GNU Emacs como editor de código Python

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Topic

¿Que es Emacs?

Es un editor de texto que dispone de gran cantidad de funciones.
En su manual se lo describe como "un editor extensible, personalizable, auto-documentado y de tiempo real.
El EMACS original significa, Editor MACroS para el TECO. Fue escrito en 1975 por Richard Stallman junto con Guy Steele.

Topic

GNU Linux

La mayoría de las distribuciones de GNU/Linux proporcionan Emacs en sus repositorios, esta es la forma recomendada de Instalarlo, para disponer de la ultima verison.

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Ubuntu/Debian y derivados

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Otros Sistemas

Para mayor información se puede acceder al siguiente enlace: Emacs

Topic

Comandos

Emacs utiliza combinaciones de teclas para realizar varias acciones.

- Teclas:
  - Control (C)
  - Alt (Meta) (M)
  - Windows (Super) (s)

Comando	Tecla	Descripción
`search-word`	`C-s`	Buscar una palabra en el buffer.
`undo`	`C-/`	Deshacer el último cambio.
`keyboard-quit`	`C-g`	Abortar el comando actual.
`find-file`	`C-x C-f`	Buscar y abrir un archivo.
`save-buffer`	`C-x C-s`	Guardar.
`save-with-newname`	`C-x C-w`	Guardar como.
`cut`	`C-w`	Cortar todo el texto entre el marcador y el cursor.
`copy`	`M-w`	Copiar todo el texto entre el marcador y el cursor.
`paste`	`C-y`	Pegar texto del portapapeles de Emacs.

Mayor información C-h t

El Minibuffer

Es el espacio en el que Emacs pide información. Se puede introducir el texto que se debe encontrar en una búsqueda, el nombre de un fichero para leer o guardar e información similar.

Gestión de ficheros y visualización

Emacs permite la edición y visualización de ficheros mediante el uso de buffers, cada vez que se abre un archivo o fichero se crea un nuevo buffer con el nombre del archivo.
Mayor información Buffers

Topic

Archivo de Configuración

La configuración de Emacs se la hace usando el dialecto Emacs Lisp que también es llamado elisp.
Pero también se la puede hacer usando ORGMODE mediante Programación literaria
Lo primero que tenemos que tomar en cuenta es donde tenemos que ubicar el archivo de configuración.
En los sistemas GNU Linux el archivo se localiza en $HOME/.emacs.d/init.el. Mas información en Where do I put my init file?

Repositorios

Antes de empezara a instalar los paquetes para Emacs se debe especificar los repositorios que utilizara ELPA.

```
;;; init.el --- Emacs Configuration -*- lexical-binding: t -*-
;;; Commentary:
;; This config start here

;;; Code:
(setq network-security-level 'high)

(setq package-archives
    '(("gnu" . "http://elpa.gnu.org/packages/")
      ("melpa" . "http://melpa.org/packages/")
      ("org" . "https://orgmode.org/elpa/"))
    package-archive-priorities
    '(("melpa" . 10)
      ("gnu" . 5)
      ("org" . 0)))
```

use-package, bind-key & diminish

use-package es una macro que nos permite aislar y mantener mas ordenada la configuración de un paquete.

```
(setq load-prefer-newer t)

(package-initialize)
(when (not package-archive-contents)
  (package-refresh-contents))

(unless (package-installed-p 'use-package)
  (package-install 'use-package))

(eval-when-compile
  (require 'use-package))
(use-package diminish :ensure t)
(use-package bind-key :ensure t)
```

