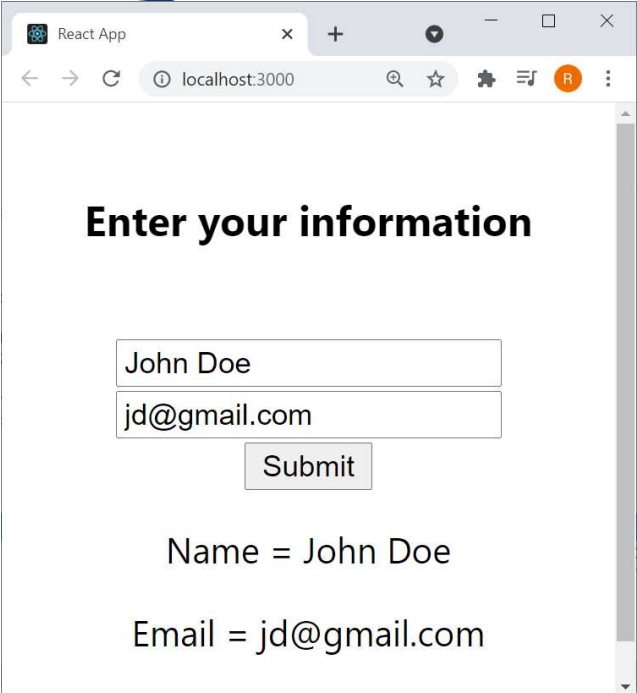Lesson 10

REACT FORMS AND ROUTING

FORMS

Simple entry form

```jsx
import React, { useState } from 'react';


export const FormPage = () =>{
    const [name, setName] = useState('');
    const [email, setEmail] = useState('');

    let formpage = (
        <form>
          <h3>Enter your information</h3>
          <div>
              <input
                type="text"
                placeholder="Name"
                value={name}
                onChange={e => setName(e.target.value)} />
          </div>
          <div>
              <input
                type="text"
                placeholder="Email"
                value={email}
                onChange={e => setEmail(e.target.value)} />
          </div>
```
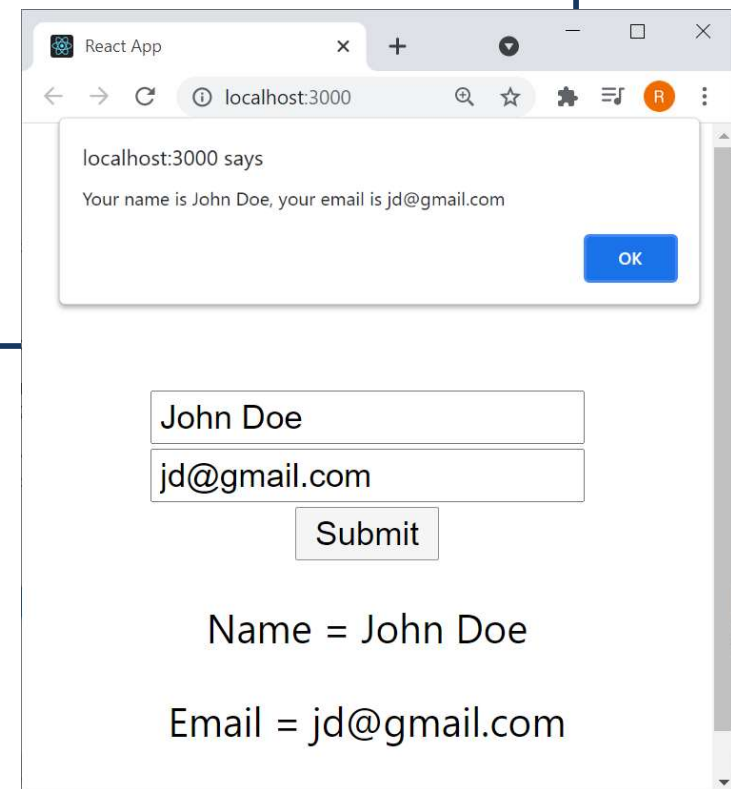
Simple entry form

```
    <button onClick={e => {
  alert(`Your name is ${name}, your email is ${email}`);
    e.preventDefault();
  }}>Submit</button>

  <p>Name = {name}</p>
  <p>Email = {email}</p>
  </form>
);
return formpage;
}
```
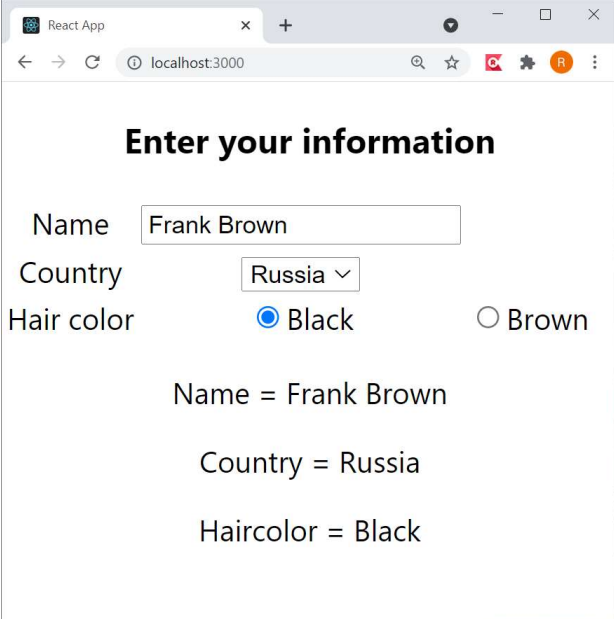

