

"وَقُلْ رَبِّ زِدْنِي عِلْمًا"

CAR SALES

ITI Graduation Project
Power BI Sohag Branch

Team Members



Mahmoud Lashin



Mahmoud Ali



Sohila Mohey

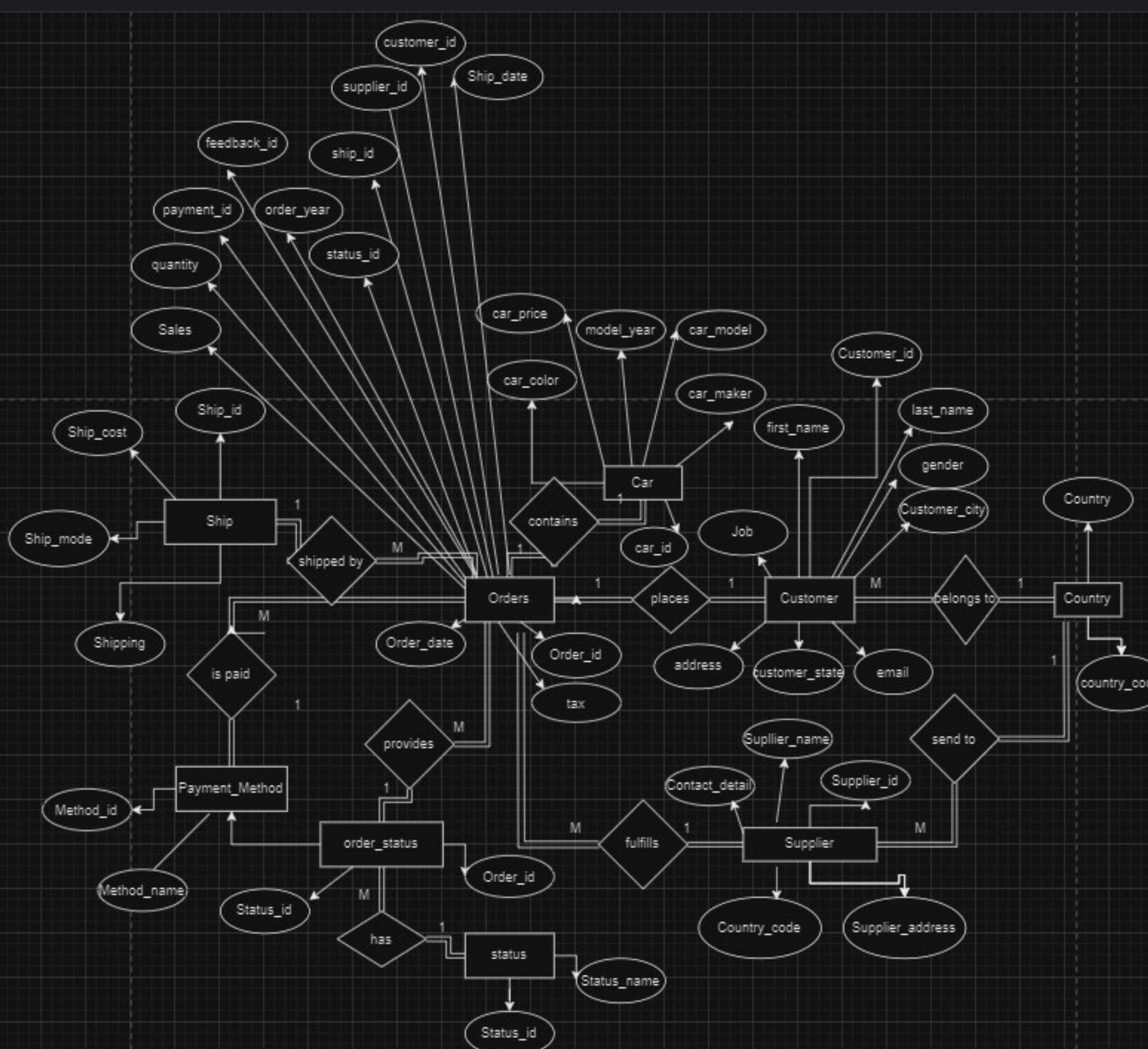


Abdallah Moawed

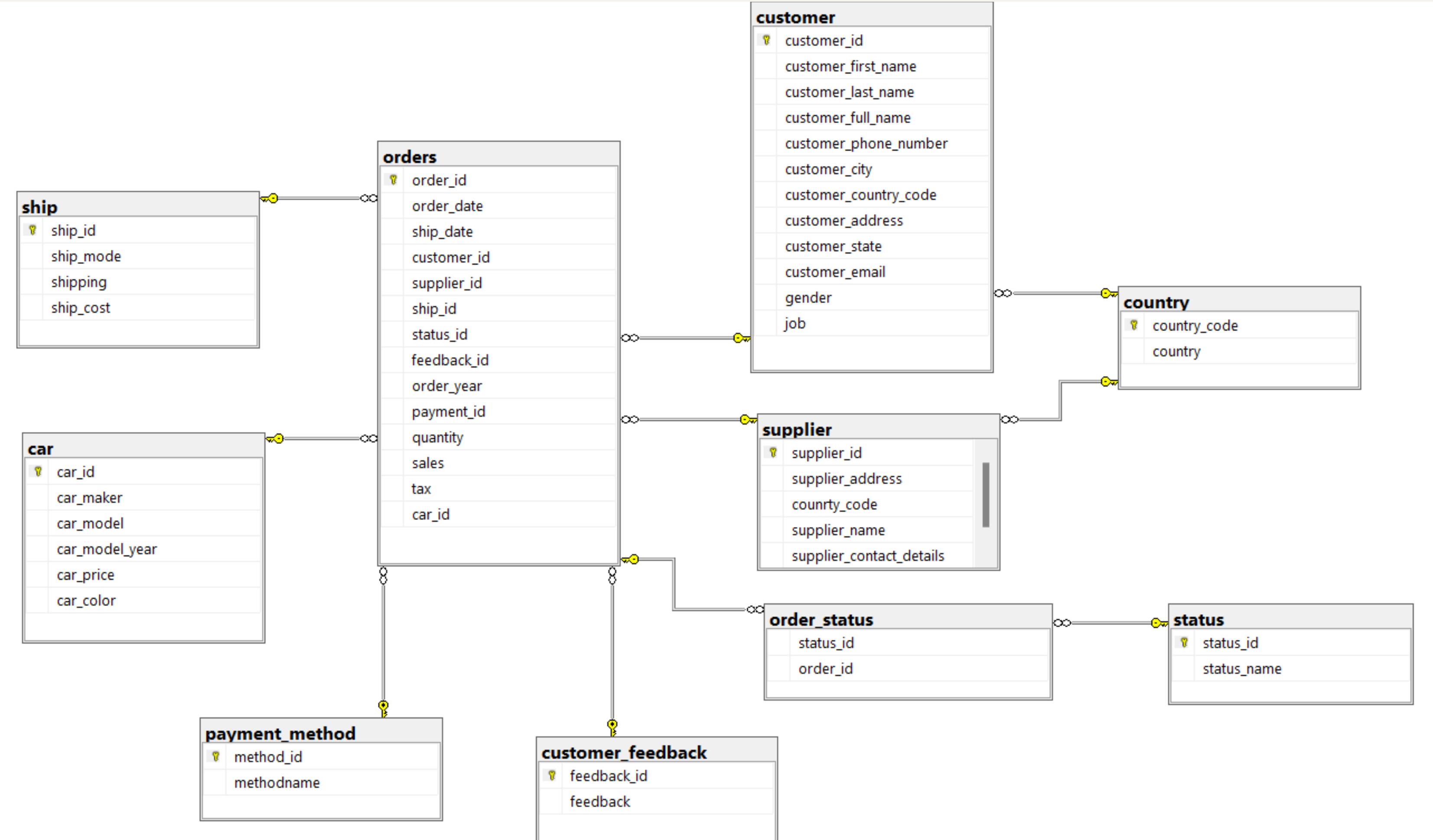


Eslam

Entity Relation Diagram



Database Schema



Stored procedures

Customer Updates

```
1  CREATE OR ALTER PROCEDURE Update_Customer
2      @id INT,
3      @fname VARCHAR(20),
4      @lname VARCHAR(50),
5      @full_name VARCHAR(100),
6      @phone VARCHAR(50),
7      @city VARCHAR(50),
8      @country_code INT,
9      @address VARCHAR(100),
10     @state VARCHAR(50),
11     @email VARCHAR(50),
12     @gender VARCHAR(50),
13     @job VARCHAR(50)
14 AS
15 BEGIN
16     BEGIN TRY
17         UPDATE dbo.customer
18         SET
19             customer_first_name = @fname,
20             customer_last_name = @lname,
21             customer_full_name = @full_name,
22             customer_phone_number = @phone,
23             customer_city = @city,
24             customer_country_code = @country_code,
25             customer_address = @address,
26             customer_state = @state,
27             customer_email = @email,
28             gender = @gender,
29             job = @job
30         WHERE
31             customer_id = @id
32             IF @@ROWCOUNT = 0
33             BEGIN
34                 RAISERROR('Customer with ID %d not found.', 16, @id) --- ( 16 , state(optional) )
35                 return
36             END
37         END TRY
38
39         BEGIN CATCH
40             DECLARE @ErrorSeverity INT = ERROR_SEVERITY();
41             SELECT 'Error: ' + ERROR_MESSAGE() AS ErrorMessage ,
42             'Error Severity: ' + CAST(@ErrorSeverity AS NVARCHAR(10)) as Error_nature
43             END CATCH
44     END;
45
```

Stored procedures

Customer Updates Execute

```
[14] 1      -----Try error message with an id which doesn't exit
2      EXEC Update_Customer
3          @id = 125555553,
4          @fname = 'John',
5          @lname = 'Doe',
6          @full_name = 'John Doe',
7          @phone = '1234567890',
8          @city = 'New York',
9          @country_code = 1,
10         @address = '123 Main Street',
11         @state = 'NY',
12         @email = 'john@example.com',
13         @gender = 'Male',
14         @job = 'Engineer';

(0 rows affected)

(1 row affected)

Total execution time: 00:00:00.017

SQL Server Management Studio

|   | ErrorMessage                              | Error_nature       |
|---|-------------------------------------------|--------------------|
| 1 | Error: Customer with ID (null) not found. | Error Severity: 16 |


```

Triggers

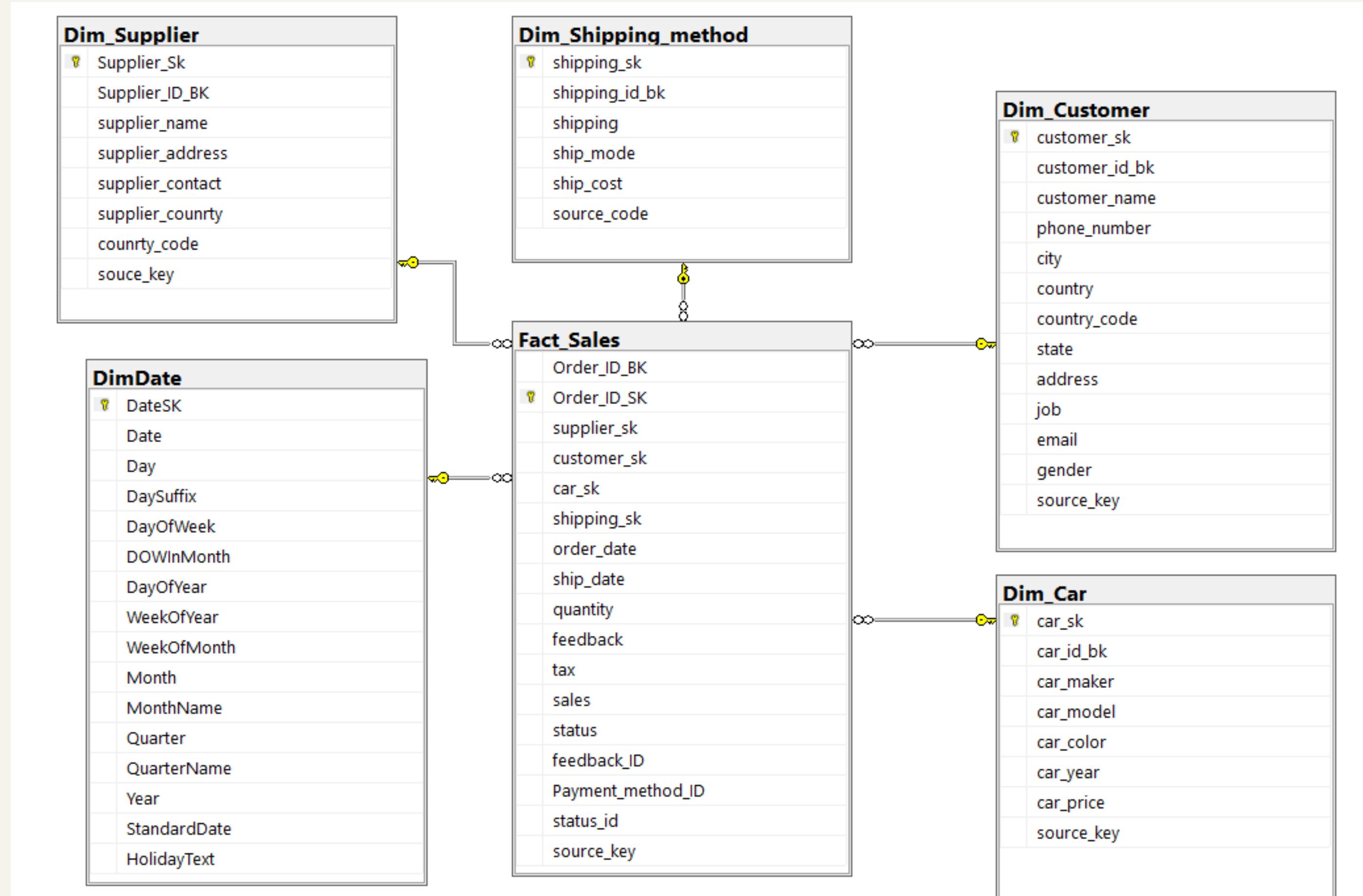
Car Triggers

Trigger for updating any car price

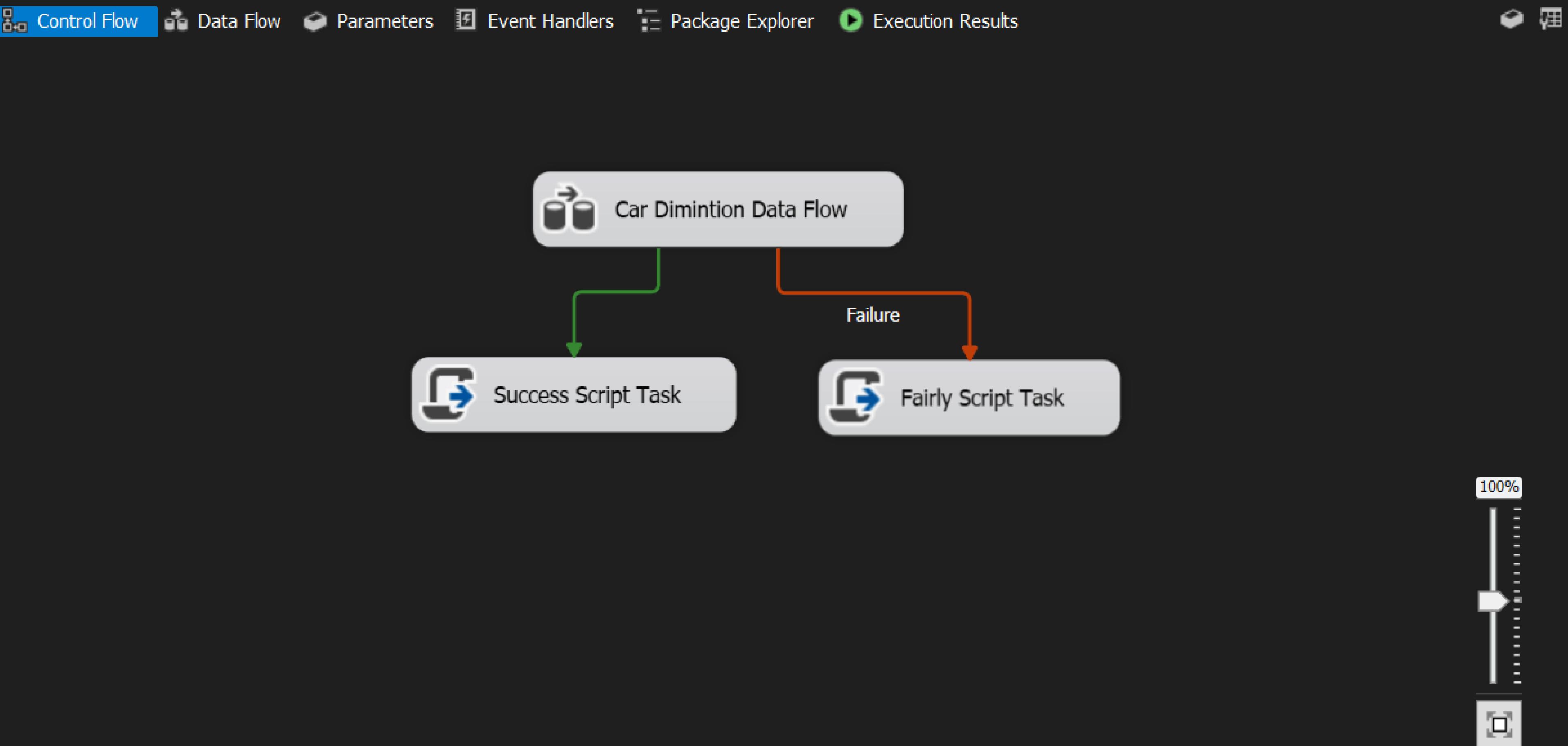
```
[1] 1 CREATE TRIGGER order_update_trigger
[2] on car
[3]
[4] AFTER UPDATE
[5]
[6] AS
[7] BEGIN
[8]     IF UPDATE(car_price)
[9]         begin
[10]        DECLARE @oldprice INT , @newprice INT
[11]        SELECT @newprice = car_price FROM INSERTED
[12]        SELECT @oldprice = car_price FROM DELETED
[13]
[14]
[15]        INSERT INTO history VALUES(@newprice , @oldprice , GETDATE() , SUSER_NAME())
[16]    END
[17] end
```



