MAPÚA UNIVERSITY
SCHOOL OF ELECTRICAL, ELECTRONICS, AND COMPUTER ENGINEERING

Experiment 6: NoSQL Database Models

CPE106L (Software Design Laboratory)

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Group No.: 10
Section: E01

PreLab

Readings, Insights, and Reflection

Building Cross-Platform Mobile and Web Apps for Engineers and Scientists: An Active Learning Approach
9781305855892

Chapter 9:

[Paloy]: We delved into data visualization in this chapter and used the SQLite Browser to transform databases into JSON files. MongoDB Compass was then used to import the files. Along the way, we discovered how to use MongoDB's CRUD operations, build collections, and administer the database using the GUI and command line. We also looked at using Python to view and modify database contents.

[Tamson]: In this chapter, I learned about MongoDB and the basics of NoSQL database modeling. I found out that MongoDB is a popular NoSQL database that stores data in flexible, JSON-like documents. I also explored how NoSQL databases are designed without a fixed schema, making them better suited for handling dynamic data and providing more scalability and flexibility compared to traditional relational databases.

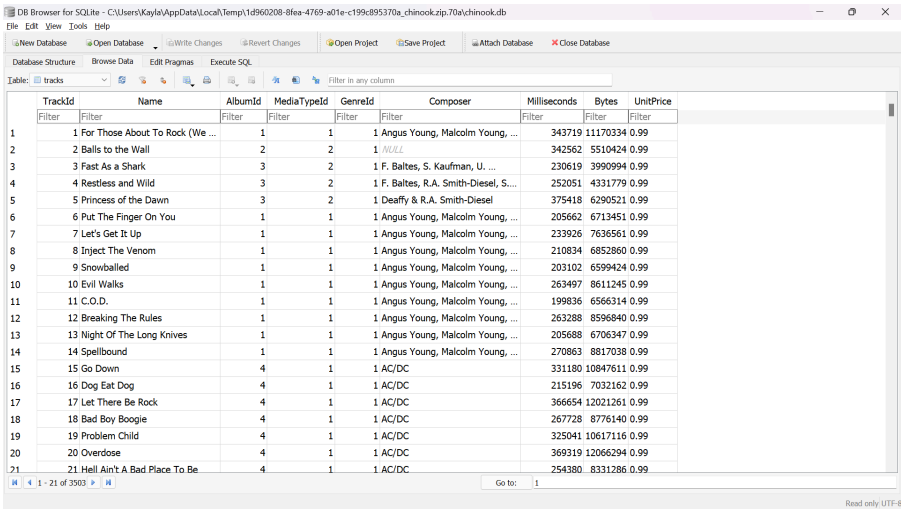
[Zalameda]: *I gained knowledge of MongoDB and the fundamentals of NoSQL database modeling in this chapter. I learned that MongoDB is a well-known document-oriented NoSQL database that keeps data in adaptable documents with a structure akin to JSON. I also learned more about modeling a NoSQL database, which is creating schema-free structures that can handle changing and dynamic data requirements and offer more scalability and flexibility than conventional relational databases.*

PostLab

Programming Problems

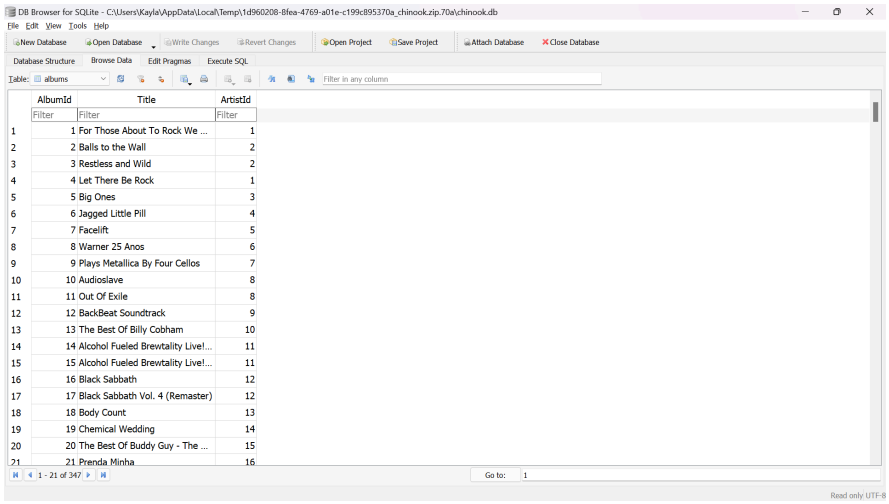
Using the ERD shown here >> Chinook DB ERD , create the artists-albums-tracks database in MongoDB compass.

