

Package: livelink (via r-universe)

July 25, 2026

Title Create Shareable Links for 'webR' and 'Shinylive' Environments

Version 0.1.0

Description Creates shareable links for 'R' code in 'WebAssembly' (WASM) Read-Eval-Print Loop (REPL) environments like 'webR' <<https://webr.r-wasm.org/>> and for 'Shiny' applications using 'Shinylive' <<https://shinylive.io/>>. Supports single scripts, multi-file projects, exercise and solution pairs, and batch processing. Includes encoding, decoding, and previewing of links for both 'R' and 'Python' environments.

License AGPL (>= 3)

URL <https://r-pkg.thecoatlessprofessor.com/livelink/>,
<https://github.com/coatless-rpkg/livelink>

BugReports <https://github.com/coatless-rpkg/livelink/issues>

Depends R (>= 4.1.0)

Imports base64enc, cli, clipr, jsonlite, lzstring, RcppMsgPack, stats, tools, utils

Suggests knitr, quarto, testthat (>= 3.0.0), withr

Encoding UTF-8

SystemRequirements Quarto command line tools
(<https://github.com/quarto-dev/quarto-cli>).

Config/Needs/website pkgdown

Config/testthat/edition 3

Roxygen list(markdown = TRUE)

Collate 'as-data-frame.R' 'build-webr-repl-link.R' 'classes.R'
'decode-shinylive-link.R' 'utils.R' 'decode-webr-repl-link.R'
'extract-link.R' 'format-methods.R' 'knit-print.R'
'knitr-engine.R' 'options.R' 'process-input.R'
'shinylive-link.R' 'validators.R' 'webr-repl-directory-links.R'
'webr-repl-links.R'

VignetteBuilder quarto

Config/roxygen2/version 8.0.0
Config/pak/sysreqs libx11-dev
Repository https://coatless-rpkg.r-universe.dev
Date/Publication 2026-07-21 02:29:40 UTC
RemoteUrl https://github.com/coatless-rpkg/livelink
RemoteRef HEAD
RemoteSha 924d273aa694403c754f2be3becbacde9d39efbf

Contents

as.character.webr_link	3
as.data.frame.livelink	4
decode_shinylive_link	5
decode_webr_link	6
format.livelink	8
knit_print.livelink	9
livelink-knitr	10
preview_shinylive_link	12
preview_webr_link	13
print.shinylive_decoded	14
print.shinylive_decoded_batch	15
print.shinylive_directory	15
print.shinylive_link	16
print.shinylive_preview	16
print.shinylive_project	17
print.webr_decoded	17
print.webr_decoded_batch	18
print.webr_directory	18
print.webr_exercise	19
print.webr_link	19
print.webr_preview	20
print.webr_project	20
repl_urls	21
set_webr_base_url	22
shinylive_directory	23
shinylive_project	24
shinylive_py_link	25
shinylive_r_link	26
webr_repl_directory	28
webr_repl_exercise	29
webr_repl_link	31
webr_repl_project	32

Index	35
--------------	-----------

`as.character.webr_link`*Extract URLs as character vector*

Description

Extract URLs as character vector

Usage

```
## S3 method for class 'webr_link'
as.character(x, ...)

## S3 method for class 'shinylive_link'
as.character(x, ...)

## S3 method for class 'webr_project'
as.character(x, ...)

## S3 method for class 'webr_exercise'
as.character(x, ...)

## S3 method for class 'webr_directory'
as.character(x, ...)

## S3 method for class 'webr_decoded'
as.character(x, ...)

## S3 method for class 'webr_decoded_batch'
as.character(x, ...)

## S3 method for class 'webr_preview'
as.character(x, ...)

## S3 method for class 'shinylive_project'
as.character(x, ...)

## S3 method for class 'shinylive_directory'
as.character(x, ...)

## S3 method for class 'shinylive_decoded'
as.character(x, ...)

## S3 method for class 'shinylive_decoded_batch'
as.character(x, ...)

## S3 method for class 'shinylive_preview'
```

```
as.character(x, ...)
```

Arguments

x	Link object
...	Additional arguments

Value

A character vector of URLs. Most objects yield a single URL; exercise objects return a length-2 named vector (exercise, solution); directory and batch objects return one URL per file.

See Also

[repl_urls\(\)](#) for the same extraction as a named generic you can call explicitly.

```
as.data.frame.liveliink
```

Turn a liveliink container into a data frame

Description

The container classes coerce to a tidy data frame, so a folder of links or a batch of decoded results can be tabulated, filtered, joined, or written to CSV with the tools you already use. For a tibble, wrap the result: `tibble::as_tibble(as.data.frame(x))`.

Usage

```
## S3 method for class 'webr_directory'
as.data.frame(x, row.names = NULL, optional = FALSE, ...)

## S3 method for class 'shinylive_directory'
as.data.frame(x, row.names = NULL, optional = FALSE, ...)

## S3 method for class 'webr_decoded_batch'
as.data.frame(x, row.names = NULL, optional = FALSE, ...)

## S3 method for class 'shinylive_decoded_batch'
as.data.frame(x, row.names = NULL, optional = FALSE, ...)
```

Arguments

x	A <code>webr_directory</code> , <code>shinylive_directory</code> , <code>webr_decoded_batch</code> , or <code>shinylive_decoded_batch</code> object.
row.names	A character vector of row names, or <code>NULL</code> .
optional	Ignored; present for compatibility with the generic.
...	Ignored.

Value

A data frame. For a directory, one row per generated link with columns filename and url. For a decoded batch, one row per successfully decoded URL with columns name, url, total_files, total_size, and output_dir (URLs that failed to decode carry no result and are omitted; the object's total_urls and successful_urls fields hold the counts).

Examples

```
dir <- tempfile()
dir.create(dir)
writeLines("plot(1:10)", file.path(dir, "one.R"))
writeLines("hist(rnorm(100))", file.path(dir, "two.R"))

links <- webr_repl_directory(dir)
as.data.frame(links)
```

decode_shinylive_link *Decode Shinylive link(s) to extract files to local directory*

Description

Decodes Shinylive sharelinks to extract the embedded files and save them to a local directory. This is the reverse operation of creating Shinylive links. Handles both single URLs and multiple URLs automatically.

