

IMPACT

CONTROLLING DATA FLOW WITH REDUX

NGAARHUS / MAR. 9, 2017

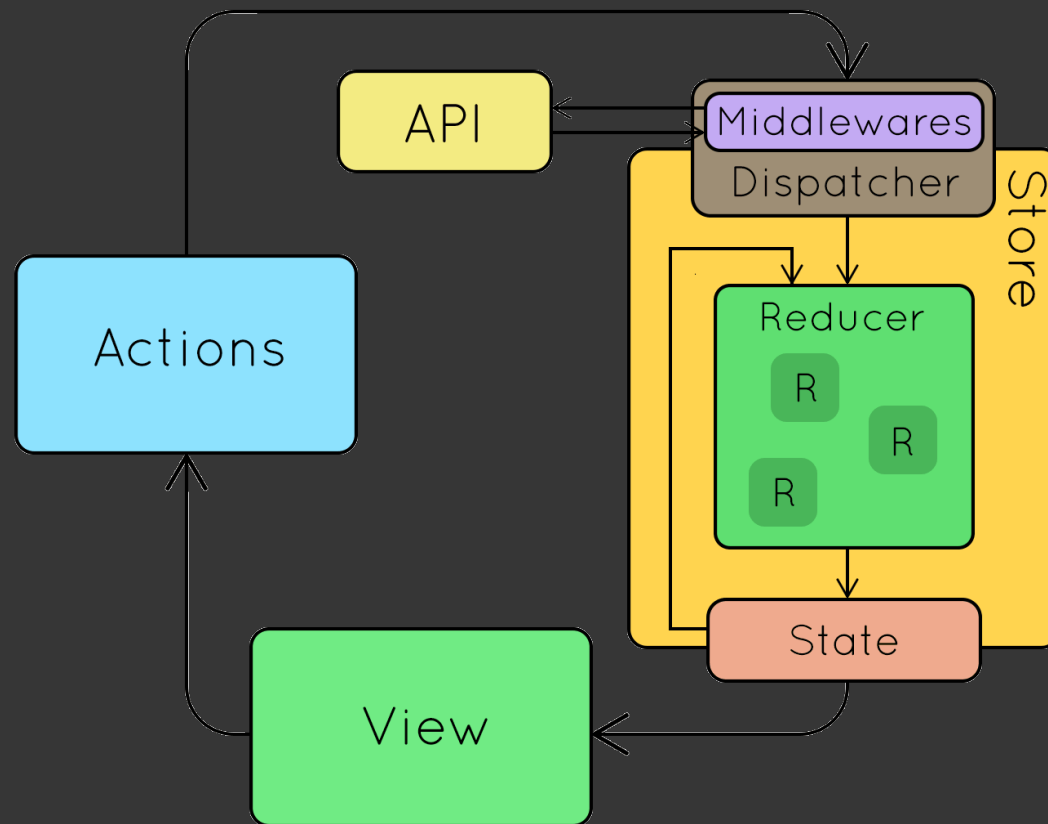
I M P A C T

WHAT IS REDUX?

- Yet another javascript framework!
- A predictable state container
- Made by some guy from Eastern Europe