The chinook.db is downloaded and viewed in DB Browser to export the albums, artists, and tracks as .JSON files.



	TrackId	Name	AlbumId	MediaTypeId	GenreId	Composer	Milliseconds	Bytes	UnitPrice
1	1	For Those About To Rock (We ...	1	1	1	Angus Young, Malcolm Young, ...	343719	11170334	0.99
2	2	Balls to the Wall	2	2	1	NULL	342562	5510424	0.99
3	3	Fast As a Shark	3	2	1	F. Baltes, S. Kaufman, U. ...	230619	3990994	0.99
4	4	Restless and Wild	3	2	1	F. Baltes, R.A. Smith-Diesel, S....	252051	4331779	0.99
5	5	Princess of the Dawn	3	2	1	Deaffy & R.A. Smith-Diesel	375418	6290521	0.99
6	6	Put The Finger On You	1	1	1	Angus Young, Malcolm Young, ...	205662	6713451	0.99
7	7	Let's Get It Up	1	1	1	Angus Young, Malcolm Young, ...	233926	7636561	0.99
8	8	Inject The Venom	1	1	1	Angus Young, Malcolm Young, ...	210834	6852860	0.99
9	9	Snowballed	1	1	1	Angus Young, Malcolm Young, ...	203102	6599424	0.99
10	10	Evil Walks	1	1	1	Angus Young, Malcolm Young, ...	263497	8611245	0.99
11	11	C.O.D.	1	1	1	Angus Young, Malcolm Young, ...	199836	6566314	0.99
12	12	Breaking The Rules	1	1	1	Angus Young, Malcolm Young, ...	263288	8596840	0.99
13	13	Night Of The Long Knives	1	1	1	Angus Young, Malcolm Young, ...	205688	6706347	0.99
14	14	Spellbound	1	1	1	Angus Young, Malcolm Young, ...	270863	8817038	0.99
15	15	Go Down	4	1	1	AC/DC	331180	10847611	0.99
16	16	Dog Eat Dog	4	1	1	AC/DC	215196	7032162	0.99
17	17	Let There Be Rock	4	1	1	AC/DC	366654	12021261	0.99
18	18	Bad Boy Boogie	4	1	1	AC/DC	267728	8776140	0.99
19	19	Problem Child	4	1	1	AC/DC	325041	10617116	0.99
20	20	Overdose	4	1	1	AC/DC	369319	12066294	0.99
21	21	Hell Ain't A Bad Place To Be	4	1	1	AC/DC	254380	8331286	0.99

Figure P.1. *Viewing the tracks table in DB Browser*



	AlbumId	Title	ArtistId
1	1	For Those About To Rock We ...	1
2	2	Balls to the Wall	2
3	3	Restless and Wild	2
4	4	Let There Be Rock	1
5	5	Big Ones	3
6	6	Jagged Little Pill	4
7	7	Facelift	5
8	8	Warner 25 Anos	6
9	9	Plays Metallica By Four Cellos	7
10	10	Audioslave	8
11	11	Out Of Exile	8
12	12	BackBeat Soundtrack	9
13	13	The Best Of Billy Cobham	10
14	14	Alcohol Fueled Brewtality Live!...	11
15	15	Alcohol Fueled Brewtality Live!...	11
16	16	Black Sabbath	12
17	17	Black Sabbath Vol. 4 (Remaster)	12
18	18	Body Count	13
19	19	Chemical Wedding	14
20	20	The Best Of Buddy Guy - The ...	15
21	21	Prenda Minha	16

