Package 'deckgl'

July 22, 2025

Title An R Interface to 'deck.gl'

Version 0.3.0

Date 2023-02-19

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Description
Makes 'deck.gl' <https://deck.gl/>, a WebGL-powered open-source JavaScript framework for visual exploratory data analysis of large datasets, available within R via the 'htmlwidgets' package.
Furthermore, it supports basemaps from 'mapbox' <https://www.mapbox.com/> via 'mapbox-gl-js' <https://github.com/mapbox/mapbox-gl-js>.

URL https://github.com/crazycapivara/deckgl/,
https://crazycapivara.github.io/deckgl/

BugReports https://github.com/crazycapivara/deckgl/issues/

Depends R (>= 3.3)

Imports htmlwidgets, htmltools, magrittr, base64enc, yaml, jsonlite, readr, tibble

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Encoding UTF-8

LazyData true

RoxygenNote 7.2.0

Suggests knitr, rmarkdown, testthat, rprojroot, sf, scales, RColorBrewer, shiny

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

Date/Publication 2023-02-19 20:30:02 UTC

Contents

`add_arc_layer` *Add an arc layer to the deckgl widget*

Description

The `ArcLayer` renders raised arcs joining pairs of source and target points, specified as latitude/longitude coordinates.

Usage

```
add_arc_layer(deckgl, data = NULL, properties = list(), ..., id = "arc-layer")
```

Arguments

`deckgl`	A deckgl widget object.
`data`	The url to fetch data from or a data object.
`properties`	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The `properties` parameter can also be an empty list. In this case all props must be passed as named arguments.
`...`	Named arguments that will be added to the `properties` object. Identical parameters are overwritten.
`id`	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/arc-layer

Examples

```
data("bart_segments")

properties <- list(
  getWidth = 12,
  getSourcePosition = ~from_lng + from_lat,
  getTargetPosition = ~to_lng + to_lat,
  getSourceColor = "@=[Math.sqrt(inbound), 140, 0]",
  getTargetColor = "@=[Math.sqrt(outbound), 140, 0]",
  tooltip = use_tooltip(
```

```
    html = "{{from_name}} to {{to_name}}",
    style = "background: steelBlue; border-radius: 5px;"
  )
)

deck <- deckgl(zoom = 10, pitch = 35) %>%
  add_arc_layer(data = bart_segments, properties = properties) %>%
  add_control("Arc Layer", "top-left") %>%
  add_basemap()

if (interactive()) deck
```

---

add_basemap *Add a basemap to the deckgl widget*

Description

Add a basemap to the deckgl widget

Usage

```
add_basemap(deckgl, style = use_carto_style(), ...)
```

Arguments

deckgl	deckgl widget
style	The style definition of the map conforming to the Mapbox Style Specification.
...	not used

---

add_bitmap_layer *Add a bitmap layer to the deckgl widget*

Description

Add a bitmap layer to the deckgl widget

Usage

```
add_bitmap_layer(
  deckgl,
  image = NULL,
  properties = list(),
  ...,
  id = "h3-hexagon-layer"
)
```

Arguments

deckgl	A deckgl widget object.
image	image
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

Examples

```
image <- paste0(
  "https://raw.githubusercontent.com/",
  "uber-common/deck.gl-data/master/",
  "website/sf-districts.png"
)
bounds <- c(-122.5190, 37.7045, -122.355, 37.829)

deck <- deckgl() %>%
  add_bitmap_layer(image = image, bounds = bounds) %>%
  add_basemap()

if (interactive()) deck
```

---

add_column_layer *Add a column layer to the deckgl widget*

Description

The ColumnLayer can be used to render a heatmap of vertical cylinders. It renders a tesselated regular polygon centered at each given position (a "disk"), and extrude it in 3d.

Usage

```
add_column_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "column-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/column-layer

Examples

```
hexagon_centroids <- system.file("sample-data/centroids.csv", package = "deckgl") %>%
  read.csv()

deck <- deckgl(zoom = 11, pitch = 35) %>%
  add_column_layer(
    data = hexagon_centroids,
    diskResolution = 12,
    getPosition = ~lng + lat,
    getElevation = ~value,
    getFillColor = "@=[48, 128, value * 255, 255]",
    elevationScale = 5000,
    radius = 250,
    extruded = TRUE,
    tooltip = "Value: {{value}}"
  ) %>%
  add_control("Column Layer", "bottom-left") %>%
  add_basemap()

if (interactive()) deck
```

---

add_contour_layer *Add a contour layer to the deckgl widget*

Description

The ContourLayer renders contour lines for a given threshold and cell size. Internally it implements Marching Squares algorithm to generate contour line segments and feeds them into LineLayer to render lines.

Usage

```
add_contour_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "contour-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/contour-layer