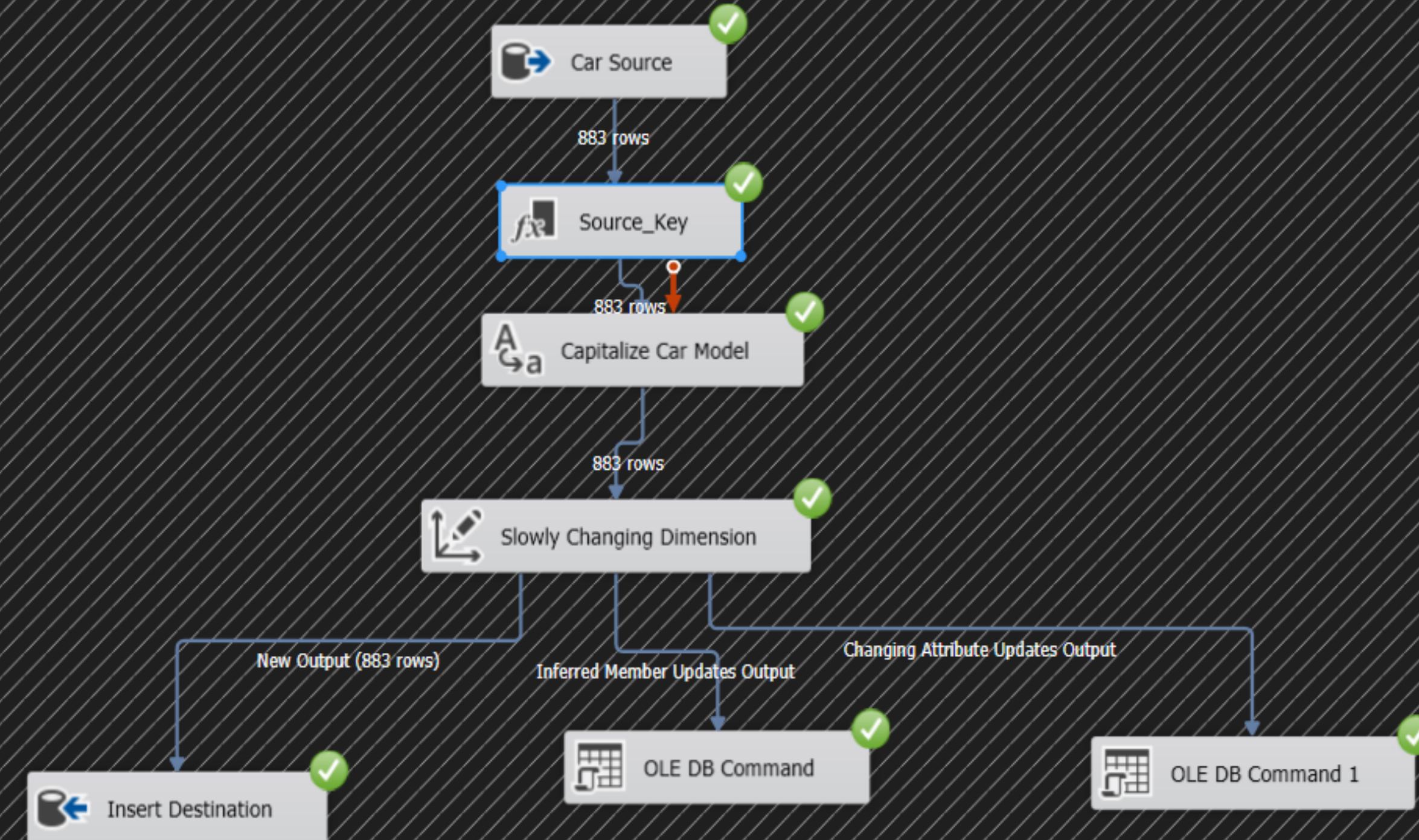
Data Warehouse Schema



SQL Server Integration Services (SSIS)



Data Flow Task: Data Flow Task



Control Flow

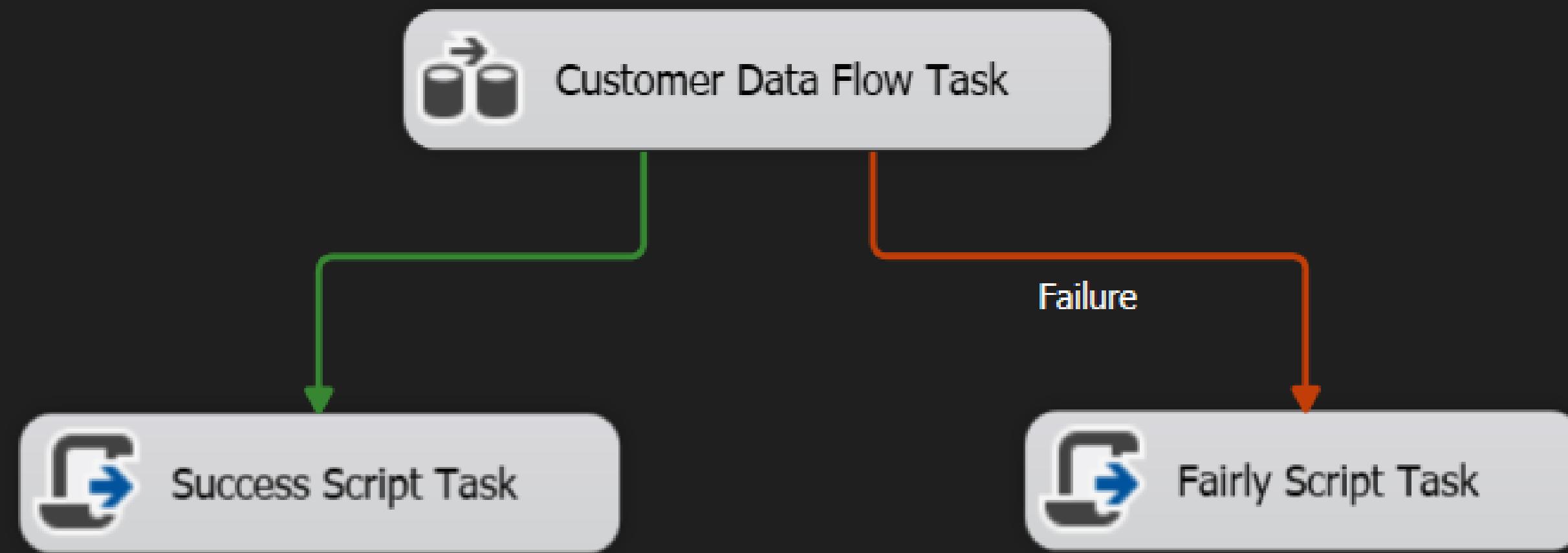
Data Flow

Parameters

Event Handlers

Package Explorer

Execution Results



Control Flow

Data Flow

Parameters

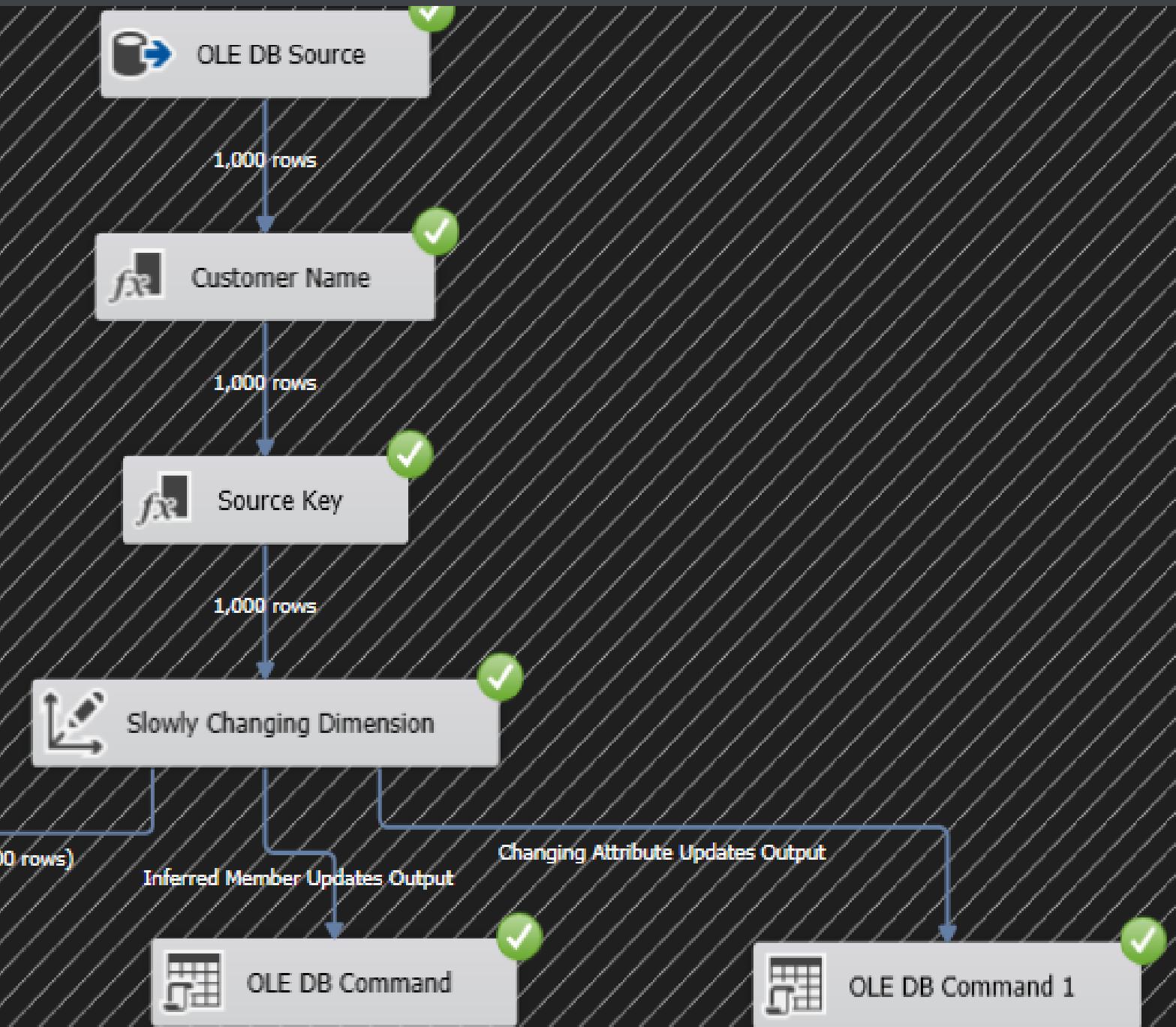
Event Handlers

Package Explorer

Progress

Data Flow Task

Data Flow Task



Control Flow

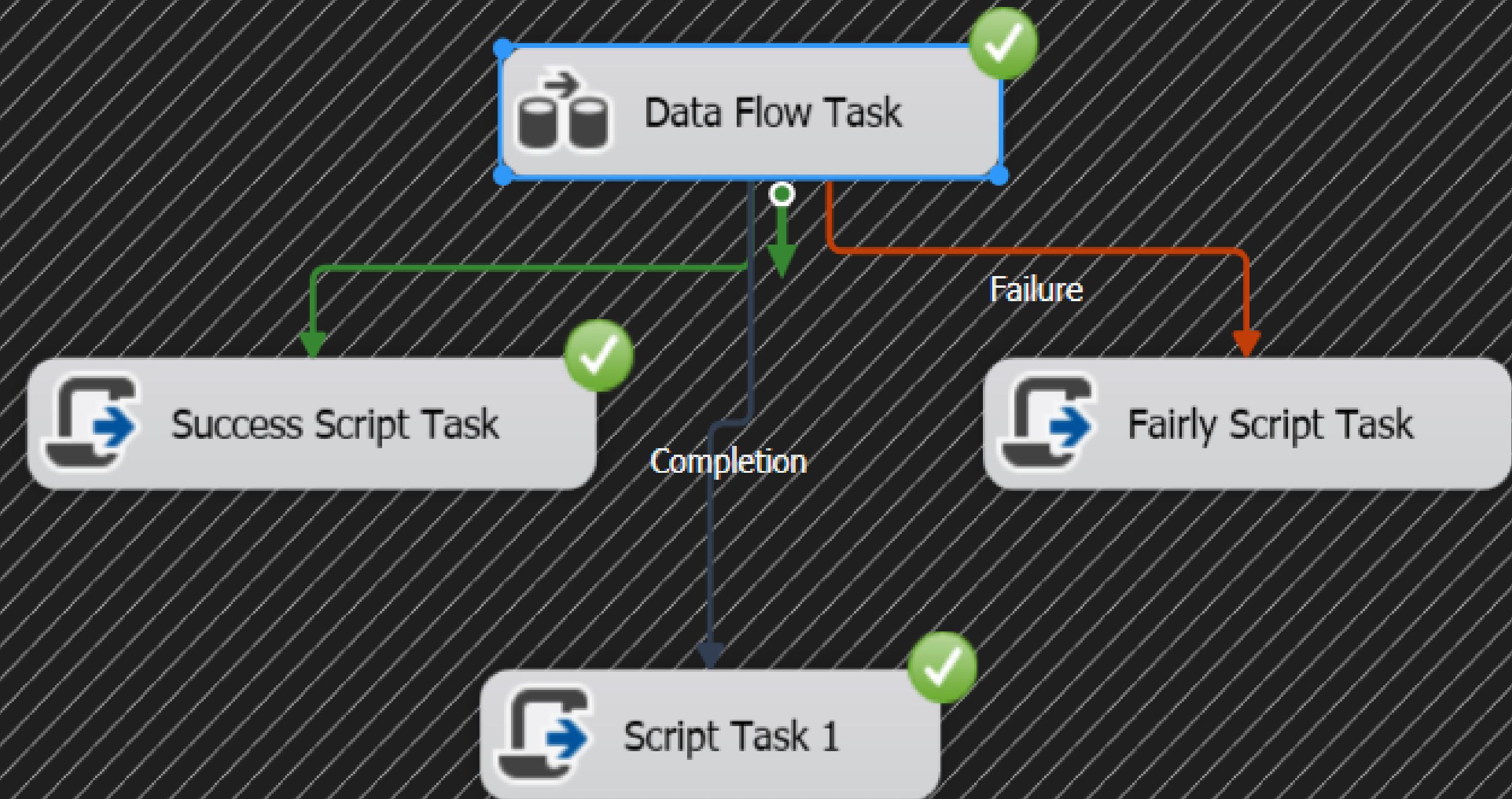
Data Flow

Parameters

Event Handlers

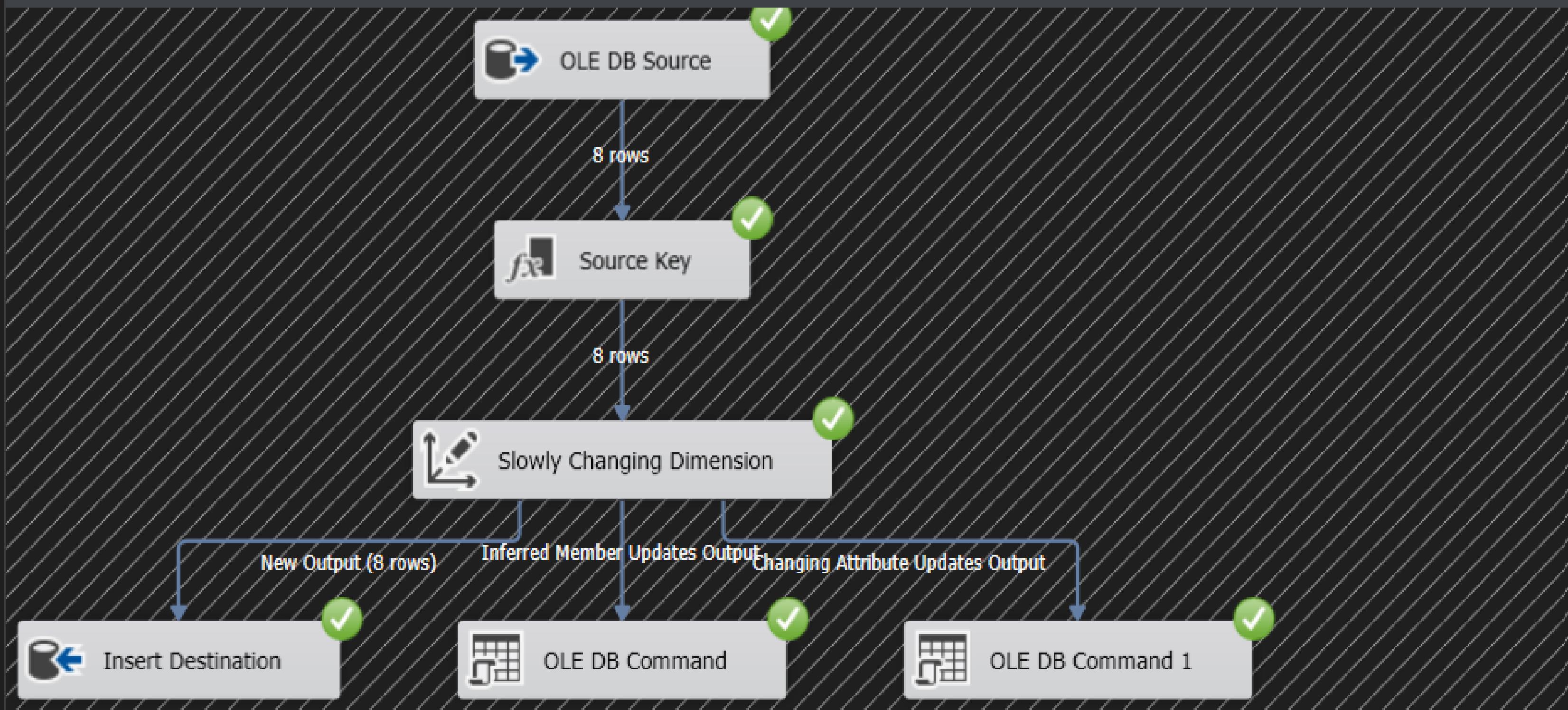
Package Explorer

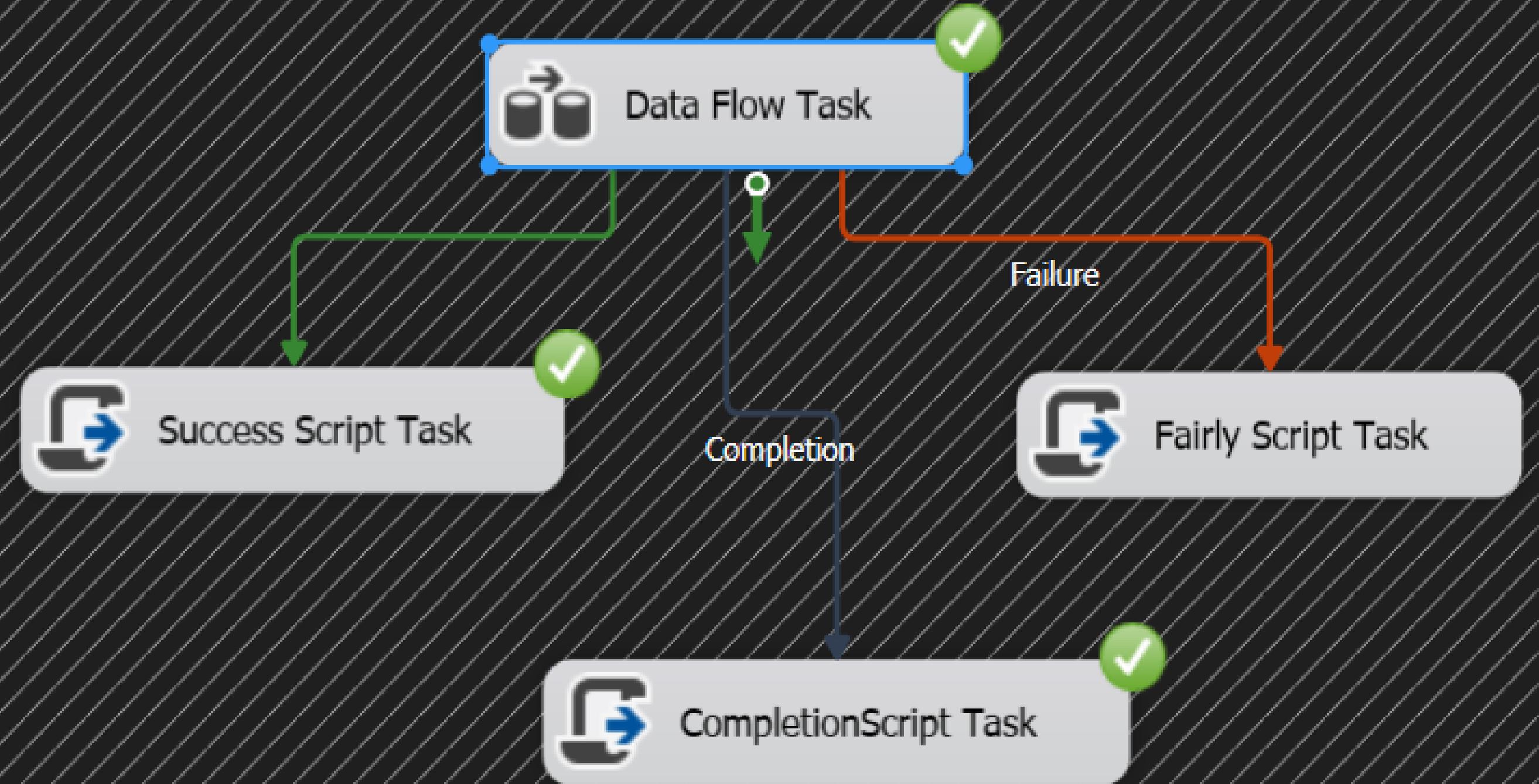
Progress



Control FlowData FlowParametersEvent HandlersPackage ExplorerProgress

Data Flow Task:

Data Flow Task



Control Flow

Data Flow

Parameters

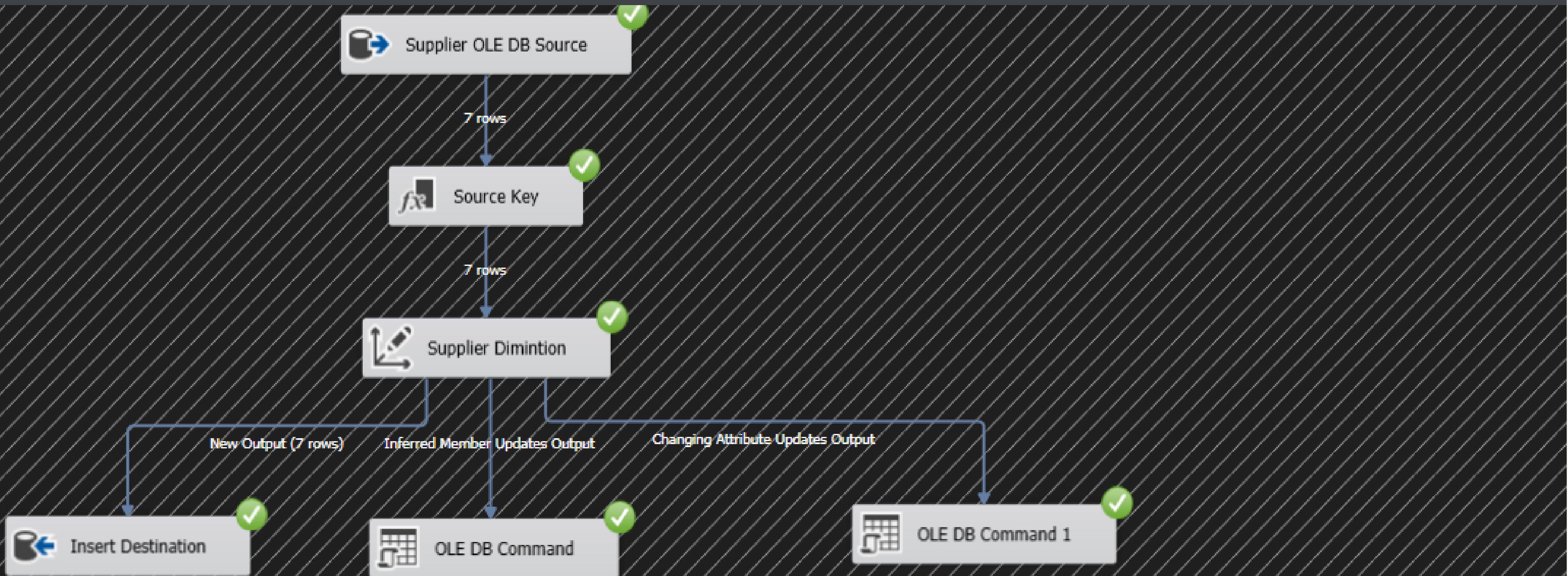
Event Handlers

Package Explorer

Progress

Data Flow Task:

Data Flow Task

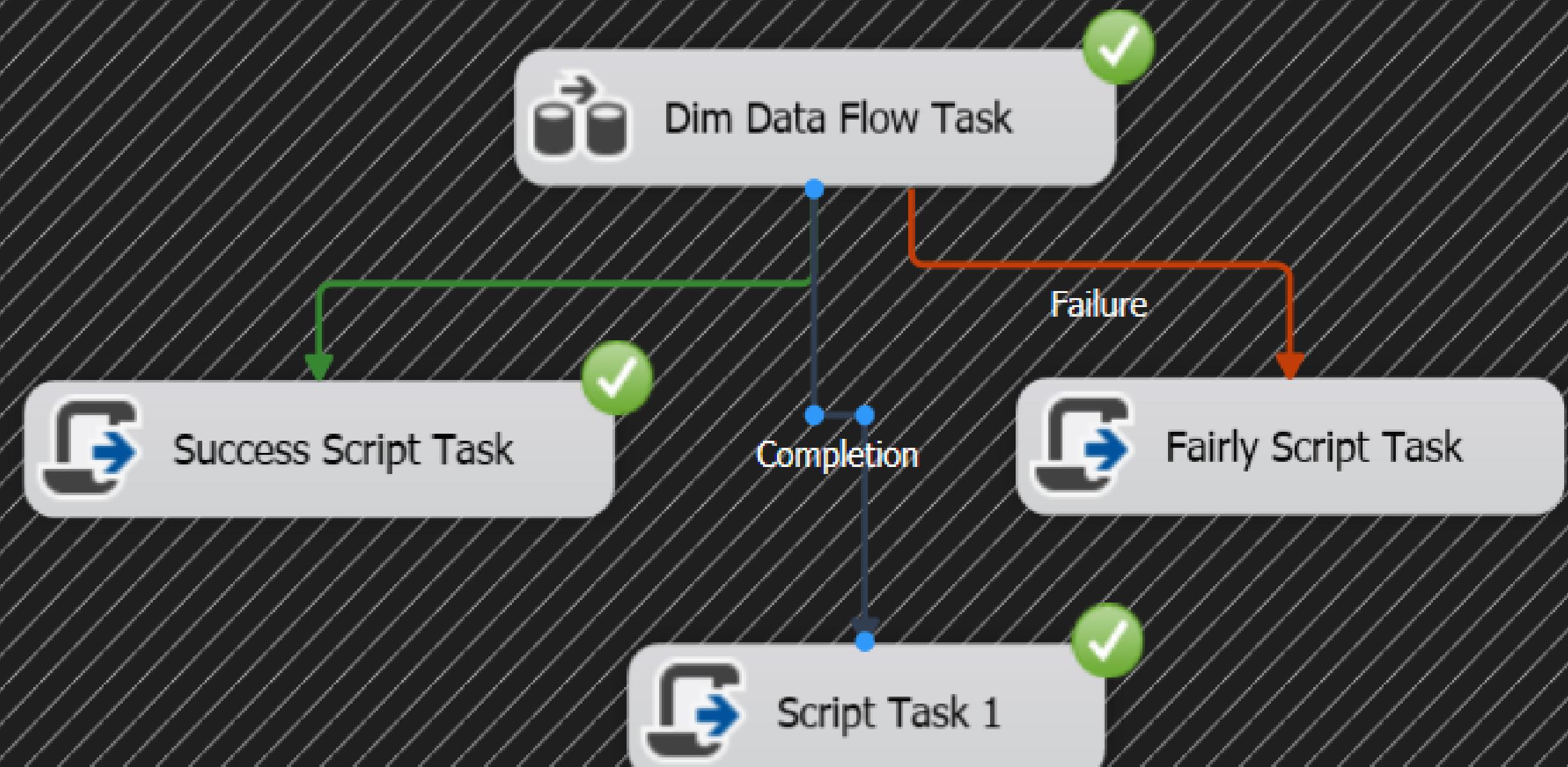


3. Dim_Ship.dtsx [Design]

5. Fact_Sales.dtsx [Design] ✎ ✕

Package1.dtsx [Design]

Control Flow Data Flow Parameters Event Handlers Package Explorer Progress



3. Dim_Ship.dtsx [Design]

5. Fact_Sales.dtsx [Design] ✎ ✕

Package1.dtsx [Design]

Control Flow

Data Flow

Parameters

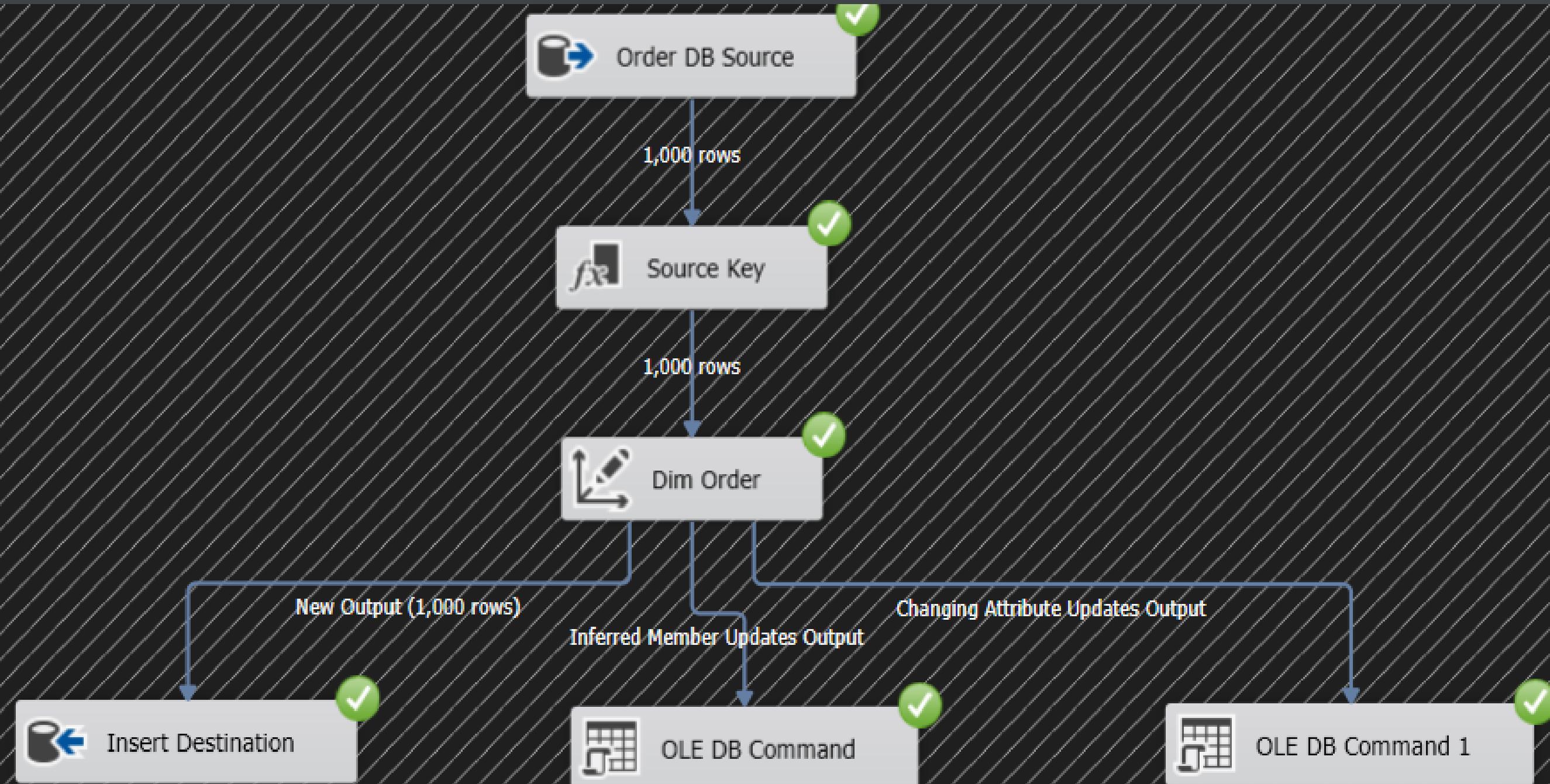
Event Handlers

Package Explorer

Progress

Data Flow Task

Dim Data Flow Task



SQL Server Analysis Services (SSAS)

Car Cube

Edit as Text Import... MDX

Dimension Hierarchy Operator Filter Expression Param...

<Select dimension>

Car Model	Quantity	Sales
F159	2	83154
F160	1	86646
F161	2	70188
F162	1	75926
F163	1	70823
FLEX	34	1892104
FREESTAR	55	3052521
GALANT	27	1526159
GALLARDO	10	627688
GRAND PRIX	25	1340309
GRAND VOYAGER	27	1435178
GRANTURISMO	23	1179390
GTO	16	1088212
HIGHLANDER	24	1423009
IMPALA	17	970085
IMPREZA	12	759697
LEGACY	15	907174
LEMANS	22	1168479
LYNX	12	734400
M3	2	74373
M4	1	80797

Car

Metadata

Search Model

Measure Group:

<All>

Average_of_Tax
Avg_of_Sales

KPIs

Dim Car

Car Color
Car Maker
Car Model
Car Price
Car Sk
Car Year

Fact Sales

Calculated Members

Customers Cube

Customer Cube

Metadata

Search Model

Measure Group

<All>

- Car Sk
- Customer Sk
- Fact Sales Count
- Feedback ID
- Payment Method ID
- Quantity
- Sales
- Shipping Sk
- Source Key
- Status Id
- Tax

+ KPIs

- Dim Supplier

- Country Code
- Souce Key
- Supplier Address
- Supplier Contact
- Supplier Country
- Supplier ID BK
- Supplier Name
- Supplier Sk

+ Fact Sales

Calculated Members

Dimension	Hierarchy	Operator	Filter Expression
<Select dimension>			

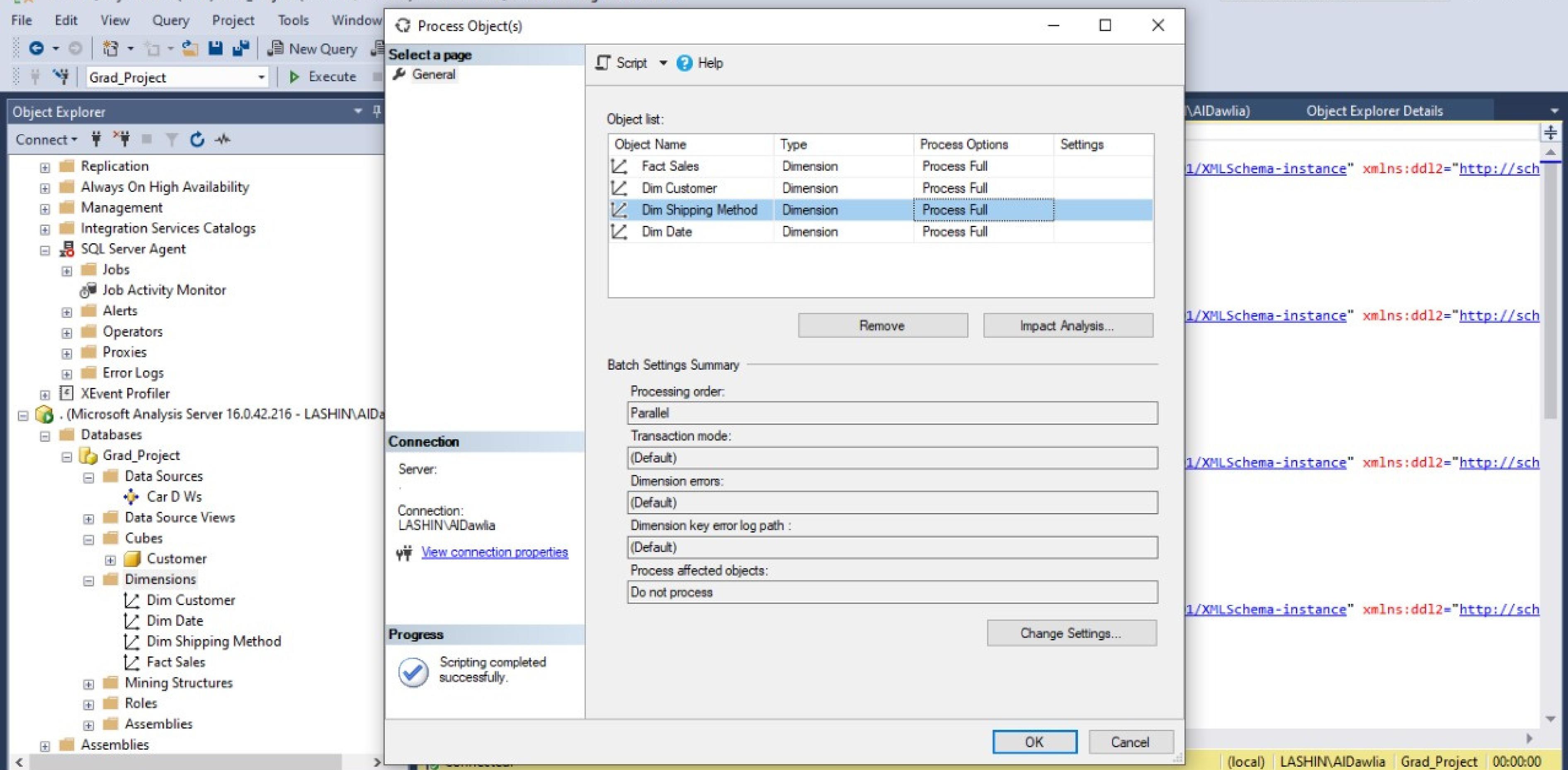
Supplier ID BK	Supplier Name	Quantity	Sales
1	Darryl Christian	10	640772
2	Frank Julio	37	2170057
3	Jimmie Brand...	36	2246518
4	Maurice Sergio	524	29154316
5	Noah Shane	59	3303563
6	Ralph Jared	168	9741918
7	Tommy Dwa...	678	38052226

Suppliers Cube

The screenshot shows the Microsoft Analysis Services Management Studio (SSMS) interface. The title bar reads "Customer.cube [Design]". The ribbon menu has tabs for "Cube Structure", "Dimension Usage", "Calculations", "KPIs", "Actions", "Partitions", "Aggregations", "Perspectives", "Translations", and "Browser". The "Browser" tab is selected. The left sidebar includes the "Toolbox", "SQL Server Object Explorer", and "Solution Explorer". The main area displays the cube's structure and data. A table view shows data from the "Fact Sales" fact table, with columns for State, City, Quantity, and Sales. The "State" column lists states like Alabama, Alaska, Arizona, Arkansas, California, etc., with Alabama having multiple entries for different cities. The "Sales" column shows values such as 199..., 87470, 441..., 827..., 169..., 446..., 500..., 105..., 417..., 118..., and 114... The "Solution Explorer" pane on the right shows the project structure under "Grad_Project", including "Data Sources", "Data Source Views", "Cubes" (with "Customer.cube" selected), and "Dimensions". The "Properties" pane on the right is set to "Customer Cube" and shows various properties like "EstimatedRows", "Language", "ProcessingMode", "ProcessingPriority", "Source", and "Visible".

State	City	Quantity	Sales
Alabama	Birmingham	38	199...
Alabama	Gadsden	2	87470
Alabama	Tuscaloosa	6	441...
Alaska	Anchorage	16	827...
Arizona	Phoenix	32	169...
Arizona	Tucson	9	446...
Arkansas	Little Rock	8	500...
California	Garden Grove	16	105...
California	Long Beach	73	417...
California	North Hollywood	21	118...
California	San Jose	19	114...

