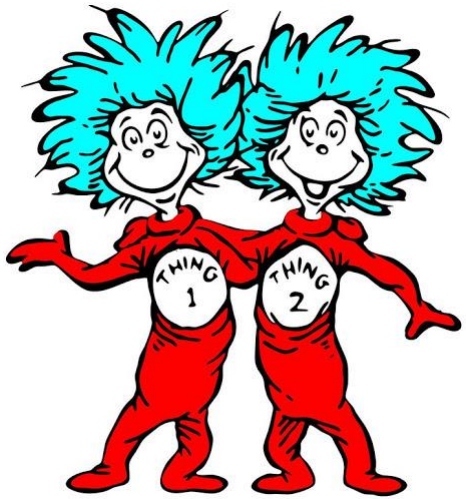


I just saw my wife trip and fall while carrying a laundry basket full of ironed clothes. I watched it all unfold!

My son told me he didn't understand cloning. I told him, 'That makes two of us.

Consuming API’s in VUE

Objectives

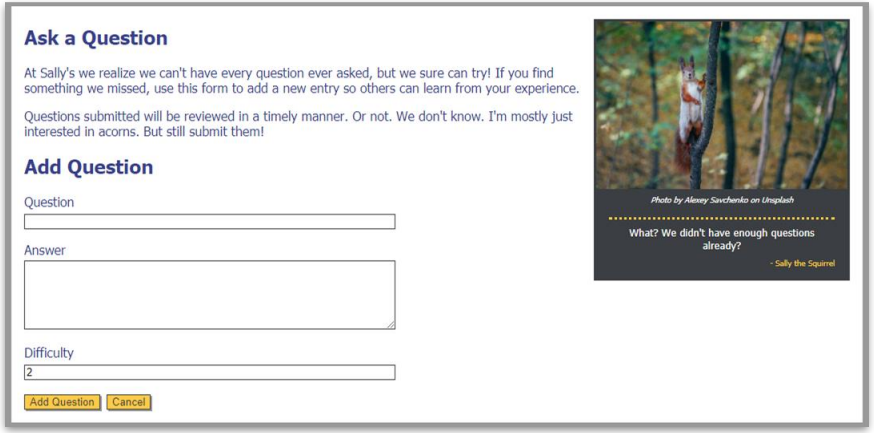
- Review typical HTTP request between a web browser and a server
- GET request
- 2xx Status Code indicates "success"
- Make an HTTP GET request using Postman and inspect the result
- Review JSON and use it in a JavaScript program
- Make an HTTP GET request to a RESTful web service using the Axios library and process the response
- Build a service object for interacting with a RESTful web service
- Use the Vue lifecycle hook `created()` to call a web service to retrieve data when a view is rendered
- Explain the difference between synchronous and asynchronous code
- Explain what a promise is and how it works
- Explain why asynchronous coding techniques are frequently used in JavaScript for interacting with server-side components

But first…

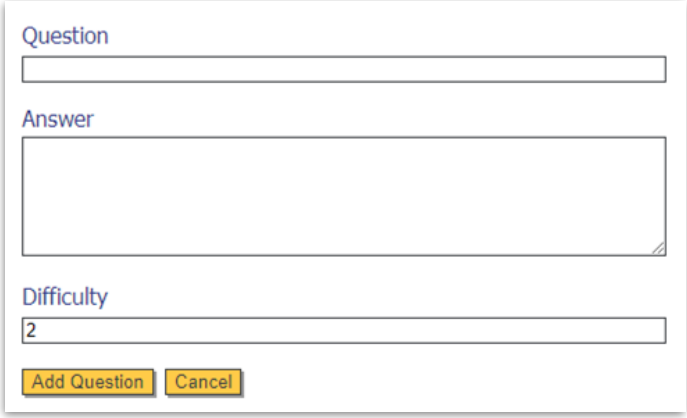
A small review!!

