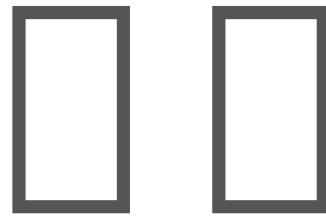




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□×8□□□/□□□□□



WEB APP?

WEB APP ---

WEB APP

1990 - 2004

- HTML
- js
- DOM

web2.0
2004 - 2008

- DOM
- Ajax
- jQuery

2008 - 2015

- V8
- Node.js
- MVVM/MVC
- /SPA

2015 - 2020

- React
- NodeOS
- ReactOS
- Electron
- serverless
- lowcode/nocode
- WebAssembly

A horizontal row of six empty rectangular boxes with blue outlines. To the right of the last box is a large, stylized blue question mark.

The only constant in the world is change.

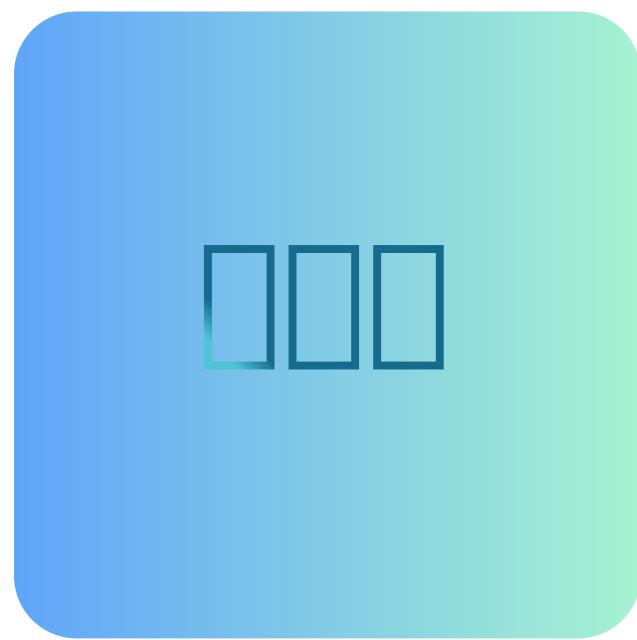
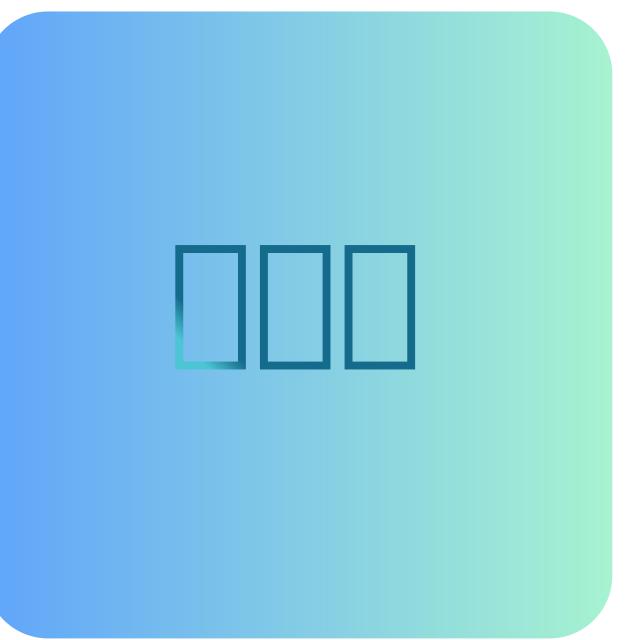
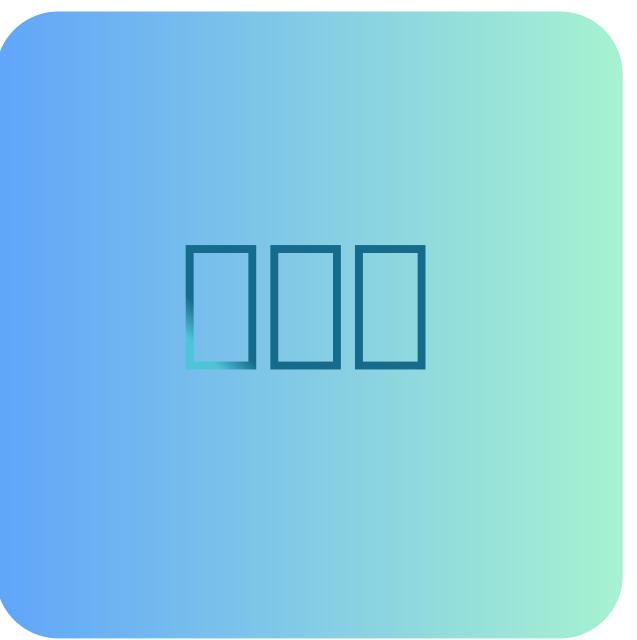
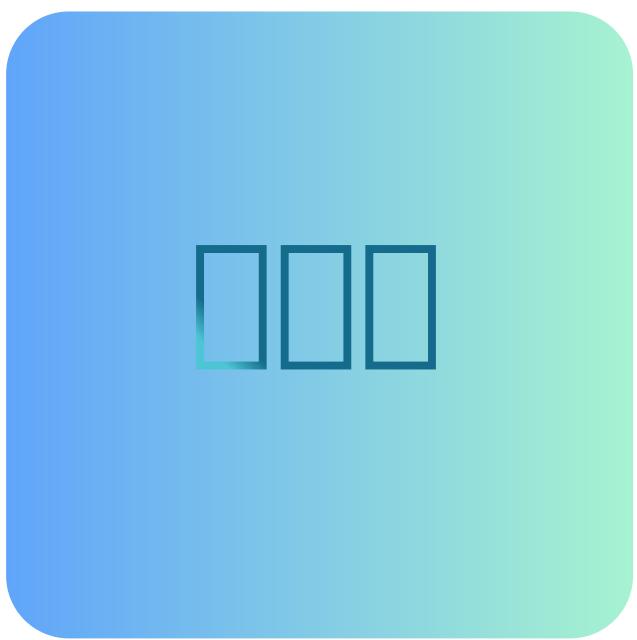
□□□□□□□□□□——□□□□□□□□□□ □□□·□□□

A horizontal row of ten empty rectangular boxes, each with a thin black border, intended for children to draw or write in.

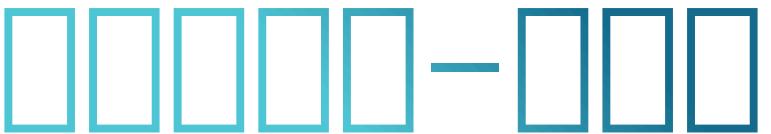
- JS
 - Web App
 - 

A horizontal sequence of eight identical rectangular boxes, each defined by a thick blue border and no internal content. To the right of this sequence is a single, large, dark blue question mark.

