免费电子书

学习

# shiny

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#shiny

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# 1:

。

。 。

## Examples

Shinyshinyapps.io 。

1. **Shiny**R / RStudioCRAN`install.packages("shiny")` RStudio Github `devtools::install_github("rstudio/shiny")` 。 GithubShinyCRAN。

1. “”。 Web。
2. 。 。
3. Web。 UI。
4. 。 “”“”“”“”。 。

`shiny UI server` 。 UI“Hello world”。

**UI.R**

UIdiv。

```
library(shiny)

# Define UI for application print "Hello world"
shinyUI(

  # Create bootstrap page
  fluidPage(

    # Paragraph "Hello world"
    p("Hello world"),

    # Create button to print "Hello world" from server
    actionButton(inputId = "Print_Hello", label = "Print_Hello World"),

    # Create position for server side text
    textOutput("Server_Hello")

  )
)
```

**Server.R**

。

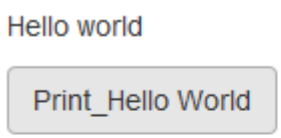
```
# Define server logic required to print "Hello World" when button is clicked
shinyServer(function(input, output) {
```

```
  # Create action when actionButton is clicked
  observeEvent(input$Print_Hello,{

    # Change text of Server_Hello
    output$Server_Hello = renderText("Hello world from server side")
  })


})
```

1. `runApp('your dir path')`
2. uiserver`shinyApp(ui,server)`





shinyApp`plotOutput`UI`renderPlot。 ggPlot`

```
library(shiny)
library(ggplot2)

ui <- fluidPage(
  plotOutput('myPlot'),
  plotOutput('myGgPlot')
)

server <- function(input, output, session){
  output$myPlot = renderPlot({
    hist(rnorm(1000))
  })
  output$myGgPlot <- renderPlot({
    ggplot(iris, aes(Sepal.Length, Sepal.Width, color = Species)) + geom_point()
  })
}

shinyApp(ui, server)
```

DT DTJavaScriptDataTablesR。

```
library(shiny)
library(DT)
```

```
ui <- fluidPage(
  dataTableOutput('myTable')
)

server <- function(input, output, session){
  output$myTable <- renderDataTable({
    datatable(iris)
  })
}

shinyApp(ui, server)
```

https://riptutorial.com/zh-CN/shiny/topic/2667/

# 2: Javascript API

- session $ sendCustomMessage
- Shiny.addCustomMessageHandler *JS*
- Shiny.onInputChange

## Examples

RJS。

```
library(shiny)
runApp(
  list(
    ui = fluidPage(
      tags$script(
        "Shiny.addCustomMessageHandler('message', function(params) { alert(params); });"
      ),
      actionButton("btn","Press Me")
    ),
    server = function(input, output, session) {
      observeEvent(input$btn,{
        randomNumber <- runif(1,0,100)
        session$sendCustomMessage("message",list(paste0(randomNumber," is a random number!")))
      })
    }
  )
)
```

`Rsession$sendCustomMessagejavascriptShiny.addCustomMessageHandler`。

`session$sendCustomMessageRjavascriptShiny.addCustomMessageHandlerRjavascript`。

`Rjavascript`JSON

JSR。 javascript`Shiny.onInputChange`

```
library(shiny)
runApp(
  list(
    ui = fluidPage(
      # create password input
      HTML('<input type="password" id="passwordInput">'),
      # use jquery to write function that sends value to
      # server when changed
      tags$script(
        '$("#passwordInput").on("change",function() {
          Shiny.onInputChange("myInput",this.value);
        })'
      ),
      # show password
      verbatimTextOutput("test")
    ),
    server = function(input, output, session) {
```

```
      # read in then show password
      output$test <- renderPrint(
        input$myInput
      )
    }
  )
)
```

