Peer Graded Assignment: Course Project

On

Basic Software Setup: R, Rstudio and Github

For the fulfillment of week 4 **coursera** Project on Data Scientist’s Toolbox

Submitted By-**Murali Prasad Sharma**

Basic Introduction of R, RStudio and GitHub

R:-

R is the programming languages for statistical computing and graphics. It has the free set of packages for data access, data cleaning, analysis and data reporting.

RStudio:-

RStudio is the free and open-source integrated development environment (IDE) for R.

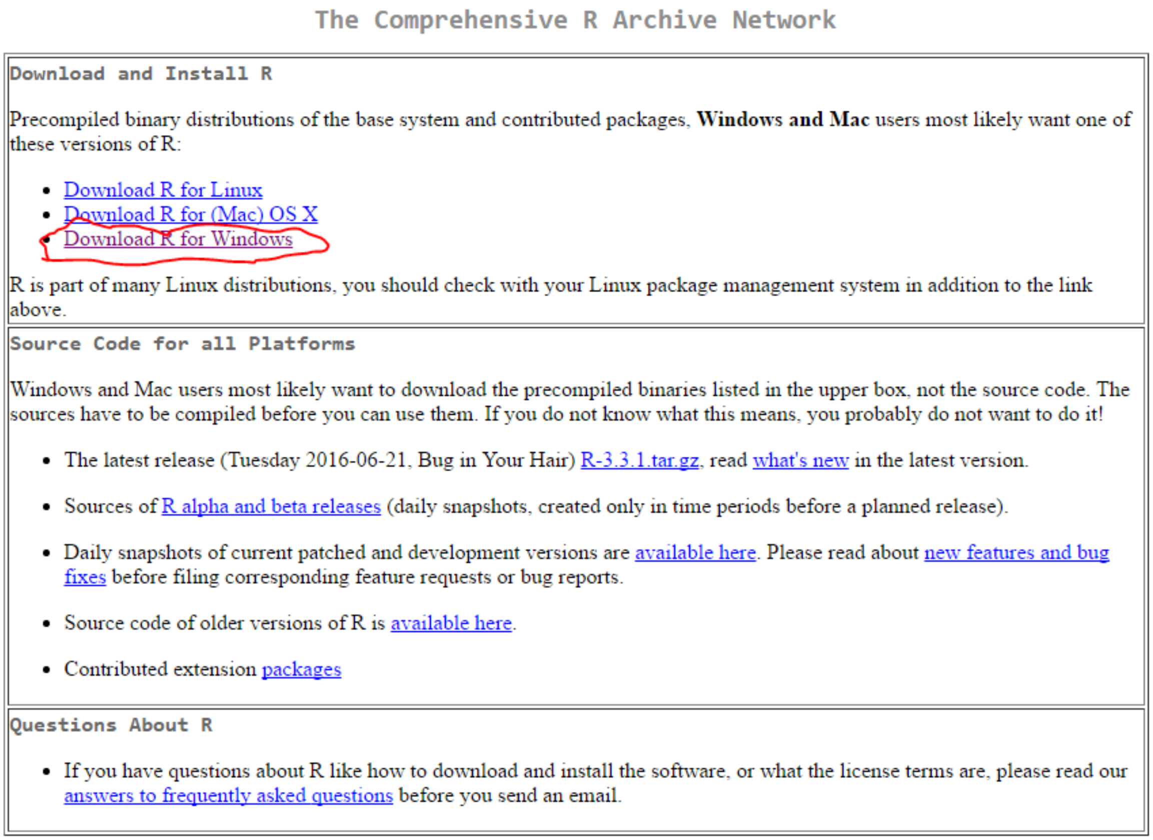
Rstudio allows the user to run R user-friendly.

GitHub:-

It is the web based Git repository hosting service. It is a distributed version-controlled platform where user can collaborate on open source code project and share ideas.

URL for downloading R and installation snapshot

https://cran.r-project.org



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
- Download R for (Mac) OS X
- Download R for Windows

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

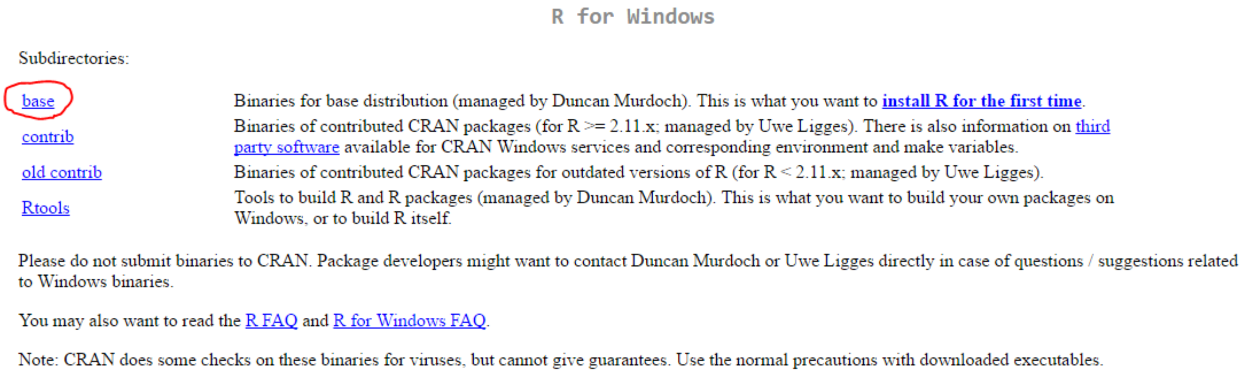
Source Code for all Platforms

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 (Tuesday 2016-06-21, Bug in Your Hair) R-3.3.1.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.
- Source code of older versions of R is available here.
- Contributed extension packages

Questions About R

- If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.



R for Windows

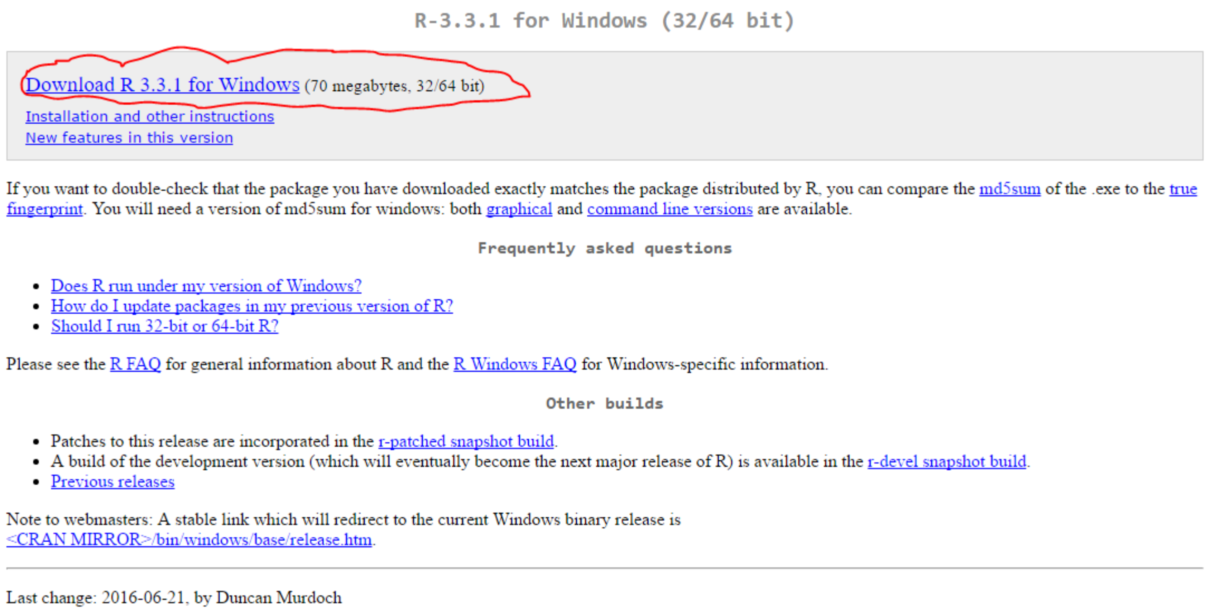
Subdirectories:

base	Binaries for base distribution (managed by Duncan Murdoch). This is what you want to **install R for the first time**.
contrib	Binaries of contributed CRAN packages (for R >= 2.11.x; managed by Uwe Ligges). There is also information on third party software available for CRAN Windows services and corresponding environment and make variables.
old contrib	Binaries of contributed CRAN packages for outdated versions of R (for R < 2.11.x; managed by Uwe Ligges).
Rtools	Tools to build R and R packages (managed by Duncan Murdoch). 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 Duncan Murdoch or 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.



R-3.3.1 for Windows (32/64 bit)

Download R 3.3.1 for Windows (70 megabytes, 32/64 bit)
Installation and other instructions
New features in this version

If you want to double-check that the package you have downloaded exactly matches the package distributed by R, you can compare the md5sum of the .exe to the true fingerprint. 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?
- How do I update packages in my previous version of R?
- Should I run 32-bit or 64-bit R?

Please see the R FAQ for general information about R and the R Windows FAQ for Windows-specific information.

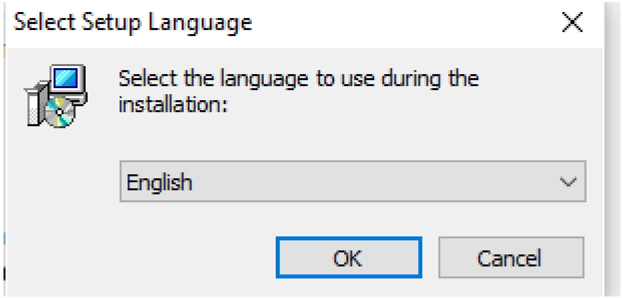
Other builds

- 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.htm.

Last change: 2016-06-21, by Duncan Murdoch

-Click the executable file(R-3.3.1-win.exe) when download competes to execute it.

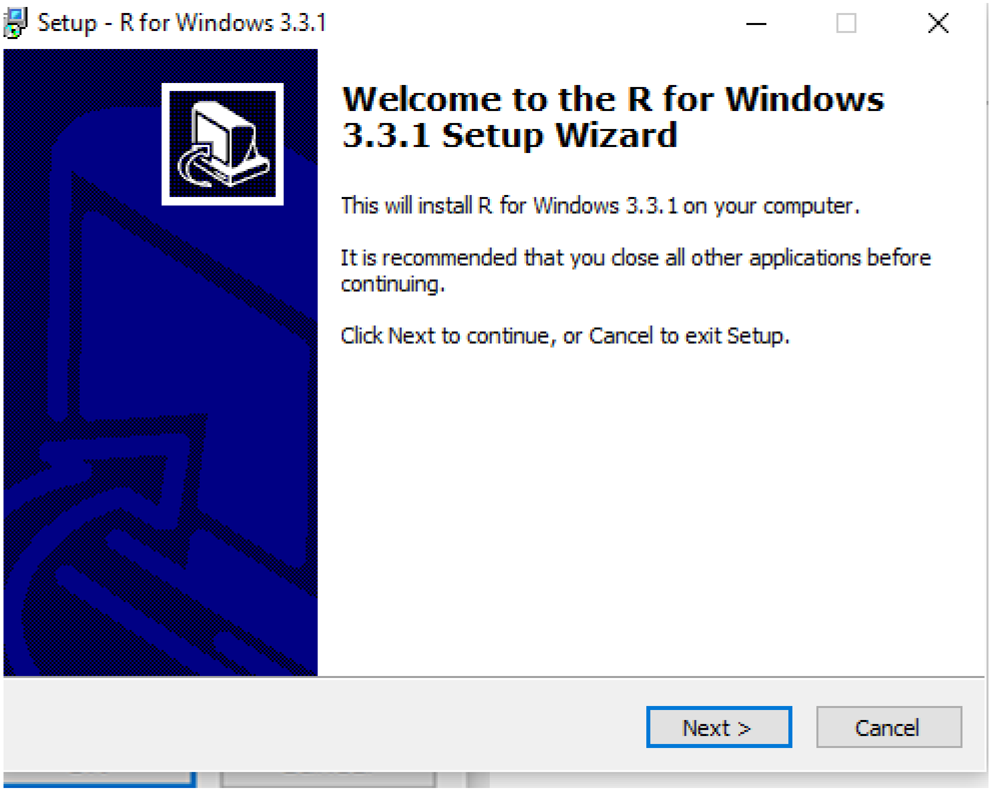


Select Setup Language

Select the language to use during the installation:

English

-Click on Ok to select default language English



Setup - R for Windows 3.3.1

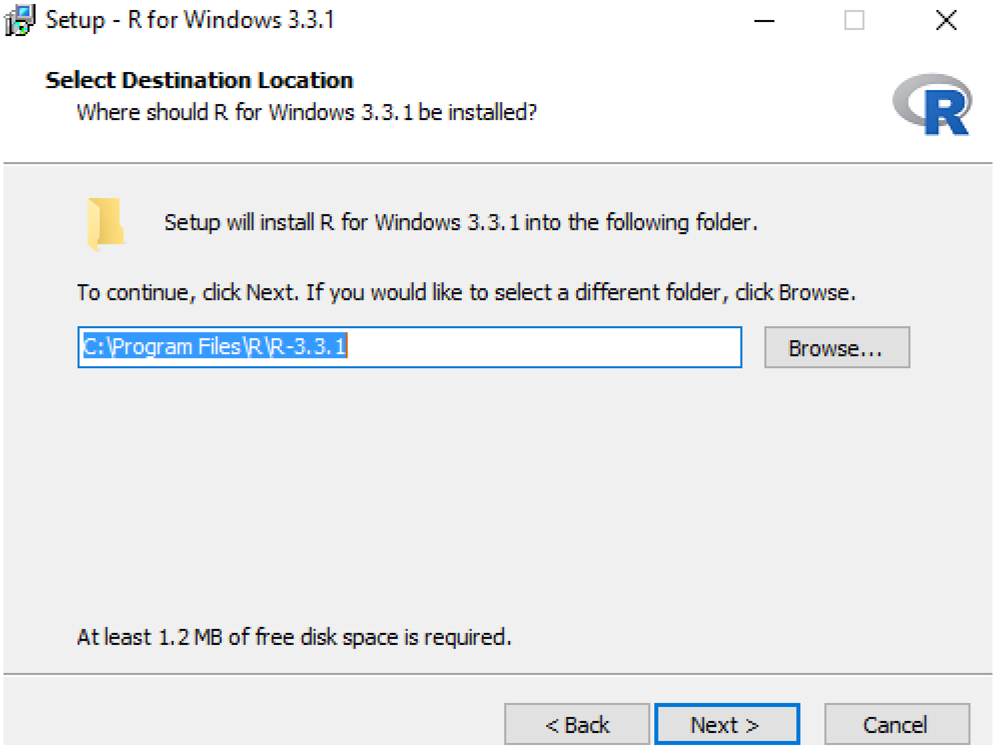
Welcome to the R for Windows 3.3.1 Setup Wizard

This will install R for Windows 3.3.1 on your computer.

