



# Performance

Metrics			=
First Contentful Paint	0.3 s	First Meaningful Paint	0.3 s
Speed Index	0.3 s	First CPU Idle	0.4 s
Time to Interactive	0.4 s	Max Potential First Input Delay	40 ms
View Trace			

#### view Trace

Values are estimated and may vary. The performance score is based only on these metrics.



**Diagnostics** — More information about the performance of your application. These numbers don't <u>directly affect</u> the Performance score.

Minimize Critical Requests Depth — 10 chains found

The Critical Request Chains below show you what resources are loaded with a high priority. Consider reducing the length of chains, reducing the download size of resources, or deferring the download of unnecessary resources to improve page load. Learn more.

Maximum critical path latency: 200 ms

Initial Navigation

/todo-list-enchance/index.html?\_ijt=121rg0mofdan94tj1i3krcqura (localhost)

- ...todomvc-common/base.css (localhost) 0 ms, 2.1 KB
- ...todomvc-app-css/index.css (localhost) 10 ms, 7.19 KB
- ...todomvc-common/base.js (localhost) 30 ms, 7.42 KB

- ...js/helpers.js (localhost) 60 ms, 1.9 KB
- ...js/store.js (localhost) 50 ms, 4.63 KB
- ...js/model.js (localhost) 50 ms, 3.43 KB
- ...js/template.js (localhost) 40 ms, 3.08 KB
- ...js/view.js (localhost) 20 ms, 5.91 KB
- ...js/controller.js (localhost) 20 ms, 7.29 KB
- ...js/app.js (localhost) 20 ms, 0.93 KB

Keep request counts low and transfer sizes small	— 12 requests • 46 KB
--	-----------------------

To set budgets for the quantity and size of page resources, add a budget.json file. Learn more.

Resource Type	Requests	Transfer Size
Total	12	46 KB
Script	8	35 KB
Stylesheet	2	9 KB
Document	1	2 KB
Other	1	0 KB
Image	0	0 KB
Media	0	0 KB
Font	0	0 KB
Third-party	0	0 KB

# Passed audits (22)

Eliminate render-blocking resources

Resources are blocking the first paint of your page. Consider delivering critical JS/CSS inline and deferring all non-critical JS/styles. <u>Learn more</u>.

Properly size images

Serve images that are appropriately-sized to save cellular data and improve load time. Learn more.

Defer offscreen images

Consider lazy-loading offscreen and hidden images after all critical resources have finished loading to lower time to interactive. <u>Learn more</u>.

Minify CSS

Minifying CSS files can reduce network payload sizes. Learn more.

Minify JavaScript — Potential savings of 11 KB

Minifying JavaScript files can reduce payload sizes and script parse time. Learn more.

Show 3rd party resources (0)

