RStudio IDE Cheat Sheet

learn more at www.rstudio.com

R Studio

The RStudio IDE is an Integrated Development Environment in R that comes in three versions

Desktop IDE
A local version of the IDE for your desktop

Open Source Server
for larger compute resources and remote access

Professional Server
for teams that share large compute resources, large data, and uniform environments for collaboration

Download all at **www.rstudio.com**. Each provides the same useful interface:

Documents and Apps

Open Shiny, R Markdown, knitr, Sweave, LaTeX, .Rd files and more in Source Pane

Check spelling   Render output   Choose output format   Choose output location   Insert code chunk

Jump to previous chunk   Jump to next chunk   Run selected lines   Publish to server   Show file outline

Access markdown guide at **Help > Markdown Quick Reference**

Jump to chunk   Set knitr chunk options   Run this and all previous code chunks   Run this code chunk

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  ```{r pressure, echo=FALSE}
18  plot(pressure)
19  ```
20  
```

RStudio recognizes that files named **app.R**, **server.R**, **ui.R**, and **global.R** belong to a shiny app

Run app   Choose location to view app   Publish to shinyapps.io or server   Manage publish accounts

Write Code

Navigate tabs   Open in new window   Save   Find and replace   Compile as notebook   Run selected code

Check   Render   Choose   Choose   Insert
spelling   output   output   output   code
          format   location   chunk

File Edit Code View Plots Session Build Debug Tools Help

RMarkdown.Rmd   app.R   Script.R

Source on Save

```
1  # Good start...
2  Cursors of        Re-run        Source with or    Show file
3  shared users   previous code   without Echo      outline
4  
5  
6  "P0030001"
7  "P0030002"
8  "P0030003"
9  "P0030004"
10  
11  
12  get_digit <-function() {
13    ("num" %% (10 ^ n))
14    %/% (10 ^ (n - 1))
15  }}
16  
17  fo
18    for        (snippet)
19    foo        {.GlobalEnv}
20    force      {base}
21  Jump to function in file
22  
```

Cursors of shared users

Re-run previous code

Source with or without Echo

Show file outline

Multiple cursors/column selection with **Alt + mouse drag**.

Code diagnostics that appear in the margin. Hover over diagnostic symbols for details.

Syntax highlighting based on your file's extension

Tab completion to finish function names, file paths, arguments, and more.

Multi-language code snippets to quickly use common blocks of code.

Change file type

Console   Compile PDF   R Markdown

```
~/IDEcheatsheet/
> foo(1)
[1] 2
> foo <- function(x) x + 1
> foo(2)
foo(2)
> foo(1)
```

Working Directory

Press ⬆ to see command history

Maximize, minimize panes

Drag pane boundaries

R Support

Import data file with wizard   History of past commands to run/add to source   Display .RPres slideshows   **File > New   File > R Presentation**

Environment   History   Build   Git   Presentation

Import Dataset   List

Global Environment

Load workspace   Save workspace   Delete all saved objects   Search inside environment

Choose environment to display from list of parent environments

Display objects as list or grid