Figure P.2. *Viewing the albums table in DB Browser*

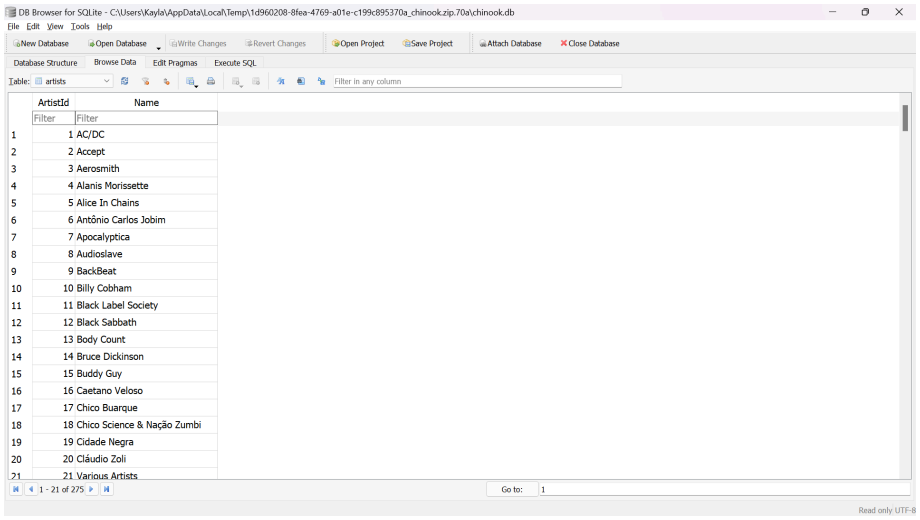


Figure P.3. *Viewing the artists table in DB Browser*

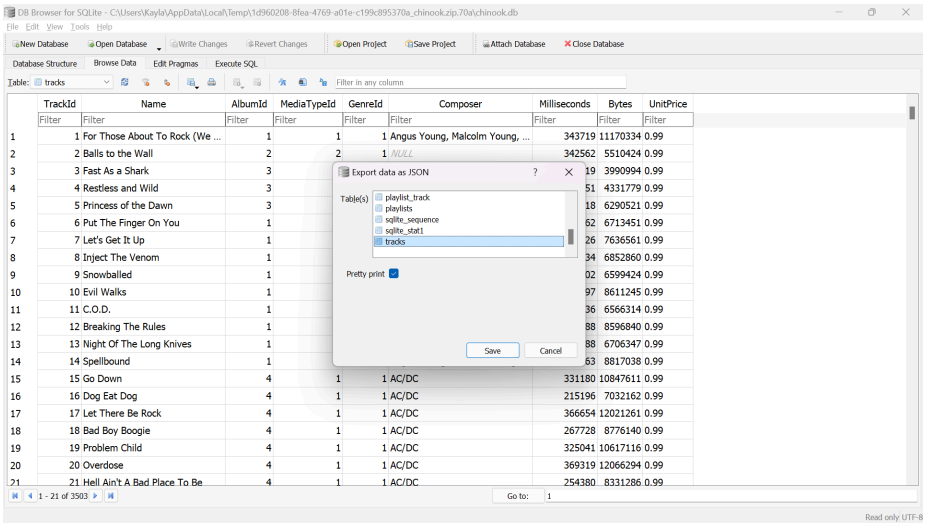


Figure P.4. *Exporting tracks table as JSON file*

