

React and Redux: Lesson 1

Introduction, theory and your first react component

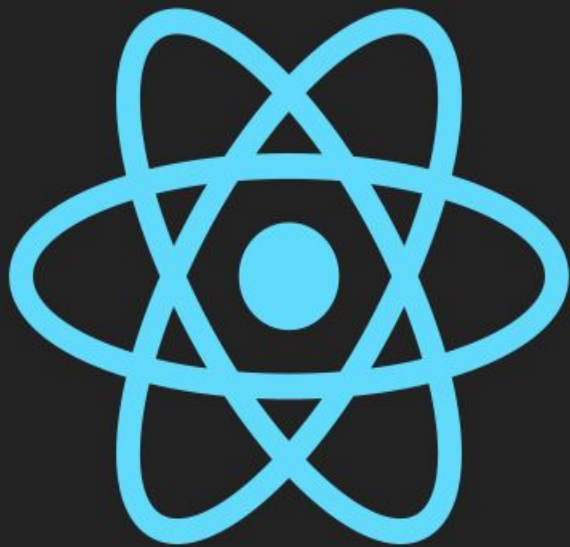
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Who is this course for ?

- **People with intermediate to advanced JavaScript knowledge**
- **People comfortable with Front-End Build Tools**
- **People who want to learn the two hottest JS libraries out there**
- **People interested in Front-End Architecture**

React

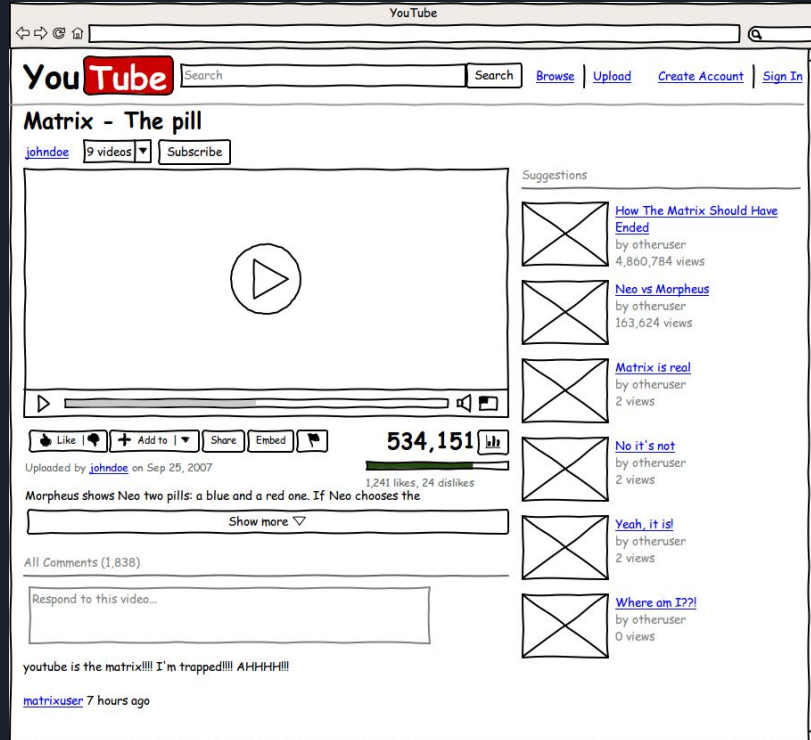




Just what the hell is React ?

React is a JavaScript library which makes it easy to break down website/webapp's UI into easy to use units called "Components".

Components



The World without React

```
4 $(document).ready(function() {  
5   $.getJSON('faq.json', function(data) {  
6     if (data.info.responseCode === 200) {  
7       let dl = $('<dl></dl>')  
8       $.each(data.faqs, function(index, obj) {  
9         let div = $('<div></div>')  
10        let dt = $('<dt data-id=${index}>Q: ${obj.question} <span>[+]</span></dt>')  
11        let dd = $('<dd data-id=${index}>A: ${obj.answer}</dd>')  
12  
13        div.append(dt).append(dd)  
14        dl.append(div)  
15  
16        dd.hide()  
17        dt.on('click', function() {  
18          let $this = $(this)  
19          let $span = $this.find('span')  
20  
21          dd.toggle(300)  
22          $this.toggleClass('clicked')  
23  
24          if ($this.hasClass('clicked')) {  
25            $span.text('[-]')  
26          } else {  
27            $span.text('[+]')  
28          }  
29        })  
30      })  
31      dl.appendTo('body')  
32    }  
33  })  
34 })
```



Do we need React ?

