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# Web Development Fundamentals

## Vue CLI 与单文件组件

### Vue CLI & Single-file components

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Microsoft Reactor | Ryan Chung

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https://github.com/ryan403/reactor-sh-2021-vue

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# Reactor

[developer.microsoft.com/reactor/](developer.microsoft.com/reactor/)
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1200 XP

# Vue.js 中的 Vue CLI 和单文件组件入门

3 分钟 剩余 • 模块 • 已完成 9 个单元，共 11 个

★★★★★ 4.9 (10) 对其进行评级

中级 学生 开发人员 应用服务静态 Web 应用 Visual Studio Code

虽然可以仅使用 JavaScript 来创建 Vue.js 应用程序，但大多数开发人员都需要更多的功能和灵活性。 使用 Vue CLI 和单文件组件，你可以利用更可靠的工具增强开发体验。 我们将了解如何使用 Vue CLI 启动应用程序，以及如何在 Vue 中创建可重用组件。

## 学习目标

本模块涉及以下内容：

- 使用 Vue CLI
- 创建组件

## 先决条件

了解 HTML/CSS、Git、npm、JavaScript，并对 Vue.js 有一定了解

继续 > ⊕ 保存



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# 学习目标

- 使用Vue CLI
- 建立组件



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# 安装 Vue CLI

- 确认已安装Node与NPM

  node -v

  npm -v

- 安装 Vue CLI

  npm install -g @vue/cli



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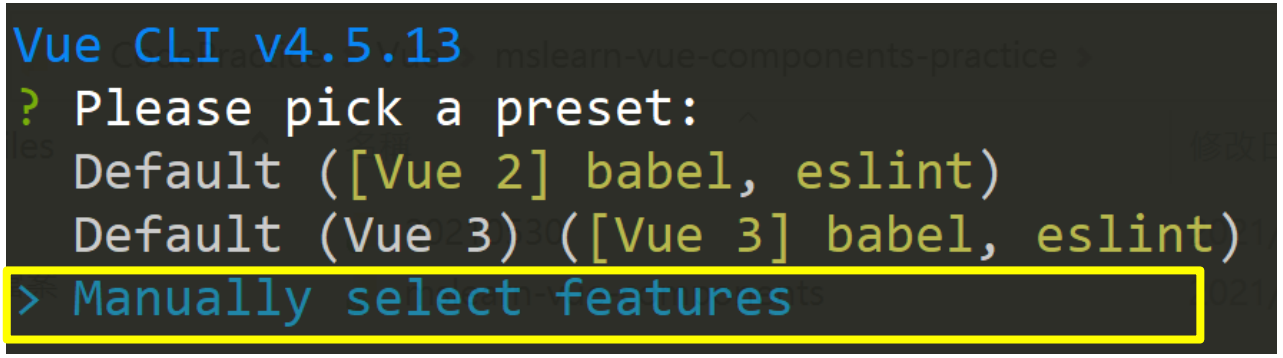
# 使用Vue CLI建立应用程序

- 终端机，先移至想要放置项目的文件夹
- 建立应用程序
  - vue create relecloud
  - 选择 Manually select features



