Availability

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1. Monitor HTTP request latency

Configure Apache or nginx to log request latency, HTTP status code and URL for every request.

2. Listen on a UNIX domain socket

Implement a minimal HTTP server that listens on a UNIX domain socket. It should return 32 bytes from `/dev/random` to serve as a public entropy source. Make it available via your reverse proxy.

3. Listen and notify

Implement two programs, one that prints all of the rows in a table by monotonically increasing row ID, and a second that inserts a new row. Use LISTEN and NOTIFY on a TRIGGER to have the first program print new rows immediately when they are inserted, without busy-waiting. Check that the listener works reliably.

4. Database access control

Limit the process LISTENing to only allow SELECT on the respective table. Validate by trying to UPDATE, DELETE or DROP.

5. Version your database

Add versioning to your database. Create the schema using an SQL file. Upgrade the schema (and version) using another SQL file.

6. Replicate your database

Setup two databases using your schema. Then apply log-based replication between the two databases. Run your listener on the replica database, and insert into the master database. Check that the replica listener immediately prints the freshly inserted record.