Examples

```
## @knitr contour-layer
data("sf_bike_parking")

contours <- list(
  use_contour_definition(
    threshold = 1,
    color = c(255, 0, 0),
    stroke_width = 2
  ),
  use_contour_definition(
    threshold = 5,
    color = c(0, 255, 0),
    stroke_width = 3
  ),
  use_contour_definition(
    threshold = 15,
    color = c(0, 0, 255),
    stroke_width = 5
  )
)

properties <- list(
```

```
  contours = contours,
  cellSize = 200,
  elevationScale = 4,
  getPosition = ~lng + lat
)

deck <- deckgl(zoom = 10.5, pitch = 30) %>%
  add_contour_layer(data = sf_bike_parking, properties = properties) %>%
  add_control("Contour Layer") %>%
  add_basemap()

if (interactive()) deck
```

`add_control` *Add a control to the widget*

Description

Add a control to the widget

Usage

```
add_control(deckgl, html, pos = "top-right", style = NULL)
```

Arguments

`deckgl`	A deckgl widget object.
`html`	The `innerHTML` of the element.
`pos`	The position of the control. Possible values are `top-left`, `top-right`, `bottom-right` and `bottom-left`.
`style`	A `cssText` string that will modefiy the default style of the element.

Examples

```
deck <- deckgl() %>%
  add_basemap() %>%
  add_control(
    "<h1>Blank Base Map</h1>",
    pos = "top-right",
    style = "background: #004080; color: white;"
  )

if (interactive()) deck
```

add_data *Add JavaScript data file*

Description

EXPERIMENTAL

Usage

```
add_data(deckgl, data, var_name = "thanksForAllTheFish")
```

Arguments

deckgl	deckgl widget
data	data object
var_name	JavaScript variable name used to make the data available

add_geojson_layer *Add a geojson layer to the deckgl widget*

Description

The GeoJsonLayer takes in GeoJson formatted data and renders it as interactive polygons, lines and points.

Usage

```
add_geojson_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "geojson-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/geojson-layer

Examples

```
geojson <- paste0(
  "https://raw.githubusercontent.com/",
  "uber-common/deck.gl-data/",
  "master/website/bart.geo.json"
)

deck <- deckgl(zoom = 10, pickingRadius = 5) %>%
  add_geojson_layer(
    data = geojson,
    filled = TRUE,
    extruded = TRUE,
    getRadius = 100,
    lineWidthScale = 20,
    lineWidthMinPixels = 2,
    getLineWidth = 1,
    getLineColor = "@=properties.color || 'green'",
    getFillColor = c(160, 160, 180, 200),
    getElevation = 30,
    tooltip = JS("object => object.properties.name || object.properties.station")
  ) %>%
  add_basemap()

if (interactive()) deck
```

---

add_great_circle_layer

Add a great circle layer to the deckgl widget

Description

The `GreatCircleLayer` is a variation of the `ArcLayer`. It renders flat arcs along the great circle joining pairs of source and target points, specified as latitude/longitude coordinates.

Usage

```
add_great_circle_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "great-circle-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/great-circle-layer

Examples

```
## @knitr great-circle-layer
data("bart_segments")

properties <- list(
  pickable = TRUE,
  getWidth = 12,
  getSourcePosition = ~from_lng + from_lat,
  getTargetPosition = ~to_lng + to_lat,
  getSourceColor = JS("d => [Math.sqrt(d.inbound), 140, 0]"),
  getTargetColor = JS("d => [Math.sqrt(d.outbound), 140, 0]"),
  getTooltip = "{{from_name}} to {{to_name}}"
)

deck <- deckgl(zoom = 10, pitch = 35) %>%
  add_great_circle_layer(data = bart_segments, properties = properties) %>%
  add_control("Great Circle Layer") %>%
  add_basemap()

if (interactive()) deck
```

---

add_grid_cell_layer *Add a grid cell layer to the deckgl widget*

Description

The GridCellLayer can render a grid-based heatmap. It is a variation of the ColumnLayer. It takes the constant width / height of all cells and top-left coordinate of each cell. The grid cells can be given a height using the getElevation accessor.