```
Data
○ iris          150 obs. of 5 variables
Values
  a             1
Functions
  foo           function (x)
```

Displays saved objects by type with short description

View in data viewer

View function source code

Files   Plots   Packages   Help   Viewer

New Folder   Upload   Delete   Rename   More

Home   IDEcheatsheet

Name

Copy...
Move...
Export...
Set As Working Directory
Go To Working Directory

Create folder   Upload file   Delete file   Rename file   Change directory

Path to displayed directory

hello.R   450 B   Dec 24, 2015, 8:55 AM

A File browser keyed to your working directory. Click on file or directory name to open.

RStudio Pro Features

Share Project with Collaborators   Active shared collaborators   Start **new R Session** in current project

Close R Session in project

T H J   garrett   Sessions
IDEcheatsheet   R 3.2.2

New Project...   ✓ R version 3.2.2
Open Project...   R version 3.1.3
Close Project   R version 3.0.3
Share Project...   R version 2.15.3
IDEcheatsheet
RStudio-Essentials
Essentials
shiny-examples
Clear Project List
Project Options...   ⇧⌘,

Select R Version

Name of current project

Project System

File > New Project

RStudio saves the call history, workspace, and working directory associated with a project. It reloads each when you re-open a project.

RStudio opens plots in a dedicated Plots pane

Files   Plots   Packages   Help   Viewer
Zoom   Export   Publish

Navigate recent plots   Open in window   **Export plot**   Delete plot   Delete all plots

GUI Package manager lists every installed package

Files   Plots   Packages   Help   Viewer
Install   Update   Packrat

Install Packages   Update Packages   Create reproducible package library for your project

scales   Scale Functions for Visualization   0.3.0
shiny   Web Application Framework for R   0.12.2
shinydashboard Create Dashboards with 'Shiny'   0.5.1

Click to load package with **library()**. Unclick to detach package with **detach()**   Package version installed   Delete from library

RStudio opens documentation in a dedicated Help pane

Files   Plots   Packages   Help   Viewer
R: Arithmetic Operators   Find in Topic

Home page of helpful links   Search within help file   Search for help file

Viewer Pane displays HTML content, such as Shiny apps, RMarkdown reports, and interactive visualizations

Files   Plots   Packages   Help   Viewer
Publish

Stop Shiny app   Publish to shinyapps.io, rpubs, RSConnect, …   Refresh

View(<data>) opens spreadsheet like view of data set

Filter

	Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
	All	All	All	All	All
1	5.1	3.5	1.4	0.2	setosa
2					
3	Filter rows by value or value range		Sort by values		Search for value
4					

Debug Mode

Open with **debug()**, **browse()**, or a breakpoint. RStudio will open the debugger mode when it encounters a breakpoint while executing code.

Launch debugger mode from origin of error   Open traceback to examine the functions that R called before the error occurred

Click next to line number to add/remove a breakpoint.

Highlighted line shows where execution has paused

Console   ~/IDEcheatsheet/