id `passwordInput`。 UIJavascript`passwordInputShiny.onInputChange`。

`Shiny.onInputChange input$*name* input$*name*`

`input$*name*`Shiny。

Javascript API https://riptutorial.com/zh-CN/shiny/topic/3149/javascript-api

# 3: reactivereactiveValueeventReactiveShiny

**reactivereactiveValueeventReactive**Shiny。。

**observeobserveEvent**。。

。

## Examples

。$ texttext_reactivetext_reactiveinput $ user_text。$ user_text$ texttext_reactive。input $ user_text。

```
library(shiny)

ui <- fluidPage(
  headerPanel("Example reactive"),

  mainPanel(

    # input field
    textInput("user_text", label = "Enter some text:", placeholder = "Please enter some
text."),

    # display text output
    textOutput("text"))
)

server <- function(input, output) {

  # reactive expression
  text_reactive <- reactive({
    input$user_text
  })

  # text output
  output$text <- renderText({
    text_reactive()
  })
}

shinyApp(ui = ui, server = server)
```

### eventReactive

eventReactives

```
eventReactive( event {
code to run
})
```

eventReactives“ ”。。

eventReactive。$ user_texteventReactiveeventReactiveactionButton$ submit。text_reactive$ text $ user_text。

```
library(shiny)

ui <- fluidPage(
  headerPanel("Example eventReactive"),

  mainPanel(

    # input field
    textInput("user_text", label = "Enter some text:", placeholder = "Please enter some
text."),

    # submit button
    actionButton("submit", label = "Submit"),

    # display text output
    textOutput("text"))
)

server <- function(input, output) {

  # reactive expression
  text_reactive <- eventReactive( input$submit, {
    input$user_text
  })

  # text output
  output$text <- renderText({
    text_reactive()
  })
}

shinyApp(ui = ui, server = server)
```

## reactiveValues

reactiveValues。

reactiveValues“。”。reactiveValues。reactiveValues。

```
library(shiny)

ui <- fluidPage(
  headerPanel("Example reactiveValues"),

  mainPanel(

    # input field
    textInput("user_text", label = "Enter some text:", placeholder = "Please enter some
text."),
    actionButton("submit", label = "Submit"),

    # display text output
    textOutput("text"))
)
```

```
server <- function(input, output) {

  # observe event for updating the reactiveValues
  observeEvent(input$submit,
               {
    text_reactive$text <- input$user_text
  })

  # reactiveValues
  text_reactive <- reactiveValues(
    text = "No text has been submitted yet."
  )

  # text output
  output$text <- renderText({
    text_reactive$text
  })
}

shinyApp(ui = ui, server = server)
```

## observeEvent

observeEvent。

```
observeEvent( event {
code to run
})
```

observeEvent*“event”*。“ ”。

```
library(shiny)

ui <- fluidPage(
  headerPanel("Example reactive"),

  mainPanel(

    # action buttons
    actionButton("button1","Button 1"),
    actionButton("button2","Button 2")
  )
)

server <- function(input, output) {

  # observe button 1 press.
  observeEvent(input$button1, {
    # The observeEvent takes no dependency on button 2, even though we refer to the input in
the following line.
    input$button2
    showModal(modalDialog(
      title = "Button pressed",
      "You pressed one of the buttons!"
    ))
  })
```

```
}

shinyApp(ui = ui, server = server)
```

◦ reactiveValues◦

observeNULLNULL◦ observeEventNULL◦

```
library(shiny)

ui <- fluidPage(
  headerPanel("Example reactive"),

  mainPanel(

    # action buttons
    actionButton("button1","Button 1"),
    actionButton("button2","Button 2")
  )
)

server <- function(input, output) {

  # observe button 1 press.
  observe({
    input$button1
    input$button2
    showModal(modalDialog(
      title = "Button pressed",
      "You pressed one of the buttons!"
    ))
  })
}

shinyApp(ui = ui, server = server)
```

reactivereactiveValueeventReactiveShiny https://riptutorial.com/zh-CN/shiny/topic/10787/reactive-reactivevalueeventreactive-shiny

