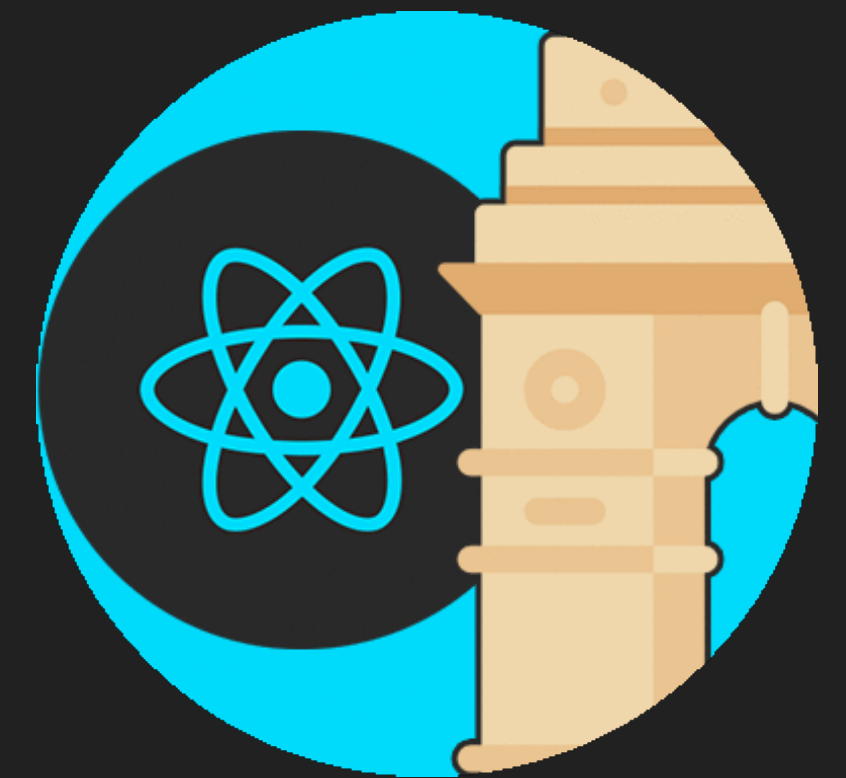


Intro to React Components

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React Delhi/NCR

Header

Slider

Sidebar

News

News

NEWS UNIVERSITY OF HAWAII SYSTEM

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Top Stories



Hoolaulea draws 10,000 to Windward campus
Families enjoyed food, fun and information at the annual community event with a Hawaiian cultural focus.

Academic News

Service Windward donates auto supplies to Leeward
Leeward's automotive program received more than \$204,000 worth of automotive parts and tools.



Research News

New hypothesis explains acidification effect
UH researchers have developed a new hypothesis to explain how climate change causes ocean acidification.





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- > Service Windward donates auto supplies to Leeward
- > Hoolaulea draws 10,000 to Windward campus
- > Diverse dance styles shine at Fall Footholds
- > Women's Campus Club accepting grant applications
- > UH anniversary list

Featured Video



Image source: www.hawaii.edu

Props



```
function Header() {  
  
}
```



**React
element**

```
▼ {$$typeof: Symbol(react.element), type: Symbol(react.element), key: null, props: {headerText: "Header text"}, ref: null, type: class Header, _owner: null, _store: {validated: false}}
```

React element



```
▼ <header>
  <div>Header text</div>
</header>
```

DOM element


```
function Header(props) {  
  return (  
    <header>  
      <div>{props.headerText}</div>  
    </header>  
  );  
};
```

JSX

bit.ly/2ttPzcV

```
<Header headerText="Header text" />
```

Functional components

```
function Header(props) {  
  return (  
    <header>  
      <div>{props.headerText}</div>  
    </header>  
  );  
};
```

Class components

```
class Header extends React.Component {  
  render() {  
    return (  
      <header>  
        <div>{this.props.headerText}</div>  
      </header>  
    );  
  }  
};
```



```
class Header extends React.Component {  
  render() {  
    this.props.headerText = 'New header text';  
    return (  
      <header>  
        <div>{this.props.headerText}</div>  
      </header>  
    );  
  }  
}
```