It is recommended that you close all other applications before continuing.

Click Next to continue, or Cancel to exit Setup.

-Click on Next tab.



Setup - R for Windows 3.3.1

Select Destination Location

Where should R for Windows 3.3.1 be installed?

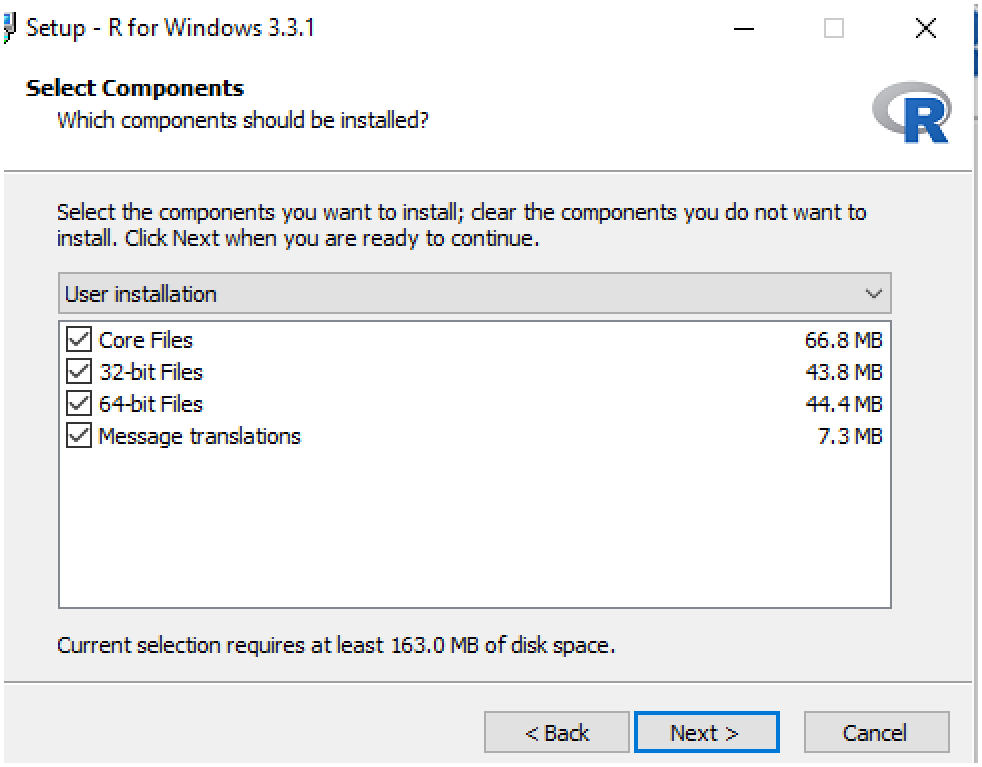
Setup will install R for Windows 3.3.1 into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

C:\Program Files\R\R-3.3.1

At least 1.2 MB of free disk space is required.

-Click on Next.



Setup - R for Windows 3.3.1

Select Components

Which components should be installed?

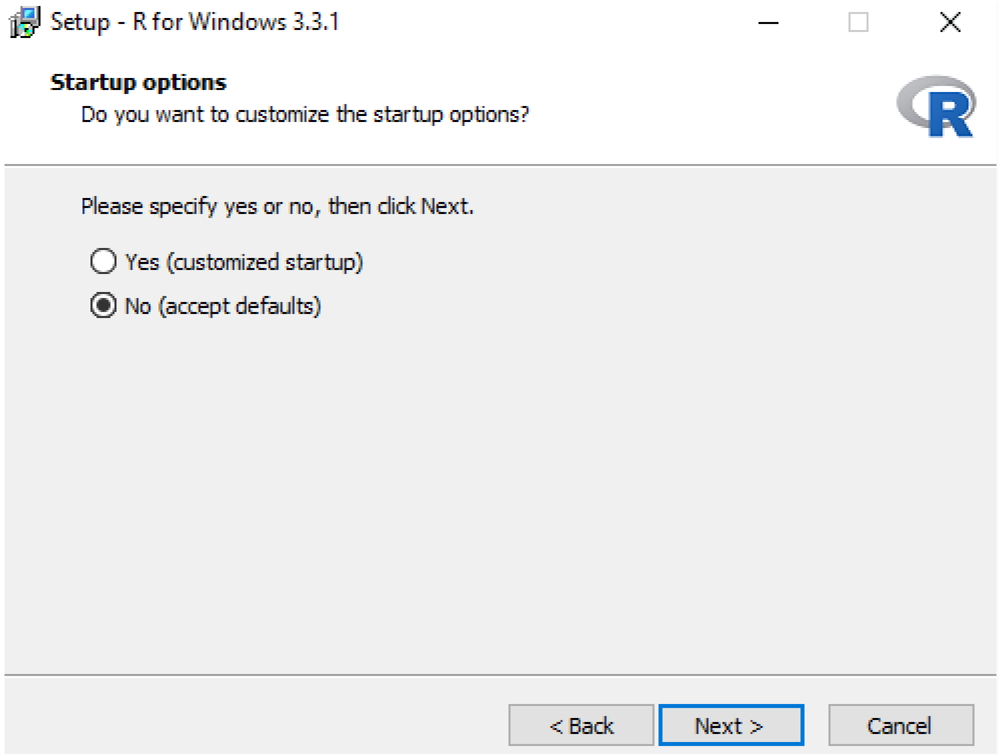
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

User installation

☑ Core Files	66.8 MB
☑ 32-bit Files	43.8 MB
☑ 64-bit Files	44.4 MB
☑ Message translations	7.3 MB

Current selection requires at least 163.0 MB of disk space.

-Click on next (default selection if you are not sure what bits of file running in your computer system)



Setup - R for Windows 3.3.1

Startup options

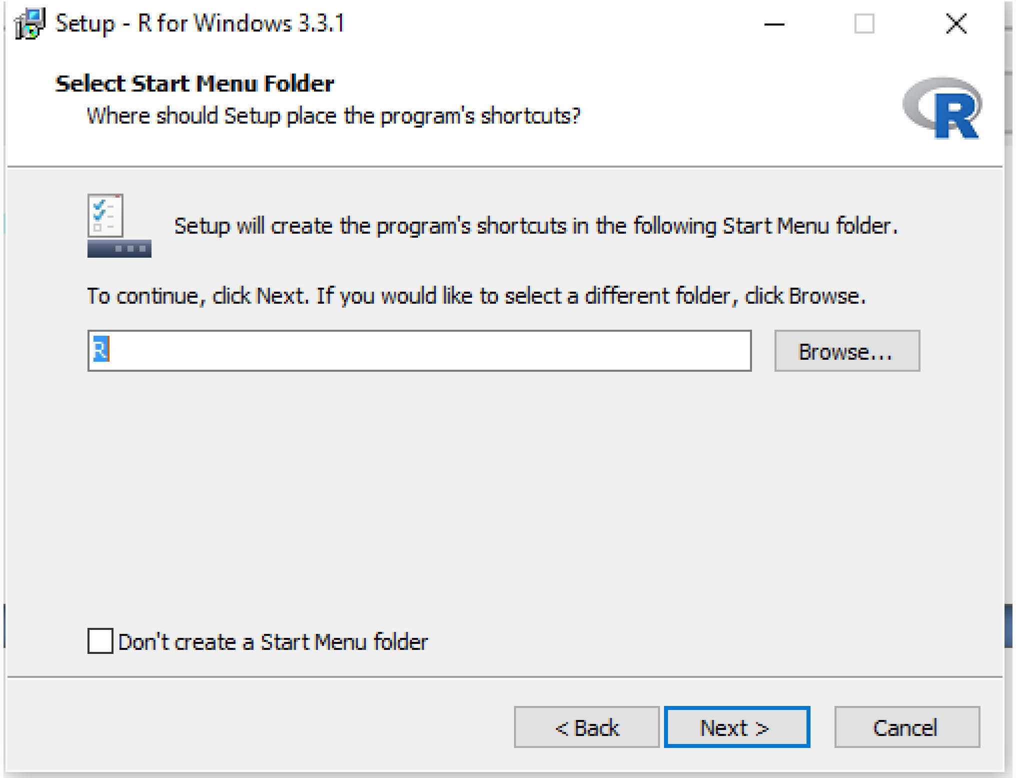
Do you want to customize the startup options?

Please specify yes or no, then click Next.

○ Yes (customized startup)

● No (accept defaults)

-Click on Next for default selection



Select Start Menu Folder

Where should Setup place the program's shortcuts?

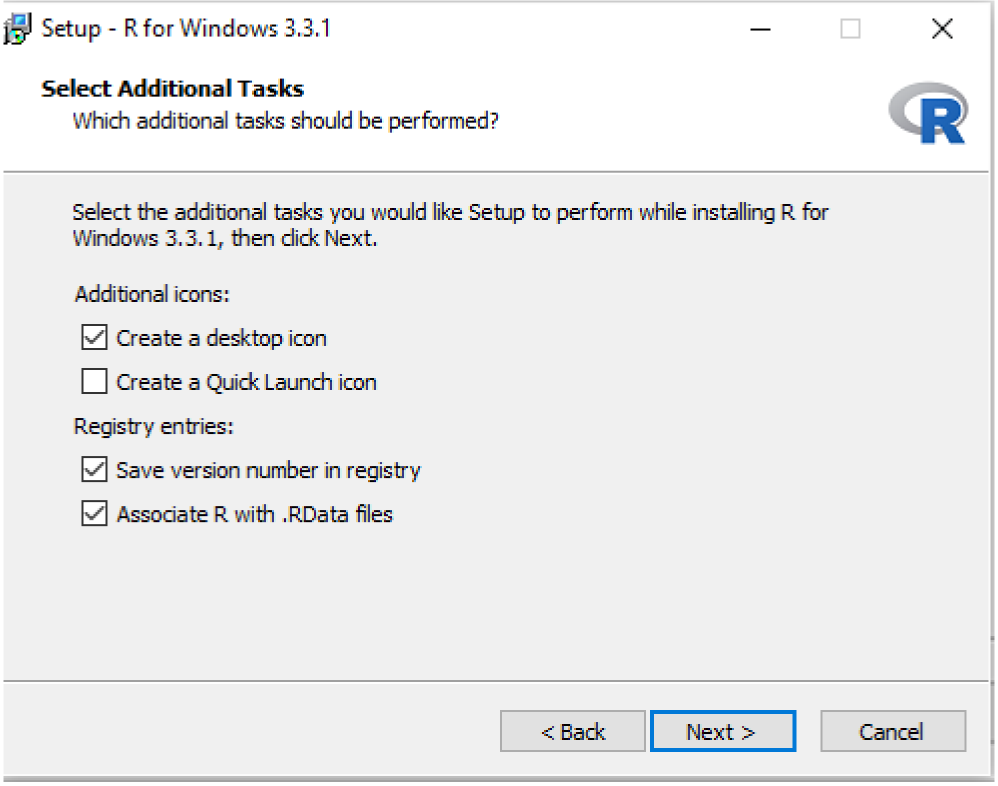
Setup will create the program's shortcuts in the following Start Menu folder.

To continue, click Next. If you would like to select a different folder, click Browse.

R

□ Don't create a Start Menu folder

-Click on Next.



Select Additional Tasks

Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing R for Windows 3.3.1, then click Next.

