

Google Maps V3 API

CodeIgniter Library

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Introduction

This CodeIgniter library provides an easy way to display simple maps within an application/website using the Google Maps V3 API. It allows maps to be shown, including customisable markers, polylines, polygons, circles, rectangles, ground overlays and more with just a few lines of code. Directions can also be drawn, both onto the map, and textual directions written to an element on the page. The library also integrates with Google Places to show places of interest.

Installation

In order to use the library you will need to download the Googlemaps.php file and place it in your 'application/libraries' directory. Following the demonstrations and documentation below you will then be able to begin creating maps right away.

The Basics

Once the installation instructions above are complete there are just two things we need to do in order to create a map. The first is to amend our controller in order to initialize and customise our output, and the second is to include two lines of code in our view where we want the map to be displayed:

The Controller

The example below shows how to create a very simple map with all the default controls/properties and no overlays/markers:

```
// Load the library
$this->load->library('googlemaps');

// Initialize our map. Here you can also pass in additional parameters for customising the map (see below)
$this->googlemaps->initialize();

// Create the map. This will return the Javascript to be included in our pages <head></head> section and the HTML code to be
// placed where we want the map to appear.
$data['map'] = $this->googlemaps->create_map();

// Load our view, passing the map data that has just been created
$this->load->view('my_view', $data);
```

The View

There are two things we need to add to our view. The first is the Javascript which should be placed in the <head> section of your website as follows:

```
<head>
<?php echo $map['js']; ?>
</head>
```

The next thing is the actual map. This should be placed where you want the map to appear as follows:

```
<?php echo $map['html']; ?>
```

Customising the Map

The library allows you to adjust the way your map appears by passing in additional values in a \$config array to \$this->googlemaps->initialize(\$config). These are as follows:

Name	Type	Default	Possible Values	Description
\$adsense	boolean	FALSE	TRUE, FALSE	Whether Google AdSense For Content should be enabled
\$adsenseChannelNumber	string			The AdSense channel number for tracking the performance of this AdUnit
\$adsenseFormat	string	HALF_BANNER	"BANNER", "BUTTON", "HALF_BANNER", "LARGE_RECTANGLE", "LEADERBOARD", "MEDIUM_RECTANGLE", "SKYSCRAPER", "SMALL_RECTANGLE", "SMALL_SQUARE", "SQUARE", "VERTICAL_BANNER", "WIDE_SKYSCRAPER"	The format of the AdUnit
\$adsensePosition	string	TOP_CENTER		The position of the AdUnit
\$adsensePublisherID	string			Your Google AdSense publisher ID
\$backgroundColor	string		A hex colour value	The background color shown when tiles have not yet loaded as the user pans
\$center	string	"37.4419, -122.1419"	A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long. Other possible value is "auto" (see description).	Sets the default center location of the map. You can also center on the current users location using available geocoding services. Simply set this to "auto".
\$cluster	boolean	FALSE	TRUE, FALSE	Whether to cluster markers
\$clusterGridSize	integer	60		The grid size of a cluster in pixels
\$clusterMaxZoom	integer			The maximum zoom level that a marker can be part of a cluster
\$clusterZoomOnClick	boolean	TRUE	TRUE, FALSE	Whether the default behaviour of clicking on a cluster is to zoom into it
\$clusterAverageCenter	boolean	FALSE	TRUE, FALSE	Whether the center of each cluster should be the average of all markers in the cluster
\$clusterMinimumClusterSize	integer	2		The minimum number of markers to be in a cluster before the markers are hidden and a count is shown
\$directions	boolean	FALSE		Whether or not the map will be used to show directions
\$directionsStart	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The starting location of the directions
\$directionsEnd	string		A latitude/longitude coordinate	The destination point of the

			OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	directions
\$directionsDivID	string			An element's ID on the page where textual directions will be output to. Leave blank if not required
\$directionsMode	string	"DRIVING"	"DRIVING", "WALKING", "BICYCLING" (US only)	The vehicle/mode of transport to show directions for
\$directionsAvoidTolls	boolean	FALSE	TRUE, FALSE	Whether or not directions should avoid tolls
\$directionsAvoidHighways	boolean	FALSE	TRUE, FALSE	Whether or not directions should avoid highways
\$disableDefaultUI	boolean	FALSE	TRUE, FALSE	If set to TRUE will hide the default controls (ie. zoom, scale)
\$disableMapTypeControl	boolean	FALSE	TRUE, FALSE	If set to TRUE will hide the MapType control (ie. Map, Satellite, Hybrid, Terrain)
\$disableNavigationControl	boolean	FALSE	TRUE, FALSE	If set to TRUE will hide the Navigation control (ie. zoom in/out, pan)
\$disableScaleControl	boolean	FALSE	TRUE, FALSE	If set to TRUE will hide the Scale control
\$disableStreetViewControl	boolean	FALSE	TRUE, FALSE	If set to TRUE will hide the Street View control
\$disableDoubleClickZoom	boolean	FALSE	TRUE, FALSE	If set to TRUE will disable zooming when a double click occurs
\$draggable	boolean	TRUE	TRUE, FALSE	If set to FALSE will prevent the map from being dragged around
\$draggableCursor	string			The name or url of the cursor to display on a draggable object
\$draggingCursor	string			The name or url of the cursor to display when an object is dragging
\$navigationControlPosition	string		"BOTTOM", "BOTTOM_LEFT", "BOTTOM_RIGHT", "LEFT", "RIGHT", "TOP", "TOP_LEFT", "TOP_RIGHT"	The position of the Navigation control
\$keyboardShortcuts	boolean	TRUE	TRUE, FALSE	If set to FALSE will disable to map being controlled via the keyboard
\$jsfile	string			Set this to the path of an external JS file if you wish the Javascript to be placed in a file rather than output directly into the <head></head> section. The library will try to create the file if it does not exist already. Please ensure the destination file is writeable
\$map_div_id	string	"map_canvas"		The ID of the <div></div> that is output which contains the map

\$map_height	string	"450px"		The height of the map container. Any units (ie 'px') can be used. If no units are provided 'px' will be presumed
\$map_name	string	"map"		The JS reference to the map. Currently not used but to be used in the future when multiple maps are supported
\$map_type	string	"ROADMAP"	"HYBRID", "ROADMAP", "SATELLITE", "TERRAIN"	The default MapType
\$map_types_available	array		"HYBRID", "ROADMAP", "SATELLITE", "TERRAIN"	An array of map types to show available for selection on the map
\$map_width	string	"100%"		The width of the map container. Any units (ie 'px') can be used. If no units are provided 'px' will be presumed
\$mapTypeControlPosition	string		"BOTTOM", "BOTTOM_LEFT", "BOTTOM_RIGHT", "LEFT", "RIGHT", "TOP", "TOP_LEFT", "TOP_RIGHT"	The position of the MapType control
\$mapTypeControlStyle	string		"DROPDOWN_MENU", "HORIZONTAL_BAR"	The style of the MapType control
\$minzoom	integer			The minimum zoom level which will be displayed on the map
\$maxzoom	integer			The maximum zoom level which will be displayed on the map
\$places	boolean	FALSE	TRUE, FALSE	Whether or not the map will be used to show places
\$placesLocation	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	A point on the map if the search for places is based around a central point
\$placesRadius	integer	0		The radius (in meters) if search is based around a central position
\$placesLocationSW	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	If preferring to search within bounds the South-West position
\$placesLocationNE	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	If preferring to search within bounds the North-East position
\$placesTypes	array		For a full list of accepted types see: http://code.google.com/apis/maps/documentation/places/supported_types.html	An array of types of places to search for
\$placesName	string			A term to be matched against when searching for places to display on the map
\$region	string			Country code top-level domain (eg "uk") within which to search. Useful if supplying

