CDI

MultiLease Management System – Part 2

Database Design

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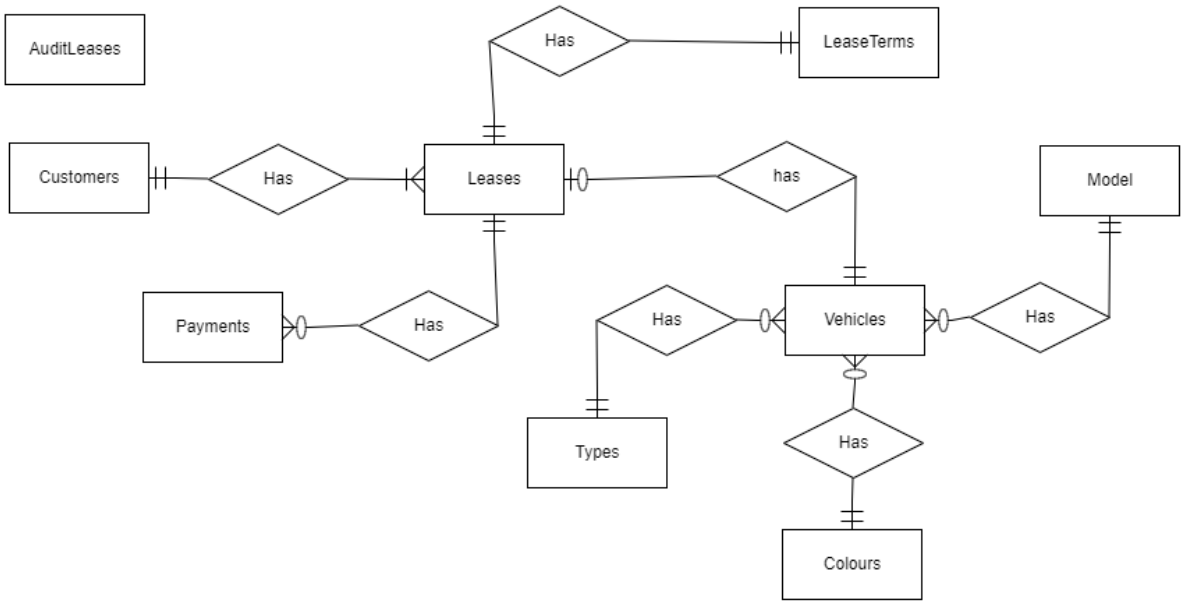
Problem Recognition and Initial Definitions

This project use as base the database built for the first part of the project (showed in the ERD below), but with a few alterations to achieve the new assignments.



ERD for part 1 of the project

A new table called LeasesP was created using partitioning. The table is a substitute for the table Leases, contains the same data and relationships added a new column called LeaseStatus that keeps the information about the status of the lease contract, it's a foreign key to the table LeaseStatus.

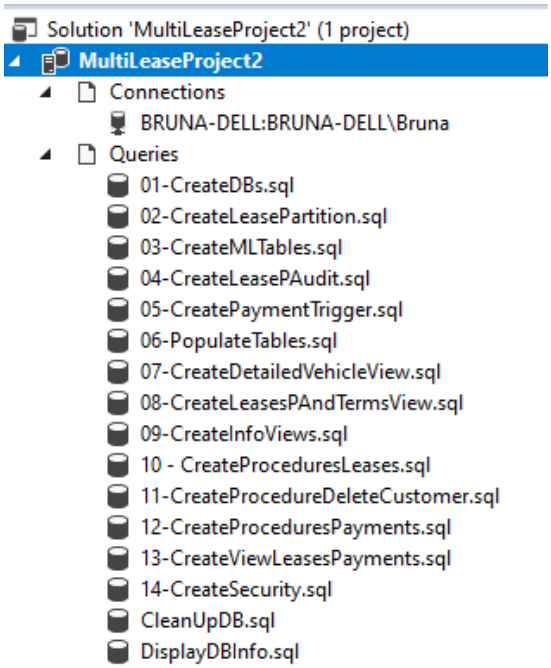
Following the same logic, a new table (AuditLeaseP) was created to audit the changes in the LeasesP table, and a new view called LeasesPAndTerms was created to substitute the view LeasesAndTerms

LeaseStatus table keeps the information about the possible lease contract status.

