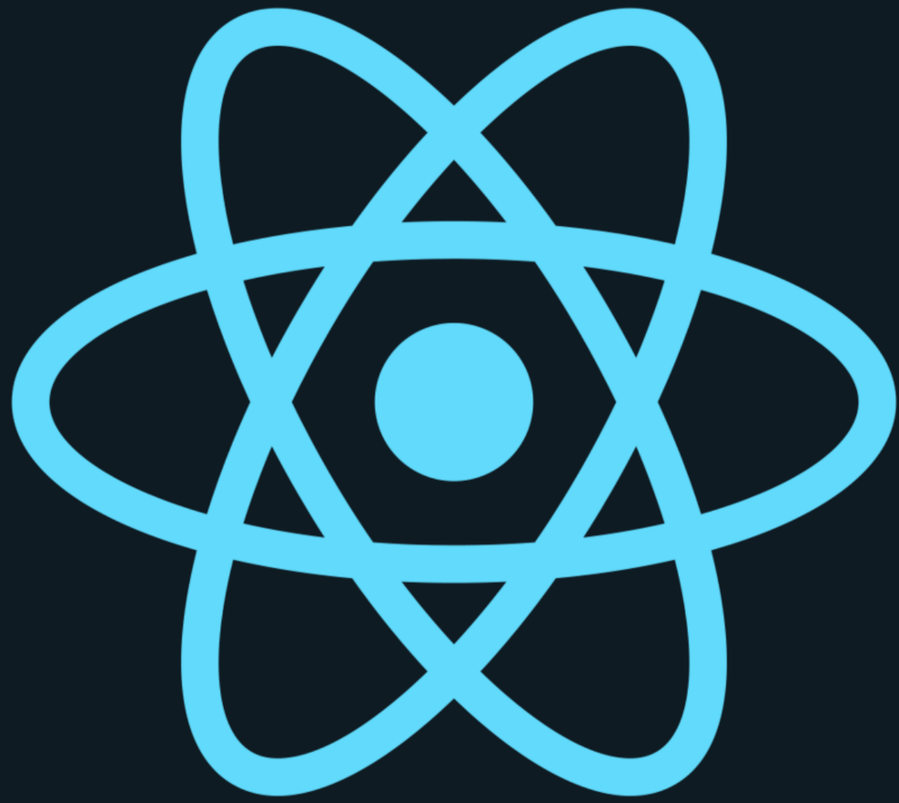
Learn to Code - React!



Objectives

— Describe Single Page Applications (SPA)
— Name the key concepts in React
— Explain components, props, and JSX
— Identify functional and class components
— Know when to use state vs setState
— Lift state up to the closest common ancestor

Describe Single Page Applications (SPA)

In a single-page application, all of the code needed is included in a single-page load. This includes all of the CSS, HTML, and JavaScript. The page does not reload, and it requires dynamic interaction with the Web server.

