Getting started with

Vue.js

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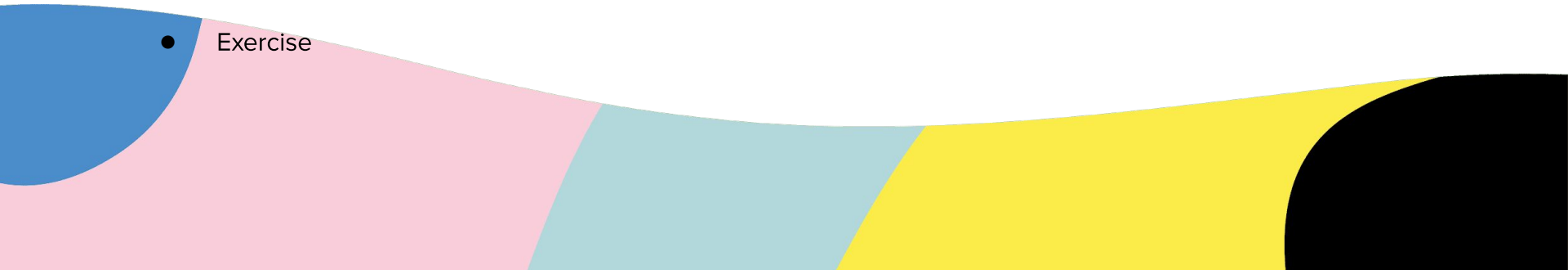
The goal of the presentation

- Overview over Vue ecosystem
- Inspire participants to start learning Vue
- Be able to create very basic vue application

Schedule

- Intro
- Examples
- Devtools
- Vue Ecosystem
- Inspiration
- Exercise



SPA

- A **single-page application** (**SPA**) is a web application or web site that interacts with the user by **dynamically rewriting the current page rather than loading entire new pages from a server.** This approach avoids interruption of the user experience between successive pages, making the application behave more like a desktop application.
- API
- Components

What is Vue.js?

- Vue means view in French. “View” was already used a lot but the french Vue was available.
- Vue.js is a JavaScript framework that competes with Angular and React.
- It consists of an approachable core library that focuses on the view layer only, and an ecosystem of supporting libraries that helps you tackle complexity in large Single-Page Applications.
- Vue.js is an MIT-licensed open source project. Not tied to any company.

Benefits of Vue.js

- Easy to understand as long as you know basic HTML, CSS, and JavaScript.
- It's incredibly versatile and works with a wide variety of other web technologies.
- It's one of the smallest and fastest frontend JavaScript frameworks.
- Vue Components are very easy to understand with excellent organization.
- Vue is reactive.
- The Vue documentation is really good.
- The built in transition & animation system.

Comparison

When to choose React or Vue

If you:	React.js	Vue.js
Like flexibility	✓	✓
Like large ecosystems	✓	
Love JS and the all-is-javascript approach	✓	
Like really clean code	✓	✓
Want the simplest learning curve		✓
Want the most lightweight framework		✓
Want a division of responsibility within one file		✓
Develop an application that tends to grow	✓	✓
Want to access a larger community of developers	✓	
Work with designers and need pure HTML files		✓

There are four ways to get up and running with Vue

1a

Using Vue through a CDN:

```
<!-- development version, includes helpful console warnings -->
<script src="https://cdn.jsdelivr.net/npm/vue/dist/vue.js"></script>

or

<!-- production version, optimized for size and speed -->
<script src="https://cdn.jsdelivr.net/npm/vue"></script>

or

<!-- linking to a specific version to avoid unexpected breakage from newer versions -->
<script src="https://cdn.jsdelivr.net/npm/vue@2.6.10/dist/vue.js"></script>
```

index.html 1b

```
<body>

    <div id="app">
        {{ message }}
    </div>

    <script src="https://cdn.jsdelivr.net/npm/vue/dist/vue.js"></script>
    <script>
        var app = new Vue({
            el: '#app',
            data: {
                message: 'Hello Vue!'
            }
        })

    </script>
</body>
```

