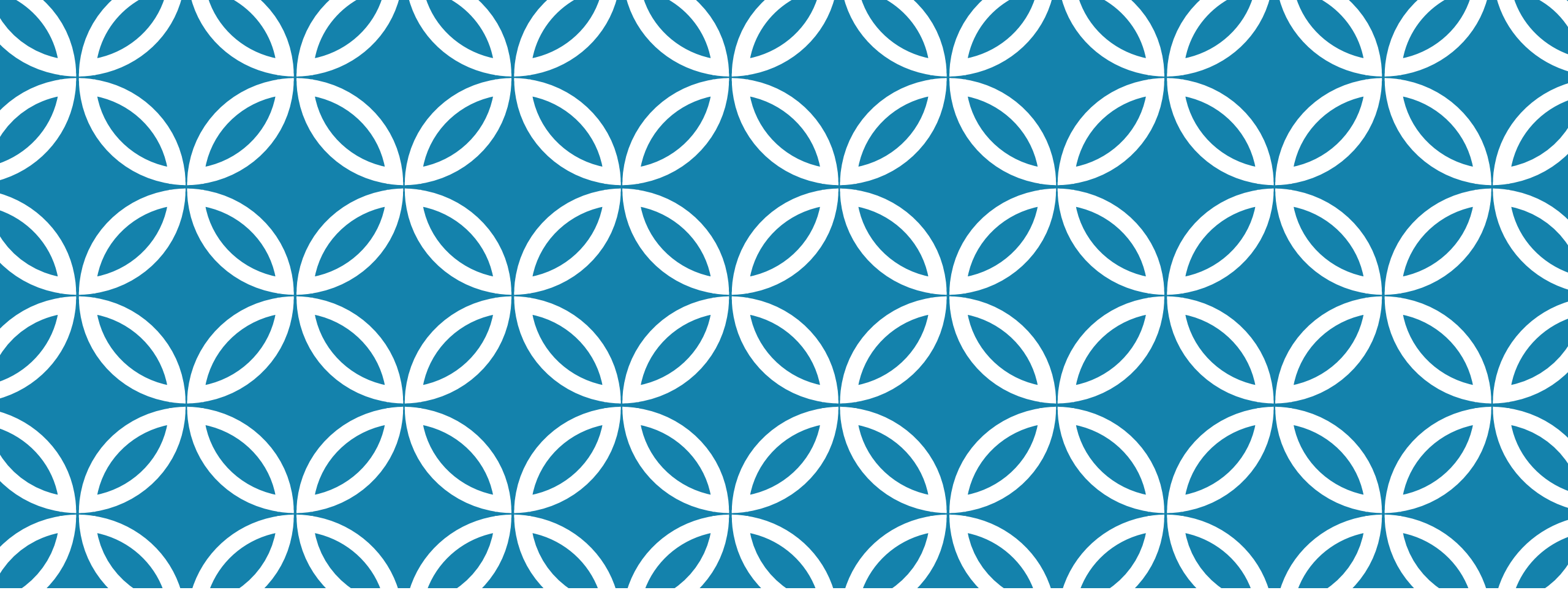


LECTURE #2

By: Aqib Rehman

OUTLINE

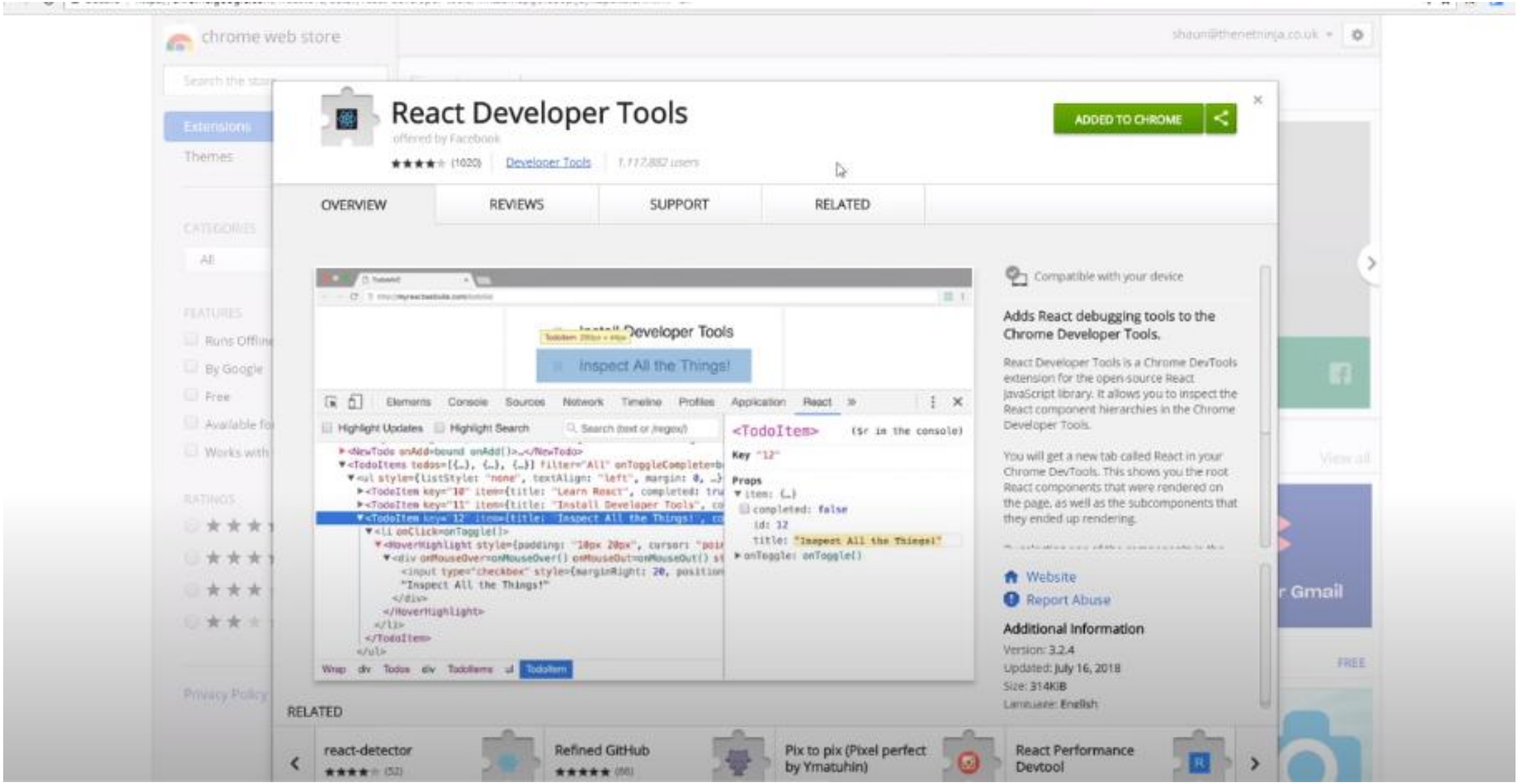
React Dev Tools

DOM Events

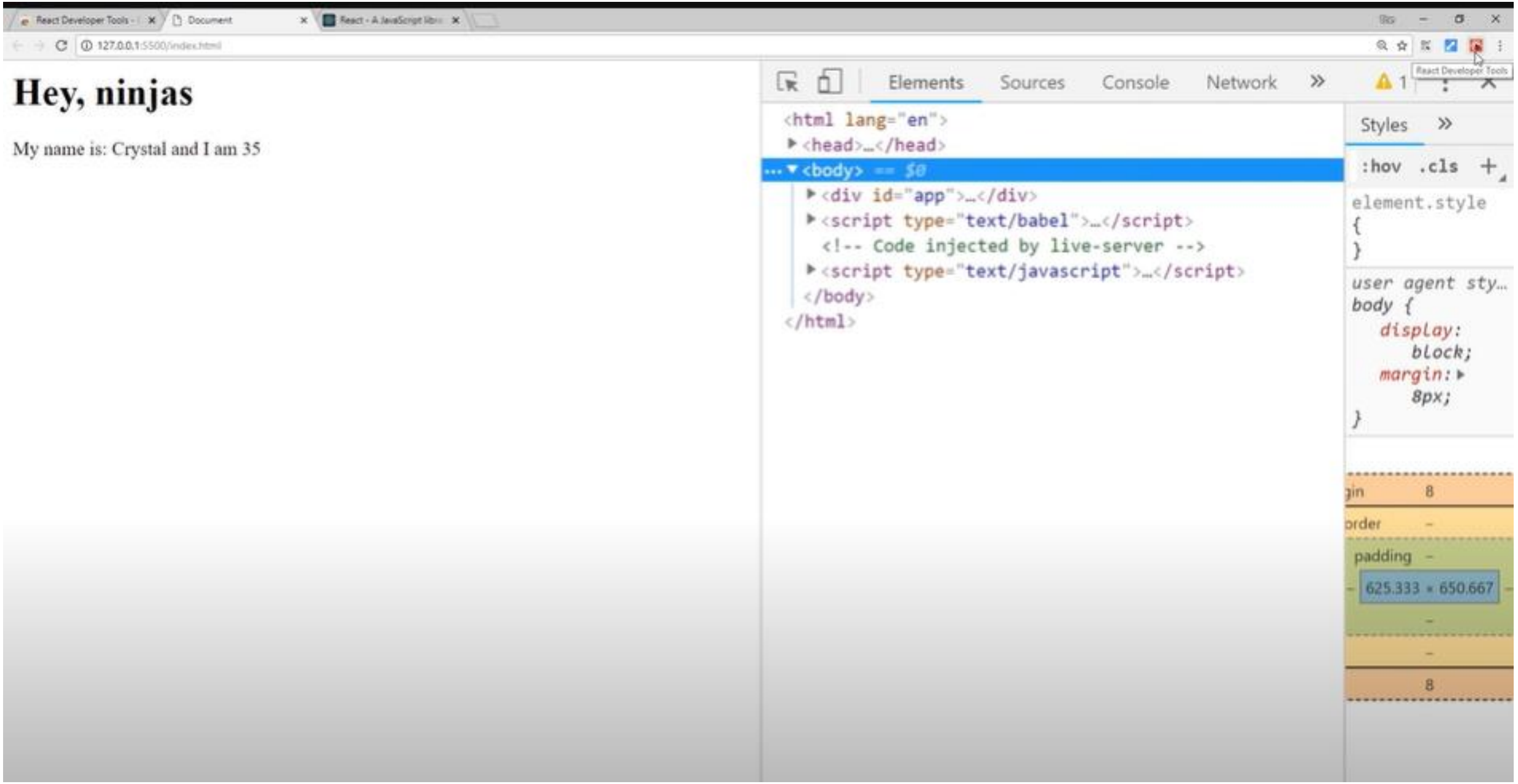
Changing State (and 'this')

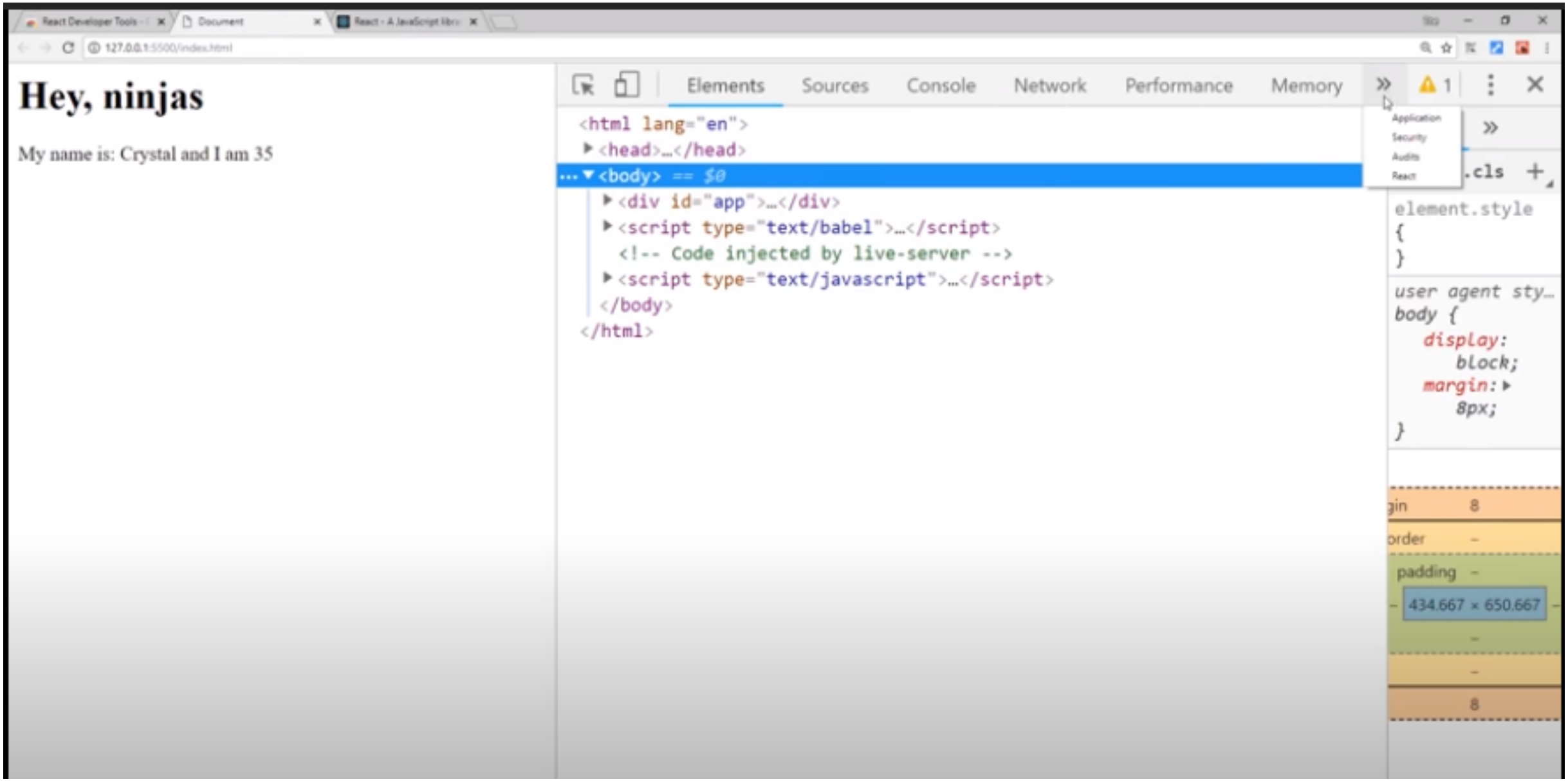
REACT DEV TOOLS

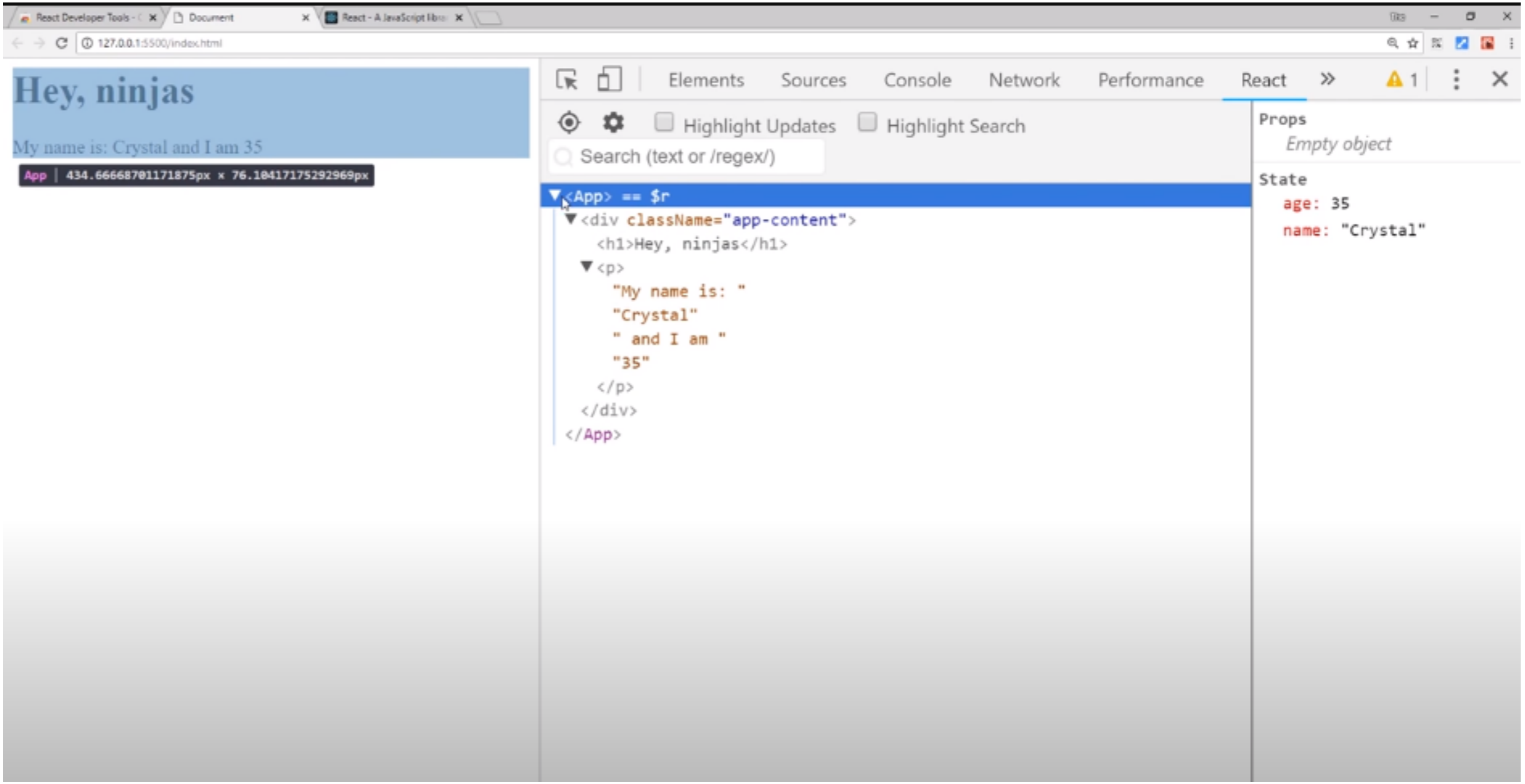
To Interact with components



https://chromewebstore.google.com/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi?hl=en&pli=1


React Developer Tools
Document
React - A JavaScript library
127.0.0.1:5500/index.html
Hey, ninjas
My name is: Crystal and I am 35
Elements
Sources
Console
Network
<html lang="en">
<head>…</head>
<body> == $0
…
<script type="text/babel">…</script>
<!-- Code injected by live-server -->
<script type="text/javascript">…</script>
</body>
</html>
Styles
:hov .cls
element.style
{
}
user agent sty…
body {
display:
block;
margin:
8px;
}
625.333 × 650.667

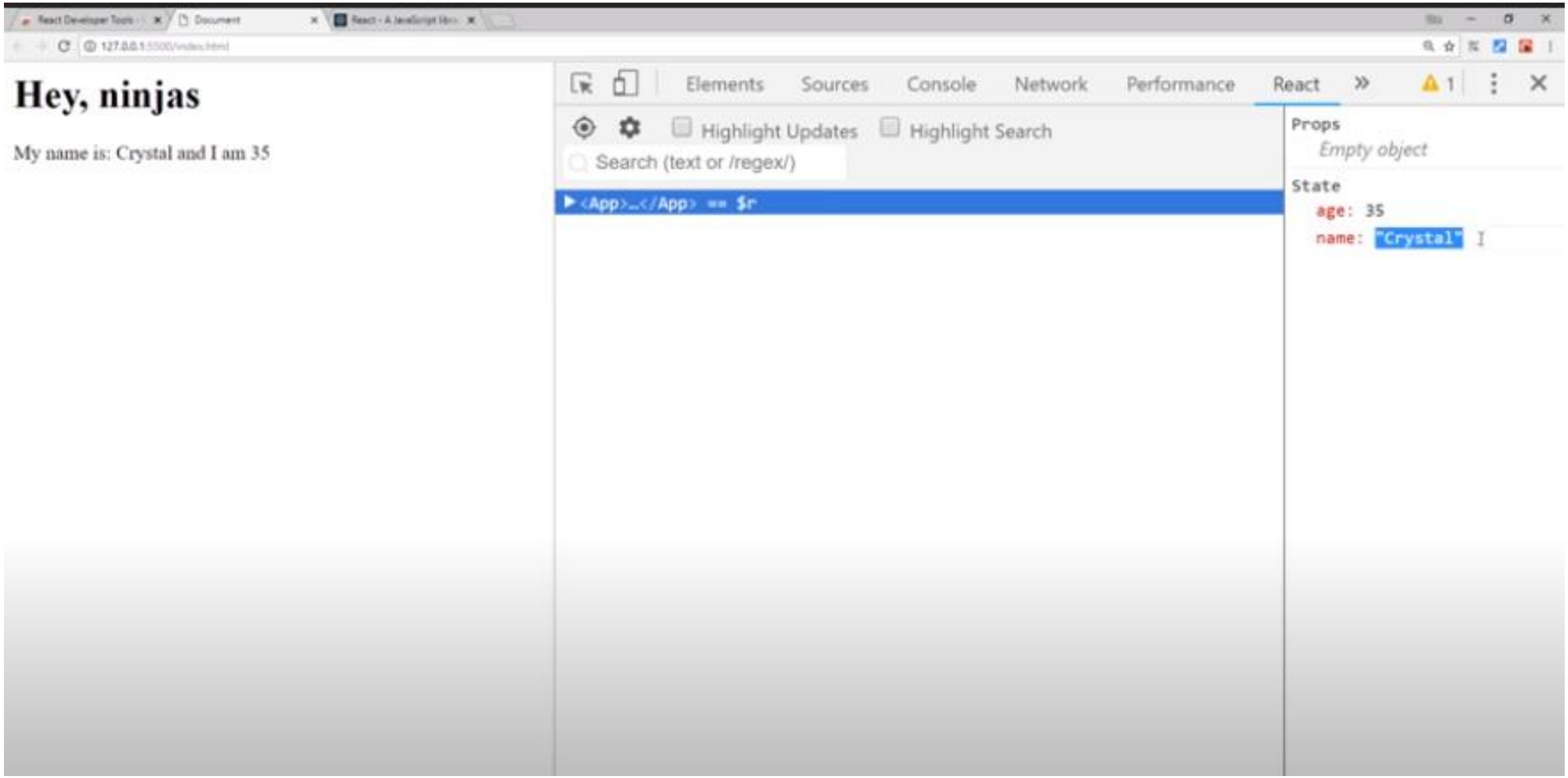

Hey, ninjas
My name is: Crystal and I am 35
Elements
Sources
Console
Network
Performance
Memory
<html lang="en">
<head>…</head>
<body> == $0
…
<script type="text/babel">…</script>
<!-- Code injected by live-server -->
<script type="text/javascript">…</script>
</body>
</html>
element.style
{
}
user agent sty…
body {
display:
block;
margin:
8px;
}
padding
434.667 × 650.667