				addresses rather than lat/longs
\$scaleControlPosition	string		"BOTTOM", "BOTTOM_LEFT", "BOTTOM_RIGHT", "LEFT", "RIGHT", "TOP", "TOP_LEFT", "TOP_RIGHT"	The position of the Scale control
\$scrollwheel	boolean	TRUE	TRUE, FALSE	If set to FALSE will disable zooming by scrolling of the mouse wheel
\$sensor	boolean	FALSE	TRUE, FALSE	Set to TRUE if being used on a device that can detect a users location
\$streetViewControlPosition	string		"BOTTOM", "BOTTOM_LEFT", "BOTTOM_RIGHT", "LEFT", "RIGHT", "TOP", "TOP_LEFT", "TOP_RIGHT"	The position of the Street View control
\$zoom	string	"13"	"0" (zoomed out) – "18" (zoomed in), "auto"	The default zoom level of the map. If set to "auto" will auto-zoom/center to fit in all visible markers. If "auto", also overrides the \$center parameter
\$zoomControlPosition	string		"BOTTOM", "BOTTOM_LEFT", "BOTTOM_RIGHT", "LEFT", "RIGHT", "TOP", "TOP_LEFT", "TOP_RIGHT"	The position of the Zoom control
\$zoomControlStyle	string		"SMALL", "LARGE"	The style of the Zoom control

Adding Markers

The library also allows you to add multiple markers to the map at specified positions. To add a single marker we can add the following code BEFORE the `create_map()` function is called:

```
// Set the marker parameters as an empty array. Especially important if we are using multiple markers
$marker = array();
```

```
// Specify an address or lat/long for where the marker should appear.
$marker[' position '] = 'Crescent Park, Palo Alto';
```

```
// Once all the marker parameters have been specified lets add the marker to our map
this->googlemaps->add_marker($marker);
```

To create multiple markers simply duplicate the above code the required amount of times.

Like the map itself, we can also specify a number of parameters for individual markers to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$position	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The position at which the marker will appear
\$infowindow_content	string			If not blank, creates an infowindow (aka bubble) with the content provided. Can be plain text or HTML
\$animation	string		"DROP", "BOUNCE"	Animate the marker so it exhibits dynamic movement
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the marker is clickable
\$cursor	string			The name or url of the cursor to display on hover
\$draggable	boolean	FALSE	TRUE, FALSE	Defines if the marker is draggable
\$flat	boolean	FALSE	TRUE, FALSE	If set to TRUE will no display a shadow beneath the icon
\$icon	string			The name or url of the icon to use for the marker
\$onclick	string			JavaScript performed when a marker is clicked
\$ondblclick	string			JavaScript performed when a marker is double-clicked
\$ondrag	string			JavaScript repeatedly performed while the marker is being dragged
\$ondragstart	string			JavaScript performed when a marker is started to be dragged
\$ondragend	string			JavaScript performed when a draggable marker is dropped
\$onmousedown	string			JavaScript performed when a mousedown event occurs on a marker
\$onmouseout	string			JavaScript performed when the mouse leaves the area of the marker icon

\$onmouseover	string			JavaScript performed when the mouse enters the area of the marker icon
\$onmouseup	string			JavaScript performed when a mouseup event occurs on a marker
\$onrightclick	string			JavaScript performed when a right-click occurs on a marker
\$raiseondrag	TRUE		TRUE, FALSE	If FALSE, disables the raising and lowering of the icon when a marker is being dragged
\$shadow	string			The name or url of the icon's shadow
\$title	string			The tooltip text to show on hover
\$visible	boolean	TRUE	TRUE, FALSE	Defines if the marker is visible by default
\$zIndex	int			The zIndex of the marker. If two markers overlap, the marker with the higher \$zIndex will appear on top

Adding Polylines

The library also allows you to add polylines to the map at specified positions. To add a single polyline we can add the following code BEFORE the `create_map()` function is called:

```
// Set the polyline parameters as an empty array. Especially important if we are using multiple polylines
$polyline = array();

// Specify an array of addresses or lat/longs for where the polyline points should appear.
$polyline['points'] = array('37.429, -122.1319', 'Crescent Park, Palo Alto', '37.4419, -122.1219');

// Once all the polyline parameters have been specified lets add the polyline to our map
$this->googlemaps->add_polyline($polyline);
```

To create multiple polylines simply duplicate the above code the required amount of times.

