

# 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")
```

```
## Skipping install of 'pittlHafnerLuo' from a git2r remote, the SHA1 (6e202c86) has not changed since last install  
## Use 'force = TRUE' to force installation
```

```
#devtools::install_git("https://git-inf.technikum-wien.at/finance/finance2021/pkgs/catsar.git", credentials = cred)
```

```
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: 145 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 CVX     Chevron  NA        NA    NA    Energy     NA        USD
## 7 CVX     Chevron  NA        NA    NA    Energy     NA        USD
## 8 CVX     Chevron  NA        NA    NA    Energy     NA        USD
## 9 CVX     Chevron  NA        NA    NA    Energy     NA        USD
## 10 CVX    Chevron  NA        NA    NA    Energy     NA        USD
## # ... with 135 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 conti

```
## # 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 CHieru 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: 100 x 15
##   symbol company identifier sedol weight sector shares_held local_currency
##   <chr> <chr> <lgl> <lgl> <dbl> <chr> <lgl> <chr>
## 1 VIG.VI Vienna In~ NA NA 0.0139 Financi~ NA EUR
## 2 VIG.VI Vienna In~ NA NA 0.0139 Financi~ NA EUR
## 3 VIG.VI Vienna In~ NA NA 0.0139 Financi~ NA EUR
## 4 VIG.VI Vienna In~ NA NA 0.0139 Financi~ NA EUR
## 5 VIG.VI Vienna In~ NA NA 0.0139 Financi~ NA EUR
## 6 OMV.VI OMV Aktie~ NA NA 0.147 Energy NA EUR
## 7 OMV.VI OMV Aktie~ NA NA 0.147 Energy NA EUR
## 8 OMV.VI OMV Aktie~ NA NA 0.147 Energy NA EUR
## 9 OMV.VI OMV Aktie~ NA NA 0.147 Energy NA EUR
## 10 OMV.VI OMV Aktie~ NA NA 0.147 Energy NA EUR
## # ... with 90 more rows, and 7 more variables: date <date>, open <dbl>,
## # high <dbl>, low <dbl>, close <dbl>, volume <dbl>, adjusted <dbl>
```

```
pittlHafnerLuo::get_index("GDAXI") #identifiers are at least partly 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 ALV.DE Allianz ~ NA      NA      0.0143 Financ~ NA      EUR
## 2 DTE.DE Deutsche~ NA      NA      0.0907 Commun~ NA      EUR
## 3 HEN3.DE Henkel A~ NA      NA      0.00584 Consum~ NA      EUR
## 4 SIE.DE Siemens ~ NA      NA      0.0208 Indust~ NA      EUR
## 5 CON.DE Continen~ NA      NA      0.00474 Consum~ NA      EUR
## 6 DWNI.DE Deutsche~ NA      NA      0.0296 Real E~ NA      EUR
## 7 ENR.DE Siemens ~ NA      NA      0.0411 Utilit~ NA      EUR
## 8 BAS.DE BASF SE  NA      NA      0.0361 Basic ~ NA      EUR
## 9 FRE.DE Freseniu~ NA      NA      0.0164 Health~ NA      EUR
## 10 VOW3.DE Volkswag~ NA      NA      0.0152 Consum~ 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 IFRX InflaRx N~ <NA>   N4482~ 9.04e-3 Healt~ NA      USD
## 2 ESXB Community~ B1CWK77 20361~ 2.68e-2 Finan~ NA      USD
## 3 NEBC Nebula Ca~ <NA>   <NA>   2.33e-2 Finan~ NA      USD
## 4 HLAH Hamilton ~ <NA>   <NA>   8.91e-5 Finan~ NA      USD
## 5 SCOA Scion Tec~ <NA>   G3106~ 2.30e-3 Finan~ NA      USD
## 6 SCOB ScION Tec~ <NA>   <NA>   1.69e-5 Finan~ NA      USD
## 7 SLAB Silicon L~ 2568131 82691~ 6.49e-3 Techn~ NA      USD
## 8 NMRK Newmark G~ BF1Q6P8 65158~ 1.26e-2 Real ~ NA      USD
## 9 STRT Strattec ~ 2848714 86311~ 2.94e-4 Consu~ NA      USD
## 10 CVC0 Cavco Ind~ 2787022 14956~ 1.08e-3 Consu~ 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>   <lgl>   <lgl>   <dbl> <chr>   <lgl>   <chr>
## 1 TEL2-B~ Tele2 AB~ NA      NA      0.0299 Commun~ NA      SEK
## 2 ABB.ST ABB Ltd  NA      NA      0.0181 Indust~ NA      SEK
## 3 ERIC-B~ Telefona~ NA      NA      0.131   Techno~ NA      SEK
## 4 SECU-B~ Securita~ NA      NA      0.0139 Indust~ NA      SEK
## 5 VOLV-B~ AB Volvo~ NA      NA      0.0510 Indust~ NA      SEK
## 6 SKA-B.~ Skanska ~ NA      NA      0.00963 Indust~ NA      SEK
## 7 INVE-B~ Investor~ NA      NA      0.0491 Financ~ NA      SEK
```

```
## 8 ASSA-B~ ASSA ABL~ NA      NA      0.0158 Indust~ NA      SEK
## 9 SWED-A~ Swedbank~ NA      NA      0.0427 Financ~ NA      SEK
## 10 ALIV-S~ Autoliv,~ NA      NA      0.00282 Consum~ 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> <lgl>      <chr>
## 1 IFRX   InflaRx N~ <NA>      N4482~ 9.04e-3 Healt~ NA      USD
## 2 ESXB   Community~ B1CWK77  20361~ 2.68e-2 Finan~ NA      USD
## 3 NEBC   Nebula Ca~ <NA>      <NA>    2.33e-2 Finan~ NA      USD
## 4 HLAH   Hamilton ~ <NA>      <NA>    8.91e-5 Finan~ NA      USD
## 5 SCOA   Scion Tec~ <NA>      G3106~ 2.30e-3 Finan~ NA      USD
## 6 SCOB   ScION Tec~ <NA>      <NA>    1.69e-5 Finan~ NA      USD
## 7 SLAB   Silicon L~ 2568131  82691~ 6.49e-3 Techn~ NA      USD
## 8 NMRK   Newmark G~ BF1Q6P8  65158~ 1.26e-2 Real ~ NA      USD
## 9 STRT   Strattec ~ 2848714  86311~ 2.94e-4 Consu~ NA      USD
## 10 CVC0   Cavco Ind~ 2787022  14956~ 1.08e-3 Consu~ NA      USD
## # ... with 20 more rows
```