

Data Modeling & Power BI

- Chinook Database

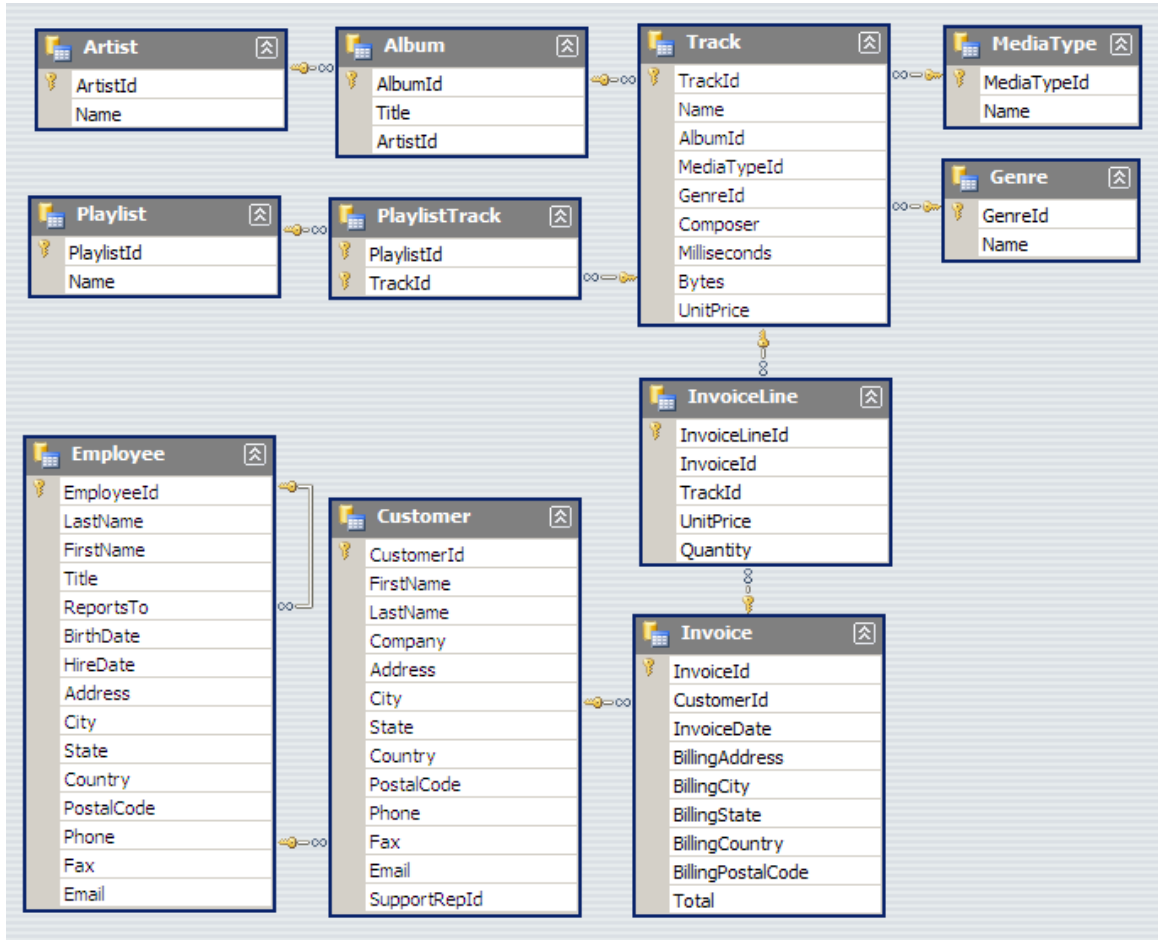
- MySQL
- SQL Server
- PostgreSQL
- Oracle

- Tools

- ER/Studio
- Navicat



Chinook Database



Chinook data model represents a digital media store, including tables for artists, albums, media tracks, invoices and customers.

Chinook data model is an Entity-Relationship (ER) Model.

TableName	Table Rows
Album	347
Artist	275
Customer	59
Employee	8
Genre	25
Invoice	412
InvoiceLine	2,240
Media Type	5
Playlist	18
PlaylistTrack	8,715
Track	3,503

Chinook Database: Tables

- **Employee** table stores employee data such as employee id, last name, first name, etc. It also has a field named ReportsTo to specify who reports to whom.
- **Customer** table stores customers data.
- **Invoice & InvoiceLine** tables: these two tables store invoice data. The invoices table stores invoice header data and the invoice_items table stores the invoice line items data.
- **Artist** table stores artists data. It is a simple table that contains only the artist id and name.
- **Album** table stores data about a list of tracks. Each album belongs to one artist. However, one artist may have multiple albums.
- **MediaType** table stores media types such as MPEG audio and AAC audio files.
- **Genre** table stores **music types** such as rock, jazz, metal, etc.
- **Track** table stores the data of **songs**. Each track belongs to one album.
- **Playlist & Playlist Track** tables: playlists table store data about playlists. Each playlist contains a list of tracks. Each track may belong to multiple playlists. The relationship between the playlists table and tracks table is many-to-many. The PlaylistTrack table is used to reflect this relationship.

Chinook Database Github

View Link for NU students:
[damg7370_2023_01_spring](#)

The screenshot shows the Github repository for 'lerocha / chinook-database'. The repository is public and has 134 commits, 1.2k stars, 49 watchers, and 417 forks. The repository description is 'Sample database for SQL Server, Oracle, MySQL, PostgreSQL, SQLite, DB2'. The repository contains files such as .nuget, ChinookDatabase.Test, ChinookDatabase, NuGet, packages, .gitignore, ChinookDatabase.sln, LICENSE.md, and README.md. The README.md file is open, showing the Chinook Database description, supported database servers (MySQL, SQL Server, SQL Server Compact, SQLite, PostgreSQL, Oracle, DB2), data model, and sample data.

Chinook Database

Chinook is a sample database available for SQL Server, Oracle, MySQL, etc. It can be created by running a single SQL script. Chinook database is an alternative to the Northwind database, being ideal for demos and testing ORM tools targeting single and multiple database servers.

Supported Database Servers

- MySQL
- SQL Server
- SQL Server Compact
- SQLite
- PostgreSQL
- Oracle
- DB2

Data Model

The Chinook data model represents a digital media store, including tables for artists, albums, media tracks, invoices and customers.

Sample Data

Media related data was created using real data from an iTunes Library. It is possible for you to use your own iTunes

The screenshot shows the OneDrive interface for the file 'damg7370_2023_01_spring > Data - Chinook'. The table lists the files in the folder, including their names, modified dates, modified by, file sizes, and sharing status.

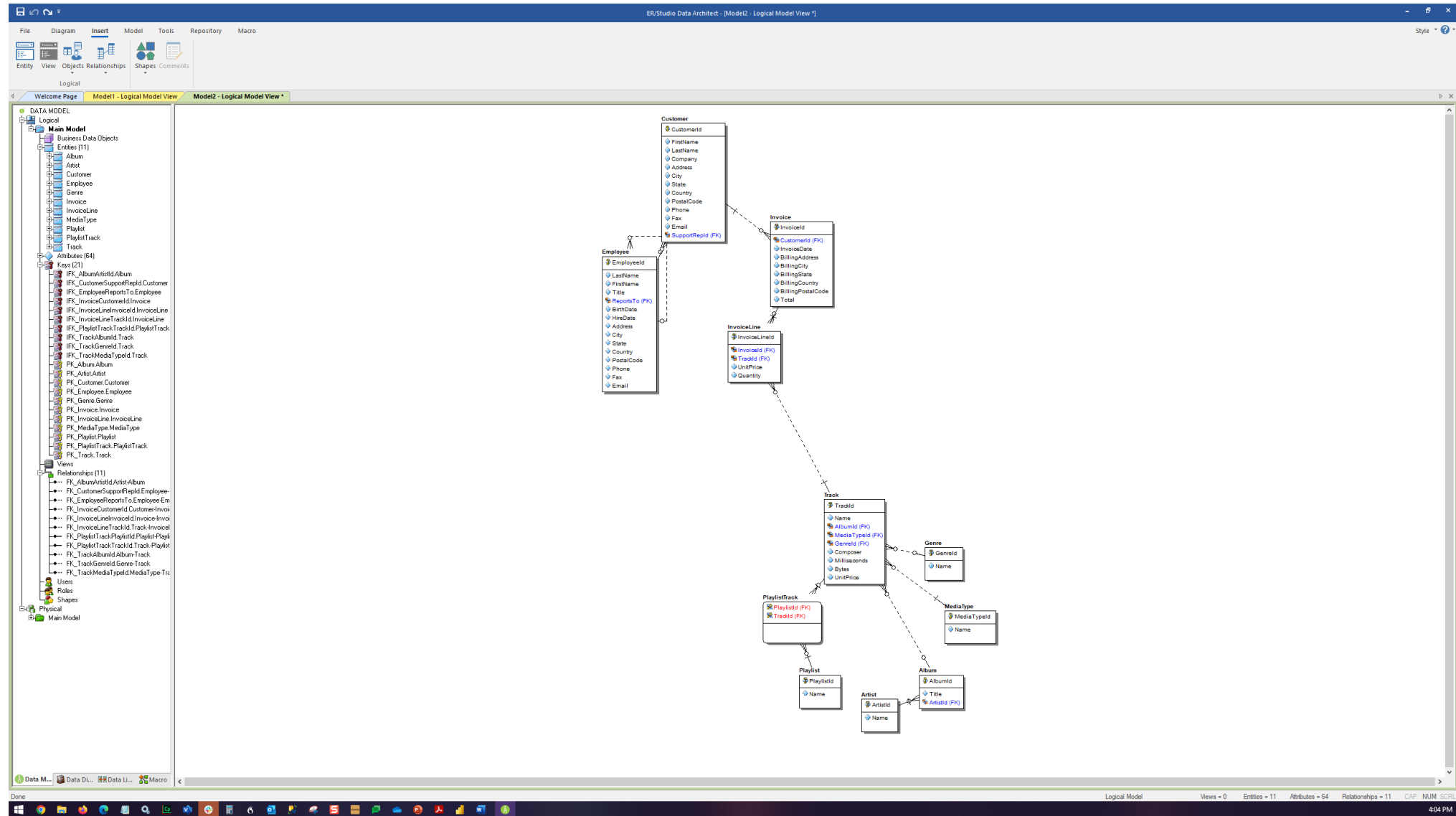
Name	Modified	Modified By	File size	Sharing
archive Azure_Chinook_MySql_AutoIncrementPKs.sql	January 8	Sherman, Richard	1.52 MB	Shared
Azure_Chinook_AzureSQL_AutoIncrementPKs.sql	January 8	Sherman, Richard	3.28 MB	Shared
Azure_Chinook_MySql_AutoIncrementPKs.sql	January 8	Sherman, Richard	1.52 MB	Shared
Azure_Chinook_PostgreSql.sql	January 8	Sherman, Richard	1.78 MB	Shared
Chinook_MySql_AutoIncrementPKs.sql	January 8	Sherman, Richard	1.66 MB	Shared
Chinook_Orade WITH DB ALREADY CREATED.sql	January 8	Sherman, Richard	1.64 MB	Shared
Chinook_Orade.sql	January 8	Sherman, Richard	1.64 MB	Shared
Chinook_PostgreSql.sql	January 8	Sherman, Richard	1.78 MB	Shared
Chinook_SqlServer_AutoIncrementPKs.sql	January 8	Sherman, Richard	3.50 MB	Shared
Chinook_SqlServer_to_chinook_schema.sql	January 8	Sherman, Richard	3.86 MB	Shared