Jobs for Cubes



File Edit View Query Project Tools Window

New Query Execute

Object Explorer

Connect Grad_Project Execute

- + Replication
- + Always On High Availability
- + Management
- + Integration Services Catalogs
- SQL Server Agent
 - Jobs
 - Job Activity Monitor
 - Alerts
 - Operators
 - Proxies
 - Error Logs
- + XEvent Profiler
- .(Microsoft Analysis Server 16.0.42.216 - LASHIN\AIDawlia)
 - Databases
 - Grad_Project
 - Data Sources
 - Car D Ws
 - Data Source Views
 - Cubes
 - Customer
 - Measure Groups
 - Dimensions
 - Dim Customer
 - Dim Date
 - Dim Shipping Method
 - Fact Sales
 - Mining Structures
 - Roles
 - Assemblies

Job Step Properties - Cubes Process Job

Select a page: Script Help

Step name: Cubes Process Job

Type: SQL Server Analysis Services Command

Run as: SQL Server Agent Service Account

Server: Lashin

Command:

```
<Batch xmlns='http://schemas.microsoft.com/analysisservices/2003/engine'>
<Parallel>
<Process xmlns:xsd='http://www.w3.org/2001/XMLSchema' xmlns:xs='http://www.w3.org/2001/XMLSchema-instance' xmlns:ddl='http://schemas.microsoft.com/analysisservices/2003/dml' xmlns:ddl2='http://schemas.microsoft.com/analysisservices/2003/dml/2' xmlns:dm='http://schemas.microsoft.com/analysisservices/2003/dm'>
<Object>
<DatabaseID>Grad_Project</DatabaseID>
<CubeID>Car Analysis</CubeID>
</Object>
<Type>ProcessFull</Type>
<WriteBackTableCreation>UseExisting</WriteBackTableCreation>
</Process>
</Parallel>
</Batch>
```

Connection

Server: Lashin

Connection: LASHIN\AIDawlia

[View connection properties](#)

Progress

Ready

OK Cancel Previous Next

1/XMLSchema-instance" xmlns:dd12="http://sch

Object Explorer Details - Microsoft SQL Server Management Studio

File Edit View Tools Window Help

New Query Execute

Object Explorer

Connect DQS_MAIN DQS_PROJECTS DQS_STAGING_DATA NEWDB ReportServer ReportServerTempDB yguybnio Security Server Objects Replication Always On High Availability Management Integration Services Catalogs SQL Server Agent Jobs Analysis Process Job syspolicy_purge_history Job Activity Monitor Alerts Operators Proxies Error Logs XEvent Profiler

. (Microsoft Analysis Server 16.0.42.216 - LASHIN\AIDawlia) Databases Grad_Project Assemblies Management

Object Explorer Details

Back Forward Search . (SQL Server 16.0.1110.1 - LASHIN\AIDawlia)\SQL Server Agent\Jobs

Name	Status	Policy Health State
Analysis Process Job	Not running	
syspolicy_purge_history	Not running	

Start Jobs - .

Success 2 Total
2 Success

Details:

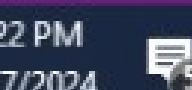
Action	Status	Messa
Start Job 'Analysis Process Job'	Success	
Execute job 'Analysis Process Job'	Success	

Close

Jobs 2 Items

Ready

Type here to search



SQL Server Reporting Services (SSRS)

***ITI Graduation Project
BI Track
Sohag Branch
Cars Sales Report***



Analysis Cars Sales in Dataset contains: **Cars, Customers, Suppliers, Ship as Dimentions and Orders as Fact**. Full Project is on [Github](#).
This Report Contains 4 Reports, Click on any one to go its report:

[**Cars Report**](#)

[**Suppliers Report**](#)

[**Customers Report**](#)

[**Shipping Report**](#)

Cars Report

1 Out of 1

[Back to Home Page](#)

Car Maker	Car Model	Price
BMW	X9	639841
Ford	F150	638900
GMC	F152	657932
Hyundai	ACCORD	652510
	ODYSSEY	665849
	TUCSON	629697
Infiniti	Q	672813
Isuzu	RODEO	653025
Jeep	COMANCHE	557071
	WRANGLER	636785
Kia	BORREGO	642410
Lamborghini	GALLARDO	638210
Land Rover	RANGE ROVER	634642
Lincoln	CONTINENTAL	665521
	MKZ	590493
Mercedes-Benz	M-CLASS	647719
Mercury	CAPRI	658561
	LYNX	650530
Mitsubishi	GALANT	664168
Pontiac	GRAND PRIX	645599
Suzuki	XL-10	650243
Toyota	HIGHLANDER	658320
Volvo	C70	648116



1

of 1



100% ▾

 |

1 Out of 1

[Back to Car Report](#)

Car Details

Hyundai

Car Model	Total Quantity	Total Sales
ODYSSEY	98	5641197
ACCORD	18	1091422
TUCSON	10	461898

State ▼

View Report

◀ < 1 of 1 > ▶ ⏪ ⏩ 100% 🔍 📁 🖨 🔍 | →

Customers Report 1 Out of 1

Back to Home Page

Alaska

City	Customer Name	Job
Anchorage	Lynnet Berzons	Software Engineer
	Willy Borg	Investor
	Hunt Jewster	Engineer
	Lancelot Godspeede	Investor
	Merrile Spensly	Software Engineer
	Darrel Couchman	Senior Financial Analyst
	Diarmid Gensavage	Engineer
	Ambros Clapperton	Engineer
	Ivett Lensch	Software Engineer
	Frannie Maccaig	Food Chemist

Countries United States ▾

[View Report](#)

1

of 2



100%



1 Out of 2

[Back to Home Page](#)

Suppliers Report

Number of Suppliers is 7

Supplier Name	Total Sales	Total Quantity	Quantity Indicator
Tommy Dwayne	38052226	678	
Maurice Sergio	29154316	524	
Ralph Jared	9741918	168	
Noah Shane	3303563	59	
Jimmie Brandon	2246518	36	
Frank Julio	2170057	37	
Darryl Christian	640772	10	

Shipping Report

1 Out of 1

[Back to Home Page](#)

Shipping	Ship Mode	Ship Cost	Number of Orders
----------	-----------	-----------	------------------

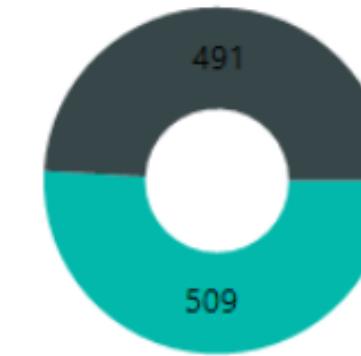
Air

Standard Class	1000	141
Second Class	1500	129
First Class	300	126
Same Day	4000	113

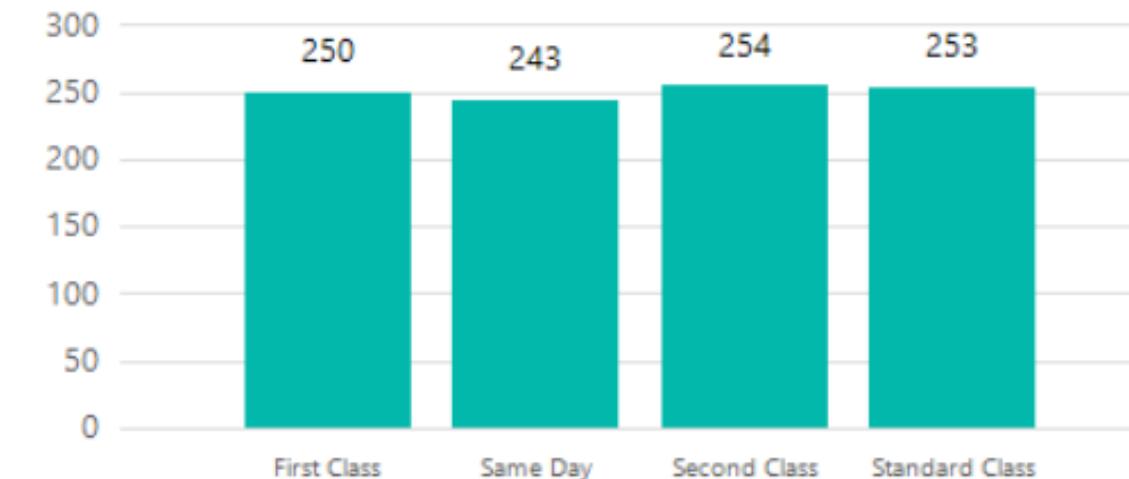
Truck

Same Day	3000	130
Second Class	800	125
First Class	1300	124
Standard Class	500	112

Shipping By Number of Orders

 Air
 Truck

Shipping Mode By Number of Orders



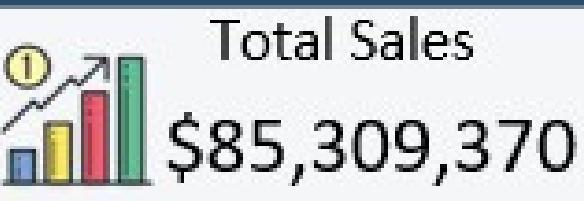
Excel Analysis



Car Sales Data Management



JOB
SATISFACTION
RATING



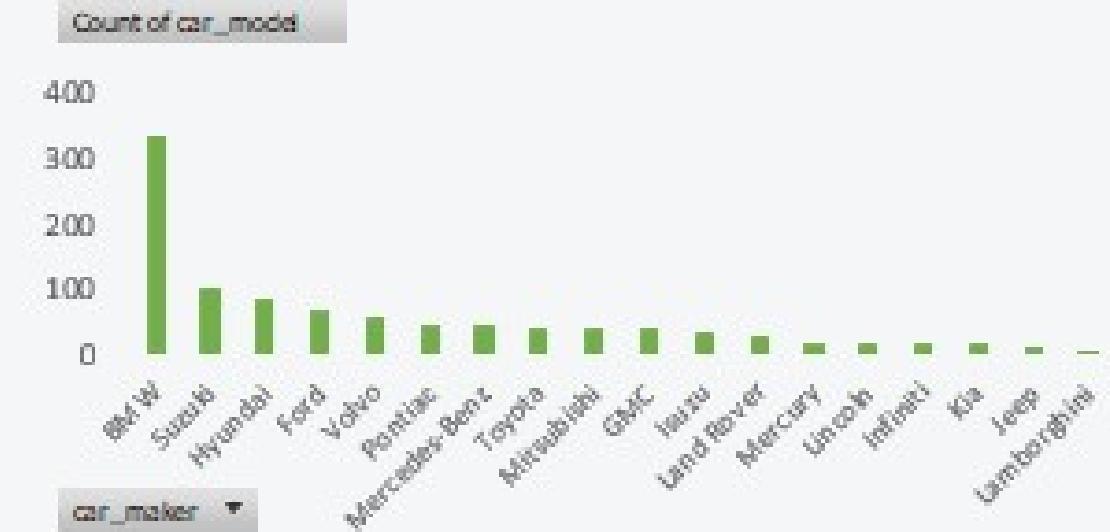
Total Orders by Gender



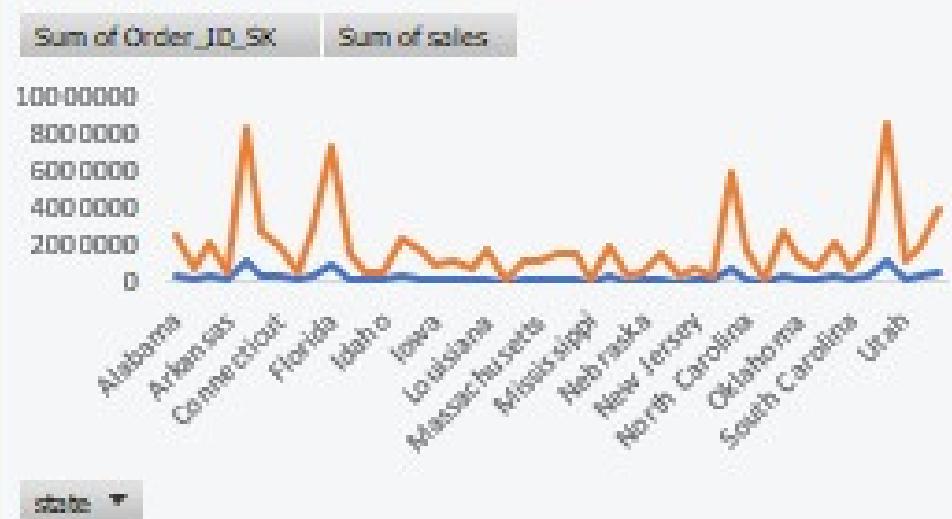
Total Quantity of cars by Year



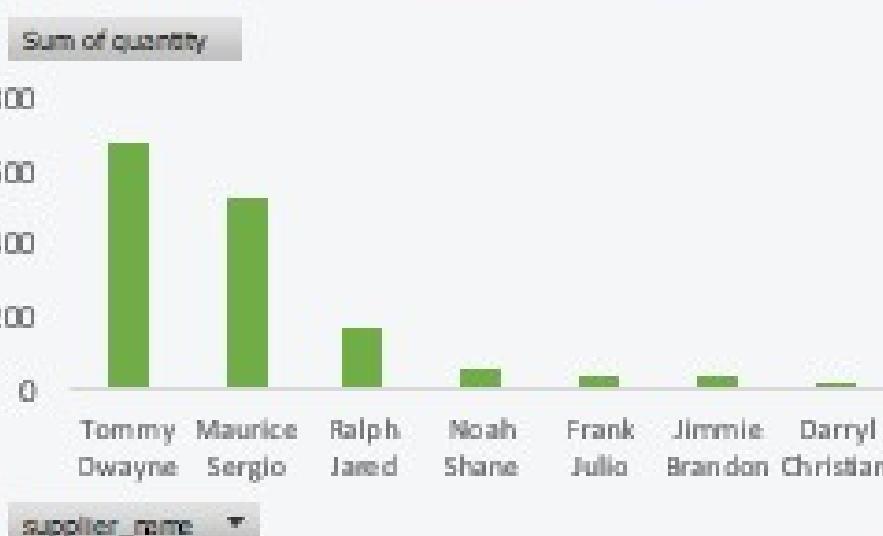
Number of Order by Car Marker



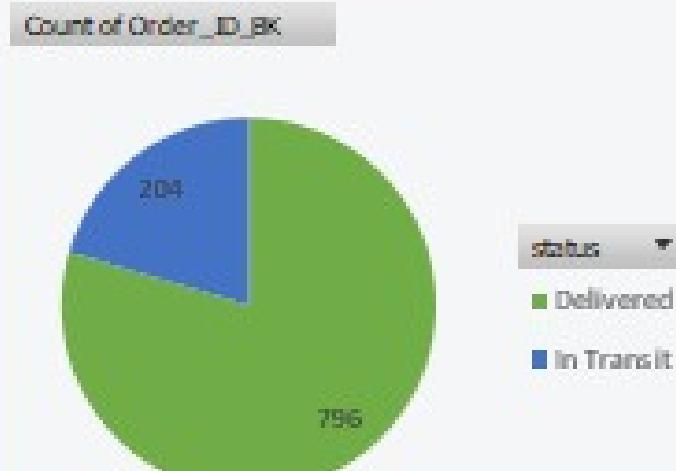
States on Orders



Number of Cars by Supplier



Total Order by Status



Filter By Year

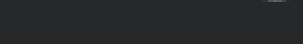


Power BI

Management Car Order Report



1/2/2019	8	Total Orders	Total Orders Last Year	Total Sales	Total Sales Last Year	Total Quantity	Quantity Last Year	Total Customers
12/26/2023	8	1000	204	\$85,309,370.00	\$17,311,123	1512	301	1000



Overview

Order

Cars

Customers

Suppliers

Shipping

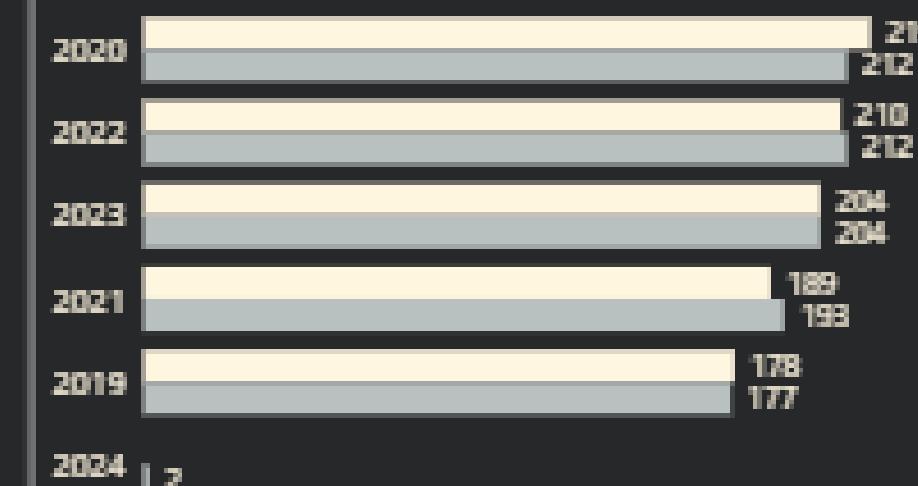
Q&A

Number of Orders by Year(Month)



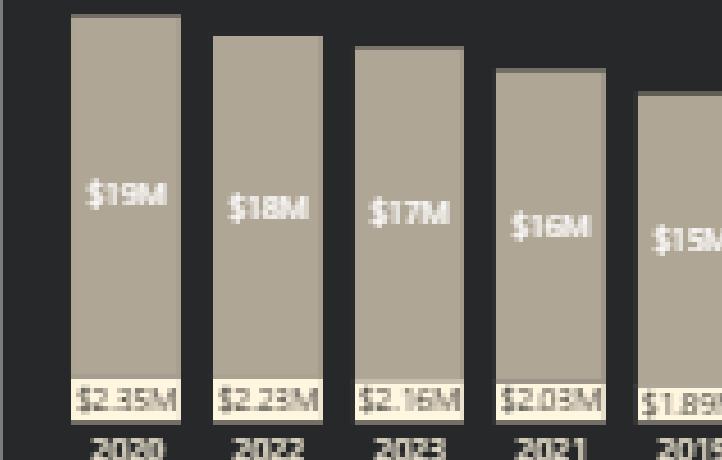
Total Orders and Total Orders by Ship Date by Year

