

# React

Step by Step in 60 minutes

@Zeejune

# 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:

facebook®

asana:



Instagram

NETFLIX



# 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 );
});
```

jQuery

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

React

# Build Composable Components

<div><div></div><div>总览</div><div>赛事</div><div>球队</div><div>人员</div><div>应用</div><div>管理员</div></div> <div>游志军 (管理员) ▾</div>							
<div>系列赛事</div> <div>自由比赛</div> <div>测试比赛</div> <div>场馆管理</div>							
<div>所有状态 ▾</div> <div>按地区筛选 ▾</div> <div>按日期筛选</div> <div>搜索</div> <div>创建赛事</div>							
OPID	赛事全称	赛事简称	地区	状态	赛事时段	组织者	操作
C10077	 2016第四届北大校友足球联赛	北大校友联赛	北京	进行中	2016.7	木子 (5)	编辑   查看
C10076	 2016 索福德梦幻欧洲杯足球...	无	北京	进行中	2016.7	高嵩 (5)	编辑   查看
C10075	 2016陈毅杯	陈毅杯	上海	已结束	2016.5	周亮 (3)	编辑   查看
C10074	 2016年神华集团首届职工运动...	津港杯足球赛	北京	进行中	2016.5 ~ 2016.6	赵金东 (10)	编辑   查看
C10073	 五星足球超级联赛	五星联赛	上海	进行中	2016.5	车车 (3)	编辑   查看
C10072	 广州迪卡侬东圃店五人制足球赛	东圃店五人赛	广东 广州	已结束	2016.5	Jaden Lin (4)	编辑   查看
C10071	 广州迪卡侬猎德店五人制足球赛	猎德店五人赛	广东 广州	已结束	2016.5	赵航 (4)	编辑   查看
C10070	 超级星期二杯	无	广东 广州	已结束	2016.5	谢俊熙	编辑   查看
C10068	 大棠五一杯	五一杯	广东 深圳	已结束	2016.5	Davids (2)	编辑   查看
C10069	 粤宝黄金 GDF 广东省五人足...	粤超联赛	广东	进行中	2016.5 ~ 2016.7	刘孝五 (3)	编辑   查看

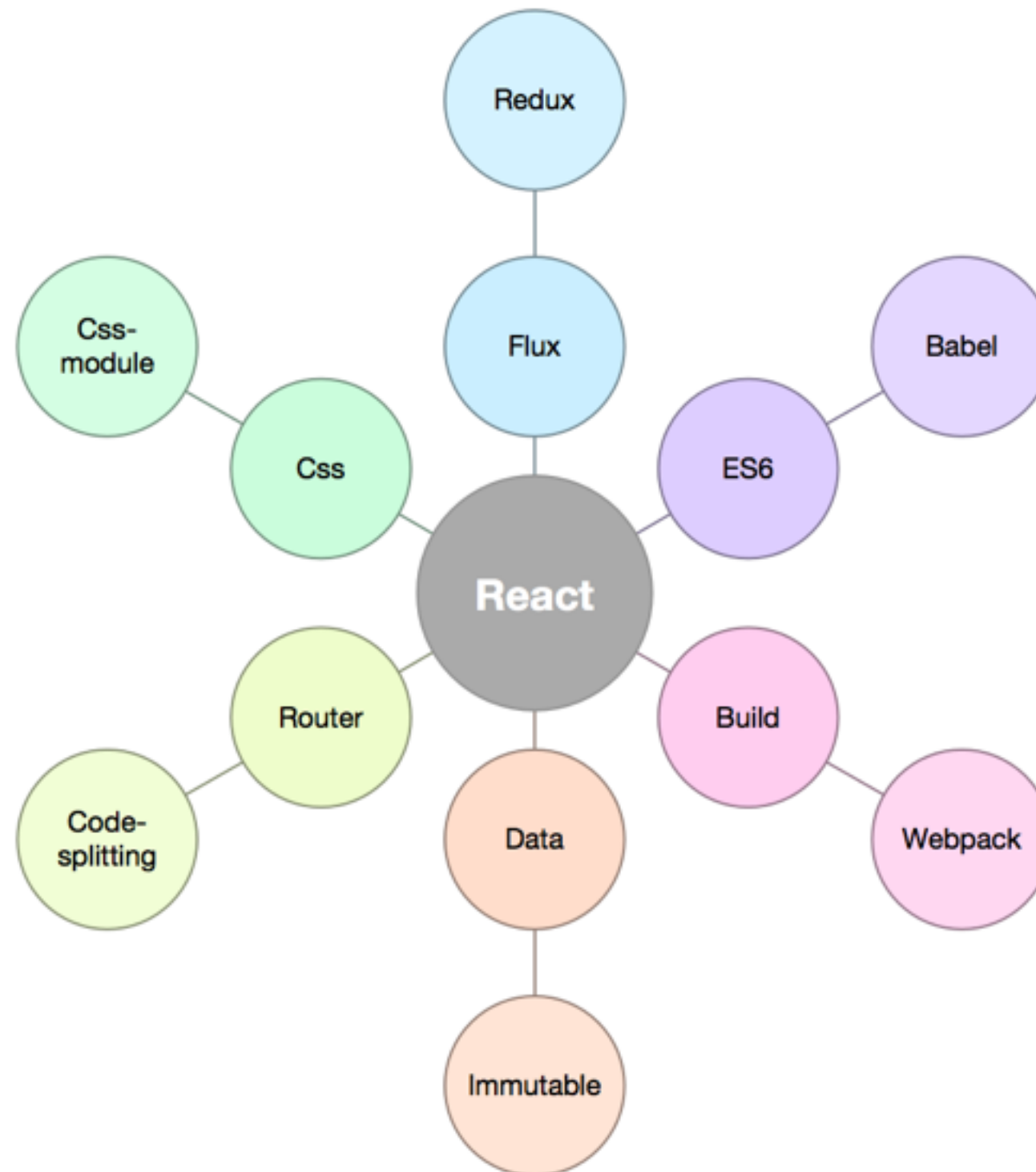
# Server-side Rendering

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

