

Biblio-Tech (Books Database)

Fall 2024 - SOEN 363: Data Systems for Software Engineers Phase 1 Submission

Team members

Vinisha Manek (40229456) – Team lead
Ziad Elsharkawi (40213438)
Adam Chami (40248165)
Mohammed Al Assad (40252007)

Data Sources

- Google Books API
- Open Library API

Project Structure

- ddl.sql: Contains all table/view definitions and database schema
- dml.sql: Contains all required query implementations
- fetch.py: Script for fetching data from APIs
- insert.py: Script for inserting data into database
- main.py: Main script for data pipeline
- relationaldiagram.png: Database schema diagram (ERD)
- execute_relational.py: Additional script for performance testing (not a requirement for phase 1 submission)

Database Features Implemented

- IS-A Relationship: Book as superclass with PhysicalBook and EBook as subclasses
- Weak Entity: Ratings table dependent on Book
- Complex Integrity: Trigger to validate book prices
- Views: AdminBookInfo (full access) and PublicBookInfo (limited access)
- Custom Domains: ISBN_TYPE10, ISBN_TYPE13, RATING_TYPE, URL_TYPE
- Custom Types: FORMAT_TYPE, MATURITY_RATING

Note

The execute_relational.py script was created for future performance comparisons with NoSQL implementation and is not part of the core submission requirements.