Test ID	Test Case Description	Expected Result	Actual Result	Status	Remarks
TST-001	Homepage Load Test	Homepage should load within 2 seconds	Homepage loaded within 2 seconds	Passed	Displayed Properly
TST-002	Car Display Test	All cars should be displayed correctly on the homepage	All cars displayed correctly	Passed	No Issues found
TST-003	Car Details Test	Car details should display upon selection	Car details displayed correctly	Passed	Showing Correctly
TST-004	Checkout Page Test	Checkout process should complete without errors	Checkout completed successfully	Passed	Successfully
TST-005	API Integration Test	API should fetch and display data correctly	API fetched and displayed data as expected	Passed	Working Properly
TST-006	Navigation Test	All navigation links should be functional	All navigation links work correctly	Passed	Working Properly
TST-007	Security Test	All API calls should be secure and use HTTPS	All API calls are secure and use HTTPS	Passed	Working Properly
TST-008	Image Loading Test	All car images should load correctly	All car images loaded without issues	Passed	Working Properly
TST-009	Accessibility Test	Site should meet accessibility standards	Site meets all accessibility standards	Passed	Working Properly
TST-010	Responsiveness Test	Site should adjust properly on various devices	Site adjusted properly on all tested devices	Passed	Displayed Properly

- Viewed the response, including the status code, response body, and headers.

5. **View the Response**
   - Used different viewing formats (Pretty, Raw, Preview) to examine the response.
6. **Save the Request**
   - Saved the request for future use in a collection.
7. **Use Environment Variables**
   - Created environment variables (e.g., `api_url`) to dynamically store values.
   - Used variables in request URLs (e.g., `{{api_url}}`).
8. **Test and Automate API Requests**
   - Added tests in the **Tests** tab to validate responses (e.g., check if status code is 200).
   - Used **Collection Runner** to execute multiple requests sequentially.

Secure API Communication and Storing Sensitive Data

To ensure secure API communication and manage sensitive data like API keys, I followed these steps:

1. Ensuring API Calls Over HTTPS

- I made sure that all API calls in my project are made over **HTTPS** (Hypertext Transfer Protocol Secure) to ensure secure transmission of data over the internet.
- I verified the base URL of the API to ensure it starts with `https://`.

  Example:

  ```javascript
  const apiUrl = 'https://api.example.com/data'; // Secure API endpoint
  ```

- For all API calls using **fetch** or **Axios**, the URLs are configured with **HTTPS** by default.

  Example:

  ```javascript
  // Example using fetch
  const response = await fetch('https://api.example.com/data');
  ```

2. Storing Sensitive Data in Environment Variables

For securely managing sensitive data such as API keys, secrets, or authentication tokens, I used **environment variables**. Here's how I implemented this in my **Next.js** project:

Step 1: Created `.env.local` File

- I created a `.env.local` file in the root directory of the Next.js project. This file is not committed to version control because it's added to `.gitignore`.
- Inside the `.env.local` file, I stored sensitive data, including API URLs and keys, like so:

  ```plaintext
  NEXT_PUBLIC_API_URL=https://api.example.com
  API_KEY=your_api_key_here
  ```

  - The `NEXT_PUBLIC_` prefix is used for variables that need to be accessible on the client-side, like the API URL.
  - For sensitive variables like **API_KEY**, I avoided the `NEXT_PUBLIC_` prefix to keep it only accessible server-side.

Step 2: Accessing Environment Variables in Code

- In my code, I accessed these environment variables securely using `process.env`.

Step 2: Accessing Environment Variables in Code

- In my code, I accessed these environment variables securely using `process.env`.

  Example:

  ```javascript
  const apiUrl = process.env.NEXT_PUBLIC_API_URL;
  const apiKey = process.env.API_KEY;

  const response = await fetch(`${apiUrl}/data?api_key=${apiKey}`);
  ```

  - The `NEXT_PUBLIC_API_URL` variable is safe to expose to the client-side since it's prefixed with `NEXT_PUBLIC_`.
  - The `API_KEY` variable is only used on the server-side to avoid exposing it to the browser.

Step 3: Adding `.env.local` to `.gitignore`

- To ensure the sensitive data doesn't get committed to version control, I added the `.env.local` file to my `.gitignore` file:

  ```plaintext
  .env.local
  ```

3. Using Environment Variables on Deployment

For deployment on **Vercel** (or similar platforms like **Netlify** or **AWS**), I securely configured environment variables:

- I navigated to the **Vercel** dashboard and accessed the **Settings > Environment Variables** section.
- Here, I added the necessary environment variables, including **API_KEY**, ensuring they are securely injected during production.

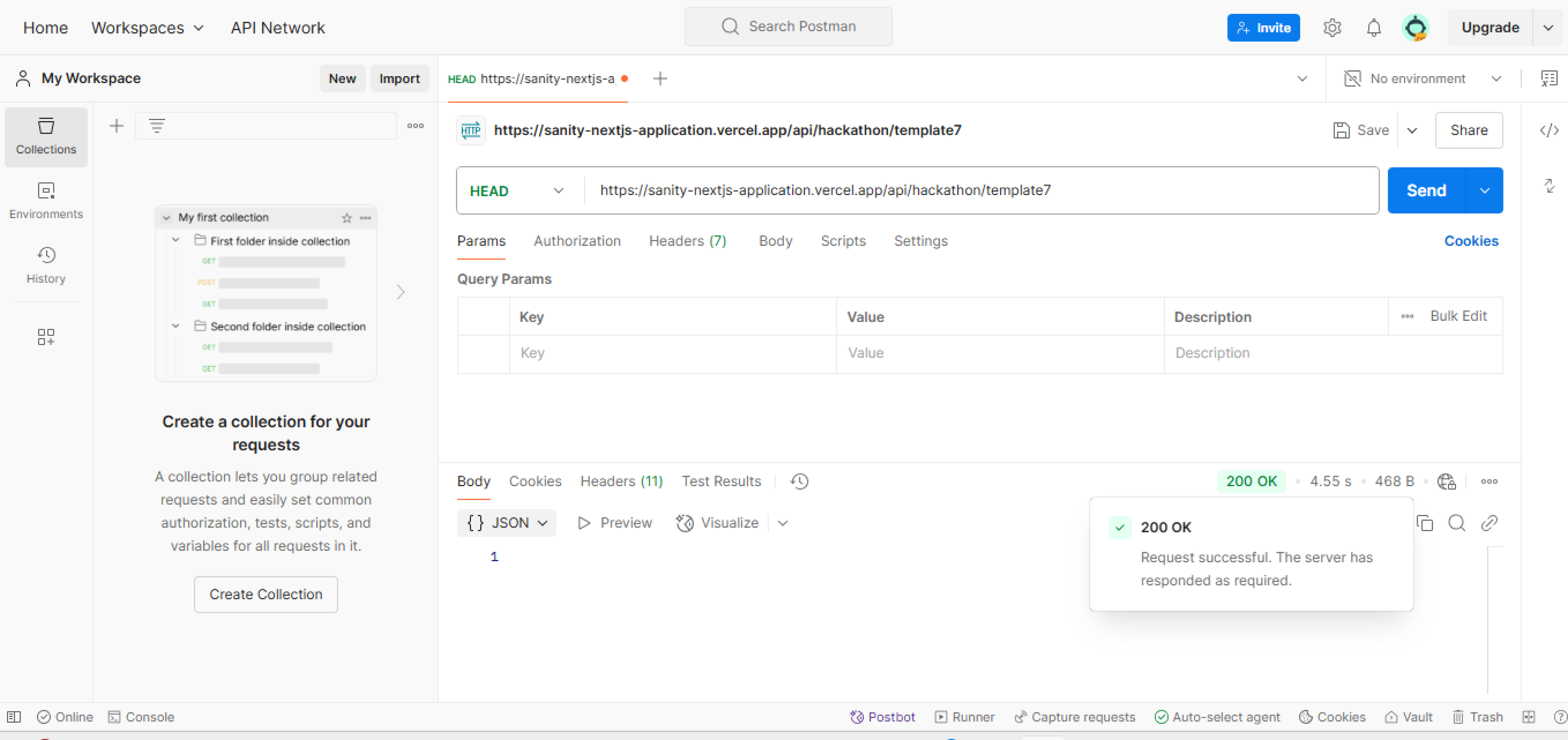
By following these steps, I ensured that:

- API keys and sensitive data are securely stored in environment variables and not exposed on the client-side.
- All API communication is encrypted via **HTTPS** for secure data transmission.

Postman API Testing Summary

I have followed these steps to test APIs using Postman:

1. **Download and Install Postman**
   - Downloaded and installed Postman from the official website.
2. **Create a New Request**
   - Opened Postman and clicked the "**New**" button to create a new request.
   - Chose a collection to save the request.
3. **Configure the Request**
   - Entered the API endpoint URL (e.g., `https://api.example.com/data`).
   - Selected the appropriate HTTP method (GET, POST, PUT, DELETE).
   - Added necessary headers, such as **Authorization** (`Bearer <your_token>`).
   - Added request body data in the **raw** format for POST or PUT requests.
4. **Send the Request**
   - Clicked **Send** to trigger the API call.
   - Viewed the response, including the status code, response body, and headers.
5. **View the Response**



Create a collection for your requests

A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.

HEAD https://sanity-nextjs-application.vercel.app/api/hackathon/template7

Params | Authorization | Headers (7) | Body | Scripts | Settings

Query Params

	Key	Value	Description
	Key	Value	Description

Body | Cookies | Headers (11) | Test Results

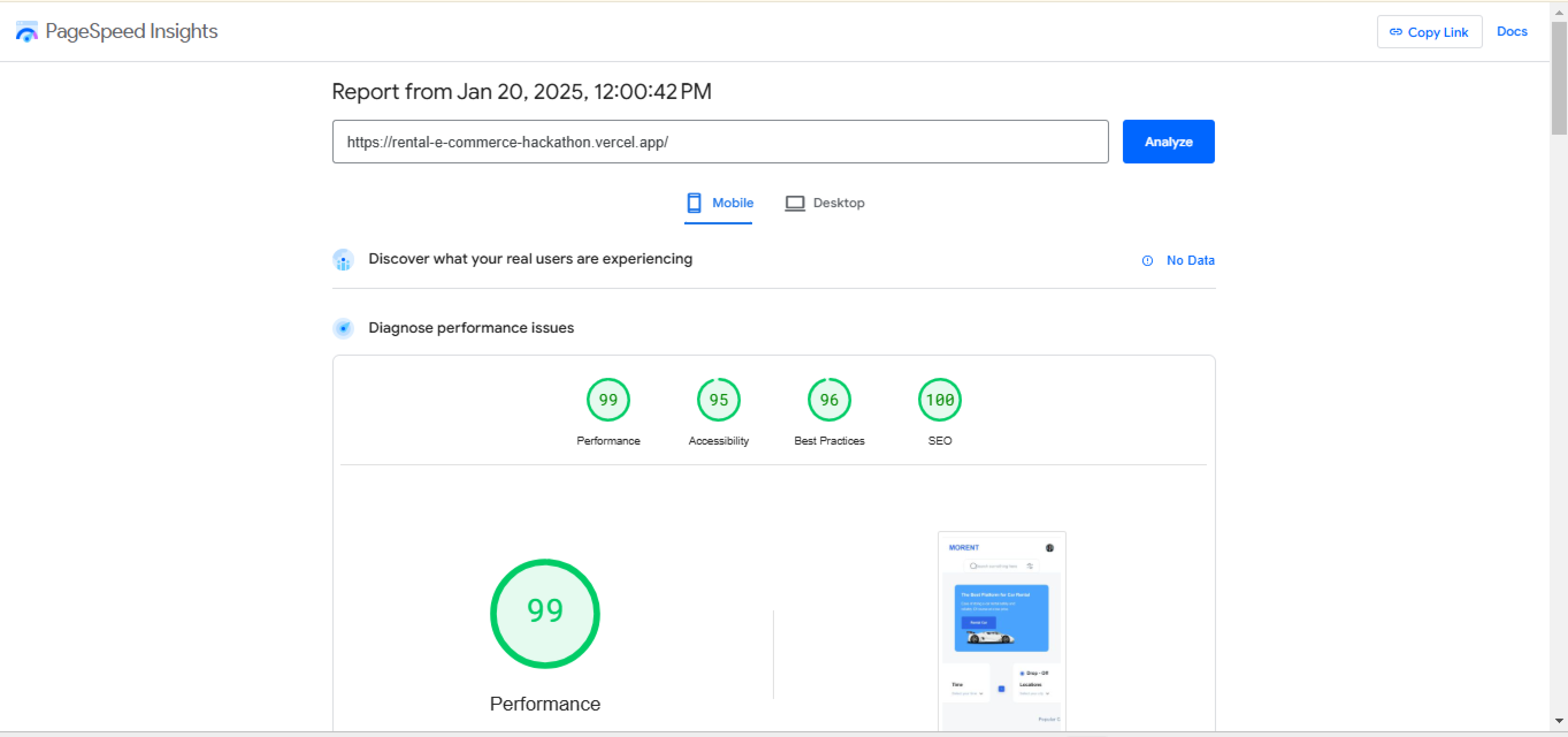
200 OK • 4.55 s • 468 B

JSON | Preview | Visualize

```
1
```

200 OK

Request successful. The server has responded as required.