2

Install Vue using NPM:

```
# latest stable
$ npm install vue
```

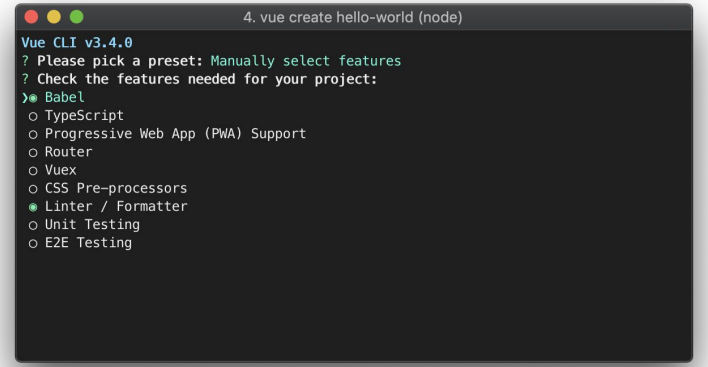
3

Install Vue using the Vue CLI:

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

Start a new Vue project:

```
$ vue create my-project
$ npm run serve/yarn serve
```



Use Vue CLI for quickly scaffolding ambitious Single Page Applications. It provides batteries-included build setups for a modern frontend workflow. It takes only a few minutes to get up and running with hot-reload, lint-on-save, and production-ready builds.

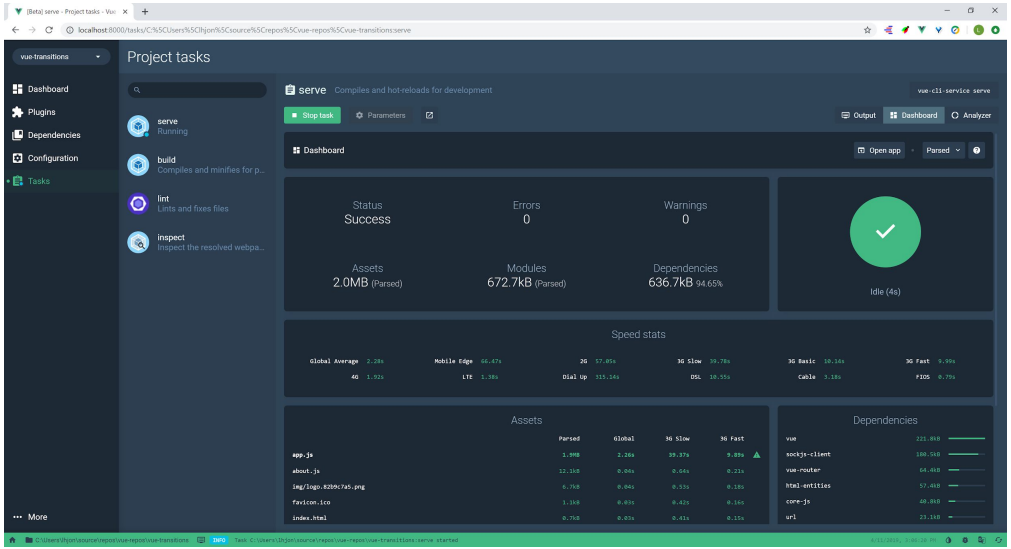
4

Install Vue using the Vue CLI:

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

Start a new Vue project:

```
$ vue ui
```



Vue UI Demo

Important parts of Vue

- Data
- Props
- Methods
- Computed Properties
- Watchers

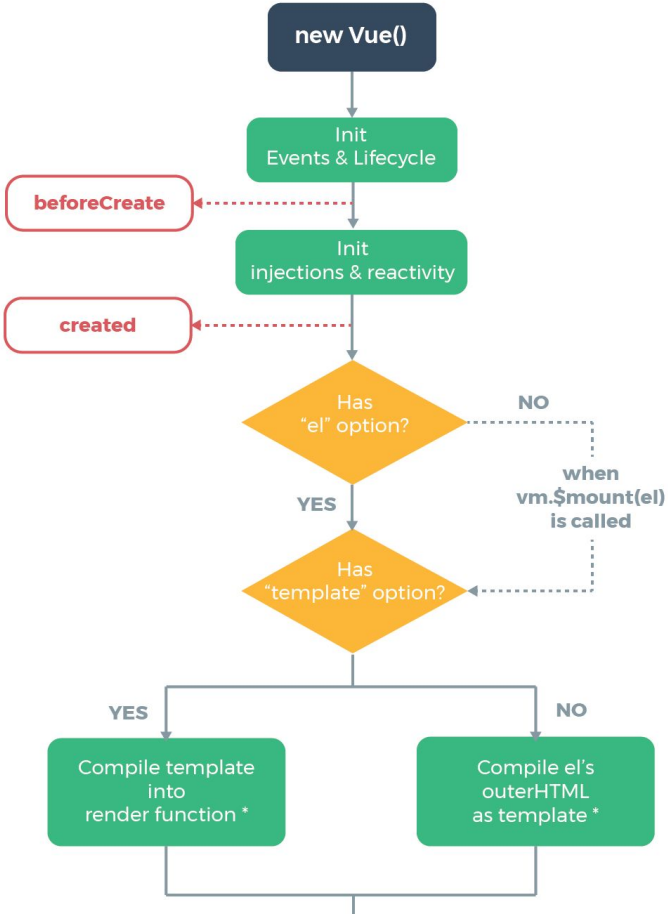
Directives

Directives are special attributes with the v- prefix. Directive attribute values are expected to be a single JavaScript expression (with the exception of v-for). A directive's job is to reactively apply side effects to the DOM when the value of its expression changes.

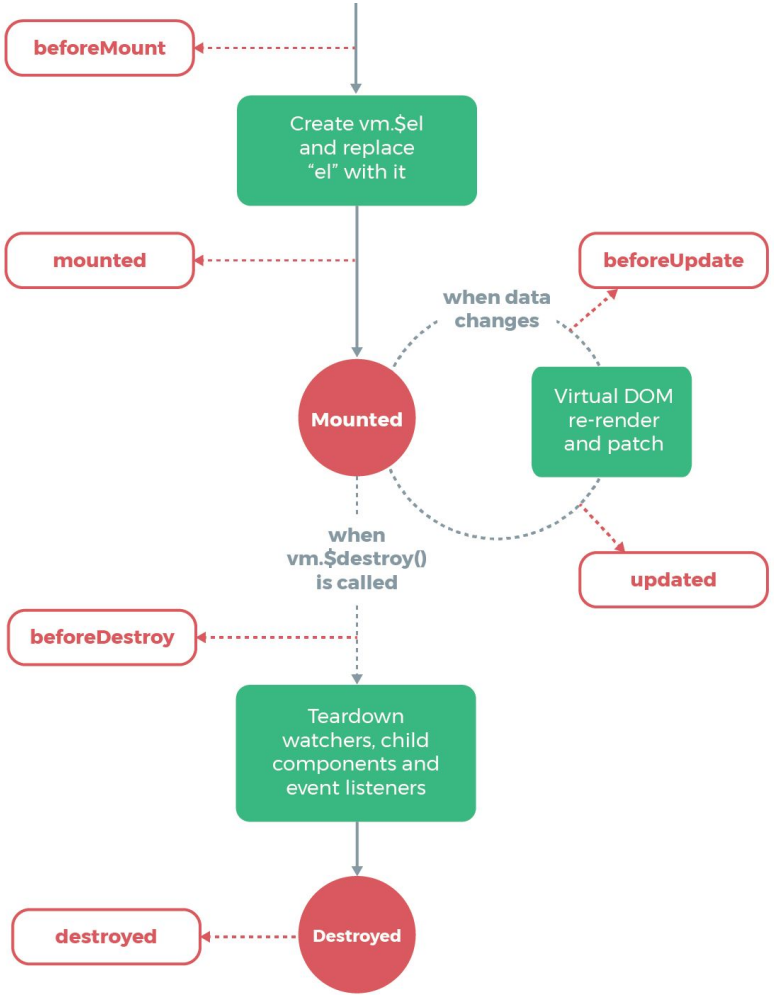
- v-if – used to conditionally render an element (v-show)
- v-for – iterate over a range, an array, an object, or an array of objects
- v-bind – when a expression change so does the UI, :
- v-model - same as v-bind but both ways, for example input field that start with value (two way)
- v-on – listen to various DOM events (click, keyup, submit, etc..), @