We can also specify a number of parameters for individual polylines to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$points	array		An array of latitude/longitude coordinates OR addresses, or a mixture of both. If an address is supplied the Google geocoding service will be used to return a lat/long.	The position at which the polyline points will appear
\$strokeColor	string	"#FF0000"	A hex colour value	The colour of the polyline
\$strokeOpacity	string	"1.0"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the polyline
\$strokeWeight	string	"2"		The thickness of the polyline
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the polyline is clickable
\$onclick	string			JavaScript performed when a polyline is clicked
\$ondblclick	string			JavaScript performed when a polyline is double-clicked
\$onmousedown	string			JavaScript performed when a mousedown event occurs on a polyline
\$onmousemove	string			JavaScript performed when the mouse moves in the area of the polyline
\$onmouseout	string			JavaScript performed when the mouse leaves the area of the polyline
\$onmouseover	string			JavaScript performed when the mouse enters the area of the polyline
\$onmouseup	string			JavaScript performed when a mouseup event occurs on a polyline
\$onrightclick	string			JavaScript performed when a right-click occurs on a polyline
\$zIndex	int			The zIndex of the polyline. If two polylines overlap, the polyline with the higher \$zIndex will appear on top

Adding Polygons

The library also allows you to add polygons to the map at specified positions. To add a single polygon we can add the following code BEFORE the `create_map()` function is called:

```
// Set the polygon parameters as an empty array. Especially important if we are using multiple polygons
$polygon = array();

// Specify an array of addresses or lat/longs for where the polygon points should appear.
// NOTE: The first and last elements in the array should be the same to complete the polygon
$polygon['points'] = array('37.425, -122.1321', '37.4422, -122.1622', '37.4412, -122.1322', '37.425, -122.1021');

// Once all the polygon parameters have been specified lets add the polygon to our map
$this->googlemaps->add_polygon($polygon);
```

To create multiple polygons simply duplicate the above code the required amount of times.

We can also specify a number of parameters for individual polygons to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$points	array		An array of latitude/longitude coordinates OR addresses, or a mixture of both. If an address is supplied the Google geocoding service will be used to return a lat/long.	The position at which the polygon points will appear. NOTE: The first and last elements of the array must be the same
\$strokeColor	string	"#FF0000"	A hex colour value	The colour of the polygon border
\$strokeOpacity	string	"0.8"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the polygon border
\$strokeWeight	string	"2"		The thickness of the polygon border
\$fillColor	string	"#FF0000"	A hex colour value	The colour of the polygon
\$fillOpacity	string	"0.3"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the polygon
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the polygon is clickable
\$onclick	string			JavaScript performed when a polygon is clicked
\$ondblclick	string			JavaScript performed when a polygon is double-clicked
\$onmousedown	string			JavaScript performed when a mousedown event occurs on a polygon
\$onmousemove	string			JavaScript performed when the mouse moves in the area of the polygon
\$onmouseout	string			JavaScript performed when the mouse leaves the area of the polygon
\$onmouseover	string			JavaScript performed when the mouse enters the area of the polygon
\$onmouseup	string			JavaScript performed when a mouseup event occurs on a polygon

\$onrightclick	string			JavaScript performed when a right-click occurs on a polygon
\$zIndex	int			The zIndex of the polygon. If two polygons overlap, the polygon with the higher \$zIndex will appear on top

Adding Circles

The library also allows you to add circles to the map at specified positions. To add a single circle we can add the following code BEFORE the `create_map()` function is called:

```
// Set the circle parameters as an empty array. Especially important if we are using multiple circles
$circle = array();

// Specify the center and radius (in metres) of the circle
$circle['center'] = '37.459, -122.1319';
$circle['radius'] = '1000';

// Once all the circle parameters have been specified lets add the circle to our map
$this->googlemaps->add_circle($circle);
```

To create multiple circles simply duplicate the above code the required amount of times.