- Total Orders
- Total Orders by Ship Date



Profit Vs Total Sales

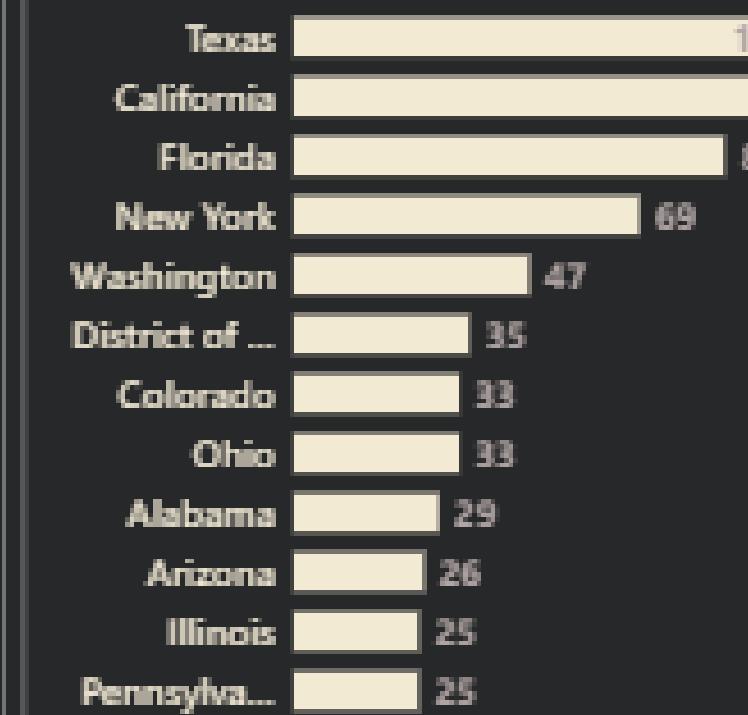
- Sum of Profit
- Total Sales



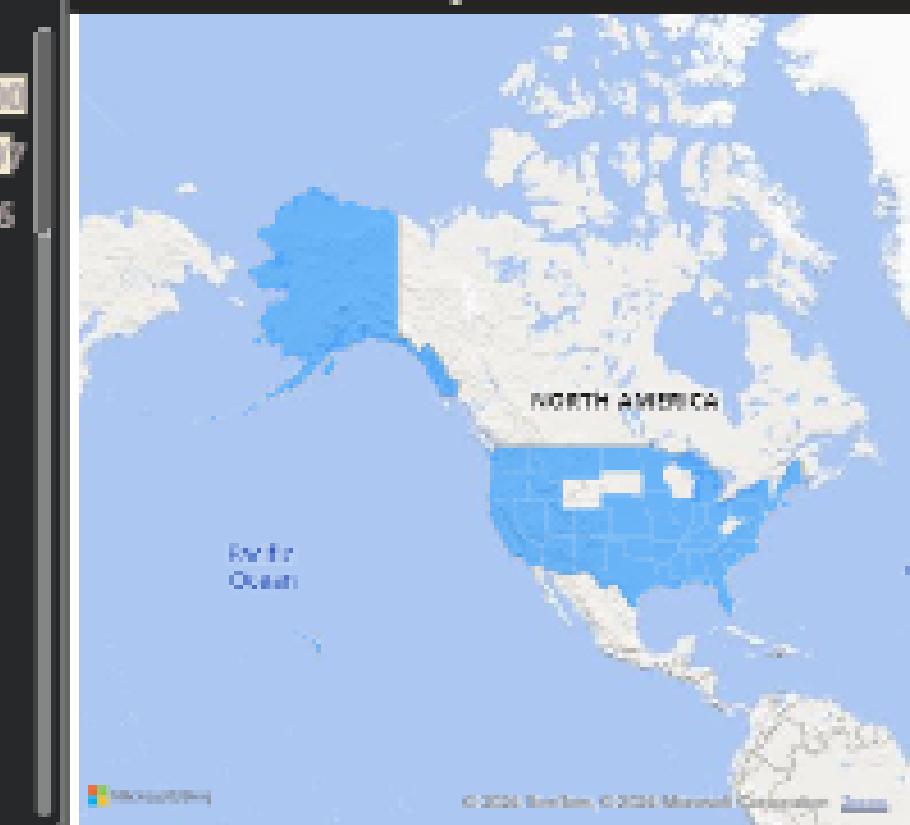
Sum of Profit by Car Model



Total Orders by State

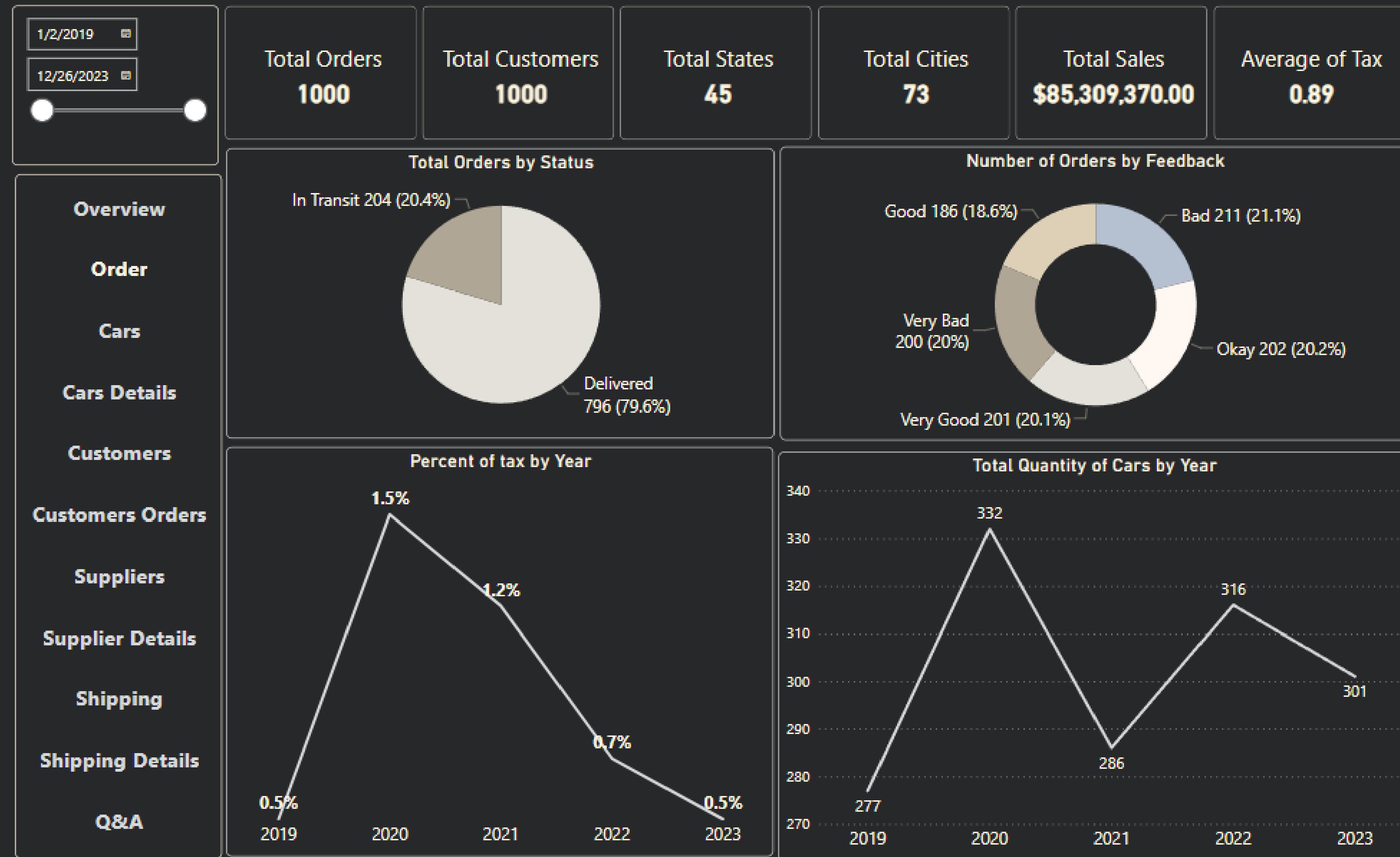


Total Orders by Customer Location

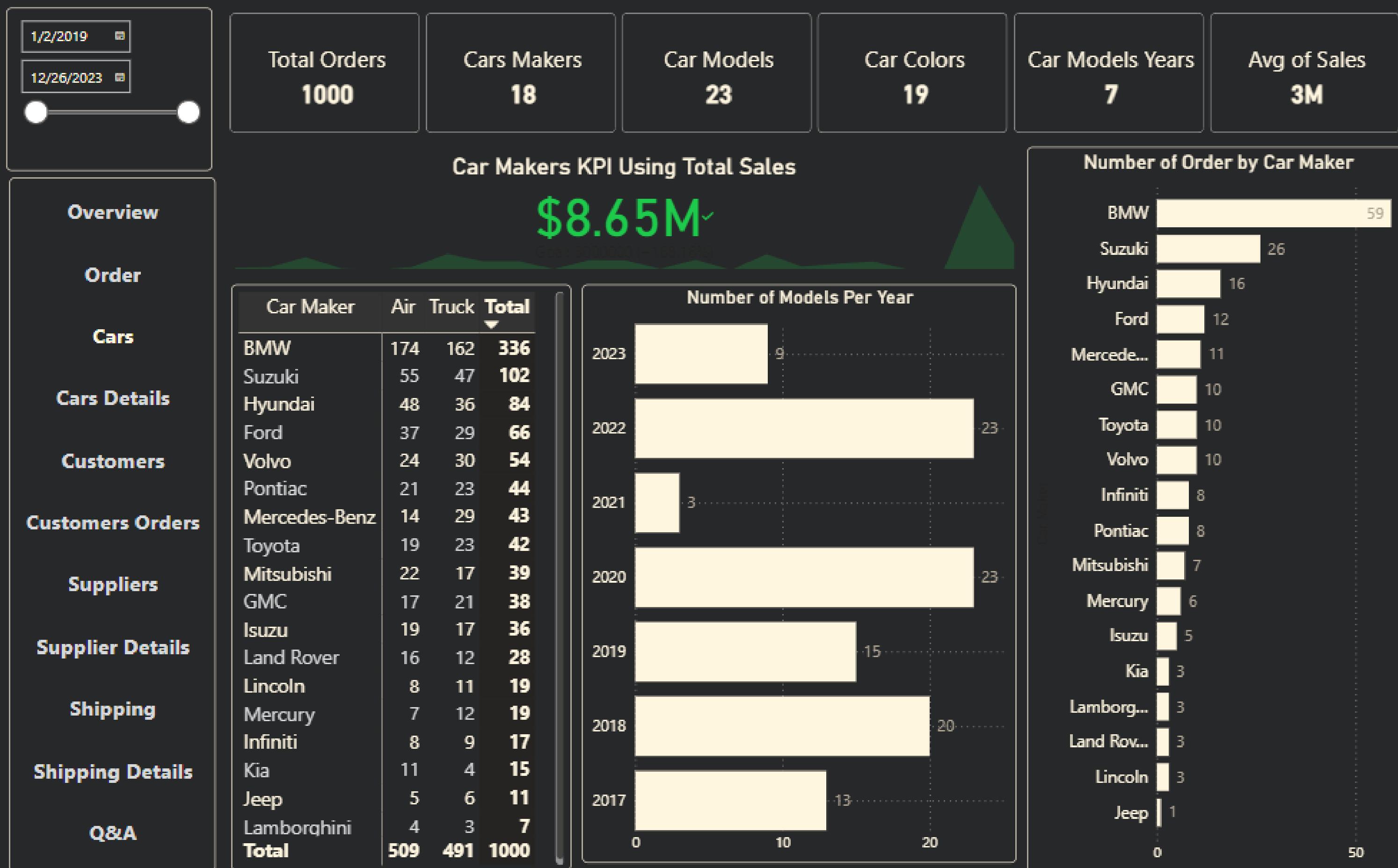


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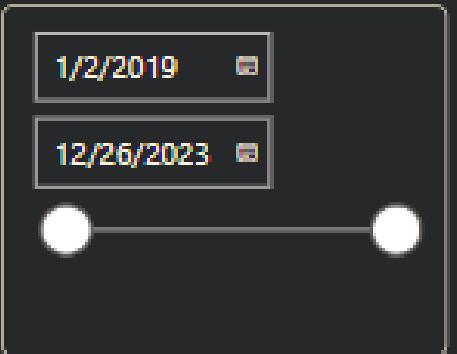
Cars Orders Analysis



Cars Analysis



CARS Details



Overview

Order

Cars

Cars Details

Customers

Customers Orders

Suppliers

Supplier Details

Shipping

Shipping Details

Q&A

Maker Model Color

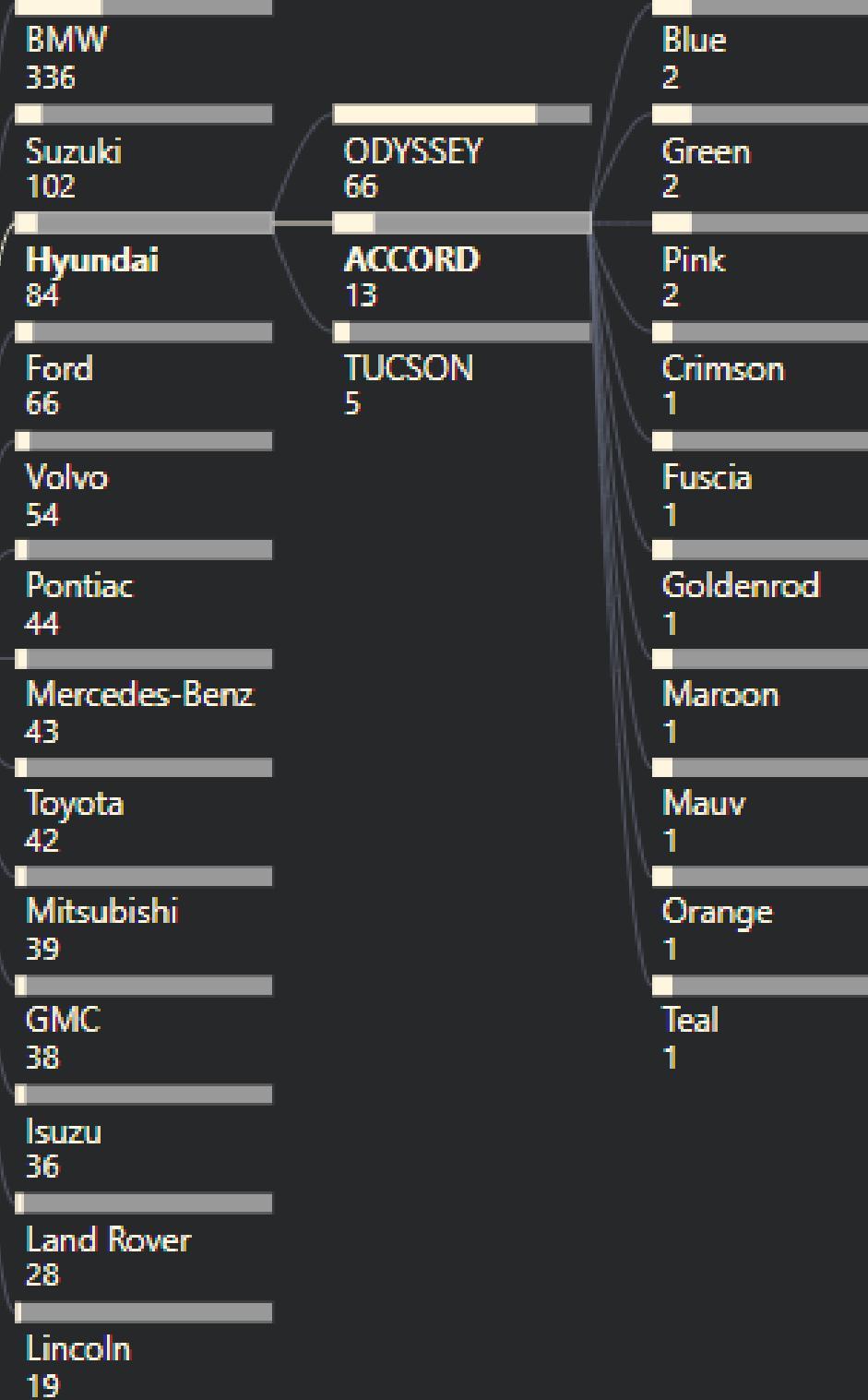
Hyundai

Model

ACCORD

Color

Blue



Total Orders

1000

Total Sales

\$85.31M

Average of Cars' Price

647.42K

Number of Car Models

23

Number of Car Models Last Year

9

Number of Car Colors

19

Number of Car Models Years

7

Customers Analysis

1/2/2019

12/26/2023

Total Customers

1000

Female Customers

451

Male Customers

549

Total States

45

Total Cities

73

Overview

Order

Cars

Cars Details

Customers

Customers Orders

Suppliers

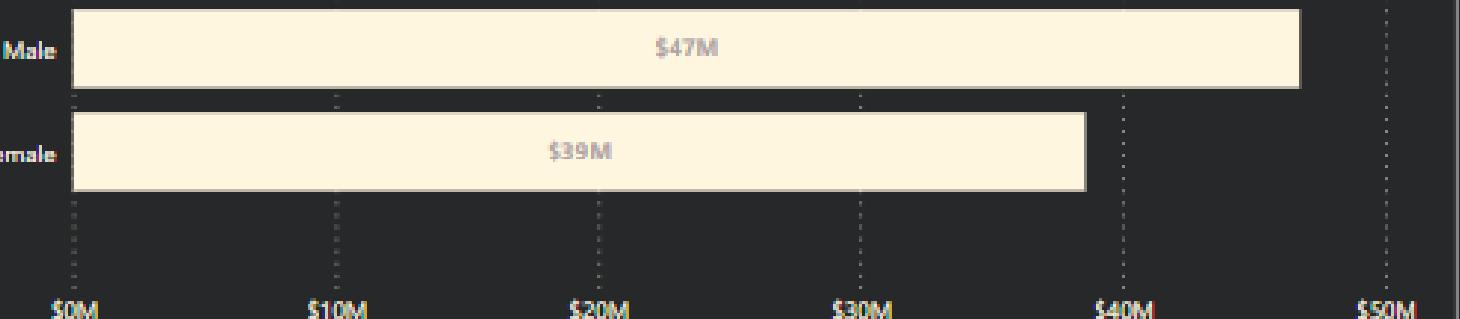
Supplier Details

Shipping

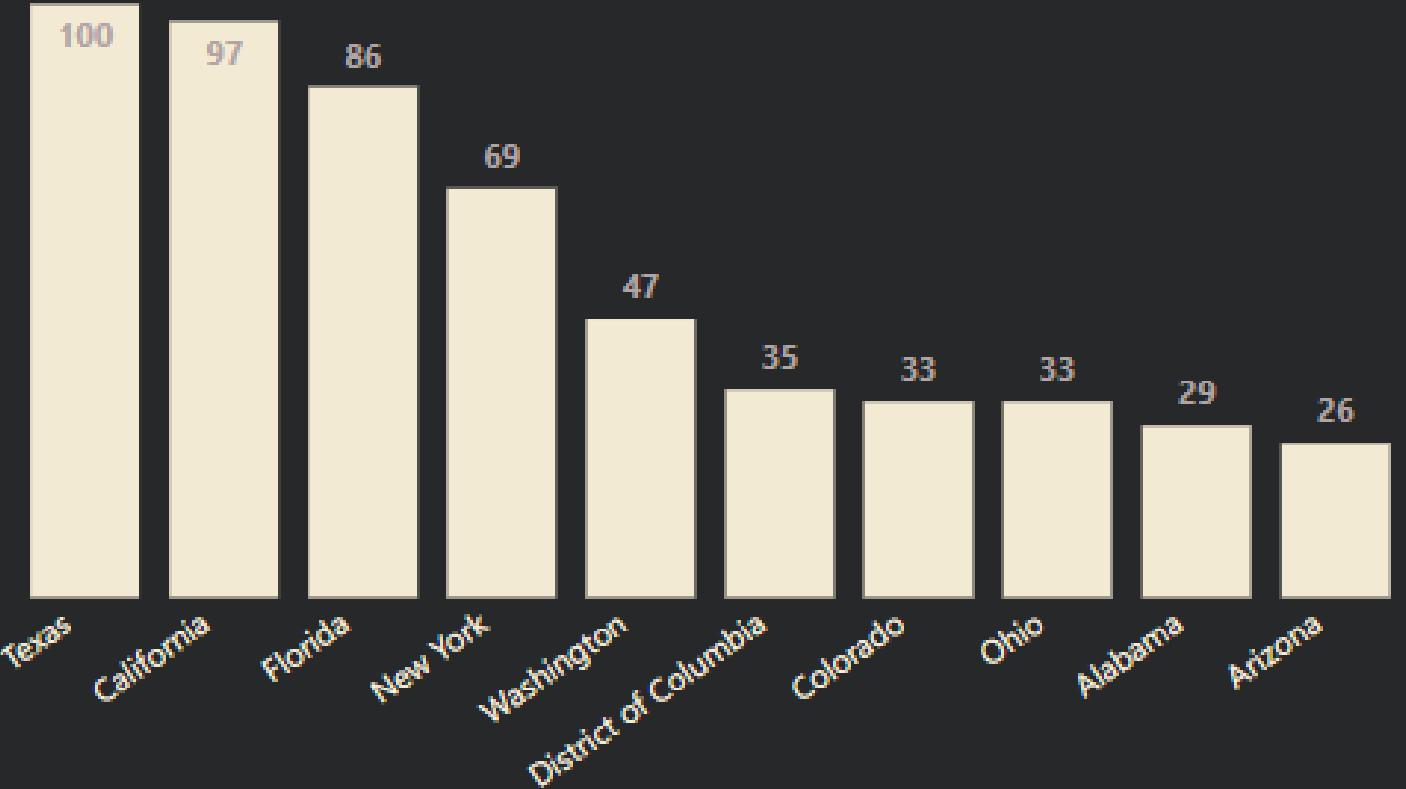
Shipping Details

Q&A

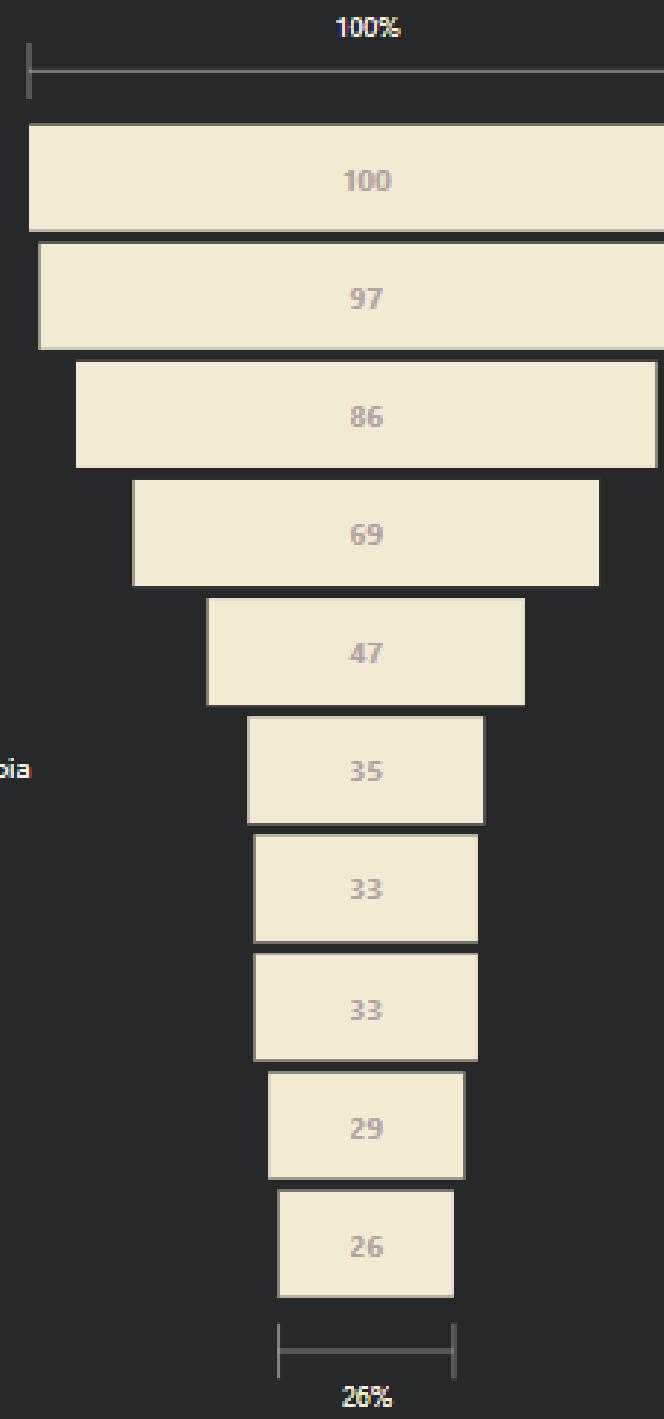
Total Sales, Count of Male Customers and Count of Female Customers by Gender