View vs. Components

VIEWS

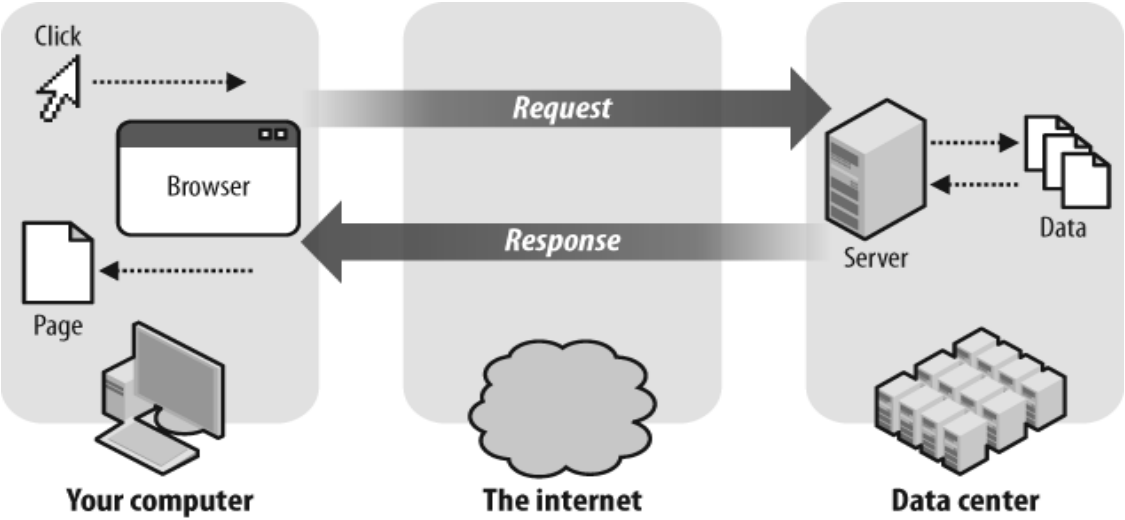


COMPONENTS



What is Routing?

- Routing allows users to be redirected to a certain component via a URL.
- Remember MVC Spring RequestMappings? Similar idea.



Defining Routes

```
1 import Home from '../views/Home.vue'
2 import About from '../views/About.vue'
3 import NotFound from '../views/NotFound.vue'
4
5 const routes = [
6   {
7     path: '/',              // Required
8     name: 'Home',           // Recommended, but not required
9     component: Home         // Required
10  },
11  {
12    path: '/About',
13    name: 'About',
14    component: About
15  },
16  {
17    path: '*',
18    name: 'NotFound',
19    component: NotFound
20  }
21 ];
```

Router-link

```
1 <small>
2     * - this form is a joke intended to demonstrate different input types.
3     Do not submit confidential information to untrusted sources.
4     See <router-link v-bind:to="{name: 'About'}">site disclaimer</router-link>
5     for more info.
6 </small>
```

Router-link styling

```
    <div id="nav">
      <router-link :to="{name: 'users'}">Users</router-link> |
      <router-link :to="{ name: 'currencies' }">Currencies</router-link>
    </div>
    <router-view/>
  </div>
</template>

<style>

#nav a {
  font-weight: bold;
  color: #1262b1;
}
#nav a.router-link-active {
  color: pink;
}
```

USERS | CURRENCIES

Users

ID	Name	Email
1	Leanne Graham	
2	Ervin Howell	
3	Clementina Bauch	

Router-view

```
1 <template>
2   <div id="app">
3     <AppHeader />
4     <router-view /> <!-- The currently active view will be presented here -->
5     <app-footer />
6   </div>
7 </template>
```

Dynamic Routes

```
1 const routes = [
2   {
3     path: '/Questions',
4     name: 'Questions',
5     component: Questions
6   },
7   {
8     path: '/Questions/:id',
9     name: 'QuestionDetails',
10    component: QuestionDetails
11  },
12  {
13    path: '/Questions/:id/Edit',
14    name: 'EditQuestion',
15    component: QuestionEdit
16  },
17  // others omitted...
18 ];
```

Router-link Params

```
1 <section>
2     <!-- Params below can be accessed from the destination page via this.$route.params.parameterName -->
3     <router-link v-bind:to="{name: 'EditQuestion', params: {id: question.id}}">
4         Edit this Question
5     </router-link>
6 </section>
```

