

Caching has been achieved in this project through the use of Node.js Express's ability to serve static content. All static resources – such as images, scripts, and style sheets – are flagged to be cached by the user's browser.

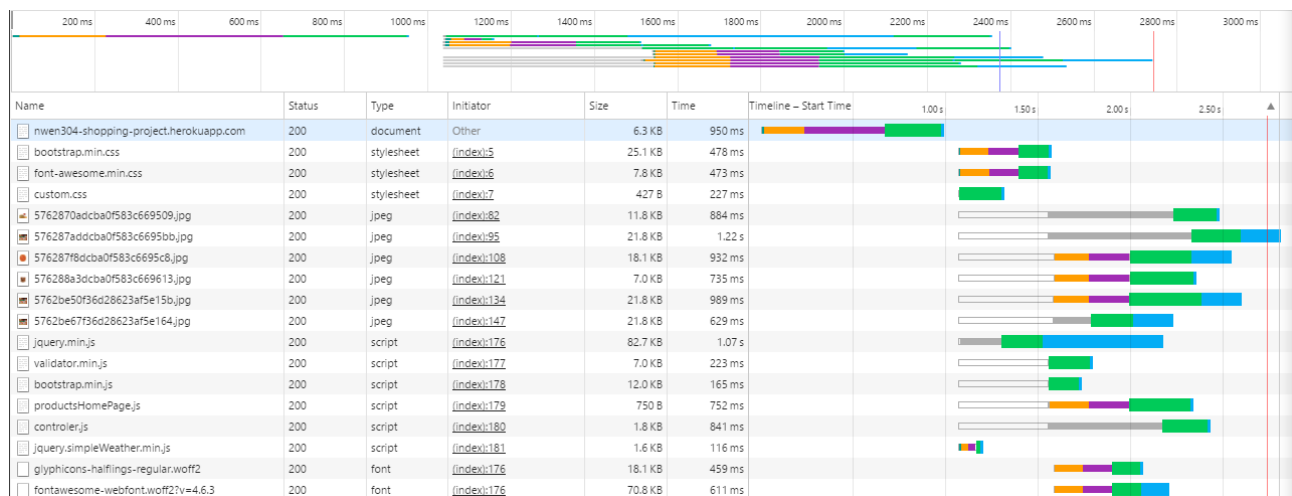


Illustration 1: The first page load, which takes over 3000 ms with no assets in the browser cache. Note the long download times for static resources.

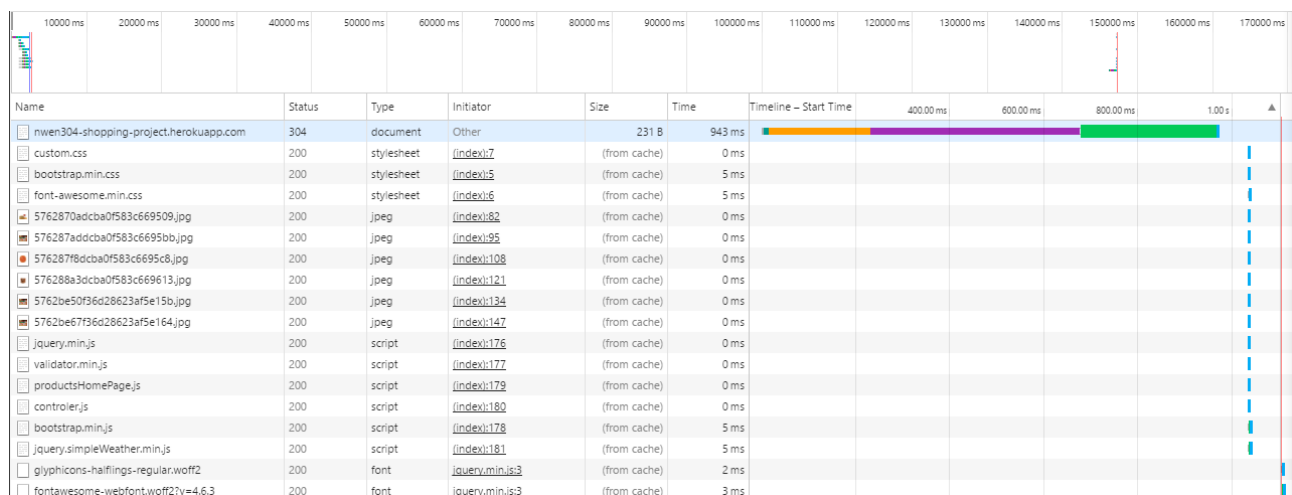


Illustration 2: A subsequent page load, where static resources are cached in the browser. This page load took 1100 ms.

