React

Step by Step in 60 minutes

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What is React?

It's not an MVC Framework

It's only the V in MVC. The View.

$$UI = f(data)$$

every time data changes, UI is re-rendered*

React in the wild:

Why React?

- Simple and Declarative

- Build Composable Components

- Server-side Rendering

- Better Environment

Simple and Declarative

```
<header>
  <div class="name">
    Not Logged In
  </div>
</header>
```

```
$.post('/login', credentials, function( user ) {
  $('header .name').text( user.name );
});
```

```
render() {
  return (
    <header>
      {
        this.state.name ?
        this.state.name :
        <span>Not Logged In</span>
      }
    </header>
  );
}
```

jQuery   React
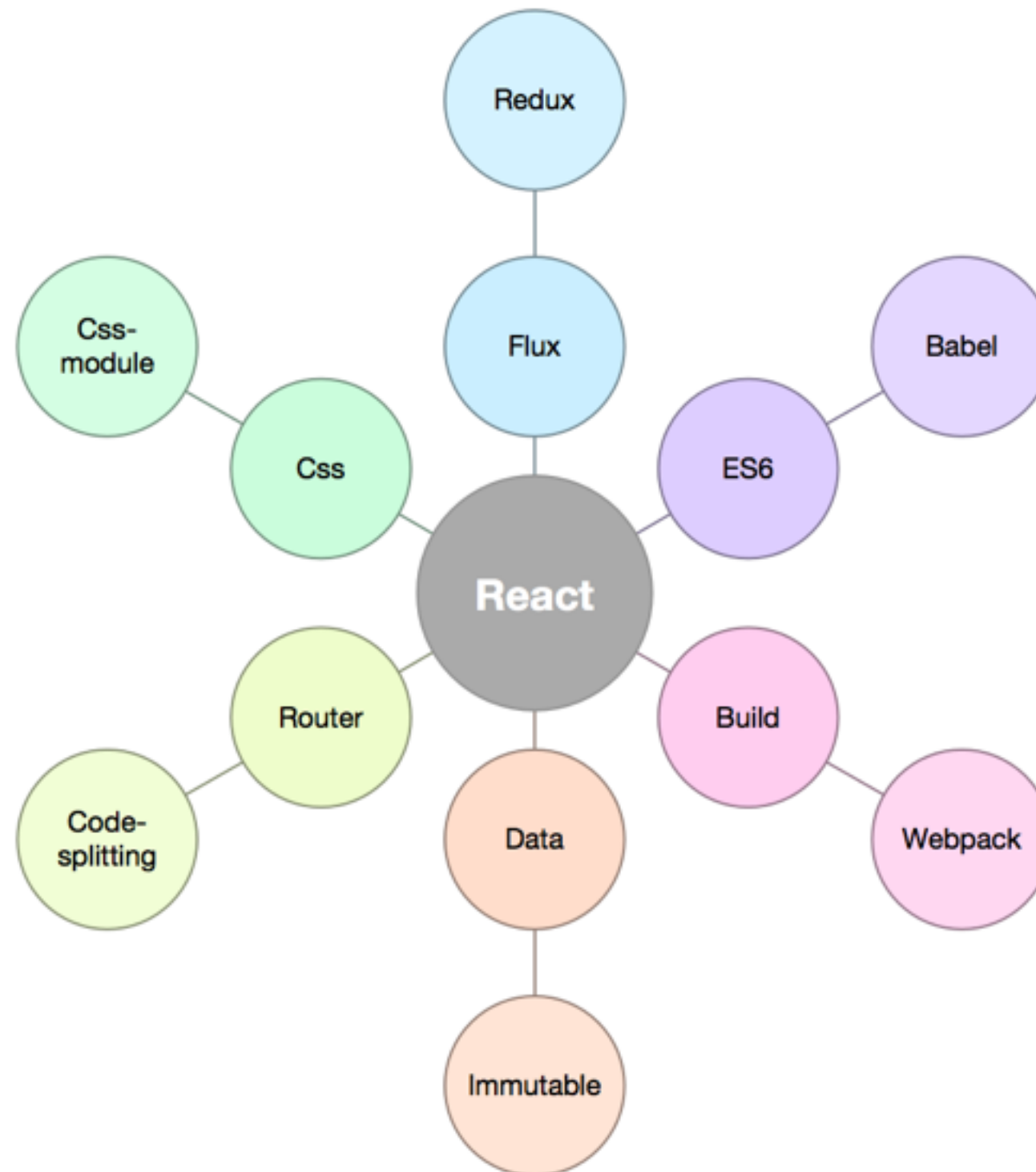
Build Composable Components

Server-side Rendering

The react-dom/server package allows you to render your components on the server.

```javascript
var React = require('react');
var ReactDOMServer = require('react-dom/server');
var HelloWorld = require('./HelloWorld');


console.log(
  ReactDOMServer.renderToString(
    <HelloWorld />
  )
);
```

Better Environment

How to set up a React Project?

