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Plot.ly Charts using PluginR and Tiki


See

- https://plot.ly/
- https://plot.ly/api/r/

The Plotly R graphing library allows you to create and share interactive, publication-quality plots in your browser. Plotly is also built for working together, and makes it easy to post graphs and data publicly with a URL or privately to collaborators.

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Installing Plotly

```
{RR(echo="0", cacheby="pagename", wikisyntax="0")}
# Installing Plotly
# -----------------------

# Install de required packages if you don't have them yet
if(!require(devtools)){ install.packages("devtools",
repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/"") }
require("devtools")
if(!require(RCurl)){ install.packages("RCurl",
repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/"") }
if(!require(bitops)){ install.packages("bitops",
repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/"") }
if(!require(RJSONIO)){ install.packages("RJSONIO",
repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/"") }

# Next, install plotly (a big thanks to Hadley, who suggested the GitHub route):
if(!require(plotly)){ devtools::install_github("plotly/R-api") }```
# ... 
# * DONE (plotly) 

# Then sign-up like this (adapt username and email to your choice) or at https://plot.ly/:
require(plotly)
response = signup (username = 'yournewusername', email='youremail@example.com')

# You'll get as output in the R console:
#
## Thanks for signing up to plotly!
## Your username is: yournewusername
## Your temporary password is: yourtemppassword. You use this to log into your plotly account at https://plot.ly/plot.
## Your API key is: API_Key. You use this to access your plotly account through the API.
## To get started, initialize a plotly object with your username and api_key, e.g.
## >>> p <- plotly(username="yournewusername", key="API_Key")
## Then, make a graph!
## >>> res <- p$plotly(c(1,2,3), c(4,2,1))

# And we’re up and running! You can change and access your password and key in your homepage.

{RR}

Overlaid Histograms

{RR(\text{echo}=0, \text{cacheby}=\text{pagename}, \text{wikisyntax}=0\}}

# 1. Overlaid Histograms:
# ------------------------
require(plotly)
p <- plotly(username="yournewusername", key="API_Key")

x0 = rnorm(500)
x1 = rnorm(500)+1
data0 = list(x=x0,
    type='histogramx',
    opacity=0.8)
```
data1 = list(x=x1,
            type='histogramx',
            opacity=0.8)
layout = list(barmode='overlay')

response = p$plotly(data0, data1, kwargs=list(layout=layout))

# The script makes a graph. Use the RStudio viewer or add
# "browseURL(response$url)" to your script
# to avoid copy and paste routines of your URL and open the graph directly.

#browseURL(response$url)

# In Tiki, you can plot the graph in a wiki page by means of an iframe to
# the response$url
#
#cat(response$url)
#
# But since Tiki doesn't allow the word "url" in scripts, we will use the
# index of the value in the response list: cat(unlist(response[1]))
cat(unlist(response[1]))
# This will produce something like:
#
#"https://plot.ly/~yournewusername/0/
#
# Then you just need to include that url in an iframe as usual in Tiki
{RR}

{iframe name=myPlotlyChart width=800 height=600 align=middle frameborder=0
marginheight=0 marginwidth=0 scrolling=auto
src="https://plot.ly/~yournewusername/0/"}

Log-normal Boxplot
{RR(echo="1", cacheby="pagename", wikisyntax="0")}
# 2. Log-normal Boxplot
# ------------------------
require(plotly)
# ------------------------
pr <- plotly(username='USERNAME', key='API_KEY')

x <- c(seq(0,0,length=1000), seq(1,1,length=1000), seq(2,2,length=1000))
y <- c(rlnorm(1000,0,1), rlnorm(1000,0,2), rlnorm(1000,0,3))
s <- list(
  type = 'box',
  jitter = 0.5
)
layout <- list(
  title = 'Fun with the Lognormal distribution',
  yaxis = list(
    type = 'log'
  )
)

response <- p$plotly(x, y, kwargs = list(layout = layout, style=s))
#browseURL(response$url)
# Again, in Tiki, you can plot the graph in a wiki page by means of an
iframe to the reponse$url = unlist(response[1])
{RR}
{iframe name=myPlotlyChart width=800 height=600 align=middle frameborder=0
marginheight=0 marginwidth=0 scrolling=auto src="https://plot.ly/~ueb/14/"}

---

## HeatMaps

{RR(echo="0", cacheby="pagename", wikisyntax="0")}

`#' Days of the Week Heatmap Demo
`#' Questions? Email feedback@plot.ly
`#' For more docs, see plot.ly/api

require(RColorBrewer)
require(plotly)

py <- plotly(username='yournewusername', key='API_Key')

x <- c('Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday')
y <- c('Morning', 'Afternoon', 'Evening')
z <- list(
  c(1., 20., 30, 50, 1),
  c(20., 1., 60, 80, 30),
  c(30., 60., 1., -10, 20)
)
# Color brewer YIOrBr colorscale http://colorbrewer2.org
# scl=[[[0,"rgb(128, 0, 38)"]],[[0.125,"rgb(189, 0, 38)"]],[[0.25,"rgb(227, 26, 28)"]],
#       [[[0.375,"rgb(252, 78, 42)"]],[[0.5,"rgb(253, 141, 60)"]],[[0.625,"rgb(254, 178, 76)"]],
#       [[[0.75,"rgb(254, 217, 118)"]],[[0.875,"rgb(255, 237, 160)"]],[[1,"rgb(255, 255, 204)"]]]

scl <- brewer.pal(9,'YlOrBr')
data <- list(
    x = x,
    y = y,
    z = z,
    scl= list(
        c(0,"rgb(128, 0, 38)")
    ),
    c(0.125,"rgb(189, 0, 38)")
    ),
    c(0.25,"rgb(227, 26, 28)")
    ),
    c(0.375,"rgb(252, 78, 42)")
    ),
    c(0.5,"rgb(253, 141, 60)")
    ),
    c(0.625,"rgb(254, 178, 76)")
    ),
    c(0.75,"rgb(254, 217, 118)")
    ),
    c(0.875,"rgb(255, 237, 160)")
    ),
    c(1,"rgb(255, 255, 204)")
    ),
    type = 'heatmap'
)

response <- py$plotly(data)

# url and filename
#unlist(response[1])
#filename <- response$filename

{RR}
{iframe name=myPlotlyChart width=800 height=600 align=middle frameborder=0 marginheight=0 marginwidth=0 scrolling=auto src="https://plot.ly/~ueb/15/"}
More types of charts...

For more examples of chart types possible with Plot.ly and R, see:

- https://plot.ly/api/r/

Collaborating and Sharing

# Collaborating and Sharing: You’re in Control
# ---------------------------------------------

# Keep in mind that:
#
# (1) You control if graphs are public or private, and who you share with (like Google Docs)
# (2) Public sharing in Plotly is free (like GitHub).
#
# To share privately, press “Share” in our GUI or share with your script. Users you share with get an email and can edit and comment on graphs. That means no more emailing data, graphs, screenshots, and spreadsheets around: you can do it all in Plotly.
# You can also save and apply custom themes to new data to avoid re-making the same graphs with new data.
# Just upload and apply your theme.