Usage

```
decode_shinylive_link(
  url,
  output_dir = file.path(tempdir(), "shinylive_files"),
  overwrite = FALSE,
  create_subdir = TRUE,
  name_dirs = TRUE
)
```

Arguments

url	Character string or vector containing Shinylive URL(s)
output_dir	Character string specifying the output directory path. Defaults to a shinylive_files directory inside the session temporary directory; pass an explicit path to extract somewhere permanent.
overwrite	Logical. Whether to overwrite existing files (default: FALSE)
create_subdir	Logical. If TRUE (default), each decoded link is extracted into its own subdirectory under output_dir rather than directly into it. For a single URL the subdirectory is named shinylive_<hash>, where <hash> is a short fingerprint of the URL. For multiple URLs, see name_dirs. Set FALSE to extract straight

into `output_dir`; with multiple URLs this means identically named files (such as `app.R`) collide, so a later app overwrites an earlier one when `overwrite = TRUE`, or is skipped when `overwrite = FALSE`.

`name_dirs` Logical. For multiple URLs, controls how the per-link subdirectories are named: `TRUE` (default) numbers them `app_01`, `app_02`, ...; `FALSE` names each one `shinylive_<hash>` from the URL fingerprint. Ignored for a single URL, and ignored when `create_subdir = FALSE`.

Value

For a single URL, a `shinylive_decoded` object. For multiple URLs, a `shinylive_decoded_batch` object.

See Also

`preview_shinylive_link()` to inspect a link without writing files; `shinylive_r_link()` and `shinylive_py_link()` to create links.

Examples

```
# Round-trip: build a link, then decode it back to files
url <- as.character(shinylive_r_link("library(shiny)"))

result <- decode_shinylive_link(url)
print(result)

# Extract to a directory of your choosing
out <- file.path(tempdir(), "my_app")
decode_shinylive_link(url, output_dir = out, create_subdir = FALSE, overwrite = TRUE)
list.files(out)

# Both engines at once
urls <- c(url, as.character(shinylive_py_link("from shiny import App")))
decode_shinylive_link(urls, output_dir = file.path(tempdir(), "my_apps"))
```

decode_webr_link

Decode webR REPL link(s) to extract files to local directory

Description

Decodes webR REPL sharelinks to extract the embedded files and save them to a local directory. This is the reverse operation of creating webR links. Handles both single URLs and multiple URLs automatically.

Usage

```
decode_webr_link(
  url,
  output_dir = file.path(tempdir(), "webr_files"),
  overwrite = FALSE,
  create_subdir = TRUE,
  name_dirs = TRUE
)
```

Arguments

url	Character string or vector containing webR REPL URL(s)
output_dir	Character string specifying the output directory path. Defaults to a webr_files directory inside the session temporary directory; pass an explicit path to extract somewhere permanent.
overwrite	Logical. Whether to overwrite existing files (default: FALSE)
create_subdir	Logical. If TRUE (default), each decoded link is extracted into its own subdirectory under output_dir rather than directly into it. For a single URL the subdirectory is named webr_<hash>, where <hash> is a short fingerprint of the URL. For multiple URLs, see name_dirs. Set FALSE to extract straight into output_dir.
name_dirs	Logical. For multiple URLs, controls how the per-link subdirectories are named: TRUE (default) numbers them script_01, script_02, ...; FALSE names each one webr_<hash> from the URL fingerprint. Ignored for a single URL, and ignored when create_subdir = FALSE (all files then extract into output_dir).

Value

For a single URL, a webr_decoded object. For multiple URLs, a webr_decoded_batch object.

See Also

[preview_webr_link\(\)](#) to inspect a link without writing files, and [webr_repl_link\(\)](#), [webr_repl_project\(\)](#), and [webr_repl_exercise\(\)](#), which create the links this function decodes.

Examples

```
# Round-trip: build a link, then decode it back to files
url <- as.character(webr_repl_link("plot(1:10)"))

result <- decode_webr_link(url)
print(result)

# Extract to a directory of your choosing
out <- file.path(tempdir(), "my_code")
decode_webr_link(url, output_dir = out, create_subdir = FALSE, overwrite = TRUE)
list.files(out)

# Several links at once
```

```
urls <- c(url, as.character(webr_repl_link("hist(rnorm(100))")))
decode_webr_link(urls, output_dir = file.path(tempdir(), "my_scripts"))
```

`format.livelink`*Format a livelink object as a character vector*

Description

Returns an object's printed representation as a character vector, one element per line, so it can be captured, logged, pasted into a report, or otherwise reused. `print()` renders the very same content to the console; `format()` hands it back to you instead.

Usage

```
## S3 method for class 'webr_link'
format(x, ...)

## S3 method for class 'webr_project'
format(x, ...)

## S3 method for class 'webr_exercise'
format(x, ...)

## S3 method for class 'webr_directory'
format(x, ...)

## S3 method for class 'webr_decoded'
format(x, ...)

## S3 method for class 'webr_decoded_batch'
format(x, ...)

## S3 method for class 'webr_preview'
format(x, ...)

## S3 method for class 'shinylive_link'
format(x, ...)

## S3 method for class 'shinylive_project'
format(x, ...)

## S3 method for class 'shinylive_directory'
format(x, ...)

## S3 method for class 'shinylive_decoded'
format(x, ...)
```

```
## S3 method for class 'shinylive_decoded_batch'
format(x, ...)
```

```
## S3 method for class 'shinylive_preview'
format(x, ...)
```

Arguments

<code>x</code>	A livelink object (a link, project, exercise, directory, decoded result, batch, or preview).
<code>...</code>	Passed to the object's <code>print()</code> method, so preview-specific options such as <code>show_content</code> work here too.

Value

A character vector of formatted lines.

Examples

```
link <- webr_repl_link("plot(1:10)")
format(link)
writeLines(format(link))
```

`knit_print.livelink` *Render livelink objects as links in knitted documents*

Description

'knitr' calls `knit_print()` on the last value of a chunk. Without these methods a link object would fall back to `print()`, dumping cli console output (a header, box glyphs, metadata) into the rendered page. These methods instead emit a clickable Markdown link, which is almost always what you want when a link object is the visible result of a chunk.

A single link becomes [Open in webR](url) (or Shinylive); a project the same. A directory or an exercise, which carry several named URLs, become a bulleted list, one titled link per entry.

These fire only inside 'knitr'. Call `print()` explicitly for the full cli description, or `as.character()` for the bare URL.