Additional icons:

☑ Create a desktop icon

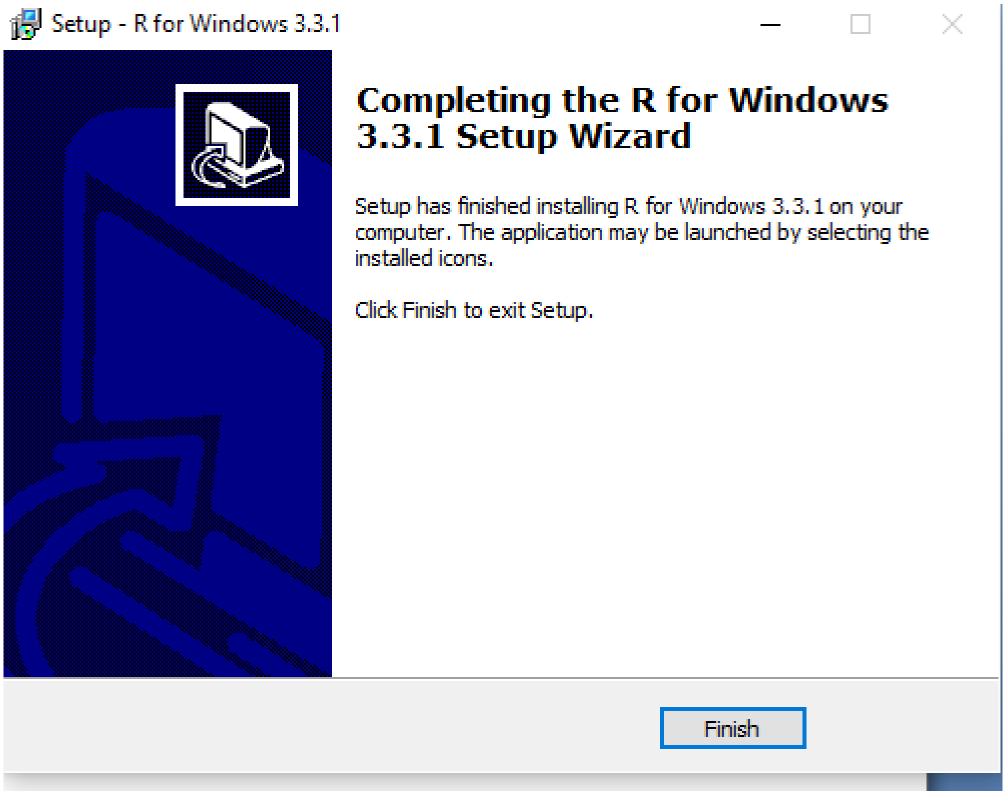
□ Create a Quick Launch icon

Registry entries:

☑ Save version number in registry

☑ Associate R with .RData files

-click on next



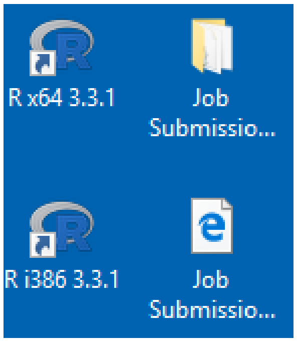
Setup - R for Windows 3.3.1

Completing the R for Windows 3.3.1 Setup Wizard

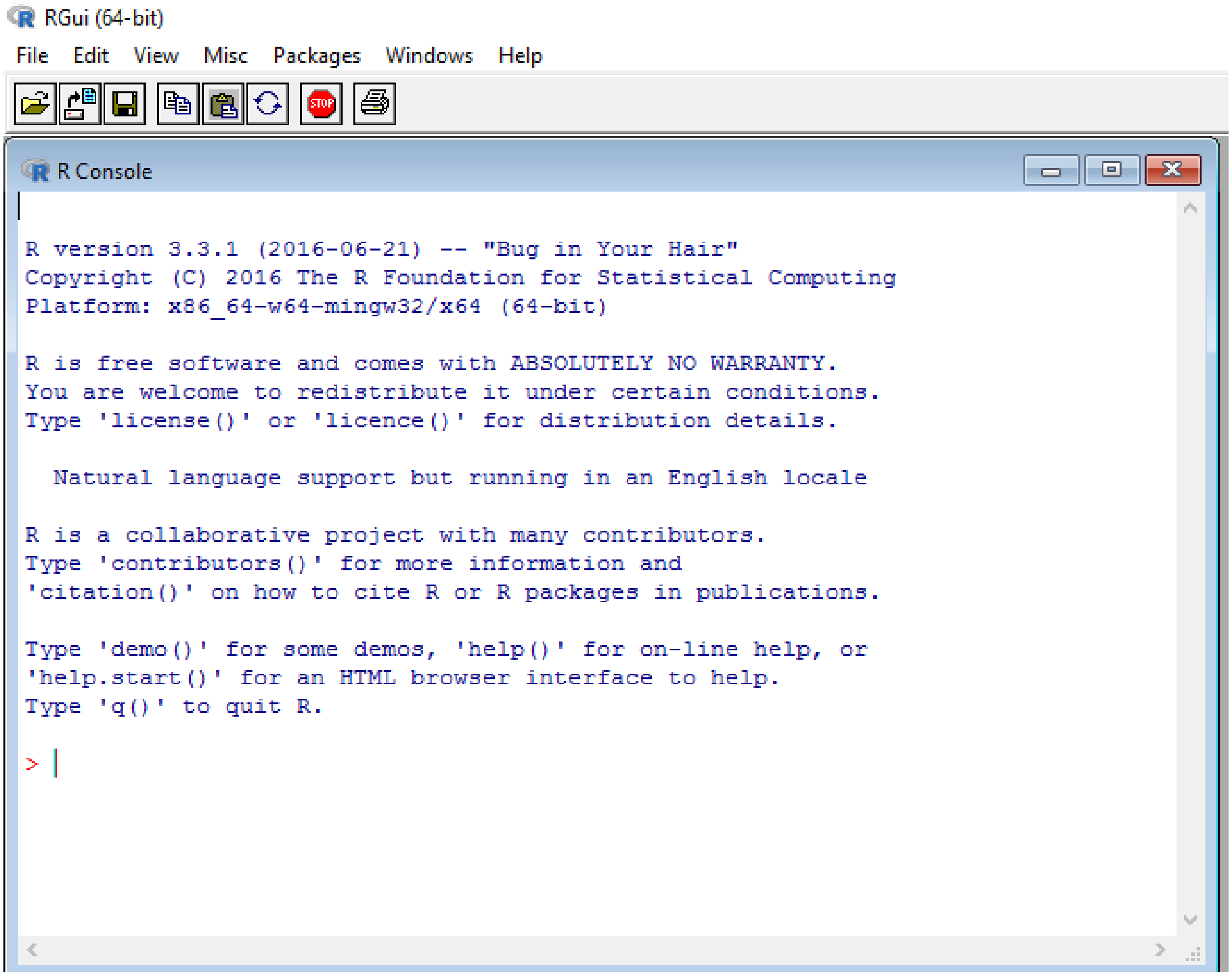
Setup has finished installing R for Windows 3.3.1 on your computer. The application may be launched by selecting the installed icons.

Click Finish to exit Setup.

Click on finish



Click   Rx64 3.3.1 Icon to execute (RUN) it



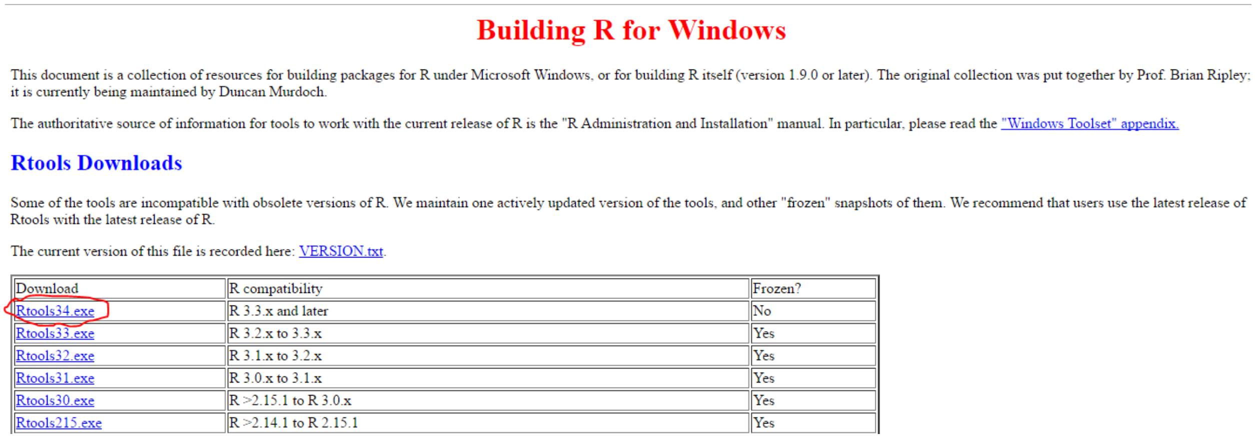
```
R version 3.3.1 (2016-06-21) -- "Bug in Your Hair"
Copyright (C) 2016 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

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.

>
```

Installing Rtools

If we would like to install series of external tools like make, sed, tar,gzip, a C/C++ compiler etc. Install Rtools also.

URL for Rtools.

https://cran.r-project.org/bin/windows/Rtools/



Building R for Windows

This document is a collection of resources for building packages for R under Microsoft Windows, or for building R itself (version 1.9.0 or later). The original collection was put together by Prof. Brian Ripley; it is currently being maintained by Duncan Murdoch.

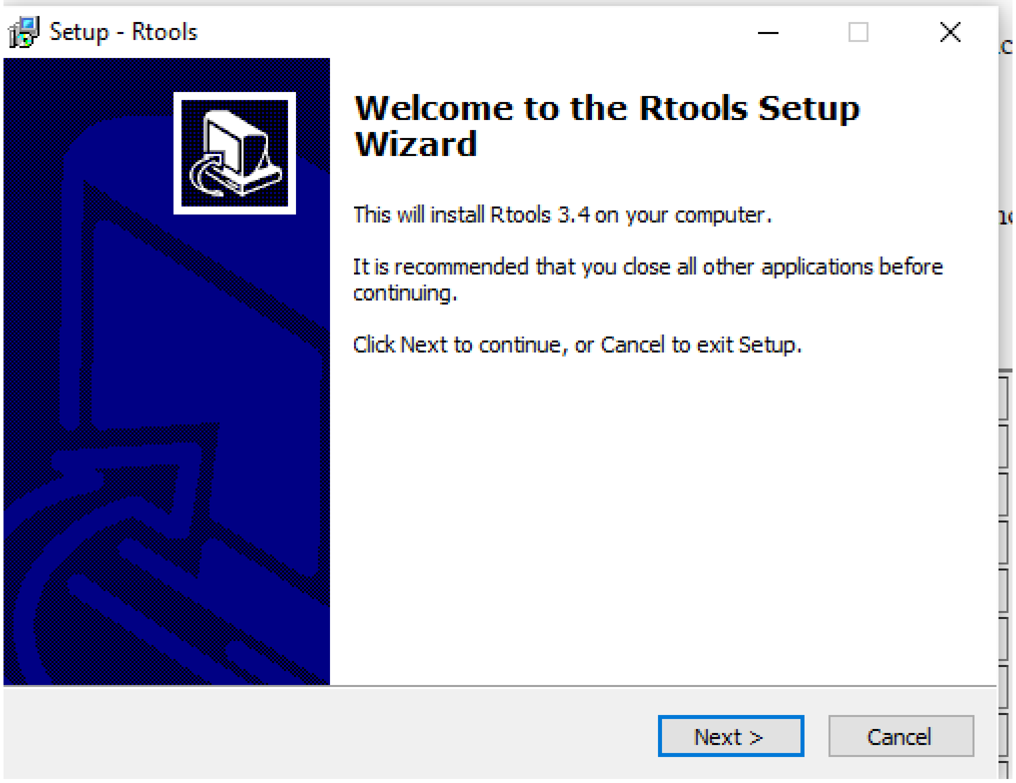
The authoritative source of information for tools to work with the current release of R is the "R Administration and Installation" manual. In particular, please read the "Windows Toolset" appendix.

Rtools Downloads

Some of the tools are incompatible with obsolete versions of R. We maintain one actively updated version of the tools, and other "frozen" snapshots of them. We recommend that users use the latest release of Rtools with the latest release of R.

The current version of this file is recorded here: VERSION.txt.

Download	R compatibility	Frozen?
Rtools34.exe	R 3.3.x and later	No
Rtools33.exe	R 3.2.x to 3.3.x	Yes
Rtools32.exe	R 3.1.x to 3.2.x	Yes
Rtools31.exe	R 3.0.x to 3.1.x	Yes
Rtools30.exe	R >2.15.1 to R 3.0.x	Yes
Rtools215.exe	R >2.14.1 to R 2.15.1	Yes



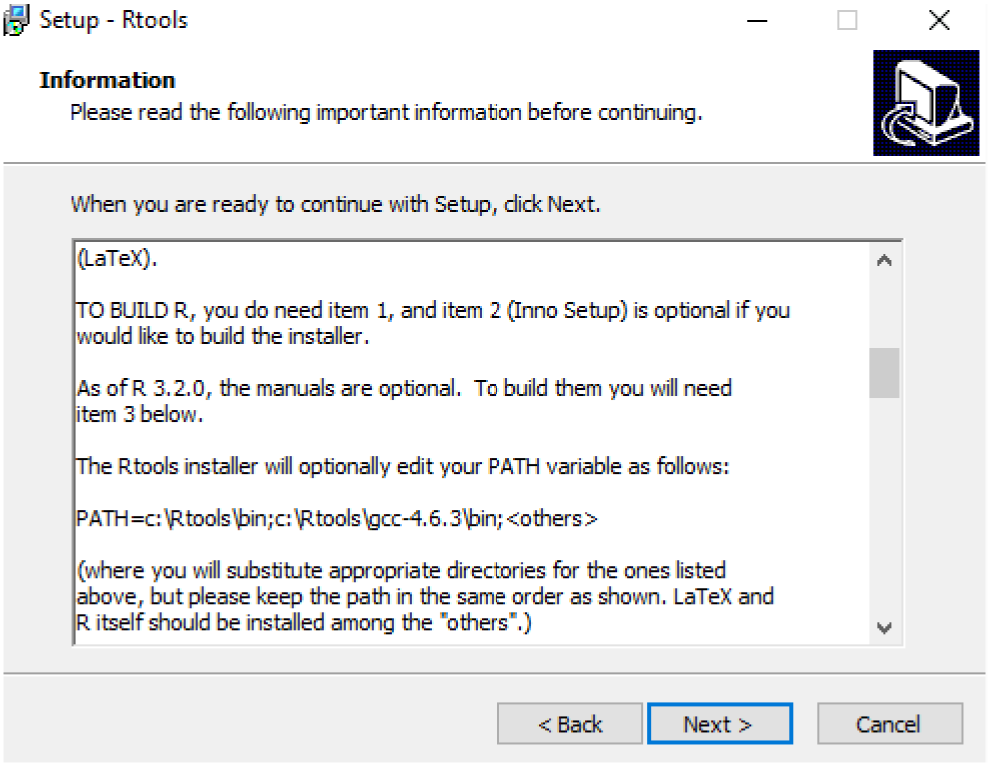
Welcome to the Rtools Setup Wizard

This will install Rtools 3.4 on your computer.