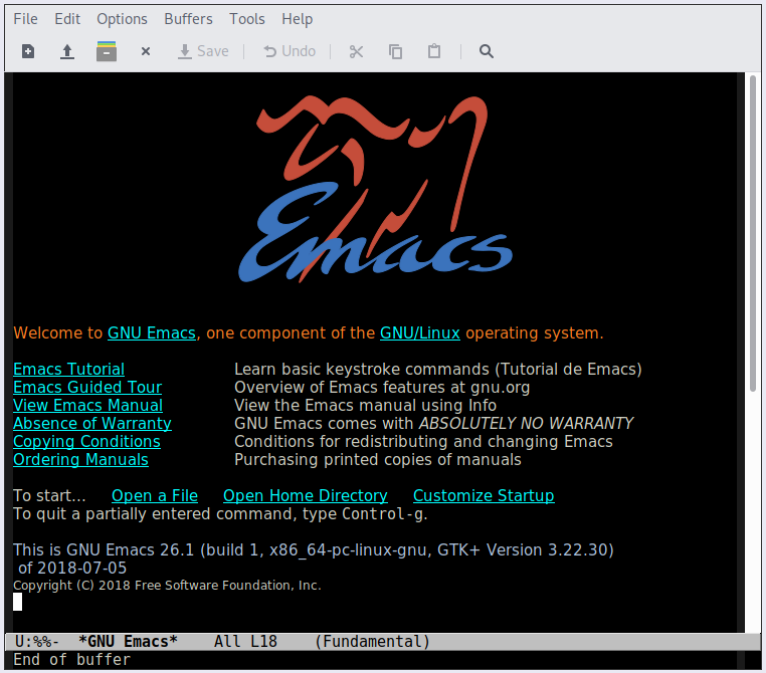
Información Personal

Vamos a indicarle a GNU Emacs nuestros datos de contacto, que serán usados por ejemplo al momento de exportar algún documentos.

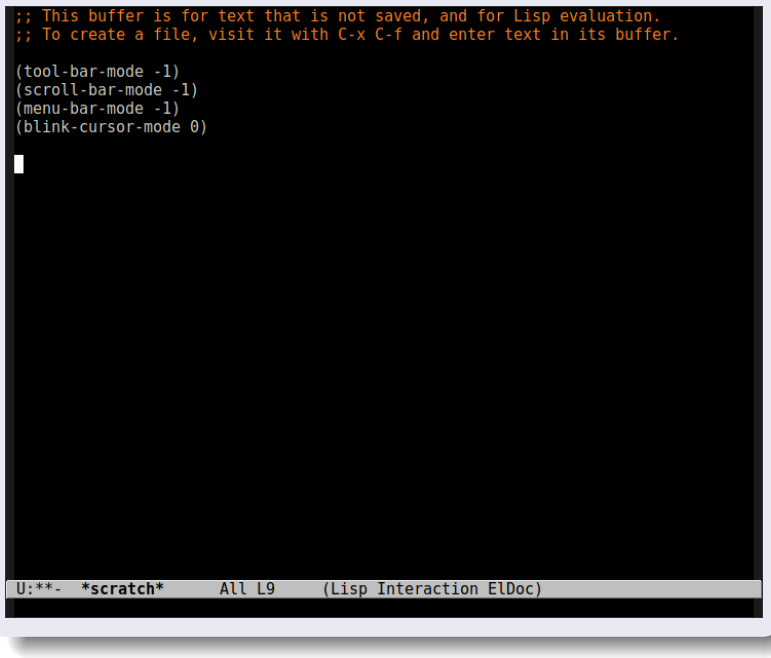
```
(setq user-full-name    "Edison Ibáñez"
      user-mail-address "arkhan@disroot.org")
```

Limpiando la Ventana

Interfaz Por Defecto



Interfaz Limpia



Para obtener una interfaz mas limpia debilitamos las barras de la interfaz

```
(tool-bar-mode -1)
(scroll-bar-mode -1)
(menu-bar-mode -1)
(blink-cursor-mode 0)
```

Extras I

Algunos valores por defecto a considerar

```
(setq inhibit-startup-screen t
      initial-scratch-message nil
      visible-bell t
      apropos-do-all t
      large-file-warning-threshold 100000000)

(fset 'yes-or-no-p 'y-or-n-p)
(toggle-indicate-empty-lines)
(delete-selection-mode)
(blink-cursor-mode -1)

(defalias 'list-buffers 'ibuffer)

(set-terminal-coding-system  'utf-8)
(set-keyboard-coding-system  'utf-8)
(set-language-environment    'utf-8)
(set-selection-coding-system 'utf-8)
```

Extras II

```
(setq locale-coding-system   'utf-8)
(prefer-coding-system        'utf-8)
(set-input-method nil)

(setq auto-save-default nil
      auto-save-list-file-prefix nil
      make-backup-files nil)

(setq-default indent-tabs-mode  nil
              default-tab-width 4
              c-basic-offset 4)

(setq show-paren-delay 0)
(show-paren-mode t)

(global-hl-line-mode 1)

(column-number-mode t)
(setq size-indication-mode t)
```

