

# Network Issues Guide



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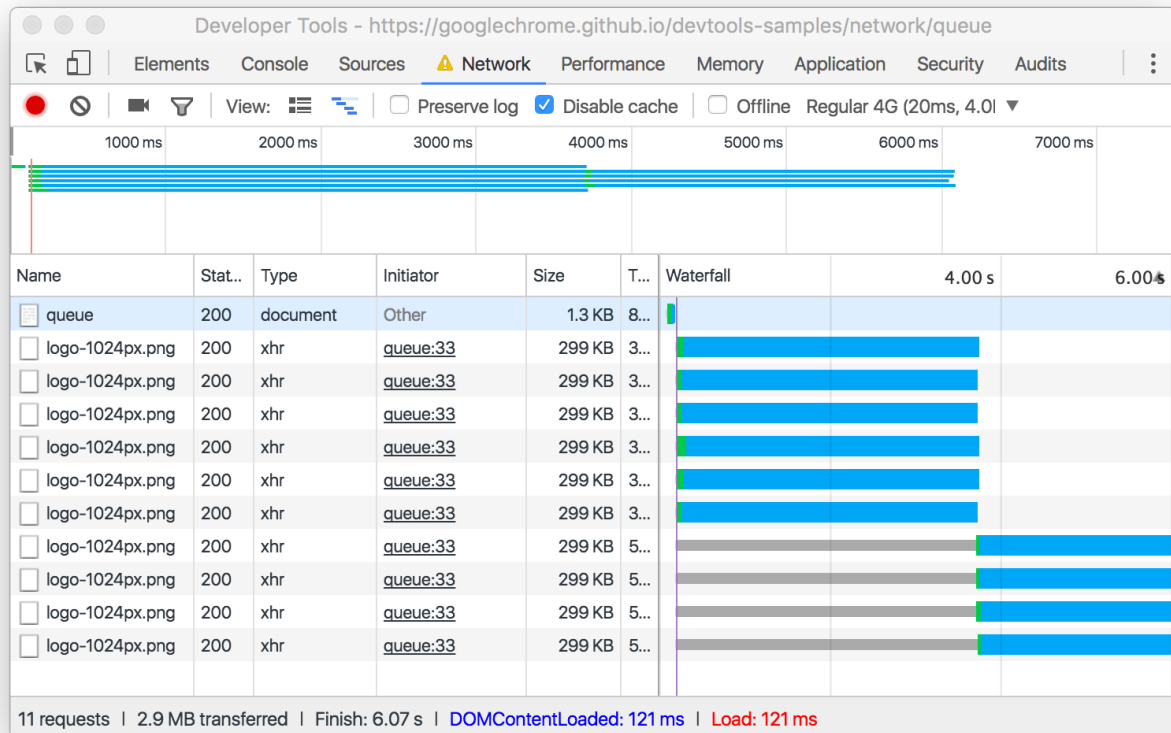
This guide shows you how to detect network issues or optimization opportunities in the Network panel of Chrome DevTools.

See [Get Started](#) to learn the basics of the Network panel.

## Queued or stalled requests

### Symptoms

Six requests are downloading simultaneously. After that, a series of requests are queued or stalled. Once one of the first six requests finishes, one of the requests in the queue starts.



**Figure 1.** An example of a queued or stalled series of requests in the Network panel. In the **Waterfall**, you can see that the first six requests for `logo-1024px.png` start simultaneously. The subsequent requests are stalled until one of the original six finishes.

## Causes

Too many requests are being made on a single domain. On HTTP/1.0 or HTTP/1.1 connections, Chrome allows a maximum of six simultaneous TCP connections per host.