Usage

```
## S3 method for class 'webr_link'
knit_print(x, ...)

## S3 method for class 'webr_project'
knit_print(x, ...)

## S3 method for class 'webr_exercise'
```

```
knit_print(x, ...)

## S3 method for class 'webr_directory'
knit_print(x, ...)

## S3 method for class 'shinylive_link'
knit_print(x, ...)

## S3 method for class 'shinylive_project'
knit_print(x, ...)

## S3 method for class 'shinylive_directory'
knit_print(x, ...)
```

Arguments

<code>x</code>	A livelink object (a link, project, exercise, or directory).
<code>...</code>	Ignored.

Value

A `knit_asis` object (via `knitr::asis_output()`).

See Also

[livelink-knitr](#) for the chunk hook and engine, `format.livelink()` and `as.character.webr_link()` for other renderings, and `vignette("links-in-documents", package = "livelink")`.

livelink-knitr	<i>Turn document chunks into shareable links</i>
----------------	--

Description

`livelink` plugs into ‘knitr’ two ways, and which you want depends on one question: **should the code also run in your document?**

A chunk hook, on an ordinary `r` chunk. The chunk runs as usual – its output, plots and all, appear in the rendered page – and a link is added underneath. Use this for code you want your reader to *see the result of* and *also* be able to open and play with.

```
```{r}
#| livelink: true
#| autorun: true
Load the data
data(mtcars)
plot(mtcars$mpg, mtcars$wt)
```
```

An engine, as `````{livelink}`. The chunk is displayed but **not** run: only the link is produced. Use this for code your session cannot or should not execute – a Shiny app, something needing a package you have not installed, or anything slow.

```
````{livelink}
#| engine.target: shinylive-r
library(shiny)
shinyApp(fluidPage(), function(input, output) {})
```

There is deliberately no `{shinylive-r}` or `{shinylive-py}` engine. 'knitr' cannot dispatch a chunk whose engine name contains a hyphen (its chunk syntax forbids it), and in Quarto such a cell is handed to the Shinylive extension rather than to 'knitr'. Name Shinylive through `engine.target` instead.

## Usage

```
use_livelink_hook()

use_livelink_engine()
```

## Details

Reach for either of these rather than expression input (`webr_repl_link({ ... })`) inside a knitted document. 'knitr' evaluates chunks through `evaluate::evaluate()`, which discards source references, and comments live in those – so comments inside a `{ }` expression are silently dropped from the link when the document renders, and no `keep.source` setting brings them back. Both the hook and the engine are handed the chunk's verbatim source, so nothing is lost.

Both are registered automatically when `livelink` is loaded, provided 'knitr' is installed. Call these yourself only if you have reset `knitr::knit_hooks` or `knitr::knit_engines`.

## Value

Called for their side effect. Invisibly TRUE if registration happened, FALSE if 'knitr' is not installed.

## Chunk options

`livelink` Hook only. true for a webR link, or name the target directly: `"webr"`, `"shinylive-r"`, `"shinylive-py"`.

`engine.target` Engine only. `"webr"` (default), `"shinylive-r"`, or `"shinylive-py"`.

`autorun` Logical. Run the code as soon as the link opens. webR only.

`panels` Character vector of webR panels, e.g. `c("editor", "plot")`.

`mode` Shinylive only. Display mode, `"editor"` (default) or `"app"`.

`filename` webR only. Name for the script file in the webR virtual filesystem (default `"script.R"`); must end in `.R` for `autorun` to work.

`link.text` Text for the hyperlink. Defaults to `"Open in webR"` or `"Open in Shinylive"`.

`link.only` Engine only. If TRUE, emit the link without the source.

### Setting options once

These are ordinary 'knitr' chunk options, so `opts_chunk` sets them for a whole document, and a single chunk opts out with `livelink: false`:

```
knitr::opts_chunk$set(livelink = TRUE, autorun = TRUE)
```

### echo does not gate the link

It is natural to assume the code must be visible for a link to be made. It need not be. `echo` controls whether the **source is shown in your page**; the link is built from the chunk's source, which 'knitr' hands over either way. So `echo: false` gives a working link whose code the reader simply cannot see.

`eval: false` is the other half: the chunk is displayed but not run, which makes an `r` chunk behave rather like the engine.

### See Also

`vignette("links-in-documents", package = "livelink")` for the whole picture, and `webr_repl_link()` for why a braced expression loses comments in a knitted document.

### Examples

```
Both are registered on load; call directly only after resetting knitr's hooks.
use_livelink_hook()
use_livelink_engine()
```

---

```
preview_shinylive_link
```

*Preview Shinylive link contents without writing files to disk*

---

### Description

Decodes a Shinylive URL and returns information about the embedded files without actually saving them to disk. Use print method options to control display.

### Usage

```
preview_shinylive_link(url)
```

### Arguments

`url` Character string containing the Shinylive URL

### Value

`shinylive_preview` object with file information and metadata

**See Also**

[decode\\_shinylive\\_link\(\)](#) to extract files to disk; [shinylive\\_r\\_link\(\)](#) and [shinylive\\_py\\_link\(\)](#) to create links.

**Examples**

```
url <- as.character(shinylive_r_link("library(shiny)"))

Inspect a link without writing anything to disk
preview <- preview_shinylive_link(url)

Default print (no content)
print(preview)

Show file contents
print(preview, show_content = TRUE)

Show file contents with custom length limit
print(preview, show_content = TRUE, max_content_length = 200)

Access the preview data
preview$files_data
preview$total_files
```

---

|                   |                                                                      |
|-------------------|----------------------------------------------------------------------|
| preview_webr_link | <i>Preview webR REPL link contents without writing files to disk</i> |
|-------------------|----------------------------------------------------------------------|

---

**Description**

Decodes a webR URL and returns information about the embedded files without actually saving them to disk. Use print method options to control display.

**Usage**

```
preview_webr_link(url)
```

**Arguments**

|     |                                          |
|-----|------------------------------------------|
| url | Character string containing the webR URL |
|-----|------------------------------------------|

**Value**

A webr\_preview object (a list) with elements including files\_data (the embedded files), total\_files, total\_size, mode, version, flags, and autorun\_files. Its print() method accepts show\_content and max\_content\_length to display file bodies.

**See Also**

[decode\\_webr\\_link\(\)](#) to extract the embedded files to disk once you are happy with the preview.

**Examples**

```
url <- as.character(webr_repl_link("plot(1:10)"))

Inspect a link without writing anything to disk
preview <- preview_webr_link(url)

Default print (no content)
print(preview)

Show file contents
print(preview, show_content = TRUE)

Show file contents with custom length limit
print(preview, show_content = TRUE, max_content_length = 200)