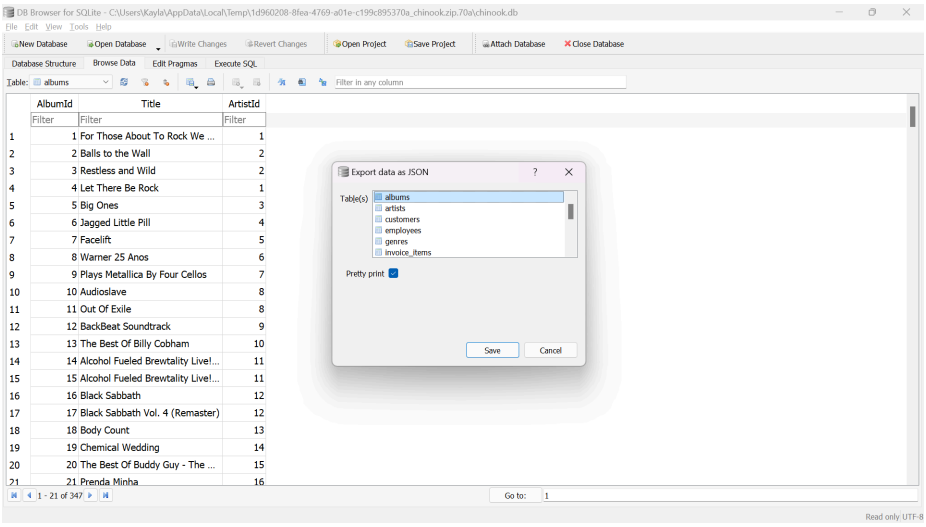


***Figure P.4**. Exporting albums table as JSON file*

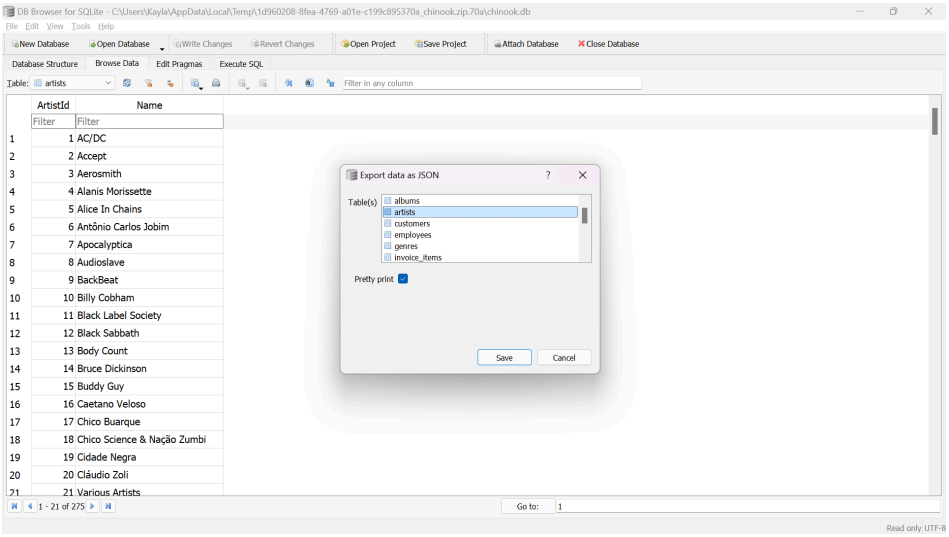


***Figure P.4**. Exporting artists table as JSON file*

The files are then imported to the MongoDB Compass.

