

Arguments

post	A post ID
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
n	numeric, maximum number of comments and likes to return.
comments	logical, default is TRUE, which will return data frame with comments to the post.
likes	logical, default is TRUE, which will return data frame with likes for the post.
n.likes	numeric, maximum number of likes to return. Default is n.
n.comments	numeric, maximum number of likes to return. Default is n.

Details

getPost returns a list with three components: post, likes, and comments. First, post contains information about the post: author, creation date, id, counts of likes, comments, and shares, etc. Second, likes is a data frame that contains names and Facebook IDs of all the users that liked the post. Finally, comments is a data frame with information about the comments to the post (author, message, creation time, id).

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](#), [getPage](#), [fbOAuth](#)

Examples

```
## Not run:  
## See examples for fbOAuth to know how token was created.  
## Getting information about Facebook's Facebook Page  
load("fb_oauth")  
fb_page <- getPage(page="facebook", token=fb_oauth)  
## Getting information and likes/comments about most recent post  
post <- getPost(post=fb_page$id[1], n=2000, token=fb_oauth)  
  
## End(Not run)
```

`getUsers`*Extract information about one or more Facebook users*

Description

`getUsers` retrieves public information about one or more Facebook users.

After version 2.0 of the Facebook API, only `id`, `name`, and `picture` are available through the API. All the remaining fields will be missing.

Usage

```
getUsers(users, token, private_info = FALSE)
```

Arguments

<code>users</code>	A vector of user IDs.
<code>token</code>	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with <code>fbOAuth</code> .
<code>private_info</code>	If <code>FALSE</code> , will return only information that is publicly available for all users (<code>name</code> , <code>gender</code> , <code>locale</code> , <code>profile picture</code>). If <code>TRUE</code> , will return additional information for users who are friends with the authenticated user: <code>birthday</code> , <code>location</code> , <code>hometown</code> , and <code>relationship status</code> . Note that these fields will ONLY be returned for friends and when the version of the token that is used to query the API is 1.0. For other users, they will be <code>NA</code> , even if they are visible on Facebook via web.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getFriends](#), [getPost](#), [searchFacebook](#)

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Getting information about the authenticated user
load("fb_oauth")
fb <- getUsers("me", token=fb_oauth)
fb$username

## End(Not run)
```

searchFacebook	<i>Search public posts that mention a string</i>
----------------	--

Description

searchFacebook retrieves public status updates that mention a given keyword

Usage

```
searchFacebook(string, token, n = 200, since = NULL, until = NULL)
```

Arguments

string	string or string vector containing keywords to search. Note that the returned results will contain any of the keywords. It is not possible to search for status updates that include all of the keywords.
token	An OAuth token created with fbOAuth. Only tokens created for version 1.0 of the Facebook Graph API will return results.
n	Maximum number of posts to return.
since	A UNIX timestamp or strtotime data value that points to the start of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php
until	A UNIX timestamp or strtotime data value that points to the end of the time range to be searched. For more information on the accepted values, see: http://php.net/manual/en/function.strptime.php

Details

Note: Public post search was deprecated with version 2.0 of the Facebook Graph API, and therefore this function will no longer work. For more information about these changes, go to: <https://developers.facebook.com/docs/apps/changelog>

The function will only work for OAuth tokens generated with version 1.0 of the API. The search is performed also on the text of the comments too, which explains why some of the returned messages do not mention the string that is being searched.

Note that only messages up to around two weeks old or less can be returned.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[fbOAuth](#)

Examples

```
## Not run:
## Searching 100 public posts that mention "facebook"
posts <- searchFacebook( string="facebook", token=fb_oauth, n=100 )
## Searching 100 public posts that mention "facebook" from yesterday
posts <- searchFacebook( string="facebook", token=fb_oauth, n=100,
  since = "yesterday 00:00", until = "yesterday 23:59" )

## End(Not run)
```

searchGroup

Find Facebook ID of a group

Description

Use searchGroup in combination with getGroup to scrape public posts on Facebook groups.

Usage

```
searchGroup(name, token)
```

Arguments

name	Name of Facebook group (in URL)
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.

Examples

```
## Not run:
## Find Facebook ID for R-Users Facebook group
load("fb_oauth")
ids <- searchGroup(name="rusers", token=fb_oauth)
ids[1,] # id = 18533493739
## Downloading posts from R-Users Facebook group
group <- getGroup(group_id=18533493739, token=fb_oauth)
## Downloading posts from R-Users Facebook group in January 2013
group <- getGroup(group_id=18533493739, token=fb_oauth,
  since='2013/01/01', until='2013/01/31')

## End(Not run)
```

searchPages	<i>Search pages that mention a string</i>
-------------	---

Description

searchPages retrieves public pages that mention a given keyword

Usage

```
searchPages(string, token, n = 200)
```

Arguments

string	string or string vector containing keywords to search. Note that the returned results will contain any of the keywords.
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth.
n	Maximum number of pages to return.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>, Joel Gombin <joel.gombin@gmail.com>

See Also

[fbOAuth](#), [searchFacebook](#)

Examples

```
## Not run:  
## See examples for fbOAuth to know how token was created.  
## Searching 100 public pages that mention "facebook"  
load("fb_oauth")  
pages <- searchPages( string="facebook", token=fb_oauth, n=100 )  
  
## End(Not run)
```

updateStatus	<i>Update Facebook status from R</i>
--------------	--------------------------------------

Description

updateStatus sends a status update that will be displayed on the Facebook profile of the authenticated user.

Usage

```
updateStatus(text, token, link = NULL)
```

Arguments

text	string, text of the status update
token	Either a temporary access token created at https://developers.facebook.com/tools/explorer or the OAuth token created with fbOAuth. It needs to have extended permissions in order to successfully post to the Facebook profile.
link	string, URL of link to be added to status update

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>, Zakharov Kyrylo (<https://github.com/Amice13>)

See Also

[getUsers](#), [getPost](#)

Examples

```
## Not run:  
## See examples for fbOAuth to know how token was created.  
load("fb_oauth")  
updateStatus("this is just a test", token=fb_oauth)  
  
## End(Not run)
```

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