1

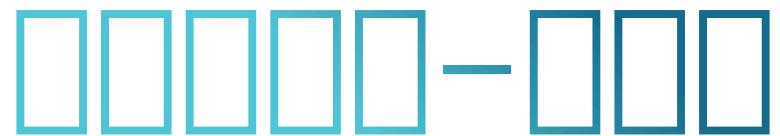


A horizontal row of 20 empty rectangular boxes, likely for a survey or form.



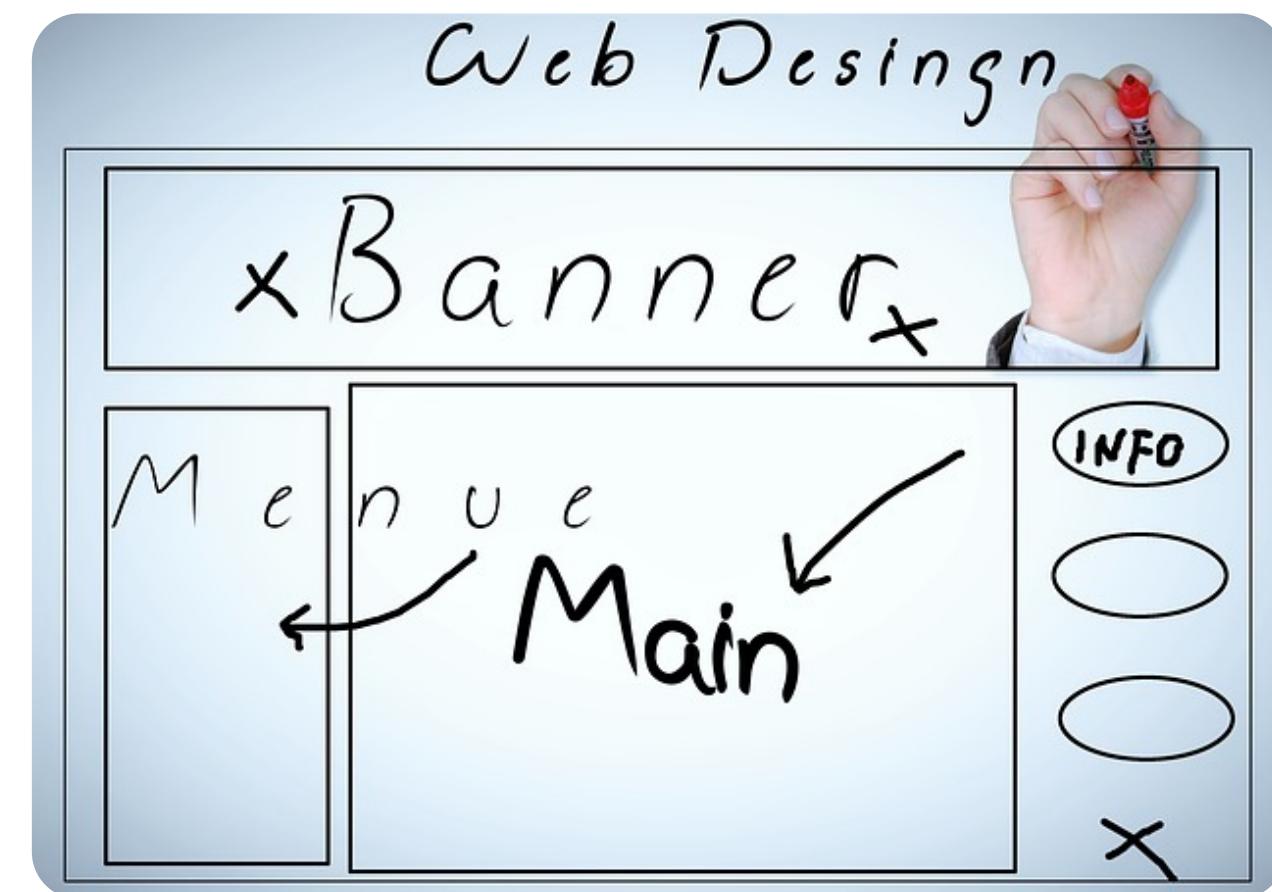
The screenshot shows two side-by-side web pages. On the left is the **Node.js v16.5.0 documentation**, specifically the 'Table of contents' page. It lists various modules and add-ons, such as Assertion testing, Async_hooks, Buffer, C++ addons, C/C++ addons with Node-API, C++ embedder API, Child processes, Cluster, Command-line options, Console, Crypto, Debugger, Deprecated APIs, Diagnostics Channel, and DNS. On the right is the **webpack v5.45.1** documentation under the '概念' (Concepts) section. This page provides an overview of webpack's architecture, mentioning entry points, output, mode, loader, plugins, configuration, modules, dependency graph, manifest, targets, and hot module replacement. It also includes a brief introduction to the core concepts of webpack.

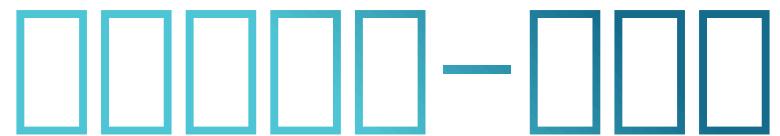
- JS 模块 CommonJS | AMD | CMD | ES6 Module
- CSS 模块 Sass | Less | Stylus | BEM | CSS Modules | 混合模块 BEM | 混合模块 CSS Modules |
 - JS 模块化 | JS 模块 | CSS 模块 | Vue 的 style scoped
- 混合模块 CSS | 混合模块 JS | 混合模块 CSS | 混合模块 JS