```
> foo()
Error in get_digit(num, x) .:
Error!
```

Show Traceback

Rerun with Debug

Traceback
● palindrome(candidate) at palindrome.R:12
  biggest_palindrome() at palindrome.R:25

Console   ~/IDEcheatsheet/

Next   Continue   Stop

Run commands in environment where execution has paused   Examine variables in executing environment   Select function in traceback to debug   Step through code one line at a time   Step into and out of functions to run   Resume execution   Quit debug mode

Version Control with Git or SVN

Turn on at **Tools > Project Options > Git/SVN**

Stage files: Show file diff   Commit staged files   Push/Pull to remote   View History

A Added
D Deleted
M Modified
R Renamed
? Untracked

Environment   History   Git
Diff   Commit   master

Staged   Status   Path
☑   file-with-changes.R

Revert...
Ignore...
Shell...

Open shell to type commands   current branch

Package Writing

File > New Project > New Directory > R Package

Turn project into package, Enable roxygen documentation with **Tools > Project Options > Build Tools**

Roxygen guide at **Help > Roxygen Quick Reference**

Environment   History   Build   Git
Build & Reload   Check   More

Load All   ⌘L
Clean and Rebuild
Test Package   ⌥⌘F7
Check Package   ⌥⌘E
Build Source Package
Build Binary Package
Document   ⇧⌘D
Configure Build Tools...

1 LAYOUT

	Windows/Linux	Mac
Move focus to Source Editor	Ctrl+1	Ctrl+1
Move focus to Console	Ctrl+2	Ctrl+2
Move focus to Help	Ctrl+3	Ctrl+3
Show History	Ctrl+4	Ctrl+4
Show Files	Ctrl+5	Ctrl+5
Show Plots	Ctrl+6	Ctrl+6
Show Packages	Ctrl+7	Ctrl+7
Show Environment	Ctrl+8	Ctrl+8
Show Git/SVN	Ctrl+9	Ctrl+9
Show Build	Ctrl+0	Ctrl+0

2 RUN CODE

	Windows/Linux	Mac
Search command history	Ctrl+↑	Cmd+↑
Navigate command history	↑/↓	↑/↓
Move cursor to start of line	Home	Cmd+←
Move cursor to end of line	End	Cmd+→
Change working directory	Ctrl+Shift+H	Ctrl+Shift+H
Interrupt current command	Esc	Esc
Clear console	Ctrl+L	Ctrl+L
Quit Session (desktop only)	Ctrl+Q	Cmd+Q
Restart R Session	Ctrl+Shift+F10	Cmd+Shift+F10
Run current line/selection	Ctrl+Enter	Cmd+Enter
Run current (retain cursor)	Alt+Enter	Option+Enter
Run from current to end	Ctrl+Alt+E	Cmd+Option+E
Run the current function	Ctrl+Alt+F	Cmd+Option+F
Source a file	Ctrl+Shift+O	Cmd+Shift+O
Source the current file	Ctrl+Shift+S	Cmd+Shift+S
Source with echo	Ctrl+Shift+Enter	Cmd+Shift+Enter

3 NAVIGATE CODE

	Windows/Linux	Mac
Goto File/Function	Ctrl+.	Ctrl+.
Fold Selected	Alt+L	Cmd+Option+L
Unfold Selected	Shift+Alt+L	Cmd+Shift+Option+L
Fold All	Alt+O	Cmd+Option+O
Unfold All	Shift+Alt+O	Cmd+Shift+Option+O
Go to line	Shift+Alt+G	Cmd+Shift+Option+G
Jump to	Shift+Alt+J	Cmd+Shift+Option+J
Switch to tab	Ctrl+Shift+.	Ctrl+Shift+.
Previous tab	Ctrl+F11	Ctrl+F11
Next tab	Ctrl+F12	Ctrl+F12
First tab	Ctrl+Shift+F11	Ctrl+Shift+F11
Last tab	Ctrl+Shift+F12	Ctrl+Shift+F12
Navigate back	Ctrl+F9	Cmd+F9
Navigate forward	Ctrl+F10	Cmd+F10
Jump to Brace	Ctrl+P	Ctrl+P
Select within Braces	Ctrl+Shift+Alt+E	Ctrl+Shift+Alt+E
Use Selection for Find	Ctrl+F3	Cmd+E
Find in Files	Ctrl+Shift+F	Cmd+Shift+F
Find Next	Win: F3, Linux: Ctrl+G	Cmd+G
Find Previous	W: Shift+F3, L: Ctrl+Shift	Cmd+Shift+G
Jump to Word	Ctrl+←/→	Option+←/→
Jump to Start/End	Ctrl+↑/↓	Cmd+↑/↓

4 WRITE CODE

	Windows /Linux	Mac
Attempt completion	Tab or Ctrl+Space	Tab or Cmd+Space
Navigate candidates	↑/↓	↑/↓
Accept candidate	Enter, Tab, or →	Enter, Tab, or →
Dismiss candidates	Esc	Esc
Undo	Ctrl+Z	Cmd+Z
Redo	Ctrl+Shift+Z	Cmd+Shift+Z
Cut	Ctrl+X	Cmd+X
Copy	Ctrl+C	Cmd+C
Paste	Ctrl+V	Cmd+V
Select All	Ctrl+A	Cmd+A
Delete Line	Ctrl+D	Cmd+D
Select	Shift+[Arrow]	Shift+[Arrow]
Select Word	Ctrl+Shift+←/→	Option+Shift+←/→
Select to Line Start	Alt+Shift+←	Cmd+Shift+←
Select to Line End	Alt+Shift+→	Cmd+Shift+→
