**Xptdef 2 Tutorial**

**(by Guillaume Bonnefois)**

1. **Package installation**

devtools::install\_github("leonpheng/xptdef2")

devtools::install\_github('davidgohel/ReporteRsjars')

devtools::install\_github('davidgohel/ReporteRs')

devtools::install\_github(“[benjaminrich](https://github.com/benjaminrich)/[PCSmisc](https://github.com/benjaminrich/PCSmisc)”)

The entire script to run the xptdef2 could be found in Appendix. Other dependent packages may be needed:

Plyr, dplyr, SASxport, Hmisc, PCSmisc

1. **Add library to be loaded in R Studio**

library(xptdef2)

1. **Setup the working folder to save all define document:**

working.folder="C:/Users/lpheng/Desktop/Test"

1. **Use the helps() function for a quick step-by-step procedure**

> helps()

1) working.folder= full path (manually created or by R script created)

2) run step1(working.folder)

3) open/edit list of files.csv and save (see Tutorial section 5)

4) run step2()

5) open/edit and save studydefinelist.csv (see Tutorial section 6.1)

6) run step3(title) # Add project title. A Certara logo saved at specific folder and name could be added by xptdef2

7) Find the outputs in folder Datasets (xpt files and define.doc) and Programs (txt files). Edit and format define.doc then convert to pdf.

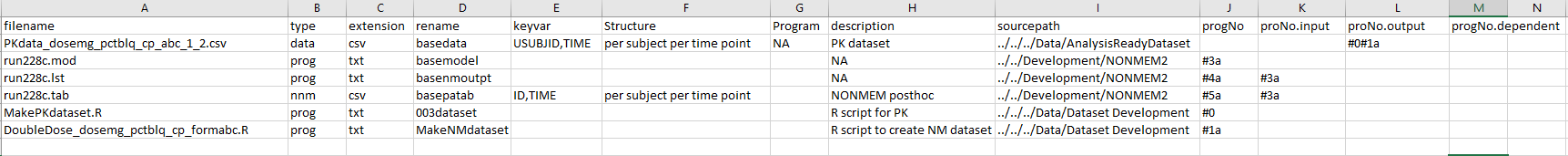
1. **Run step1 function**

> step1(working.folder)

A file entitled “list of files.csv” will automatically be generated

* 1. **Edit the csv file according to the following rules:**
* COLUMN 1 (*filename*): enter the original name of file,
* COLUMN 2 (*type*) for the type of file (data= csv files, prog= txt/R script and nnm= nonmem outputs)
* COLUMN 3 (*extension*): the extension for imported file so all data (nonmem dataset and lst should be all csv and prog should be txt. Note that the original name for nonmem file has no extension but you still need to give the extension in column 3 as csv.
* COLUMN 4 (*rename*): enter the new name for the xpt file. It should be short ~8-10 characters.
* COLUMN 5 (*keyvar*): enter the key variables for the data only, leave blank for prog. The key variable would define the type of your data example, USUBJID.
* COLUMN 6 (*structure*): it's for data too. ex: per subject, per time point
* COLUMN 7 (*program*): this is optional if you use the xptdef2.
* COLUMN  8 (*description*): enter the description of your file.
* COLUMN 9 (*sourcepath*): copy and paste the source path for each file.
  1. **Process:**
* Enter the other COLUMNS after you have entered all the program files. Label all your program files in *progNo*.  Map the input, output, dependency files with the program label.
* Save "list of files.csv" as illustrated in Figure 1
* Return to R studio and run > define.library="no"

**Figure 1: List of files example**



1. **Run step2()**

> step2()

In this step, csv files entitled “studydefinelist.csv” and “Var\_name\_GT8.csv” are automatically generated to describe all the description of variables and to rename variables whose name are longer than 8 characters, respectively. In addition three folder called Backup csv, input and output are automatically created.

* 1. **Studydefinelist.csv**

The csv file contains 6 columns. Columns *Variable* and *file* are already filled.

Three columns (i.e. *Unit; Detailed.description; Enter.label.here*) have to be filled.

