



# Intro to JavaScript Objects Lab

## Setup

Open your Terminal application and navigate to your `~/code/ga/labs` directory:

```
cd ~/code/ga/labs
```

[Copy](#)

Navigate to [GitHub](#) and create a new repository named `intro-to-javascript-objects-lab`.

- Make sure the repo is set to `public`
- You do not need a `README.md`
- You do not need a `.gitignore`

Using the [Quick Setup](#) option, clone your newly created repo into your `~/code/ga/labs` directory with the `git clone` command:

```
git clone https://github.com/<your-username>/intro-to-javascript-objects-lab.git
```

[Copy](#)

Note: In the link above, where it says `<your-username>`, you should see the username from your GitHub account.

Next, `cd` into your new cloned directory: `intro-to-javascript-objects-lab`:

```
cd intro-to-javascript-objects-lab
```

[Copy](#)

Then, create an `app.js`, a `data.js`, and an `index.html` file. These files will hold your work for this lab:

```
touch app.js data.js index.html
```

[Copy](#)

With the files created, open the contents of the directory in VS Code:

```
code .
```

[Copy](#)

Open `data.js` and copy the following code into it:

```
// ! Feel free to explore this file, but do not modify anything here!
const pokemon = [
  { number: 1, name: 'Bulbasaur', type: 'grass', hp: 45, starter: true },
  { number: 2, name: 'Ivysaur', type: 'grass', hp: 60, starter: false },
  { number: 3, name: 'Venusaur', type: 'grass', hp: 80, starter: false },
  { number: 4, name: 'Charmander', type: 'fire', hp: 39, starter: true },
  { number: 5, name: 'Charmeleon', type: 'fire', hp: 58, starter: false },
  { number: 6, name: 'Charizard', type: 'fire', hp: 78, starter: false },
  { number: 7, name: 'Squirtle', type: 'water', hp: 44, starter: true },
  { number: 8, name: 'Wartortle', type: 'water', hp: 59, starter: false },
  { number: 9, name: 'Blastoise', type: 'water', hp: 79, starter: false },
  { number: 10, name: 'Caterpie', type: 'bug', hp: 45, starter: false },
  { number: 11, name: 'Metapod', type: 'bug', hp: 50, starter: false },
  { number: 12, name: 'Butterfree', type: 'bug', hp: 60, starter: false },
  { number: 13, name: 'Weedle', type: 'bug', hp: 40, starter: false },
  { number: 14, name: 'Kakuna', type: 'bug', hp: 45, starter: false },
  { number: 15, name: 'Beedrill', type: 'bug', hp: 65, starter: false },
  { number: 16, name: 'Pidgey', type: 'normal', hp: 40, starter: false },
  { number: 17, name: 'Pidgeotto', type: 'normal', hp: 63, starter: false },
  { number: 18, name: 'Pidgeot', type: 'normal', hp: 83, starter: false },
  { number: 19, name: 'Rattata', type: 'normal', hp: 30, starter: false },
  { number: 20, name: 'Raticate', type: 'normal', hp: 55, starter: false },
  { number: 21, name: 'Spearow', type: 'normal', hp: 40, starter: false },
  { number: 22, name: 'Fearow', type: 'normal', hp: 65, starter: false },
  { number: 23, name: 'Ekans', type: 'poison', hp: 35, starter: false },
  { number: 24, name: 'Arbok', type: 'poison', hp: 60, starter: false },
  { number: 25, name: 'Pikachu', type: 'electric', hp: 35, starter: true },
  { number: 26, name: 'Raichu', type: 'electric', hp: 60, starter: false },
  { number: 27, name: 'Sandshrew', type: 'ground', hp: 50, starter: false },
  { number: 28, name: 'Sandslash', type: 'ground', hp: 75, starter: false },
  { number: 29, name: 'Nidoran♀', type: 'poison', hp: 55, starter: false },
  { number: 30, name: 'Nidorina', type: 'poison', hp: 70, starter: false },