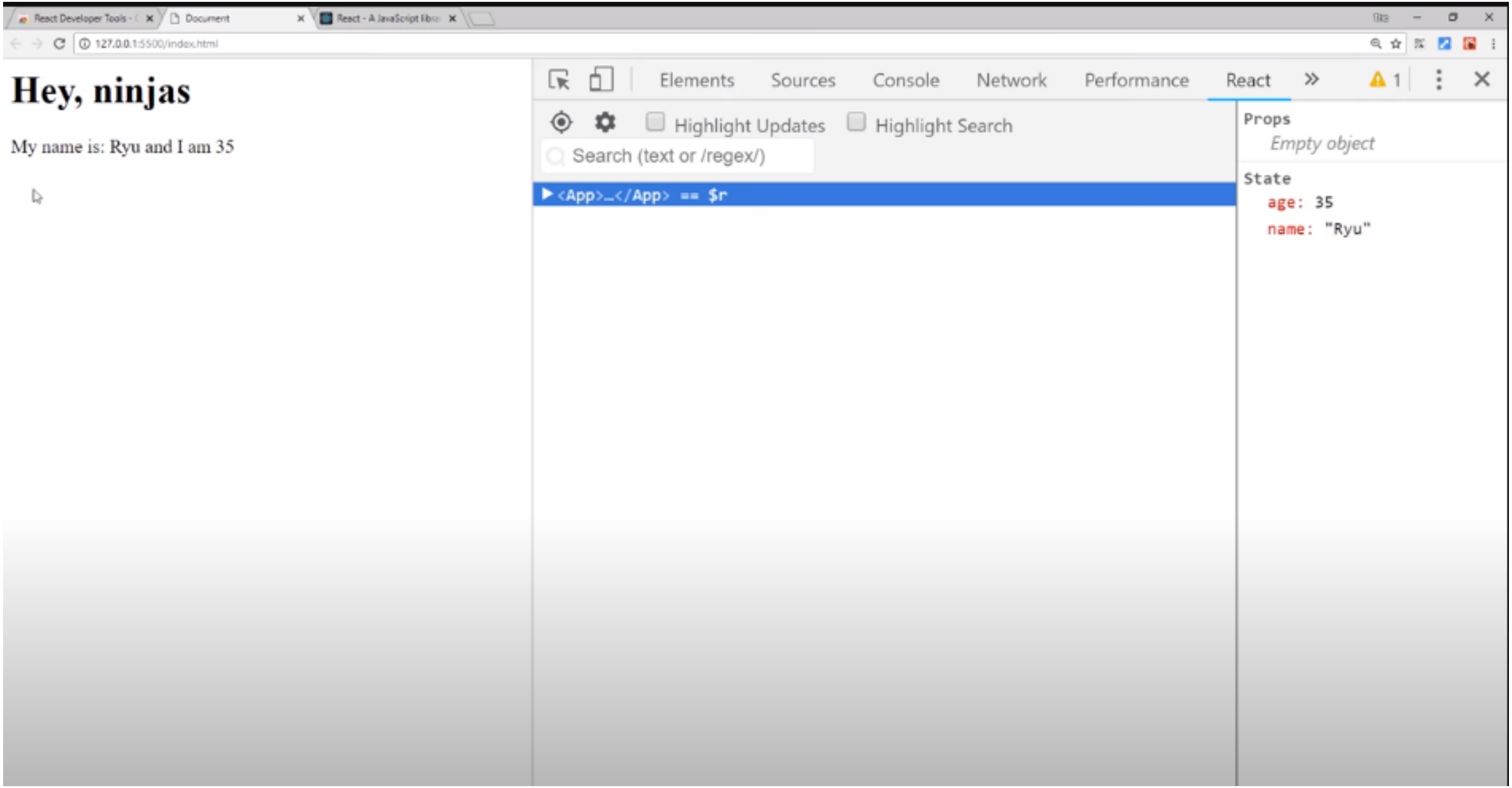

Hey, ninjas
My name is: Crystal and I am 35
App | 434.66668701171875px × 76.10417175292969px
Elements
Sources
Console
Network
Performance
React
Highlight Updates
Highlight Search
Search (text or /regex/)
<App> == $r

<h1>Hey, ninjas</h1>

"My name is: "
"Crystal"
" and I am "
"35"

</App>
Props
Empty object
State
age: 35
name: "Crystal"

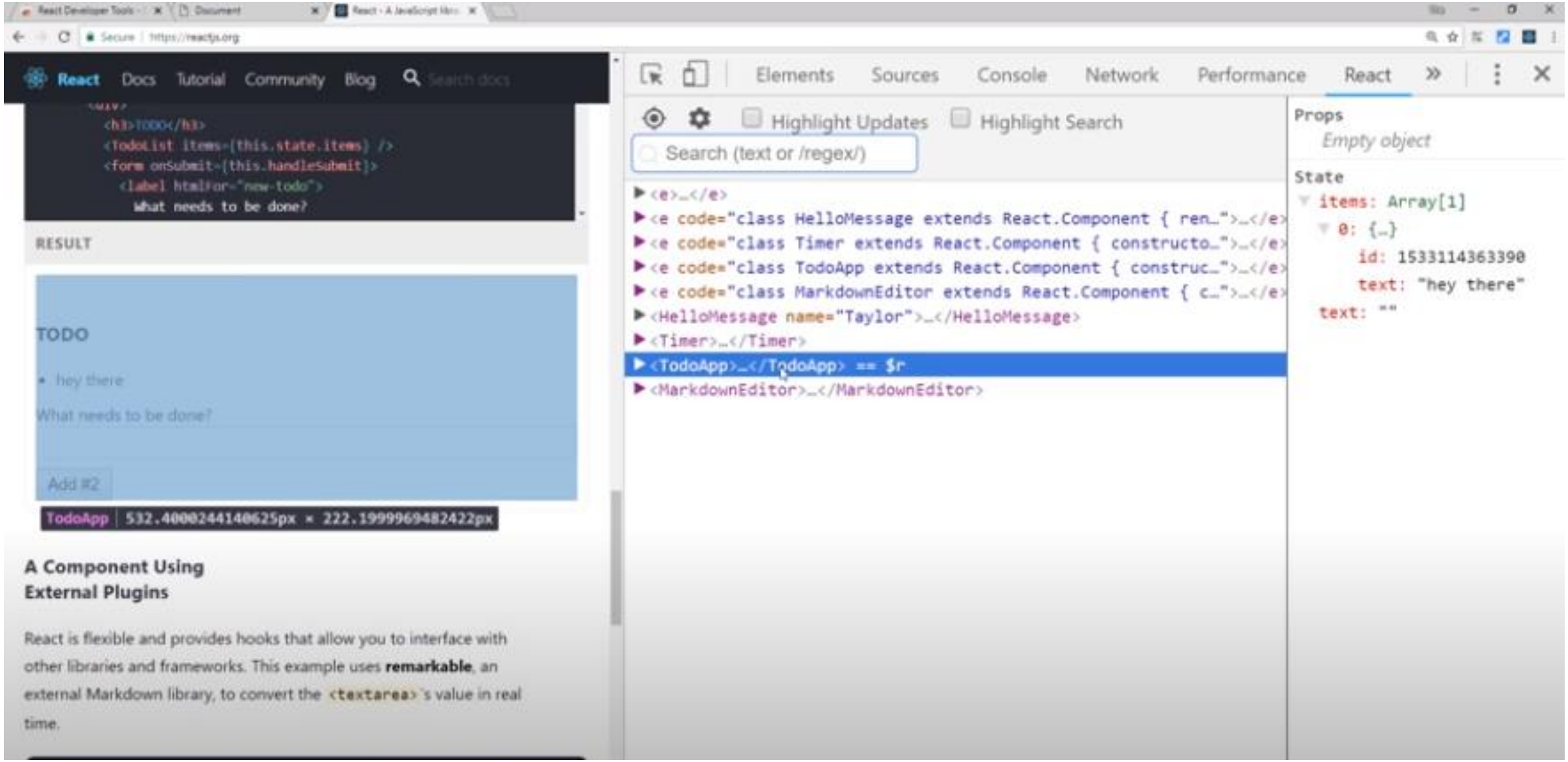

Hey, ninjas
My name is: Crystal and I am 35
Elements
Sources
Console
Network
Performance
React
Highlight Updates
Highlight Search
Search (text or /regex/)
▶ <App>…</App> == $r
Props
Empty object
State
age: 35
name: "Crystal"


React Developer Tools -
Document
React - A JavaScript libra
127.0.0.1:5500/index.html
Hey, ninjas
My name is: Ryu and I am 35
Elements
Sources
Console
Network
Performance
React
1
Highlight Updates
Highlight Search
Search (text or /regex/)
<App>…</App> == $r
Props
Empty object
State
age: 35
name: "Ryu"

Its not for end user

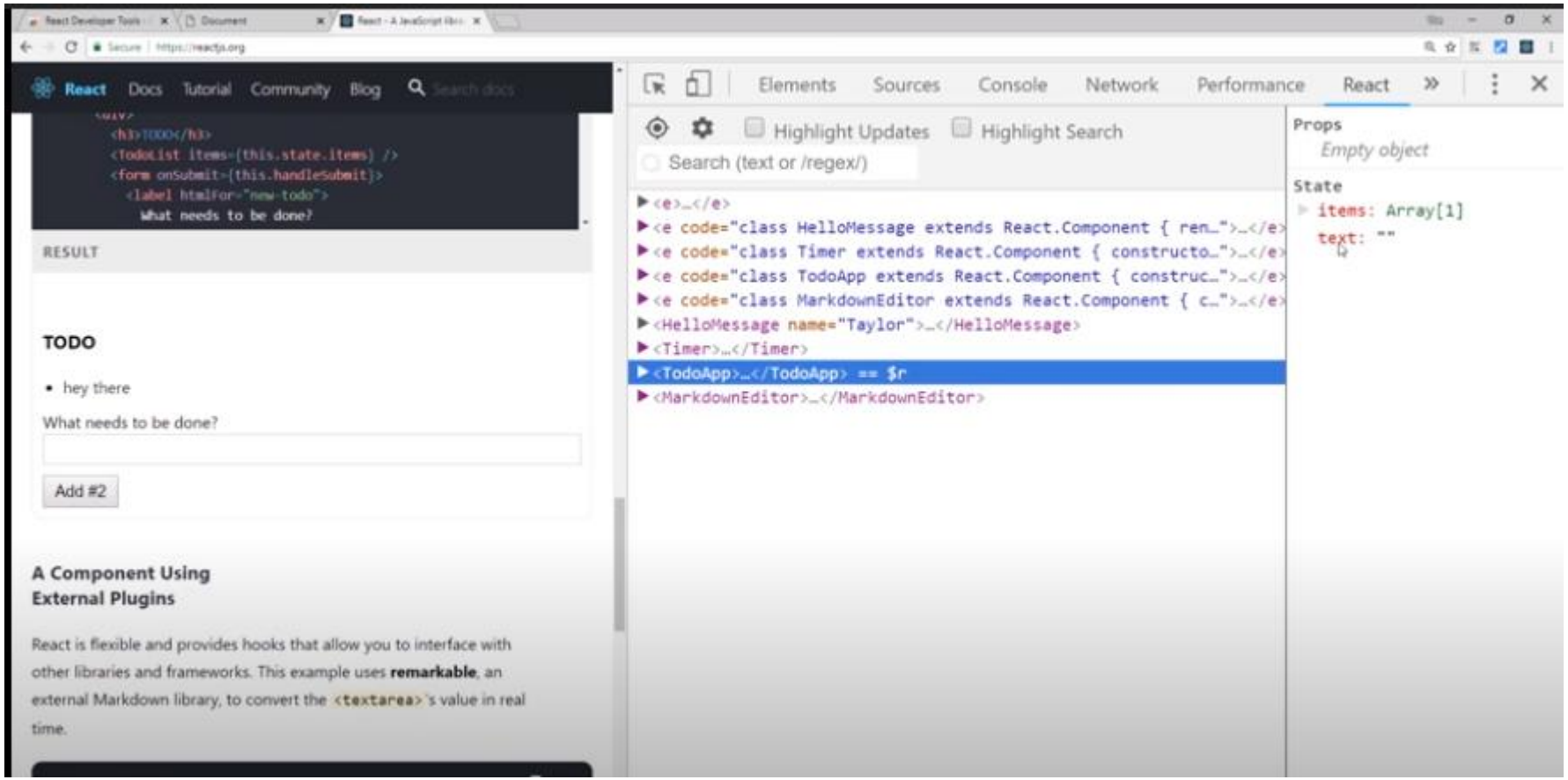
He/she will not interact with it like this

