Package 'selenium'

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Title Low-Level Browser Automation Interface

Version 0.1.4

Description An implementation of 'W3C WebDriver 2.0' (<https://w3c.github.io/webdriver/>), allowing interaction with a 'Selenium Server' (<https://www.selenium.dev/documentation/grid/>) instance from 'R'. Allows a web browser to be automated from 'R'.

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Contents

`actions_mousedown` *Press, release or move the mouse*

Description

Mouse actions to be passed into `actions_stream()`. `actions_mousedown()` represents pressing a button on the mouse, while `actions_mouseup()` represents releasing a button. `actions_mousemove()` represents moving the mouse.

Usage

```
actions_mousedown(
  button = c("left", "right", "middle"),
  width = NULL,
  height = NULL,
  pressure = NULL,
  tangential_pressure = NULL,
  tilt_x = NULL,
  tilt_y = NULL,
  twist = NULL,
  altitude_angle = NULL,
  azimuth_angle = NULL
)

actions_mouseup(
  button = c("left", "right", "middle"),
  width = NULL,
  height = NULL,
  pressure = NULL,
  tangential_pressure = NULL,
```

```
  tilt_x = NULL,
  tilt_y = NULL,
  twist = NULL,
  altitude_angle = NULL,
  azimuth_angle = NULL
)

actions_mousemove(
  x,
  y,
  duration = NULL,
  origin = c("viewport", "pointer"),
  width = NULL,
  height = NULL,
  pressure = NULL,
  tangential_pressure = NULL,
  tilt_x = NULL,
  tilt_y = NULL,
  twist = NULL,
  altitude_angle = NULL,
  azimuth_angle = NULL
)
```

Arguments

`button`	The mouse button to press.
`width`	The 'width' of the click, a number.
`height`	The 'height' of the click, a number.
`pressure`	The amount of pressure to apply to the click: a number between 0 and 1.
`tangential_pressure`	A number between 0 and 1.
`tilt_x`	A whole number between -90 and 90.
`tilt_y`	A whole number between -90 and 90.
`twist`	A whole number between 0 and 359.
`altitude_angle`	A number between 0 and `pi/2`.
`azimuth_angle`	A number between 0 and `2*pi`.
`x`	The x coordinate of the mouse movement.
`y`	The y coordinate of the mouse movement.
`duration`	The duration of the mouse movement, in seconds.
`origin`	The point from which `x` and `y` are measured. Can be a `WebElement` object, in which case `x` and `y` are measured from the center of the element.

Value

A `selenium_action` object.

Examples

```
actions_stream(
  actions_mousedown("left", width = 1, height = 1, pressure = 0.5),
  actions_mouseup("left", width = 100, height = 50, pressure = 1),
  actions_mousemove(x = 1, y = 1, duration = 1, origin = "pointer")
)
```

---

actions_pause *Wait for a period of time*

Description

A pause action to be passed into `actions_stream()`. Waits for a given number of seconds before performing the next action in the stream.

Usage

```
actions_pause(seconds)
```

Arguments

seconds	The number of seconds to wait for.

Value

A `selenium_action` object.

Examples

```
actions_stream(
  actions_pause(1)
)
```

---

actions_press *Press or release a key*

Description

Key actions to be passed into `actions_stream()`. `actions_press()` represents pressing a key on the keyboard, while `actions_release()` represents releasing a key.

Usage

```
actions_press(key)

actions_release(key)
```

Arguments

key	The key to press: a string consisting of a single character. Use the keys object to use special keys (e.g. Ctrl).

Value

A selenium_action object.

Examples

```
actions_stream(
  actions_press("a"),
  actions_release("a"),
  actions_press(keys$enter),
  actions_release(keys$enter)
)
```

---

actions_scroll *Scroll the page*

Description

Scroll actions to be passed into actions_stream(). Scroll the page in a given direction.

Usage

```
actions_scroll(x, y, delta_x, delta_y, duration = NULL, origin = "viewport")
```

Arguments

x	The x coordinate from which the scroll action originates from.
y	The y coordinate from which the scroll action originates from.
delta_x	The number of pixels to scroll in the x direction.
delta_y	The number of pixels to scroll in the y direction.
duration	The duration of the scroll, in seconds.
origin	The point from which x and y are measured. Can be a WebElement object, in which case x and y are measured from the center of the element. Otherwise, origin must be "viewport".

Value

A selenium_action object.

Examples

```
actions_stream(
  actions_scroll(x = 1, y = 1, delta_x = 1, delta_y = 1, duration = 0.5)
)
```

`actions_stream` *Create a set of actions to be performed*

Description

`actions_stream()` creates a set of actions to be performed by `SeleniumSession$perform_actions()`. Actions are a low level way to interact with a page.

Usage

```
actions_stream(...)
```

Arguments

`...`	`selenium_action` objects: the actions to perform.

Value

A `selenium_actions_stream` object, ready to be passed into `SeleniumSession$perform_actions()`.

See Also

- Pause actions: `actions_pause()`.
- Press actions: `actions_press()` and `actions_release()`.
- Mouse actions: `actions_mousedown()`, `actions_mouseup()` and `actions_mousemove()`.
- Scroll actions: `actions_scroll()`.

Examples

```
actions_stream(
  actions_press(keys$enter),
  actions_pause(0.5),
  actions_release(keys$enter),
  actions_scroll(x = 1, y = 1, delta_x = 1, delta_y = 1, duration = 0.5),
  actions_mousemove(x = 1, y = 1, duration = 1, origin = "pointer")
)
```

chrome_options *Custom browser options*

Description

Create browser options to pass into the `capabilities` argument of SeleniumSession$new().

Usage

```
chrome_options(
  binary = NULL,
  args = NULL,
  extensions = NULL,
  prefs = NULL,
  ...
)

firefox_options(binary = NULL, args = NULL, profile = NULL, prefs = NULL, ...)

edge_options(binary = NULL, args = NULL, extensions = NULL, prefs = NULL, ...)
```

Arguments

`binary`	Path to the browser binary.
`args`	A character vector of additional arguments to pass to the browser.
`extensions`	A character vector of paths to browser extension (`.crx`) files. These will be base64 encoded before being passed to the browser. If you have already encoded the extensions, you can pass them using `I()`. For Firefox, use a profile to load extensions.
`prefs`	A named list of preferences to set in the browser.
`...`	Additional options to pass to the browser.
`profile`	Path to a Firefox profile directory. This will be base64 encoded before being passed to the browser.