# 4: MCVE

Shiny。 。 I / O ID。

MCVE。

## Examples

MCVEShiny。 `shinyApp`。

```
library(shiny)

ui <- fluidPage(
  checkboxInput('checkbox', 'click me'),
  verbatimTextOutput('text')
)

server <- function(input, output, session){
  output$text <- renderText({
    isolate(input$checkbox)
  })
}

shinyApp(ui, server)
```

`uiserver`。

```
library(shiny)

shinyApp(
  fluidPage(
    checkboxInput('checkbox', 'click me'),
    verbatimTextOutput('text')
  ),
  function(input, output, session){
    output$text <- renderText({
      isolate(input$checkbox)
    })
  }
)

shinyApp(ui, server)
```

。 。 MCVE。

```
library(shiny)
library(ggplot2)

ui <- fluidPage(
  plotOutput('plot')
)
```

```
server <- function(input, output, session){
  df <- data.frame(treatment = rep(letters[1:3], times = 3),
                   context = rep(LETTERS[1:3], each = 3),
                   effect = runif(9,0,1))
  df$treat.con <- paste(df$treatment,df$context, sep = ".")
  df$treat.con <- reorder(df$treat.con, -df$effect, )
  output$plot = renderPlot({
    myPlot <- ggplot(df, aes(x = treat.con, y = effect)) +
       geom_point() +
       facet_wrap(~context,
                  scales = "free_x",
                  ncol = 1)
  })
}

shinyApp(ui, server)
```

---

### Plot

```
library(shiny)
library(ggplot2)

ui <- fluidPage(
  plotOutput('plot')
)

server <- function(input, output, session){
  output$plot = renderPlot({
    myPlot <- ggplot(mtcars, aes(mpg, wt)) + geom_point()
  })
}

shinyApp(ui, server)
```

MCVE https://riptutorial.com/zh-CN/shiny/topic/10653/mcve---

# 5:

## Examples

### fileInput.RData

.RData。 `loadget`。 “”。

```
library(shiny)

# Define two datasets and store them to disk
x <- rnorm(100)
save(x, file = "x.RData")
rm(x)
y <- rnorm(100, mean = 2)
save(y, file = "y.RData")
rm(y)

# Define UI
ui <- shinyUI(fluidPage(
  titlePanel(".RData File Upload Test"),
  mainPanel(
    fileInput("file", label = ""),
    actionButton(inputId="plot","Plot"),
    plotOutput("hist"))
  )
)

# Define server logic
server <- shinyServer(function(input, output) {

  observeEvent(input$plot,{
    if ( is.null(input$file)) return(NULL)
    inFile <- input$file
    file <- inFile$datapath
    # load the file into new environment and get it from there
    e = new.env()
    name <- load(file, envir = e)
    data <- e[[name]]

    # Plot the data
    output$hist <- renderPlot({
      hist(data)
    })
  })
})

# Run the application
shinyApp(ui = ui, server = server)
```

### csvShiny

csvShiny。 。 radioButton。

```
library(shiny)
library(DT)

# Define UI
ui <- shinyUI(fluidPage(

  fileInput('target_upload', 'Choose file to upload',
            accept = c(
              'text/csv',
              'text/comma-separated-values',
              '.csv'
            )),
  radioButtons("separator","Separator: ",choices = c(";",",","","":"), selected=";",inline=TRUE),
  DT::dataTableOutput("sample_table")
)
)

# Define server logic
server <- shinyServer(function(input, output) {

  df_products_upload <- reactive({
    inFile <- input$target_upload
    if (is.null(inFile))
      return(NULL)
    df <- read.csv(inFile$datapath, header = TRUE,sep = input$separator)
    return(df)
  })

  output$sample_table<- DT::renderDataTable({
    df <- df_products_upload()
    DT::datatable(df)
  })

}
)

# Run the application
shinyApp(ui = ui, server = server)
```

https://riptutorial.com/zh-CN/shiny/topic/7576/

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