# **RAPPORT DE PERFORMANCE LIGHTHOUSE** de HRnet fonctionnant avant et après la conversion de la bibliothèque.

http://127.0.0.1:5500/jQuery_version/P12_Front-end-master-OldVersion/index.html

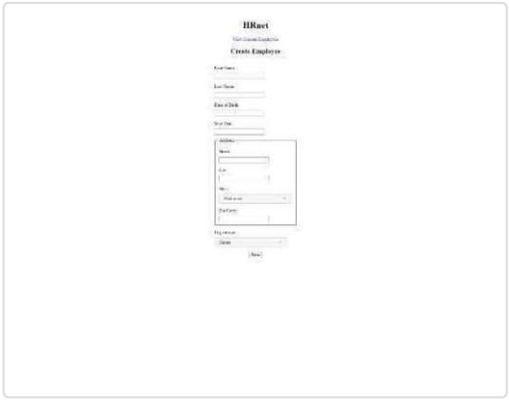
| Performance | Accessibility | Best Practices | SEO | PWA |
|---|---|---|---|---|
| 98 | 95 | 83 | 78 | — |

98

## Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49 50–89 90–100



### METRICS

Expand view

| | |
|---|---|
| First Contentful Paint<br>0.8 s | Time to Interactive<br>0.8 s |
| Speed Index<br>0.8 s | Total Blocking Time<br>0 ms |
| Largest Contentful Paint<br>0.8 s | Cumulative Layout Shift<br>0.002 |

View Original Trace | View Treemap

Show audits relevant to: All FCP TBT LCP CLS

### OPPORTUNITIES

| Opportunity | Estimated Savings |
|---|---|
| Eliminate render-blocking resources | 0.66 s |

These suggestions can help your page load faster. They don't directly affect the Performance score.

### DIAGNOSTICS

- ▲ Does not use passive listeners to improve scrolling performance
- ▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found
- ○ Avoid chaining critical requests — 9 chains found
- ○ Keep request counts low and transfer sizes small — 11 requests • 259 KiB
- ○ Largest Contentful Paint element — 1 element found
- ○ Avoid large layout shifts — 2 elements found

More information about the performance of your application. These numbers don't directly affect the Performance score.

### PASSED AUDITS (33)

Show

## Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

### ARIA

- ▲ ARIA input fields do not have accessible names

These are opportunities to improve the usage of ARIA in your application which may enhance the experience for users of assistive technology, like a screen reader.

### INTERNATIONALIZATION AND LOCALIZATION

- ▲ `<html>` element does not have a `[lang]` attribute

These are opportunities to improve the interpretation of your content by users in different locales.

### ADDITIONAL ITEMS TO MANUALLY CHECK (10)

Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

PASSED AUDITS (16) Show

NOT APPLICABLE (26) Show

## Best Practices

### TRUST AND SAFETY

- ▲ Includes front-end JavaScript libraries with known security vulnerabilities — 3 vulnerabilities detected
- ○ Ensure CSP is effective against XSS attacks

### BROWSER COMPATIBILITY

- ▲ Page lacks the HTML doctype, thus triggering quirks-mode Document must contain a doctype

### GENERAL

- ○ Detected JavaScript libraries

PASSED AUDITS (11) Show

NOT APPLICABLE (1) Show

## SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on Core Web Vitals. Learn more.

## MOBILE FRIENDLY

- ▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found

Make sure your pages are mobile friendly so users don't have to pinch or zoom in order to read the content pages. Learn more.

## CONTENT BEST PRACTICES

- ▲ Document does not have a meta description

Format your HTML in a way that enables crawlers to better understand your app's content.

## ADDITIONAL ITEMS TO MANUALLY CHECK (1)

Show

Run these additional validators on your site to check additional SEO best practices.

## PASSED AUDITS (7)

Show

## NOT APPLICABLE (5)

Show

# PWA

These checks validate the aspects of a Progressive Web App. Learn more.

### INSTALLABLE

- ▲ Web app manifest or service worker do not meet the installability requirements — 1 reason

### PWA OPTIMIZED

- ▲ Does not register a service worker that controls page and `start_url`
- ▲ Is not configured for a custom splash screen Failures: No manifest was fetched.