Details

These functions allow you to more easily translate between Selenium code in other languages (e.g. Java/Python) to R. For example, consider the following Java code, adapted from the the Selenium documentation

```
ChromeOptions options = new ChromeOptions();

options.setBinary("/path/to/chrome");
options.addArguments("--headless", "--disable-gpu");
options.addExtensions("/path/to/extension.crx");
options.setExperimentalOption("excludeSwitches", List.of("disable-popup-blocking"));
```

This can be translated to R as follows:

```
chrome_options(
  binary = "/path/to/chrome",
  args = c("--headless", "--disable-gpu"),
  extensions = "/path/to/extension.crx",
  excludeSwitches = list("disable-popup-blocking")
)
```

You can combine these options with non-browser specific options simply using `c()`.

Note that Microsoft Edge options are very similar to Chrome options, since it is based on Chromium.

Value

A list of browser options, with Chrome options under the name `goog:chromeOptions`, Firefox options under `moz:firefoxOptions`, and Edge options under `ms:edgeOptions`.

See Also

For more information and examples on Chrome options, see: https://developer.chrome.com/docs/chromedriver/capabilities

For Firefox options: https://developer.mozilla.org/en-US/docs/Web/WebDriver/Capabilities/firefoxOptions

For other options that affect Firefox but are not under `mox:firefoxOptions`, see: https://firefox-source-docs.mozilla.org/testing/geckodriver/Capabilities.html

For Edge options, see: https://learn.microsoft.com/en-us/microsoft-edge/webdriver-chromium/capabilities-edge-options#edgeoptions-object

Examples

```
# Basic options objects
chrome_options(
  binary = "/path/to/chrome",
  args = c("--headless", "--disable-gpu"),
  detatch = TRUE, # An additional option described in the link above.
  prefs = list(
    "profile.default_content_setting_values.notifications" = 2
  )
)


firefox_options(binary = "/path/to/firefox")

edge_options(binary = "/path/to/edge")

# Setting the user agent
chrome_options(args = c("--user-agent=My User Agent"))

edge_options(args = c("--user-agent=My User Agent"))
```

```
firefox_options(prefs = list(
  "general.useragent.override" = "My User Agent"
))

# Using a proxy server

chrome_options(args = c("--proxy-server=HOST:PORT"))

edge_options(args = c("--proxy-server=HOST:PORT"))

PORT <- 1
firefox_options(prefs = list(
  "network.proxy.type" = 1,
  "network.proxy.socks" = "HOST",
  "network.proxy.socks_port" = PORT,
  "network.proxy.socks_remote_dns" = FALSE
))

# Combining with other options
browser_options <- chrome_options(binary = "/path/to/chrome")

c(browser_options, list(platformName = "Windows"))
```

`keys` *A list of special keys*

Description

A named list of special keys, where each key is a single Unicode character, which will be interpreted by selenium as a special key. Each key is just a string, so can be used with string manipulation functions like `paste()` without any special treatment.

Usage

```
keys
```

Format

An object of class `list` of length 65.

Examples

```
keys$enter
```

key_chord *Combine special keys*

Description

When a chord of keys is passed into `WebElement$send_keys()`, all keys will be pressed in order, and then released at the end. This is simply done by combining the keys into a single string, and appending the NULL key (keys$null) to the end. This is useful for keybindings like `Ctrl-V`, where you want the Ctrl key to be released after the action.

Usage

```
key_chord(...)
```

Arguments

`...`	The keys to be combined (strings).

Value

A string.

Examples

```
# `Ctrl-V` will be pressed, then `Ctrl-Alt-V`
paste0(
  keys$control, "v",
  keys$alt, "v"
)

# `Ctrl-V` will be pressed, then `Alt-V`
paste0(
  key_chord(keys$control, "v"),
  key_chord(keys$alt, "v")
)
```

SeleniumSession *Start a Selenium Client session*

Description

This class represents the client to a Selenium session. It will only work if a Selenium server instance is running. If you get an error, use `selenium_server_available()` to check if a server is running. See the package README for more information, or use `selenium_server()` to try and start a server automatically.

Public fields

`id` The id of the session, generated when the session is started.

`browser` The browser that the session is using.

`port` The port that the session is using.

`host` The host that the session is running on.

Methods

Public methods:

- `SeleniumSession$new()`
- `SeleniumSession$create_webelement()`
- `SeleniumSession$create_shadowroot()`
- `SeleniumSession$close()`
- `SeleniumSession$status()`
- `SeleniumSession$get_timeouts()`
- `SeleniumSession$set_timeouts()`
- `SeleniumSession$navigate()`
- `SeleniumSession$current_url()`
- `SeleniumSession$back()`
- `SeleniumSession$forward()`
- `SeleniumSession$refresh()`
- `SeleniumSession$title()`
- `SeleniumSession$window_handle()`
- `SeleniumSession$close_window()`
- `SeleniumSession$switch_to_window()`
- `SeleniumSession$window_handles()`
- `SeleniumSession$new_window()`
- `SeleniumSession$switch_to_frame()`
- `SeleniumSession$switch_to_parent_frame()`
- `SeleniumSession$get_window_rect()`
- `SeleniumSession$set_window_rect()`
- `SeleniumSession$maximize_window()`
- `SeleniumSession$minimize_window()`
- `SeleniumSession$fullscreen_window()`
- `SeleniumSession$get_active_element()`
- `SeleniumSession$find_element()`
- `SeleniumSession$find_elements()`
- `SeleniumSession$get_page_source()`
- `SeleniumSession$execute_script()`
- `SeleniumSession$execute_async_script()`
- `SeleniumSession$get_cookies()`
- `SeleniumSession$get_cookie()`

- SeleniumSession$add_cookie()
- SeleniumSession$delete_cookie()
- SeleniumSession$delete_all_cookies()
- SeleniumSession$perform_actions()
- SeleniumSession$release_actions()
- SeleniumSession$dismiss_alert()
- SeleniumSession$accept_alert()
- SeleniumSession$get_alert_text()
- SeleniumSession$send_alert_text()
- SeleniumSession$screenshot()
- SeleniumSession$print_page()
- SeleniumSession$clone()

Method `new()`**:** Create a Selenium session: opening a browser which can be controlled by the Selenium client.

