Exercise: Asynchronous Programming

1. Forecaster

Write a program that **requests** a weather report **from a server** and **displays** it to the user.

Use the skeleton from the provided resources.

When the user writes the name of a location and clicks "`Get Weather`", make a `GET` request to the server at address **`https://judgetests.firebaseio.com/locations.json`**. The response will be an array of objects, with the following structure:

```
{
  name: locationName,
  code: locationCode
}
```

Find the object, corresponding to the name that the user submitted in the input field with ID "**`location`**" and use its **code** value to make **two more `GET` requests**:

- For current conditions, make a request to:

`https://judgetests.firebaseio.com/forecast/today/{code}.json`

The response from the server will be an object with the following structure:

```
  {
    name: locationName,
    forecast: { low: temp,
                high: temp,
                condition: condition }
  }
```

- For a 3-day forecast, make a request to:

`https://judgetests.firebaseio.com/forecast/upcoming/{code}.json`

The response from the server will be an object with the following structure:

```
  {
    name: locationName,
    forecast: [{ low: temp,
                 high: temp,
                 condition: condition }, … ]
  }
```

Use the information from these two objects to compose a forecast in HTML and insert it inside the page. Note that the **`<div>`** with ID "**`forecast`**" must be set to **`visible`**. See the examples for details.

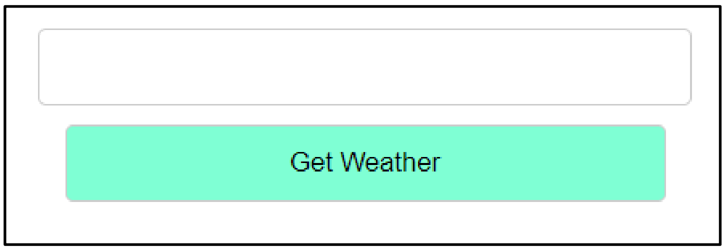
If an **error** occurs (the server doesn't respond or the location name cannot be found) or the data is not in the correct format, display "`Error`" in the **forecast section**.

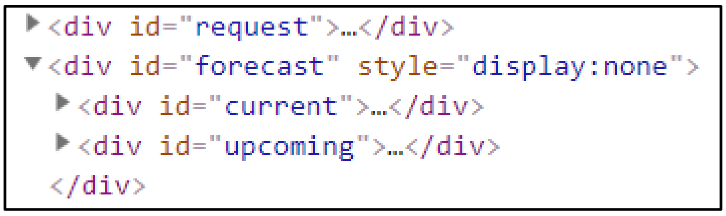
Use the following codes for weather symbols:

• Sunny	**&#x2600;** // ☀
• Partly sunny	**&#x26C5;** // ⛅
• Overcast	**&#x2601;** // ☁
• Rain	**&#x2614;** // ☔
• Degrees	**&#176;** // °

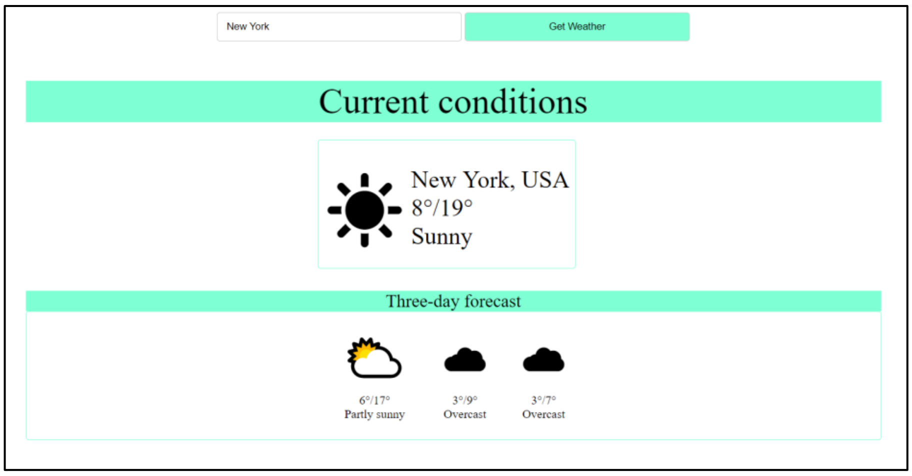
Examples

When the app starts, the **forecast `div`** is **`hidden`**. When the user **enters a name** and **clicks** on the button **`Get Weather`**, the requests being.