It is recommended that you close all other applications before continuing.

Click Next to continue, or Cancel to exit Setup.

Click on next



Setup - Rtools

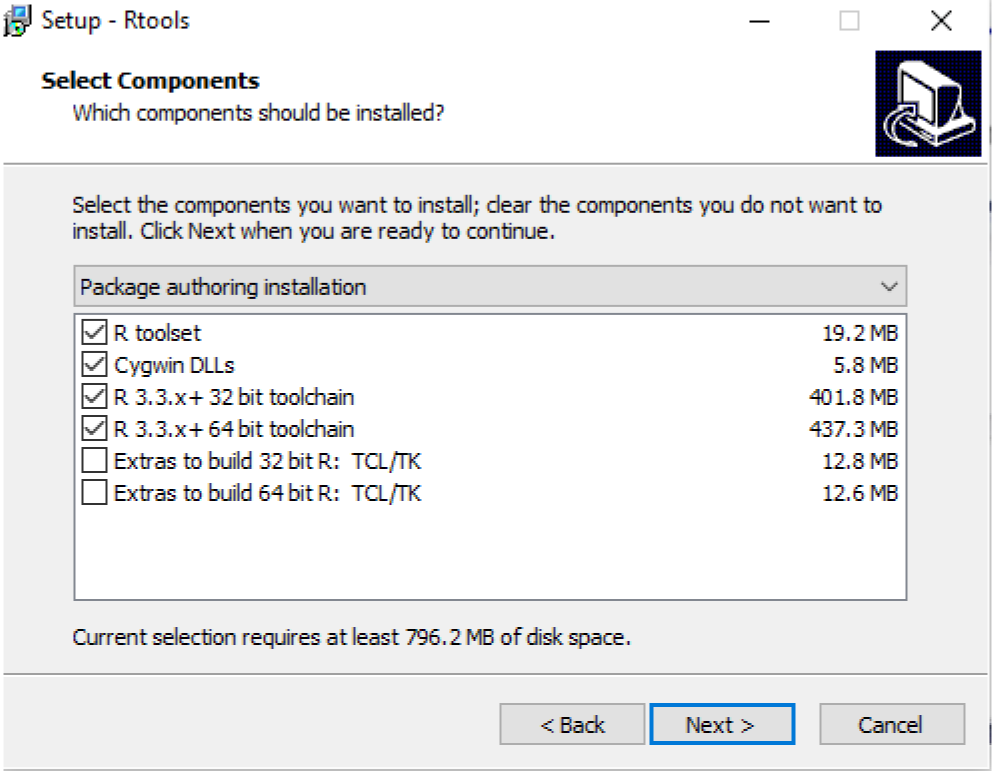
Information

Please read the following important information before continuing.

When you are ready to continue with Setup, click Next.

```
(LaTeX).

TO BUILD R, you do need item 1, and item 2 (Inno Setup) is optional if you
would like to build the installer.

As of R 3.2.0, the manuals are optional.  To build them you will need
item 3 below.

The Rtools installer will optionally edit your PATH variable as follows:

PATH=c:\Rtools\bin;c:\Rtools\gcc-4.6.3\bin;<others>

(where you will substitute appropriate directories for the ones listed
above, but please keep the path in the same order as shown. LaTeX and
R itself should be installed among the "others".)
```

Click on next



Setup - Rtools

Select Components

Which components should be installed?

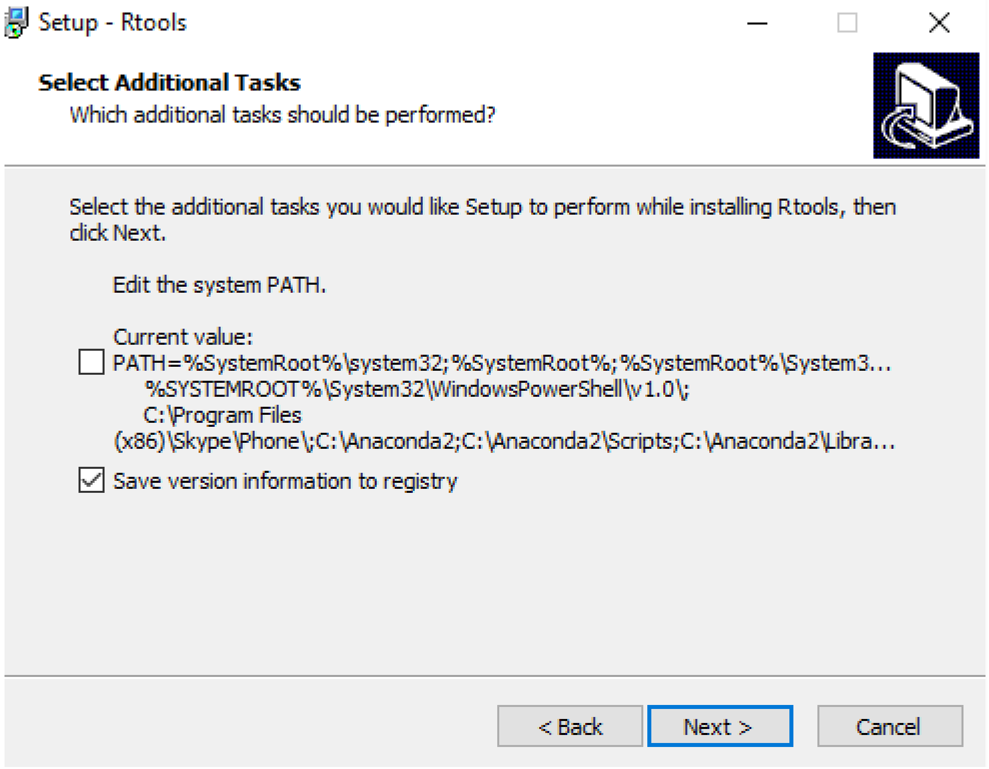
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

Package authoring installation

☑ R toolset	19.2 MB
☑ Cygwin DLLs	5.8 MB
☑ R 3.3.x+ 32 bit toolchain	401.8 MB
☑ R 3.3.x+ 64 bit toolchain	437.3 MB
☐ Extras to build 32 bit R: TCL/TK	12.8 MB
☐ Extras to build 64 bit R: TCL/TK	12.6 MB

Current selection requires at least 796.2 MB of disk space.

Click on next.



Select Additional Tasks

Which additional tasks should be performed?

Select the additional tasks you would like Setup to perform while installing Rtools, then click Next.

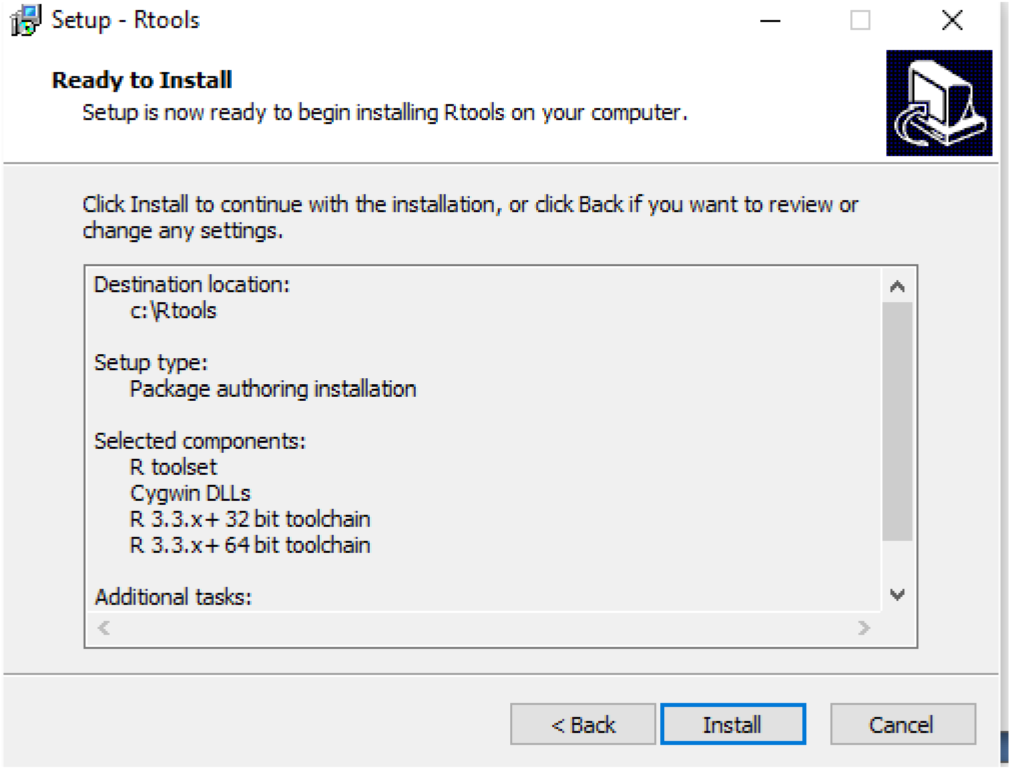
Edit the system PATH.

Current value:

□ PATH=%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System3...
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\;
C:\Program Files
(x86)\Skype\Phone\;C:\Anaconda2;C:\Anaconda2\Scripts;C:\Anaconda2\Libra...

☑ Save version information to registry

Click on next.

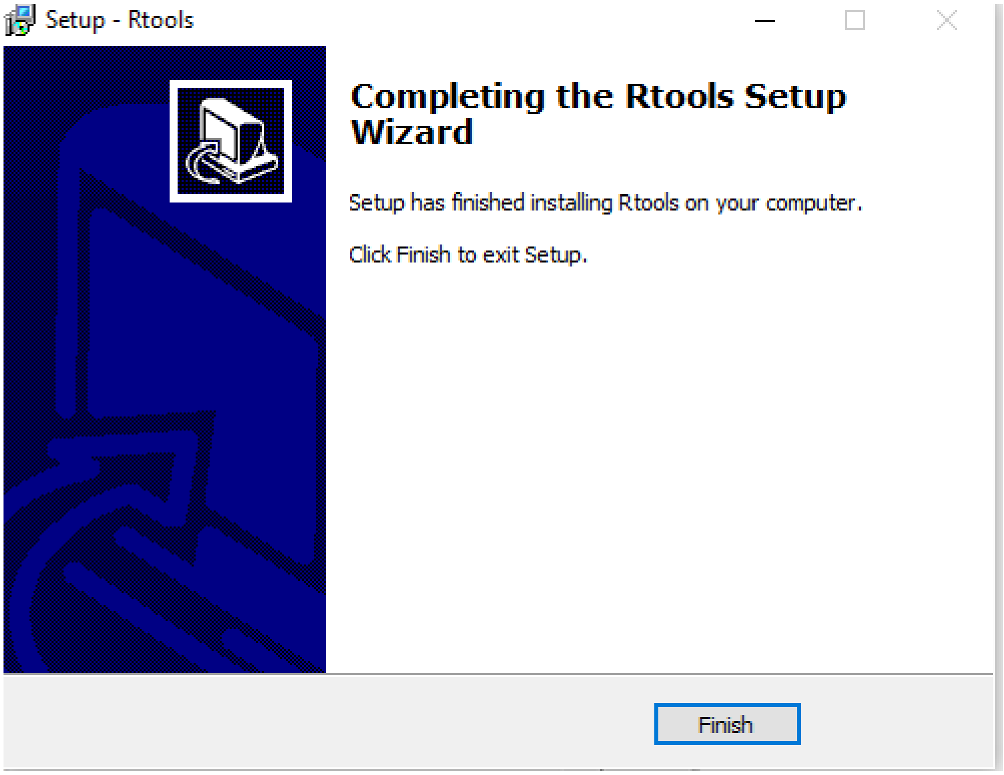


Ready to Install

Setup is now ready to begin installing Rtools on your computer.