Usage:

```
SeleniumSession$new(
  browser = "firefox",
  port = 4444L,
  host = "localhost",
  verbose = FALSE,
  capabilities = NULL,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`browser` The name of the browser to use (e.g. "chrome", "firefox", "edge").

`port` The port that the Selenium server is using, so we can connect to it.

`host` The host that the Selenium server is running on. This is usually 'localhost' (i.e. your own machine).

`verbose` Whether to print the web requests that are being sent and any responses.

`capabilities` A list of capabilities to pass to the Selenium server, to combine with the defaults generated using `browser`. See `chrome_options()`, `firefox_options()`, and `edge_options()`.

`request_body` A list of request body parameters to pass to the Selenium server. Overrides `capabilities`.

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A `SeleniumSession` object.

Examples:

```
\dontrun{
session <- SeleniumSession$new(verbose = TRUE)

session$close()
}
```

Method `create_webelement()`**:** Create a WebElement object using the parameters of the current session.

Usage:

```
SeleniumSession$create_webelement(id)
```

Arguments:

`id` The element id.

Returns: A WebElement object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

element <- session$find_element(using = "css selector", value = "*")

element2 <- session$create_webelement(id = element$id)

session$close()
}
```

Method `create_shadowroot()`**:** Create a ShadowRoot object using the parameters of the current session.

Usage:

```
SeleniumSession$create_shadowroot(id)
```

Arguments:

`id` The shadow root id.

Returns: A ShadowRoot object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

shadow_root <- session$create_shadowroot(id = "foo")

session$close()
}
```

Method `close()`**:** Close the current session. Once a session is closed, its methods will no longer work. However, the Selenium server will still be running.

Usage:

```
SeleniumSession$close(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$close()
}
```

Method `status()`**:** Get the status of the Selenium server. Unlike all other methods, this method is independent of the session itself (meaning it can be used even after SeleniumSession$close() is called). It is identical to `get_server_status()`, but uses the host, port and verbose options passed to the session, for convenience.

Usage:

```
SeleniumSession$status(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list that can (but may not always) contain the following fields:

- `ready`: Whether the server is ready to be connected to. This should always be returned by the server.
- `message`: A message about the status of the server.
- `uptime`: How long the server has been running.
- `nodes`: Information about the slots that the server can take.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$status()

session$close()

session$status()
}
```

Method `get_timeouts()`**:** Get the timeouts of the current session. There are three types of timeouts:

- *session script timeout*: The amount of time that the server will wait for scripts to run. Defaults to 3 seconds.
- *page load timeout*: The amount of time that the server will wait for the page to load. Defaults to 30 seconds.
- *implicit wait*: The amount of time that the server will wait for elements to be located, or for elements to become interactable when required. Defaults to 0 seconds.

Usage:

```
SeleniumSession$get_timeouts(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list with three items: `script`, `page_load`, and `implicit`.

Examples:

```
\dontrun{

session <- SeleniumSession$new()

session$get_timeouts()

session$close()
}
```

Method `set_timeouts()`**:** Set the timeouts of the current session. The types of timeouts are defined in `SeleniumSession$get_timeouts()`.

Usage:

```
SeleniumSession$set_timeouts(
  script = NULL,
  page_load = NULL,
  implicit_wait = NULL,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`script` The amount of time to wait for scripts. By default, this is not set.

`page_load` The amount of time to wait for the page to load.

`implicit_wait` The amount of time to wait for elements on the page.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$set_timeouts(script = 100)

session$get_timeouts()

session$close()
}
```

Method `navigate()`**:** Navigate to a URL.

Usage:

```
SeleniumSession$navigate(url, request_body = NULL, timeout = 20)
```

Arguments:

`url` The URL to navigate to. Must begin with a protocol (e.g. 'https://').

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request.

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$close()
}
```

Method `current_url()`**:** Get the current URL.

Usage:

```
SeleniumSession$current_url(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The URL of the current page.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$current_url()

session$close()
}
```

Method `back()`**:** Go back in the navigation history.

Usage:

```
SeleniumSession$back(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$navigate("https://www.tidyverse.org")
```

```
session$back()

session$current_url()

session$close()
}
```

Method `forward()`**:** Go forward in the navigation history.

Usage:

```
SeleniumSession$forward(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$navigate("https://www.tidyverse.org")

session$back()

session$forward()

session$current_url()

session$close()
}
```

Method `refresh()`**:** Reload the current page.

Usage:

```
SeleniumSession$refresh(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$refresh()

session$close()
}
```

Method `title()`**:** Get the title of the current page.

Usage:

```
SeleniumSession$title(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The title of the current page.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$title()

session$close()
}
```

Method `window_handle()`**:** Get the current window handle.

Usage:

```
SeleniumSession$window_handle(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The handle of the current window (a string).

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$window_handle()

session$close()
}
```

Method `close_window()`**:** Close the current window.

Usage:

```
SeleniumSession$close_window(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$new_window()
```

```
session$close_window()

session$close()
}
```

Method `switch_to_window()`**:** Switch to a specific window.

Usage:

```
SeleniumSession$switch_to_window(handle, request_body = NULL, timeout = 20)
```

Arguments:

`handle` The handle of the window to switch to.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

handle <- session$window_handle()

handle2 <- session$new_window()$handle

session$switch_to_window(handle)

session$switch_to_window(handle2)

session$close()
}
```

Method `window_handles()`**:** Get the handles of all open windows.

Usage:

```
SeleniumSession$window_handles(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The handles of all open windows (a list of strings).

Examples:

```
\dontrun{
session <- SeleniumSession$new()

handles <- session$window_handles()

session$close()
}
```

Method `new_window()`**:** Create a new window. Note that this window is not automatically switched to.

Usage:

```
SeleniumSession$new_window(
  type = c("tab", "window"),
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`type` Whether to create a tab or a window.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list containing two elements:

- `handle`: The handle of the new window.
- `type`: The type of window. ("tab" or "window").

