

Package ‘leaflet.esri’

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Type Package

Title 'ESRI' Bindings for the 'leaflet' Package

Version 0.2

Description An add-on package to the 'leaflet' package, which provides bindings for 'ESRI' services. This package allows a user to add 'ESRI' provided services such as 'MapService', 'ImageMapService', 'TiledMapService' etc. to a 'leaflet' map.

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Depends R (>= 3.1.0), leaflet (>= 1.1.0), leaflet.extras (>= 0.2)

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LazyData true

Imports shiny, htmlwidgets, htmltools, magrittr

Suggests V8, dplyr, geojsonio, purrr, readr, stringr, rmapshaper, htmlTable, memoise

URL <https://github.com/bhaskarvk/leaflet.esri>

BugReports <https://github.com/bhaskarvk/leaflet.esri/issues>

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R topics documented:

| | |
|--------------------------------------|---|
| addEsriBasemapLayer | 2 |
| addEsriDependency | 3 |
| addEsriDynamicMapLayer | 3 |
| addEsriFeatureLayer | 4 |
| addEsriHeatmapFeatureLayer | 6 |

| | |
|----------------------------------|----|
| addEsriImageMapLayer | 6 |
| addEsriTiledMapLayer | 7 |
| dynamicMapLayerOptions | 8 |
| esriBasemapLabels | 9 |
| esriBasemapLayers | 9 |
| featureLayerOptions | 10 |
| imageMapLayerOptions | 11 |
| leaflet.esri | 12 |
| tiledMapLayerOptions | 12 |

Index 13

addEsriBasemapLayer *Adds a ArcGIS Basemap layer*

Description

Adds a ArcGIS Basemap layer

Usage

```
addEsriBasemapLayer(map, key, autoLabels = FALSE, layerId = NULL,
  group = NULL, options = NULL)
```

Arguments

| | |
|------------|---|
| map | The leaflet map |
| key | ID of the layer |
| autoLabels | whether to show corresponding labels layer |
| layerId | Unique ID for the layer |
| group | The group this layer belongs to. |
| options | Basemap Layer Options. You can pass tileOptions() . |

Examples

```
## Not run:
leaflet() %>%
  addEsriBasemapLayer(esriBasemapLayers$oceans, autoLabels=TRUE)

## End(Not run)
```

| | |
|-------------------|---|
| addEsriDependency | <i>Adds esri-leaflet dependency to the leaflet widget</i> |
|-------------------|---|

Description

Adds esri-leaflet dependency to the leaflet widget

Adds esri-leaflet-clustered-feature-layer dependency to the leaflet widget

Adds esri-leaflet-geocoder dependency to the leaflet widget

Adds esri-leaflet-heatmap dependency to the leaflet widget

Adds esri-leaflet-renderers dependency to the leaflet widget

Usage

```
addEsriDependency(map)
```

```
addEsriClusterDependency(map)
```

```
addEsriGeocoderDependency(map)
```

```
addEsriHeatmapDependency(map)
```

```
addEsriRenderersDependency(map)
```

Arguments

| | |
|-----|------------------------|
| map | The leaflet map widget |
|-----|------------------------|

addEsriDynamicMapLayer

Render and visualize Map Services from ArcGIS Online and ArcGIS Server.

Description

Map Services are a way to expose the contents of a map as a web service and expose capabilities for exporting tile images, querying and identifying features and more. Also supports custom popups and identification of features.

Usage

```
addEsriDynamicMapLayer(map, url, options = dynamicMapLayerOptions(),  
  popupFunction = NULL, popupOptions = NULL, layerId = NULL,  
  group = NULL)
```

Arguments

| | |
|---------------|--|
| map | The leaflet map |
| url | URL of the Map Service . |
| options | options for the dynamic map layer. |
| popupFunction | Uses the provided function to create a popup that will identify features whenever the map is clicked. Your function will be passed a GeoJSON FeatureCollection of the features at the clicked location and should return the appropriate HTML. If you do not want to open the popup when there are no results, return false. |
| popupOptions | See popupOptions . |
| layerId | A unique ID for the layer. |
| group | The name of the group this layer should be added to. |

addEsriFeatureLayer *Adds an ArcGIS Feature Layer.*

Description

FeatureLayer is used to visualize, style, query and edit vector geographic data hosted in both ArcGIS Online and published using ArcGIS Server. Copyright text from the service is added to map attribution automatically.