UI/UX设计

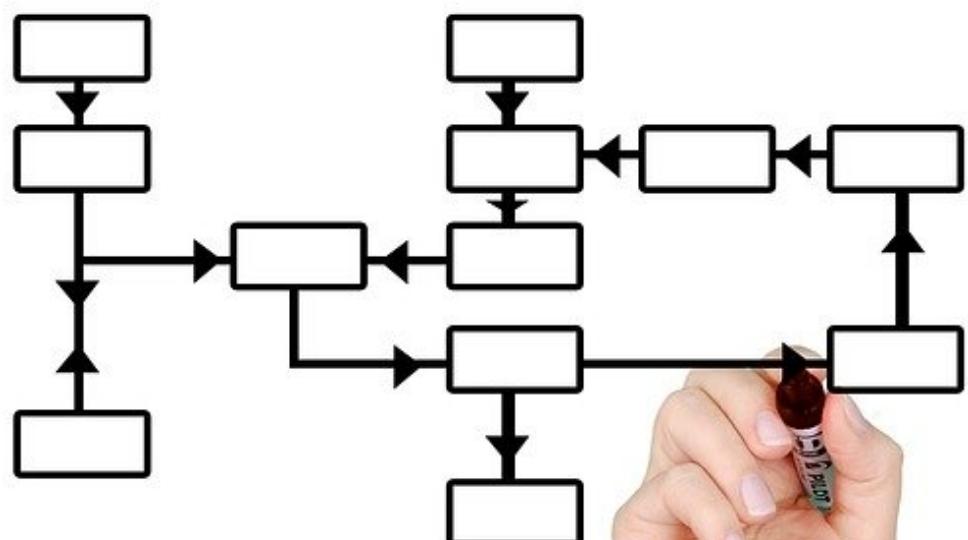
- 布局
- 颜色
- 字体





前端工程化

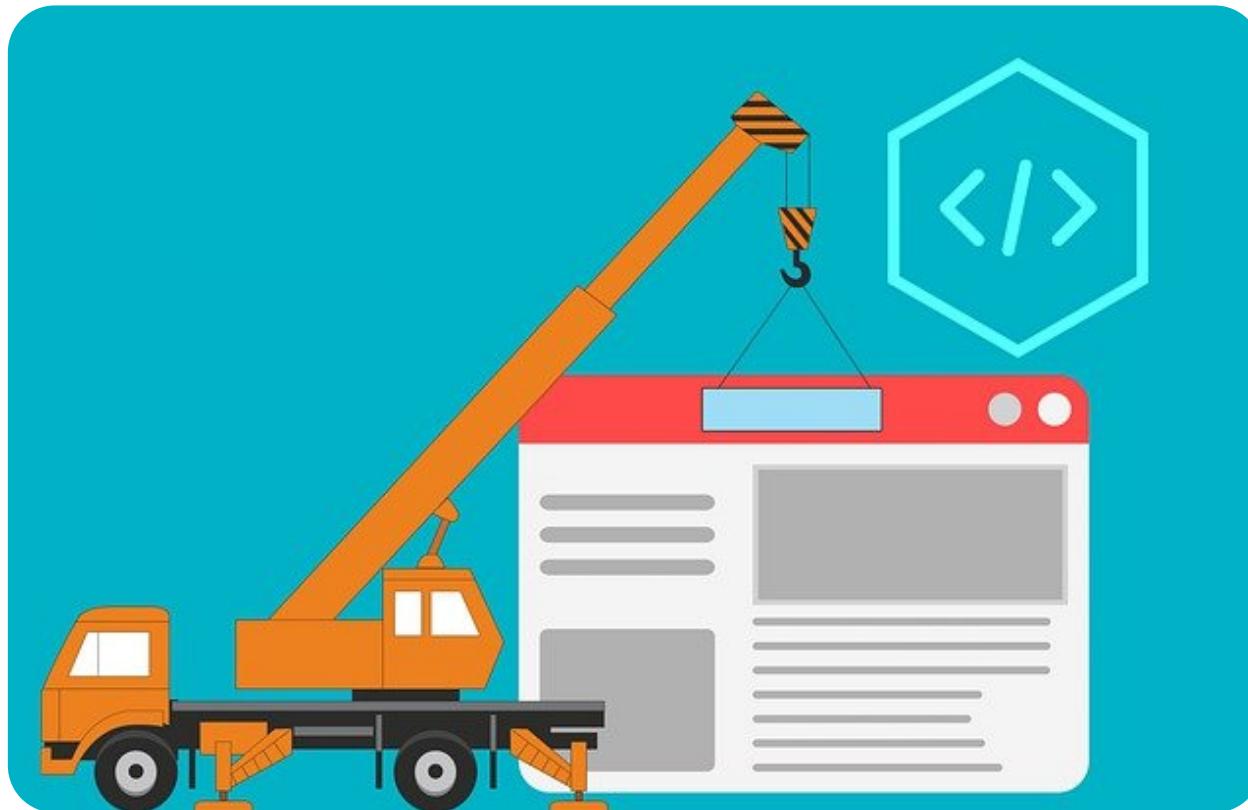
- 前端工程化;
- 前端工程化工具 ESLint\StyleLint ;
- 构建;
- 模版引擎 BEM\Sass\Less\Stylus\CSS Modules ;
- git flow 前端工程化;
- code review;

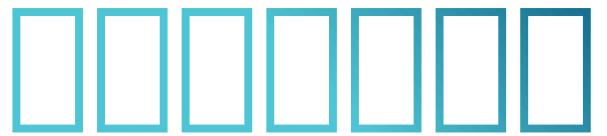


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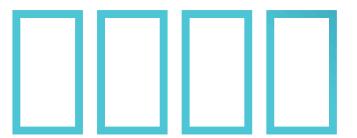
{ □□□□□□□□□□□□□□□□□

- webpack/parcel/ESbuild;
- CI/CD;
- □□;



