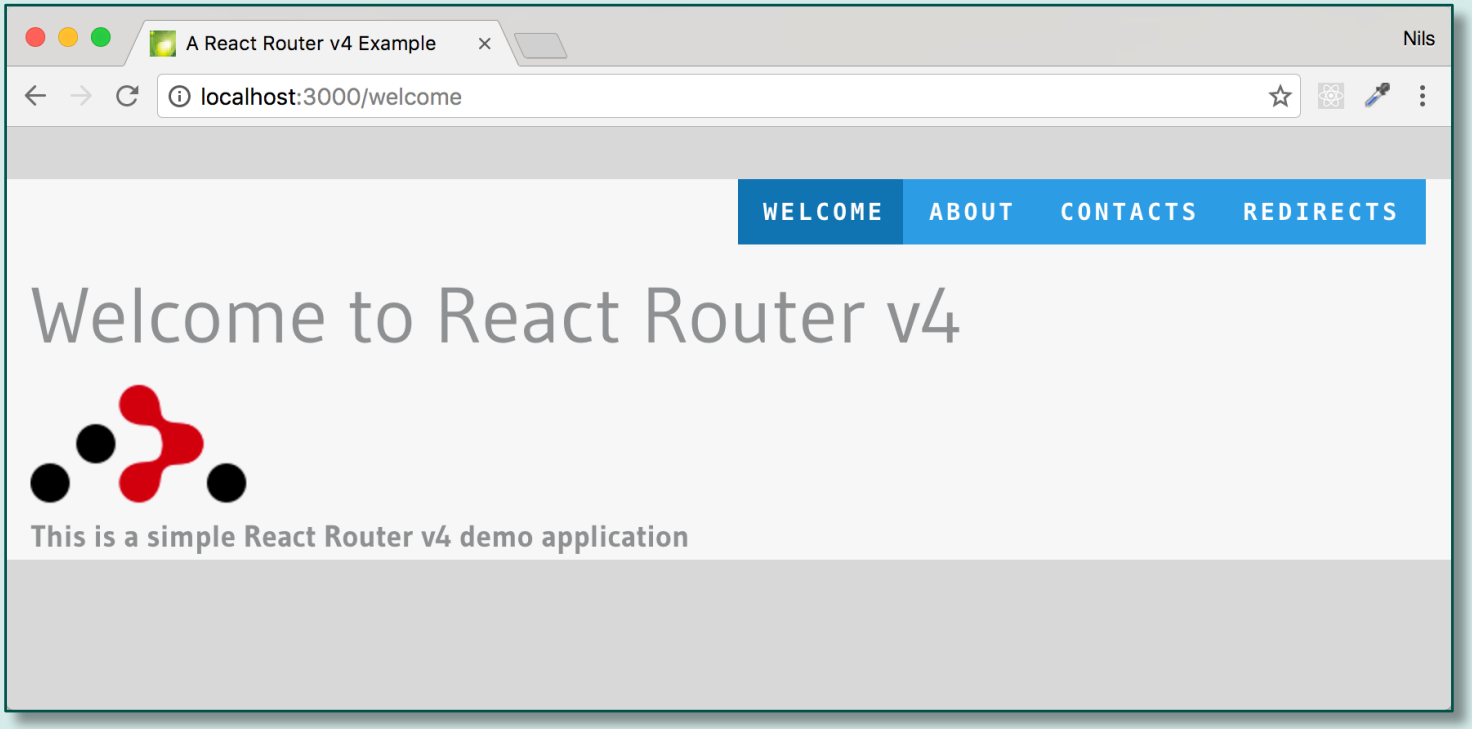
@NILSHARTMANN

REACT ROUTER V4

http://bit.ly/react-rr4

REACT MEETUP HAMBURG | NOVEMBER 2016



HTTPS://GITHUB.COM/NILSHARTMANN/REACT-RR4-EXAMPLE

RECAP: REACT ROUTER V2 / V3

Explicit history object

```
import
  {Router, Route, browserHistory, ...} from 'react-router';
```

Global (central) route config

```
import
  {Router, Route, browserHistory, ...} from 'react-router';

const routes = <Router history={browserHistory}>
  <Route component={App}>









  </Route>
</Router>;
```

Nested routes

```
import
  {Router, Route, browserHistory, ...} from 'react-router';

const routes = <Router history={browserHistory}>
  <Route component={App}>
    <Route path='/about' component={AboutPage}>
      <Route path='more' component={More} />
      <Route path='why' component={Why} />
    </Route>
    <Route path='*' component={NotFound} />
  </Route>
</Router>;
```

Links

```
import { Link } from 'react-router';

const AboutPage = () => (
  <div>
    <Link to='/about/why'>Why</Link>
    <Link to='/about/source'>Source</Link>
    <Link to='/about/more'>More</Link>
  </div>
);
```

```
npm install --save react-router@next
```

REACT ROUTER V4

Current state: Alpha Version

- Version 4.0.0-alpha6 (Released: yesterday...)
- Be careful! Use at your own risk!