1:Getting Started

```html
<!DOCTYPE html>
<html>
<header>
  <script src="../node_modules/react/dist/react.js"></script>
  <script src="../node_modules/react-dom/dist/react-dom.js"></script>
</header>
<body>
  <div id="app"></div>
  <script>
    ReactDOM.render(
      React.createElement('h1', null, 'Hello World!'),
      document.getElementById('app')
    );
  </script>
</body>
</html>
```

2.Set up babel & webpack

Babel:

ES6 => ES5

JSX => JS

Webpack:

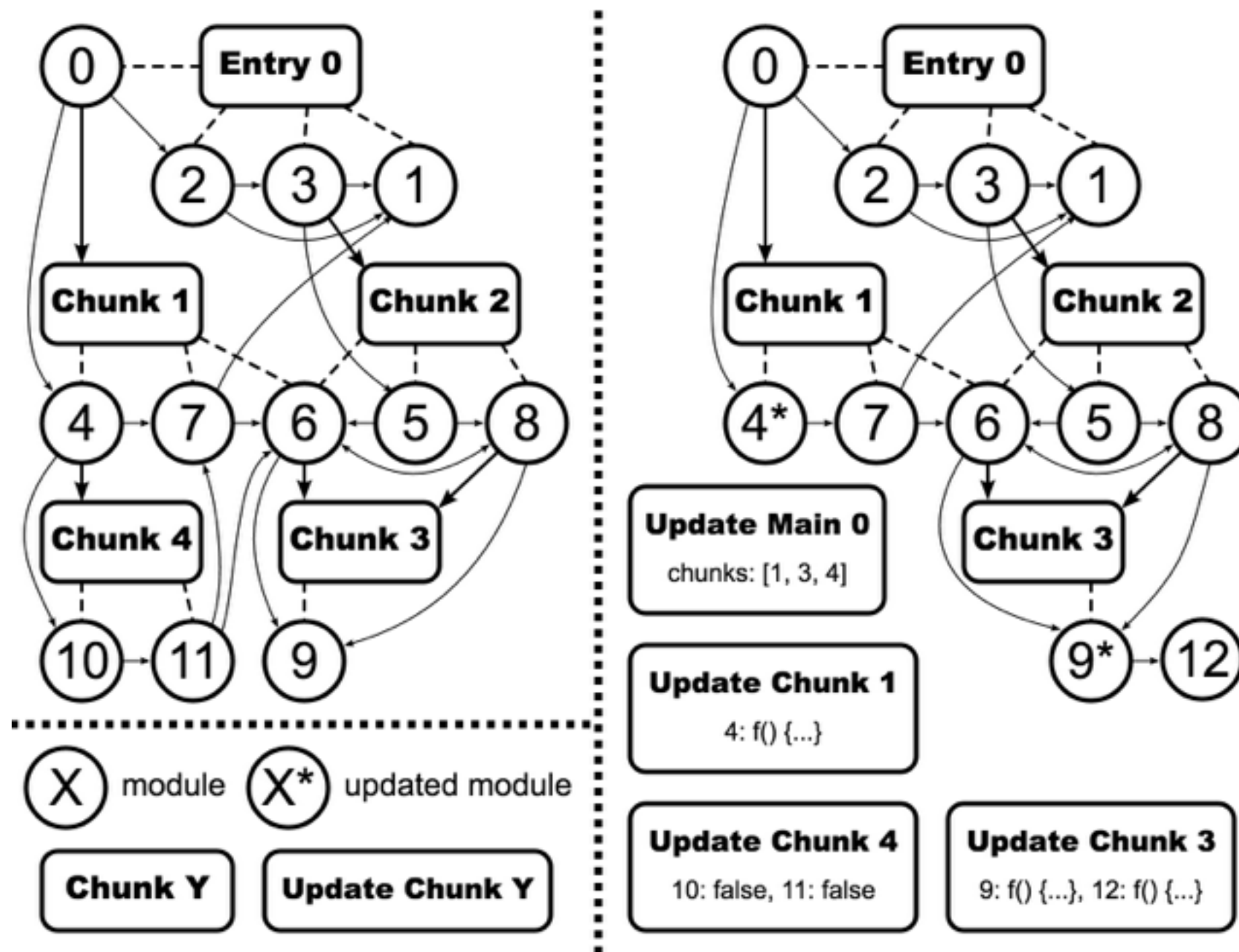All your JavaScript => single file

```
npm install --save babel-core
npm install --save babel-preset-es2015
npm install --save babel-preset-react
npm install --save webpack babel-loader
```