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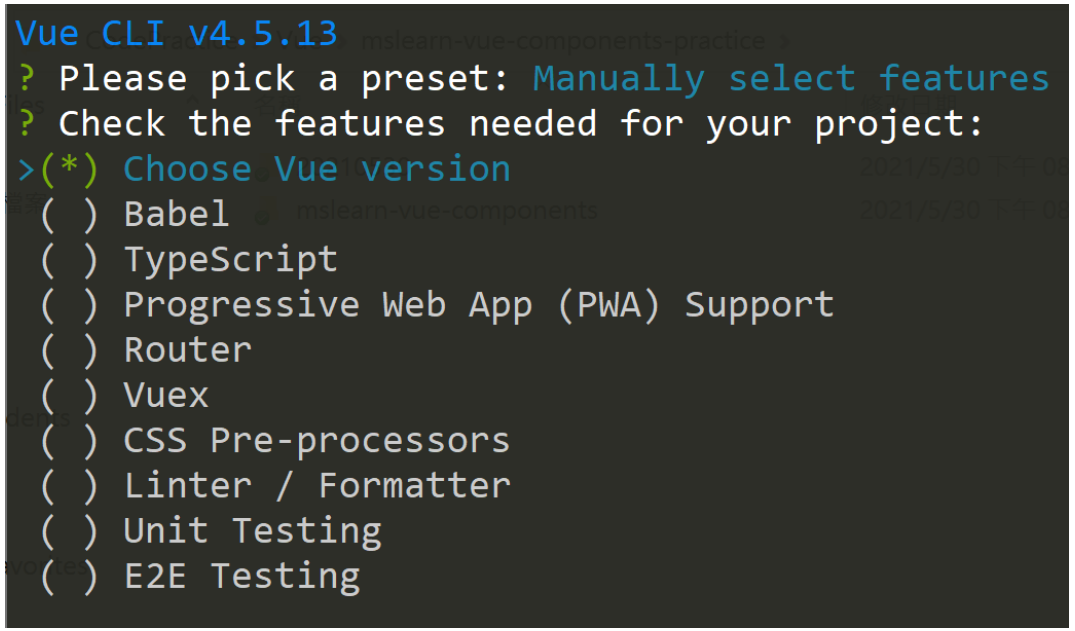
# 确认需要的项目

- 只留下 Choose Vue version
- 移动至不要的项目，按下 Space



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# 选择版本

- 选择 3.x

```
Vue CLI v4.5.13
? Please pick a preset: Manually select features
? Check the features needed for your project: Choose Vue version
? Choose a version of Vue.js that you want to start the project with
  2.x
> 3.x
```



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# 配置文件放置位置

- In dedicated config files

```
Vue CLI v4.5.13
? Please pick a preset: Manually select features
? Check the features needed for your project: Choose Vue version
? Choose a version of Vue.js that you want to start the project with 3.x
? Where do you prefer placing config for Babel, ESLint, etc.? (Use arrow keys)
> In dedicated config files
  In package.json
```



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# 是否作为预设设定

- 暂时先不储存(No)

```
Vue CLI v4.5.13
? Please pick a preset: Manually select features
? Check the features needed for your project: Choose Vue version
? Choose a version of Vue.js that you want to start the project with 3.x
? Where do you prefer placing config for Babel, ESLint, etc.? In dedicated config files
? Save this as a preset for future projects? (y/N)
```



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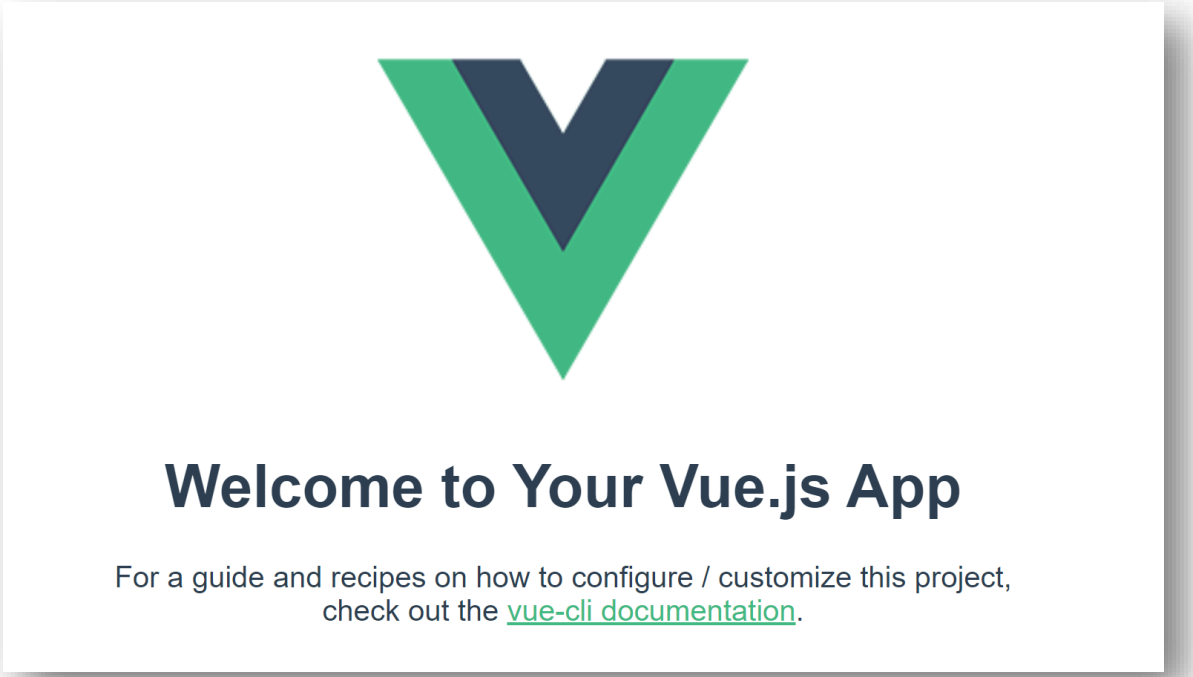
# 项目检视与执行

