Package ‘reactR’

January 24, 2020

Type Package
Title React Helpers
Version 0.4.2
Date 2020-01-23
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Description Make it easy to use 'React' in R with 'htmlwidget' scaffolds, helper dependency functions, an embedded 'Babel' transpiler, and examples.
BugReports https://github.com/react-R/reactR/issues
License MIT + file LICENSE
LazyData TRUE
Encoding UTF-8
Imports htmltools
Suggests htmlwidgets (>= 0.6.0), rmarkdown, shiny, V8, knitr, usethis, jsonlite
RoxygenNote 7.0.2
VignetteBuilder knitr
NeedsCompilation no
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Repository CRAN
Date/Publication 2020-01-24 06:50:02 UTC
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**babel_transform**  
*Transform Code with Babel*

**Description**

Helper function to use V8 with Babel so we can avoid a JSX transformer with using reactR.

**Usage**

```
babel_transform(code = "")
```

**Arguments**

- `code` character

**Value**

- `transformed` character

**Examples**

```r
## Not run:
library(reactR)
babel_transform("<div>react div</div>")

## End(Not run)
```
component

Create a React component

Description

Create a React component

Usage

component(name, varArgs = list())

Arguments

name Name of the React component, which must start with an upper-case character.
varArgs Attributes and children of the element to pass along to tag as varArgs.

Value

An htmltools tag object

Examples

component("ParentComponent",
  list(
    x = 1,
    y = 2,
    component("ChildComponent"),
    component("OtherChildComponent")
  )
)

createReactShinyInput

Create a React-based input

Description

Create a React-based input

Usage

createReactShinyInput(
  inputId,
  class,
  dependencies,
  default = NULL,
  configuration = list(),
  container = htmltools::tags$div
)

Arguments

- **inputId**: The input slot that will be used to access the value.
- **class**: Space-delimited list of CSS class names that should identify this input type in the browser.
- **dependencies**: HTML dependencies to include in addition to those supporting React. Must contain at least one dependency, that of the input's implementation.
- **default**: Initial value.
- **configuration**: Static configuration data.
- **container**: Function to generate an HTML element to contain the input.

Value

Shiny input suitable for inclusion in a UI.

Examples

```r
myInput <- function(inputId, default = "") {
    # The value of createReactShinyInput should be returned from input constructor functions.
    createReactShinyInput(
        inputId, 
        "myinput",
        # At least one htmlDependency must be provided -- the JavaScript implementation of the input.
        htmlDependency(
            name = "my-input",
            version = "1.0.0",
            src = "www/mypackage/myinput",
            package = "mypackage",
            script = "myinput.js"
        ),
        default
    )
}
```

---

**html_dependency_corejs**

*Shim Dependency for React in RStudio Viewer*

Description

Add this first for `React` to work in RStudio Viewer.

Usage

```r
html_dependency_corejs()
```

Value

`htmlDependency`
html_dependency_mobx  Dependencies for 'mobx'

Description
Add JavaScript 'mobx' and 'mobx-react' dependency. When using with 'react', the order of the dependencies is important, so please add html_dependency_react() before html_dependency_mobx().

Usage
html_dependency_mobx(react = TRUE)

Arguments
react logical to add react 'mobx' dependencies.

Value
htmlDependency

Examples
if(interactive()) {
  library(htmltools)
  library(reactR)

  browsable(
    tagList(
      html_dependency_mobx(react = FALSE),
      div(id="test"),
      tags$script(HTML("var obs = mobx.observable({val: null})
mobxautorun(function() {
  document.querySelector("#test").innerText = obs.val
})
setInterval(
  function() {obs.val++},
  1000
}
"))
  )
}
}

## Not run:
# use with react
library(htmltools)
library(reactR)

browsable(
  tagList(
    html_dependency_react(),
    html_dependency_mobx(),
    div(id="test"),
    tags$script(HTML(babel_transform("
      var obs = mobx.observable({val: null})
      var App = mobxReact.observer((props) => <div>{props.obs.val}</div>)

      ReactDOM.render(<App obs = {obs}/>, document.querySelector('#test'))

      setInterval(
        function() {obs.val++},
        1000
      )
    ))
  )
)

## End(Not run)

---

**html_dependency_react**  
*Dependencies for React*

---

### Description

Add JavaScript 'React' dependency. For this to work in RStudio Viewer, also include **html_dependency_corejs**.

### Usage

```r
html_dependency_react(offline = TRUE)
```

### Arguments

- **offline** logical to use local file dependencies. If FALSE, then the dependencies use the Facebook cdn as its src. To use with JSX see **babel_transform**.

### Value

`htmlDependency`
**Examples**

```r
library(reactR)
library(htmltools)

tagList(
  tags$script(
    "ReactDOM.render(
      React.createElement(
        'h1',
        null,
        'Powered by React'
      ),
      document.body
    )
  ),
  #add core-js first to work in RStudio Viewer
  html_dependency_corejs(),
  html_dependency_react() #offline=FALSE for CDN
)
```

**Description**

Adds window.reactR.exposeComponents and window.reactR.hydrate

**Usage**

```r
html_dependency_reacttools()
```

**Value**

`htmlDependency`

---

**React**

*React component builder.*

**Description**

React is a syntactically-convenient way to create instances of React components that can be sent to the browser for display. It is a list for which extract methods are defined, allowing object creation syntax like `React$MyComponent(x = 1)` where `MyComponent` is a React component you have exposed to Shiny in JavaScript.
Usage

React

Format

An object of class react_component_builder of length 0.

Details

Internally, the component function is used to create the component instance.

Examples

# Create an instance of ParentComponent with two children, # ChildComponent and OtherChildComponent.
React$ParentComponent(
  x = 1,
  y = 2,
  React$ChildComponent(),
  React$OtherChildComponent()
)

---

**reactMarkup**

Prepare data that represents a single-element character vector, a React component, or an htmltools tag for sending to the client.

Description

Tag lists as returned by htmltools tagList are not currently supported.

Usage

reactMarkup(tag)

Arguments

tag character vector or React component or tag

Value

A reactR markup object suitable for being passed to createWidget as widget instance data.
scaffoldReactShinyInput

Create implementation scaffolding for a React.js-based Shiny input.

Description
Add the minimal code required to implement a React.js-based Shiny input to an R package.

Usage
scaffoldReactShinyInput(name, npmPkgs = NULL, edit = interactive())

Arguments
- name: Name of input
- npmPkgs: Optional NPM packages upon which this input is based which will be used to populate package.json. Should be a named list of names to versions.
- edit: Automatically open the input’s source files after creating the scaffolding.

Note
This function must be executed from the root directory of the package you wish to add the input to.

scaffoldReactWidget

Create implementation scaffolding for a React.js-based HTML widget

Description
Add the minimal code required to implement a React.js-based HTML widget to an R package.

Usage
scaffoldReactWidget(name, npmPkgs = NULL, edit = interactive())

Arguments
- name: Name of widget
- npmPkgs: Optional NPM packages upon which this widget is based which will be used to populate package.json. Should be a named list of names to versions.
- edit: Automatically open the widget’s JavaScript source file after creating the scaffolding.

Note
This function must be executed from the root directory of the package you wish to add the widget to.
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