Introdução a SPA com Vue.js

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Summary

1) Introduction
2) Getting started
3) Components
4) Data binding and Event binding
5) Using classes
6) Http request
7) Vue Router
8) Using props

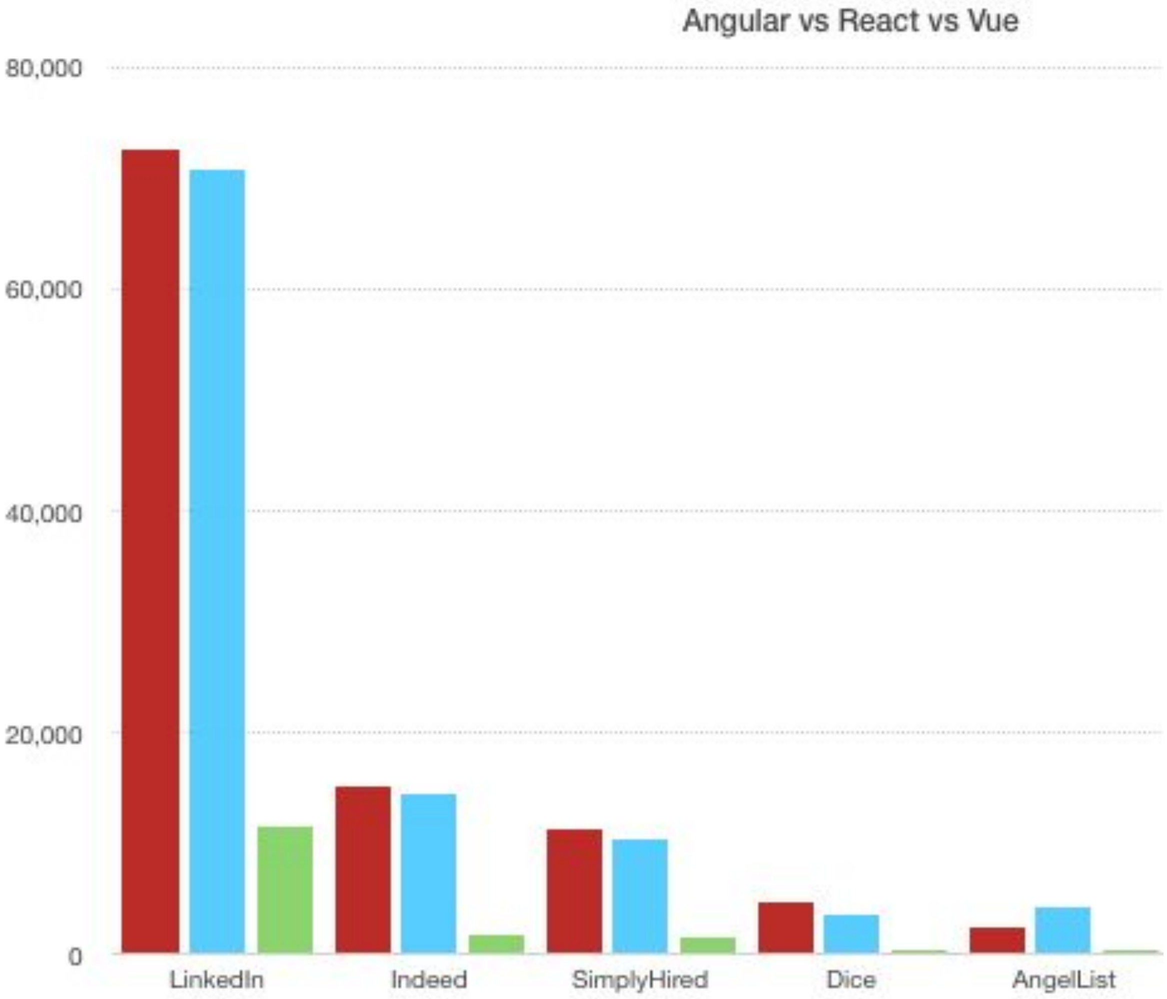
Introduction - Js history

- The beginning JavaScript frameworks.
    - Libraries: jQuery and Mootools
- First wave of modern JavaScript frameworks.
    - Backbone, Ember, Knockout, and AngularJS.
- Second wave of modern JavaScript frameworks.
    - React, Angular(Typescript), and “Vue”