Chinook

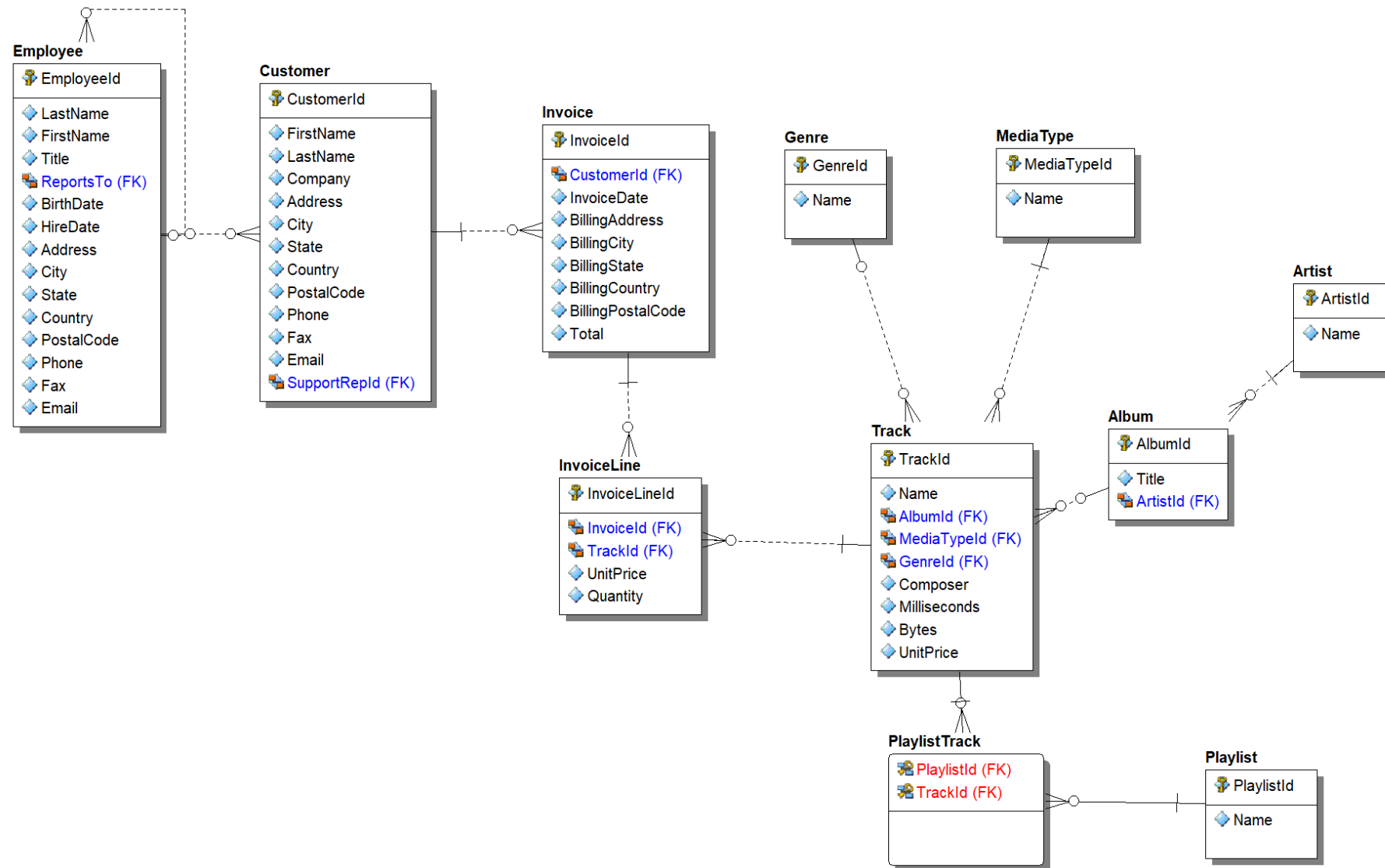
Workshop Data Models (ER/Studio)



