Here's The Plan

Container vs Presentation Components

React-Redux

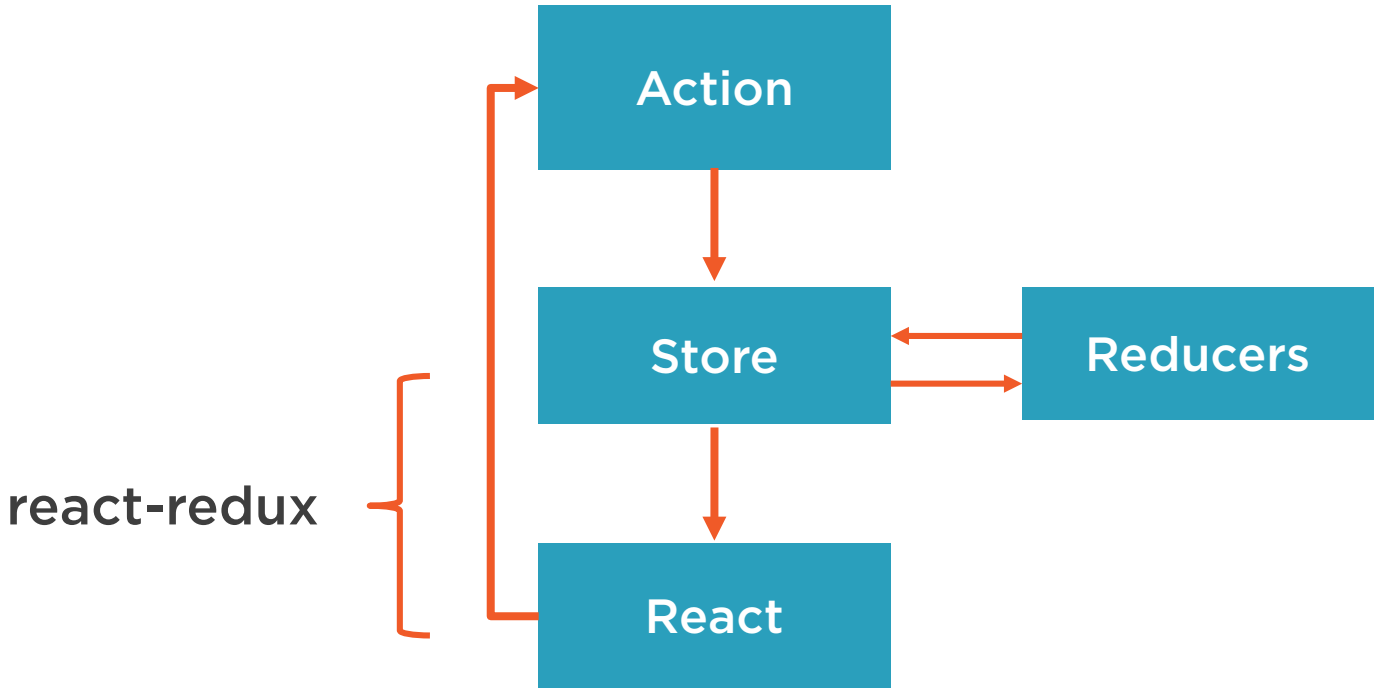
- Provider
- Connect

A Chat with Redux

Two Component Types

Container	Presentational
Focus on how things work	Focus on how things look
Aware of Redux	Unaware of Redux
Subscribe to Redux State	Read data from props
Dispatch Redux actions	Invoke callbacks on props
Generated by react-redux	Written by hand

Connecting React to Redux


Action
Store
Reducers
react-redux
React

React-Redux

Provider

Attaches app to store

Connect

Creates container components

React-Redux Provider

```
<Provider store={this.props.store}>
      <App/>
</Provider>
```

Connect

- **Wraps our component so it's connected to the Redux store.**

```
export default connect(
  mapStateToProps,
  mapDispatchToProps
)(AuthorPage);
```

Flux

```
componentWillMount() {
   AuthorStore.addChangeListener(this.onChange);
}


 componentWillUnmount() {
    AuthorStore.removeChangeListener(this.onChange);
 }



onChange() {
   this.setState({ authors: AuthorStore.getAll() });
}
```

Redux

```
function mapStateToProps(state, ownProps) {
  return {appState: state.authorReducer };
}

export default connect(
  mapStateToProps,
  mapDispatchToProps
)(AuthorPage);
```

Benefits:

1. No manual unsubscribe
2. No lifecycle methods required
3. Declare what subset of state you want
4. Enhanced performance for free

React-Redux Connect

```
connect(mapStateToProps, mapDispatchToProps)
```

What state should I expose as props?

```
function mapStateToProps(state) {
        return {
                appState: state
        };
}
```

Reselect

- **Memoize for performance**

React-Redux Connect

```
connect(mapStateToProps, mapDispatchToProps)
```

What actions do I want on props?

```
function mapDispatchToProps(dispatch) {
        return {
                actions: bindActionCreators(actions, dispatch)
        };
}
```

3 Ways to Handle mapDispatchToProps

```
this.props.dispatch(loadCourses());
```

Ignore it. Use dispatch.

```
function mapDispatchToProps(dispatch) {
  return {
    loadCourses: () => {
      dispatch(loadCourses());
    }
  };
}
```

Manually wrap

```
function mapDispatchToProps(dispatch) {
  return {
    actions:
      bindActionCreators(actions, dispatch)
  };
}
```

Use bindActionCreators

Option 1: Use Dispatch Directly

```
// In component...
this.props.dispatch(loadCourses())
```

Two downsides

1. **Boilerplate**
2. **Redux concerns in child components**

Option 2: Wrap Manually

```
function mapDispatchToProps(dispatch) {
  return {
    loadCourses: () => {
      dispatch(loadCourses());
    },
    createCourse: (course) => {
      dispatch(createCourse(course));
    },
    updateCourse: (course) => {
      dispatch(updateCourse(course));
    }
  };
}

// In component...
this.props.loadCourses()
```

Option 3: bindActionCreators

```
function mapDispatchToProps(dispatch) {
  return {
    actions: bindActionCreators(actions, dispatch)
  };
}

// In component:

this.props.actions.loadCourses();
```

Wraps action creators in dispatch call for you!

A Chat With Redux

React	Hey CourseAction, someone clicked this “Save Course” button.
Action	Thanks React! I will dispatch an action so reducers that care can update state.
Reducer	Ah, thanks action. I see you passed me the current state and the action to perform. I’ll make a new copy of the state and return it.
Store	Thanks for updating the state reducer. I’ll make sure that all connected components are aware.
React-Redux	Woah, thanks for the new data Mr. Store. I’ll now intelligently determine if I should tell React about this change so that it only has to bother with updating the UI when necessary.
React	Ooo! Shiny new data has been passed down via props from the store! I’ll update the UI to reflect this!

Time to code!

Next up: Let’s code Redux!