In addition to asset caching, the entire primary index page can also be cached for two minutes in a user's browser. On a site that generates a lot of traffic from users that are not logged in, this would significantly reduce server load as the application would not need to render pages with every requests. Note, however, that for security and privacy reasons pages are not cached if a user is logged in.

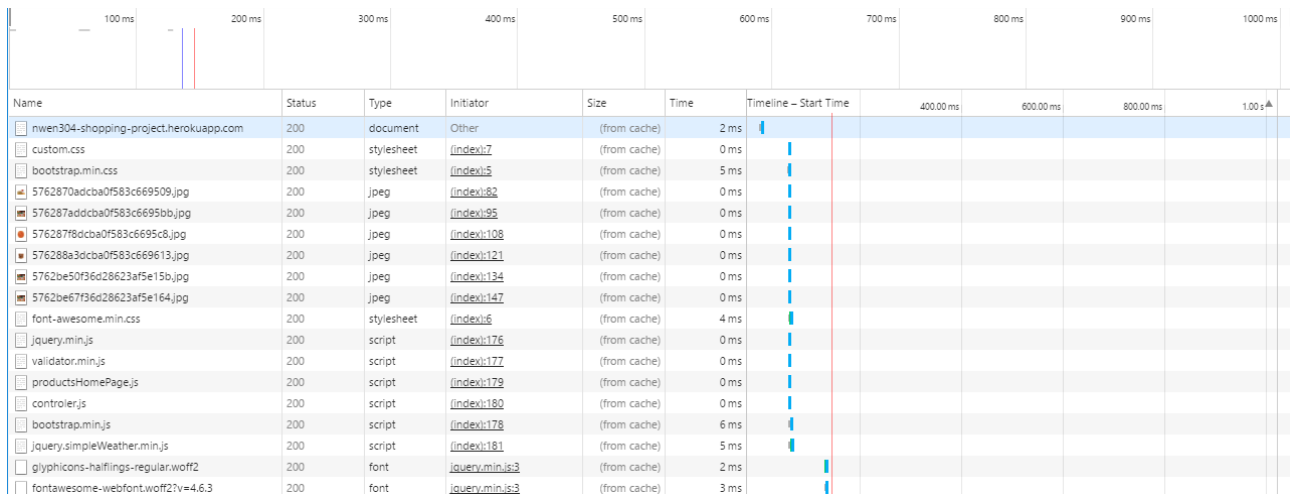


Illustration 3: A subsequent page load, where in addition to using cached assets, the browser can also use a cached page. This page load took 140 ms - and it is even faster without dev tools open!

Name	×	Headers	Preview	Response	Timing
nwen304-shopping-project.herok...	▼	General			
custom.css		Request URL: https://nwen304-shopping-project.herokuapp.com/imgs/5762870adcb0f583c669509.jpg			
bootstrap.min.css		Request Method: GET			
5762870adcb0f583c669509.jpg		Status Code: 200 OK (from cache)			
576287addcb0f583c6695bb.jpg		Remote Address: 50.17.200.93:443			
576287f8dcb0f583c6695c8.jpg		▼ Response Headers			
576288a3dcb0f583c669613.jpg		Accept-Ranges: bytes			
5762be50f36d28623af5e15b.jpg		Cache-Control: public, max-age=86400			
5762be67f36d28623af5e164.jpg		Content-Length: 11752			
font-awesome.min.css		Content-Type: image/jpeg			
jquery.min.js		Date: Sun, 26 Jun 2016 10:11:50 GMT			
validator.min.js		Etag: W/"2de8-1558aafa9c0"			
productsHomePage.js		Last-Modified: Sun, 26 Jun 2016 03:10:16 GMT			
controler.js		Server: Cowboy			
bootstrap.min.js		Via: 1.1 vegur			
jquery.simpleWeather.min.js		X-Powered-By: Express			
glyphicons-halflings-regular.woff2		▼ Request Headers			
fontawesome-webfont.woff2?v=4...		⚠ Provisional headers are shown			
		User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.49 Safari/537.36			

Illustration 4: Example HTTP cache headers that are in use for one of the site's assets (in this case, an image).