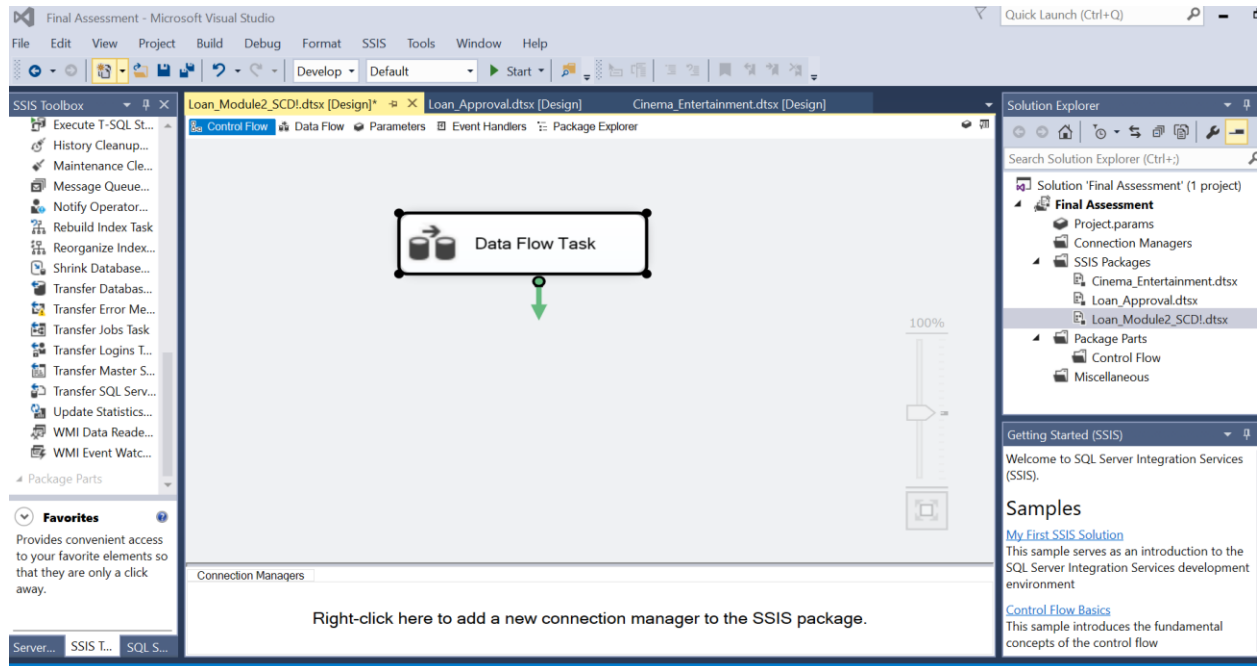
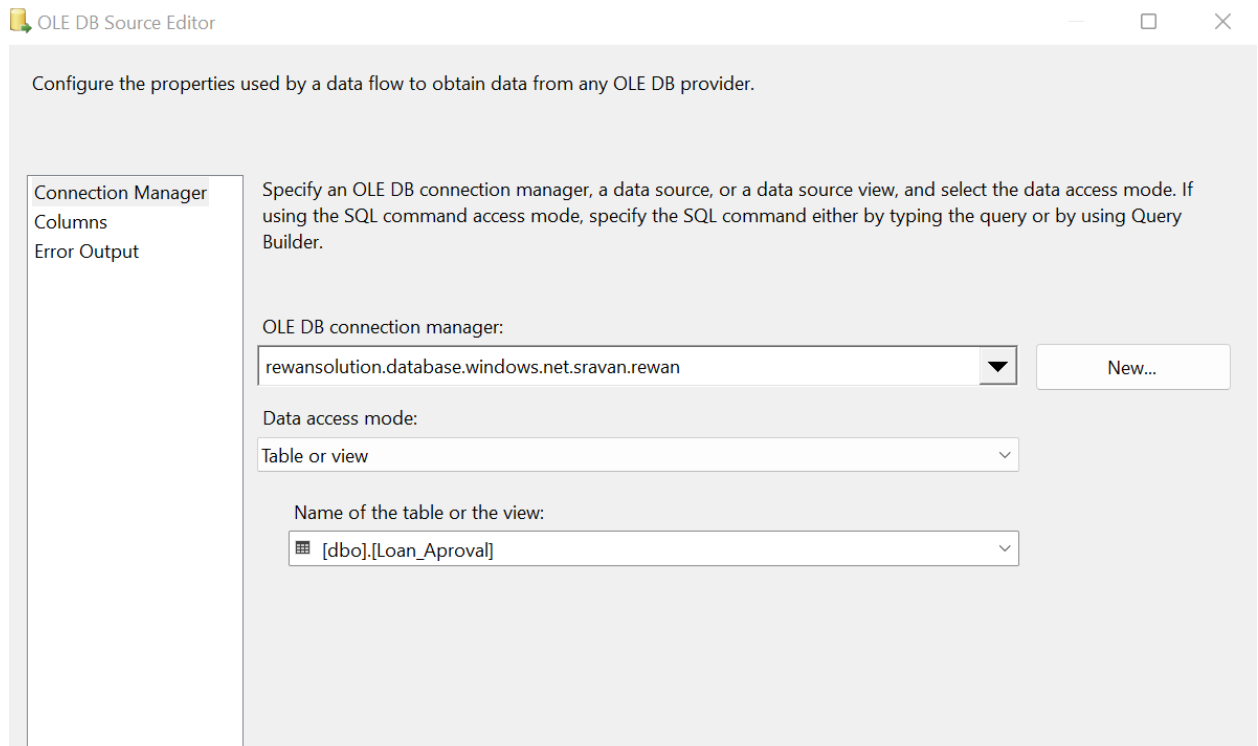