$Router.Push

```
1 saveQuestion() {
2     this.$store.commit('QUESTION_UPDATED', this.question);
3     this.$router.push({name: 'QuestionDetails', params: {questionId: this.question.id}});
4 }
```

$Route.Params

```
1 created() {
2     const id = this.$route.params.id; // Grabs the route parameter named id, if it was present
3     this.question = this.$store.state.questions.find(q => q.id === id);
4
5     if (!this.question) {
6         this.$router.push({name: 'NotFound'});
7     }
8 }
```

Lifecycle Events

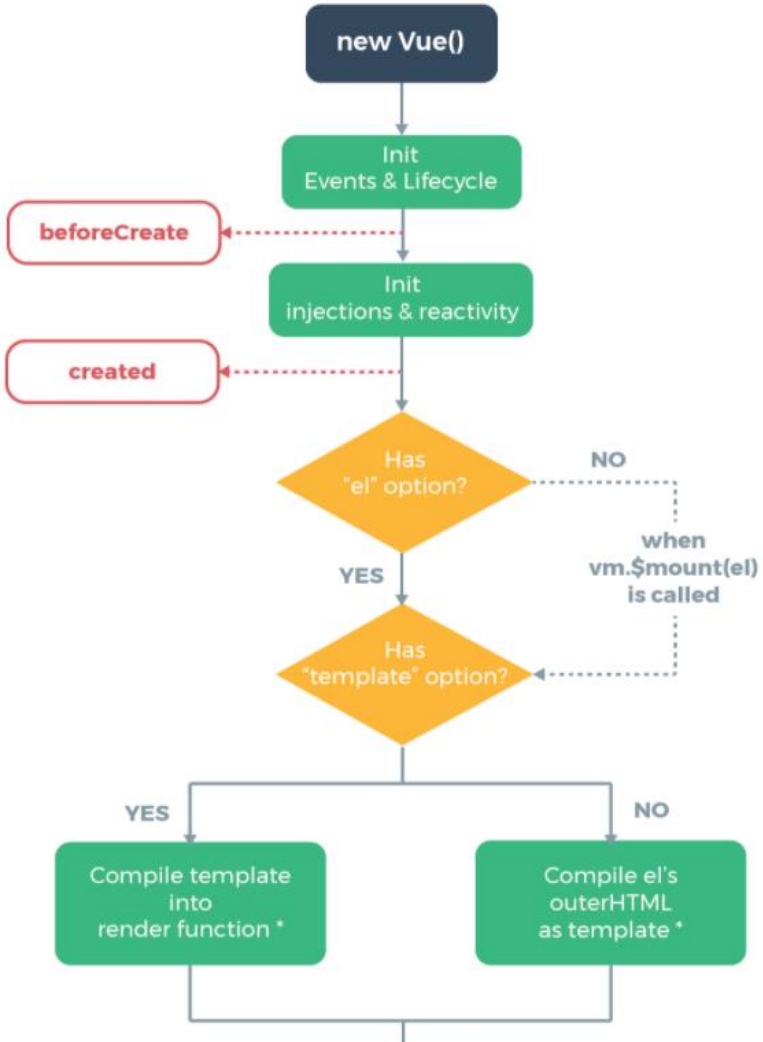
beforeCreate( )
created( ) → Instance is being *created*