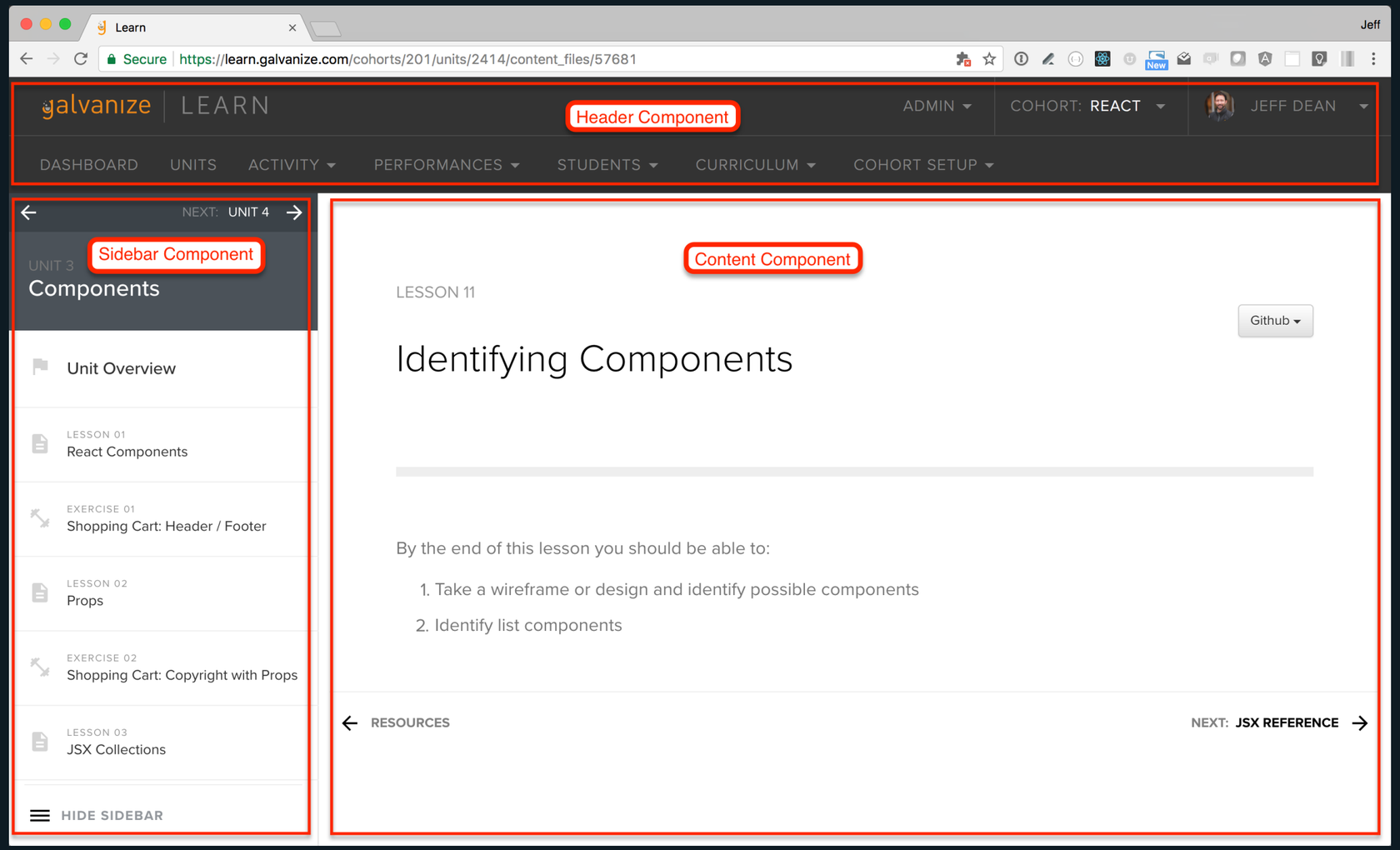
Name the key concepts in React

— Web Components
— 1 way data binding
— Virtual DOM
— JSX (which requires a "build" step)
— State management (Flux or Redux)

