

WEB DEVELOPER CHEMNITZ

Regelmäßiges monatlichen Treffen Chemnitzer Web-Entwickler.
Erfahrungen zu aktuellen Technologien in interessanten Vorträgen.



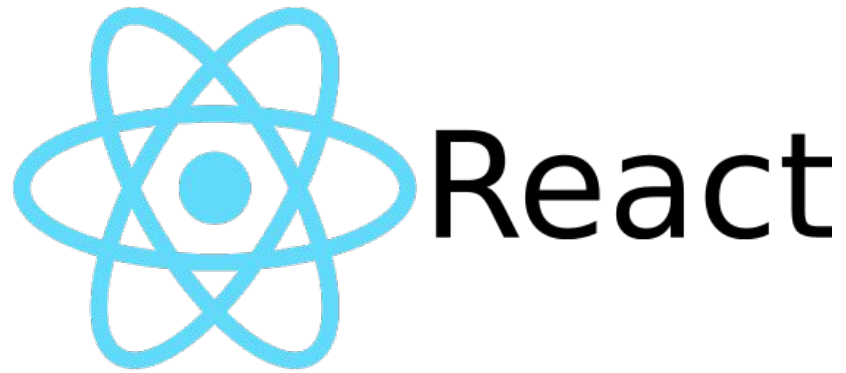
0th
Birthday

REDUX

IN MODERNEN WEBANWENDUNGEN

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create-react-app

A build tool for React apps.

CREATE REACT APP

```
create-react-app my-app
```

START DEV SERVER

```
npm start
```

RUN TEST

```
npm test
```

CREATE BUILD

```
npm run build
```

<https://github.com/facebookincubator/create-react-app>

TS

Typescript

SYNTAX SUGAR BY

Static Types

```
function greeter(person: string) {  
    return "Hello, " + person;  
}
```

TS

TypeScript

SYNTAX SUGAR BY

Interfaces

```
interface Person {  
    firstName: string;  
    lastName: string;  
}
```

```
function greeter(person: Person) {  
    return "Hello, " + person.firstName + " " +  
        person.lastName;  
}
```

TS

Typescript

BENEFITS

Static Types

Interfaces

async/await

IDE Autocompletion

<https://www.typescriptlang.org>

React in ES6

app.jsx

```
import React, { Component } from 'react';
import './App.css';
export default class App extends Component {
  render() {
    const foo = 'bar',
      {input} = this.props,
      {myState} = this.state;
    return (
      <div>
        My App {foo} / {input} / {myState}
      </div>
    );
  }
}
```

React in Typescript

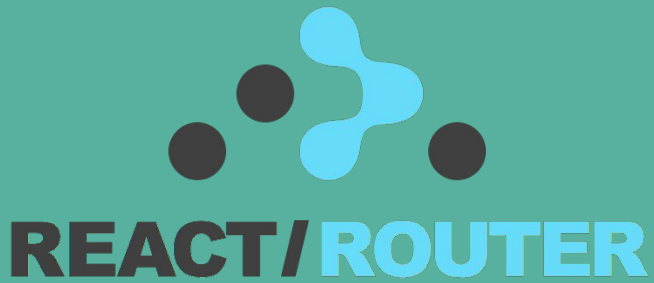
app.tsx

```
import * as React from 'react';
import Component = React.Component;

interface props {
  input: string;
}

interface state {
  myState: string;
}

export default class App extends Component<props, state> {
  render() {
    const foo:string = 'bar',
      {input} = this.props,
      {myState} = this.state;
    return (
      <div>
        My App {foo} / {input} / {myState}
      </div>
    );
  }
}
```



React Router

SINGLE PAGE APP

Client Routing without page reload

- change url with hashBang (#) or `history.push`
- components rendering for defined urls

Javascript lazy loading

<https://reacttraining.com/react-router/>

IMMUTABLE

Immutable-js

EXAMPLES

Primitive Variables

```
let x = 2,  
    y = x;
```

```
x = 3;
```

```
console.log(x === y);
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

EXAMPLES

Primitive Variables

```
let x = 2,  
    y = x;
```

```
x = 3;
```

```
console.log(x === y); //false
```

```
(x = 3, y = 2)
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

EXAMPLES

None Primitive Variables

```
let x = {a: 2},  
    y = x;
```

```
x.a = 3;
```

```
console.log(x === y);
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

EXAMPLES

None Primitive Variables

```
let x = {a: 2},  
    y = x;
```

```
x.a = 3;
```

```
console.log(x === y); //true  
(x = y = {a: 3})
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?

