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
- Configure render options
- Insert code chunk
- Publish to server

- Jump to previous chunk
- Jump to next chunk
- Run code
- Show file outline
- Visual Editor (reverse side)

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

Access markdown guide at
Help > Markdown Quick Reference
See reverse side for more on **Visual Editor**

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
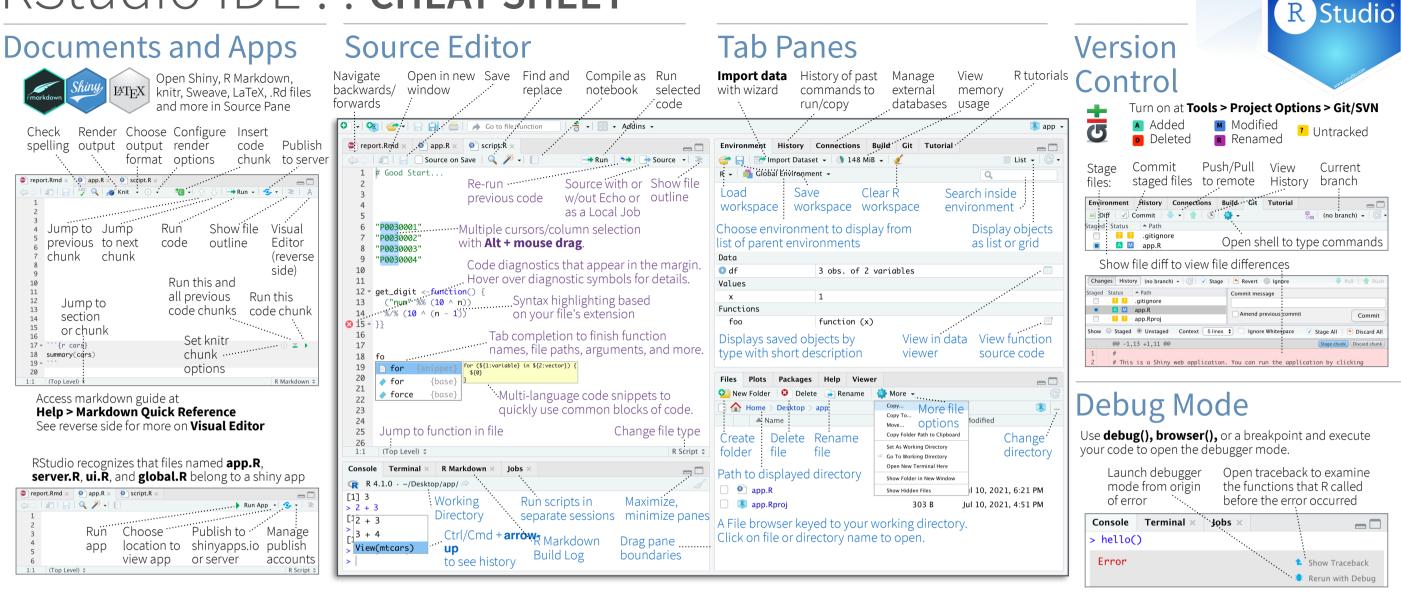
Package Development

Create a new package with
File > New Project > New Directory > R Package

Enable roxygen documentation with
Tools > Project Options > Build Tools

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

See package information in the **Build Tab**

- Run R CMD check
- Customize package build options
- Clear output and rebuild
- Run package tests

Load All   ^⇧L
Clean and Rebuild
Test Package   ^⇧T
Check Package   ^⇧E
Build Source Package
Build Binary Package
Configure Build Tools...

Source Editor

- Navigate backwards/forwards
- Open in new window
- Save
- Find and replace
- Compile as notebook
- Run selected code

```
# Good Start...

"P0030001"
"P0030002"
"P0030003"
"P0030004"

get_digit <- function() {
  ("num" %% (10 ^ n))
  %/% (10 ^ (n - 1))
}}

fo
for     {snippet}
for     {base}
force   {base}
```

- Re-run previous code
- Source with or w/out Echo or as a Local Job
- 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

`for (${1:variable} in ${2:vector}) { ${0} }`

```
Console   Terminal   R Markdown   Jobs
R 4.1.0 · ~/Desktop/app/
[1] 3
> 2 + 3
[2 + 3
> 3 + 4
> View(mtcars)
>
```

- Working Directory
- Ctrl/Cmd + **arrow up** to see history
- Run scripts in separate sessions
- R Markdown Build Log
- Maximize, minimize panes
- Drag pane boundaries

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
  Name       Description          Version
  tibble     Simple Data Frames   3.1.2
  tidyr      Tidy Messy Data      1.1.3
```

- Install Packages
- Update Packages
- Browse package site

Click to load package with **library()**. Unclick to detach package with **detach()**.

- Package version installed
- Delete from library

Tab Panes

- **Import data** with wizard
- History of past commands to run/copy
- Manage external databases
- View memory usage
- R tutorials

```
Environment   History   Connections   Build   Git   Tutorial
  Import Dataset    148 MiB          List
R    Global Environment
Data
  df            3 obs. of 2 variables
Values
  x             1
Functions
  foo           function (x)
```

- Load workspace
- Save workspace
- Clear R workspace
- Search inside environment
- Choose environment to display from list of parent environments
- Display objects as list or grid
- Displays saved objects by type with short description
- View in data viewer
- View function source code