Examples:

```
\dontrun{
session <- SeleniumSession$new()

handle <- session$new_window()$handle

session$switch_to_window(handle)

session$close()
}
```

Method `switch_to_frame()`**:** Frames allow you to split a window into multiple sections, where each section can load a separate HTML document. This function allows you to switch to a specific frame, given its ID, meaning that frame will become the current browsing context.

Usage:

```
SeleniumSession$switch_to_frame(id = NA, request_body = NULL, timeout = 20)
```

Arguments:

`id` The ID of the frame to switch to. By default, the top-level browsing context is switched to (i.e. not a frame). This can also be a WebElement object, in which case the frame that contains said element will be switched to.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()
```

```
session$navigate("https://www.r-project.org")

session$switch_to_frame()

session$close()
}
```

Method `switch_to_parent_frame()`**:** Switch to the parent frame of the current frame.

Usage:

```
SeleniumSession$switch_to_parent_frame(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$switch_to_frame()

session$switch_to_parent_frame()

session$close()
}
```

Method `get_window_rect()`**:** Get the size and position of the current window.

Usage:

```
SeleniumSession$get_window_rect(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list containing four elements:

- `x`: The x position of the window relative to the left of the screen.
- `y`: The y position of the window relative to the top of the screen.
- `width`: The width of the window.
- `height`: The height of the window.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$get_window_rect()

session$close()
}
```

Method `set_window_rect()`**:** Set the size and position of the current window.

Usage:

```
SeleniumSession$set_window_rect(
  width = NULL,
  height = NULL,
  x = NULL,
  y = NULL,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`width` The width of the window.

`height` The height of the window.

`x` The x position of the window relative to the left of the screen.

`y` The y position of the window relative to the top of the screen.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$set_window_rect(width = 800, height = 600, x = 2, y = 3)

session$close()
}
```

Method `maximize_window()`**:** Maximize the current window. This makes the window the maximum size it can be, without being full screen.

Usage:

```
SeleniumSession$maximize_window(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$maximize_window()

session$close()
}
```

Method `minimize_window()`**:** Minimize the current window. This hides the window.

Usage:

```
SeleniumSession$minimize_window(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$minimize_window()

session$close()
}
```

Method `fullscreen_window()`**:** Make the window full screen.

Usage:

```
SeleniumSession$fullscreen_window(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$fullscreen_window()

session$close()
}
```

Method `get_active_element()`**:** Get the currently active element.

Usage:

```
SeleniumSession$get_active_element(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A WebElement object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_active_element()

session$close()
}
```

Method `find_element()`**:** Find the first element matching a selector.

Usage:

```
SeleniumSession$find_element(
 using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A WebElement object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")

session$find_element(using = "xpath", value = "//div[contains(@class, 'col-xs')]/h1")

session$close()
}
```

Method `find_elements()`**:** Find all elements matching a selector.

Usage:

```
SeleniumSession$find_elements(
 using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list of WebElement objects.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_elements(using = "css selector", value = "h1")

session$find_elements(using = "xpath", value = "//h1")

session$close()
}
```

Method `get_page_source()`**:** Get the HTML source of the current page, serialized as a string.

Usage:

```
SeleniumSession$get_page_source(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_page_source()

session$close()
}
```

Method `execute_script()`**:** Execute a JavaScript script.

Usage:

```
SeleniumSession$execute_script(x, ..., request_body = NULL, timeout = 20)
```

Arguments:

`x` The script to execute. To return a value, do so explicitly, e.g. `return 1`.

`...` Additional arguments to pass to the script. These can be accessed in the script using the `arguments` array. Can be WebElement objects or lists of such objects, which will be converted to nodes.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The return value of the script. Nodes or lists of nodes will be converted to WebElement objects.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_script("return 1")

session$execute_script("return arguments[0] + arguments[1]", 1, 2)

element <- session$find_element(value = "*")

session$execute_script("return arguments[0]", element)

session$close()
}
```

Method `execute_async_script()`**:** Execute an asynchronous JavaScript script, waiting for a value to be returned.

Usage:

```
SeleniumSession$execute_async_script(x, ..., request_body = NULL, timeout = 20)
```

Arguments:

`x` The script to execute. Unlike `execute_script()`. You return an value using the callback function, which can be accessed using `arguments[arguments.length - 1]`. For example, to return 1, you would write `arguments[arguments.length - 1](1)`. This allows you to write asynchronous JavaScript, but treat it like synchronous R code.

`...` Additional arguments to pass to the script. Can be WebElement objects or lists of such objects, which will be converted to nodes.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The return value of the script. Nodes or lists of nodes will be converted to WebElement objects.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_async_script("
  let callback = arguments[arguments.length - 1];
  callback(1)
")

session$close()
}
```

Method `get_cookies()`**:** Get all cookies.

Usage:

```
SeleniumSession$get_cookies(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list of cookies. Each cookie is a list with a `name` and `value` field, along with some other optional fields.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_cookies()

session$close()
}
```

Method `get_cookie()`**:** Get a specific cookie using its name.

Usage:

```
SeleniumSession$get_cookie(name, request_body = NULL, timeout = 20)
```

Arguments:

`name` The name of the cookie.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The cookie object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "foo", value = "bar"))

session$get_cookie("foo")

session$close()
}
```

Method `add_cookie()`**:** Add a cookie to the cookie store of the current document.

Usage:

```
SeleniumSession$add_cookie(cookie, request_body = NULL, timeout = 20)
```

Arguments:

`cookie` The cookie object to add: a list which must contain a `name` and `value` field.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "my_cookie", value = "1"))

session$close()
}
```

Method `delete_cookie()`**:** Delete a cookie using its name.

Usage:

```
SeleniumSession$delete_cookie(name, request_body = NULL, timeout = 20)
```

Arguments:

`name` The name of the cookie.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "foo", value = "bar"))

session$delete_cookie("foo")

session$close()
}
```

Method `delete_all_cookies()`**:** Delete all cookies in the cookie store of the current document.