The table Payments now have a new column called Valid, that tracks if a payment row is valid or not. The row is not valid when its voided by a user.

Queries

To setup the database run the scripts in the numeric order they are named (from 1 to 14), and the remaining scripts are for cleaning the DB (exclude everything, keeps only the database), display the DB information's (tables, views, triggers and constraints).



- 01-CreateDBs.sql
  Verifies if in the schema there is a database called "ML_635_203263" or "ML_E_635_203263", being the first the main database and the second the database to hold the employee's information imported from the excel support file.

- 02-CreateLeasePartition
  Create the filesgroups, function and scheme to use partitioning in the LeasesP table.

- 03-CreateMLTables.sql
  Create the tables structures in the "ML_635_203263" database.
  If this script was run before, before running again its necessary to clean up the db, for that use the CleanUpDB.sql script.

- 04-CreateLeasePAudit.sql
  Create the audit table and triggers to audit every change in the Leases table

- 05-CreatePaymentTrigger.sql
  Create the trigger that disallow the deleting from the Payment table.

- 06-PopulateTables.sql
  Insert data into the db tables, most of the data was obtained from the support files at the end of the project definition.

- 07-CreateDetailedVehicleView.sql

Create a view that joins the information's about vehicles, color, models and types. This view is used to make it easier to write the select scripts requested by the project.

- 08-CreateLeasesPAndTermsView.sql
  Create a view that joins the information's about leases and its terms. This view is used to make it easier to write the select scripts requested by the project.

- 09-CreateInfoViews.sql
  Create views that facilitate the visualization of the db information's such as tables, triggers, views and constraints information's.

- 10 - CreateProceduresLeases.sql
  Create the procedures to insert, update, delete, select by ID and terminate a lease.

- 11-CreateProcedureDeleteCustomer.sql
  Create the procedure to delete a customer.

- 12-CreateProceduresPayments.sql
  Create the procedures to insert and void a payment.

- 13-CreateViewLeasesPayments.sql
  Create a view that joins the information's about leases and its payments.

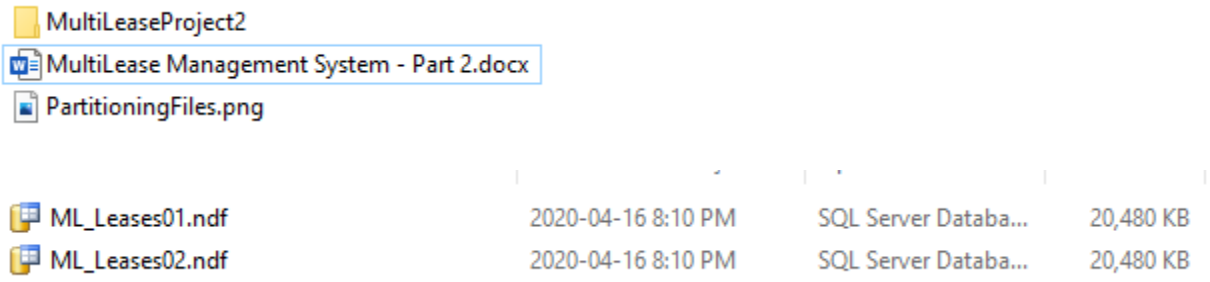
- 14-CreateSecurity.sql
  Create the roles Manager and Associate and grant the permission to each role accordingly to the table presented in the assignment. Also creates (if not exist) two logins and users, one for each role, so the security can be tested using SQL Authentication.

- DisplayDBInfo.sql
  Script that returns the "`ML_635-203263`" `database information's.`

- CleanUpDB.sql
  Script that delete all tables, constraints, triggers and views from the "`ML_E_635-203263`" `database.`

Delivery

This project delivery contains this description file, a SQL Server Management Studio project called “MultiLeaseProject2” that contains all scripts described above and an image containing the print screen of the folder where the partitioning files were created.



Partitioning Files