- VS Code -> 档案 -> 开启文件夹... 开启 relecloud
- 检视 -> 终端
  - npm run serve
- 打开浏览器
  - http://localhost:8080/



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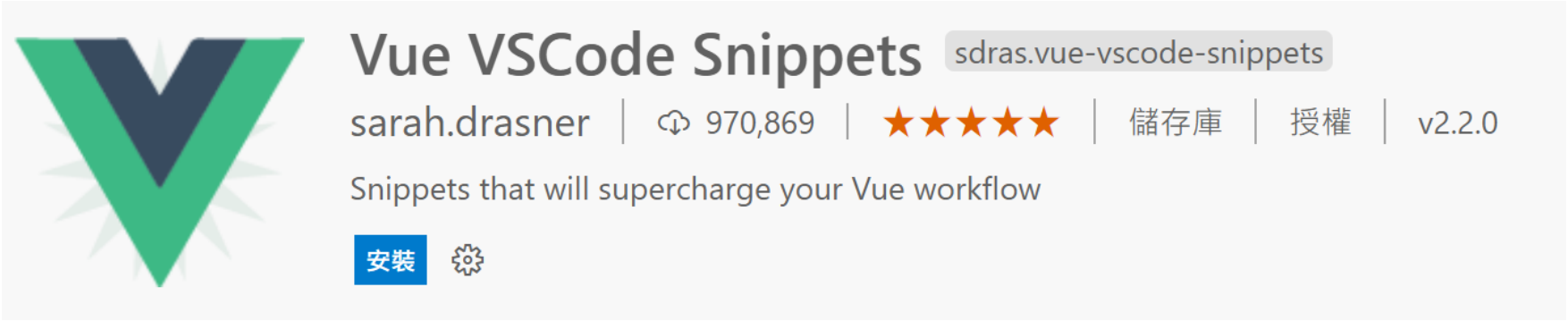
# Vue Component 有三个section

- style
  - CSS样式
- script
  - data()
  - methods
  - components
- template
  - HTML界面