Access the preview data
preview$files_data
preview$total_files
```

---

```
print.shinylive_decoded
```

*Print method for shinylive\_decoded objects*

---

**Description**

Print method for shinylive\_decoded objects

**Usage**

```
S3 method for class 'shinylive_decoded'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | shinylive_decoded object       |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

```
print.shinylive_decoded_batch
```

*Print method for shinylive\_decoded\_batch objects*

---

**Description**

Print method for shinylive\_decoded\_batch objects

**Usage**

```
S3 method for class 'shinylive_decoded_batch'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | shinylive_decoded_batch object |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

```
print.shinylive_directory
```

*Print method for shinylive\_directory objects*

---

**Description**

Print method for shinylive\_directory objects

**Usage**

```
S3 method for class 'shinylive_directory'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | shinylive_directory object     |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

```
print.shinylive_link
```

*Print method for shinylive\_link objects*

---

**Description**

Print method for shinylive\_link objects

**Usage**

```
S3 method for class 'shinylive_link'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | shinylive_link object          |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

```
print.shinylive_preview
```

*Print method for shinylive\_preview objects*

---

**Description**

Print method for shinylive\_preview objects

**Usage**

```
S3 method for class 'shinylive_preview'
print(x, show_content = FALSE, max_content_length = 500, ...)
```

**Arguments**

|                    |                                                                         |
|--------------------|-------------------------------------------------------------------------|
| x                  | shinylive_preview object                                                |
| show_content       | Logical. Whether to print the contents of each file (default: FALSE)    |
| max_content_length | Maximum number of characters of content to show per file (default: 500) |
| ...                | Additional arguments (ignored)                                          |

**Value**

Invisibly returns the object

---

`print.shinylive_project`*Print method for shinylive\_project objects*

---

**Description**

Print method for shinylive\_project objects

**Usage**

```
S3 method for class 'shinylive_project'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | shinylive_project object       |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

`print.webr_decoded`      *Print method for webr\_decoded objects*

---

**Description**

Print method for webr\_decoded objects

**Usage**

```
S3 method for class 'webr_decoded'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | webr_decoded object            |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

print.webr\_decoded\_batch

*Print method for webr\_decoded\_batch objects*

---

### Description

Print method for webr\_decoded\_batch objects

### Usage

```
S3 method for class 'webr_decoded_batch'
print(x, ...)
```

### Arguments

|     |                                |
|-----|--------------------------------|
| x   | webr_decoded_batch object      |
| ... | Additional arguments (ignored) |

### Value

Invisibly returns the object

---

print.webr\_directory    *Print method for webr\_directory objects*

---

### Description

Print method for webr\_directory objects

### Usage

```
S3 method for class 'webr_directory'
print(x, ...)
```

### Arguments

|     |                                |
|-----|--------------------------------|
| x   | webr_directory object          |
| ... | Additional arguments (ignored) |

### Value

Invisibly returns the object

---

|                     |                                               |
|---------------------|-----------------------------------------------|
| print.webr_exercise | <i>Print method for webr_exercise objects</i> |
|---------------------|-----------------------------------------------|

---

**Description**

Print method for webr\_exercise objects

**Usage**

```
S3 method for class 'webr_exercise'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | webr_exercise object           |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

|                 |                                           |
|-----------------|-------------------------------------------|
| print.webr_link | <i>Print method for webr_link objects</i> |
|-----------------|-------------------------------------------|

---

**Description**

Print method for webr\_link objects

**Usage**

```
S3 method for class 'webr_link'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | webr_link object               |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

---

print.webr\_preview      *Print method for webr\_preview objects*

---

**Description**

Print method for webr\_preview objects

**Usage**

```
S3 method for class 'webr_preview'
print(x, show_content = FALSE, max_content_length = 500, ...)
```

**Arguments**

|                    |                                                                         |
|--------------------|-------------------------------------------------------------------------|
| x                  | webr_preview object                                                     |
| show_content       | Logical. Whether to print the contents of each file (default: FALSE)    |
| max_content_length | Maximum number of characters of content to show per file (default: 500) |
| ...                | Additional arguments (ignored)                                          |

**Value**

Invisibly returns the object

---

print.webr\_project      *Print method for webr\_project objects*

---

**Description**

Print method for webr\_project objects

**Usage**

```
S3 method for class 'webr_project'
print(x, ...)
```

**Arguments**

|     |                                |
|-----|--------------------------------|
| x   | webr_project object            |
| ... | Additional arguments (ignored) |

**Value**

Invisibly returns the object

repl\_urls

*Extract shareable URLs from livelink objects***Description**

Generic function to extract the shareable URL(s) from any livelink object, covering both webR REPL and Shinylive results. Provides a clear way to get just the URLs for sharing or further processing.

**Usage**

```
repl_urls(x, ...)

Default S3 method:
repl_urls(x, ...)
```

**Arguments**

**x** A livelink object. Supported classes are `webr_link`, `webr_project`, `webr_exercise`, `webr_directory`, `webr_decoded`, `webr_decoded_batch`, `webr_preview`, `shinylive_link`, `shinylive_project`, `shinylive_directory`, `shinylive_decoded`, `shinylive_decoded_batch`, and `shinylive_preview`.

**...** Additional arguments passed to methods

**Value**

A character vector of URLs. Most objects yield a single URL; exercise objects return a length-2 named vector (`exercise`, `solution`); directory and batch objects return one URL per file.

**See Also**

The `as.character()` methods (for example `as.character.webr_link()`), which `repl_urls()` delegates to.

**Examples**

```
Single link
link <- webr_repl_link("plot(1:10)")
repl_urls(link)

Exercise (returns named vector)
exercise <- webr_repl_exercise("# TODO", "plot(1:10)", "test")
repl_urls(exercise)

Shinylive links work the same way
repl_urls(shinylive_r_link("library(shiny)"))

Decoded files (returns the original URL)
```

```
decoded <- decode_webr_link(as.character(link))
repl_urls(decoded)
```

---

|                   |                                           |
|-------------------|-------------------------------------------|
| set_webr_base_url | <i>Set global base URL for webR links</i> |
|-------------------|-------------------------------------------|

---

### Description

Overrides the base URL used when building webR REPL links, for instance to point at a self-hosted or pinned webR deployment. The value is stored in the `livelink.base_url` option and applies to webR links only; Shinylive links are unaffected. Once set, a custom base URL takes precedence over the version argument passed to the link builders.

### Usage

