

React Workshop

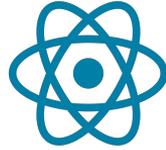
Learn the basics of one of the most popular front-end JavaScript libraries

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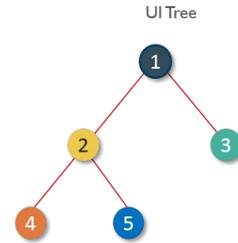
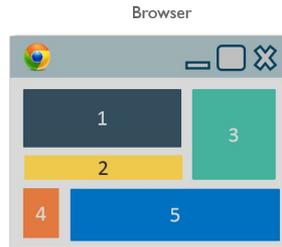
```
...org = filterByOrg ? study.lead_organization === filterByOrg : true  
...status = filterByStatus ? study.status === filterByStatus : true  
...searchStatus) }
```

```
function filterStudies({ studies, filterByOrg  
...status = filterByStatus ? study.status === filterByStatus : true  
...searchStatus) {  
  return studies.filter(study => {  
    return filterByOrg ? study.lead_organization === filterByOrg : true  
    return filterByStatus ? study.status === filterByStatus : true  
    return !filterBySearchStatus || study.search_status === filterBySearchStatus  
  })  
}
```

What is React?



- An open-source front-end JavaScript library created by Facebook/Meta
- Very useful for apps with a lot of dynamic content
- Can change parts of your UI without refreshing the page
- Uses a virtual DOM allowing for much faster load times
- Allows you to split up your code into components, allowing for better organization and reusability



JSX

- JavaScript XML (JSX) allows us to write HTML directly into React
- Faster than standard JavaScript as it optimizes when converted back to standard JS



```
function renderLogin({ prefilledEmail }) {  
  return (  
    <section>  
      <input type="email" placeholder="email" value={prefilledEmail} />  
      <input type="password" placeholder="password" />  
      <button>Log In!</button>  
    </section>  
  );  
}
```

Components

- React components are JavaScript classes and functions that return React elements
- Very useful for code organization and reusability

```
function App() {  
  return (  
    <div>  
      <h1>Welcome user!</h1>  
    </div>  
  );  
}
```

```
function Welcome() {  
  return <h1>Welcome user!</h1>;  
}  
  
function App() {  
  return (  
    <div>  
      <Welcome />  
    </div>  
  );  
}
```

Components w/Props

- You can pass props to a component which are similar to function arguments in other languages

```
function Welcome(props) {  
  return <h1>Welcome {props.name}!</h1>;  
}  
  
function App() {  
  return (  
    <div>  
      <Welcome name="Daniyal" />  
    </div>  
  );  
}
```

Components with many props

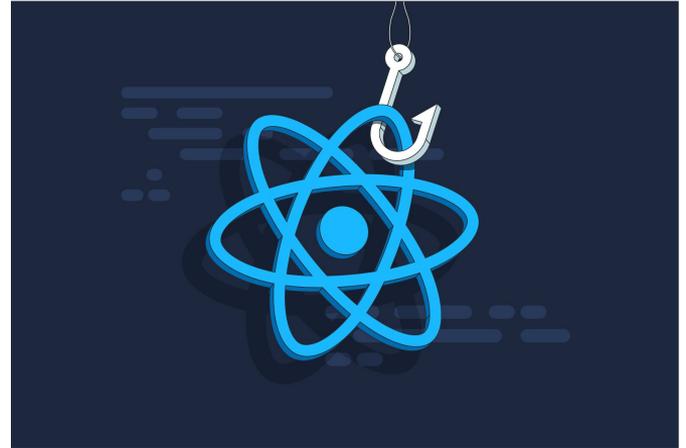
- You can pass in many props to a component
- The component can break the prop object up into individual values

```
function Post({title, desc, likes}) {
  return(
    <div>
      <h1>{title}</h1>
      <p>{desc}</p>
      <p>{likes}</p>
    </div>
  );
}

function App() {
  return (
    <div>
      <Post
        title="my post"
        desc="this is my post"
        likes=10
      />
    </div>
  );
}
```

React Lifecycle Hooks

- Many types of hooks
 - useState
 - useEffect
 - useRef
 - useContext
- Used when components need to update, fetch data, or perform other actions



The useState hook

- Adds React state to a component
- Can be used to dynamically update a component
- On change, it triggers a re-render of the component

```
1: import React, { useState } from 'react';
2:
3: function Example() {
4:   const [count, setCount] = useState(0);
5:
6:   return (
7:     <div>
8:       <p>You clicked {count} times</p>
9:       <button onClick={() => setCount(count + 1)}>
10:        Click me
11:       </button>
12:     </div>
13:   );
14: }
```

Live demo time!

- Feel free to follow along
- Repo with the site we worked on will be shared afterwards

```
state={
  products: storeProducts
}
render() {
  return (
    <React.Fragment>
      <div className="py-5">
        <div className="container">
          <Title name="our" title="product">
            <div className="row">
              <ProductConsumer>
                {(value) => {
                  console.log(value)
                }}
              </ProductConsumer>
            </div>
          </div>
        </div>
      </React.Fragment>
    )
  }
}
```

Additional Resources

- <https://react.dev/>
- <https://vitejs.dev/guide/>
- HTML/CSS/JS:
 - - <https://www.w3schools.com/html/>
 - - <https://www.w3schools.com/css/>
 - - <https://www.w3schools.com/js/>

Thank you for attending!