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>

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

Depends R (>= 2.12.0), httr, rjson

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R topics documented:

Rfacebook-package   *Access to Facebook API via R*

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](#)

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fbOAuth   *Create OAuth token to Facebook R session*

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.

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 <- "XXXXXXAAAAAAA1111"
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

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

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 an OAuth token with extended permissions.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

See Also

[getUsers](), [fbOAuth]()

Examples

```
## Not run:
## See examples for fbOAuth to know how token was created.
## Getting information about my friends
load("fb_oauth")
my_friends <- getFriends(token=fb_oauth, simplify=TRUE)
## Since users are ordered by ID, this will return 10 oldest user accounts
head(my_friends, n=10)

## End(Not run)
```

---

getLikes   *Extract list of likes of a Facebook friend*

Description

getLikes retrieves information about a friend's likes

Usage

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

Arguments

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

user
: A user ID or screen name.

n
: Maximum number of likes to return for each user.

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 *Extract network of friends of authenticated user*

Description

getNetwork retrieves 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.](https://developers.facebook.com/tools/explorer) [com/tools/explorer](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 adjacenty 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.

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.
## Getting my network of friends
 load("fb_oauth")
 mat <- getNetwork(token=fb_oauth, format="adj.matrix")
 library(igraph)
 network <- graph.adjacency(mat, mode="undirected")
 pdf("network_plot.pdf")
 plot(network)
 dev.off()

## End(Not run)
```

---

getNewsfeed   *Download recent posts from the authenticated user's newsfeed*

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.](https://developers.facebook.com/tools/explorer)
                     [com/tools/explorer](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   *Extract list of posts from a public Facebook page*

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, 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.
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 Facebooks 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)

## 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 Facebooks 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.

Usage

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

Arguments

users   A vector of either user IDs or screen names or a mix of both.

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

private_info   If FALSE, will return only information that is publicly available for all users (name, gender, locale, profile picture). If TRUE, will return additional information for users who are friends with the authenticated user: birthday, location, hometown, and relationship status. Note that these fields will only be returned for friends. For other users, they will be NA, 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 me
 load("fb_oauth")
me <- getUsers("me", token=fb_oauth, private_info=FALSE)
me$username
## Getting information about my friends
my_friends <- getFriends(token=fb_oauth, simplify=TRUE)
my_friends_info <- getUsers(my_friends$id, token=fb_oauth, private_info=TRUE)
table(my_friends_info$relationship_status)
## Searching public posts about facebook and looking at gender of users
 fb.posts <- searchFacebook( "facebook", token=fb_oauth, n=100)
fb.users <- getUsers( fb.posts$from_id, token=fb_oauth )
table(fb.users$gender)

## End(Not run)
```

---

searchFacebook   *Search public posts that mention a string*

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	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.
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.strtotime.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.strtotime.php

Details

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:
## See examples for fbOAuth to know how token was created.
## Searching 100 public posts that mention "facebook"
load("fb_oauth")
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)
```

---

searchPages   *Search pages that mention a string*

Description

searchPages retrieves public status updates 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   *Update Facebook status from R*

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
link	string, URL of link to be added to 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.

Author(s)

Pablo Barbera <pablo.barbera@nyu.edu>

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)
```

Index