beforeMount( )
mounted( ) → Instance is being *mounted*

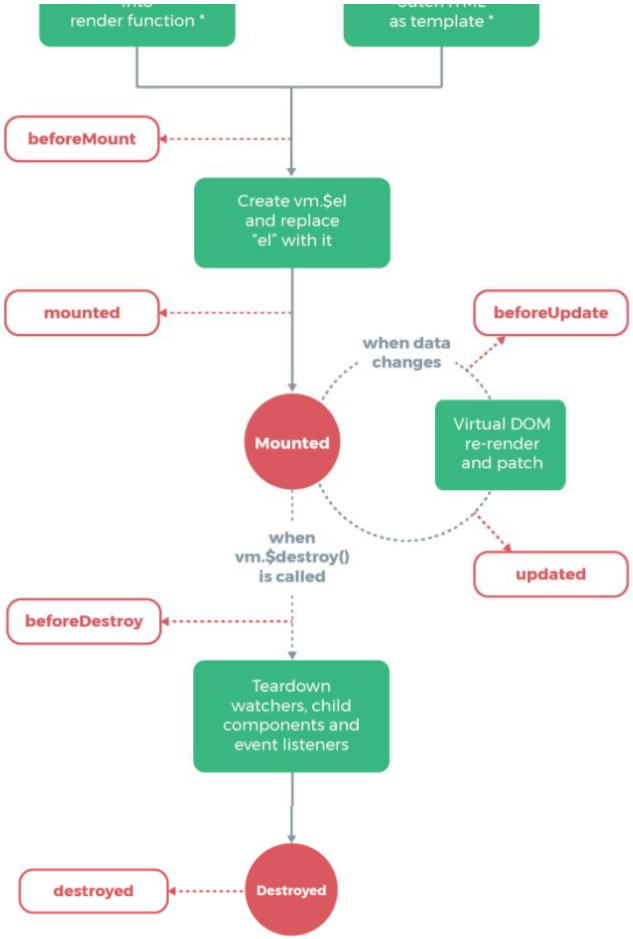
beforeUpdate( )
updated( ) → Instance is being *updated*

beforeDestroy( )
destroyed( ) → Instance is being *destroyed*

Lifecycle Events



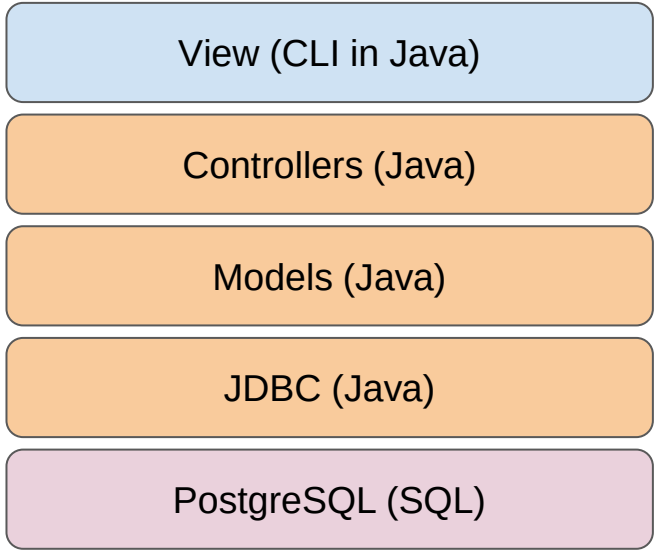
Lifecycle Events



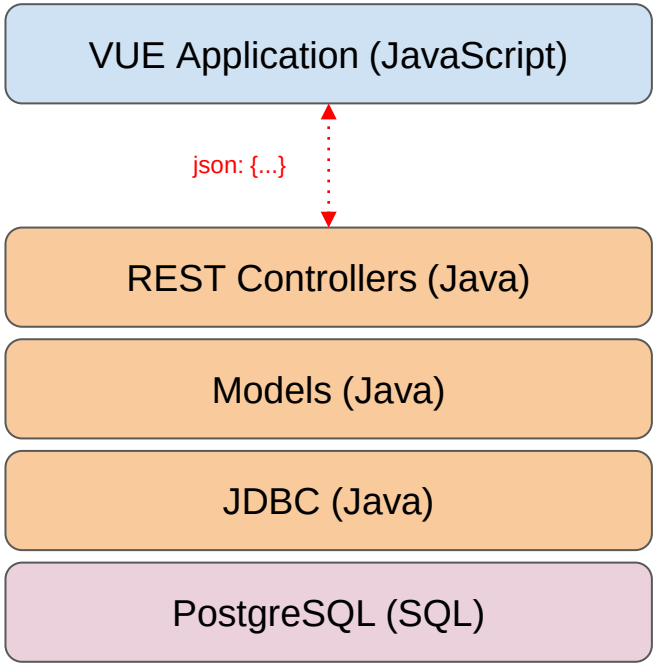
created()

```
1 // This fires after the component is created but before it renders.
2 // You can access any data, props, and $route info you need to here.
3 // This is also a good place to kick off requests for data your component will eventually need
4 created() {
5     const id = this.$route.params.id; // Grabs the route parameter named id, if it was present
6     this.question = this.$store.state.questions.find(q => q.id === id);
7
8     if (!this.question) {
9         this.$router.push({name: 'NotFound'});
10    }
11 }
```