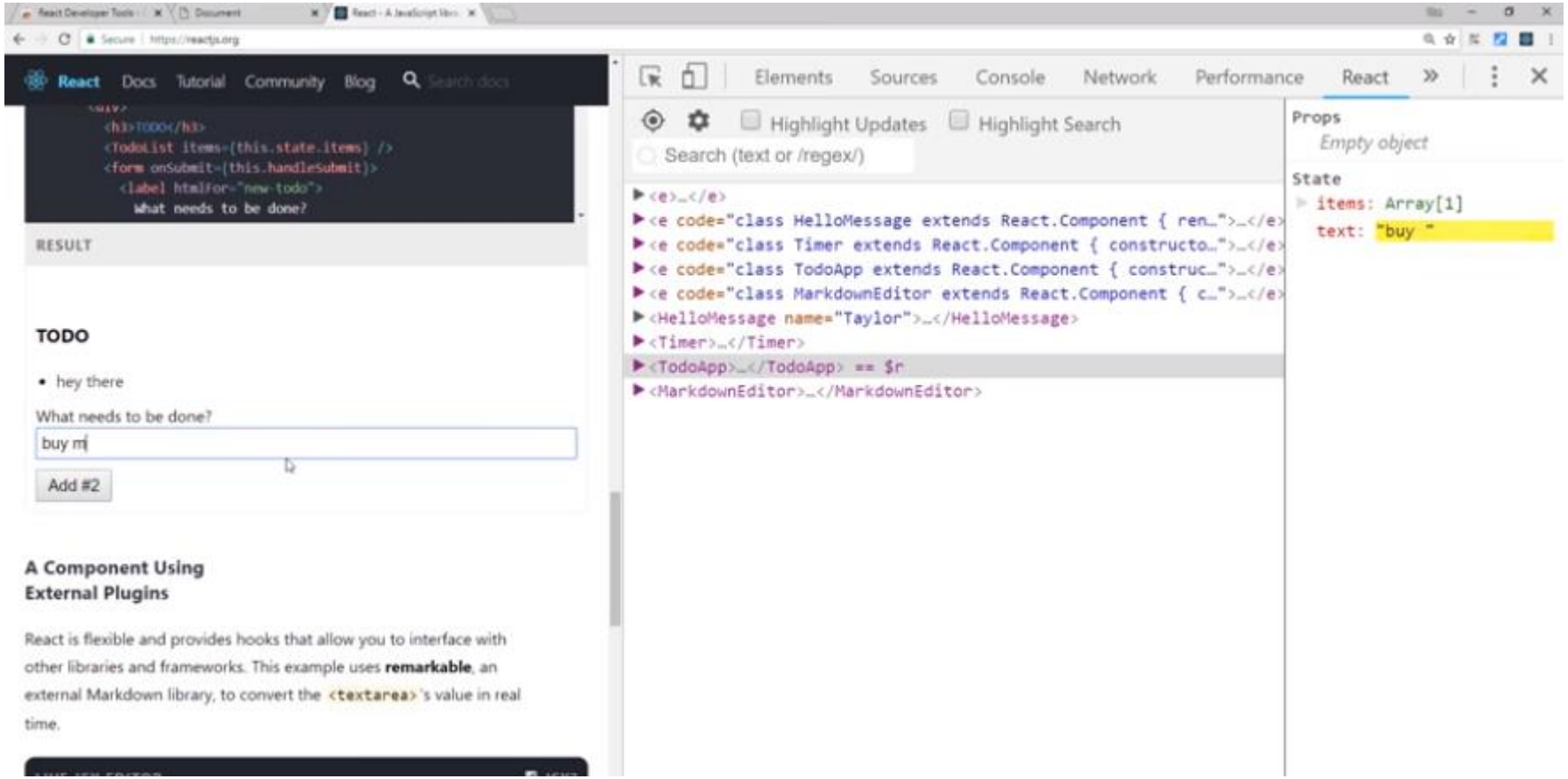
It is just for you to play around this

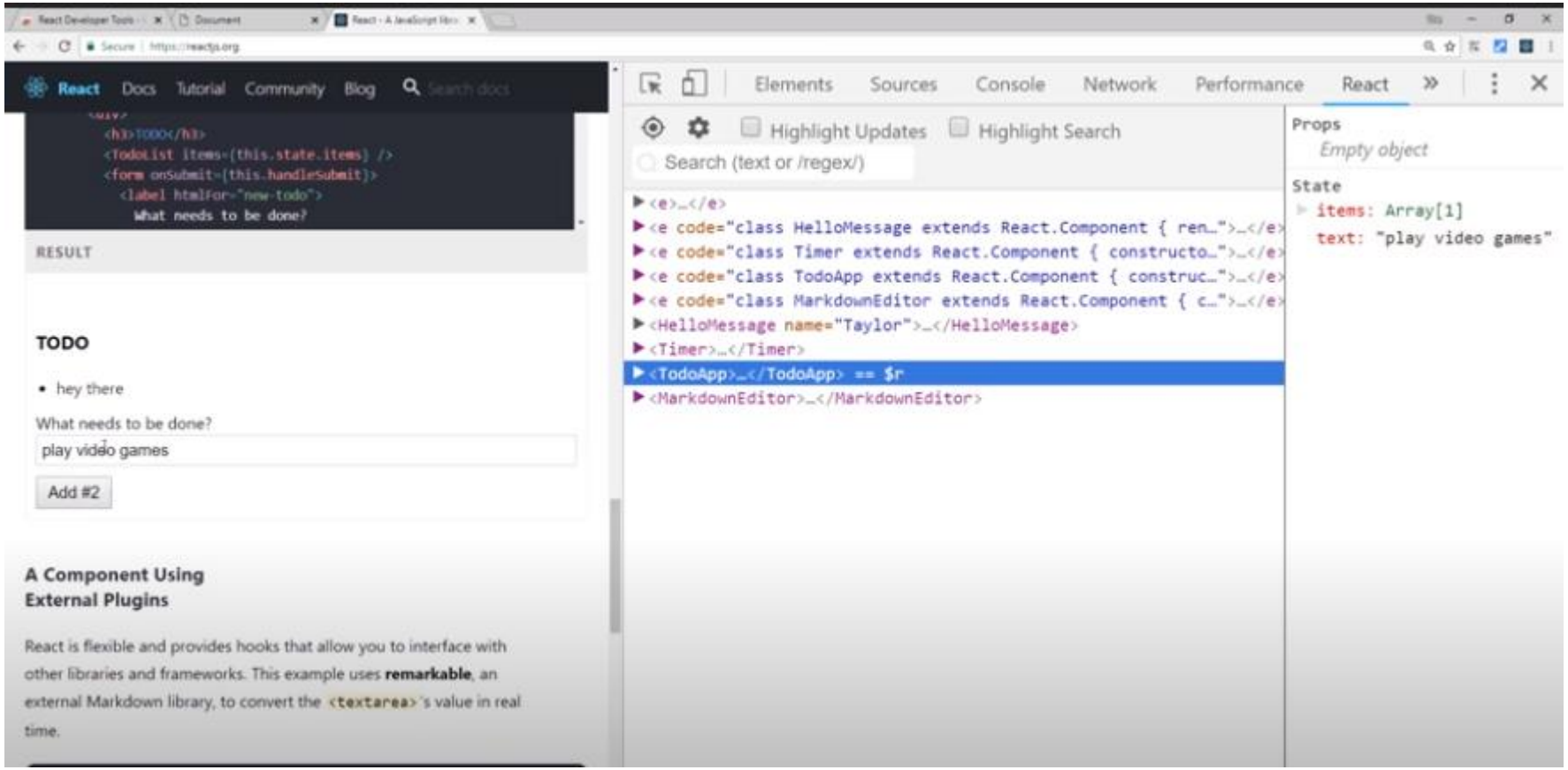


Production version of react
Sign color is black and blue

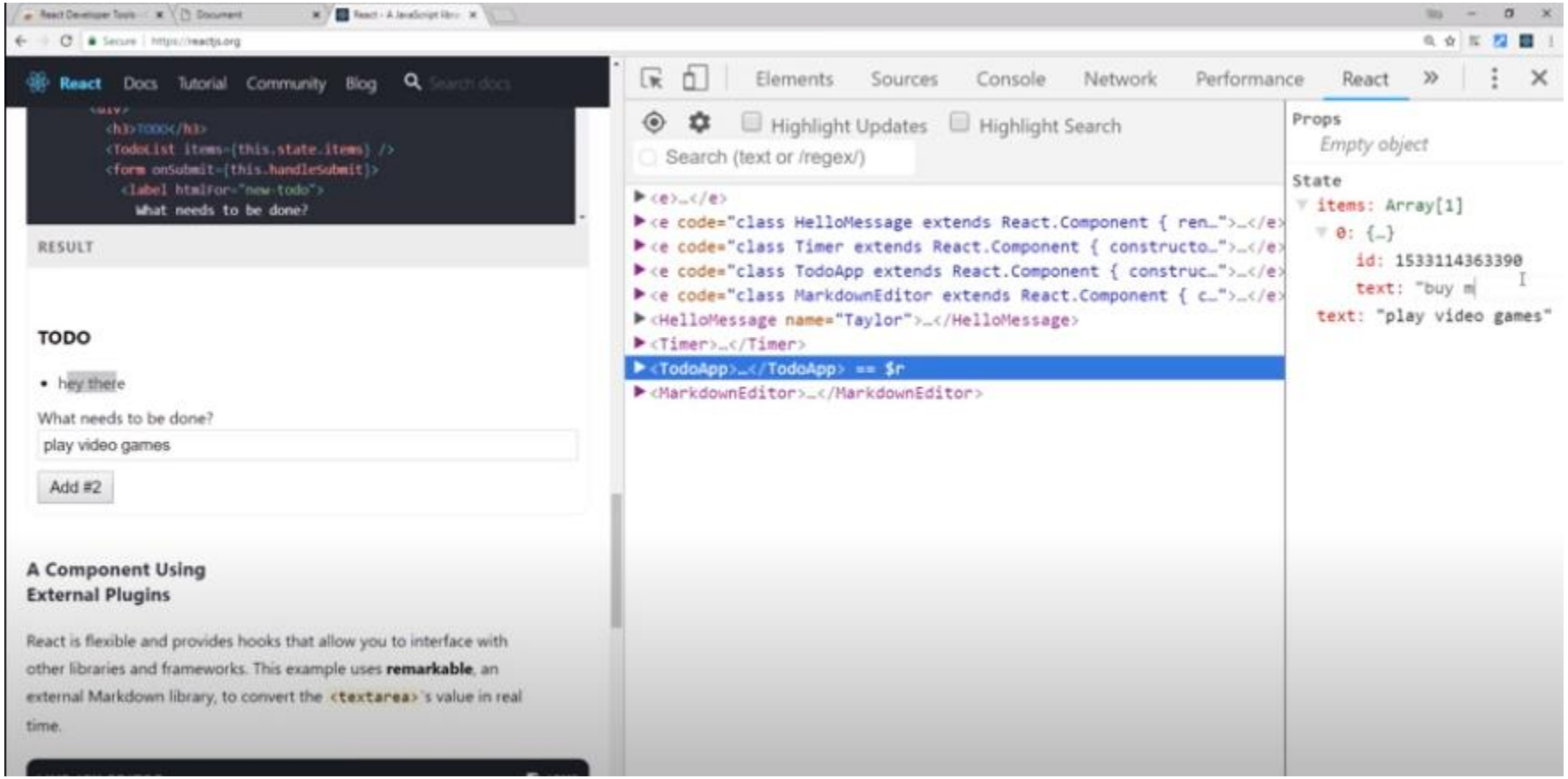
https://legacy.reactjs.org/

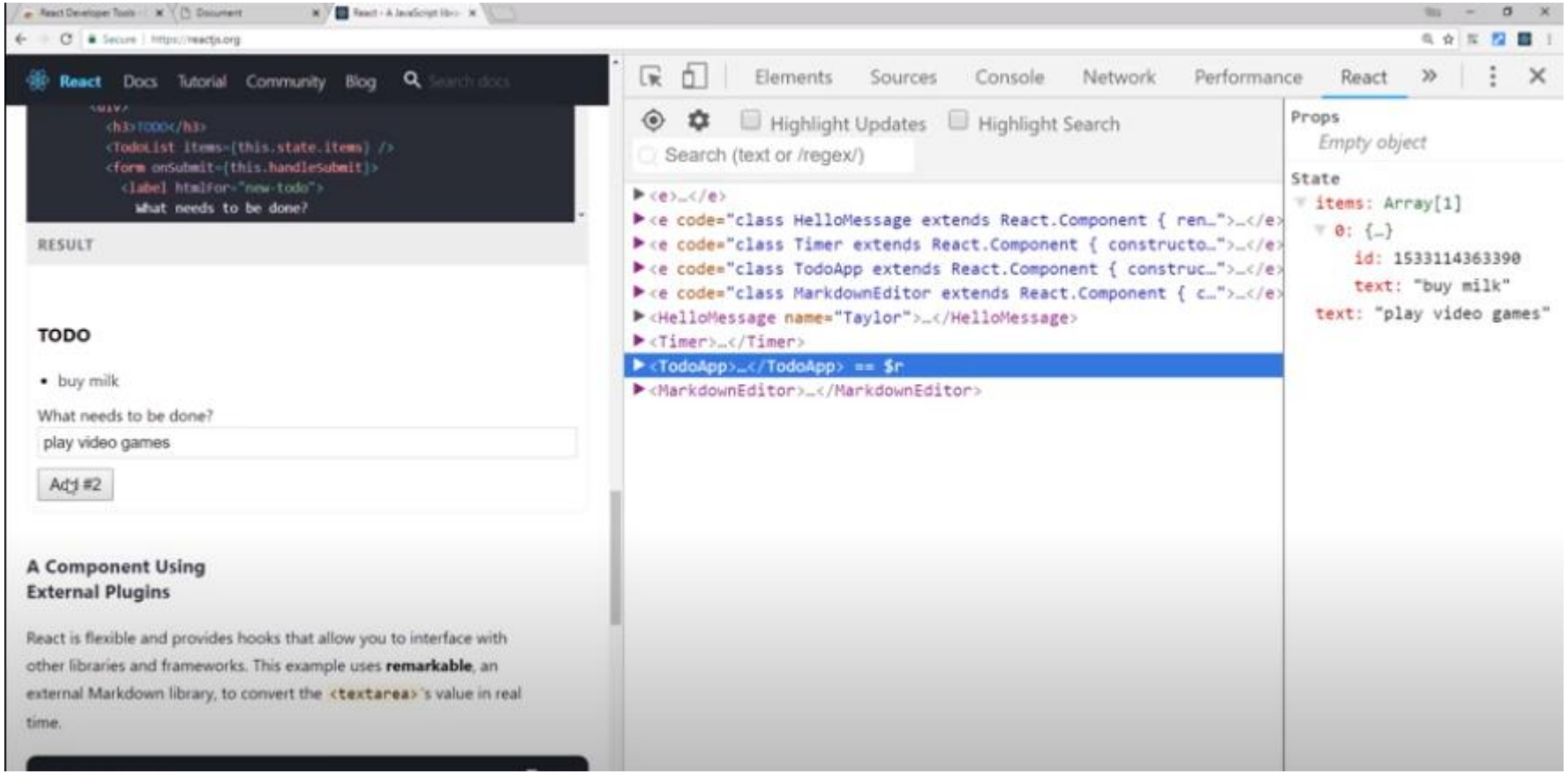

React Docs Tutorial Community Blog
<h3>TODO</h3>
<TodoList items={this.state.items} />
<form onSubmit={this.handleSubmit}>
<label htmlFor="new-todo">
What needs to be done?
RESULT
TODO
hey there
What needs to be done?
Add #2
A Component Using External Plugins
React is flexible and provides hooks that allow you to interface with other libraries and frameworks. This example uses remarkable, an external Markdown library, to convert the <textarea>'s value in real time.
Elements Sources Console Network Performance React
Highlight Updates
Highlight Search
Search (text or /regex/)
<e>…</e>
<e code="class HelloMessage extends React.Component { ren…">…</e>
<e code="class Timer extends React.Component { constructo…">…</e>
<e code="class TodoApp extends React.Component { construc…">…</e>
<e code="class MarkdownEditor extends React.Component { c…">…</e>
<HelloMessage name="Taylor">…</HelloMessage>
<Timer>…</Timer>
<TodoApp>…</TodoApp> == $r
<MarkdownEditor>…</MarkdownEditor>
Props
Empty object
State
items: Array[1]
text: ""


React Docs Tutorial Community Blog
<h1>TODO</h1>
<TodoList items={this.state.items} />
<form onSubmit={this.handleSubmit}>
<label htmlFor="new-todo">
what needs to be done?
RESULT
TODO
hey there
What needs to be done?
buy m
Add #2
A Component Using External Plugins
React is flexible and provides hooks that allow you to interface with other libraries and frameworks. This example uses remarkable, an external Markdown library, to convert the <textarea>'s value in real time.
Elements Sources Console Network Performance React
Highlight Updates
Highlight Search
Search (text or /regex/)
<HelloMessage name="Taylor">…</HelloMessage>
<Timer>…</Timer>
<TodoApp>…</TodoApp> == $r
<MarkdownEditor>…</MarkdownEditor>
Props
Empty object
State
items: Array[1]
text: "buy "

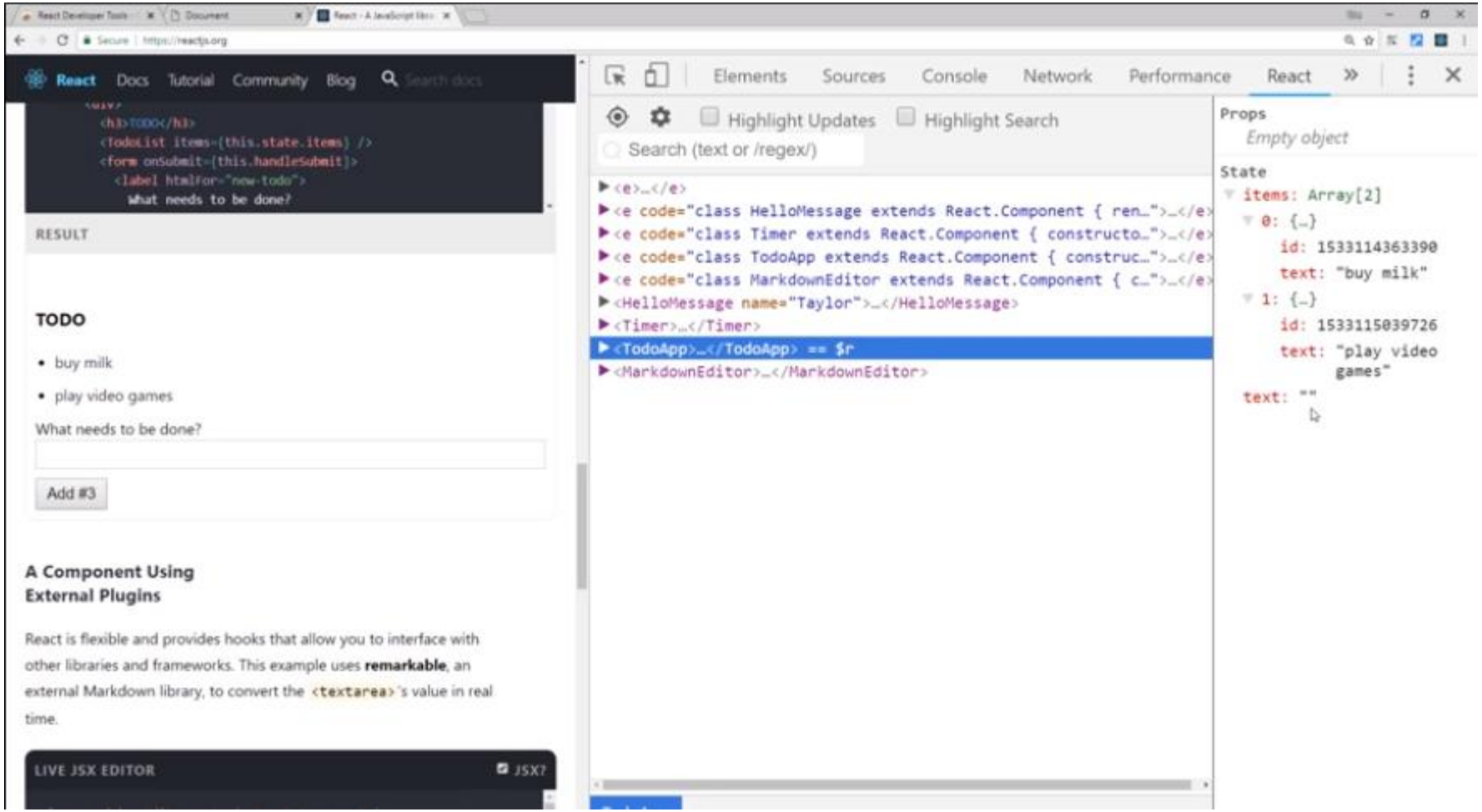


If type on right side states…


React Docs Tutorial Community Blog
<h1>TODO</h1>
<TodoList items={this.state.items} />
<form onSubmit={this.handleSubmit}>
<label htmlFor="new-todo">
What needs to be done?
RESULT
TODO
hey there
What needs to be done?
play video games
Add #2
A Component Using External Plugins
React is flexible and provides hooks that allow you to interface with other libraries and frameworks. This example uses remarkable, an external Markdown library, to convert the <textarea>'s value in real time.
Elements Sources Console Network Performance React
Highlight Updates
Highlight Search
Search (text or /regex/)
<e>…</e>
<e code="class HelloMessage extends React.Component { ren…">…</e>
<e code="class Timer extends React.Component { constructo…">…</e>
<e code="class TodoApp extends React.Component { construc…">…</e>
<e code="class MarkdownEditor extends React.Component { c…">…</e>
<HelloMessage name="Taylor">…</HelloMessage>
<Timer>…</Timer>
<TodoApp>…</TodoApp> == $r
<MarkdownEditor>…</MarkdownEditor>
Props
Empty object
State
items: Array[1]
0: {…}
id: 1533114363390
text: "buy m
text: "play video games"

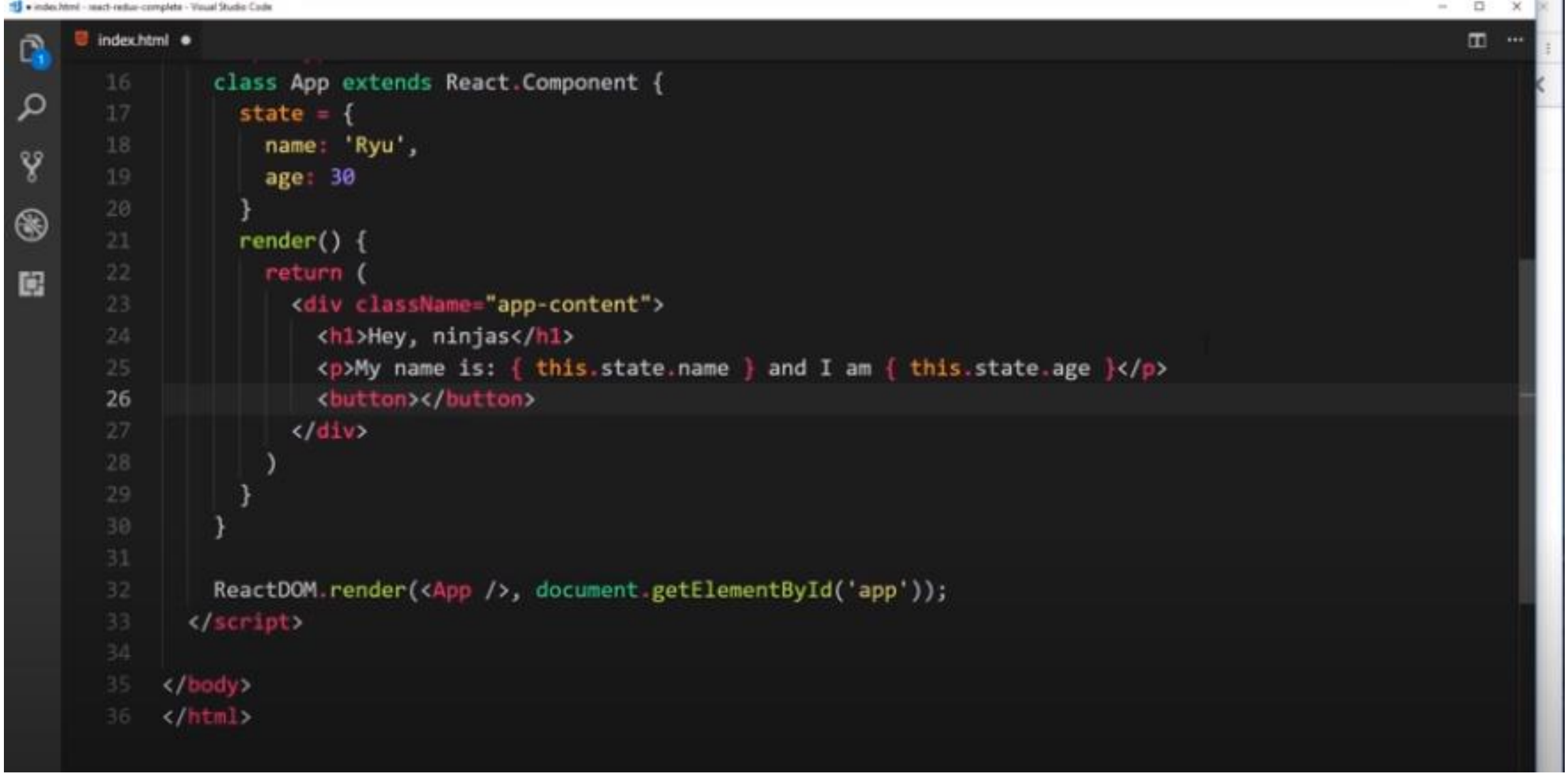


If click on Add #2


React Docs Tutorial Community Blog
<h1>TODO</h1>
<TodoList items={this.state.items} />
<form onSubmit={this.handleSubmit}>
<label htmlFor="new-todo">
what needs to be done?
RESULT
TODO
buy milk
play video games
What needs to be done?
Add #3
A Component Using External Plugins
React is flexible and provides hooks that allow you to interface with other libraries and frameworks. This example uses remarkable, an external Markdown library, to convert the <textarea>'s value in real time.
LIVE JSX EDITOR
JSX?
Elements Sources Console Network Performance React
Highlight Updates
Highlight Search
Search (text or /regex/)
<e>…</e>
<e code="class HelloMessage extends React.Component { ren…">…</e>
<e code="class Timer extends React.Component { constructo…">…</e>
<e code="class TodoApp extends React.Component { construc…">…</e>
<e code="class MarkdownEditor extends React.Component { c…">…</e>
<HelloMessage name="Taylor">…</HelloMessage>
<Timer>…</Timer>
<TodoApp>…</TodoApp> == $r
<MarkdownEditor>…</MarkdownEditor>
Props
Empty object
State
items: Array[2]
0: {…}
id: 1533114363390
text: "buy milk"
1: {…}
id: 1533115039726
text: "play video games"
text: ""

