59-north.com Mapbox Integration Usage Manual

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LIFTING BRIDGES

Contents

1 Mapbox Account Changes

1.1 Install the Style in your Mapbox account

Log into your mapbox account.

1. Choose the `Styles` page in the left menu.

2. Click the `New Style` button in the header.

3. Click `Upload a Style` in the top right of the popup.

4. Click on `Select a file`.

5. Choose `style/style.json` from the repository.

You will now find yourself in the style editor viewing the style you just uploaded. Look to the top left of the window. There is a button titled `Publish` and a button to the right of it with an arrow pointing up and to the right, with the tool tip *View Style Details*. Press that button.

Now look for the "Style URL" in the right column. Make a note of this. *You will need this URL later.*

1.2 Get an Access Token

Click on `Home` in the left navigation menu, then click on `My access tokens`. There should be a Default Public Token. If there is, make a note of it. If there is not click `Create a new token`. Make sure all the checkmarks are checked in the `Public Scopes` section.

Make a note of the token. You will also need this later.

2 Setup on Squarespace

2.1 Add the Header Code Injection

The project proposal specified a customization of your template to inject the custom code needed to initialize the map on your site. While working on the project, I became concerned that this method would impact the future upgradability of your site. You would be unable to upgrade or change your theme in the future because you would be "pegged" to the customized them I would have created.

I decided to look for other ways to inject the custom code I wrote into your site. I found that Squarespace has an advanced code header/footer injection feature for commercial sites. I therefore built the custom script so that it can be integrated using this feature.

The custom code is available in this repository as `createMap.js` but you won't actually need that file. I have also provided a compressed version of the file—embedded in some HTML—in the `header-code-injection.html` file.

You will need to open this file in a text editor. If you don't know how to do that, see the appendix (Section A).

In your squarespace admin:

1. Click on `Settings` in the left sidebar.

2. Click on the last item under `Website`, labeled `Advanced`.

3. Click on the `Code Injection` option.

4. Copy the contents of the `header-code-injection.html` file and paste it into the `Header` input box.

5. Click `Save` in the top left.

Your squarespace site is now setup to load maps from Mapbox.

3   Create a Map

3.1   GeoJSON

Mapbox uses the GeoJSON[1] format to represent map data. JSON[2] stands for JavaScript Object Notation. It is a structured text format. Structured text is a way to represent data that is easy for both humans and computers to understand. GeoJSON, therefore, is geospatial data represented as structured text using the JSON standard.

I have included the GeoJSON I used to create the map from Sweden to Scotland in the `scotland.geojson` file. It's worth taking a careful look at it. Below, I'm going to show how to use a tool provided by Mapbox to create these files, but it will be useful to understand the structure of the files.

The Scotland file contains two *Points* and a multi-segment *LineString*. The points represent destinations and the line string represents the path between the destinations.

One thing worth noting is that the coordinates are specified as latitude/longitude pairs, but that the order is reversed. *In GeoJSON, the longitude is always specified first, then the latitude.* Each point has just one coordinate, but the multi-line has an array of points. I started the line in the east progressing west, so you'll notice a monotonically declining longitude.

Of particular importance is properties attached to each feature. Consider the list of properties attached to the Orkney Islands point:

```
"properties": {
    "title": "Orkney Islands",
    "description": "An archipelago in the Northern Islands of Scotland",
    "noonsite": "http://www.noonsite.com/Countries/UnitedKingdom",
    "wikipedia": "https://en.wikipedia.org/wiki/Orkney"
},
```

The `title` field is required. Each point *must* have a title. The description is an optional text field, it should be a sentence giving some more detail about the destination.

You can add an arbitrary number of additional properties. In this example I added "noonsite" and "wikipedia." Each additional property, in addition to `title` and `description`, is assumed to be a link, with the key as a link title and the value as the URL. These will be displayed in the popup, below the description.

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[1]http://geojson.org
[2]http://json.org

The properties for a line string are much more limited:

```
"properties": {
    "link": "https://www.59-north.com/arctic-passages/2018/
5/1/1-smogen-sweden-orkney-scotland"
},
```

There is only one property, named `link`. The value should be a URL to the sign up page.