Click Install to continue with the installation, or click Back if you want to review or change any settings.

```
Destination location:
    c:\Rtools

Setup type:
    Package authoring installation

Selected components:
    R toolset
    Cygwin DLLs
    R 3.3.x+ 32 bit toolchain
    R 3.3.x+ 64 bit toolchain

Additional tasks:
```



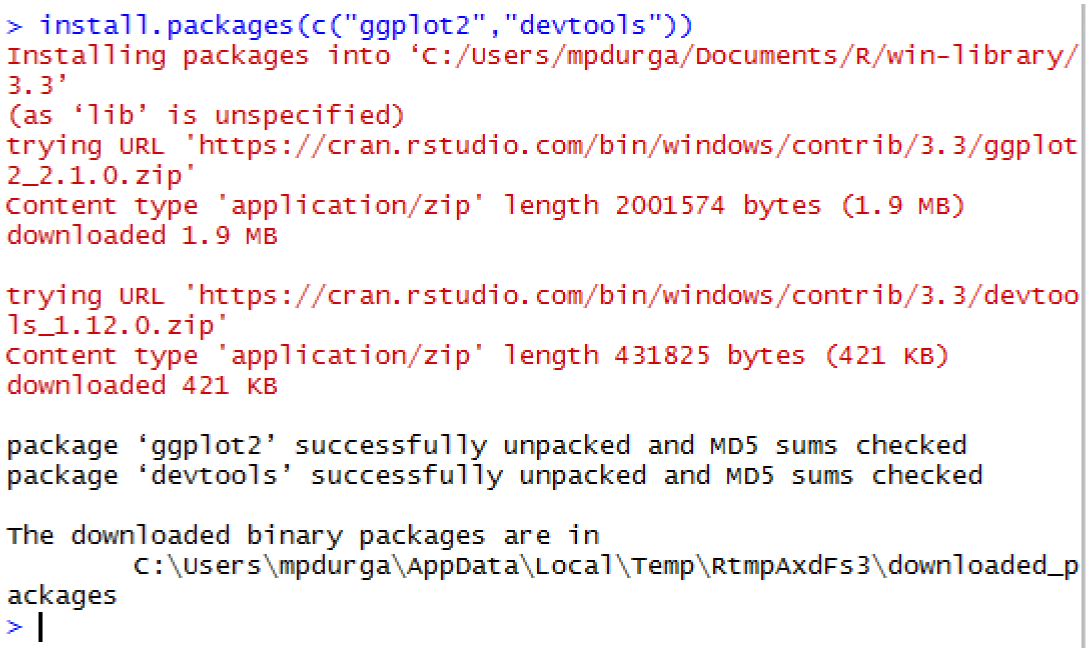
Completing the Rtools Setup Wizard

Setup has finished installing Rtools on your computer.

Click Finish to exit Setup.

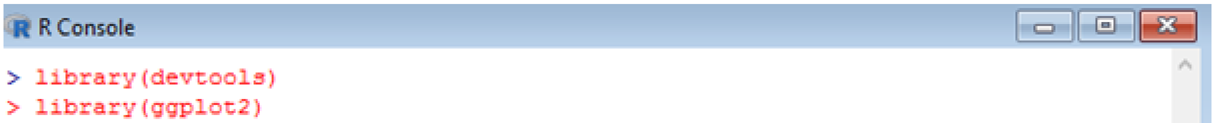
Installing Packages and Library In R

Type following command infront of R prompt(>) to install packages and library.



```
> install.packages(c("ggplot2","devtools"))
Installing packages into ‘C:/Users/mpdurga/Documents/R/win-library/
3.3’
(as ‘lib’ is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.3/ggplot
2_2.1.0.zip'
Content type 'application/zip' length 2001574 bytes (1.9 MB)
downloaded 1.9 MB

trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.3/devtoo
ls_1.12.0.zip'
Content type 'application/zip' length 431825 bytes (421 KB)
downloaded 421 KB

package ‘ggplot2’ successfully unpacked and MD5 sums checked
package ‘devtools’ successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\mpdurga\AppData\Local\Temp\RtmpAxdFs3\downloaded_p
ackages
> 
```

After installation of packages install library to use this packages.

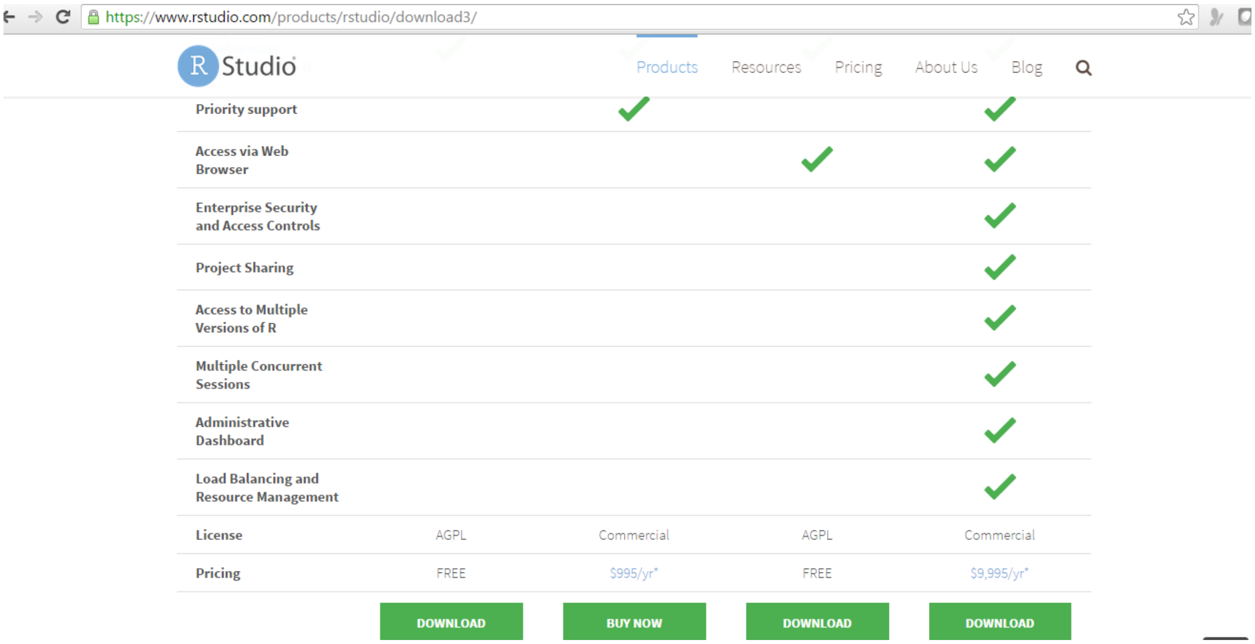


```
> library(devtools)
> library(ggplot2)
```

Downloading and installation of RStudio snapshot

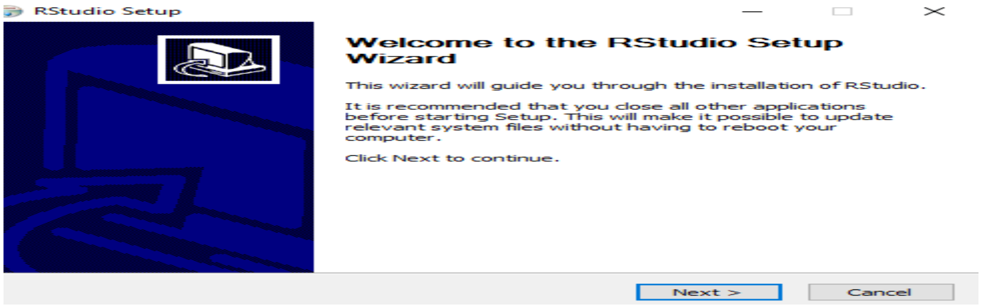
URL for Rstudio:

.https://www.rstudio.com/products/rstudio/download3/



Priority support		✓		✓
Access via Web Browser			✓	✓
Enterprise Security and Access Controls				✓
Project Sharing				✓
Access to Multiple Versions of R				✓
Multiple Concurrent Sessions				✓
Administrative Dashboard				✓
Load Balancing and Resource Management				✓
License	AGPL	Commercial	AGPL	Commercial
Pricing	FREE	$995/yr*	FREE	$9,995/yr*
	DOWNLOAD	BUY NOW	DOWNLOAD	DOWNLOAD

Click on downloaded file



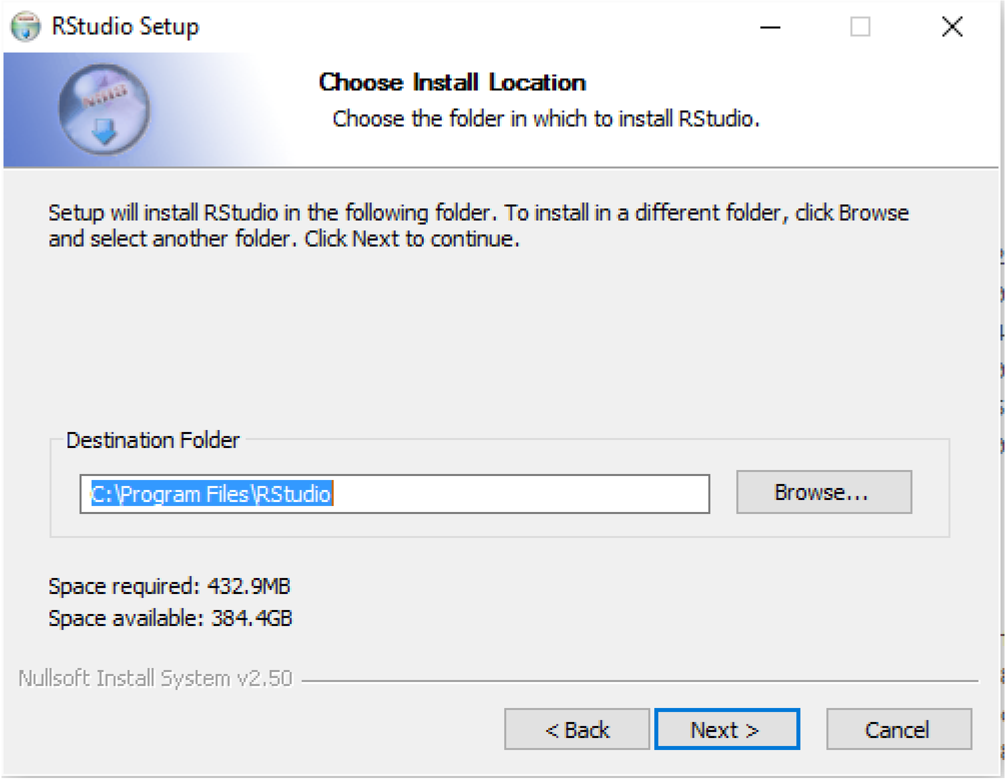
Welcome to the RStudio Setup Wizard

This wizard will guide you through the installation of RStudio.

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Click On Next



RStudio Setup

Choose Install Location

Choose the folder in which to install RStudio.

Setup will install RStudio in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

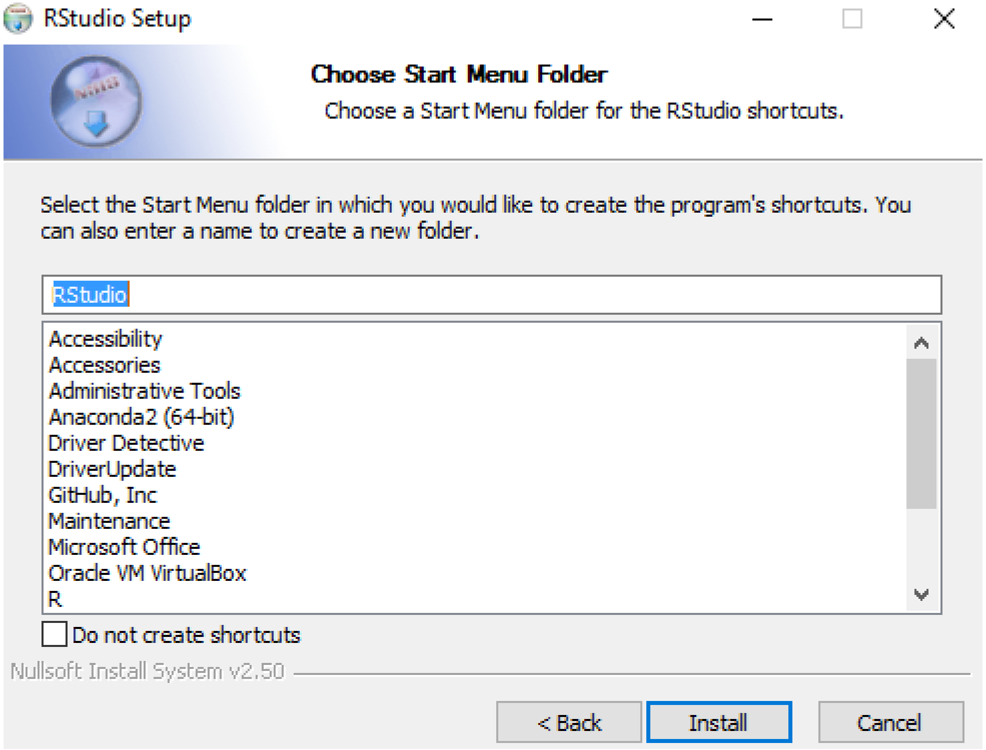
Destination Folder

C:\Program Files\RStudio

Space required: 432.9MB
Space available: 384.4GB

Nullsoft Install System v2.50

Click On Next



RStudio Setup

Choose Start Menu Folder

Choose a Start Menu folder for the RStudio shortcuts.

Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.