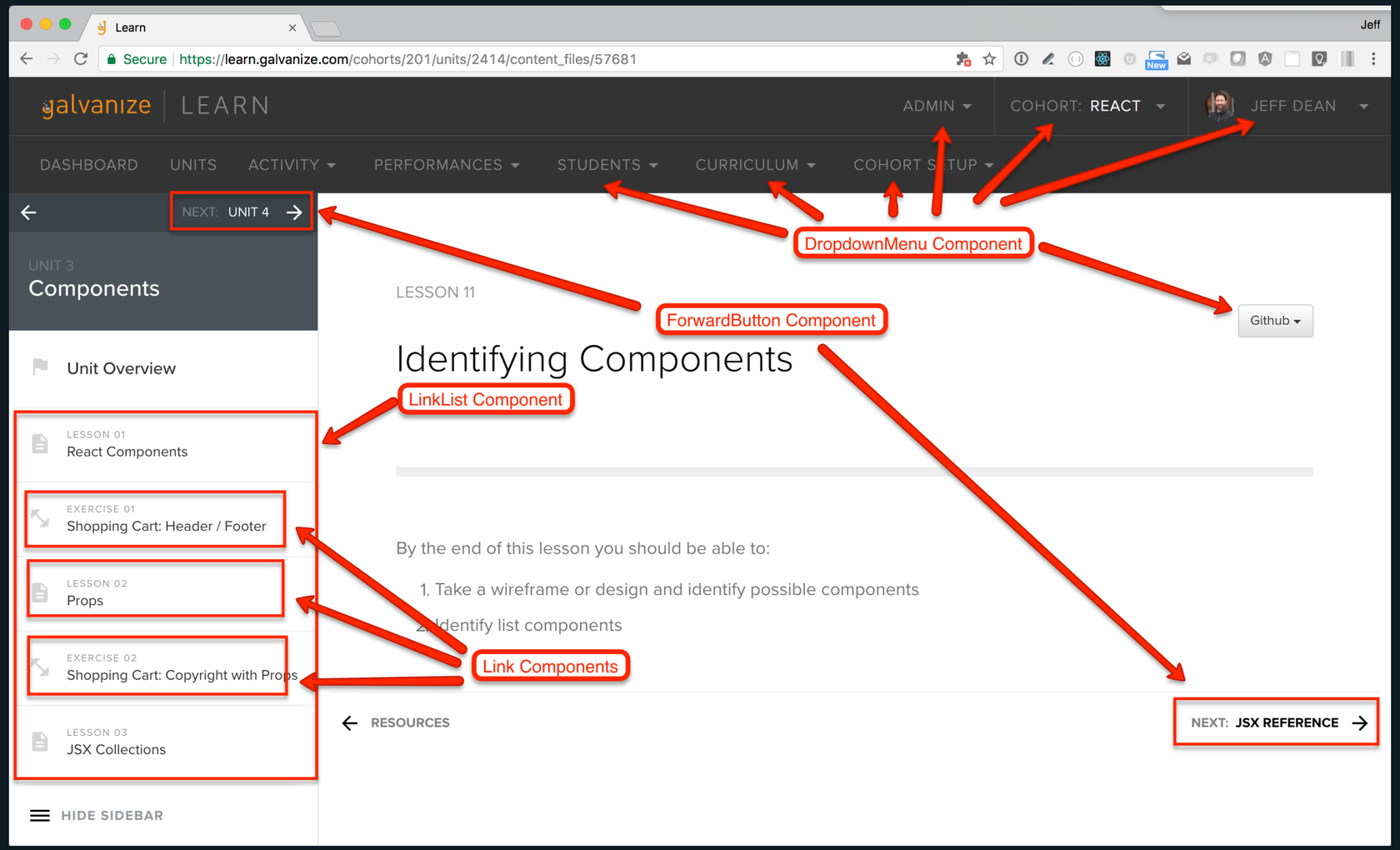
Components

— Components let you split the UI into independent, reusable pieces, and think about each piece in isolation.

Identify "container" (smart) components



Identify "presentation" (dumb) components



Pass data as props and render dynamic values in JSX

— Props are Read-Only

```
class Welcome extends React.Component {
  render() {
    return <h1>Hello, {this.props.name}</h1>;
  }
}
```

Differentiate between functional and class components

```
function Welcome(props) {
  return <h1>Hello, {props.name}</h1>;
}
```

vs

```
class Welcome extends React.Component {
  render() {
    return <h1>Hello, {this.props.name}</h1>;
  }
}
```

Know when to use state vs setState

— Use state to assign initial state in a constructor

```
constructor(props) {
  super(props)
  this.state = {
    cards: CardData
  }
}
```

Know when to use state vs setState

— Use setState to update state and re-render the component

```
onSubmit = (card) => {
  this.setState({
    cards: this.state.cards.concat(card)
  })
}
```

Lift state up to the closest common ancestor

— Single “source of truth” in React apps
— Rely on the top-down data flow
— Avoid duplicating lifted state in child components

Code Along

— Clone (or Download) this repo
— We will work together to wire up these components using props, state, and setState
— Here is a video of the code along that you can refer to afterwards

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