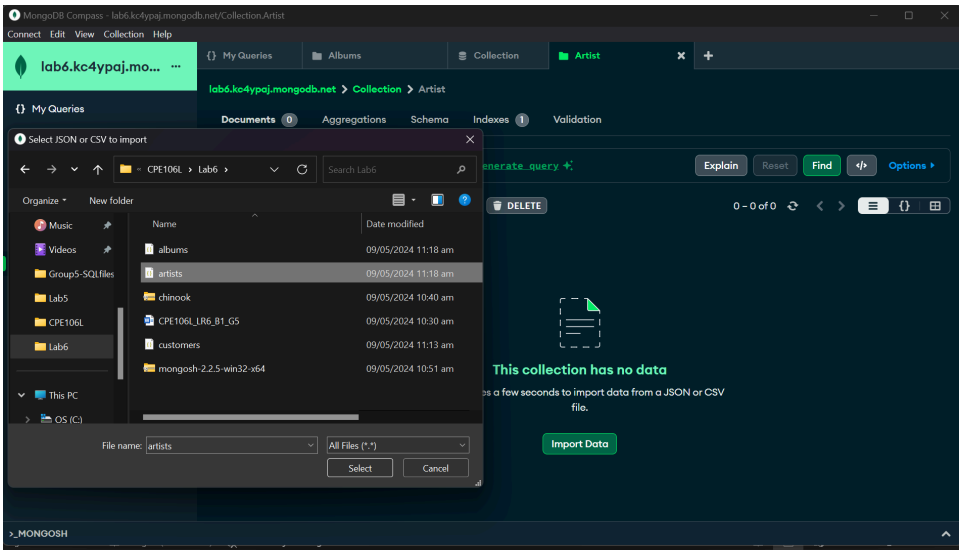


***Figure P.5**. Importing artists table in MongoDB Compass*

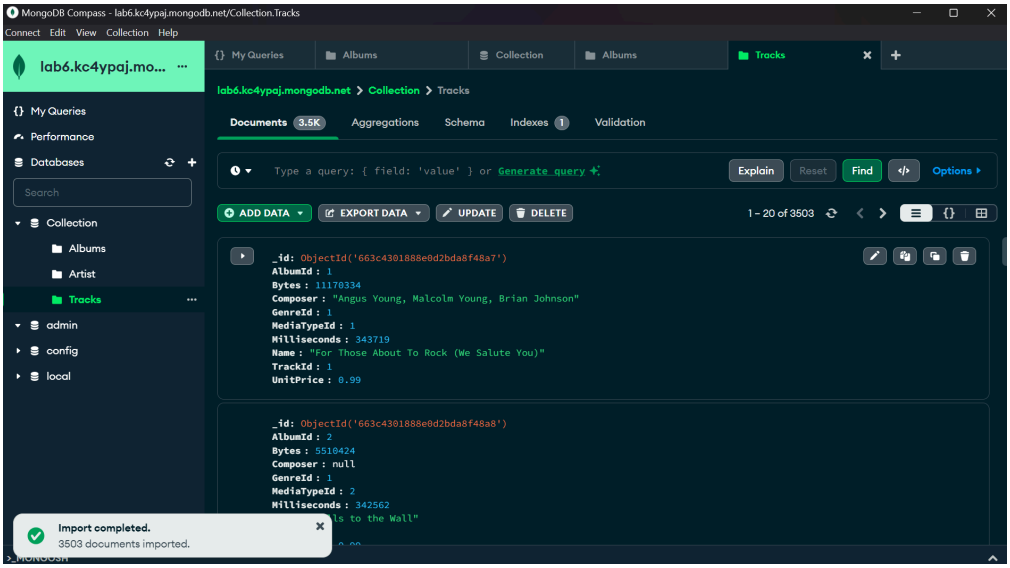


Figure P.6. *Successfully imported tracks table in MongoDB Compass*

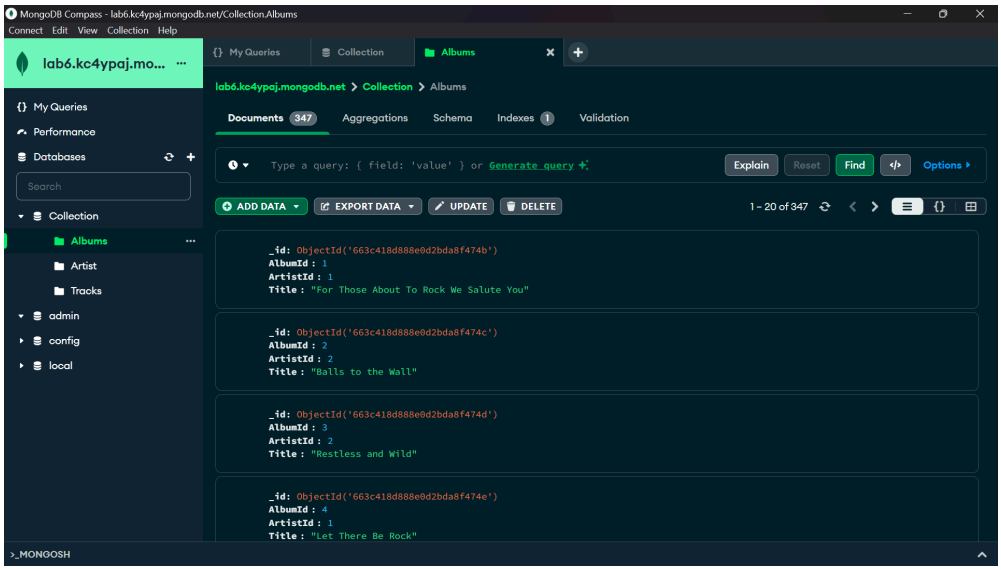


