

# UsageExample

## Project Usage Example

### Download Repo

```
rm(list = ls())
#cred <- git2r::cred_user_pass(rstudioapi::askForPassword("username"), rstudioapi::askForPassword("Password"))
#devtools::install_git("https://git-inf.technikum-wien.at/finance/finance2021/pkgs/pittl_hafner_luo.git")

#alternative:
devtools::install_git("https://github.com/anewruser/finance.git")

## Downloading git repo https://github.com/anewruser/finance.git

## mime (0.10 -> 0.11 ) [CRAN]
## curl (4.3.1 -> 4.3.2 ) [CRAN]
## rlang (0.4.10 -> 0.4.11) [CRAN]
## dplyr (1.0.6 -> 1.0.7 ) [CRAN]

## Installing 4 packages: mime, curl, rlang, dplyr

## Installing packages into 'C:/Users/Benedikt/R/win-library/4.0'
## (as 'lib' is unspecified)

##
## There are binary versions available but the source versions are later:
## binary source needs_compilation
## mime 0.10 0.11 TRUE
## curl 4.3.1 4.3.2 TRUE
##
## package 'rlang' successfully unpacked and MD5 sums checked

## Warning: cannot remove prior installation of package 'rlang'

## Warning in file.copy(savedcopy, lib, recursive = TRUE): Problem C:
## \Users\Benedikt\R\win-library\4.0\00LOCK\rlang\libs\x64\rlang.dll nach C:
## \Users\Benedikt\R\win-library\4.0\rlang\libs\x64\rlang.dll zu kopieren:
## Permission denied

## Warning: restored 'rlang'

## package 'dplyr' successfully unpacked and MD5 sums checked
```

```

## Warning: cannot remove prior installation of package 'dplyr'

## Warning in file.copy(savedcopy, lib, recursive = TRUE): Problem C:
## \Users\Benedikt\R\win-library\4.0\00LOCK\dplyr\libs\x64\dplyr.dll nach C:
## \Users\Benedikt\R\win-library\4.0\dplyr\libs\x64\dplyr.dll zu kopieren:
## Permission denied

## Warning: restored 'dplyr'

##
## The downloaded binary packages are in
## C:\Users\Benedikt\AppData\Local\Temp\RtmpqonFSy\downloaded_packages

## installing the source packages 'mime', 'curl'

## Warning in i.p(...): installation of package 'curl' had non-zero exit status

##      checking for file 'C:\Users\Benedikt\AppData\Local\Temp\RtmpqonFSy\file3430543225e6\DESCRIPTION'
##      - preparing 'pittlHafnerLuo':
##      checking DESCRIPTION meta-information ...      checking DESCRIPTION meta-information ... v check
##      - checking for LF line-endings in source and make files and shell scripts
##      - checking for empty or unneeded directories
##      - building 'pittlHafnerLuo_0.0.2.0.tar.gz'
##
##

## Installing package into 'C:/Users/Benedikt/R/win-library/4.0'
## (as 'lib' is unspecified)

#devtools::install_git("https://git-inf.technikum-wien.at/finance/finance2021/pkgs/catsar.git", credent

library(tidyquant)

## Warning: package 'tidyquant' was built under R version 4.0.5

## Loading required package: lubridate

## Warning: package 'lubridate' was built under R version 4.0.5

##
## Attaching package: 'lubridate'

## The following objects are masked from 'package:base':
##
##      date, intersect, setdiff, union

## Loading required package: PerformanceAnalytics

## Warning: package 'PerformanceAnalytics' was built under R version 4.0.5

```

```
## Loading required package: xts

## Warning: package 'xts' was built under R version 4.0.5

## Loading required package: zoo

## Warning: package 'zoo' was built under R version 4.0.4

##
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric

##
## Attaching package: 'PerformanceAnalytics'

## The following object is masked from 'package:graphics':
##
##      legend

## Loading required package: quantmod

## Warning: package 'quantmod' was built under R version 4.0.5

## Loading required package: TTR

## Warning: package 'TTR' was built under R version 4.0.5

## Registered S3 method overwritten by 'quantmod':
##      method      from
##      as.zoo.data.frame zoo

## == Need to Learn tidyquant? =====
## Business Science offers a 1-hour course - Learning Lab #9: Performance Analysis & Portfolio Optimization
## </> Learn more at: https://university.business-science.io/p/learning-labs-pro </>

library(pittlHafnerLuo)
```