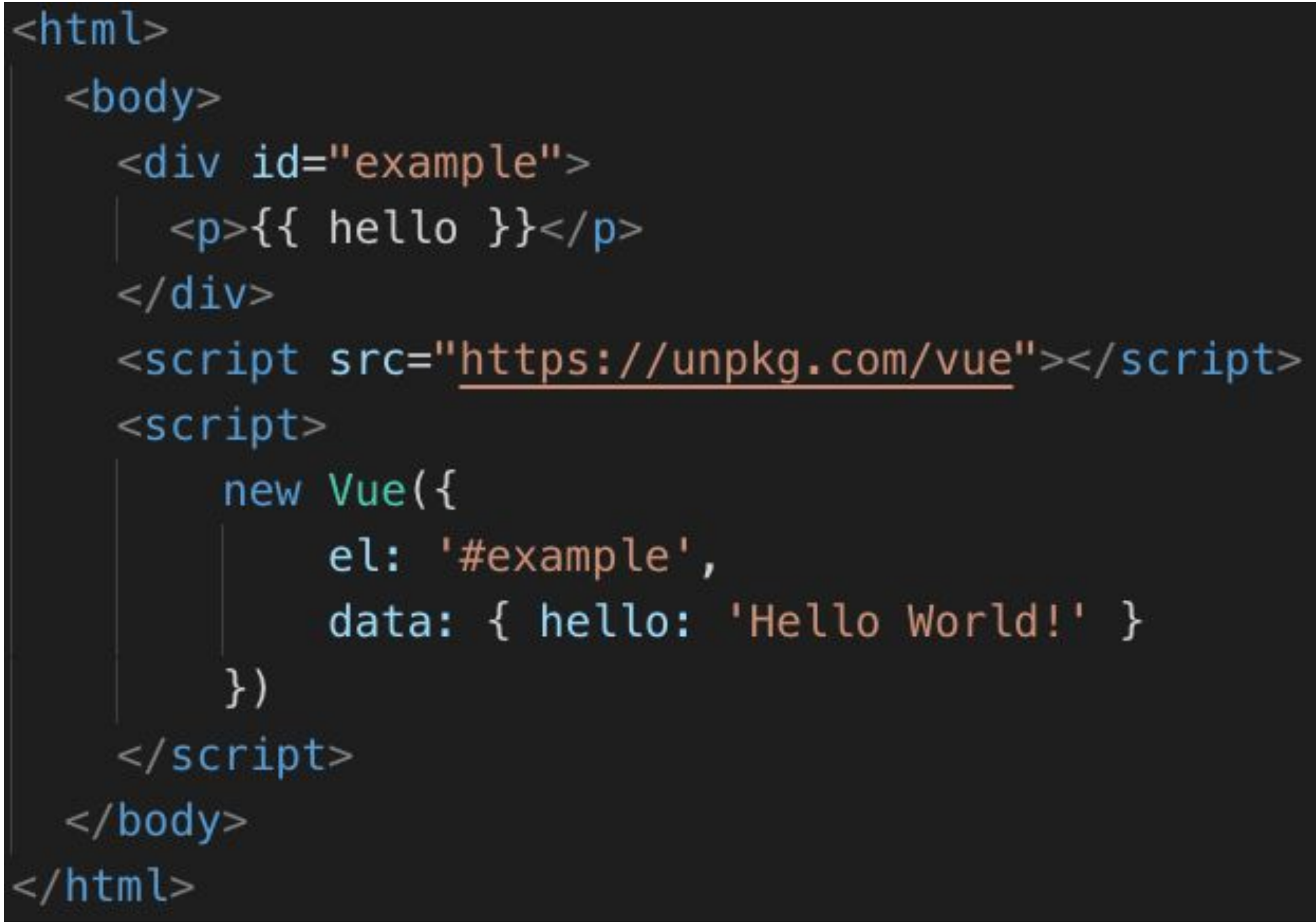
Introduction - Popularity of Vue.js

- Vue
  - 7,600 stars on GitHub in 2016
  - 36,700 stars on GitHub in 2017
  - 127,203 stars on GitHub in 2019
- React
  - 121,668 stars on GitHub in 2019
- Angular
  - 45,035 stars on GitHub in 2019

Introduction
Job Demand



Introduction
Hello World



```
<html>
  <body>
    <div id="example">
      <p>{{ hello }}</p>
    </div>
    <script src="https://unpkg.com/vue"></script>
    <script>
        new Vue({
            el: '#example',
            data: { hello: 'Hello World!' }
        })
    </script>
  </body>
</html>
```

Getting Started - Installation

1) Required
   - Node.js

2) Install vue
   - (sudo) npm install -g @vue/cli
   - (sudo) npm install -g @vue/cli-init

Getting Started - First project

1) Create new app
    - vue init webpack-simple vuestore

2) Prepare and run project
    - cd vuestore
    - npm install
    - npm run dev

Getting Started - Understanding the structure

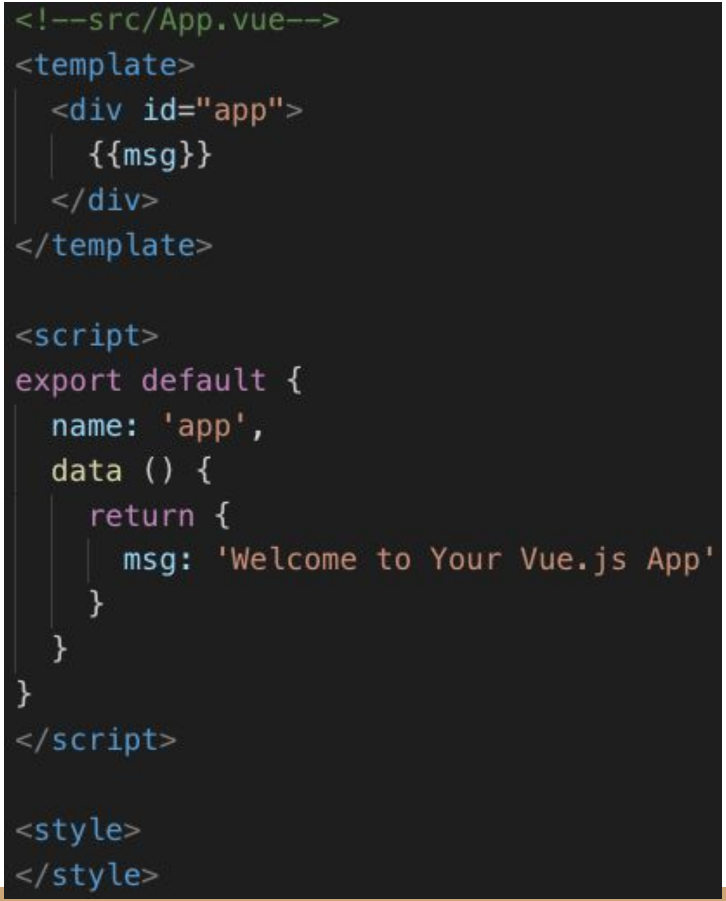
1) Three files
   - src/App.vue
   - src/main.js
   - index.html