Vue basics demo

Instance Lifecycle Hooks



Instance Lifecycle Hooks



Devtools

Visual Studio Code Extensions

Veture

Features

- Syntax-highlighting
- Snippet
- Emmet
- Linting / Error Checking
- Formatting
- Auto Completion
- Debugging

Vue VSCode Snippets

Snippets for

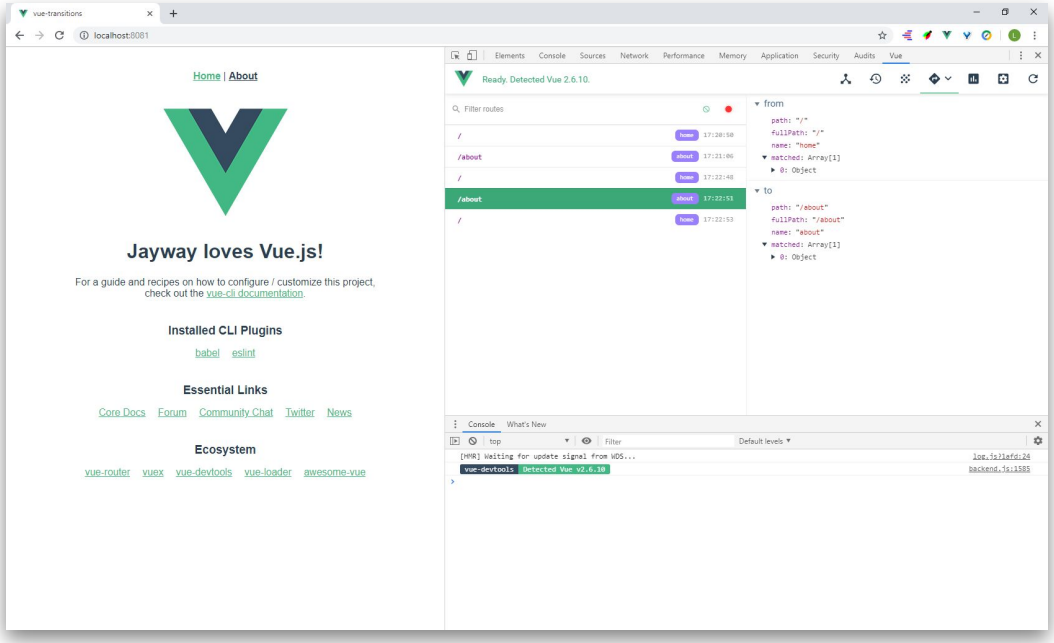
- Vue in general
- Template
- Script
- Vuex
- Nuxt config
- gitignore

Chrome/Firefox Extension and Standalone Electron app

Vue Devtools

Inspect

- Components
- Vuex
- Events
- Routing
- Performance
- Vue detection



Vue Core Libraries

Vuex

State management pattern + library for Vue.js applications

- Data
- Action
- Mutations
- Getters

```
const app = new Vue({
  data: {
    …
  },
  methods: {
    …
  },
  computed: {
    …
  }
})
```

```
const store = new Vuex.Store({
  state: {
    …
  },
  mutations: {
    …
  },
  actions: {
    …
  },
  getters: {
    …
  }
})
```

Vue Router

Vue Router is the official router for Vue.js. It deeply integrates with Vue.js core to make building Single Page Applications with Vue.js a breeze. Features include:

- Nested route/view mapping
- Modular, component-based router configuration
- Route params, query, wildcards
- View transition effects powered by Vue.js' transition system
- Fine-grained navigation control
- Links with automatic active CSS classes
- HTML5 history mode or hash mode, with auto-fallback in IE9
- Customizable Scroll Behavior