Figure P.6. *Successfully imported albums table in MongoDB Compass*

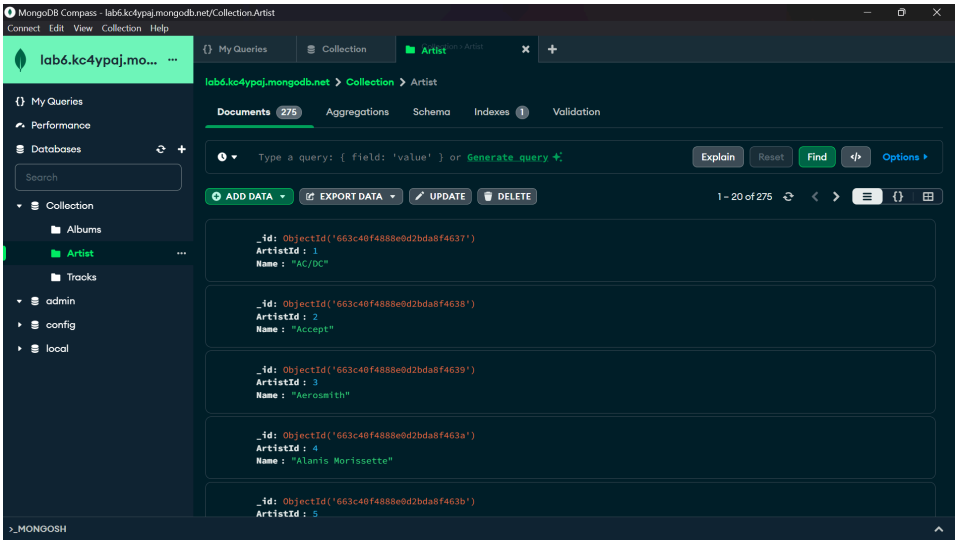


Figure P.6. *Successfully imported artists table in MongoDB Compass*

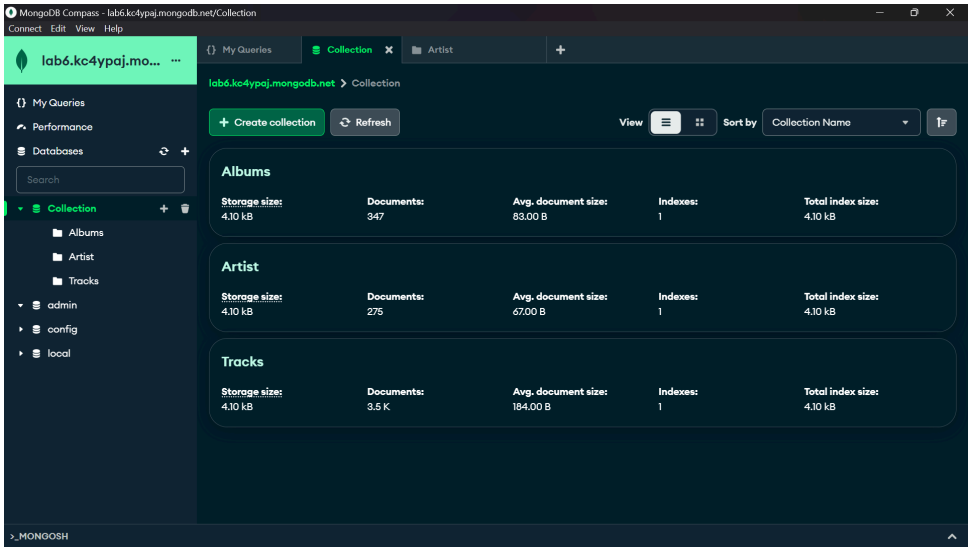


Figure P.6. *Successfully imported tables and the full collection in MongoDB Compass*