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REDUX DATA FLOW

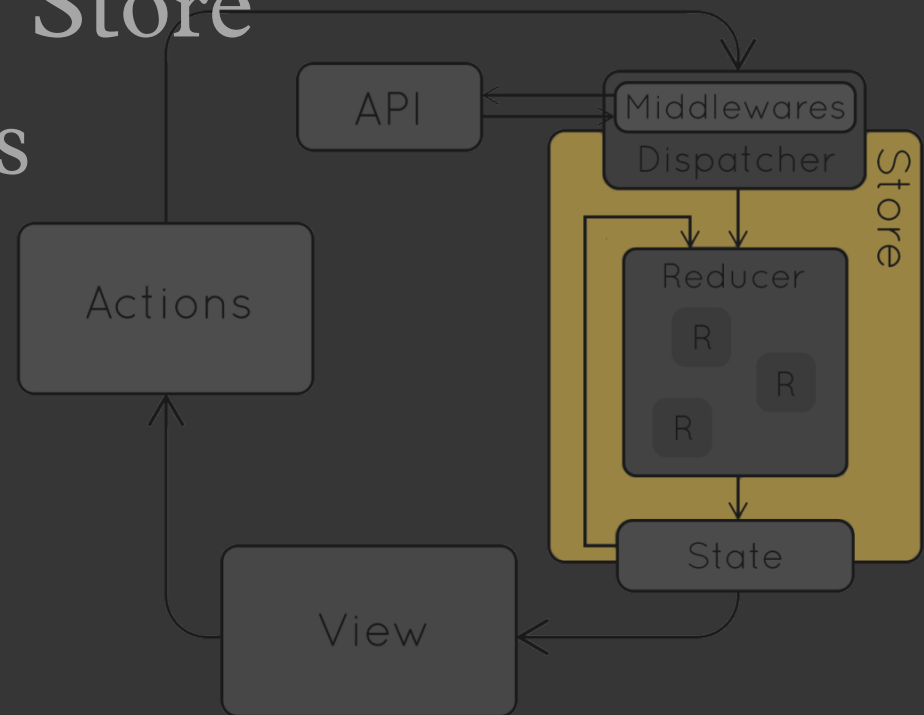


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STORE

- State is kept in the redux “Store”
- Is generated from reducers
- Dispatches actions
- Notifies subscribers

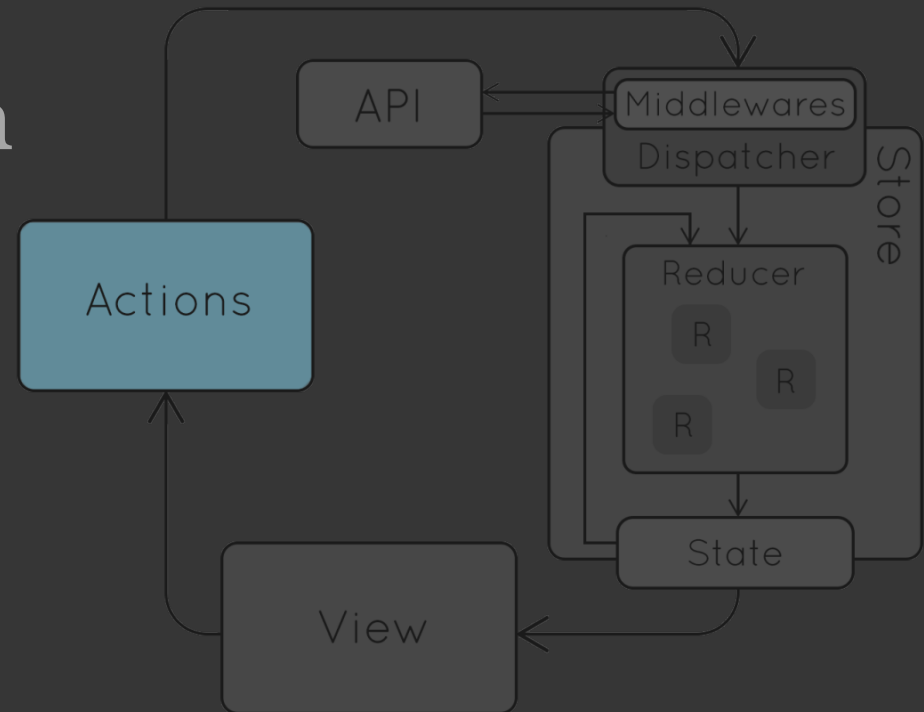
```
import { createStore } from 'redux';  
  
const store = createStore(rootReducer);  
  
store.dispatch(someAction);  
store.subscribe(someHandler);
```



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ACTIONS

- Objects describing what happens in the application
 - Add to basket
- Can include data
- `store.dispatch(action)`

