

How to Install **R** and **Rstudio**

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- R is a statistical programming/language.
- R is also used for
 - Data Wrangling
 - Data Visualization
 - Data Science
 - Machine Learning
- R is open-source and free to use.
- R community is awesome. Just search #Rstats in twitter.

How to setup R environment

1

Install R

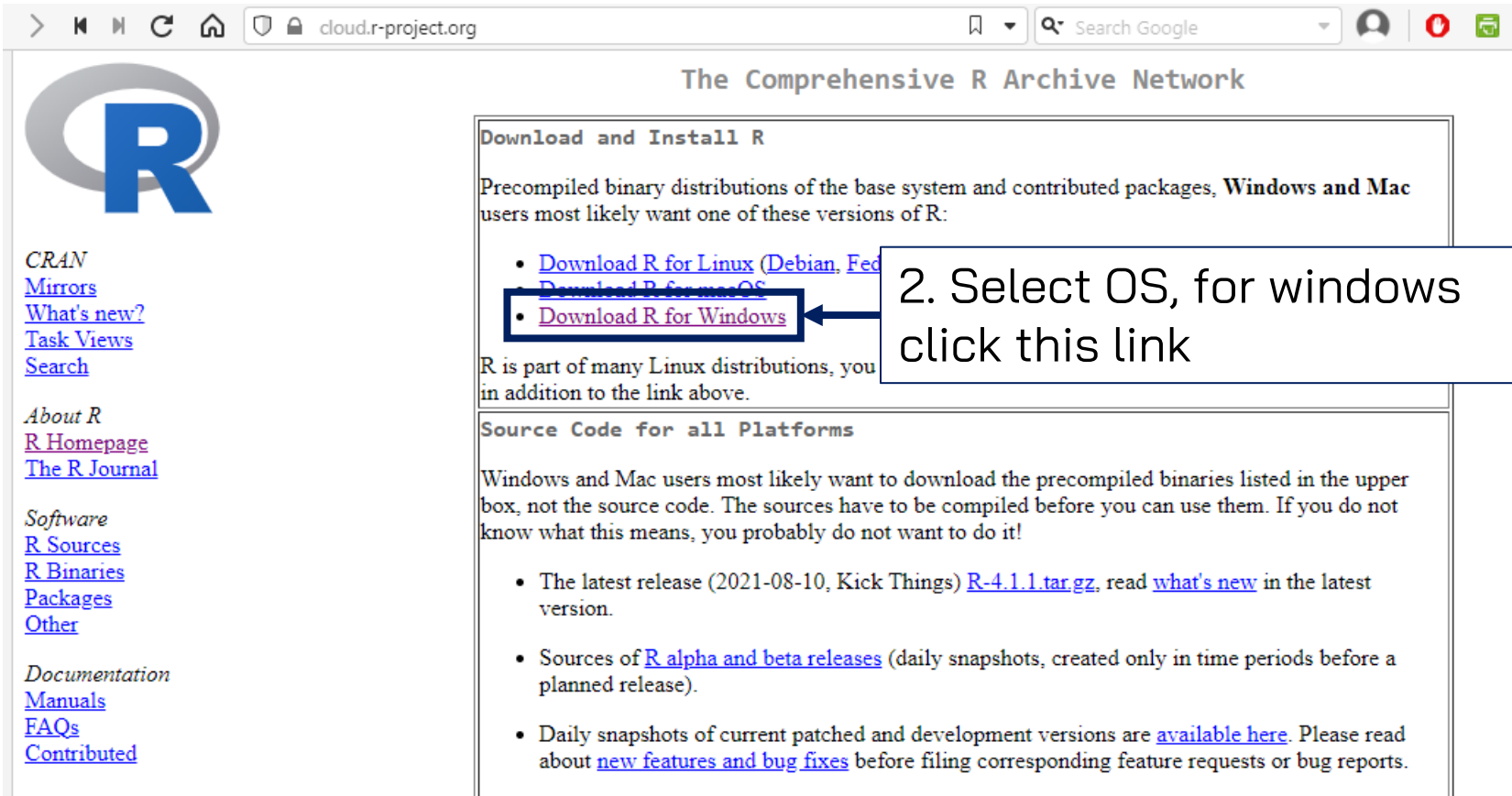
2

**Install
Rstudio**

1. Install R

1. install R

1. go to <https://cloud.r-project.org>



The screenshot shows the website 'The Comprehensive R Archive Network' at cloud.r-project.org. The page has a left sidebar with navigation links and a main content area. A callout box with an arrow points to the 'Download R for Windows' link in the 'Download and Install R' section.

The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux \(Debian, Fedora, etc.\)](#)
- [Download R for macOS](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you may want to check that in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2021-08-10, Kick Things) [R-4.1.1.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.

Left Sidebar Links:

- CRAN
- [Mirrors](#)
- [What's new?](#)
- [Task Views](#)
- [Search](#)
- About R
- [R Homepage](#)
- [The R Journal](#)
- Software
- [R Sources](#)
- [R Binaries](#)
- [Packages](#)
- [Other](#)
- Documentation
- [Manuals](#)
- [FAQs](#)
- [Contributed](#)

2. Select OS, for windows click this link

1. install R [cont.]

3. click base and go to download page



[CRAN](#)
[Mirrors](#)
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[Search](#)

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[R Sources](#)
[R Binaries](#)
[Packages](#)
[Other](#)

[Documentation](#)
[Manuals](#)
[FAQs](#)
[Contributed](#)

Subdirectories:

[base](#)

[contrib](#)

[old contrib](#)

[Rtools](#)

R for Windows

Binaries for base distribution. This is what you want to [install R for the first time](#).

Binaries of contributed CRAN packages (for R \geq 2.13.x; managed by Uwe Ligges). There is also information on [third party software](#) available for CRAN Windows services and corresponding environment and make variables.

Binaries of contributed CRAN packages for outdated versions of R (for R $<$ 2.13.x; managed by Uwe Ligges).

Tools to build R and R packages. This is what you want to build your own packages on Windows, or to build R itself.

Please do not submit binaries to CRAN. Package developers might want to contact Uwe Ligges directly in case of questions / suggestions related to Windows binaries.

You may also want to read the [R FAQ](#) and [R for Windows FAQ](#).

Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables.

1. install R (cont.)



CRAN

Mirrors

What's new?

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[Search](#)

About R

[R Homepage](#)

The R Journal

Software

R Sources

R Binaries

Packages

Other

Documentation

Manuals

FAOs

Contributed

R-4.1.1 for Windows (32/64 bit)

[Download R 4.1.1 for Windows](#)

Installation and other instructions

New features in this version

If you want to double-check, you can compare the `md5sum` of both `graphical` and `compiled` files:

- Does R run unde
- How do I update
- Should I run 32-1

Download "R-4.1.1-win.exe"?

File Name: R-4.1.1-win.exe

File Size: 85.4 MB

Host: cloud.r-project.org

☐ Always Save Files to

Save

Save As...

