# RStudio IDE :: CHEAT SHEET
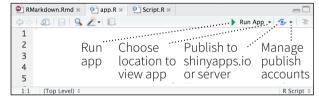
## Documents and Apps

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

```
1   # Good Start...
2
3
4
5
6   "P0030001"
7   "P0030002"
8   "P0030003"
9   "P0030004"
10
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
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.

Jump to function in file
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
Maximize, minimize panes
Press ↑ to see command history
Drag pane boundaries

## R Support

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

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

```
Environment   History   Build   Git   Presentation
Import Dataset
Global Environment
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

  hello.R       19 B       Apr 13, 2016, 11:17 AM
```

Create folder
Upload file
Delete file
Rename file
Change directory

Path to displayed directory

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

## Pro Features

**Share Project** with Collaborators
Active shared collaborators

Start **new R Session** in current project
Close R Session in project
**Select R Version**

```
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...
```

### 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.

Name of current 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
    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
```

Install Packages
Update Packages
Create reproducible package library for your project

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
  4
```

Filter rows by value or value range
Sort by values
Search for value

## Debug Mode

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

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

Highlighted line shows where execution has paused

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

```
Console  ~/IDEcheatsheet/
> foo()
Error in get_digit(num, x)..:
Error!
                        Show Traceback
                        Rerun with Debug
```

```
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
    ✓       A      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+Alt+G | Cmd+Option+G |
| **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+Option+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: | Cmd+Shift+G |
| Jump to Word | Ctrl+ ←/→ | Option+ ←/→ |
| Jump to Start/End | Ctrl+↑/↓ | Cmd+↑/↓ |
| Toggle Outline | Ctrl+Shift+O | Cmd+Shift+O |

## 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+Opt+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+Opt+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+Option+Up |
| Add New Cursor Below | Ctrl+Alt+Down | Ctrl+Option+Down |
| Move Active Cursor Up | Ctrl+Alt+Shift+Up | Ctrl+Option+Shift+Up |
| Move Active Cursor Down | Ctrl+Alt+Shift+Down | Ctrl+Opt+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+Opt+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 |
| Previous plot | Ctrl+Alt+F11 | Cmd+Option+F11 |
| Next plot | Ctrl+Alt+F12 | Cmd+Option+F12 |
| **Show Keyboard Shortcuts** | **Alt+Shift+K** | **Option+Shift+K** |

## RStudio