PageSpeed Insights

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https://rental-e-commerce-hackathon.vercel.app/

Analyze

Mobile Desktop

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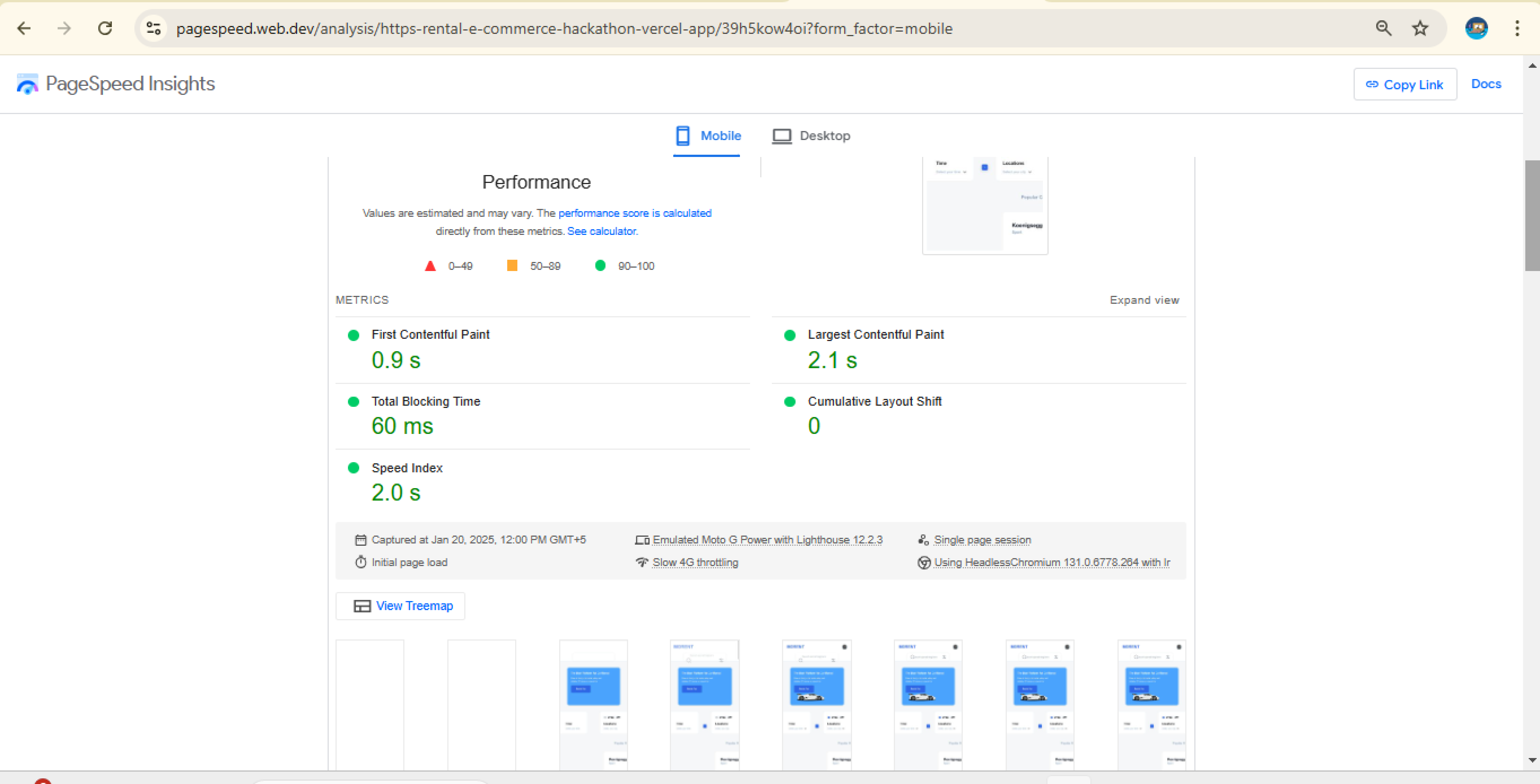
No Data

Diagnose performance issues

Performance	Accessibility	Best Practices	SEO
99	95	96	100

99

Performance



pagespeed.web.dev/analysis/https-rental-e-commerce-hackathon-vercel-app/39h5kow4oi?form_factor=mobile

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Mobile

Desktop

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
0.9 s

● Largest Contentful Paint
2.1 s

● Total Blocking Time
60 ms

● Cumulative Layout Shift
0

● Speed Index
2.0 s

Captured at Jan 20, 2025, 12:00 PM GMT+5

Emulated Moto G Power with Lighthouse 12.2.3

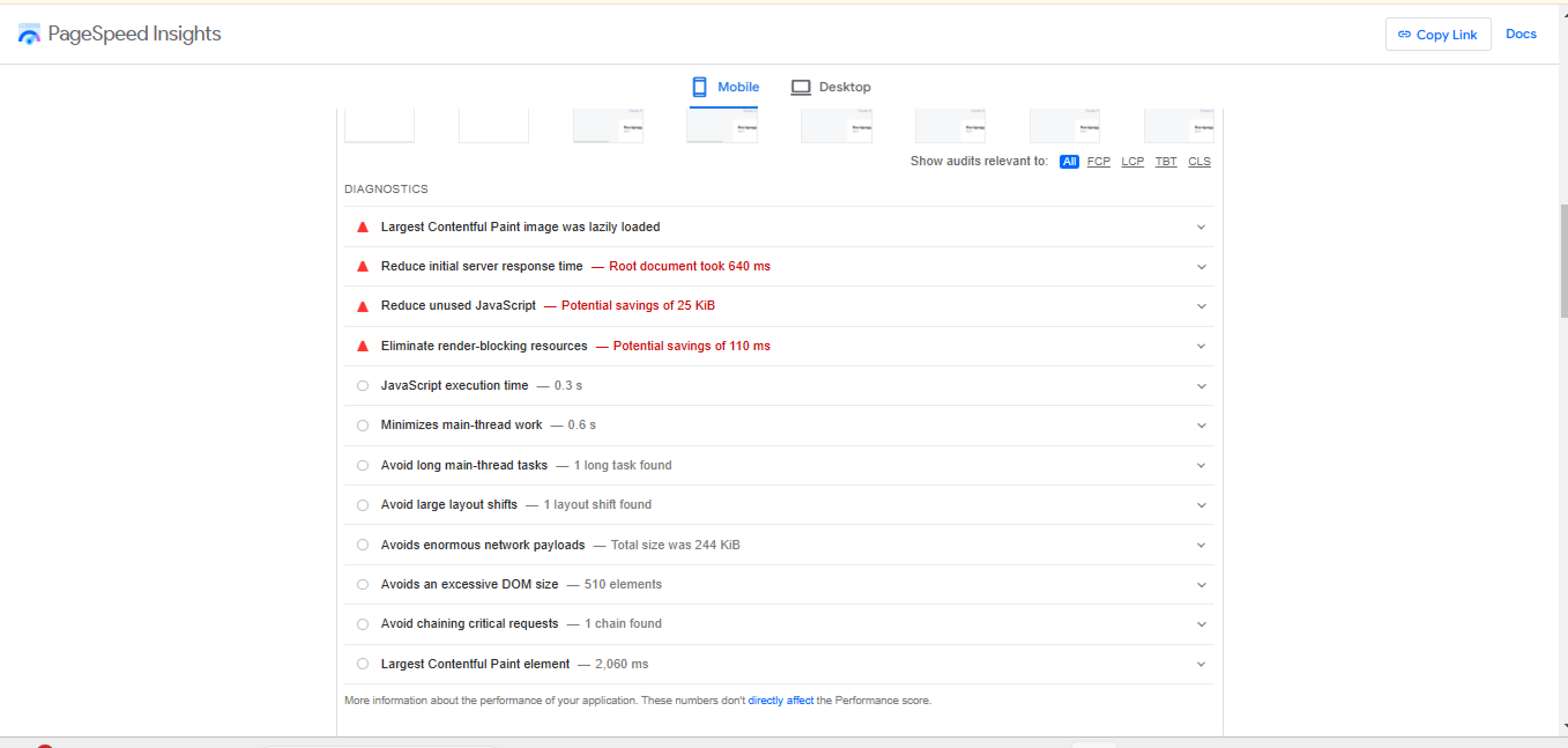
Single page session

Initial page load

Slow 4G throttling

Using HeadlessChromium 131.0.6778.264 with lr

View Treemap



Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

▲ Largest Contentful Paint image was lazily loaded

▲ Reduce initial server response time — Root document took 640 ms

▲ Reduce unused JavaScript — Potential savings of 25 KiB

▲ Eliminate render-blocking resources — Potential savings of 110 ms

○ JavaScript execution time — 0.3 s

○ Minimizes main-thread work — 0.6 s

○ Avoid long main-thread tasks — 1 long task found

○ Avoid large layout shifts — 1 layout shift found

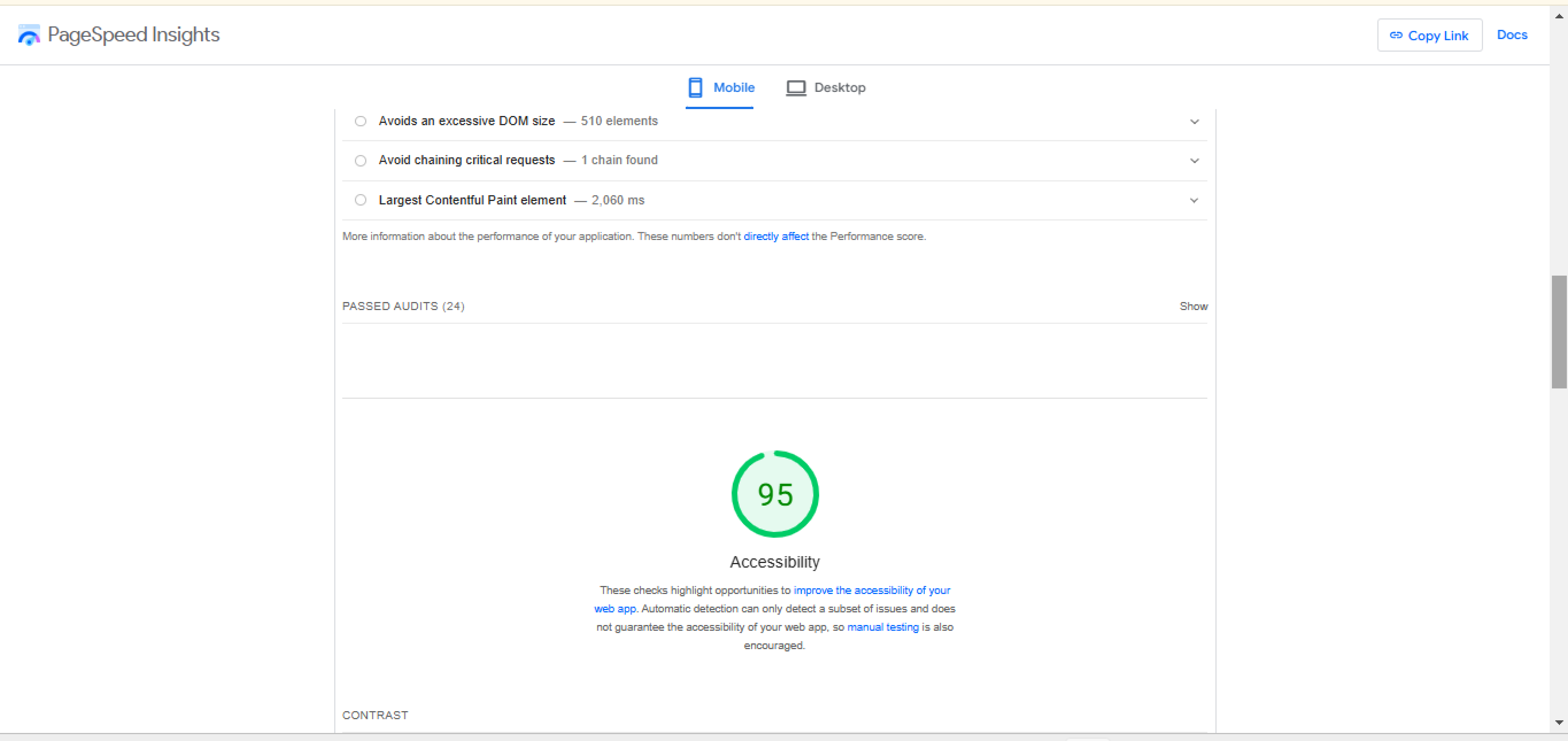
○ Avoids enormous network payloads — Total size was 244 KiB

○ Avoids an excessive DOM size — 510 elements

○ Avoid chaining critical requests — 1 chain found

○ Largest Contentful Paint element — 2,060 ms

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



○ **Avoids an excessive DOM size** — 510 elements

○ **Avoid chaining critical requests** — 1 chain found

○ **Largest Contentful Paint element** — 2,060 ms

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

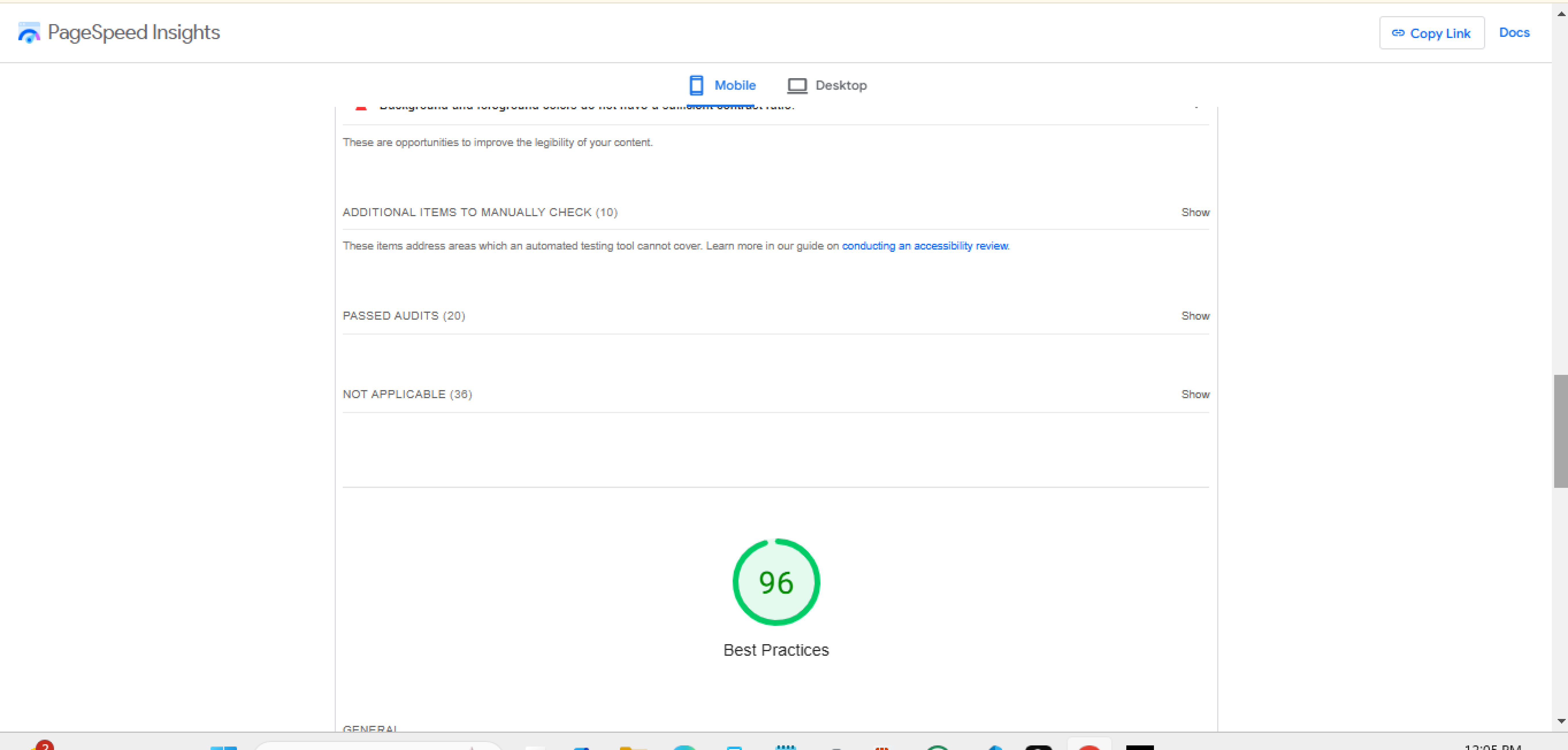
PASSED AUDITS (24) Show

95

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so manual testing is also encouraged.

CONTRAST



PageSpeed Insights

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Mobile Desktop

Background and foreground colors do not have a sufficient contrast ratio.

These are opportunities to improve the legibility of your content.

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.