Top 10 States on Orders



Top 10 States with Sales



Customers Details

1/2/2019

12/26/2023

Overview

Order

Cars

Cars Details

Customers

Customers Orders

Suppliers

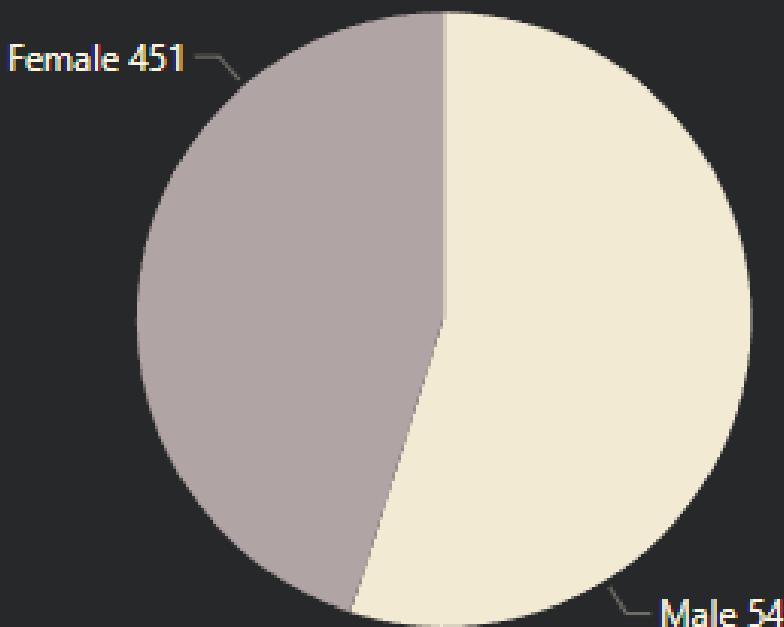
Supplier Details

Shipping

Shipping Details

Q&A

Total Orders by gender



Total Orders

1000

Total Sales

\$85.31M

Total Customers

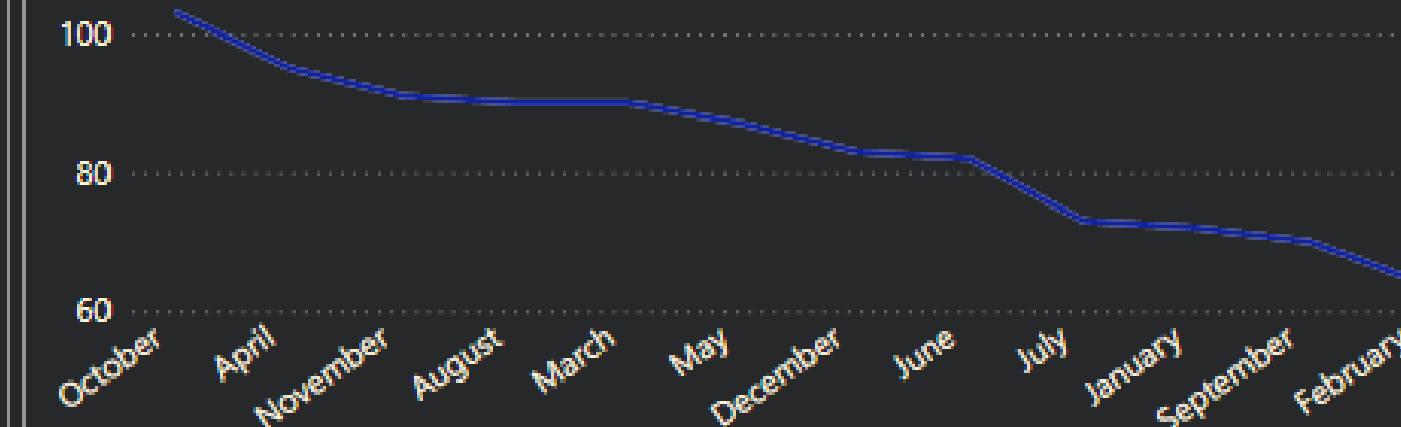
1000

Number of Jobs

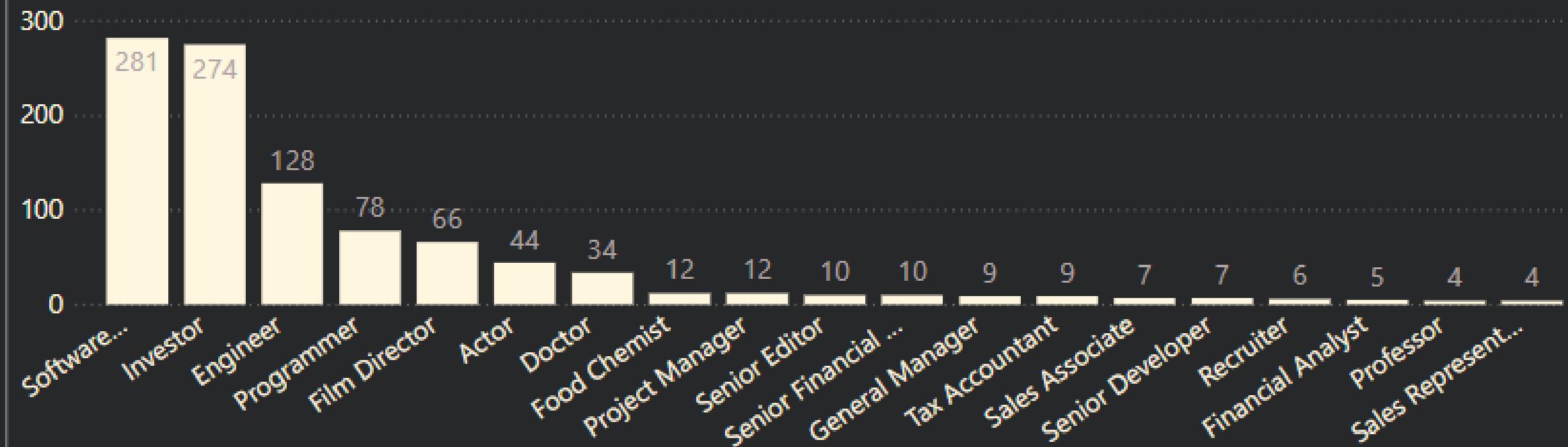
19

Number of Orders and Customers by Month

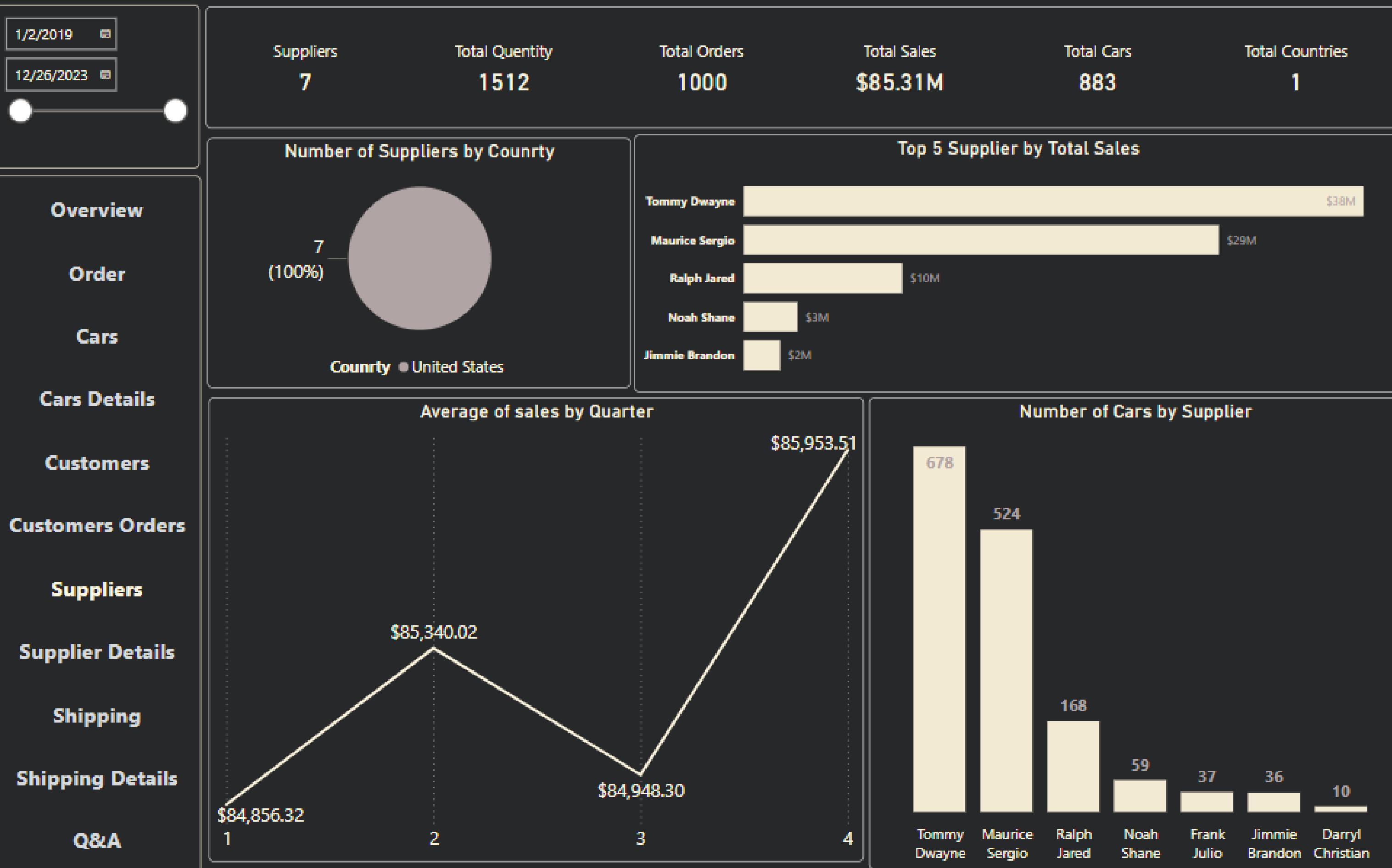
● Total Orders ● Total Customers



Total Orders by customers job



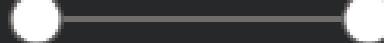
Suppliers Analysis



Suppliers Details

1/2/2019

12/26/2023



Overview

Order

Cars

Cars Details

Customers

Customers Orders

Suppliers

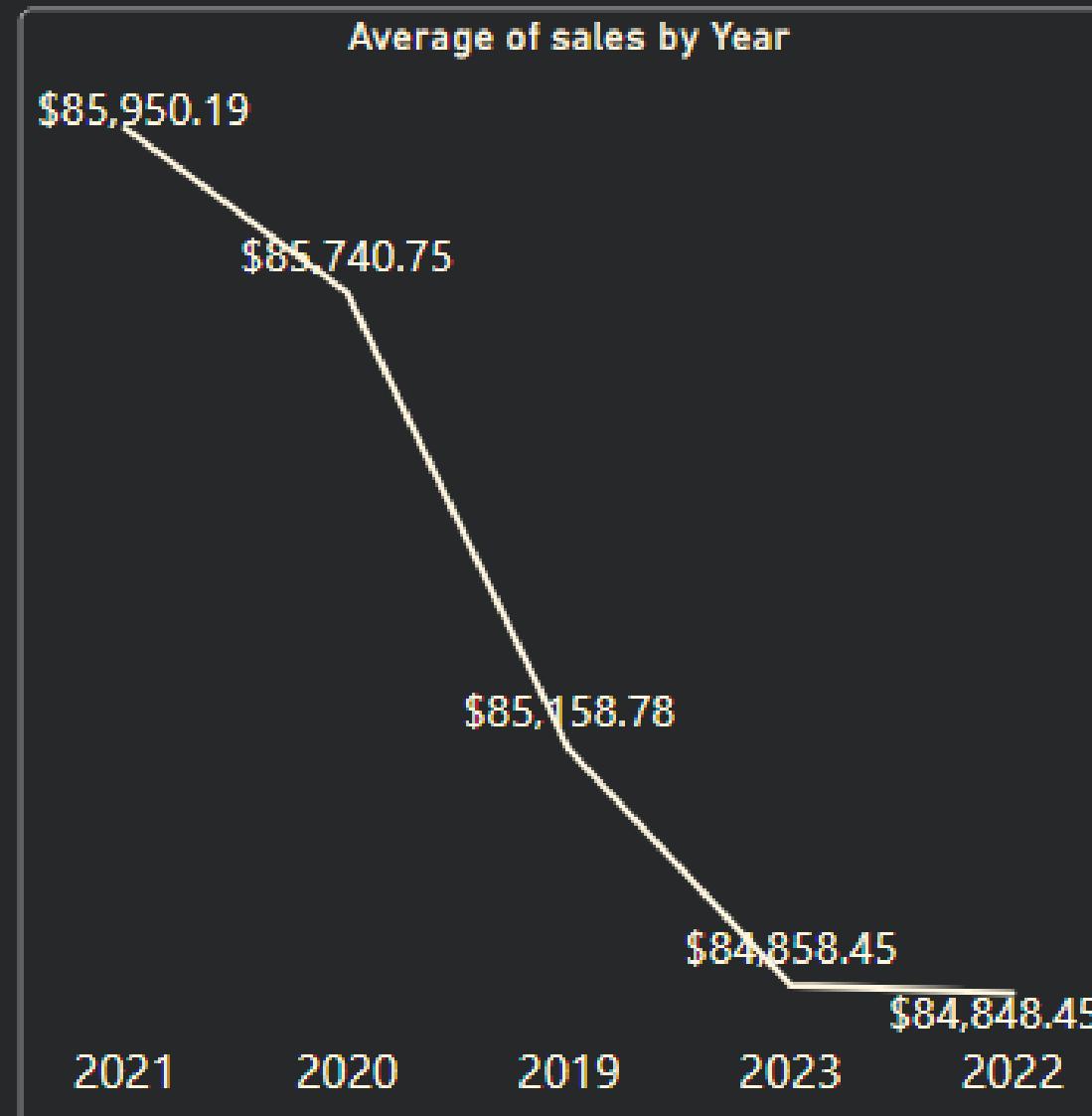
Supplier Details

Shipping

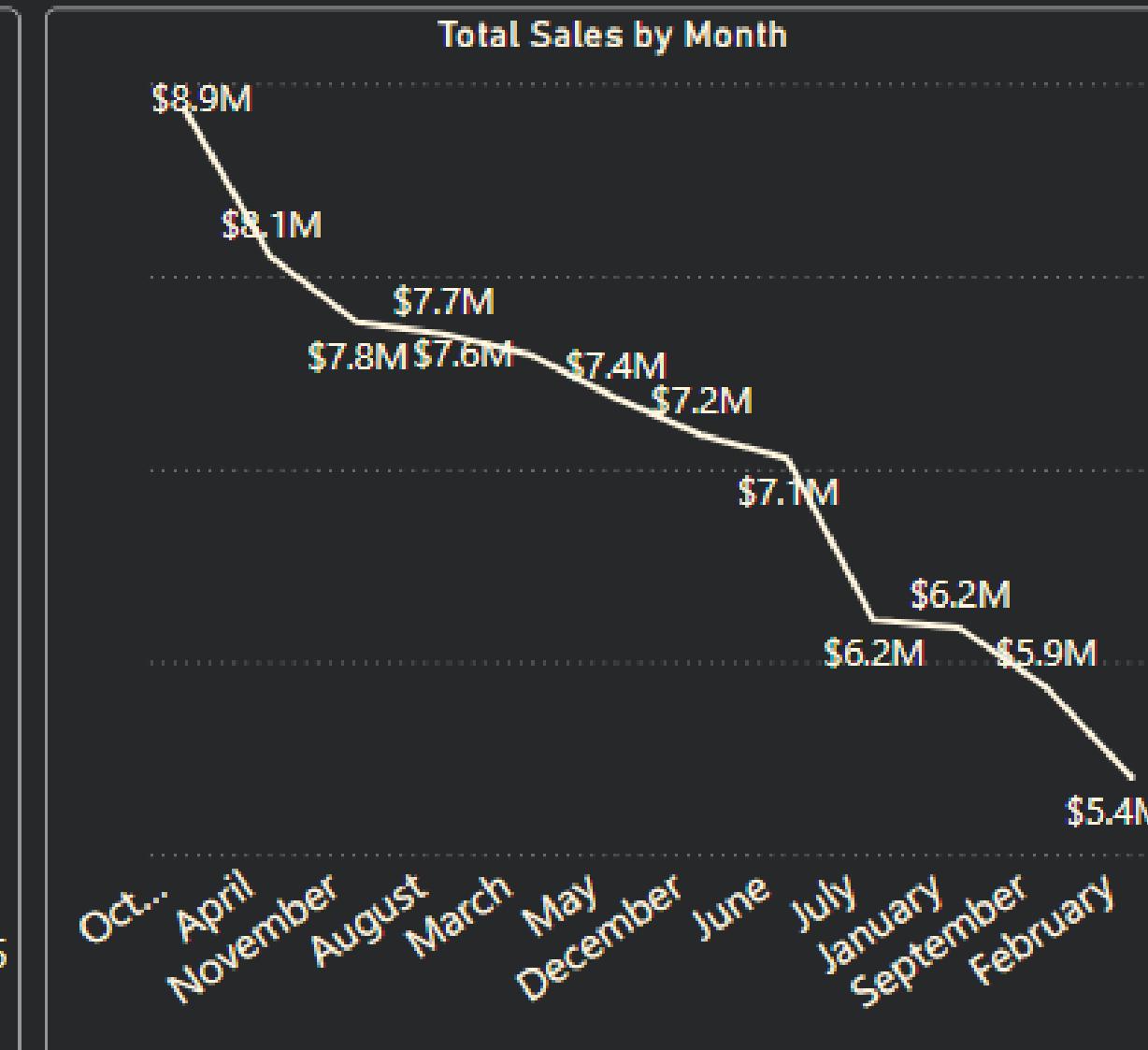
Shipping Details

Q&A

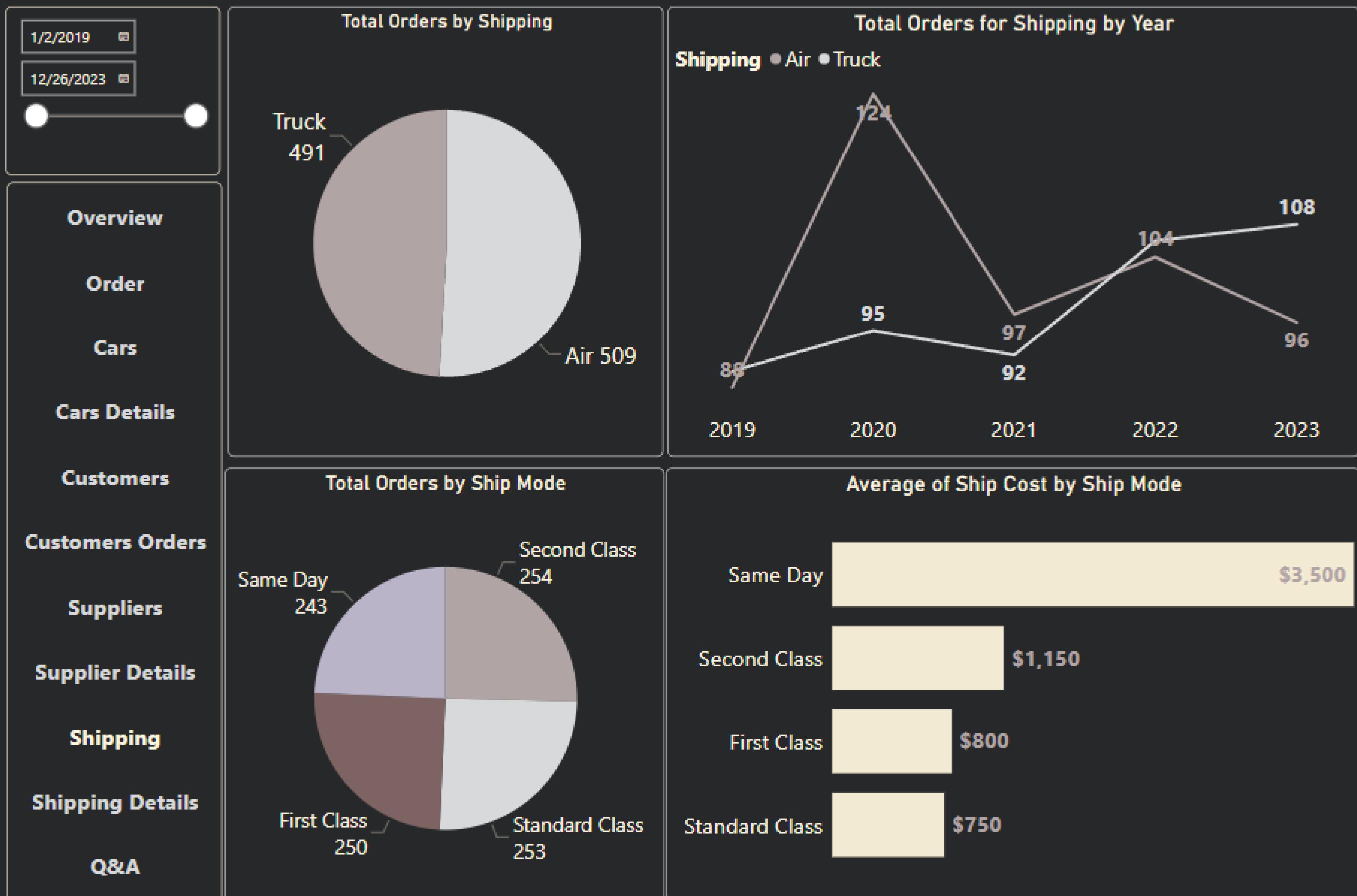
Supplier Country	Total Customers	Total Sales
⊕ United States		
Tommy Dwayne	445	\$38,052,226.00
Maurice Sergio	344	\$29,154,316.00
Ralph Jared	114	\$9,741,918.00
Noah Shane	38	\$3,303,563.00
Jimmie Brandon	26	\$2,246,518.00
Frank Julio	25	\$2,170,057.00
Darryl Christian	8	\$640,772.00



Supplier Country	2019	2020	2021	2022
⊕ United States				
Tommy Dwayne	\$84,520.54	\$86,356.55	\$86,377.59	\$85,950.19
Ralph Jared	\$85,532.68	\$85,632.05	\$84,608.36	\$85,740.75