Docs and sources

- https://react-router.now.sh/
- https://github.com/ReactTraining/react-router/tree/v4

REACT ROUTER V4: ROUTER

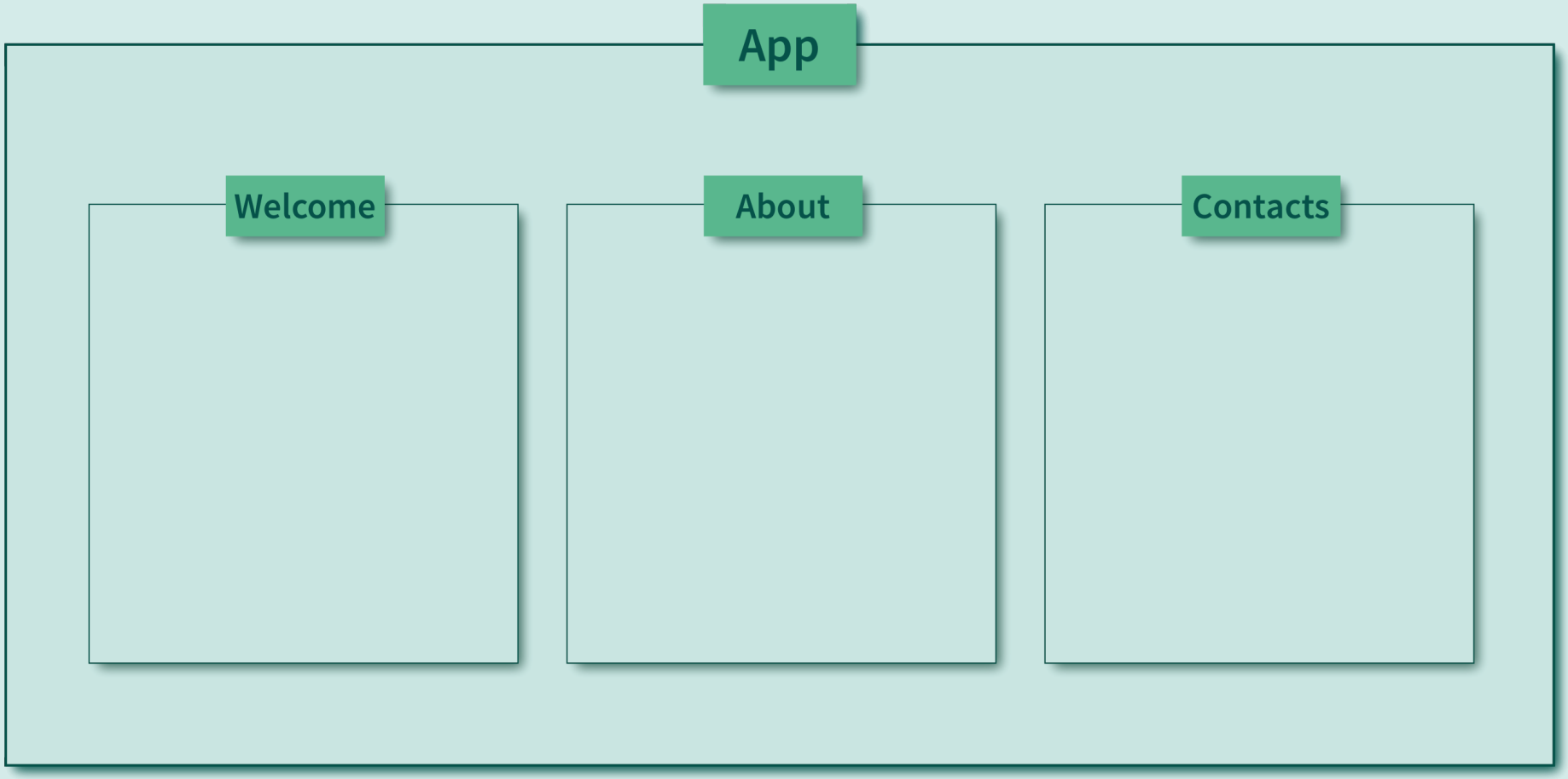
```
import BrowserRouter from 'react-router/BrowserRouter';
import App from './App';

ReactDOM.render(
  <BrowserRouter>
    <App />
  </BrowserRouter>,
  document.getElementById('... ')
);
```