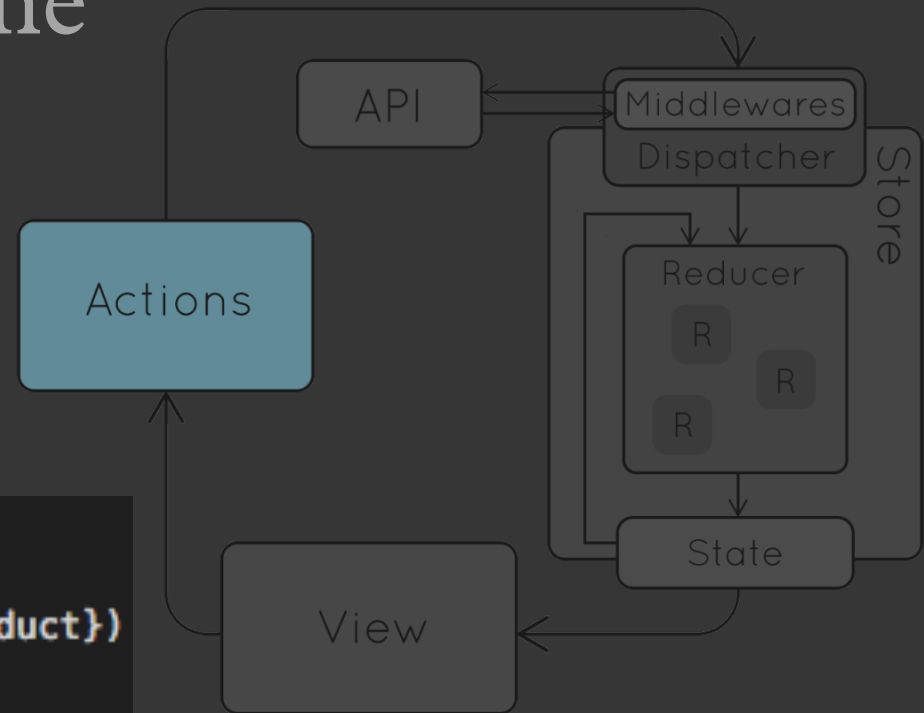


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ACTIONS

- Action “type” Describes the intent of the action
- Optional properties can be used to transform state

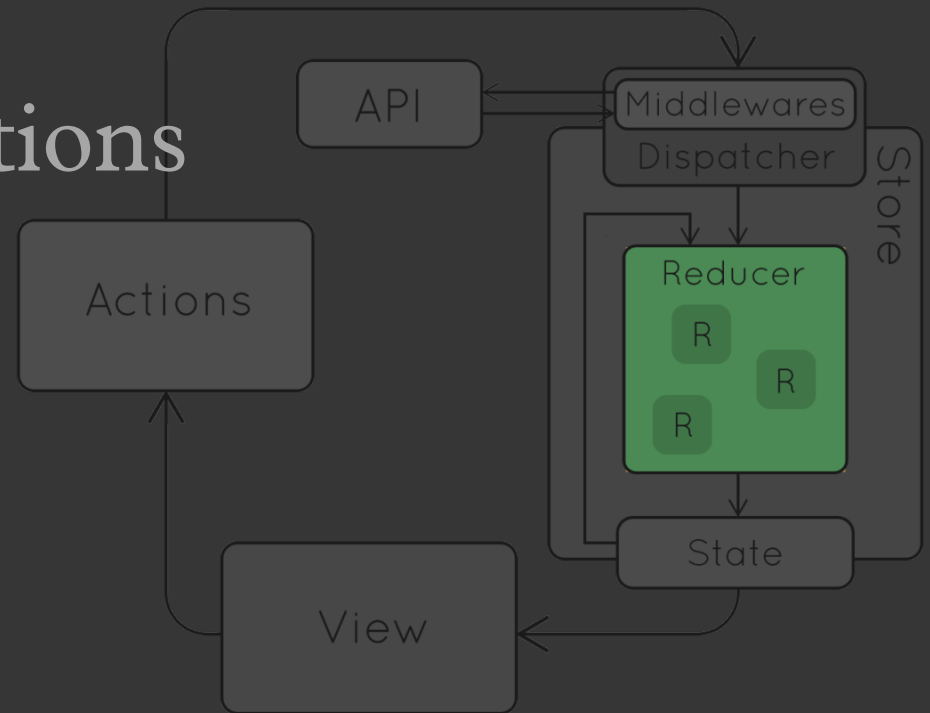
```
const actions = {  
  toggleVat: () => ({type: 'TOGGLE_VAT'}),  
  addToCart: (product) => ({type: 'ADD_TO_CART', product})  
};  
  
store.dispatch(actions.toggleVat());
```