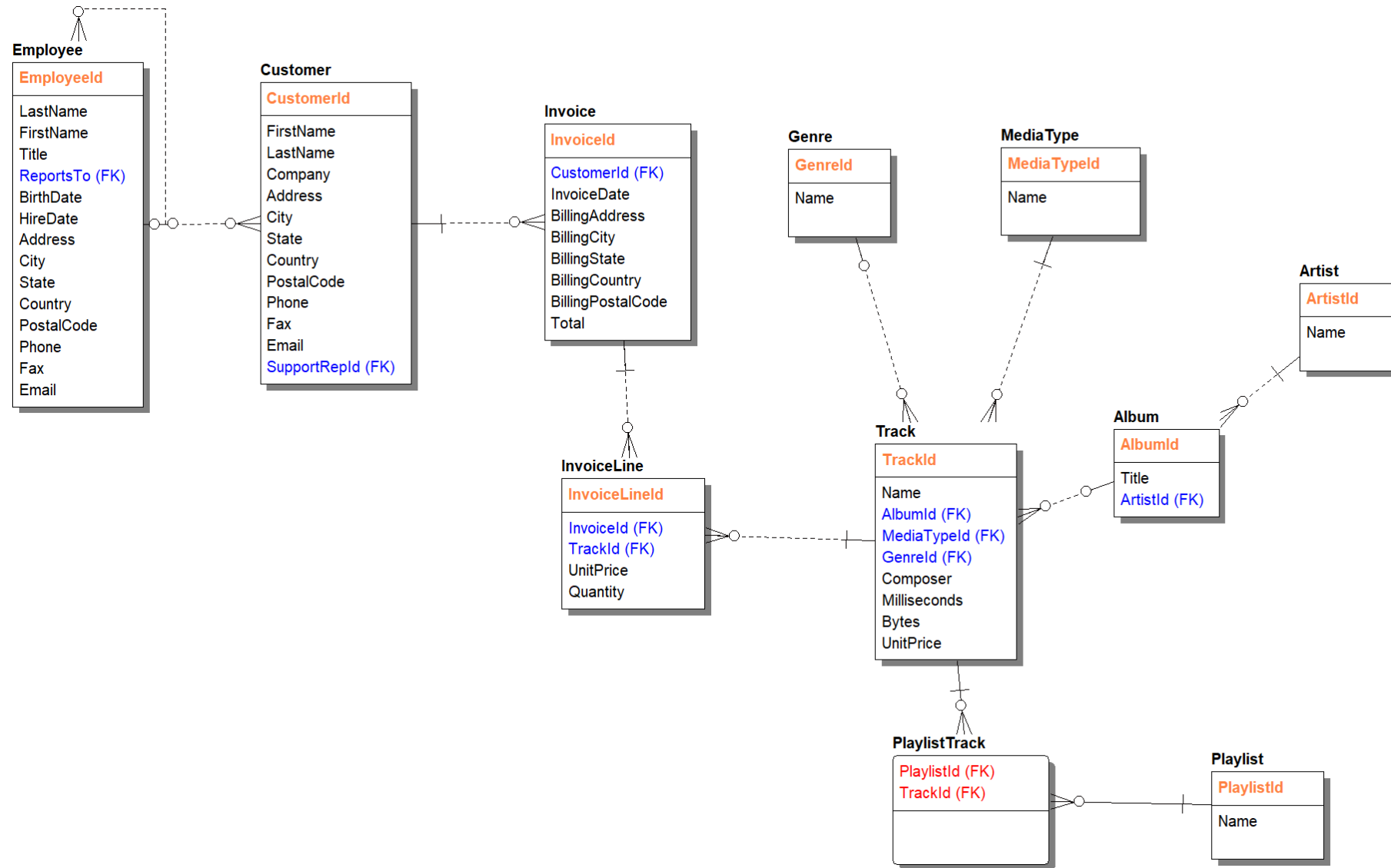
ER/Studio: Reverse Engineer



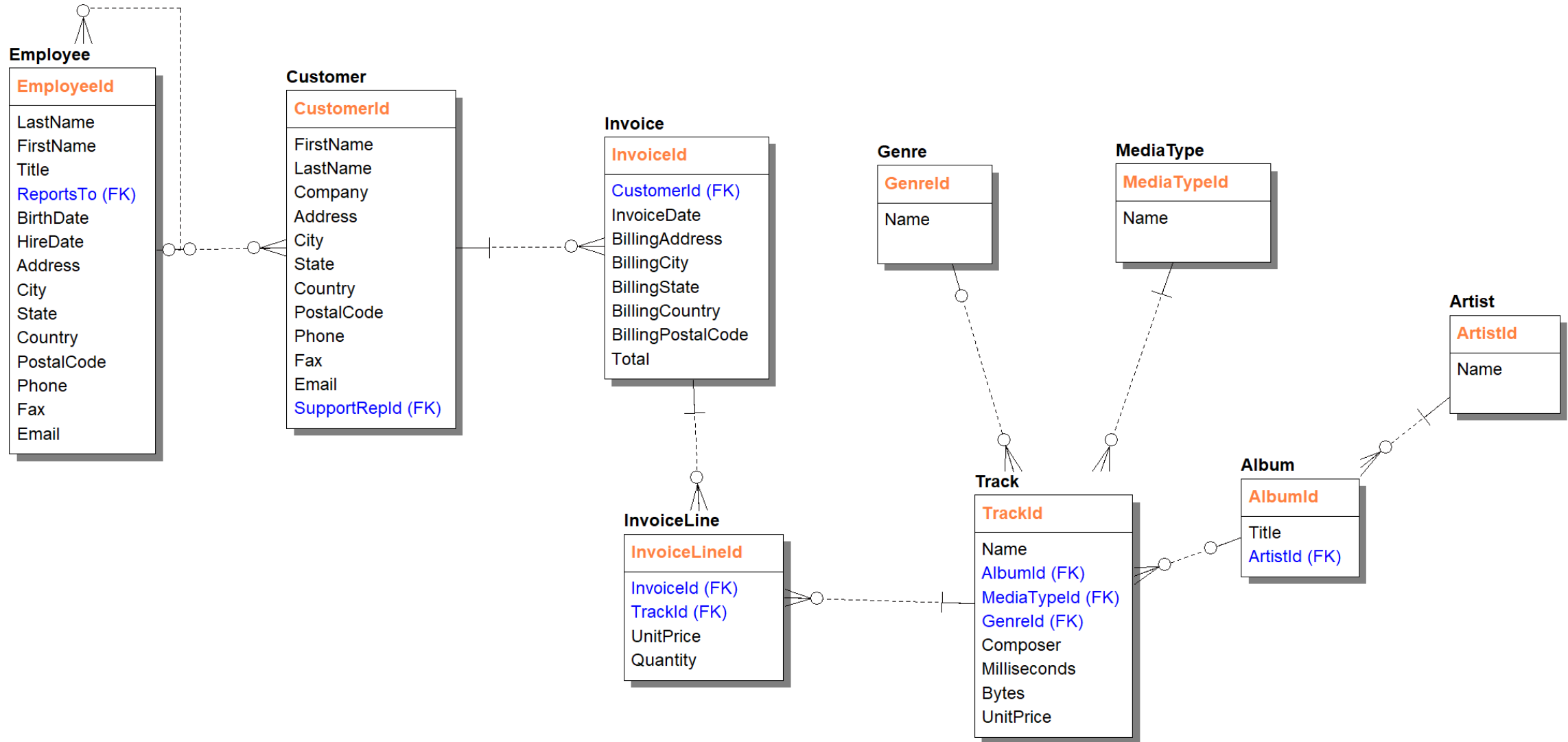
ER/Studio: Arrange Entities



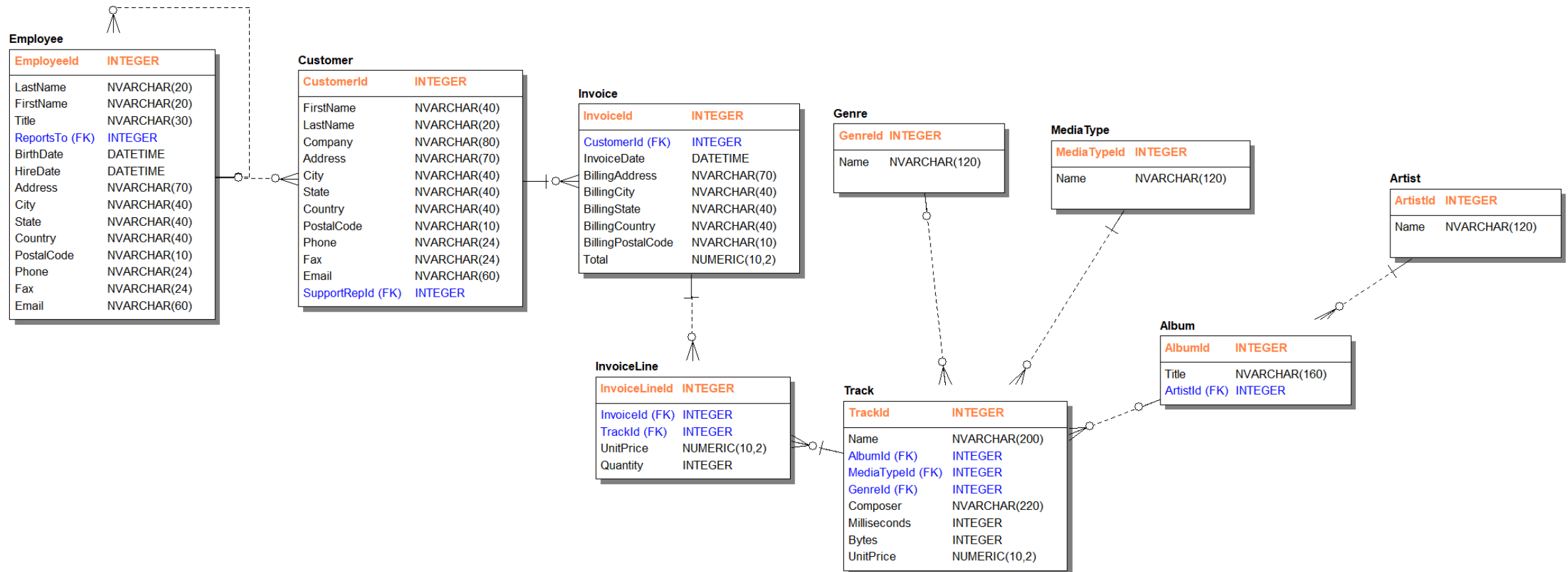