Props are read-only! 😞

```
► Uncaught TypeError: Cannot assign to read only property react.  
  'headerText' of object '#<Object>'  
    at Header.render (<anonymous>:4:31)
```

**All React components must act like
pure functions with respect to their props.**

bit.ly/2ywNi6n

Use state to update a component.

```
class Header extends React.Component {
  constructor(props) {
    super(props);

    this.state = {
      headerText: props.headerText // Set initial state
    };
  }

  changeHeaderText() {
    this.setState({ headerText: 'New header text' }); // Update state
  }

  render() {
    return (
      <header>
        <div>{this.state.headerText}</div>
        <button onClick={this.changeHeaderText.bind(this)}>
          Change header text
        </button>
      </header>
    );
  }
}
```

Dumb/stateless components

```
function Loader(props) {  
  let { type, style } = props,  
      src = null;  
  
  switch (type) {  
    case 'green':  
      src = 'green-loader.gif';  
      break;  
    case 'blue':  
    default:  
      src = 'blue-loader.gif';  
      break;  
  }  
  
  return (  
    <img src={src} style={style} />  
  );  
};
```


Smart/statefull components

```
class ListMenu extends React.Component {
  constructor(props) {
    super(props);

    this.state = { hidden: true };
  }

  toggleMenuVisibility() {
    this.setState((prevstate) => {
      return { hidden: !prevstate.hidden };
    });
  }

  render() {
    return (
      <div>
        {
          !this.state.hidden ? (<ul><li>Item 1</li><li>Item 2</li><li>Item
            3</li></ul>) : null
        }
        <button onClick={this.toggleMenuVisibility.bind(this)}>
          Toggle Menu
        </button>
      </div>
    );
  }
}
```

- **Abstracting complexity**
- **Maintainability**
- **Reusability**
- **Ease of testing**

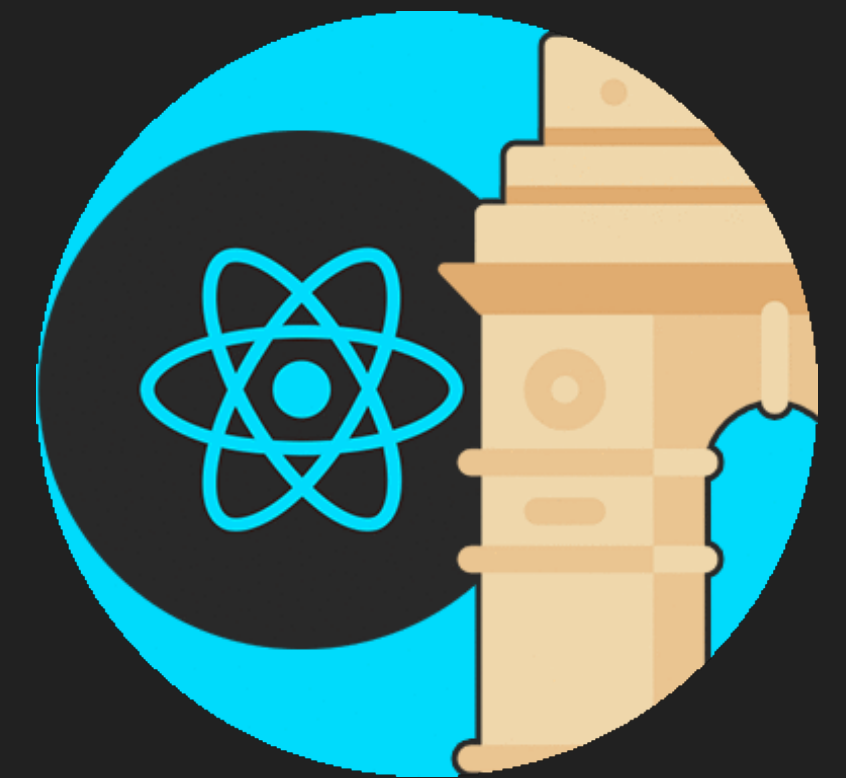
Quick links

- <https://reactjs.org/docs/components-and-props.html>
- <https://www.youtube.com/watch?v=0BHoz0ptv7k>
- <https://reactjs.org/docs/thinking-in-react.html>

Thank you!

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