

React Front End Maintenance Project

Last updated: April 11, 2023

The scope of this project is to update an existing React web application to the most recent and secure versions of npm, node, npm packages, typescript, python, and a style sheet library (SLDS).

The web application consists of 4 sub-applications / modules and 1 shared library module. Each compiled separately.

In order to proceed with some new feature development requests, the existing applications must first be upgraded to *the most secure* versions of NPM packages, Node, Python, Typescript, and a style sheet library (SLDS).

Note: Ideally all packages should be updated to their latest version. But in the event a latest package introduces breaking changes that require substantial refactoring, then the most secure and recent version will satisfy the requirement.

Goals / Scope of Work	2
Security	2
Performance	2
Applications / Modules	3
Common Library	3
Room Builder	4
Document Previewer / Tag Builder	5
Document Room (Customer Experience)	6
Document Room (Internal User - Lightning Experience)	8
Developer Requirements	9
Regression Testing	9
Acceptance Criteria	10
Project Resources	10

Goals / Scope of Work

- Update to Node LTS version 18.15.0 (<https://nodejs.org/en>)
- Improve overall app performance
- Reduce build package size by at least 20%
- Remove node-gyp / python 2 dependency
- Update to python3
- Update to latest / most secure npm package versions
- Address all known security vulnerabilities and warnings
- Update build environment to use latest node and npm versions

There might be instances where class-based components must be converted into functions + hooks, whenever the need arises (for example: errors force a rewrite using hooks, probably due to some dependency switching over to hooks-only after a major version upgrade).

Security

Each package below identifies the latest vulnerabilities detected as of April 2023 using npm audit.

The critical and high vulnerabilities should be resolved within the scope of this project.

NPM package updates should continue to reference specific versions, and not accidentally always pull the @latest with each new build.

Performance

No build should exceed 2GB. If updating packages results in larger or slower builds, then refactoring options should be presented by the Developer.

Applications / Modules

Common Library

npm audit

62 vulnerabilities (2 low, 19 moderate, 30 high, 11 critical)

npm outdated

```
~/projects/frontend/common > npm outdated
```

<u>Package</u>	<u>Current</u>	<u>Wanted</u>	<u>Latest</u>	<u>Location</u>	<u>Depended by</u>
@swc/cli	0.1.57	0.1.62	0.1.62	node_modules/@swc/cli	common
@swc/core	1.2.177	1.3.44	1.3.44	node_modules/@swc/core	common
classnames	2.2.6	2.3.2	2.3.2	node_modules/classnames	common
prop-types	15.7.2	15.8.1	15.8.1	node_modules/prop-types	common
react	16.14.0	16.14.0	18.2.0	node_modules/react	common
react-dom	16.14.0	16.14.0	18.2.0	node_modules/react-dom	common
react-jss	10.6.0	10.10.0	10.10.0	node_modules/react-jss	common
react-scripts	3.4.4	3.4.4	5.0.1	node_modules/react-scripts	common
rimraf	3.0.2	3.0.2	4.4.1	node_modules/rimraf	common

npm install succeeds using node v19

Room Builder

npm audit

53 vulnerabilities (1 low, 24 moderate, 23 high, 5 critical)