  { number: 31, name: 'Nidoqueen', type: 'poison', hp: 90, starter: false },
  { number: 32, name: 'Nidoran♂', type: 'poison', hp: 46, starter: false },
  { number: 33, name: 'Nidorino', type: 'poison', hp: 61, starter: false },
  { number: 34, name: 'Nidoking', type: 'poison', hp: 81, starter: false },
  { number: 35, name: 'Clefairy', type: 'fairy', hp: 70, starter: false },
  { number: 36, name: 'Clefable', type: 'fairy', hp: 95, starter: false },
  { number: 37, name: 'Vulpix', type: 'fire', hp: 38, starter: false },
  { number: 38, name: 'Ninetales', type: 'fire', hp: 73, starter: false },
  { number: 39, name: 'Diglett', type: 'normal', hp: 115, starter: false },
  { number: 40, name: 'Wigglytuff', type: 'normal', hp: 140, starter: false },
  { number: 41, name: 'Zubat', type: 'poison', hp: 40, starter: false },
  { number: 42, name: 'Golbat', type: 'poison', hp: 75, starter: false },
  { number: 43, name: 'Oddish', type: 'grass', hp: 45, starter: false },
  { number: 44, name: 'Gloom', type: 'grass', hp: 60, starter: false },
  { number: 45, name: 'Vileplume', type: 'grass', hp: 75, starter: false },
  { number: 46, name: 'Paras', type: 'bug', hp: 35, starter: false },
  { number: 47, name: 'Parasect', type: 'bug', hp: 60, starter: false },
  { number: 48, name: 'Venonat', type: 'bug', hp: 60, starter: false },
  { number: 49, name: 'Venomoth', type: 'bug', hp: 70, starter: false },
  { number: 50, name: 'Diolekt', type: 'ground', hp: 10, starter: false },
  { number: 51, name: 'Dugtrio', type: 'ground', hp: 35, starter: false },
  { number: 52, name: 'Meowth', type: 'normal', hp: 40, starter: false },
  { number: 53, name: 'Persian', type: 'normal', hp: 65, starter: false },
  { number: 54, name: 'Psyduck', type: 'water', hp: 50, starter: false },
  { number: 55, name: 'Golduck', type: 'water', hp: 80, starter: false },
  { number: 56, name: 'Mankey', type: 'fighting', hp: 40, starter: false },
  { number: 57, name: 'Primeape', type: 'fighting', hp: 65, starter: false },
  { number: 58, name: 'Growlithe', type: 'fire', hp: 55, starter: false },
  { number: 59, name: 'Arcanine', type: 'fire', hp: 90, starter: false },
  { number: 60, name: 'Poliwag', type: 'water', hp: 40, starter: false },
  { number: 61, name: 'Polimrath', type: 'water', hp: 65, starter: false },
  { number: 62, name: 'Poliwirl', type: 'water', hp: 90, starter: false },
  { number: 63, name: 'Abra', type: 'psychic', hp: 25, starter: false },
  { number: 64, name: 'Kadabra', type: 'psychic', hp: 40, starter: false },
  { number: 65, name: 'Alakazam', type: 'psychic', hp: 55, starter: false },
  { number: 66, name: 'Machop', type: 'fighting', hp: 70, starter: false },
  { number: 67, name: 'Machoke', type: 'fighting', hp: 80, starter: false },
  { number: 68, name: 'Machamp', type: 'fighting', hp: 90, starter: false },
  { number: 69, name: 'Bellsprout', type: 'grass', hp: 50, starter: false },
  { number: 70, name: 'Weepinbell', type: 'grass', hp: 65, starter: false },
  { number: 71, name: 'Victreebel', type: 'grass', hp: 80, starter: false },
  { number: 72, name: 'Tentacool', type: 'water', hp: 40, starter: false },
  { number: 73, name: 'Tentacruel', type: 'water', hp: 80, starter: false },
  { number: 74, name: 'Geodude', type: 'rock', hp: 40, starter: false },
  { number: 75, name: 'Graveler', type: 'rock', hp: 55, starter: false },
  { number: 76, name: 'Golem', type: 'rock', hp: 80, starter: false },