1. Slowly Changing Dimension Type 1 (Loan_Approval)

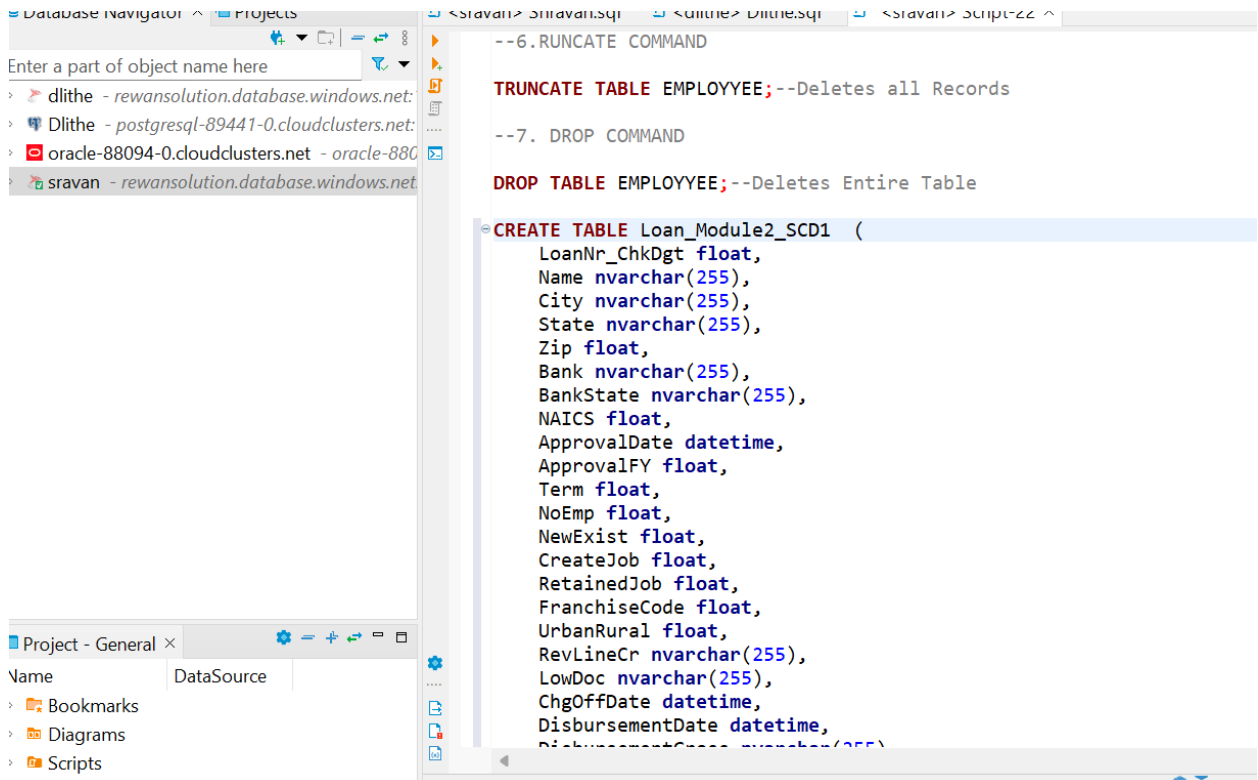
Package for SCD1



Creating Connection and Selecting the Table



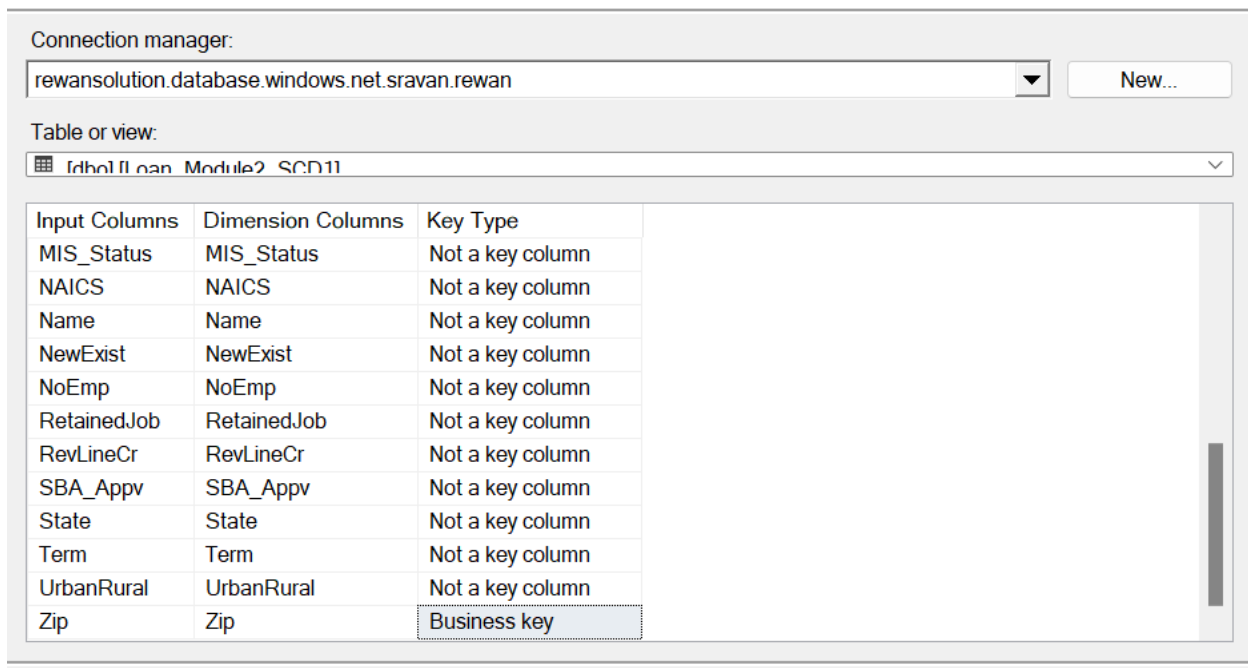
Creating Destination Table for SCD1




Selecting Business Key

Select a Dimension Table and Keys

Select a dimension table to load and map columns in the transformation input to columns in the dimension table.



Setting Attributes

 Slowly Changing Dimension Wizard

Slowly Changing Dimension Columns

Manage the changes to column data in your slowly changing dimensions by setting the change type for dimension columns.

Fixed Attribute

Select this type when the value in a column should not change. Changes are treated as errors.

Changing Attribute

Select this type when changed values should overwrite existing values. This is a Type 1 change.

Historical Attribute

Select this type when changes in column values are saved in new records. Previous values are saved in records marked as outdated. This is a Type 2 change.

