



Introduction to Shiny

What is Shiny?

Shiny is an R package designed for creating interactive web based applications completely within R

Installing Shiny

To install the stable version simply:

```
install.packages("shiny")
```

Development version available at GitHub:

```
devtools::install_github("rstudio/shiny")
```

Structure

Three pieces:

User Interface (UI) - setting up interactive components that the user sees and uses

Server - actions performed by R

Run statement - calling the UI and server

Either run as a single app file or separate UI and server files

```
library('shiny')
ui <- fluidPage(...)
server <- function(input, output){
  ...
}
shinyApp(ui=ui, server=server)
```

Layout

Fluid Page

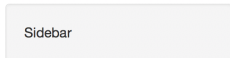
```
ui <- fluidPage(  
  titlePanel("R␣meetup"),  
  
  sidebarLayout(  
    sidebarPanel("Sidebar"),  
    mainPanel("Main")  
  )  
)
```

ShinyDashboard

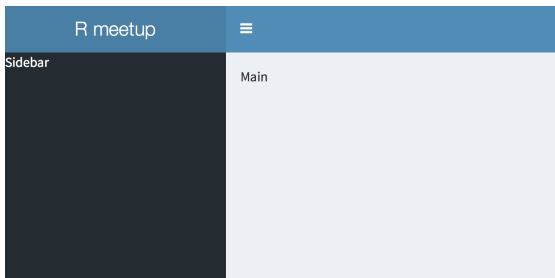
```
ui <- dashboardPage(  
  dashboardHeader(title="R␣meetup"),  
  dashboardSidebar("Sidebar"),  
  dashboardBody("Main")  
)
```

fluidPage vs shinyDashboard

R meetup



Main



Widgets and Inputs

```
selectInput("varY", "Choose Y variable:",
            choices = list('Height'="height",
                           'Mass'="mass",
                           'Birth Year'="birth_year"))
```

For each widget below, the `Current Value()` window displays the value that the widget provides to `chattyServer`. Notice that the values change as you interact with the widgets.

Action button

Current Value:

```
[1] 0
attr(,"class")
[1] "idanger"
```

[See Code](#)

Single checkbox

☒ Choose A

Current Value:

☐ TRUE

[See Code](#)

Checkbox group

☒ Choose 1
☐ Choose 2
☐ Choose 3

Current Value:

☐ "2"

[See Code](#)

Date input

Current Value:

[See Code](#)

Date range

Current Value:

[See Code](#)

File input

Current Value:

[See Code](#)

Numeric input

Current Value:

[See Code](#)

Radio buttons

☒ Choose 1
☐ Choose 2
☐ Choose 3

Current Value:

[See Code](#)

Select box

Current Value:

[See Code](#)

Server Side

Output	Renders	Creates
htmlOutput		raw HTML
imageOutput	renderImage	image
plotOutput	renderPlot	plot
tableOutput	renderTable	table
uiOutput	renderUI	raw HTML
verbatimTextOutput	renderText	text

```
output$scatter1 <- renderPlot({  
  plot(x=starwars$height,y=starwars$mass,  
        xlab = "Height", ylab = "Mass")  
})
```


To R!

Sharing your shiny app!

Host on ShinyApps IO
<https://www.shinyapps.io>

Build your own server to host
<https://deanattali.com/2015/05/09/setup-rstudio-shiny-server-digital-ocean/>

GitHub / zip file

```
shiny::runGitHub('shiny_example', 'rstudio')
```

or

```
runUrl('https://github.com/rstudio/shiny_example/  
archive/master.zip')
```

Additional Help

<https://shiny.rstudio.com/images/shiny-cheatsheet.pdf>

<https://www.rstudio.com/wp-content/uploads/2015/02/shiny-cheatsheet.pdf>

<https://shiny.rstudio.com/tutorial/>