Extras III

```
(which-function-mode 1)

(setq select-enable-primary t)

(global-set-key "\C-w" 'backward-kill-word)
(global-set-key "\C-x\C-k" 'kill-region)
(global-set-key "\C-c\C-k" 'kill-region)

(add-hook 'text-mode-hook 'turn-on-auto-fill)
(add-hook 'text-mode-hook
          '(lambda() (set-fill-column 80)))

(setq browse-url-browser-function 'browse-url-generic
      browse-url-generic-program "firefox")
```

Ivy I

```
(use-package flx :ensure t)
(use-package smex :ensure t)

(use-package ivy
  :ensure t
  :diminish ivy-mode
  :bind (:map ivy-mode-map
              ("C-'" . ivy-avy))
  :config
  (setq ivy-wrap t
        ivy-virtual-abbreviate 'full
        ivy-use-virtual-buffers t
        ivy-use-selectable-prompt t
        ivy-count-format "(%d/%d) "
        ivy-re-builders-alist
        '((read-file-name-internal . ivy--regex-fuzzy)
          (t . ivy--regex-plus))
        ivy-on-del-error-function nil
```

Ivy II

```
        ivy-initial-inputs-alist nil)

  (ivy-mode 1))

(setq confirm-nonexistent-file-or-buffer t)

(use-package swiper
  :bind* (("C-s" . swiper)
          ("C-r" . swiper)
          ("C-M-s" . swiper-all))
  :bind (:map read-expression-map
              ("C-r" . counsel-expression-history)))

(use-package counsel
  :bind (("M-x" . counsel-M-x)
         ("C-c b" . counsel-imenu)
         ("C-x C-f" . counsel-find-file)
         ("C-x C-r" . counsel-rg)
         ("C-h f" . counsel-describe-function)
```

Ivy III

```
        ("C-h v" . counsel-describe-variable)
        ("C-h b" . counsel-descbinds)
        ("M-y" . counsel-yank-pop)
        ("M-SPC" . counsel-shell-history))
:config
(setq counsel-find-file-at-point t
      counsel-rg-base-command "rg -uuu -S --no-heading --line-number --co
```

Tema

```
(use-package ujelly-theme
  :ensure t
  :config (load-theme 'ujelly t))
```

Tipo de Letra

```
(set-face-attribute 'default nil :family "DejaVu Sans Mono" :height 90)
(set-fontset-font "fontset-default" nil
                  (font-spec :size 20 :name "Symbola"))
```

Barra de Estado

```
(setq line-number-mode t
      column-number-mode t)

(use-package smart-mode-line
  :ensure t
  :config (setq sml/no-confirm-load-theme t
                sml/theme 'dark
                sml/vc-mode-show-backend t
                sml/mode-width 'full
                sml/shorten-modes t)
  (sml/setup))
```

Topic

Comment-dwim-2

```
(use-package comment-dwim-2
  :ensure t
  :bind* ("M-;" . comment-dwim-2))
```

Company I

```
(use-package company
  :ensure t
  :init
  (setq company-backends '((company-files
                            company-keywords
                            company-capf
                            company-yasnippet)
                           (company-abbrev company-dabbrev)))
  (setq company-auto-complete nil
        company-echo-delay 0
        company-idle-delay 0.2
        company-minimum-prefix-length 1
        company-tooltip-align-annotations t
        company-tooltip-limit 20
        company-transformers '(company-sort-by-occurrence))
  (global-company-mode))

(defun company-mode/backend-with-yas (backend)
```

Company II

```
  (if (or (and (listp backend) (member 'company-yasnippet backend)))
      backend
    (append (if (consp backend) backend (list backend))
            '(:with company-yasnippet))))
(add-hook 'company-mode-hook (lambda () (setq company-backends (mapcar #'co

(defun add-pcomplete-to-capf ()
  (add-hook 'completion-at-point-functions 'pcomplete-completions-at-point

(add-hook 'org-mode-hook #'add-pcomplete-to-capf)

(use-package company-quickhelp
  :ensure t
  :after company
  :config (company-quickhelp-mode 1))
```