Usage:

```
SeleniumSession$delete_all_cookies(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()
```

```
session$navigate("https://www.r-project.org")

session$delete_all_cookies()

session$close()
}
```

Method `perform_actions()`**:** Perform a sequence of actions.

Usage:

```
SeleniumSession$perform_actions(
  actions,
  release_actions = TRUE,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`actions` A `selenium_actions_stream` object, created using `actions_stream()`.

`release_actions` Whether to call `release_actions()` after performing the actions.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

actions <- actions_stream(
  actions_press(keys$enter),
  actions_pause(0.5),
  actions_release(keys$enter)
)

session$perform_actions(actions)

session$close()
}
```

Method `release_actions()`**:** Release all keys and pointers that were pressed using `perform_actions()`.

Usage:

```
SeleniumSession$release_actions(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

actions <- actions_stream(
  actions_press("a")
)

session$perform_actions(actions, release_actions = FALSE)

session$release_actions()

session$close()
}
```

Method `dismiss_alert()`**:** Dismiss the current alert, if present.

Usage:

```
SeleniumSession$dismiss_alert(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_script("alert('hello')")

session$dismiss_alert()

session$close()
}
```

Method `accept_alert()`**:** Accept the current alert, if present.

Usage:

```
SeleniumSession$accept_alert(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_script("alert('hello')")
```

```
session$accept_alert()

session$close()
}
```

Method `get_alert_text()`**:** Get the message of the current alert, if present.

Usage:

```
SeleniumSession$get_alert_text(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The message of the current alert (a string).

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_script("alert('hello')")

session$get_alert_text()

session$close()
}
```

Method `send_alert_text()`**:** Send text to the current alert, if present. Useful if the alert is a prompt.

Usage:

```
SeleniumSession$send_alert_text(text, request_body = NULL, timeout = 20)
```

Arguments:

`text` The text to send.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The session object, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$execute_script("prompt('Enter text:')")

session$send_alert_text("hello")

session$close()
}
```

Method `screenshot()`**:** Take a screenshot of the current page.

Usage:

```
SeleniumSession$screenshot(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The base64-encoded PNG screenshot, as a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$screenshot()

session$close()
}
```

Method `print_page()`**:** Render the current page as a PDF.

Usage:

```
SeleniumSession$print_page(
  orientation = c("portrait", "landscape"),
  scale = 1,
  background = FALSE,
  width = NULL,
  height = NULL,
  margin = NULL,
  footer = NULL,
  header = NULL,
  shrink_to_fit = NULL,
  page_ranges = NULL,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`orientation` The page orientation, either `"portrait"` or `"landscape"`.

`scale` The page scale, a number between 0.1 and 2.

`background` Whether to print the background of the page.

`width` The page width, in inches.

`height` The page height, in inches.

`margin` The page margin, in inches. Either a number, in which case the margin on all sides are set to that value, or a list of four numbers, with names `left`, `right`, `top`, and `bottom`, in which case the margin on each side is set individually.

`footer` The page footer, as a string.

`header` The page header, as a string.

`shrink_to_fit` Whether to shrink the page to fit the width and height.

`page_ranges` A list of page ranges (e.g. `"1"`, `"1-3"`) to print.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The base64-encoded PDF, as a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$print_page()

session$close()
}
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
SeleniumSession$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

Examples

```
## ------------------------------------------------
## Method `SeleniumSession$new`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new(verbose = TRUE)

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$create_webelement`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

element <- session$find_element(using = "css selector", value = "*")

element2 <- session$create_webelement(id = element$id)

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `SeleniumSession$create_shadowroot`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

shadow_root <- session$create_shadowroot(id = "foo")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$close`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$status`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$status()

session$close()

session$status()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_timeouts`
## ------------------------------------------------

## Not run:

session <- SeleniumSession$new()

session$get_timeouts()

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `SeleniumSession$set_timeouts`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$set_timeouts(script = 100)

session$get_timeouts()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$navigate`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$current_url`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$current_url()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$back`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$navigate("https://www.tidyverse.org")
```

```
session$back()

session$current_url()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$forward`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$navigate("https://www.tidyverse.org")

session$back()

session$forward()

session$current_url()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$refresh`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$refresh()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$title`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")
```

```
session$title()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$window_handle`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$window_handle()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$close_window`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$new_window()

session$close_window()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$switch_to_window`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

handle <- session$window_handle()

handle2 <- session$new_window()$handle

session$switch_to_window(handle)

session$switch_to_window(handle2)

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `SeleniumSession$window_handles`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

handles <- session$window_handles()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$new_window`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

handle <- session$new_window()$handle

session$switch_to_window(handle)

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$switch_to_frame`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$switch_to_frame()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$switch_to_parent_frame`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")
```

```
session$switch_to_frame()

session$switch_to_parent_frame()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_window_rect`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$get_window_rect()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$set_window_rect`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$set_window_rect(width = 800, height = 600, x = 2, y = 3)

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$maximize_window`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$maximize_window()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$minimize_window`
## ------------------------------------------------
```

```
## Not run:
session <- SeleniumSession$new()

session$minimize_window()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$fullscreen_window`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$fullscreen_window()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_active_element`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_active_element()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$find_element`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")

session$find_element(using = "xpath", value = "//div[contains(@class, 'col-xs')]/h1")

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `SeleniumSession$find_elements`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_elements(using = "css selector", value = "h1")

session$find_elements(using = "xpath", value = "//h1")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_page_source`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_page_source()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$execute_script`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_script("return 1")

session$execute_script("return arguments[0] + arguments[1]", 1, 2)

element <- session$find_element(value = "*")

session$execute_script("return arguments[0]", element)

session$close()

## End(Not run)

## ------------------------------------------------
```

```
## Method `SeleniumSession$execute_async_script`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_async_script("
  let callback = arguments[arguments.length - 1];
  callback(1)
")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_cookies`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$get_cookies()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_cookie`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "foo", value = "bar"))

session$get_cookie("foo")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$add_cookie`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()
```

```
session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "my_cookie", value = "1"))

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$delete_cookie`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$add_cookie(list(name = "foo", value = "bar"))

session$delete_cookie("foo")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$delete_all_cookies`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$delete_all_cookies()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$perform_actions`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

actions <- actions_stream(
  actions_press(keys$enter),
  actions_pause(0.5),
```

```
  actions_release(keys$enter)
)

session$perform_actions(actions)

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$release_actions`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

actions <- actions_stream(
  actions_press("a")
)

session$perform_actions(actions, release_actions = FALSE)

session$release_actions()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$dismiss_alert`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_script("alert('hello')")

session$dismiss_alert()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$accept_alert`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_script("alert('hello')")
```

```
session$accept_alert()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$get_alert_text`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_script("alert('hello')")

session$get_alert_text()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$send_alert_text`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$execute_script("prompt('Enter text:')")

session$send_alert_text("hello")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `SeleniumSession$screenshot`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$screenshot()

session$close()

## End(Not run)

## ------------------------------------------------
```

```
## Method `SeleniumSession$print_page`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$print_page()

session$close()

## End(Not run)
```

