13.2.3

Create an HTML File and CSS File

Now that you have your API token and your branch is set up, Sadhana will let you get familiar with the documentation for using Leaflet. Then, she's suggested you jump in and create an HTML file and CSS file and add links to some stylesheets in the HTML file.

Let's get familiar with Leaflet. Leaflet has a few links and simple HTML code that we will add to an `index.html` page.

The Leaflet JavaScript Library

On the **Leaflet   (https://leafletjs.com/SlavaUkraini/index.html)** homepage, scroll midpage and click the **Leaflet Quick Start Guide   (https://leafletjs.com/SlavaUkraini/examples/quick-start/)** link:

Here we create a map in the `'map'` div, add tiles of our choice, and then add a marker with some text in a popup:

```
var map = L.map('map').setView([51.505, -0.09], 13);

L.tileLayer('https://{s}.tile.openstreetmap.org/{z}/{x}/{y}.png', {
    attribution: '&copy; <a href="https://www.openstreetmap.org/copyright">OpenStreetMap</a> con
}).addTo(map);

L.marker([51.5, -0.09]).addTo(map)
    .bindPopup('A pretty CSS3 popup.<br> Easily customizable.')
    .openPopup();
```

Learn mo   quick start guide, heck out other tutorials, or head straight to the API documentation. If you have any questions, take a look at the FAQ first.

The Leaflet Quick Start Guide provides steps for setting up a Leaflet map. To begin, scroll midpage to the "Preparing your page" section:

Preparing your page

Before writing any code for the map, you need to do the following preparation steps on your page:

- Include Leaflet CSS file in the head section of your document:

```
<link rel="stylesheet" href="https://unpkg.com/leaflet@1.7.1/dist/leaflet.css"
   integrity="sha512-xodZBNTC5n17Xt2atTPuE1HxjVMSvLVW9ocqUKLsCC5CXdbqCmblAshOMAS6/keqq/sMZMZ19scl
   crossorigin=""/>
```

- Include Leaflet JavaScript file **after** Leaflet's CSS:

```
<!-- Make sure you put this AFTER Leaflet's CSS -->
<script src="https://unpkg.com/leaflet@1.7.1/dist/leaflet.js"
   integrity="sha512-XQoYMqMTK8LvdxXYG3nZ448h0EQiglfqkJs1NOQV44cWnUrBc8PkAOcXy20w0vlaXaVUearIOBh
   crossorigin=""></script>
```

- Put a **div** element with a certain **id** where you want your map to be:

```
<div id="mapid"></div>
```

- Make sure the map container has a defined height, for example by setting it in CSS:

```
#mapid { height: 180px; }
```

Now you're ready to initialize the map and do some stuff with it.

The "Preparing your page" section includes links and HTML code that we'll add to our `index.html` page. First, we'll create a folder structure for our earthquake map webpage.
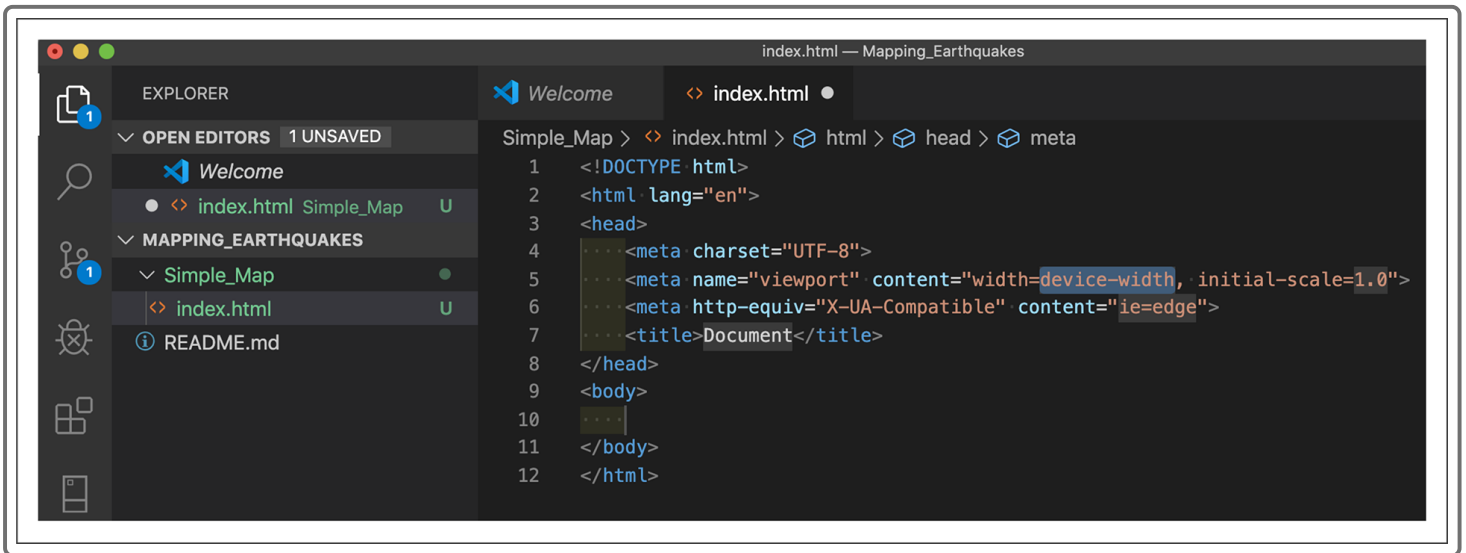
Create an HTML Page

