

cli4clj

Easing the Implementation of Interactive Command Line Interfaces in Clojure for “Everyone”

Ruediger Gad

Terma GmbH, Space, Darmstadt, Germany

:clojureD

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What? & Why?

- Interactive Command Line Interfaces (CLIs)
- Clojure REPL
 - Powerful +
 - Requires Clojure Knowledge —?
 - Typical Users: Developers
- cli4clj
 - “CLIs for Everyone”
 - Ease Use & Implementation

Developer Perspective: cli4clj Configuration/Implementation Example

```
(ns cli4clj.minimal-example (:gen-class)
  (:require (cli4clj [cli :as cli])))
(defn divide [x y] (/ x y)) ;;; Used for example below.

(defn -main [& args]
  (cli/start-cli
    {:cmds
     {:test-cmd {:fn #(println "This is a test.")
                 :short-info "Test Command"
                 :long-info "Prints a test message."}
      :add {:fn (fn [summand1 summand2] (+ summand1 summand2))
            :completion-hint "Enter two values to add."}
      :divide {:fn divide}}
     :allow-eval true, :alternate-scrolling (some #(= % "alt") args)}))
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     :allow-eval true, :alternate-scrolling (some #(= % "alt") args)}))
```

Application User Perspective: “Basic Commands”

```
cli#
```

```
cli# test-cmd
```

```
This is a test.
```

```
cli# add 1 2
```

```
3
```

```
cli# divide 2 3
```

```
2/3
```

Application User Perspective: “Basic Commands”

```
cli#
```

```
cli# test-cmd
```

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This is a test.
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cli# add 1 2
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```
2/3
```

Application User Perspective: “Basic Commands”

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```
cli# add 1 2
```

```
3
```

```
cli# divide 2 3
```

```
2/3
```

Application User Perspective: Help

```
cli# help
```

```
add -- Arguments: [[summand1 summand2]]
```

```
...
```

```
divide -- Arguments: [[x y]]
```

```
...
```

```
test-cmd
```

```
    Test Command
```

```
    Prints a test message.
```

Application User Perspective: Help

```
cli# help
add -- Arguments: [[summand1 summand2]]
...
divide -- Arguments: [[x y]]
...
test-cmd
    Test Command
    Prints a test message.
```

Application User Perspective: Tab Completion

```
cli# <TAB>
...    add    ...    divide    ...    help    ...    test-cmd
cli# a<TAB>
cli# add
cli# add <TAB>
Arguments: [[summand1 summand2]]    Enter two values to add.
...
```


Application User Perspective: Tab Completion

```
cli# <TAB>
...    add    ...    divide    ...    help    ...    test-cmd
cli# a<TAB>
cli# add
cli# add <TAB>
Arguments: [[summand1 summand2]]    Enter two values to add.
...
```

Application User Perspective: Tab Completion

```
cli# <TAB>
...    add    ...    divide    ...    help    ...    test-cmd
cli# a<TAB>
cli# add
cli# add <TAB>
Arguments: [[summand1 summand2]]    Enter two values to add.
...
```

Application User Perspective: Clojure Interoperability

```
cli# (reduce add [1 7 0 1])
```

```
9
```

```
cli# (map divide [1 7 0 1] [1 8 6 4])
```

```
(1 7/8 0 1/4)
```

Application User Perspective: Alternate Scrolling Mode

```
> test-cmd  
This is a test.  
> add 1 2  
3  
> divide 2 3  
2/3  
cli#
```

Application User Perspective: Alternate Scrolling Mode

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> test-cmd  
This is a test.  
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```
cli#
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Application User Perspective: Alternate Scrolling Mode

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> test-cmd
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This is a test.
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> add 1 2
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```
3
```

```
> divide 2 3
```

```
2/3
```

```
cli#
```

Application User Perspective: Alternate Scrolling Mode

```
> test-cmd  
This is a test.  
> add 1 2  
3  
> divide 2 3  
2/3
```

cli#

Developer Perspective: Automated Testing

```
(ns cli4clj.test.minimal-example
  (:require
    (clojure [test :as test])
    (cli4clj [cli-tests :as cli-tests]
      [minimal-example :as mini-example]))

(test/deftest example-test
  (let [test-cmd-input ["add 1 2"
                        "divide 3 2"]
        out-string (cli-tests/test-cli-stdout
                      #(mini-example/-main "") test-cmd-input)]
    (test/is (=
               (cli-tests/expected-string ["3" "3/2"])
               out-string))))
```


Developer Perspective: Automated Testing

```
(ns cli4clj.test.minimal-example
  (:require
    (clojure [test :as test])
    (cli4clj [cli-tests :as cli-tests]
      [minimal-example :as mini-example]))

(test/deftest example-test
  (let [test-cmd-input ["add 1 2"
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        out-string (cli-tests/test-cli-stdout
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```

Developer Perspective: Automated Testing

```
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  (:require
    (clojure [test :as test])
    (cli4clj [cli-tests :as cli-tests]
      [minimal-example :as mini-example]))

(test/deftest example-test
  (let [test-cmd-input ["add 1 2"
                        "divide 3 2"]
        out-string (cli-tests/test-cli-stdout
                      #(mini-example/-main "") test-cmd-input)]
    (test/is (=
               (cli-tests/expected-string ["3" "3/2"])
               out-string))))
```

Developer Perspective: Automated Testing

```
(ns cli4clj.test.minimal-example
  (:require
    (clojure [test :as test])
    (cli4clj [cli-tests :as cli-tests]
      [minimal-example :as mini-example])))

(test/deftest example-test
  (let [test-cmd-input ["add 1 2"
                        "divide 3 2"]
        out-string (cli-tests/test-cli-stdout
                      #(mini-example/-main "") test-cmd-input)]

    (test/is (=
               (cli-tests/expected-string ["3" "3/2"])
               out-string))))
```

More

- Persistent History
- Aliases (Shortcuts)
- Customizable
- “Embedded CLIs”

End

<https://github.com/ruedigergad/cli4clj>

clojars [cli4clj "1.7.1"]

build passing

circleci passing

coverage 99%

<https://ruedigergad.com/category/libs/cli4clj>

Thank you very much for your attention!

Questions?

Ruediger Gad
Terma GmbH, Space
Darmstadt, Germany

ruga@terma.com
r.c.g@gmx.de