Vue CLI

Vue CLI Overview

- Most real Vue app development starts with Vue CLI
- Creates file structure for new projects
- Can add features to existing ones
  - but commit existing files to version control in case it overwrites any
- Configures use of Babel for transpiling
- Configures use of Webpack for module bundling
- Provides npm scripts to
  - **`serve`** app using webpack-dev-server
  - **`build`** app for production deployment
- Can request support for
  linting, unit tests, end-to-end (E2E) tests, and more

`@vue/cli-service`

- A dev dependency of projects created by Vue CLI
- Similar to **`react-scripts`** dev dependency
  of projects created by create-react-app
- Supports many npm scripts in **`package.json`** including
  - **`build`**, **`lint`**, **`serve`**, **`test:e2e`**, and **`test:unit`**
- Can be easily upgraded when new versions are released
- Think of it like allowing a team of Vue experts
  to maintain your build process,
  while retaining the ability to customize it

Installing and Running

- To install, **`npm install -g @vue/cli`**
  - makes it usable from any directory
- Two ways to run
  - command line
  - web UI

Vue CLI Command Line ...

- To create a new project
  - `vue create project-name`
- Prompts for options
  - can choose default set of features (Babel and ESLint)
  - can manually select features such as
    TypeScript, PWA support, Router, Vuex, CSS Pre-processors,
    Linter/Formatter, Unit Testing, and E2E testing

```
Vue CLI v3.8.2
? Please pick a preset: (Use arrow keys)
› with-tests-config-in-package-json (babel, eslint, unit-jest, e2e-cypress)
  default (babel, eslint)
  Manually select features
```

Move > with up and down arrow keys.
Select options with space bar.
Press enter to continue to next step.

… Vue CLI Command Line …

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: (Press <space> to select, <a> to toggle all, <i>
>◉Babel
 ◯TypeScript
 ◯Progressive Web App (PWA) Support
 ◯Router
 ◯Vuex
 ◯CSS Pre-processors
 ◉Linter / Formatter
 ◯Unit Testing
 ◯E2E Testing
```

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project:
 ◉Babel
 ◯TypeScript
 ◯Progressive Web App (PWA) Support
 ◯Router
 ◯Vuex
 ◯CSS Pre-processors
 ◉Linter / Formatter
 ◉Unit Testing
>◉E2E Testing
```

… Vue CLI Command Line …

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config:
  ESLint with error prevention only
  ESLint + Airbnb config
  ESLint + Standard config
❯ ESLint + Prettier
```

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config: Prettier
? Pick additional lint features: (Press <space> to select, <a> to toggle all, <i>
❯◉Lint on save
 ◯Lint and fix on commit
```

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config: Prettier
? Pick additional lint features: (Press <space> to select, <a> to toggle all, <i> to invert selection)
? Pick a unit testing solution:
  Mocha + Chai
❯ Jest
```

… Vue CLI Command Line …

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config: Prettier
? Pick additional lint features: (Press <space> to select, <a> to toggle all, <i> to invert selection)
? Pick a unit testing solution: Jest
? Pick a E2E testing solution: (Use arrow keys)
❯ Cypress (Chrome only)
  Nightwatch (Selenium-based)
```

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config: Prettier
? Pick additional lint features: (Press <space> to select, <a> to toggle all, <i> to invert selection)
? Pick a unit testing solution: Jest
? Pick a E2E testing solution: Cypress
? Where do you prefer placing config for Babel, PostCSS, ESLint, etc.?
  In dedicated config files
❯ In package.json
```

```
Vue CLI v3.4.0
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, Linter, Unit, E2E
? Pick a linter / formatter config: Prettier
? Pick additional lint features: (Press <space> to select, <a> to toggle all, <i> to invert selection)
? Pick a unit testing solution: Jest
? Pick a E2E testing solution: Cypress
? Where do you prefer placing config for Babel, PostCSS, ESLint, etc.? In package.json
? Save this as a preset for future projects? (y/N)
```

… Vue CLI Command Line

```
Vue CLI v3.4.0
✨  Creating project in /Users/Mark/Documents/programming/languages/javascript/vue/demo.
🗃  Initializing git repository...
⚙  Installing CLI plugins. This might take a while...


> fsevents@1.2.7 install /Users/Mark/Documents/programming/languages/javascript/vue/demo/node_modules/fsevents
> node install

[fsevents] Success: "/Users/Mark/Documents/programming/languages/javascript/vue/demo/node_modules/fsevents/lib/bindi

> yorkie@2.0.0 install /Users/Mark/Documents/programming/languages/javascript/vue/demo/node_modules/yorkie
> node bin/install.js

setting up Git hooks
done


> cypress@3.1.5 postinstall /Users/Mark/Documents/programming/languages/javascript/vue/demo/node_modules/cypress
> node index.js --exec install


Cypress 3.1.5 is installed in /Users/Mark/Library/Caches/Cypress/3.1.5

added 1632 packages from 810 contributors and audited 42282 packages in 53.908s
found 63 low severity vulnerabilities
  run `npm audit fix` to fix them, or `npm audit` for details
🚀  Invoking generators...
📦  Installing additional dependencies...

added 56 packages from 42 contributors, updated 3 packages, moved 12 packages and audited 42799 packages in 12.219s
found 64 low severity vulnerabilities
  run `npm audit fix` to fix them, or `npm audit` for details
⚓  Running completion hooks...