Usage

```
add_grid_cell_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "grid-cell-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/grid-cell-layer

Examples

```
hexagon_centroids <- system.file("sample-data/centroids.csv", package = "deckgl") %>%
  read.csv()

deck <- deckgl(zoom = 11, pitch = 35) %>%
  add_grid_cell_layer(
    data = hexagon_centroids,
    getPosition = ~lng + lat,
    getElevation = ~value,
    getFillColor = "@=[48, 128, value * 255, 255]",
    elevationScale = 5000,
    cellSize = 250,
    extruded = TRUE,
    tooltip = "{{value}}"
  ) %>%
  add_mapbox_basemap()

if (interactive()) deck
```

add_grid_layer *Add a grid layer to the deckgl widget*

Description

The GridLayer renders a grid heatmap based on an array of points. It takes the constant size all each cell, projects points into cells. The color and height of the cell is scaled by number of points it contains.

Usage

```
add_grid_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "grid-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/grid-layer

Examples

```
data("sf_bike_parking")

properties <- list(
  filter = "spaces > 4",
  visible = TRUE,
  extruded = TRUE,
  cellSize = 200,
  elevationScale = 4,
  getPosition = "@=[lng, lat]", #~lng + lat,
  colorRange = RColorBrewer::brewer.pal(6, "YlOrRd"),
```

```
  tooltip = "{{position.0}}, {{position.1}}<br/>Count: {{count}}"
)

deck <- deckgl(zoom = 11, pitch = 45, bearing = 35, element_id = "grid-layer") %>%
  add_source("sf-bike-parking", sf_bike_parking) %>%
  add_grid_layer(
    source = "sf-bike-parking",
    properties = properties
  ) %>%
  add_control("Grid Layer") %>%
  add_basemap() %>%
  add_json_editor(wrap = 50, maxLines = 23)

if (interactive()) deck
```

`add_h3_cluster_layer` *Add a h3 cluster layer to the deckgl widget*

Description

Add a h3 cluster layer to the deckgl widget

Usage

```
add_h3_cluster_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "h3-cluster-layer"
)
```

Arguments

`deckgl`	A deckgl widget object.
`data`	The url to fetch data from or a data object.
`properties`	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The `properties` parameter can also be an empty list. In this case all props must be passed as named arguments.
`...`	Named arguments that will be added to the `properties` object. Identical parameters are overwritten.
`id`	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/h3-cluster-layer

Examples

```
## @knitr h3-cluster-layer
data_url <- paste0(
  "https://raw.githubusercontent.com/uber-common/deck.gl-data/",
  "master/website/sf.h3clusters.json"
)
# sample_data <- jsonlite::fromJSON(data_url, simplifyDataFrame = FALSE)
sample_data <- data_url

properties <- list(
  stroked = TRUE,
  filled = TRUE,
  extruded = FALSE,
  getHexagons = ~hexIds,
  getFillColor = JS("d => [255, (1 - d.mean / 500) * 255, 0]"),
  getLineColor = c(255, 255, 255),
  lineWidthMinPixels = 2,
  getTooltip = ~mean
)

deck <- deckgl(zoom = 10.5, pitch = 20) %>%
  add_h3_cluster_layer(data = sample_data, properties = properties) %>%
  add_basemap()

if (interactive()) deck
```

---

add_h3_hexagon_layer *Add a h3 hexagon layer to the deckgl widget*

Description

Add a h3 hexagon layer to the deckgl widget

Usage

```
add_h3_hexagon_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "h3-hexagon-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.

properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/h3-hexagon-layer

Examples

```
## @knitr h3-hexagon-layer-layer
h3_cells <- system.file("sample-data/h3-cells.csv", package = "deckgl") %>%
  read.csv()

properties <- list(
  getHexagon = ~h3_index,
  getFillColor =JS("d => [255, (1 - d.count / 500) * 255, 0]"),
  getElevation = ~count,
  elevationScale = 20,
  getTooltip = "{{h3_index}}: {{count}}"
)

deck <- deckgl(zoom = 11, pitch = 35) %>%
  add_h3_hexagon_layer(data = h3_cells, properties = properties) %>%
  add_control("H3 Hexagon Layer") %>%
  add_basemap()

if (interactive()) deck
```

---

add_heatmap_layer *Add a heatmap layer to the deckgl widget*

Description

The HeatmapLayer can be used to visualize spatial distribution of data. It internally implements Gaussian Kernel Density Estimation to render heatmaps.

Usage

```
add_heatmap_layer(
  deckgl,
  id = "heatmap-layer",
  data = NULL,
  properties = list(),
  ...
)
```

Arguments

deckgl	A deckgl widget object.
id	The unique id of the layer.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/heatmap-layer

Examples

```
## @knitr heatmap-layer
data("sf_bike_parking")

map <- deckgl() %>%
  add_heatmap_layer(
    data = sf_bike_parking,
    getPosition = ~lng + lat,
    getWeight = ~spaces
  ) %>%
  add_basemap()

if (interactive()) map
```

---

add_hexagon_layer *Add a hexagon layer to the deckgl widget*

Description

The HexagonLayer renders a hexagon heatmap based on an array of points. It takes the radius of hexagon bin, projects points into hexagon bins. The color and height of the hexagon is scaled by number of points it contains.

Usage

```
add_hexagon_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "hexagon-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/hexagon-layer