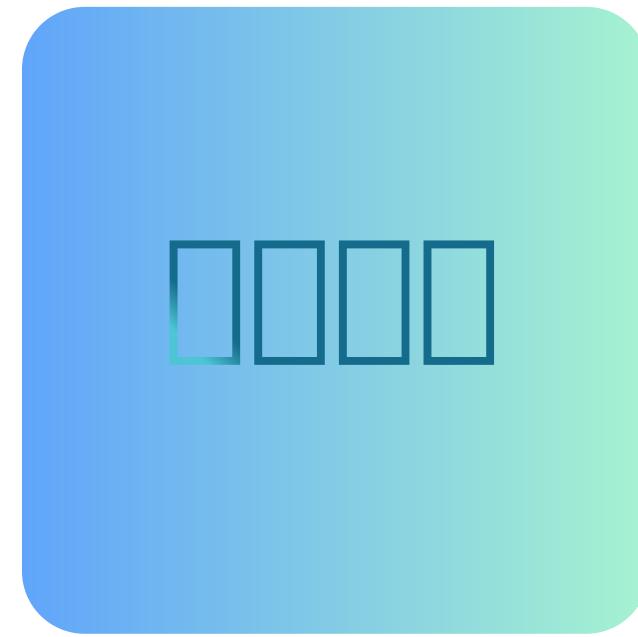
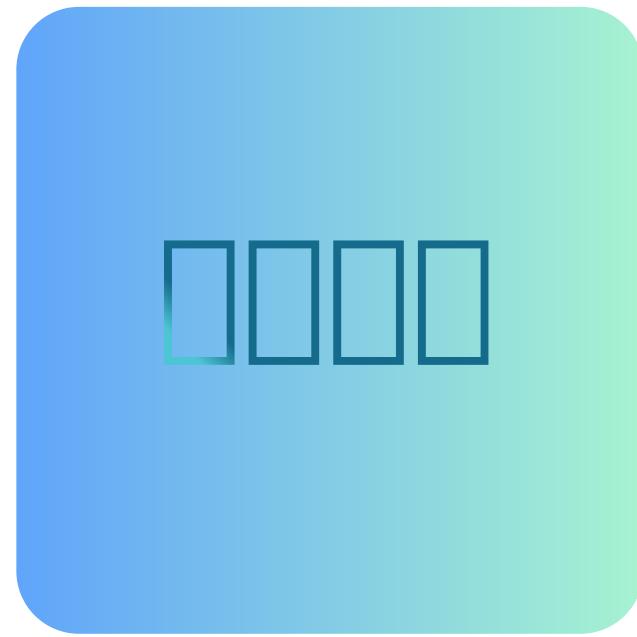
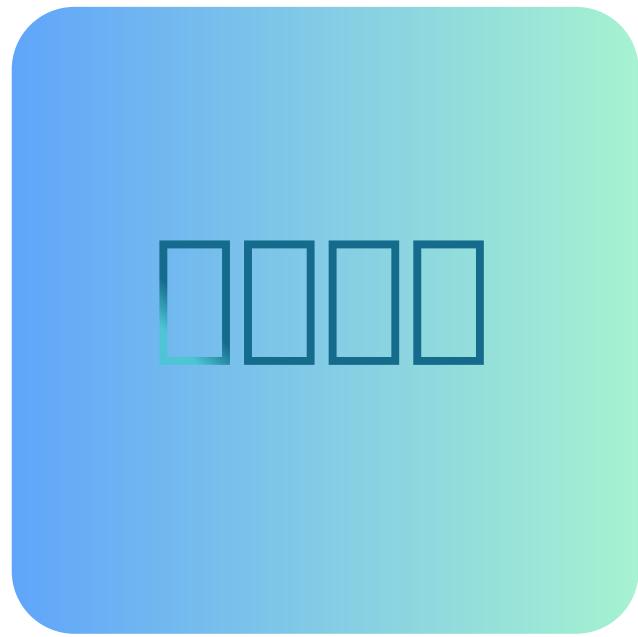
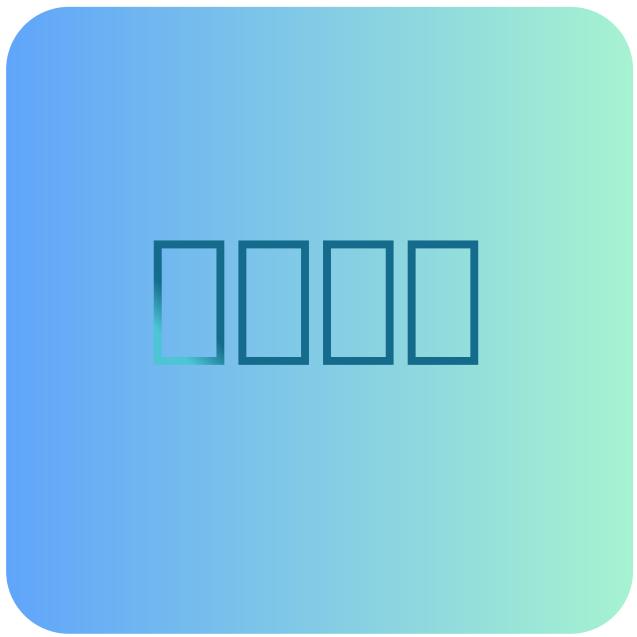


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- 亂數 $\times 0 \times 1 \times \dots \times n$ web



Well begun is half done.

■■■■■■■■■■ ■— ■■■





□□□□□□□□□VUE / REACT / ANGULAR / ...□?

Angular

React

Vue



2010□

2013□

2014



TypeScript

□□□□JavaScript□□□

JavaScript/HTML/TypeScript



Incremental DOM

Virtual DOM

Virtual DOM



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□□Web□□SPA□□

□□□Web SPA□□

- Incremental DOM

DOM

1

1

```
var TodosComponent = /** @class */ (function () {
  function TodosComponent(store) {/* store component */}
  TodosComponent.ngComponentDef = defineComponent({
    type: TodosComponent,
    selectors: [["todos-cmp"]],
    factory: function TodosComponent_Factory(t) {
      return new (t || TodosComponent)(directiveInject(Store));
    },
    consts: 2,
    vars: 3,
    template: function TodosComponent_Template(rf, ctx) {
      if (rf & 1) { // create dom
        pipe(1, "async");
        template(0, TodosComponent_div_Template_0, 2, 1, null);
      } if (rf & 2) { // update dom
        elementProperty(0, "ngForOf", bind(pipeBind1(1, 1, c)));
      }
    },
    encapsulation: 2
  });
  return TodosComponent;
}());
```

- Virtual DOM

DOM DOM DOM DOM

ORIGINAL DIV DOM

```
> var div = document.createElement('div')
var str = ''
for (var key in div){
  str += key + '\n'
}
"align title lang translate dir dataset hidden tabIndex accessKey draggable spellcheck contentEditable isContentEditable
offsetParent offsetTop offsetLeft offsetWidth offsetHeight style innerText outerText webkitdropzone onabort onblur
oncancel oncanplay oncanplaythrough onchange onclick onclose oncontextmenu oncuechange ondblclick ondrag ondragend
ondragenter ondragleave ondragover ondragstart ondrop ondurationchange onemptied onended onerror onfocus oninput
oninvalid onkeydown onkeypress onkeyup onload onloadeddata onloadedmetadata onloadstart onmousedown onmouseenter
onmouseleave onmousemove onmouseout onmouseover onmousewheel onpause onplay onplaying onprogress onratechange
onreset onresize onscroll onseeked onseeking onselect onshow onstalled onsubmit onsuspend ontimeupdate ontoggle
onvolumechange onwaiting click focus blur onautocomplete onautocompleteerror namespaceURI prefix localName tagName id
className classList attributes innerHTML outerHTML shadowRoot scrollTop scrollLeft scrollWidth scrollHeight clientTop
clientLeft clientWidth clientHeight onbeforecopy onbeforepaste oncopy oncut onpaste onsearch onselectstart
onwheel onwebkitfullscreenchange onwebkitfullscreenerror previousElementSibling nextElementSibling children
firstElementChild lastElementChild childElementCount hasAttributes getAttribute getAttributeNS setAttribute
setAttributeNS removeAttribute removeAttributeNS hasAttribute hasAttributeNS getAttributeNode getAttributeNodeNS
setAttributeNode setAttributeNodeNS removeAttributeNode closest matches webkitMatchesSelector getElementsByTagName
getElementsByClassName getElementsByTagNames insertAdjacentElement insertAdjacentText insertAdjacentHTML
createShadowRoot getDestinationInsertionPoints requestPointerLock getClientRects getBoundingClientRect scrollIntoView
scrollIntoViewIfNeeded animate remove webkitRequestFullScreen webkitRequestFullscreen querySelector querySelectorAll
ELEMENT_NODE ATTRIBUTE_NODE TEXT_NODE CDATA_SECTION_NODE ENTITY_REFERENCE_NODE ENTITY_NODE PROCESSING_INSTRUCTION_NODE
COMMENT_NODE DOCUMENT_NODE DOCUMENT_TYPE_NODE DOCUMENT_FRAGMENT_NODE NOTATION_NODE DOCUMENT_POSITION_DISCONNECTED
DOCUMENT_POSITION_PRECEDING DOCUMENT_POSITION_FOLLOWING DOCUMENT_POSITION_CONTAINS DOCUMENT_POSITION_CONTAINED_BY
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC nodeType nodeName baseURI isConnected ownerDocument parentNode parentElement
childNodes firstChild lastChild previousSibling nextSibling nodeValue textContent hasChildNodes normalize cloneNode
isEqualNode isSameNode compareDocumentPosition contains lookupPrefix lookupNamespaceURI isDefaultNamespace insertBefore
appendChild replaceChild removeChild addEventListener removeEventListener dispatchEvent "
```

