Package ‘BrowserVizDemo’

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Type Package

Title BrowserVizDemo: How to subclass BrowserViz

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Depends R (>= 3.2.3), BrowserViz, Repp (>= 0.11.5), jsonlite (>= 0.9.15), httpuv (>= 1.3.2)

Imports methods, BiocGenerics

Suggests RUnit, BiocStyle

Description A BrowserViz subclassing example, xy plotting in the browser using d3.

License GPL-2

LazyLoad yes

biocViews Visualization, ThirdPartyClient

NeedsCompilation no

R topics documented:

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BrowserVizDemoClass  BrowserVizDemo: Interactive R/browser plotting

Description

An early, simple example of how to create useful interactive graphics in a class derived from BrowserViz. This package could evolve to be a drop-in replacement for the R base “plot” function, for plotting xy values. It has the additional virtue of full interactivity on the plotting surface, which is here an HTML5/d3 canvas. Manually selected points on that canvas, for example, can be queried in R. This may facilitate exploratory data analysis.
Usage

BrowserVizDemo(portRange, host="localhost", title="BrowserVizDemo", quiet=TRUE)

## S4 method for signature 'BrowserVizDemoClass'
plot(obj, x, y)
## S4 method for signature 'BrowserVizDemoClass'
getSelection(obj)

Arguments

obj The `BrowserVizDemoClass` object returned by the class constructor.
x A numeric vector, the x-coordinates of the points to plot.
y A numeric vector, the y-coordinates of the points to plot.
portRange One or more consecutive integers in the range 1025-65535. A typical choice is 9000:9024. The BrowserViz class constructor will try these one at a time in succession until a free port is found and the connection to your web browser is established. If no open ports are found in the supplied range, an error is reported.
host Nearly always left to its default value, "localhost" but included as a parameter supporting remote computers for future flexibility.
title The constructor creates a new window (or a new tab, depending on how you web browser is configured). This title is displayed at the top of the window or tab.
quiet Trace and tracking messages are written to the R console if this variable is set to FALSE.

Methods

In the code snippets below, `obj` is an instance of the `BrowserVizDemoClass`.

BrowserVizDemo(portRange, host="localhost", title="BrowserVizDemo", quiet=TRUE, browserFile=NA)

Constructs a `BrowserVizDemo` object. Among the several actions included are: your default webbrowser browses to the uri of a minimal http server embedded in `BrowserVizDemo`; the `browserFile` is returned to the browser; the websocket connection is initialized on both ends, and the lowest numbered port in `portRange`.

plot(obj, x, y): Draws an interactive xy plot in your browser window, with labeled axes, and the surface scaled to the x and y coordinates. In time this method will mimic the rich behavior of the base R plot method, and all of its optional parameters.

Author(s)

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Examples

```r
library(BrowserVizDemo)

plotter <- BrowserVizDemo(4000:4024)

## make sure everything is ready to use
while(!ready(plotter)) Sys.sleep(0.1)

## plot a simple set of x-y paris
```
## BrowserVizDemoClass

plot(plotter, 1:10, (1:10)^2)

### learn which port we are using

port(plotter)

### illustrate a "low level" call. This detail is usually hidden from
### the user, implemented and contained (in the case of this example)
### in a `getWindowTitle(plotter)` method call. This level of detail
### reveals what goes on behind the scenes.

msg <- list(cmd="getWindowTitle", status="request", callback="handleResponse", payload="")

send(plotter, msg)

while(!browserResponseReady(plotter)) Sys.sleep(0.1)

getBrowserResponse(plotter)

### a simpler user-level approach:

getBrowserWindowTitle(plotter)

### set and get the windowTitle

setBrowserWindowTitle(plotter, "new title")

getBrowserWindowTitle(plotter)

### BrowserVizDemo provides another information method which, like the others, will apply
### and maybe be of some use to derived classes

getBrowserWindowSize(plotter)

### finally, you should close BrowserVizDemo when you are done, returning
### the port for use by other applications.

closeWebSocket(plotter)
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