Module 2 vs Module 3 (Comparing Stacks)

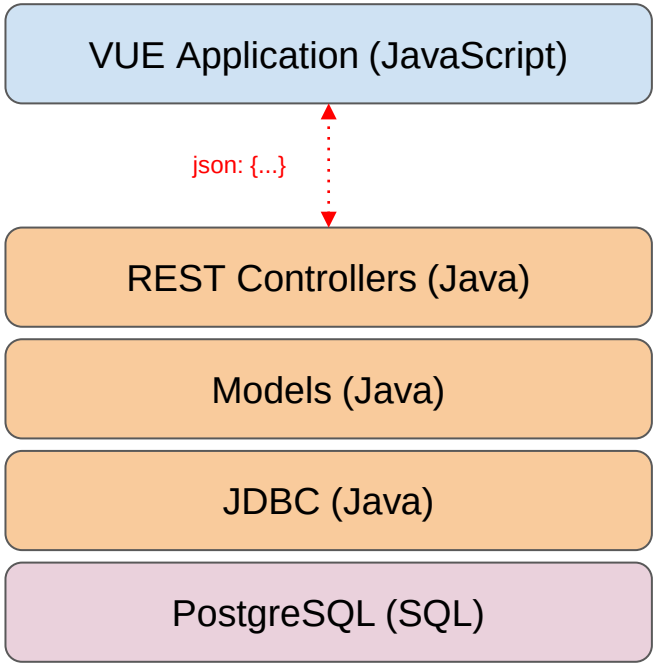


Module 2



Module 3

Consuming API's with VUE



We will use all the techniques we've learned so far in VUE to construct an application capable of consuming a REST API.

While we can use fetch syntax from Vanilla JS, we will be learning Axios for its ease.

Requests to a REST Endpoint

Recall that a REST controller can be configured to handle various types of requests. Let's review them:

- **GET**: Ideally suited to retrieve all the records from a REST endpoint.
- **GET (with path variable)**: We can configure path variables (i.e. doggo/1) to retrieve a single record of data.
- **POST**: Ideally suited for inserting new data into the data source.
- **PUT**: Ideally suited for updating an existing record within a data source.
- **DELETE**: Ideally suited for removing an existing record from the data source.