  { number: 77, name: 'Ponyta', type: 'fire', hp: 50, starter: false },
  { number: 78, name: 'Rapidash', type: 'fire', hp: 65, starter: false },
  { number: 79, name: 'Slowpoke', type: 'water', hp: 90, starter: false },
  { number: 80, name: 'Slowbro', type: 'water', hp: 95, starter: false },
  { number: 81, name: 'Magnemite', type: 'electric', hp: 25, starter: false },
  {number: 82, name: 'Magneton', type: 'electric', hp: 50, starter: false },
  {number: 83, name: 'Farfetch'd', type: 'normal', hp: 52, starter: false },
  {number: 84, name: 'Doduo', type: 'normal', hp: 35, starter: false },
  {number: 85, name: 'Dodrio', type: 'normal', hp: 60, starter: false },
  {number: 86, name: 'Seel', type: 'water', hp: 65, starter: false },
  {number: 87, name: 'Dewgong', type: 'water', hp: 90, starter: false },
  {number: 88, name: 'Grimer', type: 'poison', hp: 80, starter: false },
  {number: 89, name: 'Muk', type: 'poison', hp: 105, starter: false },
  {number: 90, name: 'Shellder', type: 'water', hp: 30, starter: false },
  {number: 91, name: 'Cloyster', type: 'water', hp: 50, starter: false },
  {number: 92, name: 'Gastly', type: 'ghost', hp: 30, starter: false },
  {number: 93, name: 'Haunter', type: 'ghost', hp: 45, starter: false },
  {number: 94, name: 'Gengar', type: 'ghost', hp: 60, starter: false },
  {number: 95, name: 'Onix', type: 'rock', hp: 35, starter: false },
  {number: 96, name: 'Drowzee', type: 'psychic', hp: 60, starter: false },
  {number: 97, name: 'Hypno', type: 'psychic', hp: 85, starter: false },
  {number: 98, name: 'Krabby', type: 'water', hp: 30, starter: false },
  {number: 99, name: 'Kingler', type: 'water', hp: 55, starter: false },
  {number: 100, name: 'Voltorb', type: 'electric', hp: 40, starter: false },
  {number: 101, name: 'Electrode', type: 'electric', hp: 40, starter: false },
  {number: 102, name: 'Exeggcute', type: 'grass', hp: 60, starter: false },
  {number: 103, name: 'Exeggutor', type: 'grass', hp: 95, starter: false },
  {number: 104, name: 'Cubone', type: 'ground', hp: 50, starter: false },
  {number: 105, name: 'Marowak', type: 'ground', hp: 60, starter: false },
  {number: 106, name: 'Hitmonlee', type: 'fighting', hp: 50, starter: false },
  {number: 107, name: 'Hitmonchan', type: 'fighting', hp: 50, starter: false },
  {number: 108, name: 'Lickitung', type: 'normal', hp: 90, starter: false },
  {number: 109, name: 'Koffing', type: 'poison', hp: 40, starter: false },
  {number: 110, name: 'Weezing', type: 'poison', hp: 65, starter: false },
  {number: 111, name: 'Rhyhorn', type: 'ground', hp: 80, starter: false },
  {number: 112, name: 'Rhydon', type: 'ground', hp: 105, starter: false },
  {number: 113, name: 'Chansey', type: 'normal', hp: 250, starter: false },
  {number: 114, name: 'Tangela', type: 'grass', hp: 65, starter: false },
  {number: 115, name: 'Kangaskhan', type: 'normal', hp: 105, starter: false },
  {number: 116, name: 'Horsea', type: 'water', hp: 30, starter: false },
  {number: 117, name: 'Seadra', type: 'water', hp: 55, starter: false },
  {number: 118, name: 'Goldeen', type: 'water', hp: 45, starter: false },
  {number: 119, name: 'Seaking', type: 'water', hp: 80, starter: false },
  {number: 120, name: 'Staryu', type: 'water', hp: 30, starter: false },
  {number: 121, name: 'Starmie', type: 'water', hp: 60, starter: false },
  {number: 122, name: 'Mr. Mime', type: 'psychic', hp: 40, starter: false },
  {number: 123, name: 'Scyther', type: 'bug', hp: 70, starter: false },
