

# Package ‘reactR’

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**Type** Package

**Title** React Helpers

**Version** 0.6.1

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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.

**URL** <https://github.com/react-R/reactR>

**BugReports** <https://github.com/react-R/reactR/issues>

**License** MIT + file LICENSE

**Encoding** UTF-8

**Imports** htmltools

**Suggests** htmlwidgets (>= 1.5.3), rmarkdown, shiny, V8, knitr, usethis, jsonlite

**RoxygenNote** 7.3.2

**VignetteBuilder** knitr

**NeedsCompilation** no

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babel_transform	<i>Transform Code with Babel</i>
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### 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

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

## End(Not run)
```

---

component	<i>Create a React component</i>
-----------	---------------------------------

---

**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 <a href="#">tag</a> as varArgs.

**Value**

An [htmltools tag](#) object

**Examples**

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

---

createReactShinyInput	<i>Create a React-based input</i>
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---

**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**

```
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**

```
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})  
        mobx.autorun(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

```
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

```
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
)
```

---

html\_dependency\_reacttools

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

---

## Description

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

## Usage

```
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**

<code>name</code>	Name of input
<code>npmPkgs</code>	Optional <b>NPM</b> packages upon which this input is based which will be used to populate <code>package.json</code> . Should be a named list of names to <b>versions</b> .
<code>edit</code>	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**

<code>name</code>	Name of widget
<code>npmPkgs</code>	Optional <b>NPM</b> packages upon which this widget is based which will be used to populate <code>package.json</code> . Should be a named list of names to <b>versions</b> .
<code>edit</code>	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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