Open your Mapping_Earthquakes repository folder in Visual Studio Code (VS Code). Create a new folder called "Simple_Map." Inside the folder, create a new `index.html` file. Next, create a template for your `index.html` file.

REWIND

To create a template for an `html` file, type an ! (exclamation point) and press Tab or Enter, and the empty file will be filled with the complete HTML5 boilerplate code.

```
● ● ●                                         index.html — Mapping_Earthquakes

        EXPLORER                    ⟩ Welcome          <> index.html ●

    ∨ OPEN EDITORS   1 UNSAVED       Simple_Map  >  <> index.html  >  ⬡ html  >  ⬡ head  >  ⬡ meta
                                       1    <!DOCTYPE html>
          ⟩ Welcome                    2    <html lang="en">
        ● <> index.html  Simple_Map  U 3    <head>
    ∨ MAPPING_EARTHQUAKES             4        <meta charset="UTF-8">
     ∨ Simple_Map              ●      5        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <> index.html         U       6        <meta http-equiv="X-UA-Compatible" content="ie=edge">
        ⓘ README.md                   7        <title>Document</title>
                                       8    </head>
                                       9    <body>
                                      10        |
                                      11    </body>
                                      12    </html>
```

In our `index.html` file, we'll change the document title and add the code from the "Preparing your page" section.

1. Change the document title in the `<title>` element in the `<head>` section (`<title>Document</title>`) to "Leaflet-Basic-Map."

2. In the `<head>` section, just below the `<title>` element, add the following Leaflet CSS script from the "Preparing your page" section:

```
<!-- Leaflet CSS -->
<link rel="stylesheet" href="https://unpkg.com/leaflet@1.7.1/dist/leaflet.css"
integrity="sha512-xodZBNTC5n17Xt2atTPuE1HxjVMSvLVW9ocqUKLsCC5CXdbqCmblAshOMAS6/keqq/sMZMZ19scR4PsZChSR7A=="
crossorigin=""/>
```

3. In the body of our `index.html` file, add the Leaflet JavaScript script:

```
<!-- Leaflet JavaScript -->
<script src="https://unpkg.com/leaflet@1.7.1/dist/leaflet.js"
integrity="sha512-XQoYMqMTK8LvdxXYG3nZ448hOEQiglfqkJs1NOQV44cWnUrBc8PkAOcXy20w0vlaXaVUearIOBhiXZ5V3ynxwA=="
crossorigin=""></script>
```

The Leaflet CSS and JavaScript files we added to the `index.html` file are referred to as content delivery networks (CDNs). Using CDNs has a security risk. To avoid the security risk, it's a best practice to include an integrity value with the CDN. Each file we added has its own integrity value, which is a Base64-encoded cryptographic hash of a resource that prevents the CDN from being hacked.

NOTE

For more about the Subresource Integrity value, please see the documentation on the **Download Leaflet webpage** **(https://leafletjs.com/SlavaUkraini/download.html)** and Mozilla Developers' **Subresource Integrity webpage** **(https://developer.mozilla.org/en-US/docs/Web/Security/Subresource_Integrity)** .

