

Chapter 1

Installing R on your computer

R is available for free on the Comprehensive R Archive Network (CRAN) website. For most systems, the base R package is available in a single, ready-to-install file.

1.1 Installing R

First, open your favorite web browser and make your way to the R Project homepage (<http://www.r-project.org/>). Click on the “CRAN” link on the menu on the left-hand side of the page. This will take you to a page listing servers from which you can download R. You should pick the server that is (geographically) closest to you. (If you are a student here at the University of Washington, the CRAN Mirror at the Fred Hutchinson Cancer Research Center (<http://cran.fhcrc.org/>) is probably the best one for you.)

Once you have clicked the link for your mirror of choice, you will be greeted with a page listing “Precompiled Binary Distributions” and “Source Code”. Figure 1.1 is a screen capture of this page on the day this chapter was written.

You should find your operating system (Windows, Macintosh, Linux, etc.) under “Precompiled Binary Distributions”. These are the ready-to-install files containing the base R package, and are the easiest way to get R up and running on your machine.

(The “Source Code” link contains all the computer code used to create R. It must be assembled into an executable file before it can be used. Do not download the source code unless you are absolutely sure you know how to compile and set up a package from a tarball.)

Now follow the platform-specific instructions below.

1.1.1 Windows

1. Click on the “Windows (95 and later)” link.
2. Click on “base”.
3. Click on “R-2.3.1-win32.exe”. Save it to a file on your hard drive. (NOTE: the installation file is about 25 Megabytes. If you have a slow Internet connection, download the installation file on a machine with a fast connection (for example, a machine in your school’s computer lab) and save it to a USB drive or a CD. You can then install R using your saved copy. DO NOT install R on a lab machine with permission from the lab’s administrator.)
4. Find the installation file “R-2.3.1-win32.exe” on your hard drive. Although the maintainers of R regularly scan their software for viruses, it is a good idea to scan this file with your virus scanning software, just to be safe.

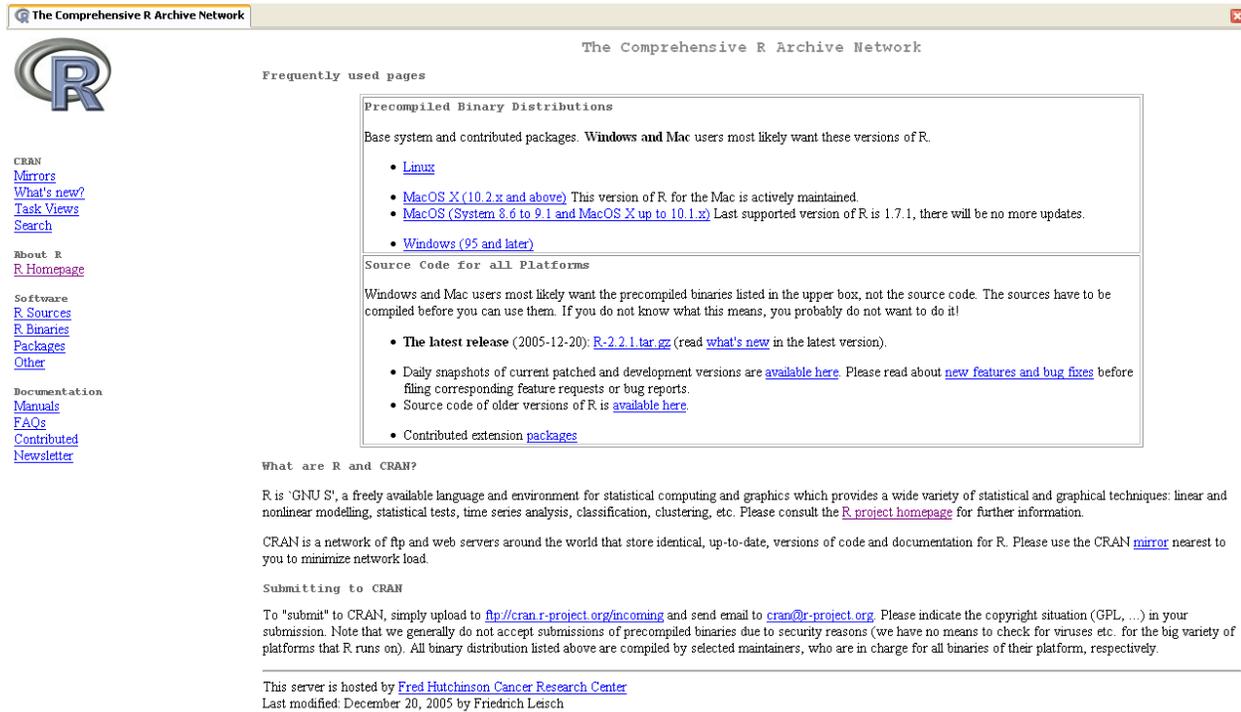


Figure 1.1: CRAN home page (for the Fred Hutchinson mirror) at the time of this writing.