The short answer imo is - No !

You don't need React to create websites these days or any other framework or library for that matter.

However, React makes it really easy to create single responsibility UI units (Components) by giving you the necessary tools to create them in a way that follows the principles of single responsibility, low coupling, encapsulation and composition to the dot.

Note: (If you use it correctly)

```


1 var Accordion = function(containerElSelector, data) {
2   if (!$.isArray(data) || !data.length) {
3     throw new Error("Please supply an array of objects with question and answer properties");
4   }
5
6   function createQuestion(questionText, $answerEl) {
7     // ...
8   }
9
10  function createAnswer(answerText) {
11    var answerEl = $('<dt class="answer">' + answerText + '</dt>');
12    answerEl.hide();
13
14    return answerEl;
15  }
16
17  $(document).ready(function() {
18    var accordionContainer = $(containerElSelector);
19
20    if (!accordionContainer.length) {
21      throw new Error("Please supply a container element to attach the accordion to.");
22    }
23
24    data.forEach(function(questionAndAnswer) {
25      var accordionEl = $('<dl class="accordion-item"></dl>');
26      var answerEl = createAnswer(questionAndAnswer.answer);
27      var questionEl = createQuestion(questionAndAnswer.question, answerEl);
28
29      accordionEl.append(questionEl);
30      accordionEl.append(answerEl);
31      accordionContainer.append(accordionEl);
32    });
33  });
34 }

```


A craftsman wearing a black apron over a black and white striped long-sleeved shirt is working on a brush head. They are using a thin wire to secure bristles into a metal frame. The work is taking place on a rustic wooden workbench. Various tools and materials are scattered around: a red-handled plier, a spool of white thread on a wooden stand, a blue cloth, a hammer, a small saw, a piece of wood with a logo, a red rubber band, and a piece of paper with a sketch of a brush head. In the background, there are cardboard boxes and a blue plastic bag.

Tools of the trade

Photo by Kelvyn Ornette Sol Marte on Unsplash

- 
- NodeJS 9.4.0 and above
 - Babel - to transpile JSX, ES6 JavaScript to ES5*, sourcemaps and more
 - Webpack
 - ESLint
 - Jest



BABEL



webpack



* Technically there are browsers out there that fully support ES6 now days -
<https://kangax.github.io/compat-table/es6/>

Let's get into the code !



Sample React Component

```
6 import React from 'react';
7
8 function renderListItem(child, i, listItemClassName) {
9   return (
10     <li key={i} className={listItemClassName}>
11       {child}
12     </li>
13   );
14 }
15
16 function List(props) {
17   const {listClassName, listItemClassName, children} = props;
18   const otherProps = Object.assign({}, props);
19
20   /* we don't need these on the <ul> */
21   delete otherProps.listItemClassName;
22   delete otherProps.listClassName;
23   delete otherProps.children;
24
25   return (
26     <ul className={listClassName} {...otherProps}>
27       {children.map((child, i) => {
28         return renderListItem(child, i, listItemClassName);
29       })}
30     </ul>
31   );
32 }
33
34 List.propTypes = {
35   listClassName: React.PropTypes.string,
36   listItemClassName: React.PropTypes.string,
37   children: React.PropTypes.array.isRequired
38 };
39
40 export default List;
41
```

The logo for JSX is displayed on a dark blue background. It consists of a yellow rectangle on the left containing the letters 'JS' in a bold, dark grey sans-serif font, and a purple rectangle on the right containing a large white 'X' in a bold sans-serif font. The two rectangles are separated by a diagonal line.

JS

X

... Continued