Open

Cancel

4. click this link and download popup show up
Current version is 4.2.1

5. click save to download installer file

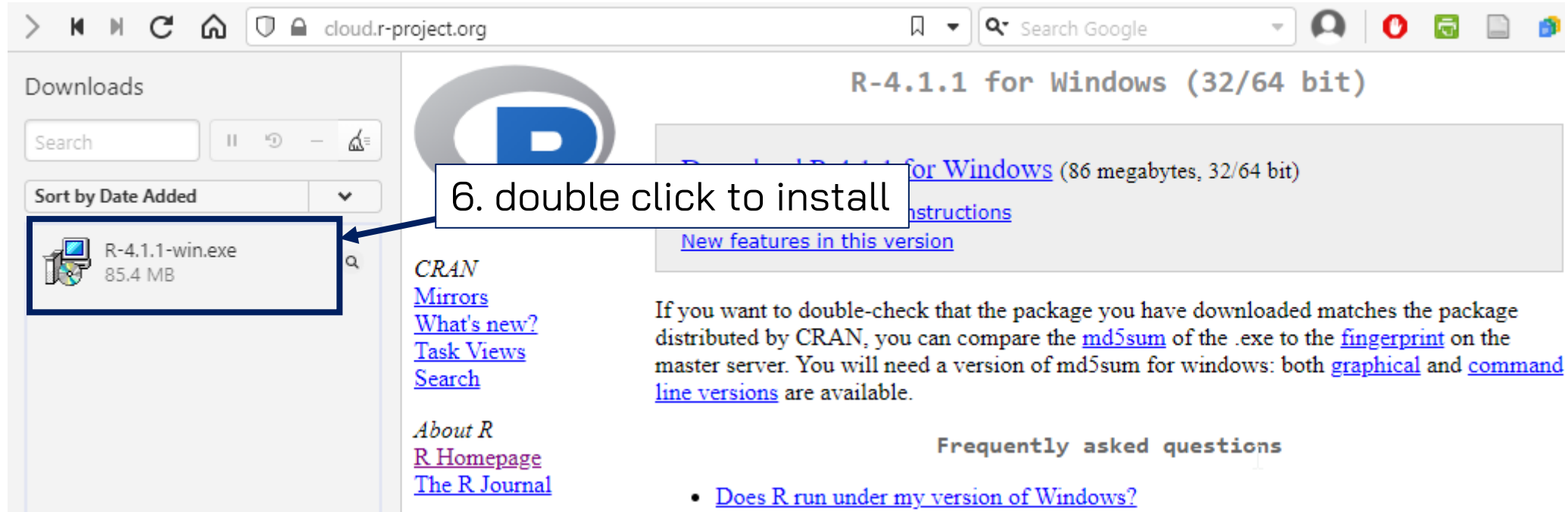
Please see the [R FAQ](#) for general information about R and the [R Windows FAQ](#) for Windows-specific information.

Other builds

- Patches to this release are incorporated in the [r-patched snapshot build](#).
- A build of the development version (which will eventually become the next major release of R) is available in the [r-devel snapshot build](#).
- [Previous releases](#)

Note to webmasters: A stable link which will redirect to the current Windows binary release is CRAN.MIRROR/bin/windows/base/release.html.

1. install R (cont.)



The screenshot shows a web browser window at cloud.r-project.org. The main content area displays the download page for R-4.1.1 for Windows (32/64 bit). A callout box with the text "6. double click to install" has an arrow pointing to the file "R-4.1.1-win.exe" (85.4 MB) in the Windows Downloads sidebar on the left. The sidebar also shows a search bar and a "Sort by Date Added" dropdown. The main page includes links for "CRAN", "Mirrors", "What's new?", "Task Views", "Search", "About R", "R Homepage", and "The R Journal". It also features a section for "Frequently asked questions" with a link to "Does R run under my version of Windows?".

cloud.r-project.org

Downloads

Search

Sort by Date Added

R-4.1.1-win.exe
85.4 MB

R-4.1.1 for Windows (32/64 bit)

[Download R for Windows](#) (86 megabytes, 32/64 bit)

[Instructions](#)

[New features in this version](#)

CRAN

[Mirrors](#)

[What's new?](#)

[Task Views](#)

[Search](#)

About R

[R Homepage](#)

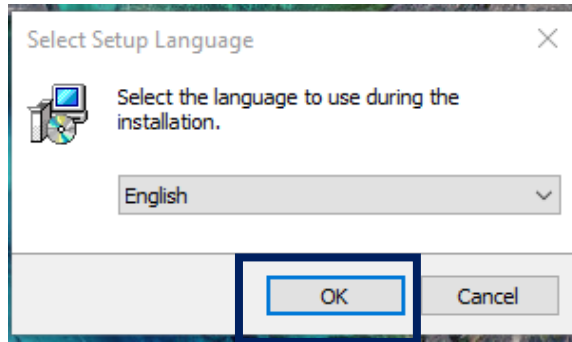
[The R Journal](#)

If you want to double-check that the package you have downloaded matches the package distributed by CRAN, you can compare the [md5sum](#) of the .exe to the [fingerprint](#) on the master server. You will need a version of md5sum for windows: both [graphical](#) and [command line versions](#) are available.

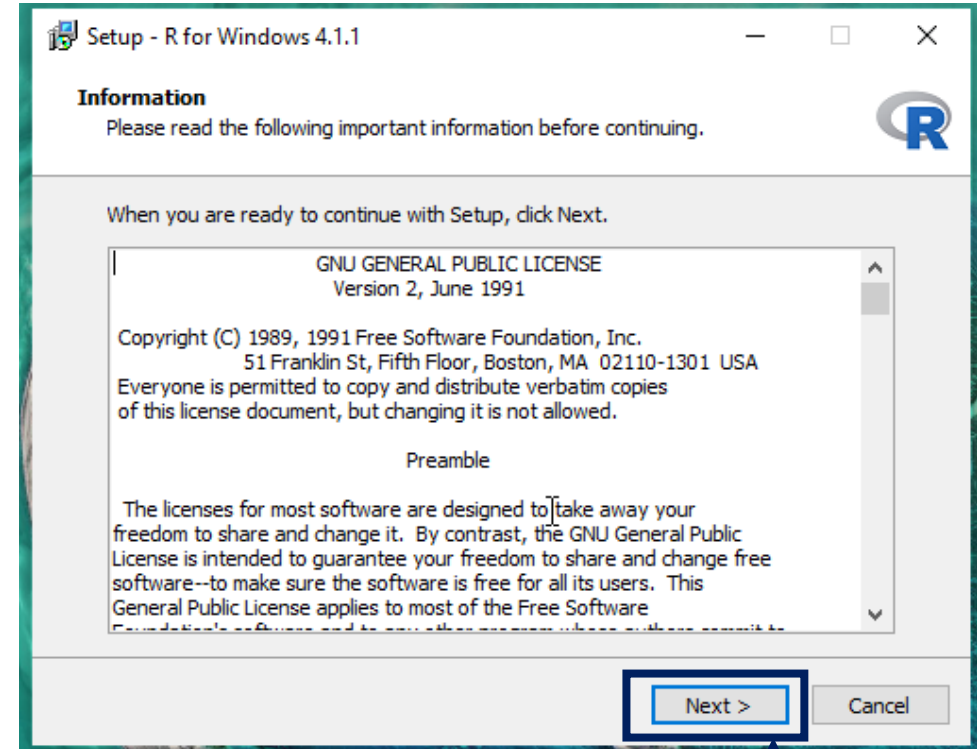
Frequently asked questions

- [Does R run under my version of Windows?](#)

1. install R [cont.]