Vue Router Install

- **CDN**

  Latest: https://unpkg.com/vue-router/dist/vue-router.js

  Specific version: https://unpkg.com/vue-router@2.0.0/dist/vue-router.js

  Include vue-router after Vue and it will install itself automatically:

  ```
  <script src="/path/to/vue.js"></script>
  <script src="/path/to/vue-router.js"></script>
  ```

- **NPM**

  ```
  npm install vue-router
  ```

- Use **Vue CLI** or **Vue UI**

Transitions and Animations

Vue provides a variety of ways to apply transition effects when items are inserted, updated, or removed from the DOM.

Vue will help you to:

- Automatically apply classes for CSS transitions and animations.
- Integrate 3rd-party CSS animation libraries.
- Use JavaScript to directly manipulate the DOM during transition hooks.
- Integrate 3rd-party JavaScript animation libraries.

Enter/Leave & List Transitions

When an element wrapped in a <transition> component is inserted or removed. The following happens:

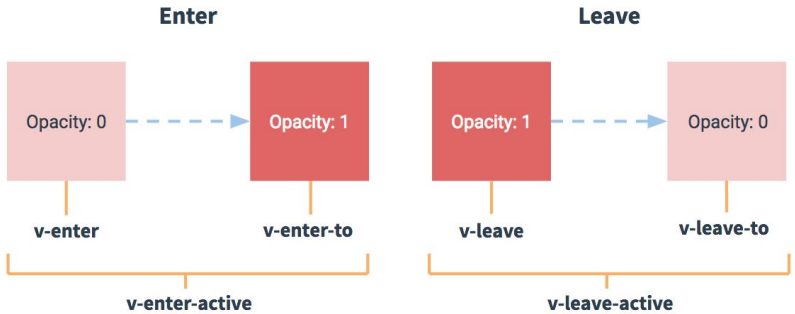
1. Vue will automatically sniff whether the target element has CSS transitions or animations applied. If it does, CSS transition classes will be added/removed at appropriate timings.

2. If the transition component provided JavaScript hooks, these hooks will be called at appropriate timings.

3. If no CSS transitions/animations are detected and no JavaScript hooks are provided, the DOM operations for insertion and/or removal will be executed immediately on next frame (Note: this is a browser animation frame, different from Vue's concept of nextTick).

Transition Classes

1. **v-enter:** Starting state for enter. Added before element is inserted, removed one frame after element is inserted.
2. **v-enter-active:** Active state for enter. Applied during the entire entering phase.
3. **v-enter-to:** Ending state for enter.
4. **v-leave:** Starting state for leave. Added immediately when a leaving transition is triggered, removed after one frame.
5. **v-leave-active:** Active state for leave. Applied during the entire leaving phase.
6. **v-leave-to:** Ending state for leave



Vue Router Demo

Vue extras

Nuxt.js

The Vue.js framework for:

- Server Side Rendered (Universal)

  If Search Engine Optimization is important.

- Statically Generated (Pre-Rendering)

  If Search Engine Optimization is important.

- Single Page Application (SPA)

  Example of a SPA application using Nuxt.js.