The *Unit* column can use superscript (^ or superscript option in excel), subscript ( \_ or subscript option in excel), and Greek symbols.

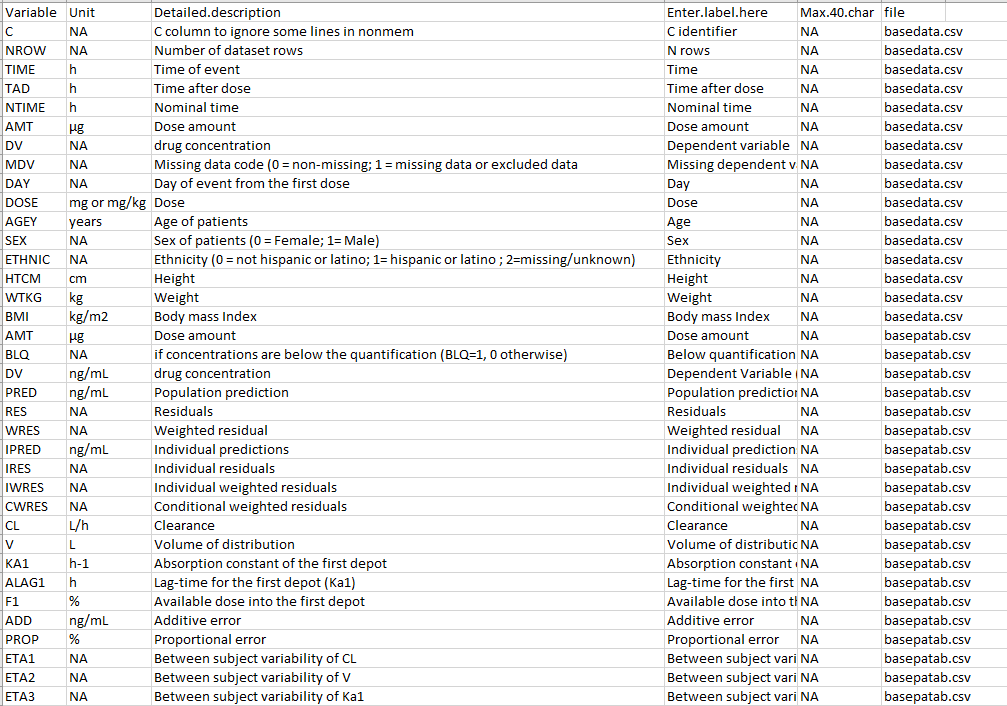
The *Enter.label.here* column correspond to the label of the variable.

The *Detailed.description* column enable a precise description of the label. For categorical variables, the numerical code must be provided, e.g. Sex of patients (0 = Female; 1= Male)

The fourth column called *Max.40.char* is optional. However, you can check the number of characters for the label, which should not be greater than 40 characters.

Figure 2 is used as example.

**Figure 2: Studydefinelist example**



*Nota Bene*: the var names with "\_" is listed as "." in the define list

1. **Add title for the document then Run step3()**

After the step 3, you can write the title for the word document that will be automatically generated by step 4.

> title="Population Pharmacokinetic model for XX project"

> step4(title=title)

1. **Refine manually the Word document generated by Xptdef2 package**

The word document entitled “define.docx” is located in the output folder created in step 2. Additional modifications might be required. Indeed, the “\_” is replaced by XXXX as well as “\”which is modified in “#”. Thus, you could find and replace these special characters in the define document. To finish, you could your word document as pdf document.

1. **Appendix**

devtools::install\_github("leonpheng/xptdef2")

library(xptdef2)

library(tidyverse)

library(ReporteRsjars) #not in CRAN

library(plyr)

library(dplyr)

library(SASxport)

library(Hmisc)

library(PCSmisc)

helps()  
working.folder="C:/Users/lpheng/Desktop/Test"  
step1(working.folder)

define.library="no"

step2()

step3()

title="Population Pharmacokinetic model for XX project "

step4(title=title)