ER/Studio: Reverse Engineer



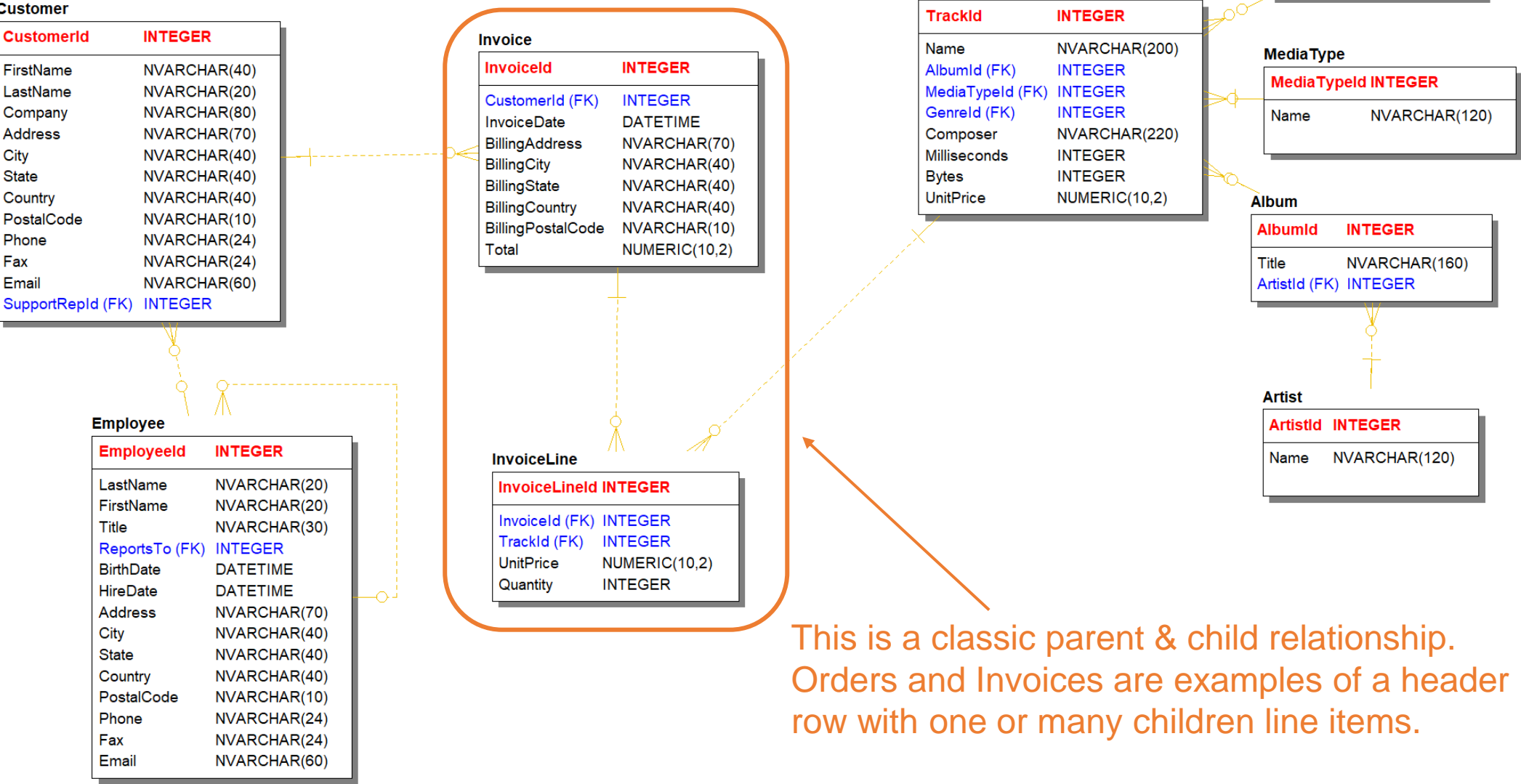
ER/Studio: Submodel



ER/Studio: Submodel

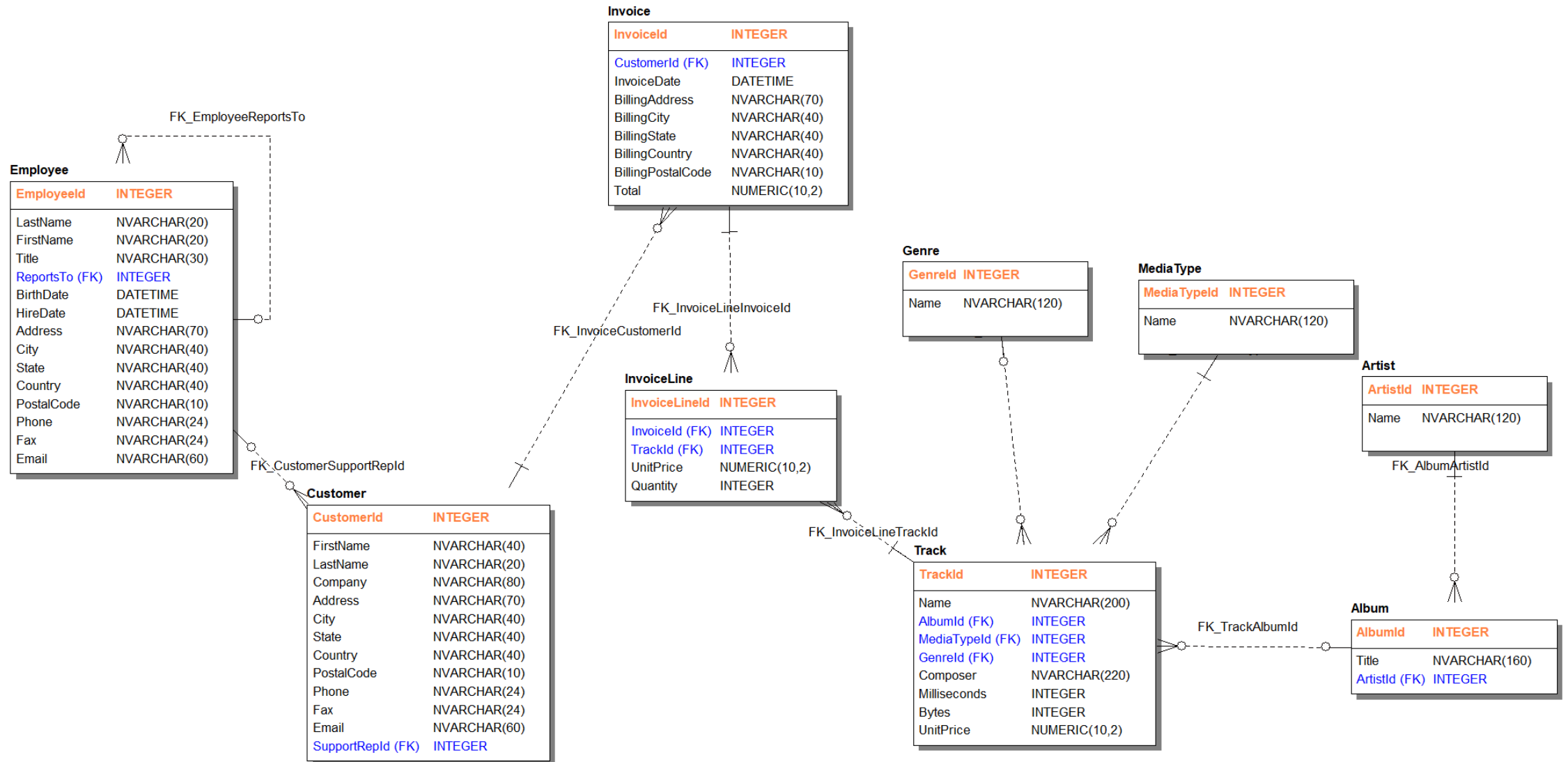


Chinook Database

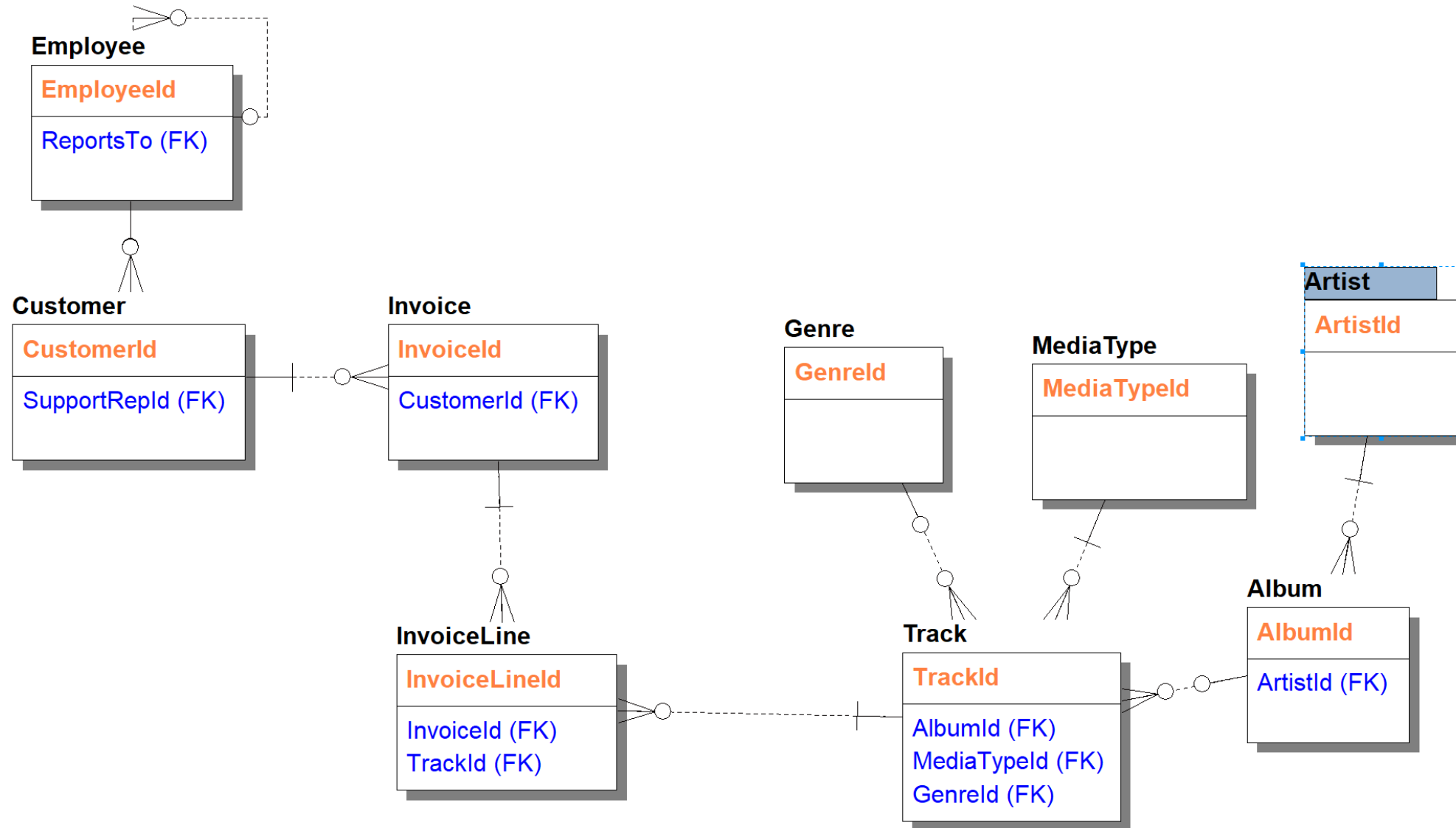


