Getting Started with R and RStudio

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R is a functional open-source programming language widely used in statistical analysis and visualization. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. Similar to any programming language, learning R may not be easy at the beginning, but once you get into it, you can explore more powerful things with R. In this instruction, you will find more details on how to install R and Rstudio, and some useful resources to help you familiarize with R.

Step 1: Installing R

R is freely available online. To install R, go to https://www.r-project.org/ and click on "download R" bolded in blue. Then, choose the mirror that is more physically close to you.

USA

https://mirror.las.iastate.edu/CRAN/	Iowa State University, Ames, IA
http://ftp.ussg.iu.edu/CRAN/	Indiana University
https://repo.miserver.it.umich.edu/cran/	MBNI, University of Michigan, Ann Arbor, MI
http://cran.wustl.edu/	Washington University, St. Louis, MO
https://archive.linux.duke.edu/cran/	Duke University, Durham, NC
https://cran.case.edu/	Case Western Reserve University, Cleveland, OH
https://ftp.osuosl.org/pub/cran/	Oregon State University
http://lib.stat.cmu.edu/R/CRAN/	Statlib, Carnegie Mellon University, Pittsburgh, PA
https://cran.mirrors.hoobly.com/	Hoobly Classifieds, Pittsburgh, PA
https://mirrors.nics.utk.edu/cran/	National Institute for Computational Sciences, Oak Ridge, TN
https://cran.microsoft.com/	Revolution Analytics, Dallas, TX

Then, click on one of the "Download R for" links based on your operating system. For example, if you are a Mac user, you will need to click on "Download R for macOS". After the selection, click on the pkg file underneath the "Latest Release" heading and download the file. Follow the instructions on the installer and finish R installation on your system.

Latest release:

R-4.2.1.pkg (notarized and signed)
SHA1-hash: f83a6c96cedd19193255f94cb01381a273073a3a
(ca. 90MB) for Intel Macs

R 4.2.1 binary for macOS 10.13 (**High Sierra**) and higher, **Intel 64-bit** build, signed and notarized package.
Contains R 4.2.1 framework, R.app GUI 1.79 in 64-bit for Intel Macs, Tcl/Tk 8.6.6 X11 libraries and Texinfo 6.7. The latter two components are optional and can be ommitted when choosing "custom install", they are only needed if you want to use the `tcltk` R package or build package documentation from sources.

Note: the use of X11 (including `tcltk`) requires XQuartz to be installed (version 2.7.11 or later) since it is no longer part of macOS. Always re-install XQuartz when upgrading your macOS to a new major version.

This release supports Intel Macs, but it is also known to work using Rosetta2 on M1-based Macs. For native Apple silicon arm64 binary see below.

Important: this release uses Xcode 12.4 and GNU Fortran 8.2. If you wish to compile R packages from sources, you may need to download GNU Fortran 8.2 - see the tools directory.

Step 2: Installing RStudio

Next, you need to install RStudio, a user interface for R that makes R programming more convenient and easier. To install RStudio, navigate to https://rstudio.com/products/rstudio/download/ and click on “Download” underneath the RStudio Desktop (Free version). It is worth noting that installing RStudio needs to be done after you successfully installed R (following Step 1).

Click on the installer suggested by the website or select from the list based on your operating system. Follow the instructions on the installer and finish RStudio installation on your system.

