

¿Cómo construir paquetes en R?

Recomendaciones

- Lea el manual *Writing R Extensions*. (capítulos 1 y 2)
 - Siga las recomendaciones.
 - `<directorio R>/doc/manual/R-exts.pdf`
- Entienda y ejecute la función `package.skeleton`.
 - `help(package.skeleton)`
- Si trabaja en MS-Windows y requiere compilar instale *RTools*.
 - `http://www.murdoch-sutherland.com/Rtools/`
 - Lea Apéndice E: *The Windows Toolset*, del manual: *R Installation and Administration*.
`<directorio R>/doc/manual/R-admin.pdf`
 - Siga las recomendaciones.

Manuales de R

The screenshot shows the Altap Salamander 2.51 file manager interface. The window title is "manual - Altap Salamander 2.51". The menu bar includes "Left", "Files", "Edit", "Commands", "Plugins", "Options", "Right", and "Help". The toolbar contains various icons for file operations. The left panel shows the directory "C:\usr\R\R\doc>manual" with a list of files:

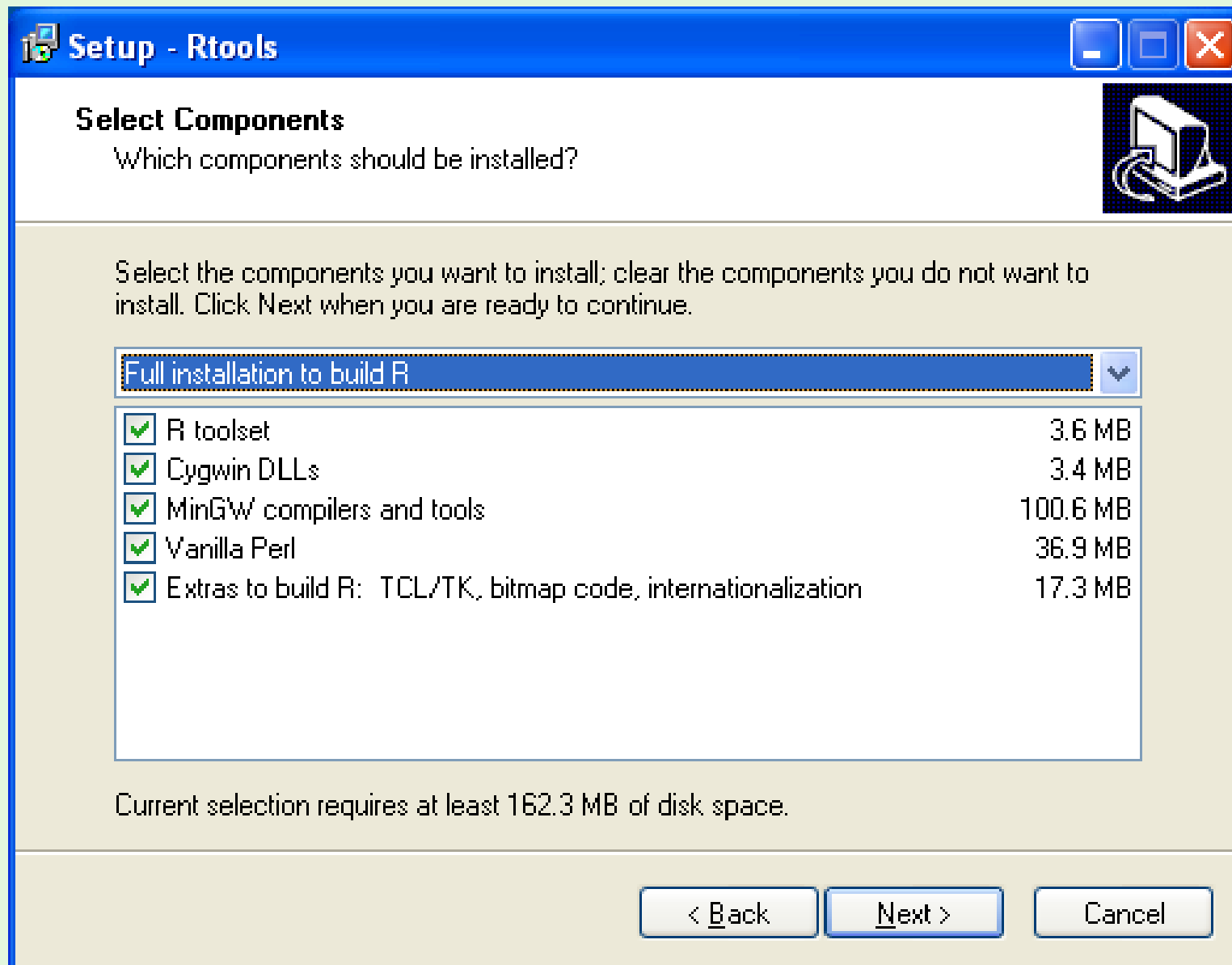
Name	Ext	Size	Date	Time
..		DIR	9/12/2008	12:47:44 AM
R-admin.html		281,204	8/28/2008	3:52:16 AM
R-admin.pdf		437,311	8/28/2008	4:01:46 AM
R-data.html		135,387	8/28/2008	3:52:16 AM
R-data.pdf		274,870	8/28/2008	4:01:54 AM
refman.pdf		8,164,277	8/28/2008	4:01:36 AM
R-exts.html		563,755	8/28/2008	3:52:16 AM
R-exts.pdf		750,320	8/28/2008	4:02:02 AM
R-FAQ.html		419,001	8/28/2008	3:52:16 AM
R-intro.html		384,382	8/28/2008	3:52:16 AM
R-intro.pdf		641,496	8/28/2008	4:02:10 AM
R-ints.html		192,564	8/28/2008	3:52:18 AM
R-ints.pdf		330,118	8/28/2008	4:02:16 AM
R-lang.html		274,625	8/28/2008	3:52:18 AM
R-lang.pdf		405,994	8/28/2008	4:02:22 AM

