

 免費電子書

學習

shiny

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#shiny

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1:

◦

◦ ◦

Examples

Shiny shinyapps.io ◦

1. **ShinyR / RStudio** `install.packages("shiny")` **RStudio** **Github**
`devtools::install_github("rstudio/shiny")` ◦ **Github** **Shiny** **CRAN** ◦

1. `"` ◦ **Web** ◦
2. ◦ ◦
3. **Web** ◦ **UI** ◦
4. ◦ `"` ◦ ◦

shiny UI server ◦ UI `"Hello world"` ◦

UI.R

UI

◦

```
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)`

Hello world

Print_Hello World

Hello world

Print_Hello World

Hello world from server side

`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` `DT` `JavaScript` `DataTables` `R`

```

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-TW/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

RjavascriptJSON

JSR. javascriptShiny.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-TW/shiny/topic/3149/javascript-api>

3: reactiveValueeventReactiveShiny

reactiveValueeventReactiveShiny。

observeobserveEvent。

。

Examples

。 \$ text_reactive text_reactive input \$ user_text。 \$ user_text \$ text_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

eventReactive

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

eventReactive“ ”。

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)
```

[reactivevalueeventReactiveShiny https://riptutorial.com/zh-TW/shiny/topic/10787/reactive-reactivevalueeventreactive-shiny](https://riptutorial.com/zh-TW/shiny/topic/10787/reactive-reactivevalueeventreactive-shiny)

4: MCVE

Shiny ◦ ◦ I / O ID ◦

MCVE ◦

Examples

MCVE Shiny ◦ 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)
```

ui server ◦

```
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-TW/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-TW/shiny/topic/7576/>

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4	MCVE	Florian , Gregor de Cillia
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