

# Package ‘Rfacebook’

November 15, 2013

**Title** Access to Facebook API via R

**Description** Provides an interface to the Facebook API

**Version** 0.2

**Date** 2013/11/15

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**Depends** R (>= 2.12.0), httr, rjson

**License** GPL-2

**Collate** 'fbOAuth.R' 'getUsers.R' 'searchFacebook.R' 'updateStatus.R'  
'getFriends.R' 'getNetwork.R' 'Rfacebook-package.R' 'utils.R' 'getPage.R' 'getPost.R'

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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)

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### See Also

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

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fbOAuth	<i>Create OAuth token to Facebook R session</i>
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### 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 <a href="https://developers.facebook.com/apps">https://developers.facebook.com/apps</a>
app_secret	string, App Secret of application to be used to create OAuth token. Available at <a href="https://developers.facebook.com/apps">https://developers.facebook.com/apps</a> , 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. If FALSE, token will give access only to public information. Note that <code>updateStatus</code> 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 <- "XXXXXXXXXXXX1111"
me <- getUsers("me", token=token)

## 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 <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> 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](#), [getPost](#), [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)
```

---

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 <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> 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.

**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)
```

---

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)
```

**Arguments**

page	A page ID or page name.
token	Either a temporary access token created at <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> 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.

**Author(s)**

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**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(users="facebook", token=fb_oauth)

## 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)
```

**Arguments**

post	A post ID
token	Either a temporary access token created at <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> or the OAuth token created with fbOAuth.
n	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.

## 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 <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> 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)**

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**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 <a href="https://developers.facebook.com/tools/explorer">https://developers.facebook.com/tools/explorer</a> 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: <a href="http://php.net/manual/en/function.strptime.php">http://php.net/manual/en/function.strptime.php</a>
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: <a href="http://php.net/manual/en/function.strptime.php">http://php.net/manual/en/function.strptime.php</a>



**Details**

For now, searchFacebook only accepts a single string due to limitations of the Facebook 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 messages only around two weeks old or less can be returned.

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**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)
```

---

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)
```

**Arguments**

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

**Author(s)**

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**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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