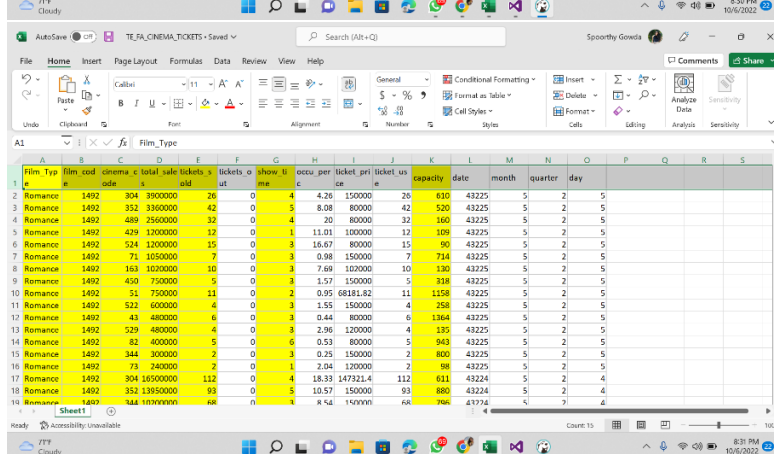
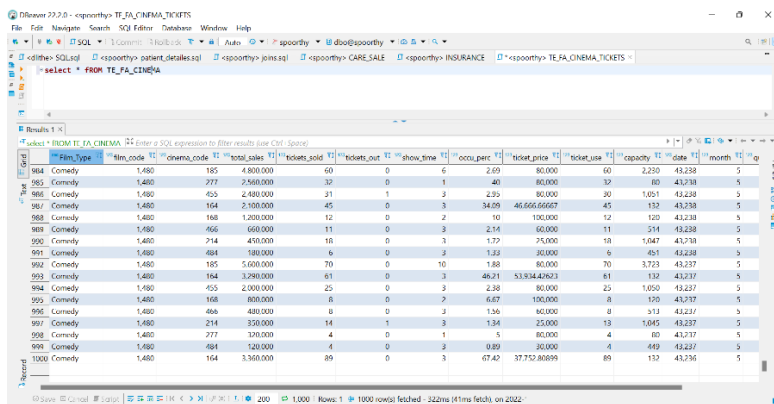
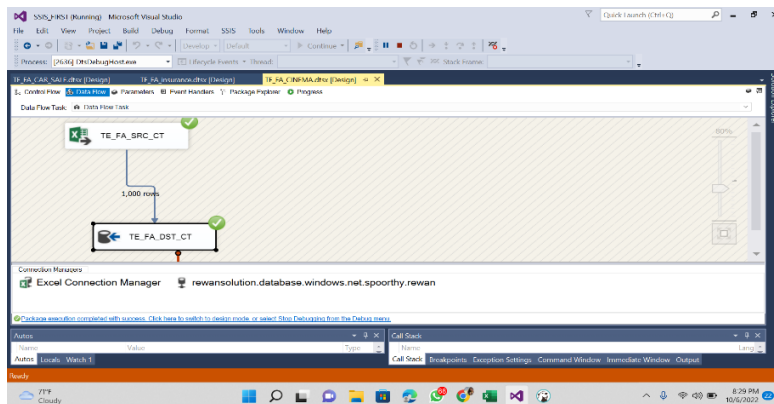


Module 2 SSIS:

1. Make connection to different data source ((Oracle DB, Flat file, SQL Server)
2. Extract
3. Transform
4. Load to new target system - SQL Server

