These are other notes on View from the Reaction-Timer Project  
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GitHub Repo:  
<https://github.com/lionel5116/VueReactionTimerProject.git>  
  
**Tip**: Another tip on emitting methods  
**Tip**: Passing props (just a refresher)  
**Tip**: Adding Bootstrap to Vue  
Tip: Adding Routing in Vue 3  
Tip: Refactoring the app for the routing and nav  
Tip: Deployment and routing  
Tip: Vuex (State Management) in Vue (And the differences from REDUX)  
Tip: Using axios in vue  
Tip: Running unit tests with jest an vue tools  
Tip: Removing the white space above the navigation  
Tip: Navigation in Vue (to another component with a button click)  
Tip: Bootstrap Form (Bootstrap 5)  
Tip: Building a bootstrap table from scratch with regular bootstrap  
Tip: Adding the backend to your project (for MONGO DB Integration)  
Tip: Writing a record to MongoDB Atlas from VueJs Application /Bootstrap, binding etc..

**Tip**: Debugging a Vue Application with VS Code

**Tip**: Debugging a Vue Application with VS Code  
https://v2.vuejs.org/v2/cookbook/debugging-in-vscode.html

I have already wired up the Debugging in the project (see the launch.json fle) . Debugging is done the same way as any other JavaScript project with VS Code. (With one difference on setup, you have to modify the vue.config.js file). Just follow the instructions from the link about setup.

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**Tip**: Another tip on emitting methods  
If you look below, we are emitting a method that we will name ‘end’ in the parent component. Notice how we are passing data along with it.  
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Now over in our parent component:  
Notice below how we are making reference to the emitter by its name (‘end’)  
We are pointing it to the method “endgame”  
In the method, we are specifying an argument as a parameter for the function. When created the emitter, we passed in some data, so what that means is that the method create automatically receives that data as it’s parameter.  
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**Tip**: Passing props (just a refresher)  
We declare props

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Then to receive the prop from the parent:

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**Tip**: Adding Bootstrap to Vue  
In vue 3 , you have to use bootstrap 5  
You can install bootstrap the same way (regular npm) as any other node.js project  
https://getbootstrap.com/docs/5.0/components/navbar/

npm i bootstrap@5.0.1

npm install --save @popperjs/core

Then In main.js

import "bootstrap/dist/css/bootstrap.min.css"

import "bootstrap"  
  
Create a nav component

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You can then use bootstrap anywhere in your application. Just refer to the bootstrap docs  
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Tip: Adding routing in Vue 3  
https://www.vuemastery.com/blog/vue-router-a-tutorial-for-vue-3/  
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In main.js

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In your Custom Nav Component

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For the home link

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You don’t need a route  
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Tip: Refactoring the app for the routing and nav  
I refactored the app to correct the navigation  
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Graphical user interface

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Background pattern

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Tip: Deployment and routing  
When I deployed the app, the routing worked  
  
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Also the addition to vue.config also fixed the deployment issue with the paths as well  
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Tip: Vuex (State Management) in Vue (And the differences from REDUX)  
This came from this video  
<https://www.youtube.com/watch?v=nFh7-HfODYY>  
  
To add vuex to your project  
npm install vuex@next –save  
  
Then we can create our store  
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To add our store, we make a reference in our main.js file

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Now every component in our application has access to our store  
  
We will demonstrate two types of actions in our store

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commit: allows to fire an action in your store  
dispatch: allows you to fire an action in our store  
To fetch data from our store we use the $store.state.<property>  
  
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Like stated above to change some state in our store, we can use the mutations section to fire a method the update state.  
The actions section allows us to fire asynchronous code (api) and change a state’s property  
(Tip: Using axios in vue)  
npm install axios  
  
Differences between Vuex and REDUX  
  
Setup:  
Vuex:  
The setup for Vuex is really quite simple:  
You create a store using the createStore from vuex. In the index.js file where you create the store, you create you actions, mutations, getters and setters. Then in your main.js file, when you are issuing the creatApp command, you use the .use(store) command. After this, your entire application has access to the store.  
  
Redux:  
Redux is a different beast, it requires a lot more wireup and configuration to get it work. Even referencing the state and consuming it is more code intensive.  
  
Changing State:  
Vuex:  
The only way to change state in your app is by using mutations  
<https://vuex.vuejs.org/guide/mutations.html>

Redux:  
You used **Reducers** to return a brand new instance (part of the overall state tree)  
  
Actions:

<https://vuex.vuejs.org/guide/actions.html>  
Vuex:  
You create actions as part of the store’s index.js file. Actions also allow you to call asynchronous methods inside of them as well.

Redux:  
Similar, but you mainly create actions in a separate actions file.

Tip: Running unit tests with jest an vue tools  
Website for unit test examples  
<https://v2.vuejs.org/v2/cookbook/unit-testing-vue-components.html?#Why-test>  
  
Run these commands to set up unit testing

<https://v1.test-utils.vuejs.org/installation/#using-vue-test-utils-with-jest-recommended>

vue add unit-jest

npm install --save-dev @vue/test-utils

I created a component to unit test  
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I added some test code  
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Ran the test command to test one component

npm run test:unit foounit  
  
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Tip: Removing the white space above the navigation  
<https://stackoverflow.com/questions/58583789/how-to-remove-white-space-over-the-bootstrap-navigation-bar-in-vue-js>

The default styling had a margin-top: 60px

One you remove that:

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Tip: Navigation in Vue (to another component with a button click)  
<https://router.vuejs.org/guide/essentials/navigation.html#navigate-to-a-different-location>  
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Tip: Bootstrap Form (Bootstrap 5)  
https://getbootstrap.com/docs/5.0/forms/layout/  
Look here for form layout options  
For Form Validation (out of the box input field validation) :  
https://getbootstrap.com/docs/5.0/forms/validation/  
  
  
For rows and columns:  
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For a form:  
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Tip: Building a bootstrap table from scratch with regular bootstrap  
This example came from this article  
https://blog.logrocket.com/table-component-from-scratch-vue-3-bootstrap/

In the end, you do get this:

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Components:  
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Using Static Data  
  
Using a Database – API Call  
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Graphical user interface

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Tip: Adding the backend to your project (for MONGO DB Integration)  
Added a backend to my project  
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You need to run   
npm init   
when you create folder structure  
  
Also install the following packages below:

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I used the same wire-up for mongo db and express as the MERN project from the Udemy course  
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And it works

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<http://localhost:5000/api/clients/createClientRecord>  
POST METHOD

 {

  "ClientCode":"LIONEL5116",

    "LastName":"Jones",

    "FirstName":"Lionel",

    "Address":"16543 Magnolia Dr",

    "City":"Houston",

    "State":"Texas",

    "Zip":"77063",

    "Phone":"714-098-9865",

    "Phone2":"715-098-7612",

    "Cell":"854-098-4321",

    "Notes":"Adding a test record for Mongo DB Adding a client record for HuckeClient",

     "Email":"lionel.jones@gmail.com"

  }

Writing the record from VueJs Project

Tip: Writing a record to MongoDB Atlas from VueJs Application /Bootstrap, binding etc..

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And It WORKS!!!!!!!

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