3.Set up node server

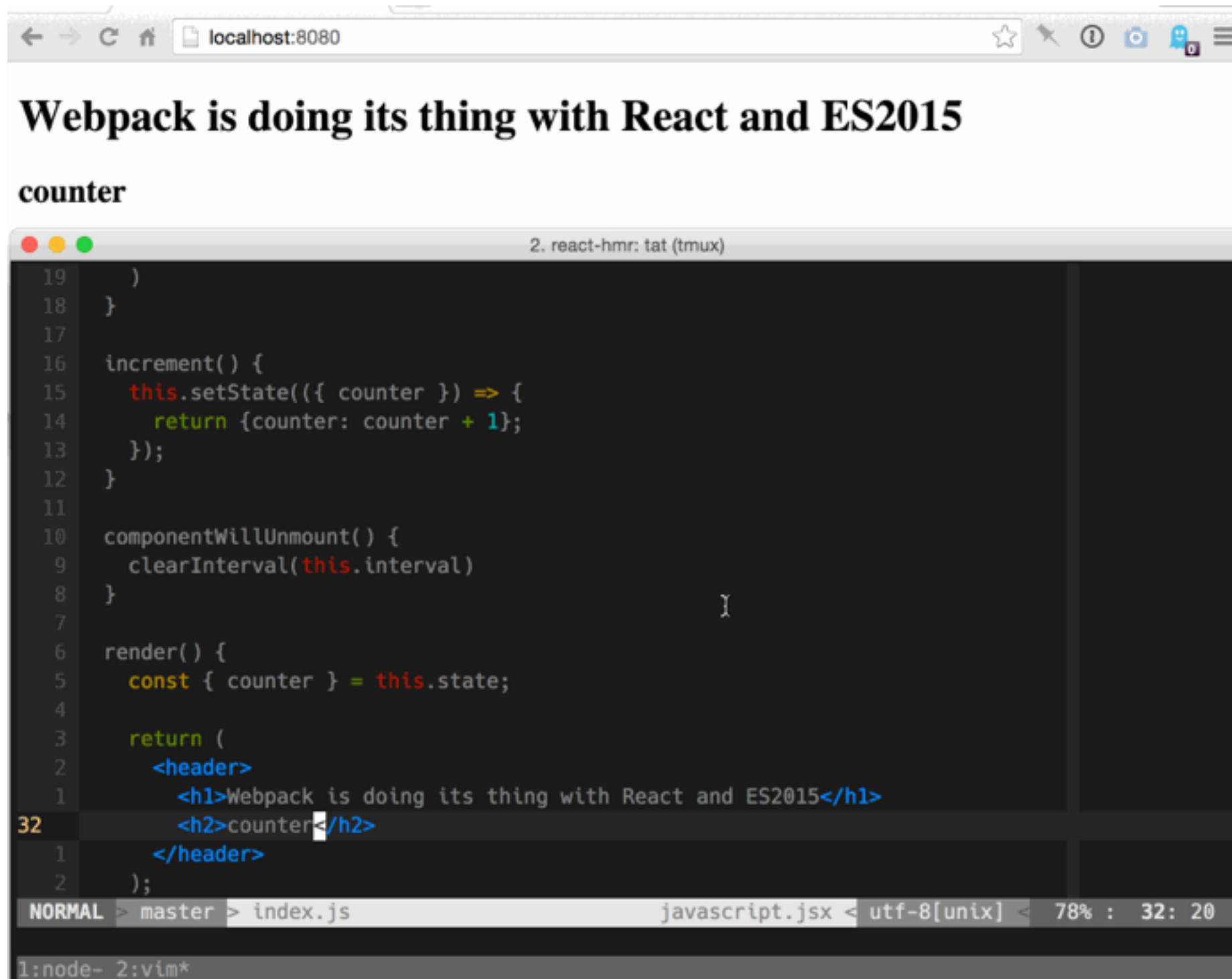A React development environment needs some way to show
your app in a browser.

4.Make site hot loading

exchanges, adds, or removes modules while an application is running without a page reload.

5.Make react hot loading

Tweak React components in real time.