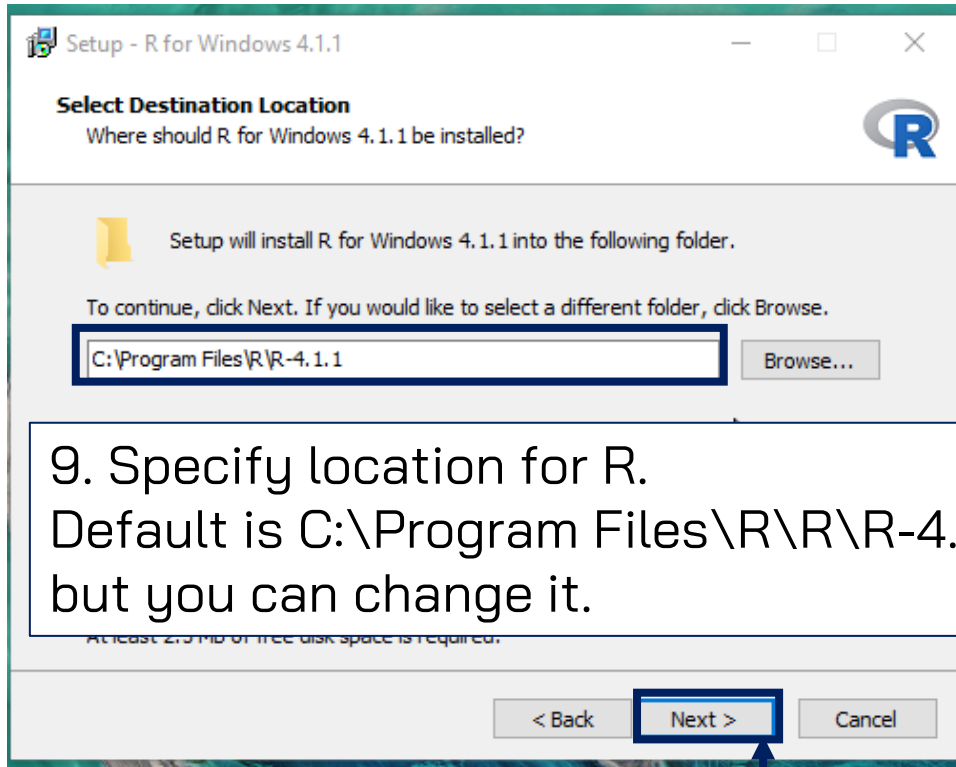


7. Click OK



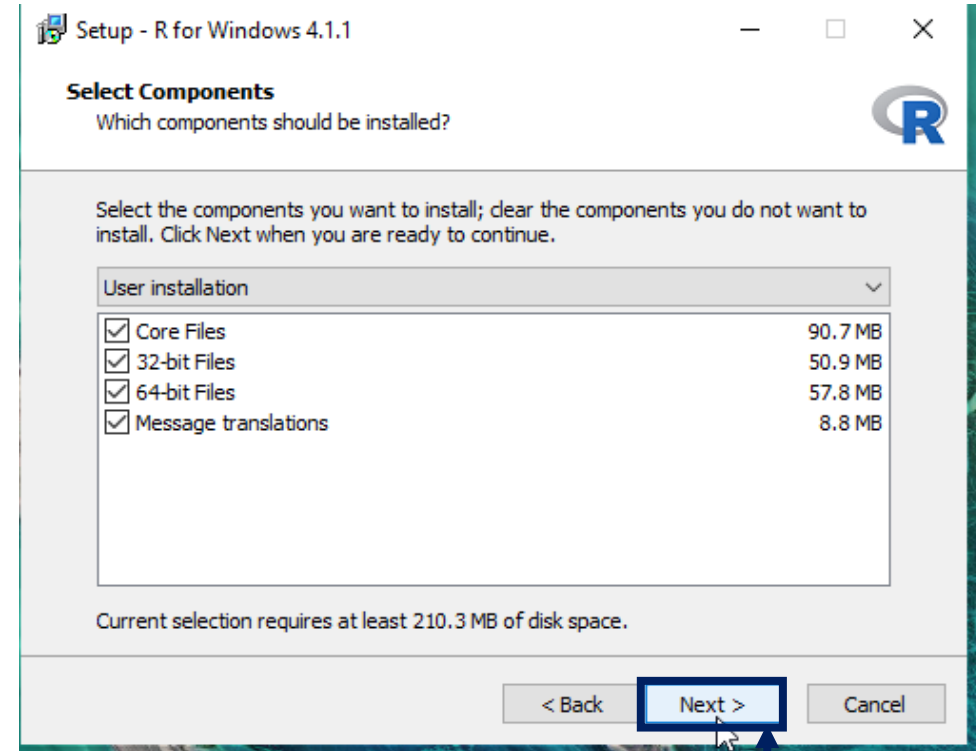
8. Click Next

1. install R [cont.]



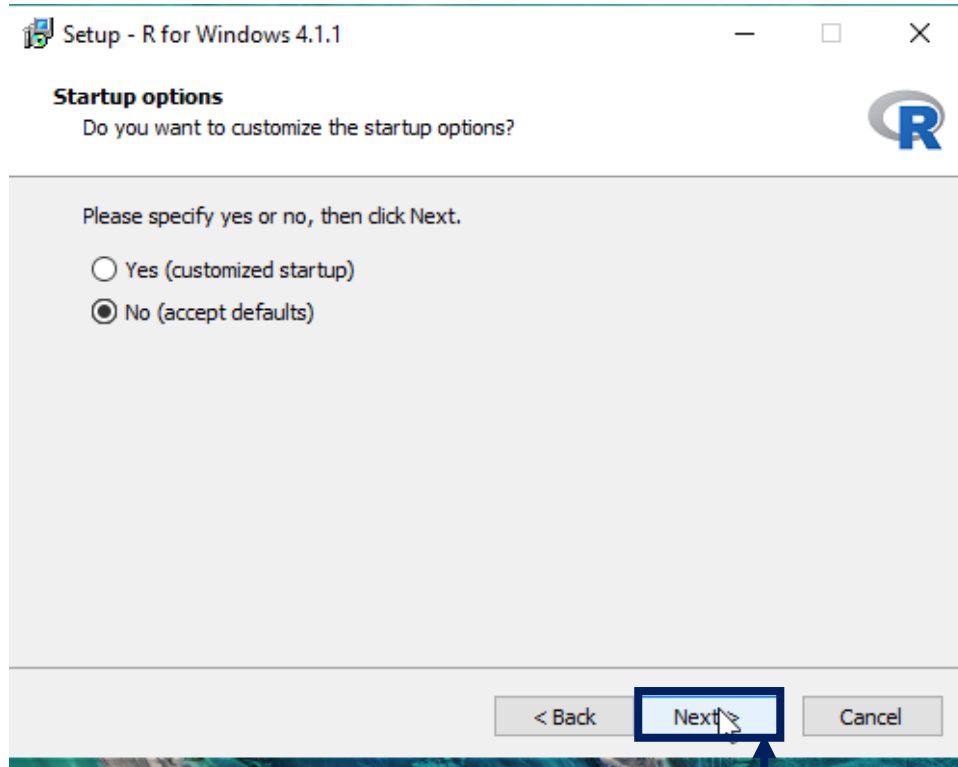
9. Specify location for R.
Default is C:\Program Files\R\R-4.x.x,
but you can change it.

