

Manual for Help with Installation and First Use of the **Anthropometry** R Package

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This short manual explains the procedure to install the **Anthropometry** R package, both on Linux and Windows. In addition, the main functions of the package are explained for a first use. This manual is constantly developed, if new useful information is found.

1 Installation on Linux

I used R version 3.0.2 and Fedora release 18. It is assumed that **Anthropometry** is already a source package. Before starting with the installation procedure, the packages which **Anthropometry** depends on (see its DESCRIPTION file) must be first installed. All of them are available at <http://cran.r-project.org/>.

Now, to install **Anthropometry** on a Linux system, simply proceed as follows:

1. Open a command window.
2. Move to the directory where the sources of **Anthropometry** are located, using the `cd` command.
3. Type `R CMD check Anthropometry` and press the Enter key.
4. Type `R CMD build Anthropometry` and press the Enter key.
5. Type `R CMD INSTALL Anthropometry_xxx.tar.gz` and press the Enter key (xxx refers to the package version).

As an illustrative example, I just run these sentences:

```
[guillermo@localhost ~]$ cd Escritorio/  
[guillermo@localhost Escritorio]$ R CMD check Anthropometry  
[guillermo@localhost Escritorio]$ R CMD build Anthropometry  
[guillermo@localhost Escritorio]$ R CMD INSTALL Anthropometry_xxx.tar.gz
```

Note 1: If the examples of your own package require a lot of time to run, and there is no chance to slow them down, I would recommend you to use the option `\dontrun{}` in the examples section of the .Rd help files, so that the examples are not running during the checking process. Another option for not running the examples is `R CMD check NamePackage -- no-examples`. You should check that all the examples of all the functions of your package work well.



Note 2: In order to add a vignette to the package, the following steps must be taken (suppose `foo` is the package's name):

1. Put vignettes files (.Rnw files) in the `/vignettes` subdirectory.
2. Build the package `foo` with R CMD `build foo`
3. Install the package with R CMD `INSTALL foo_xxx.tar.gz`

Then the vignettes will be available. However, you can also install the package with R CMD `INSTALL foo`, but then the vignettes will not be available (because it is in the build process that the vignettes go from `/vignettes` to `/inst/doc`).

If the process has been successfully completed, `Anthropometry` has been added to the list of installed R packages. See Section 3 to begin with using the package. A tarball has been created with the previous `build` command: `Anthropometry_xxx.tar.gz`. It can be used to install `Anthropometry` on Windows as well.

2 Installation on Windows

I used Windows 7 and R 3.0.2. Further utilities are required to install the package on Windows. On the contrary, if we tried to repeat on Windows the procedure followed on Linux, we would get the following error message:

```
C:\Users\Guillermo Vinué\Desktop> R CMD INSTALL Anthropometry_xxx.0.tar.gz
```

```
"R" is not recognized as an internal or external command, operable program or batch file.
```

This error is related to the `PATH` system environment variable, which you need to change. Every path of the utilities needed must be added to `PATH`. These utilities are the following (see `Windows-toolset` for more details):

1. A toolkit called `Rtools`, that stores the `MinGW` compilers (among other applications), which are mandatory if the R package contains C code, as in fact occurs with `Anthropometry`. The executable file, `Rtools30.exe` is available from `Rtools`. During the installation, it is suggested that you maintain all the default options. While there is the possibility of modifying the `PATH` environment variable, it is also suggested that you modify it after all the utilities have been installed.
2. The compiler for the HTML help format. The file needed is called `Htmlhelp.exe` and can be downloaded from `Compiler HTML`.
3. Any version of a \LaTeX text editor, such as `MikTeX`, downloadable from `MikTeX`.
4. The Inno Setup installer to build the R installer: the file `isetup-5.5.3.exe` is available from `Inno Setup` (from `Random site`).



During the installation of each one of these software utilities, it is recommended that you maintain the installed directories set by default for each case. Once everything is installed, it is time for changing the PATH environment variable. To that end, follow these steps:

Start menu \Rightarrow *PC*
 $\xRightarrow{\text{Right-click}}$ *Properties*
 = *Advanced system settings*
 \Rightarrow *Environment variables*
 \Rightarrow *System variables*
 \Rightarrow *PATH*

In my case, the new value of the PATH variable is:

```
c:\Rtools\bin;c:\Rtools\gcc-4.6.3\bin;c:\Program Files\MiKTeX 2.9\miktex
\bin;c:\Program Files\R\R-2.15.2\bin\i386;c:\Windows;c:\Windows\
System32
```

Note: If the source package does not contains compiled code, the PATH variable would be:

```
c:\Program Files\MiKTeX 2.9\miktex\bin;c:\Program Files\R\R-2.15.2
\bin\i386;c:\Windows;c:\Windows\System32
```

Next, open the command window and try again to install the package. If everything has been successfully installed, at least R should be recognized as an internal command. For my particular case, this has happened. However, some issues may appear depending on the user name we set on our computer.

2.1 Annoying installation issues

Upon trying to install *Anthropometry*, the following message error was shown:

```
C:\Users\Guillermo Vinué\Desktop> R CMD INSTALL Anthropometry_1.0.
tar.gz
Error in .read_description(dfile) : file 'C::\Users\Guillermo Vinué\Desktop:
\Anthropometry\DESCRIPTION' does not exist
```

R was not been able to find the DESCRIPTION file because it did not recognize the indicated path to get there. This issue was caused by the accent on the *e* of Vinué (my surname) in the user name. I would like to remark that this error only arises if R is not able to find the path in which the package should be installed, because there are conflict symbols in the user name we provided, such as accents or the Spanish letter *ñ*. Therefore, the procedure outlined below is not necessary if the package was already installed with `R CMD INSTALL`. In that case, go to Section 3 to begin with using the package. On the contrary, we must change the user name. I have not found a way to do it. As an alternative, we can create a new user without conflict symbols.



2.1.1 Way to create a new user

In my case, the new user will be *guille*. To create it, follow these steps:

- Start menu* ⇒ *Control panel*
- ⇒ *User Accounts and Family Safety*
- ⇒ *Add or remove user accounts*
- ⇒ *Choose standard user*
- ⇒ *Create a new account with the chosen name*

In this way, I have two users: *Guillermo Vinué* and *guille*. This new second user maintains all settings of the first user. In order to install **Anthropometry** using this new user name, we must only select this user when starting Windows and type on a command window the usual command.

```
C:\Users\guille\Desktop> R CMD INSTALL Anthropometry_xxx.0.tar.gz
```

and the package has been definitely installed!. Go to Section 3 to get started with using the package.

Note: Instead of using **R CMD INSTALL**, the package could also have been installed from an R console:

```
setwd("C:/Users/guille/Desktop/")
install.packages("Anthropometry_xxx.0.tar.gz", repos = NULL,
                 type = "source")
```

3 Starting with Anthropometry

The main functions to learn about the foundations of the package are summarized below:

```
#Loading the package:
library(Anthropometry)
#Package version:
packageVersion("Anthropometry")
#List of functions belonging to the package:
library(help="Anthropometry")
#Index page of the package:
help(package="Anthropometry")
#Data files available from the package:
data(package="Anthropometry")
#Vignettes of the package:
vignette(package="Anthropometry")
#Getting the vignette:
vignette("Anthropometry",package="Anthropometry")
#Citation:
citation("Anthropometry")
```



References

- [1] LEISCH, F. *Creating R Packages: A Tutorial*. 2009.
- [2] R DEVELOPMENT CORE TEAM. *R Installation and Administration*.
- [3] R DEVELOPMENT CORE TEAM. *Writing R Extensions*.