React Component Props

```
const products = [  
  {  
    'id': 1,  
    'name': 'Product 1'  
  },  
  {  
    'id': 2,  
    'name': 'Product 2'  
  }  
];
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?

React Component Props

```
render() {  
  return (  
    <div>  
      {this.props.products.map((product) => {  
        return <Product product={product}/>;  
      })}  
    </div>  
  );  
};
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?

React Component Props

```
product[0].name = 'New Product 1';
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?

React Component Props

```
render() {  
  return (  
    <div>  
      {this.props.products.map((product) => {  
        return <Product product={product}/>;  
      })}  
    </div>  
  );  
};
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?

React Update Cycle

```
shouldComponentUpdate(newProps) {  
    return this.props !== newProps;  
};
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

EXAMPLES

Create New Instances

```
let x = {a: 2},  
    y = x;
```

```
x = Object.assign({}, x, {a: 3});
```

```
console.log(x === y);
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

EXAMPLES

Create New Instances

```
let x = {a: 2},  
    y = x;
```

```
x = Object.assign({}, x, {a: 3});
```

```
console.log(x === y); //false
```

```
(x = {a: 3}, y = {a: 2})
```

<https://facebook.github.io/immutable-js/docs/>

IMMUTABLE

Immutable-js

WHY WE NEED THIS?






React Component Props

```
const products = [  
  {  
    'id': 1,  
    'name': 'Product 1'  
  },  
  {  
    'id': 2,  
    'name': 'Product 2'  
  }  
];
```









<https://facebook.github.io/immutable-js/docs/>

REDUX

**MANAGE YOUR STATE
IN A GLOBAL STORE**











Products			⚙	Basket 3		🛒		
	LIPSTICK Intense Red-Orange	19.98€	+	Intense Red-Orange	19.98€	🗑		
		LIPSTICK Nude Rose		26.98€	+	Nude Rose	26.98€	🗑
						Green Balance	22.98€	🗑
	LIPSTICK Electric Blue-Violet	22.98€	+					
	LIPSTICK Energetic Rosé	20.98€	+					
	LIPSTICK Green Balance	22.98€	+					
				69.94€				

SHELF COMPONENT

Products				Basket 3		
	LIPSTICK Intense Red-Orange	19.98€	+	Intense Red-Orange	19.98€	
	LIPSTICK Nude Rose	26.98€	+	Nude Rose	26.98€	
	LIPSTICK Electric Blue-Violet	22.98€	+	Green Balance	22.98€	
	LIPSTICK Energetic Rosé	20.98€	+	69.94€		
	LIPSTICK Green Balance	22.98€	+			

SHELF COMPONENT

BASKET COMPONENT

Products 				Basket 3 		
	LIPSTICK Intense Red-Orange	19.98€	+	Intense Red-Orange	19.98€	
	LIPSTICK Nude Rose	26.98€	+	Nude Rose	26.98€	
	LIPSTICK Electric Blue-Violet	22.98€	+	Green Balance	22.98€	
	LIPSTICK Energetic Rosé	20.98€	+	69.94€		
	LIPSTICK Green Balance	22.98€	+			

SHELF COMPONENT

BASKET COMPONENT

Products	Basket 3	
<pre>[{ 'id': 1, 'category': 'Lipstick', 'name': 'Intense Red-Orange', 'color' : '#c05261', 'price': 19.98 }, { 'id': 2, 'category': 'Lipstick', 'name': 'Nude Rose', 'color' : '#b97871', 'price': 26.98 }]</pre>	Intense Red-Orange	19.98€
	Nude Rose	26.98€
	Green Balance	22.98€
	69.94€	