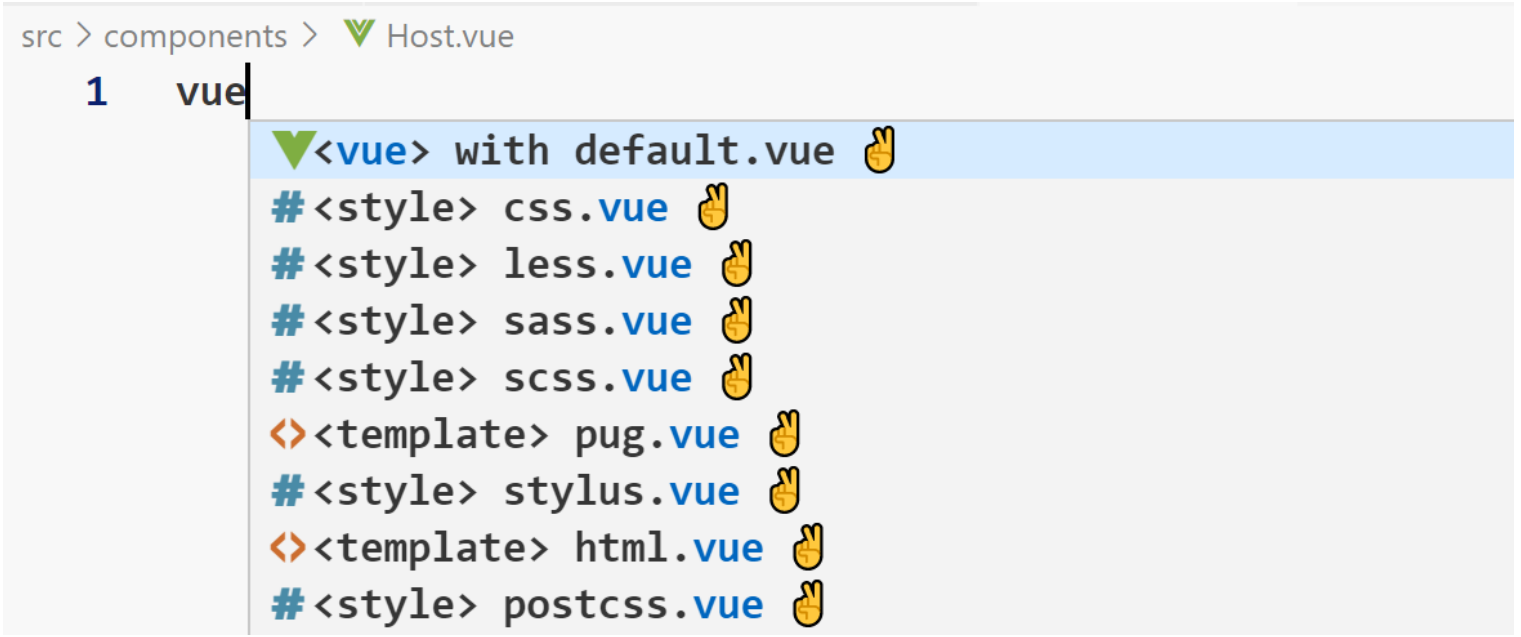
# 安裝 Vue 相关 Extension

- Vetur
- Vue VSCode Snippets



# 建立新的Component

- 在src/components路径下，新增档案
  - Host.vue
- 在Host.vue中，输入 vue
  - 选择 <vue> with default.vue



# 修改 script 区段

```
<script>
export default {
    data(){
        return {
            cruise:{
                name:'Cruise to the moon',
                description:'Cruise to the moon in our luxurious shuttle. Watch the astronauts
 working outside the International Space Station.',
                cabins:[
                    {name:'Coach',price:125000},
                    {name:'Business',price:275000},
                    {name:'First',price:430000}
                ]
            },
            bookings:[
                {name:'Sample',price:0}
            ]
        }
    },
    // TODO: Add components
    // TODO: Add methods
}
</script>
```

# 修改 template 区段

```
<template>
  <section>
      <div class="nav-bar"></div>
      <h1>Relecloud Galaxy Tours</h1>
      <div>
          <h2>{{cruise.name}}</h2>
          <div>{{cruise.description}}</div>
          <hr>
          <div class="row">
              <div> <!-- TODO: Add booking-form -->
              </div>
              <div> <!-- TODO: Add booking-list -->
              </div>
          </div>
      </div>
  </section>
</template>
```



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# 修改 style 区段

```
<style>
    body{
        background-color: #f2f2f2;
        margin: 0,5%;
        font-family: tahoma;
    }
    .row{
        display: grid;
        grid-template-columns: 1fr 1fr;
        vertical-align: middle;
        margin: 2em;
    }
    .button{
        background-color: #39495c;
        border-radius: 5px;
        color: white;
        text-align: center;
    }
    .nav-bar{
        background: linear-gradient(-50deg, #010801, #0d0d60);
        height: 60px;
        margin-bottom: 25px;
    }
</style>
```



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# 修改 main.js

- 換成載入剛剛制作的Host.vue

```
import { createApp } from 'vue'
//import App from './App.vue'
import Host from './components/Host.vue'

//createApp(App).mount('#app')
createApp(Host).mount('#app')
```



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# 检视网页

## Relecloud Galaxy Tours

## Cruise to the moon

Cruise to the moon in our luxurious shuttle. Watch the astronauts working outside the International Space Station.