## Help

```
?pittlHafnerLuo::get_index
```

```
## starting httpd help server ... done
```

## Important Notes:

We implemented two sources:

- Yahoo: here we implemented typical web crawling. In addition we used `stockmarketmba.com` to get the identifiers (such as `sedol`) if existing. Hence, this source is very slow
- FCSAPI: here we used a typical API. Please, do not overuse it as there is a monthly as well as hourly limit!!

## Usage Examples

### FCS

Unfortunately, the ATX is not supported by that API!

```
dow<-pittlHafnerLuo::get_index("Dow Jones","fcs","united-states")
```

```
## ATTENTION: you are using fcsapi with an access key. If you use that method too often, the the contin
```

```
#attention: symbols of the fcs api might not 100% match with tidyquant symbols!
dow %>% tidyquant::tq_get(get="stock.prices",from="2021-06-01")
```

```
## Warning: x = 'UTX', get = 'stock.prices': Error in getSymbols.yahoo(Symbols = "UTX", env = <environm
## Argument "conn" fehlt (ohne Standardwert)
## Removing UTX.
```

```
## # A tibble: 551 x 15
##   symbol company identifier sedol weight sector      shares_held local_currency
##   <chr>   <chr>   <lgl>      <lgl> <lgl> <chr>      <lgl>      <chr>
## 1 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 2 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 3 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 4 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 5 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 6 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 7 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 8 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 9 BA      Boeing  NA          NA    NA    Capital Go~ NA        USD
## 10 BA     Boeing  NA          NA    NA    Capital Go~ NA        USD
## # ... with 541 more rows, and 7 more variables: date <date>, open <dbl>,
## #   high <dbl>, low <dbl>, close <dbl>, volume <dbl>, adjusted <dbl>
```

```
Sys.sleep(60)
pittlHafnerLuo::get_index("DAX","fcs","germany")
```

```
## ATTENTION: you are using fcsapi with an access key. If you use that method too often, the the contin
```

```
## # A tibble: 30 x 8
##   symbol company   identifier sedol weight sector  shares_held local_currency
##   <chr>  <chr>      <lgl>      <lgl> <lgl> <chr>    <lgl>      <chr>
## 1 BASFN BASF      NA          NA    NA    Basic M~ NA          EUR
## 2 BAYGN Bayer      NA          NA    NA    Healthc~ NA          EUR
## 3 ALVG  Allianz    NA          NA    NA    Financi~ NA          EUR
## 4 ADSGN Adidas      NA          NA    NA    Consume~ NA          EUR
## 5 LHAG  Lufthansa NA          NA    NA    Transpo~ NA          EUR
## 6 SIEGn Siemens AG NA          NA    NA    Capital~ NA          EUR
## 7 DBKGn Deutsche ~ NA          NA    NA    Financi~ NA          EUR
## 8 CONG  Continent~ NA          NA    NA    Consume~ NA          EUR
## 9 DPWGn Deutsche ~ NA          NA    NA    Services NA          EUR
## 10 DAIGn Daimler    NA          NA    NA    Consume~ NA          EUR
## # ... with 20 more rows
```

```
Sys.sleep(60)
pittlHafnerLuo::get_index("JASDAQ", "fcs", "japan")
```