10. Click Next

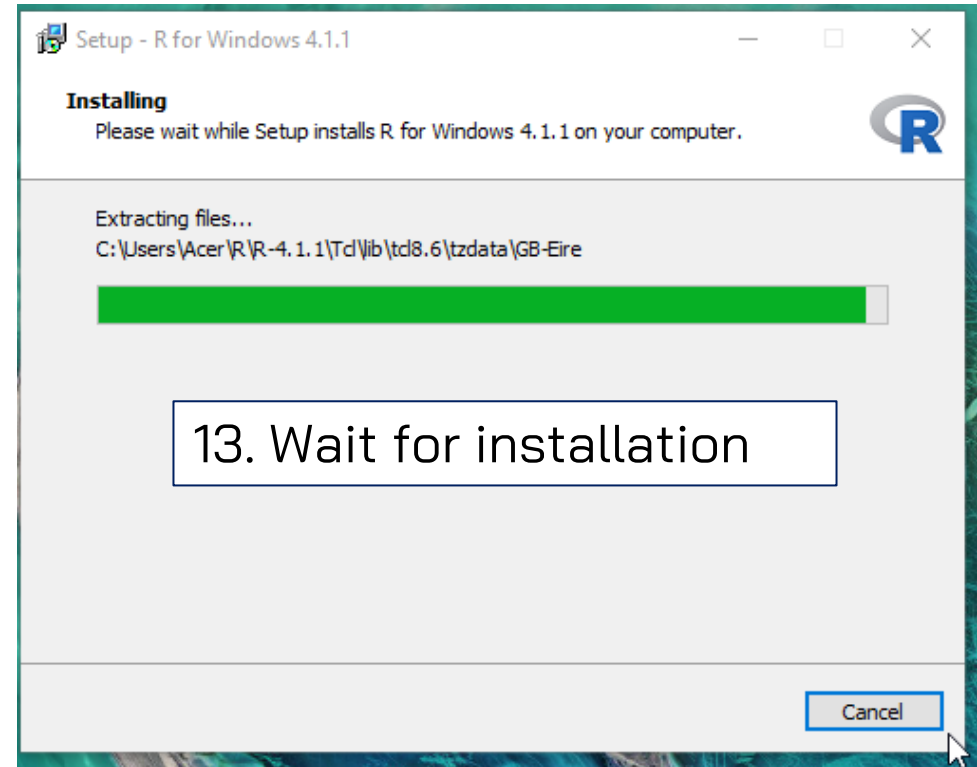


11. Click Next

1. install R (ต่อ)

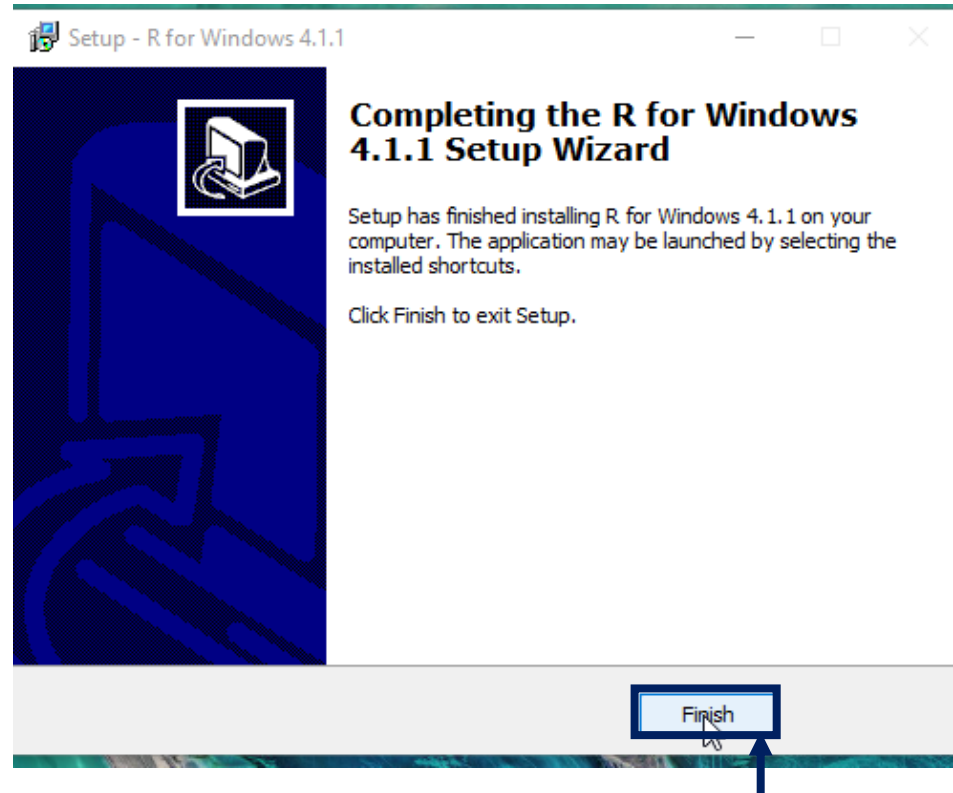


12. click Next



13. Wait for installation

1. install R (ต่อ)



14. When installation is finished, then hit Finish button

2. Install RStudio

2. Install RStudio

RStudio is an open-source software for writing R codes developed by company named Rstudio (now Posit).

Rstudio contains tools that help writing R codes easier.

A screenshot of the RStudio website's download page. The browser address bar shows 'www.rstudio.com/products/rstudio/download/'. The page features a blue header with the RStudio logo and navigation links: Products, Solutions, Customers, Resources, About, and Pricing. A white box with a blue border contains the instruction: '1. Go to https://www.rstudio.com/products/rstudio/download/'. Below this is a large blue banner with the text 'Download the RStudio IDE'. The main content area has a white background with the heading 'Choose Your Version' and a paragraph describing the RStudio IDE as a set of integrated tools for R and Python. A blue button labeled 'LEARN MORE ABOUT THE RSTUDIO IDE' is positioned below the paragraph. On the right side, there is a section for 'RStudio Team' with a graphic of colorful lines and a description of the RStudio Team as a professional data science solution. At the bottom right, a link says 'Learn more about RStudio Team' followed by the page number '14'.


1. Go to <https://www.rstudio.com/products/rstudio/download/>

Download the RStudio IDE

Choose Your Version

The RStudio IDE is a set of integrated tools designed to help you be more productive with R and Python. It includes a console, syntax-highlighting editor that supports direct code execution, and a variety of robust tools for plotting, viewing history, debugging and managing your workspace.

[LEARN MORE ABOUT THE RSTUDIO IDE](#)

The RStudio Team logo features a stylized 'R' in a blue circle, followed by the text 'Studio Team'. To the left of the 'R' is a graphic of several colorful lines (blue, green, orange, red, black) that converge towards the 'R'.

RStudio's recommended professional data science solution for every team. **RStudio Team** is a bundle of RStudio's popular professional software for data analysis, package management, and sharing data products.

[Learn more about RStudio Team](#) 14

2. install RStudio (cont.)

2. Click Download
RStudio Desktop
(Open Source)

	RStudio Desktop Open Source License Free	RStudio Desktop Pro Commercial License \$995 /year	RStudio Server Open Source License Free	RStudio Workbench ⓘ Commercial License \$4,975 /year (5 Named Users)
	DOWNLOAD Learn more	BUY Learn more	DOWNLOAD Learn more	BUY Evaluation Learn more
Integrated Tools for R	✓	✓	✓	✓
Priority Support		✓		✓
Access via Web Browser			✓	✓
RStudio Professional Drivers		✓		✓
Connect to RStudio Workbench ⓘ remotely		✓		
Enterprise Security				✓

2. install RStudio (cont.)