# 增加一个新的Component

- 在src/components 新增档案
  BookingList.vue
- 输入 vue 选择样板
  <vue> with default.vue



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# 修改 script 区段

```
<script>
export default {
    props:{
        bookings:Array
    },
    computed:{
        totalDisplay(){
            let totalCost = 0;
            if(this.bookings && this.bookings.length>0){
                totalCost = this.bookings.map(x => x.price).reduce((prev,obj) => prev + obj);
            }
            return 'US$ ' + totalCost.toLocaleString('en-US');
        }
    }
}
</script>
```



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# 修改 template 区段

```
<template>
  <section>
      <h2>Here's your current bookings:</h2>
      <div class="row" v-for="(booking,index) in bookings" :key="index">
        <div>{{booking.cabin}}</div>
      </div>
      <h3 class="row">Total:{{totalDisplay}}</h3>
  </section>
</template>
```



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# 将BookingList组件加入主页面

- Host.vue
- script区段

```
<script>
import BookingList from './BookingList.vue'
//TODO: Register next component
export default {
    data(){
        return {
            cruise:{
                name:'Cruise to the moon',
                description:'Cruise to the moon in our luxurious shuttle. Watch the astronauts working
outside the International Space Station.',
                cabins:[
                    {name:'Coach',price:125000},
                    {name:'Business',price:275000},
                    {name:'First',price:430000}
                ]
            },
            bookings:[
                {name:'Sample',price:0}
            ]
        }
    },
    // TODO: Add components
    components:{
        BookingList,
        // TODO: Add next component
    }
    // TODO: Add methods
}
</script>
```



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# 将BookingList组件加入主页面

https://github.com/ryan403/reactor-sh-2021-vue

- Host.vue
- template区段

```
<template>
  <section>
      <div class="nav-bar"></div>
      <h1>Relecloud Galaxy Tours</h1>
      <div>
          <h2>{{cruise.name}}</h2>
          <div>{{cruise.description}}</div>
          <hr>
          <div class="row">
              <div> <!-- TODO: Add booking-form -->
              </div>
              <div> <!-- TODO: Add booking-list -->
                <booking-list :bookings="bookings"></booking-list>
              </div>
          </div>
      </div>
  </section>
</template>
```



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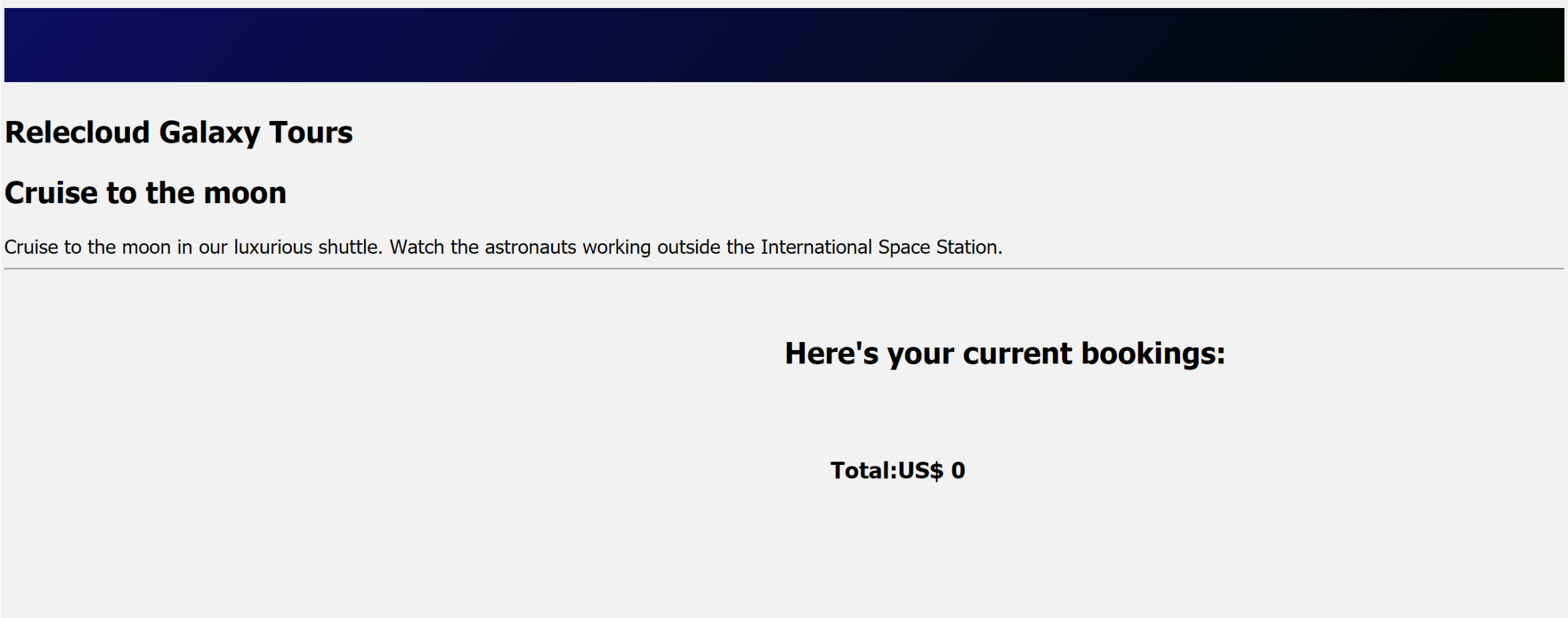
# 检视网页