1.Excel to DB

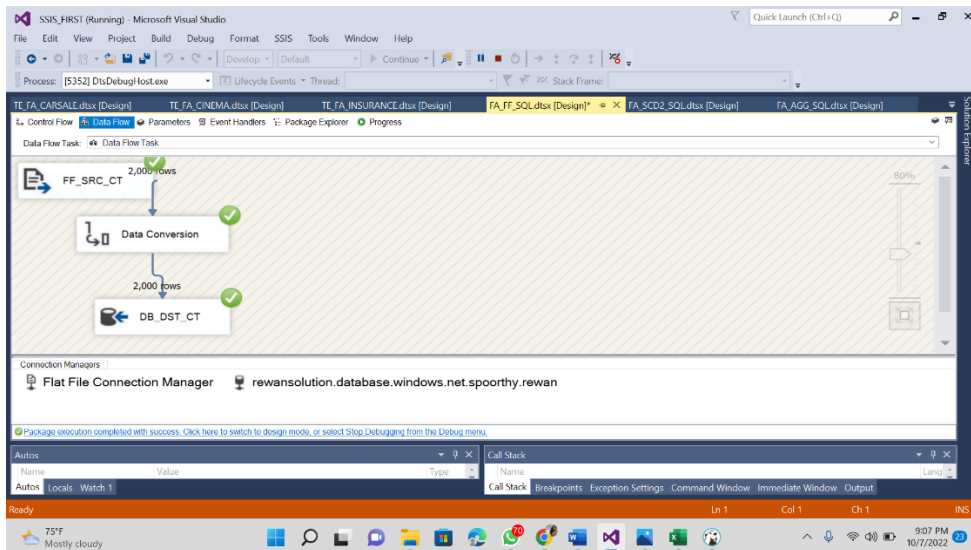
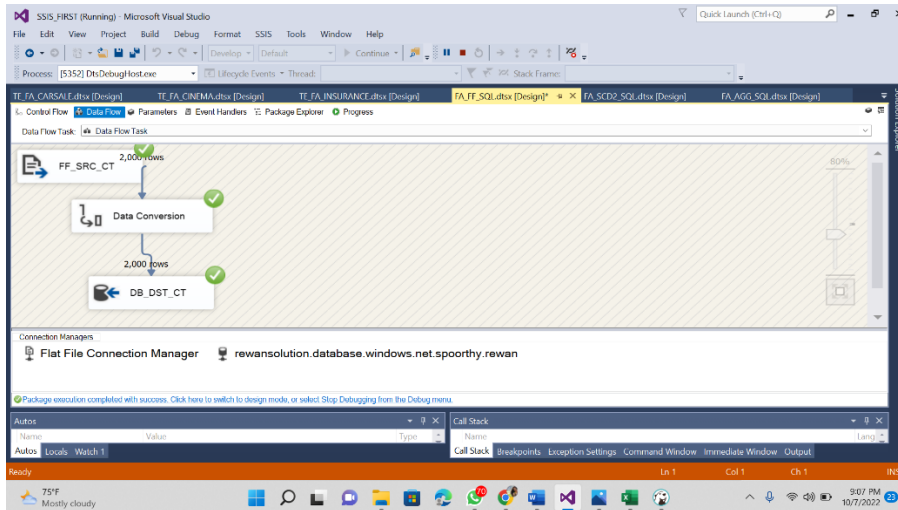


The image is a screenshot of a Windows desktop with three applications open. At the top is a Microsoft Excel spreadsheet titled 'TE FA CINEMA TICKETS - Compatibility Mode'. It contains a table with columns A through S. The first column (A) lists movie titles, mostly 'Horror' and 'Mystery'. The second column (B) lists box office numbers. The third column (C) lists the number of theaters. The fourth column (D) lists the number of screens. The fifth column (E) lists the number of seats. The sixth column (F) lists the number of tickets sold. The seventh column (G) lists the number of tickets sold per theater. The eighth column (H) lists the number of tickets sold per screen. The ninth column (I) lists the number of tickets sold per seat. The tenth column (J) lists the number of tickets sold per theater per screen per seat. The eleventh column (K) lists the number of tickets sold per theater per screen per seat. The twelfth column (L) lists the number of tickets sold per theater per screen per seat. The thirteenth column (M) lists the number of tickets sold per theater per screen per seat. The fourteenth column (N) lists the number of tickets sold per theater per screen per seat. The fifteenth column (O) lists the number of tickets sold per theater per screen per seat. The sixteenth column (P) lists the number of tickets sold per theater per screen per seat. The seventeenth column (Q) lists the number of tickets sold per theater per screen per seat. The eighteenth column (R) lists the number of tickets sold per theater per screen per seat. The nineteenth column (S) lists the number of tickets sold per theater per screen per seat. Below the spreadsheet is a Microsoft Visual Studio window showing the SSIS package 'FA_FF_SQL.dtsx' running. The package has a data flow task 'Excel Source' connected to a 'Flat File Destination'. The 'Excel Source' task is configured to read 1,000 rows from the 'Excel Source' connection manager. The 'Flat File Destination' task is configured to write the data to the 'Flat File Destination' connection manager. The package execution is completed with success. At the bottom is a Notepad++ window showing a list of movie titles and their corresponding box office numbers. The list includes 'Romance, 1492, 384, 3900000, 500, 0, 4, 2599999999999999, 150000, 26, 610, 43225, 5, 2, 5' and 'Romance, 1492, 352, 3360000, 42, 0, 5, 8000000000000000, 80000, 42, 520, 43225, 5, 2, 5'.

