Performance Report for:
http://kn.pstu.edu/

Report generated:	Sun, Jun 17, 2018, 2:38 AM -0700 (via API)
Test Server Region:	🇨🇦 Vancouver, Canada
Using:	Chrome (Desktop) 62.0.3202.94, PageSpeed 1.15-gt1, YSlow 3.1.8

PageSpeed Score	YSlow Score		Fully Loaded Time	Total Page Size	Requests
F (0%) ⌄	**D (67%)** ◆		**21.5s** ⌄	**19.5MB** ⌄	**43** ⌃

Top 5 Priority Issues

Serve scaled images	F (0)	⌄ AVG SCORE: 73%	IMAGES	HIGH
Optimize images	F (0)	⌄ AVG SCORE: 69%	IMAGES	HIGH
Enable gzip compression	F (0)	⌄ AVG SCORE: 84%	SERVER	HIGH
Leverage browser caching	F (0)	⌄ AVG SCORE: 59%	SERVER	HIGH
Minify CSS	D (69)	⌄ AVG SCORE: 95%	CSS	HIGH

How does this affect me?

Studies show that users leave a site if it hasn't loaded in 4 seconds; keep your users happy and engaged by providing a fast performing website.

As if you didn't need more incentive, **Google has announced that they are using page speed in their ranking algorithm.**

About GTmetrix

We can help you develop a faster, more efficient, and all-around improved website experience for your users. We use Google PageSpeed and Yahoo! YSlow to grade your site's performance and provide actionable recommendations to fix these issues.

About the Developer

GT.net
Performance Hosting

GTmetrix is developed by the good folks at **GT.net**, a Vancouver-based performance hosting company with over 22 years experience in web technology.

https://gt.net/

What do these grades mean?

This report is an analysis of your site with Google and Yahoo!'s metrics for how to best develop a site for optimized speed. The **grades you see represent** how well the scanned URL adheres to those rules.

Lower grades (C or lower) mean that the page can stand to be faster using better practices and optimizing your settings.

What's in this report?

This report covers basic to technical analyses on your page. It is categorized under many headings:

- **Executive:** Overall score information and Priority Issues
- **History:** Graphed history of past performance
- **Waterfall:** Graph of your site's loading timeline
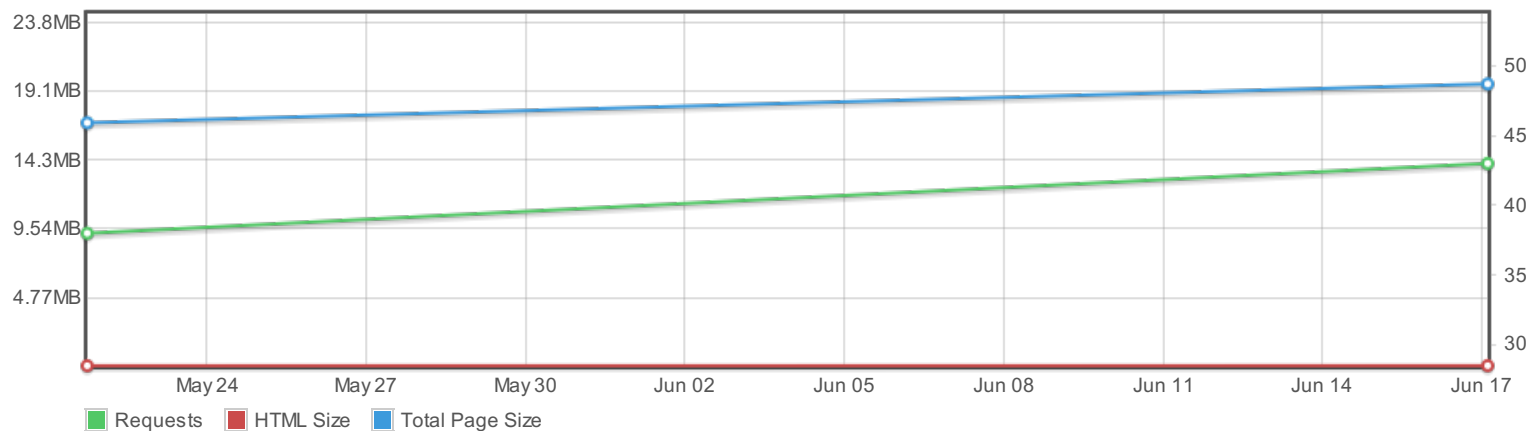- **Technical:** In-depth PageSpeed & YSlow information

These will provide you with a snapshot of your performance.