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# 增加客制化事件至组件

- 建立一个新的组件：BookingForm.vue
- 输入vue，使用样板<vue> with default.vue

# BookingForm.vue

https://github.com/ryan403/reactor-sh-2021-vue

- 修改script区段

```
<script>
export default {
    props:{
        cabins:Array,
    },
    emits:['bookingCreated'],
    data(){
        return {
            cabinIndex:-1
        }
    },
    methods:{
        bookCabin(){
            if(this.cabinIndex<0) return;
            this.$emit('bookingCreated', this.cabinIndex);
            this.cabinIndex = -1;
        }
    }
}
</script>
```



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# BookingForm.vue

https://github.com/ryan403/reactor-sh-2021-vue

- 修改template區段

```
<template>
  <section>
      <h2>Book Now!</h2>
      <form>
          <div class="row">
              <label for="cruise-cabin">Select class:</label>
              <select id="cruise-cabin" v-model="cabinIndex">
                  <option disabled value="-1">Select a cabin</option>
                  <option v-for="(cabin, index) in cabins" :value="index" :key="index">
                      {{cabin.name}} US${{cabin.price.toLocaleString('en-US')}}
                  </option>
              </select>
          </div>
          <div class="row">
              <button class="button" type="button" @click="bookCabin">Book now!</button>
          </div>
      </form>
  </section>
</template>
```



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# 将BookinForm加入主页面

https://github.com/ryan403/reactor-sh-2021-vue

- src/Host.vue
- 修改script区段

```
<script>
import BookingList from './BookingList.vue'
//TODO: Register next component
import BookingForm from './BookingForm.vue'
```



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# 将BookinForm加入主页面

https://github.com/ryan403/reactor-sh-2021-vue

- src/Host.vue
- 修改script区段

```
// TODO: Add components
    components:{
        BookingList,
        // TODO: Add next component
        BookingForm
    },
    // TODO: Add methods
    methods:{
        addBooking(cabinIndex){
            const cabin = this.cruise.cabins[cabinIndex];
            const booking = {
                cabin:cabin.name,
                price:cabin.price
            };
            this.bookings.push(booking);
        }
    }
```



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# 将BookinForm加入主页面

https://github.com/ryan403/reactor-sh-2021-vue

- src/Host.vue
- 修改template区段

```
<div class="row">
    <div> <!-- TODO: Add booking-form -->
        <booking-form @bookingCreated="addBooking" :cabins="cruise.cabins"></booking-form>
    </div>
    <div> <!-- TODO: Add booking-list -->
        <booking-list :bookings="bookings"></booking-list>
    </div>
</div>
```



