

# Web Data Collection with R API

Peter Meißner / 2016-02-29 – 2016-03-04 / ECPR WSMT

## How APIs Work

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- ▶ **A**pplication **P**rogramming **I**nterface
- ▶ lots of web Services provide APIs to access their data and services (Twitter, Google, Facebook, Wikipedia, ...)
- ▶ ... aka **a preset and structured way of getting data** (or posting data, or do whatever the web service allows)
- ▶ frees us building our own scraper, provides legal access
- ▶ forces us to understand the way the API works
- ▶ but for several services ready made R packages exist, e.g.
  - ▶ <http://cran.r-project.org/web/views/WebTechnologies.html>
  - ▶ Web Analytics, Genes and Genomes, Sports, Social media, News, Images, Graphics, Videos, Music, Marketing, Maps, Literature, Metadata, Text, and Altmetrics, Governemnt, Google, Biology, Earth Science, Data Depots

# examples

- ▶ Google Maps
  - ▶ <http://maps.googleapis.com/maps/api/directions/json?origin=Konstanz,Germany1&destination=Bamberg>
  - ▶ <https://developers.google.com/maps/documentation/directions/>
- ▶ GitHub
  - ▶ <https://api.github.com/users/petermeissner>
  - ▶ <https://developer.github.com/v3/>
- ▶ Twitter (fails, authentication needed)
  - ▶ [https://api.twitter.com/1.1/statuses/user\\_timeline.json](https://api.twitter.com/1.1/statuses/user_timeline.json)
  - ▶ <https://dev.twitter.com/overview/documentation>
- ▶ more APIs
  - ▶ <http://www.programmableweb.com/apis>
  - ▶ <http://cran.r-project.org/web/views/WebTechnologies.html>