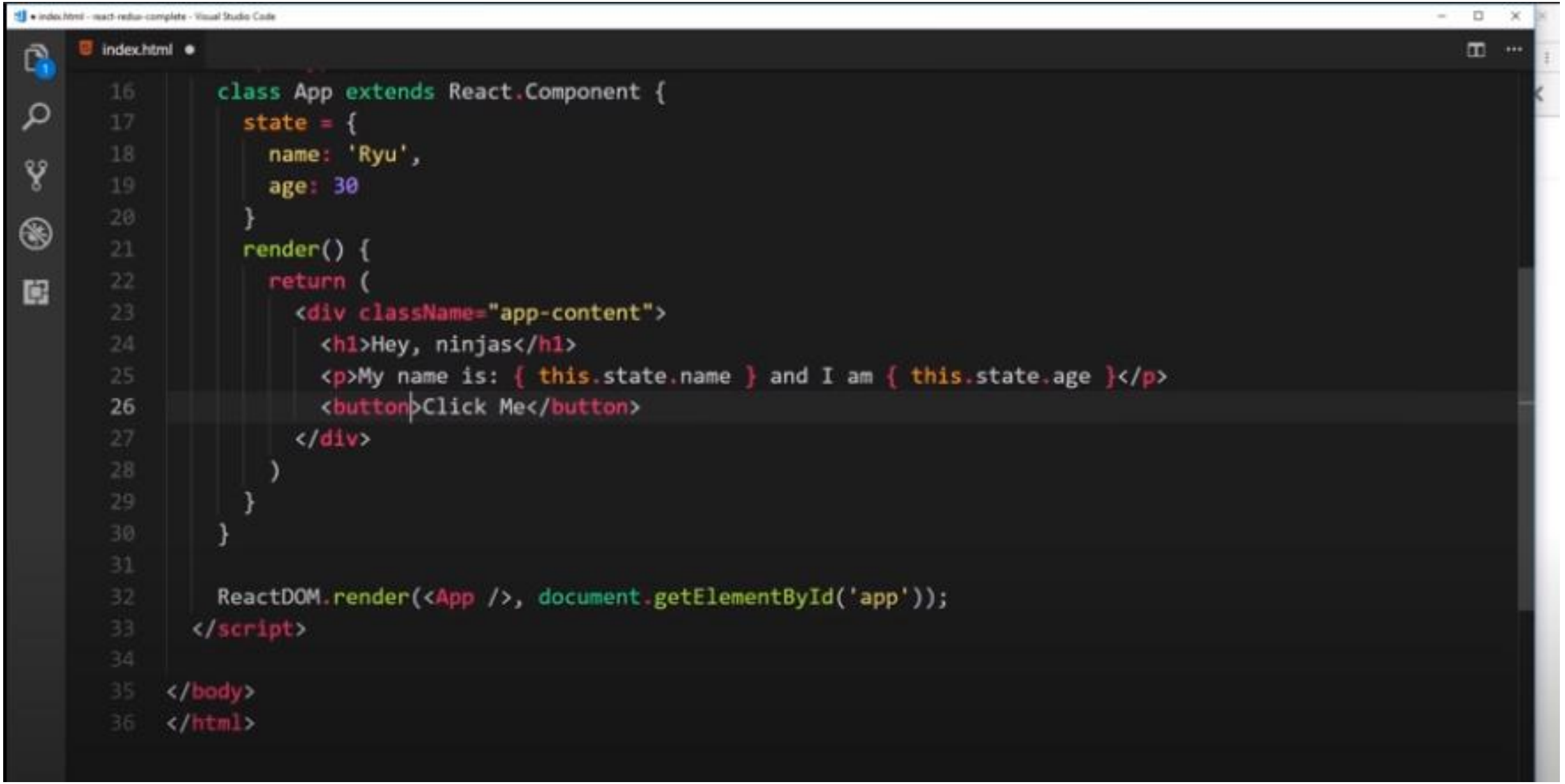
Nice tool for interaction with components

DOM EVENTS


index.html
class App extends React.Component {
state = {
name: 'Ryu',
age: 30
}
render() {
return (

<h1>Hey, ninjas</h1>
My name is: { this.state.name } and I am { this.state.age }
<button></button>

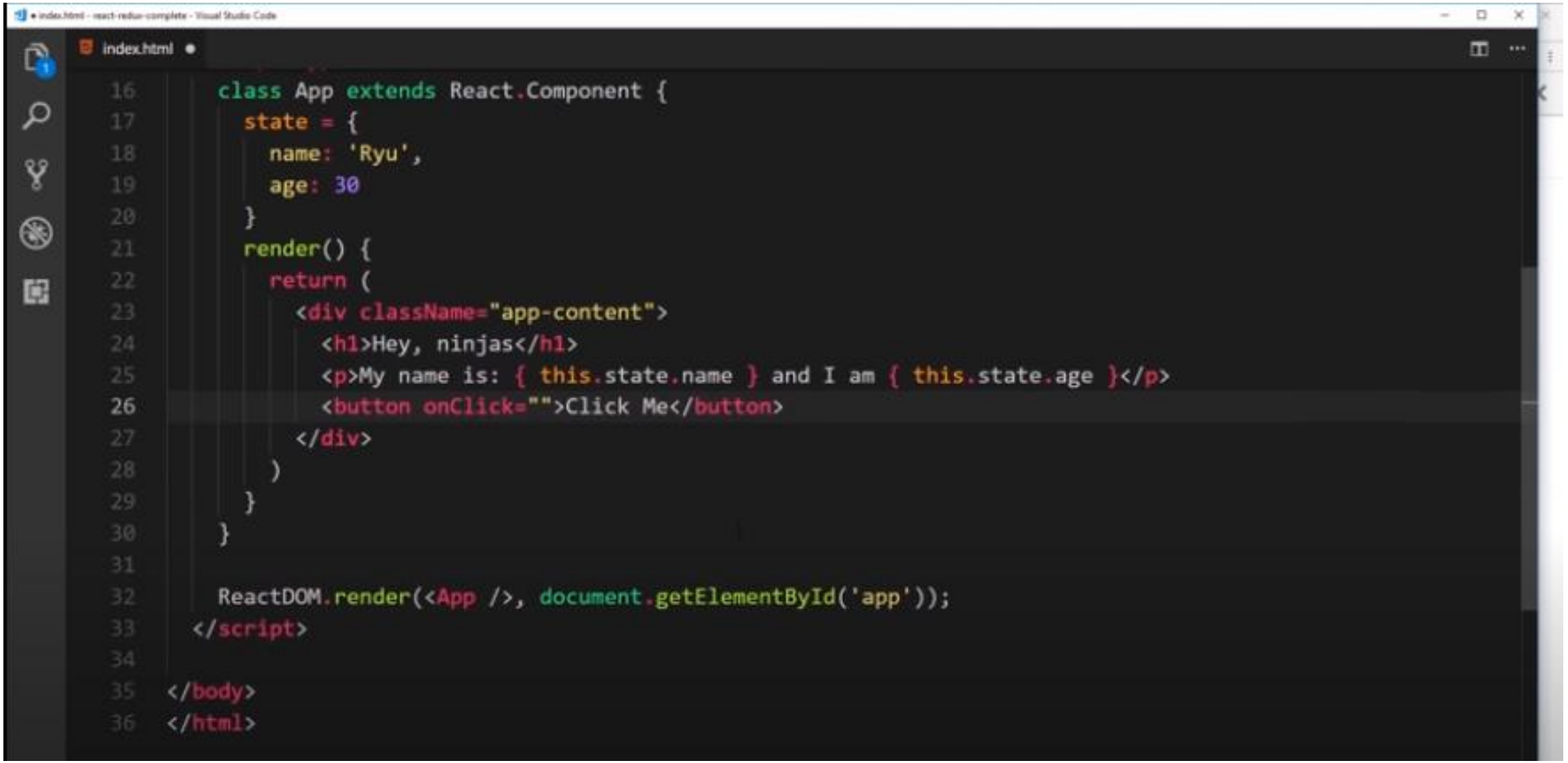
)
}
}
ReactDOM.render(<App />, document.getElementById('app'));
</script>
</body>
</html>


index.html
class App extends React.Component {
state = {
name: 'Ryu',
age: 30
}
render() {
return (

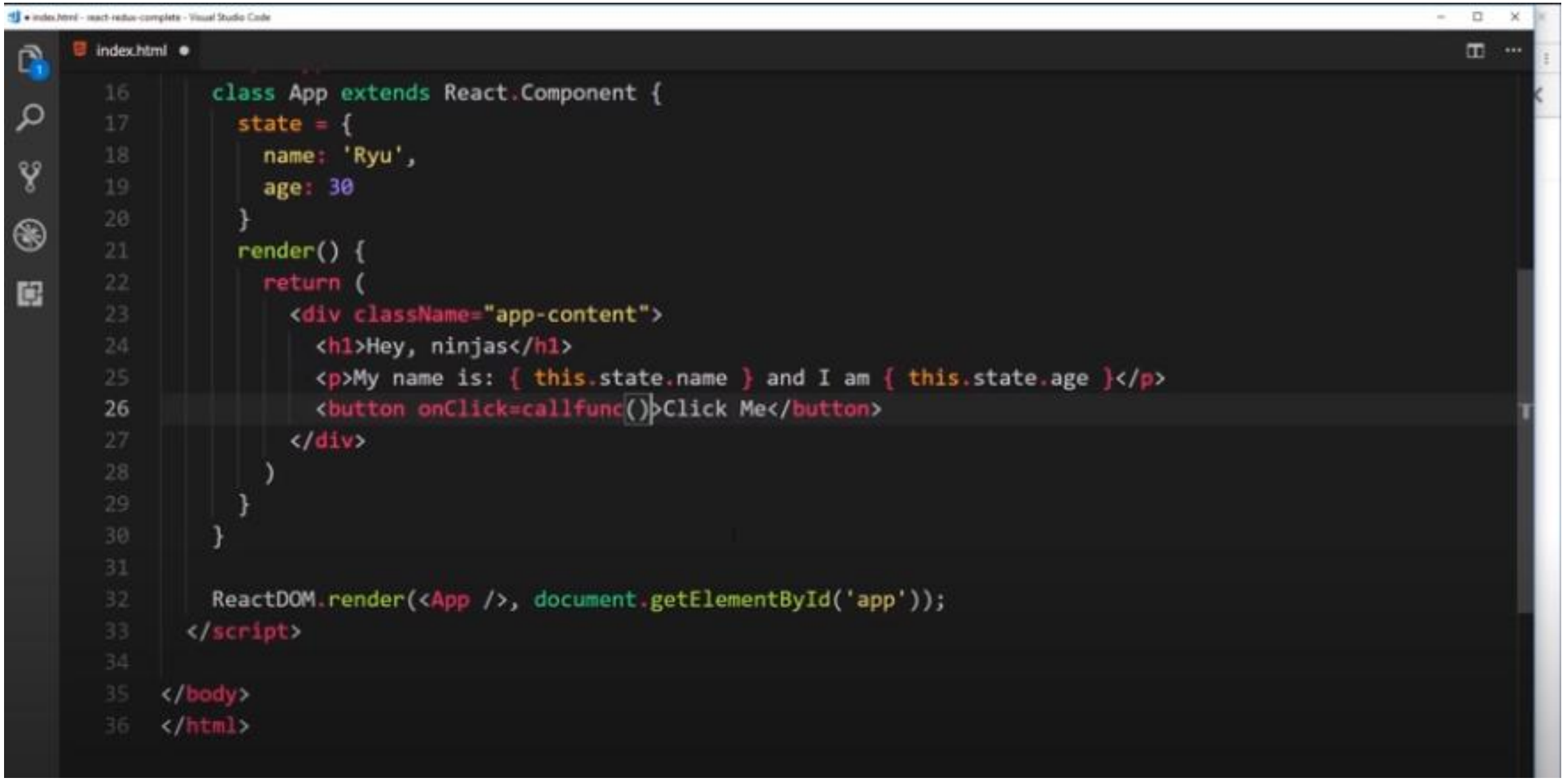
<h1>Hey, ninjas</h1>
My name is: { this.state.name } and I am { this.state.age }
<button>Click Me</button>

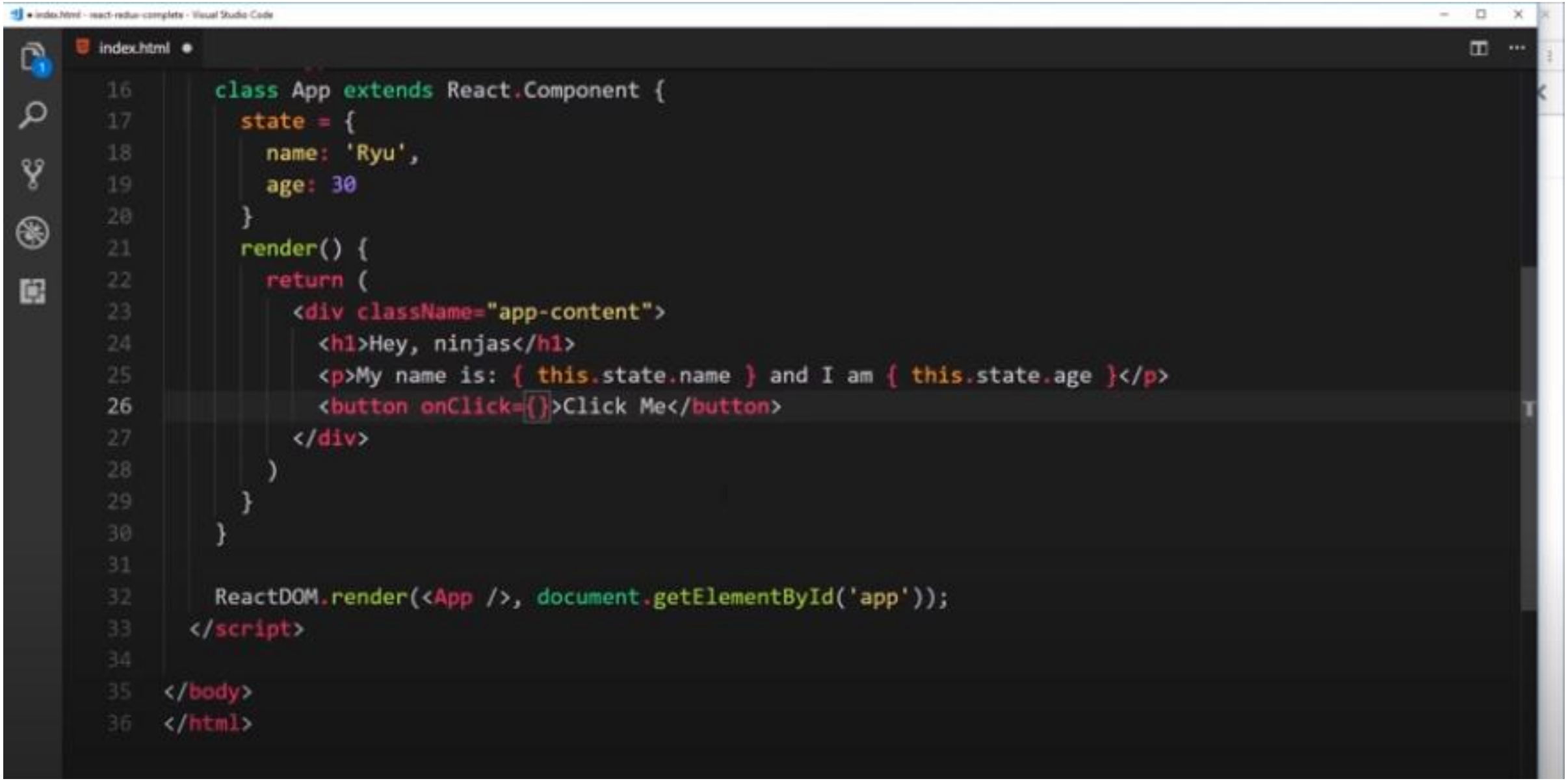
)
}
}
ReactDOM.render(<App />, document.getElementById('app'));
</script>
</body>
</html>