Noah Shane	\$85,853.57	\$87,289.33	\$83,769.75	\$85,158.78
Maurice Sergio	\$85,523.62	\$84,554.59	\$86,002.52	\$84,858.45
Jimmie Brandon	\$97,847.50	\$86,223.67	\$83,306.40	\$84,848.45
Frank Julio	\$83,641.75	\$91,333.57	\$92,375.00	\$84,848.45
Darryl Christian	\$86,241.00	\$73,749.50		\$84,848.45



Orders Shipping



Shipping Details

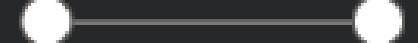


Question and Answer

...

1/2/2019

12/26/2023



Overview

Order

Cars

Cars Details

Customers

Customers Orders

Suppliers

Supplier Details

Shipping

Shipping Details

Q&A

Ask a question about your data

Try one of these to get started

top states by total sales

top states by total cities

top states by total countries

top states by total sales last year

top feedbacks by total states

show me total orders for the last week

show me total quantity for the last year

show me number of countries for the last year

show me number of car models for the last year

maximum tax

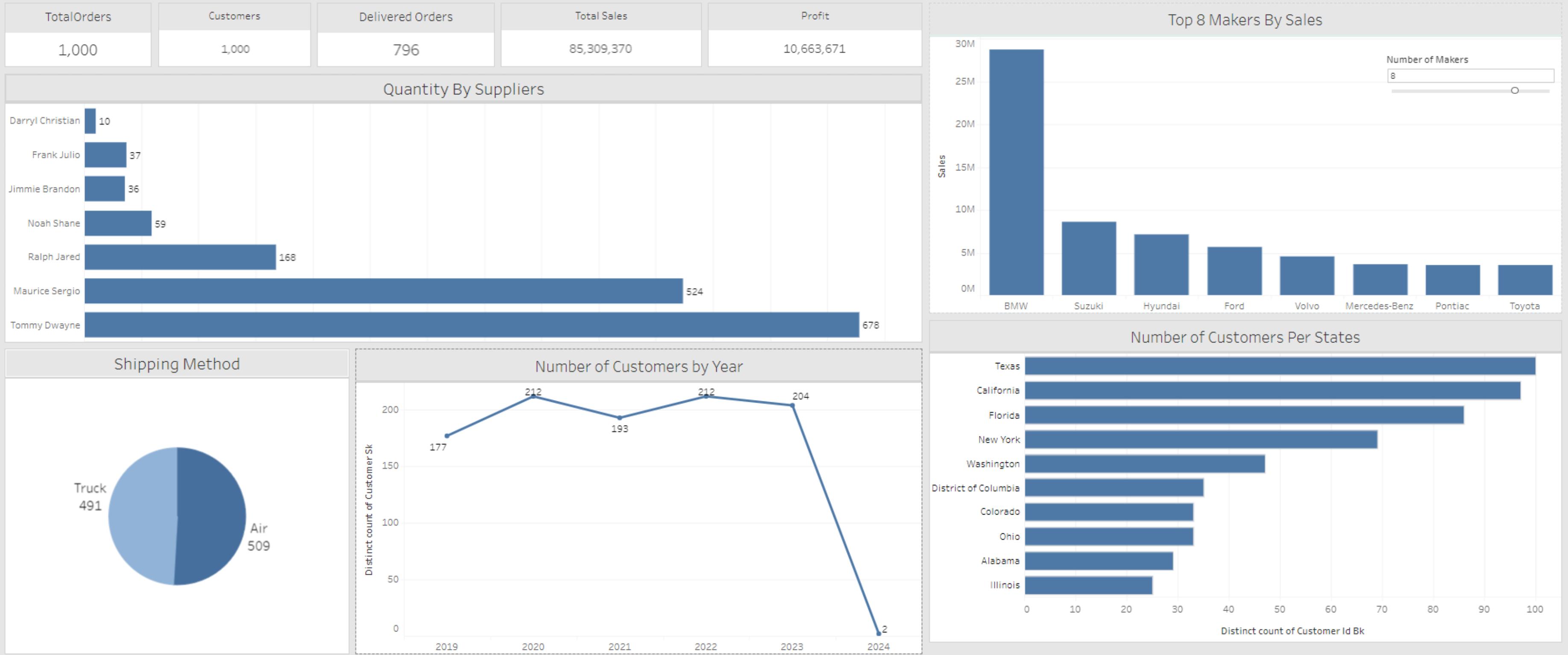
Show fewer suggestions

Tableau

ITI Graduation Project(BI Sohage)
Cars Sales Dashboard

< 1/5 >

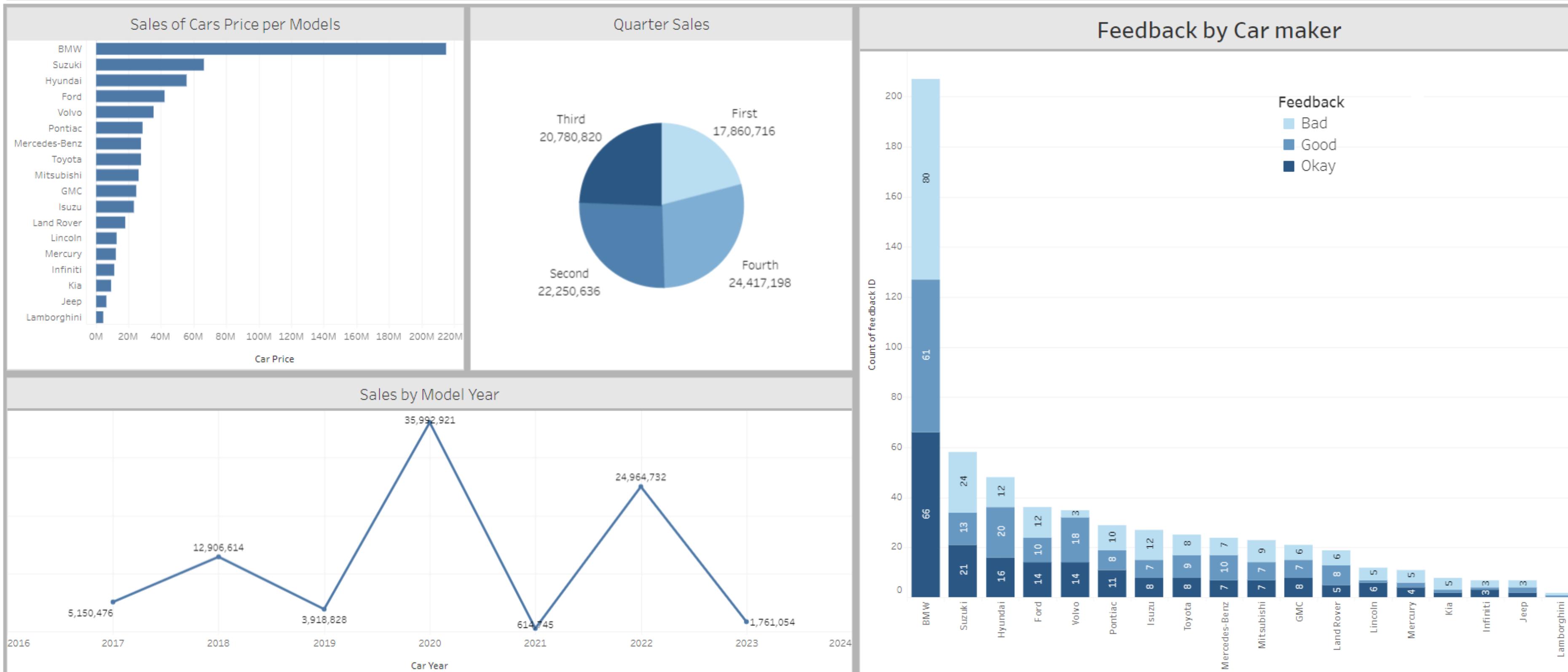
Cars Sales Data Management



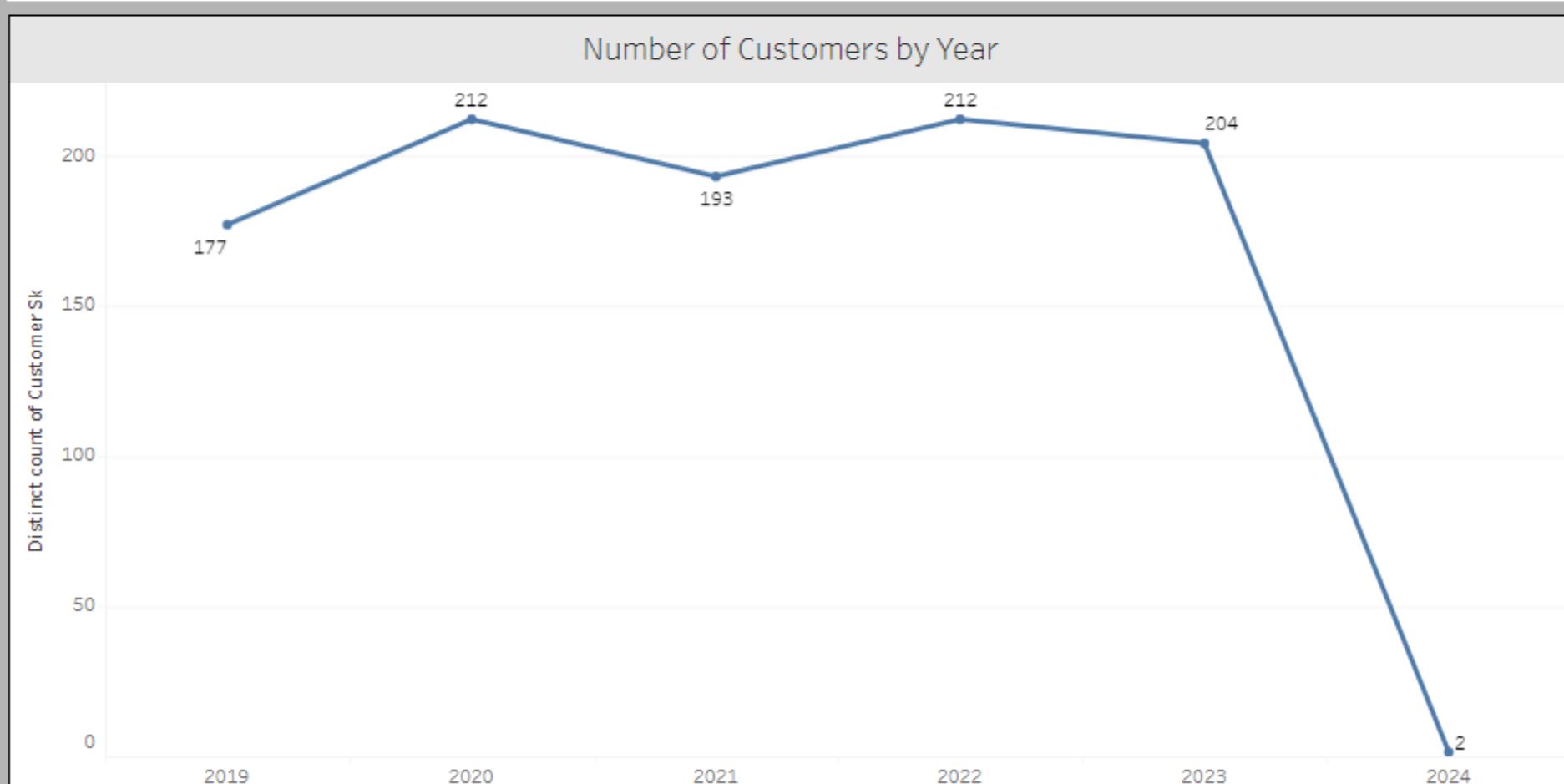
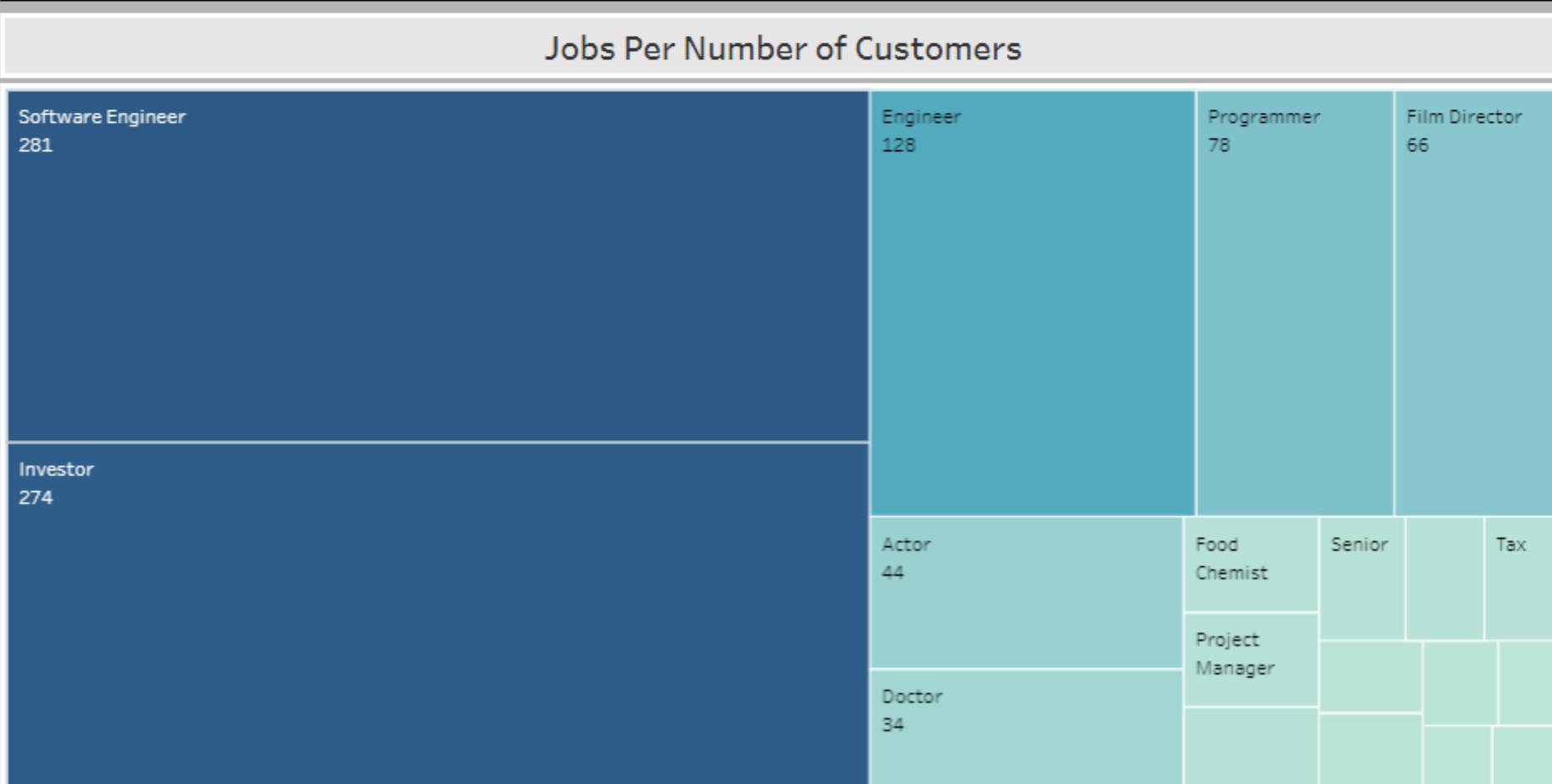
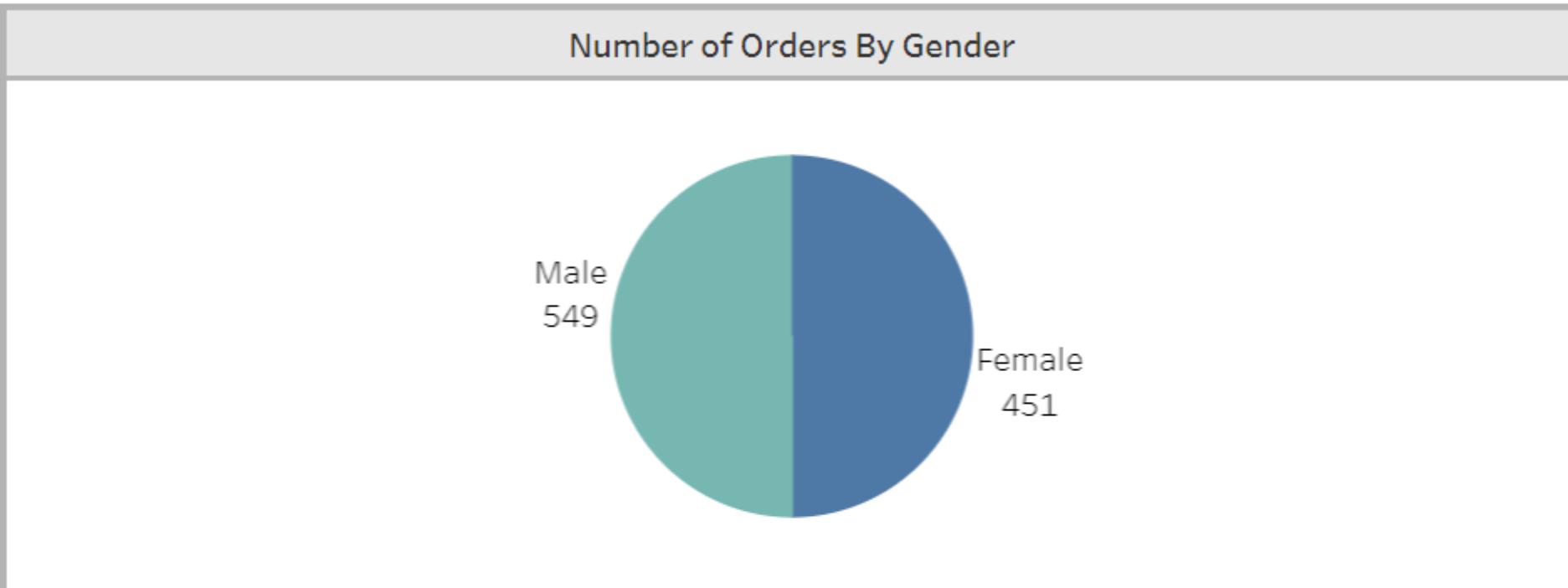
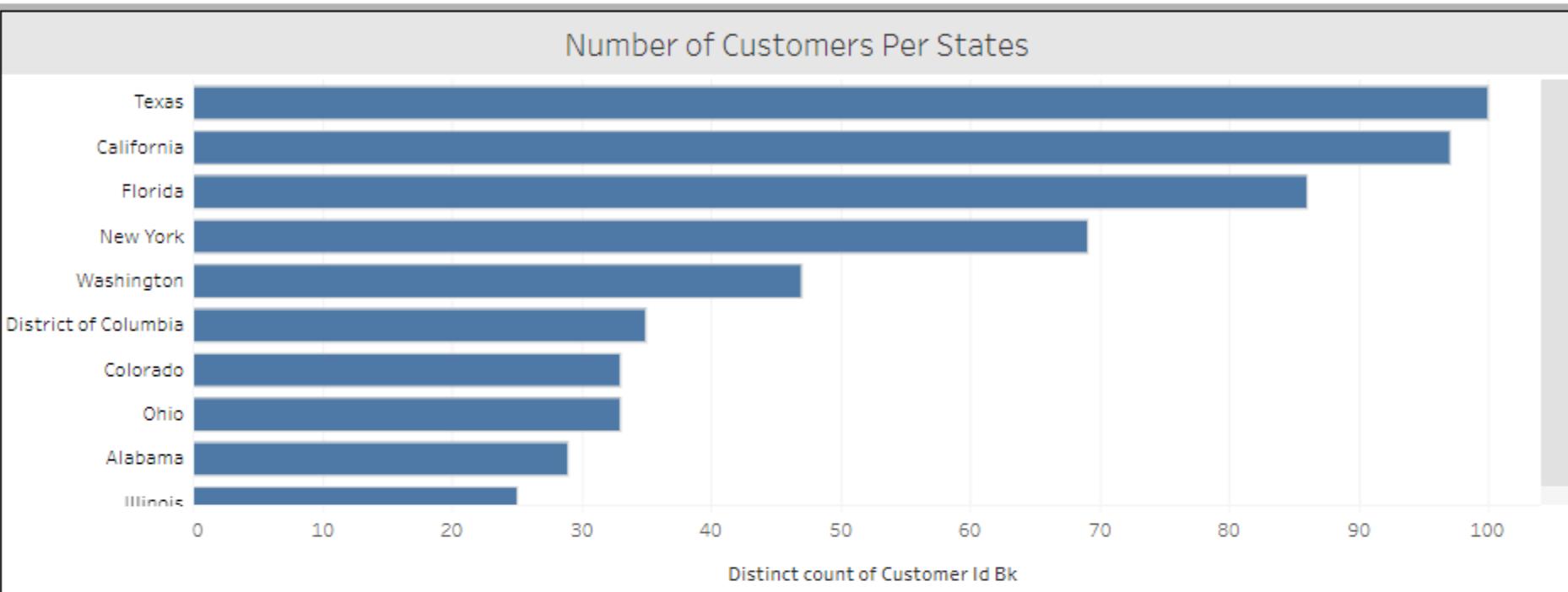
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Cars Sales Dashboard