📄  Generating README.md...

🎉  Successfully created project demo.
👉  Get started with the following commands:

 $ cd demo
 $ npm run serve
```

Plugins

- Add functionality to a project
- Examples include
  - apollo, e2e-cypress, markdown, storybook, vuex, and @vue/cli-plugin-unit-jext
- To find more, search at npmjs.org for packages whose names contain “vue” and “cli-plugin”
- To add one, **`vue add`** ***`plugin-name`***

Vue CLI Web UI

- Provides a web UI for doing all the things the CLI supports
- Just another option that can be skipped if it seems overkill, but very pretty!
- To start, enter **`vue ui`**

Create New Project

Specify Project Details

Create a new project

Details | Presets | Features | Configuration

Project folder

Type a name

/Users/Mark...ng/languages/javascript/vue/

Package manager

Default

Additional options

Overwrite target folder if it exists

Git repository

Initialize git repository (recommended)

Initial commit message (optional)

Cancel | Next

No project open | /Users/Mark/Documents/programming/languages/javascript/vue | Re... 2/15/2019, 4:09:17 PM

Select Preset Configuration

Select Project Features

Create a new project

Details | Presets | Features | Configuration

You will be able to add features after the project is created by installing plugins.

Enable features

Babel
Transpile modern JavaScript to older versions (for compatibility) More Info

TypeScript
Add support for the TypeScript language More Info

Progressive Web App (PWA) Support
Improve performances with features like Web manifest and Service workers More Info

Router
Structure the app with dynamic pages More Info

Vuex
Manage the app state with a centralized store More Info

CSS Pre-processors
Add support for CSS pre-processors like Sass, Less or Stylus More Info

Previous | Next

No project open /Users/Mark/Documents/programming/languages/javascript/vue Re... 2/15/2019, 4:09:17 PM

Select Project Configuration

Create a new project

Details | Presets | Features | Configuration

Pick a linter / formatter config:
Checking code errors and enforcing an homogeneous code style is recommended.

ESLint + Prettier

Pick additional lint features:

- [x] Lint on save
- [ ] Lint and fix on commit

Pick a unit testing solution: Jest

Pick a E2E testing solution: Cypress (Chrome only)

Previous | Create Project

No project open /Users/Mark/Documents/programming/languages/javascript/vue Re... 2/15/2019, 4:09:17 PM

Can Save Selections For Future Projects

Project Dashboard

Project Plugins

Project Dependencies

Project Configuration

Vue CLI Configuration

ESLint Configuration

Project Tasks

Serving Web App

Project Dashboard

Vue CLI Default UI

Ready to make changes and add components!

Welcome to Your Vue.js App

For a guide and recipes on how to configure / customize this project, check out the vue-cli documentation.

Installed CLI Plugins

babel eslint unit-jest e2e-cypress

Essential Links

Core Docs Forum Community Chat Twitter News

Ecosystem

vue-router vuex vue-devtools vue-loader awesome-vue

Other vue Commands ...

- In addition to **`vue create`** and **`vue ui`**, can use these
- **`vue add`**
  - installs a given plugin in an existing project and runs its code generator
- **`vue build`**
  - seems broken; use **`npm run build`** instead
- **`vue config`**
  - outputs JSON project configuration including plugin configuration
  - add arguments to modify an option

... Other `vue` Commands ...

- **`vue info`**
  - outputs environment information including
    - OS - ex. **`macOS 10.14.3`**
    - CPU - ex. **`(8) x64 Intel(R) Core(TM) i7-4870HQ CPU @ 2.50GHz`**
    - versions and paths of Node, Yarn, and npm
    - versions of installed web browsers - such as Chrome, Edge, Firefox, and Safari
    - versions and names of installed npm packages
- **`vue init`**
  - generates a project from a template (deprecated?)
- **`vue invoke`**
  - runs the code generator of a given plugin

… Other `vue` Commands

- **`vue inspect`**
  - outputs the webpack JSON configuration (long!)
- **`vue serve`**
  - seems broken; use **`npm run serve`** instead
- **`vue upgrade`**
  - must run **`npm install -g @vue/cli-upgrade`** to use
  - seems broken

Provided npm Scripts

- Projects created by Vue CLI have the following npm scripts in **`package.json`**
- **`build`**
  - builds application for production deployment
- **`lint`**
  - runs ESLint on all files if "Linter/Formatter" feature was selected
- **`serve`**
  - starts a local HTTP server using webpack-dev-server
- **`test:e2e`**
  - runs all end-to-end tests if "E2E Testing" feature was selected
- **`test:unit`**
  - runs all unit tests if "Unit Testing" feature was selected

`npm run build` creates **`dist`** directory containing all files needed to deploy application. This has **`css`**, **`img`**, and **`js`** subdirectories. In the **`js`** directory, "chunk" files contain compiled and minified dependency code and "app" files contain compiled and minified project-specific code. Source maps are also generated for use in browser devtools debugging.

There is also a **"modern" mode** that creates two JavaScript bundles, one targeted at modern browsers and one targeted an older browsers which require more transpilation and polyfills.