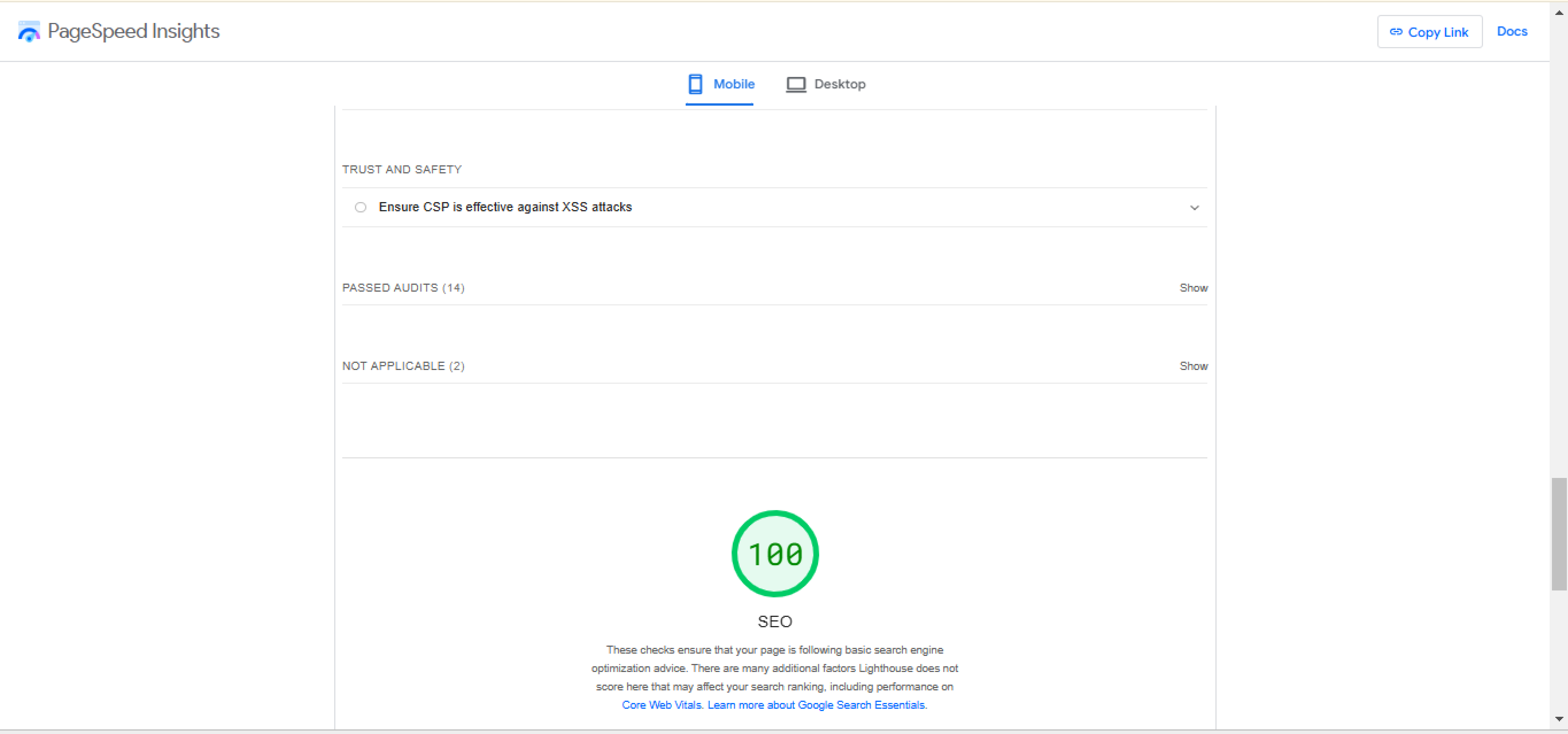
PASSED AUDITS (20) Show

NOT APPLICABLE (36) Show

96

Best Practices

GENERAL



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Mobile

Desktop

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks

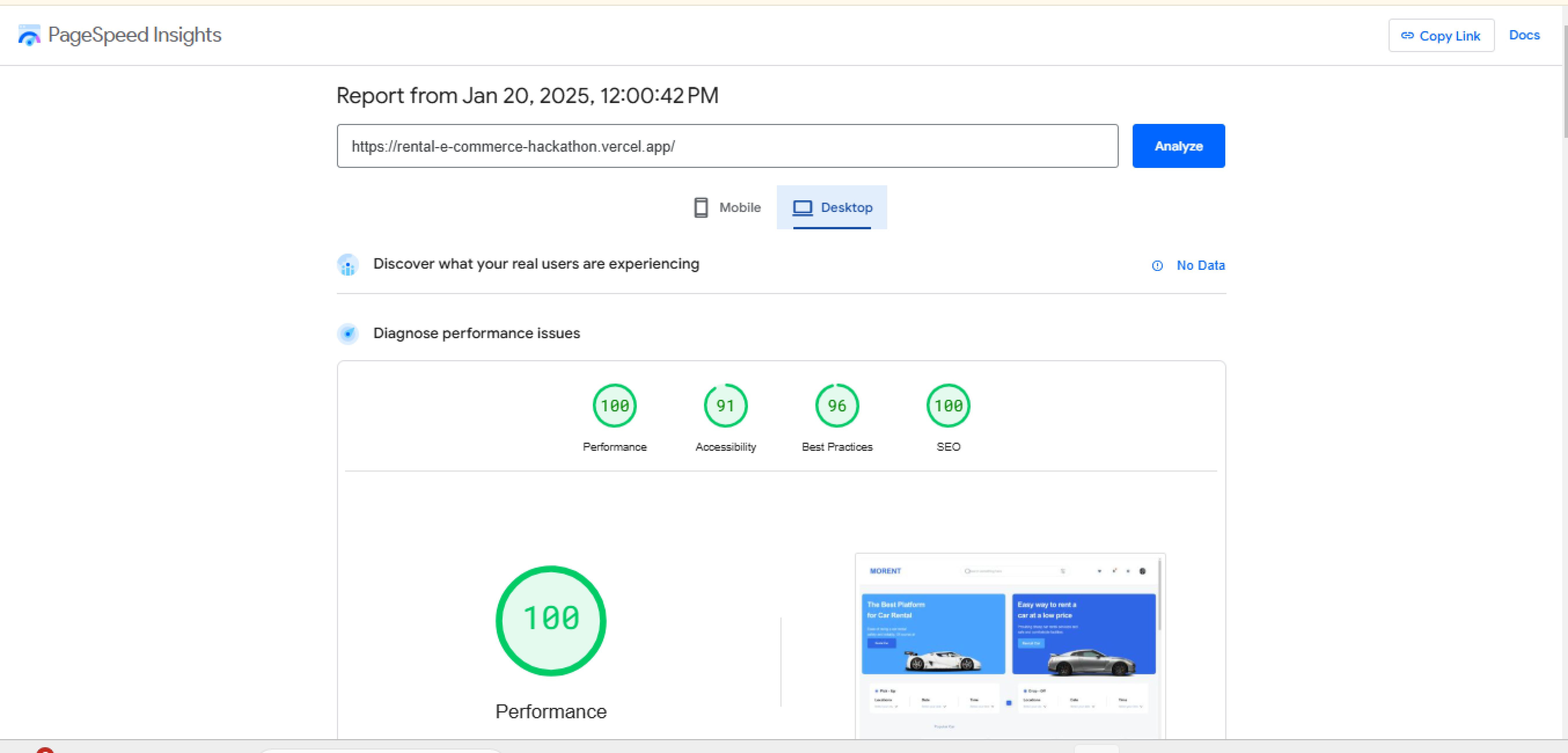
PASSED AUDITS (14) Show

NOT APPLICABLE (2) Show

100

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 about Google Search Essentials.



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https://rental-e-commerce-hackathon.vercel.app/

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No Data

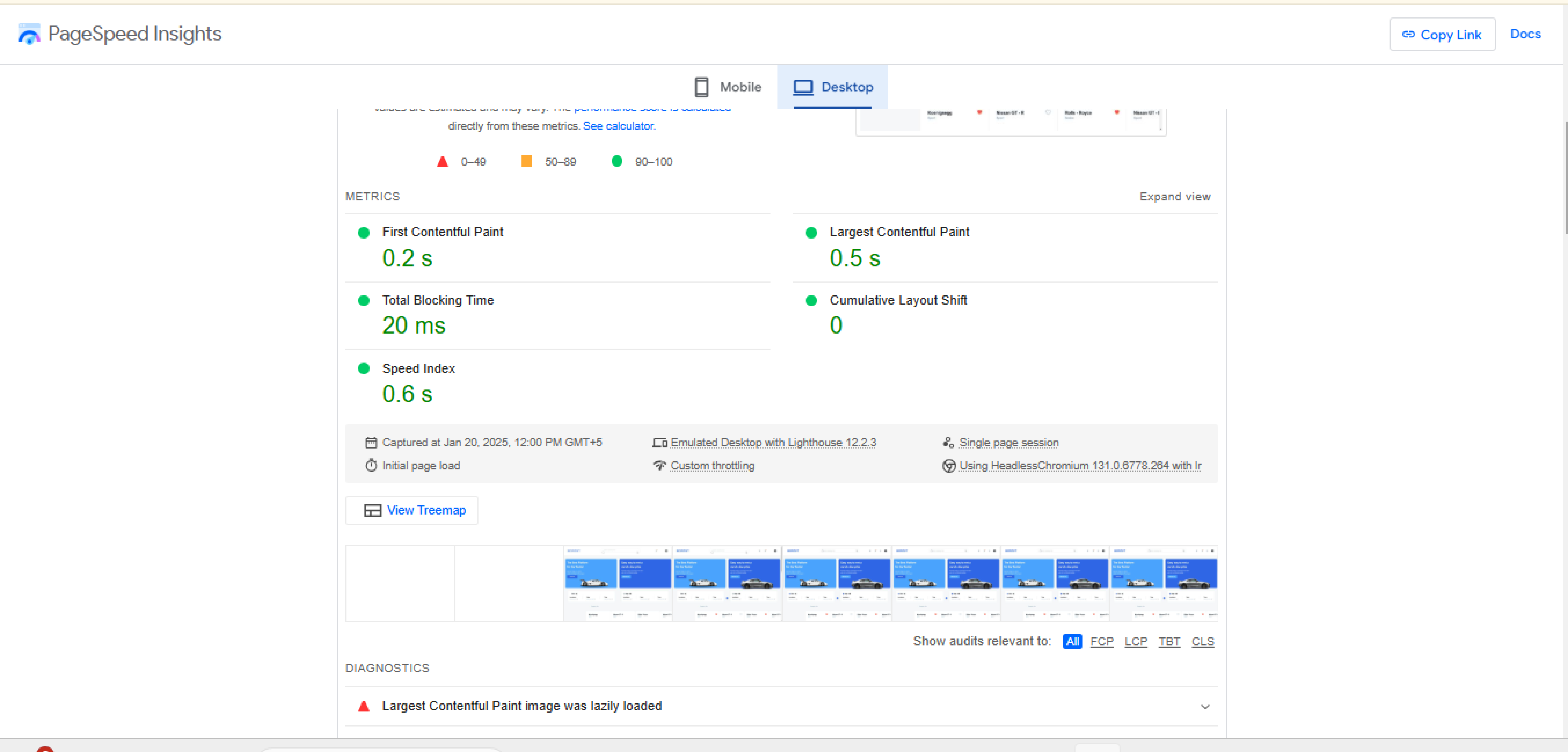
Diagnose performance issues

100	91	96	100
Performance	Accessibility	Best Practices	SEO

100

Performance

MORENT
The Best Platform for Car Rental
Easy way to rent a car at a low price



PageSpeed Insights

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Mobile Desktop

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	● Largest Contentful Paint 0.5 s
● Total Blocking Time 20 ms	● Cumulative Layout Shift 0
● Speed Index 0.6 s	

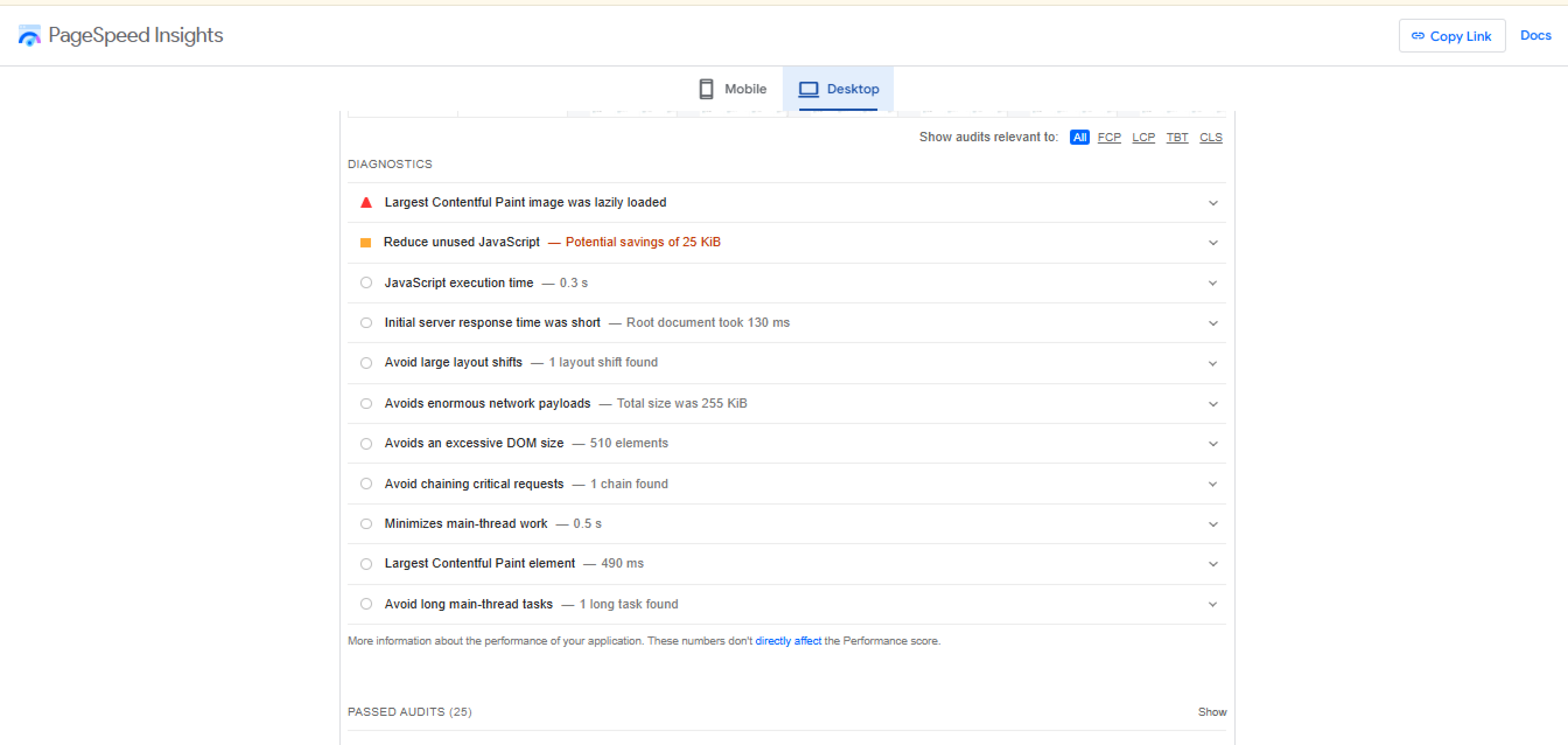
Captured at Jan 20, 2025, 12:00 PM GMT+5
Initial page load
Emulated Desktop with Lighthouse 12.2.3
Custom throttling
Single page session
Using HeadlessChromium 131.0.6778.264 with lr