10

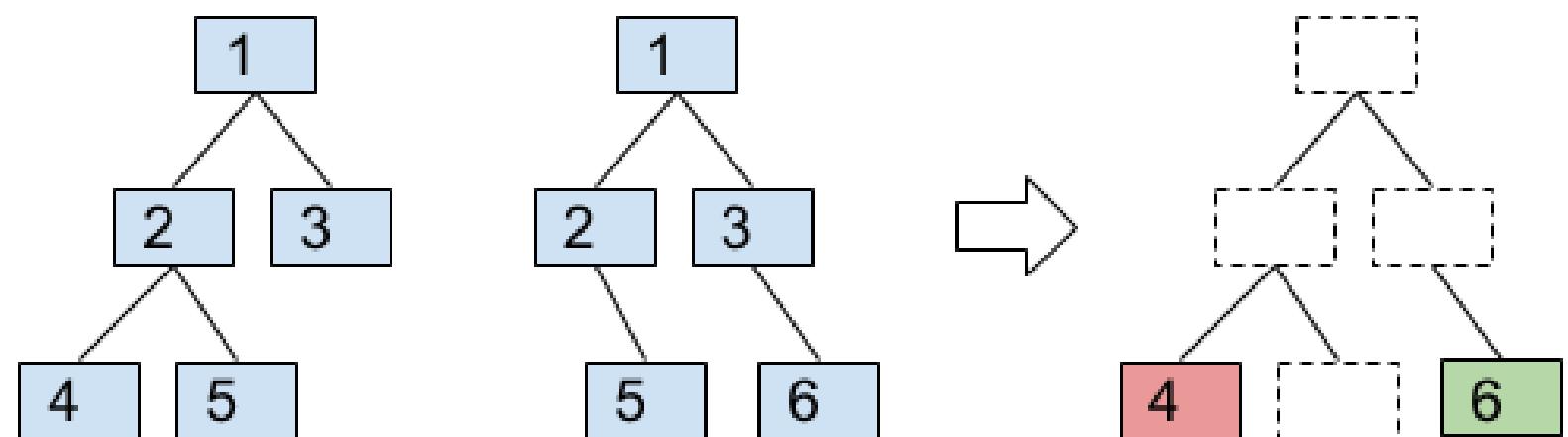


DOM DOM web
ReactNative Weex.



The diagram illustrates the Document Object Model (DOM) as a grid of rectangular boxes. The top row contains 20 boxes, and the bottom row contains 10 boxes. In the center of the grid, the word "DOM" is written twice: once in a large, bold, dark gray font spanning the width of five boxes, and once in a smaller, regular gray font spanning the width of three boxes directly below it. This visual representation emphasizes the hierarchical and structured nature of the DOM.

Virtual DOM DIFF



- React or Vue ?

JavaScript – 基本概念

Four empty rectangular boxes arranged horizontally, intended for handwritten responses.

Jquery

Six empty rectangular boxes arranged horizontally, intended for handwritten responses.

Four empty rectangular boxes arranged horizontally, intended for the student to write their answers.

Four empty rectangular boxes arranged horizontally, intended for handwritten responses.

三

A row of five empty rectangular boxes with black borders, intended for handwritten responses.

1

Four empty rectangular boxes for writing, arranged horizontally.

Github

Six empty rectangular boxes arranged horizontally, intended for handwritten responses.

ANSWER

10 of 10

Angular



Talk is cheap. Show me the code. —— Linus Torvalds

1. Vue Cli

```
npm install -g @vue/cli
```

2.

```
vue create fintech-financeRecon-portal
```

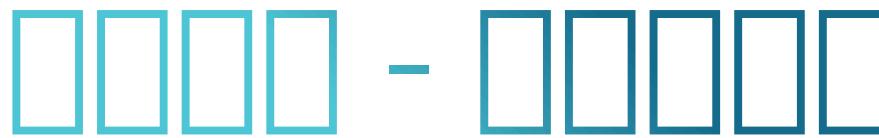
- nodejs npm npm

□□□□□ - □□□□□

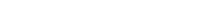
convention over configuration □□□□□

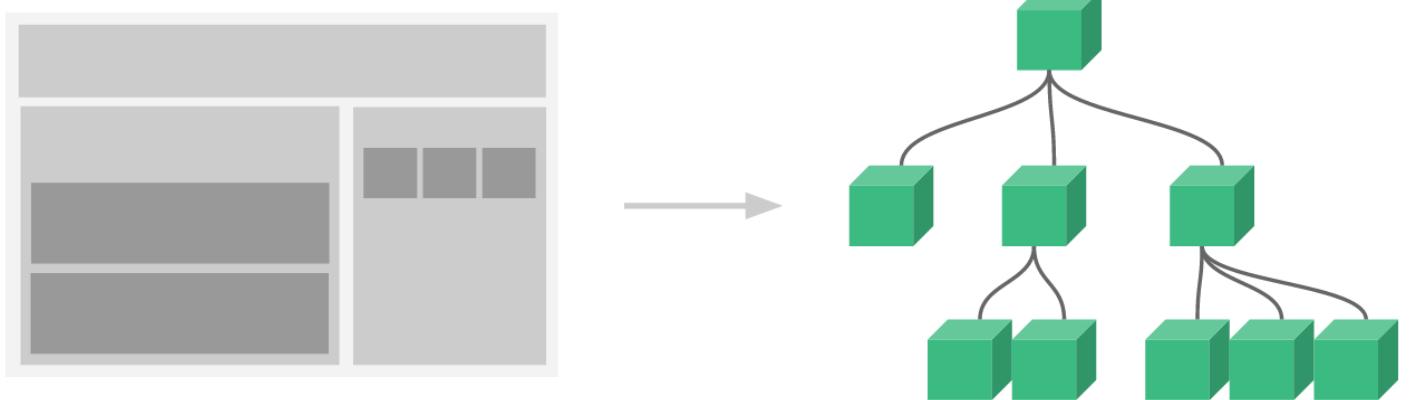
- □□□□□

```
|── README.md      // README
|── package.json   // package.json
|── src
|   ├── App.vue     // App.vue
|   ├── api          // api.js
|   ├── assets        // assets
|   ├── components    // components
|   |   └── Charts
|   ├── config        // config
|   |   └── defaultSettings.js
|   ├── main.js       // main.js
|   ├── router.js     // router.js
|   ├── store         // store
|   ├── utils         // utils
|   |   ├── axios.js
|   |   └── utils.js
|   └── views         // views
|       └── 404.vue
└── .env.dev        // .env.dev
```