Examples

```
## @knitr hexagon-layer
data("sf_bike_parking")

properties <- list(
  extruded = TRUE,
  radius = 200,
  elevationScale = 4,
  getPosition = ~lng + lat,
  colorRange = RColorBrewer::brewer.pal(6, "Oranges"),
  tooltip = "
    <p>{{position.0}}, {{position.1}}<p>
    <p>Count: {{points.length}}</p>
    <p>{{#points}}<div>{{address}}</div>{{/points}}</p>
  ",
  onClick = JS("obj => console.log(obj)"),
  autoHighlight = TRUE
)

deck <- deckgl(zoom = 11, pitch = 45, bearing = 35) %>%
  add_hexagon_layer(data = sf_bike_parking, properties = properties) %>%
  add_control("Hexagon Layer", "top-left") %>%
  add_basemap()

if (interactive()) deck
```

---

add_icon_layer *Add an icon layer to the deckgl widget*

Description

The IconLayer renders raster icons at given coordinates.

Usage

```
add_icon_layer(
  deckgl,
  data = NULL,
  properties = use_default_icon_properties(),
  ...,
  id = "icon-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/icon-layer

Examples

```
## @knitr icon-layer
data("bart_stations")

properties <- list(
  iconAtlas = encode_icon_atlas(),
  iconMapping = list(marker = use_icon_definition()),
  sizeScale = 10,
  getPosition = ~lng + lat,
  getIcon = JS("d => 'marker'"),
  getSize = 5,
  getColor = JS("d => [Math.sqrt(d.exits), 140, 0]"),
  getTooltip = "{{name}}<br/>{{address}}"
)

deck <- deckgl(zoom = 10, pitch = 45) %>%
  add_icon_layer(data = bart_stations, properties = properties) %>%
  add_control("Icon Layer") %>%
  add_basemap()

if (interactive()) deck
```

add_json_editor *Add a JSON-editor to the deckgl widget*

Description

Adds a Ace-editor in JSON mode to the map to interact with the layers of your deck instance.

Usage

```
add_json_editor(deckgl, ..., style = "width: 40%;", theme = "idle_fingers")
```

Arguments

deckgl	A deckgl widget object.
...	Optional args that are passed to the editor. See https://github.com/ajaxorg/ace/wiki/Configuring-Ace for a list of available options.
style	A cssText string that will modefiy the default style of the container that holds the editor.
theme	The name of the theme used by the editor.

add_layer *Add any kind of layer to the deckgl widget*

Description

Generic function to add any kind of layer to the deckgl widget. Usually you will not use this one but any of the add_*_layer functions instead.

Usage

```
add_layer(
  deckgl,
  class_name,
  data = NULL,
  properties = list(),
  ...,
  id = "hopeful-hopper",
  tooltip = NULL,
  source = NULL,
  filter = NULL
)
```

Arguments

deckgl	A deckgl widget object.
class_name	The name of the JavaScript layer class, e. g. ScatterplotLayer.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.
tooltip	A tooltip template that defines what should be displayed when the mouse enters an object. You can also pass a list with the properties html and style. See also use_tooltip.
source	The ID of the data source. See add_source.
filter	A filter expression that is applied to the data object.

Value

A deckgl widget object.

---

add_legend *Add a legend to the deckgl widget*

Description

Add a legend to the deckgl widget

Usage

```
add_legend(
  deckgl,
  colors,
  labels,
  title = NULL,
  pos = "top-right",
  style = NULL,
  ...
)
```

Arguments

deckgl	A deckgl widget object.
colors	The colors of the legend items.
labels	The labels corresponding to the colors of the legend items.
title	The title of the legend.
pos	The position of the control. Possible values are top-left, top-right, bottom-right and bottom-left.
style	A cssText string that will modefiy the default style of the element.
...	not used

---

add_legend_pal *Add a legend to the deckgl widget using a palette func*

Description

Add a legend to the deckgl widget using a palette func

Usage

```
add_legend_pal(deckgl, pal, ...)
```

Arguments

deckgl	A deckgl widget object.
pal	A palette function that is used to create the legend elements (colors and labels) automatically.
...	Parameters that are passed to add_legend.

See Also

col_numeric et cetera for how to create a palette function.

add_line_layer *Add a line layer to the deckgl widget*

Description

The LineLayer renders flat lines joining pairs of source and target points, specified as latitude/longitude coordinates.

Usage

```
add_line_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "line-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/line-layer

Examples

```
## @knitr line-layer
data("bart_segments")

properties <- list(
  pickable = TRUE,
  getWidth = 12,
  getSourcePosition = ~from_lng + from_lat,
  getTargetPosition = ~to_lng + to_lat,
  getColor = JS("d => [Math.sqrt(d.inbound + d.outbound), 140, 0]"),
  tooltip = "{{from_name}}} to {{to_name}}"
)
```

```
deck <- deckgl(zoom = 10, pitch = 20) %>%
  add_line_layer(data = bart_segments, properties = properties) %>%
  add_basemap() %>%
  add_control("Line Layer")

if (interactive()) deck
```

