SQL-based Repository

- Repository: managed data storage, an important component of NDN platform

- repo-ng implementation: entire index is in memory; SQLite for data storage
  - Repository capacity is limited to available memory.
  - Long initialization time: read through all Data and rebuild in-memory index.

- This project explores a repository design using SQL database as primary index.
  - SQL database stores Data packets and additional fields to facilitate Selector processing.
  - Interest name and Selectors are converted into SQL query conditions.
  - Each Interest needs at most 2 SQL queries.

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SQL-based Repository

- Reduce repository problem to SQL database optimization problem.
  - Existing database techniques can be applied: mirroring, table partitioning, etc

- You need:
  - C++11, ndn-cxx API
  - knowledge about relational database and SQL syntax
  - NFD and MySQL/PostgreSQL on your computer

- Project demo:
  - large dataset in repository
  - SQL-based repository is faster than repo-ng for insertion, query, and restarting

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