Submodel
Demo

ER/Studio: Submodel



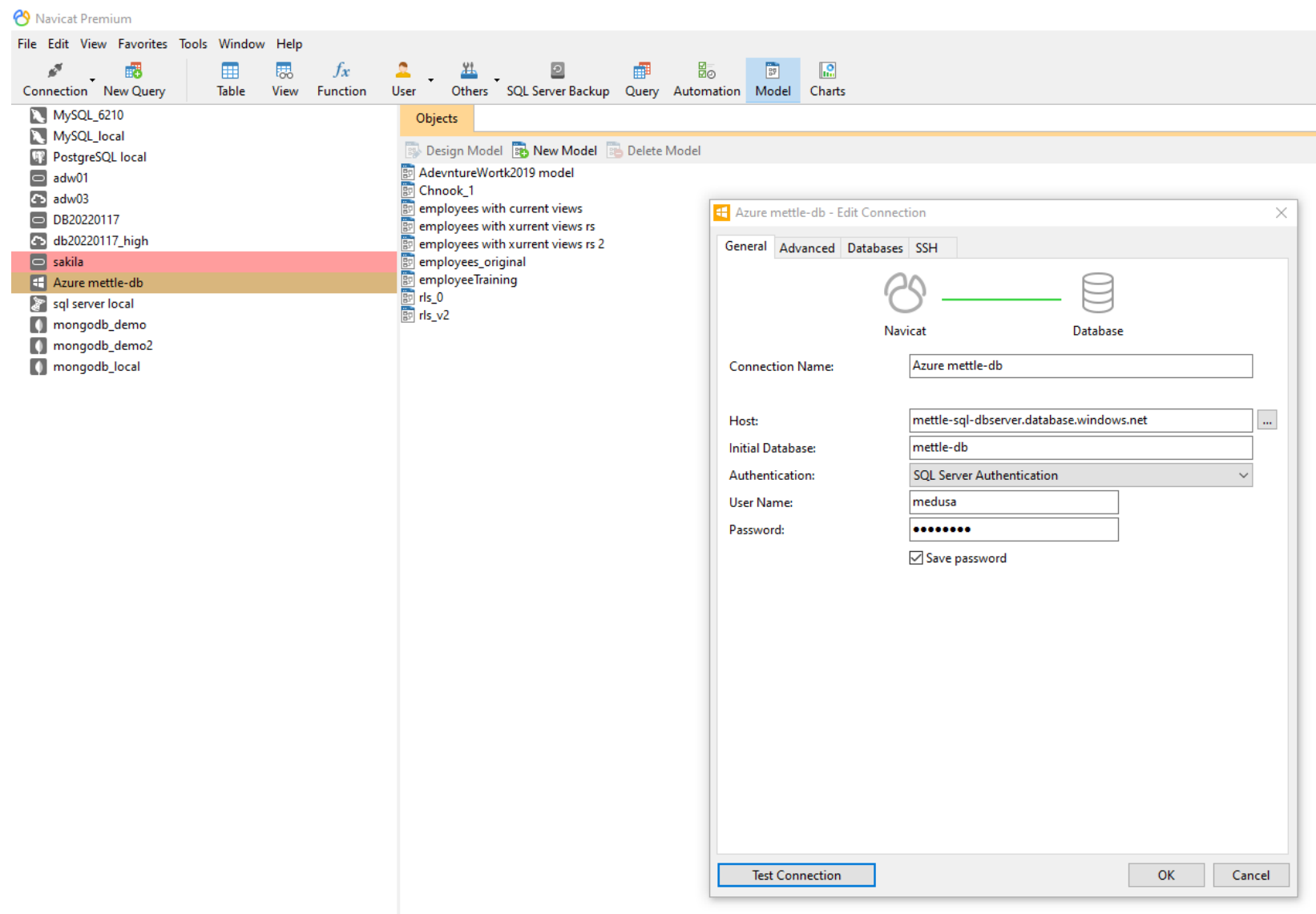
ER/Studio: Submodel



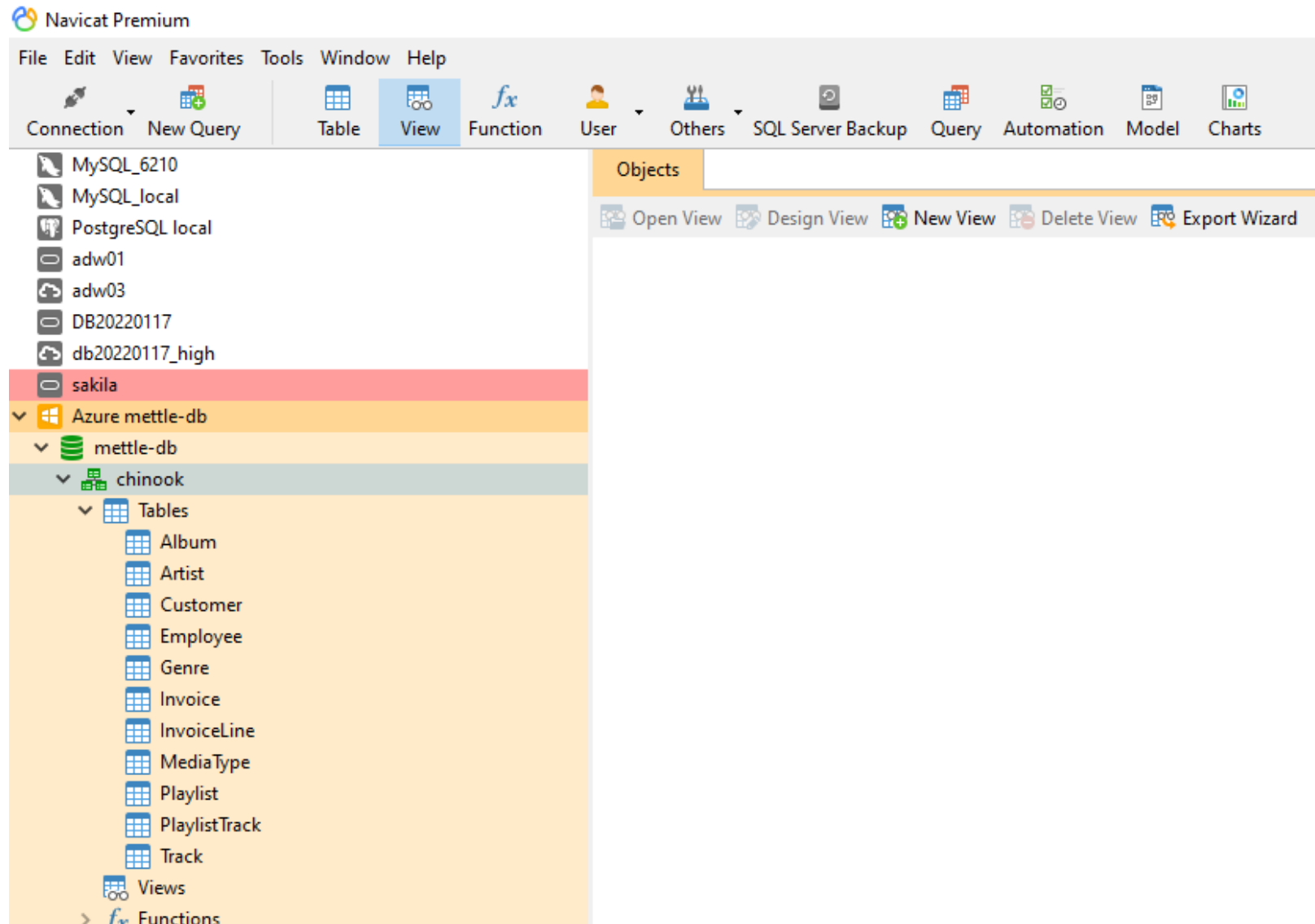
Chinook

Workshop Data Models (Navicat)