---

add_mapbox_basemap *Add a basemap from mapbox to the deckgl widget*

Description

Add a basemap from mapbox to the deckgl widget

Usage

```
add_mapbox_basemap(
  deckgl,
  style = "mapbox://styles/mapbox/light-v9",
  token = Sys.getenv("MAPBOX_API_TOKEN")
)
```

Arguments

deckgl	deckgl widget
style	map style
token	mapbox API access token

Value

deckgl widget

---

add_path_layer *Add a path layer to the deckgl widget*

Description

The PathLayer takes in lists of coordinate points and renders them as extruded lines with mitering.

Usage

```
add_path_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "path-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/path-layer

Examples

```
sample_data <- paste0(
  "https://raw.githubusercontent.com/",
  "uber-common/deck.gl-data/",
  "master/website/bart-lines.json"
)

properties <- list(
  pickable = TRUE,
  widthScale = 20,
  widthMinPixels = 2,
  getPath = ~path,
  getColor = ~color,
  getWidth = 5,
  tooltip = ~name
)

deck <- deckgl(pitch = 25, zoom = 10.5) %>%
  add_path_layer(data = sample_data, properties = properties) %>%
  add_basemap() %>%
  add_control("Path Layer")

if (interactive()) deck
```

---

add_point_cloud_layer *Add a point cloud layer to the deckgl widget*

Description

The PointCloudLayer takes in points with 3d positions, normals and colors and renders them as spheres with a certain radius.

Usage

```
add_point_cloud_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "point-cloud-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/point-cloud-layer

Examples

```
## @knitr point-cloud-layer
sample_data <- paste0(
  "https://raw.githubusercontent.com/",
  "uber-common/deck.gl-data/",
  "master/website/pointcloud.json"
)

properties <- list(
  pickable = TRUE,
  coordinateSystem = JS("deck.COORDINATE_SYSTEM.METER_OFFSETS"),
  coordinateOrigin = c(-122.4, 37.74),
  pointSize = 4,
  getPosition = ~position,
  getNormal = ~normal,
  getColor = ~color,
  lightSettings = list(),
  tooltip = "{{position.0}}, {{position.1}}"
)

deck <- deckgl(pitch = 45, zoom = 10.5) %>%
  add_point_cloud_layer(data = sample_data, properties = properties) %>%
  add_basemap() %>%
```

```
  add_control("Point Cloud Layer")

if (interactive()) deck
```

`add_polygon_layer` *Add a polygon layer to the deckgl widget*

Description

The `PolygonLayer` renders filled and/or stroked polygons.

Usage

```
add_polygon_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "polygon-layer"
)
```

Arguments

`deckgl`	A deckgl widget object.
`data`	The url to fetch data from or a data object.
`properties`	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The `properties` parameter can also be an empty list. In this case all props must be passed as named arguments.
`...`	Named arguments that will be added to the `properties` object. Identical parameters are overwritten.
`id`	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/polygon-layer

Examples

```
## @knitr polygon-layer
sample_data <- paste0(
  "https://raw.githubusercontent.com/",
  "uber-common/deck.gl-data/",
  "master/website/sf-zipcodes.json"
)

properties <- list(
```

```
  pickable = TRUE,
  stroked = TRUE,
  filled = TRUE,
  wireframe = TRUE,
  lineWidthMinPixels = 1,
  getPolygon = ~contour,
  getElevation = JS("d => d.population / d.area / 10"),
  getFillColor = JS("d => [d.population / d.area / 60, 140, 0]"),
  getLineColor = c(80, 80, 80),
  getLineWidth = 1,
  tooltip = "{{zipcode}}<br/>Population: {{population}}"
)

deck <- deckgl(zoom = 11, pitch = 25) %>%
  add_polygon_layer(data = sample_data, properties = properties) %>%
  add_basemap() %>%
  add_control("Polygon Layer")

if (interactive()) deck
```

`add_raster_tile_layer` *Add a raster tile layer to the deckgl widget*

Description

EXPERIMENTAL, see https://deck.gl/#/examples/core-layers/tile-layer

Usage

```
add_raster_tile_layer(
  deckgl,
  id = "raster-tiles",
  tileServer = "https://c.tile.openstreetmap.org/",
  properties = list(),
  ...
)
```

Arguments

`deckgl`	A deckgl widget object.
`id`	The unique id of the layer.
`tileServer`	base url of the tile server
`properties`	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The `properties` parameter can also be an empty list. In this case all props must be passed as named arguments.
`...`	Named arguments that will be added to the `properties` object. Identical parameters are overwritten.