`selenium_server` *Download and start the Selenium server.*

Description

[Experimental]

Downloads the latest release of Selenium Server, and then runs it as a background process. You must have Java installed for this command to work.

Usage

```
selenium_server(
  version = "latest",
  selenium_manager = TRUE,
  interactive = TRUE,
  verbose = TRUE,
  temp = TRUE,
  path = NULL,
  echo_cmd = FALSE,
  extra_args = c()
)
```

Arguments

`version`	The version of Selenium Server to download and run. By default, the latest major or minor release is used.
`selenium_manager`	Whether to enable Selenium Manager, which will automatically download any missing drivers. Defaults to `TRUE`.
`interactive`	By default, if you don't have a version downloaded, you will be prompted to confirm that you want to download it, and the function will error if `rlang::is_interactive()` returns `FALSE`. To allow this function to work in a non-interactive setting, set this to `FALSE`.

verbose	Passed into utils::download.file(). Note that setting this to FALSE will *not* disable the prompt if a file needs to be downloaded.
temp	Whether to use a temporary directory to download the Selenium Server .jar file. This will ensure that the file is deleted after it is used, but means that you will have to redownload the file with every new R session. If FALSE, the file is saved in your user data directory.
path	The path where the downloaded Selenium Server .jar file will be saved. Overrides temp.
echo_cmd	Passed into processx::process$new().
extra_args	A character vector of extra arguments to pass into the Selenium Server call. See the list of options here: https://www.selenium.dev/documentation/grid/configuration/cli_options/

Value

A processx::process object. Call <process>$kill() to stop the server.

See Also

The package website for more ways to start the Selenium server.

Examples

```
## Not run:
# Disables the prompt that asks you whether you want to download Selenium server
server <- selenium_server(interactive = FALSE)

# Saves the server in your user data directory
server <- selenium_server(temp = FALSE)
server$kill()

# The server doesn't have to be downloaded again
server <- selenium_server(temp = FALSE)

# Here we use extra arguments to increase the timeout of client sessions,
# allowing sessions to stay open for longer without being automatically
# terminated.
server <- selenium_server(extra_args = c("--session-timeout", "3000"))

## End(Not run)
```

ShadowRoot *Create a shadow root*

Description

A shadow DOM is a self-contained DOM tree, contained within another DOM tree. A shadow root is an element that contains a DOM subtree. This class represents a shadow root object, allowing you to select elements within the shadow root.

Public fields

`id` The id of the shadow root.

Methods

Public methods:

- `ShadowRoot$new()`
- `ShadowRoot$find_element()`
- `ShadowRoot$find_elements()`
- `ShadowRoot$toJSON()`
- `ShadowRoot$clone()`

Method `new()`**:** Initialize a new `ShadowRoot` object. This should not be called manually: instead use WebElement$shadow_root(), or SeleniumSession$create_shadow_root().

Usage:

```
ShadowRoot$new(session_id, req, verbose, id)
```

Arguments:

`session_id` The id of the session.

`req, verbose` Private fields of a SeleniumSession object.

`id` The id of the shadow root.

Returns: A `ShadowRoot` object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")

element <- session$find_element(using = "css selector", value = "div")

element$shadow_root()

session$close()
}
```

Method `find_element()`**:** Find an element in the shadow root.

Usage:

```
ShadowRoot$find_element(
 using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A WebElement object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  const shadowRoot = div.attachShadow({mode: 'open'});
  const span = document.createElement('span');
  span.textContent = 'Hello';
  shadowRoot.appendChild(span);
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

shadow_root$find_element(using = "css selector", value = "span")

session$close()
}
```

Method `find_elements()`**:** Find all elements in a shadow root matching a selector.

Usage:

```
ShadowRoot$find_elements(
 using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list of WebElement objects.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  const shadowRoot = div.attachShadow({mode: 'open'});
  const span = document.createElement('span');
  span.textContent = 'Hello';
  shadowRoot.appendChild(span);
  const p = document.createElement('p');
  p.textContent = 'Me too!';
  shadowRoot.appendChild(p);
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

shadow_root$find_elements(using = "css selector", value = "*")

session$close()
}
```

Method `toJSON()`**:** Convert an element to JSON. This is used by SeleniumSession$execute_script().

Usage:

```
ShadowRoot$toJSON()
```

Returns: A list, which can then be converted to JSON using `jsonlite::toJSON()`.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")
```

```
element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

result <- shadow_root$toJSON()

result

jsonlite::toJSON(result, auto_unbox = TRUE)

session$close()
}
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
ShadowRoot$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

Examples

```
## ------------------------------------------------
## Method `ShadowRoot$new`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")

element <- session$find_element(using = "css selector", value = "div")

element$shadow_root()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `ShadowRoot$find_element`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()
```

```
# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  const shadowRoot = div.attachShadow({mode: 'open'});
  const span = document.createElement('span');
  span.textContent = 'Hello';
  shadowRoot.appendChild(span);
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

shadow_root$find_element(using = "css selector", value = "span")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `ShadowRoot$find_elements`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  const shadowRoot = div.attachShadow({mode: 'open'});
  const span = document.createElement('span');
  span.textContent = 'Hello';
  shadowRoot.appendChild(span);
  const p = document.createElement('p');
  p.textContent = 'Me too!';
  shadowRoot.appendChild(p);
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

shadow_root$find_elements(using = "css selector", value = "*")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `ShadowRoot$toJSON`
```