3. Flat file to DB

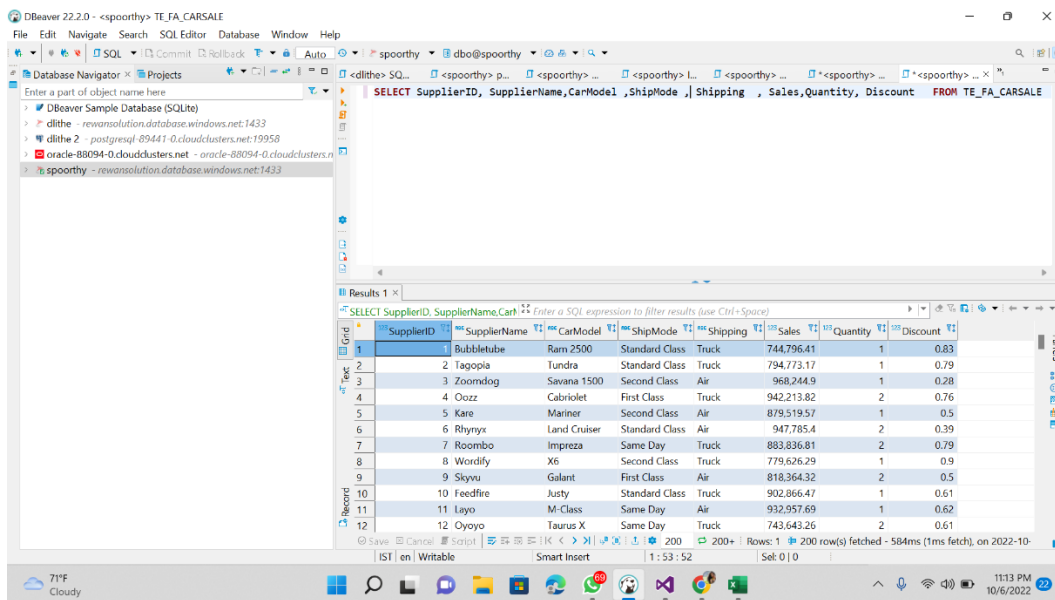
```
FA_Cinema_Ticket_FF (T) - Notepad
File Edit View

Film_Type,film_code,cinema_code,total_sales,tickets_sold,tickets_out,show_time,occu_perc,ticket_price,ticket_use,capacity,date,month,quarter,day
Romance,1492,384,3900000,26,0,4,4,2599999999999999,150000,26,610,43225,5,2,5
Romance,1492,352,3360000,42,0,5,8,0800000000000000,80000,42,520,43225,5,2,5
Romance,1492,489,2560000,32,0,4,20,80000,32,160,43225,5,2,5
Romance,1492,429,1200000,12,0,1,11,01,100000,12,109,43225,5,2,5
Romance,1492,524,1200000,15,0,3,16,6700000000000000,80000,15,90,43225,5,2,5
Romance,1492,71,1050000,7,0,3,0,9799999999999999,150000,7,714,43225,5,2,5
Romance,1492,163,1020000,10,0,3,7,6900000000000000,102000,10,130,43225,5,2,5
Romance,1492,450,750000,5,0,3,1,5700000000000000,150000,5,318,43225,5,2,5
Romance,1492,51,750000,11,0,2,0,9400000000000000,68181,818100000002,11,1158,43225,5,2,5
Romance,1492,522,600000,4,0,3,1,55,150000,4,258,43225,5,2,5
Romance,1492,43,480000,6,0,3,0,44,80000,6,1364,43225,5,2,5
Romance,1492,529,400000,4,0,3,2,96,120000,4,135,43225,5,2,5
Romance,1492,82,400000,1,0,6,0,5300000000000000,80000,5,943,43225,5,2,5
Romance,1492,344,300000,2,0,3,0,25,150000,2,800,43225,5,2,5
Romance,1492,73,240000,2,0,1,2,04,120000,2,98,43225,5,2,5
Romance,1492,384,1650000,112,0,4,18,32999999999999,147321,42860000001,112,611,43224,5,2,4
Romance,1492,352,1395000,93,0,5,10,57,150000,93,880,43224,5,2,4
Romance,1492,344,1020000,68,0,3,8,5399999999999999,150000,68,796,43224,5,2,4
Romance,1492,71,600000,44,0,3,6,1399999999999999,150000,44,717,43224,5,2,4
Romance,1492,163,3360000,31,0,3,24,8000000000000000,100387,0958,31,125,43224,5,2,4
Romance,1492,522,3000000,20,0,3,7,75,150000,20,258,43224,5,2,4
Romance,1492,485,2400000,16,0,3,11,59,150000,16,138,43224,5,2,4
Romance,1492,524,1800000,12,0,3,13,33,150000,12,90,43224,5,2,4
Romance,1492,518,1680000,14,1,3,8,4800000000000000,120000,15,165,43224,5,2,4
Romance,1492,51,1400000,17,0,1,2,9300000000000000,82352,941179999994,17,580,43224,5,2,4
Romance,1492,448,1350000,9,0,2,2,3700000000000000,150000,9,380,43224,5,2,4
Romance,1492,429,1200000,12,0,1,11,01,100000,12,109,43224,5,2,4
Romance,1492,450,1850000,7,0,2,3,2999999999999999,150000,7,232,43224,5,2,4
Romance,1492,489,900000,6,0,3,5,150000,6,120,43224,5,2,4
Romance,1492,43,880000,11,0,3,0,8100000000000000,80000,11,1358,43224,5,2,4
Romance,1492,431,720000,6,0,2,11,5399999999999999,120000,6,52,43224,5,2,4
Romance,1492,529,600000,5,0,2,5,5599999999999999,120000,5,90,43224,5,2,4
```