A vertical brace is positioned to the left of a horizontal row of twelve empty rectangular boxes.

-  fintech



		hbTablePage	
M		search-bar	
E		action-bar	
N		data-table	
U			

A horizontal row of 20 empty rectangular boxes, likely used for input fields or placeholder text in a form.

Vue

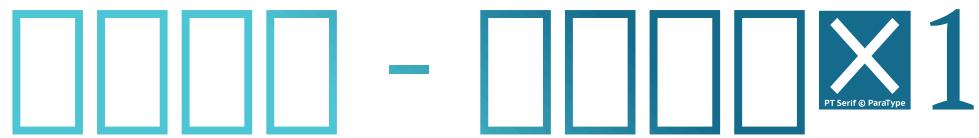


table -

- # ■ pros

```
/* TablePage.vue */
props: {
    dataTable: {
        columns: [],
        rowKey: '',
    },
    dataListFun: {
        type: Function,
    },
},
}
```

-

Four empty rectangular boxes with red borders, intended for handwritten responses.

- prop prop prop prop ; prop prop prop prop

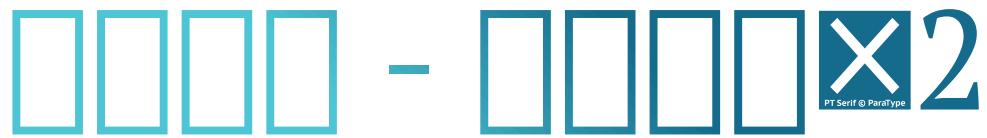


table -

- A horizontal row of seven small square icons, each containing a vertical rectangle, representing a sequence of seven steps or stages.

```
 /**
 * TablePage.vue
 * @author
 * this.$emit('myEvent')
 */
onSelectChange(selectedRowKeys, selectedRows) {
  this.$emit('ON_SELECTED_DATA', this.selectedData);
}
```

- A horizontal sequence of five empty rectangular boxes with black borders, followed by a small dark gray square.

```
/* Page.vue */
<template>
  <div>
    <hbTabPage
      @ON_SELECTED_DATA="onSelectedData"
    >
    </hbTabPage>
  </div>
</template>
```

4/20

- `prop` “`myPropName`”;
 - `update:myPropName`



table -

- A horizontal row of 15 empty rectangular boxes, likely for a survey or form.

```
/* TablePage.vue */
<div v-if="$slots.searchBar">
  <slot name="searchBar"></slot>
  <a-divider dashed style="margin: 12px 0px" />
</div>
<div v-if="$slots.actionBar">
  <slot name="actionBar"></slot>
</div>
```

-

```
/* Page.vue */
<template>
  <div>
    <hbTablePage>
      <template v-slot:searchBar>
        <hbTableSearchBar />
      </template>
      <template v-slot: actionBar>
        <hbTableActionBar />
      </template>
    </hbTablePage>
  </div>
</template>
```

□□□ - □□□

□□□□□□□□□□□□

-

```
/* router.js
 * □□□*/
{
  path: '/userLogin',
  name: 'userLogin',
  component: resolve => require(['@/views/user/Login'],
  resolve),
}
```

```
/* router.js
 * □□□*/
{
  path: '/userLogin',
  name: 'userLogin',
  component: =>import(
    /* webpackChunkName: "userLogin" */
    './views/userLogin.vue')
}
```

-

```
/* babel-plugin-component
 * .babelrc */
{
  "presets": [ ["es2015", { "modules": false }]],
  "plugins": [
    ["component",
      { "libraryName": "ant-design-vue",
        "styleLibraryName": "theme-chalk"}]
  ]
}
```

```
/* main.js or page.vue */
import Vue from 'vue';
import { Button, message } from 'ant-design-vue';

Vue.use(Button);
Vue.prototype.$message = message;
```

□□□ - □□□□X1

□□□□□□□□□□□□□

- □□□

```
/* image-webpack-loader
 * vue.config.js */
{
  test: /\.(png|jpe?g|gif|svg)(\?.*)?$/,
  use:[{
    loader: 'url-loader',
    options: {
      limit: 10000,
      name: utils.assetsPath('img/[name].[hash:7].[ext]')
    }
  },{
    loader: 'image-webpack-loader',
    options: {
      bypassOnDebug: true,
    }
  }]
}
```

- □□□□□□

```
/* CommonsChunkPlugin
 * vue.config.js
 * package.json □□□□□□□□□ vendor.js □□□ */
new webpack.optimize.CommonsChunkPlugin({
  name: 'vendor',
  minChunks: function(module, count) {
    return (
      module.resource &&
      /\.js$/.test(module.resource) &&
      module.resource.indexOf(
        path.join(__dirname, '../node_modules')
      ) === 0
    );
  }
}),
/* □□□□□□□□□ */
new webpack.optimize.CommonsChunkPlugin({
  name: 'manifest',
  chunks: ['vendor']
})
```

□□□□ - □□□□X2

□□□□□□□□□□□□□□

- ES6 □□ ES5 □□□□

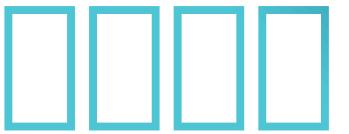
```
/* babel-plugin-transform-runtime
 * .babelrc */
"plugins": [
  "transform-runtime"
]
```

- BABEL □□□□ ES6 □□□□ ES5 □□□□□□□□□□□□□□
□□□□□□□□
- □□REQUIRE('BABEL-
RUNTIME/HELPERS/CREATECLASS') □□□□□□□□□□
□□

- gzip□□□

```
/* compression-webpack-plugin@5.0.1
 * vue.config.js
 * □□□□.gz□□□ */
const CompressionPlugin = require("compression-webpack-plugi
configureWebpack: {
  plugins: [
    new CompressionPlugin({
      filename: "[path].gz",
      algorithm: "gzip",
      test: /\.js$|\.css$|\.html$/,
      threshold: 10240, // //□□□□□□□□,□□□□
      minRatio: 0.8,
      deleteOriginalAssets: false
    })
  ]
}
```

```
/* nginx.conf
 * nginx□□gzip */
gzip  on;  #□□gzip
...
```



