What cause a 502 bad gateway error in AWS environment?

A 502 bad gateway message indicates that **one server got an invalid response from another**. In essence, you've connected with some kind of interim device (like an edge server) that should fetch all of the bits you need to load the page. Something about that process went wrong, and the message indicates the problem.

The meaning of "502 bad gateway"

The hypertext transfer protocol (HTTP), a set of rules that regulate the web released by the Internet Engineering Task Force (IETF), governs every internet transaction. In the HTTP system, problems have numbers.

The 502 status code, per IETF, indicates a few things:

- Proxies: If you get a bad gateway note, you're working with a gateway or proxy server.
- Connection: The proxy tried to work with the origin server.
- Mistake: The proxy got some kind of invalid response from the server.

The numeric language may seem confusing, but it's actually quite efficient. One simple number tells you a great deal about why the page won't load.

502 bad gateway prevention and solutions

502 gateway errors often stem from:

- Domain names. Computers do a quick lookup to resolve a numeric IP to a standard format. If that system goes wrong (as it would if you switched to a new hosting service), a bad gateway warning appears.
- Traffic. Too many visitors can overwhelm a server and make requests impossible to resolve.
- Connectivity. Firewall setup problems can block proxy communication.

As a developer, you can solve these issues by:

- Assessing. Are you dealing with a DNS problem? Or are you overwhelmed by traffic? You'll know what vendor to call next.
- Testing. Use a ping or traceroute to determine if your server is even accessible.
- Balancing. You could scale back firewalls and otherwise ensure all traffic reaches you. But this comes with major security risks. Know what you're getting into.

As a visitor, you can:

- Reload. Simple traffic problems may fade if you wait a moment and try the site again.
- Clear. Your browser cache can interfere with smooth surfing. Dump the data and try again.

Error 502 is just one type of HTTP error your website might generate. Read up on another common problem, Error 431, on our blog.