View Treemap

Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

🔺 Largest Contentful Paint image was lazily loaded



PageSpeed Insights

Copy Link Docs

Mobile Desktop

Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

▲ Largest Contentful Paint image was lazily loaded

■ Reduce unused JavaScript — Potential savings of 25 KiB

○ JavaScript execution time — 0.3 s

○ Initial server response time was short — Root document took 130 ms

○ Avoid large layout shifts — 1 layout shift found

○ Avoids enormous network payloads — Total size was 255 KiB

○ Avoids an excessive DOM size — 510 elements

○ Avoid chaining critical requests — 1 chain found

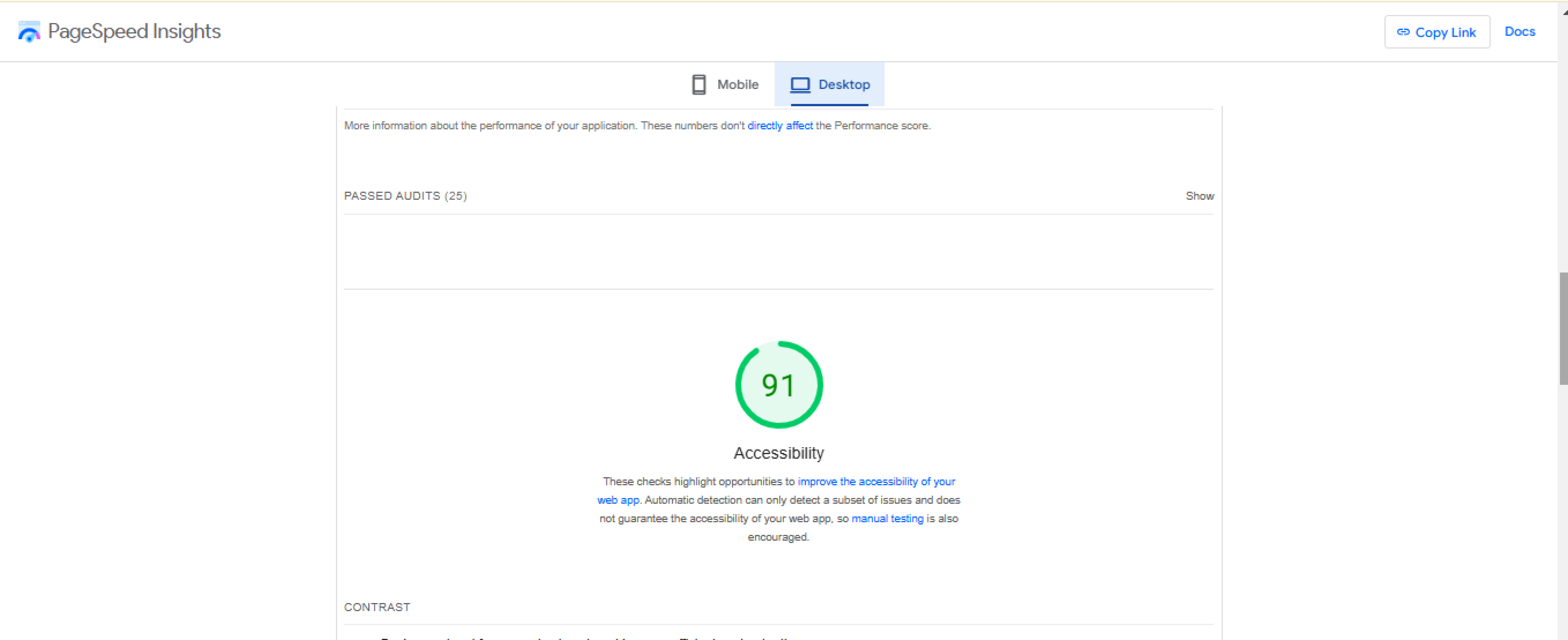
○ Minimizes main-thread work — 0.5 s

○ Largest Contentful Paint element — 490 ms

○ 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 (25) Show



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

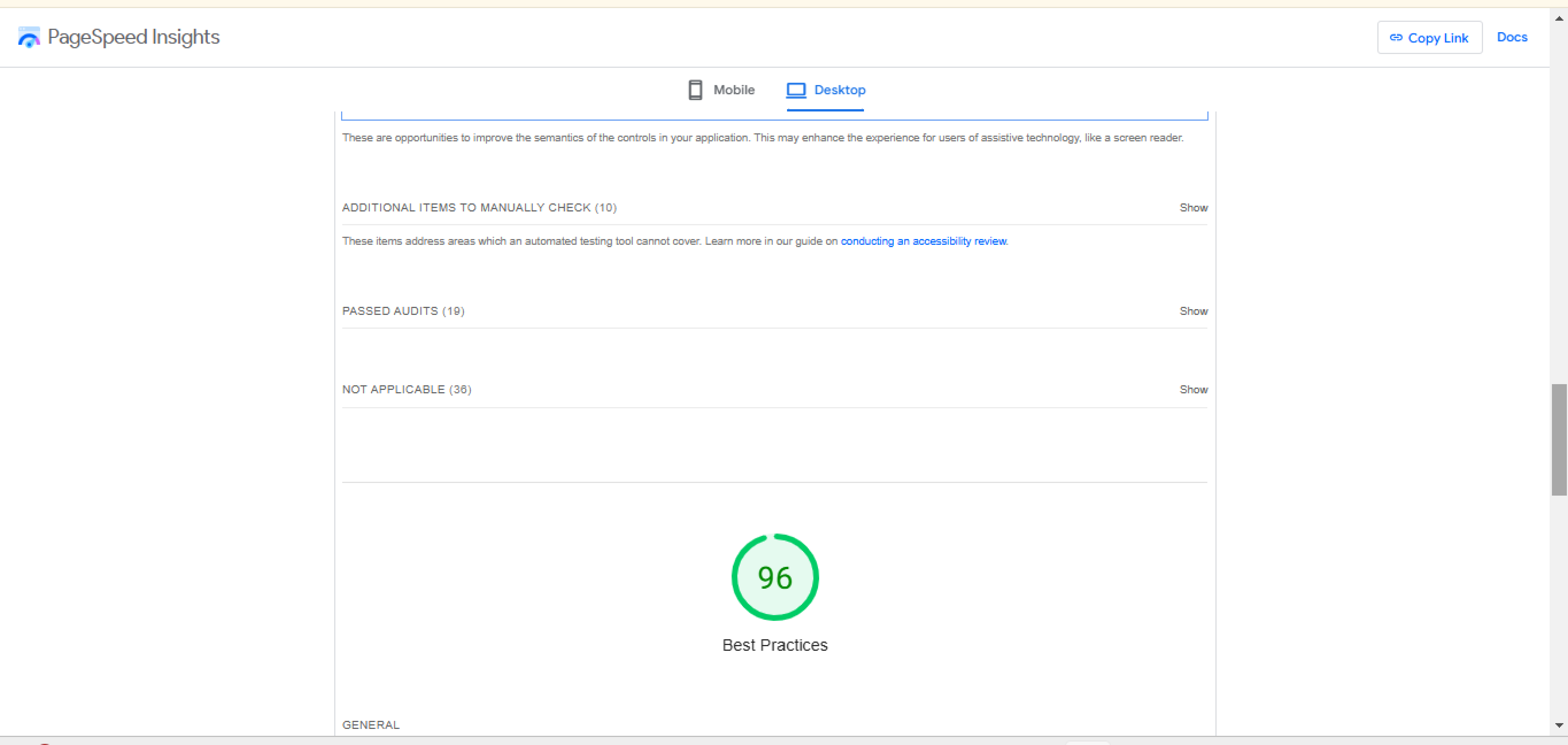
PASSED AUDITS (25) Show

91

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so manual testing is also encouraged.

CONTRAST



PageSpeed Insights

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Mobile Desktop

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

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.

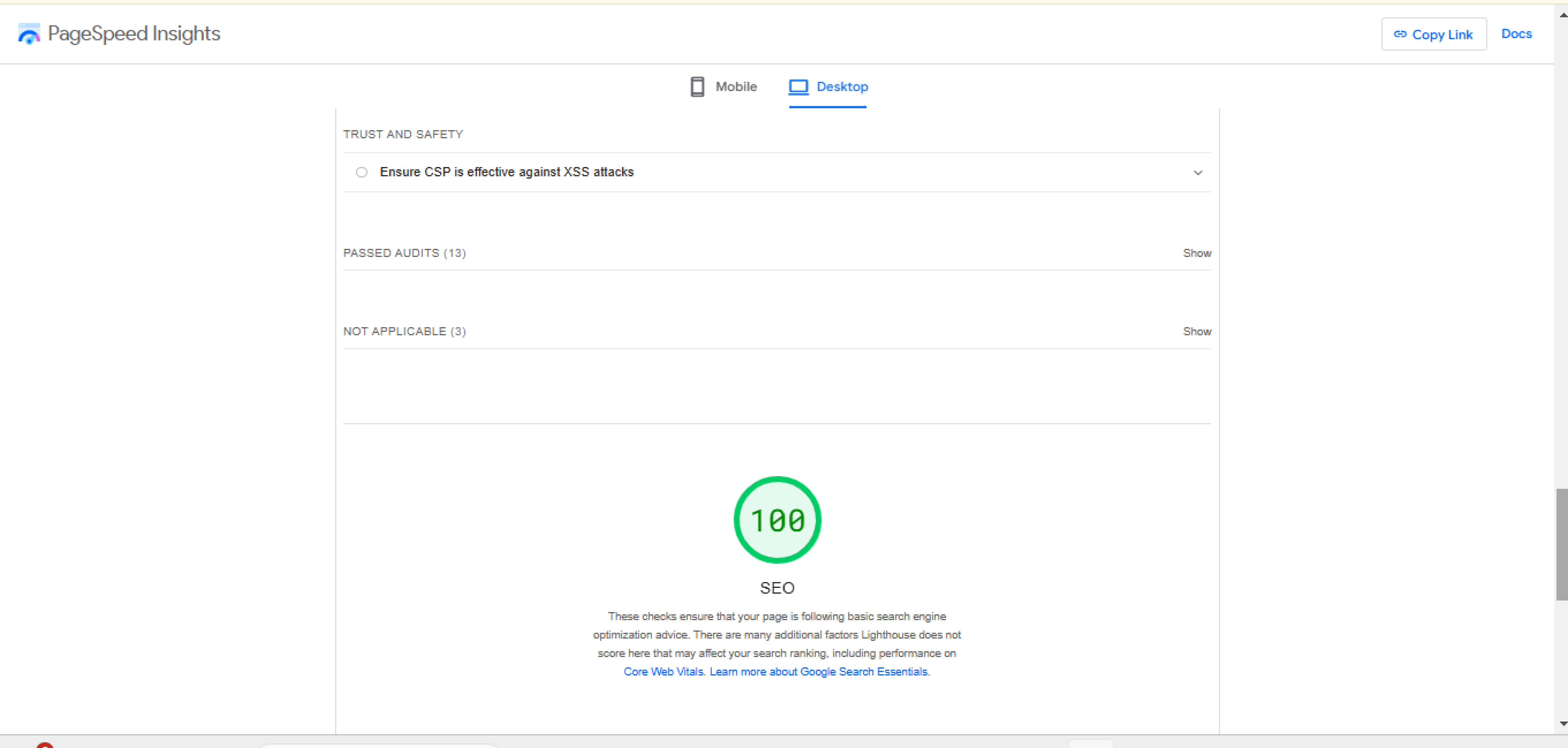
PASSED AUDITS (19) Show

NOT APPLICABLE (36) Show

96

Best Practices

GENERAL



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Mobile

Desktop

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks

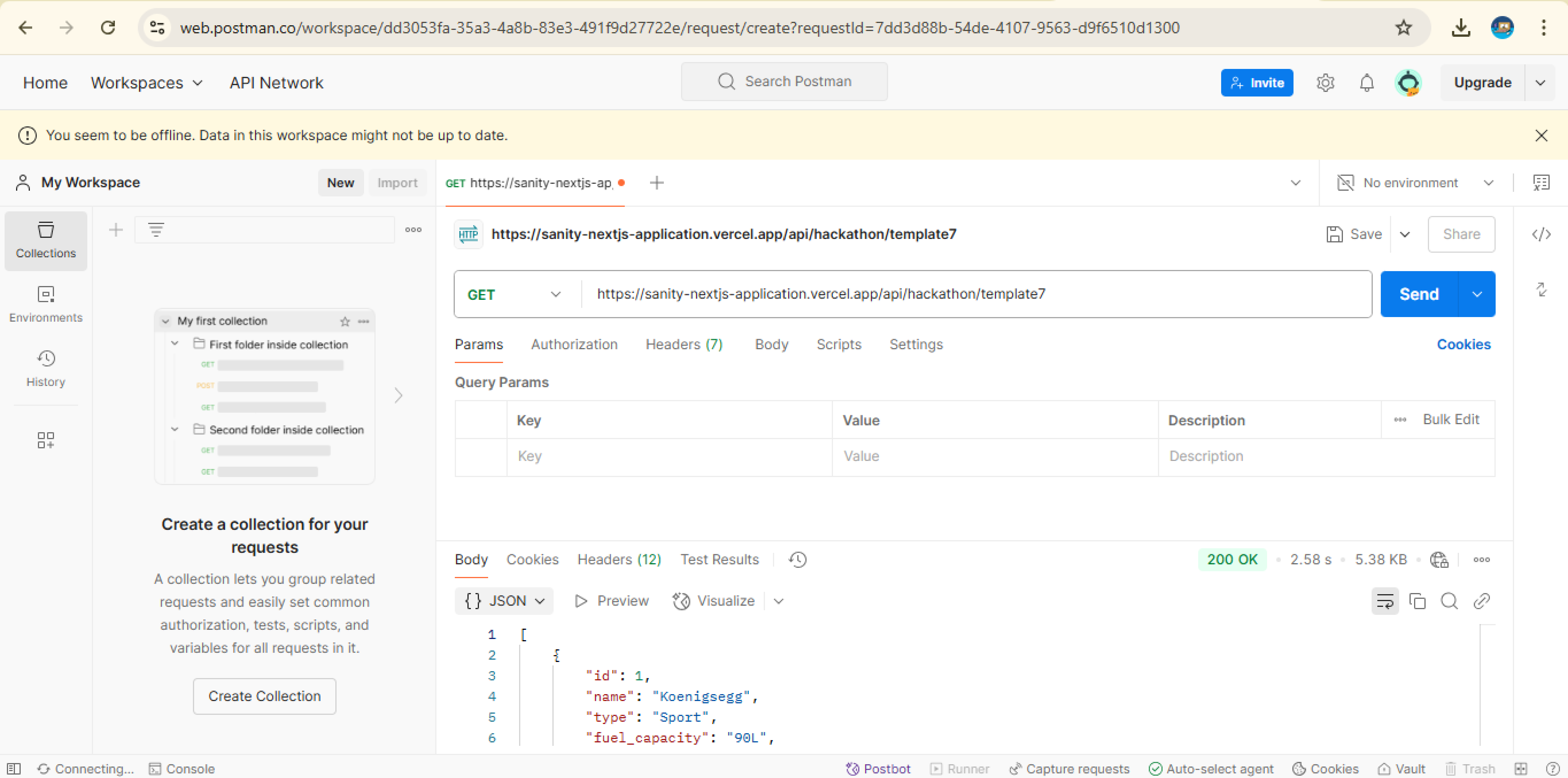
PASSED AUDITS (13) Show

NOT APPLICABLE (3) Show

100

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 about Google Search Essentials.


web.postman.co/workspace/dd3053fa-35a3-4a8b-83e3-491f9d27722e/request/create?requestId=7dd3d88b-54de-4107-9563-d9f6510d1300

You seem to be offline. Data in this workspace might not be up to date.

