

# Exercises for Session 3

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## Goals

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The goal is to train DOM interactions like queries and manipulation. Then we will take a look at various APIs like `fetch`, `localStorage` and `geolocation`. If time permits we will show our first Google Maps map.

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## Train your DOM muscles

This will be our training ground, a large form with various elements:

```
<html>
  <head>
    <title>DOM Training</title>
  </head>
  <body>
    <form>
      <table>
        <tr class="name-row">
          <td>First name</td>
          <td><input type="text" id="fn" /></td>
        </tr>
        <tr class="name-row">
          <td>Last name</td>
          <td><input type="text" id="ln" /></td>
        </tr>
        <tr>
          <td>Gender</td>
          <td>
            <input type="radio" id="m" name="gender" />male<br />
            <input type="radio" id="f" name="gender" />female
          </td>
        </tr>
        <tr>
          <td>Phone number</td>
          <td><input type="tel" id="tel" /></td>
        </tr>
        <tr>
          <td>E-mail</td>
          <td><input type="email" id="email" /></td>
        </tr>
        <tr>
          <td>Kind of contact</td>
          <td>
            <select>
              <option value="ir">Interview Request</option>
              <option value="mq">Membership Questions</option>
              <option value="pq">Partnership Questions</option>
              <option value="tq">Technology Questions</option>
            </select>
          </td>
        </tr>
      </table>
    </form>
  </body>
</html>
```

```

        <td>Comment</td>
        <td><textarea></textarea></td>
    </tr>
</table>
</form>
</body>
</html>

```

If you want to you can copy this into a new file and view it in your browser.

**Let's start off with some Selector cardio:**

1. Select all form elements ( `input` , `select` and `textarea` ) with one query
2. Select all `name-row s`
3. Select all inputs with the type `text`
4. Select the first table row ( `<tr>` )
5. Select the element with the id `email`
6. Select the inputs inside the `name-row s`
7. Select all options of the select
8. Use the result from 7 and save all values of the options into an array. Use `map` for this.

**Top it off with some DOM manipulation:**

1. Add a `h1` with the text `Contact us` as the first element inside the `form`
2. Add a submit `button` as last element to the form
3. Add a `click` listener to the submit button. When clicked it should add a banner below the form saying `Data successfully sent` .

## fetch()

Let's load some data from an external server and display it.

1. Use `fetch` to load the data from `https://api.punkapi.com/v2/beers` and log it into the console (remember to parse it to JSON first).
2. Build a small site that has a button that when clicked starts the `fetch` and displays the result in a list.

## localStorage

We're going to enhance the mini-app we just build with some data storage

1. After loading the data save all of it into localStorage. Check the browser devtools ( `Application` tab) and check that you can see the data being saved.
2. If the data is available in localStorage when we load the page we want to display it immediately.

## Geolocation

Create a new mini-app that displays a button. When the button is clicked we want to display the user's location (latitude, longitude) in a paragraph.

## Google Maps

- Follow the official Google tutorial to display a map (incl. getting your own API key):  
<https://developers.google.com/maps/documentation/javascript/tutorial>
- Instead of using the default location research the positional coordinates of Cape Town, South Africa and use it as the center of your map ( `zoom: 12` gives a nice result)