


WORKSHOP #2

THE SELECTOR

WHERE TO START

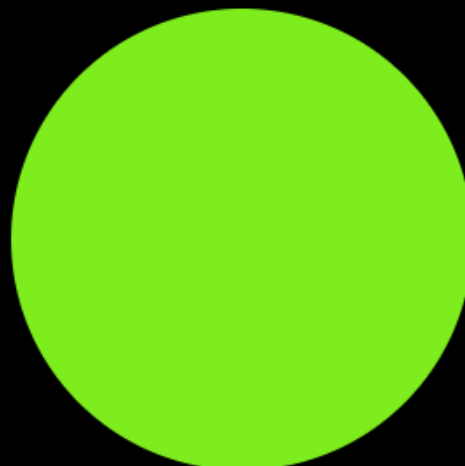
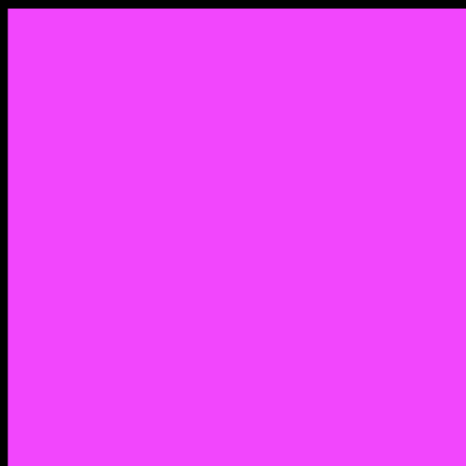
STACKBLITZ.COM

- ▶ Lets get started by navigating to stackblitz.com
- ▶ Click on the  button to start a new project.
You should find this as you scroll down the main page.

OUR GOAL

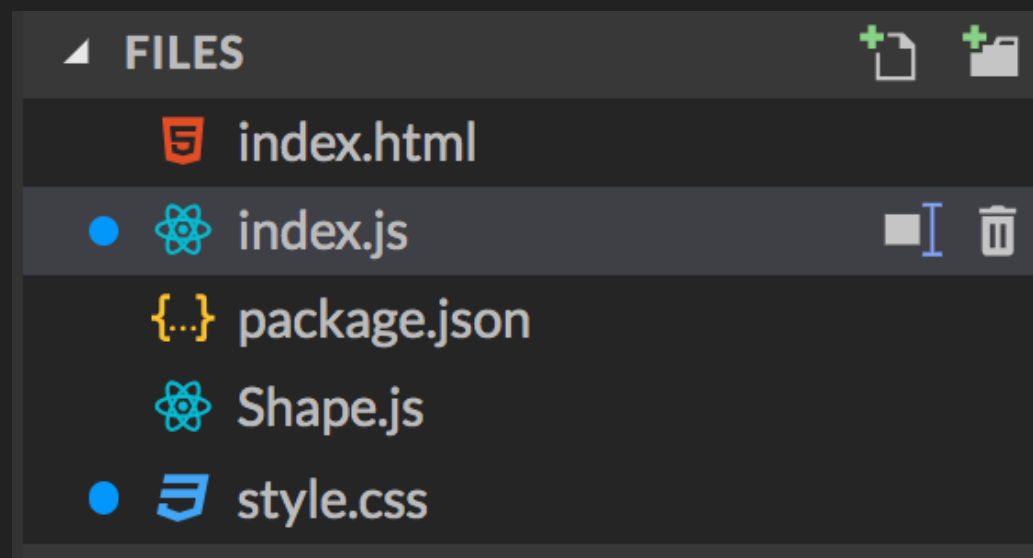
Our goal is to build an application that when a selected shape is clicked, it will display the name and the shape in the nav bar.

Selected: square



SELECTOR

- ▶ Delete all the code in your index.js file and lets start from scratch again. Delete the Hello.js file from our file list on the left side, and create a file named Shape.js.



This is how your Files tree should look.

- ▶ So now that we have an idea on what we want to create. Take a moment and think about where should we start. See if you can answer these questions.
- ▶ What is the major functionality of the application?
- ▶ What type of components should we implement based on the functionality of the application? I.E. Stateful class component, or a pure functional component?
- ▶ How will you structure the JSX and styles to accomplish this view or UI?

- ▶ We know that this application will display three shapes.
- ▶ Our Selector application displays the shapes name that is selected. Usually, and almost always, when you have values that are changing in your views you are going to need State.
- ▶ I'll provide the CSS and guide you along the way on how to add in styling.