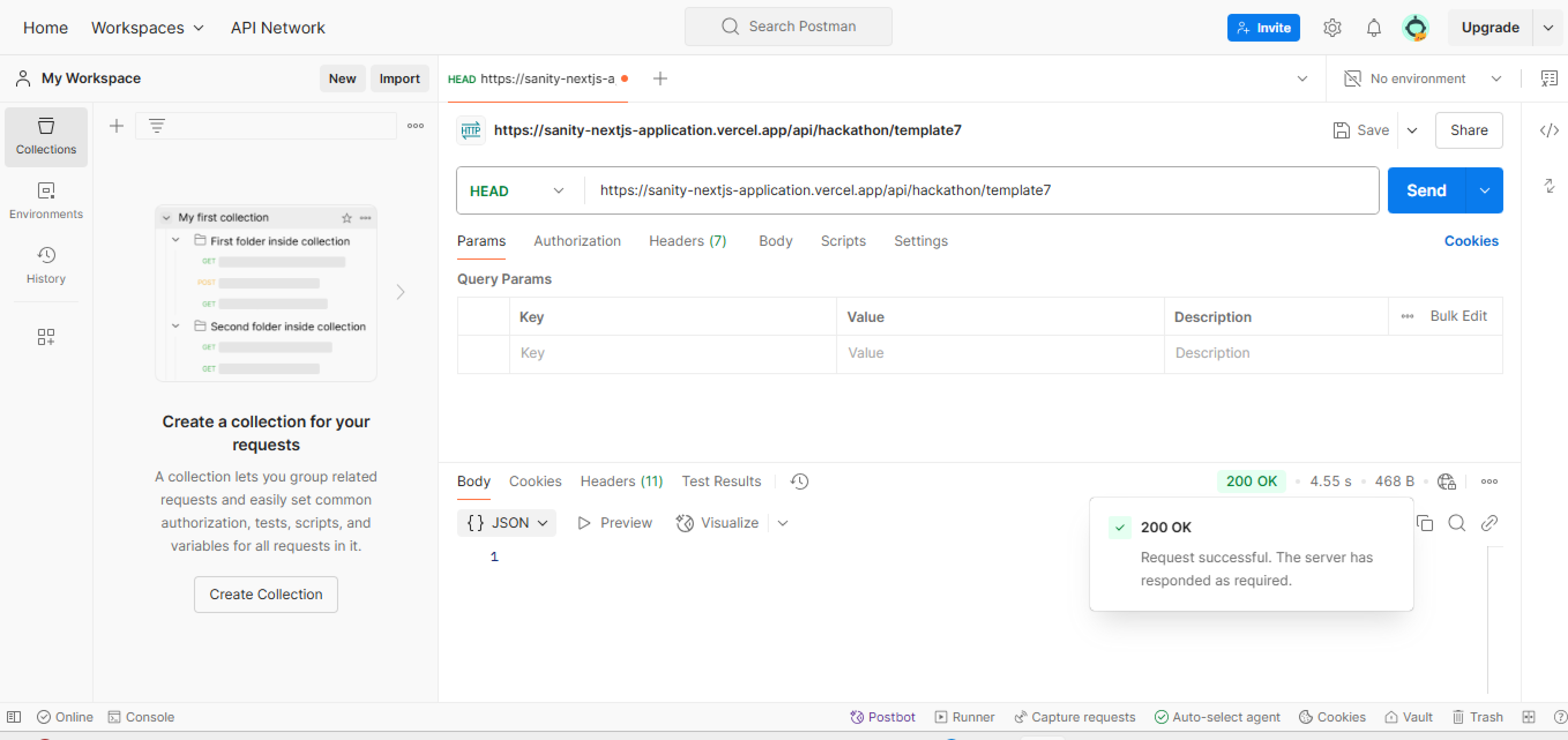
GET https://sanity-nextjs-application.vercel.app/api/hackathon/template7

Query Params

Key	Value	Description
Key	Value	Description

200 OK • 2.58 s • 5.38 KB

```
[
    {
        "id": 1,
        "name": "Koenigsegg",
        "type": "Sport",
        "fuel_capacity": "90L",
```


HEAD https://sanity-nextjs-application.vercel.app/api/hackathon/template7

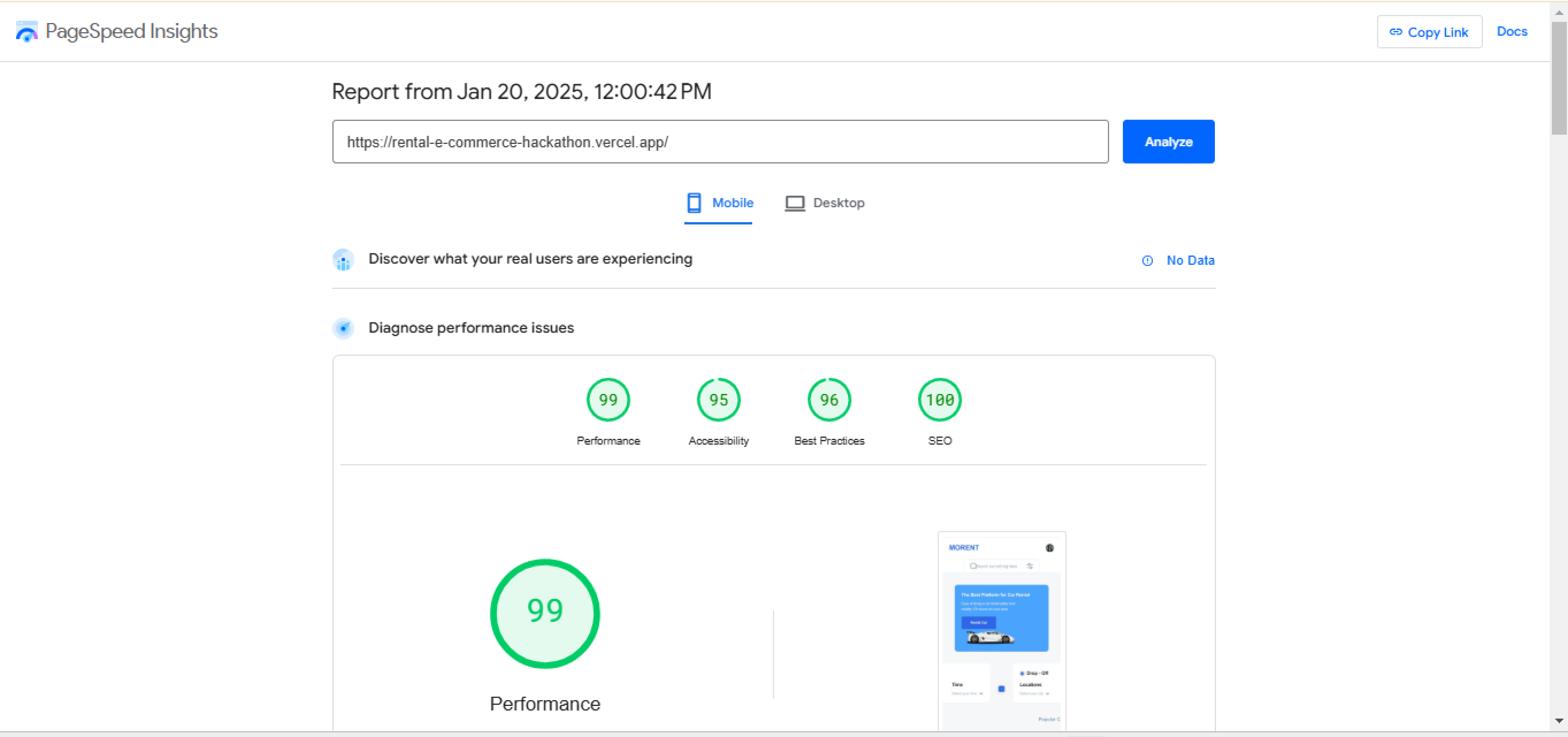
Query Params

Key	Value	Description
Key	Value	Description

200 OK · 4.55 s · 468 B

```
1
```

200 OK
Request successful. The server has responded as required.



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https://rental-e-commerce-hackathon.vercel.app/

Analyze

Mobile

Desktop

Discover what your real users are experiencing

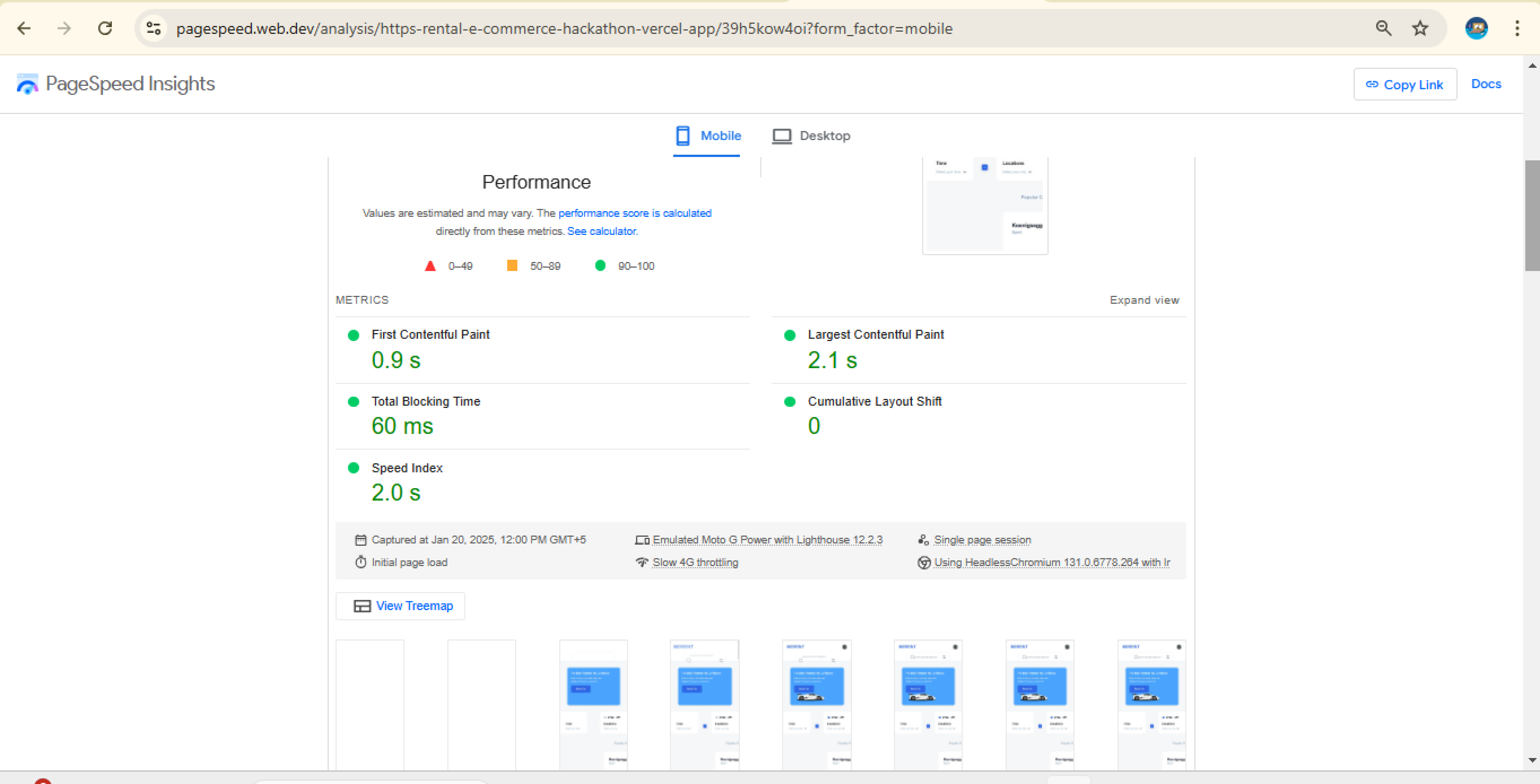
No Data

Diagnose performance issues

99	95	96	100
Performance	Accessibility	Best Practices	SEO

99

Performance



pagespeed.web.dev/analysis/https-rental-e-commerce-hackathon-vercel-app/39h5kow4oi?form_factor=mobile

PageSpeed Insights

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Mobile Desktop

Performance

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

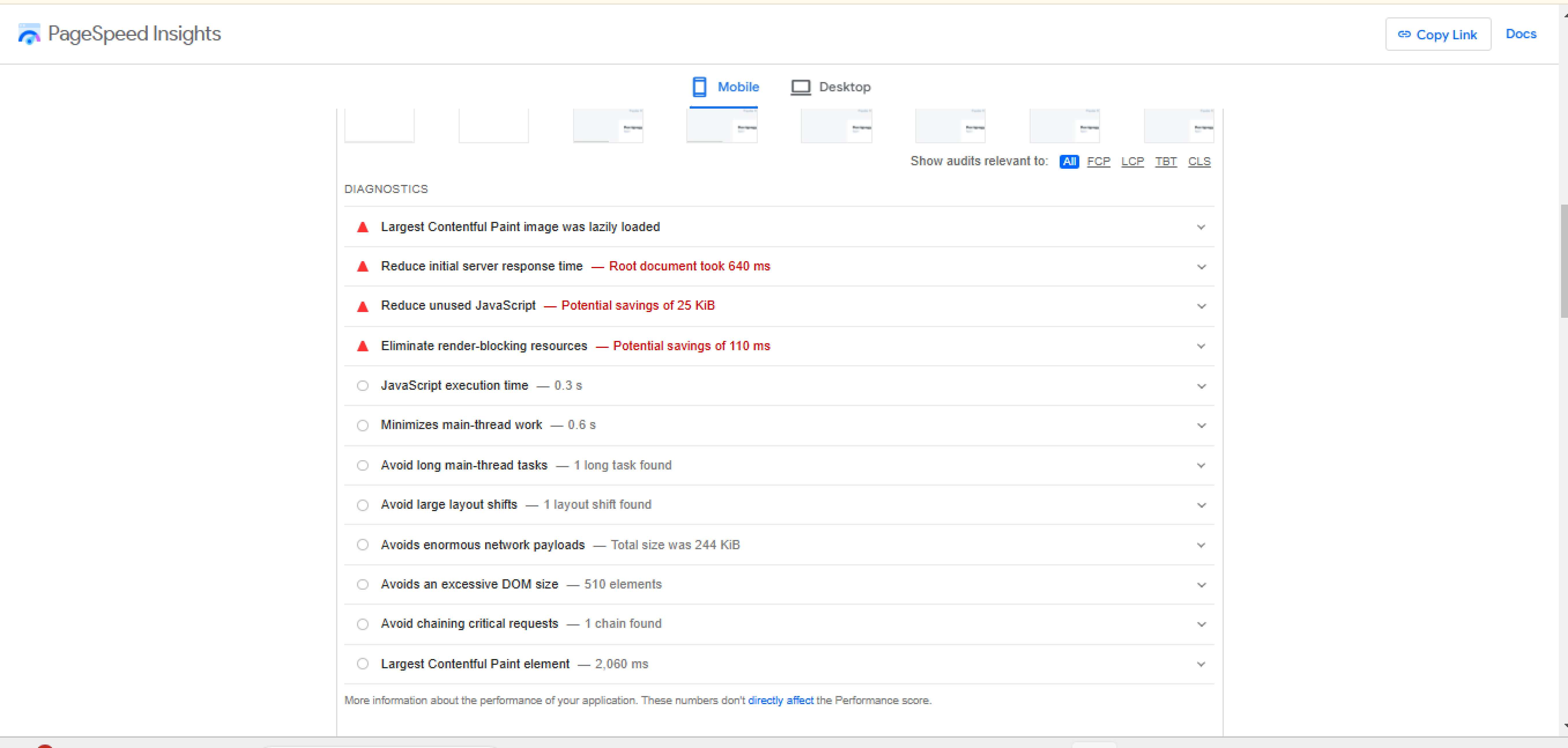
▲ 0–49 ■ 50–89 ● 90–100

METRICS Expand view

● First Contentful Paint 0.9 s	● Largest Contentful Paint 2.1 s
● Total Blocking Time 60 ms	● Cumulative Layout Shift 0
● Speed Index 2.0 s	