```
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

```
<!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

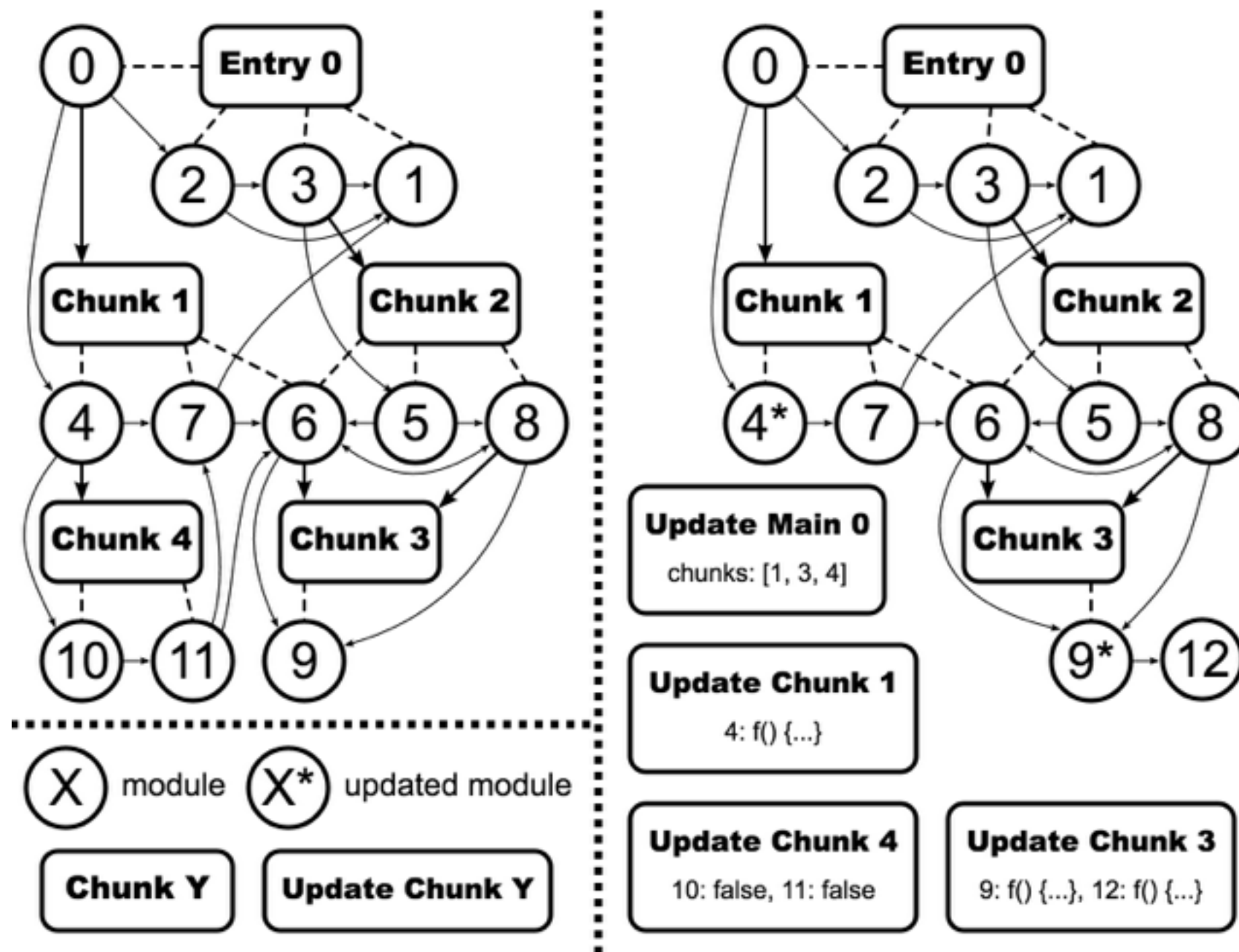
```
npm install --save babel-core
npm install --save babel-preset-es2015
npm install --save babel-preset-react
npm install --save webpack babel-loader
```

## 3. Set up node server

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

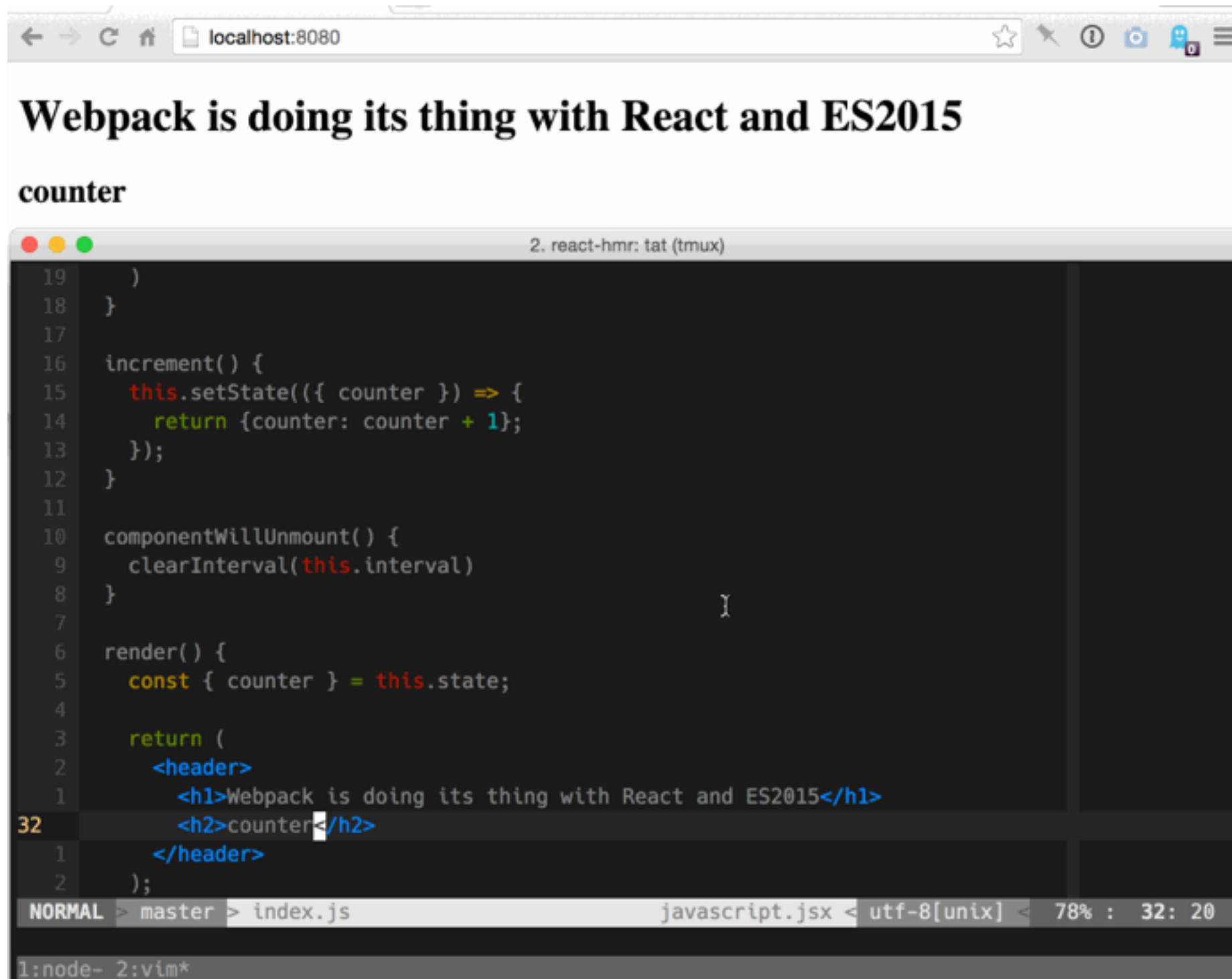
# 4. Make site hot loading

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.



The screenshot shows a web browser at localhost:8080 displaying the text "Webpack is doing its thing with React and ES2015" and a "counter" label. Below the browser is a code editor window titled "2. react-hmr: tat (tmux)" showing the source code of the component. The code includes an increment function, componentWillUnmount, and a render method. The render method returns a JSX element with a header containing the title and a counter. The code is being edited in a vim editor, as indicated by the status bar at the bottom.