		Savi
js/controller.js (localhost)	7 KB	3 H
js/store.js (localhost)	5 KB	31
todomvc-common/base.js (localhost)	7 KB	2
js/model.js (localhost)	3 KB	2
Remove unused CSS — Potential savings of 8 KB		
Remove dead rules from stylesheets and defer the loading of CSS not used for unnecessary bytes consumed by network activity. <u>Learn more</u> .	for above-the-fold content to reduce	
	Show 3rd party re	sources
URL	Size	Pote Sav
todomvc-app-css/index.css (localhost)	7 KB	5
todomvc-common/base.css (localhost)	2 KB	2
Efficiently encode images		
Optimized images load faster and consume less cellular data. <u>Learn more</u> .		
Serve images in next-gen formats		
Serve images in next-gen formats Image formats like JPEG 2000, JPEG XR, and WebP often provide better con	mpression than PNG or JPEG, which	n means
Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. <u>Learn more</u> .	mpression than PNG or JPEG, which	n means
Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. Learn more.  Enable text compression — Potential savings of 24 KB  Text-based resources should be served with compression (gzip, deflate or bro		
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Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. Learn more.  Enable text compression — Potential savings of 24 KB  Text-based resources should be served with compression (gzip, deflate or bromore.  URL js/controller.js (localhost)	Show 3rd party results. Size	Learn  esources  Pote Sav  5
Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. Learn more.  Enable text compression — Potential savings of 24 KB  Text-based resources should be served with compression (gzip, deflate or bromore.  URL js/controller,js (localhost) todomvc-app-css/index.css (localhost)	Show 3rd party resident of Show 3rd party resident of Size  7 KB  7 KB	Learn  Sources  Pote Sav  5 5
Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. Learn more.  Enable text compression — Potential savings of 24 KB  Text-based resources should be served with compression (gzip, deflate or bromore.  URL js/controller.js (localhost) todomvc-app-css/index.css (localhost) todomvc-common/base.js (localhost)	Show 3rd party re Size 7 KB 7 KB	Learn esources Pote Savi
Serve images in next-gen formats  Image formats like JPEG 2000, JPEG XR, and WebP often provide better confaster downloads and less data consumption. Learn more.  Enable text compression — Potential savings of 24 KB  Text-based resources should be served with compression (gzip, deflate or bromore.  URL js/controller.js (localhost) todomvc-app-css/index.css (localhost) todomvc-common/base.js (localhost) todomvc-common/base.js (localhost)	Show 3rd party re Size 7 KB 7 KB 7 KB 7 KB 6 KB	Learn  esources  Pote Sav  5 4 4
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Server response times are low (TTFB) — Root docum	nent took 0 ms	^
Time To First Byte identifies the time at which your ser	ver sends a response. <u>Learn more</u> .	
Avoid multiple page redirects		^
Redirects introduce additional delays before the page	can be loaded. <u>Learn more</u> .	
Preload key requests		^
Consider using <link rel="preload"/> to prioritize fetching more.	resources that are currently requested later in page load. <u>Learn</u>	
Use video formats for animated content		^
Large GIFs are inefficient for delivering animated conte PNG/WebP for static images instead of GIF to save ne	ent. Consider using MPEG4/WebM videos for animations and etwork bytes. <u>Learn more</u>	
Avoids enormous network payloads — Total size was	s 46 KB	^
Large network payloads cost users real money and are	e highly correlated with long load times. <u>Learn more</u> .	
	Show 3rd party resource	ees (0)
URL		Size
todomvc-common/base.js (localhost)		7 KB
js/controller.js (localhost)		7 KB
todomvc-app-css/index.css (localhost)		7 KB
js/view.js (localhost)		6 KB
js/store.js (localhost)		5 KB
js/model.js (localhost)		3 KB
js/template.js (localhost)		3 KB
todomvc-common/base.css (localhost)		2 KB
/todo-list-enchance/index.html?_ijt=121rg0mofdan94t	j1i3krcqura (localhost)	2 KB
js/helpers.js (localhost)		2 KB
Uses efficient cache policy on static assets — 0 resor	urces found	^
A long cache lifetime can speed up repeat visits to you	ır page. <u>Learn more</u> .	
Avoids an excessive DOM size — 31 elements		^
	nan ~1,500 DOM elements. The sweet spot is a tree depth < 32 A large DOM can increase memory usage, cause longer style more.	
Statistic	Element	Value
Total DOM Elements		31
Maximum DOM Depth	<a class="" href="#/"></a>	6
Maximum Child Elements	<body></body>	10

User Timing marks and measures

Consider instrumenting your app with the User Timing API to measure your app's real-world performance during key user experiences. <u>Learn more</u>.

JavaScript execution time — 0.0 s

Consider reducing the time spent parsing, compiling, and executing JS. You may find delivering smaller JS payloads helps with this. <u>Learn more</u>.

Show 3rd-party resources (0)

Time Spent

URL	Total CPU Time	Script Evaluation	Script Parse
Other	176 ms	7 ms	6 ms

Minimizes main-thread work — 0.2 s

Category

Third-Party Usage

Consider reducing the time spent parsing, compiling and executing JS. You may find delivering smaller JS payloads helps with this.

Other	123 ms
Script Evaluation	42 ms
Parse HTML & CSS	27 ms
Script Parsing & Compilation	23 ms
Style & Layout	5 ms
Garbage Collection	4 ms
Rendering	4 ms
All text remains visible during webfont loads	^

Leverage the font-display CSS feature to ensure text is user-visible while webfonts are loading. Learn more.