localhost:3000 says
Your name is John Doe, your email is jd@gmail.com

OK

John Doe

jd@gmail.com

Submit

Name = John Doe

Email = jd@gmail.com

Complex entry form

```jsx
import React, { useState } from 'react';

export const FormPage = () => {
    const [name, setName] = useState('');
    const [country, setCountry] = useState('');
    const [haircolor, setHaircolor] = useState('');

    let formpage = (
        <div>
            <form>
                <h3>Enter your information</h3>
                <table>
                    <tr>
                        <td>Name</td>
                        <td><input
                            type="text"
                            value={name}
                            onChange={e => setName(e.target.value)} />
                        </td>
                    </tr>
```
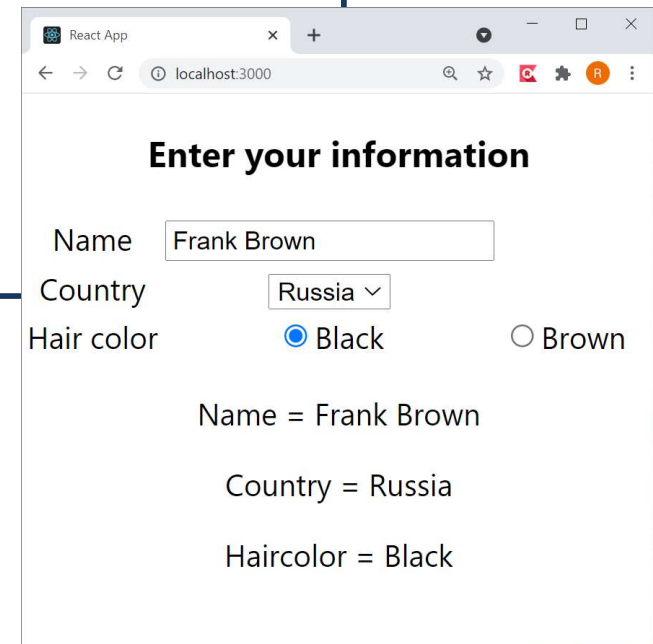
Enter your information

Name	Frank Brown	
Country	Russia ∨	
Hair color	● Black	○ Brown

Name = Frank Brown

Country = Russia

Haircolor = Black

Complex entry form

```
<tr>
    <td>Country</td>
    <td><select
        type="text"
        value={country}
        onChange={e => setCountry(e.target.value)} >
        <option>USA</option>
        <option>India</option>
        <option>China</option>
        <option>Russia</option>
    </select>
    </td>
</tr>
```

Enter your information

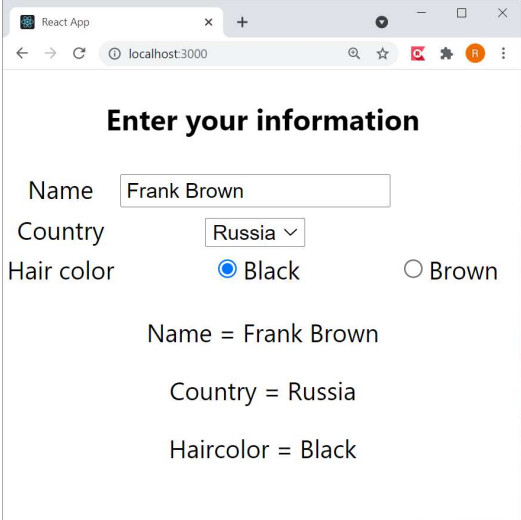Name   Frank Brown

Country   Russia ⌄

Hair color   ● Black   ○ Brown

Name = Frank Brown

Country = Russia

Haircolor = Black

Complex entry form

```
            <tr>
                <td>Hair color</td>
                <td><input
                    type="radio"
                    value="Black"
                    checked={haircolor === "Black"}
                    onChange={e => setHaircolor(e.target.value)}
                />Black</td>
                <td><input
                    type="radio"
                    value="Brown"
                    checked={haircolor === "Brown"}
                    onChange={e => setHaircolor(e.target.value)}
                />Brown</td>
            </tr>
        </table>
    </form>

    <p>Name = {name}</p>
    <p>Country = {country}</p>
    <p>Haircolor = {haircolor}</p>
</div>
);
return formpage;
}
```

