Emacs From Scratch

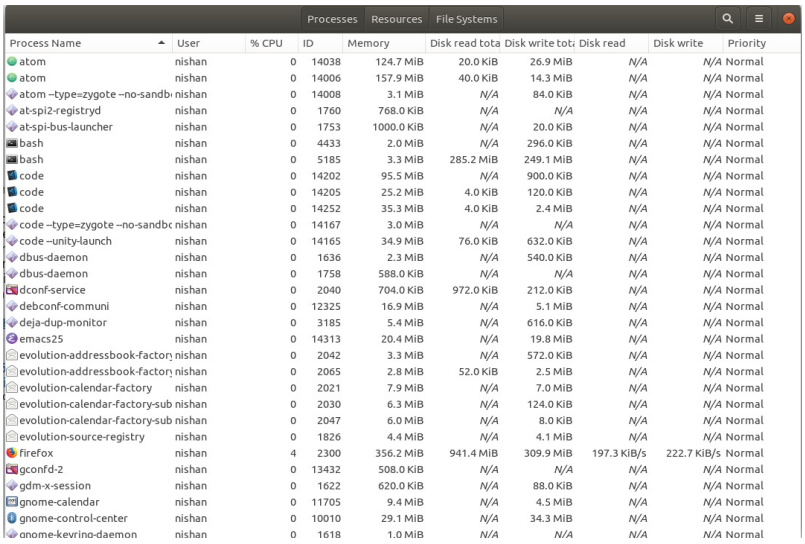
This document describes me setting up my Emacs on an Ubuntu system. It walks through from install all the way to configuring it for my use. Here's a story to why I use Emacs.

In my early days, I was looking for a universal text editor. The trend was and still is to use specialized IDEs. For Matlab, use the inbuilt Matlab editor, for LaTeX use Texmaker, Texworks etc, for C use Geany or some other IDE. This got tiring after a while. Researching into this, I realized that Emacs could be the solution. So I took the plunge and let me tell you it was cold! As stated by many people before me, this editor has a steep learning curve but learning more about this editor and it never disappoints.

So during the days of my PhD, I used Emacs to edit my papers, Python code, C code and even some Matlab code but Matlab's IDE just can't be beat. I met with some hiccups along the way but every time, the features offered by Emacs didn't disappoint. For example, I'm yet to come across something akin to preview-mode in Auctex or something as convenient as Reftex. Also using Emacs introduced me to the wonderful world of Linux documentation. I realized there was a way to escape the power of Google!

But all being said, I still found Emacs Python's IDE package ___ not up to par. As everybody wants to try the new best thing, the new hip thing in 2015 was Atom. So I went ahead, downloaded it and installed a bunch of packages to set it up as a killer Python IDE. It was lacking LaTeX support at the time so I continued using Emacs but I was convinced that this would be my next editor as it was just so slick.

Fast forward to May 2017 when I first started my real job at a startup. I was given a Windows machine and with the refusal of the IT manager to format my machine and install Ubuntu, my problems began. Forced used to Virtualbox, I installed Ubuntu MATE and set about replicating the install on my PhD computer. Turns out, all these modern editors, Atom, Sublime, VSTS etc. are a hog for RAM and graphics. With limited RAM and graphics capabilities, I found all these editors to be laggy. At that point, I realized the price of being slick and cool. My trusty old Emacs however had no such issues. It would work just fine on a Desktop, a VM or over an ssh tunnell. It was functional, wasn't bloated. At that point, I knew that I was going to spend the rest of my life looking for ways to live inside Emacs.