```
set_webr_base_url(base_url = NULL)
```

### Arguments

|          |                                           |
|----------|-------------------------------------------|
| base_url | Custom base URL to use for all webR links |
|----------|-------------------------------------------|

### Value

Invisibly returns the `base_url` value (or `NULL` if resetting to default).

### Examples

```
Remember the current setting so it can be restored afterwards
old <- getOption("livelink.base_url")

Set custom base URL
set_webr_base_url("https://my-custom-webr.com/")

Reset to default (removes custom setting)
set_webr_base_url(NULL)

Restore the previous setting
set_webr_base_url(old)
```

---

shinylive\_directory     *Create Shinylive sharelinks from a directory of Shiny apps*


---

## Description

Batch processes directories containing Shiny applications to create individual Shinylive links. Each subdirectory is treated as a separate Shiny app project.

Only text files with extensions .R, .py, .txt, .md, .csv, .json, .yaml, or .yml are embedded in a link. Other files (for example images or binary data) are skipped with a warning.

## Usage

```
shinylive_directory(
 directory_path,
 engine,
 mode = "editor",
 header = TRUE,
 app_file = NULL,
 base_url = NULL
)
```

## Arguments

|                |                                                                                                                                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| directory_path | Character string specifying the path to the directory containing Shiny app directories                                                              |
| engine         | Engine to use: "r" for R Shiny or "python" for Python Shiny                                                                                         |
| mode           | Shinylive display mode (default "editor"). "editor" shows an editable code panel beside the running app; "app" shows only the running app.          |
| header         | Logical, whether to show the Shinylive header bar. It applies only when mode = "app" and is ignored in the default "editor" mode. Defaults to TRUE. |
| app_file       | Main app filename to look for (default: "app.R" for R, "app.py" for Python)                                                                         |
| base_url       | Custom Shinylive base URL. If NULL (default), links point at <a href="https://shinylive.io">https://shinylive.io</a> .                              |

## Value

shinylive\_directory object containing URLs and metadata for all found apps

## Examples

```
Each app lives in its own subdirectory:
shiny_apps/
app1/app.R
app2/app.R
shiny_apps <- tempfile()
dir.create(file.path(shiny_apps, "app1"), recursive = TRUE)
dir.create(file.path(shiny_apps, "app2"), recursive = TRUE)
```

```

writeLines("library(shiny)", file.path(shiny_apps, "app1", "app.R"))
writeLines("library(shiny)", file.path(shiny_apps, "app2", "app.R"))

links <- shinylive_directory(shiny_apps, engine = "r", mode = "editor")
print(links)

Extract just the URLs
repl_urls(links)

```

---

shinylive\_project      *Create a Shinylive sharelink for multi-file projects*

---

## Description

Creates Shinylive projects for either R or Python from named lists or file path vectors.

## Usage

```

shinylive_project(
 input,
 engine,
 mode = "editor",
 header = TRUE,
 base_url = NULL
)

```

## Arguments

|          |                                                                                                                                                                                                                                         |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| input    | Input for multiple files. Can be: <ul style="list-style-type: none"> <li>• Named list: <code>list("app.R" = code1, "utils.R" = code2)</code></li> <li>• Vector of file paths: <code>c("app.R", "utils.R", "data.csv")</code></li> </ul> |
| engine   | Engine to use: "r" for R Shiny or "python" for Python Shiny                                                                                                                                                                             |
| mode     | Shinylive display mode (default "editor"). "editor" shows an editable code panel beside the running app; "app" shows only the running app.                                                                                              |
| header   | Logical, whether to show the Shinylive header bar. It applies only when mode = "app" and is ignored in the default "editor" mode. Defaults to TRUE.                                                                                     |
| base_url | Custom Shinylive base URL. If NULL (default), links point at <a href="https://shinylive.io">https://shinylive.io</a> .                                                                                                                  |

## Value

shinylive\_project object containing the Shinylive URL and metadata

## See Also

[shinylive\\_r\\_link\(\)](#) and [shinylive\\_py\\_link\(\)](#) for single apps; [decode\\_shinylive\\_link\(\)](#) and [preview\\_shinylive\\_link\(\)](#) to read a link back.

## Examples

```
Named list input
files <- list(
 "app.R" = "library(shiny)\nshinyApp(fluidPage(), function(i, o) {})",
 "utils.R" = "# Utility functions"
)
shinylive_project(files, engine = "r", mode = "editor")

File paths input
project_dir <- tempfile()
dir.create(project_dir)
app <- file.path(project_dir, "app.R")
utils <- file.path(project_dir, "utils.R")
writeLines("library(shiny)", app)
writeLines("# utils", utils)
shinylive_project(c(app, utils), engine = "r")
```

shinylive\_py\_link

*Create a Shinylive sharelink for Python Shiny apps*

## Description

Generates a shareable URL for Python Shiny applications that can run in the browser using Shinylive. Supports character strings, file paths, named lists, and clipboard input.

## Usage

```
shinylive_py_link(
 input = NULL,
 mode = "editor",
 header = TRUE,
 base_url = NULL
)
```

## Arguments

|          |                                                                                                                                                                                                                                                                                                                                            |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| input    | App input. Can be: <ul style="list-style-type: none"> <li>• Character string: Python code for the app</li> <li>• File path: Path to app.py file</li> <li>• Vector of file paths: Multiple files for the app</li> <li>• Named list: <code>list("app.py" = code1, "utils.py" = code2)</code></li> <li>• NULL: Read from clipboard</li> </ul> |
| mode     | Shinylive display mode (default "editor"). "editor" shows an editable code panel beside the running app; "app" shows only the running app.                                                                                                                                                                                                 |
| header   | Logical, whether to show the Shinylive header bar. It applies only when mode = "app" and is ignored in the default "editor" mode. Defaults to TRUE.                                                                                                                                                                                        |
| base_url | Custom Shinylive base URL. If NULL (default), links point at <a href="https://shinylive.io">https://shinylive.io</a> .                                                                                                                                                                                                                     |

**Value**

shinylive\_link object containing the Shinylive URL and metadata

**See Also**

[shinylive\\_project\(\)](#) for multi-file apps; [decode\\_shinylive\\_link\(\)](#) and [preview\\_shinylive\\_link\(\)](#) to read a link back.

**Examples**

```
String input
app_code <- "
from shiny import App, render, ui
app_ui = ui.page_fluid(ui.h2('Hello World'))
def server(input, output, session): pass
app = App(app_ui, server)
"

shinylive_py_link(app_code)

