The Plotting Reference Manual

Steve Nunez <steve@symbolics.tech>

This manual was generated automatically by Declt 4.0b2.

Table of Contents

Copying

This program is distributed under the terms of the Microsoft Public License.

1 Systems

The main system appears first, followed by any subsystem dependency.

1.1 `plot`

A plotting system for Common Lisp

Long Name
> Common Lisp Vega Plotting

Author   Steve Nunez `<steve@symbolics.tech>`

Home Page
> `https://lisp-stat.dev/docs/tasks/plotting/`

Source Control
> (GIT `https://github.com/Lisp-Stat/plot.git`)

Bug Tracker
> `https://github.com/Lisp-Stat/plot/issues`

License   MS-PL

Long Description
> Plot is a general front end for describing plots. The front end handles interaction
> with the display, a local window or a browser, and backends handle the rendering.
> There are backends for Vega and Vega-Lite, as well as text.

Version   1.0.0

Dependencies
> - `cl-ppcre` (system).
> - `alexandria` (system).
> - `alexandria+` (system).
> - `data-frame` (system).

Source   [`plot.asd`], page 5.

Child Components
> - [`pkgdcl.lisp`], page 5 (file).
> - [`init.lisp`], page 5 (file).
> - [`browser.lisp`], page 5 (file).
> - [`plot.lisp`], page 6 (file).

2 Files

Files are sorted by type and then listed depth-first from the systems components trees.

2.1 Lisp

2.1.1 `plot/plot.asd`

Source   [`plot.asd`], page 5.

Parent Component
        [`plot`], page 3 (system).

ASDF Systems
        [`plot`], page 3.

2.1.2 `plot/pkgdcl.lisp`

Source   [`plot.asd`], page 5.

Parent Component
        [`plot`], page 3 (system).

Packages   [`plot`], page 7.

2.1.3 `plot/init.lisp`

Dependency
        [`pkgdcl.lisp`], page 5 (file).

Source   [`plot.asd`], page 5.

Parent Component
        [`plot`], page 3 (system).

2.1.4 `plot/browser.lisp`

Dependency
        [`init.lisp`], page 5 (file).

Source   [`plot.asd`], page 5.

Parent Component
        [`plot`], page 3 (system).

Public Interface
- [`*browser-commands*`], page 9 (special variable).
- [`*default-browser-command*`], page 9 (special variable).
- [`*default-browser-options*`], page 9 (special variable).

Internals
- [`%print-alist`], page 11 (function).
- [`*default-chrome-options*`], page 11 (special variable).
- [`encode-application-options`], page 11 (function).
- [`encode-chrome-options`], page 11 (function).
- [`set-chrome-size`], page 11 (function).

2.1.5 `plot/plot.lisp`

Dependency

> [`browser.lisp`], page 5 (file).

Source   [`plot.asd`], page 5.

Parent Component

> [`plot`], page 3 (system).

Public Interface

- [`plot`], page 10 (class).
- [`plot-data`], page 9 (reader method).
- [`(setf plot-data)`], page 9 (writer method).
- [`plot-from-file`], page 9 (function).
- [`plot-name`], page 10 (reader method).
- [`(setf plot-name)`], page 10 (writer method).
- [`plot-spec`], page 10 (reader method).
- [`(setf plot-spec)`], page 10 (writer method).

Internals

- [`make-plot`], page 11 (function).
- [`write-plot`], page 12 (generic function).

3 Packages

Packages are listed by definition order.

3.1 `plot`

Functionality common to all plotting. The plot class is defined here, with each backend subclassing it. Functions for interacting with display systems, like the browser or Electron/Webview are also defined here

Source   [`pkgdcl.lisp`], page 5.

Use List

- alexandria.
- alexandria+.
- common-lisp.

Public Interface

- [`*browser-commands*`], page 9 (special variable).
- [`*default-browser-command*`], page 9 (special variable).
- [`*default-browser-options*`], page 9 (special variable).
- [`plot`], page 10 (class).
- [`plot-data`], page 9 (generic reader).
- [`(setf plot-data)`], page 9 (generic writer).
- [`plot-from-file`], page 9 (function).
- [`plot-name`], page 9 (generic reader).
- [`(setf plot-name)`], page 10 (generic writer).
- [`plot-spec`], page 10 (generic reader).
- [`(setf plot-spec)`], page 10 (generic writer).

Internals

- [`%print-alist`], page 11 (function).
- [`*default-chrome-options*`], page 11 (special variable).
- [`encode-application-options`], page 11 (function).
- [`encode-chrome-options`], page 11 (function).
- [`make-plot`], page 11 (function).
- [`set-chrome-size`], page 11 (function).
- [`write-plot`], page 12 (generic function).

4 Definitions

Definitions are sorted by export status, category, package, and then by lexicographic order.

4.1 Public Interface

4.1.1 Special variables

browser-commands [Special Variable]

  Package   [plot], page 7.

  Source   [browser.lisp], page 5.

default-browser-command [Special Variable]

  Package   [plot], page 7.