```
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

result <- shadow_root$toJSON()

result

jsonlite::toJSON(result, auto_unbox = TRUE)

session$close()

## End(Not run)
```

`wait_for_server` *Is a selenium server instance running?*

Description

`wait_for_server()` takes a server process returned by `selenium_server()` and waits for it to respond to status requests. If it doesn't, then an error is thrown detailing any errors in the response and any error messages from the server.

`selenium_server_available()` returns `TRUE` if a Selenium server is running on a given port and host. `wait_for_selenium_available()` waits for the Selenium server to become available for a given time, throwing an error if one does not. It is similar to `wait_for_server()` except that it works with servers not created by selenium.

`get_server_status()`, when given a port and host, figures out whether a Selenium server instance is running, and if so, returns its status. This is used by `selenium_server_available()` to figure out if the server is running.

Usage

```
wait_for_server(
  server,
  port = 4444L,
  host = "localhost",
```

```
  max_time = 60,
  error = TRUE,
  verbose = FALSE,
  timeout = 20
)

selenium_server_available(
  port = 4444L,
  host = "localhost",
  verbose = FALSE,
  timeout = 20
)

wait_for_selenium_available(
  max_time = 60,
  port = 4444L,
  host = "localhost",
  error = TRUE,
  verbose = FALSE,
  timeout = 20
)

get_server_status(
  port = 4444L,
  host = "localhost",
  verbose = FALSE,
  timeout = 20
)
```

Arguments

server	The process object returned by selenium_server().
port	The port that the Selenium server is using, so we can connect to it.
host	The host that the Selenium server is running on. This is usually 'localhost' (i.e. Your own machine).
max_time	The amount of time to wait for the Selenium server to become available.
error	Whether to throw an error if the web request fails after the timeout is exceeded. If not, and we can't connect to a server, FALSE is returned.
verbose	Whether to print information about the web request that is sent.
timeout	How long to wait for a request to recieve a response before throwing an error.

Value

wait_for_server() and wait_for_selenium_available() return TRUE if the server is ready to be connected to, and throw an error otherwise.

selenium_server_available() returns TRUE if a Selenium server is running, and FALSE otherwise.

`get_server_status()` returns a list that can (but may not always) contain the following fields:

- `ready`: Whether the server is ready to be connected to. This should always be returned by the server.
- `message`: A message about the status of the server.
- `uptime`: How long the server has been running.
- `nodes`: Information about the slots that the server can take.

Examples

```
## Not run:
server <- selenium_server()

wait_for_server(server)

get_server_status()

selenium_server_available()

wait_for_selenium_available()

## End(Not run)
```

`WebElement` *Create a live element*

Description

This class represents a single element on the page. It is created using an existing SeleniumSession instance.

Public fields

`id` The id of the element, used to uniquely identify it on the page.

Methods

Public methods:

- `WebElement$new()`
- `WebElement$shadow_root()`
- `WebElement$find_element()`
- `WebElement$find_elements()`
- `WebElement$is_selected()`
- `WebElement$get_attribute()`
- `WebElement$get_property()`
- `WebElement$get_css_value()`

- WebElement$get_text()
- WebElement$get_tag_name()
- WebElement$get_rect()
- WebElement$is_enabled()
- WebElement$computed_role()
- WebElement$computed_label()
- WebElement$click()
- WebElement$clear()
- WebElement$send_keys()
- WebElement$screenshot()
- WebElement$is_displayed()
- WebElement$toJSON()
- WebElement$clone()

Method `new()`**:** Initialize a `WebElement` object. This should not be called manually: instead use SeleniumSession$create_webelement() if you have an element id. To find elements on the page, use SeleniumSession$find_element() and SeleniumSession$find_elements().

Usage:

```
WebElement$new(session_id, req, verbose, id)
```

Arguments:

`session_id` The id of the session that the element belongs to.

`req, verbose` Private fields of a SeleniumSession object.

`id` The element id.

Returns: A `WebElement` object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

element <- session$find_element(using = "css selector", value = "#download")

session$close()
}
```

Method `shadow_root()`**:** A shadow DOM is a self-contained DOM tree, contained within another DOM tree. A shadow root is an element that contains a DOM subtree. This method gets the shadow root property of an element.

Usage:

```
WebElement$shadow_root(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A ShadowRoot object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

session$close()
}
```

Method `find_element()`**:** Find the first element matching a selector, relative to the current element.

Usage:

```
WebElement$find_element(
  using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A `WebElement` object.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

row <- session$find_element(using = "css selector", value = ".row")

logo_container <- row$find_element(using = "css selector", value = "p")

logo <- logo_container$find_element(using = "css selector", value = "img")
```

```
session$close()
}
```

Method `find_elements()`**:** Find all elements matching a selector, relative to the current element.

Usage:

```
WebElement$find_elements(
 using = c("css selector", "xpath", "tag name", "link text", "partial link text"),
  value,
  request_body = NULL,
  timeout = 20
)
```

Arguments:

`using` The type of selector to use.

`value` The value of the selector: a string.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list of `WebElement` objects.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

row <- session$find_element(using = "css selector", value = ".row")

links <- row$find_elements(using = "css selector", value = "a")

session$close()
}
```

Method `is_selected()`**:** Check if an element is currently selected.

Usage:

```
WebElement$is_selected(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A boolean value: `TRUE` or `FALSE`.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")
```

```
session$find_element(using = "css selector", value = "#download")$is_selected()

session$close()
}
```

Method `get_attribute()`**:** Get an attribute from an element.

Usage:

```
WebElement$get_attribute(name, request_body = NULL, timeout = 20)
```

Arguments:

`name` The name of the attribute.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The value of the attribute: a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_attribute("href")

session$close()
}
```

Method `get_property()`**:** Get a property from an element. Properties are similar to attributes, but represent the HTML source code of the page, rather than the current state of the DOM.