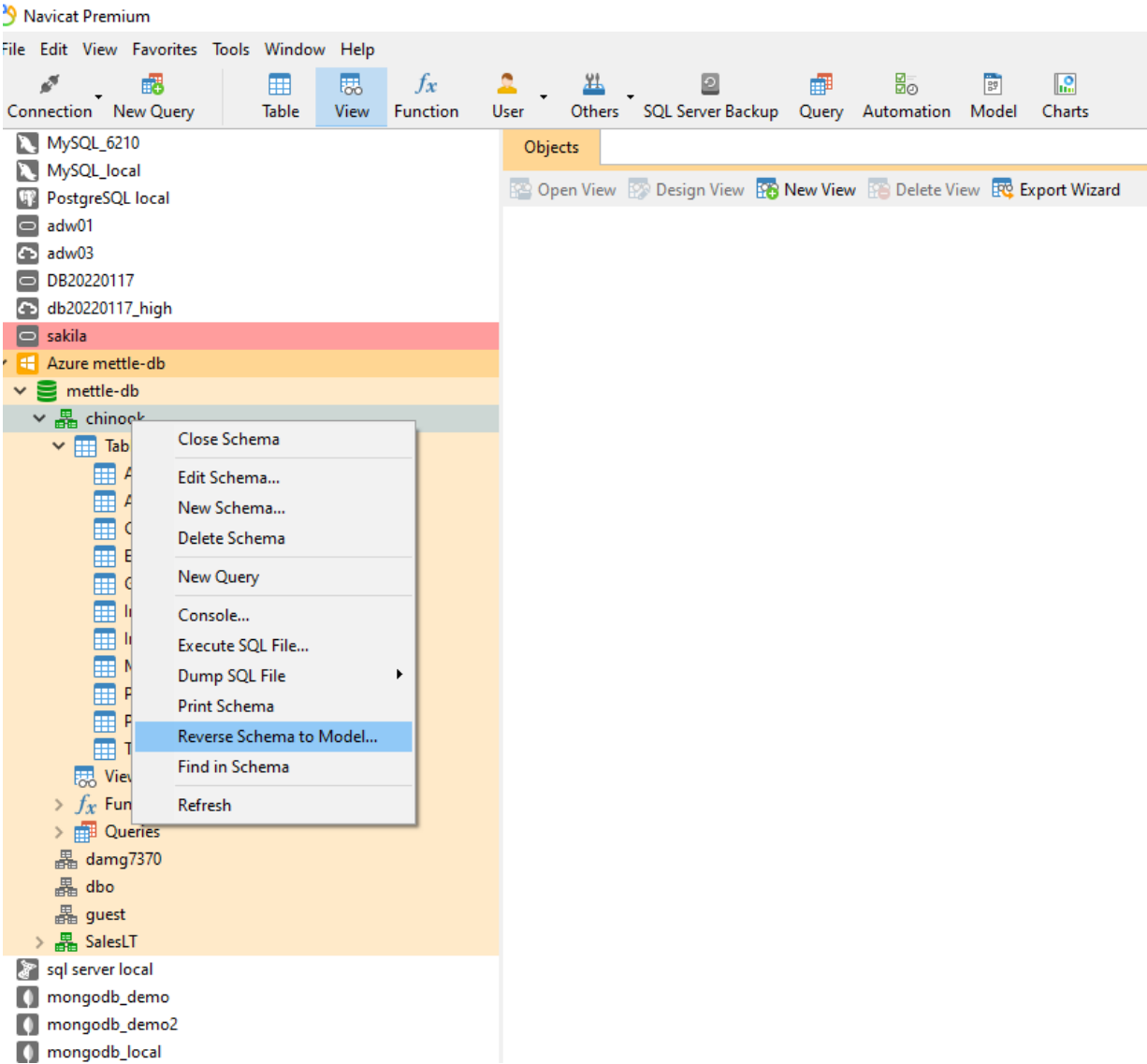
Navicat: Connection Azure SQL



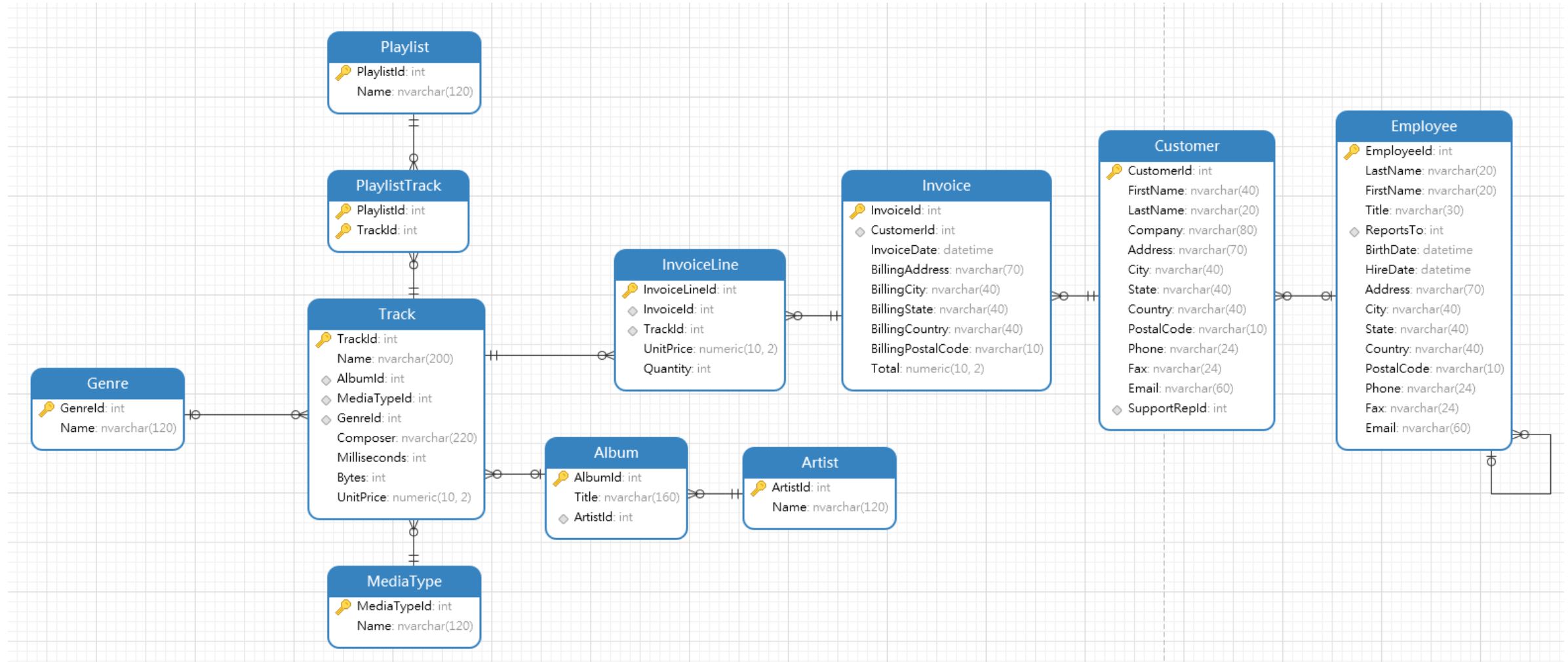
Navicat: Azure SQL Chinook Schema



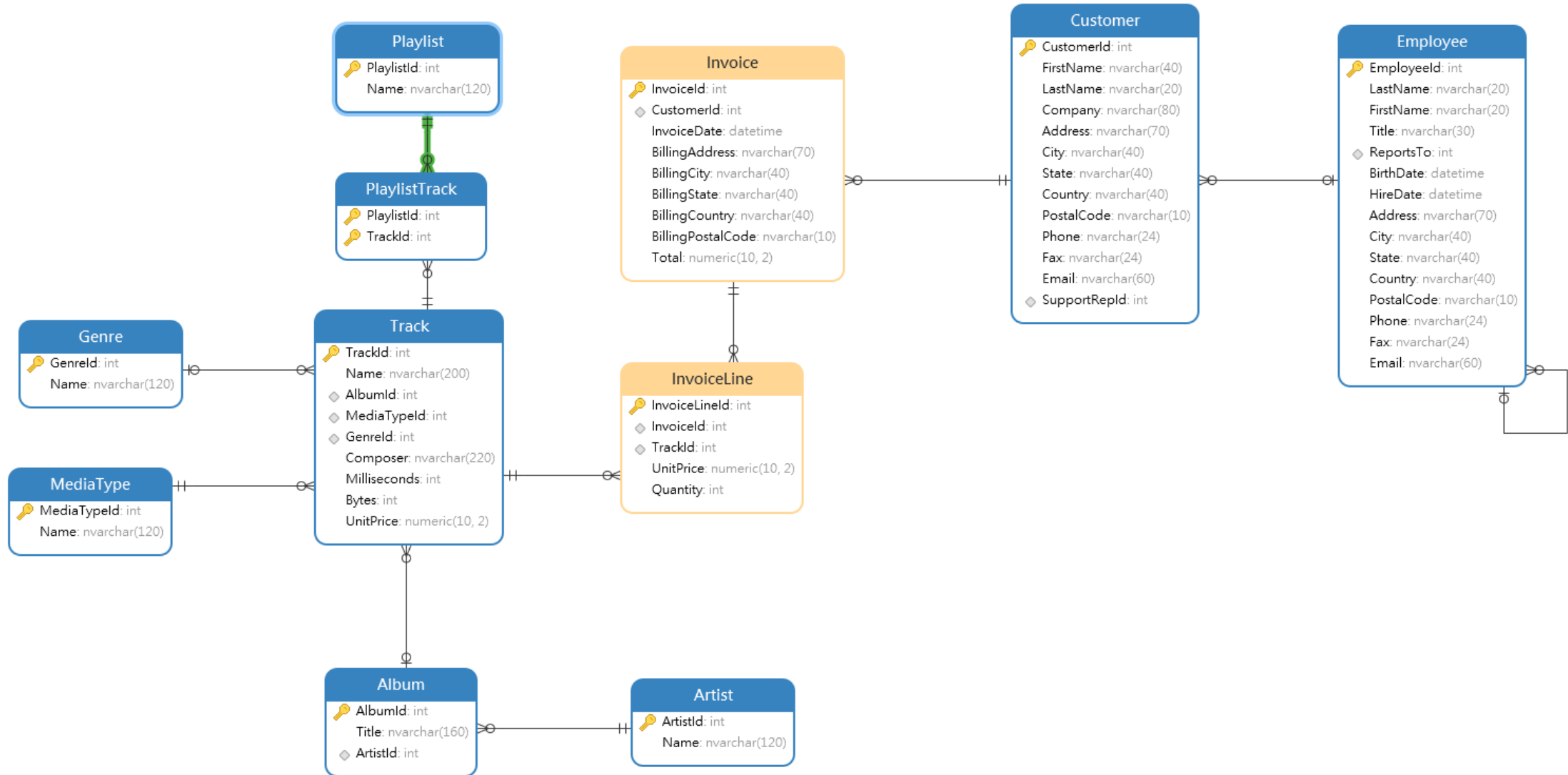
Navicat: Reverse Engineer Chinook Schema