Fill Column Indicator

```
(use-package fill-column-indicator
  :ensure t
  :commands (fci-mode)
  :init (setq fci-rule-width 5
              fci-rule-column 79))
```

Flycheck

```
(use-package flycheck
  :ensure t
  :bind (("C-c e n" . flycheck-next-error)
         ("C-c e p" . flycheck-previous-error))
  :config
  (add-hook 'after-init-hook #'global-flycheck-mode)

  (setq-default flycheck-disabled-checkers
                (append flycheck-disabled-checkers
                        '(javascript-jshint)))

  (setq-default flycheck-disabled-checkers
                (append flycheck-disabled-checkers
                        '(json-jsonlist))))
```

Git I

```
(setq vc-follows-symlinks t
      find-file-visit-truename t
      vc-handled-backends nil)

(use-package magit
  :ensure t
  :bind (("C-x g c" . magit-commit)
         ("C-x g e" . magit-ediff-resolve)
         ("C-x g g" . magit-grep)
         ("C-x g l" . magit-file-log)
         ("C-x g p" . magit-push)
         ("C-x g r" . magit-rebase-interactive)
         ("C-x g s" . magit-status)
         ("C-x g u" . magit-pull)
         ("C-x g x" . magit-checkout))
  :init
  (progn
    (setq magit-git-executable "tg")
```

Git II

```
  (delete 'Git vc-handled-backends)
  (defadvice magit-status (around magit-fullscreen activate)
    (window-configuration-to-register :magit-fullscreen)
    ad-do-it
    (delete-other-windows))
  (defadvice git-commit-commit (after delete-window activate)
    (delete-window))
  (defadvice git-commit-abort (after delete-window activate)
    (delete-window))
  (defun magit-commit-mode-init ()
    (when (looking-at "\n")
      (open-line 1))))
:config
(progn
  (defadvice magit-quit-window (around magit-restore-screen activate)
    (let ((current-mode major-mode))
      ad-do-it
      (when (eq 'magit-status-mode current-mode)
        (jump-to-register :magit-fullscreen))))
```

Git III

```
(defun magit-maybe-commit (&optional show-options)
  "Runs magit-commit unless prefix is passed"
  (interactive "P")
  (if show-options
      (magit-key-mode-popup-committing)
    (magit-commit)))
(define-key magit-mode-map "c" 'magit-maybe-commit)

(setq magit-completing-read-function 'ivy-completing-read
      magit-default-tracking-name-function 'magit-default-tracking-name
      magit-status-buffer-switch-function 'switch-to-buffer
      magit-diff-refine-hunk t
      magit-rewrite-inclusive 'ask
      magit-process-find-password-functions '(magit-process-password-au
      magit-save-some-buffers t
      magit-process-popup-time 10
      magit-set-upstream-on-push 'askifnotset
      magit-refs-show-commit-count 'all
      magit-log-buffer-file-locket t)))
```

Git IV

```
(use-package git-gutter
  :ensure t
  :defer 1
  :bind (("C-x C-g" . git-gutter)
         ("C-x v =" . git-gutter:popup-hunk)
         ("C-x p" . git-gutter:previous-hunk)
         ("C-x n" . git-gutter:next-hunk)
         ("C-x v s" . git-gutter:stage-hunk)
         ("C-x v r" . git-gutter:revert-hunk)
         ("C-x v SPC" . git-gutter:mark-hunk))
  :config
  (if (display-graphic-p)
      (use-package git-gutter-fringe
        :ensure t))
  (global-git-gutter-mode t)
  (setq-default fringes-outside-margins t)
  (setq indicate-empty-lines nil)
  (setq git-gutter:lighter ""
```

Git V

```
        git-gutter:handled-backends '(git hg bzr svn))
  (set-face-foreground 'git-gutter:modified "purple")
  (set-face-foreground 'git-gutter:added "green")
  (set-face-foreground 'git-gutter:deleted "red"))

(use-package gitconfig-mode
  :ensure t
  :mode ("/\\.?git/?config$"
         "/\\.gitmodules$")
  :init (add-hook 'gitconfig-mode-hook 'flyspell-mode))

(use-package gitignore-mode
  :ensure t
  :mode ("/\\.gitignore$"
         "/\\.git/info/exclude$"
         "/git/ignore$"))

(use-package gitattributes-mode
  :ensure t
```