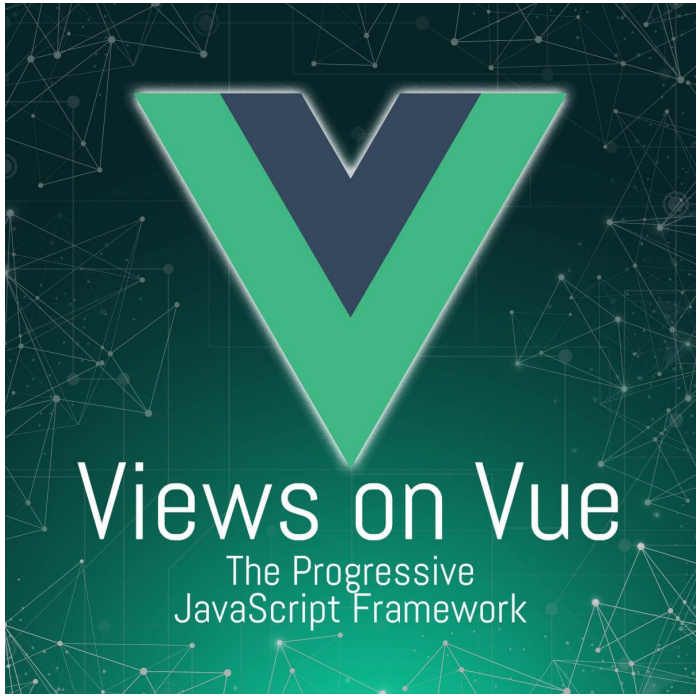
- Nuxt.js is Vue.js equivalent to Reacts Next.js.

UI Component Frameworks

Vue Native Frameworks

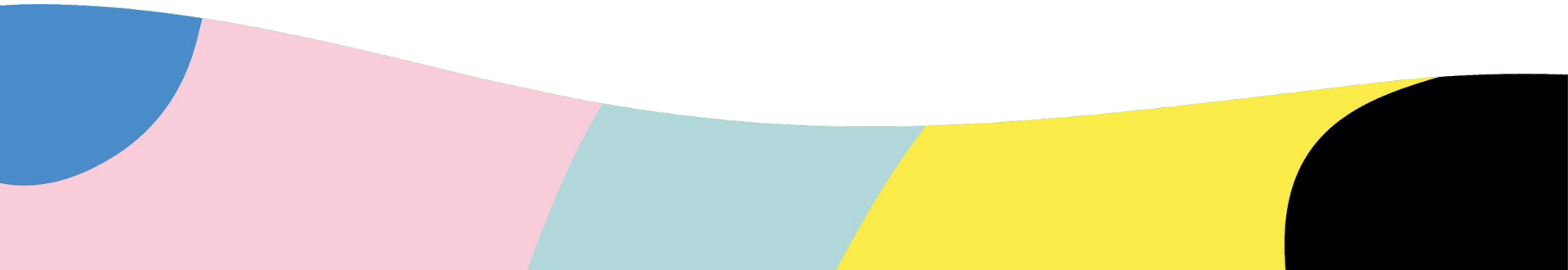
Vue podcasts

The Official Vue.js News



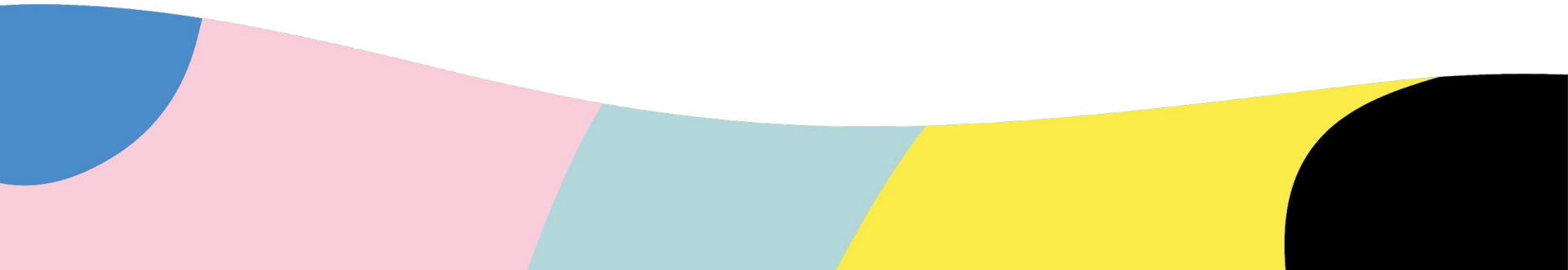
Exercise

- Pairs
- Clone repo, see mail



Exercise

- Gör egen component av listan
- Skriv en egen drop down istället för att använda select
- Använd list watcher i Autocomplete till något vettigt
- Lägg in en router
- Lägg in en animation



Thank you!

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