2) node_modules

3) package.json

Getting Started - Editing the project

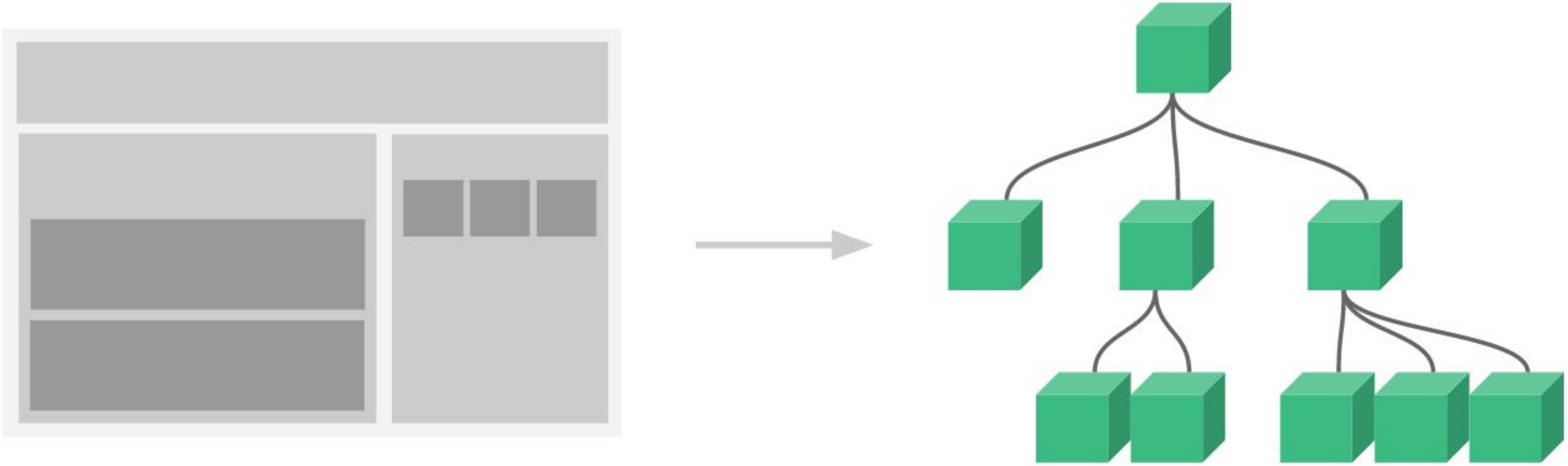
1) Open src/App.vue and edit



```
<!--src/App.vue-->
<template>
  <div id="app">
    {{msg}}
  </div>
</template>

<script>
export default {
  name: 'app',
  data () {
    return {
      msg: 'Welcome to Your Vue.js App'
    }
  }
}
</script>

<style>
</style>
```

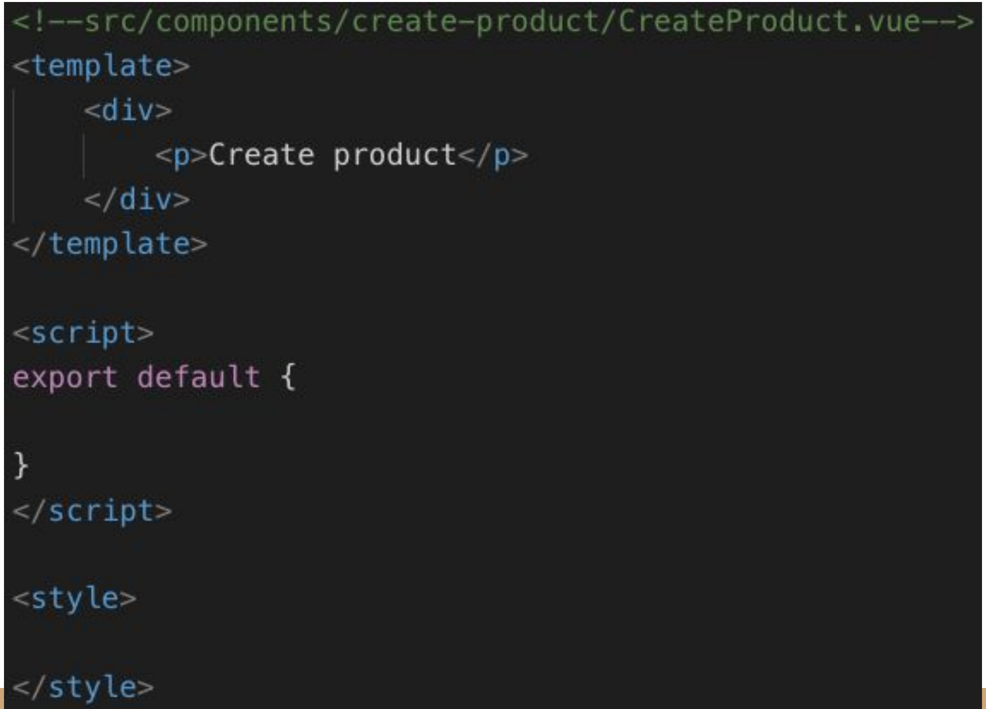
Components

1) “Components are single, independent units of an interface. They can have their own state, markup and style.“ [5]