SHELF COMPONENT

BASKET COMPONENT

Products



```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color' : '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color' : '#b97871',
    'price': 26.98
  }
]
```

Basket 3



```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color' : '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color' : '#b97871',
    'price': 26.98
  }
]
```

STORE

SHELF

```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color' : '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color' : '#b97871',
    'price': 26.98
  }
]
```

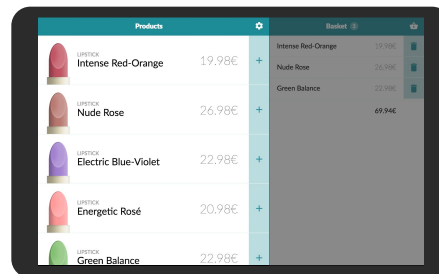
BASKET

```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color' : '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color' : '#b97871',
    'price': 26.98
  }
]
```

STORE SHELF

```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color': '#b97871',
    'price': 26.98
  }
]
```

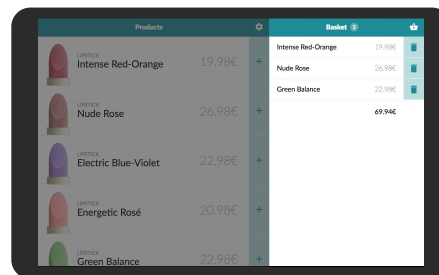
SUBSCRIBE



BASKET

```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color': '#b97871',
    'price': 26.98
  }
]
```

SUBSCRIBE



STORE

SHELF

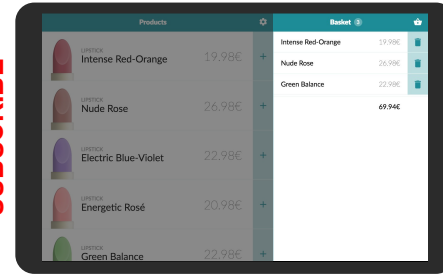
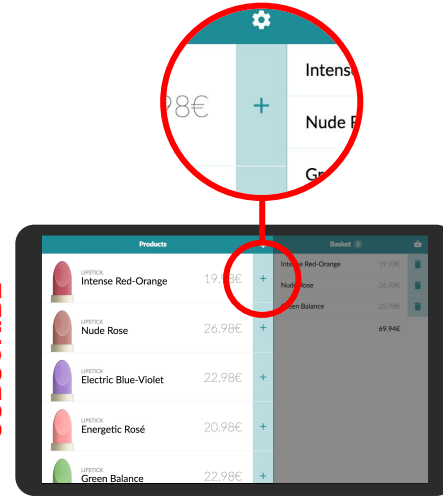
```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
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    'id': 2,
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    'name': 'Nude Rose',
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BASKET

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  {
    'id': 1,
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    'id': 2,
    'category': 'Lipstick',
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    'color': '#b97871',
    'price': 26.98
  }
]
```

SUBSCRIBE

SUBSCRIBE



STORE SHELF

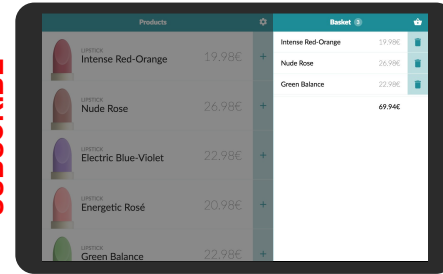
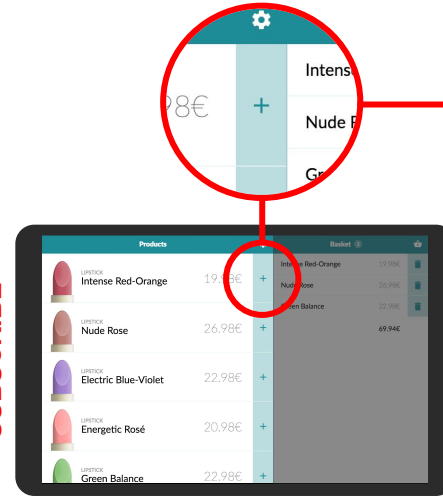
```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
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  },
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BASKET

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    'name': 'Nude Rose',
    'color': '#b97871',
    'price': 26.98
  }
]
```