Router as new top-level component

- No centralized route config anymore!
- Instead of History use appropriate Router component:
  - BrowserRouter, HashRouter, MemoryRouter, ServerRouter (new!)

MATCHING



MATCHING 1

App.jsx

```
// 'regular' component
const App = () => (
 <main>
  <header>. . .</header>
   // add components here according to current route
   ...



 </main>
);
```

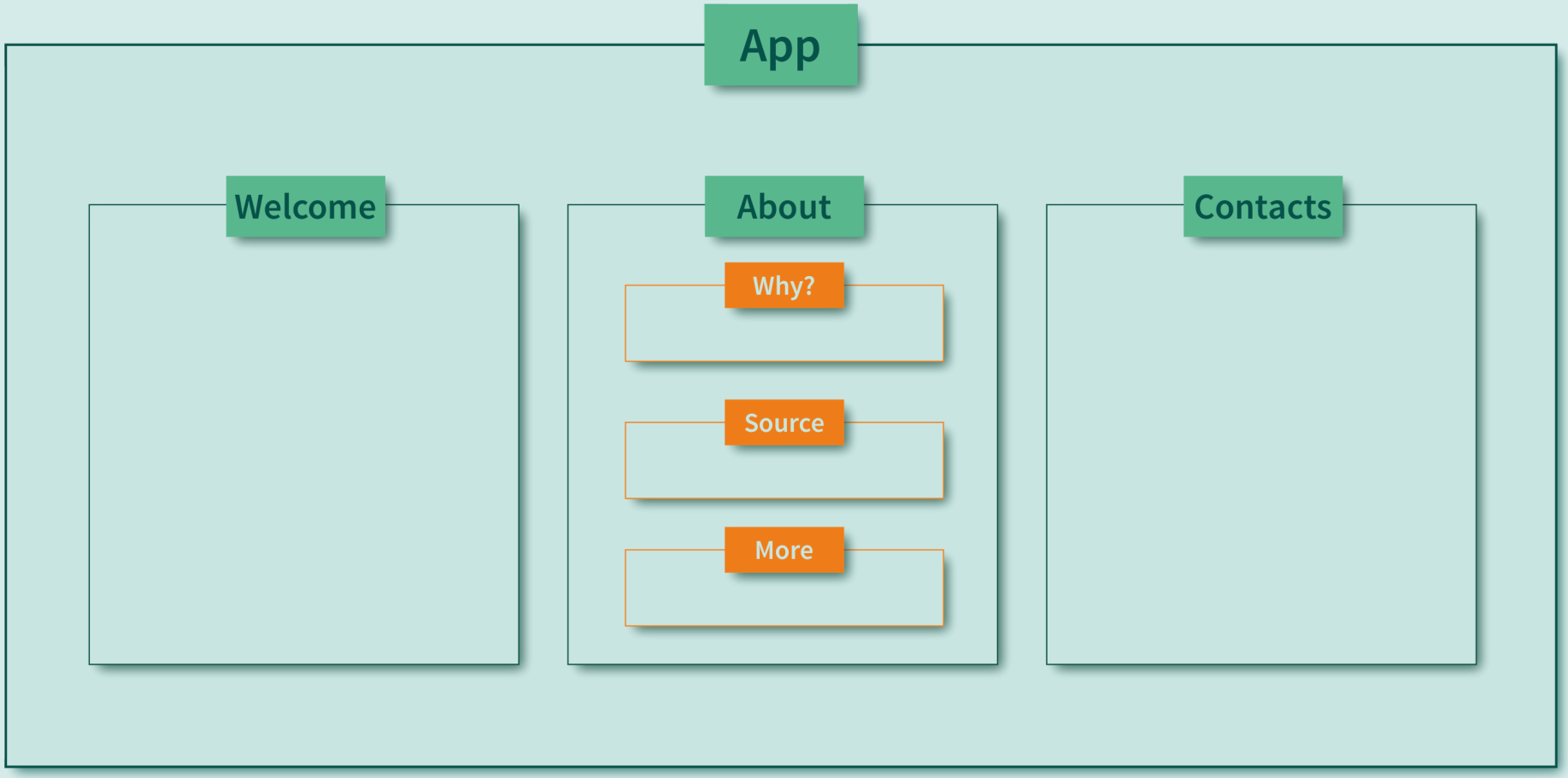
MATCHING - 2

App.jsx

```
import Match from 'react-router/Match';

// 'regular' component
const App = () => (
 <main>
  <header>. . .</header>
   // add components here according to current route
  <Match pattern='/welcome' component={ <Welcome /> } />
  <Match pattern='/about' component={ <About/> } />
  <Match pattern='/secret' component={ <Secret /> } />
 </main>
);
```

MATCHING – "SUB ROUTES"



MATCHING - "SUB ROUTES"

About.jsx

```
import Match from 'react-router/Match';

// 'regular' component
const About = ({pathname}) => (
 <div>
  <h1>About</h1>
  <div>
   <Match pattern={`${pathname}/why`} component={Why} />
   <Match pattern={`${pathname}/more`} component={More}/>
  </div>
</div>
);
```

MATCHING – MULTIPLE MATCHES

Page.jsx

```
import Match from 'react-router/Match';

const Layout = () => (
  <div>
    <aside>
      <Match pattern='/about' component={ContactBlock} />
      <Match pattern='/source' component={GitHubLogo} />
    </aside>
    <main>
      <Match pattern='/about' component={AboutPage} />
      <Match pattern='/source' component={SourcePage} />
    </main>
  </div>
);
```

MATCHING - EXAMPLES

Matches for /:

```
<Match pattern='/' exactly component={ ... } />
```

Matches for /about, **NOT** for /about/:

```
<Match pattern='/about' exactly component={ ... } />
```

Matches for /about, /about/, /about/me, /about/react/router/v4:

```
<Match pattern='/about' component={ ... } />
```

Dynamic Segments

Matches for /contacts/1, /contacts, contacts/1/a:

```
<Match pattern='/contacts/:id?' component={ ... } />
```

Matches for /contacts/1, /contacts, **NOT** for /contacts/:

```
<Match pattern='/contacts/:id?' exactly component={ ... } />
