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**.

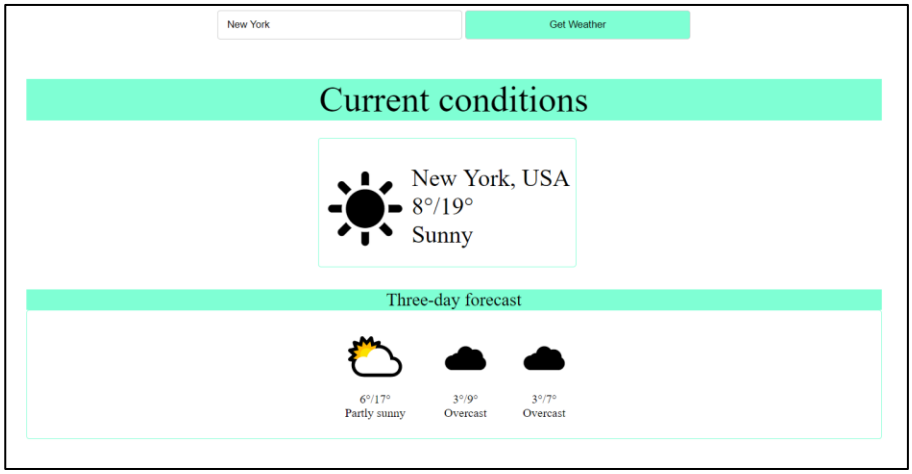
Use the following codes for weather symbols:

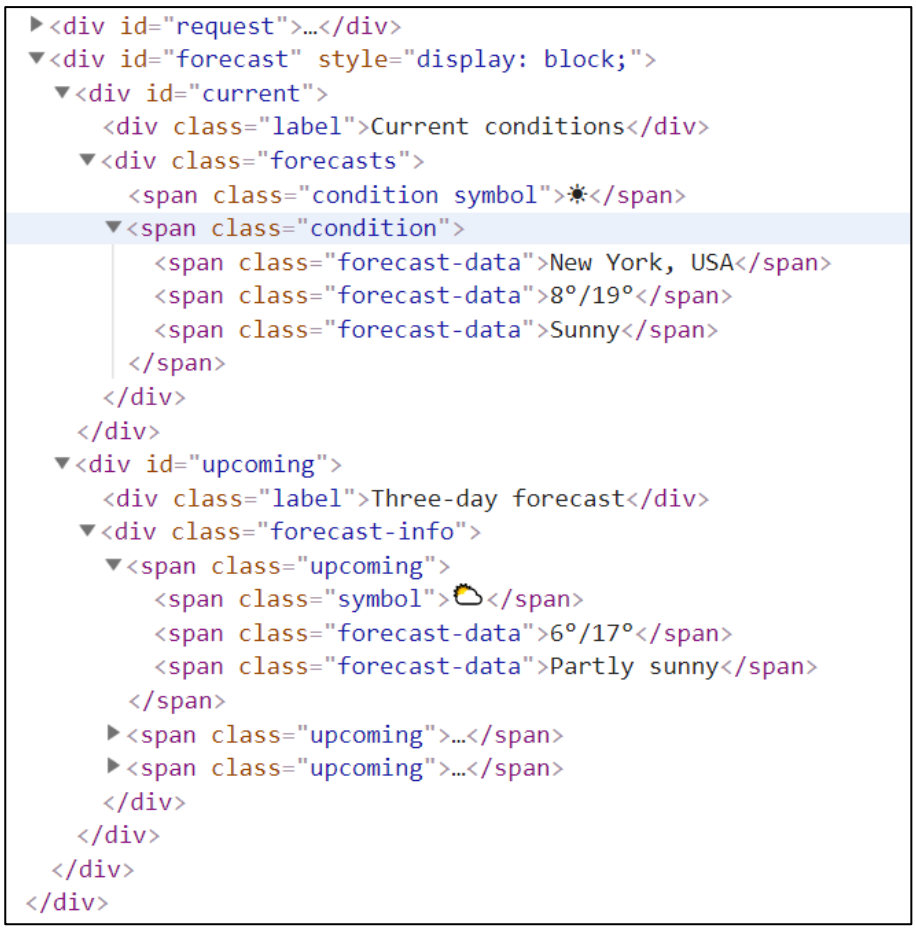
- Sunny **☀ //** ☀
- Partly sunny **⛅ //** ⛅
- Overcast **☁ //** ☁
- Rain **☔ //** ☂
- Degrees **° //** °

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>
```





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