- ▶ Lets start by navigating to the github and pulling the CSS that is prebuilt for this workshop.
- ▶ github.com/voodoobrew/workshop-1

SELECTOR

- ▶ Lets start by importing the proper libraries into your index.js file.
- ▶ Import React and the Component so we can create our stateful class component and use JSX. Then we want to import ReactDOM from the react-dom library so we can attach our component to the DOM. Finally import the Shape component so we can use this in our main index.js file.

```
1  import React, { Component } from 'react';
2  import ReactDOM from 'react-dom';
3  import Shape from './Shape'
4  import './style.css'
5
```

Importing style.css file allows us to use that file to add styling to our JSX

- ▶ Now that we have our imports complete we need to create our Selector class component.

```
7  class Selector extends Component {  
8      render() {  
9          return(  
10             <div></div>  
11          )  
12      }  
13  }
```

SELECTOR

- ▶ Render you Selector component to the DOM by declaring it as the first argument in your ReactDOM.render method. Note that we write the component as a self-closing JSX tag.

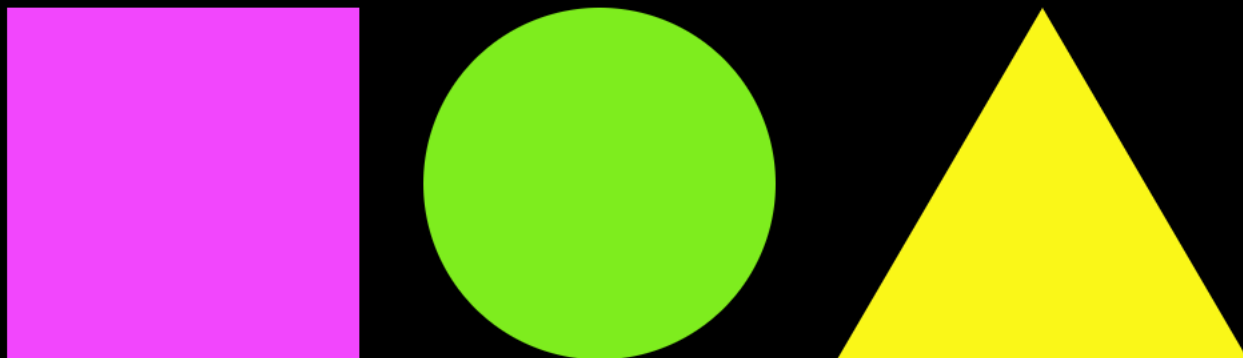
```
ReactDOM.render(<Selector />, document.getElementById('root'));
```

The first argument for the render method is the component you wish to attach to the DOM, and the second argument is how we attach it to a specific HTML element. In this case its the element with the id 'root'.

SELECTOR

- ▶ Now that we have our component built, we should think about what we want our app to look like so we can start building the JSX. Lets take a look at the end result again.

Selected: square



Here we will need a nav bar that displays the current selected color

Here we will want our shapes to be displayed

SELECTOR

- ▶ To help get you started lets go ahead and build out what we know so far.

```
render() {  
  return (  
    <div className="container">  
      <div className="navbar">  
        <div>Selected: </div>  
        <div>What goes here?</div>  
      </div>  
      <div className="shape-list">  
        Add the Shape Components here!  
      </div>  
    </div>  
  )  
}
```

In your return statements you can only have one parent JSX element. A common pattern is to wrap everything in a div.

- ▶ In this workshop we will be using a functional component we defined as Shape. Lets navigate to the **Shape.js** file and start coding our functional component.
- ▶ This component is going to display our shapes that we're going to be selecting.

```
3  const Shape = () => {  
4    return(  
5      <div className="square"/>  
6    )  
7  }
```

SELECTOR

- ▶ Remember that we want our shapes to be represented in our JSX. How do we do this?
- ▶ For now lets just add in three instances of our Shape Component.

```
<div className="shape-list">  
  <Shape/>  
  <Shape/>  
  <Shape/>  
</div>
```

You should see three pink squares in line with one another

SELECTOR

- ▶ Lets declare the shape property to be passed into Shape component with a specific shape assigned.

```
<div className="shape-list">  
  <Shape shape="square"/>  
  <Shape shape="circle"/>  
  <Shape shape="triangle"/>  
</div>
```

The shape property we are passing to our component is going to be passed in as a key on the props object.