Usage:

```
WebElement$get_property(name, request_body = NULL, timeout = 20)
```

Arguments:

`name` The name of the property.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The value of the property: a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_property("href")

session$close()
}
```

Method `get_css_value()`**:** Get the computed value of a CSS property.

Usage:

```
WebElement$get_css_value(name, request_body = NULL, timeout = 20)
```

Arguments:

`name` The name of the CSS property.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The value of the CSS property: a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_css_value("color")

session$close()
}
```

Method `get_text()`**:** Get the text content of an element.

Usage:

```
WebElement$get_text(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The text content of the element: a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_text()

session$close()
}
```

Method `get_tag_name()`**:** Get the tag name of an element.

Usage:

```
WebElement$get_tag_name(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The tag name of the element: a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_tag_name()

session$close()
}
```

Method `get_rect()`**:** Get the dimensions and coordinates of an element.

Usage:

```
WebElement$get_rect(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A list containing the following elements:

- `x`: The x-coordinate of the element.
- `y`: The y-coordinate of the element.
- `width`: The width of the element in pixels.
- `height`: The height of the element in pixels.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_rect()

session$close()
}
```

Method `is_enabled()`**:** Check if an element is currently enabled.

Usage:

```
WebElement$is_enabled(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A boolean value: `TRUE` or `FALSE`.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")
```

```
session$find_element(using = "css selector", value = "a")$is_enabled()

session$close()
}
```

Method `computed_role()`**:** Get the computed role of an element. The role of an element is usually "generic", but is often used when an elements tag name differs from its purpose. For example, a link that is "button-like" in nature may have a "button" role.

Usage:

```
WebElement$computed_role(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$computed_role()

session$close()
}
```

Method `computed_label()`**:** Get the computed label of an element (i.e. The text of the label element that points to the current element).

Usage:

```
WebElement$computed_label(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$computed_label()

session$close()
}
```

Method `click()`**:** Click on an element.

Usage:

```
WebElement$click(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The element, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$click()

session$close()
}
```

Method `clear()`**:** Clear the contents of a text input element.

Usage:

```
WebElement$clear(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The element, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.google.com")

session$find_element(using = "css selector", value = "textarea")$clear()

session$close()
}
```

Method `send_keys()`**:** Send keys to an element.

Usage:

```
WebElement$send_keys(..., request_body = NULL, timeout = 20)
```

Arguments:

`...` The keys to send (strings). Use keys for special keys, and use `key_chord()` to send keys combinations.

`request_body` A list of request body parameters to pass to the Selenium server, overriding the default body of the web request

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The element, invisibly.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.google.com")

input <- session$find_element(using = "css selector", value = "textarea")

input$send_keys("Hello")

input$send_keys(key_chord(keys$control, "a"), key_chord(keys$control, "c"))

input$send_keys(keys$control, "v")

input$get_attribute("value")

session$close()
}
```

Method `screenshot()`**:** Take a screenshot of an element.

Usage:

```
WebElement$screenshot(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: The base64-encoded PNG screenshot, as a string.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$screenshot()

session$close()
}
```

Method `is_displayed()`**:** Check if an element is displayed. This function may not work on all platforms.

Usage:

```
WebElement$is_displayed(timeout = 20)
```

Arguments:

`timeout` How long to wait for a request to recieve a response before throwing an error.

Returns: A boolean.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$is_displayed()

session$close()
}
```

Method `toJSON()`**:** Convert an element to JSON. This is used by SeleniumSession$execute_script().

Usage:

```
WebElement$toJSON()
```

Returns: A list, which can then be converted to JSON using `jsonlite::toJSON()`.

Examples:

```
\dontrun{
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

result <- session$find_element(using = "css selector", value = "a")$toJSON()

result

jsonlite::toJSON(result, auto_unbox = TRUE)

session$close()
}
```

Method `clone()`**:** The objects of this class are cloneable with this method.

Usage:

```
WebElement$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

Examples

```
## ------------------------------------------------
## Method `WebElement$new`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

element <- session$find_element(using = "css selector", value = "#download")
```

```
session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$shadow_root`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

# Let's create our own Shadow Root using JavaScript
session$execute_script("
  const div = document.createElement('div');
  document.body.appendChild(div);
  div.attachShadow({mode: 'open'});
")

element <- session$find_element(using = "css selector", value = "div")

shadow_root <- element$shadow_root()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$find_element`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

row <- session$find_element(using = "css selector", value = ".row")

logo_container <- row$find_element(using = "css selector", value = "p")

logo <- logo_container$find_element(using = "css selector", value = "img")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$find_elements`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")
```

```
row <- session$find_element(using = "css selector", value = ".row")

links <- row$find_elements(using = "css selector", value = "a")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$is_selected`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$is_selected()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$get_attribute`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_attribute("href")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$get_property`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_property("href")

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `WebElement$get_css_value`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$get_css_value("color")

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$get_text`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_text()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$get_tag_name`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_tag_name()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$get_rect`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()
```

```
session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "#download")$get_rect()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$is_enabled`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$is_enabled()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$computed_role`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$computed_role()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$computed_label`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$computed_label()

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `WebElement$click`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$click()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$clear`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.google.com")

session$find_element(using = "css selector", value = "textarea")$clear()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$send_keys`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.google.com")

input <- session$find_element(using = "css selector", value = "textarea")

input$send_keys("Hello")

input$send_keys(key_chord(keys$control, "a"), key_chord(keys$control, "c"))

input$send_keys(keys$control, "v")

input$get_attribute("value")

session$close()

## End(Not run)
```

```
## ------------------------------------------------
## Method `WebElement$screenshot`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$screenshot()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$is_displayed`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

session$find_element(using = "css selector", value = "a")$is_displayed()

session$close()

## End(Not run)

## ------------------------------------------------
## Method `WebElement$toJSON`
## ------------------------------------------------

## Not run:
session <- SeleniumSession$new()

session$navigate("https://www.r-project.org")

result <- session$find_element(using = "css selector", value = "a")$toJSON()

result

jsonlite::toJSON(result, auto_unbox = TRUE)

session$close()

## End(Not run)
```

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