React App — localhost:3000

Enter your information

Name   Frank Brown

Country   Russia

Hair color   ● Black   ○ Brown
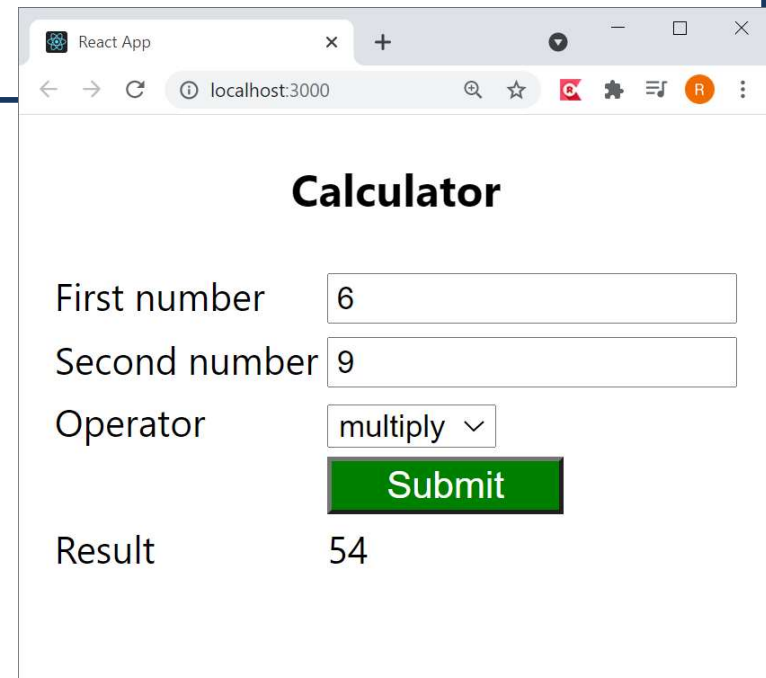
Name = Frank Brown

Country = Russia

Haircolor = Black

Calculator

```
import React, { useState } from 'react';
import './Calculator.css'

export const Calculator = () => {
    const [first, setFirst] = useState(0);
    const [second, setSecond] = useState(0);
    const [operator, setOperator] = useState('');
    const [result, setResult] = useState(0);
    ...
```

State of the calculator

Calculator

First number   6

Second number   9

Operator   multiply

Submit

Result   54

Calculator


```
const [first, setFirst] = useState(0);
const [second, setSecond] = useState(0);

let calcpage = (
    <form>
        <h3>Calculator</h3>
        <table class="center">
            <tr>
                <td>First number</td>
                <td><input
                    type="text"
                    name="first"
                    value={first}
                    onChange={e => setFirst(e.target.value)} /></td>
            </tr>
            <tr>
                <td>Second number</td>
                <td><input
                    type="text"
                    name="second"
                    value={second}
                    onChange={e => setSecond(e.target.value)} /></td>
            </tr>
```
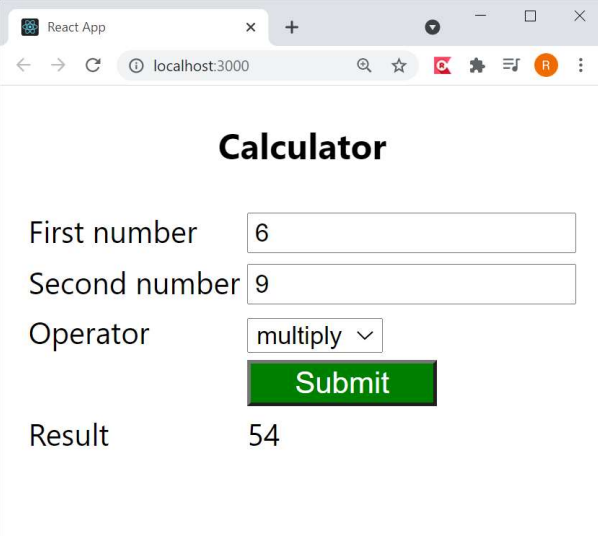
Calculator

```
const [operator, setOperator] = useState('');

<tr>
    <td>Operator</td>
    <td><select
        type="text"
        name="operator"
        value={operator}
        onChange={e => setOperator(e.target.value)} >
        <option>add</option>
        <option>subtract</option>
        <option>multiply</option>
        <option>divide</option>
        <option>clear</option>
    </select></td>
</tr>
```
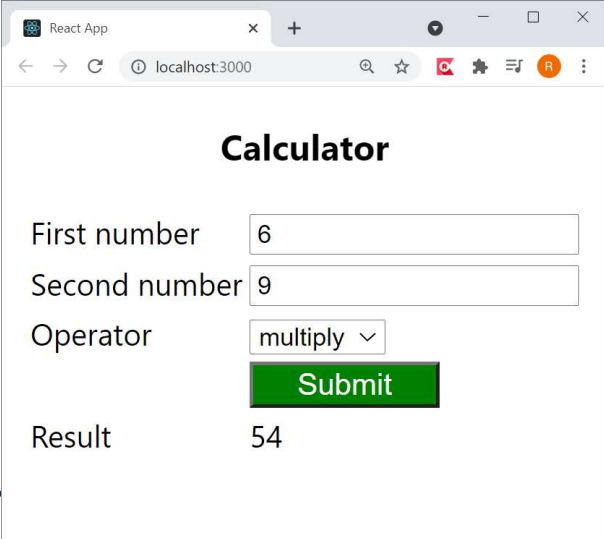

Calculator

First number	6
Second number	9
Operator	multiply
	Submit
Result	54

Calculator

```
<td><button onClick={e => {
    switch(operator) {
        case "add":
            setResult(parseInt(first) + parseInt(second));
          break;
        case "subtract":
            setResult(parseInt(first) - parseInt(second));
          break;
        case "multiply":
            setResult(parseInt(first) * parseInt(second));
          break;
        case "divide":
            setResult(parseInt(first) / parseInt(second));
          break;
        case "clear":
            setResult(0);
          break;
        default:
            setResult(0);
    }

    e.preventDefault();
}}>Submit</button></td>
```