GTmetrix
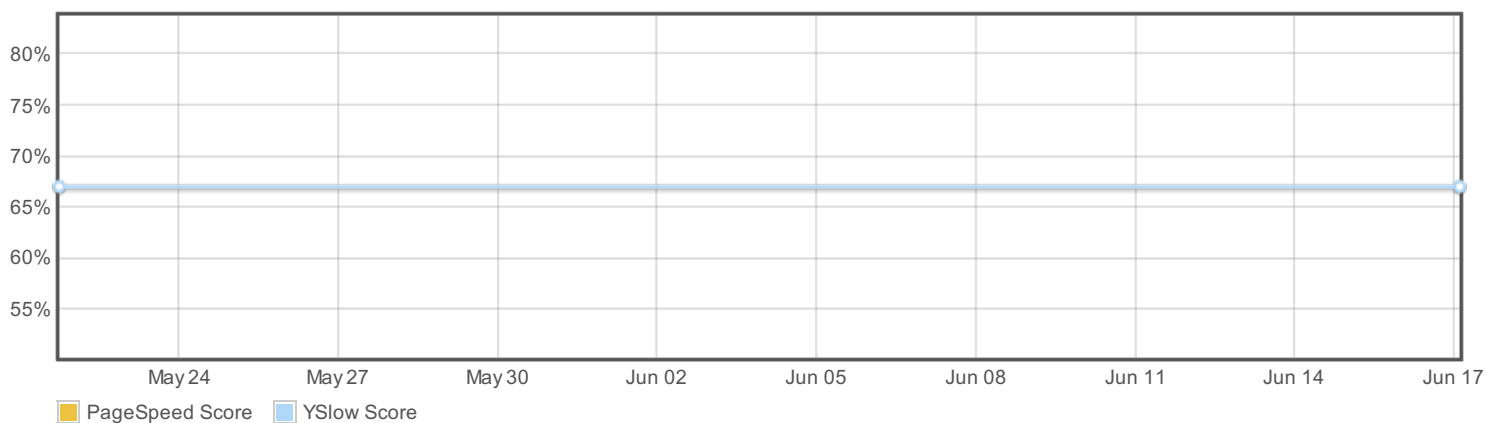
History

Page load times

Time to First Byte Onload Time Fully Loaded
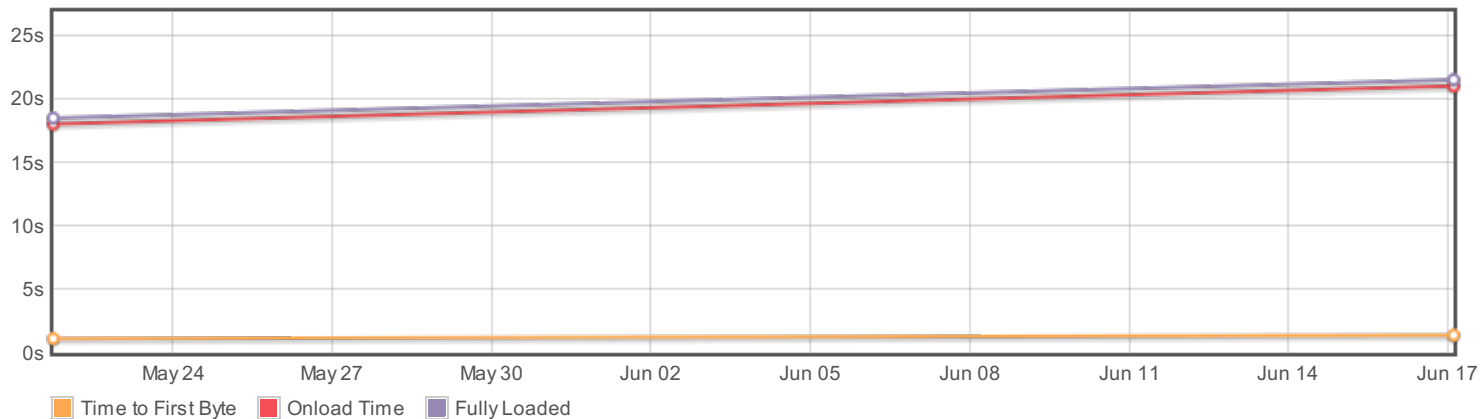
Page sizes and request counts

Requests HTML Size Total Page Size
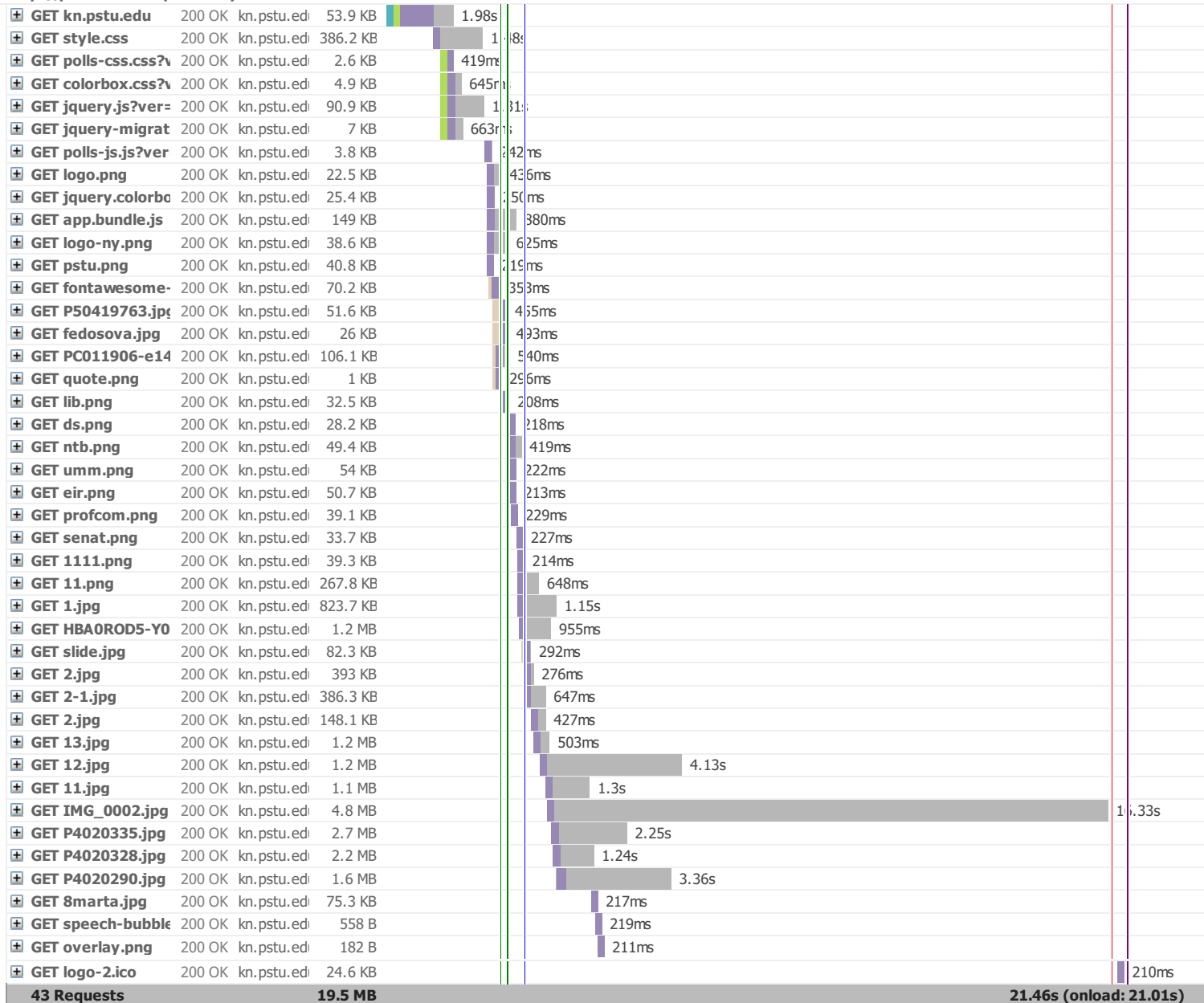
PageSpeed and YSlow scores