Usage

```
addEsriFeatureLayer(map, url, useServiceSymbology = FALSE,
  options = featureLayerOptions(), layerId = NULL, group = NULL,
  markerType = NULL, markerIcons = NULL, markerIconProperty = NULL,
  markerOptions = leaflet::markerOptions(), clusterOptions = NULL,
  clusterId = NULL, labelProperty = NULL,
  labelOptions = leaflet::labelOptions(), popupProperty = NULL,
  popupOptions = leaflet::popupOptions(), stroke = TRUE, color = "#03F",
  weight = 5, opacity = 0.5, fill = TRUE, fillColor = color,
  fillOpacity = 0.2, dashArray = NULL, smoothFactor = 1, noClip = FALSE,
  pathOptions = leaflet::pathOptions(), highlightOptions = NULL,
  fitBounds = FALSE)
```

Arguments

| | |
|---------------------|--|
| map | The leaflet map |
| url | url of the FeatureService or MapService . |
| useServiceSymbology | whether to use the symbology set when a service was published. |
| options | options for the featurelayer |
| layerId | A unique ID for the layer. |

| | |
|--------------------|--|
| group | The name of the group this layer should be added to. the same parameter under addTiles) |
| markerType | The type of marker. either 'marker' or 'circleMarker' |
| markerIcons | Icons for Marker. |
| markerIconProperty | The property of the feature to use for marker icon. Can be a JS function which accepts a feature and returns an index of markerIcons. In either case the result must be one of the indexes of markerIcons. |
| markerOptions | The options for markers Can be a single marker using makeIcon or a list of markers using iconList |
| clusterOptions | if not NULL, markers will be clustered using Leaflet.markercluster ; you can use markerClusterOptions() to specify marker cluster options |
| clusterId | the id for the marker cluster layer |
| labelProperty | The property to use for the label. You can also pass in a JS function that takes in a feature and returns a text/HTML content. |
| labelOptions | A Vector of labelOptions to provide label options for each label. Default NULL |
| popupProperty | The property to use for popup content You can also pass in a JS function that takes in a feature and returns a text/HTML content. |
| popupOptions | A Vector of popupOptions to provide popups |
| stroke | whether to draw stroke along the path (e.g. the borders of polygons or circles) |
| color | stroke color |
| weight | stroke width in pixels |
| opacity | stroke opacity (or layer opacity for tile layers) |
| fill | whether to fill the path with color (e.g. filling on polygons or circles) |
| fillColor | fill color |
| fillOpacity | fill opacity |
| dashArray | a string that defines the stroke dash pattern |
| smoothFactor | how much to simplify the polyline on each zoom level (more means better performance and less accurate representation) |
| noClip | whether to disable polyline clipping |
| pathOptions | Options for shapes |
| highlightOptions | Options for highlighting the shape on mouse over. you can use highlightOptions() to specify highlight |
| fitBounds | Whether to set the maps bounds to fit the data in the featureLayer options |

addEsriHeatmapFeatureLayer

Add Esri Heatmap Feature Layer.

Description

Add Esri Heatmap Feature Layer.

Usage

```
addEsriHeatmapFeatureLayer(map, url, radius = 25, gradient = NULL,  
  options = featureLayerOptions(), layerId = NULL, group = NULL)
```

Arguments

| | |
|----------|--|
| map | The leaflet map |
| url | url of the FeatureService or MapService . |
| radius | Radius for the heatmap |
| gradient | The gradient |
| options | options for the featurelayer |
| layerId | A unique ID for the layer. |
| group | The name of the group this layer should be added to. the same parameter under addTiles) |

addEsriImageMapLayer *Render and visualize Image Services from ArcGIS Online and ArcGIS Server.*

Description

Image Services provide access to raster data through a web service.

Usage

```
addEsriImageMapLayer(map, url, options = imageMapLayerOptions(),  
  popupFunction = NULL, popupOptions = NULL, layerId = NULL,  
  group = NULL)
```

Arguments

| | |
|---------------|--|
| map | The leaflet map |
| url | URL of the Image Service |
| options | options for the image map layer. |
| popupFunction | Uses the provided function to create a popup that will identify features whenever the map is clicked. Your function will be passed a GeoJSON FeatureCollection of the features at the clicked location and should return the appropriate HTML. If you do not want to open the popup when there are no results, return false. |
| popupOptions | See popupOptions . |
| layerId | A unique ID for the layer. |
| group | The name of the group this layer should be added to. |

addEsriTiledMapLayer *Access tiles from ArcGIS Online and ArcGIS Server to visualize and identify features.*

Description

If you have published a Feature Service in ArcGIS Online, it can be used to create a static set of tiles as well. You can find details about that process in the [ArcGIS Online Help](#). Your map service must be published using the Web Mercator Auxiliary Sphere tiling scheme (WKID 102100/3857) and the default scale options used by Google Maps, Bing Maps and [ArcGIS Online](#). Esri Leaflet will not support any other spatial reference for tile layers.