SCD-1

SOURCE TABLE – TE_FA_CARSale



DBeaver 22.2.0 - <spoorthy> TE_FA_CARSale

File Edit Navigate Search SQL Editor Database Window Help

Database Navigator Projects

Enter a part of object name here

DBeaver Sample Database (SQLite)

dlithe - rewsolution.database.windows.net:1433

dlithe 2 - postgresql-89441-0.cloudclusters.net:19958

oracle-88094-0.cloudclusters.net - oracle-88094-0.cloudclusters.net

spoorthy - rewsolution.database.windows.net:1433

Results 1

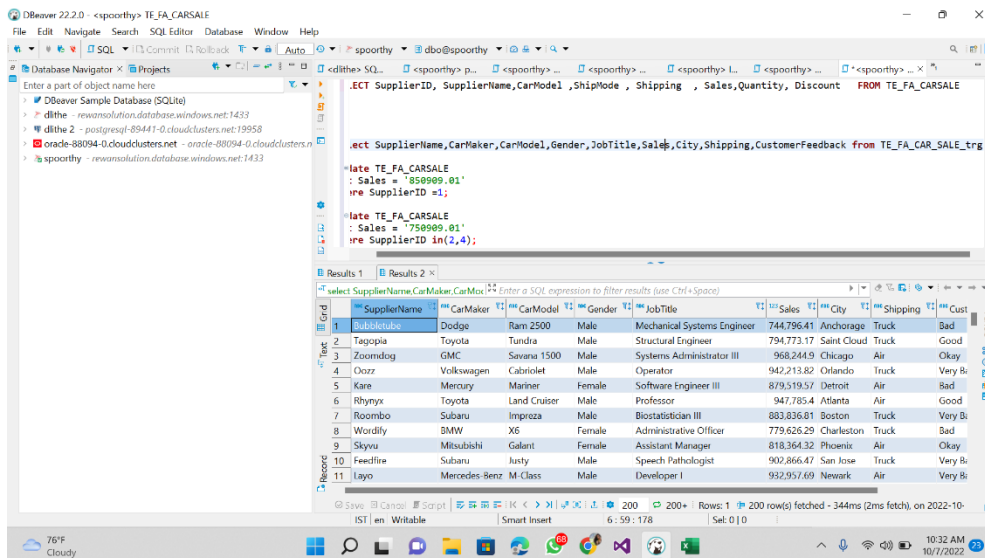
SELECT SupplierID, SupplierName, CarModel, ShipMode, Shipping, Sales, Quantity, Discount FROM TE_FA_CARSale

SupplierID	SupplierName	CarModel	ShipMode	Shipping	Sales	Quantity	Discount
1	Bubbletub	Ram 2500	Standard Class	Truck	744,796.41	1	0.83
2	Tagopia	Tundra	Standard Class	Truck	794,773.17	1	0.79
3	Zoomdog	Savana 1500	Second Class	Air	968,244.9	1	0.28
4	Oozz	Cabriolet	First Class	Truck	942,213.82	2	0.76
5	Kare	Mariner	Second Class	Air	879,519.57	1	0.5
6	Rhynx	Land Cruiser	Standard Class	Air	947,785.4	2	0.39
7	Roombo	Impreza	Same Day	Truck	883,836.81	2	0.79
8	Wordify	X6	Second Class	Truck	779,626.29	1	0.9
9	Skyvu	Galant	First Class	Air	818,364.32	2	0.5
10	Feedfire	Justy	Standard Class	Truck	902,866.47	1	0.61
11	Layo	M-Class	Same Day	Air	932,957.69	1	0.62
12	Oyoyo	Taurus X	Same Day	Truck	743,643.26	2	0.61

Save Cancel Script SQL 200 200+ Rows: 1 200 row(s) fetched - 584ms (1ms fetch) on 2022-10-11 11:53:52 Set 0 | 0

UPDATING IN SOURCE TABLE TE_FA_CARSale

SALES HAVE BEEN UPDATED FOR SUPPLIER_ID 1,2,3,4,5



DBeaver 22.2.0 - <spoorthy> TE_FA_CARSale

File Edit Navigate Search SQL Editor Database Window Help

Database Navigator Projects

Enter a part of object name here

DBeaver Sample Database (SQLite)

dlithe - rewsolution.database.windows.net:1433

dlithe 2 - postgresql-89441-0.cloudclusters.net:19958

oracle-88094-0.cloudclusters.net - oracle-88094-0.cloudclusters.net

spoorthy - rewsolution.database.windows.net:1433

Results 1

SELECT SupplierID, SupplierName, CarModel, ShipMode, Shipping, Sales, Quantity, Discount FROM TE_FA_CARSale