Captured at Jan 20, 2025, 12:00 PM GMT+5
Initial page load
Emulated Moto G Power with Lighthouse 12.2.3
Slow 4G throttling
Single page session
Using HeadlessChromium 131.0.6778.264 with lr

View Treemap



PageSpeed Insights

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Mobile Desktop

Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

▲ Largest Contentful Paint image was lazily loaded

▲ Reduce initial server response time — Root document took 640 ms

▲ Reduce unused JavaScript — Potential savings of 25 KiB

▲ Eliminate render-blocking resources — Potential savings of 110 ms

○ JavaScript execution time — 0.3 s

○ Minimizes main-thread work — 0.6 s

○ Avoid long main-thread tasks — 1 long task found

○ Avoid large layout shifts — 1 layout shift found

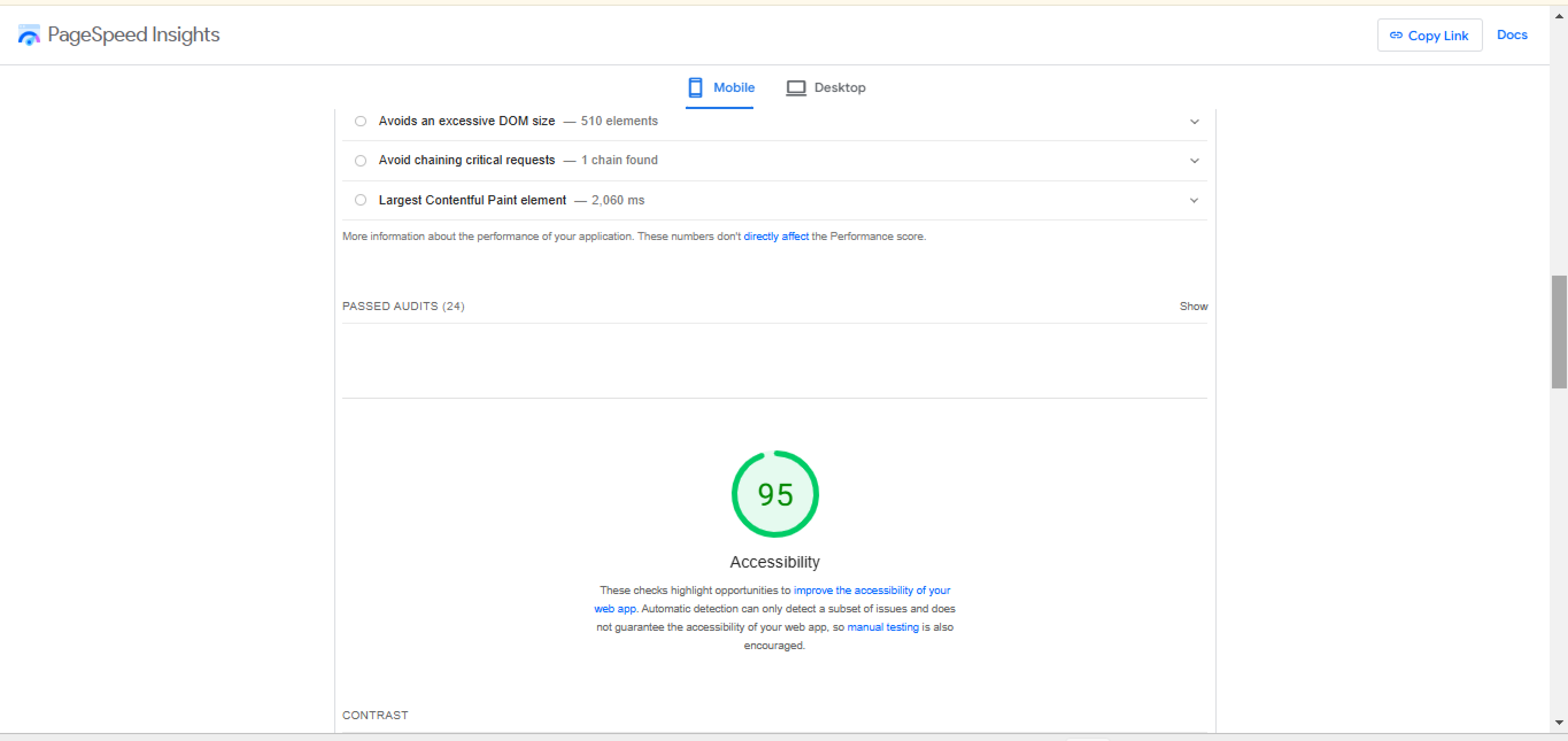
○ Avoids enormous network payloads — Total size was 244 KiB

○ Avoids an excessive DOM size — 510 elements

○ Avoid chaining critical requests — 1 chain found

○ Largest Contentful Paint element — 2,060 ms

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



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○ Avoids an excessive DOM size — 510 elements

○ Avoid chaining critical requests — 1 chain found

○ Largest Contentful Paint element — 2,060 ms

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

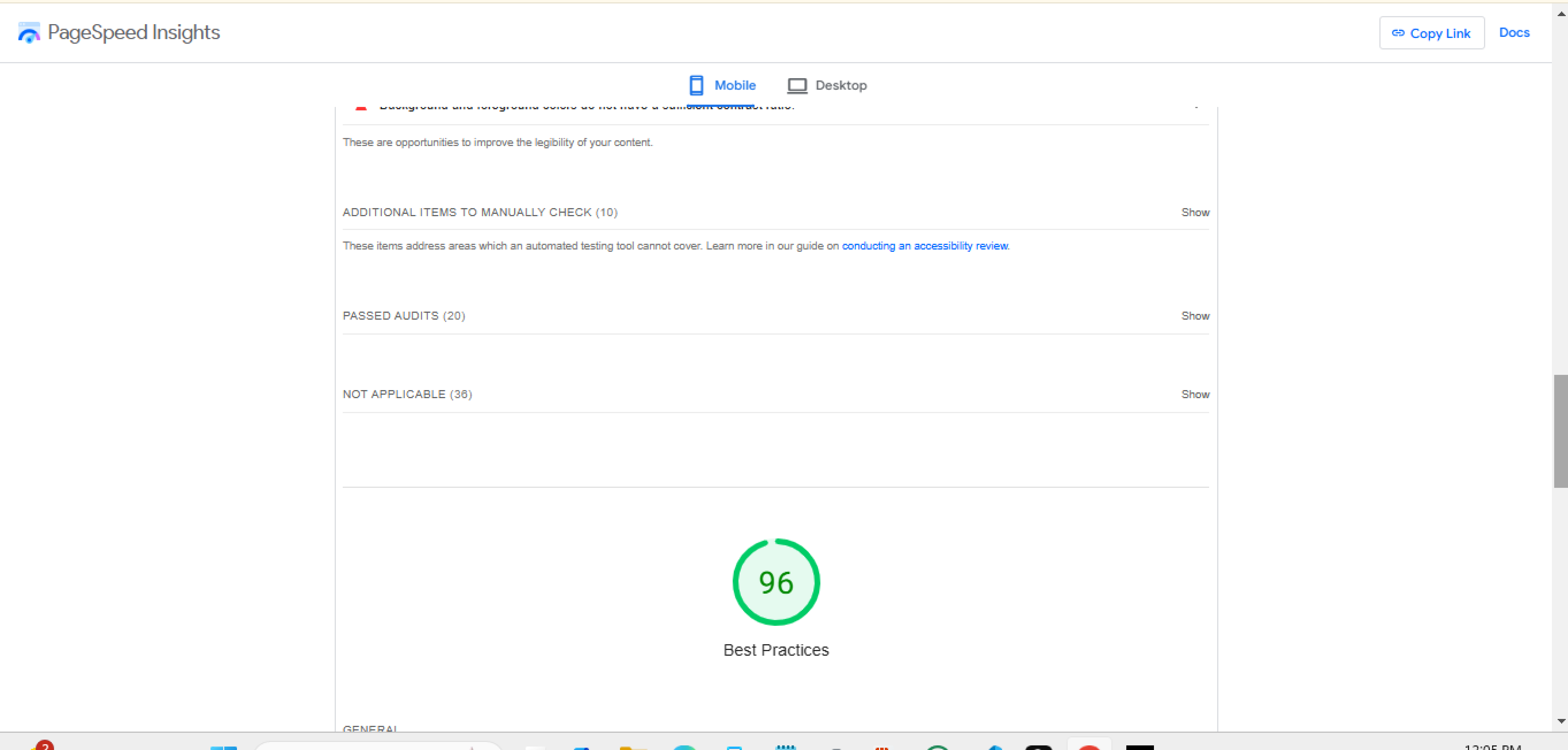
PASSED AUDITS (24) Show

95

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so manual testing is also encouraged.

CONTRAST



PageSpeed Insights

Copy Link Docs

Mobile Desktop

Background and foreground colors do not have a sufficient contrast ratio.

These are opportunities to improve the legibility of your content.

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.