PageSpeed Score YSlow Score

Waterfall Chart

The waterfall chart displays the loading behaviour of your site in your selected browser. It can be used to discover simple issues such as 404's or more complex issues such as external resources blocking page rendering.
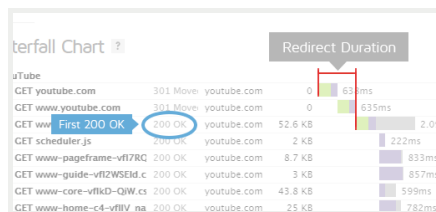
Кафедра Компьютерных Наук

⊞ GET kn.pstu.edu	200 OK	kn.pstu.edu	53.9 KB		1.98s
⊞ GET style.css	200 OK	kn.pstu.edu	386.2 KB		1.48s
⊞ GET polls-css.css?v	200 OK	kn.pstu.edu	2.6 KB		419ms
⊞ GET colorbox.css?v	200 OK	kn.pstu.edu	4.9 KB		645ms
⊞ GET jquery.js?ver=	200 OK	kn.pstu.edu	90.9 KB		1.31s
⊞ GET jquery-migrat	200 OK	kn.pstu.edu	7 KB		663ms
⊞ GET polls-js.js?ver	200 OK	kn.pstu.edu	3.8 KB		242ms
⊞ GET logo.png	200 OK	kn.pstu.edu	22.5 KB		436ms
⊞ GET jquery.colorbo	200 OK	kn.pstu.edu	25.4 KB		250ms
⊞ GET app.bundle.js	200 OK	kn.pstu.edu	149 KB		380ms
⊞ GET logo-ny.png	200 OK	kn.pstu.edu	38.6 KB		625ms
⊞ GET pstu.png	200 OK	kn.pstu.edu	40.8 KB		219ms
⊞ GET fontawesome-	200 OK	kn.pstu.edu	70.2 KB		353ms
⊞ GET P50419763.jpg	200 OK	kn.pstu.edu	51.6 KB		455ms
⊞ GET fedosova.jpg	200 OK	kn.pstu.edu	26 KB		493ms
⊞ GET PC011906-e14	200 OK	kn.pstu.edu	106.1 KB		540ms
⊞ GET quote.png	200 OK	kn.pstu.edu	1 KB		296ms
⊞ GET lib.png	200 OK	kn.pstu.edu	32.5 KB		208ms
⊞ GET ds.png	200 OK	kn.pstu.edu	28.2 KB		218ms
⊞ GET ntb.png	200 OK	kn.pstu.edu	49.4 KB		419ms
⊞ GET umm.png	200 OK	kn.pstu.edu	54 KB		222ms
⊞ GET eir.png	200 OK	kn.pstu.edu	50.7 KB		213ms
⊞ GET profcom.png	200 OK	kn.pstu.edu	39.1 KB		229ms
⊞ GET senat.png	200 OK	kn.pstu.edu	33.7 KB		227ms
⊞ GET 1111.png	200 OK	kn.pstu.edu	39.3 KB		214ms
⊞ GET 11.png	200 OK	kn.pstu.edu	267.8 KB		648ms
⊞ GET 1.jpg	200 OK	kn.pstu.edu	823.7 KB		1.15s
⊞ GET HBA0ROD5-Y0	200 OK	kn.pstu.edu	1.2 MB		955ms
⊞ GET slide.jpg	200 OK	kn.pstu.edu	82.3 KB		292ms
⊞ GET 2.jpg	200 OK	kn.pstu.edu	393 KB		276ms
⊞ GET 2-1.jpg	200 OK	kn.pstu.edu	386.3 KB		647ms
⊞ GET 2.jpg	200 OK	kn.pstu.edu	148.1 KB		427ms
⊞ GET 13.jpg	200 OK	kn.pstu.edu	1.2 MB		503ms
⊞ GET 12.jpg	200 OK	kn.pstu.edu	1.2 MB		4.13s
⊞ GET 11.jpg	200 OK	kn.pstu.edu	1.1 MB		1.3s
⊞ GET IMG_0002.jpg	200 OK	kn.pstu.edu	4.8 MB		16.33s
⊞ GET P4020335.jpg	200 OK	kn.pstu.edu	2.7 MB		2.25s
⊞ GET P4020328.jpg	200 OK	kn.pstu.edu	2.2 MB		1.24s
⊞ GET P4020290.jpg	200 OK	kn.pstu.edu	1.6 MB		3.36s
⊞ GET 8marta.jpg	200 OK	kn.pstu.edu	75.3 KB		217ms
⊞ GET speech-bubble	200 OK	kn.pstu.edu	558 B		219ms
⊞ GET overlay.png	200 OK	kn.pstu.edu	182 B		211ms
⊞ GET logo-2.ico	200 OK	kn.pstu.edu	24.6 KB		210ms