6.Add React router

keeps your UI in sync with the URL
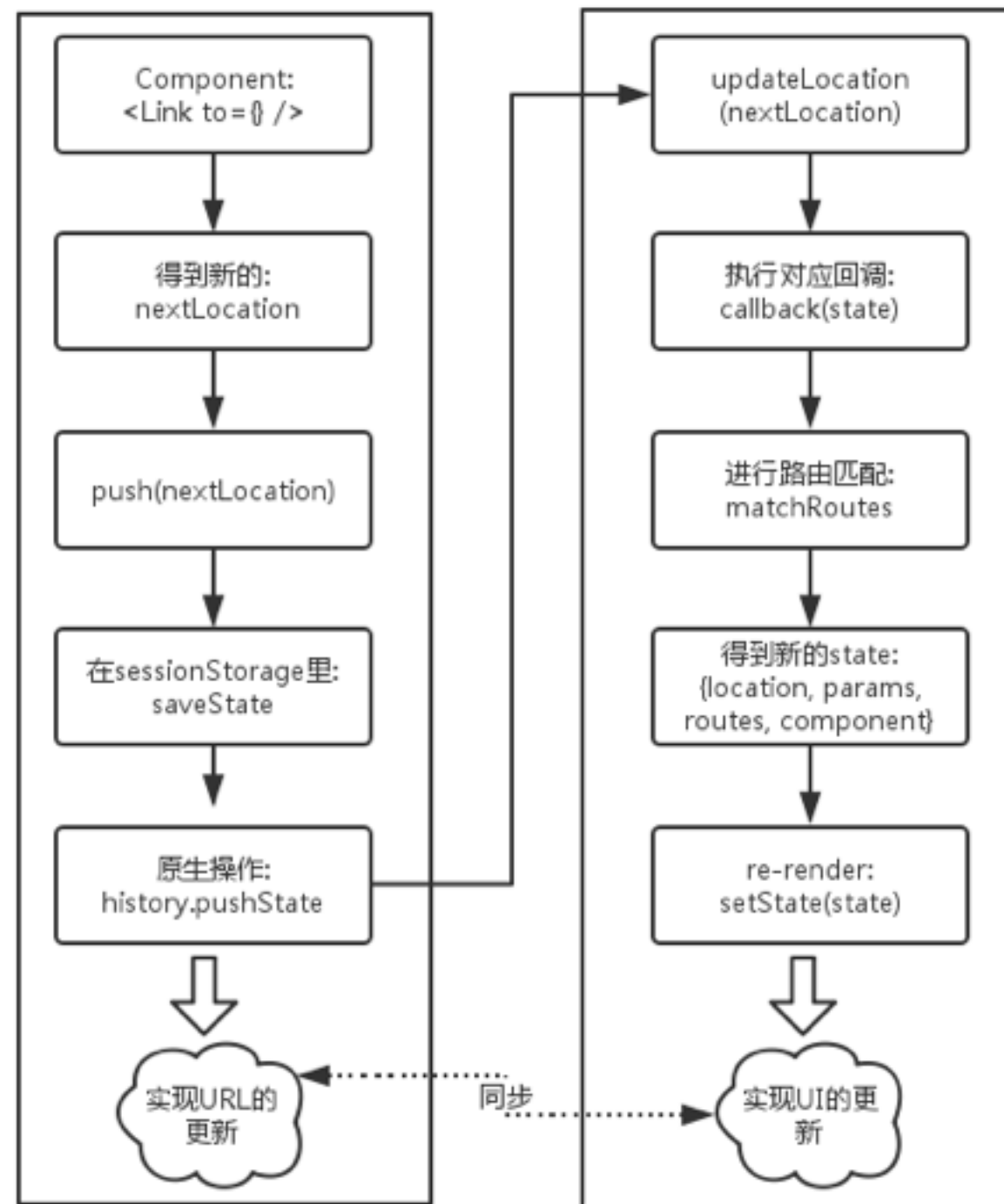
7.Server-side rendering

- Better overall user experience

- Search engine indexable

- Easier code maintenance

- Free progressive enhancements

8.Add Postcss

9.Production Builds

- Bundles all JavaScript together into a single file

- Strips all development messages

- Minified all JavaScript & Css & Image

- Build your server side code for better performance

Reference

- https://facebook.github.io/react/index.html

- https://babeljs.io/

- https://webpack.github.io/

- http://blog.andrewray.me/reactjs-for-stupid-people/

- https://medium.com/@mjackson/universal-javascript-4761051b7ae9

- https://tylermcginnis.com/an-introduction-to-life-cycle-events-in-react-js-aa3796ad85aa#.l7hmewljs