  Source   [browser.lisp], page 5.

default-browser-options [Special Variable]

  Package   [plot], page 7.

  Source   [browser.lisp], page 5.

4.1.2 Ordinary functions

plot-from-file (*filespec* **&key** *browser browser-options*) [Function]
  Open FILESPEC with browser. FILESPEC must be displayable by the browser, e.g. HTML.

  Package   [plot], page 7.

  Source   [plot.lisp], page 6.

4.1.3 Generic functions

plot-data (*object*) [Generic Reader]
(setf plot-data) (*object*) [Generic Writer]

  Package   [plot], page 7.

  Methods

        plot-data ((*plot* [plot], *page 10*)) [Reader Method]
        (setf plot-data) ((*plot* [plot], *page 10*)) [Writer Method]
          A DATA-FRAME OR PLIST of key/column pairs. Internally, a PLIST will
          will be converted to a DATA-FRAME by the rendering functions. A PLIST
          can sometimes be more convenient for ad-hoc plotting.

          Source   [plot.lisp], page 6.

          Target Slot
                [data], page 11.

plot-name (*object*) [Generic Reader]

  Package   [plot], page 7.

  Methods

plot-name ((*plot [*plot*], page 10*))   [Reader Method]
    automatically generated reader method

    Source   [plot.lisp], page 6.

    Target Slot
        [name], page 10.

(setf plot-name) (*object*)   [Generic Writer]
  Package   [plot], page 7.

  Methods

    (setf plot-name) ((*plot [*plot*], page 10*))   [Writer Method]
    automatically generated writer method

    Source   [plot.lisp], page 6.

    Target Slot
        [name], page 10.

plot-spec (*object*)   [Generic Reader]
(setf plot-spec) (*object*)   [Generic Writer]
  Package   [plot], page 7.

  Methods

    plot-spec ((*plot [*plot*], page 10*))   [Reader Method]
    (setf plot-spec) ((*plot [*plot*], page 10*))   [Writer Method]
    The plot specification in PLIST format. The PLIST is passed to YASON for encoding to the backend specific JSON. See the file encode.lisp in the Vega backend for examples of how this is done.

    Source   [plot.lisp], page 6.

    Target Slot
        [spec], page 11.

4.1.4 Classes

plot   [Class]
  Base class for plots

  Package   [plot], page 7.

  Source   [plot.lisp], page 6.

  Direct methods
- [(setf plot-data)], page 9.
- [plot-data], page 9.
- [(setf plot-name)], page 10.
- [plot-name], page 10.
- [(setf plot-spec)], page 10.
- [plot-spec], page 10.

  Direct slots

    name   [Slot]

    Initargs   :name

    Readers   [plot-name], page 10.

    Writers   [(setf plot-name)], page 10.

data   [Slot]
    A DATA-FRAME OR PLIST of key/column pairs. Internally, a PLIST will
    will be converted to a DATA-FRAME by the rendering functions. A PLIST
    can sometimes be more convenient for ad-hoc plotting.

    Initargs   `:data`

    Readers   [`plot-data`], page 9.

    Writers   [`(setf plot-data)`], page 9.

spec   [Slot]
    The plot specification in PLIST format. The PLIST is passed to YASON for
    encoding to the backend specific JSON. See the file encode.lisp in the Vega
    backend for examples of how this is done.

    Initargs   `:spec`

    Readers   [`plot-spec`], page 10.

    Writers   [`(setf plot-spec)`], page 10.

4.2 Internals

4.2.1 Special variables

`*default-chrome-options*`   [Special Variable]
    Package   [`plot`], page 7.

    Source   [`browser.lisp`], page 5.

4.2.2 Ordinary functions

`%print-alist` (*stream data* **&rest** *args*)   [Function]
    Package   [`plot`], page 7.

    Source   [`browser.lisp`], page 5.

`encode-application-options` (*options arg-format*)   [Function]
    Turns OPTIONS, an alist, into a command line argument list according to ARG-FORMAT

    Package   [`plot`], page 7.

    Source   [`browser.lisp`], page 5.

`encode-chrome-options` (*options*)   [Function]
    Encode command line options for Chrome

    Package   [`plot`], page 7.

    Source   [`browser.lisp`], page 5.

`make-plot` (*name* **&optional** *data spec*)   [Function]
    Plot constructor

    Package   [`plot`], page 7.

    Source   [`plot.lisp`], page 6.

`set-chrome-size` (*size*)   [Function]
    Set the windows size in *default-browser-options*

    Package   [`plot`], page 7.

    Source   [`browser.lisp`], page 5.

4.2.3 Generic functions

write-plot (*plot device*)   [Generic Function]
    Write PLOT to DEVICE
    May not be immediately visible to the user, depending on the device.
    A device could be a webserver, where a PUT operation would write the plot, locations on
    disk, a github gist, etc.

    Package   [plot], page 7.

    Source   [plot.lisp], page 6.

Appendix A Indexes

A.1 Concepts

(Index is nonexistent)

A.2 Functions

A.3 Variables

A.4 Data types