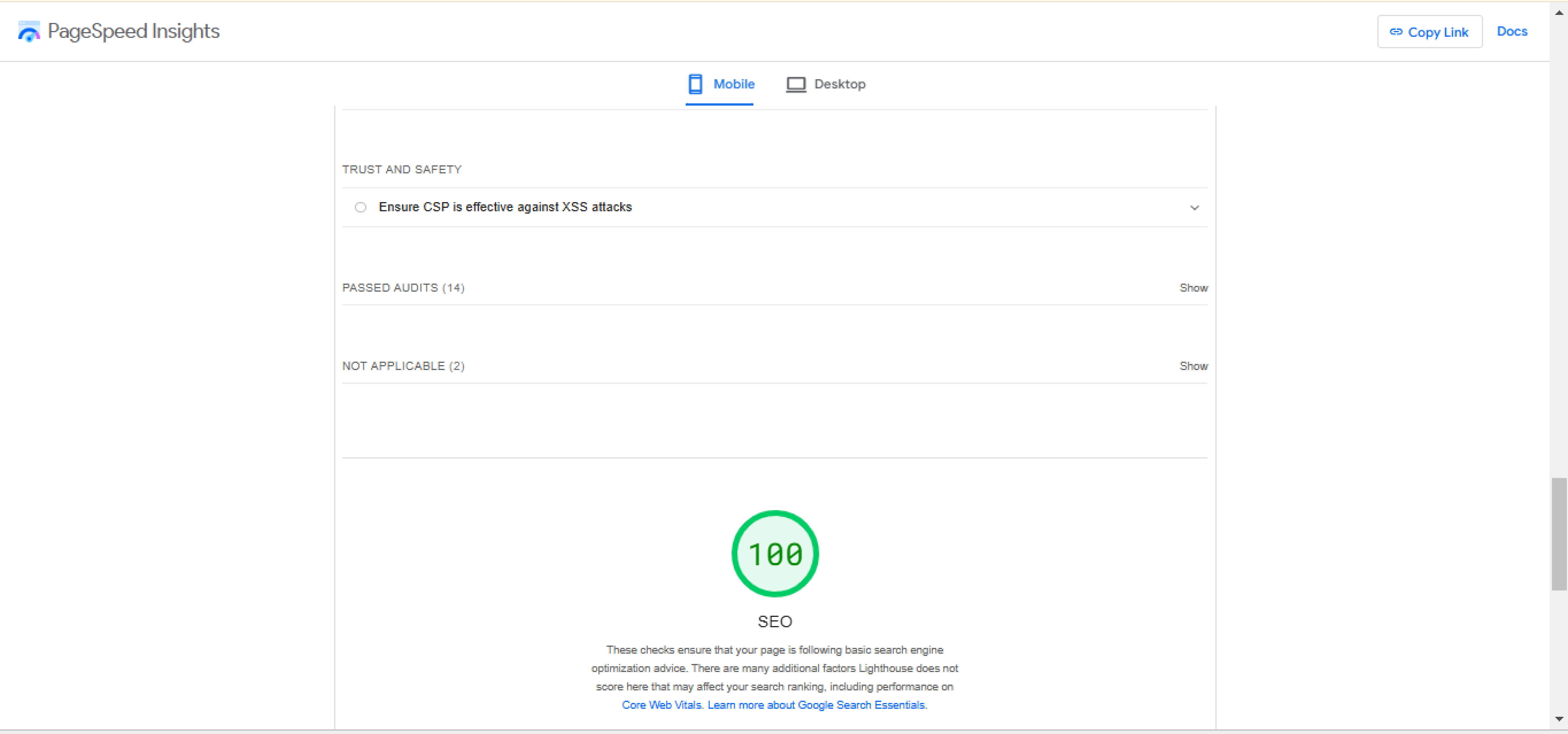
PASSED AUDITS (20) Show

NOT APPLICABLE (36) Show

96

Best Practices

GENERAL



PageSpeed Insights

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Docs

Mobile

Desktop

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks

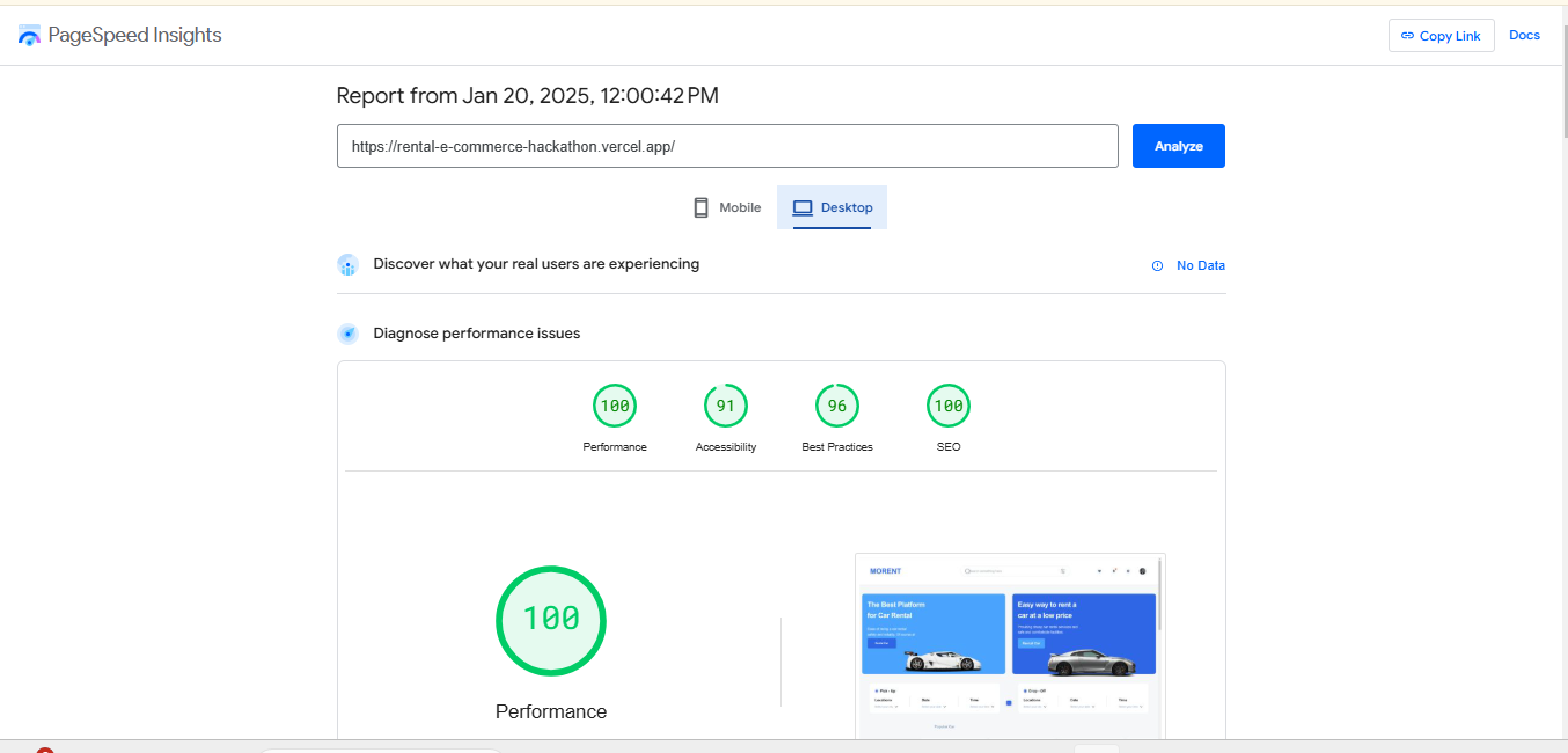
PASSED AUDITS (14) Show

NOT APPLICABLE (2) Show

100

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 about Google Search Essentials.



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https://rental-e-commerce-hackathon.vercel.app/

Discover what your real users are experiencing — No Data

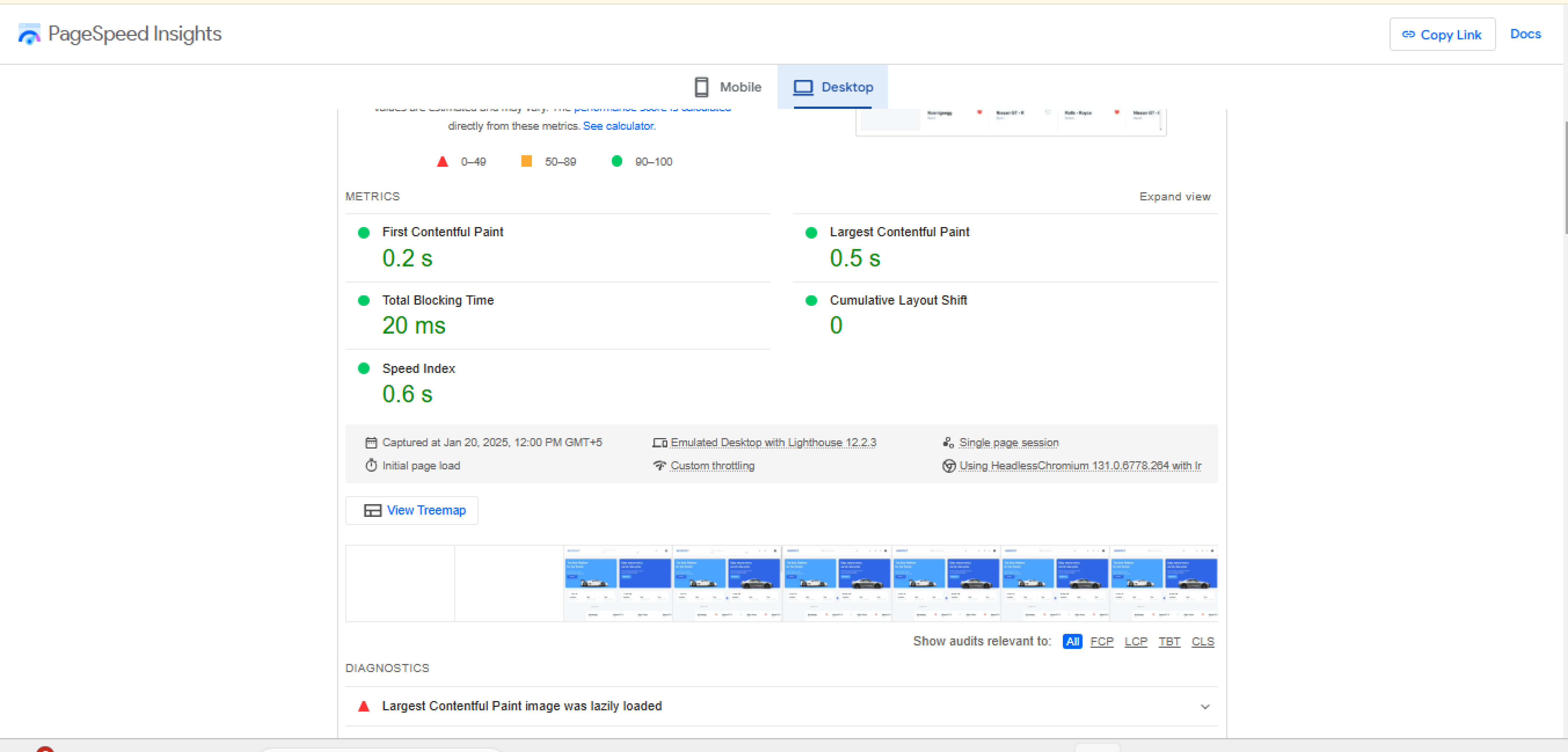
Diagnose performance issues

100	91	96	100
Performance	Accessibility	Best Practices	SEO

100

Performance

MORENT
The Best Platform for Car Rental
Easy way to rent a car at a low price



PageSpeed Insights

Copy Link Docs

Mobile Desktop

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	● Largest Contentful Paint 0.5 s
● Total Blocking Time 20 ms	● Cumulative Layout Shift 0
● Speed Index 0.6 s	

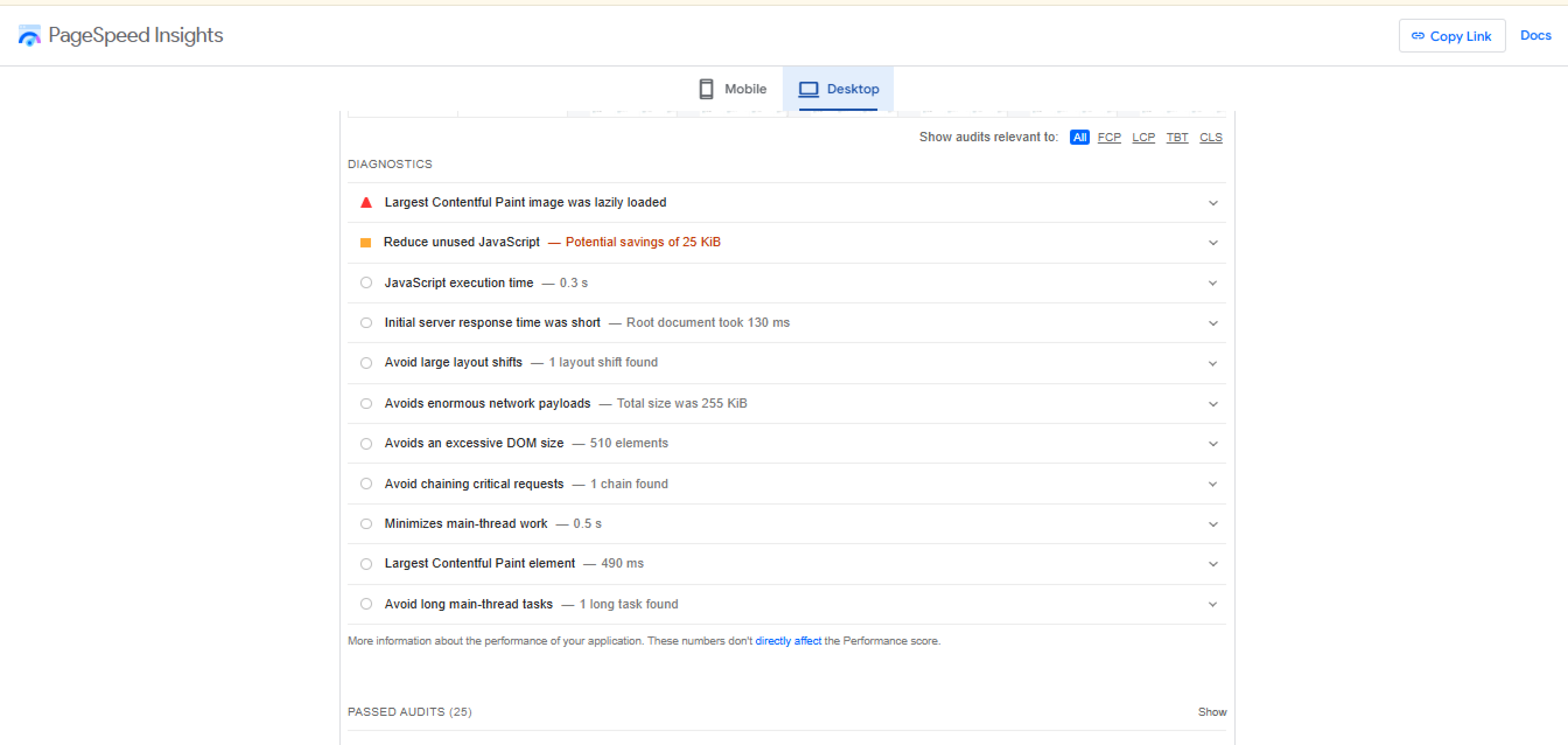
Captured at Jan 20, 2025, 12:00 PM GMT+5
Initial page load
Emulated Desktop with Lighthouse 12.2.3
Custom throttling
Single page session
Using HeadlessChromium 131.0.6778.264 with lr

View Treemap

Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

▲ Largest Contentful Paint image was lazily loaded



PageSpeed Insights

Copy Link

Docs

Mobile

Desktop

Show audits relevant to: All FCP LCP TBT CLS

DIAGNOSTICS

▲ Largest Contentful Paint image was lazily loaded

■ Reduce unused JavaScript — Potential savings of 25 KiB

○ JavaScript execution time — 0.3 s

○ Initial server response time was short — Root document took 130 ms

○ Avoid large layout shifts — 1 layout shift found

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○ Avoid chaining critical requests — 1 chain found

○ Minimizes main-thread work — 0.5 s

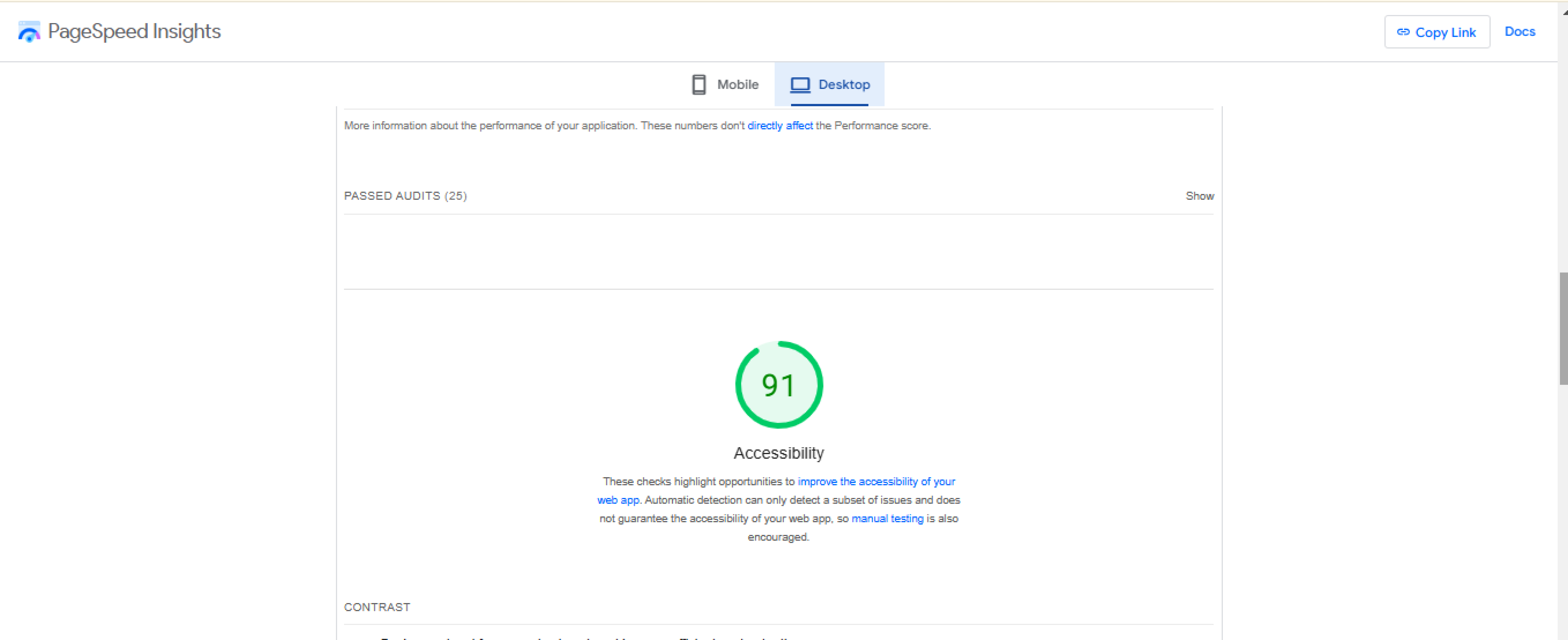
○ Largest Contentful Paint element — 490 ms

○ 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 (25)

Show



PageSpeed Insights

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Docs

Mobile

Desktop

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

PASSED AUDITS (25)