Third-party code can significantly impact load performance. Limit the number of redundant third-party providers and try to load third-party code after your page has primarily finished loading. <u>Learn more</u>.



# 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.

input.new-todo

**Names and labels** — 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.

Form elements do not have associated labels

Labels ensure that form controls are announced properly by assistive technologies, like screen readers. Learn more.

Failing Elements

Additional items to manually check (11) — These items address areas which an automated testing tool cannot cover. Learn ^

The page has a logical tab order	
Tabbing through the page follows the visual layout. Users	s cannot focus elements that are offscreen. <u>Learn more</u> .
Interactive controls are keyboard focusable	
Custom interactive controls are keyboard focusable and	display a focus indicator. <u>Learn more</u> .
nteractive elements indicate their purpose and state	
Interactive elements, such as links and buttons, should in elements. <u>Learn more</u> .	ndicate their state and be distinguishable from non-interactive
The user's focus is directed to new content added to the	page
If new content, such as a dialog, is added to the page, th	e user's focus is directed to it. <u>Learn more</u> .
User focus is not accidentally trapped in a region	
A user can tab into and out of any control or region witho	ut accidentally trapping their focus. <u>Learn more</u> .
Custom controls have associated labels	
Custom interactive controls have associated labels, prov	ided by aria-label or aria-labelledby. <u>Learn more</u> .
Custom controls have ARIA roles	
Custom interactive controls have appropriate ARIA roles	. <u>Learn more</u> .
visual order on the page follows DOM order	
DOM order matches the visual order, improving navigation	on for assistive technology. <u>Learn more</u> .
Offscreen content is hidden from assistive technology	
Offscreen content is hidden with display: none or aria-hid	lden=true. <u>Learn more</u> .
Headings don't skip levels	
Headings are used to create an outline for the page and	heading levels are not skipped. <u>Learn more</u> .
HTML5 landmark elements are used to improve navigation	on

Pa	ssed audits (5)	^
	The page contains a heading, skip link, or landmark region	^
	Adding ways to bypass repetitive content lets keyboard users navigate the page more efficiently. <u>Learn more</u> .	
	Background and foreground colors have a sufficient contrast ratio	^
	Low-contrast text is difficult or impossible for many users to read. <u>Learn more</u> .	
	Document has a <title> element&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;The title gives screen reader users an overview of the page, and search engine users rely on it heavily to determine if a page is relevant to their search. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;html&gt; element has a [lang] attribute&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;If a page doesn't specify a lang attribute, a screen reader assumes that the page is in the default language that the user chose when setting up the screen reader. If the page isn't actually in the default language, then the screen reader might not announce the page's text correctly. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;Ċ&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;html&gt; element has a valid value for its [lang] attribute&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Specifying a valid &lt;u&gt;BCP 47 language&lt;/u&gt; helps screen readers announce text properly. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;th&gt;No&lt;/th&gt;&lt;th&gt;t applicable (29)&lt;/th&gt;&lt;th&gt;^&lt;/th&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[accesskey] values are unique&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Access keys let users quickly focus a part of the page. For proper navigation, each access key must be unique. Learn more&lt;/td&gt;&lt;td&gt;&lt;u&gt;3&lt;/u&gt;.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[aria-*] attributes match their roles&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Each ARIA `role` supports a specific subset of `aria-*` attributes. Mismatching these invalidates the `aria-*` attributes. &lt;a href="Learn more"&gt;&lt;u&gt;Learn more&lt;/u&gt;&lt;/a&gt;.&lt;/td&gt;&lt;td&gt;1&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[role]s have all required [aria-*] attributes&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Some ARIA roles have required attributes that describe the state of the element to screen readers. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Elements with [role] that require specific children [role]s, are present&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Some ARIA parent roles must contain specific child roles to perform their intended accessibility functions. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[role]s are contained by their required parent element&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Some ARIA child roles must be contained by specific parent roles to properly perform their intended accessibility functions.&lt;br&gt;&lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[role] values are valid&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;ARIA roles must have valid values in order to perform their intended accessibility functions. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[aria-*] attributes have valid values&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Assistive technologies, like screen readers, can't interpret ARIA attributes with invalid values. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;[aria-*] attributes are valid and not misspelled&lt;/td&gt;&lt;td&gt;^&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Assistive technologies, like screen readers, can't interpret ADIA attributes with invalid names. Learn more&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;/tbody&gt;&lt;/table&gt;</title>	