```
Files   Plots   Packages   Help   Viewer
  New Folder   Delete   Rename   More
  Home   Desktop   app
  Name                          Modified
  app.R            Jul 10, 2021, 6:21 PM
  app.Rproj        303 B    Jul 10, 2021, 4:51 PM
```

More file options:
Copy...
Copy To...
Move...
Copy Folder Path to Clipboard
Set As Working Directory
Go To Working Directory
Open New Terminal Here
Show Folder in New Window
Show Hidden Files

- Create folder
- 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.

RStudio opens documentation in a dedicated **Help** pane

```
Files   Plots   Packages   Help   Viewer
R: Render R Markdown    Find in Topic       Refresh Help Topic
```

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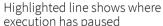- Search for help file

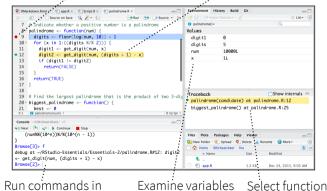**Viewer** pane displays HTML content, such as Shiny apps, RMarkdown reports, and interactive visualizations

```
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

```
        mpg  cyl  disp  hp  drat   wt   qsec  vs  am
Mazda RX4      21.0  6  160.0  110  3.90  2.620  16.46  0  1
Mazda RX4 Wag  21.0  6  160.0  110  3.90  2.875  17.02  0  1
```

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

Version Control

- **A** Added
- **D** Deleted
- **M** Modified
- **R** Renamed
- **?** Untracked

- Stage files:
- Commit staged files
- Push/Pull to remote
- View History
- Current branch

```
Environment   History   Connections   Build   Git   Tutorial
  Diff    Commit                              (no branch)
Staged  Status  Path
  ?    .gitignore
  M    app.R
```

- Open shell to type commands
- Show file diff to view file differences

```
Changes   History   (no branch)   Stage   Revert   Ignore            Pull   Push
Staged  Status  Path
  ?    .gitignore              Commit message
  A M  app.R
  A M  app.Rproj               Amend previous commit       Commit
Show   Staged   Unstaged   Context  5 lines   Ignore Whitespace   Stage All   Discard All
@@ -1,13 +1,11 @@                                     Stage chunk   Discard chunk
  #
  # This is a Shiny web application. You can run the application by clicking
```

Debug Mode

Use **debug()**, **browser()**, or a breakpoint and execute your code to open the debugger mode.

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

```
Console   Terminal   Jobs
> hello()
Error
  Show Traceback
  Rerun with Debug
```

- Click next to line number to add/remove a breakpoint.
- Highlighted line shows where execution has paused

- Run commands in environment where execution has paused
- Examine variables in executing environment
- Select function in traceback to debug

```
Console   Terminal   Jobs
  Next    Continue    Stop
```

- Step through code one line at a time
- Step into and out of functions to run
- Resume execution
- Quit debug mode

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Keyboard Shortcuts

RUN CODE

	Windows/Linux	Mac
Search command history	Ctrl+**arrow-up**	Cmd+**arrow-up**
Interrupt current command	Esc	Esc
Clear console	Ctrl+L	Ctrl+L

NAVIGATE CODE

	Windows/Linux	Mac
Go to File/Function	Ctrl+.	Ctrl+.

WRITE CODE

	Windows/Linux	Mac
Attempt completion	Tab or Ctrl+Space	Tab or Ctrl+Space
Insert <- (assignment operator)	Alt+-	Option+-
Insert %>% (pipe operator)	Ctrl+Shift+M	Cmd+Shift+M
(Un)Comment selection	Ctrl+Shift+C	Cmd+Shift+C

MAKE PACKAGES

	Windows/Linux	Mac
Load All (devtools)	Ctrl+Shift+L	Cmd+Shift+L
Test Package (Desktop)	Ctrl+Shift+T	Cmd+Shift+T
Document Package	Ctrl+Shift+D	Cmd+Shift+D

DOCUMENTS AND APPS

Knit Document (knitr)	Ctrl+Shift+K	Cmd+Shift+K
Insert chunk (Sweave & Knitr)	Ctrl+Alt+I	Cmd+Option+I
Run from start to current line	Ctrl+Alt+B	Cmd+Option+B

MORE KEYBOARD SHORTCUTS

Keyboard Shortcuts Help	Alt+Shift+K	Option+Shift+K
Show Command Palette	Ctrl+Shift+P	Cmd+Shift+P

View the Keyboard Shortcut Quick Reference with **Tools > Keyboard Shortcuts** or **Alt/Option + Shift + K**

Search for keyboard shortcuts with **Tools > Show Command Palette** or **Ctrl/Cmd + Shift + P**.

Visual Editor

RStudio Workbench

WHY RSTUDIO WORKBENCH?

Extend the open source server with a commercial license, support, and more:

- open and run multiple R sessions at once
- tune your resources to improve performance
- administrative tools for managing user sessions
- collaborate real-time with others in shared projects
- switch easily from one version of R to a different version
- integrate with your authentication, authorization, and audit practices
- work in the RStudio IDE, JupyterLab, Jupyter Notebooks, or VS Code

Download a free 45 day evaluation at
www.rstudio.com/products/workbench/evaluation/

Share Projects

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.

Run Remote Jobs

Run R on remote clusters (Kubernetes/Slurm) via the Job Launcher

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