npm outdated

~/projects/frontend/builder > npm outdated

Package	Current	Wanted	Latest	Location	Depended by
@rematch/core	MISSING	1.4.0	2.2.0	-	builder
@rematch/loading	MISSING	1.2.1	2.1.2	-	builder
@rematch/select	MISSING	2.0.5	3.1.2	-	builder
@salesforce-ux/design-system	MISSING	2.20.1	2.20.1	-	builder
@salesforce/design-system-react	MISSING	0.10.53	0.10.53	-	builder
@stripe/react-stripe-js	MISSING	1.16.5	2.1.0	-	builder
@stripe/stripe-js	MISSING	1.52.0	1.52.0	-	builder
ace-builds	MISSING	1.16.0	1.16.0	-	builder
add	MISSING	2.0.6	2.0.6	-	builder
axios	MISSING	0.21.4	1.3.4	-	builder
classnames	MISSING	2.3.2	2.3.2	-	builder
color	MISSING	3.2.1	4.2.3	-	builder
he	MISSING	1.2.0	1.2.0	-	builder
html-entities	MISSING	1.4.0	2.3.3	-	builder
lodash	MISSING	4.17.21	4.17.21	-	builder
normalizr	MISSING	3.6.2	3.6.2	-	builder
polished	MISSING	4.2.2	4.2.2	-	builder
prettier	MISSING	2.8.7	2.8.7	-	builder
pretty	MISSING	2.0.0	2.0.0	-	builder
prop-types	MISSING	15.8.1	15.8.1	-	builder
react	MISSING	16.14.0	18.2.0	-	builder
react-ace	MISSING	9.5.0	10.1.0	-	builder
react-color	MISSING	2.19.3	2.19.3	-	builder
react-dom	MISSING	16.14.0	18.2.0	-	builder
react-dropzone	MISSING	11.7.1	14.2.3	-	builder
react-html-parser	MISSING	2.0.2	2.0.2	-	builder
react-jss	MISSING	10.10.0	10.10.0	-	builder
react-loadable	MISSING	5.5.0	5.5.0	-	builder
react-localization	MISSING	1.0.19	1.0.19	-	builder
react-redux	MISSING	7.2.9	8.0.5	-	builder
react-router-dom	MISSING	5.3.4	6.10.0	-	builder
react-scripts	MISSING	3.4.4	5.0.1	-	builder
react-smooth-dnd	MISSING	0.11.1	0.11.1	-	builder
reselect	MISSING	4.1.7	4.1.7	-	builder
slate	MISSING	0.59.0	0.91.4	-	builder
slate-history	MISSING	0.59.0	0.86.0	-	builder
slate-hyperscript	MISSING	0.59.0	0.77.0	-	builder
slate-react	MISSING	0.59.0	0.92.0	-	builder
styled-jss	MISSING	2.2.3	2.2.3	-	builder
swr	MISSING	0.3.11	2.1.1	-	builder
uniqid	MISSING	5.4.0	5.4.0	-	builder
yup	MISSING	0.29.3	1.0.2	-	builder

npm install

Install fails using node 19

```
npm WARN deprecated core-js@2.6.12: core-js@<3.23.3 is no longer maintained and not recommended for usage due to the number of
issues. Because of the V8 engine whims, feature detection in old core-js versions could cause a slowdown up to 100x even if nothing is
polyfilled. Some versions have web compatibility issues. Please, upgrade your dependencies to the actual version of core-js.
npm ERR! code 1
npm ERR! path /projects/frontend/builder/node_modules/common
npm ERR! command failed
npm ERR! command sh -c npm run build
npm ERR! > common@0.1.18 build
npm ERR! > rimraf dist && cross-env NODE_ENV=production swc src/lib -d dist --copy-files --ignore __tests__,spec.js,test.js,__snapshots__
npm ERR! node:events:491
npm ERR!     throw er; // Unhandled 'error' event
npm ERR!       ^
```

Document Previewer / Tag Builder

npm audit

58 vulnerabilities (1 low, 24 moderate, 27 high, 6 critical)