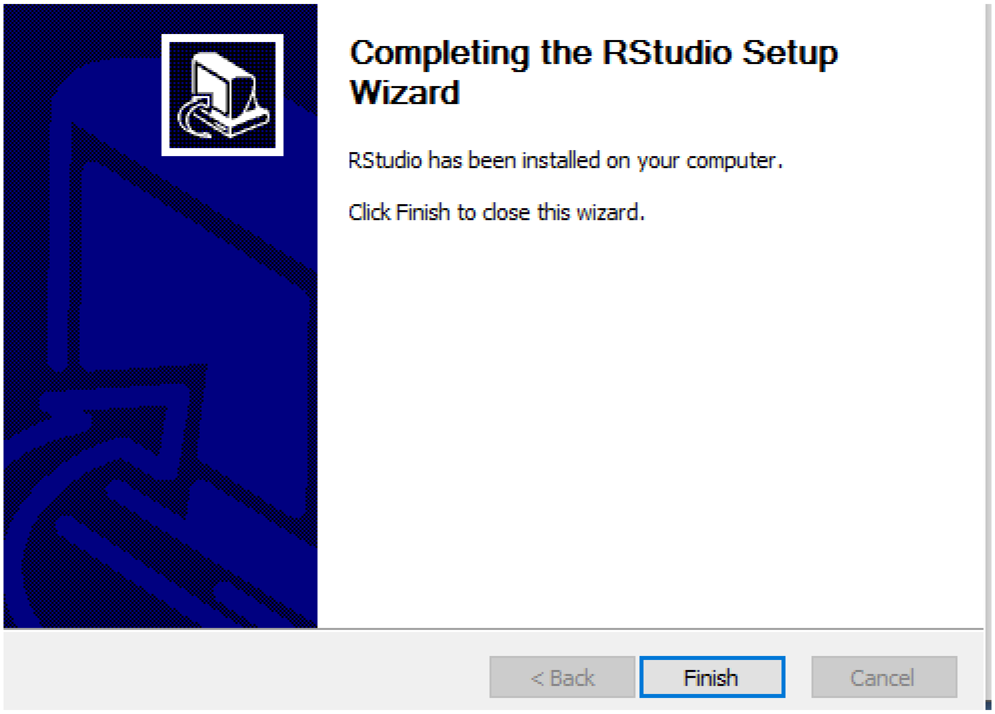
RStudio

Accessibility
Accessories
Administrative Tools
Anaconda2 (64-bit)
Driver Detective
DriverUpdate
GitHub, Inc
Maintenance
Microsoft Office
Oracle VM VirtualBox
R

□ Do not create shortcuts

Nullsoft Install System v2.50

Click on Install

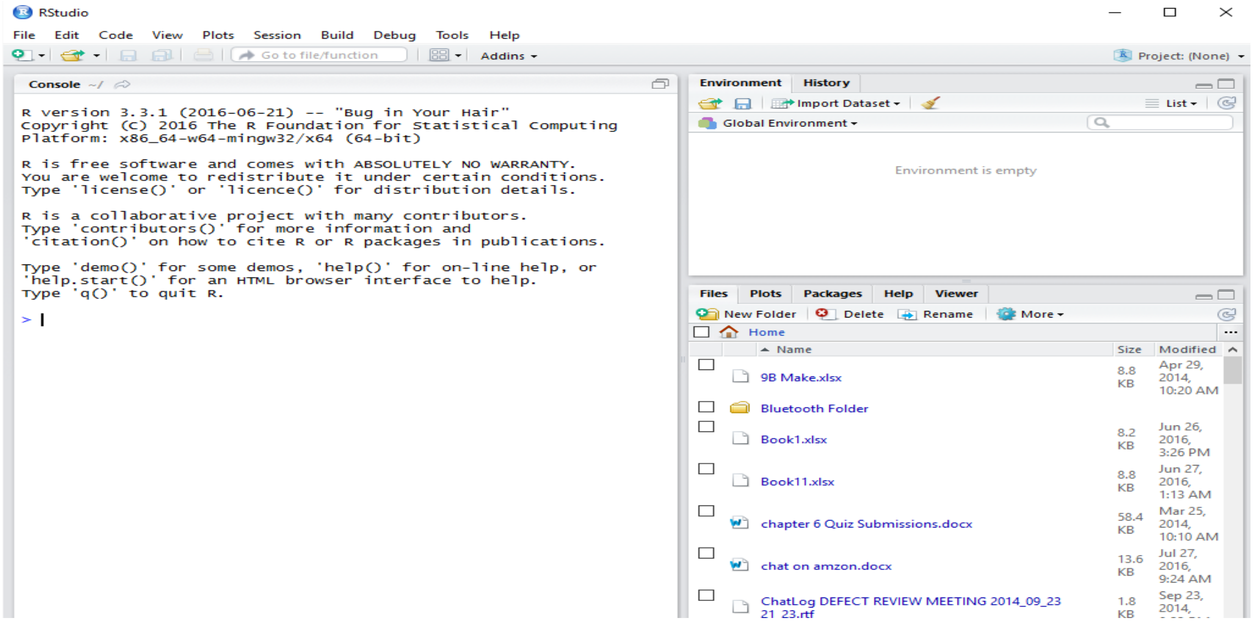


Completing the RStudio Setup Wizard

RStudio has been installed on your computer.

Click Finish to close this wizard.

Execute Rstudio



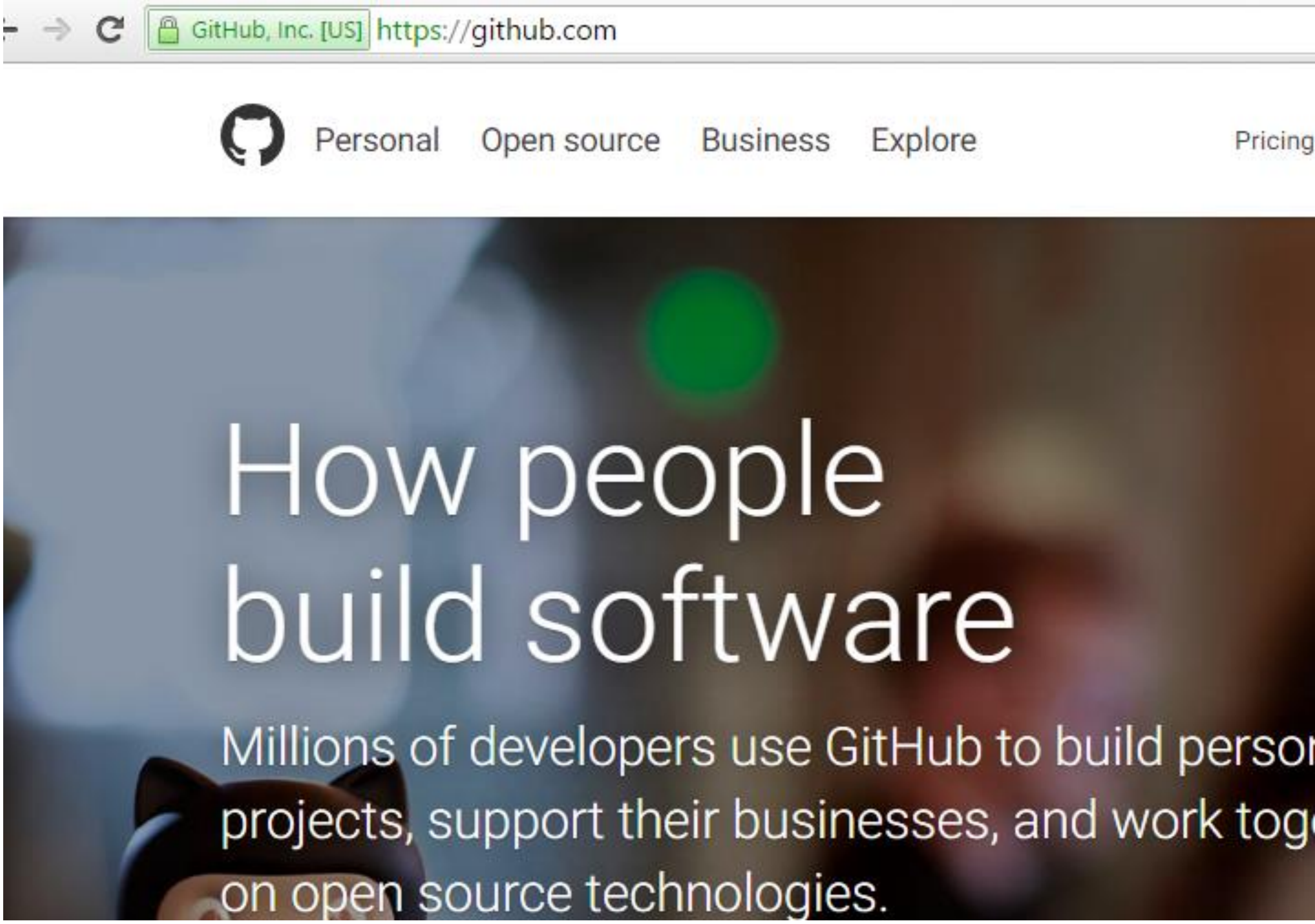
```
R version 3.3.1 (2016-06-21) -- "Bug in Your Hair"
Copyright (C) 2016 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

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.

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.

> |
```

Name	Size	Modified
9B Make.xlsx	8.8 KB	Apr 29, 2014, 10:20 AM
Bluetooth Folder		
Book1.xlsx	8.2 KB	Jun 26, 2016, 3:26 PM
Book11.xlsx	8.8 KB	Jun 27, 2016, 1:13 AM
chapter 6 Quiz Submissions.docx	58.4 KB	Mar 25, 2014, 10:10 AM
chat on amzon.docx	13.6 KB	Jul 27, 2016, 9:24 AM
ChatLog DEFECT REVIEW MEETING 2014_09_23 21 23.rtf	1.8 KB	Sep 23, 2014,

This is the user-friendly environment to use R

Creating Github account:

URL for creating GitHub account https://github.com



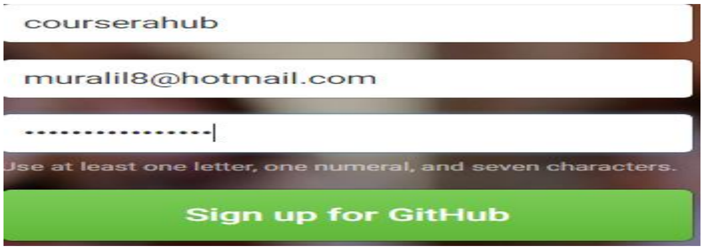
https://github.com

How people build software

Millions of developers use GitHub to build perso
projects, support their businesses, and work tog
on open source technologies.

Provide your username, email address and password if you are creating first time GitHub account and click on Signup for GitHub.

For example: for username, email and password.



courserahub

muralil8@hotmail.com

----------------|

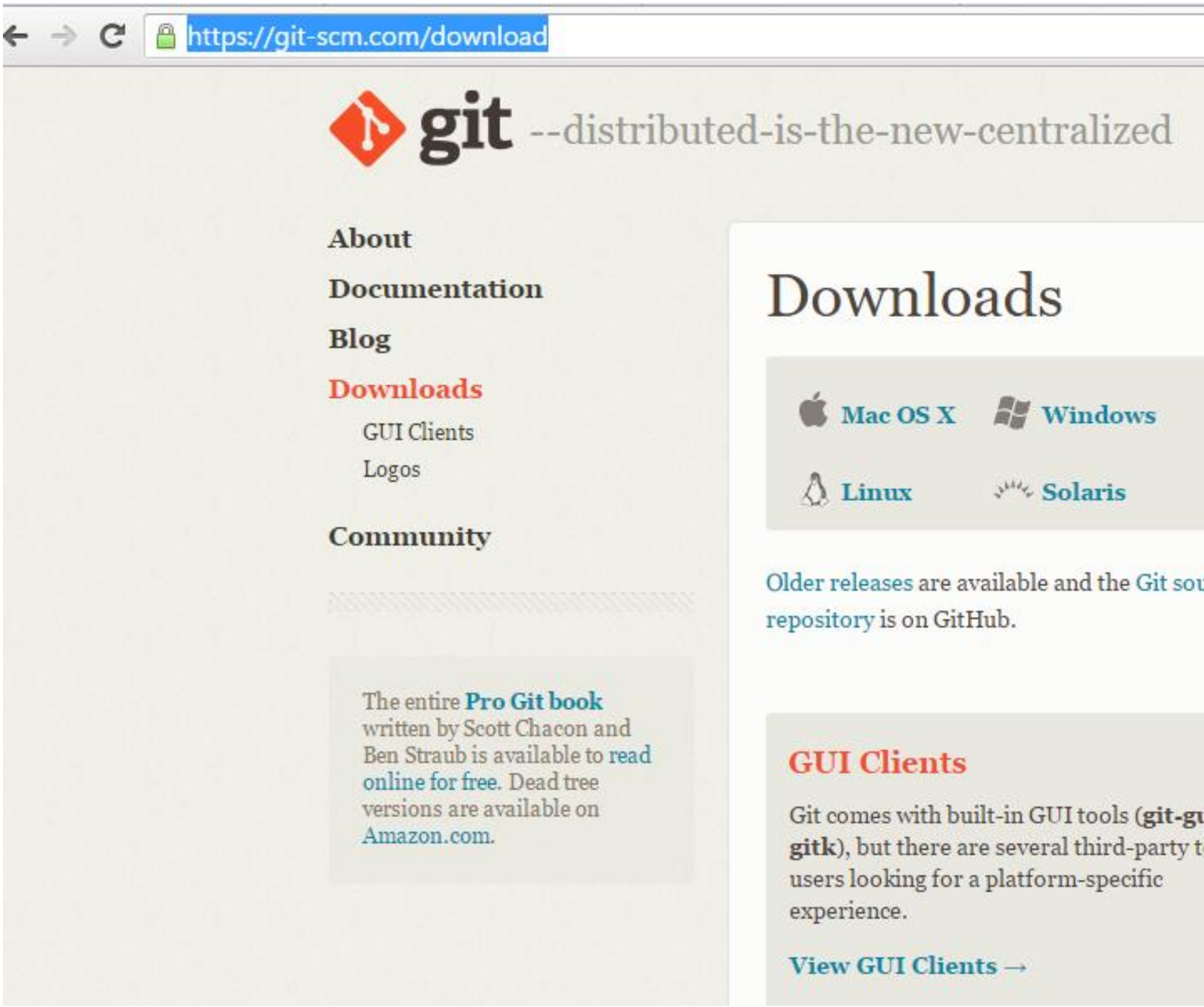
Use at least one letter, one numeral, and seven characters.