SUBSCRIBE

SUBSCRIBE



ACTION

```
action: 'ADD_TO_BASKET',
payload: {
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense
Red-Orange',
    'color' : '#c05261',
    'price': 19.98
  },
}
```


REDUCER

SHELF REDUCER

BASKET REDUCER

STORE

SHELF

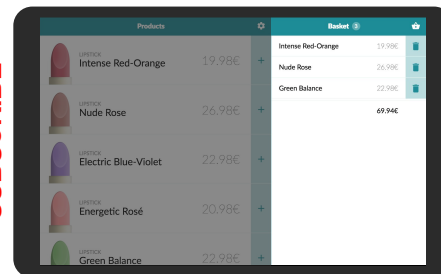
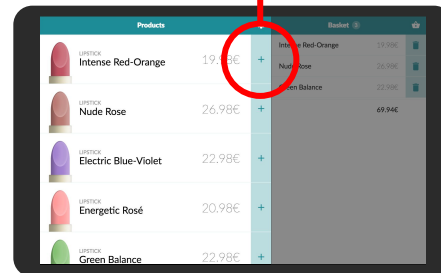
```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
  {
    'id': 2,
    'category': 'Lipstick',
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    'color': '#b97871',
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```

BASKET

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  {
    'id': 1,
    'category': 'Lipstick',
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    'color': '#c05261',
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    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color': '#b97871',
    'price': 26.98
  }
]
```

SUBSCRIBE

SUBSCRIBE



ACTION

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action: 'ADD_TO_BASKET',
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  },
}
```

REDUCER

SHELF REDUCER

BASKET REDUCER

STORE

SHELF

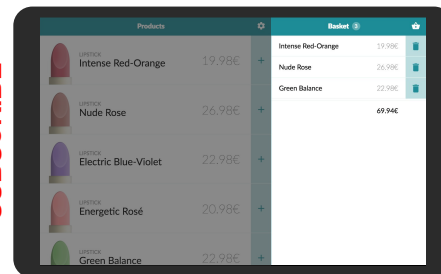
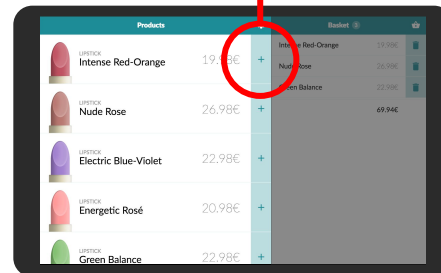
```
[
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
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    'id': 2,
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BASKET

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    'price': 19.98
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  {
    'id': 2,
    'category': 'Lipstick',
    'name': 'Nude Rose',
    'color': '#b97871',
    'price': 26.98
  }
]
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SUBSCRIBE

SUBSCRIBE



ACTION

```
action: 'ADD_TO_BASKET',
payload: {
  {
    'id': 1,
    'category': 'Lipstick',
    'name': 'Intense Red-Orange',
    'color': '#c05261',
    'price': 19.98
  },
}
```

LIVE

**SHOP APPLICATION
WITH REDUX**

REDUX DEV-TOOL

Developers favorit.

BENEFITS

Log/Inspect States

Dispatch Actions

Time Travel

Persist State

Import/Export

<https://github.com/gaearon/redux-devtools>

REDUX

Choose wisely.

REDUX STRATEGIES

Thunk

SAGA

redux-Observable

Angular ngrx (effect/router/db/notify)

<https://github.com/gaearon/redux-thunk>

<https://github.com/redux-saga/redux-saga>

<https://github.com/redux-observable/redux-observable>

<https://github.com/ngrx>

THANK YOU

Source: <https://github.com/gernsdorfer/react-shop>

Demo: <https://gernsdorfer.github.io/react-shop/>

IMMER LETZTER DONNERSTAG IM MONAT

Donnerstag 30. März, Lokomov - Melde dich bei [Meetup.com](https://www.meetup.com) an.
Teile deine Erfahrungen! Wer ist als nächstes dran?