43 Requests — **19.5 MB** — **21.46s (onload: 21.01s)**

Page Load Timings

RUM Speed Index: 4,070

Redirect	Connect	Backend	TTFB
0ms	425ms	0.9s	1.4s
First paint	Contentful paint	DOM int.	DOM loaded
3.3s	3.5s	3.9s	3.9s (46ms)
Onload			
21.0s (1ms)			

Redirect duration

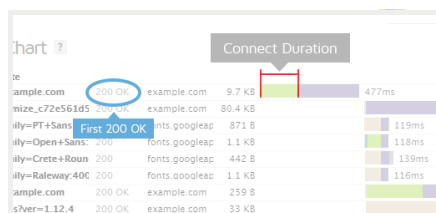This is the time spent redirecting URLs before the final HTML page is loaded. Common redirects include:

- Redirect from a non-www to www (eg. example.com to www.example.com)
- Redirect to a secure URL (eg. http:// to https://)
- Redirect to set cookies
- Redirect to a mobile version of the site

Some sites may even perform a chain of multiple redirects (eg. non-www to www, then to a secure URL). This timing is the total of all this time that's spent redirecting, or 0 if no redirects occurred.

In the Waterfall Chart, Redirect duration consists of the time from the beginning of the test until just before we start the request of the final HTML page (when we receive the first 200 OK response).

During this time, the browser screen is blank! Ensure that this duration is kept to short by minimizing your redirects.

Connection duration

Once any redirects have completed, Connection duration is measured. This is the time spent connecting to the server to make the request to the page.

Technically speaking, this duration is a combination of the blocked time, DNS time, connect time and sending time of the request (rather than *just* connect time). We've combined those components into a single Connection duration to simplify things (as most of these times are usually small).

In the Waterfall Chart, Connection duration consists of everything up to and including the "Sending" time in the final HTML page request (the first 200 OK response).

During this time, the browser screen is still blank! Various causes could contribute to this, including a slow/problematic connection between the test server and site or slow response times from the site.
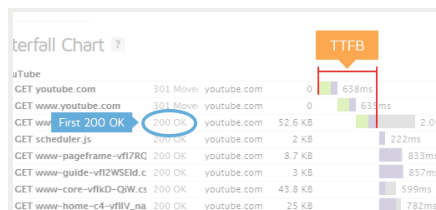
Backend duration
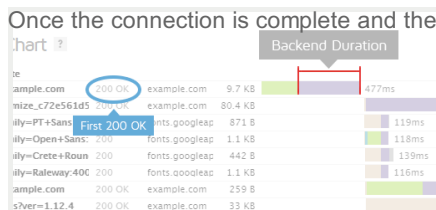
Once the connection is complete and the request is made, the server needs to generate a response for the page. The time it takes to generate the response is known as the Backend duration.

In the Waterfall Chart, Backend duration consists of purple waiting time in the page request.

There are a number of reasons why Backend duration could be slow. We cover this is our "Why is my page slow" article.

Time to First Byte (TTFB)

Time to First Byte (TTFB) is the total amount of time spent to receive the first byte of the response once it has been requested. It is the sum of "Redirect duration" + "Connection duration" + "Backend duration". This metric is one of the key indicators of web performance.

In the Waterfall Chart, it is calculated at the start of the test until just before receiving on the page request and represented by the orange line.

Some ways to improve the TTFB include: optimizing application code, implementing caching, fine-tuning your web server configuration, or upgrading server hardware.

First paint time
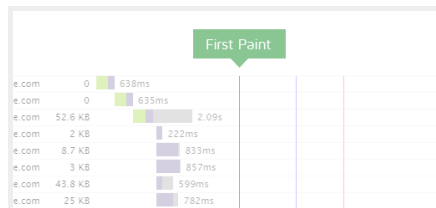
First paint time is the first point at which the browser does any sort of rendering on the page. Depending on the structure of the page, this first paint could just be displaying the background colour (including white), or it could be a majority of the page being rendered.

In the Waterfall Chart, it is represented by the green line.

This timing is of significance because until this point, the browser will have only shown a blank page and this change gives the user an indication that the page is loading. However, we don't know how much of the page was rendered with this paint, so having a early first paint doesn't necessarily indicate a fast loading page.

If the browser does not perform a paint (ie. the html results in an blank page), then the paint timings may be missing.