Navicat



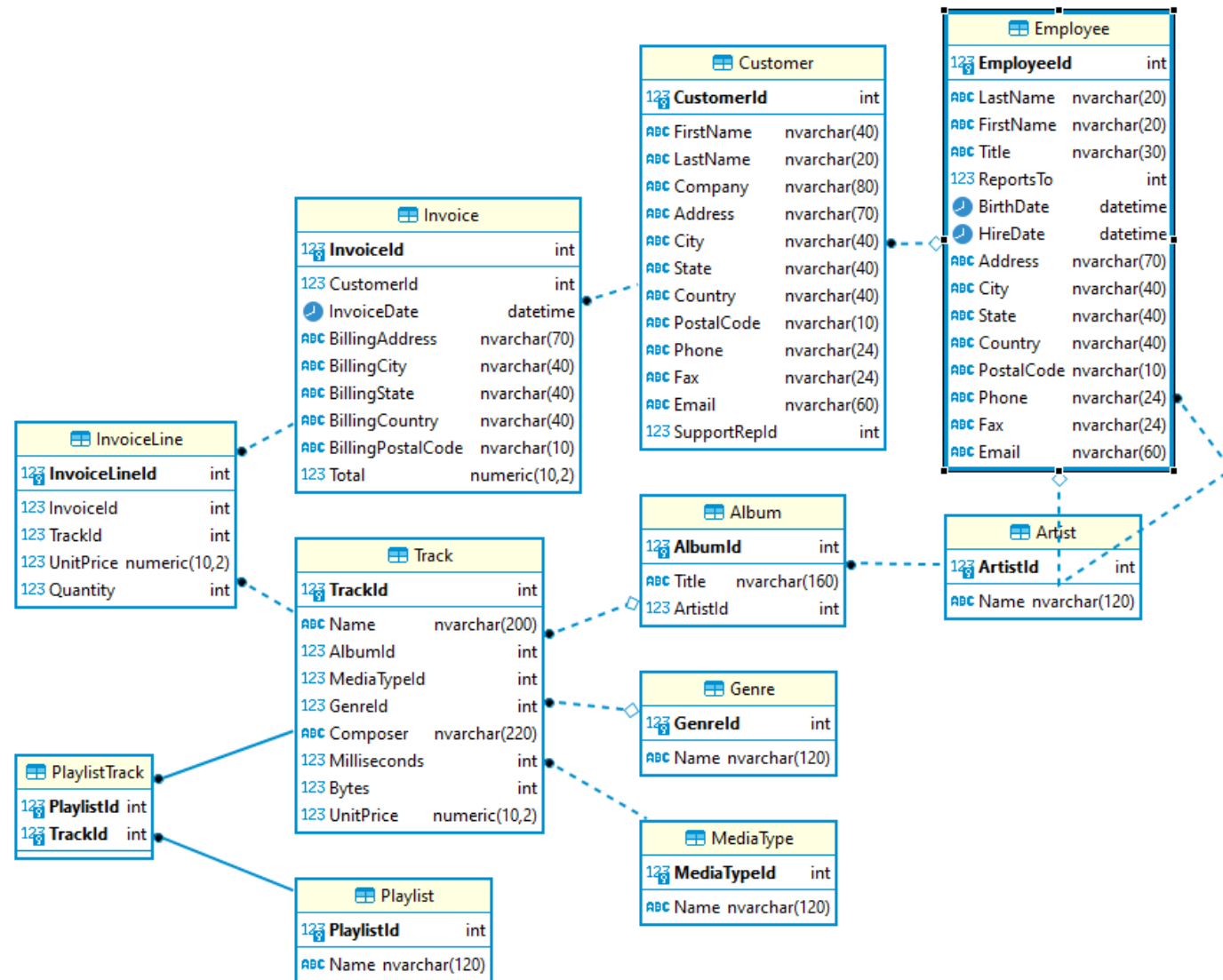
Chinook Database



Chinook

Workshop Data Models (DBeaver)

DBeaver



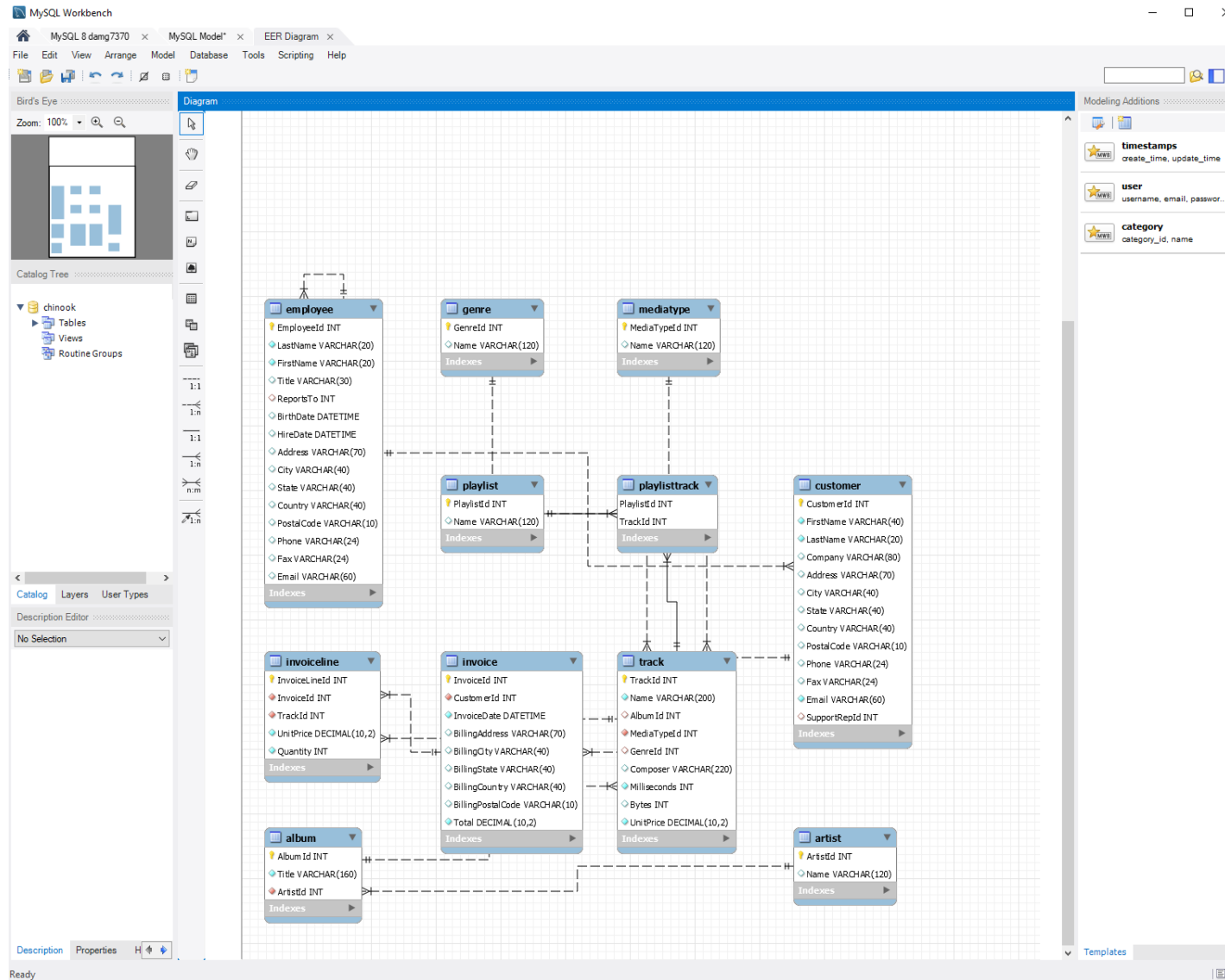
DBeaver

<div>PropertiesER Diagram</div>						
Schema Name: <input type="text" value="dbo"/>						
Catalog: chinook						
Schema ID: <input type="text" value="1"/>						
<div>TablesViewsIndexesProceduresSequencesSynonymsTable TriggersData Types</div>	Table Name	Table Type	Catalog	Schema	Row Count	Description
	Album	TABLE	chinook	dbo	347	
	Artist	TABLE	chinook	dbo	275	
	Customer	TABLE	chinook	dbo	59	
	Employee	TABLE	chinook	dbo	8	
	Genre	TABLE	chinook	dbo	25	
	Invoice	TABLE	chinook	dbo	412	
	InvoiceLine	TABLE	chinook	dbo	2,240	
	MediaType	TABLE	chinook	dbo	5	
	Playlist	TABLE	chinook	dbo	18	
	PlaylistTrack	TABLE	chinook	dbo	8,715	
	Track	TABLE	chinook	dbo	3,503	