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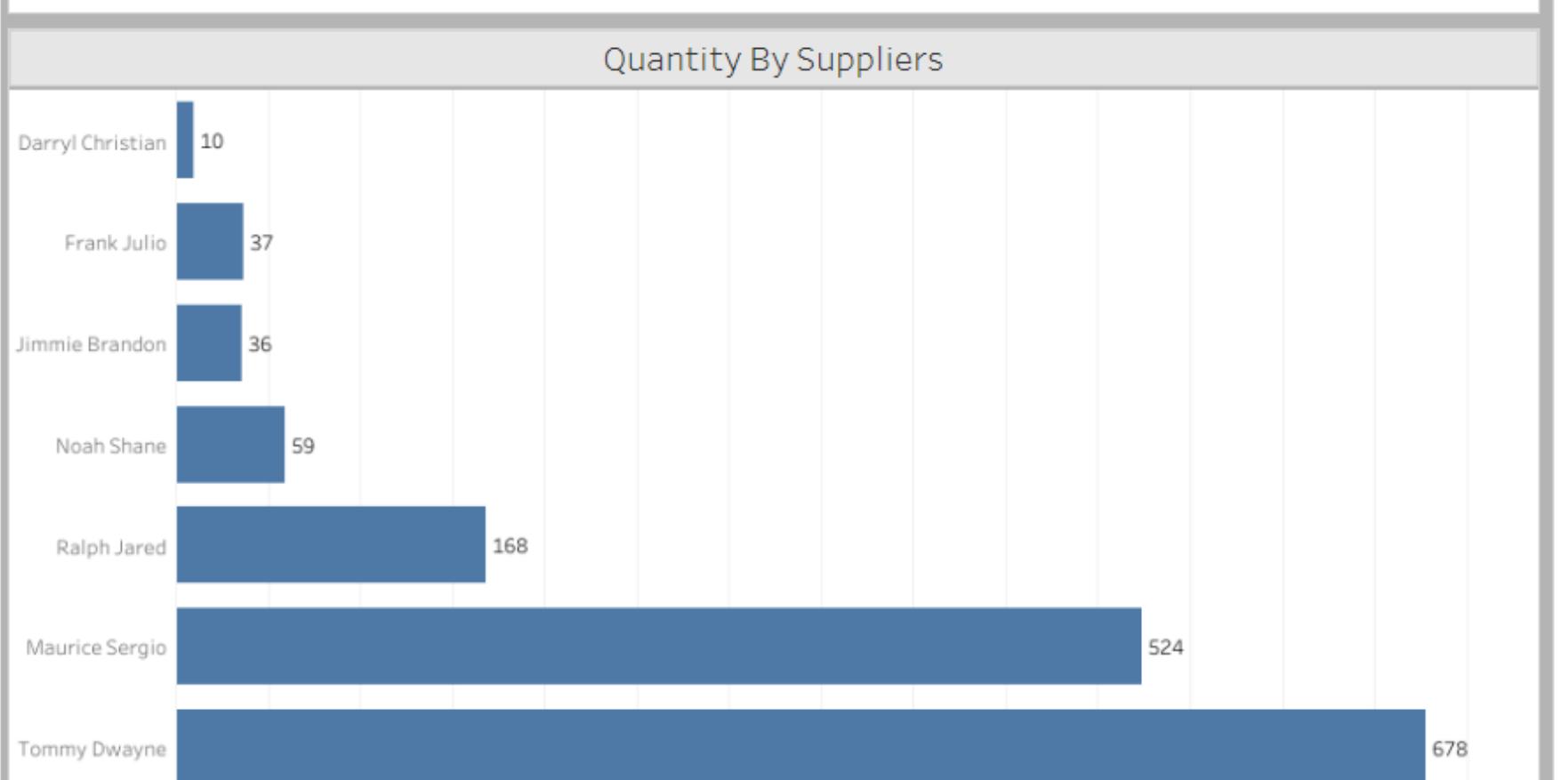
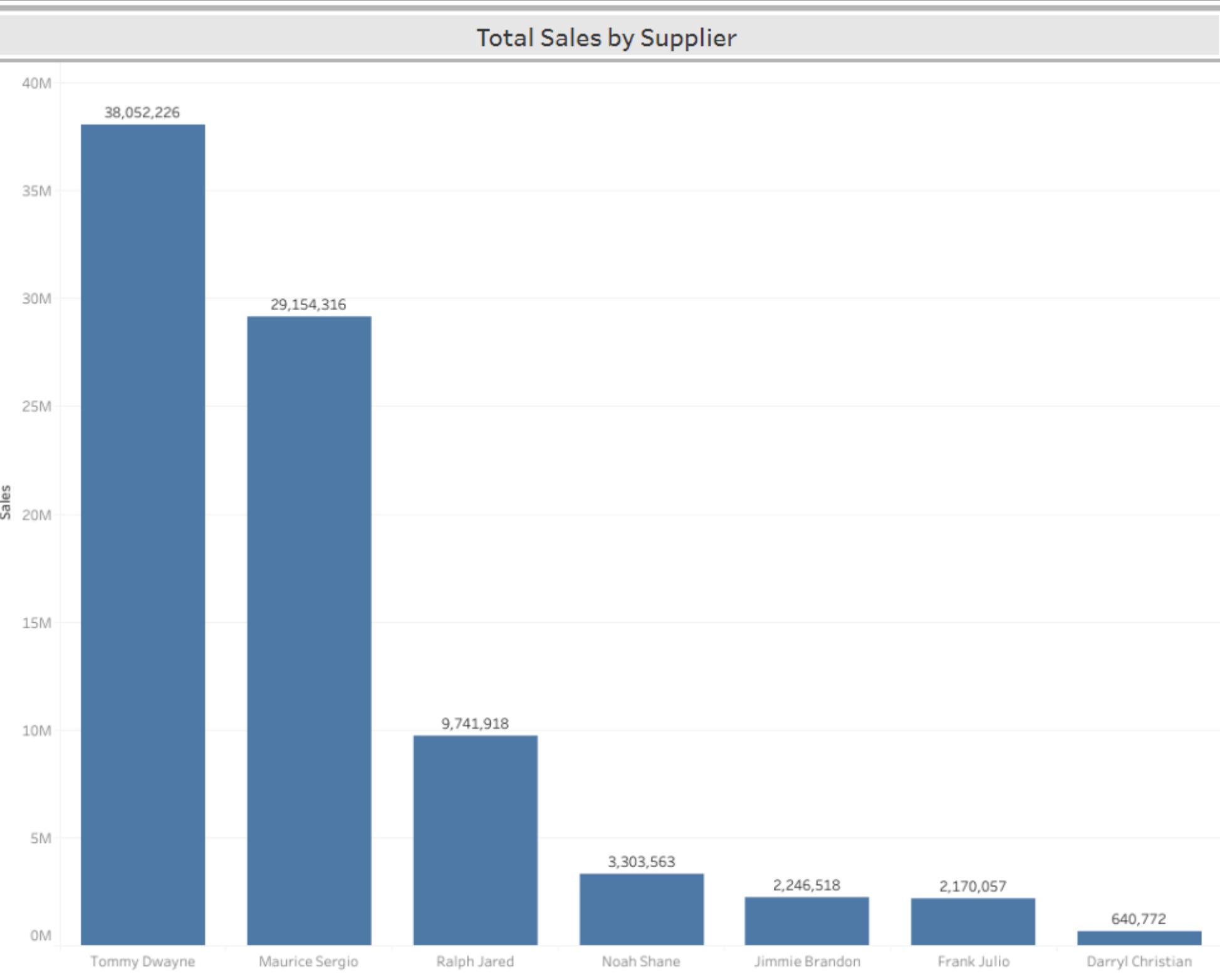
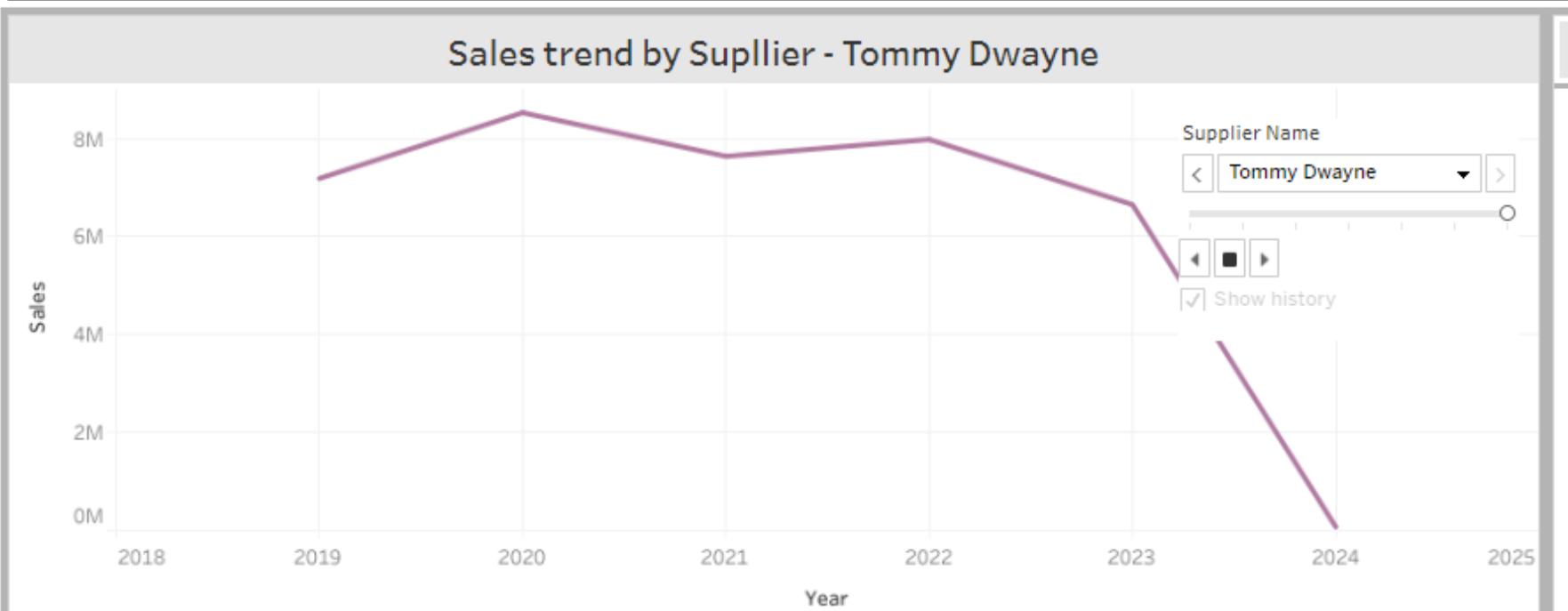
Cars Sales Analysis



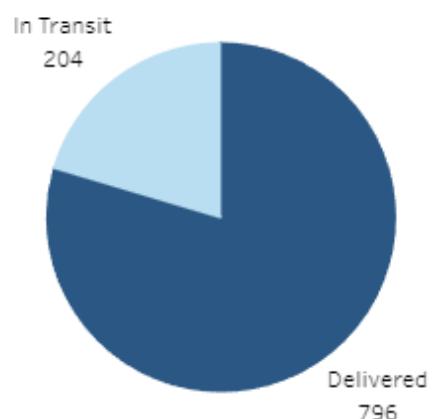
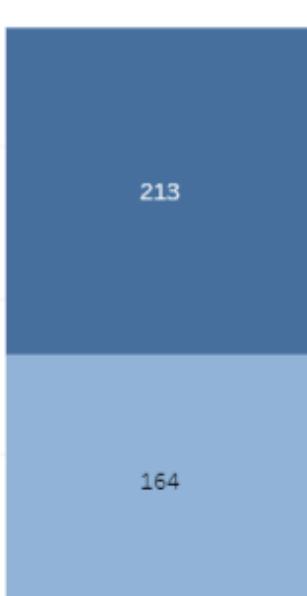
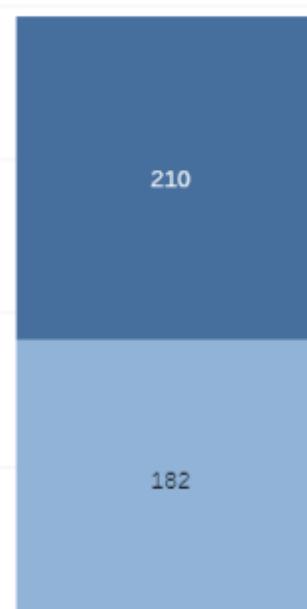
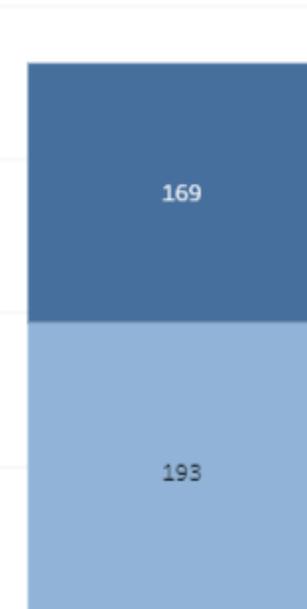
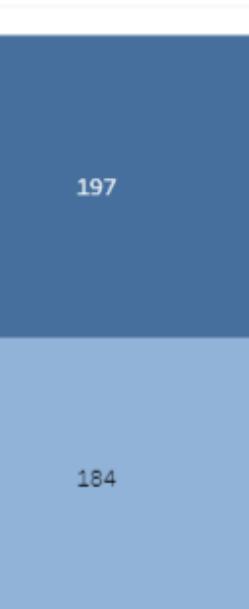
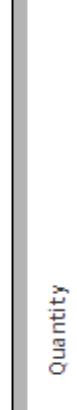
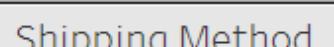
Customers



Suppliers



Shipping Methods



Thank You