Jupyter Notebook Cheatsheet

# Keyboard Shortcuts

The following two lists are the keyboard shortcuts that are enabled by default in a Jupyter notebook. If you have edited the configuration of the keyboard shortcuts in your Jupyter Notebook environment, you may view a list of the currently available shortcuts from the Jupyter Help menu.

|  |  |
| --- | --- |
| **Command Mode** | ***(press Esc to enable command mode)*** |
| Alt-R | Enter/Exit RISE Slideshow |
| F | find and replace |
| Shift-C | open the nbconfigurator page for RISE |
| Shift-F | (un)set current cell as a Fragment cell |
| Shift-I | (un)set current cell as a Slide cell |
| Shift-U | (un)set current cell as a Sub-slide cell |
| Ctrl-Shift-F | open the command palette |
| Ctrl-Shift-P | open the command palette |
| Enter | enter edit mode |
| P | open the command palette |
| Shift-Enter | run cell, select below |
| Ctrl-Enter | run selected cells |
| Alt-Enter | run cell and insert below |
| Y | change cell to code |
| M | change cell to Markdown |
| R | change cell to raw |
| 1 | change cell to heading 1 |
| 2 | change cell to heading 2 |
| 3 | change cell to heading 3 |
| 4 | change cell to heading 4 |
| 5 | change cell to heading 5 |
| 6 | change cell to heading 6 |
| K | select cell above |
| Up | select cell above |
| Down | select cell below |
| J | select cell below |
| Shift-K | extend selected cells above |
| Shift-Up | extend selected cells above |
| Shift-Down | extend selected cells below |
| Shift-J | extend selected cells below |
| A | insert cell above |
| B | insert cell below |
| X | cut selected cells |
| C | copy selected cells |
| Shift-V | paste cells above |
| V | paste cells below |
| Z | undo cell deletion |
| D,D | delete selected cells |
| Shift-M | merge selected cells, or current cell with cell below if only one cell is selected |
| Ctrl-S | Save and Checkpoint |
| S | Save and Checkpoint |
| L | toggle line numbers |
| O | toggle output of selected cells |
| Shift-O | toggle output scrolling of selected cells |
| H | show keyboard shortcuts |
| I,I | interrupt the kernel |
| 0,0 | restart the kernel (with dialog) |
| Esc | close the pager |
| Q | close the pager |
| Shift-L | toggles line numbers in all cells, and persist the setting |
| Shift-Space | scroll notebook up |
| Space | scroll notebook down |
|  |  |
| **Edit Mode** | ***(press Enter to enable to enter edit mode in a cell)*** |
| Tab | code completion or indent |
| Shift-Tab | tooltip |
| Ctrl-] | indent |
| Ctrl-[ | dedent |
| Ctrl-A | select all |
| Ctrl-Z | undo |
| Ctrl-/ | comment |
| Ctrl-D | delete whole line |
| Ctrl-U | undo selection |
| Insert | toggle overwrite flag |
| Ctrl-Home | go to cell start |
| Ctrl-Up | go to cell start |
| Ctrl-End | go to cell end |
| Ctrl-Down | go to cell end |
| Ctrl-Left | go one word left |
| Ctrl-Right | go one word right |
| Ctrl-Backspace | delete word before |
| Ctrl-Delete | delete word after |
| Ctrl-Y | redo |
| Alt-U | redo selection |
| Ctrl-M | enter command mode |
| Ctrl-Shift-F | open the command palette |
| Ctrl-Shift-P | open the command palette |
| Esc | enter command mode |
| Shift-Enter | run cell, select below |
| Ctrl-Enter | run selected cells |
| Alt-Enter | run cell and insert below |
| Ctrl-Shift-Minus | split cell at cursor |
| Ctrl-S | Save and Checkpoint |
| Down | move cursor down |
| Up | move cursor up |

# Markdown

This is a list of common syntax used in Markdown cells in a Jupyter notebook to produce rich formatted text and embedded multimedia. To see the rendered output for these examples, you can open any Jupyter notebook, start editing a Markdown cell, insert the sample text, and execute the cell to view the formatted output (e.g,. by pressing CTRL+Enter). A copy of these samples can be found on GitHub (some github-specific features are not supported): <https://guides.github.com/pdfs/markdown-cheatsheet-online.pdf>

## Headings

# This is an <h1> tag

## This is an <h2> tag

###### This is an <h6> tag

## Emphasis

\*This text will be italic\*

\_This will also be italic\_

\*\*This text will be bold\*\*

\_\_This will also be bold\_\_

\*You \*\*can\*\* combine them\*

## Blockquotes

As Nicholas Chrisman said:

> Geographers never get lost. They

> just do accidental field work.