The right panel shows the directory "S:\Foro-XXIII\Ernesto\miPaquete" with a list of files and folders:

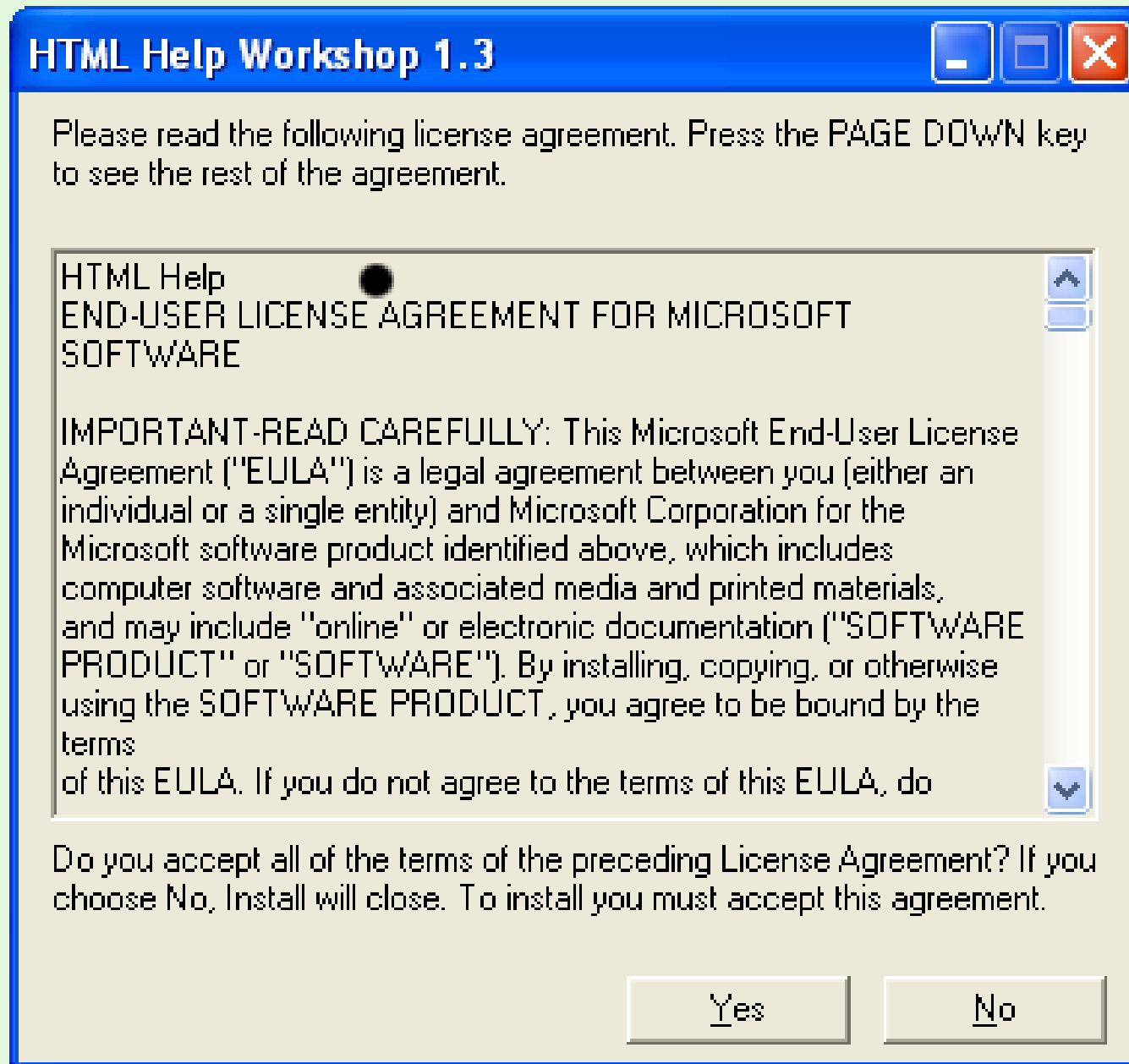
Name	Ext	Size	Date	Time
..		DIR	9/12/2008	7:23:51 AM
inst		DIR	9/10/2008	12:36:07 PM
man		DIR	9/11/2008	12:23:31 AM
R		DIR	9/11/2008	8:54:36 PM
src		DIR	9/11/2008	8:54:36 PM
tmp		DIR	9/12/2008	1:40:40 AM
DESCRIPTION		301	9/10/2008	7:54:24 PM
miSumEx.R		153	9/12/2008	12:10:32 AM
NAMESPACE		237	9/11/2008	9:08:37 PM
Rpackage		1,366	2/15/2004	4:25:42 PM
Rpackage.bat		1,763	9/11/2008	8:48:01 PM
skeleton.out		1,793	9/12/2008	1:40:40 AM
skeleton.R		243	10/10/2003	1:01:20 PM
source.R		635	9/12/2008	1:40:36 AM

The status bar at the bottom shows the current directory "C:\usr\R\R\doc>manual>" and a row of function key shortcuts: F1 LChDrv, F2 RChDrv, F3 AltView, F4 Exit, F5 Pack, F6 Unpack, F7 Find, F8, F9 Unpack, F10 CalcS.

RTools



HTML Help for Windows



Estructura de directorios