4. Above the Leaflet JavaScript link script, add the following `<div>` element with the id tag for the map, as shown in the "Preparing your page" section:

```
<!-- The div that holds our map -->
<div id="mapid"></div>
```

After adding the Leaflet CSS file, JavaScript file, and the `<div>` element with the `id` tag for the map, our `index.html` file should look like the following:

```
<> index.html ✕

<> index.html > ⬡ html > ⬡ head
  1    <!DOCTYPE html>
  2    <html lang="en">
  3    <head>
  4      <meta charset="UTF-8">
  5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
  6      <meta http-equiv="X-UA-Compatible" content="ie=edge">
  7      <title>Simple Map</title>
  8
  9      <!-- Leaflet CSS -->
 10      <link rel="stylesheet" href="https://unpkg.com/leaflet@1.7.1/dist/leaflet.css"
 11       integrity="sha512-xodZBNTC5n17Xt2atTPuE1HxjVMSvLVW9ocqUKLsCC5CXdbqCmblAshOMAS6/keqq/sMZMZ19scR4PsZChSR7A=="
 12       crossorigin=""/>
 13
 14    </head>
 15    <body>
 16
 17      <!-- The div that holds our map -->
 18      <div id="mapid"></div>
 19
 20      <!-- Leaflet JavaScript -->
 21      <script src="https://unpkg.com/leaflet@1.7.1/dist/leaflet.js"
 22        integrity="sha512-XQoYMqMTK8LvdxXYG3nZ448hOEQiglfqkJs1NOQV44cWnUrBc8PkAOcXy20w0vlaXaVUearIOBhiXZ5V3ynxwA=="
 23        crossorigin=""></script>
 24
 25    </body>
 26    </html>
```
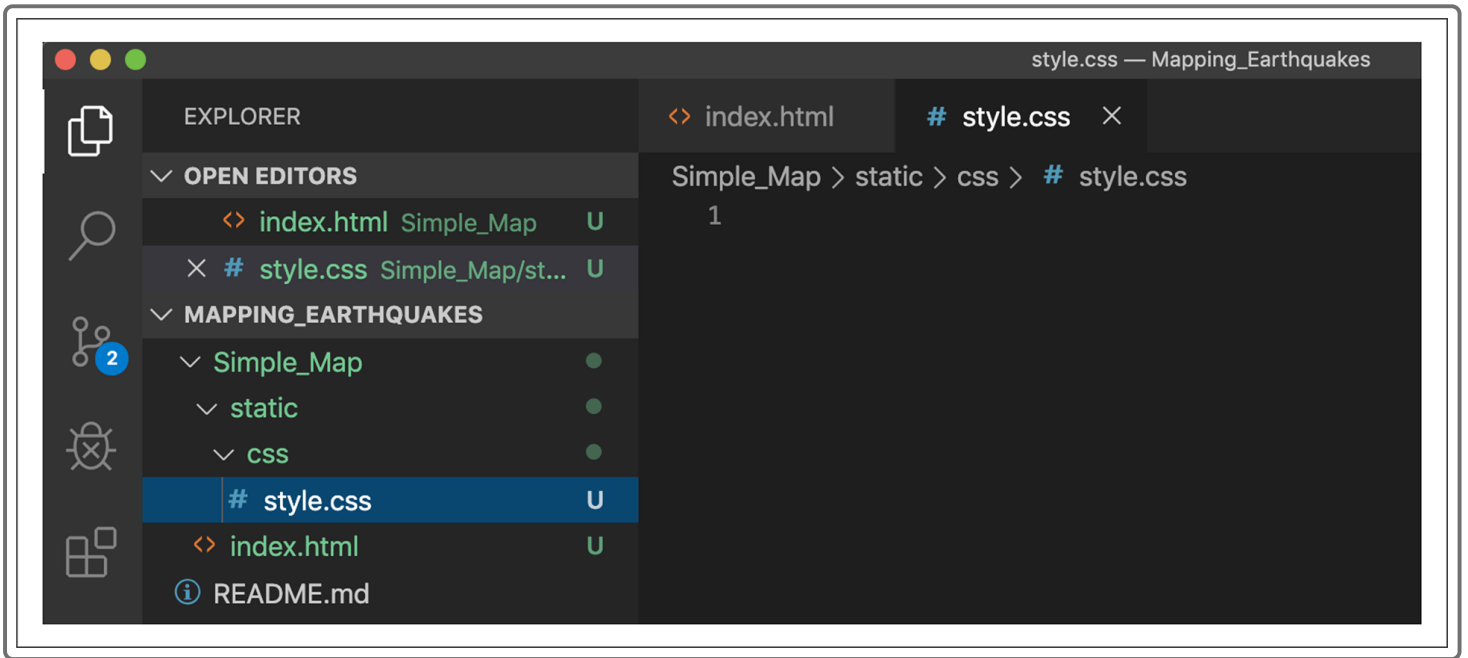
IMPORTANT

Make sure you copy and paste the Leaflet CSS file and JavaScript script from the website as they appear. Do not edit the script by deleting empty spaces. This will prevent that script from working on the `index.html` file, resulting in the map not being shown on the webpage.