Components - first component - part 1

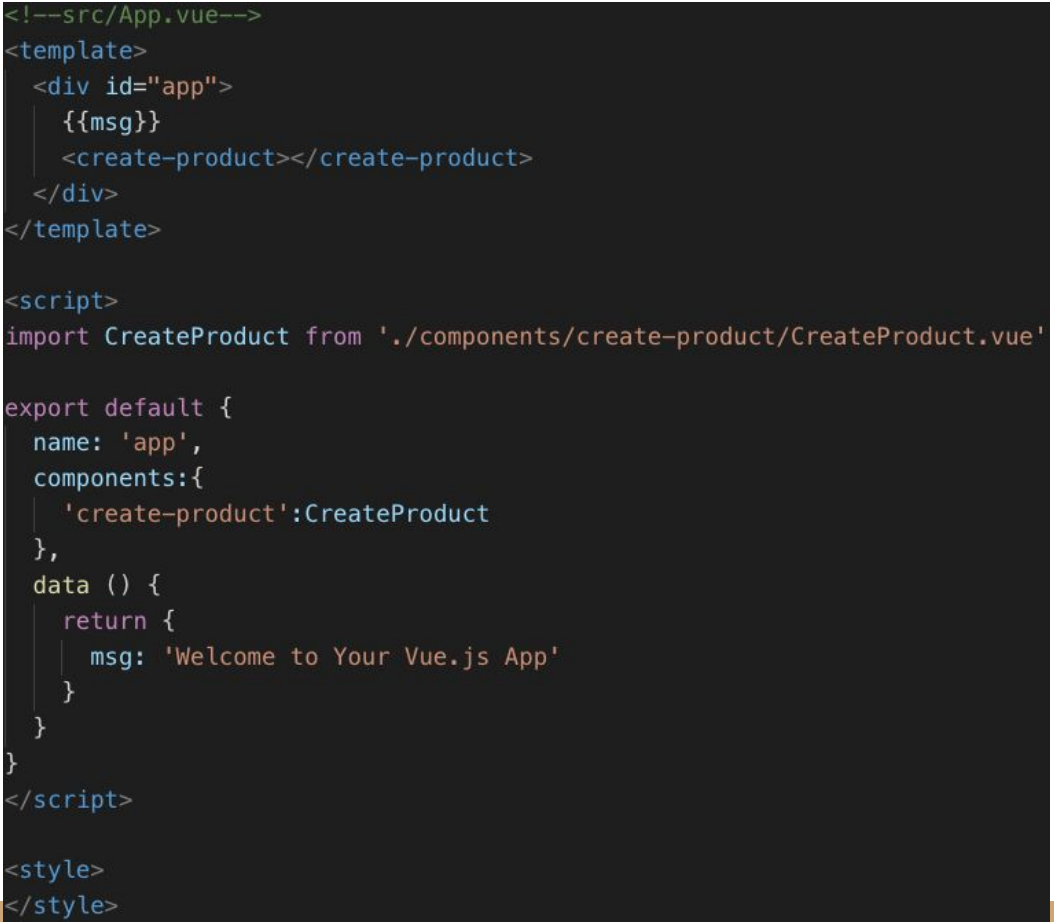
1) Create the folder “src/components/create-product”
2) Create the file “src/components/create-product/CreateProduct.vue”
3) Code the file “src/components/create-product/CreateProduct.vue”



```
<!--src/components/create-product/CreateProduct.vue-->
<template>
    <div>
        <p>Create product</p>
    </div>
</template>

<script>
export default {

}
</script>

<style>

</style>
```

Components - first component - part 2

- Code the file “src/App.vue”
  a. import CreateProduct
  b. use as component
  c. use as directive



```
<!--src/App.vue-->
<template>
  <div id="app">
    {{msg}}
    <create-product></create-product>
  </div>
</template>

<script>
import CreateProduct from './components/create-product/CreateProduct.vue'

export default {
  name: 'app',
  components:{
    'create-product':CreateProduct
  },
  data () {
    return {
      msg: 'Welcome to Your Vue.js App'
    }
  }
}
</script>

<style>
</style>
```