## Unordered Lists

\* Unordered Item 1

\* Unordered Item 2

\* Unordered Item 2a

\* Unordered Item 2b

## Ordered Lists

1. Ordered Item 1

2. Ordered Item 2

3. Ordered Item 3

1. Ordered Item 3a

2. Ordered Item 3b

## Images (linked)

![Logo](images/logo.png)

Format: ![Alt Text](url)

The URL portion for an image may be a full path to an Internet-accessible location (e.g., https://esri.ca/images/logo.png), or a path to a location accessible relative to your local notebook server (e.g., a path that points to images/logo.png will work if there an images folder within the same path as your notebook, with a logo.png file inside it).

## Images (embedded)

To ensure your notebooks are easy to share, and are not subject to broken links or missing files, you may embed images directly into your notebook file. You can do this while editing a Markdown cell in your notebook by opening the ‘Edit’ menu and selecting ‘Insert image’. In the prompt that is displayed, choose an image from your files and click ‘OK’. The image will be stored internally in the notebook file within the current cell, and Markdown will be inserted into the text. When you execute the cell (e.g., by pressing CTRL+Enter), the image will be displayed in the rendered output.

Below is an example of the syntax that you will see inserted into your Markdown cell when embedding an image this way:

![example\_image.jpg](attachment:example\_image.jpg)

## Links

http://github.com - automatic!

[GitHub](http://github.com)

## Code (inline)

Snippets of code can be displayed inline, enclosed in single backticks – for example, to emphasize references to things like `variable\_names` within your text.

## Code (blocks)

Longer blocks of code can be enclosed by two lines with triple backticks (without any trailing spaces). If using a well-known language, the first set of backticks can be followed by the name of the language. For example, js or javascript following the backticks will render the following with code-style text that highlights elements of the code with different colours (e.g., core syntax words, variables, numbers, text strings):

```js

function test() {

console.log("sample javascript code");

}

```

## Task lists

- [x] this is a complete item

- [ ] this is an incomplete item

- [x] [links](), \*\*formatting\*\*, and basic HTML <del>tags</del> are supported

- [x] list syntax required (any unordered or ordered list supported)

## Tables

First Header | Second Header

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

Content cell 1 | Content cell 2

Content column 1 | Content column 2

## Simple HTML formatting

Most basic HTML tags will render as expected:

\* <em>Italic</em>

\* <strong>Bold</strong>

\* <a href=”https://esri.ca”>Link</a>

## Escape characters

Use backslashes to escape any of the following characters in your Markdown syntax:

\ backslash

` backtick

\* asterisk

\_ underscore

{} curly braces

[] square brackets

() parentheses

# hash mark

+ plus sign

- minus sign (hyphen)

. dot

! exclamation mark

# Equations

Text enclosed by single `$` characters will be displayed as inline math

formulas, for example: $ArcGIS + Python + Jupyter = 💥$

When double `$$` characters enclose a formula, it will be displayed

as an equation on a separate line: $$ArcGIS + Python + Jupyter = 💥$$

## Examples of equations using LaTeX syntax:

$$

F(k) = \int\_{-\infty}^{\infty} f(x) e^{2\pi i k} dx

$$

$$

\begin{align}

\nabla \times \vec{\mathbf{B}} -\, \frac1c\, \frac{\partial\vec{\mathbf{E}}}{\partial t} & = \frac{4\pi}{c}\vec{\mathbf{j}} \\

\nabla \cdot \vec{\mathbf{E}} & = 4 \pi \rho \\

\nabla \times \vec{\mathbf{E}}\, +\, \frac1c\, \frac{\partial\vec{\mathbf{B}}}{\partial t} & = \vec{\mathbf{0}} \\

\nabla \cdot \vec{\mathbf{B}} & = 0

\end{align}

$$

# IPython display Module

The IPython display module provides a variety of methods for inserting content into a notebook. Full documentation is online: <https://ipython.readthedocs.io/en/stable/api/generated/IPython.display.html>

Below are a few simple examples:

## YouTube Video

from IPython.display import YouTubeVideo

YouTubeVideo(id="lXYFhgntmjg", width=800, height=450)

## HTML

from IPython.display import HTML

HTML("<a class=\"sample\">Some HTML content!</a>"

"<style>"

".sample:hover {color:magenta; cursor:pointer}"

"</style>")

## JavaScript

from IPython.display import Javascript

Javascript("alert(\"Hello World!\");")

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