Note: My GitHub account: https://github.com/mpdurga

Note: download Git from URL: https://git-scm.com/download and install it in your computer so that you can work on your local repository and later you can push it to the remote repository (GitHub).

For download Git follow below link.

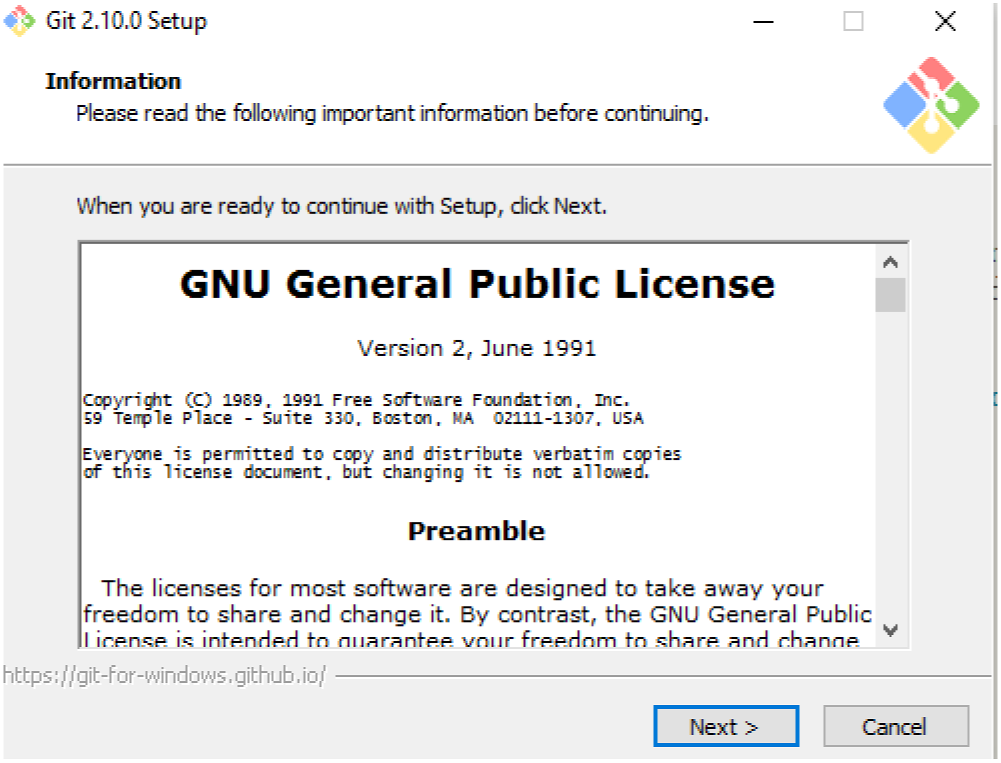
After download install it, I suggest select the default option while installing.



Older releases are available and the Git sou
repository is on GitHub.

The entire Pro Git book written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

Git comes with built-in GUI tools (git-gu
gitk), but there are several third-party t
users looking for a platform-specific experience.



Information

Please read the following important information before continuing.

When you are ready to continue with Setup, click Next.

GNU General Public License

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA 02111-1307, USA

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of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change

https://git-for-windows.github.io/
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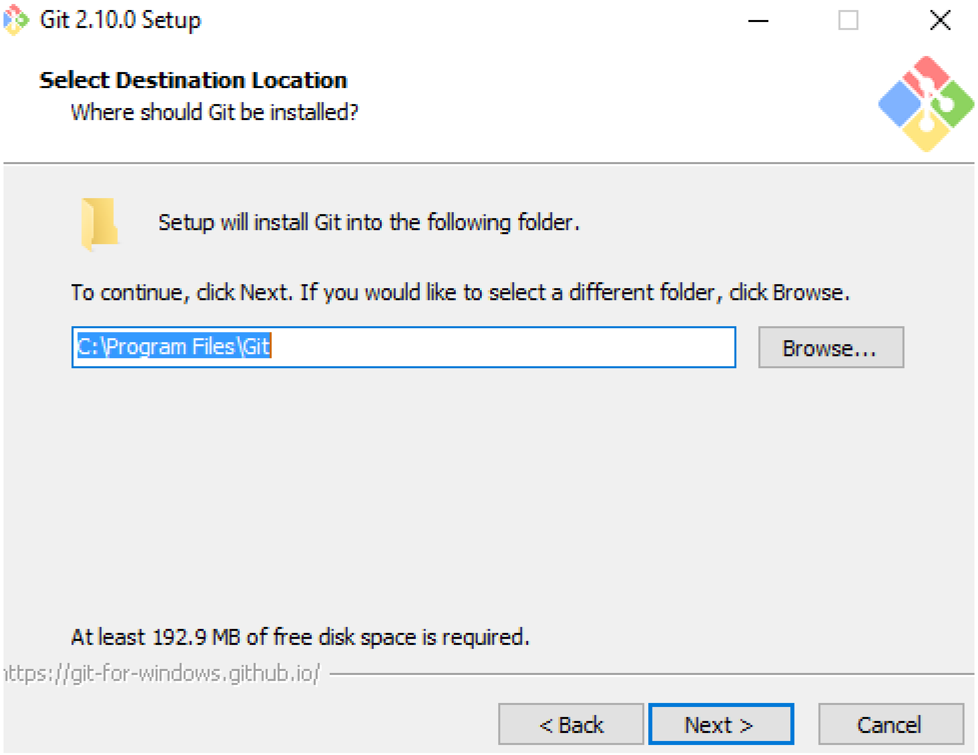

Select Destination Location

Where should Git be installed?

Setup will install Git into the following folder.

To continue, click Next. If you would like to select a different folder, click Browse.

C:\Program Files\Git

At least 192.9 MB of free disk space is required.

Browse...
ttps://git-for-windows.github.io/
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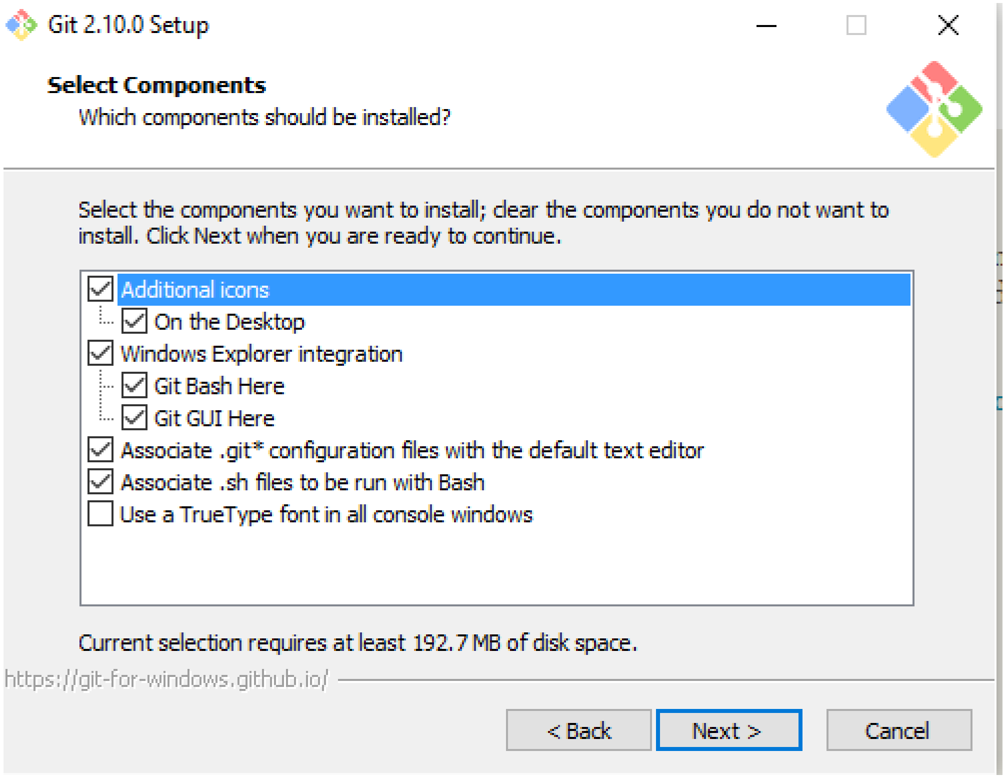

Select Components

Which components should be installed?

Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.

- ☑ Additional icons
  - ☑ On the Desktop
- ☑ Windows Explorer integration
  - ☑ Git Bash Here
  - ☑ Git GUI Here
- ☑ Associate .git* configuration files with the default text editor
- ☑ Associate .sh files to be run with Bash
- □ Use a TrueType font in all console windows

Current selection requires at least 192.7 MB of disk space.

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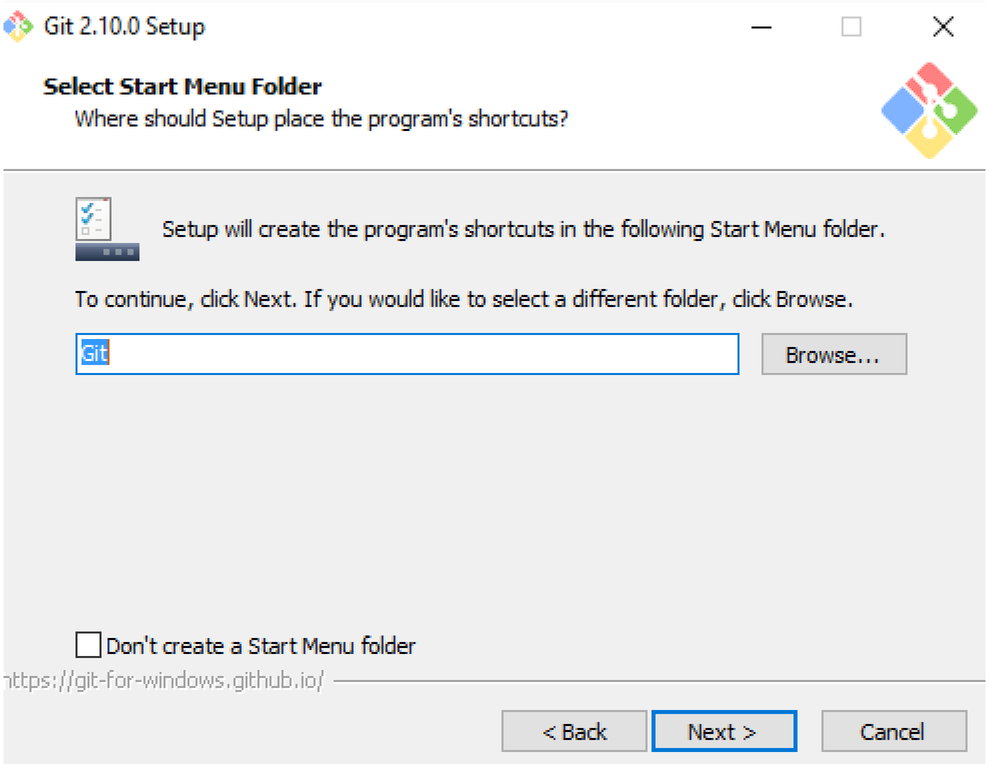

Select Start Menu Folder

Where should Setup place the program's shortcuts?

Setup will create the program's shortcuts in the following Start Menu folder.

To continue, click Next. If you would like to select a different folder, click Browse.

Git

□ Don't create a Start Menu folder

Browse...
https://git-for-windows.github.io/
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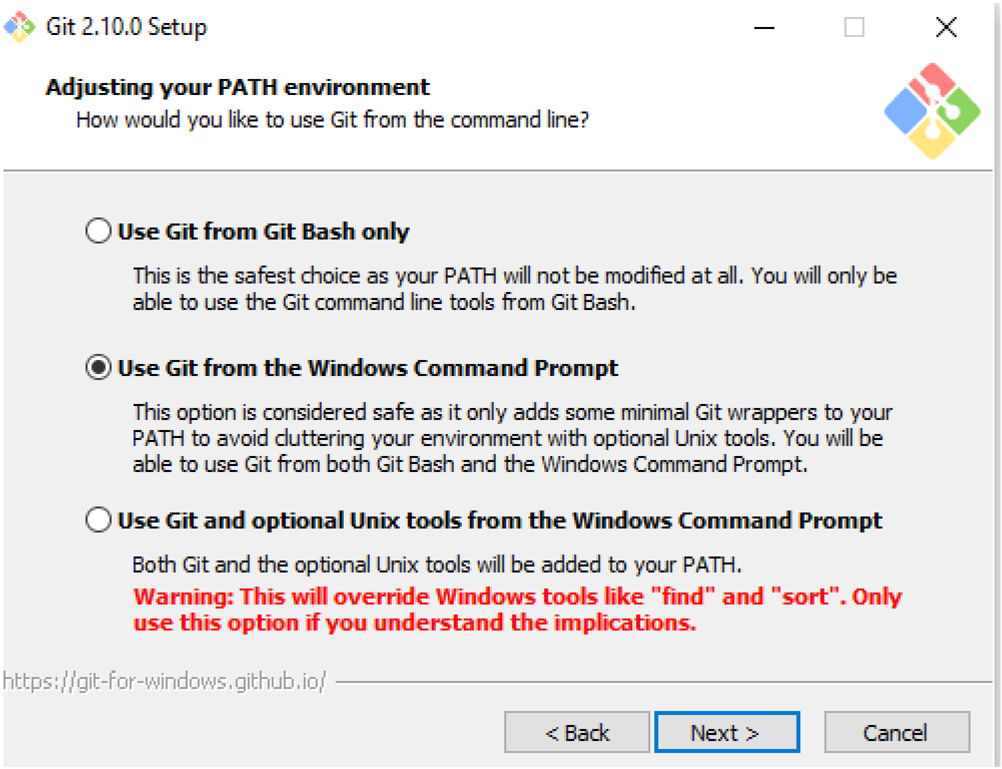


Adjusting your PATH environment

How would you like to use Git from the command line?