First contentful paint time
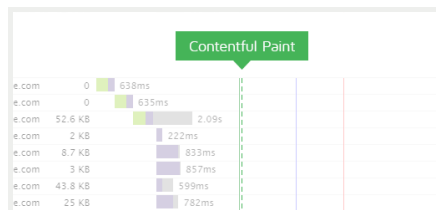
First Contentful Paint is triggered when any *content* is painted - i.e. something defined in the DOM (Document Object Model). This could be text, an image or canvas render.

This timing aims to be more representative of your user's experience, as it flags when actual content has been loaded in the page, and not just any change - but it may often be the same time as First Paint.

Because the focus is on content, the idea is that this metric gives you an idea of when your user receives consumable information (text, visuals, etc) - much more useful for performance assessment than when a background has changed or a style has been applied.

If the browser does not perform a paint (ie. the html results in an blank page), then the paint timings may be missing.
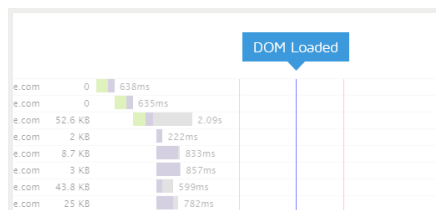
DOM interactive time
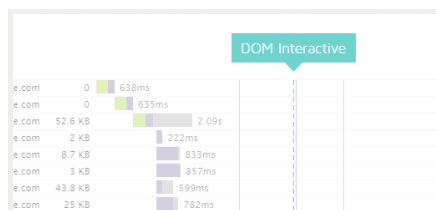
DOM interactive time is the point at which the browser has finished loading and parsing HTML, and the DOM (Document Object Model) has been built. The DOM is how the browser internally structures the HTML so that it can render it.

DOM interactive time isn't marked in the Waterfall Chart as it's usually very close in timing to DOM content loaded.

DOM content loaded time

DOM content loaded time (DOM loaded or DOM ready for short) is the point at which the DOM is ready (ie. DOM interactive) and there are no stylesheets blocking JavaScript execution.

If there are no stylesheets blocking JavaScript execution and there is no parser blocking JavaScript, then this will be the same as DOM interactive time.

In the Waterfall Chart, it is represented by the blue line.

The time in brackets is the time spent executing JavaScript triggered by the DOM content loaded event. Many JavaScript frameworks use this event as a starting point to begin execution of their code.

Since this event is often used by JavaScript as the starting point and delays in this event mean delays in rendering, it's important to make sure that style and script order is optimized and that parsing of JavaScript is deferred.

Onload time
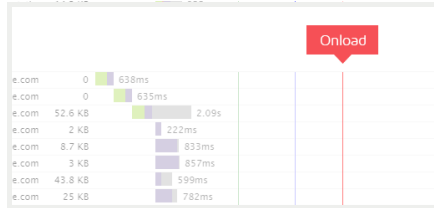
Onload time occurs when the processing of the page is complete and all the resources on the page (images, CSS, etc.) have finished downloading. This is also the same time that DOM complete occurs and the JavaScript window.onload event fires.

Note that there may be JavaScript that initiates subsequent requests for more resources, hence the reason why Fully loaded timing is preferred.

In the Waterfall Chart, it is represented by the red line.

The time in brackets is the time spent executing JavaScript triggered by the Onload event.

Note that Onload time was the previous default for when to stop the test prior to Feburary 8th, 2017.

PageSpeed Recommendations

RECOMMENDATION	GRADE	RELATIVE	TYPE	PRIORITY
Serve scaled images	F (0)	❤ AVG SCORE: 73%	IMAGES	HIGH

The following images are resized in HTML or CSS. Serving scaled images could save 17.5MiB (98% reduction).

- http://kn.pstu.edu/wp-content/uploads/2018/04/IMG_0002.jpg is resized in HTML or CSS from 2304x3344 to 170x247. Serving a scaled image could save 4.8MiB (99% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg is resized in HTML or CSS from 3552x3456 to 250x243. Serving a scaled image could save 2.7MiB (99% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg is resized in HTML or CSS from 4608x3456 to 400x300. Serving a scaled image could save 2.2MiB (99% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg is resized in HTML or CSS from 3304x2396 to 400x290. Serving a scaled image could save 1.6MiB (98% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg is resized in HTML or CSS from 3508x2480 to 354x250. Serving a scaled image could save 1.2MiB (98% reduction).
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg is resized in HTML or CSS from 2560x1632 to 250x159. Serving a scaled image could save 1.2MiB (99% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg is resized in HTML or CSS from 2480x3508 to 177x250. Serving a scaled image could save 1.2MiB (99% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg is resized in HTML or CSS from 2480x3508 to 177x250. Serving a scaled image could save 1.1MiB (99% reduction).
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg is resized in HTML or CSS from 2560x1920 to 250x188. Serving a scaled image could save 815.8KiB (99% reduction).
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg is resized in HTML or CSS from 2146x1602 to 250x187. Serving a scaled image could save 387.7KiB (98% reduction).
- http://kn.pstu.edu/wp-content/uploads/2018/05/11.png is resized in HTML or CSS from 1220x677 to 600x333. Serving a scaled image could save 203.0KiB (75% reduction).
- http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg is resized in HTML or CSS from 642x533 to 161x134. Serving a scaled image could save 99.4KiB (93% reduction).
- http://kn.pstu.edu/wp-content/uploads/2017/06/umm.png is resized in HTML or CSS from 256x256 to 72x72. Serving a scaled image could save 49.8KiB (92% reduction).
- http://kn.pstu.edu/wp-content/uploads/2017/06/eir.png is resized in HTML or CSS from 256x256 to 72x72. Serving a scaled image could save 46.6KiB (92% reduction).
- http://kn.pstu.edu/wp-content/uploads/2017/06/ntb.png is resized in HTML or CSS from 256x256 to 72x72. Serving a scaled image could save 45.5KiB (92% reduction).
- http://kn.pstu.edu/wp-content/uploads/2017/12/logo-ny.png is resized in HTML or CSS from 244x106 to 90x30. Serving a scaled image could save 34.6KiB (89% reduction).