Multiple files as a named list
shinylive_py_link(list(
 "app.py" = app_code,
 "utils.py" = "def helper(): return 42"
))

File path input
app_dir <- tempfile()
dir.create(app_dir)
app_path <- file.path(app_dir, "app.py")
writeLines("from shiny import App, ui", app_path)
shinylive_py_link(app_path)

Read the app from the clipboard
if (interactive()) {
 shinylive_py_link()
}
```

---

shinylive\_r\_link

---

*Create a Shinylive sharelink for R Shiny apps*


---

**Description**

Generates a shareable URL for R Shiny applications that can run in the browser using Shinylive. Supports expressions, character strings, file paths, named lists, and clipboard input.

**Usage**

```
shinylive_r_link(input = NULL, mode = "editor", header = TRUE, base_url = NULL)
```

**Arguments**

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| input    | App input. Can be: <ul style="list-style-type: none"> <li>• R expression (no quotes needed): <code>shinylive_r_link({ shinyApp(ui, server) })</code></li> <li>• Character string: R code for the app</li> <li>• File path: Path to app.R file</li> <li>• Vector of file paths: Multiple files for the app</li> <li>• Named list: <code>list("app.R" = code1, "utils.R" = code2)</code></li> <li>• NULL: Read from clipboard</li> </ul> |
| mode     | Shinylive display mode (default "editor"). "editor" shows an editable code panel beside the running app; "app" shows only the running app.                                                                                                                                                                                                                                                                                             |
| header   | Logical, whether to show the Shinylive header bar. It applies only when mode = "app" and is ignored in the default "editor" mode. Defaults to TRUE.                                                                                                                                                                                                                                                                                    |
| base_url | Custom Shinylive base URL. If NULL (default), links point at <a href="https://shinylive.io">https://shinylive.io</a> .                                                                                                                                                                                                                                                                                                                 |

**Value**

shinylive\_link object containing the Shinylive URL and metadata

**Comments in expression input**

Comments inside a { } expression are recovered from R's source references, so they survive interactively but are dropped inside a knitted 'Quarto' or 'R Markdown' document. Pass a string or a file path, or use the `livelink` chunk engine, if you need them preserved. See [webr\\_repl\\_link\(\)](#) for the details.

**See Also**

[shinylive\\_project\(\)](#) for multi-file apps; [decode\\_shinylive\\_link\(\)](#) and [preview\\_shinylive\\_link\(\)](#) to read a link back; [livelink-knitr](#) to give a document chunk its own link; `vignette("webr-and-shinylive", package = "livelink")` for the guide.

**Examples**

```
Expression input (no quotes needed!)
shinylive_r_link({
 ui <- fluidPage(titlePanel("Hello World"))
 server <- function(input, output) {}
 shinyApp(ui, server)
})

Multiple files as a named list
shinylive_r_link(list(
 "app.R" = "library(shiny)\nshinyApp(fluidPage(), function(i, o) {})",
 "utils.R" = "helper <- function() 42"
))

File path input
```

```

app_dir <- tempfile()
dir.create(app_dir)
app_path <- file.path(app_dir, "app.R")
writeLines("library(shiny)", app_path)
shinylive_r_link(app_path)

Read the app from the clipboard
if (interactive()) {
 shinylive_r_link()
}

```

---

webr\_repl\_directory      *Create webR REPL sharelinks from a directory of R files*

---

### Description

Batch processes all R files in a directory. By default each file becomes its own webR share-link; with `single_link = TRUE` the whole directory is bundled into one link instead, exactly as [webr\\_repl\\_project\(\)](#) would. Useful for converting collections of scripts, examples, or course materials.

### Usage

```

webr_repl_directory(
 directory_path,
 autorun = FALSE,
 single_link = FALSE,
 pattern = "\\\\.R$",
 base_path = "/home/web_user/",
 panels = NULL,
 version = "latest",
 base_url = NULL
)

```

### Arguments

|                             |                                                                                                                                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>directory_path</code> | Character string specifying the path to the directory containing R files                                                                                                                                                         |
| <code>autorun</code>        | Logical. Whether to enable autorun for all generated links (default: FALSE). With <code>single_link = TRUE</code> , this runs every R file in the bundle on arrival.                                                             |
| <code>single_link</code>    | Logical. If FALSE (default), each matched file becomes its own link and the result is a <code>webr_directory</code> . If TRUE, all matched files are packed into one link and the result is a single <code>webr_project</code> . |
| <code>pattern</code>        | Regular expression matched against file names in <code>directory_path</code> . Defaults to <code>"\\.R\$"</code> , i.e. files ending in <code>.R</code> .                                                                        |
| <code>base_path</code>      | Base directory path for files in webR (default: <code>"/home/web_user/"</code> )                                                                                                                                                 |

|          |                                                                                                                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| panels   | Character vector or string specifying which webR interface panels to show. Valid panels: "plot", "files", "terminal", "editor". Can be c("plot", "files") or "plot-files". If NULL (default), shows all panels. |
| version  | webR version to use ("latest" or specific version >= "v0.5.4")                                                                                                                                                  |
| base_url | webR application URL. If NULL, uses global option or builds from version                                                                                                                                        |

**Value**

By default a `webr_directory` object, whose `urls` element is a named character vector mapping each filename to its webR sharelink. With `single_link = TRUE`, a single `webr_project` object bundling every matched file into one link.

**See Also**

[webr\\_repl\\_project\(\)](#), which bundles a named list or a vector of file paths into one link.

**Examples**

```
A directory of R scripts
examples <- tempfile()
dir.create(examples)
writeLines("plot(1:10)", file.path(examples, "plot.R"))
writeLines("hist(rnorm(100))", file.path(examples, "hist.R"))

links <- webr_repl_directory(examples, autorun = TRUE)
print(links)

Bundle the whole directory into one link instead
webr_repl_directory(examples, single_link = TRUE, panels = c("editor", "plot"))

Show only the editor and terminal panels
webr_repl_directory(examples, panels = c("editor", "terminal"))

Match a subset of files
webr_repl_directory(examples, pattern = "^plot")

The URLs, named by file
repl_urls(links)
```

---

webr\_repl\_exercise

---

*Create paired exercise and solution webR REPL links*


---

**Description**

Generates a pair of webR links for educational purposes: one for student exercises (without `autorun`) and one for solutions (with `autorun` enabled).

**Usage**