Usage

```
addEsriTiledMapLayer(map, url, options = tiledMapLayerOptions(),  
  layerId = NULL, group = NULL)
```

Arguments

| | |
|---------|---|
| map | The leaflet map |
| url | URL of the Map Service with a tile cache. |
| options | options for the tiledmap layer. |
| layerId | A unique ID for the layer. |
| group | The name of the group this layer should be added to. |

 dynamicMapLayerOptions

Options for dynamic map layer.

Description

Options for dynamic map layer.

Usage

```
dynamicMapLayerOptions(format = "png24", transparent = TRUE, f = "json",
  attribution = "", layers = NULL, layerDefs = NULL, opacity = 1,
  position = "front", maxZoom = NULL, minZoom = NULL,
  dynamicLayers = NULL, token = NULL, proxy = NULL, useCors = TRUE, ...)
```

Arguments

| | |
|---------------|--|
| format | Output format of the image. |
| transparent | Allow the server to produce transparent images. |
| f | Server response content type. |
| attribution | Attribution from service metadata copyright text is automatically displayed in Leaflet's default control. This property can be used for customization. |
| layers | An array of Layer IDs like [3,4,5] to show from the service. |
| layerDefs | A string representing a query to run against the service before the image is rendered. This can be a string like "3:STATE_NAME='Kansas'" or an object mapping different queries to specific layers 3:"STATE_NAME='Kansas'", 2:"POP2007>25000". |
| opacity | Opacity of the layer. Should be a value between 0 (completely transparent) and 1 (completely opaque). |
| position | Position of the layer relative to other overlays. |
| maxZoom | Closest zoom level the layer will be displayed on the map. |
| minZoom | Furthest zoom level the layer will be displayed on the map. |
| dynamicLayers | JSON object literal used to manipulate the layer symbology defined in the service itself. Requires a 10.1 (or above) map service which supports dynamicLayers requests. |
| token | If you pass a token in your options it will be included in all requests to the service. |
| proxy | URL of an ArcGIS API for JavaScript proxy or ArcGIS Resource Proxy to use for proxying requests. |
| useCors | If this service should use CORS when making GET requests. |
| ... | extra options |

| | |
|-------------------|-----------------------------|
| esriBasemapLabels | <i>Esri basemap labels.</i> |
|-------------------|-----------------------------|

Description

Taken from <https://esri.github.io/esri-leaflet/api-reference/layers/basemap-layer.html#optional-labels>.

Usage

```
esriBasemapLabels
```

Format

An object of class list of length 7.

| | |
|-------------------|-----------------------------|
| esriBasemapLayers | <i>Esri Basemap Layers.</i> |
|-------------------|-----------------------------|

Description

BasemapLayer is used to display Esri hosted basemaps and attributes data providers appropriately. The Terms of Use for Esri hosted services apply to all Leaflet applications. Taken from <https://esri.github.io/esri-leaflet/api-reference/layers/basemap-layer.html>.

Usage

```
esriBasemapLayers
```

Format

An object of class list of length 9.

featureLayerOptions *Options for featureLayers.*

Description

Options for featureLayers.

Usage

```
featureLayerOptions(where = NULL, minZoom = NULL, maxZoom = NULL,
  cacheLayers = NULL, fields = NULL, from = NULL, to = NULL,
  timeField = NULL, timeFilterMode = NULL, simplifyFactor = NULL,
  precision = NULL, token = NULL, proxy = NULL, useCors = NULL,
  renderer = NULL, ...)
```