Git VI

```
  :defer t)

(use-package git-timemachine
  :ensure t
  :commands git-timemachine
  :bind (:map git-timemachine-mode
              ("c" . git-timemachine-show-current-revision)
              ("b" . git-timemachine-switch-branch)))

(use-package smerge-mode
  :ensure t
  :config
  (defun enable-smerge-maybe ()
    (when (and buffer-file-name (vc-backend buffer-file-name))
      (save-excursion
        (goto-char (point-min))
        (when (re-search-forward "^<<<<<<< " nil t)
          (smerge-mode +1)))))
```

Git VII

```
(add-hook 'buffer-list-update-hook #'enable-smerge-maybe))
```

Iedit

```
(use-package iedit
  :ensure t)
```

move-dup

```
(use-package move-dup
  :ensure t
  :diminish move-dup-mode
  :bind (("S-M-<up>" . md/move-lines-up)
         ("S-M-<down>" . md/move-lines-down)
         ("C-M-<up>" . 'md/duplicate-up)
         ("C-M-<down>" . 'md/duplicate-down))
  :init (global-move-dup-mode))
```

Parents I

```
(electric-pair-mode 1)

(use-package paren
  :init (show-paren-mode)
  :config
  (set-face-background 'show-paren-match (face-background 'default))
  (set-face-foreground 'show-paren-match "#def")
  (set-face-attribute 'show-paren-match nil :weight 'extra-bold))

(use-package smartparens
  :ensure t
  :commands
  (smartparens-mode
   smartparens-strict-mode)
  :bind
  (:map smartparens-strict-mode-map
        ("C-}" . sp-forward-slurp-sexp)
        ("M-s" . sp-backward-unwrap-sexp)
```

Parents II

```
        ("C-c [" . sp-select-next-thing)
        ("C-c ]" . sp-select-next-thing-exchange))
  :config
  (require 'smartparens-config))

(use-package rainbow-delimiters
  :ensure t
  :config
  (add-hook 'prog-mode-hook 'rainbow-delimiters-mode))
```

PO I

```
(use-package po-mode
  :ensure t
  :config
  ;; Fuente: https://www.emacswiki.org/emacs/PoMode
  (defun po-wrap ()
    "Filter current po-mode buffer through `msgcat' tool to wrap all lines.
    (interactive)
    (if (eq major-mode 'po-mode)
        (let ((tmp-file (make-temp-file "po-wrap."))
              (tmp-buf (generate-new-buffer "*temp*")))
          (unwind-protect
              (progn
                (write-region (point-min) (point-max) tmp-file nil 1)
                (if (zerop
                     (call-process
                      "msgcat" nil tmp-buf t (shell-quote-argument tmp-file
                    (let ((saved (point))
                          (inhibit-read-only t))
```

PO II

```
                    (delete-region (point-min) (point-max))
                    (insert-buffer tmp-buf)
                    (goto-char (min saved (point-max))))
                (with-current-buffer tmp-buf
                  (error (buffer-string)))))
            (kill-buffer tmp-buf)
            (delete-file tmp-file)))))

(defun po-guess-language ()
  "Return the language related to this PO file."
  (save-excursion
    (goto-char (point-min))
    (re-search-forward po-any-msgstr-block-regexp)
    (goto-char (match-beginning 0))
    (if (re-search-forward
         "\n\"Language: +\\(.+\\)\\\\n\"$"
         (match-end 0) t)
        (po-match-string 1))))
```

PO III

```
(defadvice po-edit-string (around setup-spell-checking (string type expan
  "Set up spell checking in subedit buffer."
  (let ((po-language (po-guess-language)))
    ad-do-it
    (if po-language
        (progn
          (ispell-change-dictionary po-language)
          (turn-on-flyspell)
          (flyspell-buffer))))))
```

Projectile I

```
(use-package projectile
  :ensure t
  :diminish projectile-mode
  :config
  (setq projectile-file-exists-remote-cache-expire (* 10 60)
        projectile-indexing-method 'alien
        projectile-enable-caching t
        projectile-completion-system 'ivy)
  (projectile-mode))

(use-package counsel-projectile
  :ensure t
  :bind ("C-x r R" . counsel-projectile-rg)
  :config
  (setq counsel-projectile-rg-options-history (list "-uuu"))
  (add-hook 'text-mode-hook 'counsel-projectile-mode)
  (add-hook 'prog-mode-hook 'counsel-projectile-mode))
```

