

Install an R package to Linux home directory¹

1. After log into the system, initiate the R program by typing **R**.

```
[liska% ~]\% R
R version 3.0.0 (2013-04-03) -- "Masked Marvel"
Copyright (C) 2013 The R Foundation for Statistical Computing
Platform: x86_64-unknown-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

>
```

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2. Find out your default home directory by typing function **getwd()** after the prompt. This is the directory where R packages will be installed and the exact path needs to be provided.

```
[liska% ~]\% R
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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> getwd()
[1] "/network/rit/home/csdatest"
>
```

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¹ This help document is prepared by Furrina Lee and modified by Hui-shien Tsao, on 10/18/2013.

- The function to install a package in R is `install.packages(pkgs="packagename", lib="directoryname")` to initiate the downloading/installation process. If this is the first time you download/install a new package, you will be prompted to answer questions "Would you like to use a personal library instead?" and "Would you like to create a personal library '~/.R/x86_64-unknown-linux-gnu-library/3.0 to install packages into?" Answer y(es) for both questions.

```
> getwd()
[1] "/network/rit/home/csdatest"
> install.packages(pkgs="sas7bdat", lib="/network/rit/home/csdatest/R")
Warning in install.packages(pkgs = "sas7bdat", lib = "/network/rit/home/csdatest/R") :
  'lib = "/network/rit/home/csdatest/R"' is not writable
Would you like to use a personal library instead? (y/n) y
Would you like to create a personal library
~/R/x86_64-unknown-linux-gnu-library/3.0
to install packages into? (y/n) y
--- Please select a CRAN mirror for use in this session ---
CRAN mirror
```

In the above example, the package name is `sas7bdat` and the `lib` is the R directory under your home directory `/network/rit/home/csdatest/R`. Thus, at the prompt, type:

```
install.packages(pkgs="sas7bdat", lib="/network/rit/home/csdatest/R")
```

- You will be prompted to select a CRAN mirror for use in this session. Pick a CRAN mirror site, for example 78, R will download/install the package under directory `'~/R/x86_64-unknown-linux-gnu-library/3.0'` as well other auxiliary packages needed.

```
75: USA (CA 2)          76: USA (IA)
77: USA (IN)           78: USA (KS)
79: USA (MD)           80: USA (MI)
81: USA (MO)           82: USA (OH)
83: USA (OR)           84: USA (PA 1)
85: USA (PA 2)         86: USA (TN)
87: USA (TX 1)         88: USA (WA 1)
89: USA (WA 2)         90: Venezuela
91: Vietnam

Selection: 78
also installing the dependency âchronâ

trying URL 'http://rweb.quant.ku.edu/cran/src/contrib/chron_2.3-44.tar.gz'
Content type 'application/x-gzip' length 35617 bytes (34 Kb)
opened URL
=====
downloaded 34 Kb

trying URL 'http://rweb.quant.ku.edu/cran/src/contrib/sas7bdat_0.3.tar.gz'
Content type 'application/x-gzip' length 193923 bytes (189 Kb)
opened URL
=====
downloaded 189 Kb
```


You will see the below screen once the download/installation is complete.

```
installing to /network/rit/home/csdatest/R/x86_64-unknown-linux-gnu-library/3.0/chron/libs
** R
** inst
** preparing package for lazy loading
** help
*** installing help indices
** building package indices
* testing if installed package can be loaded
DONE (chron)
* installing *source* package 'sas7bdat' ...
** package 'sas7bdat' successfully unpacked and MD5 sums checked
** R
** data
** inst
** preparing package for lazy loading
** help
*** installing help indices
** building package indices
** installing vignettes
  'sas7bdat.Rnw' using 'UTF-8'
* testing if installed package can be loaded
DONE (sas7bdat)

The downloaded source packages are in
  /tmp/Rtmp3WcPwJ/downloaded_packages
```

5. To load the library, use the function `library(packagename)` and `search()` and `ls()` functions to find out more about the package(s) that you just loaded. In this example, at the prompt, type

```
library(chron)
library(sas7bdat)
```

```
> library(chron)
> library(sas7bdat)
> search()
[1] ".GlobalEnv"          "package:sas7bdat"    "package:chron"
[4] "package:stats"       "package:graphics"   "package:grDevices"
[7] "package:utils"       "package:datasets"   "package:methods"
[10] "Autoloads"           "package:base"
> ls(pos=2)
[1] "read.sas7bdat"
> search()
[1] ".GlobalEnv"          "package:sas7bdat"    "package:chron"
[4] "package:stats"       "package:graphics"   "package:grDevices"
[7] "package:utils"       "package:datasets"   "package:methods"
[10] "Autoloads"           "package:base"
> ls(pos=3)
[1] "as.chron"            "chron"               "chron_trans"         "dates"
[5] "day.of.week"         "days"               "hours"               "is.chron"
[9] "is.holiday"         "is.weekend"          "leap.year"           "minutes"
[13] "month.day.year"     "scale_x_chron"       "scale_y_chron"       "seconds"
[17] "seq.dates"          "times"               "year.expand"         "years"
[21] "year.strict"
>
```