Examples

```
## @knitr raster-tile-layer
tile_servers <- list(
  osm = "https://a.tile.openstreetmap.org/",
  carto_light = "https://cartodb-basemaps-a.global.ssl.fastly.net/light_all/",
  carto_dark = "https://cartodb-basemaps-a.global.ssl.fastly.net/dark_all/",
  stamen_toner = "http://a.tile.stamen.com/toner/"
)

deck <- deckgl() %>%
  add_raster_tile_layer(
    tileServer = tile_servers$osm,
    pickable = TRUE,
    autoHighlight = TRUE,
    highlightColor = c(60, 60, 60, 40)
  )

if (interactive()) deck
```

---

add_scatterplot_layer *Add a scatterplot layer to the deckgl widget*

Description

The `ScatterplotLayer` takes in paired latitude and longitude coordinated points and renders them as circles with a certain radius.

Usage

```
add_scatterplot_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "scatterplot-layer"
)
```

Arguments

`deckgl`	A deckgl widget object.
`data`	The url to fetch data from or a data object.
`properties`	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The `properties` parameter can also be an empty list. In this case all props must be passed as named arguments.
`...`	Named arguments that will be added to the `properties` object. Identical parameters are overwritten.
`id`	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/scatterplot-layer

Examples

```
data("bart_stations")

properties <- list(
  getPosition = ~lng + lat,
  getRadius = "@=Math.sqrt(exits)", #JS("data => Math.sqrt(data.exits)"),
  radiusScale = 6,
  getFillColor = "@=code === 'LF' ? 'white': 'red'", #c(255, 140, 20),
  tooltip = "{{name}}"
)

deck <- deckgl(zoom = 10.5, pitch = 35) %>%
  add_scatterplot_layer(data = bart_stations, properties = properties) %>%
  add_basemap() %>%
  add_control("Scatterplot Layer")

if (interactive()) deck
```

---

add_screen_grid_layer *Add a screen grid layer to the deckgl widget*

Description

The ScreenGridLayer takes in an array of latitude and longitude coordinated points, aggregates them into histogram bins and renders as a grid.

Usage

```
add_screen_grid_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "screen-grid-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.

...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/screen-grid-layer

Examples

```
## @knitr screen-grid-layer
data("sf_bike_parking")

properties <- list(
  opacity = 0.8,
  cellSizePixels = 50,
  colorRange = RColorBrewer::brewer.pal(6, "Blues"),
  getPosition = ~lng + lat,
  getWeight = ~spaces
)

deck <- deckgl() %>%
  add_screen_grid_layer(data = sf_bike_parking, properties = properties) %>%
  add_basemap() %>%
  add_control("Screen Grid Layer")

if (interactive()) deck
```

---

add_source *Add a data source to the deckgl widget*

Description

Add a data source to the deckgl widget

Usage

```
add_source(deckgl, id, data)
```

Arguments

deckgl	A deckgl widget object.
id	The unique id of the source.
data	The url to fetch data from or a data object.

Examples

```
data("bart_stations")

deckgl() %>%
  add_source("bart-stations", bart_stations) %>%
  add_scatterplot_layer(
    source = "bart-stations",
    getPosition = ~lng + lat,
    getFillColor = "steelblue",
    getRadius = 50,
    radiusScale = 6
  ) %>%
  add_text_layer(
    source = "bart-stations",
    getPosition = ~lng + lat,
    getText = ~name,
    getSize = 15,
    sizeScale = 1.5,
    getColor = "white"
  ) %>%
  add_basemap()
```

---

add_source_as_dep *Add source as JavaScript dep*

Description

Add source as JavaScript dep

Usage

```
add_source_as_dep(deckgl, id, data)
```

Arguments

deckgl	A deckgl widget object.
id	The unique id of the source.
data	The url to fetch data from or a data object.

add_text_layer *Add a text layer to the deckgl widget*

Description

The TextLayer renders text labels on the map using texture mapping.

Usage

```
add_text_layer(
  deckgl,
  data = NULL,
  properties = list(),
  ...,
  id = "text-layer"
)
```

Arguments

deckgl	A deckgl widget object.
data	The url to fetch data from or a data object.
properties	A named list of properties with names corresponding to the properties defined in the deckgl-api-reference for the given layer class. The properties parameter can also be an empty list. In this case all props must be passed as named arguments.
...	Named arguments that will be added to the properties object. Identical parameters are overwritten.
id	The unique id of the layer.

See Also

https://deck.gl/#/documentation/deckgl-api-reference/layers/text-layer

Examples