The screenshot shows the Altap Salamander 2.51 file manager interface. The window title is "miPaquete - Altap Salamander 2.51". The interface is split into two panes. The left pane shows the local drive T:\BsMD, and the right pane shows the remote drive S:\Foro-XXIII\Ernesto\miPaquete. Both panes display a list of files and directories with columns for Name, Ext, Size, Date, Time, and At.

Name	Ext	Size	Date	Time	At
..	DIR		9/12/2008	1:42:17 AM	
html	DIR		9/12/2008	1:42:16 AM	
data	DIR		9/12/2008	1:42:16 AM	
doc	DIR		9/12/2008	1:42:16 AM	
help	DIR		9/12/2008	1:42:16 AM	
html	DIR		9/12/2008	1:42:16 AM	
latex	DIR		9/12/2008	1:42:17 AM	
libs	DIR		9/12/2008	1:42:17 AM	
man	DIR		9/12/2008	1:42:17 AM	
Meta	DIR		9/12/2008	1:42:17 AM	
R	DIR		9/12/2008	1:42:17 AM	
R-ex	DIR		9/12/2008	1:42:17 AM	
CONTENTS		3,069	9/12/2008	1:41:00 AM	
DESCRIPTION		419	9/12/2008	1:40:50 AM	
INDEX		1,267	9/12/2008	1:41:00 AM	
MD5		5,323	9/12/2008	1:41:12 AM	
NAMESPACE		237	9/12/2008	1:40:50 AM	

