**React Setup**

Decision:

1. Dev Environment
   1. VSCode
   2. Follow the NPM Install below
2. Use Functions Only
   1. ES Class is similar to Angular, does not work with Hooks and may be phase out
3. PropTypes and TypeScript
   1. TypeScript is easier to use with .Net Developer background for Models. However limit to models, Enums, and interfaces.
   2. PropTypes – Great to define objects and functions within a page.
4. Redux
   1. Redux – Centralized State Management is very simple to use & extract/update data
5. Styling
   1. Sass
   2. Devextreme
6. Testing
   1. Jest

### Production Dependencies

| \*\*Dependency\*\* | \*\*Use\*\* |

| ---------------- | ---------------------------------------------------- |

| bootstrap | CSS Framework |

| immer | Helper for working with immutable data |

| prop-types | Declare types for props passed into React components |

| react | React library |

| react-dom | React library for DOM rendering |

| react-redux | Connects React components to Redux |

| react-router-dom | React library for routing |

| react-toastify | Display messages to the user |

| redux | Library for unidirectional data flows |

| redux-thunk | Async redux library |

| reselect | Memoize selectors for performance |

### Development Dependencies

| \*\*Dependency\*\* | \*\*Use\*\* |

| ------------------------------- | ---------------------------------------------------------------- |

| @babel/core | Transpiles modern JavaScript so it runs cross-browser |

| babel-eslint | Lint modern JavaScript via ESLint |

| babel-loader | Add Babel support to Webpack |

| babel-preset-react-app | Babel preset for working in React. Used by create-react-app too. |

| css-loader | Read CSS files via Webpack |

| cssnano | Minify CSS |

| enzyme | Simplified JavaScript Testing utilities for React |

| enzyme-adapter-react-16 | Configure Enzyme to work with React 16 |

| eslint | Lints JavaScript |

| eslint-loader | Run ESLint via Webpack |

| eslint-plugin-import | Advanced linting of ES6 imports |

| eslint-plugin-react | Adds additional React-related rules to ESLint |

| fetch-mock | Mock fetch calls |

| html-webpack-plugin | Generate HTML file via webpack |

| http-server | Lightweight HTTP server to serve the production build locally |

| jest | Automated testing framework |

| json-server | Quickly create mock API that simulates create, update, delete |

| **mini-css-extract-plugin** | Extract imported CSS to a separate file via Webpack |

| node-fetch | Make HTTP calls via fetch using Node - Used by fetch-mock |

| npm-run-all | Display results of multiple commands on single command line |

| postcss-loader | Post-process CSS via Webpack |

| react-test-renderer | Render React components for testing |

| react-testing-library | Test React components |

| react-scripts | React scripts installed with npx-create-react-app |

| redux-immutable-state-invariant | Warn when Redux state is mutated |

| redux-mock-store | Mock Redux store for testing |

| rimraf | Delete files and folders |

| style-loader | Insert imported CSS into app via Webpack |

| webpack | Bundler with plugin ecosystem and integrated dev server |

| webpack-bundle-analyzer | Generate report of what's in the app's production bundle |

| webpack-cli | Run Webpack via the command line |

| webpack-dev-server | Serve app via Webpack |

NPM installs:

* Core
  + npx create-react-app
  + npm install react-router
  + npm install typescript
  + npm install node-sass
  + npm install redux
  + npm install react-redux
* Look & Feel
  + npm install bootstrap
  + npm install react-toastify
  + DevExtreme
    - https://js.devexpress.com/Documentation/Guide/Common/Distribution\_Channels/npm/
    - npm install devextreme
    - npm install devextreme-react
* Deployment
  + npm install webpack
  + npm install --save-dev @babel/core
  + npm install --save-dev eslint-plugin-babel
  + npm install --save-dev babel-loader
  + npm install --save-dev babel-preset-react-app
  + npm install --save-dev mini-css-extract-plugin
  + npm install --save-dev webpack-bundle-analyzer
  + npm install --save-dev rimraf
* Extras
  + npm install --save-dev eslint-plugin-react-hooks

Mock API Install

1. npm install json-server
2. npm install cross-env - Allows cross references of environments to run in npm scripts
3. npm install npm-run-all - To run multiple environments with one NPM script