npm outdated

~/projects/frontend/previewtemplate > npm outdated

Package	Current	Wanted	Latest	Location	Depended by
@rematch/core	MISSING	1.4.0	2.2.0	-	previewtemplate
@rematch/loading	MISSING	1.2.1	2.1.2	-	previewtemplate
@rematch/select	MISSING	2.0.5	3.1.2	-	previewtemplate
@salesforce-ux/design-system	MISSING	2.20.1	2.20.1	-	previewtemplate
@salesforce/design-system-react	MISSING	0.10.53	0.10.53	-	previewtemplate
classnames	MISSING	2.3.2	2.3.2	-	previewtemplate
date-fns	MISSING	2.29.3	2.29.3	-	previewtemplate
html-entities	MISSING	1.4.0	2.3.3	-	previewtemplate
lodash	MISSING	4.17.21	4.17.21	-	previewtemplate
prop-types	MISSING	15.8.1	15.8.1	-	previewtemplate
react	MISSING	16.14.0	18.2.0	-	previewtemplate
react-dom	MISSING	16.14.0	18.2.0	-	previewtemplate
react-helmet	MISSING	6.1.0	6.1.0	-	previewtemplate
react-localization	MISSING	1.0.19	1.0.19	-	previewtemplate
react-redux	MISSING	7.2.9	8.0.5	-	previewtemplate
react-scripts	MISSING	3.4.4	5.0.1	-	previewtemplate

Document Room (Customer Experience)

npm audit

103 vulnerabilities (2 low, 36 moderate, 49 high, 16 critical)

npm outdated

```
~/projects/frontend/document-room-v2 > npm outdated
```

Package	Current	Wanted	Latest	Location	Depended by
@babel/core	MISSING	7.1.6	7.21.4	-	document-room-v2
@kevinwolf/formal-web	MISSING		0.1.3	0.1.3	document-room-v2
@rematch/core	MISSING	1.4.0	2.2.0	-	document-room-v2
@rematch/loading	MISSING	0.5.1	2.1.2	-	document-room-v2
@rematch/select	MISSING	2.0.5	3.1.2	-	document-room-v2
@salesforce-ux/design-system	MISSING		2.20.1	2.20.1	document-room-v2
@salesforce/design-system-react	MISSING		0.10.53	0.10.53	document-room-v2
@svgr/webpack	MISSING	2.4.1	7.0.0	-	document-room-v2
@types/redux-logger	MISSING	3.0.9	3.0.9	-	document-room-v2
babel-core	MISSING	7.0.0-bridge.0	6.26.3	-	document-room-v2
babel-eslint	MISSING	9.0.0	10.1.0	-	document-room-v2
babel-jest	MISSING	24.9.0	29.5.0	-	document-room-v2
babel-loader	MISSING	8.0.4	9.1.2	-	document-room-v2
babel-plugin-named-asset-import	MISSING		0.3.8	0.3.8	document-room-v2
babel-preset-react-app	MISSING		7.0.2	10.0.1	document-room-v2
bfj	MISSING	6.1.1	7.0.2	-	document-room-v2
case-sensitive-paths-webpack-plugin	MISSING		2.1.2	2.4.0	document-room-v2
chalk	MISSING	2.4.1	5.2.0	-	document-room-v2
classnames	MISSING	2.3.2	2.3.2	-	document-room-v2
css-loader	MISSING	1.0.0	6.7.3	-	document-room-v2
date-fns	MISSING	1.30.1	2.29.3	-	document-room-v2
dotenv	MISSING	6.0.0	16.0.3	-	document-room-v2
dotenv-expand	MISSING	4.2.0	10.0.0	-	document-room-v2
eslint	MISSING	5.6.0	8.37.0	-	document-room-v2
eslint-config-react-app	MISSING	3.0.8	7.0.1	-	document-room-v2
eslint-loader	MISSING	2.1.1	4.0.2	-	document-room-v2
eslint-plugin-flowtype	MISSING	2.50.1	8.0.3	-	document-room-v2
eslint-plugin-import	MISSING	2.14.0	2.27.5	-	document-room-v2
eslint-plugin-jsx-a11y	MISSING	6.1.2	6.7.1	-	document-room-v2
eslint-plugin-react	MISSING	7.11.1	7.32.2	-	document-room-v2
file-loader	MISSING	2.0.0	6.2.0	-	document-room-v2
fork-ts-checker-webpack-plugin-alt	MISSING		0.4.14	0.4.14	document-room-v2
formik	MISSING	2.2.9	2.2.9	-	document-room-v2
he	MISSING	1.2.0	1.2.0	-	document-room-v2
html-webpack-plugin	MISSING	4.0.0-alpha.2	5.5.0	-	document-room-v2
identity-obj-proxy	MISSING	3.0.0	3.0.0	-	document-room-v2
jest	MISSING	24.9.0	29.5.0	-	document-room-v2
jest-pnp-resolver	MISSING	1.0.1	1.2.3	-	document-room-v2
jest-resolve	MISSING	23.6.0	29.5.0	-	document-room-v2
lodash	MISSING	4.17.21	4.17.21	-	document-room-v2
mini-css-extract-plugin	MISSING	0.4.3	2.7.5	-	document-room-v2
optimize-css-assets-webpack-plugin	MISSING		5.0.1	6.0.1	document-room-v2
pnp-webpack-plugin	MISSING	1.1.0	1.7.0	-	document-room-v2
postcss-flexbugs-fixes	MISSING	4.1.0	5.0.2	-	document-room-v2
postcss-loader	MISSING	3.0.0	7.1.0	-	document-room-v2
postcss-preset-env	MISSING	6.3.1	8.3.0	-	document-room-v2
postcss-safe-parser	MISSING	4.0.1	6.0.0	-	document-room-v2
react	MISSING	16.14.0	18.2.0	-	document-room-v2