Chinook

Workshop Data Models (MYSQL Workbench)

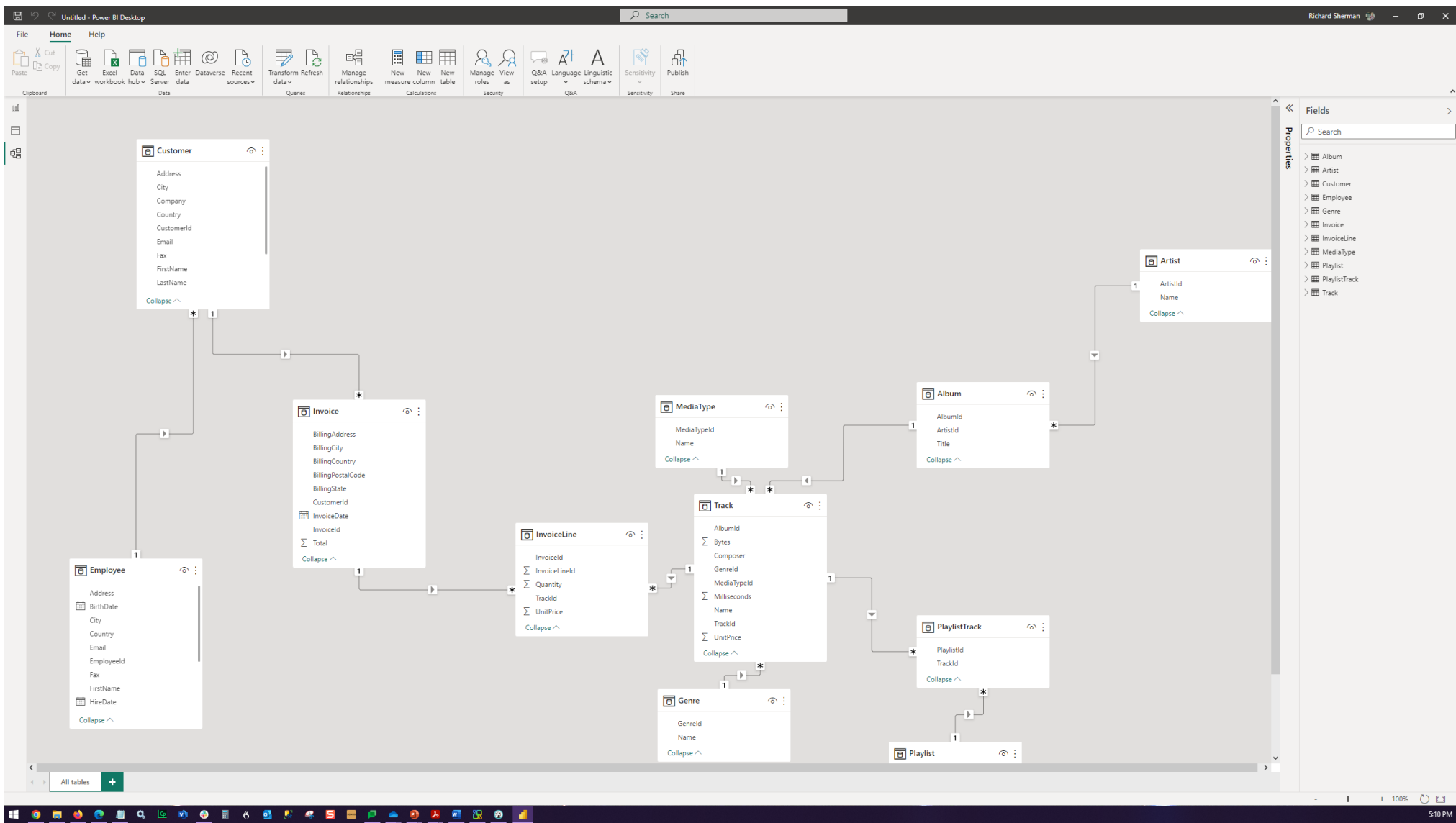
MySQL Workbench



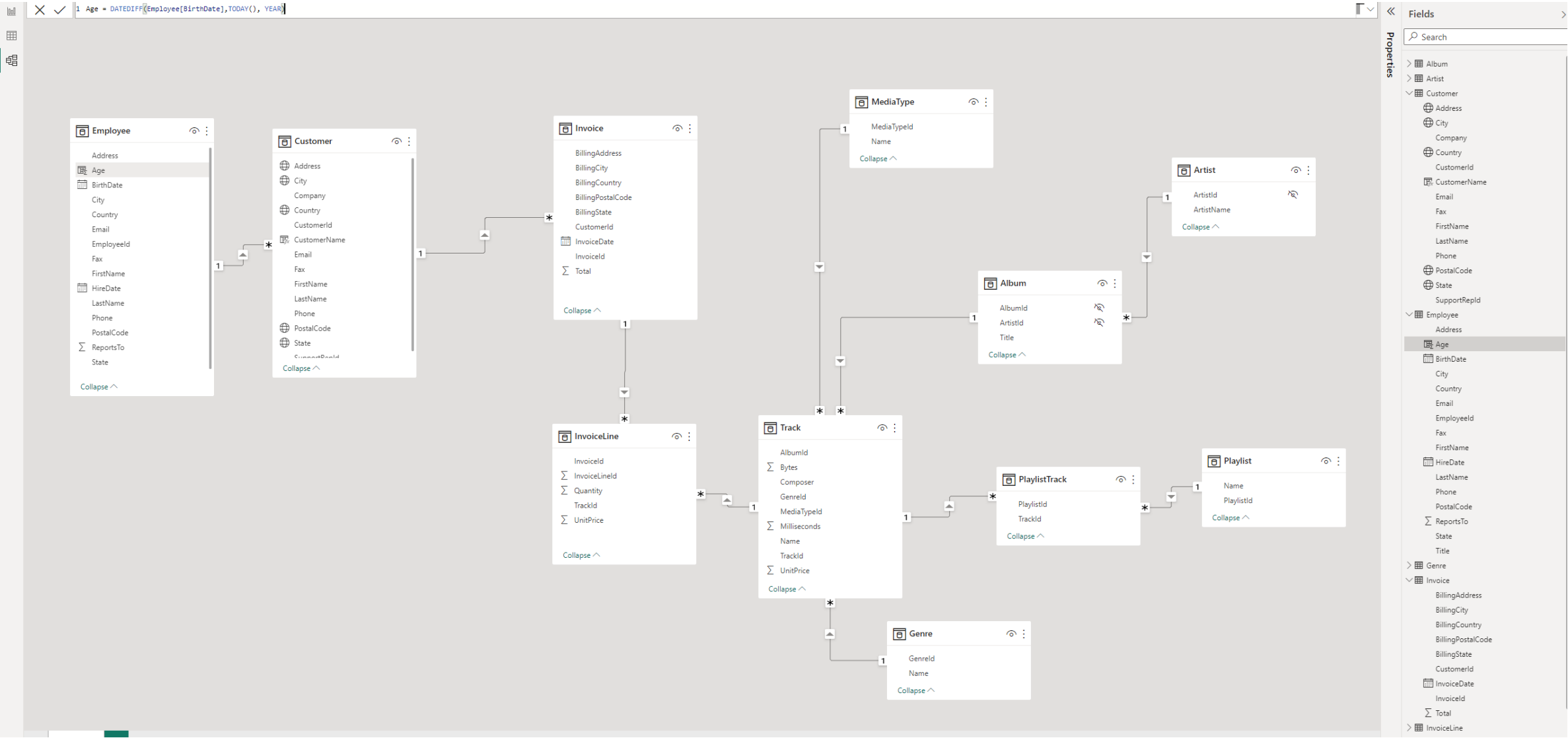
Chinook

Workshop Data Models (Power BI)

Power BI



Power BI



Assignment Microsoft Power BI

- A. Answer SQL Queries (vary databases – Azure SQL, MySQL, PostgreSQL)
- B. Create Data Visualizations in Microsoft Power BI (you choose database):
- C. Questions:
 - 1. Total sales
 - 2. Total sales by country – ranked
 - 3. Total sales by country, state & city
 - 4. Total sales by customer – ranked
 - 5. Total sales by artist – ranked
 - 6. Total sales by albums
 - 7. Total sales by salesperson (employee)
 - 8. Total tracks bought and total revenue by media type
 - 9. Total Sales by Customer
 - 10. Total Sales by Genre