

Clojure Basic Training - Module 1

Clojure and the REPL

REPL

- Read
- Evaluate
- Print
- Loop

Code-as-data

- Homoiconicity
- Allows meta programming (macros)
- No AST - clojure code is its own AST

Namespace user

- namespaces
- (ns user)

```
(ns clj-training.first-ns
  (:require [clojure.string :as s]
             [clojure.pprint :refer [pprint]])
  (:import java.net.URL)
  (:use [clj-training.other-ns])
  (:require [clj-training.better-ns :refer :all]))
```

Editors (war is on)

- **Emacs** gives the most idiomatic, popular and recommended experience
- **Vim** gives a similar experience, so go for it!
- Others: IntelliJ (Cursive), Eclipse (Counterclockwise), Sublime, Notepad (ehm)
- This course will focus on Emacs/Vim

Emacs

- Buffers, window
- Mini buffer: command line
- Configuration: .emacs.d/ in your user directory
- Commands: CTRL, META, SUP

Useful Emacs shortcuts

- Open a file in a buffer: C-X C-F
- Save a buffer: C-X C-S
- Compile namespace: C-C C-K
- Launch REPL: C-F11 (custom shortcut)
- Any command: M-X + command name (eg rgrep, paredit-mode, etc...)
- Close Emacs: C-X C-C
- Abort! Abort! : C-G (repeatedly, just in case of...)

Vim

- Best served with TMUX and a drop of vim-slime
- Panes: 1.Vim + 2.REPL + 3.lein commands
- Send Clojure snippets to the REPL
- Rinse and repeat

Useful Vim/Tmux shortcuts

- `tcs lab01` (create tmux session called lab01)
- ``"` (create horizontal split)
- `\t` (fuzzy file search, `ctrl+b` or `ctrl+f` to move)
- `cpp` (eval innermost form)
- `cpr` (reload namespace in repl or run tests)
- much more, let's pair.

Running the labs

- Run clj-training image in VirtualBox
- Go to `/dm/clj/labs/lab01`
- `git co -b <yourname>` (one-off for the course)
- Launch REPL
- Read instructions in README.md file

Lab

- Open file `/dm/clj/labs/lab01/src/hello.clj`
- Update the function with your name
- Save and compile
- Switch to namespace `hello` in REPL
- Run your function

Resources

- Emacs reference card: <https://www.gnu.org/software/emacs/refcards/pdf/refcard.pdf>
- The .vimrc installed in the box can be found at <https://github.com/reborg/dot/blob/master/rc/vimrc>
- Install full Vim from sources <https://github.com/Valloric/YouCompleteMe/wiki/Building-Vim-from-source>