Categories

1. [Programming](https://datascienceplus.com/category/programming/)

Tags

1. [Correlation](https://datascienceplus.com/tag/correlation/)
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In this article, you learn how to make Automated Dashboard with various correlation visualizations in R. First you need to install the `rmarkdown` package into your R library. Assuming that you installed the `rmarkdown`, next you create a new `rmarkdown` script in R.

After this you type the following code in order to create a dashboard with rmarkdown and flexdashboard:

---

title: "Dashboard visualizations in R: Scatter plots"

author: "Kristian Larsen"

output:

flexdashboard::flex\_dashboard:

orientation: rows

vertical\_layout: scroll

---

```{r setup, include=FALSE}

library(flexdashboard)

# install.packages("ggplot2")

# load package and data

options(scipen=999) # turn-off scientific notation like 1e+48

library(ggplot2)

theme\_set(theme\_bw()) # pre-set the bw theme.

data("midwest", package = "ggplot2")

midwest <- read.csv("<http://goo.gl/G1K41K>") # bkup data source

options(scipen = 999)

library(ggplot2)

library(ggalt)

library(plotly)

midwest\_select 350000 &

midwest$poptotal 0.01 &

midwest$area < 0.1, ]

# load package and data

library(ggplot2)

data(mpg, package="ggplot2") # alternate source: "<http://goo.gl/uEeRGu>")

theme\_set(theme\_bw()) # pre-set the bw theme.

g <- ggplot(mpg, aes(cty, hwy))

# load package and data

library(ggplot2)

data(mpg, package="ggplot2")

mpg <- read.csv("<http://goo.gl/uEeRGu>")

# load package and data

library(ggplot2)

data(mpg, package="ggplot2")

# mpg <- read.csv("<http://goo.gl/uEeRGu>")

```

Row

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### Chart A: Scatterplot

```{r}

gg <- ggplot(midwest, aes(x=area, y=poptotal)) +

geom\_point(aes(col=state, size=popdensity)) +

geom\_smooth(method="loess", se=F) +

xlim(c(0, 0.1)) +

ylim(c(0, 500000)) +

labs(subtitle="Area Vs Population",

y="Population",

x="Area",

title="Scatterplot",

caption = "Source: midwest")

plot(gg)

ggplotly(p = ggplot2::last\_plot())

```

### Chart B: Scatterplot + Encircle

```{r}

ggplot(midwest, aes(x=area, y=poptotal)) +

geom\_point(aes(col=state, size=popdensity)) + # draw points

geom\_smooth(method="loess", se=F) +

xlim(c(0, 0.1)) +

ylim(c(0, 500000)) + # draw smoothing line

geom\_encircle(aes(x=area, y=poptotal),

data=midwest\_select,

color="red",

size=2,

expand=0.08) + # encircle

labs(subtitle="Area Vs Population",

y="Population",

x="Area",

title="Scatterplot + Encircle",

caption="Source: midwest")

```

Row

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### Cart C: Jitter Plot

```{r}

g + geom\_point() +

geom\_smooth(method="lm", se=F) +

labs(subtitle="mpg: city vs highway mileage",

y="hwy",

x="cty",

title="Scatterplot with overlapping points",

caption="Source: midwest")

ggplotly(p = ggplot2::last\_plot())

```

### Cart D: Jitter Points

```{r}

# Scatterplot

theme\_set(theme\_bw()) # pre-set the bw theme.

g <- ggplot(mpg, aes(cty, hwy))

g + geom\_jitter(width = .5, size=1) +

labs(subtitle="mpg: city vs highway mileage",

y="hwy",

x="cty",

title="Jittered Points")

ggplotly(p = ggplot2::last\_plot())

```

Row

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### Chart E: Counts Chart

```{r}

# Scatterplot

theme\_set(theme\_bw()) # pre-set the bw theme.

g <- ggplot(mpg, aes(cty, hwy))

g + geom\_count(col="tomato3", show.legend=F) +

labs(subtitle="mpg: city vs highway mileage",

y="hwy",

x="cty",

title="Counts Plot")

ggplotly(p = ggplot2::last\_plot())

```

### Chart F: Bubble plot

```{r}

# load package and data

library(ggplot2)

library(gganimate)

data(mpg, package="ggplot2")

# mpg <- read.csv("<http://goo.gl/uEeRGu>")

mpg\_select <- mpg[mpg$manufacturer %in% c("audi", "ford", "honda", "hyundai"), ]

# Scatterplot

theme\_set(theme\_bw()) # pre-set the bw theme.

g <- ggplot(mpg\_select, aes(displ, cty)) +

labs(subtitle="mpg: Displacement vs City Mileage",

title="Bubble chart")

g + geom\_jitter(aes(col=manufacturer, size=hwy)) +

geom\_smooth(aes(col=manufacturer), method="lm", se=F)

ggplotly(p = ggplot2::last\_plot())

```

Row

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### Chart G: Marginal Histogram / Boxplot

```{r}

# load package and data

library(ggplot2)

library(ggExtra)

data(mpg, package="ggplot2")

# mpg <- read.csv("<http://goo.gl/uEeRGu>")

# Scatterplot

theme\_set(theme\_bw()) # pre-set the bw theme.

mpg\_select = 35 & mpg$cty > 27, ]

g <- ggplot(mpg, aes(cty, hwy)) +

geom\_count() +

geom\_smooth(method="lm", se=F)

ggMarginal(g, type = "histogram", fill="transparent")

ggMarginal(g, type = "boxplot", fill="transparent")

# ggMarginal(g, type = "density", fill="transparent")

```

### Chart H: Correlogram

```{r}

# devtools::install\_github("kassambara/ggcorrplot")

library(ggplot2)

library(ggcorrplot)

# Correlation matrix

data(mtcars)

corr <- round(cor(mtcars), 1)

# Plot

ggcorrplot(corr, hc.order = TRUE,

type = "lower",

lab = TRUE,

lab\_size = 3,

method="circle",

colors = c("tomato2", "white", "springgreen3"),

title="Correlogram of mtcars",

ggtheme=theme\_bw)

```

Screenshot:  
[](https://i0.wp.com/datascienceplus.com/wp-content/uploads/2018/12/V1-1.jpg?ssl=1)