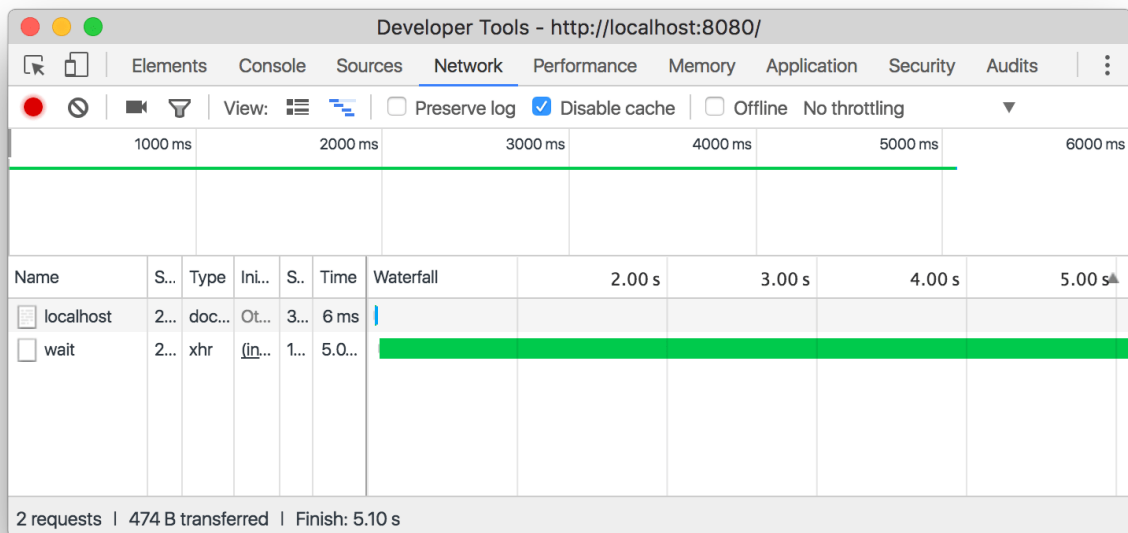
## Fixes

- Implement domain sharding if you must use HTTP/1.0 or HTTP/1.1.
- Use HTTP/2. Don't use domain sharding with HTTP/2.
- Remove or defer unnecessary requests so that critical requests can download earlier.

## Slow Time To First Byte (TTFB)

### Symptoms

A request spends a long time waiting to receive the first byte from the server.



**Figure 2.** An example of a request with a slow Time To First Byte. The long, green bar in the **Waterfall** indicates that the `wait` request was waiting a long time.

## Causes

- The connection between the client and server is slow.
- The server is slow to respond. Host the server locally to determine if it's the connection or server that is slow. If you still get a slow TTFB when service locally, then the server is slow.

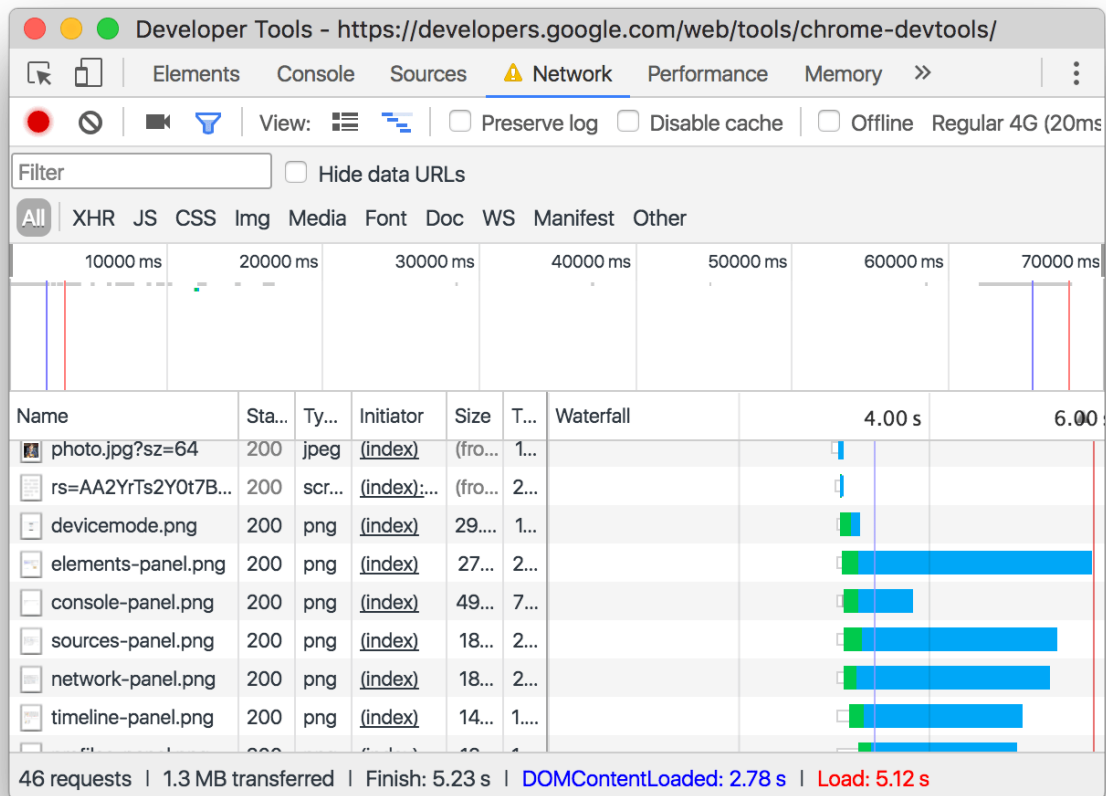
## Fixes

- If the connection is slow, consider hosting your content on a CDN or changing hosting providers.
- If the server is slow, consider optimizing database queries, implementing a cache, or modifying your server configuration.

## Slow content download

### Symptoms

A request takes a long time to download.



**Figure 3.** An example of a request that takes a long time to download. The long, blue bar in the **Waterfall** next to `elements-panel.png` means it took a long time to download.

### Causes

- The connection between the client and server is slow.
- A lot of content is being downloaded.

### Fixes

- Consider hosting your content on a CDN or changing hosting providers.
- Send fewer bytes by optimizing your requests.

## Contribute knowledge

Got a network issue that should be added to this guide?

- Send a tweet to [@ChromeDevTools](https://twitter.com/ChromeDevTools).

- Start a mailing list thread by emailing `google-chrome-developer-tools@googlegroups.com`.
- Open an issue on the docs repo.

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