HTTP STATUS CODES

2xx Success

200	Success / OK

3xx Redirection

301	Permanent Redirect
302	Temporary Redirect
304	Not Modified

4xx Client Error

401	Unauthorized Error
403	Forbidden
404	Not Found
405	Method Not Allowed

5xx Server Error

501	Not Implemented
502	Bad Gateway
503	Service Unavailable
504	Gateway Timeout

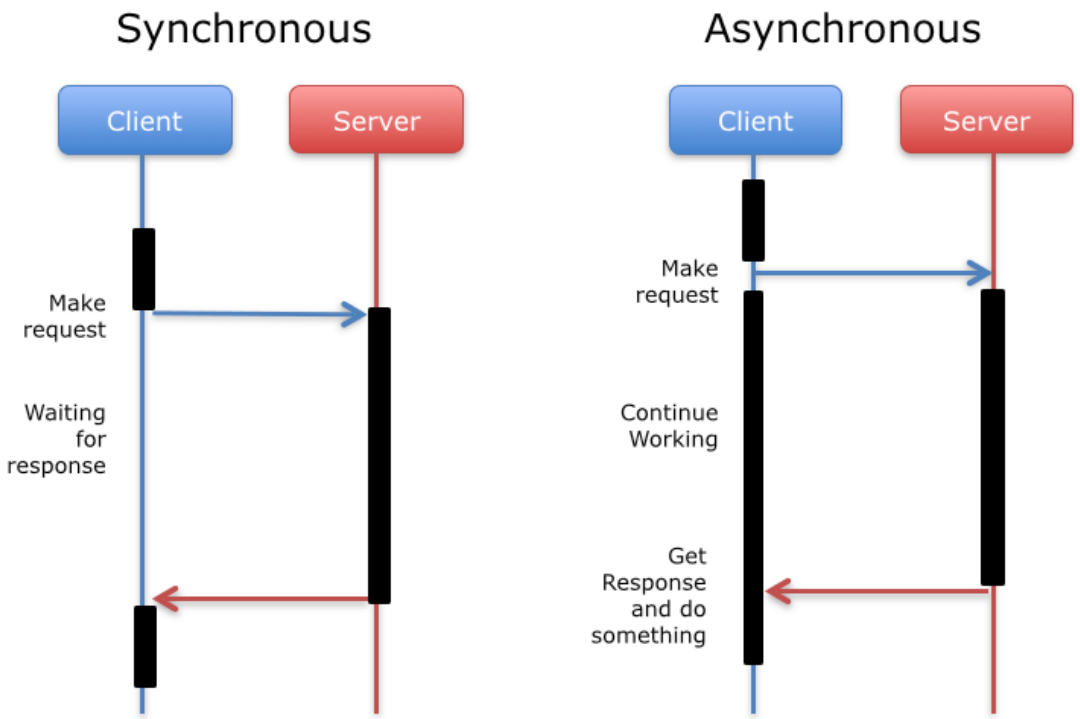
418 I’M A TEAPOT

Let’s code!


When you help someone fix their code but you can’t fix your own
I guide others to a treasure that I cannot possess

Synchronous vs Asynchronous

Sync vs Async



AXIOS

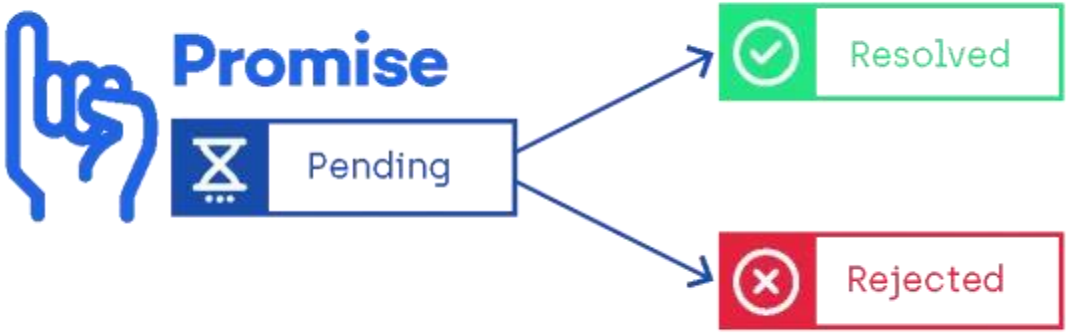
```
npm install axios --save
```

Axios Get

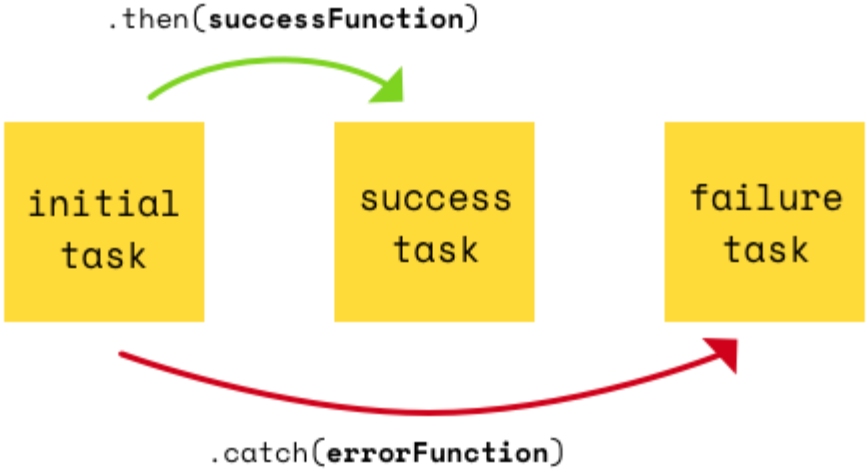
```
1 /**
2  * Gets all items on the server
3  * @returns {Promise} a promise that will complete with a list of items
4  */
5 getAllItems() {
6   // Create our Axios instance used to communicate with the server
7   const http = axios.create({
8     baseURL: 'https://some.website.com'
9   });
10
11  return http.get('/items'); // This is added to the end of baseURL specified above
12 }
```