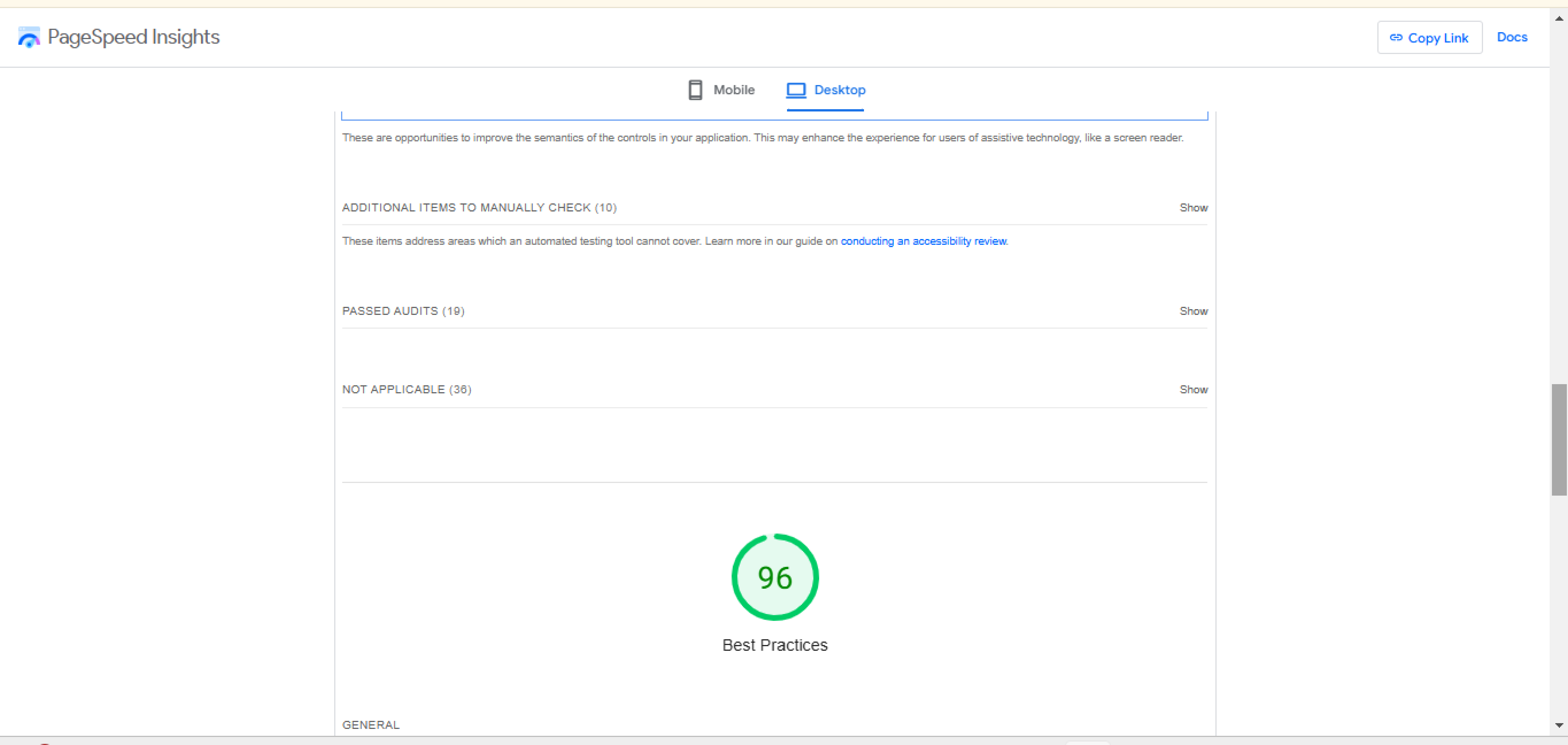
Show

91

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Automatic detection can only detect a subset of issues and does not guarantee the accessibility of your web app, so manual testing is also encouraged.

CONTRAST



PageSpeed Insights

Copy Link Docs

Mobile Desktop

These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

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.

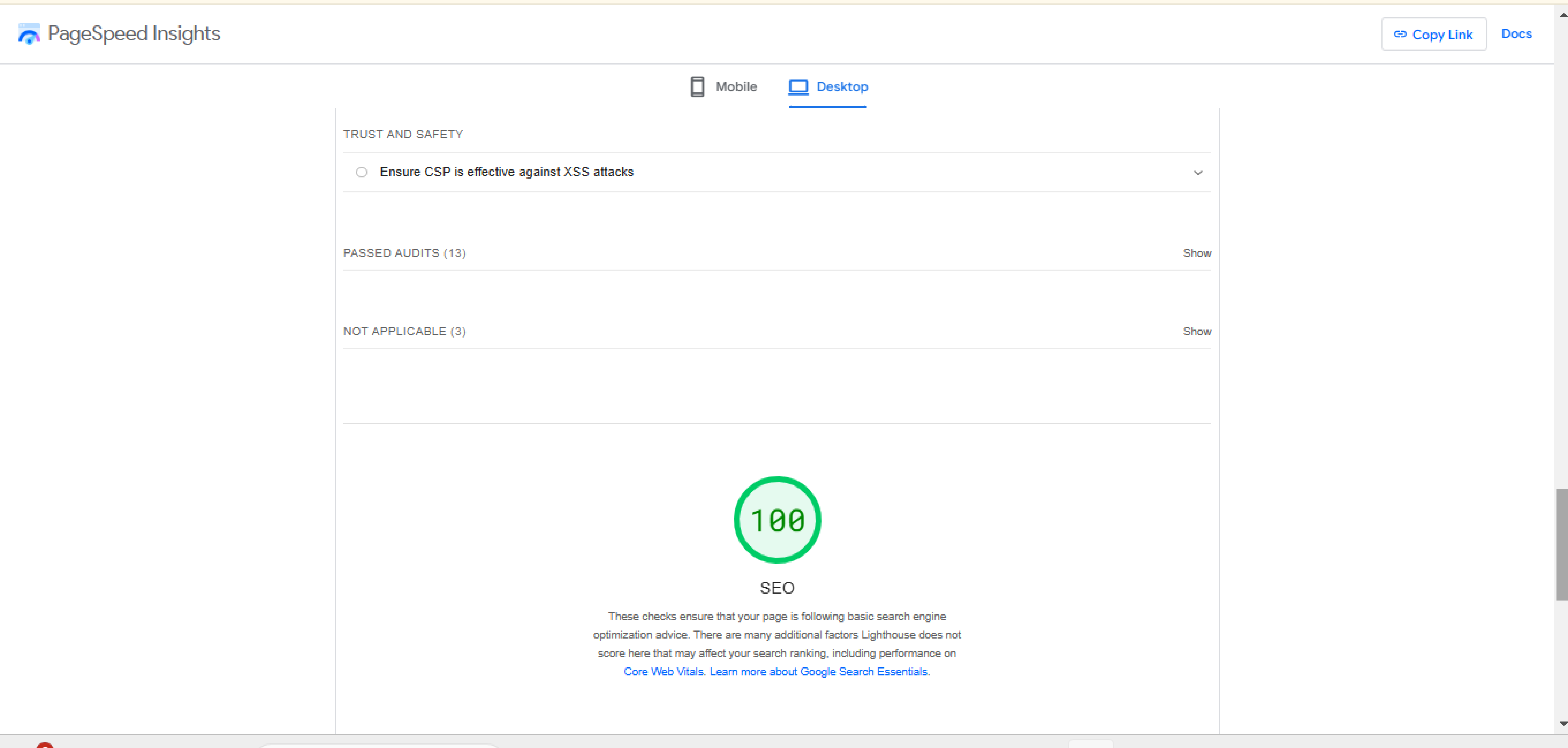
PASSED AUDITS (19) Show

NOT APPLICABLE (36) Show

96

Best Practices

GENERAL


PageSpeed Insights

Copy Link Docs

Mobile Desktop

TRUST AND SAFETY

○ Ensure CSP is effective against XSS attacks

PASSED AUDITS (13) Show

NOT APPLICABLE (3) Show

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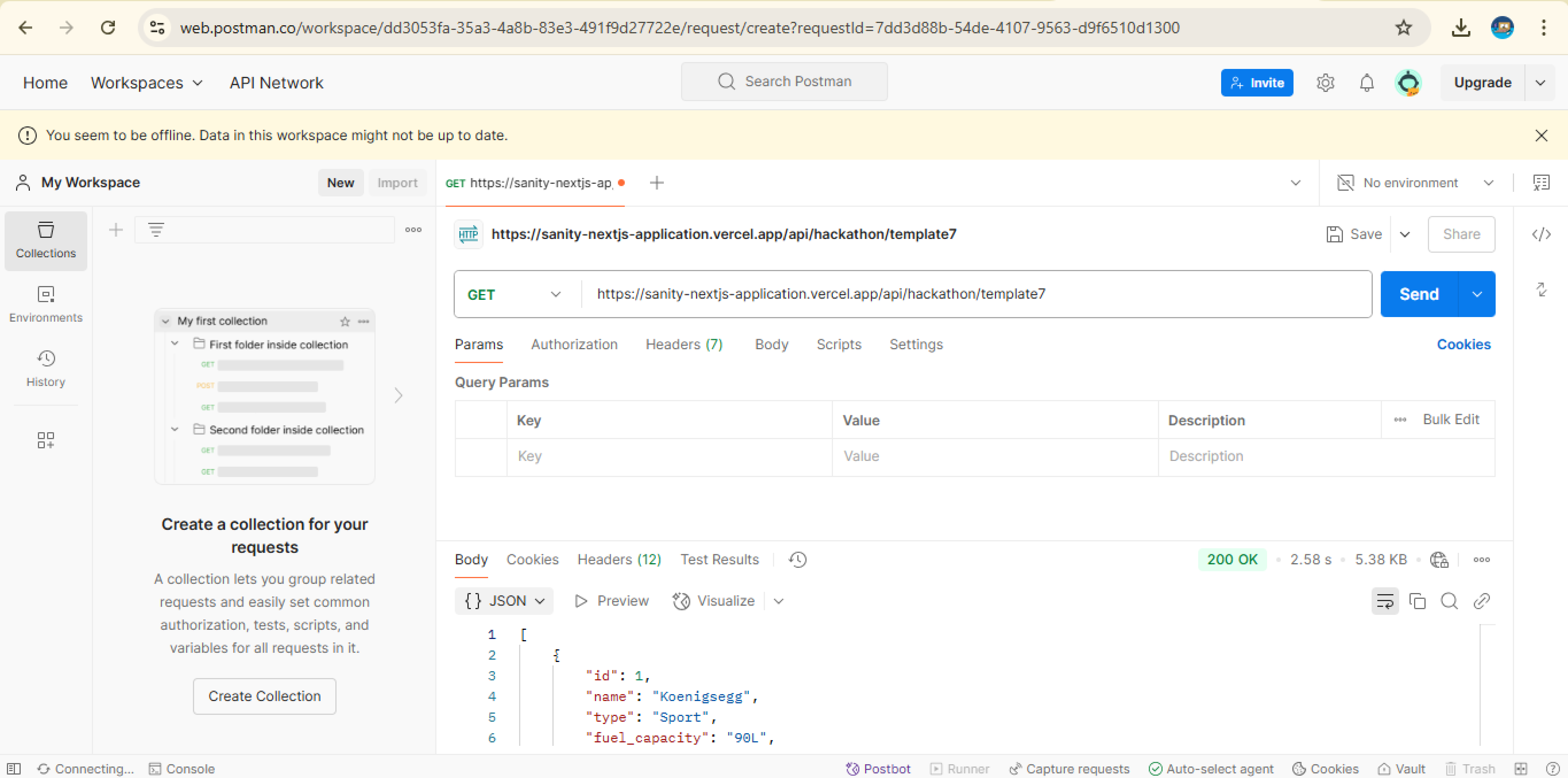
SEO

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 about Google Search Essentials.


web.postman.co/workspace/dd3053fa-35a3-4a8b-83e3-491f9d27722e/request/create?requestId=7dd3d88b-54de-4107-9563-d9f6510d1300
Home
Workspaces
API Network
Search Postman
Invite
Upgrade
You seem to be offline. Data in this workspace might not be up to date.
My Workspace
New
Import
Collections
Environments
History
My first collection
First folder inside collection
Second folder inside collection
Create a collection for your requests
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.
Create Collection
GET https://sanity-nextjs-ap
No environment
Save
Share
Send
Params
Authorization
Headers (7)
Body
Scripts
Settings
Cookies
Query Params
Bulk Edit
Body
Cookies
Headers (12)
Test Results
200 OK
2.58 s
5.38 KB
JSON
Preview
Visualize
Connecting...
Console
Postbot
Runner
Capture requests
Auto-select agent
Cookies
Vault
Trash

https://sanity-nextjs-application.vercel.app/api/hackathon/template7

GET https://sanity-nextjs-application.vercel.app/api/hackathon/template7

Key	Value	Description
Key	Value	Description

```
[
    {
        "id": 1,
        "name": "Koenigsegg",
        "type": "Sport",
        "fuel_capacity": "90L",
```

Test ID	Test Case Description	Expected Result	Actual Result	Status	Remarks
TST-001	Homepage Load Test	Homepage should load within 2 seconds	Homepage loaded within 2 seconds	Passed	Displayed Properly
TST-002	Car Display Test	All cars should be displayed correctly on the homepage	All cars displayed correctly	Passed	No Issues found
TST-003	Car Details Test	Car details should display upon selection	Car details displayed correctly	Passed	Showing Correctly
TST-004	Checkout Page Test	Checkout process should complete without errors	Checkout completed successfully	Passed	Successfully
TST-005	API Integration Test	API should fetch and display data correctly	API fetched and displayed data as expected	Passed	Working Properly
TST-006	Navigation Test	All navigation links should be functional	All navigation links work correctly	Passed	Working Properly
TST-007	Security Test	All API calls should be secure and use HTTPS	All API calls are secure and use HTTPS	Passed	Working Properly
TST-008	Image Loading Test	All car images should load correctly	All car images loaded without issues	Passed	Working Properly
TST-009	Accessibility Test	Site should meet accessibility standards	Site meets all accessibility standards	Passed	Working Properly
TST-010	Responsiveness Test	Site should adjust properly on various devices	Site adjusted properly on all tested devices	Passed	Displayed Properly

Test ID	Test Case Description	Expected Result	Actual Result	Status	Remarks
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TST-004	Checkout Page Test	Checkout process should complete without errors	Checkout completed successfully	Passed	Successfully
TST-005	API Integration Test	API should fetch and display data correctly	API fetched and displayed data as expected	Passed	Working Properly
TST-006	Navigation Test	All navigation links should be functional	All navigation links work correctly	Passed	Working Properly
TST-007	Security Test	All API calls should be secure and use HTTPS	All API calls are secure and use HTTPS	Passed	Working Properly
TST-008	Image Loading Test	All car images should load correctly	All car images loaded without issues	Passed	Working Properly
TST-009	Accessibility Test	Site should meet accessibility standards	Site meets all accessibility standards	Passed	Working Properly
TST-010	Responsiveness Test	Site should adjust properly on various devices	Site adjusted properly on all tested devices	Passed	Displayed Properly