3. Click
download

RStudio Desktop 2021.09.0+351

[- Release Notes](#)

1. Install R. RStudio requires R 3.0.1+.

2. Download RStudio Desktop. Recommended for your system:

 **DOWNLOAD RSTUDIO FOR WINDOWS**
2021.09.0+351 | 156.88MB

Requires Windows 10 (64-bit)

Download "RStudio-2021.09.0+351.exe"?

File Name: RStudio-2021.09.0+351.exe

File Size: 149.62 MB

Host: download1.rstudio.org

☐ Always Save Files to D

Save

Save As...

Open

Cancel

4. Click save to download file

2. install RStudio (cont.)

Downloads

Search

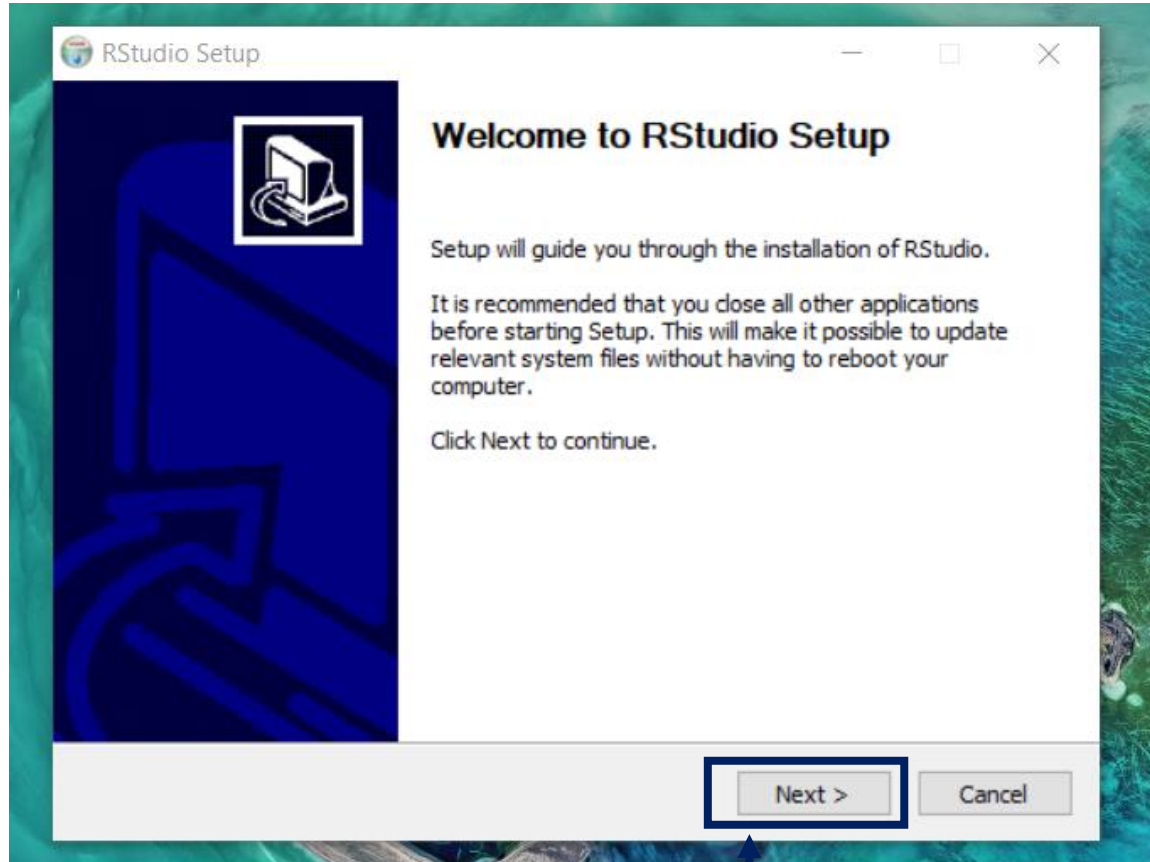
Sort By Date Added

RStudio-2021.09.0+351...
149.62 MB

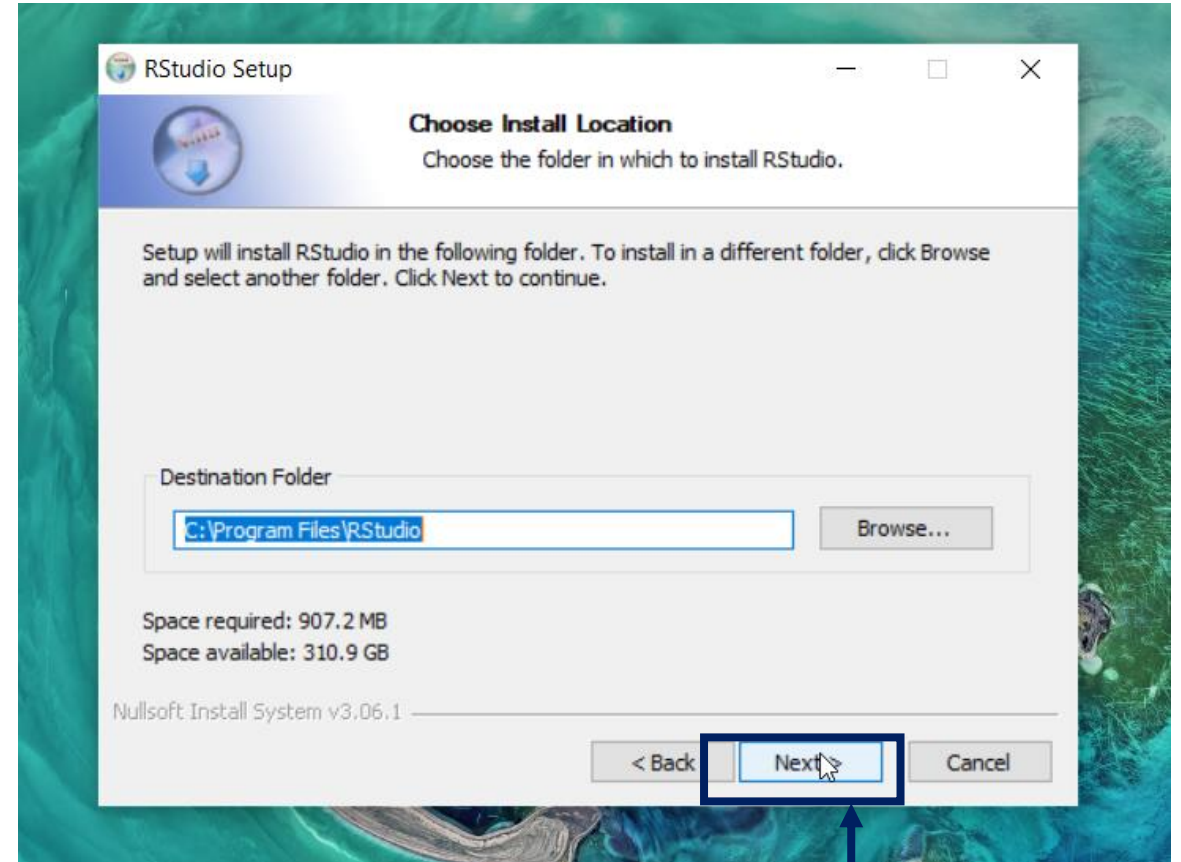
5. double click to launch installation

Desktop	Desktop Pro	Server	workbench
Open Source License	Commercial License	Open Source License	Commercial License
Free	\$995 /year	Free	\$4,975 /year (5 Named Users)
DOWNLOAD	BUY	DOWNLOAD	BUY
Learn more	Learn more	Learn more	Evaluation Learn more

2. install RStudio (cont.)