## ATTENTION: you are using fcsapi with an access key. If you use that method too often, the the contin

```
## # A tibble: 730 x 8
##   symbol company   identifier sedol weight sector  shares_held local_currency
##   <chr>  <chr>      <lgl>      <lgl> <lgl> <chr>    <lgl>      <chr>
## 1 3189 ANAP      NA          NA    NA    Services NA          JPY
## 2 7177 GMO Click~ NA          NA    NA    Financi~ NA          JPY
## 3 3536 Axas Hold~ NA          NA    NA    Services NA          JPY
## 4 3537 Shoei Yak~ NA          NA    NA    Basic M~ NA          JPY
## 5 3933 CHleru Co NA          NA    NA    Technol~ NA          JPY
## 6 7185 Hirose Tu~ NA          NA    NA    Financi~ NA          JPY
## 7 1380 Akikawa F~ NA          NA    NA    Consume~ NA          JPY
## 8 1381 Axyz        NA          NA    NA    Consume~ NA          JPY
## 9 1382 Hob        NA          NA    NA    Consume~ NA          JPY
## 10 1383 Berg Earth NA          NA    NA    Consume~ NA          JPY
## # ... with 720 more rows
```

## Yahoo Finance

```
atx<-pittlHafnerLuo::get_index("ATX")
```

```
##
## Getting data from https://finance.yahoo.com/quote/%5EATX/components?p=%5EATX
```

```
atx %>% tidyquant::tq_get(get="stock.prices", from="2021-06-01")
```

```
## # A tibble: 380 x 15
##   symbol company identifier sedol weight sector  shares_held local_currency
##   <chr>  <chr>      <lgl>      <lgl> <dbl> <chr>    <lgl>      <chr>
## 1 EVN.VI EVN AG    NA          NA    0.00685 Utilities NA          EUR
## 2 EVN.VI EVN AG    NA          NA    0.00685 Utilities NA          EUR
## 3 EVN.VI EVN AG    NA          NA    0.00685 Utilities NA          EUR
```

```
## 4 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 5 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 6 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 7 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 8 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 9 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## 10 EVN.VI EVN AG NA NA 0.00685 Utilities NA EUR
## # ... with 370 more rows, and 7 more variables: date <date>, open <dbl>,
## # high <dbl>, low <dbl>, close <dbl>, volume <dbl>, adjusted <dbl>
```

```
pittlHafnerLuo::get_index("GDAXI") #no identifier, sedol are available
```

```
##
## Getting data from https://finance.yahoo.com/quote/%5EGDAXI/components?p=%5EGDAXI
```

```
## # A tibble: 30 x 8
##   symbol company identifier sedol weight sector shares_held local_currency
##   <chr> <chr> <lgl> <lgl> <dbl> <chr> <lgl> <chr>
## 1 VNA.DE Vonovia SE NA NA 0.0221 Real ~ NA EUR
## 2 DTE.DE Deutsche ~ NA NA 0.122 Commu~ NA EUR
## 3 DWINI.DE Deutsche ~ NA NA 0.0151 Real ~ NA EUR
## 4 IFX.DE Infineon ~ NA NA 0.0502 Techn~ NA EUR
## 5 ALV.DE Allianz SE NA NA 0.0136 Finan~ NA EUR
## 6 DB1.DE Deutsche ~ NA NA 0.00703 Finan~ NA EUR
## 7 BMW.DE Bayerisch~ NA NA 0.0136 Consu~ NA EUR
## 8 MUV2.DE Münchener~ NA NA 0.00458 Finan~ NA EUR
## 9 RWE.DE RWE Aktie~ NA NA 0.0375 Utili~ NA EUR
## 10 DHER.DE Delivery ~ NA NA 0.00547 Consu~ NA EUR
## # ... with 20 more rows
```