Projectile II

```
(use-package term-projectile
  :ensure t)

(use-package rg
  :ensure t
  :config (setq rg-command-line-flags (list "-uuu")))
```

Rainbow

```
(use-package rainbow-mode
  :ensure t
  :diminish rainbow-mode
  :config
  (add-hook 'prog-mode-hook 'rainbow-mode)
  (add-hook 'conf-mode-hook 'rainbow-mode))
```

Shell

```
(use-package terminal-here
  :ensure t
  :bind (("C-<f5>" . terminal-here-launch)
         ("C-<f6>" . terminal-here-project-launch)))
```

Undo Tree

```
(use-package undo-tree
  :ensure t
  :diminish undo-tree-mode
  :init
  (progn
    (global-undo-tree-mode)
    (setq undo-tree-auto-save-history t
          undo-tree-visualizer-timestamps t
          undo-tree-visualizer-diff t))
  (add-hook 'write-file-functions #'undo-tree-save-history-hook)
  (add-hook 'find-file-hook #'undo-tree-load-history-hook))
```

Yassnippet

```
(use-package yasnippet
  :ensure t
  :defer 2
  :config (yas-global-mode))

(use-package yasnippet-snippets
  :ensure t)
```

Topic

Elpy I

```
(use-package elpy
  :ensure t
  :diminish elpy-mode
  :config
  (elpy-enable)
  (setq elpy-rpc-backend "jedi"
        elpy-shell-echo-input nil
        elpy-modules (dolist (elem
                              '(elpy-module-sane-defaults
                                elpy-module-company
                                elpy-module-eldoc
                                elpy-module-highlight-indentation
                                elpy-module-pyvenv
                                elpy-module-yasnippet))))

  (add-to-list 'company-backends 'elpy-company-backend)
  (require 'smartparens-python)
  (with-eval-after-load 'python
```

Elpy II

```
  (defun python-shell-completion-native-try ()
    "Return non-nil if can trigger native completion."
    (let ((python-shell-completion-native-enable t)
          (python-shell-completion-native-output-timeout
           python-shell-completion-native-try-output-timeout))
      (python-shell-completion-native-get-completions
       (get-buffer-process (current-buffer))
       nil "_"))))

(when (require 'flycheck nil t)
  (setq elpy-modules (delq 'elpy-module-flymake elpy-modules))
  (add-hook 'elpy-mode-hook 'flycheck-mode)))
```

Debug

```
(defun add-breakpoint ()
  "Add a break point"
  (interactive)
  (newline-and-indent)
  (insert "import pdb; pdb.set_trace()"))

(define-key elpy-mode-map (kbd "C-c C-b") 'add-breakpoint)
```

Isort

```
(use-package py-isort
  :ensure t
  :config
  (setq py-isort-options '("--lines=100"))
  (add-hook 'before-save-hook 'py-isort-before-save))
```

Virtualenv I

```
(use-package pyvenv
  :config (defalias 'workon 'pyvenv-workon))

(use-package auto-virtualenv
  :ensure t
  :config
  (add-hook 'elpy-mode-hook 'auto-virtualenv-set-virtualenv))

(use-package virtualenvwrapper
  :ensure t
  :commands (venv-workon venv-deactivate
             venv-initialize-interactive-shells venv-initialize-eshell)
  :init
  (venv-initialize-interactive-shells)
  (venv-initialize-eshell)
  (setq venv-location "~/.virtualenvs")
  :config
  (add-hook 'venv-postmkvirtualenv-hook
```

Virtualenv II

```
(lambda () (shell-command "pip install jedi rope
                           isort importmagic autopep8 yapf
                           flake8 virtualenvwrapper")))
```

Varios

```
(use-package pyimport :ensure t)
(use-package pippel :ensure t)
(use-package pip-requirements :ensure t)
```

Topic

- Enlaces
  - arkhan/dots
  - drymer/emacs.d
  - joedicastro/emacs.d
  - `http://emacsrocks.com/`
  - C'est La Z