○ **Use Git from Git Bash only**

This is the safest choice as your PATH will not be modified at all. You will only be able to use the Git command line tools from Git Bash.

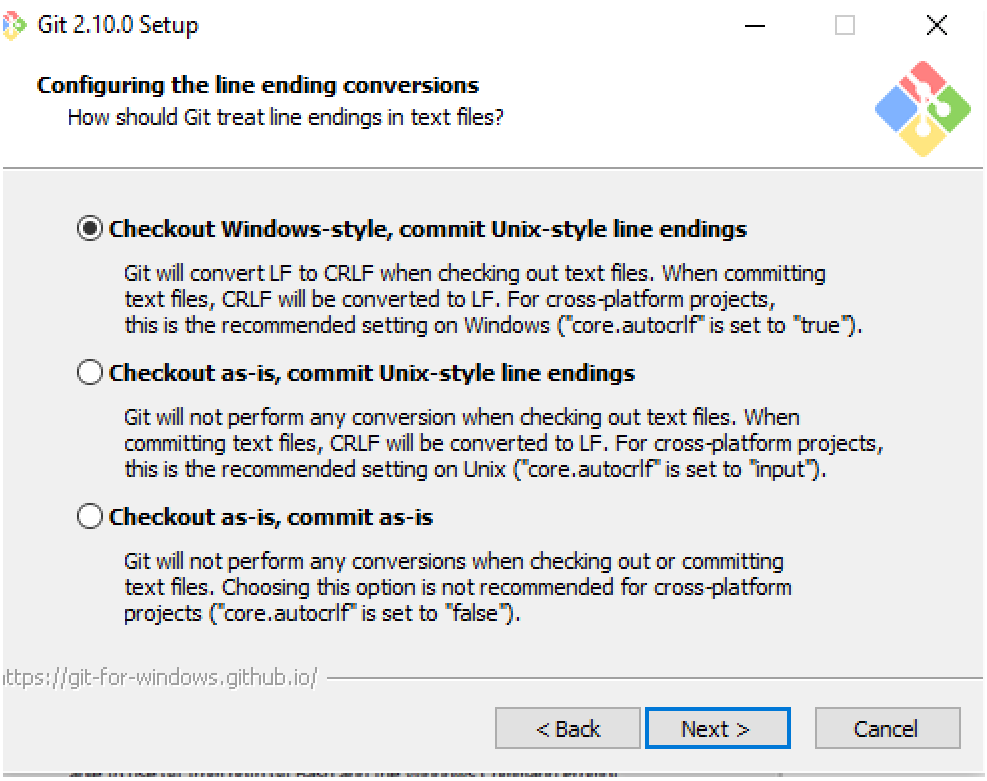
● **Use Git from the Windows Command Prompt**

This option is considered safe as it only adds some minimal Git wrappers to your PATH to avoid cluttering your environment with optional Unix tools. You will be able to use Git from both Git Bash and the Windows Command Prompt.

○ **Use Git and optional Unix tools from the Windows Command Prompt**

Both Git and the optional Unix tools will be added to your PATH.

Warning: This will override Windows tools like "find" and "sort". Only use this option if you understand the implications.



Configuring the line ending conversions

How should Git treat line endings in text files?

● **Checkout Windows-style, commit Unix-style line endings**

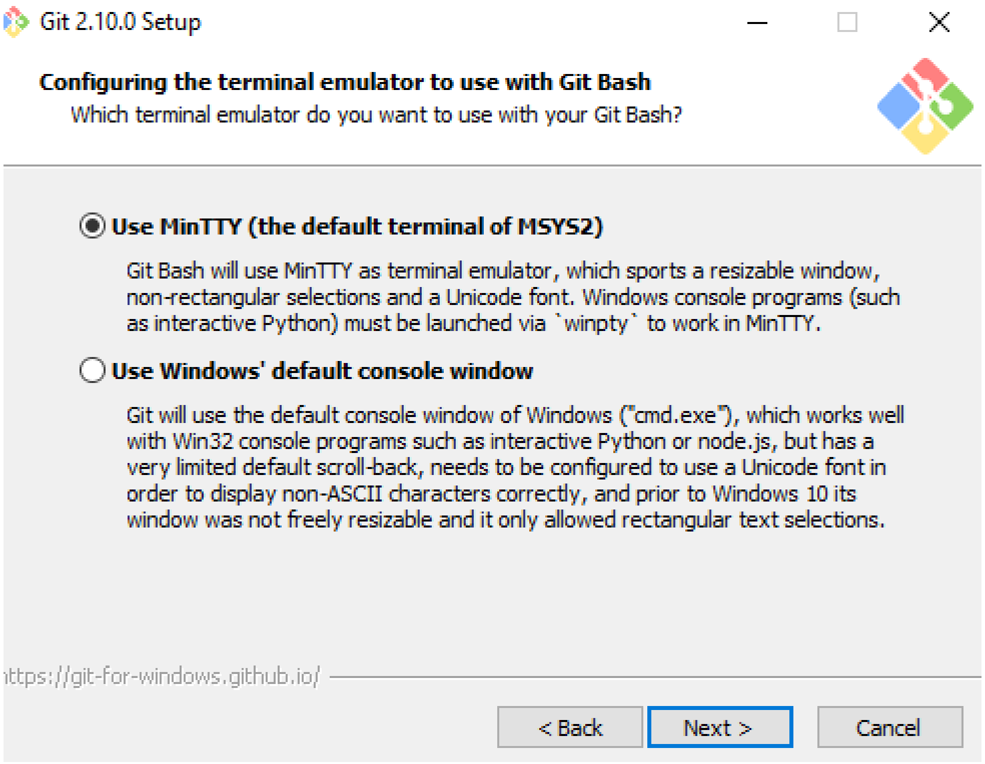
Git will convert LF to CRLF when checking out text files. When committing text files, CRLF will be converted to LF. For cross-platform projects, this is the recommended setting on Windows ("core.autocrlf" is set to "true").

○ **Checkout as-is, commit Unix-style line endings**

Git will not perform any conversion when checking out text files. When committing text files, CRLF will be converted to LF. For cross-platform projects, this is the recommended setting on Unix ("core.autocrlf" is set to "input").

○ **Checkout as-is, commit as-is**

Git will not perform any conversions when checking out or committing text files. Choosing this option is not recommended for cross-platform projects ("core.autocrlf" is set to "false").



Git 2.10.0 Setup

Configuring the terminal emulator to use with Git Bash

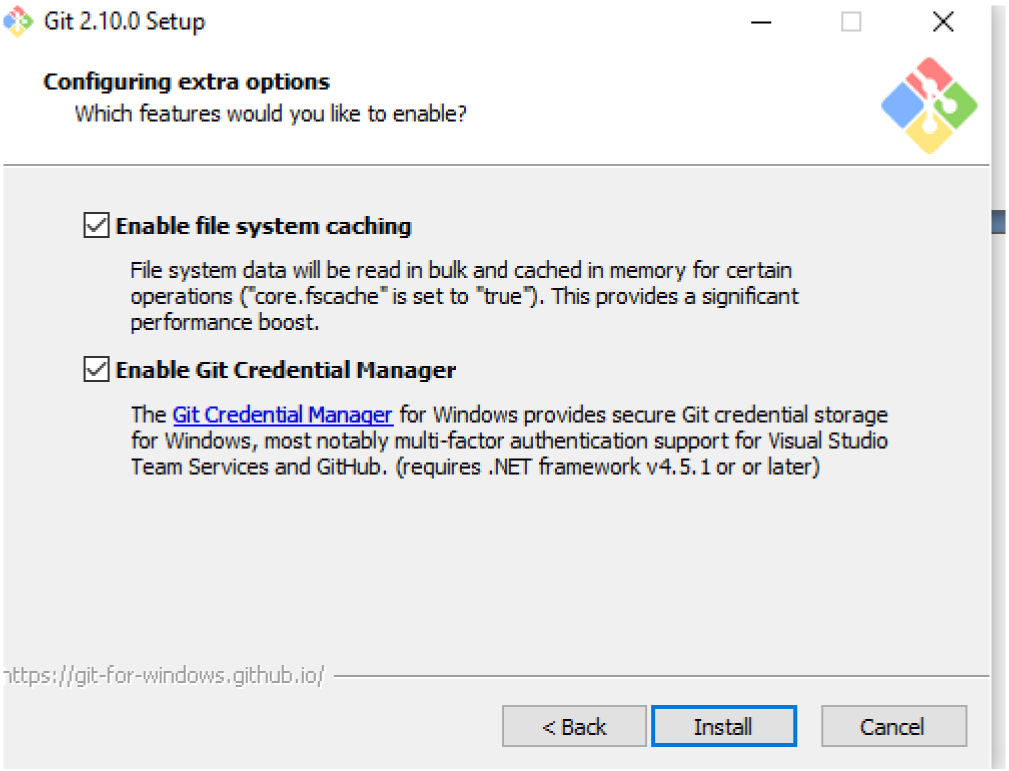
Which terminal emulator do you want to use with your Git Bash?

● **Use MinTTY (the default terminal of MSYS2)**

Git Bash will use MinTTY as terminal emulator, which sports a resizable window, non-rectangular selections and a Unicode font. Windows console programs (such as interactive Python) must be launched via `winpty` to work in MinTTY.

○ **Use Windows' default console window**

Git will use the default console window of Windows ("cmd.exe"), which works well with Win32 console programs such as interactive Python or node.js, but has a very limited default scroll-back, needs to be configured to use a Unicode font in order to display non-ASCII characters correctly, and prior to Windows 10 its window was not freely resizable and it only allowed rectangular text selections.



Git 2.10.0 Setup

Configuring extra options

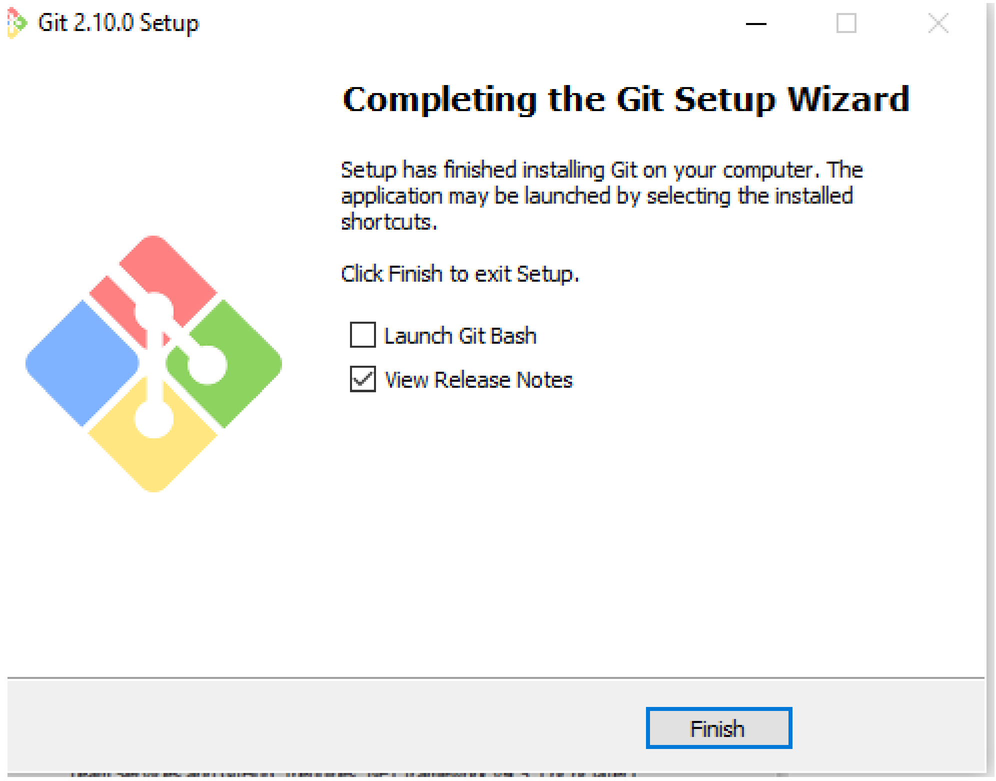
Which features would you like to enable?

☑ **Enable file system caching**

File system data will be read in bulk and cached in memory for certain operations ("core.fscache" is set to "true"). This provides a significant performance boost.

☑ **Enable Git Credential Manager**

The Git Credential Manager for Windows provides secure Git credential storage for Windows, most notably multi-factor authentication support for Visual Studio Team Services and GitHub. (requires .NET framework v4.5.1 or or later)



Git 2.10.0 Setup

Completing the Git Setup Wizard

Setup has finished installing Git on your computer. The application may be launched by selecting the installed shortcuts.

Click Finish to exit Setup.

□ Launch Git Bash

☑ View Release Notes