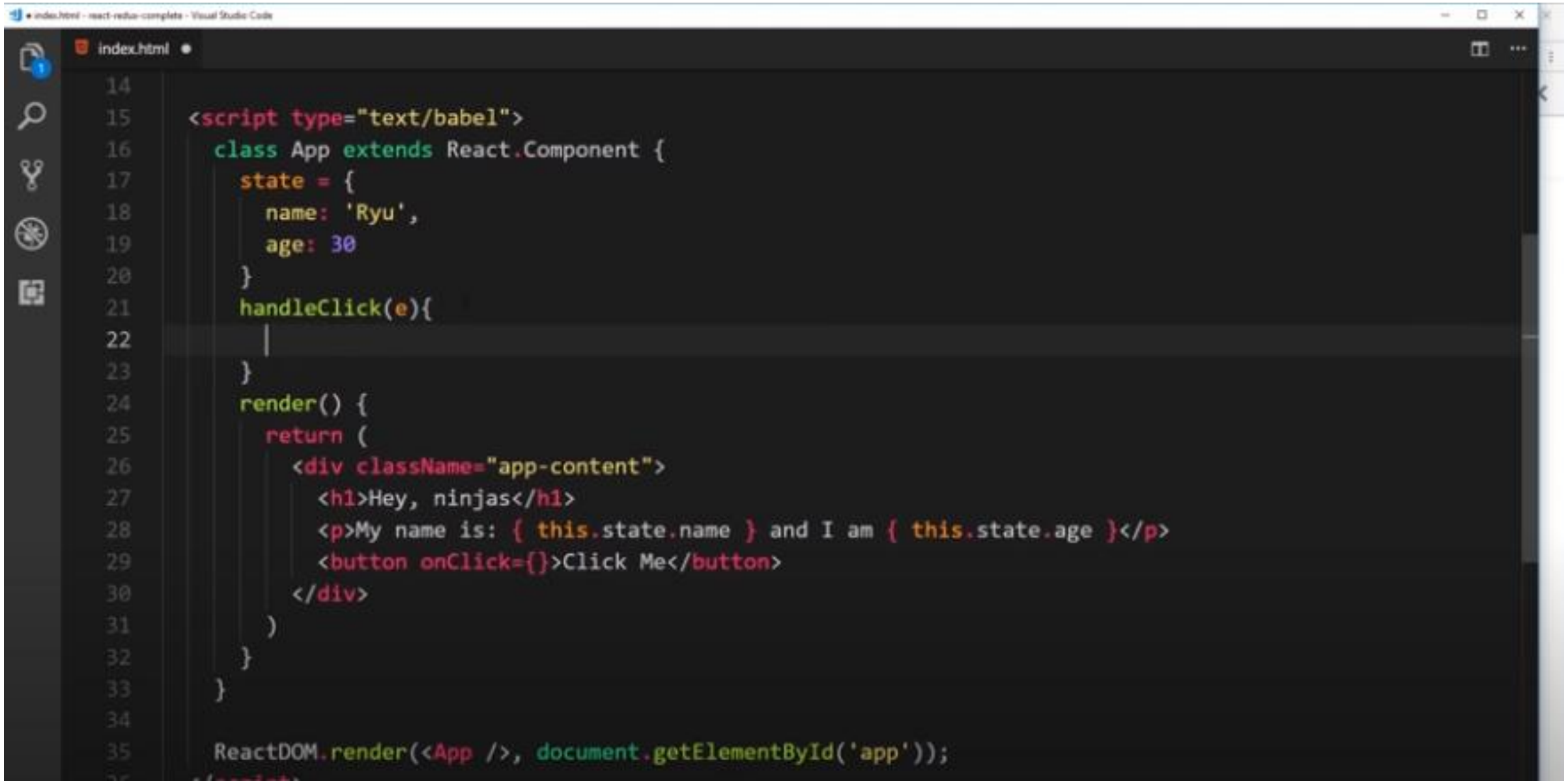
NOT WRITE LIKE THIS

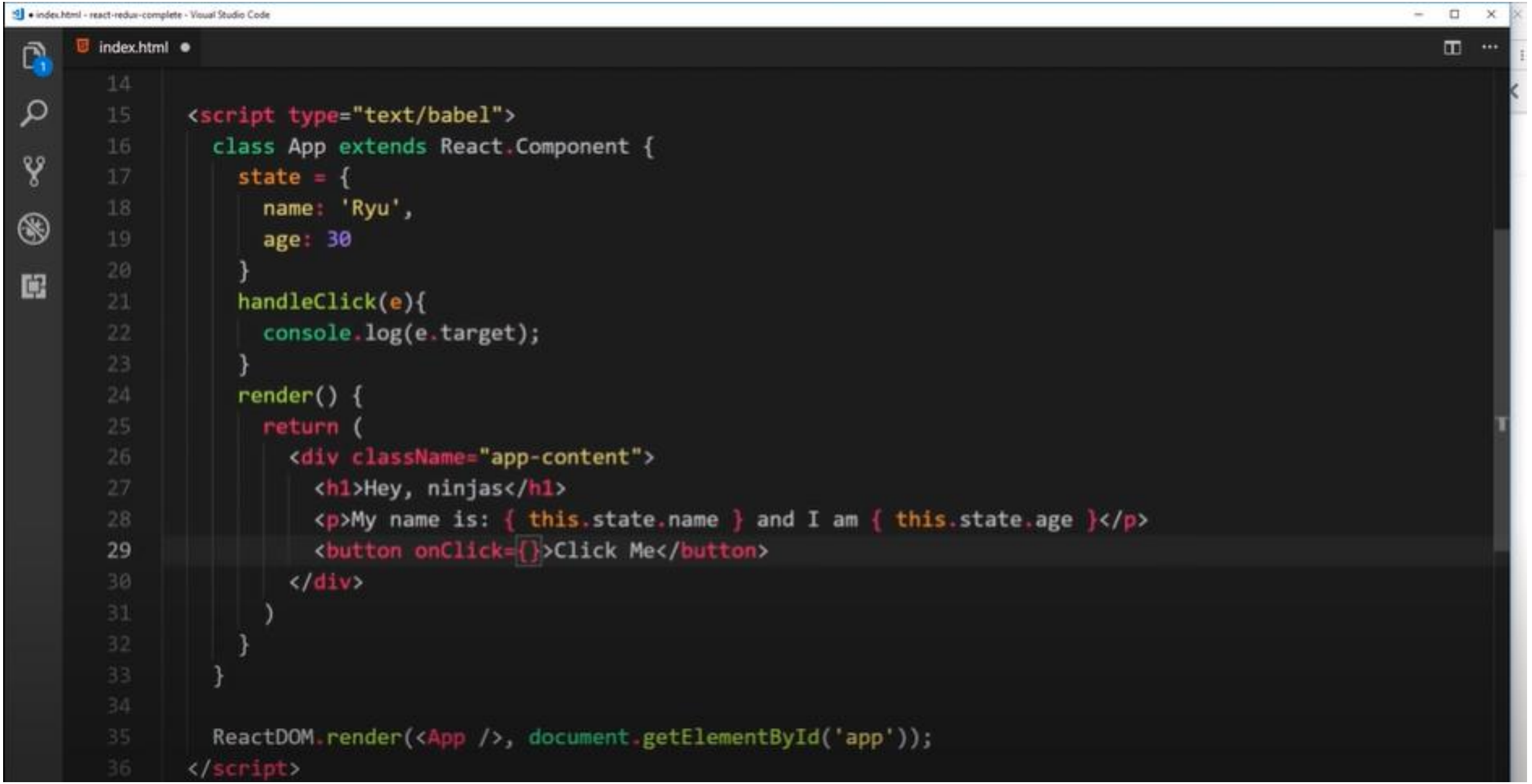


NOT WRITE LIKE THIS

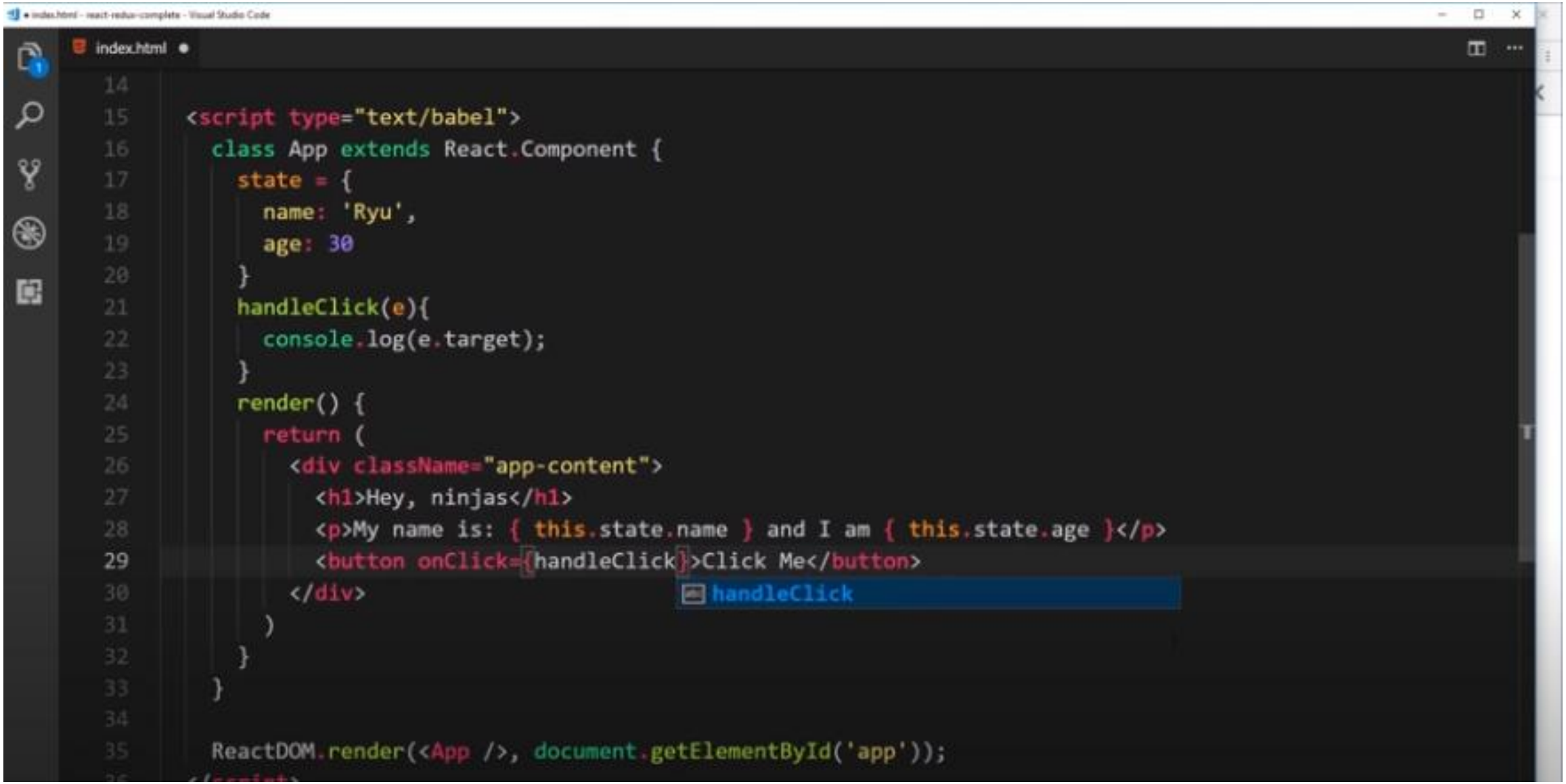


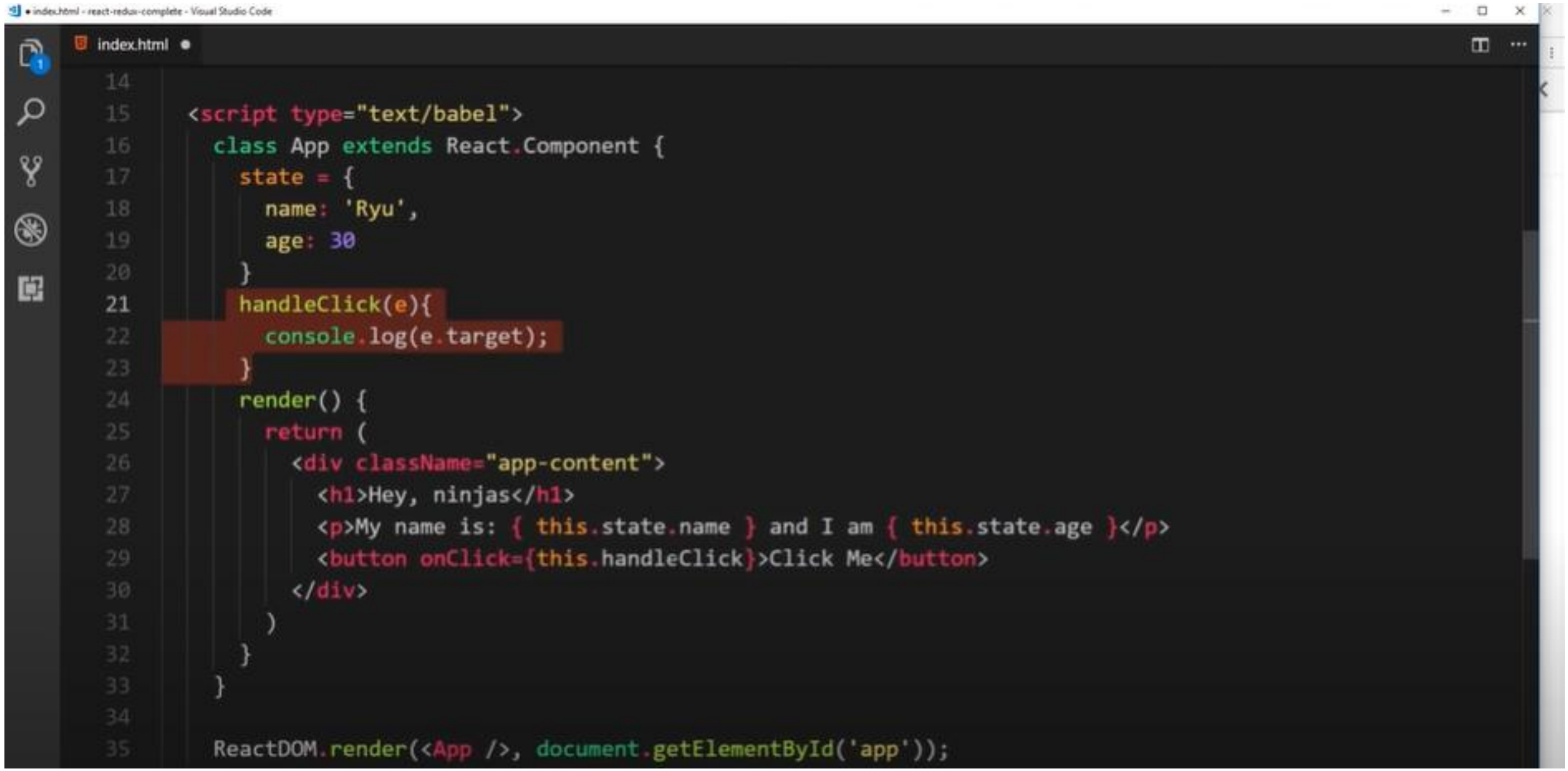

index.html
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 render() {
22 return (
23
24 <h1>Hey, ninjas</h1>
25 My name is: { this.state.name } and I am { this.state.age }
26 <button onClick={}>Click Me</button>
27
28)
29 }
30 }
31
32 ReactDOM.render(<App />, document.getElementById('app'));
33 </script>
34
35 </body>
36 </html>

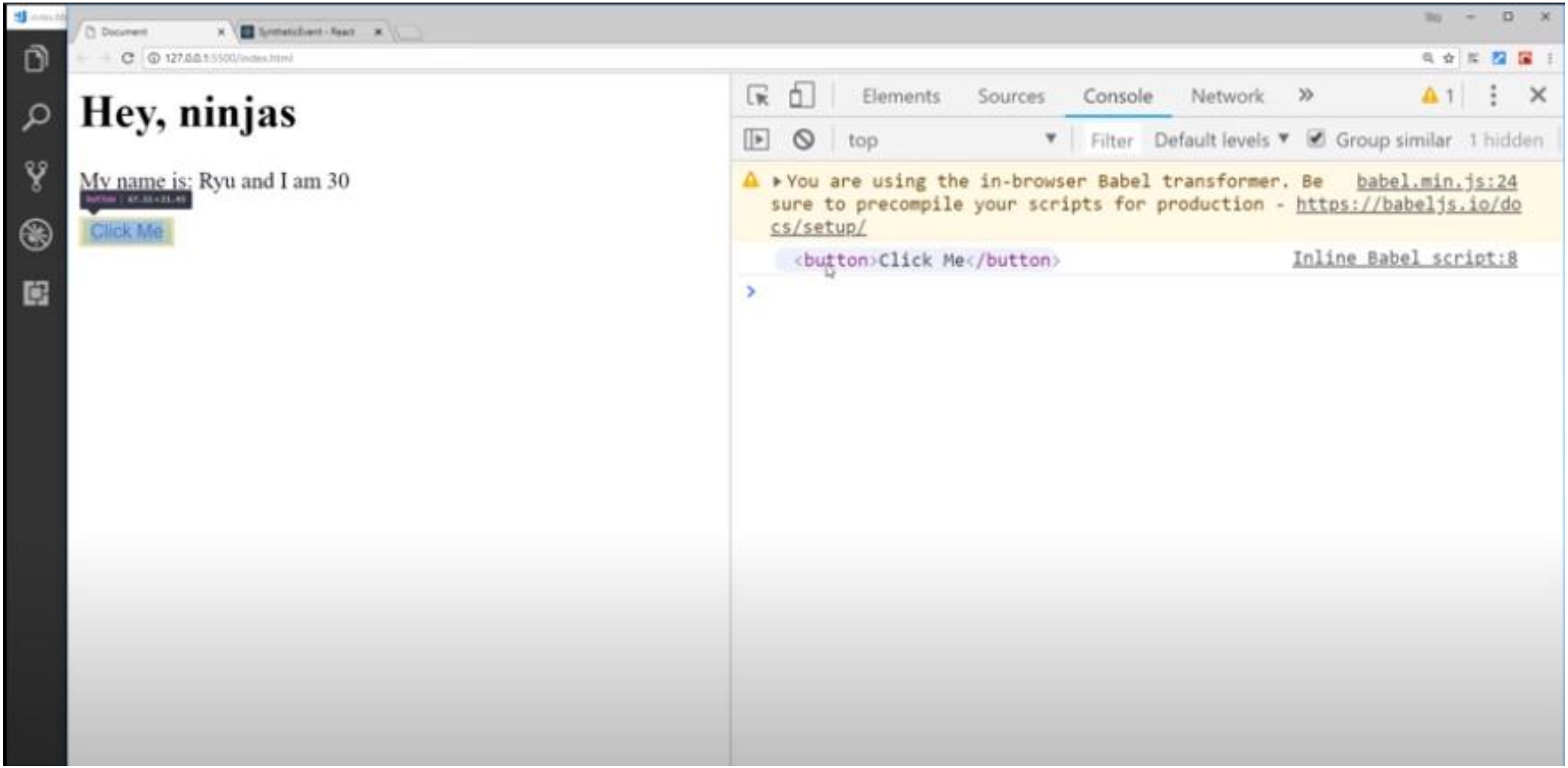

index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22
23 }
24 render() {
25 return (
26
27 <h1>Hey, ninjas</h1>
28 My name is: { this.state.name } and I am { this.state.age }
29 <button onClick={}>Click Me</button>
30
31)
32 }
33 }
34
35 ReactDOM.render(<App />, document.getElementById('app'));


• index.html - react-redux-complete - Visual Studio Code
index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 render() {
25 return (
26
27 <h1>Hey, ninjas</h1>
28 My name is: { this.state.name } and I am { this.state.age }
29 <button onClick={}>Click Me</button>
30
31)
32 }
33 }
34
35 ReactDOM.render(<App />, document.getElementById('app'));
36 </script>