Next, we will modify our `#mapid` to be set at a specific height using CSS code. To do this, we'll need to create a `style.css` file.

Create a CSS File

Before we create a `style.css` file, we'll need to create a folder for the file. In VS Code, create a new subfolder called "static" in our Simple_Map folder. In this folder, create another subfolder named "css." In the css folder, create a new file and name it `style.css`:
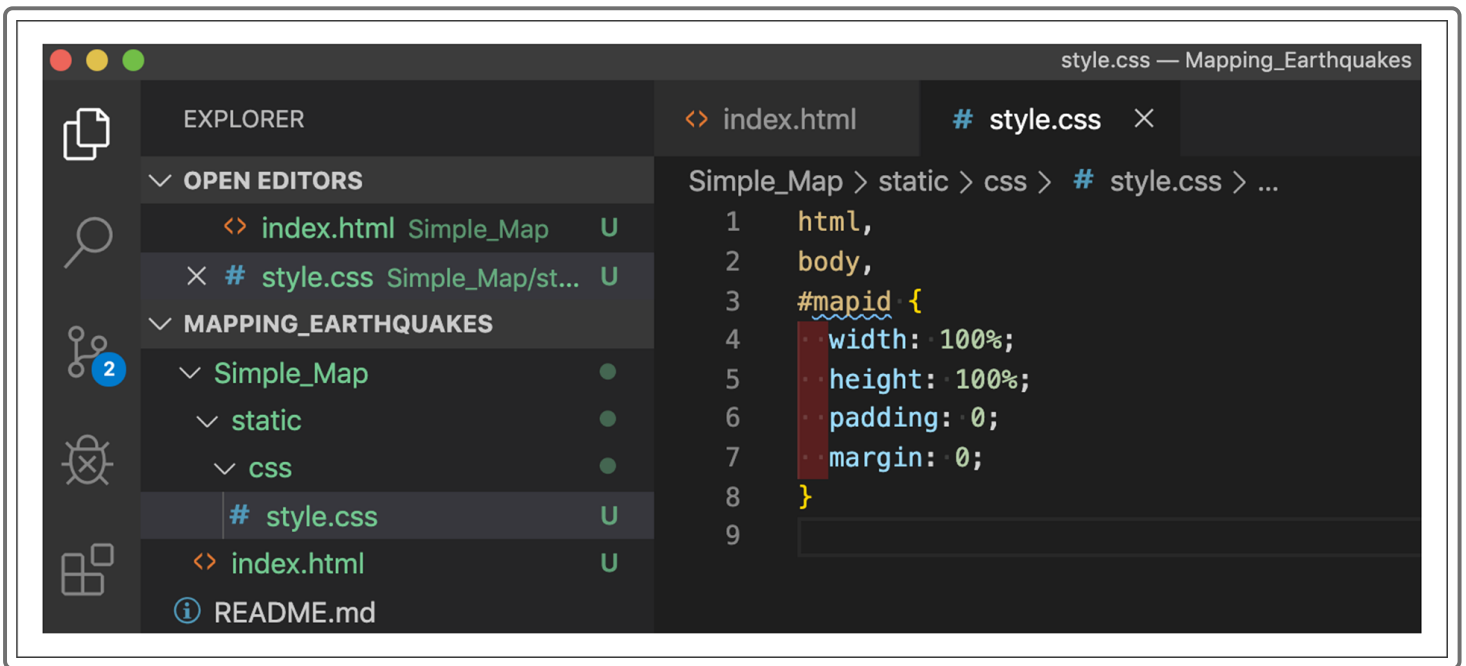
Next, add the following CSS code to our `style.css` file to set the style for our map on our `index.html` page and save the file:

```
html,
body,
#mapid {
  width: 100%;
  height: 100%;
  padding: 0;
  margin: 0;
}
```

↻ Retake

At this point, your folder should look like the following:

Finally, we need to tell our `index.html` page to use the `style.css` file we created.

In the `<head>` section of our `index.html` page, add the following CSS link script below the Leaflet CSS and before the closing `</head>` element:

```
<!-- Our CSS -->
  <link rel="stylesheet" type="text/css" href="static/css/style.css">
```

Next, we'll create the code for a simple map.