Process Name	User	% CPU	ID	Memory	Disk read tota	Disk write tot	Disk read	Disk write	Priority
atom	nishan	0	14038	124.7 MiB	20.0 KiB	26.9 MiB	N/A	N/A	Normal
atom	nishan	0	14006	157.9 MiB	40.0 KiB	14.3 MiB	N/A	N/A	Normal
atom --type=zygote --no-sandb	nishan	0	14008	3.1 MiB	N/A	84.0 KiB	N/A	N/A	Normal
at-spi2-registryd	nishan	0	1760	768.0 KiB	N/A	N/A	N/A	N/A	Normal
at-spi-bus-launcher	nishan	0	1753	1000.0 KiB	N/A	20.0 KiB	N/A	N/A	Normal
bash	nishan	0	4433	2.0 MiB	N/A	296.0 KiB	N/A	N/A	Normal
bash	nishan	0	5185	3.3 MiB	285.2 MiB	249.1 MiB	N/A	N/A	Normal
code	nishan	0	14202	95.5 MiB	N/A	900.0 KiB	N/A	N/A	Normal
code	nishan	0	14205	25.2 MiB	4.0 KiB	120.0 KiB	N/A	N/A	Normal
code	nishan	0	14252	35.3 MiB	4.0 KiB	2.4 MiB	N/A	N/A	Normal
code --type=zygote --no-sandbo	nishan	0	14167	3.0 MiB	N/A	N/A	N/A	N/A	Normal
code --unity-launch	nishan	0	14165	34.9 MiB	76.0 KiB	632.0 KiB	N/A	N/A	Normal
dbus-daemon	nishan	0	1636	2.3 MiB	N/A	540.0 KiB	N/A	N/A	Normal
dbus-daemon	nishan	0	1758	588.0 KiB	N/A	N/A	N/A	N/A	Normal
dconf-service	nishan	0	2040	704.0 KiB	972.0 KiB	212.0 KiB	N/A	N/A	Normal
debconf-communi	nishan	0	12325	16.9 MiB	N/A	5.1 MiB	N/A	N/A	Normal
deja-dup-monitor	nishan	0	3185	5.4 MiB	N/A	616.0 KiB	N/A	N/A	Normal
emacs25	nishan	0	14313	20.4 MiB	N/A	19.8 MiB	N/A	N/A	Normal
evolution-addressbook-factory	nishan	0	2042	3.3 MiB	N/A	572.0 KiB	N/A	N/A	Normal
evolution-addressbook-factory	nishan	0	2065	2.8 MiB	52.0 KiB	2.5 MiB	N/A	N/A	Normal
evolution-calendar-factory	nishan	0	2021	7.9 MiB	N/A	7.0 MiB	N/A	N/A	Normal
evolution-calendar-factory-sub	nishan	0	2030	6.3 MiB	N/A	124.0 KiB	N/A	N/A	Normal
evolution-calendar-factory-sub	nishan	0	2047	6.0 MiB	N/A	8.0 KiB	N/A	N/A	Normal
evolution-source-registry	nishan	0	1826	4.4 MiB	N/A	4.1 MiB	N/A	N/A	Normal
firefox	nishan	4	2300	356.2 MiB	941.4 MiB	309.9 MiB	197.3 KiB/s	222.7 KiB/s	Normal
gconfd-2	nishan	0	13432	508.0 KiB	N/A	N/A	N/A	N/A	Normal
gdm-x-session	nishan	0	1622	620.0 KiB	N/A	88.0 KiB	N/A	N/A	Normal
gnome-calendar	nishan	0	11705	9.4 MiB	N/A	4.5 MiB	N/A	N/A	Normal
gnome-control-center	nishan	0	10010	29.1 MiB	N/A	34.3 MiB	N/A	N/A	Normal
gnome-keyring-daemon	nishan	0	1618	1.0 MiB	N/A	N/A	N/A	N/A	Normal

Figure 1. Memory usage after starting up three text editors on my Ubuntu 17.10 machine.

atom: $124.7 + 157.9 = 282.6$MiB, VSTS code: $3.3 + 95.5 + 25.2 = 124$MiB and Emacs: 20.4MiB.

No extra addons/packages are installed.

1 Installation

The following holds from Ubuntu 17.10 onwards. First let us install the basic emacs packages from the repositories

```
sudo apt install emacs emacs-goodies-el emacs25-common-non-dfsg
```

Let's start up Emacs and change some settings. From Options -> Highlight Matching Parantheses, Options -> Show/Hide -> Column Numbers. Save all the options, Options –> Save Options to save your first .emacs file.

Themes that I like

Light

- leuven

Dark

- monokai

2 Programming

2.1 Python

- IDE, autocompany, go to definition, ipython shell, debug,

3 LaTeX

For this, we need to install Auctex

```
sudo apt install auctex
```

Add the following to your .emacs file

```
;;-----------------------Auctex Config---------------------------------;;
;; use pdftex by default
(setq TeX-PDF-mode t)
(setq TeX-auto-save t)
(setq TeX-parse-self t)
(setq-default TeX-master nil)
(add-hook 'LaTeX-mode-hook 'visual-line-mode)
(add-hook 'LaTeX-mode-hook 'flyspell-mode)
```

```
(add-hook 'LaTeX-mode-hook 'LaTeX-math-mode)
(add-hook 'LaTeX-mode-hook 'turn-on-reftex)
(setq reftex-plug-into-AUCTeX t)
;; for synctex
(setq TeX-source-correlate-mode t)
;;-----------------------------------------------------------------------------;;
```

Getting this to work with company mode?

4 Themes

5 Productivity

Recent file mode to reload your most recent files

ORG mode