Arguments

| | |
|----------------|---|
| where | String An optional expression to filter features server side. String values should be denoted using single quotes ie: where: "FIELDNAME = 'field value'"; More information about valid SQL syntax can be found at http://resources.arcgis.com/en/help/main/10.2/index.html#/SQL_reference_for_query_expressions_used_in_ArcGIS/00s500000033000000/ . |
| minZoom | Integer Minimum zoom level of the map that features will display. example: minZoom:0 |
| maxZoom | Integer Maximum zoom level of the map that features will example: maxZoom:19 |
| cacheLayers | Boolean Will remove layers from the internal cache when they are removed from the map. |
| fields | Array An array of fieldnames to pull from the service. Includes all fields by default. You should always specify the name of the unique id for the service. Usually either 'FID' or 'OBJECTID'. |
| from | Date When paired with to defines the time range of features to display. Requires the Feature Layer to be time enabled. |
| to | Date When paired with from defines the time range of features to display. Requires the Feature Layer to be time enabled. |
| timeField | false The name of the field to lookup the time of the feature. Can be an object like start:'startTime', end:'endTime' or a string like 'created'. |
| timeFilterMode | 'server' (default) or 'client' Determines where features are filtered by time. By default features will be filtered by the server. If set to 'client' all features are requested and filtered by the app before display. |
| simplifyFactor | Integer How much to simplify polygons and polylines. More means better performance, and less means more accurate representation. |
| precision | Integer How many digits of precision to request from the server. Wikipedia has a great reference of digit precision to meters at http://en.wikipedia.org/wiki/Decimal_degrees . |

| | |
|----------|---|
| token | String If you pass a token in your options it will be included in all requests to the service. |
| proxy | URL of an ArcGIS API for JavaScript proxy or ArcGIS Resource Proxy to use for proxying requests. |
| useCors | Boolean If this service should use CORS when making GET requests. |
| renderer | L.svg or L.canvas The vector renderer to use to draw the service. Usually L.svg but setting to L.canvas contains performance benefits for large polygon layers. |
| ... | extra options |

imageMapLayerOptions *Options for image map layer.*

Description

Options for image map layer.

Usage

```
imageMapLayerOptions(format = "jpgpng", f = "json", opacity = 1,
  position = "front", maxZoom = NULL, minZoom = NULL, from = NULL,
  to = NULL, bandIds = NULL, noData = NULL, noDataInterpretation = NULL,
  pixelType = NULL, renderingRule = NULL, mosaicRule = NULL,
  token = NULL, proxy = NULL, useCors = TRUE, ...)
```

Arguments

| | |
|----------------------|---|
| format | Output format of the image. |
| f | Server response content type. |
| opacity | Opacity of the layer. Should be a value between 0 and 1. |
| position | Position of the layer relative to other overlays. |
| maxZoom | Closest zoom level the layer will be displayed on the map. |
| minZoom | Furthest zoom level the layer will be displayed on the map. |
| from | Date When paired with to defines the time range of data to display. Requires the Image Layer to be time enabled. |
| to | Date When paired with from defines the time range of data to display. Requires the Image Layer to be time enabled. |
| bandIds | If there are multiple bands, you can specify which bands to export. |
| noData | The pixel value representing no information. |
| noDataInterpretation | Interpretation of the noData setting. |
| pixelType | Leave pixelType as unspecified, or UNKNOWN, in most exportImage use cases, unless such pixelType is desired. Possible values: C128, C64, F32, F64, S16, S32, S8, U1, U16, U2, U32, U4, U8, UNKNOWN. |

| | |
|---------------|--|
| renderingRule | A JSON representation of a raster function |
| mosaicRule | A JSON representation of a mosaic rule |
| token | If you pass a token in your options it will be included in all requests to the service. |
| proxy | URL of an ArcGIS API for JavaScript proxy or ArcGIS Resource Proxy to use for proxying requests. |
| useCors | If this service should use CORS when making GET requests. |
| ... | extra options |

leaflet.esri *leaflet.esri: 'ESRI' bindings for the 'leaflet' Package.*

Description

An add-on package to the 'leaflet' package, which provides bindings for 'ESRI' services. This package allows a user to add 'ESRI' provided services such as 'MapService', 'ImageMapService', 'TiledMapService' etc. to a 'leaflet' map.

Author(s)

Bhaskar V. Karambelkar

tiledMapLayerOptions *Options for TiledMapLayer.*

Description

Options for TiledMapLayer.

Usage

```
tiledMapLayerOptions(correctZoomLevels = TRUE, zoomOffsetAllowance = 0.1,
  proxy = NULL, useCors = TRUE, token = NULL, tileOptions = NULL)
```

Arguments

| | |
|---------------------|---|
| correctZoomLevels | Correct Zoom levels. |
| zoomOffsetAllowance | If correctZoomLevels is enabled this controls the amount of tolerance for the difference at each scale level for remapping tile levels. |
| proxy | URL of an ArcGIS API for JavaScript proxy or ArcGIS Resource Proxy to use for proxying requests. |
| useCors | Dictates if the service should use CORS when making GET requests. |
| token | Use this token to authenticate all calls to the service. |
| tileOptions | Other options for tile layer. You can pass <code>tileOptions()</code> . |

