

# Introduction to Emacs

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October 20, 2019

# Outline

The Church of Emacs

Basic Emacs

Configuring Emacs

Emacs Packages

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# What is Emacs?

- the extensible, customizable, self-documenting, real-time display editor
- An environment with a Turing-complete programming language (Emacs Lisp) **designed around the manipulation of text**
- Goes against the unix philosophy: one tool for everything
- The true hacker's editor

# Emacs Highlights

- Edit files over many remote protocols (ssh, ftp etc.) as if local
- Extremely powerful text-based clients
  - Mail ([mu4e](#), [notmuch](#))
  - RSS ([elfeed](#))
  - File Management ([dired](#))
  - Git ([Magit](#))
  - Kubernetes ([kubernetes-el](#))
- Org-mode (Thesis writing, planning, cheatsheet)

# Who Uses Emacs? [1]

- Julian Assange (Wikileaks)
- Yukihiro Matsumoto (Ruby)
- Guido van Rossum (Python)
- Rich Hickey (Clojure)
- Joe Armstrong (Erlang)
- Neal Stephenson (Writer)

*In the GNU/Linux world there are two major text editing programs: the minimalist vi (known in some implementations as elvis) and the maximalist emacs. I use emacs, which might be thought of as a thermonuclear word processor... emacs outshines all other editing software in approximately the same way that the noon-day sun does the stars. It is not just bigger and brighter; it simply makes everything else vanish. — Neal Stephenson, In the Beginning was the Command Line (1981)*

# Emacs at Amazon [2]

*Mailman was the Customer Service customer-email processing application for ... four, five years? A long time, anyway. It was written in Emacs. Everyone loved it.*

# Keyboard Notations

C-x Ctrl-x

M-x Alt-x



# Basic Commands

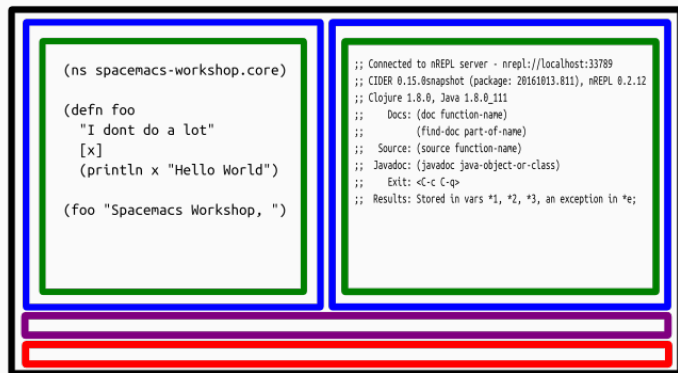
**C-x C-c** Quit Emacs

**C-g** Cancel current command (spammable)

**C-h t** Emacs tutorial

**C-h f**, **C-h v**, **C-h k** Describe function, variable, keybinding

# Emacs Terminology



□ Frame   □ Window   □ Buffer

□ Status bar   □ Minibuffer

# Emacs Tutorial

- M-x brings up the interactive command launch environment
- We want to launch M-x `help-with-tutorial`
- We can tab-complete here M-x `help-<TAB>`

# Configuring Emacs

Configuring Emacs is the same as writing Emacs Lisp code to be evaluated during program launch time. Emacs looks for your init file in the following locations (in order):

- `~/.emacs`
- `~/.emacs.el`
- `~/.emacs.d/init.el` (preferred)

# Installing packages i

## Adding package mirrors

Emacs needs to know where to fetch packages from. Here we add 2 mirrors, the Org mirror and the [MELPA mirror](#), where most community packages are hosted.

```
1 (require 'package)
2 (add-to-list 'package-archives '("melpa" .
   ↪ "https://melpa.org/packages/") t)
3 (add-to-list 'package-archives '("org" .
   ↪ "https://orgmode.org/elpa/") t)
4 (package-initialize)
```

# Installing packages ii

We run `M-x package-refresh-contents` to pull new content from the mirrors.

We can see a list of packages to install by running `M-x list-packages`:

Package	Version	Status ▾	Archive	Description
<u>alsamixer</u>	20191002.1133	new	melpa	Functions to call out to amixer.
<u>compdef</u>	20190929.655	new	melpa	A local completion definer.
<u>etern-fn</u>	20191010.2331	new	melpa	Function keys (F1-F12) for term.
<u>isp-julia</u>	20191011.1805	new	melpa	Julia support for lsp-mode
<u>plain-org-wiki</u>	20191013.1833	new	melpa	Simple jump-to-org-files in a dire
<u>0layout</u>	20190703.527	available	melpa	Layout grouping with ease
<u>0x8</u>	20190902.929	available	melpa	Upload to 0x8.st
<u>0xc</u>	20190219.117	available	melpa	Base conversion made easy
<u>2048-game</u>	20151026.1933	available	melpa	play 2048 in Emacs
<u>4clojure</u>	20131014.2207	available	melpa	Open and evaluate 4clojure.com que
<u>g</u>	20181225.1438	available	melpa	multiple-inheritance prototype-bas
<u>s</u>	20180907.953	available	melpa	Associative data structure functio
<u>aa-edit-mode</u>	20170119.320	available	melpa	Major mode for editing AA(S..IS Ar
<u>abc-mode</u>	20171020.1019	available	melpa	Major mode for editing abc music f
<u>abgaben</u>	20171119.646	available	melpa	review and correct assignments rec
<u>abl-mode</u>	20190403.904	available	melpa	Python TDD minor mode
<u>abs-mode</u>	20191013.926	available	melpa	Major mode for the modelling langua
<u>abys-theme</u>	20170908.1345	available	melpa	A dark theme with contrasting colc
<u>ac-chemist</u>	20150900.656	available	melpa	auto-complete source for alchemist
<u>ac-c-headers</u>	20151021.834	available	melpa	auto-complete source for C headers
<u>ac-cmpf</u>	20151101.217	available	melpa	auto-complete source with completi
<u>ac-cider</u>	20161006.719	available	melpa	Clojure auto-complete sources usin
<u>ac-clang</u>	20180710.546	available	melpa	Auto Completion source by libclang
<u>ac-dcd</u>	20190902.1124	available	melpa	Auto Completion source for dcd for
<u>ac-emacs-ecilin</u>	20180911.1121	available	melpa	auto-complete source for ecilin
<u>ac-emmet</u>	20131015.1550	available	melpa	auto-complete sources for emmet-ac
<u>ac-emoji</u>	20150823.711	available	melpa	auto-complete source of emoji
<u>ac-etags</u>	20161001.1507	available	melpa	etags/ctags completion source for
<u>ac-geiser</u>	20130929.647	available	melpa	Auto-complete backend for geiser
<u>ac-haskell-process</u>	20150423.1402	available	melpa	Haskell auto-complete source which
<u>ac-helm</u>	20160319.233	available	melpa	Helm interface for auto-complete
<u>ac-html</u>	20151005.731	available	melpa	auto complete source for html tags
<u>ac-html-angular</u>	20151226.719	available	melpa	auto-complete angularJS data for
<u>ac-html-bootstrap</u>	20160302.1701	available	melpa	auto complete bootstrap/fontawesc
<u>ac-html-csswatcher</u>	20151208.2113	available	melpa	css/less class/id completion with
<u>ac-inf-ruby</u>	20131115.1150	available	melpa	Enable auto-complete in inf-ruby s
<u>ac-ispell</u>	20151101.226	available	melpa	ispell completion source for auto-
<u>ac-is2</u>	20190101.933	available	melpa	Auto-complete source for Js2-mode.

**Exercise: Installing Counsel/lvy**  
**lvy** is a better interface for basic Emacs tasks.

# Dired

- basic file management:
  - deleting, renaming, movement
- [wdired](#)

# Org-mode

- Basic org syntax
- org-agenda
- org-babel
- org export
- deft



# Magit

- commit
- log
- rebase
- spinoff
- stash

# Common Plugins

project management [projectile](#)

directory view [treemacs](#)

code completion [company-mode](#) + [lsp-mode](#)

code editing [aggressive-indent](#), [smartparens](#), [multiple-cursors](#)

code navigation [avy](#)

# Getting Productive Quickly

Vanilla Emacs is powerful, but often not powerful enough for day-to-day work. An easy way to get started is to use a starter kit:

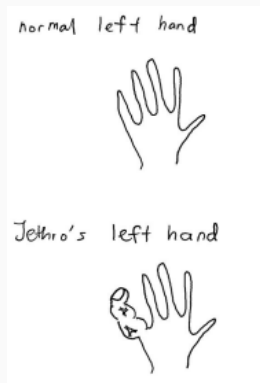
- [prelude](#)
- [spacemacs](#)
- [doom-emacs](#)
- [Centaur Emacs](#)

# Evil-mode

If you like Vim's modal editing, consider [evil-mode](#). Evil + Emacs allows you to fully emulate Vim's modal editing capabilities, alongside the power of scripting in Emacs Lisp.

# Remap Capslock to Ctrl

This will save you from Emacs pinky.  
Treat yourself to a good keyboard,  
you're going to be using one heavily  
in the foreseeable future.



**Figure 2:** Source [3]

# Study Emacs Configurations

Emacs is a tinkerer's editor: make it your own. Scratch your itch, experiment with packages. Look at what other people use and see if you like them.

# Emacsclient

Emacs start-up time is non-negligible (mine is around 3s), especially when you have a lot of packages and Elisp to evaluate. Solution: [run emacs as a daemon](#), and launch clients that connect to it.

# Join Communities

- [r/emacs](#)
- #emacs on IRC



# Config Files

- [jethrokuan/.emacs.d](#)
- [caisah/emacs.dz](#)
- [spacemacs](#)
- [doom-emacs](#)
- [Centaur Emacs](#)

# Books/Blogs

- [Planet Emacslife](#)
- [Sacha Chua's Emacs News](#)
- [Mickey Petersen's Mastering Emacs](#)



Xah Lee.

### **Famous emacs users.**

[http://ergoemacs.org/misc/famous\\_emacs\\_users.html](http://ergoemacs.org/misc/famous_emacs_users.html),  
2018.

Online; accessed 19 October 2019.



Steve Yegge.

### **tour-de-babel - steveyegge2.**

<https://sites.google.com/site/steveyegge2/tour-de-babel>,  
2004.

Online; accessed 18 October 2019.



Jingyen.

### ***Jethro's Left Hand.***

Online; accessed 20 October 2019.