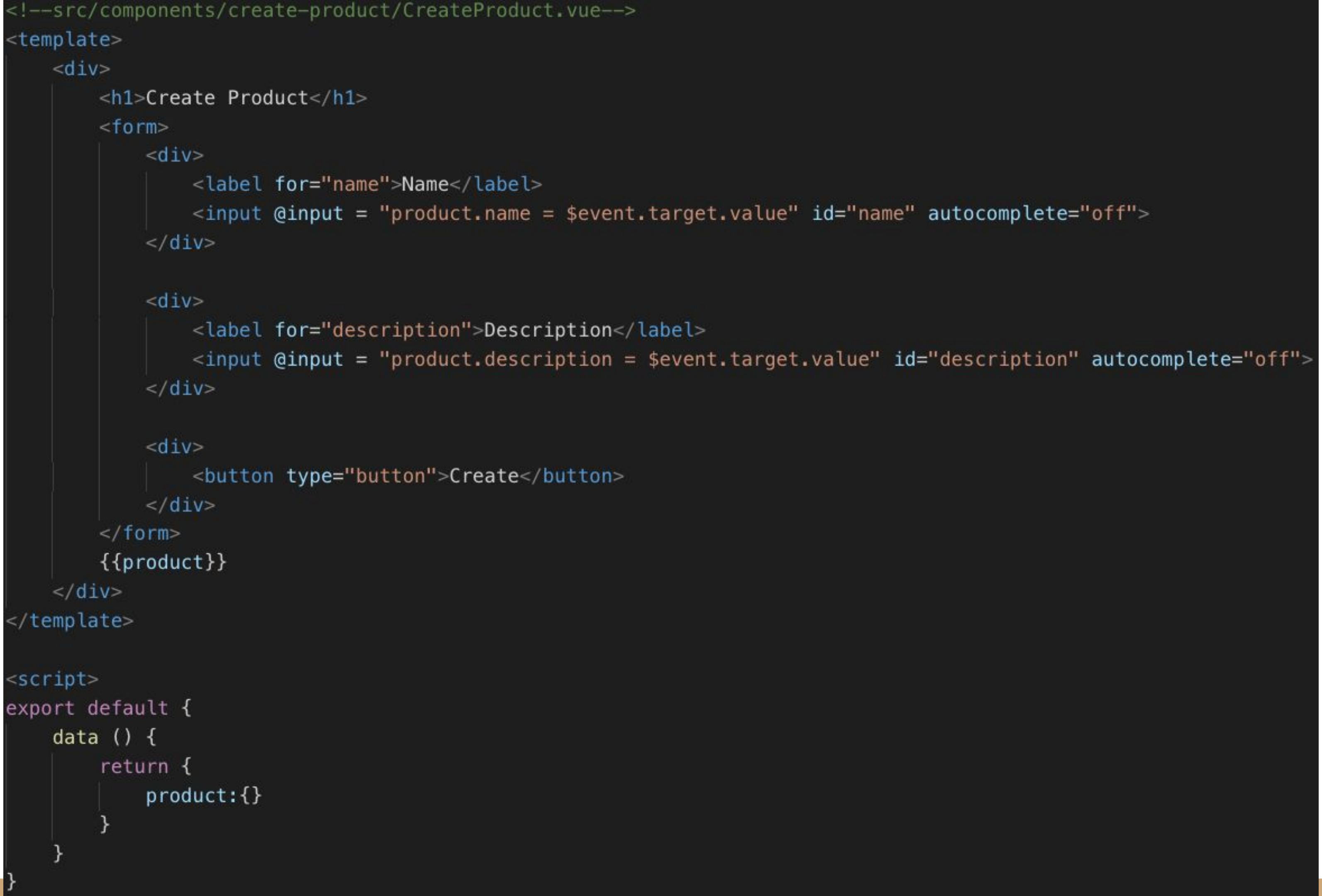
Data binding

- One way data-binding
    a. From template to script -> using @input
    b. From script to template -> interpolation using “{{ }}”

- Two way data-binding
    a. From template to script and from script to template -> using v-model

Data binding - From template to script

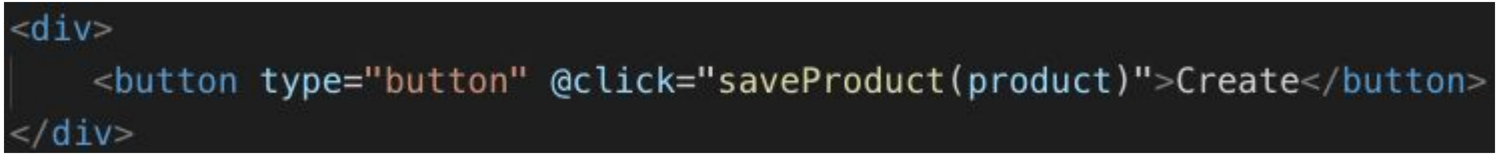
- Code the file “src/components/create-product/CreateProduct.vue”
- https://paste.ofcode.org/Rc97axbNEKedT8mnASQm6N



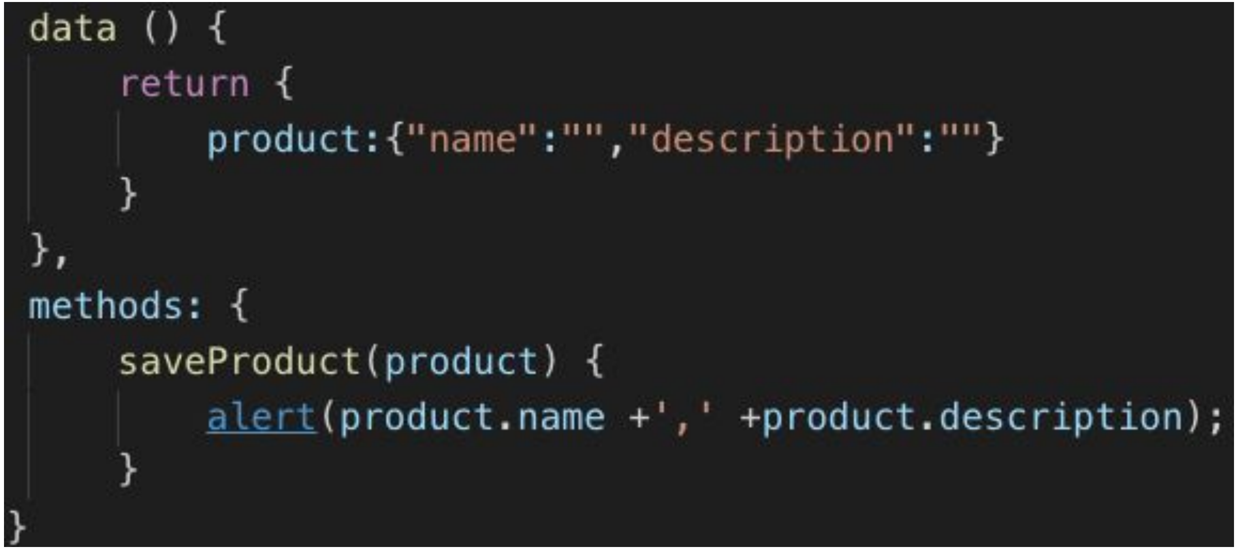
```
<!--src/components/create-product/CreateProduct.vue-->
<template>
    <div>
        <h1>Create Product</h1>
        <form>
            <div>
                <label for="name">Name</label>
                <input @input = "product.name = $event.target.value" id="name" autocomplete="off">
            </div>

            <div>
                <label for="description">Description</label>
                <input @input = "product.description = $event.target.value" id="description" autocomplete="off">
            </div>

            <div>
                <button type="button">Create</button>
            </div>
        </form>
        {{product}}
    </div>
</template>

<script>
export default {
    data () {
        return {
            product:{}
        }
    }
}
```