<audio> elements contain a <track> element with [kind="captions"] Captions make audio elements usable for deaf or hearing-impaired users, providing critical information such as who is talking, what they're saying, and other non-speech information. Learn more. Buttons have an accessible name When a button doesn't have an accessible name, screen readers announce it as "button", making it unusable for users who rely on screen readers. Learn more. <dl>'s contain only properly-ordered <dt> and <dd> groups, <script> or <template> elements. When definition lists are not properly marked up, screen readers may produce confusing or inaccurate output. Learn more. Definition list items are wrapped in <dl> elements Definition list items ('<dt>' and '<dd>') must be wrapped in a parent '<dl>' element to ensure that screen readers can properly announce them. Learn more. [id] attributes on the page are unique The value of an id attribute must be unique to prevent other instances from being overlooked by assistive technologies. Learn more. <frame> or <iframe> elements have a title Screen reader users rely on frame titles to describe the contents of frames. Learn more. Image elements have [alt] attributes Informative elements should aim for short, descriptive alternate text. Decorative elements can be ignored with an empty alt attribute. Learn more. <input type="image"> elements have [alt] text When an image is being used as an `<input>` button, providing alternative text can help screen reader users understand the purpose of the button. Learn more. Presentational elements avoid using , <caption> or the [summary] attribute. A table being used for layout purposes should not include data elements, such as the th or caption elements or the summary attribute, because this can create a confusing experience for screen reader users. Learn more. Links have a discernible name Link text (and alternate text for images, when used as links) that is discernible, unique, and focusable improves the navigation experience for screen reader users. Learn more. Lists contain only elements and script supporting elements (<script> and <template>). Screen readers have a specific way of announcing lists. Ensuring proper list structure aids screen reader output. Learn more. List items () are contained within or parent elements Screen readers require list items (`') to be contained within a parent '' or '' to be announced properly. Learn more. The document does not use <meta http-equiv="refresh">

Users do not expect a page to refresh automatically, and doing so will move focus back to the top of the page. This may create a frustrating or confusing experience. <u>Learn more</u>.

[user-scalable="no"] is not used in the <meta name="viewport"> element and the [maximum-scale] attribute is not less than 5.

Disabling zooming is problematic for users with low vision who rely on screen magnification to properly see the contents of a web page. <u>Learn more</u>.

## <object> elements have [alt] text

Screen readers cannot translate non-text content. Adding alt text to `<object>` elements helps screen readers convey meaning to users. <u>Learn more</u>.

### No element has a [tabindex] value greater than 0

A value greater than 0 implies an explicit navigation ordering. Although technically valid, this often creates frustrating experiences for users who rely on assistive technologies. <u>Learn more</u>.

Cells in a element that use the [headers] attribute only refer to other cells of that same table.

Screen readers have features to make navigating tables easier. Ensuring `` cells using the `[headers]` attribute only refer to other cells in the same table may improve the experience for screen reader users. Learn more.

elements and elements with [role="columnheader"/"rowheader"] have data cells they describe.

Screen readers have features to make navigating tables easier. Ensuring table headers always refer to some set of cells may improve the experience for screen reader users. <u>Learn more</u>.

#### [lang] attributes have a valid value

Specifying a valid <u>BCP 47 language</u> on elements helps ensure that text is pronounced correctly by a screen reader. <u>Learn more</u>.

<video> elements contain a <track> element with [kind="captions"]

When a video provides a caption it is easier for deaf and hearing impaired users to access its information. Learn more.

<video> elements contain a <track> element with [kind="description"]

Audio descriptions provide relevant information for videos that dialogue cannot, such as facial expressions and scenes. <u>Learn more</u>.



