Exercise: APIs

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02 March 2016

1) geonames

a) setting things up

- install package geonames
- load it
- list its functions via `ls(package:geonames)`
- register an application at http://www.geonames.org/login
- use your username with `options(geonamesUsername="myusernamehere")` to be able to use the geonames package

b) using the API

- go through all functions of the geonames package and
    - look at: http://www.geonames.org/export/web-services.html which URL belongs to the function
    - describe what it does
    - make at least one valid call with it

2) twitter

a) get a twitter account

- go to twitter and get a twitter account
- go to https://apps.twitter.com/ and set up a twitter app
- create tokens and secret

b) the twitterlight package

- install the twitterlight package via `devtools::install_github("petermeissner/twitterlight")`
- load the package
- have a look at availible functions via `ls(package:twitterlight)`

c) getting tweets

- use `tw_user_timeline("ecpr")` to get the user timeline for the ecpr account
- have a look at the results
- what type of data did you get (`class()`)
- take the first item (`tmp[[1]]`) in combination with `names()` to get an idea of what information was downloaded
- get the text of all the tweets
- get the text for all items
- have a closer look at the user item
- extract the screen_name and followers_count for all users that tweeted

d) building you own requests

- have a look at https://dev.twitter.com/rest/public
- have a look at the documentation of search tweets
- use the `twitter_get()` function to build an API call that searches for tweets, below is an (non-)working example for the user time line feature that can be adopted

twitter_get(path = "statuses/user_timeline.json", param = list(screen_name="ecpr"), key = "absdfgöljsaljf", secret = "jlkjjljöljlöj")

e) twitteR package

- install and load the twitteR package
- have a look at the vignette: http://geoffjentry.hexdump.org/twitteR.pdf
- use `setup_twitter_oauth("API key", "API secret")` to set up your authentication
- use `searchTwitter()` to search for 'wsmt16' and for '@ecpr'