Name	Ext	Size	Date	Time	At
..	DIR		9/12/2008	7:13:26 AM	
inst	DIR		9/10/2008	12:36:07 PM	
man	DIR		9/11/2008	12:23:31 AM	
R	DIR		9/11/2008	8:54:36 PM	
src	DIR		9/11/2008	8:54:36 PM	
tmp	DIR		9/12/2008	1:40:40 AM	
DESCRIPTION		301	9/10/2008	7:54:24 PM	
NAMESPACE		237	9/11/2008	9:08:37 PM	
skeleton.R		243	10/10/2003	1:01:20 PM	
source.R		635	9/12/2008	1:40:36 AM	

At the bottom of the window, the command prompt shows the current directory: S:\Foro-XXIII\Ernesto\miPaquete>. The status bar at the bottom indicates "538 bytes in 2 selected files".

Comandos en bache (Win)

```
set OPATH=%PATH%
PATH=%R_HOME%/bin;%PATH%

set PACKAGE=BsMD

time /T
set R_LIBS=%R_HOME%/library;

echo options(keep.source=FALSE) > source.R
ls -1 R/*.R | gawk '{print "source(\""$1"\")"}' >> source.R
ls -1 R/*.R | gawk '{print "source(\""$1"\")"}' >> source.R
ls -1 R/*.r | gawk '{print "source(\""$1"\")"}' >> source.R
ls -1 R/*.dat | gawk '{print substr($1,3,length(substr($1,1,30))-6)
    " <- read.table(\""$1"\",header=TRUE)}' >> source.R
ls -1 R/*.Rdata | gawk '{print "load(\""$1"\")"}' >> source.R
echo rm(last.warning) >> source.R

rm -rf ./tmp/%PACKAGE%
```


Comandos en bache (cont.)

```
set PACKAGE=miPaquete

rem **** Creating Skeleton Package ****
Rcmd BATCH --vanilla skeleton.R skeleton.out

rem **** Filling the Skeleton Package ****
cp DESCRIPTION ./tmp/%PACKAGE%
cp NAMESPACE ./tmp/%PACKAGE%
cp CHANGES ./tmp/%PACKAGE%
cp TODO ./tmp/%PACKAGE%

mkdir .\tmp\%PACKAGE%\inst\doc
cp inst/doc/%PACKAGE%.pdf ./tmp/%PACKAGE%/inst/doc/
cp inst/doc/%PACKAGE%.bib ./tmp/%PACKAGE%/inst/doc/
cp inst/doc/%PACKAGE%.Rnw ./tmp/%PACKAGE%/inst/doc/
cp man/*.Rd ./tmp/%PACKAGE%/man/

mkdir .\tmp\%PACKAGE%\src
cp src/*.f ./tmp/%PACKAGE%/src/
cp src/*.c ./tmp/%PACKAGE%/src/
```


Comandos en bache (cont.)

```
rem **** Building Package ****
rem Rcmd build --force --auto-zip --no-vignettes ./tmp/%PACKAGE%
rem Rcmd build --force --auto-zip ./tmp/%PACKAGE%
rem Rcmd build --force --binary --auto-zip --no-vignettes ./tmp/%PACKAGE%
rem Rcmd build --force --binary --auto-zip ./tmp/%PACKAGE%

rem **** Checking Package ****
rem tar -xzvf *.gz
rem Rcmd CHECK tmp/%PACKAGE%

rem **** Installing Package ****
rem call Rinstall.bat %PACKAGE%*.gz
rem unzip -o %PACKAGE%*.zip -d e:/stat/R/library
rem Rcmd INSTALL --library=e:/stat/R/library2 %PACKAGE%*.gz
```

¿Cálculo numérico intensivo?

- Vectorice sus cálculos.
- Cuando pueda “*baje*” a nivel *C* o *Fortran* sus cálculos.

Finalmente ...

- Agradecemos la invitación de los organizadores del XXIII Foro de AME.
- Agradezco a mis colegas su pronta aceptación y participación en las pláticas.
- Y por supuesto, agradezco a los desarrolladores de R y comunidad de usuarios.