react-app-polyfill	MISSING	0.2.2	3.0.0	-	document-room-v2
react-dev-utils	MISSING	7.0.5	12.0.1	-	document-room-v2
react-dom	MISSING	16.14.0	18.2.0	-	document-room-v2
react-dropzone	MISSING	10.2.2	14.2.3	-	document-room-v2
react-helmet	MISSING	5.2.1	6.1.0	-	document-room-v2
react-jss	MISSING	10.10.0	10.10.0	-	document-room-v2
react-redux	MISSING	7.2.9	8.0.5	-	document-room-v2
react-sortable-hoc	MISSING	1.11.0	2.0.0	-	document-room-v2
redux-logger	MISSING	3.0.6	3.0.6	-	document-room-v2
resolve	MISSING	1.8.1	1.22.1	-	document-room-v2
sass-loader	MISSING	7.1.0	13.2.2	-	document-room-v2
style-loader	MISSING	0.23.0	3.3.2	-	document-room-v2
terser-webpack-plugin	MISSING	1.1.0	5.3.7	-	document-room-v2
typescript	MISSING	3.2.2	5.0.3	-	document-room-v2
unstated-next	MISSING	1.1.0	1.1.0	-	document-room-v2
url-loader	MISSING	1.1.1	4.1.1	-	document-room-v2
voca	MISSING	1.4.0	1.4.0	-	document-room-v2
webpack	MISSING	4.19.1	5.77.0	-	document-room-v2
webpack-dev-server	MISSING	3.1.14	4.13.2	-	document-room-v2
webpack-manifest-plugin	MISSING	2.0.4	5.0.0	-	document-room-v2
workbox-webpack-plugin	MISSING	3.6.3	6.5.4	-	document-room-v2
yup	MISSING	0.27.0	1.0.2	-	document-room-v2
zustand	MISSING	3.7.2	4.3.7	-	document-room-v2

Document Room (Internal User - Lightning Experience)

npm install

67 vulnerabilities (2 low, 22 moderate, 32 high, 11 critical)