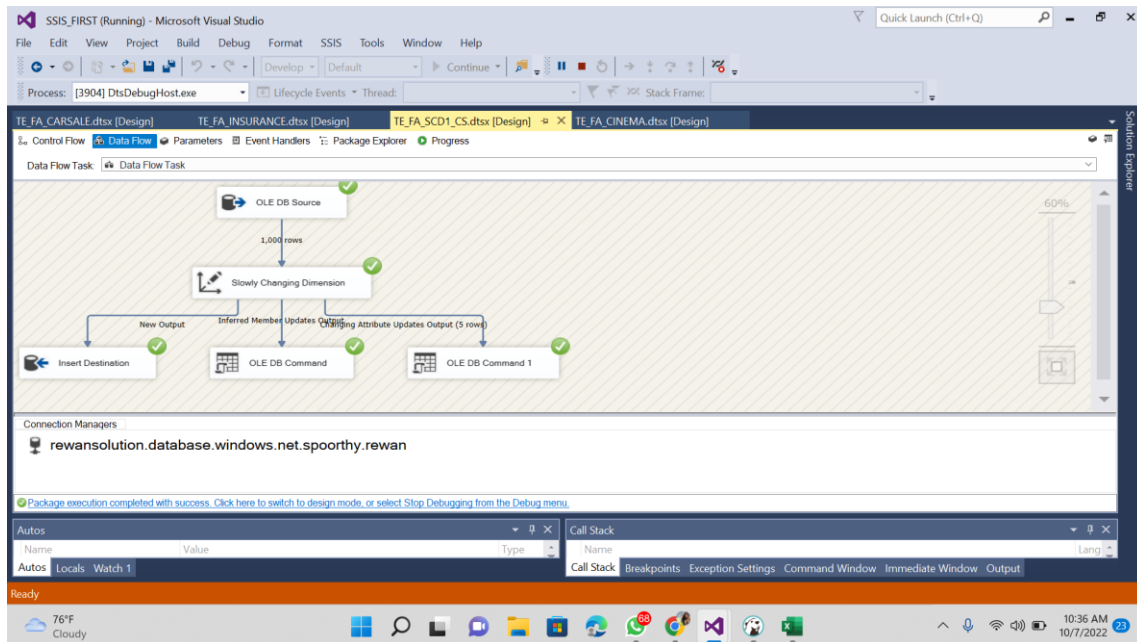
Results 2

SELECT SupplierName, CarMaker, CarModel, Gender, JobTitle, Sales, City, Shipping, CustomerFeedback FROM TE_FA_CARSale

SupplierName	CarMaker	CarModel	Gender	JobTitle	Sales	City	Shipping	CustomerFeedback
Bubbletub	Dodge	Ram 2500	Male	Mechanical Systems Engineer	744,796.41	Anchorage	Truck	Bad
Tagopia	Toyota	Tundra	Male	Structural Engineer	794,773.17	Saint Cloud	Truck	Good
Zoomdog	GMC	Savana 1500	Male	Systems Administrator III	968,244.9	Chicago	Air	Okay
Oozz	Volkswagen	Cabriolet	Male	Operator	942,213.82	Orlando	Truck	Very B.
Kare	Mercury	Mariner	Female	Software Engineer III	879,519.57	Detroit	Air	Bad
Rhynx	Toyota	Land Cruiser	Male	Professor	947,785.4	Atlanta	Air	Good
Roombo	Subaru	Impreza	Male	Biostatistician III	883,836.81	Boston	Truck	Very B.
Wordify	BMW	X6	Female	Administrative Officer	779,626.29	Charleston	Truck	Bad
Skyvu	Mitsubishi	Galant	Female	Assistant Manager	818,364.32	Phoenix	Air	Okay
Feedfire	Subaru	Justy	Male	Speech Pathologist	902,866.47	San Jose	Truck	Very B.
Layo	Mercedes-Benz	M-Class	Male	Developer I	932,957.69	Newark	Air	Very B.

Save Cancel Script SQL 200 200+ Rows: 1 200 row(s) fetched - 344ms (2ms fetch) on 2022-10-11 10:32:40 Set 0 | 0

PERFORMING SCD-1



SALES HAVE UPDATED IN DESTINATION TABLE **TE_FA_CAR_SALE_TRG** FOR SUPPLIER_ID 1,2,3,4,5

The screenshot shows the DBeaver 22.2.0 interface with the SQL Editor open. The query being executed is:

```
UPDATE SupplierID, SupplierName, CarModel, ShipMode, Shipping, Sales, Quantity, Discount FROM TE_FA_CAR_SALE
```