Event binding - click

- Code the file “src/components/create-product/CreateProduct.vue”
- https://paste.ofcode.org/GK3K2Zm9D8TqFeyRCzPfv4



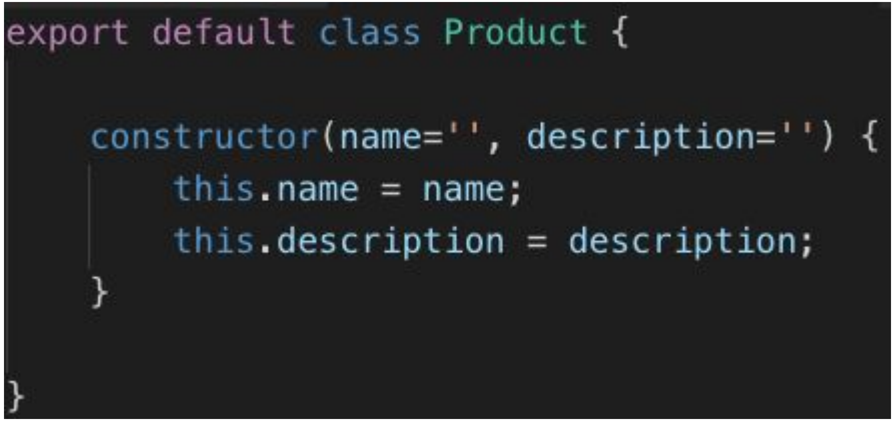
```
<div>
    <button type="button" @click="saveProduct(product)">Create</button>
</div>
```



```
data () {
    return {
        product:{"name":"","description":""}
    }
},
methods: {
    saveProduct(product) {
        alert(product.name +',' +product.description);
    }
}
```

Using classes - create class Product

1) Create the folder “src/domain”
2) Create the folder “src/domain/product”
3) Code the file “src/domain/product/Product.js”

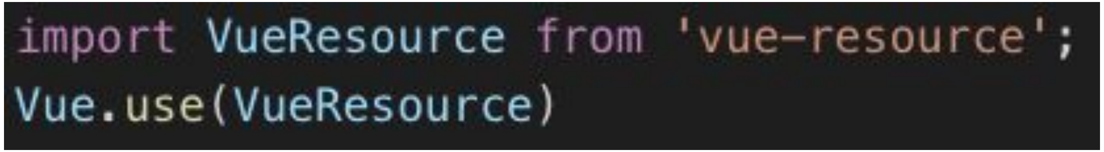


```
export default class Product {

    constructor(name='', description='') {
        this.name = name;
        this.description = description;
    }

}
```

Http request - Configure

1) Install VueResource
    - ○ npm install vue-resource

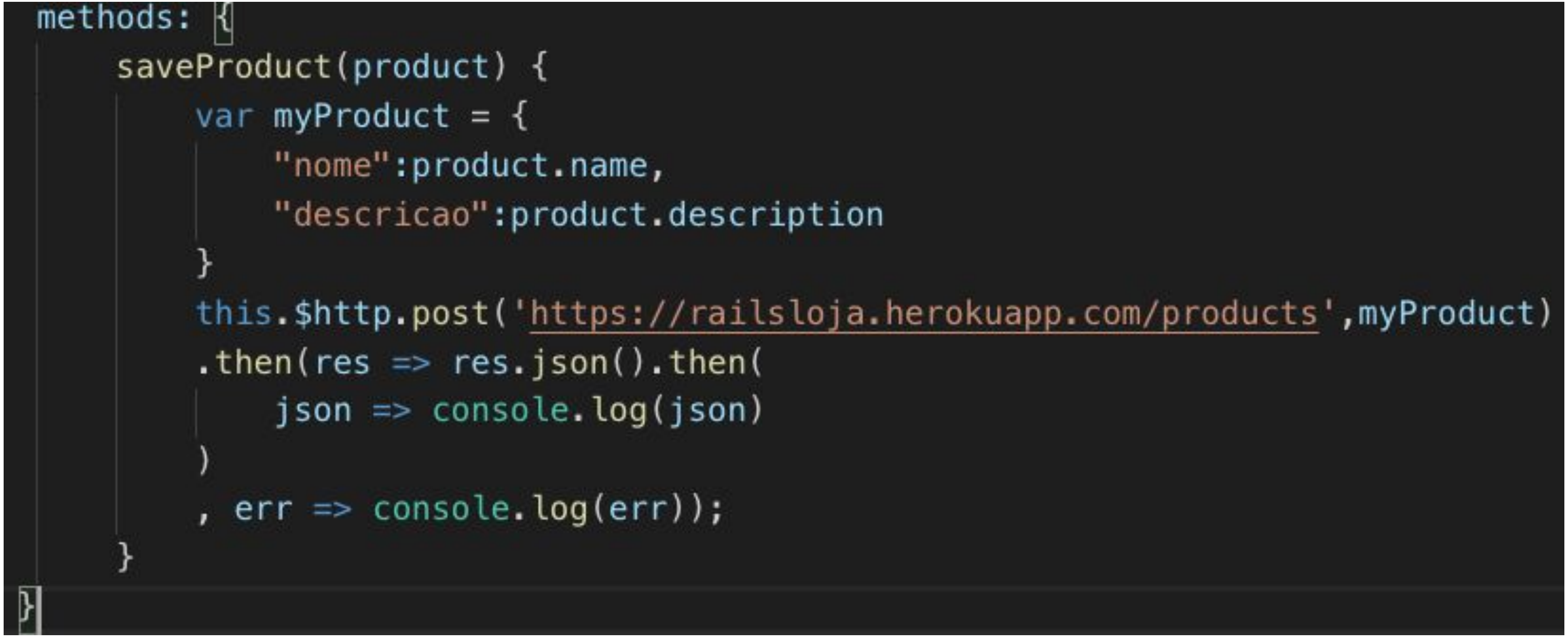
2) Edit “src/main.js”



```
import VueResource from 'vue-resource';
Vue.use(VueResource)
```