  {number: 124, name: 'Jynx', type: 'ice', hp: 65, starter: false },
  {number: 125, name: 'Electabuzz', type: 'electric', hp: 65, starter: false },
  {number: 126, name: 'Magmar', type: 'fire', hp: 65, starter: false },
  {number: 127, name: 'Pinsir', type: 'bug', hp: 65, starter: false },
  {number: 128, name: 'Tauros', type: 'normal', hp: 75, starter: false },
  {number: 129, name: 'Magikarp', type: 'water', hp: 20, starter: false },
  {number: 130, name: 'Gyarados', type: 'water', hp: 95, starter: false },
  {number: 131, name: 'Lapras', type: 'water', hp: 130, starter: false },
  {number: 132, name: 'Ditto', type: 'normal', hp: 48, starter: false },
  {number: 133, name: 'Eevee', type: 'normal', hp: 55, starter: false },
  {number: 134, name: 'Vaporeon', type: 'water', hp: 65, starter: false },
  {number: 135, name: 'Jolteon', type: 'electric', hp: 130, starter: false },
  {number: 136, name: 'Flareon', type: 'fire', hp: 65, starter: false },
  {number: 137, name: 'Porygon', type: 'normal', hp: 65, starter: false },
  {number: 138, name: 'Omanyte', type: 'rock', hp: 35, starter: false },
  {number: 139, name: 'Kabutar', type: 'rock', hp: 70, starter: false },
  {number: 140, name: 'Kabutops', type: 'rock', hp: 30, starter: false },
  {number: 141, name: 'Kabutops', type: 'rock', hp: 60, starter: false },
  {number: 142, name: 'Aerodactyl', type: 'rock', hp: 80, starter: false },
  {number: 143, name: 'Snorlax', type: 'normal', hp: 160, starter: false },
  {number: 144, name: 'Articuno', type: 'ice', hp: 90, starter: false },
  {number: 145, name: 'Zapdos', type: 'electric', hp: 90, starter: false },
  {number: 146, name: 'Moltres', type: 'fire', hp: 90, starter: false },
  {number: 147, name: 'Dratini', type: 'dragon', hp: 41, starter: false },
  {number: 148, name: 'Dragonair', type: 'dragon', hp: 61, starter: false },
  {number: 149, name: 'Dragonite', type: 'dragon', hp: 91, starter: false },
  {number: 150, name: 'Mewtwo', type: 'psychic', hp: 106, starter: false },
  {number: 151, name: 'Mew', type: 'psychic', hp: 100, starter: false },
];
```

From this point, you have two options. You can either run the code from the browser, or using node. Follow the appropriate setup path below to finish setup for this lab:

## From the Browser

Open the `index.html` file and add HTML boilerplate. Then link both `data.js` and `app.js` by adding these lines inside the `<head>` tag in this order:

```
<script defer src="./data.js"></script>
<script defer src="./app.js"></script>
```

[Copy](#)

Open the `index.html` file in your browser and access the console output in your browser's dev tools.

## Using Node

This lab requires a setup process that may differ from previous labs. Some unfamiliar steps are necessary to work with multiple JavaScript files.

At the bottom of `data.js` (after the `pokemon` object), add the following:

```
module.exports = pokemon;
```

[Copy](#)

Next, add the following line at the top of the `app.js` file:

```
const pokemon = require('./data.js');
```

[Copy](#)

This step is essential for dividing the Pokemon data and our code into separate files. While these steps are critical to run your code, they are not the primary focus of this lab, so detailed understanding at this stage is not required. You can ignore what is happening in the background for now.

Use `node` to execute the `app.js` file directly by using this command in your terminal:

```
node app.js
```

[Copy](#)