

Setting up a working environment in Emacs for CS 357

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Using an installer

- For Windows: Visit <https://ftp.gnu.org/gnu/emacs/windows/>. We recommend using **emacs-27** since the website blocks the latest version for some reason
- For MacOS: Direct link **emacs-28**

Using a package manager

- For MacOS:
 - Using Homebrew: `brew install --cask emacs`
 - Using MacPorts: `sudo port install emacs-app`
- For Linux:
 - Debian/Ubuntu: `sudo apt-get install emacs`
 - Arch Linux: `sudo pacman -S emacs`
 - Fedora: `sudo dnf install emacs`
 - openSUSE: `sudo zypper install emacs`

Note: MacOS doesn't come with homebrew nor macports preinstalled.

- To install Homebrew visit <https://brew.sh>
- To install MacPorts visit <https://guide.macports.org/chunked/installing.macports.html>

More options

For more details visit:

<https://www.gnu.org/software/emacs/download.html>

Using an installer

Visit <https://download.racket-lang.org>. Choose your appropriate platform/os and click on the blue download button:

Version 8.7 (November 2022)

Platform:

 racket-8.7-x86_64-macosx-cs.dmg (261M)

or [mirror](#)

[More Installers and Checksums](#)

M1 Mac users:

Select the **Apple Silicon** option in **Platform**.

Figure: Racket Official Website

For Linux operating system, the latter provides a shell script which will install the necessary files in your system.

(Optional) Using the script for Linux

- Execute the command
`sh racket-8.7-x86_64-linux-cs.sh`
- (Suggested) Indicate 'no' if asked 'Do you want a Unix-style distribution?' This allows us to specify a location to install the files.
- (Suggested) Indicate option 4 to install racket.
- Press enter to accept defaults.

Using a package manager

- For MacOS: `brew install --cask racket`
- For Linux:
 - Debian/Ubuntu:
`sudo add-apt-repository ppa:plt/racket`
`sudo apt-get install racket`
 - Arch Linux: `sudo pacman -S racket`
 - Fedora: `sudo dnf install racket`
 - openSUSE: `sudo zypper install racket`

Using binaries

- For Windows: Download and extract this **tarball**.
- For MacOS: Available binaries are in **https://www.haskell.org/ghc/download_ghc_9_4_4.html**. Not recommended as libraries are not automatically linked and default Apple privacy settings will make hard their interaction.
- For Linux: Download and extract this **tarball**. Inside the extracted directory execute the `configure` script and then `sudo make install`.

Note: This approach is not recommended since the installation scripts do not provide an easy way to uninstall the installed files.

Using a package manager

- For MacOS:
 - Using Homebrew: `brew install ghc`
 - Using MacPorts: `sudo port install ghc`
- For Linux:
 - Debian/Ubuntu: `sudo apt-get install ghc`
 - Arch Linux: `sudo pacman -S ghc`
 - Fedora: `sudo dnf install ghc`
 - openSUSE: `sudo zypper install ghc`

Location of init.el

- Emacs is a highly customizable editor. Emacs users can specify additional functionality using the “init.el”.
- “init.el” is usually located in the following path:
 - Windows: `C:\Users\<USER>\AppData\Roaming\.emacs.d`
 - MacOS: `$HOME/.emacs.d`
 - Linux: `$HOME/.emacs.d`

Suggested init.el (1/4)

- We recommend the following changes to your “init.el” file to allow us work with the software installed so far:

```
(require 'package)
(custom-set-variables
  '(package-archives
    (quote
      (("gnu" . "https://elpa.gnu.org/packages/")
       ("melpa" . "https://melpa.org/packages/")))))
(package-initialize)
```

Suggested init.el (2/4)

```
(setq package-list '(haskell-mode))

; fetch the list of packages available
(unless package-archive-contents
  (package-refresh-contents))

; install the missing packages
(dolist (package package-list)
  (unless (package-installed-p package)
    (package-install package)))
```

Suggested init.el (3/4)

```
;; Basic UI setup
(require 'font-lock)
(global-font-lock-mode t)
(show-paren-mode 1)
(put 'upcase-region 'disabled nil)
(put 'eval-expression 'disabled nil)

;; Basic Racket setup
(setq scheme-program-name "<PATH-TO-RACKET>")
(setq auto-mode-alist
      (cons '("\\.rkt\\'" . scheme-mode)
            auto-mode-alist))
```

Suggested init.el (4/4)

```
;; Basic Haskell setup
(require 'haskell-mode)
(setq haskell-program-name "<PATH-TO-GHCI>")
(setq auto-mode-alist
      (cons '("\\.hs\\'" . haskell-mode)
            auto-mode-alist))
(add-hook 'haskell-mode-hook 'turn-on-haskell-doc-mode)
(add-hook 'haskell-mode-hook 'turn-on-haskell-indent)
```

Locations - Racket

- Using installers:
 - Windows: `C:\Program Files\Racket`
 - MacOS: `/Applications/Racket v8.7/bin`
 - Linux: `<CHOSEN LOCATION>/racket/bin`
- Using package managers: The output of the command `which racket` is the path where racket is located in your system.

Locations - Haskell

- Using binary packages:
 - Windows: `<CHOSEN-LOCATION>\ghc-9.4.4-x86_64-unknown-mingw32-int_native.tar\ghc-9.4.4-x86_64-unknown-mingw32\bin`
 - MacOS: `<CHOSEN-LOCATION>/ghc-9.4.4-<ARCH>-apple-darwin/bin`
 - Linux: `<CHOSEN LOCATION>/ghc-9.4.4-x86_64-unknown-linux/bin`
- Using package managers: The output of the command `which ghc` is the path where `ghc` is located in your system.