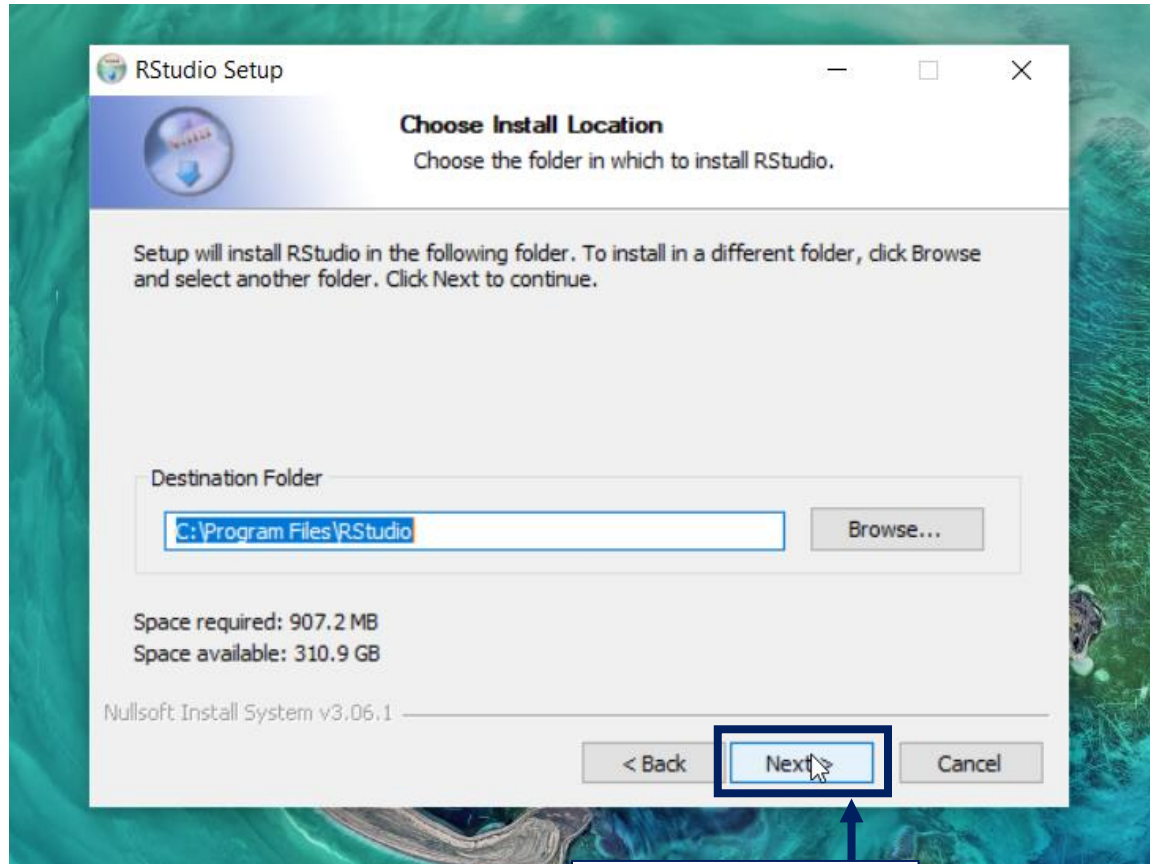


6. Click Next

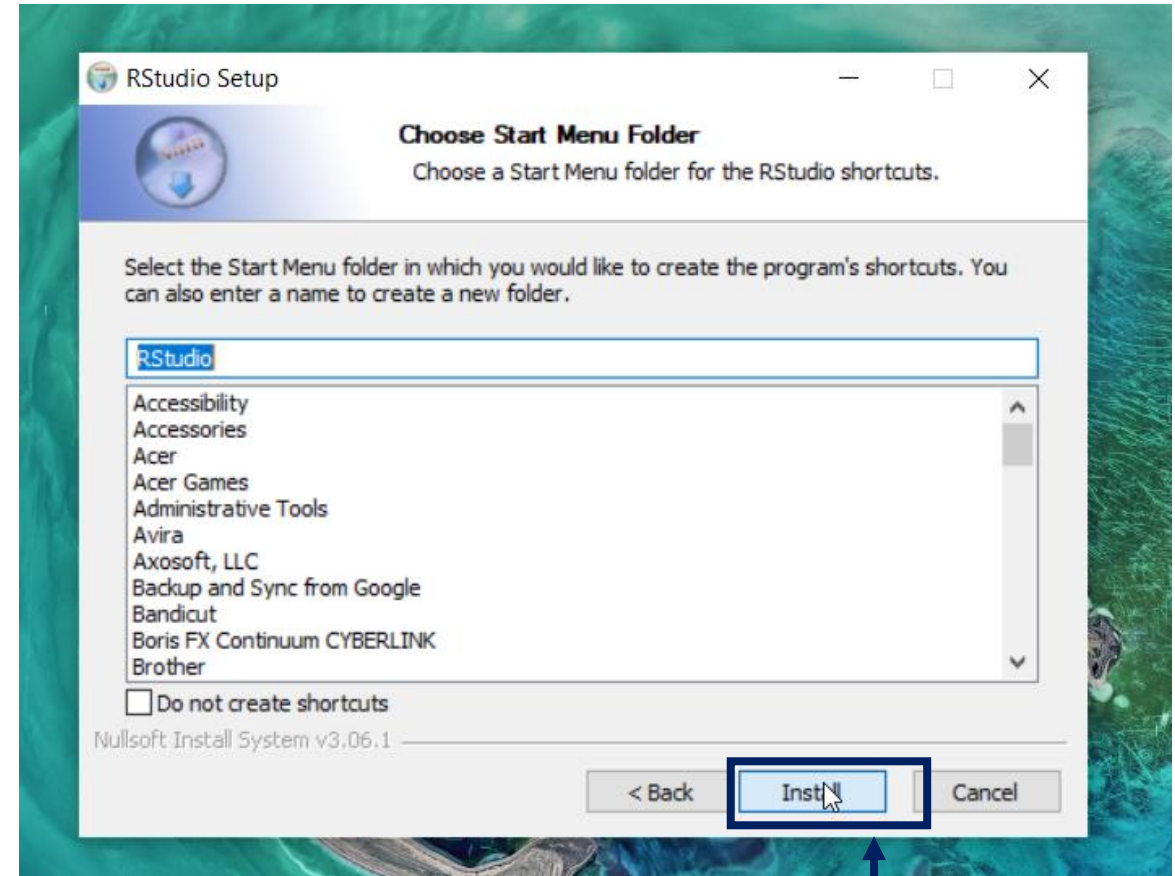


7. Click Next

2. install RStudio (cont.)