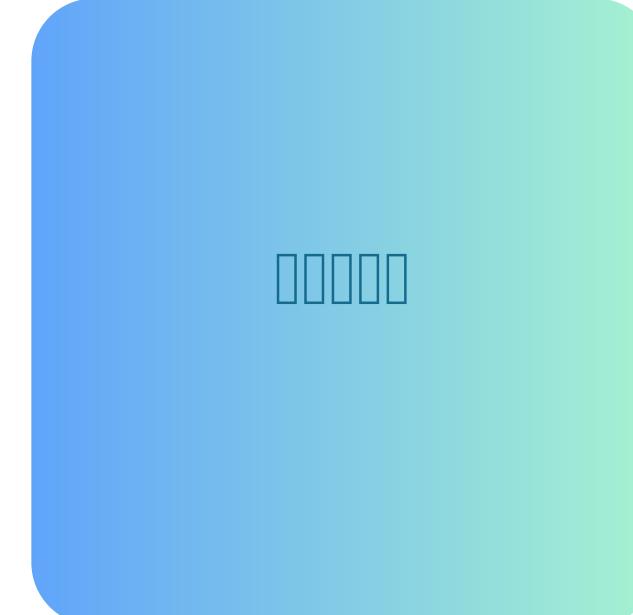
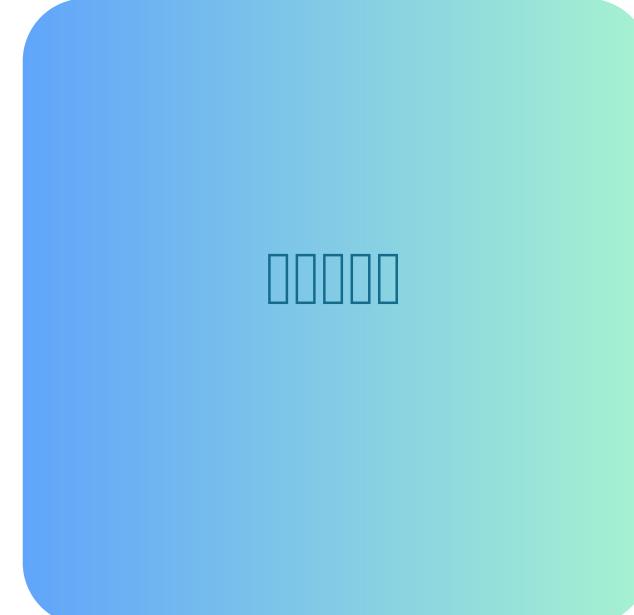
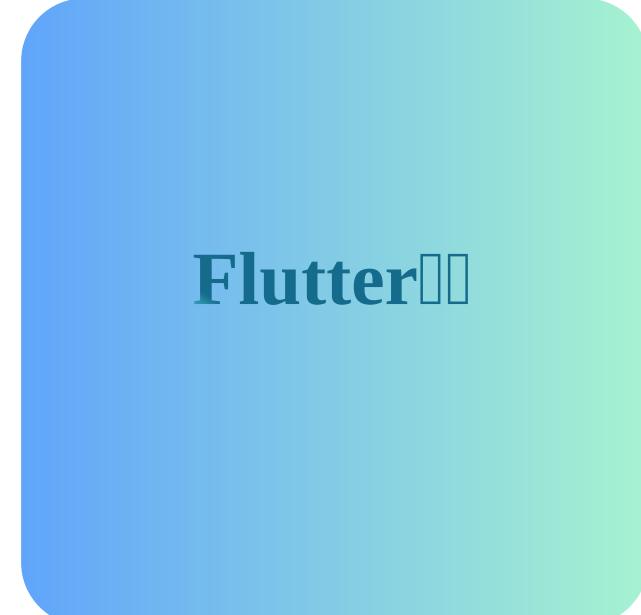
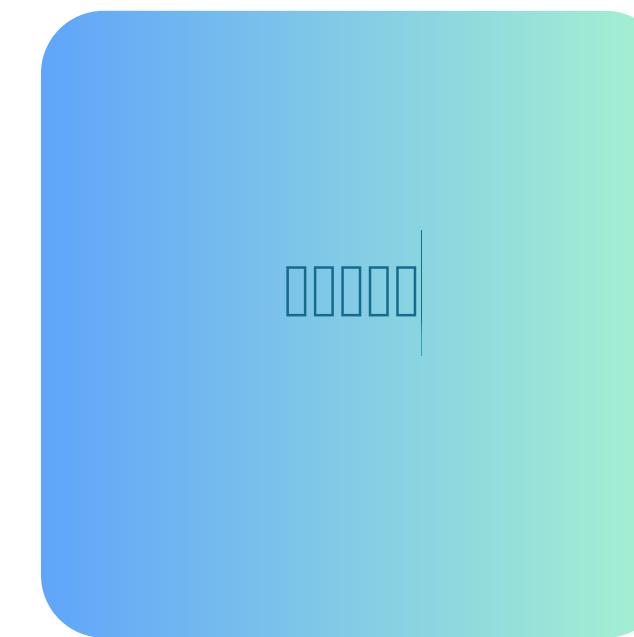
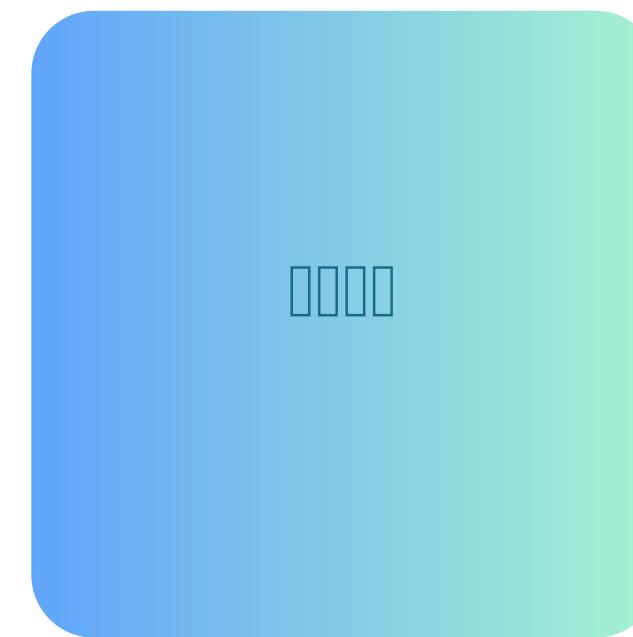
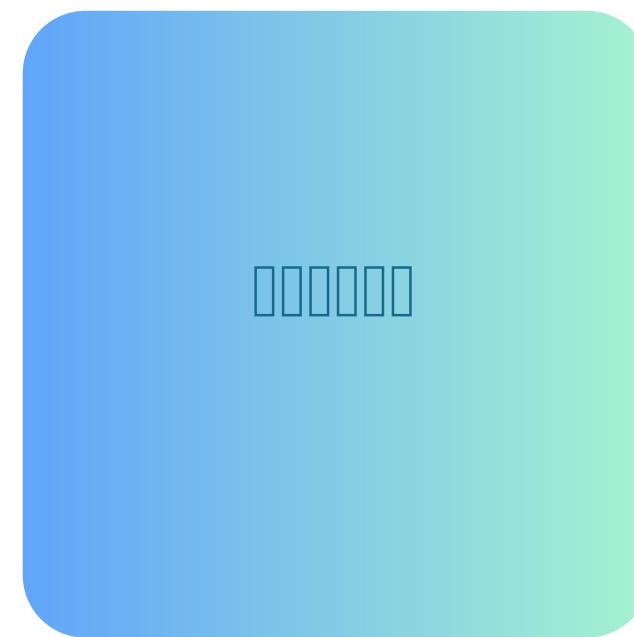
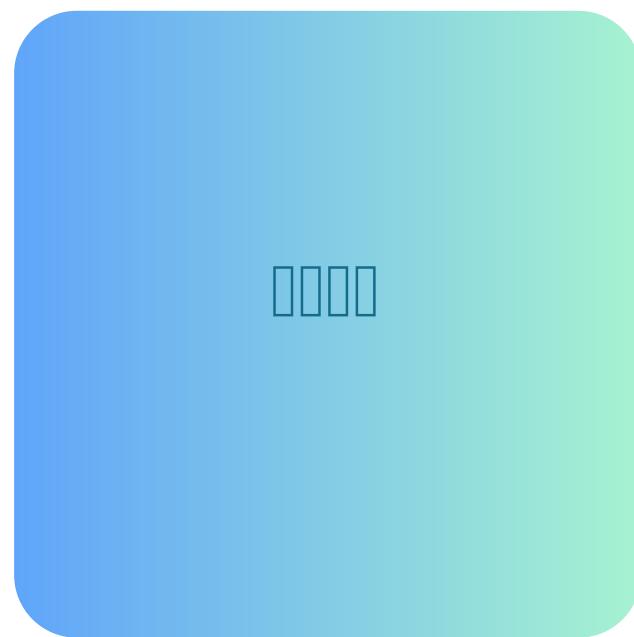
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- 〔 〕×0×1〔 〕
- 〔 〕:
 1. 〔 〕vue cli〔 〕
 2. 〔 〕
 3. 〔 〕;

