Create ADSL as TTL file

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Create turtle version of ADSL dataset

Setup

```
library(rrdfancillary)
devtools::load_all(pkg="../..")
```

Loading rrdfqbcrndex

This script creates a turtle version of the ADSL dataset.

The script uses SQLite to export the ADSL dataset, and d2rq (http://d2rq.org/) to create a turle version of the file. In the code below it is assumed that d2rq is installed in the directory /opt/d2rq-0.8.1.

```
library(foreign)
fnadsl<- system.file("extdata/sample-xpt", "adsl.xpt", package="rrdfqbcrndex")
adsl<-read.xport(fnadsl)</pre>
```

The present code uses read.xport to input the sas dataset. TODO: Date variables are note handled correctly. Other methods are available allowing access to more of the meta data in the datasets.

Next step is to dump the data as a SQL dump, that will serve as input to D2RQ. For dumping the data sqlite is used as it is the easies to setup. The R-package RSQLite (http://cran.r-project.org/web/packages/RSQLite.pdf) provides access to sqlite.

```
## install.packages("RSQLite")
```

The SQL dump is created by transfering the R data frame to SQLite, and the invoking sqlite to create a dump.

```
library(RSQLite)
## create a SQLite instance and create one connection.
m <- dbDriver("SQLite")
## initialize a new database to a tempfile and copy some data.frame
## from the base package into it
tfile <- tempfile()
con <- dbConnect(m, dbname = tfile)
dbWriteTable(con, "adsl", adsl)</pre>
```

```
dbDisconnect(con)
```

[1] TRUE

```
cat("SQLite database stored as ", tfile, "\n")
```

SQLite database stored as /tmp/Rtmpf4BeGA/file1434293320da

```
dumpFn<- tempfile()
system(paste("sqlite3", tfile, ".dump >", dumpFn, sep=" "))
cat("SQLite database dump in ", dumpFn, "\n")
```

SQLite database dump in /tmp/Rtmpf4BeGA/file14341358c1ed

Next step is to process the dump, so the SQL can be used as input to d2rq. The changes applied are: * change TEXT to VARCHAR(1000) * remove top 2 lines with PRAGMA * in insert statements replace "adsl" with adsl * after "MMSETOT" REAL add a comma (",") and a new line with PRIMARY KEY (USUBJID)

This could maybe be simplified using RSQlite on dbSendQuery-methods, see (https://stat.ethz.ch/pipermail/r-sig-db/2010q1/000813.html). For d2rq documentation see (file:///opt/d2rq-0.8.1/doc/dump-rdf.html).

SQLite database dump modified stored as /tmp/Rtmpf4BeGA/file143462443740

```
" -o ", adslttlFn,
" -l ", dumpAfterSedFn,
" ", adslmapttlFn
))

targetDir<- system.file("extdata/sample-rdf", package="rrdfqbcrndex")
if (file.copy(adslmapttlFn, targetDir, overwrite = TRUE)) {
   cat( "File ", adslmapttlFn, " copied to directory ", targetDir, "\n")
}</pre>
```

File /tmp/Rtmpf4BeGA/adsl-map.ttl copied to directory /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/

```
if (file.copy(adslttlFn, targetDir, overwrite = TRUE)) {
  cat( "File ", adslttlFn, " copied to directory ", targetDir, "\n")
}
```

File /tmp/Rtmpf4BeGA/adsl.ttl copied to directory /home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst

Read in the file

This section demostrates how to access the data for the ADSL dataset.