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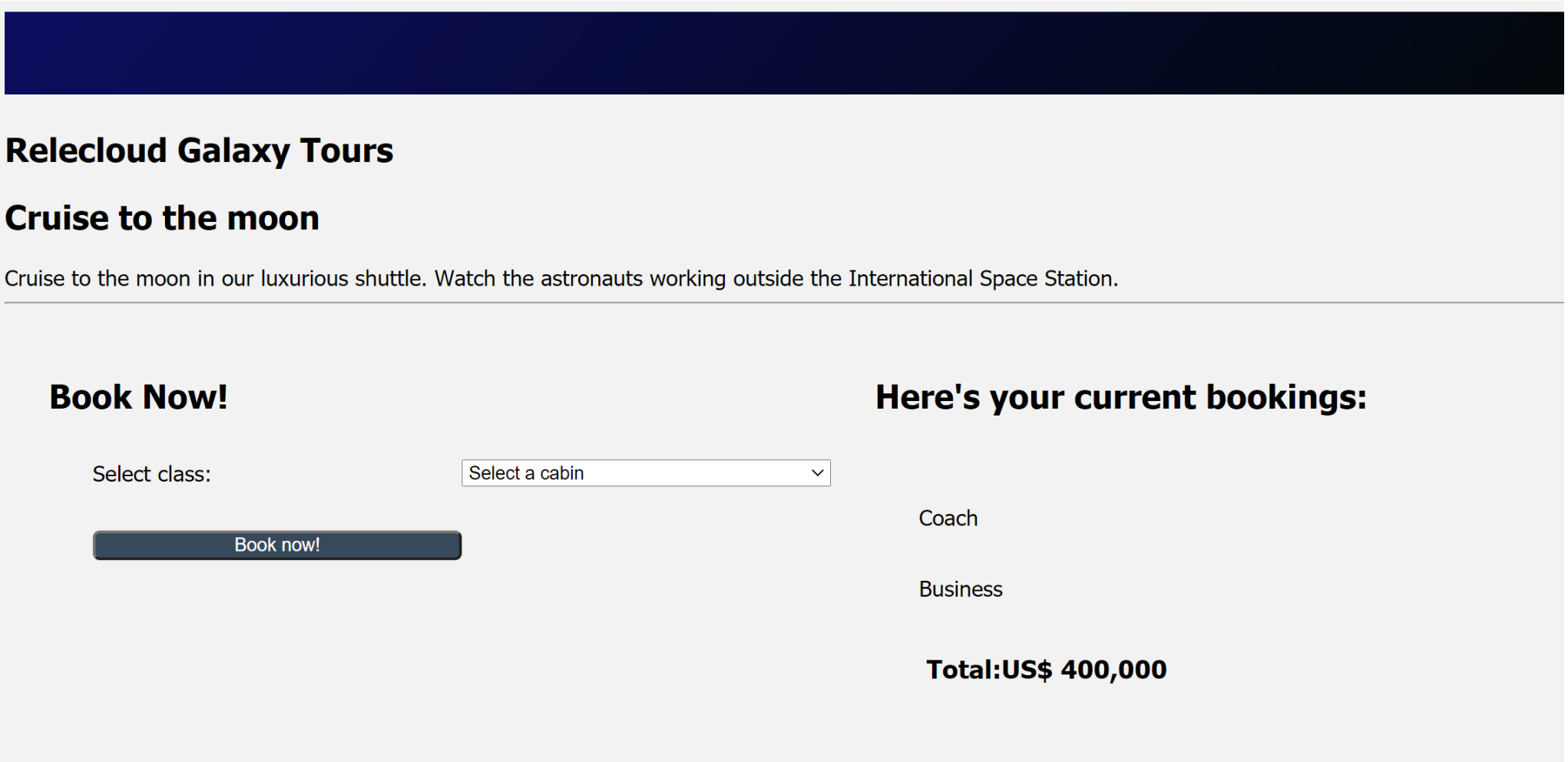
# 测试网页

