

CDI

# MultiLease Management System – Part 3

Processing Information

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## Problem Recognition and Initial Definitions

This project use as base the database built for the previous two parts of the project (DB Architecture and DB Design projects), but with a few alterations to achieve the new assignments.

The database tables remain the same as the previous projects, there were few columns additions in the views.

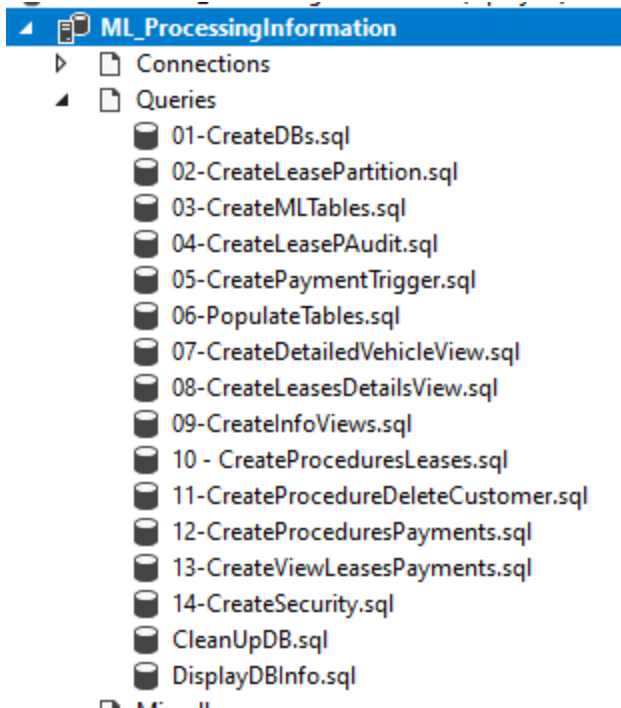
Besides the database, this project also contains a WPF project that implements the part of the MultiLease management system for users to add a new lease, modify a lease, make and void a payment (this includes a down payment).

## Delivery

This project delivery contains this description file, a SQL Server Management Studio project called "ML\_ProcessingInformation" that contains the scripts to create the database and a WPF project called "MultiLease" that implements the part of the application requested for this project.

### Database 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 "MultiLease" 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 filegroups, function and scheme to use partitioning in the LeasesP table.
- 03-CreateMLTables.sql  
Create the tables structures in the "MultiLease" 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.

- 08- CreateLeasesDetailsView.sql  
Create a view that joins the information's about leases and its terms.
- 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 "MultiLease" database information's.
- CleanUpDB.sql  
Script that delete all tables, constraints, triggers and views from the "MultiLease" database.

### MultiLease Application

After creating the database following the scripts described above, is possible to use the MultiLease Application to add/edit Leases and add/void Payments. Bellow there are images that illustrate the application functionalities.

- 1- Welcome page

MultiLease Management System

Leases Payments Customers Vehicles

## Welcome

Please select one action from the menu



## 2- Add a new lease

MultiLease MS - New Lease

Leases Payments Customers Vehicles

### New Lease

Lease ID:

Contract Date:

2020-05-11

Vehicle:

Model: SC-430 - Year: 2003 - Type: 2dr Coupe - Color: Deep Blue - VIN: 3W9T1-2Q10D-12D0P-2E1R2

Terms:

Years: 3 - MaxKM: 120000 - Premium Charge: \$0.2500

Customer:

Wrapper, Candie - 9021234567

Payment Information

First Payment Date:

2020-06-11

Amount:

\$0.00

Num of Payments:

☒ 12

☐ 24

☐ 36

☐ 48

Save Lease

Cancel

## 3- View/Edit lease

MultiLease MS - View Lease ID 2002

Leases Payments Customers Vehicles

**Lease Information**

Lease ID: 2002 Vehicle: 7D901-9W120-Z0029-021P2

Contract Date: 2004-03-16 Customer: 2

Status: Completed Terms: 1002

**Payment Information**

First Payment Date: 2004-04-16 Num of Payments: ☒ 12 ☐ 24 ☐ 36 ☐ 48

Amount: \$350.00

Terminate Lease Edit Lease Save Lease Cancel

**Lease Payments:**

Payment ID	Payment Date	Amount	Valid
2	1/1/1900 12:00:00 AM	\$350.00	Yes

New Payment

To Void a payment double click the desired payment

#### 4- Search leases

MultiLease MS - Search Leases

Leases Payments Customers Vehicles

**Search Leases**

Search

Lease ID: Contract Date: Selezione una d 15 Customer Name:

Status: ☐ Started ☐ Completed Clear Filters Search

Lease ID	Contract Date	Status	Customer	First Payment	Monthly Payment	Num. Of Payments	
2001	2004-01-15	Completed	Candie Wrapper	2004-02-15	\$650.00	36	3W9T1-2C
2002	2004-03-16	Completed	Scali Wag	2004-04-16	\$350.00	12	7D901-9W
2003	2004-04-01	Completed	Inna Chambers	2004-05-01	\$600.00	24	Z1221-X12
2004	2002-02-20	Completed	Candie Wrapper	2002-03-01	\$450.00	48	M21L1-31
2006	2016-07-01	Completed	Inna Chambers	2016-07-15	\$300.00	12	M21L1-31
2007	2020-05-10	Completed	Scali Wag	2020-06-10	\$250.01	12	7D901-9W
2008	2020-05-10	Started	Scali Wag	2020-06-10	\$250.00	48	7D901-9W

New Lease

#### 5- Add new payment

**MultiLease MS - New Payment**

**Fill the fields bellow to add a new payment**

LeaseID:

Contract Date:

Payment Date:

Amount:

## 6- Search/View payments

**MultiLease MS - Search Payments**

Leases Payments Customers Vehicles

**Search Payments**

Search

Lease ID:  Contract Date:  Customer Name:

Payment ID:  Payment Date:

Payment ID	Payment Date	Amount	Valid	Lease ID	Contract Date	Customer
1	1900-01-01	\$650.00	Yes	2001	2004-01-15	Candie Wrapper
2	1900-01-01	\$350.00	Yes	2002	2004-03-16	Scali Wag
3	1900-01-01	\$600.00	Yes	2003	2004-04-01	Inna Chambers
4	1900-01-01	\$450.00	Yes	2004	2002-02-20	Candie Wrapper
6	1900-01-01	\$300.00	Yes	2001	2004-01-15	Candie Wrapper
7	2020-05-10	\$0.00	No	2001	2004-01-15	Candie Wrapper

To Void a payment double click the desired payment

## Future Updates

The WPF project can be improved in the future as follows:

- Implement security following the database security
- While adding or editing a Lease, improve the way the combo boxes for selecting Vehicles, Customers and Terms works (show not only the ID's)
- Include the remaining items not requested by this project.