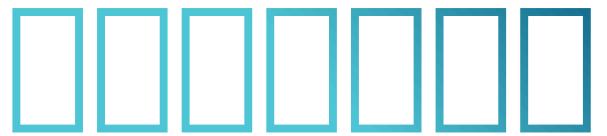
〔 〕VueJs〔 〕<https://vuejs.org/>.

Where to Go From Here?

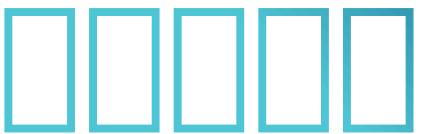
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|



.....

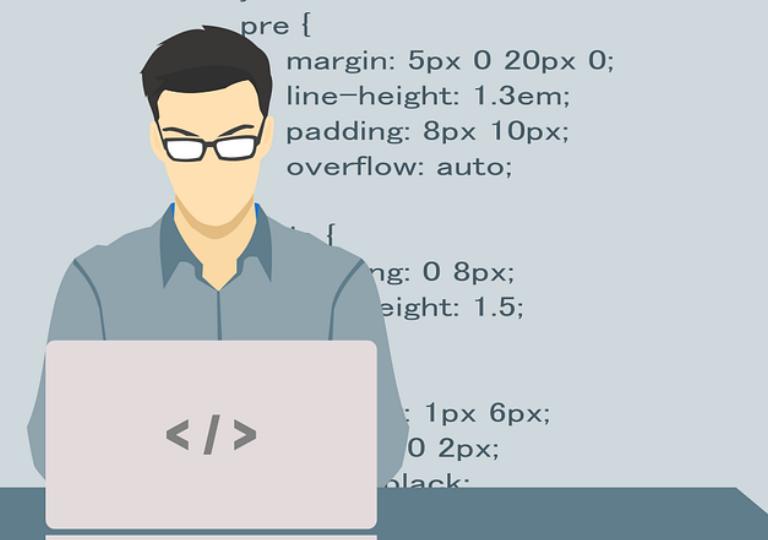


- 前端框架
- 前端框架(reactjs\vuejs\angularjs)\jquery\前后端分离
- 前端SPA\前后端分离



- ×0vuejs×vuejs×web×;
- vuejs×vuejs×vuejs×

```
content: "";
content: none;
}
table {
border-collapse: collapse;
border-spacing: 0;
}
button, input, select, textarea { margin: 0 }
:focus { outline: 0 }
a:link { -webkit-tap-highlight-color: #FF5E99 }
img, video, object, embed {
max-width: 100%;
height: auto!important;
}
iframe { max-width: 100% }
blockquote {
font-style: italic;
font-weight: normal;
font-family: Georgia,Serif;
font-size: 15px;
padding: 0 10px 20px 27px;
position: relative;
margin-top: 25px;
}
blockquote:after {
position: absolute;
content: '';
border-left: 1px solid black;
border-bottom: 1px solid black;
border-right: 1px solid black;
border-top: 1px solid black;
border-top-left-radius: 10px;
border-top-right-radius: 10px;
width: 0;
height: 0;
left: -10px;
top: 0;
}
blockquote p { margin-bottom: 10px }
strong, b { font-weight: bold }
em, i, cite {
font-style: normal;
font-family: arial;
}
small { font-size: 100% }
figure { margin: 10px 0 }
code, pre {
font-family: monospace,consolas,sans-serif;
font-weight: normal;
font-style: normal;
}
pre {
margin: 5px 0 20px 0;
line-height: 1.3em;
padding: 8px 10px;
overflow: auto;
}
pre code {
margin: 0 8px;
font-size: 1.5;
}
pre code pre {
margin: 0 8px;
font-size: 1px 6px;
border: 0 2px;
background-color: black;
color: white;
}
```



THANK YOU !



One More Thing

 https://sli.dev