```
## @knitr text-layer
data("bart_stations")

deck <- deckgl(zoom = 10, pitch = 35) %>%
  add_text_layer(
    data = bart_stations,
    pickable = TRUE,
    getPosition = ~lng + lat,
    getText = ~name,
    getSize = 15,
    getAngle = 0,
    getTextAnchor = "middle",
```

```
    getAlignmentBaseline = "center",
    tooltip = "{{name}}<br/>{{address}}"
  ) %>%
  add_basemap(use_carto_style("voyager"))

if (interactive()) deck
```

`bart_segments` *bart segments*

Description

bart segments

Usage

```
bart_segments
```

Format

tibble with 45 rows and 8 variables:

inbound number of inbound trips

outbound number of outbound trips

from_name name of source station

from_lng longitude of source station

from_lat latitude of source station

to_name name of target station

to_lng longitude of target station

to_lat latitude of target station

Source

https://raw.githubusercontent.com/uber-common/deck.gl-data/master/website/bart-segments.json

bart_stations *bart stations*

Description

bart stations

Usage

```
bart_stations
```

Format

tibble with 44 rows and 7 variables:

name station name

code two-letter station code

address address

entries number of entries

exits number of exits

lng longitude

lat latitude

Source

https://raw.githubusercontent.com/uber-common/deck.gl-data/master/website/bart-stations.json

deckgl *Create a deckgl widget*

Description

Create a deckgl widget

Usage

```
deckgl(
  latitude = 37.8,
  longitude = -122.45,
  zoom = 12,
  pitch = 0,
  bearing = 0,
  initial_view_state = NULL,
```

```
  views = NULL,
  width = NULL,
  height = NULL,
  element_id = NULL,
  ...
)
```

Arguments

latitude	The latitude of the initial view state.
longitude	The longitude of the initial view state.
zoom	The zoom level of the initial view state.
pitch	The pitch of the initial view state.
bearing	The bearing of the initial view state.
initial_view_state	The initial view state. If set, other view state arguments (longitude, latidude et cetera) are ignored.
views	A single View, or an array of View instances. If not supplied, a single MapView will be created.
width	The width of the widget.
height	The height of the widget.
element_id	The explicit id of the widget (usually not needed).
...	Optional properties that are passed to the deck instance.

Value

deckgl widget

See Also

https://deck.gl/#/documentation/deckgl-api-reference/deck for optional properties that can be passed to the deck instance.

---

deckgl-shiny *Shiny bindings for deckgl*

Description

Output and render functions for using deckgl within Shiny applications and interactive Rmd documents.

Usage

```
deckglOutput(outputId, width = "100%", height = "400px")

renderDeckgl(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

outputId	output variable to read from
width, height	Must be a valid CSS unit (like '100%', '400px', 'auto') or a number, which will be coerced to a string and have 'px' appended.
expr	An expression that generates a deckgl
env	The environment in which to evaluate expr.
quoted	Is expr a quoted expression (with quote())? This is useful if you want to save an expression in a variable.

---

deckgl_proxy *Create a deckgl proxy object*

Description

Creates a deckgl-like object that can be used to update a deckgl object that has already been rendered.

Usage

```
deckgl_proxy(shinyId, session = shiny::getDefaultReactiveDomain())
```

Arguments

shinyId	single-element character vector indicating the output ID of the deck to modify
session	the Shiny session object to which the deckgl widget belongs; usually the default value will suffice.

---

does_it_work *Check if everything works fine*

Description

Check if everything works fine

Usage

```
does_it_work(token = NULL)
```

Arguments

token	mapbox API access token

encode_icon_atlas *Encode atlas image to base64*

Description

Encode atlas image to base64

Usage

```
encode_icon_atlas(filename = NULL)
```

Arguments

filename	The filename of the atlas image.

Value

base64 encoded atlas image

get_color_to_rgb_array *Create a getColor data accessor*

Description

Creates a JS method to retrieve the color of each object. The method parses the HEX color property of the data object to an rgb color array.

Usage

```
get_color_to_rgb_array(color_property)
```

Arguments

color_property	property name of data object containing the HEX color

Value

JavaScript code evaluated on the client-side

get_data *Get data*

Description

EXPERIMENTAL, usually used in conjunction with add_data

Usage

```
get_data(var_name = "thanksForAllTheFish")
```

Arguments

var_name	JavaScript variable name

get_first_element *Create a data accessor retrieving the first element of an array*

Description

Create a data accessor retrieving the first element of an array

Usage

```
get_first_element(property_name)
```

Arguments

property_name	property name of data object

Value

JavaScript code evaluated on the client-side

get_last_element *Create a data accessor retrieving the last element of an array*

Description

Create a data accessor retrieving the last element of an array

Usage

```
get_last_element(property_name)
```

Arguments

property_name	property name of data object

Value

JavaScript code evaluated on the client-side

get_position *Create a getPosition data accessor*

Description

Creates a JS method to retrieve the position of each object.