We can also specify a number of parameters for individual circles to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$center	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The position at which the circle will appear
\$radius	integer	0		The circle radius (in metres).
\$strokeColor	string	"#FF0000"	A hex colour value	The colour of the circle border
\$strokeOpacity	string	"1.0"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the circle border
\$strokeWeight	string	"2"		The thickness of the circle border
\$fillColor	string	"#FF0000"	A hex colour value	The colour of the circle
\$fillOpacity	string	"0.3"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the circle
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the circle is clickable
\$onclick	string			JavaScript performed when a circle is clicked
\$ondblclick	string			JavaScript performed when a circle is double-clicked
\$onmousedown	string			JavaScript performed when a mousedown event occurs on a circle
\$onmousemove	string			JavaScript performed when the mouse moves in the area of the circle
\$onmouseout	string			JavaScript performed when the mouse leaves the area of the circle
\$onmouseover	string			JavaScript performed when the mouse enters the area of the circle
\$onmouseup	string			JavaScript performed when a mouseup event occurs on a circle

\$onrightclick	string			JavaScript performed when a right-click occurs on a circle
\$zIndex	int			The zIndex of the circle. If two circles overlap, the circle with the higher \$zIndex will appear on top

Adding Rectangles

The library also allows you to add rectangles to the map at specified positions. To add a single rectangle we can add the following code BEFORE the `create_map()` function is called:

```
// Set the rectangle parameters as an empty array. Especially important if we are using multiple rectangles
$rectangle = array();

// Specify the bounds (south-west and north-east positions) of the rectangle
$rectangle['positionSW'] = '37.459, -122.1319';
$rectangle['positionNE'] = '37.459, -122.2244';

// Once all the rectangle parameters have been specified lets add the rectangle to our map
$this->googlemaps->add_rectangle($rectangle);
```

To create multiple rectangles simply duplicate the above code the required amount of times.

We can also specify a number of parameters for individual rectangles to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$positionSW	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The South-West position at which the rectangle will appear
\$positionNE	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The North-East position at which the rectangle will appear
\$strokeColor	string	"#FF0000"	A hex colour value	The colour of the rectangle border
\$strokeOpacity	string	"1.0"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the rectangle border
\$strokeWeight	string	"2"		The thickness of the rectangle border
\$fillColor	string	"#FF0000"	A hex colour value	The colour of the rectangle
\$fillOpacity	string	"0.3"	0 (transparent) – 1.0 (solid/opaque)	The opacity of the rectangle
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the rectangle is clickable
\$onclick	string			JavaScript performed when a rectangle is clicked
\$ondblclick	string			JavaScript performed when a rectangle is double-clicked
\$onmousedown	string			JavaScript performed when a mousedown event occurs on a rectangle
\$onmousemove	string			JavaScript performed when the mouse moves in the area of the rectangle
\$onmouseout	string			JavaScript performed when the mouse leaves the area of the rectangle
\$onmouseover	string			JavaScript performed when the mouse enters the area of the

				rectangle
\$onmouseup	string			JavaScript performed when a mouseup event occurs on a rectangle
\$onrightclick	string			JavaScript performed when a right-click occurs on a rectangle
\$zIndex	int			The zIndex of the rectangle. If two rectangles overlap, the rectangle with the higher \$zIndex will appear on top

Adding Ground Overlays

The library also allows you to add ground overlays (ie. images) to the map at specified positions. The image will automatically resize to match the South-West and North-East positions provided. To add a single ground overlay we can add the following code BEFORE the `create_map()` function is called:

```
// Set the overlay parameters as an empty array. Especially important if we are using multiple overlays
$overlay = array();

// Specify the bounds (south-west and north-east positions) of the ground overlay
$overlay['image'] = 'http://www.mydomain.com/images/test.jpg';
$overlay['positionSW'] = '37.459, -122.1319';
$overlay['positionNE'] = '37.459, -122.2244';

// Once all the overlay parameters have been specified lets add the overlay to our map
$this->googlemaps->add_ground_overlay($overlay);
```

To create multiple overlays simply duplicate the above code the required amount of times.

We can also specify a number of parameters for individual overlays to change how and where they appear. These parameters are as follows:

Name	Type	Default	Possible Values	Description
\$image	string		A valid URL	A URL to the image that should be used as the overlay
\$positionSW	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The South-West position at which the overlay will appear
\$positionNE	string		A latitude/longitude coordinate OR an address. If an address is supplied the Google geocoding service will be used to return a lat/long.	The North-East position at which the overlay will appear
\$clickable	boolean	TRUE	TRUE, FALSE	Defines if the overlay is clickable
\$onclick	string			JavaScript performed when an overlay is clicked

Need Help?

To leave feedback, ask questions or report bugs please contact me at info@biostall.com or leave a comment at <http://biostall.com>.