5. Close all other programs before beginning the installation. You might also disable your virus-protection software now, as it may slow down the installation.
6. If you are using Windows 95, 98 or ME, you may simply double click on the “R-2.3.1-win32.exe”, and follow the directions. If you are using Windows NT 4.x, 2000, XP, or later, you will need to run the installation program with administrative privileges. If you do not have administrative privileges on your computer, ask your system administrator to install R for you.
7. After you have installed R, don’t forget to reenale your virus protection software!

For additional assistance read the file “README.R-2.3.1”, also located under the “base” directory on CRAN. Also consult the “R FAQ” and the “R Windows FAQ” documents (there are links to those sites on that same page).

Installation Notes

- ^ The current version of R, as of this writing, is version 2.3.1. It is still relatively new, so there may still be minor problems with the installation procedure. The developers of R only have access to a small number of machines, and cannot test the software on every possible platform. If you encounter any difficulties installing R, contact your professor.

1.1.2 Mac OS 8.6-9.2, Mac OS X (up to 10.1.x)

NOTE: For these versions of Mac OS the last supported version of R is 1.7.1, which is not the most recent version but might work fine for your purposes.

1. Click on the “Mac OS X” link.
2. Read the disclaimer at the top of the page, then click the link to the files.
3. Download the compressed file “rm171.sit”. It contains the base distribution and several recommended packages. Save it to a file on your hard drive. (NOTE: the installation file is about 11 Megabytes. If you are on a slow Internet connection, download the installation file on a machine with a fast connection (for example, a machine in your school’s computer lab) and save it to a USB drive or a CD. You can then install R using your saved copy. DO NOT install R on a lab machine with permission from the lab’s administrator.)
4. Find “rm171.sit” on your hard drive. It is a good idea to scan this file with your virus scanning software, just to be safe.
5. Drag the archive “rm171.sit” from where you downloaded it and drop it on the Alladin Stuffit Expander—icon.
6. When the expander has finished you should move the folder to where you prefer to put R.

You should be ready to go. It is a good idea to read the User’s Guide “rmac-FAQ.html” (which is also located on CRAN in the same directory as the installation file) before you start.

1.1.3 Mac OS X (10.2.x and above)

A precompiled binary distribution of R for Mac OS X is available in Apple’s disk image (.dmg) format.

1. Click on the “Mac OS X” link.
2. If you have Mac OS X 10.4.4 or higher, you probably want the full version contained in the disk image “R-2.3.1.dmg”. (There is also a more compact “mini” version, if for some reason you only want to the command line version of R with no frills.) This is a universal binary, so it will work regardless of whether you have a PowerPC-based or Intel-based Mac.
3. If your Mac OS X version is less than 10.4.4, and you do not wish to upgrade, there is a link on that same page to a directory called “old” that contains some older versions of R (also in disk image format) that will work on your machine. Try to select the most recent R version compatible with your machine. The “R for Mac OS X FAQ” document (see the link at the bottom of the download page) may be useful for determining what version you should use.
4. Download the disk image appropriate for your system and your needs. It contains the base distribution and several recommended packages. Save it to a file on your hard drive. (NOTE: the (10.4.4) installation file is about 96 Megabytes. If you are on a slow Internet connection, download the installation file on a machine with a fast connection (for example, a machine in your school’s computer lab) and save it to a USB drive or a CD. You can then install R using your saved copy. DO NOT install R on a lab machine with permission from the lab’s administrator.)
5. To install R, simply double-click on the icon of the package file.

You should be ready to go. It is a good idea to read the “R-FAQ.html” and the “R for Mac OS FAQ” documents (there are links to those sites on that same page).

1.1.4 Linux

1. Click on the “Linux” link.
2. Click on your distribution.

R has been ported to several popular distributions. If you don’t see your distribution, you may be able to get one of the listed ones to work. Otherwise, you’ll have to get the source tarball and build it on your machine. This is not terribly hard, as the configuration scripts have been tested on many platforms. Here are some general instructions for building from source.

1. From the starting page, go to the “Source Code for the Latest Release” link. Download the tarball “R-2.3.1.tar.gz” to a directory on your computer. (A *tarball* is a group of files that have been collected into one big file (a “tape archive” or “tar” file) and then compressed (usually with the `gzip` program). If you’ve never seen these before just think of them as the equivalent of a “zip” file or a “Stuffit” file.)
2. Decompress the file by typing “`gzip -dc R-2.3.1.tar.gz | tar xf -`” at the command prompt. The `gzip` command will decompress the “tar” file, and the `tar` command will extract the files from the archive.
3. Run the configuration script by typing “`./configure`” at the prompt. This will create a “**Makefile**” containing the commands needed to automatically build R from the source code.
4. Assuming the `configure` script did not run into any errors, you should now build R using the command “`make`”. This will process the **Makefile** you made in the previous step and assemble the source code into a working program.

Be sure to run the installation procedure as the “root” user; otherwise, some parts of the installation may fail. If you do not have “root” privileges on your system, ask your system administrator to install R for you.