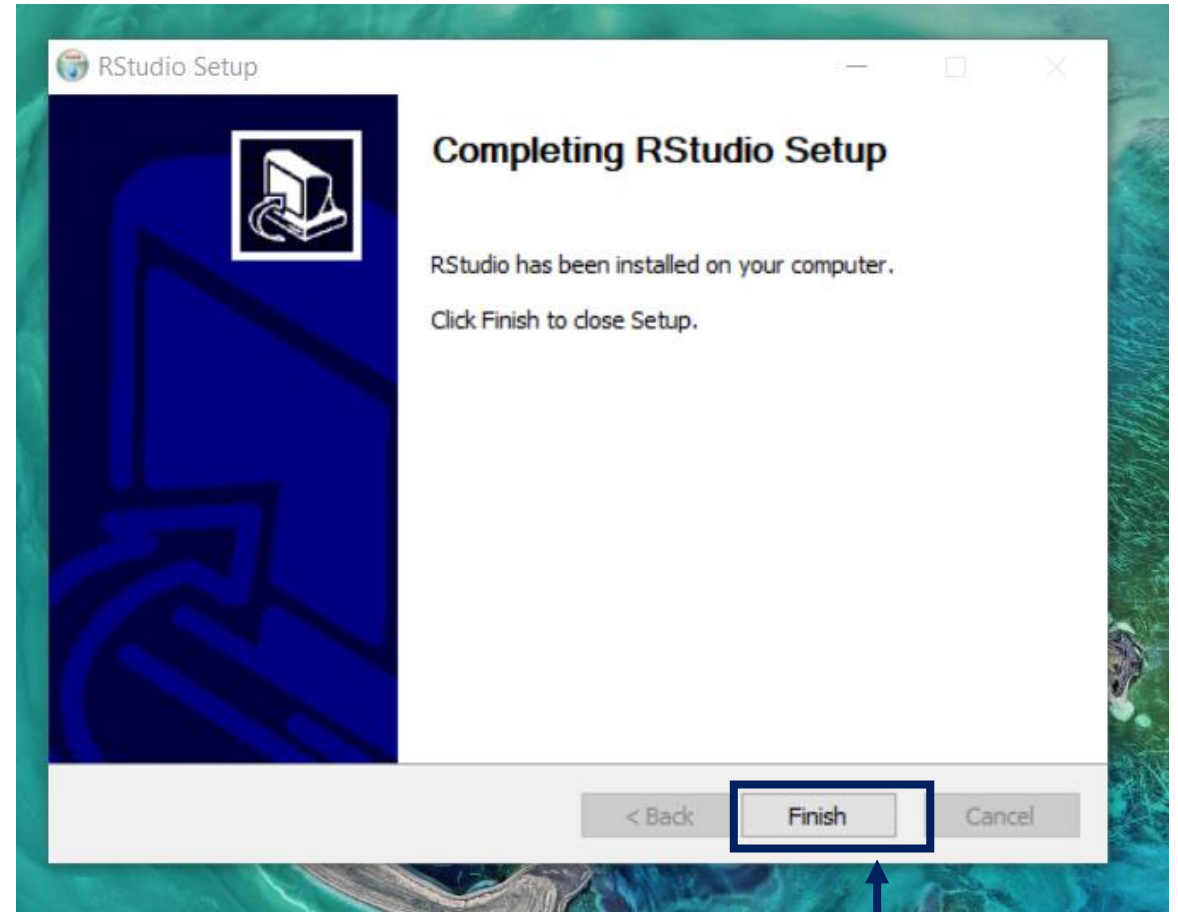
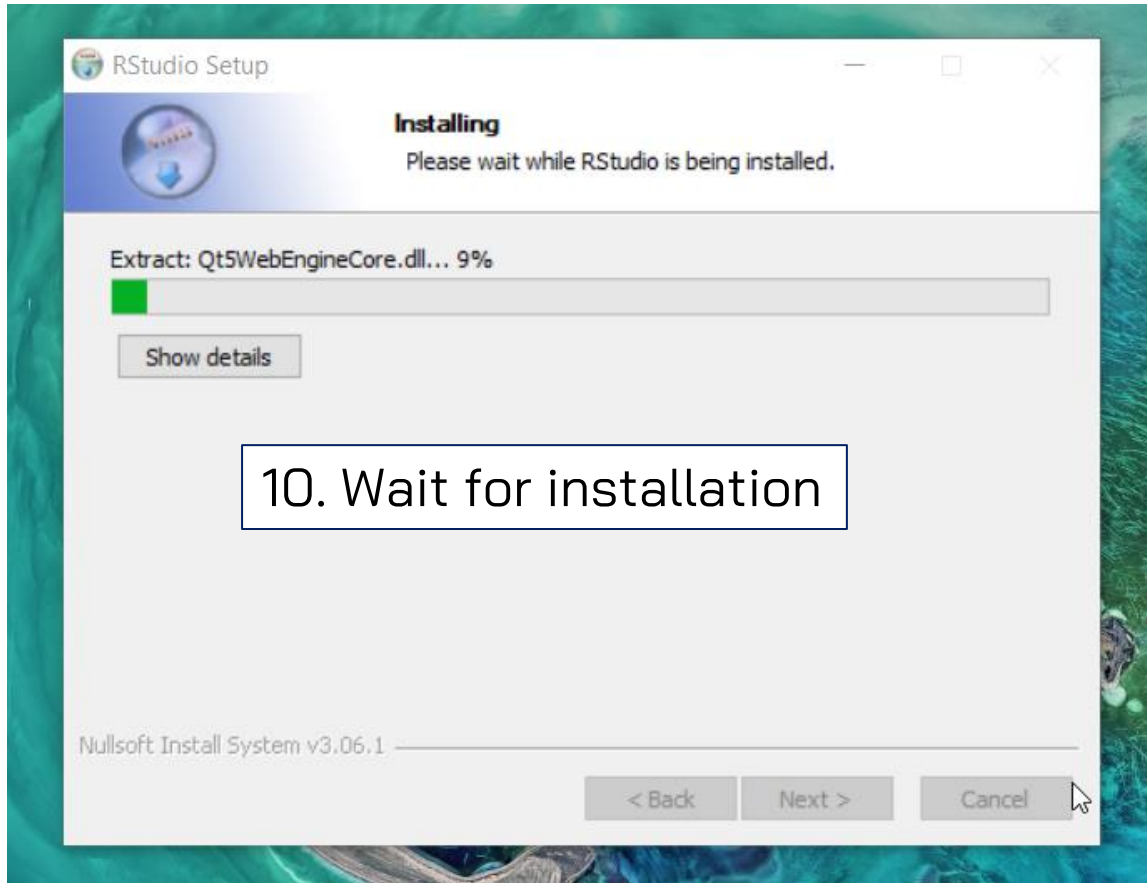