- ▲ Does not set a theme color for the address bar.
  Failures: No manifest was fetched, No `<meta name="theme-color">` tag found.
- ○ Content is sized correctly for the viewport
- ▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found
- ▲ Does not provide a valid `apple-touch-icon`
- ▲ Manifest doesn't have a maskable icon No manifest was fetched

## ADDITIONAL ITEMS TO MANUALLY CHECK (3)

Show

These checks are required by the baseline PWA Checklist but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

http://localhost:3000/

| Performance | Accessibility | Best Practices | SEO | PWA |
|---|---|---|---|---|
| 100 | 100 | 100 | 100 | — |

100

## Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49 50–89 90–100

METRICS Expand view

| | |
|---|---|
| First Contentful Paint<br>0.2 s | Time to Interactive<br>0.6 s |
| Speed Index<br>0.2 s | Total Blocking Time<br>10 ms |
| Largest Contentful Paint<br>0.8 s | Cumulative Layout Shift<br>0 |

View Original Trace View Treemap

Show audits relevant to: All FCP TBT LCP CLS

DIAGNOSTICS

- ▲ Image elements do not have explicit `width` and `height`
- ▲ Serve static assets with an efficient cache policy — 6 resources found

- Keep request counts low and transfer sizes small — 7 requests • 500 KiB
- Largest Contentful Paint element — 1 element found
- Avoid long main-thread tasks — 1 long task found

More information about the performance of your application. These numbers don't directly affect the Performance score.

PASSED AUDITS (35) Show

## AccessIbIIIty

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

ADDITIONAL ITEMS TO MANUALLY CHECK (10) Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

PASSED AUDITS (11) Show

NOT APPLICABLE (33) Show

## Best PractIces

TRUST AND SAFETY

- Ensure CSP is effective against XSS attacks

GENERAL

Detected JavaScript libraries

PASSED AUDITS (13) Show

NOT APPLICABLE (1) Show

## SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on Core Web Vitals. Learn more.

ADDITIONAL ITEMS TO MANUALLY CHECK (1) Show

Run these additional validators on your site to check additional SEO best practices.

PASSED AUDITS (11) Show

NOT APPLICABLE (3) Show

## PWA

These checks validate the aspects of a Progressive Web App. Learn more.

### INSTALLABLE

▲ Web app manifest or service worker do not meet the installability requirements — 1 reason

### PWA OPTIMIZED

▲ Does not register a service worker that controls page and `start_url`

- Configured for a custom splash screen
- Sets a theme color for the address bar.
- Content is sized correctly for the viewport
- Has a `<meta name="viewport">` tag with `width` or `initial-scale`
- Provides a valid `apple-touch-icon`
- ▲ Manifest doesn't have a maskable icon

## ADDITIONAL ITEMS TO MANUALLY CHECK (3)

Show

These checks are required by the baseline PWA Checklist but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

---

- Captured at Sep 15, 2022, 1:10 AM GMT+2
- Initial page load
- Emulated Desktop with Lighthouse 9.6.1
- Custom throttling
- Single page load
- Using Chromium 104.0.0.0 with devtools

http://127.0.0.1:5500/jQuery_version/P12_Front-end-master-OldVersion/employee-list.html

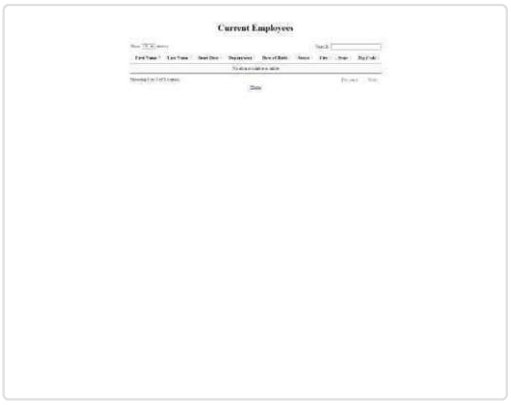
| Performance | Accessibility | Best Practices | SEO | PWA |
|---|---|---|---|---|
| 100 | 98 | 92 | 67 | — |

100

## Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49 50–89 90–100




### METRICS

Expand view

| | |
|---|---|
| First Contentful Paint: 0.4 s | Time to Interactive: 0.5 s |
| Speed Index: 0.4 s | Total Blocking Time: 0 ms |
| Largest Contentful Paint: 0.4 s | Cumulative Layout Shift: 0 |

View Original Trace | View Treemap

Show audits relevant to: All FCP TBT LCP CLS

### OPPORTUNITIES

| Opportunity | Estimated Savings |
|---|---|
| Eliminate render-blocking resources | 0.28 s |

These suggestions can help your page load faster. They don't directly affect the Performance score.