```
19 )
18 }
17
16 increment() {
15   this.setState(({ counter }) => {
14     return {counter: counter + 1};
13   });
12 }
11
10 componentWillUnmount() {
9   clearInterval(this.interval)
8 }
7
6 render() {
5   const { counter } = this.state;
4
3   return (
2     <header>
1     <h1>Webpack is doing its thing with React and ES2015</h1>
32    <h2>counter</h2>
1    </header>
2  );

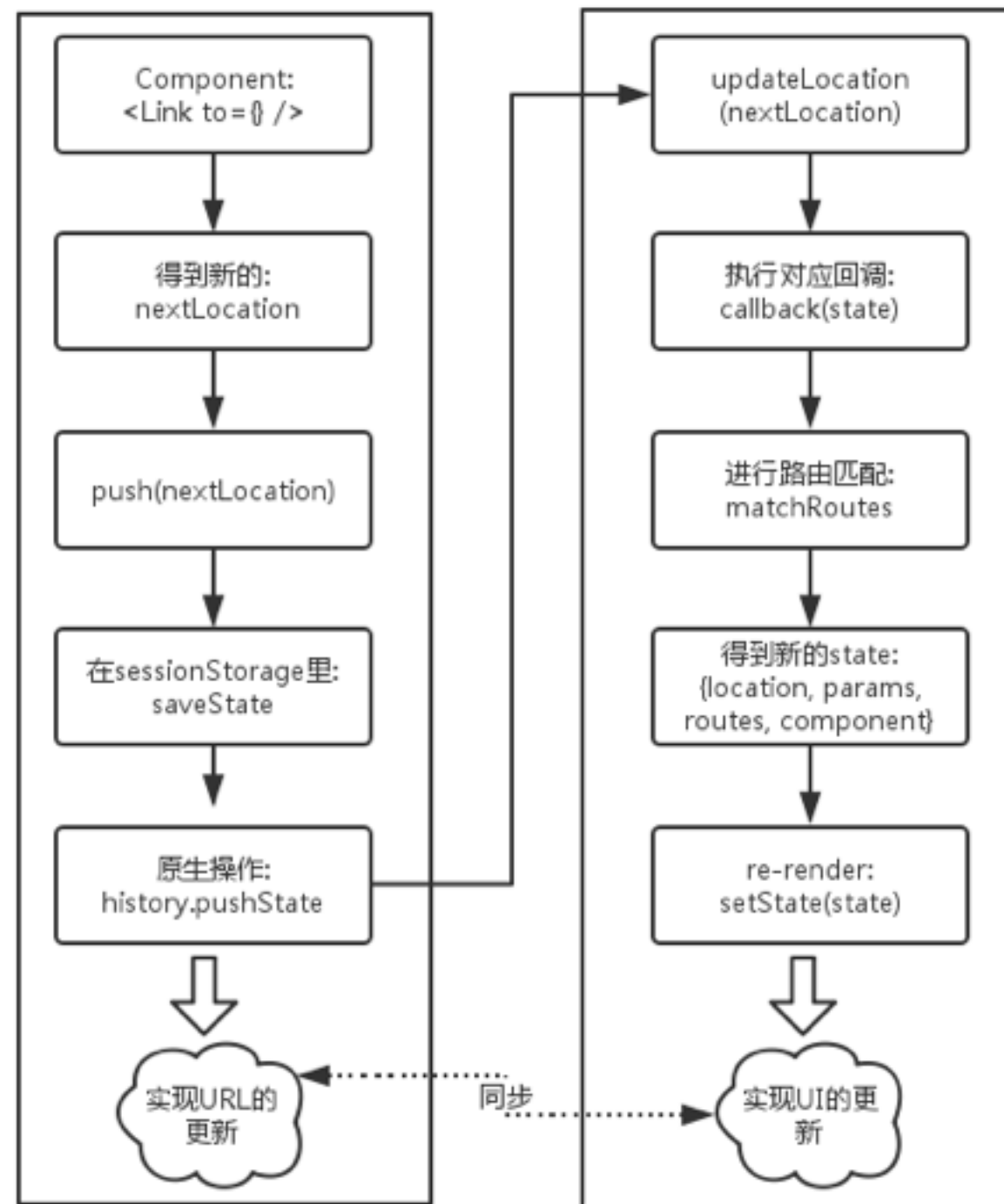
```

NORMAL > master > index.js javascript.jsx < utf-8[unix] < 78% : 32: 20

1:node- 2:vim\*

# 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>