Calculator

First number	6
Second number	9
Operator	multiply ∨
	Submit

Result 54

Calculator

```
            const [result, setResult] = useState(0);

                <tr>
                    <td>Result</td>
                    <td>{result}</td>
                </tr>
            </table>
        </form>
    );
    return calcpage;
}
```
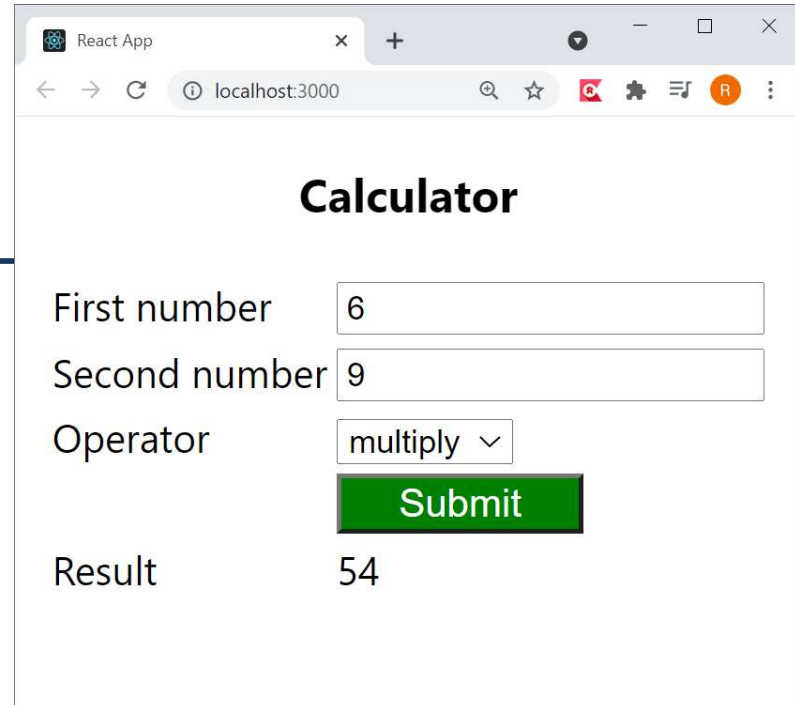
Calculator

First number	6
Second number	9
Operator	multiply ⌄
	Submit
Result	54

Main point

- Forms are easy to create in React by connection individual form controls to state variables. *Everything in creation is connected in the unified field of pure Consciousness.*

ROUTING

3 pages

```js
// Pageone.js
import React from 'react';

export const Pageone = () => {
  let page1 = (
      <h3>Page 1</h3>
  );
  return page1;
}
```

```js
// Pagetwo.js
import React from 'react';

export const Pagetwo = () => {
  let page2 = (
      <h3>Page 2</h3>
  );
  return page2;
}
```
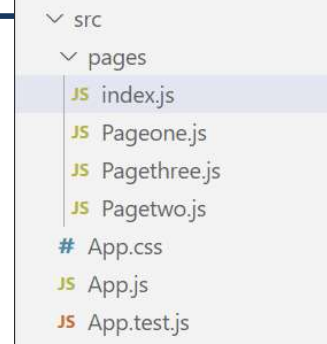
```js
// Pagethree.js
import React from 'react';

export const Pagethree = () => {
  let page3 = (
      <h3>Page 3</h3>
  );
  return page3;
}
```

```js
// index.js
import React from 'react';

export {Pageone} from './Pageone';
export {Pagetwo} from './Pagetwo';
export {Pagethree} from './Pagethree';
```

```
∨ src
  ∨ pages
    JS index.js
    JS Pageone.js
    JS Pagethree.js
    JS Pagetwo.js
  # App.css
  JS App.js
  JS App.test.js
```