What Is A Promise?

What Is A Promise?



Using A Promise



Axios Get

```
1 /**
2  * Gets all items on the server
3  * @returns {Promise} a promise that will complete with a list of items
4  */
5 getAllItems() {
6   // Create our Axios instance used to communicate with the server
7   const http = axios.create({
8     baseURL: 'https://some.website.com'
9   });
10
11  return http.get('/items'); // This is added to the end of baseURL specified above
12 }
```

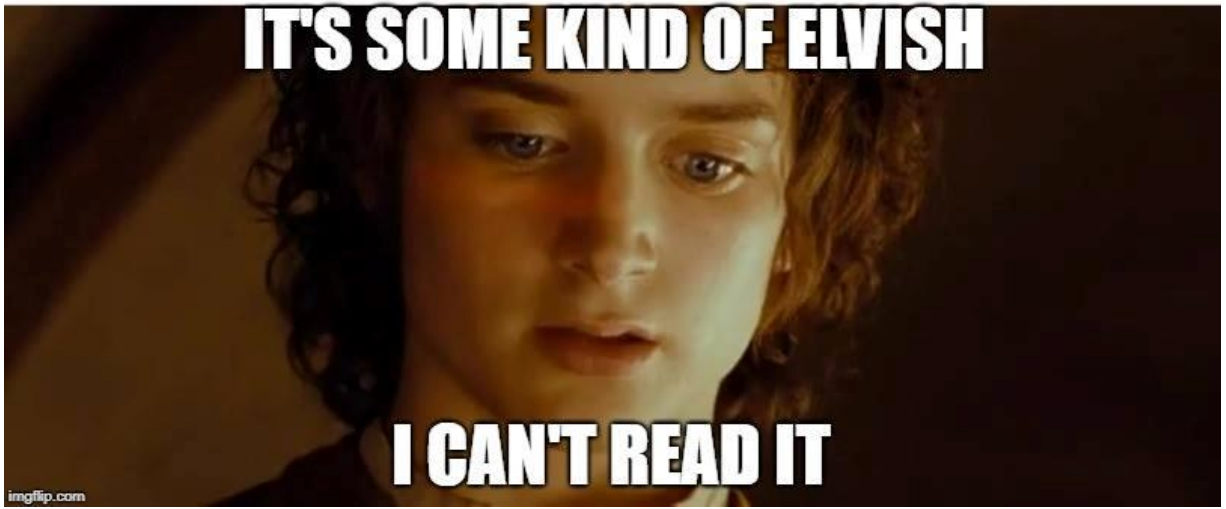
Axios Get

```
1 /**
2  * Gets all items on the server
3  * @returns {Promise} a promise that will complete with a list of items
4  */
5 getAllItems() {
6   // Create our Axios instance used to communicate with the server
7   const http = axios.create({
8     baseURL: 'https://some.website.com'
9   });
10
11  return http.get('/items'); // This is added to the end of baseURL specified above
12 }
```

```
1 getAllItems().then(response => {
2     // response.data is loaded from the contents of the response body
3     // It's typically going to be a JavaScript object or an array of objects
4     const items = response.data;
5     this.$store.commit('ITEMS_LOADED', items);
6   });
```

Let’s code!

Let’s code!


When you trying to look at
the code you wrote a month ago
IT'S SOME KIND OF ELVISH
I CAN'T READ IT
imgflip.com