# **Best Practices**

▲ Does not use HTTP/2 for all of its resources — 12 requests not served via HTTP/2

HTTP/2 offers many benefits over HTTP/1.1, including binary headers, multiplexing, and server push. Learn more.

Show 3rd party resources (0)

URL Protocol

URL	Į.	Protocol
/todo-list-enchance/index.html?_ijt=121rg0	mofdan94tj1i3krcqura (localhost)	http/1.1
todomvc-common/base.css (localhost)	,	http/1.1
todomvc-app-css/index.css (localhost)		http/1.1
todomvc-common/base.js (localhost)	,	http/1.1
js/helpers.js (localhost)	ŀ	http/1.1
js/store.js (localhost)	ŀ	http/1.1
js/model.js (localhost)	ŀ	http/1.1
js/template.js (localhost)	ŀ	http/1.1
js/view.js (localhost)	ŀ	http/1.1
js/controller.js (localhost)	ŀ	http/1.1
js/app.js (localhost)	ŀ	http/1.1
/todo-list-enchance/learn.json (localhost)	,	http/1.1
URL	Description	esources (0)
/todo-list-enchance/learn.json (localhost)		tus of 404
	Description  Failed to load resource: the server responded with a sta	
/todo-list-enchance/learn.json (localhost) assed audits (13)	Description  Failed to load resource: the server responded with a sta (Not Found)	tus of 404
/todo-list-enchance/learn.json (localhost)  assed audits (13)  Avoids Application Cache	Description  Failed to load resource: the server responded with a sta (Not Found)	tus of 404
/todo-list-enchance/learn.json (localhost)  assed audits (13)  Avoids Application Cache  Application Cache is deprecated. Learn more Uses HTTPS  All sites should be protected with HTTPS, ex	Description  Failed to load resource: the server responded with a star (Not Found)  re.  ven ones that don't handle sensitive data. HTTPS prevents intruders fine communications between your app and your users, and is a prerequire.	tus of 404
/todo-list-enchance/learn.json (localhost)  assed audits (13)  Avoids Application Cache  Application Cache is deprecated. Learn mor  Uses HTTPS  All sites should be protected with HTTPS, every tampering with or passively listening in on the	Description  Failed to load resource: the server responded with a star (Not Found)  re.  ven ones that don't handle sensitive data. HTTPS prevents intruders for the communications between your app and your users, and is a prerequire learn more.	tus of 404
Avoids Application Cache Application Cache is deprecated. Learn more Uses HTTPS All sites should be protected with HTTPS, et tampering with or passively listening in on the HTTP/2 and many new web platform APIs. I	Description  Failed to load resource: the server responded with a star (Not Found)  re.  ven ones that don't handle sensitive data. HTTPS prevents intruders for the communications between your app and your users, and is a prerequire learn more.	tus of 404
Avoids Application Cache Application Cache is deprecated. Learn more Uses HTTPS All sites should be protected with HTTPS, et tampering with or passively listening in on the HTTP/2 and many new web platform APIs. I	Description  Failed to load resource: the server responded with a star (Not Found)  Te.  ven ones that don't handle sensitive data. HTTPS prevents intruders for the communications between your app and your users, and is a prerequire learn more.  performance	tus of 404
Avoids Application Cache Application Cache is deprecated. Learn more Uses HTTPS All sites should be protected with HTTPS, et tampering with or passively listening in on the HTTP/2 and many new web platform APIs. I Uses passive listeners to improve scrolling passive Consider marking your touch and wheel ever Avoids document.write()	Description  Failed to load resource: the server responded with a star (Not Found)  Te.  ven ones that don't handle sensitive data. HTTPS prevents intruders for the communications between your app and your users, and is a prerequire learn more.  performance	itus of 404

Add `rel="noopener"` or `rel="noreferrer"` to any external links to improve performance and prevent security vulnerabilities. <u>Learn more</u>.

Avoids requesting the geolocation permission on page load

Users are mistrustful of or confused by sites that request their location without context. Consider tying the request to a user action instead. <u>Learn more</u>.

Page has the HTML doctype

Specifying a doctype prevents the browser from switching to quirks-mode. Read more on the MDN Web Docs page

Avoids front-end JavaScript libraries with known security vulnerabilities

Some third-party scripts may contain known security vulnerabilities that are easily identified and exploited by attackers. <u>Learn more</u>.