RECOMMENDATION	GRADE	RELATIVE	TYPE	PRIORITY
Optimize images	F (0)	❤ AVG SCORE: 69%	IMAGES	HIGH

Optimize the following images to reduce their size by 732.5KiB (6% reduction).

- Losslessly compressing http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg could save 145.1KiB (12% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg could save 55.0KiB (3% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/05/11.png could save 51.6KiB (20% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg could save 51.6KiB (5% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg could save 45.8KiB (4% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg could save 40.5KiB (4% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/05/2-1.jpg could save 40.4KiB (11% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg could save 37.0KiB (10% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg could save 36.8KiB (5% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/10/P50419763.jpg could save 21.8KiB (43% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/pstu.png could save 21.5KiB (52% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/profcom.png could save 20.2KiB (51% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/senat.png could save 19.7KiB (58% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/lib.png could save 19.3KiB (59% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/ds.png could save 19.1KiB (67% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/eir.png could save 18.0KiB (36% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/ntb.png could save 17.2KiB (35% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg could save 15.9KiB (1% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/05/1111.png could save 14.9KiB (38% reduction). See optimized version.

- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg could save 13.8KiB (1% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/12/logo-ny.png could save 11.9KiB (31% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/06/umm.png could save 11.4KiB (22% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg could save 3.7KiB (4% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/themes/kn/assets/quote.png could save 195B (19% reduction). See optimized version.
- Losslessly compressing http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/images/overlay.png could save 40B (22% reduction). See optimized version.

Enable gzip compression	F (0)	❤ AVG SCORE: 84%	SERVER	HIGH

Enable compression for the following resources to reduce their transfer size by 418.8KiB (57% reduction).

- Compressing http://kn.pstu.edu/wp-content/themes/kn/style.css could save 184.3KiB (48% reduction).
- Compressing http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js could save 102.0KiB (68% reduction).
- Compressing http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2 could save 58.9KiB (64% reduction).
- Compressing http://kn.pstu.edu/ could save 43.6KiB (80% reduction).
- Compressing http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32 could save 17.5KiB (68% reduction).
- Compressing http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1 could save 4.0KiB (57% reduction).
- Compressing http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6 could save 3.4KiB (69% reduction).
- Compressing http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-js.js?ver=2.63 could save 3.2KiB (82% reduction).
- Compressing http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-css.css?ver=2.63 could save 1.9KiB (73% reduction).

Leverage browser caching	F (0)	❤ AVG SCORE: 59%	SERVER	HIGH

Leverage browser caching for the following cacheable resources:

- http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/images/overlay.png (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/assets/quote.png (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/assets/speech-bubble.png (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/src/images/fedosova.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/src/images/logo.png (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/src/images/slide.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/themes/kn/style.css (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/ds.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/eir.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/lib.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/ntb.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/profcom.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/pstu.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/senat.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/06/umm.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/10/P50419763.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/12/logo-2.ico (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2017/12/logo-ny.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/03/8marta.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/2.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/IMG_0002.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/05/11.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/05/1111.png (expiration not specified)
- http://kn.pstu.edu/wp-content/uploads/2018/05/2-1.jpg (expiration not specified)

Minify CSS

| D (69) | | AVG SCORE: 95% | CSS | HIGH |

Minify CSS for the following resources to reduce their size by 37.1KiB (10% reduction).

- Minifying http://kn.pstu.edu/wp-content/themes/kn/style.css could save 35.1KiB (10% reduction). See optimized version.
- Minifying http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6 could save 1.0KiB (22% reduction). See optimized version.
- Minifying http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-css.css?ver=2.63 could save 946B (35% reduction). See optimized version.

Defer parsing of JavaScript

| A (91) | | AVG SCORE: 69% | JS | HIGH |

108.0KiB of JavaScript is parsed during initial page load. Defer parsing JavaScript to reduce blocking of page rendering.

- http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2 (83.7KiB)
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32 (15.0KiB)
- http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1 (5.5KiB)
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-js.js?ver=2.63 (3.2KiB)
- http://kn.pstu.edu/ (452B of inline JavaScript)

Minify JavaScript

| A (91) | | AVG SCORE: 88% | JS | HIGH |

Minify JavaScript for the following resources to reduce their size by 10.1KiB (4% reduction).

- Minifying http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32 could save 9.4KiB (37% reduction). See optimized version.
- Minifying http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js could save 500B (1% reduction). See optimized version.
- Minifying http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1 could save 115B (2% reduction). See optimized version.
- Minifying http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2 could save 88B (1% reduction). See optimized version.

Minify HTML

| A (96) | | AVG SCORE: 98% | CONTENT | LOW |

Minify HTML for the following resources to reduce their size by 5.3KiB (10% reduction).

- Minifying http://kn.pstu.edu/ could save 5.3KiB (10% reduction). See optimized version.