Routing

```
import {BrowserRouter as Router, Route} from 'react-router-dom';
import {Pageone, Pagetwo, Pagethree} from './pages';
import './App.css';

function App() {
  return (
    <div>
      <Router>
        <Route exact path={["/", "/pageone"]} component={Pageone} />
        <Route path="/pagetwo" component={Pagetwo} />
        <Route path="/pagethree" component={Pagethree} />
      </Router>
    </div>
  );
}

export default App;
```
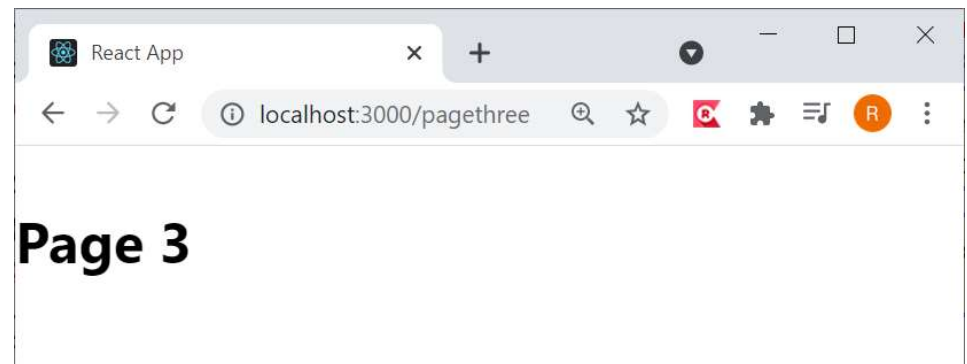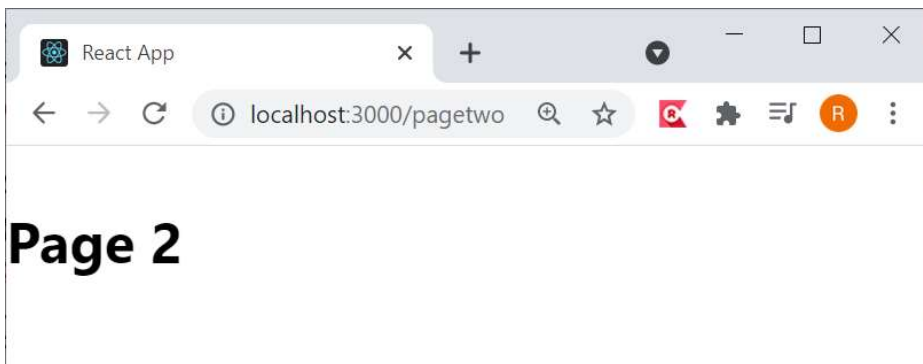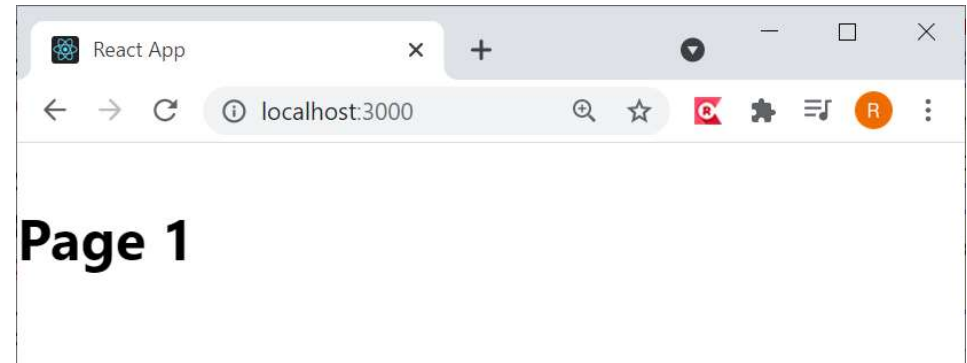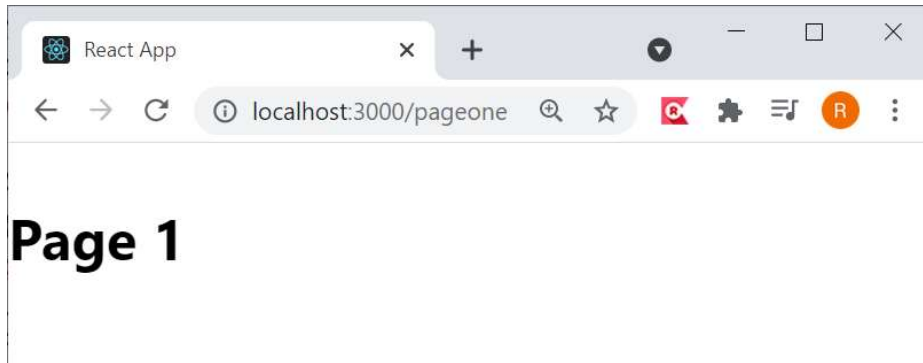
Import BrowserRouter and Route component