Http request - Create Product

1) Code the file “src/components/create-product/CreateProduct.vue”



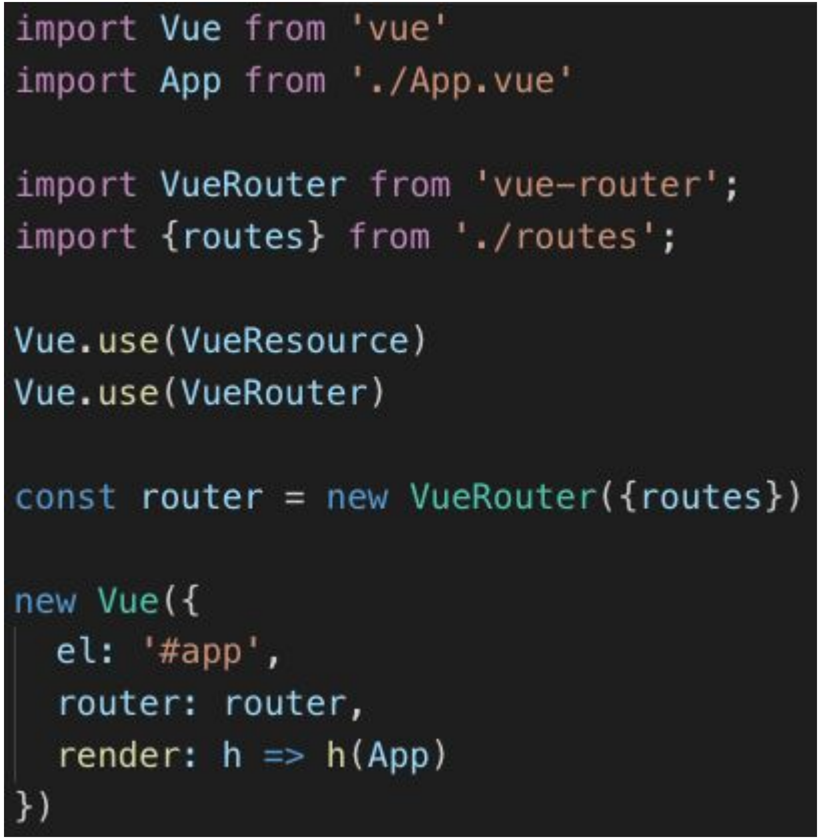
```
methods: {
    saveProduct(product) {
        var myProduct = {
            "nome":product.name,
            "descricao":product.description
        }
        this.$http.post('https://railsloja.herokuapp.com/products',myProduct)
        .then(res => res.json().then(
            json => console.log(json)
        )
        , err => console.log(err));
    }
}
```

Http request - List Products

1) Create the folder “src/components/list-product”
2) Create the file “src/components/list-product/ListProducts.vue”
3) Code: https://paste.ofcode.org/HY4N5rbvwXFHW2hyh2pE5p
4) Inside App.vue and import ListProducts
5) Inside App.vue <script> update the components
6) Inside App.vue <template> use the component

Vue Router - Configure

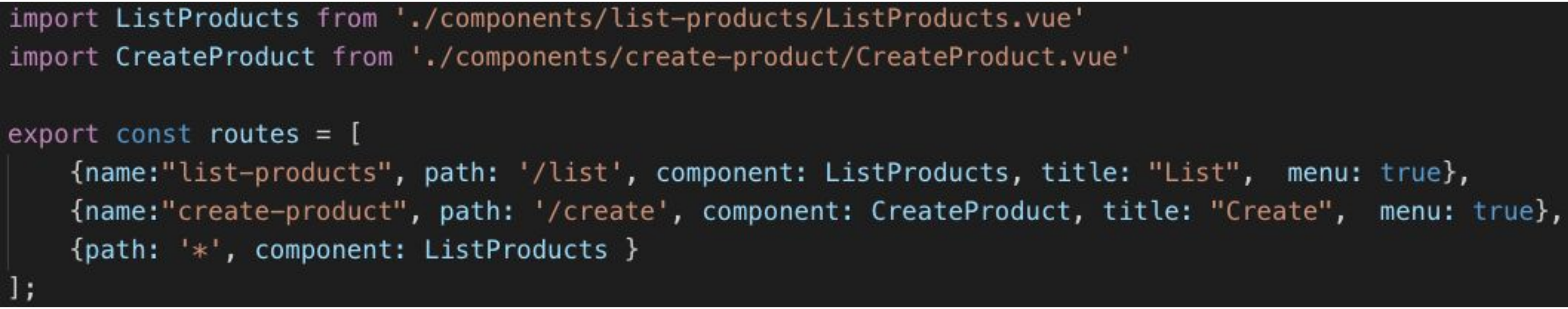
1) Install Vue Router
   - npm install vue-router
2) Edit “src/main.js” =>>>>>>>>>>>>



```
import Vue from 'vue'
import App from './App.vue'

import VueRouter from 'vue-router';
import {routes} from './routes';

Vue.use(VueResource)
Vue.use(VueRouter)

const router = new VueRouter({routes})

new Vue({
  el: '#app',
  router: router,
  render: h => h(App)
})
```