Detected JavaScript libraries

All front-end JavaScript libraries detected on the page.

Avoids requesting the notification permission on page load

Users are mistrustful of or confused by sites that request to send notifications without context. Consider tying the request to user gestures instead. <u>Learn more</u>.

Avoids deprecated APIs

Deprecated APIs will eventually be removed from the browser. Learn more.

Allows users to paste into password fields

Preventing password pasting undermines good security policy. Learn more.

Displays images with correct aspect ratio

Image display dimensions should match natural aspect ratio. Learn more.



### SEO

These checks ensure that your page is optimized for search engine results ranking. There are additional factors Lighthouse does not check that may affect your search ranking. <u>Learn more</u>.

**Mobile Friendly** — 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.

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

Add a viewport meta tag to optimize your app for mobile screens. Learn more.

**Content Best Practices** — Format your HTML in a way that enables crawlers to better understand your app's content.

lack	Document does not have a meta description	,
	Meta descriptions may be included in search results to concisely summarize page content. <u>Learn more</u> .	
	mode description may be included in section results to define style definition in a page section in a section in the section i	
	ditional items to manually check (1) — Run these additional validators on your site to check additional SEO best ctices.	/
	Structured data is valid	_
	Run the <u>Structured Data Testing Tool</u> and the <u>Structured Data Linter</u> to validate structured data. <u>Learn more</u> .	
Pa	ssed audits (6)	/
	Document has a <title> element&lt;/td&gt;&lt;td&gt;_&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;The title gives screen reader users an overview of the page, and search engine users rely on it heavily to determine if a page is relevant to their search. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Page has successful HTTP status code&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Pages with unsuccessful HTTP status codes may not be indexed properly. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Links have descriptive text&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Descriptive link text helps search engines understand your content. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Page isn't blocked from indexing&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Search engines are unable to include your pages in search results if they don't have permission to crawl them. Learn more&lt;/td&gt;&lt;td&gt;&lt;u&gt;.&lt;/u&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Document has a valid hreflang&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;hreflang links tell search engines what version of a page they should list in search results for a given language or region.  &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Document avoids plugins&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Search engines can't index plugin content, and many devices restrict plugins or don't support them. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;No&lt;/td&gt;&lt;td&gt;t applicable (5)&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;robots.txt is valid&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;If your robots.txt file is malformed, crawlers may not be able to understand how you want your website to be crawled or indexed.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Image elements have [alt] attributes&lt;/td&gt;&lt;td&gt;•&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Informative elements should aim for short, descriptive alternate text. Decorative elements can be ignored with an empty alta attribute. Learn more.&lt;/td&gt;&lt;td&gt;:&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Document has a valid rel=canonical&lt;/td&gt;&lt;td&gt;•&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Canonical links suggest which URL to show in search results. &lt;u&gt;Learn more&lt;/u&gt;.&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Document uses legible font sizes&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;/tbody&gt;&lt;/table&gt;</title>	

Font sizes less than 12px are too small to be legible and require mobile visitors to "pinch to zoom" in order to read. Strive to have >60% of page text  $\ge 12px$ . Learn more.

Tap targets are sized appropriately

Interactive elements like buttons and links should be large enough (48x48px), and have enough space around them, to be easy enough to tap without overlapping onto other elements. <u>Learn more</u>.

**Runtime Settings** 

URL http://localhost:63342/todo-list-enchance/index.html?

\_ijt=121rg0mofdan94tj1i3krcqura#/completed

**Fetch time** Dec 30, 2019, 2:45 PM GMT

**Device** Emulated Desktop

Network throttling Provided by environment

**CPU throttling** Provided by environment

User agent (host) Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko)

Chrome/78.0.3904.108 Safari/537.36

User agent (network) Mozilla/5.0 (Macintosh; Intel Mac OS X 10\_13\_6) AppleWebKit/537.36 (KHTML,

like Gecko) Chrome/74.0.3694.0 Safari/537.36 Chrome-Lighthouse

CPU/Memory Power 382

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