```
webr_repl_exercise(
 exercise_text,
 solution_text,
 exercise_name,
 base_path = "/home/web_user/",
 version = "latest",
 base_url = NULL
)
```

**Arguments**

|                            |                                                                                  |
|----------------------------|----------------------------------------------------------------------------------|
| <code>exercise_text</code> | Character string containing the exercise code with placeholders or TODOs         |
| <code>solution_text</code> | Character string containing the complete solution code                           |
| <code>exercise_name</code> | Base name for the exercise (will create "name_exercise.R" and "name_solution.R") |
| <code>base_path</code>     | Base directory path for files (default: "/home/web_user/")                       |
| <code>version</code>       | webR version to use ("latest" or specific version $\geq$ "v0.5.4")               |
| <code>base_url</code>      | webR application URL. If NULL, uses global option or builds from version         |

**Value**

`webr_exercise` object holding the paired exercise and solution links

**See Also**

`webr_repl_link()`, which this builds on; `vignette("teaching", package = "livelink")` for using links in a course.

**Examples**

```
exercise_code <- "
Exercise: Calculate mean of mtcars$mpg
TODO: Complete the line below
mean_mpg <- 0
print(mean_mpg)
"

solution_code <- "
Solution: Calculate mean of mtcars$mpg
mean_mpg <- mean(mtcars$mpg)
print(mean_mpg)
"

links <- webr_repl_exercise(exercise_code, solution_code, "basic_stats")
links$exercise
links$solution

Custom path and version
webr_repl_exercise(exercise_code, solution_code, "stats",
```

```
base_path = "/exercises/", version = "v0.5.4")
```

webr\_repl\_link

*Create a webR REPL sharelink from R code*

## Description

Generates a shareable URL for R code that can be executed in the webR environment. Supports expressions, file paths, character strings, and clipboard input.

## Usage

```
webr_repl_link(
 input = NULL,
 filename = "script.R",
 path = NULL,
 autorun = FALSE,
 panels = NULL,
 version = "latest",
 base_url = NULL
)
```

## Arguments

|          |                                                                                                                                                                                                                                                                                                                |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| input    | Code input. Can be: <ul style="list-style-type: none"> <li>• R expression (no quotes needed): <code>webr_repl_link({ plot(1:10) })</code></li> <li>• Character string: R code to execute</li> <li>• File path: Path to R file to read</li> <li>• NULL: Read from clipboard (requires clipr package)</li> </ul> |
| filename | Name for the file (default: "script.R")                                                                                                                                                                                                                                                                        |
| path     | Full path where the file will be placed in webR. If NULL (default), the file is placed at <code>"/home/web_user/{filename}"</code> .                                                                                                                                                                           |
| autorun  | Logical. Whether to auto-execute the code when link is opened (default: FALSE). Only R files (.R) can be auto-executed.                                                                                                                                                                                        |
| panels   | Character vector or string specifying which webR interface panels to show. Valid panels: "plot", "files", "terminal", "editor". Can be <code>c("plot", "files")</code> or "plot-files". If NULL (default), shows all panels.                                                                                   |
| version  | webR version to use ("latest" or specific version <code>&gt;= "v0.5.4"</code> )                                                                                                                                                                                                                                |
| base_url | webR application URL. If NULL, uses global option or builds from version                                                                                                                                                                                                                                       |

## Value

webr\_link object containing the webR sharelink and metadata

### Comments in expression input

Expression input recovers your source from R's *source references*, which R only attaches when `keep.source` is enabled. Comments therefore survive in an interactive session, but are dropped when the calling code is parsed without source references – notably inside a knitted 'Quarto' or 'R Markdown' document, because 'knitr' evaluates chunks through `evaluate::evaluate()`, which discards them. No `keep.source` setting recovers them there.

If you need comments preserved, pass the code as a string or a file path, or write it as a chunk in the document – see [livelink-knitr](#) and `vignette("links-in-documents", package = "livelink")`.

### See Also

[webr\\_repl\\_project\(\)](#) for multi-file projects and [webr\\_repl\\_exercise\(\)](#) for exercise and solution pairs; [livelink-knitr](#) to give a document chunk its own link; `vignette("getting-started", package = "livelink")` for an introduction.

### Examples

```
Expression input (no quotes needed!)
webr_repl_link({
 plot(1:10)
 summary(mtcars)
})

Traditional string input
webr_repl_link("plot(1:10)")

Choose which panels the REPL shows
webr_repl_link({ hist(rnorm(100)) }, panels = c("plot", "editor"))

Run the code as soon as the link opens
webr_repl_link("plot(1:10)", autorun = TRUE)

File path input
script <- tempfile(fileext = ".R")
writeLines("plot(1:10)", script)
webr_repl_link(script)

Read the code from the clipboard
if (interactive()) {
 webr_repl_link()
}
```

---

webr\_repl\_project

Create webR REPL sharelink for multiple files

---

### Description

Creates a webR sharelink for projects with multiple R files, data files, or other resources. Supports named lists and file path vectors as input.

**Usage**

```
webr_repl_project(
 input,
 autorun_files = character(0),
 base_path = "/home/web_user/",
 panels = NULL,
 version = "latest",
 base_url = NULL
)
```

**Arguments**

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| input         | Input for multiple files. Can be: <ul style="list-style-type: none"> <li>• Named list of braced expressions, so each file is written as R rather than as a string full of escaped newlines: <code>list("main.R" = { plot(1:10) }, "utils.R" = { f &lt;- function() 42 })</code></li> <li>• Named list of strings: <code>list("main.R" = code1, "utils.R" = code2)</code></li> <li>• Vector of file paths: <code>c("main.R", "utils.R", "data.csv")</code></li> </ul> <p>The two list forms mix freely, which is what you want for a project holding both code and, say, a README.md.</p> |
| autorun_files | Character vector of filenames to auto-execute when project loads, or "all" to autorun all R files (default: none)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| base_path     | Base directory path for all files (default: "/home/web_user/")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| panels        | Character vector or string specifying which webR interface panels to show. Valid panels: "plot", "files", "terminal", "editor". Can be <code>c("plot", "files")</code> or "plot-files". If NULL (default), shows all panels.                                                                                                                                                                                                                                                                                                                                                             |
| version       | webR version to use ("latest" or specific version <code>&gt;= "v0.5.4"</code> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| base_url      | webR application URL. If NULL, uses global option or builds from version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**Value**

webr\_project object containing the webR sharelink for the multi-file project

**Writing a project as code**

A file's contents can be given as a `{ ... }` block instead of a string, which spares you escaping every newline and quote:

```
webr_repl_project(list(
 "main.R" = { source("utils.R"); summarise(mtcars) },
 "utils.R" = { summarise <- function(d) summary(d) },
 "README.md" = "# Analysis"
))
```

The blocks are **never evaluated** – they are source to ship, not code to run – so an assignment inside one leaves nothing behind in your session.

Two things to know. Comments inside { } survive in an interactive session but not in a knitted document (see [webr\\_repl\\_link\(\)](#)). And a `library()` call inside a block is visible to R CMD check, which will report the package as an undeclared dependency of *yours*; in a vignette or an example, use a string for code that loads packages.

### See Also

[webr\\_repl\\_link\(\)](#) for the single-file case.

### Examples

```
Each file written as R, rather than as an escaped string
webr_repl_project(list(
 "main.R" = { source("utils.R"); summarise(mtcars) },
 "utils.R" = { summarise <- function(d) summary(d) }
))

Strings still work, and the two forms mix
files <- list(
 "main.R" = "source('utils.R')\nresult <- analyze_data(mtcars)",
 "utils.R" = "analyze_data <- function(data) { summary(data) }",
 "README.md" = "# My Analysis\nThis project analyzes the mtcars dataset."
)
webr_repl_project(files, autorun_files = "main.R")

Autorun every R file in the project
webr_repl_project(files, autorun_files = "all")

File paths input
project_dir <- tempfile()
dir.create(project_dir)
main <- file.path(project_dir, "main.R")
utils <- file.path(project_dir, "utils.R")
writeLines("source('utils.R')", main)
writeLines("# utils", utils)
webr_repl_project(c(main, utils))
```

# Index

`as.character()`, 9  
`as.character.shinylive_decoded`  
    (`as.character.webr_link`), 3  
`as.character.shinylive_decoded_batch`  
    (`as.character.webr_link`), 3  
`as.character.shinylive_directory`  
    (`as.character.webr_link`), 3  
`as.character.shinylive_link`  
    (`as.character.webr_link`), 3  
`as.character.shinylive_preview`  
    (`as.character.webr_link`), 3  
`as.character.shinylive_project`  
    (`as.character.webr_link`), 3  
`as.character.webr_decoded`  
    (`as.character.webr_link`), 3  
`as.character.webr_decoded_batch`  
    (`as.character.webr_link`), 3  
`as.character.webr_directory`  
    (`as.character.webr_link`), 3  
`as.character.webr_exercise`  
    (`as.character.webr_link`), 3  
`as.character.webr_link`, 3  
`as.character.webr_link()`, 10, 21  
`as.character.webr_preview`  
    (`as.character.webr_link`), 3  
`as.character.webr_project`  
    (`as.character.webr_link`), 3  
`as.data.frame.livelink`, 4  
`as.data.frame.shinylive_decoded_batch`  
    (`as.data.frame.livelink`), 4  
`as.data.frame.shinylive_directory`  
    (`as.data.frame.livelink`), 4  
`as.data.frame.webr_decoded_batch`  
    (`as.data.frame.livelink`), 4  
`as.data.frame.webr_directory`  
    (`as.data.frame.livelink`), 4  
  
`decode_shinylive_link`, 5  
`decode_shinylive_link()`, 13, 24, 26, 27  
`decode_webr_link`, 6  
  
`decode_webr_link()`, 14  
  
`format.livelink`, 8  
`format.livelink()`, 10  
`format.shinylive_decoded`  
    (`format.livelink`), 8  
`format.shinylive_decoded_batch`  
    (`format.livelink`), 8  
`format.shinylive_directory`  
    (`format.livelink`), 8  
`format.shinylive_link`  
    (`format.livelink`), 8  
`format.shinylive_preview`  
    (`format.livelink`), 8  
`format.shinylive_project`  
    (`format.livelink`), 8  
`format.webr_decoded` (`format.livelink`), 8  
`format.webr_decoded_batch`  
    (`format.livelink`), 8  
`format.webr_directory`  
    (`format.livelink`), 8  
`format.webr_exercise` (`format.livelink`),  
    8  
`format.webr_link` (`format.livelink`), 8  
`format.webr_preview` (`format.livelink`), 8  
`format.webr_project` (`format.livelink`), 8  
  
`knit_print.livelink`, 9  
`knit_print.shinylive_directory`  
    (`knit_print.livelink`), 9  
`knit_print.shinylive_link`  
    (`knit_print.livelink`), 9  
`knit_print.shinylive_project`  
    (`knit_print.livelink`), 9  
`knit_print.webr_directory`  
    (`knit_print.livelink`), 9  
`knit_print.webr_exercise`  
    (`knit_print.livelink`), 9  
`knit_print.webr_link`  
    (`knit_print.livelink`), 9

knit\_print.webr\_project  
    (knit\_print.livelink), 9  
knitr::asis\_output(), 10  
  
livelink-knitr, 10, 10, 27, 32  
  
preview\_shinylive\_link, 12  
preview\_shinylive\_link(), 6, 24, 26, 27  
preview\_webr\_link, 13  
preview\_webr\_link(), 7  
print(), 8, 9  
print.shinylive\_decoded, 14  
print.shinylive\_decoded\_batch, 15  
print.shinylive\_directory, 15  
print.shinylive\_link, 16  
print.shinylive\_preview, 16  
print.shinylive\_project, 17  
print.webr\_decoded, 17  
print.webr\_decoded\_batch, 18  
print.webr\_directory, 18  
print.webr\_exercise, 19  
print.webr\_link, 19  
print.webr\_preview, 20  
print.webr\_project, 20  
  
repl\_urls, 21  
repl\_urls(), 4  
  
set\_webr\_base\_url, 22  
shinylive\_directory, 23  
shinylive\_project, 24  
shinylive\_project(), 26, 27  
shinylive\_py\_link, 25  
shinylive\_py\_link(), 6, 13, 24  
shinylive\_r\_link, 26  
shinylive\_r\_link(), 6, 13, 24  
  
use\_livelink\_engine (livelink-knitr), 10  
use\_livelink\_hook (livelink-knitr), 10  
  
webr\_repl\_directory, 28  
webr\_repl\_exercise, 29  
webr\_repl\_exercise(), 7, 32  
webr\_repl\_link, 31  
webr\_repl\_link(), 7, 12, 27, 30, 34  
webr\_repl\_project, 32  
webr\_repl\_project(), 7, 28, 29, 32