First the data are loaded into a RDF model.

```
dataFilemap<- system.file("extdata/sample-rdf", "adsl-map.ttl", package="rrdfqbcrndex")
dataFilemap</pre>
```

[1] "/home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/adsl-map.ttl"

```
dataFile<- system.file("extdata/sample-rdf", "adsl.ttl", package="rrdfqbcrndex")
dataFile</pre>
```

[1] "/home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/extdata/sample-rdf/adsl.ttl"

```
store <- new.rdf() # Initialize
invisible(load.rdf(dataFilemap, format="TURTLE", appendTo= store))
invisible(load.rdf(dataFile, format="TURTLE", appendTo= store))
summarize.rdf(store)</pre>
```

```
## [1] "Number of triples: 13160"
```

Next step is to make a query showing the mappings

```
resmapping<- data.frame(sparql.rdf(store, mapping.rq),stringsAsFactors=FALSE)
str(resmapping)</pre>
```

```
## 'data.frame': 48 obs. of 3 variables:
## $ mapColumn : chr "file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_HEIGHTB
## $ d2rqcolumn : chr "ADSL.HEIGHTBL" "ADSL.AVGDD" "ADSL.DCDECOD" "ADSL.TRT01P" ...
## $ d2rqdatatype: chr "xsd:double" "xsd:double" NA NA ...
```

knitr::kable(resmapping)

mapColumn	d2rq c olumn	d2rqda
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_HEIGHTBL file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_AVGDD	ADSL.HEIGHTBL ADSL.AVGDD	xsd:dot

```
d2rqda
mapColumn
                                                                                d2rqcolumn
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DCDECOD
                                                                                ADSL.DCDECOD
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL TRT01P
                                                                                ADSL.TRT01P
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL SITEID
                                                                                ADSL.SITEID
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL COMP16FL
                                                                                ADSL.COMP16FL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL COMP8FL
                                                                                ADSL.COMP8FL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_AGEGR1N
                                                                                ADSL.AGEGR1N
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL RFENDT
                                                                                ADSL.RFENDT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_ETHNIC
                                                                                ADSL.ETHNIC
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_BMIBL
                                                                                ADSL.BMIBL
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL RACEN
                                                                                ADSL.RACEN
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DTHFL
                                                                                ADSL.DTHFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DISCONFL
                                                                                ADSL.DISCONFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_TRT01A
                                                                                ADSL.TRT01A
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DURDSGR1
                                                                                ADSL.DURDSGR1
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL TRT01PN
                                                                                ADSL.TRT01PN
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfgbcrnd0/rrdfgbcrndex/inst/data-raw/#ADSL EFFFL
                                                                                ADSL.EFFFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL VISNUMEN
                                                                                ADSL.VISNUMEN
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL ARM
                                                                                ADSL.ARM
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL BMIBLGR1
                                                                                ADSL.BMIBLGR1
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL AGE
                                                                                ADSL.AGE
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL VISIT1DT
                                                                                ADSL.VISIT1DT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL RFSTDTC
                                                                                ADSL.RFSTDTC
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_SUBJID
                                                                                ADSL.SUBJID
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_EDUCLVL
                                                                                ADSL.EDUCLVL
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_MMSETOT
                                                                                ADSL.MMSETOT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_SAFFL
                                                                                ADSL.SAFFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL RACE
                                                                                ADSL.RACE
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DISONSDT
                                                                                ADSL.DISONSDT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL AGEU
                                                                                ADSL.AGEU
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_TRTEDT
                                                                                ADSL.TRTEDT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL RFENDTC
                                                                                ADSL.RFENDTC
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL AGEGR1
                                                                                ADSL.AGEGR1
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL COMP24FL
                                                                                ADSL.COMP24FL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL WEIGHTBL
                                                                                ADSL.WEIGHTBL
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DSRAEFL
                                                                                ADSL.DSRAEFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL ITTFL
                                                                                ADSL.ITTFL
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL STUDYID
                                                                                ADSL.STUDYID
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL SITEGR1
                                                                                ADSL.SITEGR1
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL TRT01AN
                                                                                ADSL.TRT01AN
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_TRTSDT
                                                                                ADSL.TRTSDT
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL CUMDOSE
                                                                                ADSL.CUMDOSE
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_SEX
                                                                                                   NA
                                                                                ADSL.SEX
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL_DCREASCD
                                                                                ADSL.DCREASCD
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL TRTDUR
                                                                                ADSL.TRTDUR
                                                                                                   xsd:doi
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL USUBJID
                                                                                ADSL.USUBJID
                                                                                                   NA
file:///home/ma/projects/rrdfqbcrnd0/rrdfqbcrndex/inst/data-raw/#ADSL DURDIS
                                                                                ADSL.DURDIS
                                                                                                   xsd:doi
```