npm outdated

```
~/projects/frontend/rooms > npm outdated
```

Package	Current	Wanted	Latest	Location	Depended by
@emotion/core	MISSING	11.0.0	11.0.0	-	rooms
@emotion/styled	MISSING	11.10.6	11.10.6	-	rooms
@rematch/core	MISSING	2.2.0	2.2.0	-	rooms
@rematch/loading	MISSING	2.1.2	2.1.2	-	rooms
@rematch/select	MISSING	3.1.2	3.1.2	-	rooms
@salesforce-ux/design-system	MISSING	2.20.1	2.20.1	-	rooms
@salesforce/design-system-react	MISSING	0.10.53	0.10.53	-	rooms
@stripe/react-stripe-js	MISSING	1.16.5	2.1.0	-	rooms
@stripe/stripe-js	MISSING	1.52.0	1.52.0	-	rooms
@testing-library/jest-dom	MISSING	5.16.5	5.16.5	-	rooms
@testing-library/react	MISSING	12.1.5	14.0.0	-	rooms
@testing-library/user-event	MISSING	13.5.0	14.4.3	-	rooms
@types/jest	MISSING	27.5.2	29.5.0	-	rooms
@types/node	MISSING	16.18.23	18.15.11	-	rooms
axios	MISSING	0.27.2	1.3.4	-	rooms
axios-request-handler	MISSING	1.0.4	1.0.4	-	rooms
date-fns	MISSING	2.29.3	2.29.3	-	rooms
formik	MISSING	2.2.9	2.2.9	-	rooms
html-entities	MISSING	2.3.3	2.3.3	-	rooms
html-to-image	MISSING	1.11.11	1.11.11	-	rooms
lodash	MISSING	4.17.21	4.17.21	-	rooms
normalizr	MISSING	3.6.2	3.6.2	-	rooms
react	MISSING	16.14.0	18.2.0	-	rooms
react-dom	MISSING	16.14.0	18.2.0	-	rooms
react-dropzone	MISSING	14.2.3	14.2.3	-	rooms
react-ga	MISSING	3.3.1	3.3.1	-	rooms
react-redux	MISSING	8.0.5	8.0.5	-	rooms
react-script-loader-hoc	MISSING	1.2.2	1.2.2	-	rooms
react-scripts	MISSING	5.0.1	5.0.1	-	rooms
signature_pad	MISSING	4.1.5	4.1.5	-	rooms
typescript	MISSING	4.9.5	5.0.3	-	rooms
uniqid	MISSING	5.4.0	5.4.0	-	rooms
unstated-next	MISSING	1.1.0	1.1.0	-	rooms
web-vitals	MISSING	2.1.4	3.3.0	-	rooms

Developer Requirements

A Developer accepting this project should have experience with a React application that is more than 2 years old, and understands the careful steps necessary to upgrade and maintain an application without introducing regression bugs (see Regressing Testing below).

The Developer should have good communication and writing skills to sufficiently write git commits that explain the refactoring steps.

Developer should be familiar with:

- React JS
- Redux state management
- Typescript
- Node and NPM package management

Developer will need to learn

- SLDS (Salesforce Lightning Design System)

Regression Testing

Regression bugs are defined as bugs that are introduced as the result of upgrading to a newer package version.

It is highly probable that updating some packages will result in breaking existing functionality.

To ensure this effort does not break existing features and functionality, the following steps will be followed:

- Research npm packages being updated for any breaking changed or backwards compatibility notes
- Run “smoke tests” via command line “npm start” and testing the app using the localhost server framework
- Running all unit tests and making necessary changes

Acceptance Criteria

Each application/module will be individually tested and accepted using the following steps on an Apple MacBook (Air or Pro).

Brew install the latest version of

- npm
- node
- Python

Git pull latest from repository.

Review the package.json file.

Does it contain references to specific versions (and not @latest)?

~/npm install

Verify all package.json modules successfully installed.

~/npm audit

Critical and high vulnerabilities resolved?

~/npm build

Does the project successfully build?

~/npm start

This launches a localhost server for interacting with the app in a Chrome browser on Mac (latest version).

Lot's of manual testing from the vendor to verify app integrity.

End to End tests

Where applicable, e2e and jest unit tests will be executed during acceptance.

Project Resources

Github repo

<https://github.com/pacificapps/ialoguefrontend> (Access granted upon request and confirmation of Developer qualifications)

How to update npm dependencies

<https://www.freecodecamp.org/news/how-to-update-npm-dependencies/>

All communication about this project to take place through Upwork messaging.