SELECTOR

- ▶ Now this is where passing props into Components comes in handy.
- ▶ Lets first modify the Shape component so that we can accept dynamic properties into it.
- ▶ Remember that props are an object with key value pairs so we can use the dot notation to access the values within the object.

```
const Shape = (props) => {  
  return(  
    <div className={props.shape} />  
  )  
}
```


- ▶ Remember, that we need a stateful component. Think for a moment: what should change about the view of our Selector app as user interact with it, and how could we represent that data?
- ▶ The data that changes in our UI is the shape that is picked being displayed in our nav bar. We can represent this as a JavaScript string. Let's add state to our component, and some behavior that will cause that state to change.
- ▶ To do this we need to add a constructor to your Selector class component and define state. Note that state is always defined as a Javascript object that have key value pairs.

SELECTOR

- ▶ Make sure to add your constructor directly under where we create the Selector class and before the render method.

```
8  class Selector extends Component {  
9      constructor() {  
10         super();  
11         this.state = {  
12             selectedShape: 'square'  
13         }  
14     }
```

We initialize our state by setting this.state to a Javascript object and the key and value we want our component to be initialized to.

SELECTOR

- ▶ Now that we have our state correctly declared. We can now use that data to be represented in our application.
- ▶ Where did we want to have the name of the shape selected represented? We wanted it to represent the clicked shape in the nav bar. So here is where we will represent our state.

```
23  ☐ <div className="navbar">  
24      <div>Selected: </div>  
25      <div>{this.state.selectedShape}</div>  
26  </div>
```

Remember, this.state is an **object** with a key named selectedShape.

- ▶ Now we need to add some interactivity. We already added state to our Selector component that represents our "selectedShape". Now we need to write a method in our Selector component that will change the state based off of what shape is clicked and then we will pass it down to our Shape Component, so that the shape components can attach it to their click handlers.

```
selectShape = (shapeName) => {  
  
}
```

Take a moment and think about what this method is aiming to accomplish. We want to be able to pass in a shapeName and use that to set the new state to the shapeName that was passed in.

- ▶ We want to use the `shapeName` argument and set the state of `selectedShape` with that chosen `shapeName`.

```
selectShape = (shapeName) => {  
  this.setState({  
    selectedShape: shapeName  
  })  
}
```

`this.setState()` is a React method that allows us to create methods that will be able to change the state and cause our application to re-render the changes

SELECTOR

- ▶ Now that we have our selectShape method. We need to pass this method as a prop into our Shape component. We will use this method to be invoked in our Shape component so we can change the state to represent what shape was clicked.

```
<div className="shape-list">
  <Shape shape="square" selectShape={this.selectShape} />
  <Shape shape="circle" selectShape={this.selectShape} />
  <Shape shape="triangle" selectShape={this.selectShape} />
</div>
```

SELECTOR

- ▶ Now that we passed our selectShape method into our Shape Component, lets use it when someone clicks on our component.
- ▶ To do this we need to attach a onClick listener to the div tag in our return statement.

```
3  const Shape = (props) => {  
4    const shape = props.shape  
5    const selectShape = props.selectShape  
6  
7    return(  
8      <div className={shape} onClick={() => selectShape(shape)} />  
9    )  
10 }
```

SELECTOR

- ▶ Creating variables from the props that we pass in is a common strategy.
- ▶ Also, passing arguments to event handlers in React, instead of passing the function directly to the click handler, we wrap it in another function. This gives us room to pass in arguments to the function. In this instance we want to pass the shape argument into the selectShape method.

```
3  const Shape = (props) => {  
4    const shape = props.shape  
5    const selectShape = props.selectShape  
6  
7    return(  
8      <div className={shape} onClick={() => selectShape(shape)} />  
9    )  
10 }
```


SELECTOR EDGE CASES

- ▶ You should now be able to click on the shapes and see the name that corresponds to the correct shape in the nav bar.
- ▶ EDGE CASE TIME!
- ▶ If you look in styles.css you'll see a class name called "clicked" that will give a white border if used. Using your new knowledge, try to make it so that when you click on a Shape, it will not only cause the nav bar to show the selected shape, but it will also give that shape the "clicked" class.

- ▶ If you've made it this far you're doing great!
- ▶ Here are some materials you should look at before our next workshop.

<https://reactjs.org/docs/components-and-props.html>