```

MATCHING - PROPERTIES

<Match /> passes properties to rendered component, e.g:

- `pathname`: The path that has been matched ('/about/why')
- `pattern`: The pattern that has been matched ('why')
- `location`: The location object (from History project)
- `params`: Values from the dynamic segments in pattern ('.../:id')

MATCHING – RENDER FUNCTION

<Match **render** = { (props) => { . . . } />:

- Specifies a **function** rather than a **component**
- Function receives same parameters as component
- Returned component is rendered

MATCHING – RENDER FUNCTION

Example 1: Conditional rendering

```
<Match pattern='/secret' render={ () => {
  if (!loggedIn) {
    return <LoginForm />;
  }

  return <SecretPage />;
} } />
```

MATCHING -RENDER FUNCTION

Example 2: Pass properties to component

```
const Page = ({allContacts}) => (
  <div>
    <header>...</header>
    <main>
      <Match pattern='/contacts' render={ props => (
        <ContactsPage contacts={allContacts}
                      currentContactId={props.params.id} />
      ) />
    </main>
  </div>
);
```

REDIRECT

<Redirect to='/some/path' />

- Redirect to a specified path (or location)
- Works like a "regular component"

```
Example 1: Use in <Match />-function
import Redirect from 'react-router/Redirect';

const App = () => (
 <main>
  <header>. . .</header>
  <Match pattern='/' render={() => <Redirect to='/index'/> } />
  <Match pattern='/index' component={ IndexPage } />
 </main>
);
```

REDIRECT

<Redirect to='/some/path' />

- Redirect to a specified path (or location)
- Works like a "regular component"

```
Example 2: Use in "regular" render function
import Redirect from 'react-router/Redirect';

class Login extends React.Component {
  render() {
    const { loginSuccessful } = this.state;
    const { redirectAfterLogin } = this.props;
    return loginSuccessful ?
      <Redirect to={redirectAfterLogin} /> : <LoginForm />;
  }
}
```

REDIRECT - IMPERATIVE

Alternative: Redirect via API call

- Access to router via React Context (key: **router**)
- Specifies two functions: **transitionTo** and **replaceWith**

