egghead.io

Redux Cheat Sheet (3.2.1)

```
import React from 'react'
import ReactDOM from 'react-dom'
import { createStore, combineReducers,
        applyMiddleware, bindActionCreators } from 'redux'

const greetingReducer = (state='' ,  action) => {
  switch (action.type) {
    case 'SAY_HELLO': return 'Hello '
    case 'SAY_GOODBYE': return 'Goodbye '
  }
  return state
}

const nameReducer = (state='John', action) => {
  switch (action.type) {
    case 'CHANGE_NAME': return 'Joel'
  }
  return state
}

const actionLogger = ({dispatch, getState}) =>
  (next) => (action) =>
    { console.log(action); return next(action) }

const reducers = combineReducers({
  greeting: greetingReducer,
  name: nameReducer
})

const middleware = applyMiddleware(actionLogger)
const store = createStore(
  reducers,
  { greeting: '(Roll over me) '},
  middleware
)

const changeName = () => {return { type: 'CHANGE_NAME' }}
const hello = () => {return { type: 'SAY_HELLO' }}
const goodbye = () => {return { type: 'SAY_GOODBYE' }}

const Hello = (props) =>
  <div
    onMouseOver={props.hello}
    onMouseOut={props.goodbye}
    onClick={props.changeName}>
    {props.greeting}{props.name}
  </div>

const render = () => {
  ReactDOM.render(
    <Hello
      greeting={store.getState().greeting}
      name={store.getState().name}
      {...bindActionCreators({changeName, hello, goodbye},
                             store.dispatch)}
    />,
    document.getElementById('root')
  )
}

render()
store.subscribe(render)
```

Welcome to the egghead.io Redux cheat sheat! On your left you will find a full-fledged Redux application with a React.js front-end (React is not required).

`function reducer(State, Action) ⇒ State`

Takes the previous state and an action, and returns the next state.

Splitting your app into multiple reducers (`greetingsReducer`, `nameReducer`) allows for a clean separation of concerns when modifying your application's state.

`function middleware({Dispatch, getState}) ⇒ next ⇒ action`

Receives Store's `dispatch` and `getState` functions as named arguments, and returns a function. That function will be given the next middleware's dispatch method, and is expected to return a function of action calling `next(action)` with a potentially different argument, or at a different time, or maybe not calling it at all. The last middleware in the chain will receive the real store's `dispatch` method as the next parameter, thus ending the chain.

`combineReducers({Reducers}) ⇒ Function`

Combines multiple reducers into a single reducing function with each reducer as a key/value pair. Can then be passed to `createStore()`.

`applyMiddleware(...middleWares) ⇒ Function`

Extends Redux with custom functionality by wrapping the store's dispatch method.

`createStore(Reducer, ?initialState, ?enhancer) ⇒ Store`

Creates a Redux store that holds the complete state tree of your app.
There should only be a single store in your app.

`store = { ... }`

Brings together your application's state and has the following responsibilities:

- Allows access to state via `getState()`;
- Allows state to be updated via `dispatch(action)`;
- Registers listeners via `subscribe(listener)`;
- Handles unregistering of listeners via the function returned by `subscribe(listener)`.

`action = { type: String, ...payload: any }`

Holds action payloads in plain javascript objects. Must have a type property that indicates the performed action, typically be defined as string constants. All other properties are the action's payload.

`function actionCreator(?any) ⇒ Action|AsyncAction`

Creates an action with optional payload and bound dispatch.

`bindActionCreators(ActionCreators, Dispatch) ⇒ Fn | Obj`

Turns an object whose values are action creators, into an object with the same keys, but with every action creator wrapped into a dispatch call so they may be invoked directly.

Redux's Three Principles

- Single source of truth
- State is read-only
- Changes are made with pure functions

Glossary

State

```
type State = any
```

Action

```
type Action = {type: String, payload: any}
```

Reducer

```
type Reducer<State, Action> = (State, Action) => State
```

Dispatching Functions

```
type BaseDispatch = (Action) => Action
type Dispatch = (Action | AsyncAction) => any
```

Action Creator

```
type ActionCreator = (ANY) => Action | AsyncAction
```

Async Action

```
type AsyncAction = any
```

Middleware

```
type MiddlewareAPI = {dispatch: Dispatch, getState: () => State}
type Middleware = (MiddlewareAPI) => (Dispatch) => Dispatch
```

Store

```
type Store =
{
   dispatch(Action | AsyncAction) => any,
   getState() => State,
   subscribe(() => VOID) => () => void,
   replaceReducer(Reducer) => void
}
```

Store Creator

```
type StoreCreator = (Reducer, ?initialState, ?enhancer) => Store
```

Store Enhancer

```
type StoreEnhancer = (StoreCreator) => StoreCreator
```