- 可新增多笔



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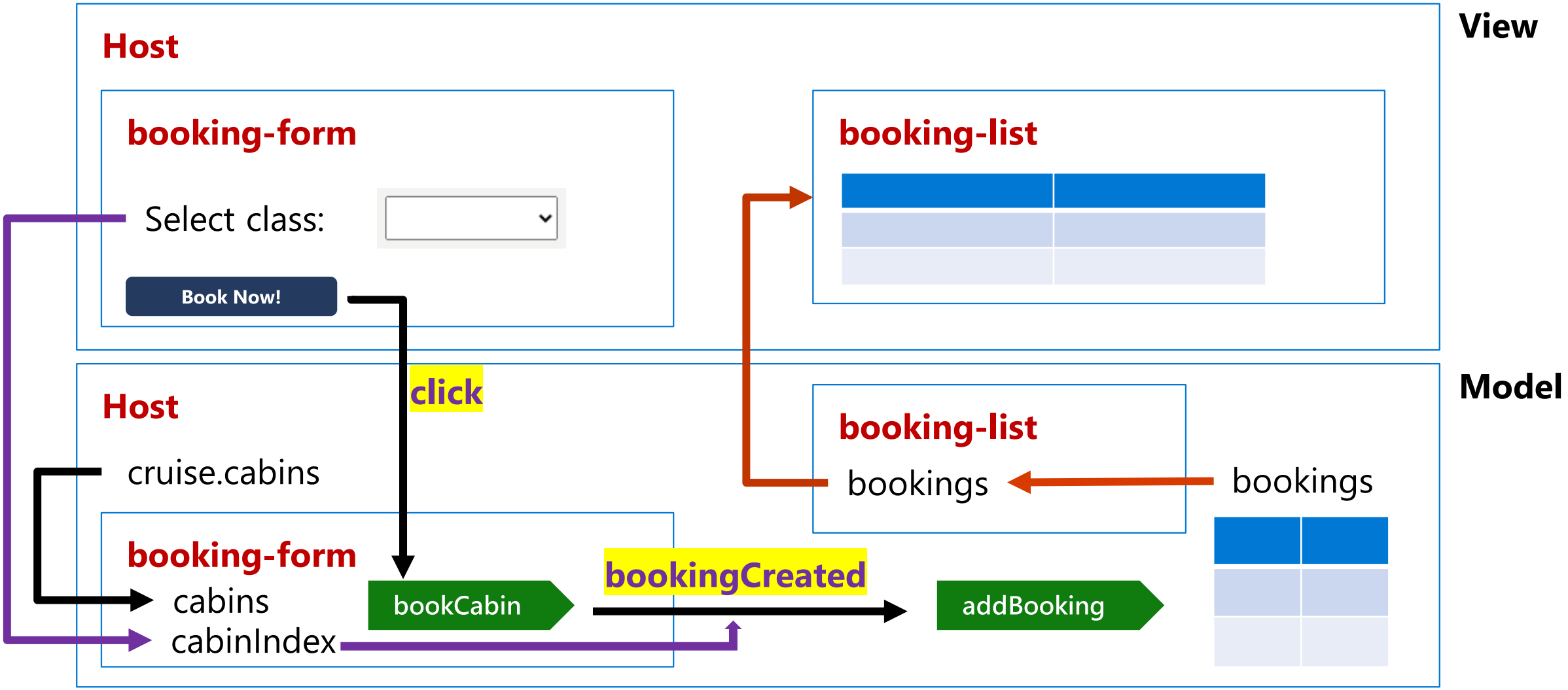
# 架构回顾



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# 知识检查

1. 用于为组件注册自定义事件的属性是什么?

- ○ `events`
- ○ `emits`
- ○ `props`
- ○ `methods`

2. Vue CLI 中用于创建 Web 应用程序的命令是什么?

- ○ `create`
- ○ `help`
- ○ `info`

3. 你使用什么字段来列出应用的可用组件?

- ○ `methods`
- ○ `props`
- ○ `data`
- ○ `components`



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# Summary 摘要

- 使用Vue CLI创建 Vue应用程序
- 建立单一档案组件
- 将组件加入页面



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# 议程结束
# 感谢聆听

请记得填写课程回馈问卷 (Event ID : XXXXX)
https://aka.ms/Reactor/Survey

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