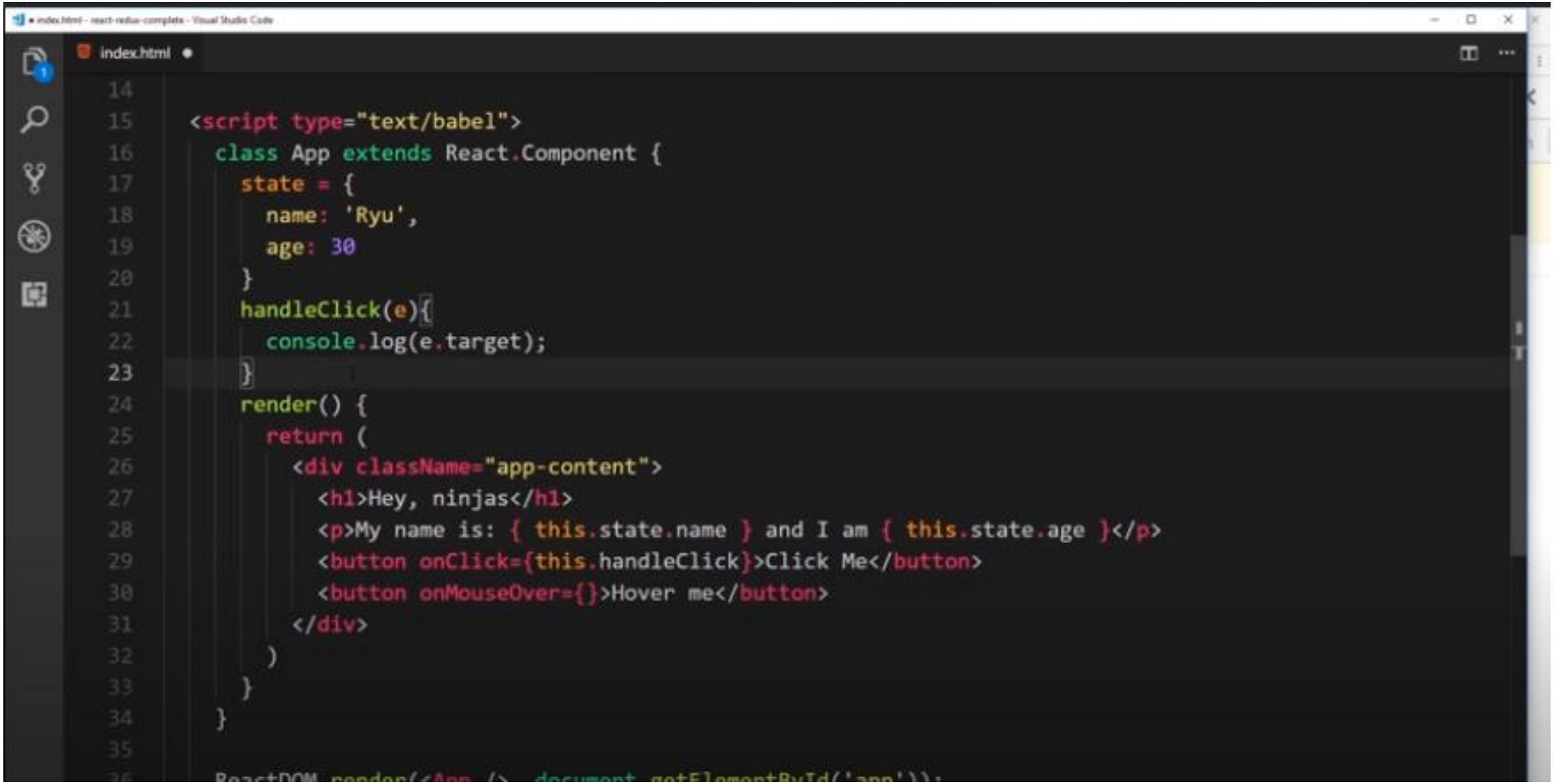
Not like this

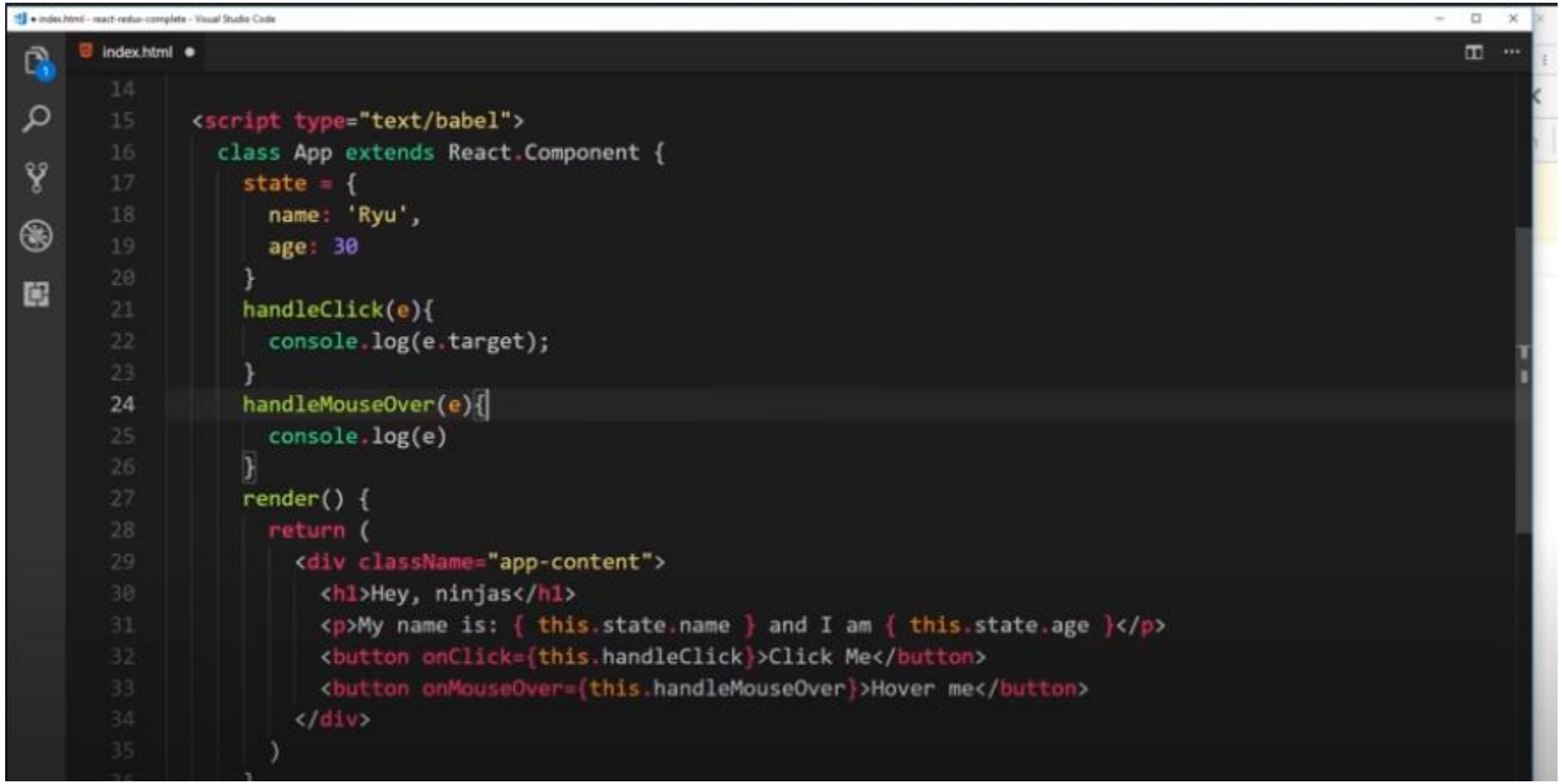


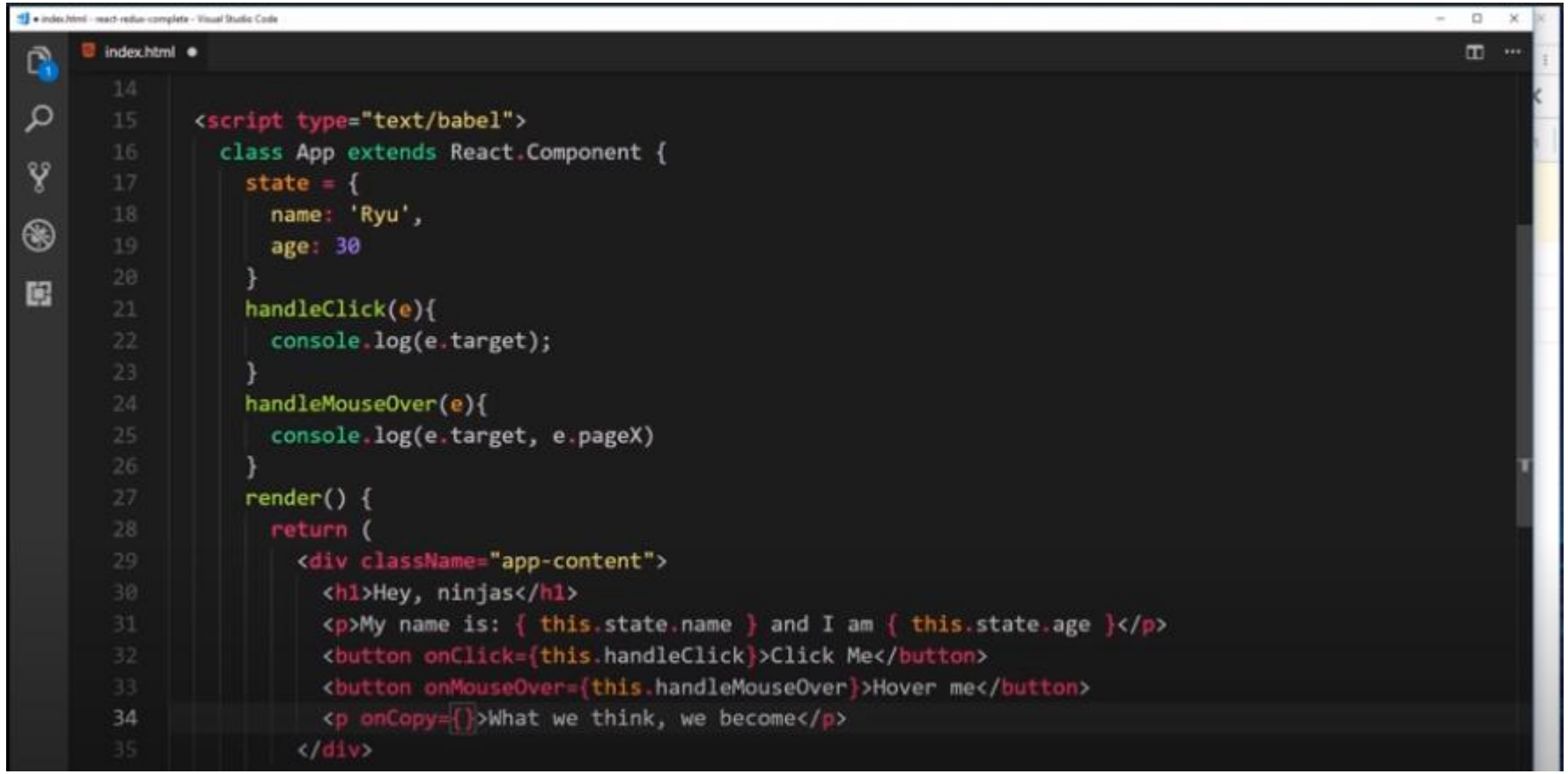

• index.html - react-redux-complete - Visual Studio Code
index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 render() {
25 return (
26
27 <h1>Hey, ninjas</h1>
28 My name is: { this.state.name } and I am { this.state.age }
29 <button onClick={this.handleClick}>Click Me</button>
30
31)
32 }
33 }
34
35 ReactDOM.render(<App />, document.getElementById('app'));

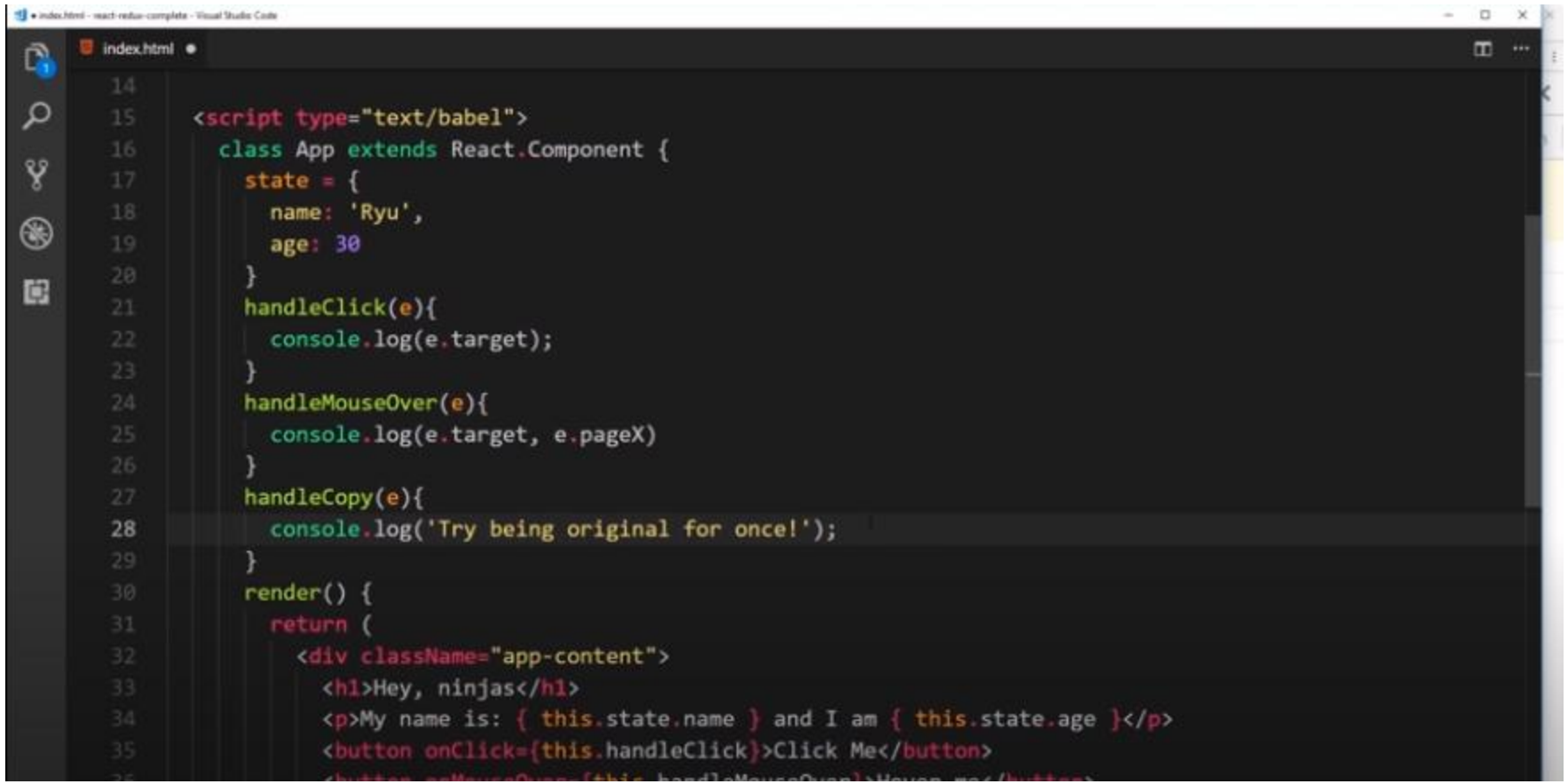

Hey, ninjas
My name is: Ryu and I am 30
Click Me
Elements
Sources
Console
Network
top
Filter
Default levels
Group similar
1 hidden
You are using the in-browser Babel transformer. Be sure to precompile your scripts for production - https://babeljs.io/docs/setup/
babel.min.js:24
<button>Click Me</button>
Inline Babel script:8

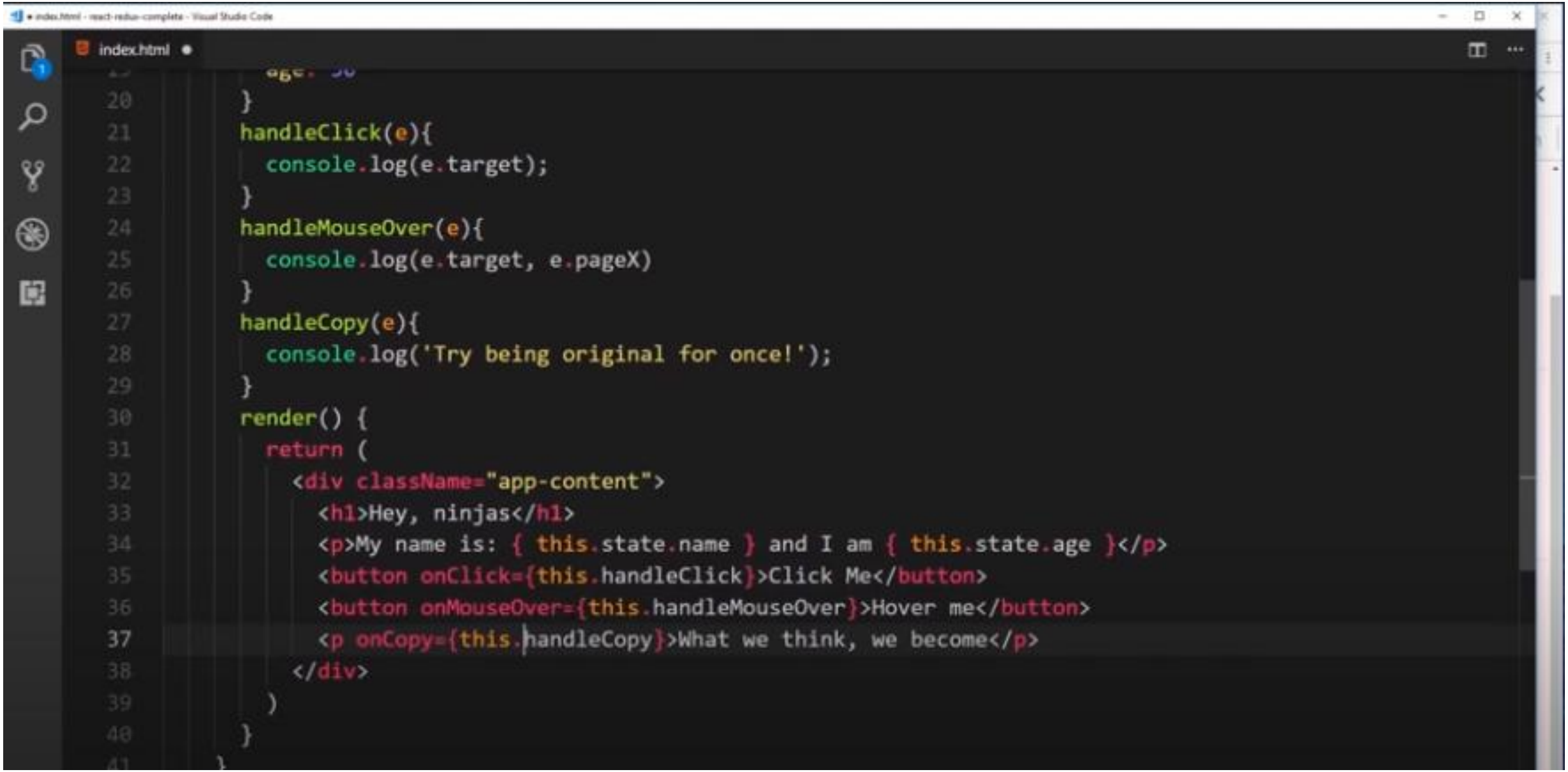
Another Event

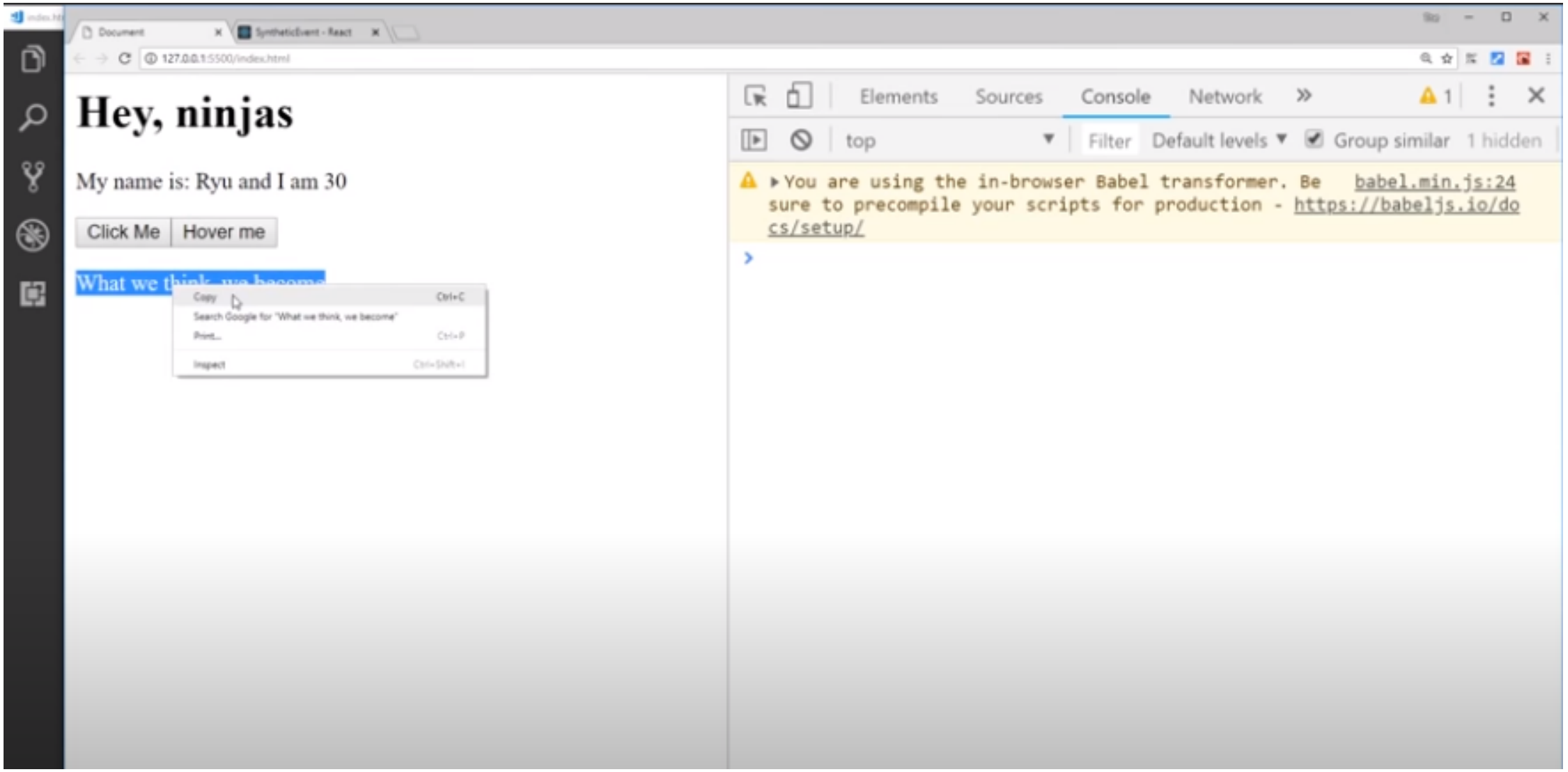


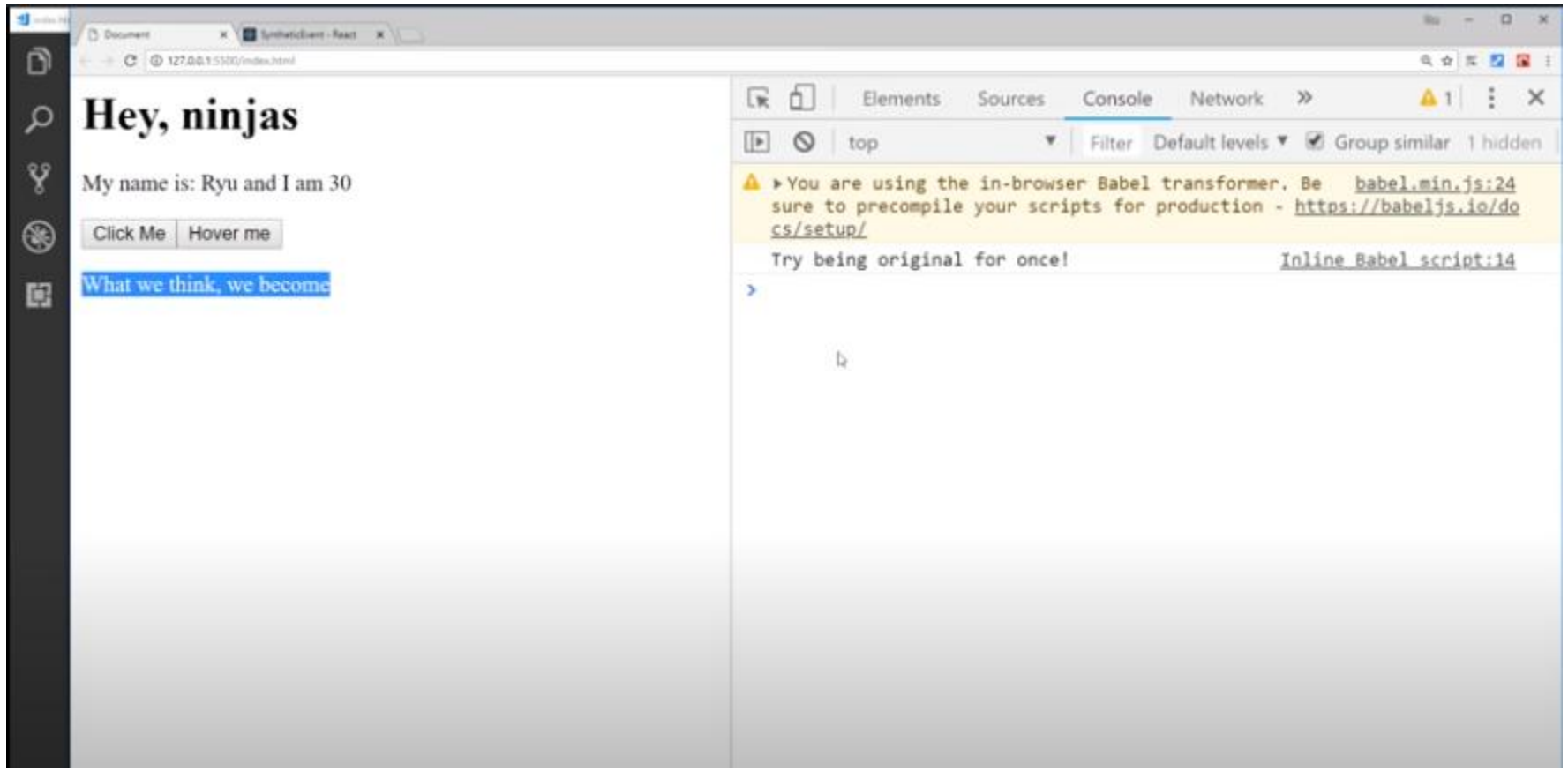

index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 handleMouseOver(e){
25 console.log(e)
26 }
27 render() {
28 return (
29
30 <h1>Hey, ninjas</h1>
31 My name is: { this.state.name } and I am { this.state.age }
32 <button onClick={this.handleClick}>Click Me</button>
33 <button onMouseOver={this.handleMouseOver}>Hover me</button>
34
35)


index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 handleMouseOver(e){
25 console.log(e.target, e.pageX)
26 }
27 render() {
28 return (
29
30 <h1>Hey, ninjas</h1>
31 My name is: { this.state.name } and I am { this.state.age }
32 <button onClick={this.handleClick}>Click Me</button>
33 <button onMouseOver={this.handleMouseOver}>Hover me</button>
34 What we think, we become
35


index.html
14
15 <script type="text/babel">
16 class App extends React.Component {
17 state = {
18 name: 'Ryu',
19 age: 30
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 handleMouseOver(e){
25 console.log(e.target, e.pageX)
26 }
27 handleCopy(e){
28 console.log('Try being original for once!');
29 }
30 render() {
31 return (
32
33 <h1>Hey, ninjas</h1>
34 My name is: { this.state.name } and I am { this.state.age }
35 <button onClick={this.handleClick}>Click Me</button>


index.html
20 }
21 handleClick(e){
22 console.log(e.target);
23 }
24 handleMouseOver(e){
25 console.log(e.target, e.pageX)
26 }
27 handleCopy(e){
28 console.log('Try being original for once!');
29 }
30 render() {
31 return (
32
33 <h1>Hey, ninjas</h1>
34 My name is: { this.state.name } and I am { this.state.age }
35 <button onClick={this.handleClick}>Click Me</button>
36 <button onMouseOver={this.handleMouseOver}>Hover me</button>
37 What we think, we become
38
39)
40 }