Import pages from index.js in the ./pages folder

Disables partial matching

Routing

Routing with Links
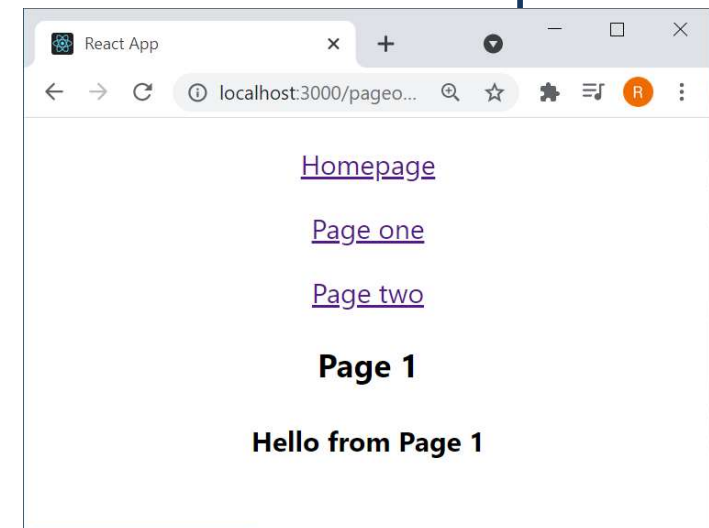
```
import {BrowserRouter as Router, Route, Link} from 'react-router-dom';
import {Homepage, Pageone, Pagetwo} from './pages';
import './App.css';

function App() {
  return (
    <div className="App">
      <Router>
        <p><Link to="/">Homepage</Link></p>
        <p><Link to="/pageone">Page one</Link></p>
        <p><Link to="/pagetwo">Page two</Link></p>
        <Route path="/" exact>
          <Homepage />
        </Route>
        <Route path="/pageone">
          <Pageone />
        </Route>
        <Route path="/pagetwo">
          <Pagetwo />
        </Route>
      </Router>
    </div>
  );
}

export default App;
```
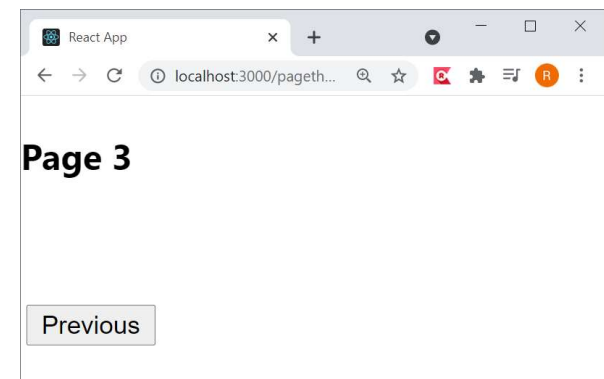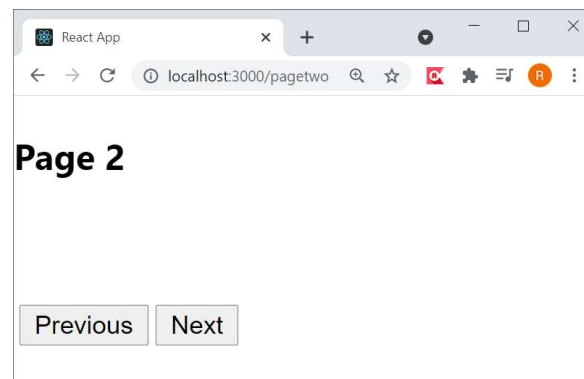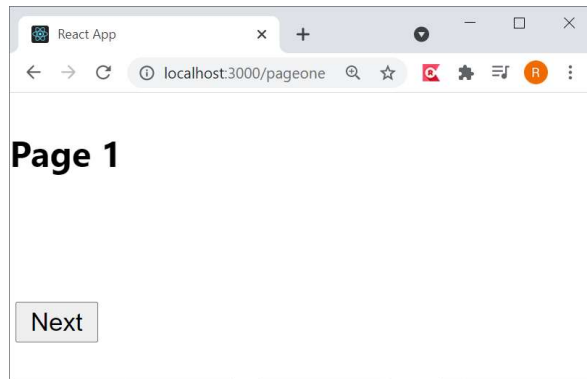
Import Link component

Use <Link> component

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Routing with buttons

Navigation with buttons

App.js

```
import {BrowserRouter as Router, Route} from 'react-router-dom';
import {Pageone, Pagetwo, Pagethree} from './pages';
import './App.css';

function App() {
  return (
    <div>
      <Router>
        <Route exact path={["/", "/pageone"]} component={Pageone} />
        <Route path="/pagetwo" component={Pagetwo} />
        <Route path="/pagethree" component={Pagethree} />
      </Router>
    </div>
  );
}

export default App;
```
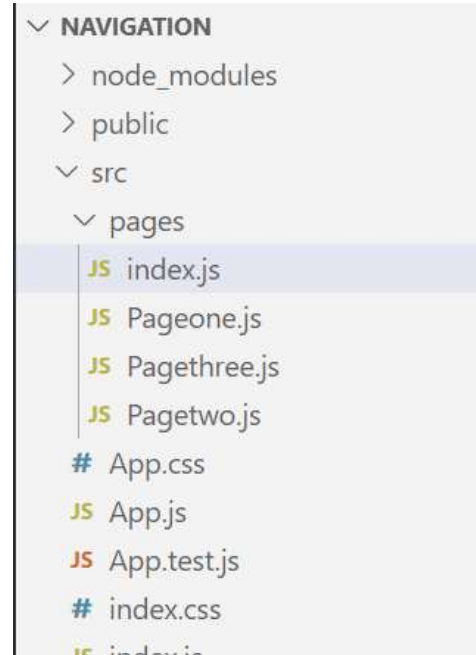
Component that is shown

index.js

```
import React from 'react';

export {Pageone} from './Pageone';
export {Pagetwo} from './Pagetwo';
export {Pagethree} from './Pagethree';
```

index.js

NAVIGATION
- > node_modules
- > public
- ∨ src
  - ∨ pages
    - JS index.js
    - JS Pageone.js
    - JS Pagethree.js
    - JS Pagetwo.js
  - # App.css
  - JS App.js
  - JS App.test.js
  - # index.css
  - JS index.js

App.js

```
import {BrowserRouter as Router, Route} from 'react-router-dom';
import {Pageone, Pagetwo, Pagethree} from './pages';
import './App.css';
```

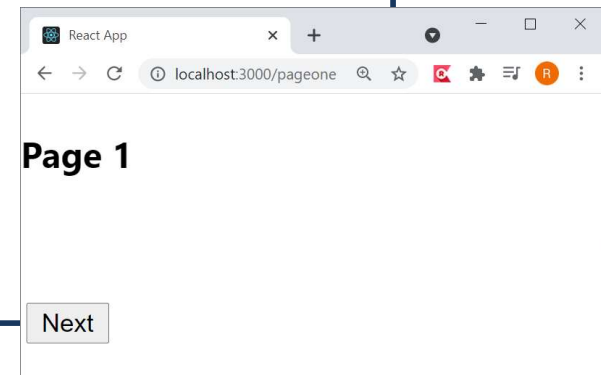Import all pages from index.js in the ./pages folder