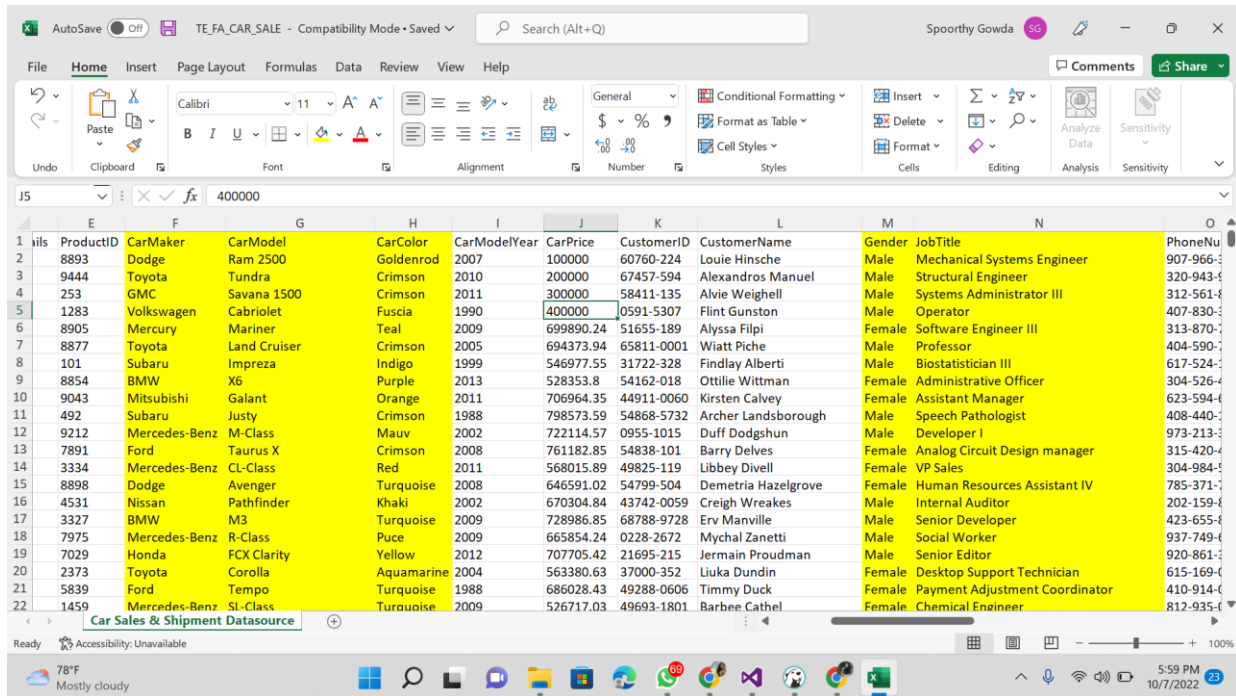
The Results pane shows the query results, including columns like CarMaker, CarModel, Gender, JobTitle, Sales, City, Shipping, and CustomerFeedback. The results are displayed in a table format with 11 rows and 8 columns.

	CarMaker	CarModel	Gender	JobTitle	Sales	City	Shipping	CustomerFeedback
1	Dodge	Ram 2500	Male	Mechanical Systems Engineer	850,909.01	Anchorage	Truck	Bad
2	Toyota	Tundra	Male	Structural Engineer	750,909.01	Saint Cloud	Truck	Good
3	GMC	Savana 1500	Male	Systems Administrator III	800,909.01	Chicago	Air	Okay
4	Volkswagen	Cabriolet	Male	Operator	750,909.01	Orlando	Truck	Very Bad
5	Mercury	Mariner	Female	Software Engineer III	800,909.01	Detroit	Air	Bad
6	Toyota	Land Cruiser	Male	Professor	947,785.4	Atlanta	Air	Good
7	Subaru	Impreza	Male	Biostatistician III	883,836.81	Boston	Truck	Very Bad
8	BMW	X6	Female	Administrative Officer	779,626.29	Charleston	Truck	Bad
9	Mitsubishi	Galant	Female	Assistant Manager	818,364.32	Phoenix	Air	Okay
10	Subaru	Justy	Male	Speech Pathologist	902,866.47	San Jose	Truck	Very Bad
11	Mercedes-Benz	M-Class	Male	Developer I	932,957.69	Newark	Air	Very Bad