Document
SyntheticEvent - React
127.0.0.1:5500/index.html
Hey, ninjas
My name is: Ryu and I am 30
Click Me
Hover me
What we think, we become
Copy
Ctrl+C
Search Google for "What we think, we become"
Print...
Ctrl+P
Inspect
Ctrl+Shift+I
Elements
Sources
Console
Network
1
top
Filter
Default levels
Group similar
1 hidden
You are using the in-browser Babel transformer. Be sure to precompile your scripts for production - https://babeljs.io/docs/setup/
babel.min.js:24


Hey, ninjas
My name is: Ryu and I am 30
Click Me
Hover me
What we think, we become
Elements
Sources
Console
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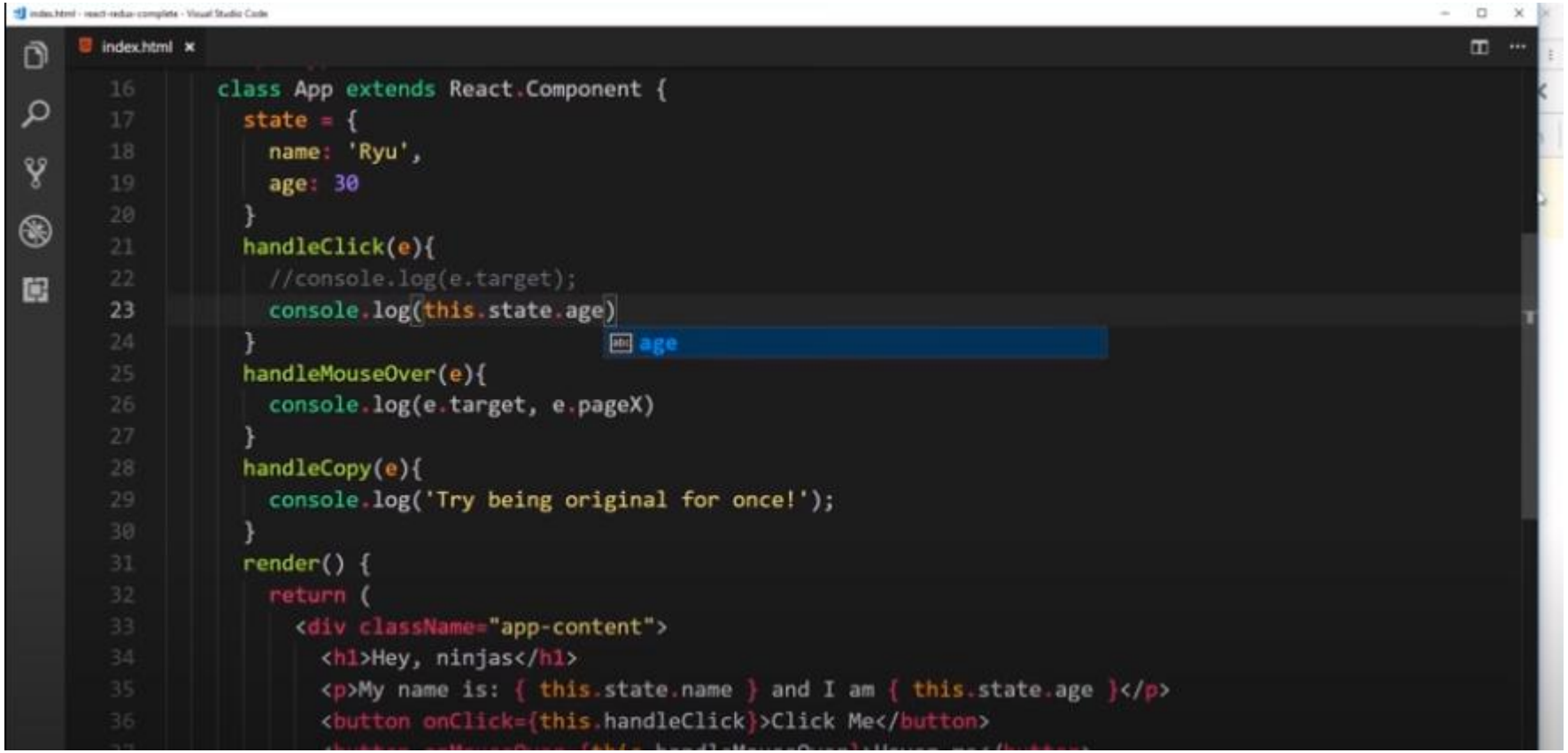
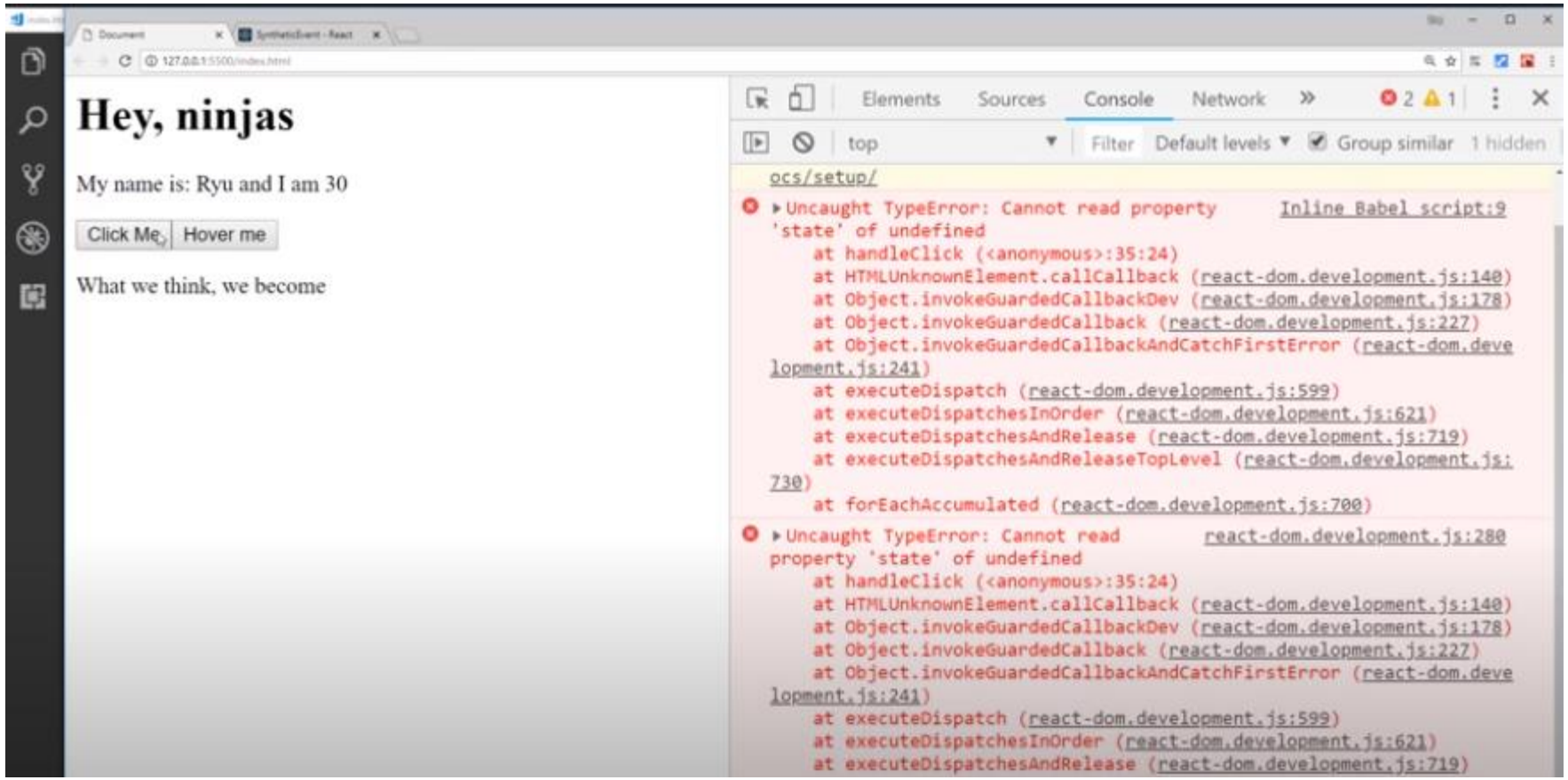
Filter
Default levels
Group similar
1 hidden
You are using the in-browser Babel transformer. Be sure to precompile your scripts for production - https://babeljs.io/docs/setup/
babel.min.js:24
Try being original for once!
Inline Babel script:14

Events in React

https://reactjs.org/docs/events.html#supported-events



Can we access state like this?

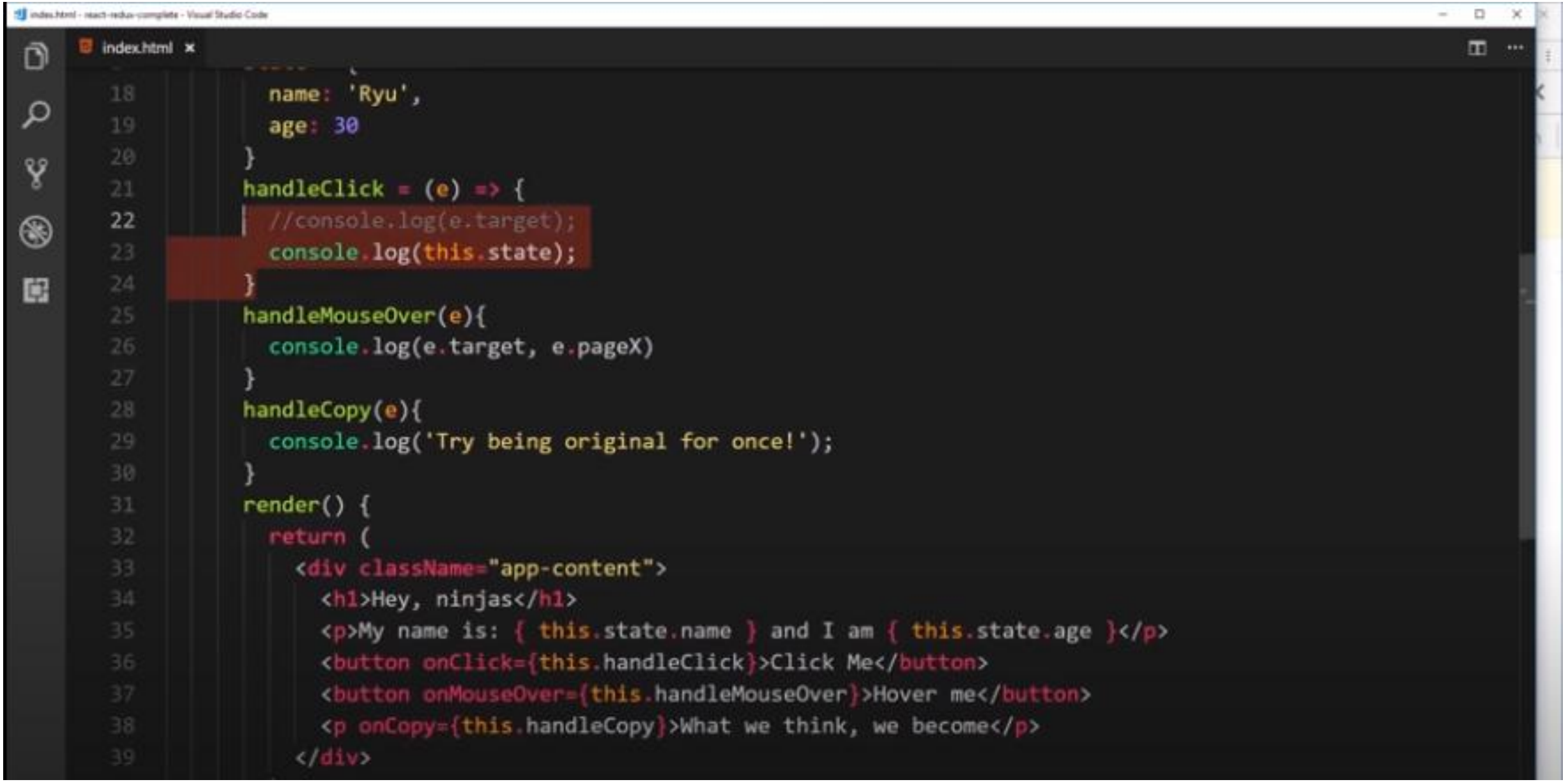

Hey, ninjas
My name is: Ryu and I am 30
Click Me
Hover me
What we think, we become
Elements
Sources
Console
Network
top
Filter
Default levels
Group similar
1 hidden
ocs/setup/
Uncaught TypeError: Cannot read property 'state' of undefined
Inline Babel script:9
at handleClick (<anonymous>:35:24)
at HTMLUnknownElement.callCallback (react-dom.development.js:140)
at Object.invokeGuardedCallbackDev (react-dom.development.js:178)
at Object.invokeGuardedCallback (react-dom.development.js:227)
at Object.invokeGuardedCallbackAndCatchFirstError (react-dom.development.js:241)
at executeDispatch (react-dom.development.js:599)
at executeDispatchesInOrder (react-dom.development.js:621)
at executeDispatchesAndRelease (react-dom.development.js:719)
at executeDispatchesAndReleaseTopLevel (react-dom.development.js:730)
at forEachAccumulated (react-dom.development.js:700)
Uncaught TypeError: Cannot read property 'state' of undefined
react-dom.development.js:280
at handleClick (<anonymous>:35:24)
at HTMLUnknownElement.callCallback (react-dom.development.js:140)
at Object.invokeGuardedCallbackDev (react-dom.development.js:178)
at Object.invokeGuardedCallback (react-dom.development.js:227)
at Object.invokeGuardedCallbackAndCatchFirstError (react-dom.development.js:241)
at executeDispatch (react-dom.development.js:599)
at executeDispatchesInOrder (react-dom.development.js:621)
at executeDispatchesAndRelease (react-dom.development.js:719)

Context of this is loss

In render func React handle it by self

But in our custom functions we have to deal with it manually

ARROW FUNCTIONS


index.html
name: 'Ryu',
age: 30
}
handleClick = (e) => {
//console.log(e.target);
console.log(this.state);
}
handleMouseOver(e){
console.log(e.target, e.pageX)
}
handleCopy(e){
console.log('Try being original for once!');
}
render() {
return (

<h1>Hey, ninjas</h1>
My name is: { this.state.name } and I am { this.state.age }
<button onClick={this.handleClick}>Click Me</button>
<button onMouseOver={this.handleMouseOver}>Hover me</button>
What we think, we become

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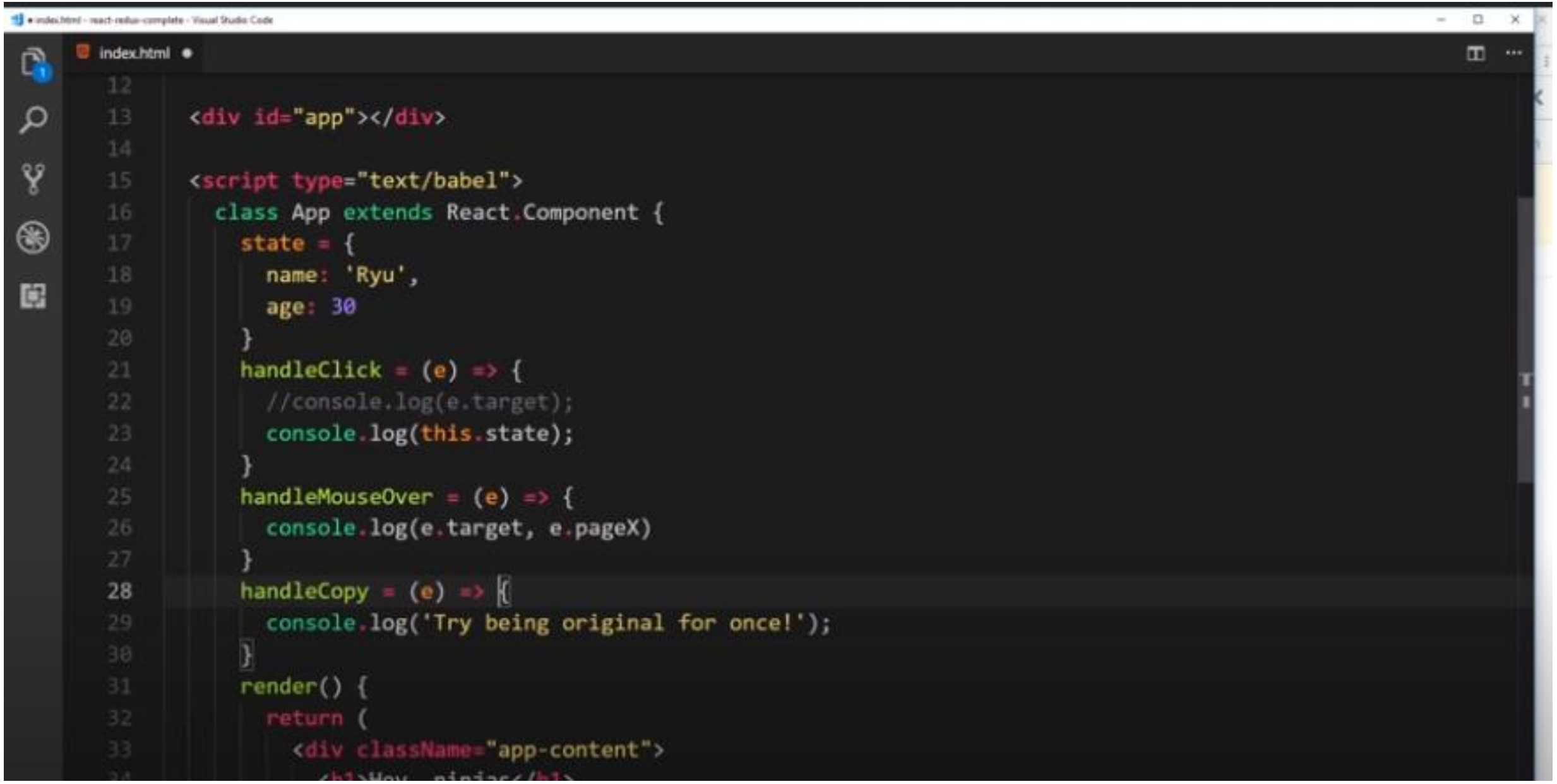
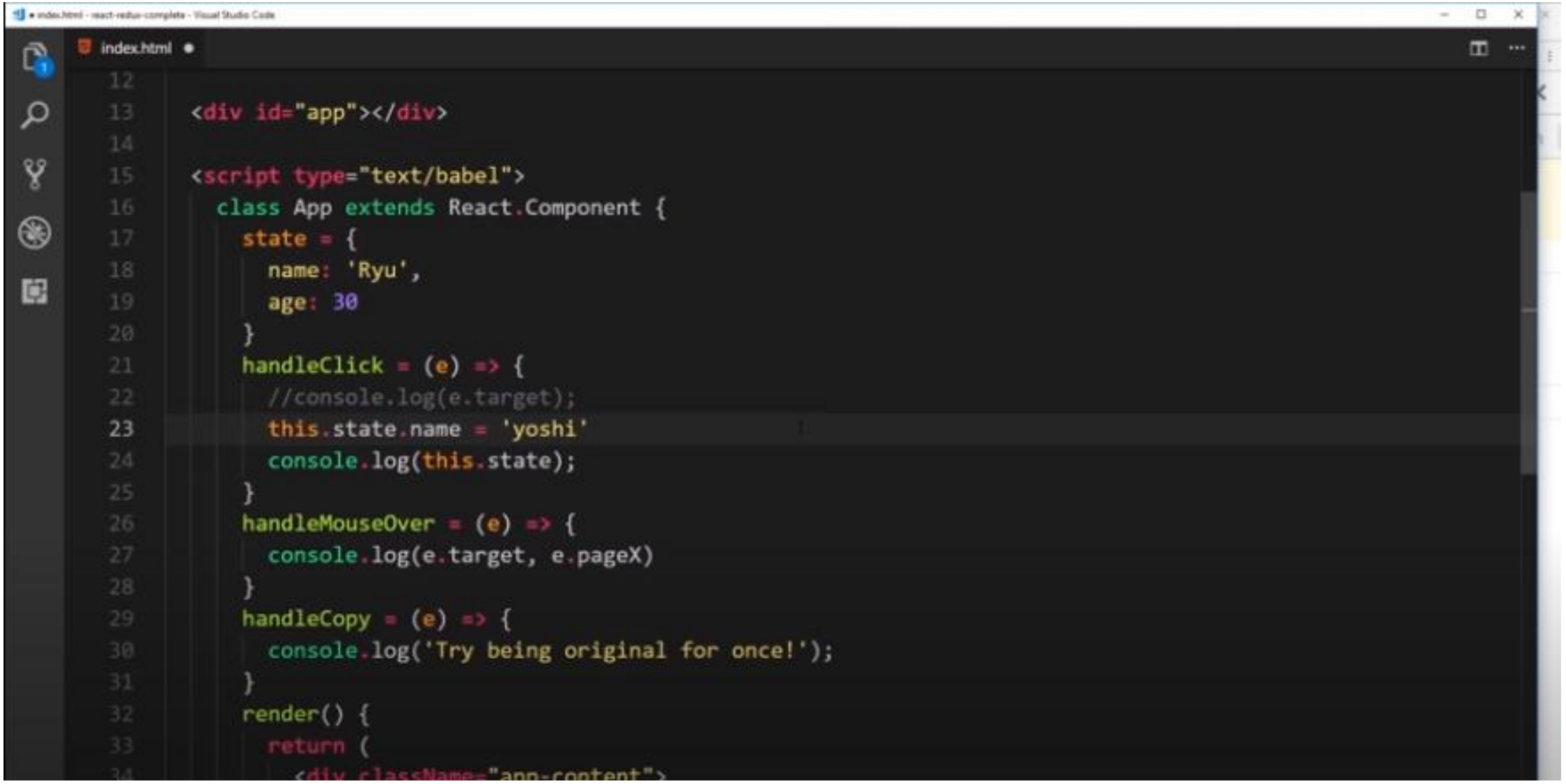