Select a change type for slowly changing dimension columns:

Dimension Columns	Change Type
MIS_Status	Fixed attribute
NAICS	Fixed attribute
Name	Fixed attribute
NewExist	Fixed attribute
NoEmp	Fixed attribute
RetainedJob	Fixed attribute
RevLineCr	Fixed attribute
SBA_Appv	Fixed attribute
State	Fixed attribute
Term	Fixed attribute
UrbanRural	Fixed attribute

Remove

Help

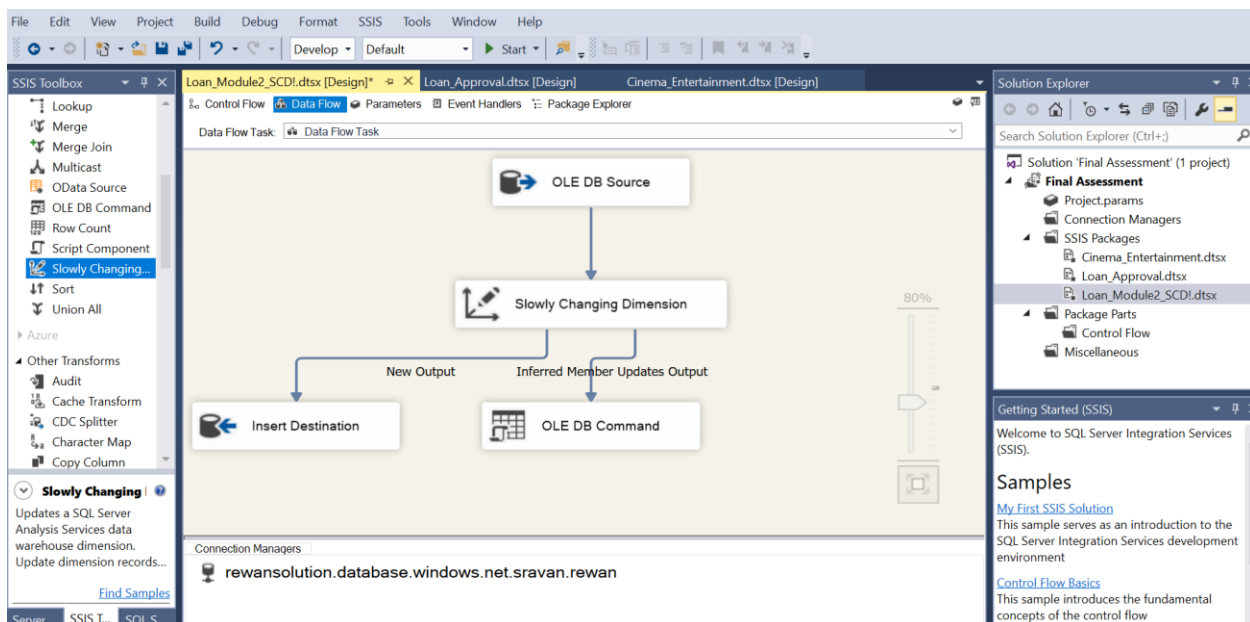
< Back

Next >

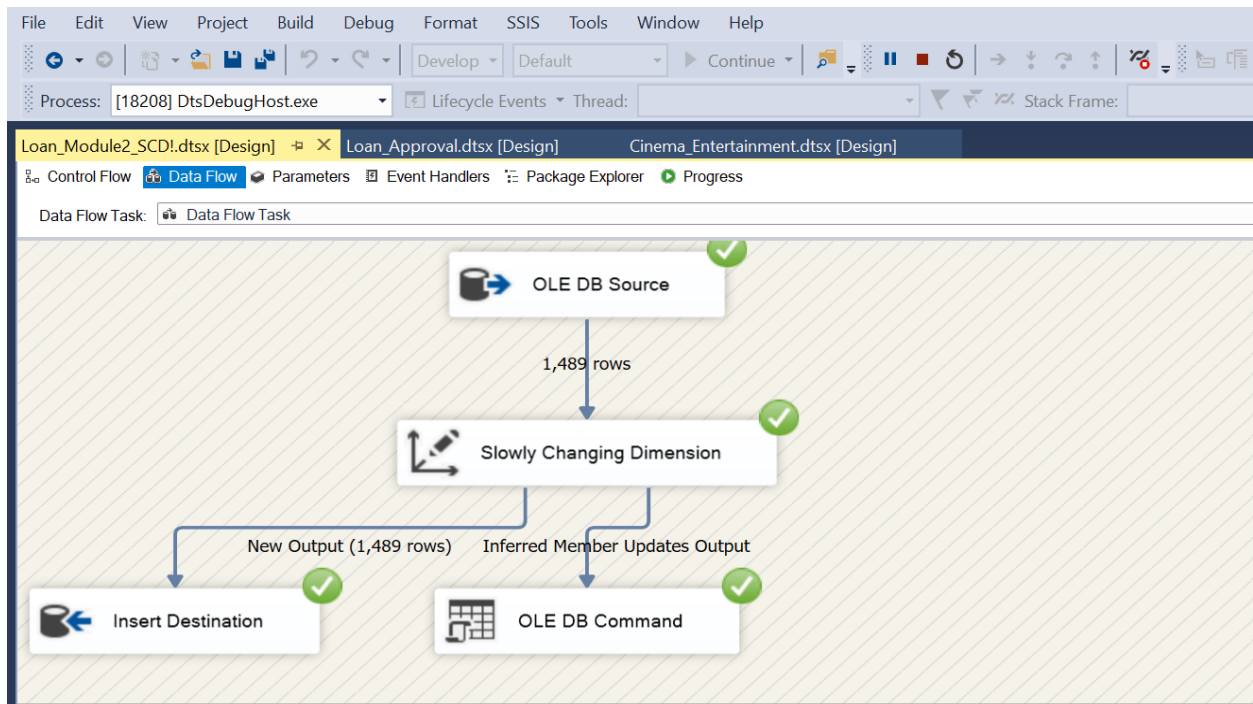
Finish >>|

Cancel

Data Flow task of SCD1



Execution of Package



Changing Attributes to Changing Data

Slowly Changing Dimension Wizard

Slowly Changing Dimension Columns

Manage the changes to column data in your slowly changing dimensions by setting the change type for dimension columns.

Fixed Attribute