Pageone.js

```javascript
import React from 'react';

export const Pageone = (props) => {
  const gotoNextPage = () => {
    props.history.push("/pagetwo" );
  }

  let page1 = (
    <>
      <h3>Page 1</h3>
      <br />
      <br />
      <table>
        <tr>
          <th><button onClick={gotoNextPage}>Next</button></th>
        </tr>
      </table>
    </>
  );
  return page1;
}
```

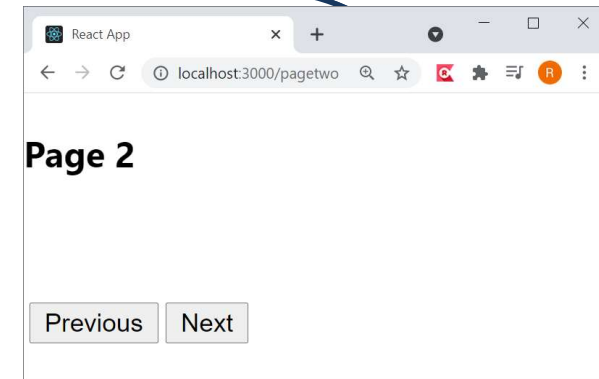> Every child of the Route component gets history object as a prop

Pagetwo.js

```jsx
import React from 'react';

export const Pagetwo = (props) => {
  const gotoNextPage = () => {
    props.history.push("/pagethree" );
  }
  const gotoPreviousPage = () => {
    props.history.push("/pageone" );
  }

  let page2 = (
    <>
      <h3>Page 2</h3>
      <br />
      <br />
      <table>
        <tr>
          <th><button onClick={gotoPreviousPage}>Previous</button></th>
          <th><button onClick={gotoNextPage}>Next</button></th>
        </tr>
      </table>
    </>
  );
  return page2;
}
```
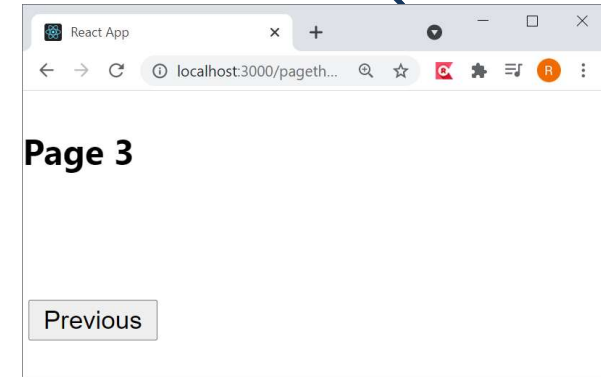
Page 2

Previous Next

Pagethree.js

```jsx
import React from 'react';

export const Pagethree = (props) => {

  const gotoPreviousPage = () => {
    props.history.push("/pagetwo" );
  }


  let page3 = (
    <>
      <h3>Page 3</h3>
      <br />
      <br />
      <table>
        <tr>
          <th><button onClick={gotoPreviousPage}>Previous</button></th>
        </tr>
      </table>
    </>
  );
  return page3;
}
```

ROUTING WITH STATE

Routing with state

Pageone.js

```jsx
import React, { useState } from 'react';

export const Pageone = (props) => {
  const [username, setUsername] = useState("");

  const handleOnSubmit = () => {
    props.history.push("/pagetwo", username);
  }

  let page1 = (
    <form>
      <h3>Page 1</h3>
      <div>
        Name
          <input
          type="text"
          placeholder="Username"
          value={username}
          onChange={e => setUsername(e.target.value)} />
      </div>
      <button onClick={handleOnSubmit}>Next</button>
    </form>
  );
  return page1;
}
```
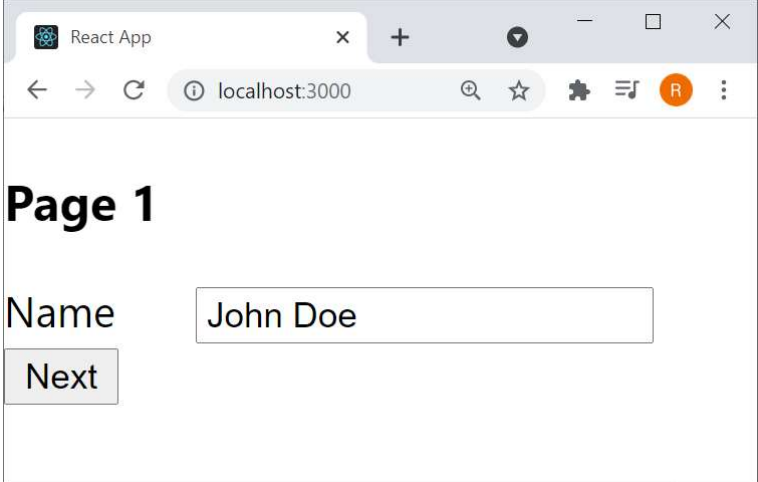
Pass the username to pagetwo