Example

```
import { routerContext } from 'react-router/PropTypes';

class Login extends React.Component {
  static contextTypes = { router: routerContext };

  doRedirectAfterLogin() {
    this.context.router.transitionTo('/...');
  }

  render() { . . . }
}
```

MATCHING – NO HIT: MISS

<Miss **component**={ . . . }/>

<Miss **render**={ (params) => { . . . } }/>

- Is rendered when no **<Match />** hits
- Takes either a component or a function (as in **<Match />**)
- Receives a **location** object with unmatched path

http://localhost:3000/not-there?name=klaus

```
location:
    hash:""
    key:undefined
    pathname:"/not-there"
    query:
        name:"klaus"
    search:"?name=klaus"
    state:null
```

MATCHING – NO HIT: MISS

Example: <Miss />

```
import Miss from 'react-router/Miss';

const NoMatch =
  ({location}) => <b>Not found: {location.pathname}</b>;


const App = () => (
 <main>
  <Match pattern='/index' component={ IndexPage } />
  <Match pattern='/welcome' component={ Welcome } />
  <Miss component={ NoMatch } />
 </main>
);
```

LINKS

<Link **to**='...' />:

- Renders a link (...) to specified path
- Properties almost identical to React Router v3
  - to, activeClassName, activeStyle

```
import Link from 'react-router/Link';
const About = () => (
  <span>
    Click here <Link
      to='/about/more'
      activeClassName='active'
      activeStyle={{fontWeight: 'bold'}}>for info</Link>
  </span>
);
```

LINKS – ACTIVE LINK

<Link to='/...' **isActive**={(params) => {...} }/>

- Callback function to determine if Link should be 'active'
  - **location**, **to**: Current and target (as **location**-object)
  - **props**: All properties passed to Link component

```
import Link from 'react-router/Link';

<Link to='/contact' data-alias='/address'
  isActive={ (location, to, props)} => (
    location.pathname === to.pathname
      || location.pathname === props['data-alias']
  )}
/>
```

LINKS: CUSTOM COMPONENT

<Link>{(params) => { . . . } }</Link>: Render custom component

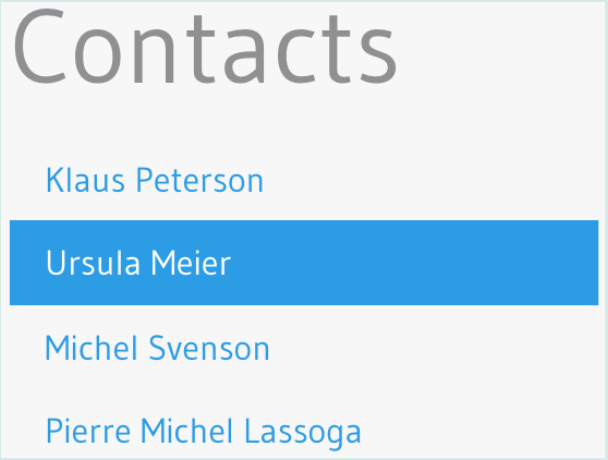
- Function as (the only) child to <Link />
- Render and return an own component instead of <a>...
- Useful for menus, buttons etc
- Receives parameters needed to build the component
  - isActive, location, href, onClick ...

LINKS: CUSTOM COMPONENT

Example: A Menu Entry

```
const MenuEntry = ({ label, to }) => (
  <Link to={to}>{params => (
    <li className={params.isActive ? 'menu active' : 'menu}>
      <a href={params.href} onClick={params.onClick}>{label}</a>
    </li>
  )}
  </Link>
);

<MenuEntry to='/contacts/1'
  label='Klaus Peterson' />
<MenuEntry to='/contacts/2'
  label='Ursula Meier' />
...
```



RELATIVE PATHS

Relative paths should be avoided

- "tricky to handle"
- Not (fully) implemented currently

Workaround: use 'pathname'

```
const About = ( { pathname } ) => (
  <header>
   <Link to={`${pathname}`/more}>More...</Link>
  <header>
  <main>
    <Match pattern={`${pathname}/more`} component={More} />
  </main>
);
```

SUMMARY

Still alpha!

- Expect to find bugs
- Not that much documentation (but looks promising)

Good improvements over v2/v3

- Decentraliced matching
- Custom link components
- Matching with functions rather than components

Could be better?!

- No 'router' as component properties
- Custom link components
- Relative links and matching

Thank you and happy routing!

http://bit.ly/react-rr4

Questions?