### DIAGNOSTICS

- ▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found
- ○ Avoid chaining critical requests — 5 chains found
- ○ Keep request counts low and transfer sizes small — 8 requests • 66 KiB
- ○ Largest Contentful Paint element — 1 element found
- ○ Avoid large layout shifts — 1 element found

More information about the performance of your application. These numbers don't directly affect the Performance score.

### PASSED AUDITS (34) Show

## Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

### INTERNATIONALIZATION AND LOCALIZATION

- ▲ `<html>` element does not have a `[lang]` attribute

These are opportunities to improve the interpretation of your content by users in different locales.

### ADDITIONAL ITEMS TO MANUALLY CHECK (10) Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

### PASSED AUDITS (19) Show

### NOT APPLICABLE (24) Show

# Best Practices

## BROWSER COMPATIBILITY

- ▲ Page lacks the HTML doctype, thus triggering quirks-mode Document must contain a doctype

## TRUST AND SAFETY

- ○ Ensure CSP is effective against XSS attacks

## GENERAL

- ○ Detected JavaScript libraries

## PASSED AUDITS (12)

Show

## NOT APPLICABLE (1)

Show

# SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on Core Web Vitals. Learn more.

## MOBILE FRIENDLY

- ▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found

Make sure your pages are mobile friendly so users don't have to pinch or zoom in order to read the content pages. Learn more.

## CONTENT BEST PRACTICES

▲ Document does not have a meta description

Format your HTML in a way that enables crawlers to better understand your app's content.

### CRAWLING AND INDEXING

▲ Links are not crawlable

To appear in search results, crawlers need access to your app.

### ADDITIONAL ITEMS TO MANUALLY CHECK (1)

Show

Run these additional validators on your site to check additional SEO best practices.

### PASSED AUDITS (6)

Show

### NOT APPLICABLE (5)

Show

## PWA

These checks validate the aspects of a Progressive Web App. Learn more.

### INSTALLABLE

▲ Web app manifest or service worker do not meet the installability requirements — 1 reason

### PWA OPTIMIZED

▲ Does not register a service worker that controls page and `start_url`

▲ Is not configured for a custom splash screen Failures: No manifest was fetched.

▲ Does not set a theme color for the address bar.
Failures: No manifest was fetched, No `<meta name="theme-color">` tag found.

○ Content is sized correctly for the viewport

▲ Does not have a `<meta name="viewport">` tag with `width` or `initial-scale` No `<meta name="viewport">` tag found

▲ Does not provide a valid `apple-touch-icon`

▲ Manifest doesn't have a maskable icon No manifest was fetched

## ADDITIONAL ITEMS TO MANUALLY CHECK (3)

Show

These checks are required by the baseline PWA Checklist but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

http://localhost:3000/employees

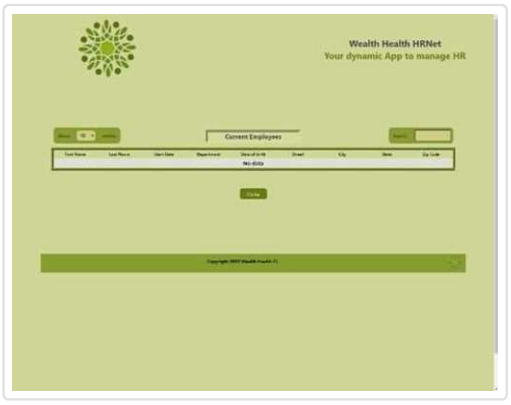
| Performance | Accessibility | Best Practices | SEO | PWA |
|---|---|---|---|---|
| 100 | 100 | 100 | 100 | — |

100

## Performance

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

▲ 0–49 50–89 90–100




METRICS Expand view

| | |
|---|---|
| First Contentful Paint 0.2 s | Time to Interactive 0.6 s |
| Speed Index 0.2 s | Total Blocking Time 20 ms |
| Largest Contentful Paint 0.7 s | Cumulative Layout Shift 0.005 |

View Original Trace View Treemap

Show audits relevant to: All FCP TBT LCP CLS

DIAGNOSTICS

▲ Image elements do not have explicit `width` and `height`

▲ Serve static assets with an efficient cache policy — 5 resources found

- Keep request counts low and transfer sizes small — 6 requests • 495 KiB
- Largest Contentful Paint element — 1 element found
- Avoid large layout shifts — 2 elements found
- Avoid long main-thread tasks — 1 long task found

More information about the performance of your application. These numbers don't directly affect the Performance score.