SCD-2

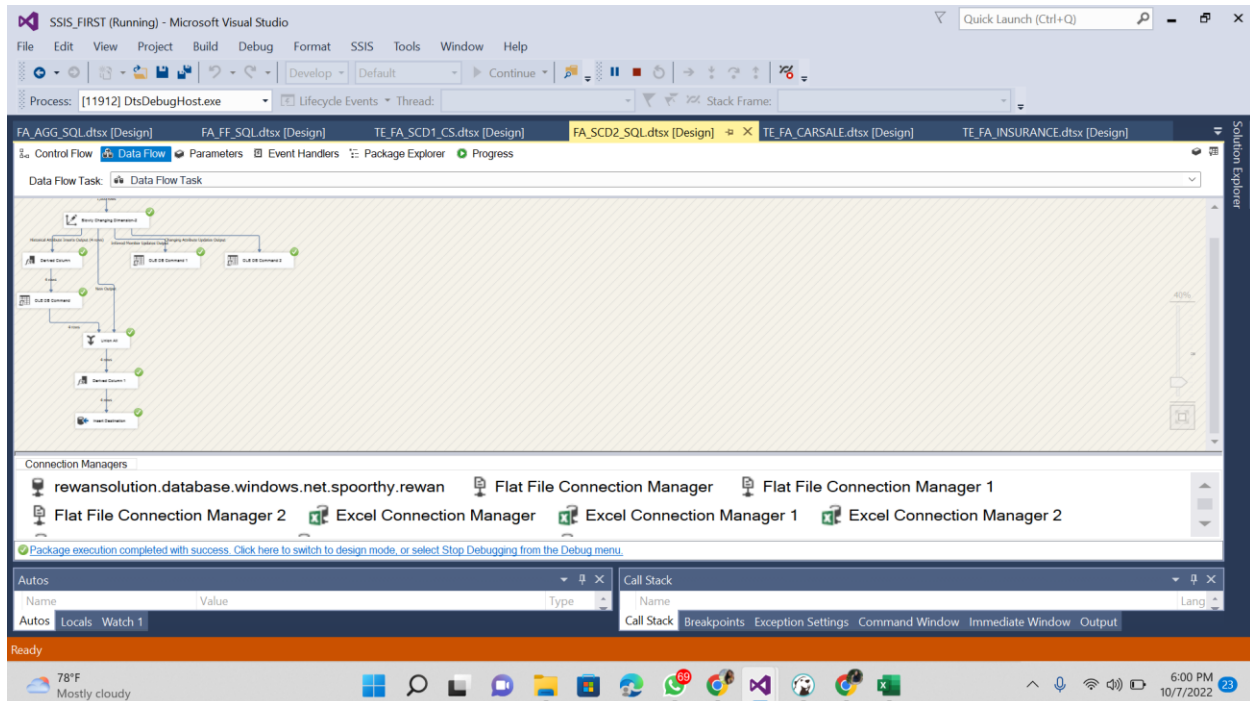
SOURCE TABLE TE_FA_CAR_SALE

Changes are made in source table by changing car price of product_id-8893,9444,253,1283



ProductID	CarMaker	CarModel	CarColor	CarModelYear	CarPrice	CustomerID	CustomerName	Gender	JobTitle	PhoneNu
8893	Dodge	Ram 2500	Goldenrod	2007	100000	60760-224	Louie Hinsche	Male	Mechanical Systems Engineer	907-966-
9444	Toyota	Tundra	Crimson	2010	200000	67457-594	Alexandros Manuel	Male	Structural Engineer	320-943-
253	GMC	Savana 1500	Crimson	2011	300000	58411-135	Alvie Weighell	Male	Systems Administrator III	312-561-
1283	Volkswagen	Cabriolet	Fuscia	1990	400000	0591-5307	Flint Gunston	Male	Operator	407-830-
8905	Mercury	Mariner	Teal	2009	699890.24	51655-189	Alyssa Filpi	Female	Software Engineer III	313-870-
8877	Toyota	Land Cruiser	Crimson	2005	694373.94	65811-0001	Wiatt Piche	Male	Professor	404-590-
101	Subaru	Impreza	Indigo	1999	546977.55	31722-328	Findlay Alberti	Male	Biostatistician III	617-524-
8854	BMW	X6	Purple	2013	528353.8	54162-018	Ottillie Wittman	Female	Administrative Officer	304-526-
9043	Mitsubishi	Galant	Orange	2011	706964.35	44911-0060	Kirsten Calvey	Female	Assistant Manager	623-594-
492	Subaru	Justy	Crimson	1988	798573.59	54868-5732	Archer Landsborough	Male	Speech Pathologist	408-440-
9212	Mercedes-Benz	M-Class	Mauv	2002	722114.57	0955-1015	Duff Dodgshun	Male	Developer I	973-213-
7891	Ford	Taurus X	Crimson	2008	761182.85	54838-101	Barry Delves	Female	Analog Circuit Design manager	315-420-
3334	Mercedes-Benz	CL-Class	Red	2011	568015.89	49825-119	Libbey Divell	Female	VP Sales	304-984-
8898	Dodge	Avenger	Turquoise	2008	646591.02	54799-504	Demetria Hazelgrove	Female	Human Resources Assistant IV	785-371-
4531	Nissan	Pathfinder	Khaki	2002	670304.84	43742-0059	Creigh Wreakes	Male	Internal Auditor	202-159-
3327	BMW	M3	Turquoise	2009	728986.85	68788-9728	Erv Manville	Male	Senior Developer	423-655-
7975	Mercedes-Benz	R-Class	Puce	2009	665854.24	0228-2672	Mychal Zanetti	Male	Social Worker	937-749-
7029	Honda	FCX Clarity	Yellow	2012	707705.42	21695-215	Jermain Proudman	Male	Senior Editor	920-861-
2373	Toyota	Corolla	Aquamarine	2004	563380.63	37000-352	Luuka Dundin	Female	Desktop Support Technician	615-169-
5839	Ford	Tempo	Turquoise	1988	686028.43	49288-0606	Timmy Duck	Female	Payment Adjustment Coordinator	410-914-
1459	Mercedes-Benz	SL-Class	Turquoise	2009	526717.03	49693-1801	Barbee Cathel	Female	Chemical Engineer	812-935-

SCD-2 is perfomed



DESTINATION TABLE HAVE UPDATED FOR product_id-8893,9444,253,1283
ALONG WITH START DATE AND END DATE

The screenshot displays the DBeaver 22.2.0 interface with the SQL Editor and Results grid. The SQL Editor contains the following script:

```
[CreditCard] float,  
[CustomerFeedback] nvarchar(255)  
)  
  
alter table FA_SCD2_CARSALE  
add s_date date;  
alter table FA_SCD2_CARSALE  
add e_date date;  
  
select SupplierID,SupplierName,CarModel,CarPrice,Sales,s_date, e_date from FA_SCD2_CARSALE  
  
TRUNCATE TABLE FA_SCD2_CARSALE
```

