

Cran download logs aggregation time summary

A.Birek, M.Kosiński, N.Ryciak, W.Ryciuk

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Figure 1: Powered by ! <https://github.com/MarcinKosinski/AlmostBigData>

CHAPTER
ONE

DOWNLOADING DATA

Syntax used for downloading, unzipping and merging data is available in section [A.1](#). More or less downloading looked like this and took about:

```
start <- as.Date("2012-10-01")
today <- as.Date("2014-05-10")
all_days <- seq(start, today, by = "day")
year <- as.POSIXlt(all_days)$year + 1900
urls <- paste0("http://cran-logs.rstudio.com/", year, "/", all_days, ".csv.gz")

destdir <- "D:/bd1/AlmostBigData/cran-logs/"
n <- length(urls)
i = 1
for (i in 1:n) {
  destfile <- stri_paste(destdir, as.character(all_days[i]))
  download.file(urls[i], destfile)
}
```

Unzipping files syntax looked like this and took:

```
lok <- "D:/bd1/AlmostBigData"
gzpath <- character(n)
i <- 1
for (i in 1:n) {
  gzpath[i] <- paste(lok, "/cran-logs", all_days[i], sep = "")
}
install.packages("R.utils")
library(R.utils)
for (i in 1:n) {
  gunzip(gzpath[i], destname = paste(gzpath[i], ".csv"), remove = TRUE)
}
```

Converting CSV files with proper delimiter syntax looked like this and time spent was:

```
for (i in 1:n) {
  write.csv2(read.csv2(paste(gzpath[i], ".csv"), sep = ","), paste(gzpath[i], "_new.csv"))
}
```

Syntax used for importing, merging and summarizing data is available in chapter [B](#).

2.1 Importing data

Importing csv files into **SAS** syntax looked like this and took: average 0.2 s for each file, that gives **2 min 40 S** (Stoper method.)

```
proc import datafile='D:/bd1/AlmostBigData/cran-logs2012-10-01 _new.csv'
out=CR.cran1 dbms=csv replace;
    delimiter = ',';
    getnames=yes;
run;

...

proc import datafile='D:/bd1/AlmostBigData/cran-logs2014-05-09 _new.csv'
out=CR.cran586 dbms=csv replace;
    delimiter = ',';
    getnames=yes;
run;
```

2.2 Merging files

Merging all those files syntax looked like this and time expired was:

```
data Cr.DANE;
set
CR.cran1,
CR.cran2,
....
CR.cran586;
run;
```

Time expired:

```
NOTE: The data set CR.DANE has 41611796 observations and 11 variables,
NOTE: DATA statement used (Total process time):
      real time           1:22.02
      cpu time            11.94 seconds
```

2.3 Summary for each variable

Summaries of each variable syntax looked like this and time expired was:

```
12 proc summary data=Cr.DANE2 print;
13 class package;
14 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	29.82 seconds
cpu time	20.06 seconds

```
15
16 proc summary data=Cr.DANE2 print;
17 class version;
18 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	31.23 seconds
cpu time	20.18 seconds

```
19
20 proc summary data=Cr.DANE2 print;
21 class r_arch;
22 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	30.65 seconds
cpu time	10.12 seconds

```
23
24 proc summary data=Cr.DANE2 print;
25 class r_os;
26 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	30.59 seconds
cpu time	12.58 seconds

```
27
28 proc summary data=Cr.DANE2 print;
29 class r_version;
30 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	30.56 seconds
cpu time	10.95 seconds

```
31
32 proc summary data=Cr.DANE2 print;
33 class country;
34 run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.

NOTE: PROCEDURE SUMMARY **used** (Total process time):

real time	30.07 seconds
-----------	---------------

cpu time	12.48 seconds
----------	---------------

2.4 Sorting

Sort procedure is required that frequency table can be computed. Unfortunately it takes over 3 minutes...

```
1  proc sort data=Cr.Dane out=CR.Dane2;
2  by r_os;
3  run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE.
 NOTE: The data set CR.DANE2 has 41611796 observations and 11 variables.
 NOTE: PROCEDURE SORT **used** (Total process time):
 real time 3:49.71
 cpu time 35.39 seconds

2.5 Frequency tables

2.5.1 r os

Frequency tables syntax and the time expired for **r os**:

```
proc freq data=Cr.dane2;
tables r_os;
run;
```

NOTE: Writing HTML Body file: sashtml.htm
 NOTE: There were 41611796 observations read from the data set CR.DANE2.
 NOTE: PROCEDURE FREQ **used** (Total process time):
 real time 32.60 seconds
 cpu time 5.46 seconds

2.5.2 Packages

Frequency tables syntax and the time expired for **packages**, grouped by **r os**:

```
proc freq data=Cr.dane2 page;
by r_os;
tables package;
run;
```

NOTE: There were 41611796 observations read from the data set CR.DANE2.
 NOTE: PROCEDURE FREQ **used** (Total process time):
 real time 53.25 seconds
 cpu time 32.46 seconds

CHAPTER
THREE

TRADITIONAL \mathcal{R} PATH

3.1 Unmerged \mathcal{R} files Path

3.2 Merged \mathcal{R} files Path

CHAPTER

FOUR

RCPD PATH

PREPARING REPORT

A.1 Data download, unzipp, conversion syntax

```
start <- as.Date("2012-10-01")
today <- as.Date("2014-05-10")
all_days <- seq(start, today, by = "day")
year <- as.POSIXlt(all_days)$year + 1900
urls <- paste0("http://cran-logs.rstudio.com/", year, "/", all_days, ".csv.gz")

destdir <- "D:/bd1/AlmostBigData/cran-logs/"
n <- length(urls)
i = 1
for (i in 1:n) {
  destfile <- stri_paste(destdir, as.character(all_days[i]))
  download.file(urls[i], destfile)
}

lok <- "D:/bd1/AlmostBigData"
gzpath <- character(n)
i <- 1
for (i in 1:n) {
  gzpath[i] <- paste(lok, "/cran-logs", all_days[i], sep = "")
}
install.packages("R.utils")
library(R.utils)
for (i in 1:n) {
  gunzip(gzpath[i], destname = paste(gzpath[i], ".csv"), remove = TRUE)
}

for (i in 1:n) {
  write.csv2(read.csv2(paste(gzpath[i], ".csv"), sep = ","), paste(gzpath[i], "_new.csv"))
}
```

SAS SYNTAX

```
proc import datafile='D:/bd1/AlmostBigData/cran-logs2012-10-01 _new.csv'
out=CR.cran1 dbms=csv replace;
    delimiter = ';';
    getnames=yes;
    run;

...

proc import datafile='D:/bd1/AlmostBigData/cran-logs2014-05-09 _new.csv'
out=CR.cran586 dbms=csv replace;
    delimiter = ';';
    getnames=yes;
    run;

data Cr.DANE;
set
CR.cran1,
CR.cran2,
....
CR.cran586;
run;

proc summary data=Cr.DANE print;
class package;
run;

proc summary data=Cr.DANE print;
class version;
run;

proc summary data=Cr.DANE print;
class r_arch;
run;

proc summary data=Cr.DANE print;
class r_os;
run;

proc summary data=Cr.DANE print;
class r_version;
run;

proc summary data=Cr.DANE print;
class country;
run;
```

```
proc sort data=Cr.Dane out=CR.Dane2;  
by r_os;  
run;
```

```
proc freq data=Cr.dane2 page;  
tables r_os;  
run;
```

```
proc freq data=Cr.dane2 page;  
by r_os;  
tables package;  
run;
```