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REDUCER

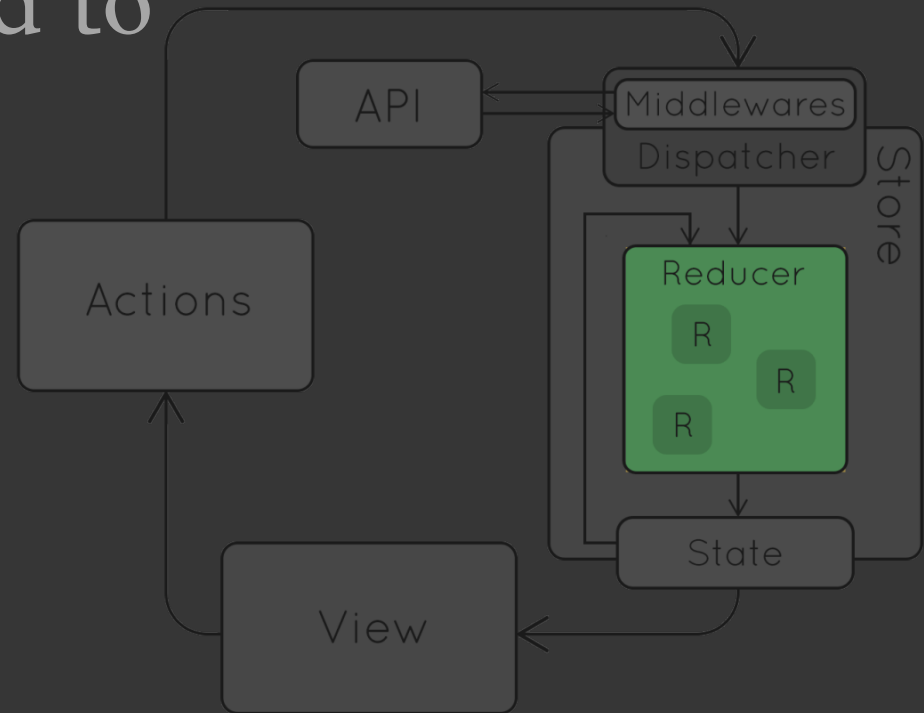
- Pure functions
- Describe state transformations
- Handles "actions" and ALWAYS returns a (new) state



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MULTIPLE REDUCERS

- Reducers can be combined to form a global state from multiple sub-states
- `combineReducers({
 key: substate
})`



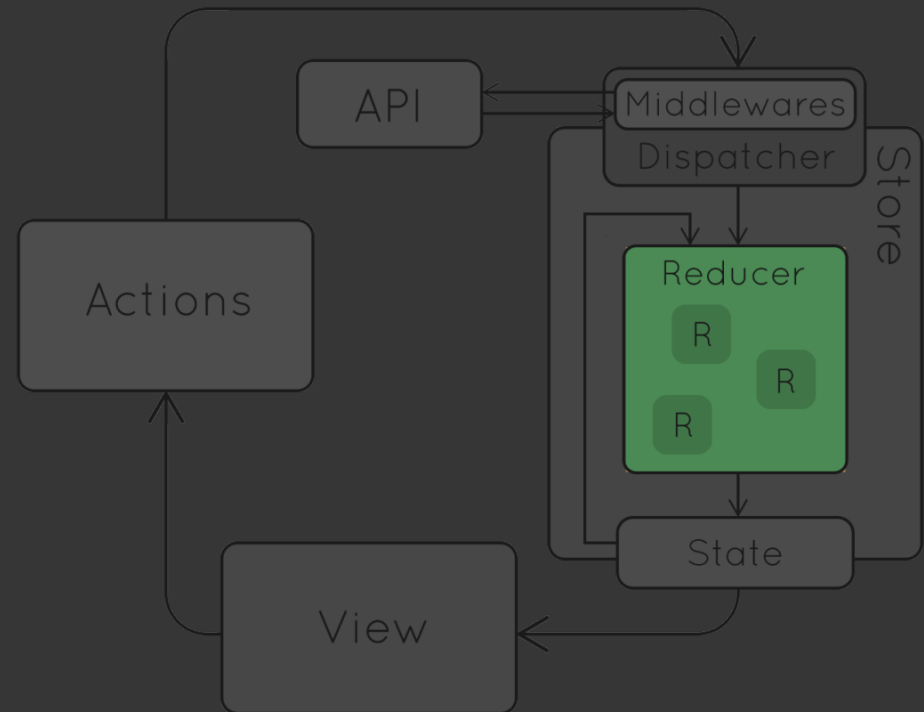
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IMPLEMENTING REDUCERS

```
import { combineReducers } from 'redux';

const cartReducer = (state = [], action = {}) => {
  switch(action.type) {
    case 'ADD_TO_CART':
      return [...state, action.product];
    default:
      return state;
  }
};

const rootReducer = combineReducers({
  cart: cartReducer,
  productList: productListReducer
});
```



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SIMPLE REDUX APP

THE GOOD OLD COUNTER EXAMPLE

VANILLA JS

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REDUX & ANGULAR

A TODO-LIST EXAMPLE WITH SUB-STATES

(JUST) ANGULAR

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REDUX CHALLENGES

- A different way of thinking about state
- Requires more setup and strict structure
- Integrating plugins (redux-bindings) for frameworks adds even more complexity
 - Improves readability
 - Reduces complexity of view components

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[HTTPS://GITHUB.COM/SOERENBF/NGAARHUS-REDUX](https://github.com/soerenbf/ngaarhus-redux)

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