Page 1
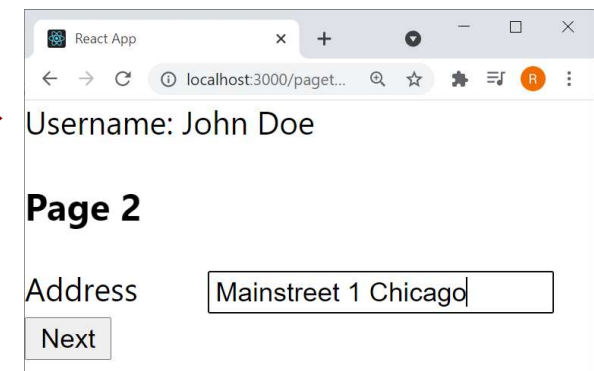
Name   John Doe

Next

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Pagetwo.js

```javascript
import React, { useState } from 'react';
export const Pagetwo = (props) => {
  const username = props.location.state;
  const [address, setAddress] = useState("");

  const handleOnSubmit = () => {
    props.history.push("/pagethree", { username: username, address : address });
  }

  let page2 = (
    <div>
      <div>Username: {username}</div>
      <form>
        <h3>Page 2</h3>
        <div>
          Address
            <input
              type="text"
              placeholder="Address"
              value={address}
              onChange={e => setAddress(e.target.value)} />
        </div>
        <button onClick={handleOnSubmit}>Next</button>
      </form>
    </div>
  );
  return page2;
```

Get username from props.location.state

Pass the username and address to pagethree

Username: John Doe

Page 2

Address   Mainstreet 1 Chicago

Next

Pagethree.js

```jsx
import React , { useState } from 'react';
export const Pagethree = (props) => {
  const username = props.location.state.username;
  const address = props.location.state.address;
  const [creditcard, setCreditcard] = useState("");
  const handleOnSubmit = () => {
    props.history.push("/pagefour", { username: username, address : address,
                                      creditcard : creditcard });

  }
  let page3 = (
    <div>
      <div>Username: {username}</div>
      <div>Address: {address}</div>
      <form>
        <h3>Page 3</h3>
        <div>
          Creditcard number
          <input
           type="text"
           placeholder="Address"
           value={creditcard}
           onChange={e => setCreditcard(e.target.value)} /
        </div>
        <button onClick={handleOnSubmit}>Next</button>
      </form>
    </div>
  );
  return page3;
```

Get username

Get address

Pass the username, address and creditcard to pagefour

Username: John Doe
Address: Mainstreet 1 Chicago

Page 3
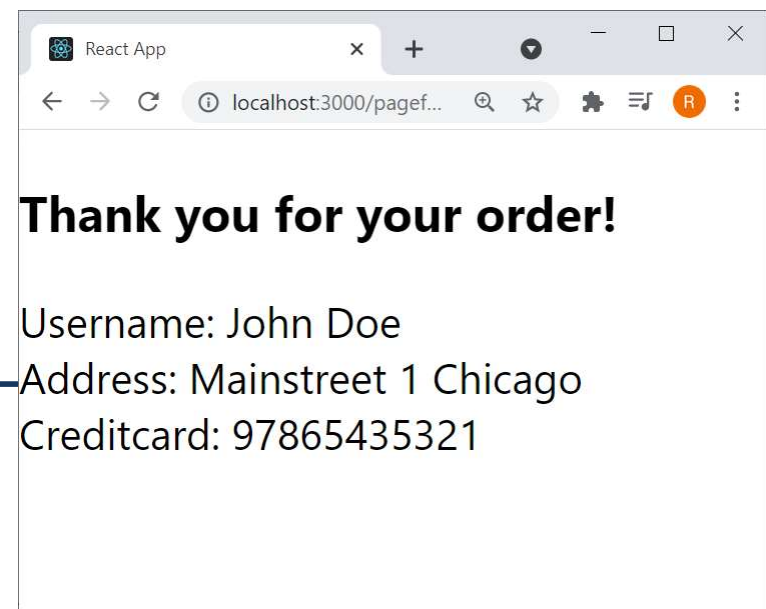
Creditcard number
97865435321
Next

Pagefour.js

```javascript
import React from 'react';

export const Pagefour = (props) => {
  const username = props.location.state.username;
  const address = props.location.state.address;
  const creditcard = props.location.state.creditcard;

  let page4 = (
    <div>
      <h3>Thank you for your order!</h3>
      <div>Username: {username}</div>
      <div>Address: {address}</div>
      <div>Creditcard: {creditcard}</div>
    </div>
  );
  return page4;
}
```

Thank you for your order!

Username: John Doe
Address: Mainstreet 1 Chicago
Creditcard: 97865435321

App.js

```jsx
import {BrowserRouter as Router, Route} from 'react-router-dom';
import {Pageone, Pagetwo, Pagethree, Pagefour} from './pages';
import './App.css';

function App() {
  return (
    <div>
      <Router>
        <Route exact path={["/", "/pageone"]} component={Pageone} />
        <Route path="/pagetwo" component={Pagetwo} />
        <Route path="/pagethree" component={Pagethree} />
        <Route path="/pagefour" component={Pagefour} />
      </Router>
    </div>
  );
}

export default App;
```

Main point

- The React Router makes it easy to navigate between UI components. *Daily contact with pure Consciousness results in more support of Nature in our daily navigation through life.*

Connecting the parts of knowledge with the wholeness of knowledge

1. Forms in React store their state in the local component.

2. The props.history.push() function allows to push state to the next page.

3. **Transcendental consciousness** is the source of all creation.

4. **Wholeness moving within itself:** In Unity Consciousness, one realizes that all relative state is just an expressions of one's own Self.