

# Laptop Prep for “Hands-on: Machine Learning Made Easy - No, Really!”

## TDWI San Diego – August 2019

### Overview

Laptop preparation for class consists of three high-level steps:

1. Installation of the R programming language.
2. Installation of the RStudio IDE.
3. Downloading of class files GitHub repository.
4. Installation of R packages.

NOTE – Administrator permission may be required to complete laptop prep. Also, often it is necessary to disable anti-virus software to allow for installation of R packages. As such, disabling anti-virus is recommended before laptop prep.

### Hardware Requirements

1. Windows or Mac OS X preferred (instructors have no experience with Linux).
2. 4GB or RAM, 8GB of RAM preferred.
3. 500MB of free drive space.
4. WiFi capability.

### R Installation

1. Open your browser and navigate to: <https://cran.rstudio.com/>
2. Select the R installer applicable to your laptop:

**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.

3. Download the applicable installer for your laptop (Windows shown below):

Subdirectories:

[base](#)

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

4. Run the R installer, accept all the default installer settings, and install R.

## RStudio Installation

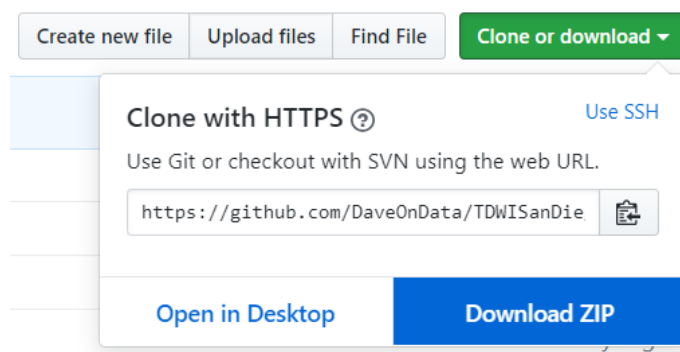
1. Open your browser and navigate to:  
<https://www.rstudio.com/products/rstudio/download/#download>
2. Select and download the installer applicable to your laptop:  
**Installers for Supported Platforms**

Installers	Size	Date	MD5
RStudio 1.2.1335 - Windows 7+ (64-bit)	126.9 MB	2019-04-08	d0e2470f1f8ef4cd35a669aa323a2136
RStudio 1.2.1335 - Mac OS X 10.12+ (64-bit)	121.1 MB	2019-04-08	6c570b0e2144583f7c48c284ce299eef
RStudio 1.2.1335 - Ubuntu 14/Debian 8 (64-bit)	92.2 MB	2019-04-08	c1b07d0511469abfe582919b183eee83
RStudio 1.2.1335 - Ubuntu 16 (64-bit)	99.3 MB	2019-04-08	c142d69c210257fb10d18c045fff13c7
RStudio 1.2.1335 - Ubuntu 18 (64-bit)	100.4 MB	2019-04-08	71a8d1990c0d97939804b46cfb0aea75
RStudio 1.2.1335 - Fedora 19+/RedHat 7+ (64-bit)	114.1 MB	2019-04-08	296b6ef88969a91297fab6545f256a7a
RStudio 1.2.1335 - Debian 9+ (64-bit)	100.6 MB	2019-04-08	1e32d4d6f6e216f086a81ca82ef65a91
RStudio 1.2.1335 - OpenSUSE 15+ (64-bit)	101.6 MB	2019-04-08	2795a63c7efd8e2aa2dae86ba09a81e5
RStudio 1.2.1335 - SLES/OpenSUSE 12+ (64-bit)	94.4 MB	2019-04-08	c65424b06ef6737279d982db9eefcae1







3. Run the RStudio installer, accept all the default installer settings, and install RStudio.

## Download Class Files From GitHub

1. Open your browser and navigate to: <https://github.com/DaveOnData/TDWISanDiego2019>
2. Click “Clone or download” -> Download ZIP:

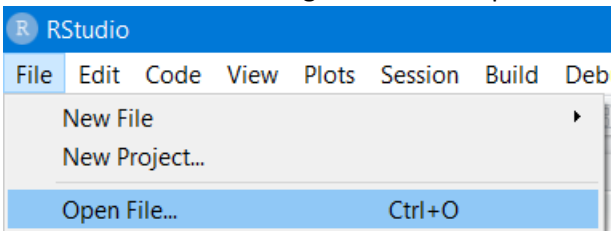


- Download the .ZIP archive file to a location on your laptop (e.g., “Documents/TDWISanDiego/MLMadeEasy” on Windows).
- Unzip the TDWISanDiego2019-master.zip file into the location of #3 on your laptop’s drive.
- You should see the following files:







 AdultTest.csv	6/23/2019 6:42 PM	Microsoft Excel Com...	814 KB
 AdultTrain.csv	6/23/2019 6:42 PM	Microsoft Excel Com...	1,625 KB
 InstallPackages.R	6/28/2019 7:35 PM	R File	1 KB
 LaptopPrepMLMadeEasy.pdf	6/29/2019 2:16 PM	Adobe Acrobat Docu...	277 KB
 MLMadeEasy.R	6/28/2019 6:21 PM	R File	12 KB
 README.md	6/19/2019 8:44 PM	MD File	1 KB

## R Packages Installation

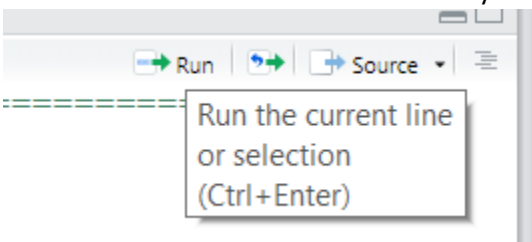
- Open RStudio.
- From within RStudio navigate to File -> Open File:



- Using the file dialog, navigate to the “InstallPackages.R” file that you downloaded from GitHub and open in RStudio:

 AdultTest.csv	6/23/2019 6:42 PM	Microsoft Excel Com...	814 KB
 AdultTrain.csv	6/23/2019 6:42 PM	Microsoft Excel Com...	1,625 KB
 InstallPackages.R	6/28/2019 7:35 PM	R File	1 KB
 LaptopPrepMLMadeEasy.pdf	6/29/2019 2:16 PM	Adobe Acrobat Docu...	277 KB
 MLMadeEasy.R	6/28/2019 6:21 PM	R File	12 KB
 README.md	6/19/2019 8:44 PM	MD File	1 KB

- Within the RStudio IDE run the R code by clicking the “Run” button:



5. Running the R code will download and install a number of packages to your laptop. This process can take several minutes depending on the speed of your Internet connection and/or laptop:



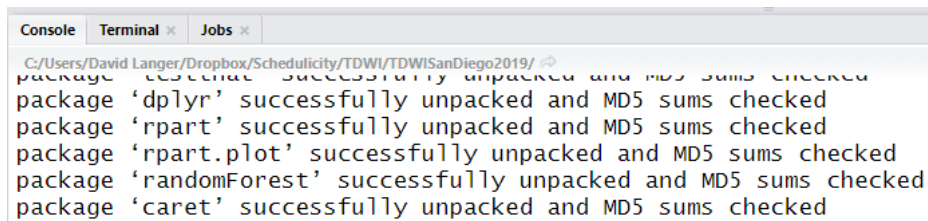
The screenshot shows the RStudio Console window with tabs for Console, Terminal, and Jobs. The path is C:/Users/David Langer/Dropbox/Schedulicity/TDWI/TDWISanDiego2019/. The console output shows the following download progress:

```
trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.6/rpart_4.1-15.zip'
Content type 'application/zip' length 769687 bytes (751 KB)
downloaded 751 KB

trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.6/rpart.plot_3.0.7.zip'
Content type 'application/zip' length 1076333 bytes (1.0 MB)
downloaded 1.0 MB

trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.6/randomForest_4.6-14.zip'
Content type 'application/zip' length 250346 bytes (244 KB)
downloaded 244 KB

trying URL 'https://cran.rstudio.com/bin/windows/contrib/3.6/caret_6.0-84.zip'
Content type 'application/zip' length 6235188 bytes (5.9 MB)
downloaded 5.9 MB
```



The screenshot shows the RStudio Console window with tabs for Console, Terminal, and Jobs. The path is C:/Users/David Langer/Dropbox/Schedulicity/TDWI/TDWISanDiego2019/. The console output shows the following installation completion messages:

```
package 'dplyr' successfully unpacked and MD5 sums checked
package 'rpart' successfully unpacked and MD5 sums checked
package 'rpart.plot' successfully unpacked and MD5 sums checked
package 'randomForest' successfully unpacked and MD5 sums checked
package 'caret' successfully unpacked and MD5 sums checked
```

**Congratulations! You are now ready for the class!**