Select this type when the value in a column should not change. Changes are treated as errors.

Changing Attribute

Select this type when changed values should overwrite existing values. This is a Type 1 change.

Historical Attribute

Select this type when changes in column values are saved in new records. Previous values are saved in records marked as outdated. This is a Type 2 change.

Select a change type for slowly changing dimension columns:

Dimension Columns	Change Type
Bank	Fixed attribute
BankState	Changing at...
ChgOffDate	Fixed attribute
ChgOffPrinGr	Fixed attribute
City	Changing at...
CreateJob	Fixed attribute
DisbursementDate	Fixed attribute
DisbursementGross	Fixed attribute
FranchiseCode	Fixed attribute
GrAppv	Fixed attribute
LoanNr_ChkDgt	Fixed attribute
LowDoc	Fixed attribute
MIS_Status	Fixed attribute

Updating Record in Source

The screenshot shows the SQL Server Enterprise Manager interface. The left pane displays the 'Database Navigator' with a tree view of the 'dltihe' database. The right pane shows a script editor with the following SQL code:

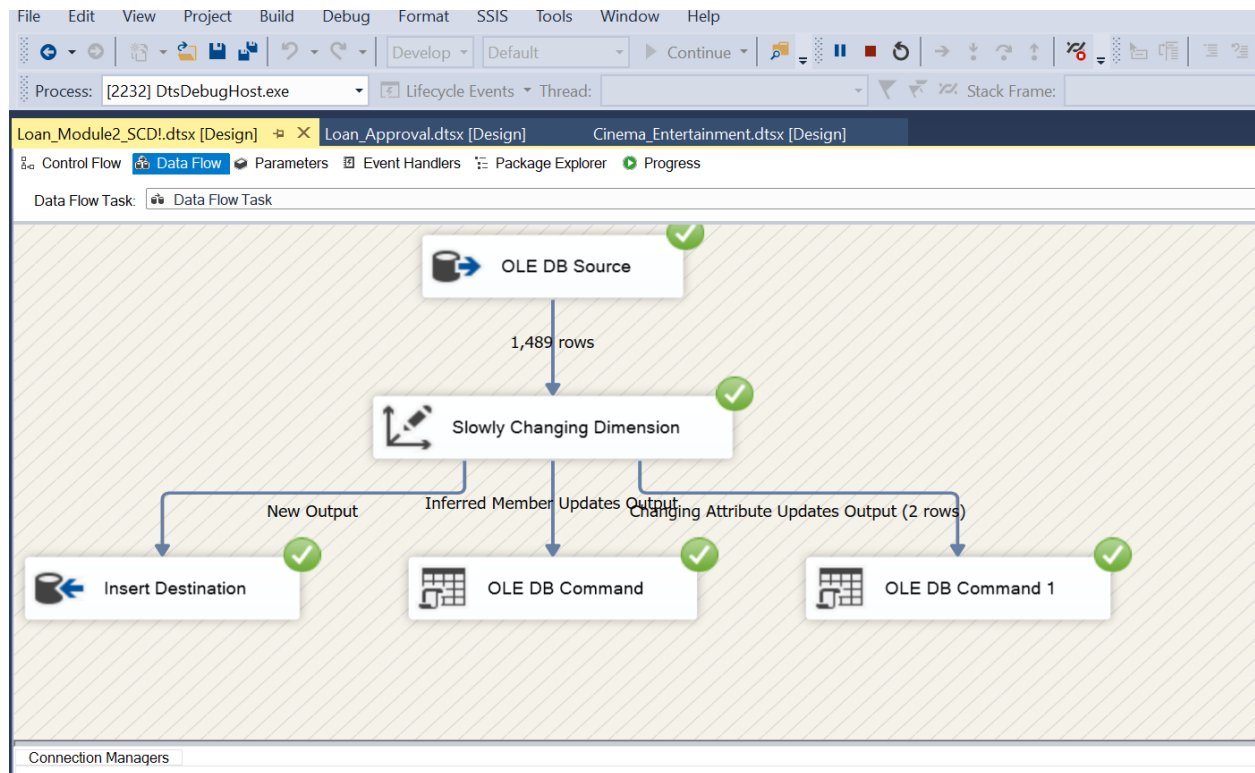
```
CREATE TABLE Loan_Aproval (
    LoanNr float,
    RetainedJob float,
    FranchiseCode float,
    UrbanRural float,
    RevLineCr nvarchar(255),
    LowDoc nvarchar(255),
    ChgOffDate datetime,
    DisbursementDate datetime,
    DisbursementGross nvarchar(255),
    BalanceGross nvarchar(255),
    MIS_Status nvarchar(255),
    ChgOffPrinGr nvarchar(255),
    GrAppv nvarchar(255),
    SBA_Appv nvarchar(255)
);

UPDATE Loan_Aproval SET City = 'Karnataka' WHERE Zip = 47711;
```