Select Page Up/Down	Shift+PageUp/Down	Shift+PageUp/Down
Select to Start/End	Shift+Alt+↑/↓	Cmd+Shift+↑/↓
Delete Word Left	Ctrl+Backspace	Ctrl+Opt+Backspace
Delete Word Right		Option+Delete
Delete to Line End		Ctrl+K
Delete to Line Start		Option+Backspace
Indent	Tab (at start of line)	Tab (at start of line)
Outdent	Shift+Tab	Shift+Tab
Yank line up to cursor	Ctrl+U	Ctrl+U
Yank line after cursor	Ctrl+K	Ctrl+K
Insert yanked text	Ctrl+Y	Ctrl+Y
Insert <-	Alt+-	Option+-
Insert %>%	Ctrl+Shift+M	Cmd+Shift+M
Show help for function	F1	F1
Show source code	F2	F2
New document	Ctrl+Shift+N	Cmd+Shift+N
New document (Chrome)	Ctrl+Alt+Shift+N	Cmd+Shift+Alt+N
Open document	Ctrl+O	Cmd+O
Save document	Ctrl+S	Cmd+S
Close document	Ctrl+W	Cmd+W
Close document (Chrome)	Ctrl+Alt+W	Cmd+Option+W
Close all documents	Ctrl+Shift+W	Cmd+Shift+W
Extract function	Ctrl+Alt+X	Cmd+Option+X
Extract variable	Ctrl+Alt+V	Cmd+Option+V
Reindent lines	Ctrl+I	Cmd+I
(Un)Comment lines	Ctrl+Shift+C	Cmd+Shift+C
Reflow Comment	Ctrl+Shift+/	Cmd+Shift+/
Reformat Selection	Ctrl+Shift+A	Cmd+Shift+A
Select within braces	Ctrl+Shift+E	Ctrl+Shift+E
Show Diagnostics	Ctrl+Shift+Alt+P	Cmd+Shift+Alt+P
Transpose Letters		Ctrl+T
Move Lines Up/Down	Alt+↑/↓	Option+↑/↓
Copy Lines Up/Down	Shift+Alt+↑/↓	Cmd+Option+↑/↓
Add New Cursor Above	Ctrl+Alt+Up	Ctrl+Alt+Up
Add New Cursor Below	Ctrl+Alt+Down	Ctrl+Alt+Down
Move Active Cursor Up	Ctrl+Alt+Shift+Up	Ctrl+Alt+Shift+Up
Move Active Cursor Down	Ctrl+Alt+Shift+Down	Ctrl+Alt+Shift+Down
Find and Replace	Ctrl+F	Cmd+F
Use Selection for Find	Ctrl+F3	Cmd+E
Replace and Find	Ctrl+Shift+J	Cmd+Shift+J

5 DEBUG CODE

	Windows/Linux	Mac
Toggle Breakpoint	Shift+F9	Shift+F9
Execute Next Line	F10	F10
Step Into Function	Shift+F4	Shift+F4
Finish Function/Loop	Shift+F6	Shift+F6
Continue	Shift+F5	Shift+F5
Stop Debugging	Shift+F8	Shift+F8

6 VERSION CONTROL

	Windows/Linux	Mac
Show diff	Ctrl+Alt+D	Ctrl+Option+D
Commit changes	Ctrl+Alt+M	Ctrl+Option+M
Scroll diff view	Ctrl+↑/↓	Ctrl+↑/↓
Stage/Unstage (Git)	Spacebar	Spacebar
Stage/Unstage and move to next	Enter	Enter

7 MAKE PACKAGES

	Windows/Linux	Mac
Build and Reload	Ctrl+Shift+B	Cmd+Shift+B
Load All (devtools)	Ctrl+Shift+L	Cmd+Shift+L
Test Package (Desktop)	Ctrl+Shift+T	Cmd+Shift+T
Test Package (Web)	Ctrl+Alt+F7	Cmd+Alt+F7
Check Package	Ctrl+Shift+E	Cmd+Shift+E
Document Package	Ctrl+Shift+D	Cmd+Shift+D

8 DOCUMENTS AND APPS

	Windows/Linux	Mac
Preview HTML (Markdown, etc.)	Ctrl+Shift+K	Cmd+Shift+K
Knit Document (knitr)	Ctrl+Shift+K	Cmd+Shift+K
Compile Notebook	Ctrl+Shift+K	Cmd+Shift+K
Compile PDF (TeX and Sweave)	Ctrl+Shift+K	Cmd+Shift+K
Insert chunk (Sweave and Knitr)	Ctrl+Alt+I	Cmd+Option+I
Insert code section	Ctrl+Shift+R	Cmd+Shift+R
Re-run previous region	Ctrl+Shift+P	Cmd+Shift+P
Run current document	Ctrl+Alt+R	Cmd+Option+R
Run from start to current line	Ctrl+Alt+B	Cmd+Option+B
Run the current code section	Ctrl+Alt+T	Cmd+Option+T
Run previous Sweave/Rmd code	Ctrl+Alt+P	Cmd+Option+P
Run the current chunk	Ctrl+Alt+C	Cmd+Option+C
Run the next chunk	Ctrl+Alt+N	Cmd+Option+N
Sync Editor & PDF Preview	Ctrl+F8	Cmd+F8

	Windows/Linux	Mac
Previous plot	Ctrl+Alt+F11	Cmd+Option+F11
Next plot	Ctrl+Alt+F12	Cmd+Option+F12

	Windows/Linux	Mac
Show Keyboard Shortcuts	Alt+Shift+K	Option+Shift+K

Why RStudio Server Pro?

Do everything you would do with the open source server with a commercial license, support, and more.

- edit the same project at the same time as others
- switch easily from one version of R to a different version
- open and run multiple R sessions simultaneously
- see what you and others are doing on your server
- tune your resources to improve performance
- integrate with your authentication, authorization, and audit practices

Download a free 45 day evaluation at
www.rstudio.com/products/rstudio-server-pro/