Vue Router - Create routes file

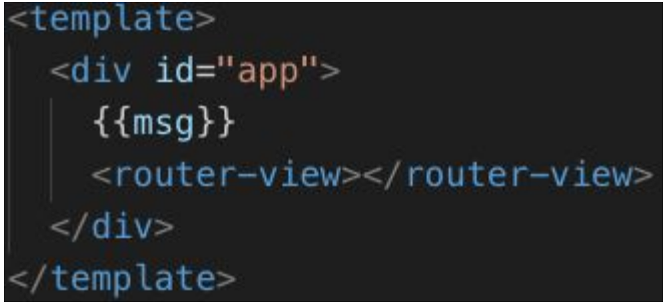
1) Create the file “src/routes.js”
2) Edit the file “src/routes.js”



```
import ListProducts from './components/list-products/ListProducts.vue'
import CreateProduct from './components/create-product/CreateProduct.vue'

export const routes = [
    {name:"list-products", path: '/list', component: ListProducts, title: "List",  menu: true},
    {name:"create-product", path: '/create', component: CreateProduct, title: "Create",  menu: true},
    {path: '*', component: ListProducts }
];
```

Vue Router - Use the ‹router-view›

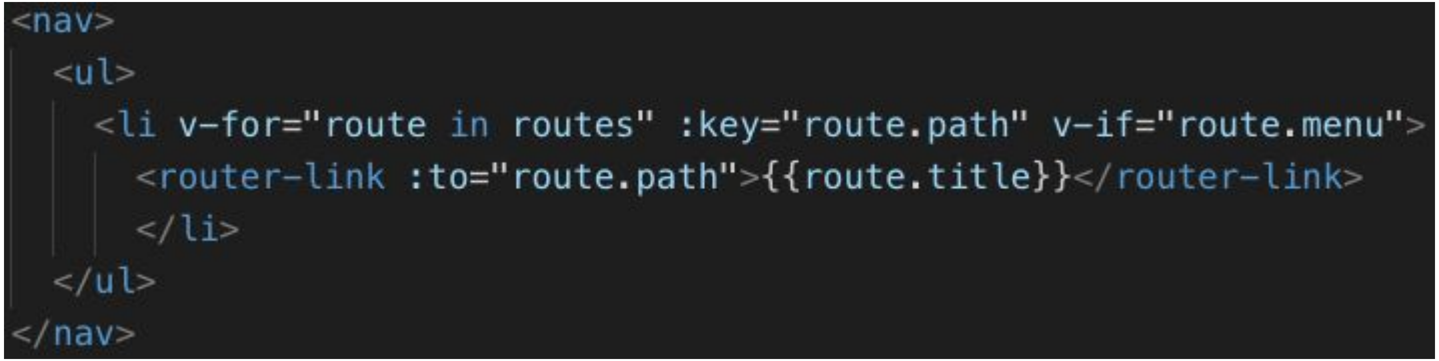
1) Open the file “src/App.vue”
2) Edit the file “src/App.vue”



```
<template>
  <div id="app">
    {{msg}}
    <router-view></router-view>
  </div>
</template>
```

Vue Router - Creating a menu

1) Open the file “src/App.vue”
2) Edit the file “src/App.vue”

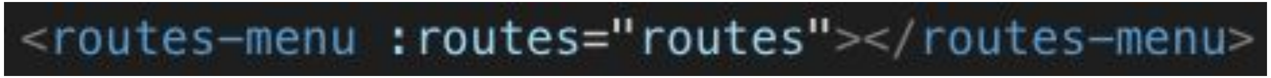


```
<nav>
  <ul>
    <li v-for="route in routes" :key="route.path" v-if="route.menu">
      <router-link :to="route.path">{{route.title}}</router-link>
    </li>
  </ul>
</nav>
```

3) Create the “routes-menu” component and use it on “src/App.vue”

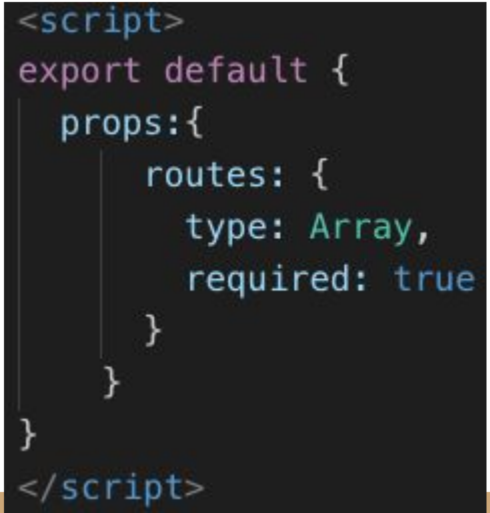
Using props - Using props in RoutesMenu

1) Open the file “src/App.vue”
2) Edit the file “src/App.vue”



```
<routes-menu :routes="routes"></routes-menu>
```

3) Edit the file “src/components/routes-menu/RoutesMenu.vue”



```
<script>
export default {
  props:{
      routes: {
        type: Array,
        required: true
      }
    }
}
</script>
```

References

[1] - Vue.js The Progressive JavaScript Framework, "https://vuejs.org/", 2019
[2] - Vue CLI Standard Tooling for Vue.js Development, "https://cli.vuejs.org/", 2019
[3] - The Vue Handbook: a thorough introduction to Vue.js , "https://medium.freecodecamp.org/the-vue-handbook-a-thorough-introduction-to-vue-js-1e86835d8446", 2019
[4] - Tech Trends Showdown: React vs Angular vs Vue, "https://medium.com/zerotomastery/tech-trends-showdown-react-vs-angular-vs-vue-61ffaf1d8706", 2019
[5] - VUE.JS COMPONENTS, "https://flaviocopes.com/vue-components/", 2019
[6] - Style Guide ,"https://vuejs.org/v2/style-guide/", 2019

Muito Obrigado!