8. Click Next

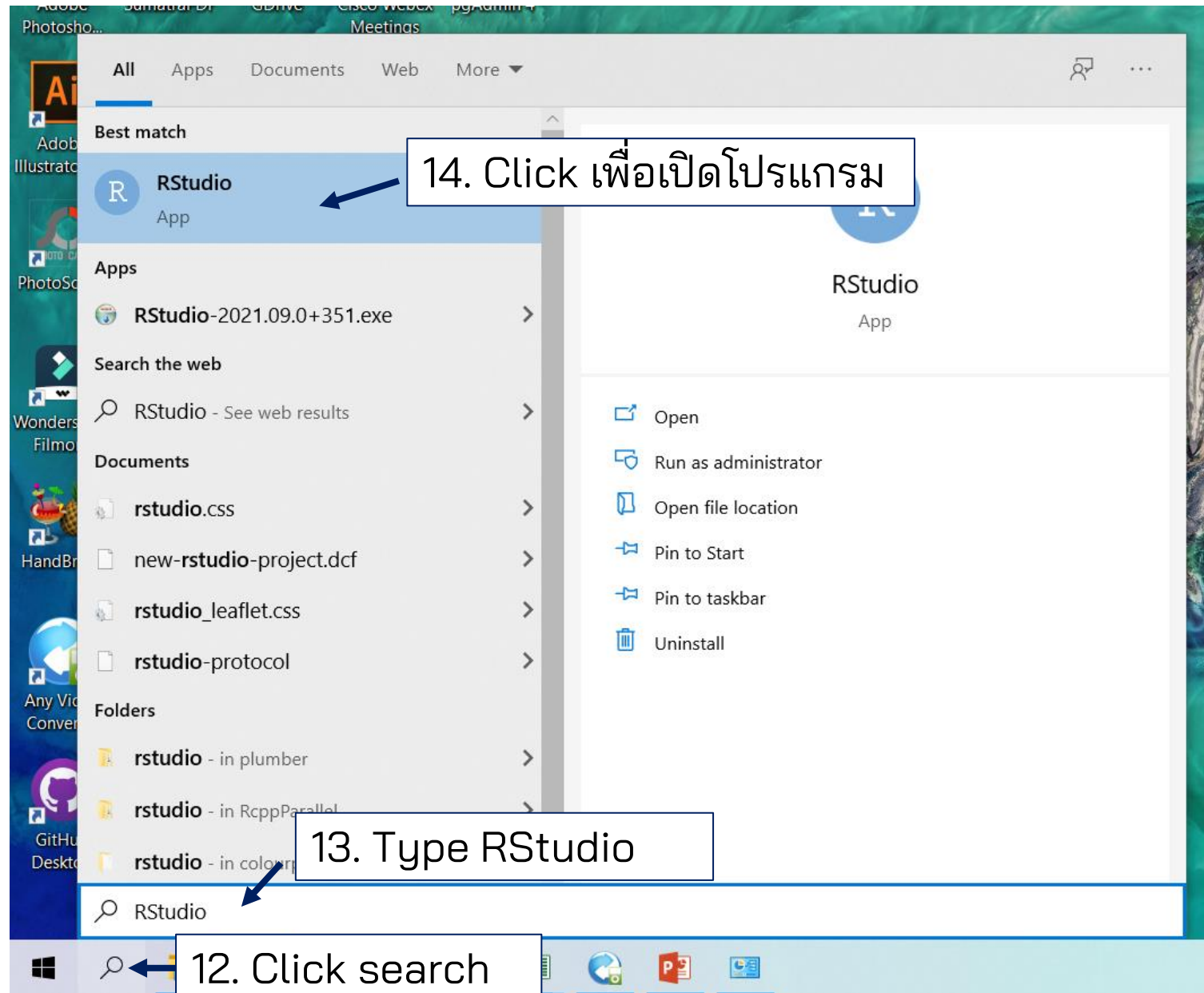


9. Click Install

1.2 RStudio (ต่อ)



2. install RStudio (cont.)



2. install RStudio (cont.)

The screenshot displays the RStudio application window. The main editor pane on the left shows a file named 'Untitled1*' with the code `mtcars` on line 1. A blue arrow points from a text box to this code. The bottom-left pane shows the R console with the command `> mtcars` and its output, a data frame of car specifications. A blue arrow points from a text box to the `mtcars` command in the console. The right-hand side of the window contains several panels: 'Environment' (showing 'Global Environment'), 'Files' (showing a list of installed packages), and 'Plots' (empty). The 'Packages' panel lists various installed packages like `base64enc`, `cli`, `crayon`, `digest`, `ellipsis`, `evaluate`, and `fansi`.

15. Text Editor: For writing code where you can execute code by hitting Ctrl + Enter

16. Console: Display result

```
[1] "Thai_Thailand"
> mtcars
```

	mpg	cyl	displacement	horsepower	weight	quarter mile time	vs	am	gear	carburetors
Mazda RX4	21.0	6	160.0	110	2.620	16.46	0	1	4	4
Mazda RX4 Wag	21.0	6	160.0	110	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108.0	93	2.320	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258.0	110	3.215	19.44	1	0	3	1

2. install RStudio (cont.)

19. Type package names you want to install i.e. tidyverse

17. Select Packages tab

18. Select Install

20. Click Install

```
53  
54 - logical: has 2 values `TRUE` or `FALSE`  
55 - numeric: numbers either integer or decimal number  
56 - character: text  
57  
58 we can create a vector using `c` for  
59 ```{r}  
60 # logical  
61 x_logical <- c(TRUE, FALSE)  
62 class(x_logical)  
63 typeof(x_double)  
64  
65 # integer  
66 x_int <- c(1L, 2L) # ending L for  
67 class(x_int)  
68 typeof(x_double)  
69  
70 # double  
60:1 Chunk 3
```

Console: Preview: 1_intro-R.qmd

```
ordinary text without R code  
|.....  
label: unnamed-chunk-2  
|.....  
ordinary text without R code  
|.....  
label: unnamed-chunk-3  
Quitting from lines 60-79 (1_intro-R.qmd)  
Error in typeof(x_double) : object 'x_double' not found  
Calls: .main ... withVisible -> eval_with_user_handlers -> eval -> eval -> typeof  
Execution halted
```

Name	Description	Version
System		
<input type="checkbox"/> actuar	Actuarial Functions and Heavy Tailed Distributions	1.4-5
<input type="checkbox"/> agricolae	Statistical Procedures for Agricultural Research	3.3-0
<input type="checkbox"/> AlgDesign	Algorithmic Experimental Design	1.3-5
<input type="checkbox"/> anytime	Algorithmic Experimental Design	1.2.1
<input type="checkbox"/> AsioHeaders	Anything to 'POSIXct' or 'Date' Converter	0.3.9
<input type="checkbox"/> askpass	'Asio' C++ Header Files	1.22.1-1
<input type="checkbox"/> assertthat	Safe Password Entry for R, Git, and SSH	1.1
<input type="checkbox"/> backports	Easy Pre and Post Assertions	0.2.1
<input type="checkbox"/> base	Reimplementations of Functions Introduced Since R-3.0.0	1.4.1
<input checked="" type="checkbox"/> base64enc	The R Base Package	4.2.1
<input type="checkbox"/> base64url	Tools for base64 encoding	0.1-3
<input type="checkbox"/> batchtools	Fast and URL-Safe Base64 Encoder and Decoder	1.4
<input type="checkbox"/> biglm	Tools for Computation on Batch Systems	0.9.15
<input type="checkbox"/> bit	Bounded Memory Linear and Generalized Linear Models	0.9-2.1
<input type="checkbox"/> bit64	Classes and Methods for Fast Memory-Efficient Boolean Selections	4.0.4
<input type="checkbox"/> blob	A S3 Class for Vectors of 64bit Integers	4.0.5
<input type="checkbox"/> bookdown	A Simple S3 Class for Representing Vectors of Binary Data ('BLOBS')	1.2.3
<input type="checkbox"/> boot	Authoring Books and Technical Documents with R Markdown	0.27
<input type="checkbox"/> bootstrap	Bootstrap Functions (Originally by Angelo Canty for S)	1.3-28