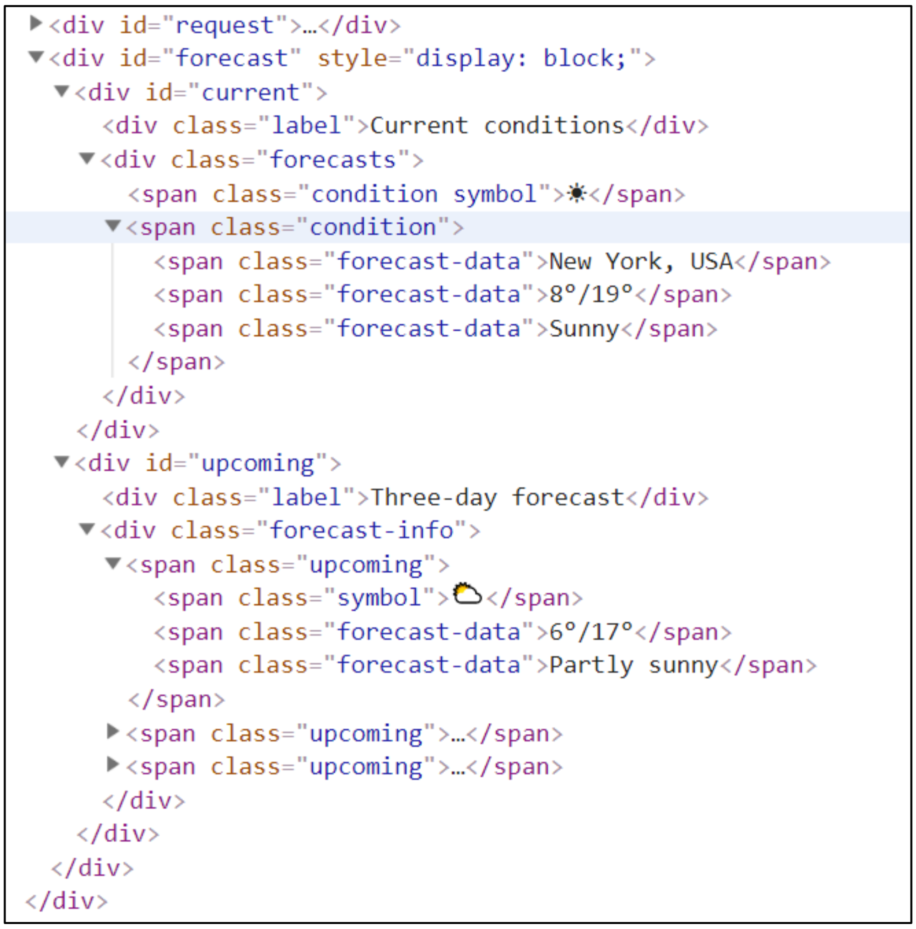


```
▸<div id="request">…</div>
▾<div id="forecast" style="display:none">
  ▸<div id="current">…</div>
  ▸<div id="upcoming">…</div>
 </div>
```



☀ New York, USA
8°/19°
Sunny

⛅ 6°/17° Partly sunny
☁ 3°/9° Overcast
☁ 3°/7° Overcast



```
▶<div id="request">…</div>
▼<div id="forecast" style="display: block;">
  ▼<div id="current">
      <div class="label">Current conditions</div>
    ▼<div class="forecasts">
        <span class="condition symbol">☀</span>
      ▼<span class="condition">
          <span class="forecast-data">New York, USA</span>
          <span class="forecast-data">8°/19°</span>
          <span class="forecast-data">Sunny</span>
        </span>
      </div>
    </div>
  ▼<div id="upcoming">
      <div class="label">Three-day forecast</div>
    ▼<div class="forecast-info">
      ▼<span class="upcoming">
          <span class="symbol">⛅</span>
          <span class="forecast-data">6°/17°</span>
          <span class="forecast-data">Partly sunny</span>
        </span>
      ▶<span class="upcoming">…</span>
      ▶<span class="upcoming">…</span>
      </div>
    </div>
  </div>
</div>
```

Hints

The server at the address listed above will respond with valid data for location names "**London**", "**New York**" and "**Barcelona**".

2. Fisher Game

Each catch should have:

- **`angler`** - **`string`** representing the name of the person who caught the fish
- **`weight`** - **`floating-point number`** representing the weight of the fish in kilograms
- **`species`** - **`string`** representing the name of the fish species
- **`location`** - **`string`** representing the location where the fish was caught
- **`bait`** - **`string`** representing the bait used to catch the fish
- **`captureTime`** - **`integer number`** representing the time needed to catch the fish in minutes

HTML Template

Use the skeleton from the provided resources.