Specify image dimensions

| A (97) | | AVG SCORE: 98% | IMAGES | MEDIUM |

The following image(s) are missing width and/or height attributes.

- http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg (Dimensions: 2560 x 1920)
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg (Dimensions: 2146 x 1602)
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg (Dimensions: 2560 x 1632)
- http://kn.pstu.edu/wp-content/themes/kn/src/images/fedosova.jpg (Dimensions: 325 x 450)
- http://kn.pstu.edu/wp-content/themes/kn/src/images/logo.png (Dimensions: 244 x 106)
- http://kn.pstu.edu/wp-content/uploads/2017/10/P50419763.jpg (Dimensions: 265 x 220)
- http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg (Dimensions: 642 x 533)
- http://kn.pstu.edu/wp-content/uploads/2018/03/8marta.jpg (Dimensions: 640 x 480)
- http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg (Dimensions: 2480 x 3508)
- http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg (Dimensions: 3508 x 2480)
- http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg (Dimensions: 2480 x 3508)
- http://kn.pstu.edu/wp-content/uploads/2018/04/2.jpg (Dimensions: 1346 x 951)
- http://kn.pstu.edu/wp-content/uploads/2018/04/IMG_0002.jpg (Dimensions: 2304 x 3344)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg (Dimensions: 3304 x 2396)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg (Dimensions: 4608 x 3456)
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg (Dimensions: 3552 x 3456)
- http://kn.pstu.edu/wp-content/uploads/2018/05/11.png (Dimensions: 1220 x 677)

- http://kn.pstu.edu/wp-content/uploads/2018/05/2-1.jpg (Dimensions: 940 x 646)

| Specify a character set early | A (99) | ◆ AVG SCORE: 100% | CONTENT | MEDIUM |

The following resources have no character set specified in their HTTP headers. Specifying a character set in HTTP headers can speed up browser rendering.

- http://kn.pstu.edu/wp-content/themes/kn/assets/fontawesome-webfont.woff2

| Avoid bad requests | A (100) | ◆ AVG SCORE: 98% | CONTENT | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Avoid landing page redirects | A (100) | ◆ AVG SCORE: 98% | SERVER | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Enable Keep-Alive | A (100) | ◆ AVG SCORE: 96% | SERVER | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Inline small CSS | A (100) | ◆ AVG SCORE: 96% | CSS | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Inline small JavaScript | A (100) | ▲ AVG SCORE: 94% | JS | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Minimize redirects | A (100) | ▲ AVG SCORE: 89% | CONTENT | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Minimize request size | A (100) | ◆ AVG SCORE: 97% | CONTENT | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Optimize the order of styles and scripts | A (100) | ▲ AVG SCORE: 94% | CSS/JS | HIGH |

You scored 100% on this recommendation - nothing to do here!

| Put CSS in the document head | A (100) | ◆ AVG SCORE: 100% | CSS | HIGH |

You scored 100% on this recommendation - nothing to do here!

Serve resources from a consistent URL　　A (100)　　▲ AVG SCORE: 88%　　CONTENT　　HIGH

You scored 100% on this recommendation - nothing to do here!

Specify a cache validator　　A (100)　　▲ AVG SCORE: 94%　　SERVER　　HIGH

You scored 100% on this recommendation - nothing to do here!

Specify a Vary: Accept-Encoding header　　A (98)　　◆ AVG SCORE: 96%　　SERVER　　LOW

The following publicly cacheable, compressible resources should have a "Vary: Accept-Encoding" header:

- http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js
- http://kn.pstu.edu/wp-content/themes/kn/style.css

Combine images using CSS sprites　　A (100)　　▲ AVG SCORE: 89%　　IMAGES　　HIGH

You scored 100% on this recommendation - nothing to do here!

Avoid CSS @import　　A (100)　　◆ AVG SCORE: 98%　　CSS　　MEDIUM

You scored 100% on this recommendation - nothing to do here!

Prefer asynchronous resources　　A (100)　　◆ AVG SCORE: 100%　　JS　　MEDIUM

You scored 100% on this recommendation - nothing to do here!

Avoid a character set in the meta tag　　A (100)　　◆ AVG SCORE: 100%　　CONTENT　　LOW

You scored 100% on this recommendation - nothing to do here!

Remove query strings from static resources　　A (100)　　▲ AVG SCORE: 88%　　CONTENT　　LOW

You scored 100% on this recommendation - nothing to do here!

YSlow Recommendations

RECOMMENDATION	GRADE	RELATIVE	TYPE	PRIORITY
Add Expires headers	F (0)	❤ AVG SCORE: 26%	SERVER	HIGH

There are 40 static components without a far-future expiration date.

- http://kn.pstu.edu/wp-content/themes/kn/style.css
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-css.css?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6
- http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2
- http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1
- http://kn.pstu.edu/wp-content/themes/kn/src/images/logo.png
- http://kn.pstu.edu/wp-content/uploads/2017/12/logo-ny.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/pstu.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/lib.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/ds.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/ntb.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/umm.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/eir.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/profcom.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/senat.png
- http://kn.pstu.edu/wp-content/uploads/2017/10/P50419763.jpg
- http://kn.pstu.edu/wp-content/themes/kn/src/images/fedosova.jpg
- http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/05/1111.png
- http://kn.pstu.edu/wp-content/uploads/2018/05/11.png
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/05/2-1.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/2.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/IMG_0002.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/03/8marta.jpg
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-js.js?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32
- http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js
- http://kn.pstu.edu/wp-content/themes/kn/assets/quote.png
- http://kn.pstu.edu/wp-content/themes/kn/assets/speech-bubble.png
- http://kn.pstu.edu/wp-content/themes/kn/src/images/slide.jpg
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/images/overlay.png

Compress components with gzip	F (1)	❤ AVG SCORE: 85%	SERVER	HIGH

There are 9 plain text components that should be sent compressed

- http://kn.pstu.edu/
- http://kn.pstu.edu/wp-content/themes/kn/style.css
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-css.css?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6
- http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2
- http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-js.js?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32
- http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js

Use a Content Delivery Network (CDN)	F (0)	❤ AVG SCORE: 21%	SERVER	MEDIUM

Using a CDN YSlow doesn't recognize? Specify your CDNs in your User Settings.