The Results grid shows the following data:

SupplierID	SupplierName	CarModel	CarPrice	Sales	s_date	e_date
88	Gigazoom	GTO	696,179.72	858,307.07	2022-10-07	[NULL]
89	Omiba	Suburban 1500	714,262.33	784,074.72	2022-10-07	[NULL]
90	1 Bubbletube	Ram 2500	100,000	744,796.41	2022-10-07	[NULL]
91	2 Tagopia	Tundra	200,000	794,773.17	2022-10-07	[NULL]
92	3 Zoomdog	Savana 1500	300,000	968,244.9	2022-10-07	[NULL]
93	4 Oozz	Cabriolet	400,000	942,213.82	2022-10-07	[NULL]
94	90 Innotype	Maxima	658,004.98	749,917.29	2022-10-07	[NULL]
95	91 Kwimbee	Rabbit	679,304.05	888,417.08	2022-10-07	[NULL]
96	92 Jayo	Miata MX-5	739,132.03	989,524.24	2022-10-07	[NULL]
97	93 Skiptube	Grand Prix	720,963.77	820,595.53	2022-10-07	[NULL]
98	94 Shuffledrive	RS 4	716,932.67	984,950.9	2022-10-07	[NULL]

The interface also shows the Database Navigator on the left with the 'spoorthy' database selected, and the Windows taskbar at the bottom indicating the time as 5:59 PM on 10/7/2022.

AGGREGATOR

SSIS_FIRST (Running) - Microsoft Visual Studio

File Edit View Project Build Debug Format SSIS Tools Window Help

Process: [3128] DtsDebugHost.exe

FA_SCD2_SQL.dtsx [Design] FA_AGG_SQL.dtsx [Design] TE_FA_CARSale.dtsx [Design] FA_FF_SQL.dtsx [Design] TE_FA_SCD1_CS.dtsx [Design] TE_FA_INSURANCE.dtsx [Design]

Control Flow Data Flow Parameters Event Handlers Package Explorer Progress

Data Flow Task: Data Flow Task

OLE DB Source

1,000 rows

Aggregate

1 rows

Flat File Destination

Connection Managers

- rewansolution.database.windows.net.spoorthy.rewan
- Flat File Connection Manager
- Flat File Connection Manager 1
- Flat File Connection Manager 2
- Flat File Connection Manager 3

Package execution completed with success. Click here to switch to design mode, or select Stop Debugging from the Debug menu.

Autos

Name	Value	Type
Autos		

Call Stack

Name	Lang
Call Stack	

Ready

82°F Cloudy

*FA_AGGR - Notepad

File Edit View

853223686 19999969,0 9000000000000002,1

Ln 1, Col 41

100%

Windows (CRLF)

UTF-8

82°F Cloudy

2:48 PM 10/7/2022

SSIS_FIRST (Running) - Microsoft Visual Studio

File Edit View Project Build Debug Format SSIS Tools Window Help

Process: [17756] DtsDebugHost.exe Lifecycle Events Thread: Stack Frame:

FA_SCD2_SQL.dtsx [Design] FA_AGG_SQL.dtsx [Design] TE_FA_CARSale.dtsx [Design] FA_FF_SQL.dtsx [Design] TE_FA_SCD1_CS.dtsx [Design] TE_FA_INSURANCE.dtsx [Design]

Control Flow Data Flow Parameters Event Handlers Package Explorer Progress

Data Flow Task Data Flow Task

OLE DB Source 1,000 rows Aggregate 1 rows OLE DB Destination

Connection Managers

- rewansolution.database.windows.net.spoorthy.rewan
- Flat File Connection Manager
- Flat File Connection Manager 1
- Flat File Connection Manager 2
- Flat File Connection Manager 3
- Flat File Connection Manager 4
- Flat File Connection Manager 5

Package execution completed with success. Click here to switch to design mode, or select Stop Debugging from the Debug menu.

Autos Name Value Type Call Stack Name Lang

Ready

81°F Cloudy

DBBeaver 22.2.0 - <spoorthy> TE_FA_CARSale

File Edit Navigate Search SQL Editor Database Window Help

SQL Auto SQL spoorthy dbo@spoorthy

<dlithe> SQLsql <spoorthy> patient_d... <spoorthy> joins.sql <spoorthy> CARE_SALE <spoorthy> INSURA... <spoorthy> TE_FA_CL... <spoorthy> TE_FA_IN... <spoorthy> TE_FA_C...

```
ticket_use INT,
capacity VARCHAR(50),
date_ INT,
month_ INT,
quarter_ INT,
day_ INT
);

SELECT * FROM FA_DB_M2_Flat_to_DB

SELECT * FROM FA_SDC2_TRG
alter
select * from FA_AGG
```

Results 1

select * from FA_AGG

Grid	Sales	Discount	Quantity
1	853.223.686.1999997	0.9	1

Save Cancel Script 1 Rows: 1 1 row(s) fetched - 350ms, on 2022-10-07 at 14:54:1E

IST en Writable Smart Insert 72 : 1 : 1462 Set: 0 | 0

81°F Cloudy