Usage

```
get_position(latitude = NULL, longitude = NULL, coordinates = NULL)
```

Arguments

latitude	latitude property of data object
longitude	longitude property of data object
coordinates	coordinates property of data object (in this case latitude and longitude parameters are ignored)

Value

JavaScript code evaluated on the client-side

get_property *Create a data accessor*

Description

Creates a JS method to retrieve a given property of each object.

Usage

```
get_property(property_name)
```

Arguments

property_name	property name of data object

Value

JavaScript code evaluated on the client-side

set_view_state *Set the view state of the map*

Description

Set the view state of the map

Usage

```
set_view_state(
  deckgl,
  latitude = 37.8,
  longitude = -122.45,
  zoom = 12,
  pitch = 0,
  bearing = 0
)
```

Arguments

deckgl	A deckgl widget object.
latitude	The latitude of the view state.
longitude	The longitude of the view state.
zoom	The zoom level of the view state.
pitch	The pitch of the view state.
bearing	The bearing of the view state.

sf_bike_parking *sf bike parking*

Description

sf bike parking

Usage

```
sf_bike_parking
```

Format

tibble with 2520 rows and 5 variables:

address address

racks number of racks

spaces number of spaces

lng longitude

lat latidude

Source

https://raw.githubusercontent.com/uber-common/deck.gl-data/master/website/sf-bike-parking.json

update_deckgl *Send commands to a deckgl instance in a* Shiny *app*

Description

Send commands to a deckgl instance in a Shiny app

Usage

```
update_deckgl(proxy, ...)
```

Arguments

proxy	deckgl proxy object
...	unused

See Also

deckgl_proxy

use_carto_style *Use a Carto style*

Description

Use a Carto style

Usage

```
use_carto_style(theme = "dark-matter")
```

Arguments

theme	The theme of the style, dark-matter, positron or voyager.

use_contour_definition *Create a contour definition*

Description

Create a contour definition

Usage

```
use_contour_definition(
  threshold = 1,
  color = c(255, 255, 255),
  stroke_width = 1
)
```

Arguments

threshold	The threshold value used in contour generation.
color	The RGB color array used to render contour lines.
stroke_width	The width of the contour lines in pixels.

use_default_icon_properties *Use default icon properties*

Description

Returns icon properties with default values for `iconAtlas`, `iconMapping` and `getIcon`, so that the default icon is used.

Usage

```
use_default_icon_properties(
  sizeScale = 15,
  getSize = 5,
  getColor = c(240, 140, 0)
)
```

Arguments

`sizeScale`	icon size multiplier
`getSize`	height of each object (in pixels), if a number is provided, it is used as the size for all objects, if a function is provided, it is called on each object to retrieve its size
`getColor`	rgba color of each object, if an array is provided, it is used as the color for all objects if a function is provided, it is called on each object to retrieve its color

use_icon_definition *Create an icon definition on an atlas image*

Description

Create an icon definition on an atlas image

Usage

```
use_icon_definition(
  x = 0,
  y = 0,
  width = 128,
  height = 128,
  anchor_x = (width/2),
  anchor_y = 128,
  mask = TRUE
)
```

Arguments

x	The x position of the icon on the atlas image.
y	The y position of the icon on the atlas image.
width	The width of the icon on the atlas image.
height	The height of the icon on the atlas image.
anchor_x	The horizontal position of the icon anchor.
anchor_y	the vertical position of the icon anchor.
mask	whether icon is treated as a transparency mask, if TRUE, user defined color is applied, if FALSE, pixel color from the image is applied

---

use_tooltip *Create a tooltip property*

Description

Create a tooltip property

Usage

```
use_tooltip(html, style, ...)
```

Arguments

html	The innerHTML of the element.
style	A cssText string that will modefiy the default style of the element.
...	not used

Tooltip template Syntax

The tooltip string is a *mustache* template in which variable names are identified by the double curly brackets (*mustache* tags) that surround them. The variable names available to the template are given by deck.gl's pickingInfo.object and vary by layer.

See Also

mustache for a complete syntax overwiew.

Examples

```
data("bart_segments")

props <- list(
  tooltip = use_tooltip(
    html = "{{from_name}} to {{to_name}}",
    style = "background: steelBlue; border-radius: 5px;"
  )
)

# The picking object of the hexagon layer offers
# a property that contains the list of points of the hexagon.
# You can iterate over this list as shown below.
data("sf_bike_parking")

html = "
  <p>{{position.0}}, {{position.1}}<p>
  <p>Count: {{points.length}}</p>
  <p>{{#points}}<div>{{address}}</div>{{/points}}</p>
"
```

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