There are 40 static components that are not on CDN.

- http://kn.pstu.edu/wp-content/themes/kn/style.css
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-css.css?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6
- http://kn.pstu.edu/wp-includes/js/jquery/jquery.js?ver=1.10.2
- http://kn.pstu.edu/wp-includes/js/jquery/jquery-migrate.min.js?ver=1.2.1
- http://kn.pstu.edu/wp-content/themes/kn/src/images/logo.png
- http://kn.pstu.edu/wp-content/uploads/2017/12/logo-ny.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/pstu.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/lib.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/ds.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/ntb.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/umm.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/eir.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/profcom.png
- http://kn.pstu.edu/wp-content/uploads/2017/06/senat.png
- http://kn.pstu.edu/wp-content/uploads/2017/10/P50419763.jpg
- http://kn.pstu.edu/wp-content/themes/kn/src/images/fedosova.jpg
- http://kn.pstu.edu/wp-content/uploads/2017/10/PC011906-e1421266662663.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/05/1111.png
- http://kn.pstu.edu/wp-content/uploads/2018/05/11.png
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/1.jpg
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/HBA0ROD5-Y0.jpg
- http://kn.pstu.edu/wp-content/gallery/studauthem2018/2.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/05/2-1.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/2.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/13.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/12.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/11.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/IMG_0002.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020335.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020328.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/04/P4020290.jpg
- http://kn.pstu.edu/wp-content/uploads/2018/03/8marta.jpg
- http://kn.pstu.edu/wp-content/plugins/wp-polls/polls-js.js?ver=2.63
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/js/jquery.colorbox.1.3.32.js?ver=1.3.32
- http://kn.pstu.edu/wp-content/themes/kn/assets/app.bundle.js
- http://kn.pstu.edu/wp-content/themes/kn/assets/quote.png
- http://kn.pstu.edu/wp-content/themes/kn/assets/speech-bubble.png
- http://kn.pstu.edu/wp-content/themes/kn/src/images/slide.png
- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/images/overlay.png

| Make fewer HTTP requests | B (88) | ▲ AVG SCORE: 32% | CONTENT | HIGH |

This page has 5 external Javascript scripts. Try combining them into one.

This page has 3 external stylesheets. Try combining them into one.

| Avoid CSS expressions | B (88) | ▼ AVG SCORE: 99% | CSS | LOW |

There is a total of 1 expression

- http://kn.pstu.edu/wp-content/plugins/lightbox-plus/css/elegant/colorbox.css?ver=2.6

| Minify JavaScript and CSS | A (100) | ▲ AVG SCORE: 71% | CSS/JS | MEDIUM |

You scored 100% on this recommendation - nothing to do here!

Avoid URL redirects `A (100)` ▲ AVG SCORE: 88% CONTENT MEDIUM

You scored 100% on this recommendation - nothing to do here!

Make AJAX cacheable `A (100)` ◆ AVG SCORE: 100% JS MEDIUM

You scored 100% on this recommendation - nothing to do here!

Remove duplicate JavaScript and CSS `A (100)` ◆ AVG SCORE: 100% CSS/JS MEDIUM

You scored 100% on this recommendation - nothing to do here!

Avoid AlphaImageLoader filter `A (100)` ◆ AVG SCORE: 99% CSS MEDIUM

You scored 100% on this recommendation - nothing to do here!

Avoid HTTP 404 (Not Found) error `A (100)` ◆ AVG SCORE: 98% CONTENT MEDIUM

You scored 100% on this recommendation - nothing to do here!

Reduce the number of DOM elements `A (100)` ▲ AVG SCORE: 92% CONTENT LOW

You scored 100% on this recommendation - nothing to do here!

Use cookie-free domains `A (100)` ▲ AVG SCORE: 49% COOKIE LOW

You scored 100% on this recommendation - nothing to do here!

Use GET for AJAX requests `A (100)` ◆ AVG SCORE: 100% JS LOW

You scored 100% on this recommendation - nothing to do here!

Reduce DNS lookups `A (100)` ▲ AVG SCORE: 70% CONTENT LOW

- kn.pstu.edu: 42 components, 20389.4K

Reduce cookie size `A (100)` ◆ AVG SCORE: 100% COOKIE LOW

You scored 100% on this recommendation - nothing to do here!

Make favicon small and cacheable `A (100)` ◆ AVG SCORE: 100% IMAGES LOW

You scored 100% on this recommendation - nothing to do here!

Configure entity tags (ETags)	A (100)	⬆ AVG SCORE: 91%	SERVER	LOW

You scored 100% on this recommendation - nothing to do here!

Make JavaScript and CSS external	(n/a)		CSS/JS	MEDIUM

Only consider this if your property is a common user home page.

- There is a total of 3 inline css
- There is a total of 3 inline scripts