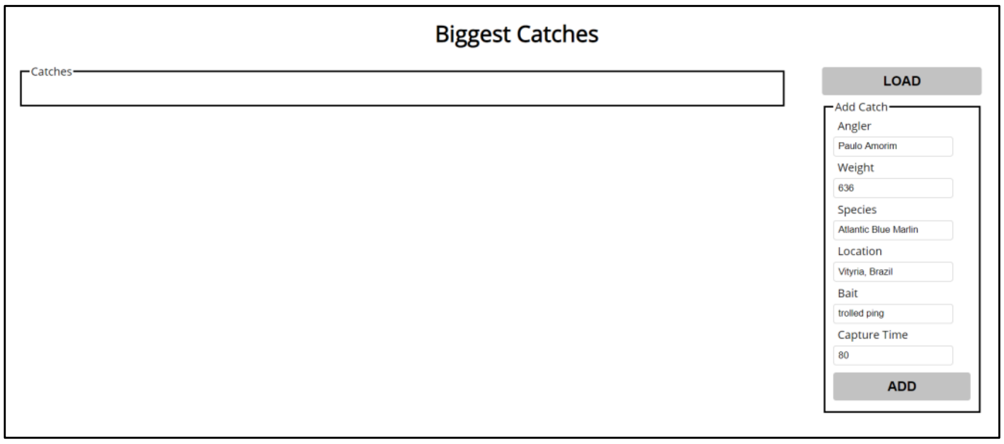
Attach handlers to the **`[Load]`**, **`[Update]`**, **`[Delete]`** and **`[Add]`** buttons, which make the appropriate **GET**, **PUT**, **DELETE** and **POST** requests.

You are given an example catch in the template to show you where and how to insert the catches. Notice that the **div** containing the catch has an attribute **data-id** that should store the **_id** of the entry given by Kinvey.

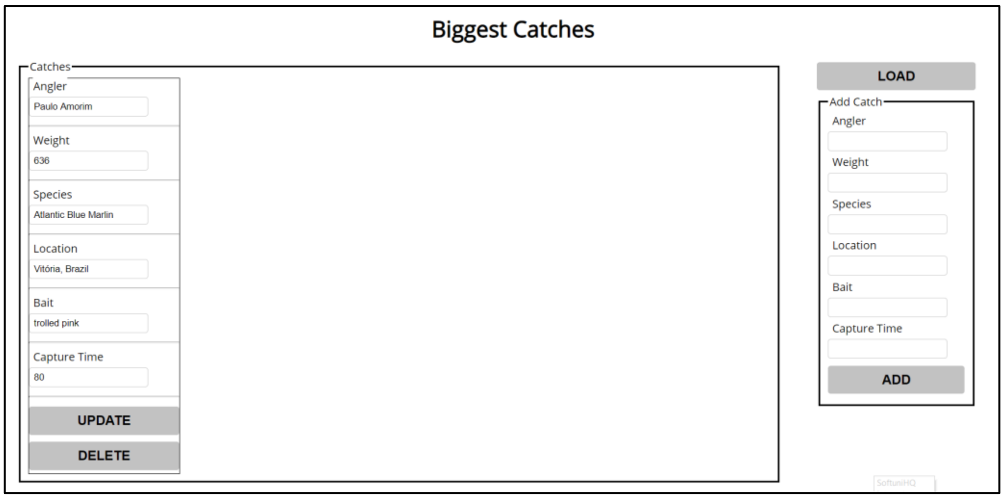
Create the following REST services to access your data:

- **List All Catches**
  - Endpoint - **https://fisher-game.firebaseio.com/catches.json**
  - Method: **GET**
  - Returns (**Object of objects**)
- **Create a New Catch**
  - Endpoint: **https://fisher-game.firebaseio.com/catches.json**
  - Method: **POST**
  - Request body (JSON): **{"angler":"…", "weight":…, "species":"…", "location":"…", "bait":"…", "captureTime":…}**
- **Update a Catch**
  - Endpoint: **https://fisher-game.firebaseio.com/catches/{catchId}.json**
  - Method: **PUT**
  - Request body (JSON): **{"angler":"…", "weight":…, "species":"…", "location":"…", "bait":"…", "captureTime":…}**
- **Delete a Catch**
  - Endpoint: **https://fisher-game.firebaseio.com/catches/{catchId}.json**
  - Method: **DELETE**
- Pressing the **[Load]** button should **list all** catches.
- Pressing the **[Update]** button should send a **PUT** request, updating the catch in firebase.
- Pressing the **[Delete]** button should delete the catch both from firebase and from the page.
- Pressing the **[Add]** button should submit a new catch with the values of the inputs in the fieldset with **id="addFrom"**.

Screenshots



Angler: Paulo Amorim
Weight: 636
Species: Atlantic Blue Marlin
Location: Vityria, Brazil
Bait: trolled ping
Capture Time: 80



Angler	Paulo Amorim
Weight	636
Species	Atlantic Blue Marlin
Location	Vitória, Brazil
Bait	trolled pink
Capture Time	80