index.html

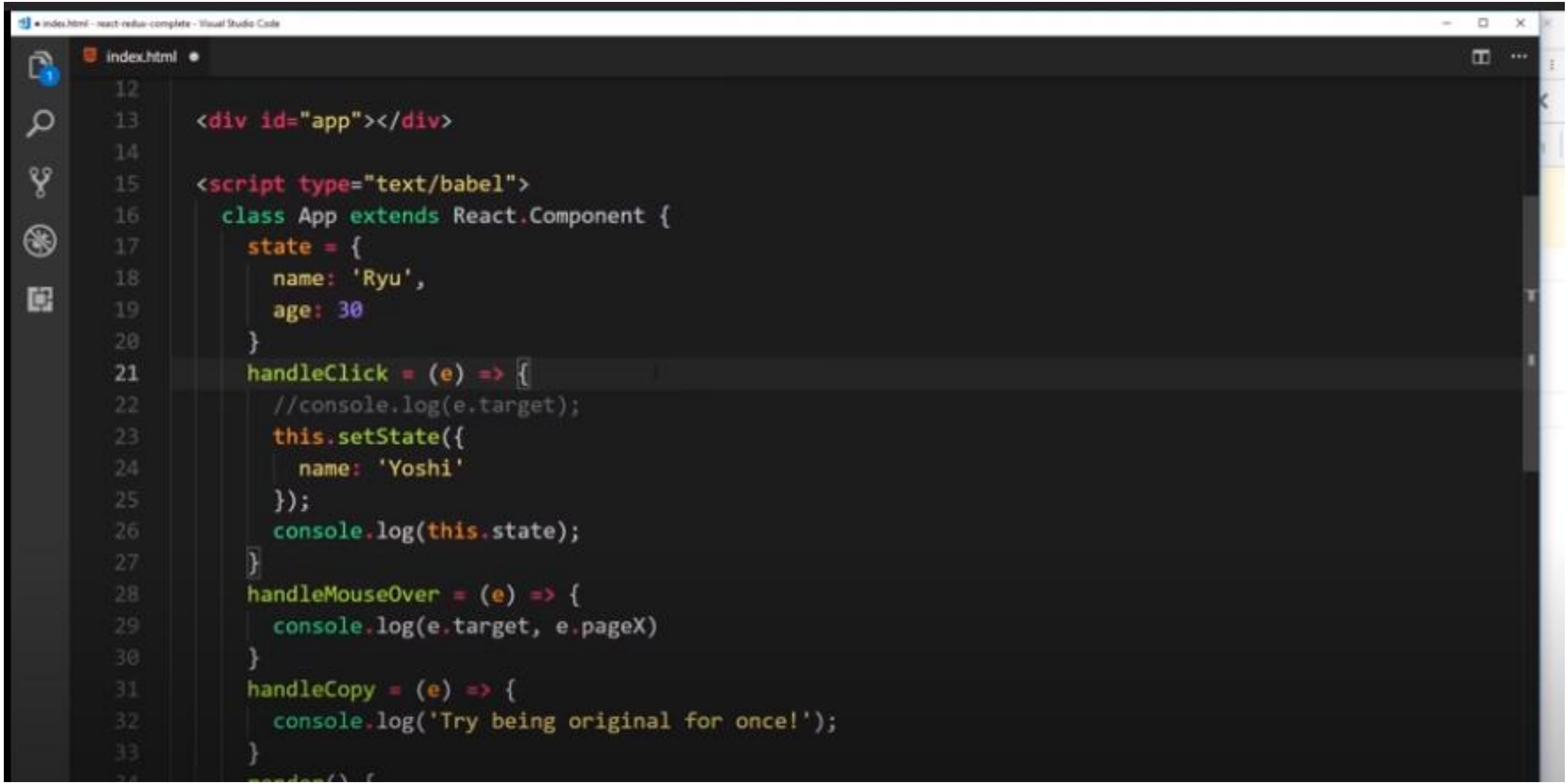
<script type="text/babel">
class App extends React.Component {
state = {
name: 'Ryu',
age: 30
}
handleClick = (e) => {
//console.log(e.target);
console.log(this.state);
}
handleMouseOver = (e) => {
console.log(e.target, e.pageX)
}
handleCopy = (e) => {
console.log('Try being original for once!');
}
render() {
return (

<h1>Wow, ninjas</h1>

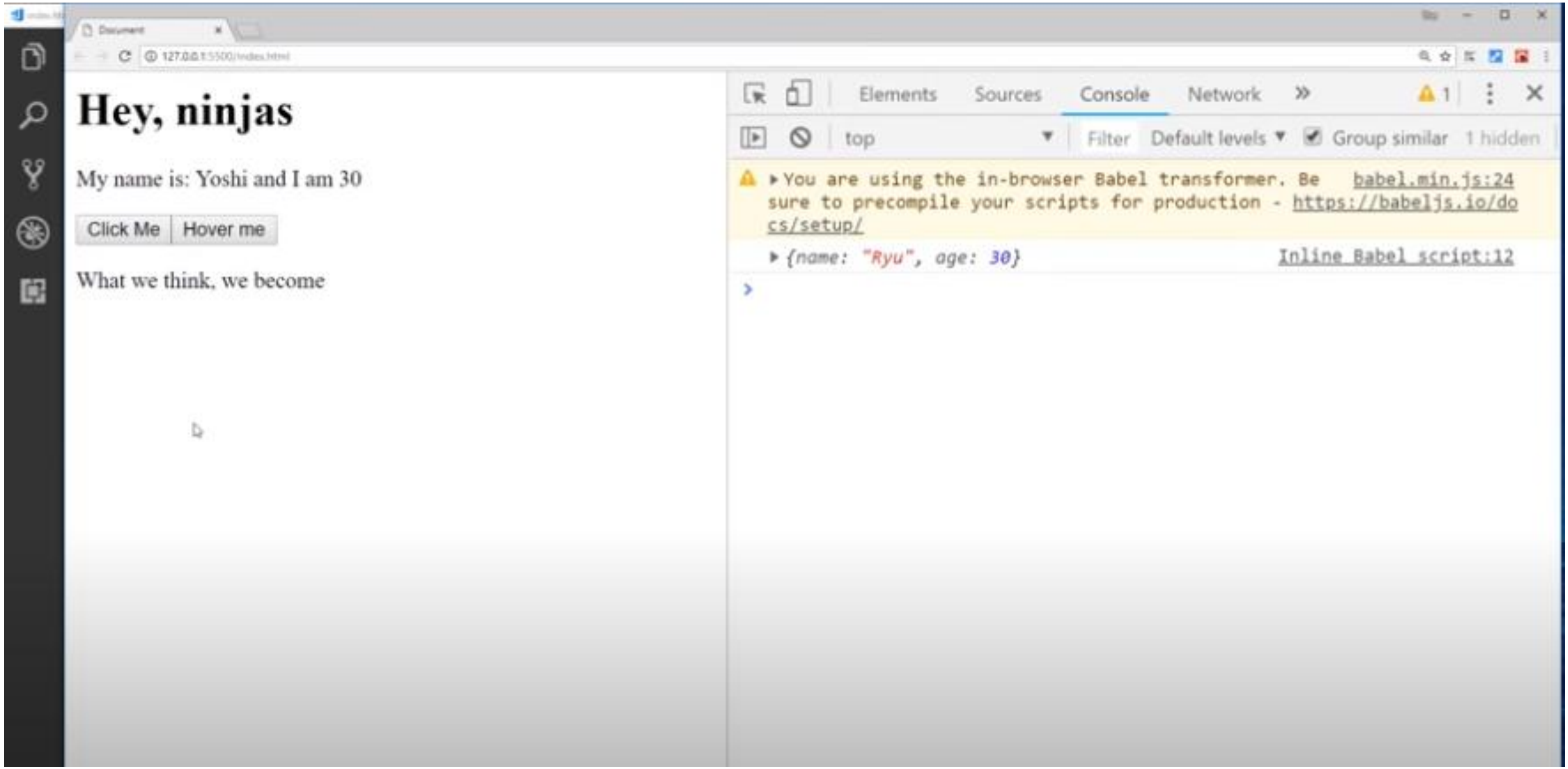
CHANGING STATE (AND 'THIS')

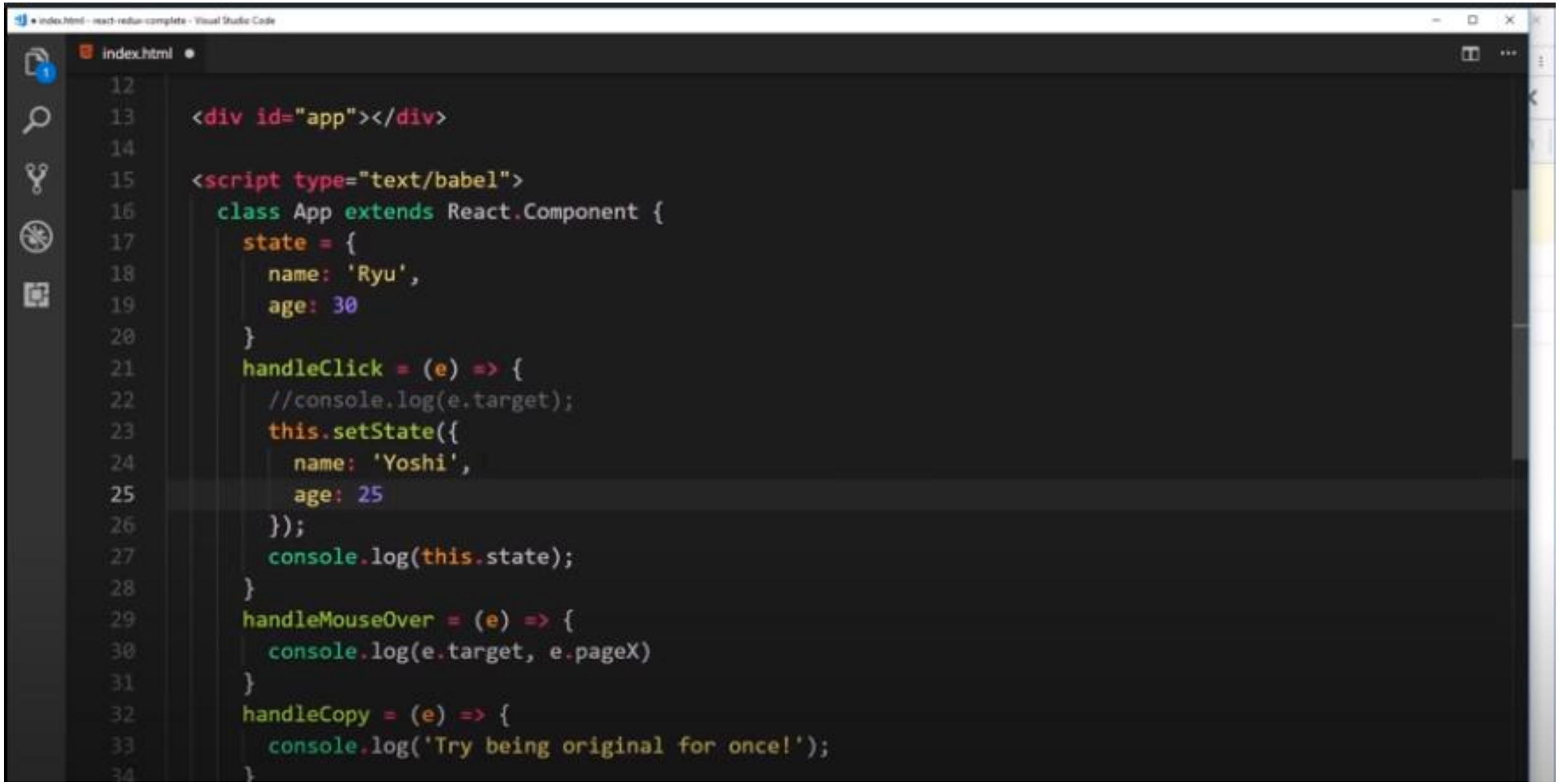
Not a good Practice



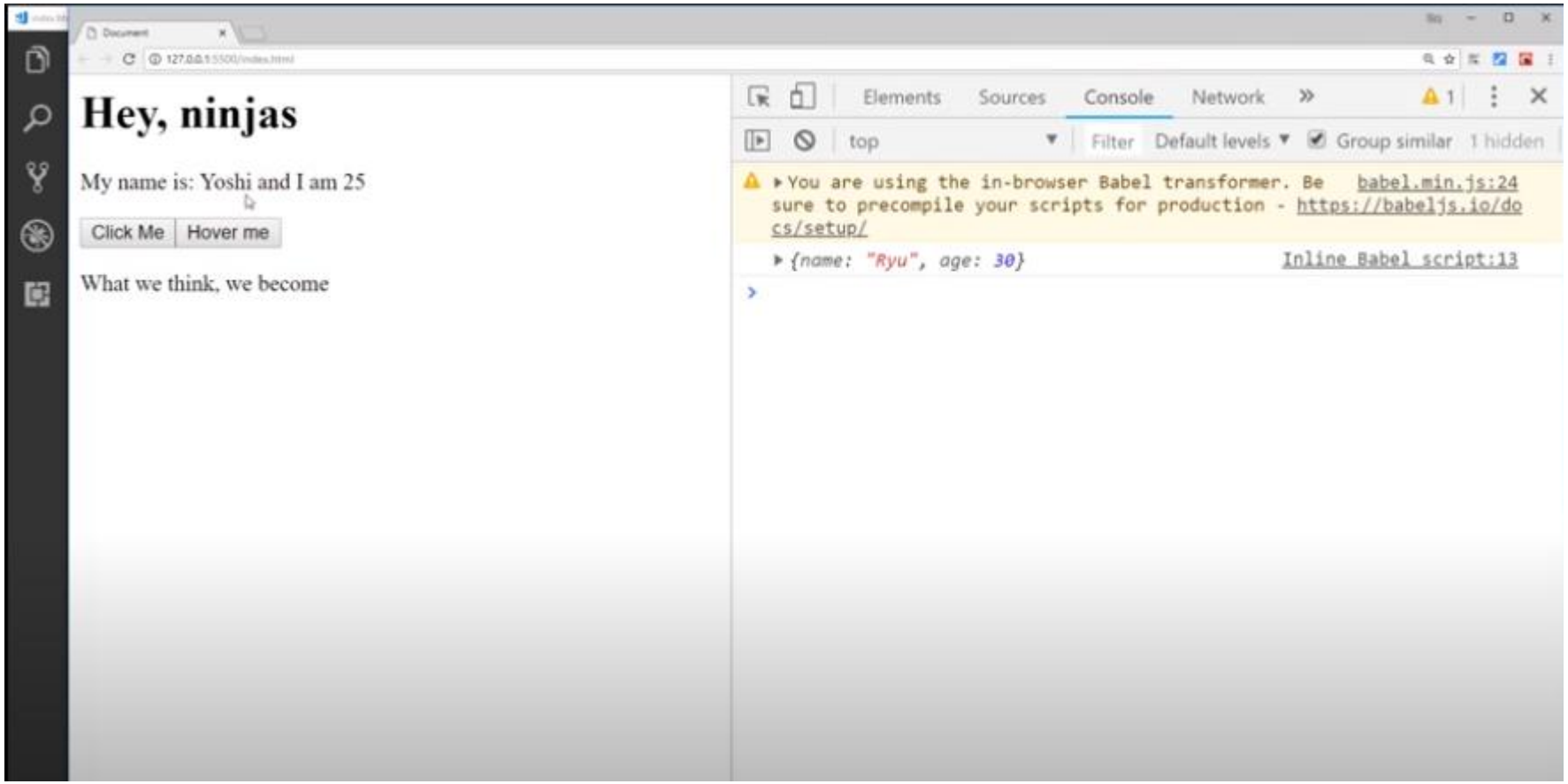

index.html

<script type="text/babel">
class App extends React.Component {
state = {
name: 'Ryu',
age: 30
}
handleClick = (e) => {
//console.log(e.target);
this.setState({
name: 'Yoshi'
});
console.log(this.state);
}
handleMouseOver = (e) => {
console.log(e.target, e.pageX)
}
handleCopy = (e) => {
console.log('Try being original for once!');
}


Document
127.0.0.1:5500/index.html
Hey, ninjas
My name is: Yoshi and I am 30
Click Me
Hover me
What we think, we become
Elements
Sources
Console
Network
top
Filter
Default levels
Group similar
1 hidden
You are using the in-browser Babel transformer. Be sure to precompile your scripts for production - https://babeljs.io/docs/setup/
babel.min.js:24
{name: "Ryu", age: 30}
Inline Babel script:12


index.html

<script type="text/babel">
class App extends React.Component {
state = {
name: 'Ryu',
age: 30
}
handleClick = (e) => {
//console.log(e.target);
this.setState({
name: 'Yoshi',
age: 25
});
console.log(this.state);
}
handleMouseOver = (e) => {
console.log(e.target, e.pageX)
}
handleCopy = (e) => {
console.log('Try being original for once!');


Document
127.0.0.1:5500/index.html
Hey, ninjas
My name is: Yoshi and I am 25
Click Me
Hover me
What we think, we become
Elements
Sources
Console
Network
top
Filter
Default levels
Group similar
1 hidden
You are using the in-browser Babel transformer. Be sure to precompile your scripts for production - https://babeljs.io/docs/setup/
babel.min.js:24
{name: "Ryu", age: 30}
Inline Babel script:13