For US shares, we also have identifiers and sedol!

```
pittlHafnerLuo::get_index("IXIC")
```

```
##
## Getting data from https://finance.yahoo.com/quote/%5EIXIC/components?p=%5EIXIC
```

```
## # A tibble: 30 x 8
##   symbol company identifier sedol weight sector shares_held local_currency
##   <chr> <chr> <chr> <chr> <dbl> <chr> <lgl> <chr>
## 1 SCOB ScION Tec~ <NA> <NA> 1.05e-4 Finan~ NA USD
## 2 TWST Twist Bio~ BGKG6G7 90184~ 1.64e-2 Healt~ NA USD
## 3 NEBC Nebula Ca~ <NA> <NA> 6.87e-4 Finan~ NA USD
## 4 SCOA Scion Tec~ <NA> G3106~ 1.42e-4 Finan~ NA USD
## 5 CVC0 Cavco Ind~ 2787022 14956~ 1.72e-3 Consu~ NA USD
## 6 CVCY Central V~ 2683313 15568~ 3.09e-2 Finan~ NA USD
## 7 SLAB Silicon L~ 2568131 82691~ 8.93e-3 Techn~ NA USD
## 8 HLAH Hamilton ~ <NA> <NA> 2.71e-6 Finan~ NA USD
## 9 SDH Global In~ <NA> <NA> 6.59e-4 Indus~ NA USD
## 10 NMRD Nemaura M~ BKKCVZ7 64044~ 2.46e-2 Healt~ NA USD
## # ... with 20 more rows
```

```
pittlHafnerLuo::get_index("OMX")
```

```
##
```

```
## Getting data from https://finance.yahoo.com/quote/%5EOMX/components?p=%5EOMX
```

```
## # A tibble: 30 x 8
```

```
##   symbol company identifier sedol weight sector shares_held local_currency
##   <chr>   <chr>   <lg1>   <lg1>   <dbl> <chr>   <lg1>   <chr>
## 1 ELUX-B~ AB Elect~ NA      NA     0.0145 Techno~ NA      SEK
## 2 SAND.ST Sandvik ~ NA      NA     0.0280 Indust~ NA      SEK
## 3 ESSITY~ Essity A~ NA      NA     0.0141 Consum~ NA      SEK
## 4 ALIV-S~ Autoliv,~ NA      NA     0.00202 Consum~ NA      SEK
## 5 TELIA.~ Telia Co~ NA      NA     0.0963 Commun~ NA      SEK
## 6 AZN.ST AstraZen~ NA      NA     0.00793 Health~ NA      SEK
## 7 VOLV-B~ AB Volvo~ NA      NA     0.0489 Indust~ NA      SEK
## 8 SWMA.ST Swedish ~ NA      NA     0.0573 Consum~ NA      SEK
## 9 SKA-B.~ Skanska ~ NA      NA     0.0108 Indust~ NA      SEK
## 10 ERIC-B~ Telefona~ NA      NA     0.116   Techno~ NA      SEK
## # ... with 20 more rows
```

Also for that mambers, we get identifiers!

```
pittlHafnerLuo::get_index("IXIC") #nasdaq
```

```
##
```

```
## Getting data from https://finance.yahoo.com/quote/%5EIXIC/components?p=%5EIXIC
```

```
## # A tibble: 30 x 8
```

```
##   symbol company identifier sedol weight sector shares_held local_currency
##   <chr>   <chr>   <chr>   <chr>   <dbl> <chr>   <lg1>   <chr>
## 1 SCOB   ScION Tec~ <NA>   <NA>   1.05e-4 Finan~ NA      USD
## 2 TWST   Twist Bio~ BGKG6G7 90184~ 1.64e-2 Healt~ NA      USD
## 3 NEBC   Nebula Ca~ <NA>   <NA>   6.87e-4 Finan~ NA      USD
## 4 SCOA   Scion Tec~ <NA>   G3106~ 1.42e-4 Finan~ NA      USD
## 5 CVC0   Cavco Ind~ 2787022 14956~ 1.72e-3 Consu~ NA      USD
## 6 CVCY   Central V~ 2683313 15568~ 3.09e-2 Finan~ NA      USD
## 7 SLAB   Silicon L~ 2568131 82691~ 8.93e-3 Techn~ NA      USD
## 8 HLAH   Hamilton ~ <NA>   <NA>   2.71e-6 Finan~ NA      USD
## 9 SDH    Global In~ <NA>   <NA>   6.59e-4 Indus~ NA      USD
## 10 NMRD   Nemaaura M~ BKKCVZ7 64044~ 2.46e-2 Healt~ NA      USD
## # ... with 20 more rows
```