RStudio Desktop 2022.07.1+554 - Release Notes

1. Install R. RStudio requires R 3.3.0+.

2. Download RStudio Desktop. Recommended for your system:

DOWNLOAD RSTUDIO FOR MAC
2022.07.1+554 | 221.04MB

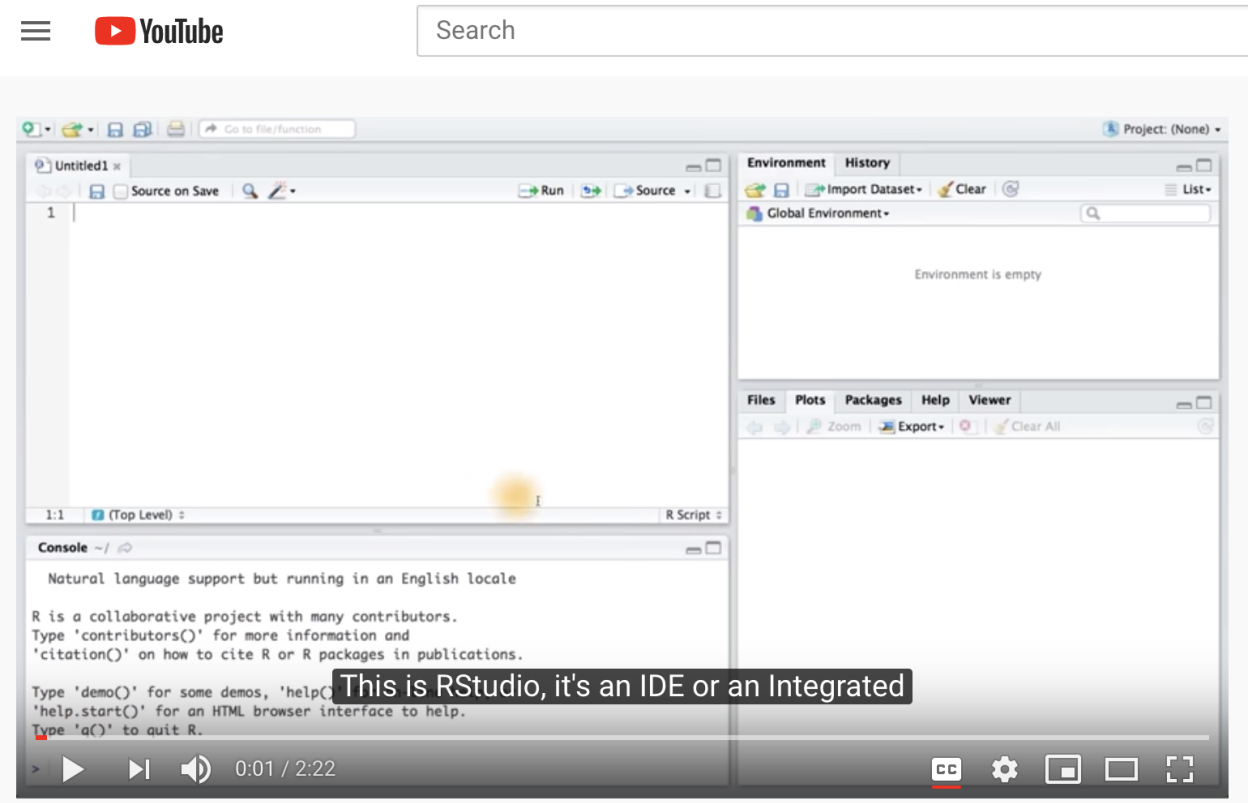
Requires macOS 10.15+ (64-bit)

OS	Download	Size	SHA-256
Windows 10/11	RStudio-2022.07.1-554.exe	190.14 MB	5ab6215b
macOS 10.15+	RStudio-2022.07.1-554.dmg	221.04 MB	7b1a2285
Ubuntu 18+/Debian 10+	rstudio-2022.07.1-554-amd64.deb	132.91 MB	74b9e751
Ubuntu 22	rstudio-2022.07.1-554-amd64.deb	145.33 MB	92f2ab75
Fedora 19/Red Hat 7	rstudio-2022.07.1-554-x86_64.rpm	103.29 MB	0fc15d16
Fedora 34/Red Hat 8	rstudio-2022.07.1-554-x86_64.rpm	149.77 MB	0c4ef334
OpenSUSE 15	rstudio-2022.07.1-554-x86_64.rpm	133.76 MB	45f277d0

Possible Resources

If you are curious and want to try R programming, here are some additional resources that you can go through:

1. Swirl: Swirl is an interactive R package that helps beginners to learn R programming and data science through a fun way. You can install swirl package in your RStudio by following the instructions on https://swirlstats.com/students.html. By Swirl, you can work through short lessons to start writing R codes!
2. Datacamp free course for R: you can find “Introduction to R” course (https://www.datacamp.com/courses/free-introduction-to-r) on Datacamp. You can work through the first lesson “Intro to basics” (free lesson) to get better prepared for R.
3. Udacity video on touring RStudio: if it is your first time using RStudio, there is a helpful YouTube video by Udacity on the layout and functions on RStudio, which may help you better familiarize the interface, Check this out at: https://www.youtube.com/watch?v=5ZbjUEg4a1g



RStudio Layout - Data Analysis with R