The code below gets the all values in one record

```
s<- paste0("<", d2rqbaseURL,c("ADSL/01-718-1254"), ">")
records.rq<-paste("select * ",</pre>
```

```
paste("(",s,")", collapse="\n"),
           "}", sep="\n", collapse="\n")
cat(records.rq,"\n")
## select *
## where { ?s ?p ?o.
   values(?s) {
## ( <http://www.example.org/datasets/ADSL/01-718-1254> )
## }
## }
records.res<- data.frame(sparql.rdf(store, records.rq),stringsAsFactors=FALSE)
str(records.res)
   'data.frame':
                    51 obs. of 3 variables:
              "http://www.example.org/datasets/ADSL/01-718-1254" "http://www.example.org/datasets/ADSL/
    $ s: chr
              "http://www.example.org/datasets/vocab/ADSL_EFFFL" "http://www.example.org/datasets/vocab
    $ p: chr
    $ o: chr
              "Y" "Completed" "54.0E0" "Y" ...
records.res$pclean<- gsub(paste0(d2rqbaseURL, "vocab/ADSL_"), "", records.res$p)
knitr::kable(records.res[,c("s", "p","o")])
```

```
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL EFFFL
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_DCREASCD
                                                 http://www.example.org/datasets/vocab/ADSL_TRT01PN
http://www.example.org/datasets/ADSL/01-718-1254
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL\_COMP8FL
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL CUMDOSE
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_TRTSDT
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL SITEGR1
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_TRT01AN
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL AVGDD
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL DURDIS
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL TRTDUR
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL HEIGHTBL
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL COMP16FL
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_DCDECOD
                                                 http://www.example.org/datasets/vocab/ADSL\_WEIGHTBL
http://www.example.org/datasets/ADSL/01-718-1254
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL BMIBLGR1
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_AGE
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL SUBJID
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_TRT01A
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_DURDSGR1
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_RFSTDTC
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL SEX
                                                 http://www.example.org/datasets/vocab/ADSL\_DISCONFL
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL DSRAEFL
http://www.example.org/datasets/ADSL/01-718-1254
http://www.example.org/datasets/ADSL/01-718-1254
                                                 http://www.example.org/datasets/vocab/ADSL_COMP24FL
```

1

1

S	p
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_RFENDT
http://www.example.org/datasets/ADSL/01-718-1254	http://www.w3.org/2000/01/rdf-schema#label
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_SAFFL
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_AGEU
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_ETHNIC
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_AGEGR1
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_DISONSDT
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_TRTEDT
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_DTHFL
http://www.example.org/datasets/ADSL/01-718-1254	$http://www.example.org/datasets/vocab/ADSL_MMSETOT$
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_VISNUMEN
http://www.example.org/datasets/ADSL/01-718-1254	$http://www.example.org/datasets/vocab/ADSL_USUBJID$
http://www.example.org/datasets/ADSL/01-718-1254	$http://www.example.org/datasets/vocab/ADSL_ITTFL$
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_BMIBL
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_RFENDTC
http://www.example.org/datasets/ADSL/01-718-1254	http://www.w3.org/1999/02/22-rdf-syntax-ns#type
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_STUDYID
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_RACEN
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_VISIT1DT
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_AGEGR1N
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_TRT01P
http://www.example.org/datasets/ADSL/01-718-1254	$http://www.example.org/datasets/vocab/ADSL_RACE$
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_ARM
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_SITEID
http://www.example.org/datasets/ADSL/01-718-1254	http://www.example.org/datasets/vocab/ADSL_EDUCLVL
http://www.example.org/datasets/ADSL/01-718-1254	http://www.w3.org/1999/02/22-rdf-syntax-ns#type