EDSD 2022
ACCESSING AND ANALYSING WEB AND SOCIAL MEDIA DATA

USING AN API, ACCESSING THE TWITTER API

Tom Theile

Lab of digital and computational demography

WHAT IS AN API

- Application Programming Interfaces

- → Communication interfaces between different programs

- APIs are provided by applications to send and receive commands and data to other applications

- Like a User interface, but not for Humans, for other applications!

- If two applications implement the same API, they can be exchanges without the other applications of that system noticing it
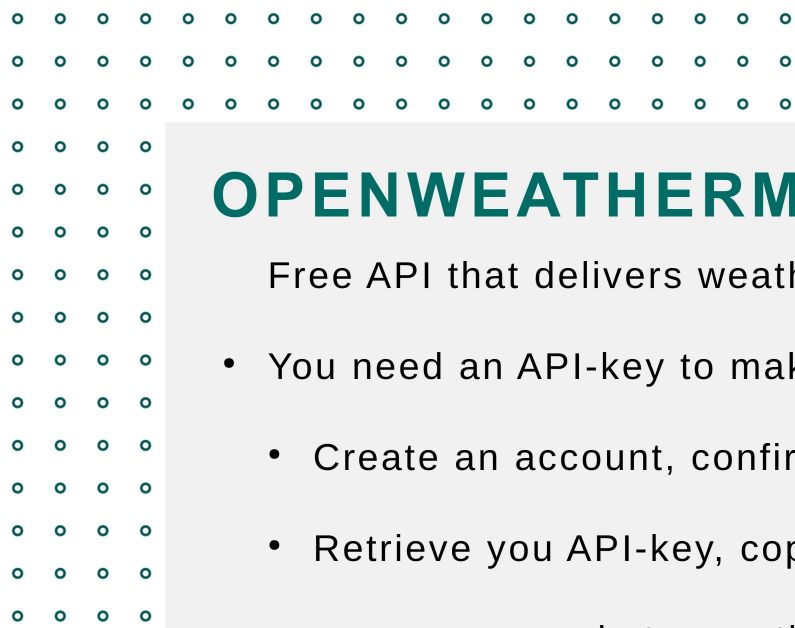
- There are

DIFFERENT APIS

- There are different classes of APIs

  - OS APIs

  - R-package APIs

  - ...

  - Web-APIs
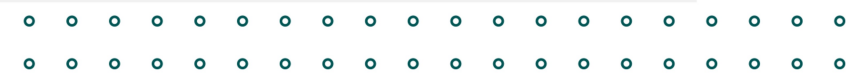
- We only care about Web-APIs in this course

WEB APIS

- Web APIs are "websites for machines". They provide machine-readable access to to data and services.

- While websites are designed to be read by humans, APIs are designed to be read by machines.

- That means that the answers of APIs don't need to be formatted in a fancy style (like a flashy website), but have to follow predictable rules.

- Test it: https://dog-facts-api.herokuapp.com/api/v1/resources/dogs?number=3

OPENWEATHERMAP.ORG

Free API that delivers weatherforecasts to you

- You need an API-key to make requests

  - Create an account, confirm email, log in

  - Retrieve you API-key, copy it

  - → you are ready to use the api

- Browser:
  https://api.openweathermap.org/data/2.5/weather?la
  bbeffedb7&units=metric

- https://api.openweathermap.org/data/2.5/weather?q=Barcelona&appid=17c05109bd812076cdd25e9
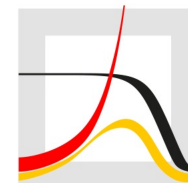 bbeffedb7&units=metric

Guide

Weather data in a fast and elegant way

We are providing **highly recognisable weather products** that make working with the weather data a way easier. We work with millions of developers around a clock and believe that these benefits might be suitable for most of applications, up to the complex enterprise systems.

A spectrum of out-of-the box weather products

Short-term and long-term forecasts, history and observation

Free	Startup	Developer
	35 EUR / month	160 EUR / month
Get API key	Subscribe	Subscribe
60 calls/minute	600 calls/minute	3,000 calls/minute
1,000,000 calls/month	10,000,000 calls/month	100,000,000 calls/month
Current Weather	Current Weather	Current Weather
Minute Forecast 1 hour*	Minute Forecast 1 hour**	Minute Forecast 1 hour
Hourly Forecast 2 days*	Hourly Forecast 2 days**	Hourly Forecast 4 days
Daily Forecast 7 days*	Daily Forecast 16 days	Daily Forecast 16 days

WORK WITH OPENWEATHERMAP IN R

- simple_api.Rmd

WORK WITH THE TWITTER API IN R

- twitter1.Rmd

THANK YOU FOR YOUR ATTENTION!

Tom Theile

Software developer at the lab of digital and computational demography

theile@demogr.mpg.de

THANK YOU!