PASSED AUDITS (34) Show

## AccessIbIIIty

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

ADDITIONAL ITEMS TO MANUALLY CHECK (10) Show

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

PASSED AUDITS (18) Show

NOT APPLICABLE (26) Show

## Best PractIces

TRUST AND SAFETY

- Ensure CSP is effective against XSS attacks

GENERAL

Detected JavaScript libraries

PASSED AUDITS (13) Show

NOT APPLICABLE (1) Show

## SEO

These checks ensure that your page is following basic search engine optimization advice. There are many additional factors Lighthouse does not score here that may affect your search ranking, including performance on Core Web Vitals. Learn more.

ADDITIONAL ITEMS TO MANUALLY CHECK (1) Show

Run these additional validators on your site to check additional SEO best practices.

PASSED AUDITS (11) Show

NOT APPLICABLE (3) Show

## PWA

These checks validate the aspects of a Progressive Web App. Learn more.

INSTALLABLE

Web app manifest or service worker do not meet the installability requirements — 1 reason

PWA OPTIMIZED

- ▲ Does not register a service worker that controls page and `start_url`
- Configured for a custom splash screen
- Sets a theme color for the address bar.
- ○ Content is sized correctly for the viewport
- Has a `<meta name="viewport">` tag with `width` or `initial-scale`
- Provides a valid `apple-touch-icon`
- ▲ Manifest doesn't have a maskable icon

## ADDITIONAL ITEMS TO MANUALLY CHECK (3)

Show

These checks are required by the baseline PWA Checklist but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

---

- Captured at Sep 15, 2022, 1:12 AM GMT+2
- Initial page load
- Emulated Desktop with Lighthouse 9.6.1
- Custom throttling
- Single page load
- Using Chromium 104.0.0.0 with devtools

# Analyse des performances:

Suite aux données des screenshots et rapports de performance en amont de ce rapport, dans cette partie j'analyse les performances d'une application web avec Lighthouse. Je souhaite vérifier que la conversion en librairie et des autres plugins jQuery en composants React améliorera les performances et la stabilité. Je mesure ici les données quantifiables telles que les temps de chargement des pages, les appels réseau pendant l'éxécution de l'application. Pour m'assurer que la conversion de l'application react  améliore effectivement les performances. Pour cela j'ai fait un auidit de performance Lighthouse. Avant de faire l'analyse j'ai bien build les applications et je les ai lancé en navigation privée. Les appels réseau et toute cette manipulation DOM nécessaire pour les plugins jQuery s'additionnent et ralentissent l'application. En plus d'etre présenté en amont les rapport de performance sont au format JSON. Comme on peut le voir les rapports de performance montrent les visuels indiquant l'état de performance, et permet de déterminer si la performance ou non a changé après la conversion et comment.

Les screenshots présentent les versions avant et après sur les deux pages de création d'employé et de la liste des employées en version desktop/mobile.
On constate que sur les deux pages la version jQuery obtient un score de performance de 98 et 100 contre 100 et 100 sur la version React. Si l'on étudie plus en profondeur les temps on obtient de meilleurs temps de chargement de page (0,4s contre 0.8s)sur la version React que sur la version jQuery également Il en est de même pour les appels réseau ou on obtient moins d'appels réseau et moins de requetes sur la version react (7 requetes pour react contre 11 requetes pour jquery, taille en kb et temps de réponse en ms plus faible également)

# Conclusion:

La version Jquery a des perfomances de base qui sont bonnes (temps de chargements) mais l'accessibilité, la SEO et bonnes pratiques sont loin des 100%. Après avoir build la version react et lancer en version navigation privée, j'optimise la version React suite aux conseils lighthouse (utilisation debugging, inspection du DOM, console, devtools, optimisation code etc). J'obtiens un score similaire de 100% pour les performances après l'ajout du data fetching at caching Suspense et Lazy de React. Pour obtenir un score de 100% en accessibilité je corrige également les soucis de contraste. On obtient aussi de meilleurs temps de chargement de meilleurs temps concernant les données sur les appels réseaux pendant l'exécution de l'application. J'obtiens donc une version 100% sur tous les critères (Performance, SEO, accessibilité, bonnes pratiques) pour la version REACT sur les deux pages. J'ai détaillé les temps de chargement et les temps des données sur les appels réseaux avant et après dans le rapport.