One last observation about this GeoJSON file: note that each feature has an `id` field. The only requirement for this field is one must exist for each feature and its value must be unique in the document.

3.2   Using Mapbox to create GeoJSON files

Mapbox has a data editor that you can use to build GeoJSON documents by using drawing tools. Go to your Mapbox account and select `Datasets` in the left nav menu. Then click `New dataset`. You'll be asked to give the dataset a name. Choose something sensible.

You'll now see the data editor console. A very useful feature is the ability to search the map for locations. For instance, I'd like to make a map of a route from Chicago to Muskegon Michigan. I start by going to the top right sidebar and typing "Chicago" into the `Search places` input box. This zooms and pans the map to Chicago. I zoom in a little bit to see Monroe Harbor.

Near the top of the left sidebar is a button with an upside-down teardrop on it. This is the "Point" tool. I click on it and then add a point by left-clicking in Monroe Harbor. After I add the point, the left sidebar switches to property editor. The point must have a title, so I take care of that first, clicking `Add new`. I type "title" in the `field` input box and write "Chicago" in the `value` input, and then click `Confirm`.

The title is the only required field, but you can do the same for `description` and any other field. Of important note is that `title` and `description` must be lowercase. The same is true for `link` on the line string.

I now need to draw a line-string from Chicago to Muskegon. I click the icon that looks like a barbell to the right of the point teardrop. Then I left-click on the map near the point I added, and then continue left-clicking to show the path out of the harbor. Once my line string gets to open water, I want to get a zoomed-out view so I press the minus key "-" several times. I can also use the arrow keys on the keyboard to pan without risking adding accidental segments.

When the line gets to Muskegon I zoom back in by pressing the equals "=" key on the keyboard. I double click to add the last point in Muskegon Harbor to end the path.

Each path needs a `link` property. That is added as above. After adding another point for Muskegon I am now ready to download the GeoJSON.

To do this, click the `Save` button on the top of the left sidebar. Then `View dataset details` below the export button. You will not need to use the export button.

Now click the `Download as GeoJSON` link in the right sidebar. Save the file to your hard drive.

3.3   Adding a Map to a Squarespace Page

Now it all comes together. You have:

- Your style URL (Section 1.1).

- Your access token (Section 1.2).

- The GeoJSON file (Section 3.2).

- The HTML snippet code in the `snippet.html` file.

Add a `code` block to the Squarespace page where you want the map to appear. Copy and paste the contents of `snippet.html` into the input. Make sure the type is "HTML" and the `Display Source` checkbox is *unchecked*.

Copy and paste your style URL into the snippet replacing the text "REPLACE THIS WITH YOUR STYLE URL (will be mapbox://styles/something/something)". Be sure to preserve the quote marks around it. For me, the resulting line looks like this:

```
style: 'mapbox://styles/jordanb/cj7zhvf336t2u2rlmc0zyt82f',
```

Do the same with the token, again, preserving the quote marks around it.

Next you need to open the downloaded JSON document in your text editor. Copy the *entire* file and paste it into the snippet, replacing the value:

```
{'REPLACE THIS': 'WITH YOUR GEOJSON'}
```

Note that the GeoJSON must *not* be in quotes, unlike the URL and access token. The line will look something like this:

```
var mapData = {
  "features": [
    {
      "type": "Feature",
====== LOTS OF OMITTED LINES OF CODE ======
    }
  ]
};
```

Once you've done this, you can save the page. You're done! You probably won't be able to view the map while logged-in due to security restrictions, but you can see the map by opening a private/incognito browsing window and viewing the page with it.

If you have any trouble or if anything is unclear please reach out to me.

A Text Editor

You must use a text editor to open any of the downloaded files, including `snippet.html`, `header-code-injection.html` or any of your downloaded GeoJSON documents. On Windows, you can use `Notepad`. On a Mac, things are more tricky. You can use the `TextEdit` program, but it *must be in plain-text mode*. You'll have to lookup how to do that.

If you can't get TextEdit working, you can also download or buy a text editor. Some examples are `Atom`, `Sublime Text`, or `TextMate`.

If you're having difficulty opening a file in a text editor, you may want to try changing the file's extension to ".txt". So for instance, `snippet.html` would become `snippet.txt`.