Server-initiated instant failover in MariaDB

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Role model: HTTP 301 Redirect

curl -IL optimi<u>s</u>edbyotto.com
HTTP/1.1 301 Moved Permanently
Server: nginx
Content-Type: text/html
Location: https://optimi<u>z</u>edbyotto.com
Cache-Control: max-age=10800

HTTP/2 200
cache-control: max-age=600
content-type: text/html; charset=utf-8
content-length: 59906

- Part of the HTTP standard since *decades*, all servers and clients support it
- Tell all new connections to go to a new server instead
- Will not interrupt existing connections, e.g. large downloads in progress
- If HTTPS is used, it will validate the server TLS certificate first

DEMO: MDEV-34009

mariadb__d__ --help --verbose
--instant-failover-mode=name
               Instant failover mode. Possible modes are: OFF - No
               instant failover, ON: Unconditionally redirect new
               clients connecting over the network via the standard
               server port to INSTANT_FAILOVER_TARGET (no redirection of
               local socket-based connections, nor of connections to the
               EXTRA_PORT), ALL: Unconditionally redirect all new
               clients to INSTANT_FAILOVER_TARGET (even via local
               socket-based connections and the EXTRA_PORT).
  --instant-failover-target=name
               Instant failover target. This should be a hostname, an IP
               address, or a hostname or IP address followed by ':PORT'.
               Instant failover will not be activated unless
               INSTANT_FAILOVER_MODE is also set.

DEMO: MDEV-34009

mariadb --help --verbose

 --follow-instant-failovers

              Follow instant failovers. Disable with

              --disable-follow-instant-failovers. This option is

              enabled by default.

              (Defaults to on; use --skip-follow-instant-failovers to disable.)

DEMO

Should this be in MariaDB?

Prototype developed by Amazon RDS for MySQL & MariaDB core engine team, submitted by Daniel Lenski in June 2023 in PR#2681 and again in April 2024 in PR#3224

https://github.com/MariaDB/server/pull/3224: [MDEV-34009] Introduce server-initiated instant failover mechanism (and TLS fixes)

https://github.com/mariadb-corporation/mariadb-connector-c/pull/245: [MDEV-34009] Client-side implementation of instant failover mechanism (and TLS fixes)