

Data plane

Environment variables

```
# Global data plane (required)
export MVSQlite_DATA_PLANE=http://localhost:7000
# Global page size (optional, default is 8192)
export MVSQlite_SECTOR_SIZE=16384
# Page cache size per connection (optional, in number of pages)
export MVSQlite_PAGE_CACHE_SIZE=1000
```

Connect to database

```
# Connect to a database without authentication
sqlite3 mydatabase
# Connect to a database with hashproof authentication
sqlite3 mydatabase:xxxxxxxxxxx.yyyyyyyyyyy
                        hex(blake3(secret)) hex(secret)
# Connect to a database with a custom page size
sqlite3 "file:mydatabase?vfs=mvsqlite-16384"
```

SQL functions

```
# Pin the database to a specific version
SELECT mv_pin_version('main', '00000481e4aef869ffff');
# Unpin database version
SELECT mv_unpin_version('main');
# Convert a past time to version
SELECT mv_time2version('main',
    strftime('%s', '2022-10-02T04:33:04.809Z'));
# Get the current version of this cluster
SELECT mv_time2version('main', 0);
# Get the last version of the database seen by the client
SELECT mv_last_known_version('main');
```

Admin API

Namespace management

```
* "Namespace" is the storage layer's name for a SQLite database

# Create a namespace
curl localhost:7001/api/create_namespace -d '{"key":"hello-world"}'
# Create a namespace protected by hashproof
curl localhost:7001/api/create_namespace \
    -d '{"key":"hello-world:xxxxxxxxxxx"}'
                        hex(blake3(secret))
# Delete a namespace (DANGEROUS: deletes all data in this ns)
curl localhost:7001/api/delete_namespace -d '{"key":"hello-world"}'
# Rename a namespace
curl localhost:7001/api/rename_namespace \
    -d '{"old_key":"my-old-ns","new_key":"my-new-ns"}'
# List all namespaces
curl localhost:7001/api/list_namespace
# List namespaces by prefix
curl localhost:7001/api/list_namespace?prefix=alice/
```

Version management

```
# Delete old versions in a namespace before a point in time
curl localhost:7001/api/truncate_namespace \
    -d '{"key":"hello-world",
        "before_version":"00000481e4aef869ffff",
        "apply":true}'
# Run garbage collection on a namespace
curl localhost:7001/api/delete_unreferenced_content \
    -d '{"key":"hello-world", "apply":true}'
```

Quick start commands

```
# Run the storage layer
RUST_LOG=info mvstore --data-plane 127.0.0.1:7000 --admin-api 127.0.0.1:7001 --metadata-prefix mvstore --raw-data-prefix m
# Run your application
MVSQlite_DATA_PLANE=http://localhost:7000 RUST_LOG=info LD_PRELOAD=./libmvsqlite_preload.so ./my-app
```