Below the script, the 'Results' pane shows a table with 8 rows and 8 columns. The columns are: LoanNr, ChkDgt, Name, City, State, Zip, Bank, and BankState. The data is as follows:

LoanNr	ChkDgt	Name	City	State	Zip	Bank	BankState
1,000,014,003		ABC HOBBYCRAFT	Karnataka	IN	47,711	FIFTH THIRD BANK	OH
1,000,024,006		LANDMARK BAR & GRILLE (THE)	NEW PARIS	IN	46,526	1ST SOURCE BANK	IN
1,000,034,009		WHITLOCK DDS, TODD M.	BLOOMINGTON	IN	47,401	GRANT COUNTY STATE BANK	IN
1,000,044,001		BIG BUCKS PAWN & JEWELRY, LLC	BROKEN ARROW	OK	74,012	1ST NATL BK & TR CO OF BROKEN	OK
1,000,054,004		ANASTASIA CONFECTIONS, INC.	ORLANDO	FL	32,801	FLORIDA BUS. DEVEL CORP	FL
1,000,084,002		B&T SCREW MACHINE COMPANY, INC	PLAINVILLE	CT	6,062	TD BANK, NATIONAL ASSOCIATION	DE
1,000,093,009		MIDDLE ATLANTIC SPORTS CO INC	UNION	NJ	7,083	WELLS FARGO BANK NATL ASSOC	SD
1,000,094,005		WEAVER PRODUCTS	SUMMERFIELD	FL	34,491	REGIONS BANK	AL

Execution after Updating



Data is Updated in Destination

The screenshot shows the SQL Developer interface. The script editor contains the following SQL code:

```
RetainedJob float,  
FranchiseCode float,  
UrbanRural float,  
RevLineCr nvarchar(255),  
LowDoc nvarchar(255),  
ChgOffDate datetime,  
DisbursementDate datetime,  
DisbursementGross nvarchar(255),  
BalanceGross nvarchar(255),  
MIS_Status nvarchar(255),  
ChgOffPrinGr nvarchar(255),  
GrAppv nvarchar(255),  
SBA_Appv nvarchar(255)  
);  
  
UPDATE Loan_Aproval SET City = 'Karnataka' WHERE Zip = 47711;  
  
SELECT * FROM Loan_Module2_SCD1 lms ;
```

The Results 1 x window shows the output of the SELECT statement:

Grid	LoanNr_ChkDgt	Name	City	State	Zip	Bank	BankState
1	1,000,014,003	ABC HOBBYCRAFT	Karnataka	IN	47,711	FIFTH THIRD BANK	OH
2	1,000,024,006	LANDMARK BAR & GRILLE (THE)	NEW PARIS	IN	46,526	1ST SOURCE BANK	IN
3	1,000,034,009	WHITLOCK DDS, TODD M.	BLOOMINGTON	IN	47,401	GRANT COUNTY STATE BANK	IN
4	1,000,044,001	BIG BUCKS PAWN & JEWELRY, LLC	BROKEN ARROW	OK	74,012	1ST NATL BK & TR CO OF BROKEN	OK
5	1,000,054,004	ANASTASIA CONFECTIONS, INC.	ORLANDO	FL	32,801	FLORIDA BUS. DEVEL CORP	FL
6	1,000,084,002	B&T SCREW MACHINE COMPANY, INC	PLAINVILLE	CT	6,062	TD BANK, NATIONAL ASSOCIATION	DE
7	1,000,093,009	MIDDLE ATLANTIC SPORTS CO INC	UNION	NJ	7,083	WELLS FARGO BANK NATL ASSOC	SD
8	1,000,094,005	WEAVER PRODUCTS	SUMMERFIELD	FL	34,491	REGIONS BANK	AL

2. Slowly Changing Dimension Type 2(Cinema Entertainment)

Creating Destination Table for SCD2

The screenshot shows the SQL Developer interface. The script editor contains the following SQL code:

```
SELECT * FROM Loan_Module2_SCD1 lms ;  
  
--Slowly Changing Dimension Type 2  
  
CREATE TABLE Cinema_Module2_SCD2 (  
    Film_Type nvarchar(255),  
    film_code float,  
    cinema_code float,  
    total_sales float,  
    tickets_sold float,  
    tickets_out float,  
    show_time float,  
    occu_perc float,  
    ticket_price float,  
    ticket_use float,  
    capacity float,  
    date float,  
    month float,  
    quarter float,  
    day float,  
    strat_date datetime,  
    end_date datetime,  
    status nvarchar(255)  
);
```

Creating Connection and Selecting the Table for SCD2

OLE DB Source Editor

Configure the properties used by a data flow to obtain data from any OLE DB provider.

Connection Manager
Columns
Error Output

Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder.

OLE DB connection manager:
rewansolution.database.windows.net.srvan.rewan

Data access mode:
Table or view

Name of the table or the view:
[dbo].[Cinema_Entertainment]

New...

Creating Connection and Selecting Business Key for SCD2

Select a Dimension Table and Keys

Select a dimension table to load and map columns in the transformation input to columns in the dimension table.

Connection manager:
rewansolution.database.windows.net.srvan.rewan

Table or view:
[dbo].[Cinema_Module2_SCD2]

Input Columns	Dimension Columns	Key Type
capacity	capacity	Not a key column
cinema_code	cinema_code	Business key
date	date	Not a key column
day	day	Not a key column
end_date	end_date	Not a key column
film_code	film_code	Not a key column
Film_Type	Film_Type	Not a key column
month	month	Not a key column
occu_perc	occu_perc	Not a key column
quarter	quarter	Not a key column
show_time	show_time	Not a key column
status	status	Not a key column

Help < Back Next > Finish >>| Cancel

Selecting Historical Attribute

Slowly Changing Dimension Columns

Manage the changes to column data in your slowly changing dimensions by setting the change type for dimension columns.



Fixed Attribute

Select this type when the value in a column should not change. Changes are treated as errors.

Changing Attribute

Select this type when changed values should overwrite existing values. This is a Type 1 change.

Historical Attribute

Select this type when changes in column values are saved in new records. Previous values are saved in records marked as outdated. This is a Type 2 change.

Select a change type for slowly changing dimension columns:

Dimension Columns	Change Type
capacity	Fixed attribute
date	Fixed attribute
day	Fixed attribute
film_code	Fixed attribute
Film_Type	Fixed attribute
month	Fixed attribute
occu_perc	Fixed attribute
quarter	Fixed attribute
show_time	Fixed attribute
ticket_price	Historical att...
ticket_use	Fixed attribute
tickets_out	Fixed attribute
tickets_sold	Fixed attribute

Remove

Selecting Start time and End time

Historical Attribute Options

You can record historical attributes using a single column or start and end date columns.



☐ Use a single column to show current and expired records

Column to indicate current record:

Value when current:

Expiration value:

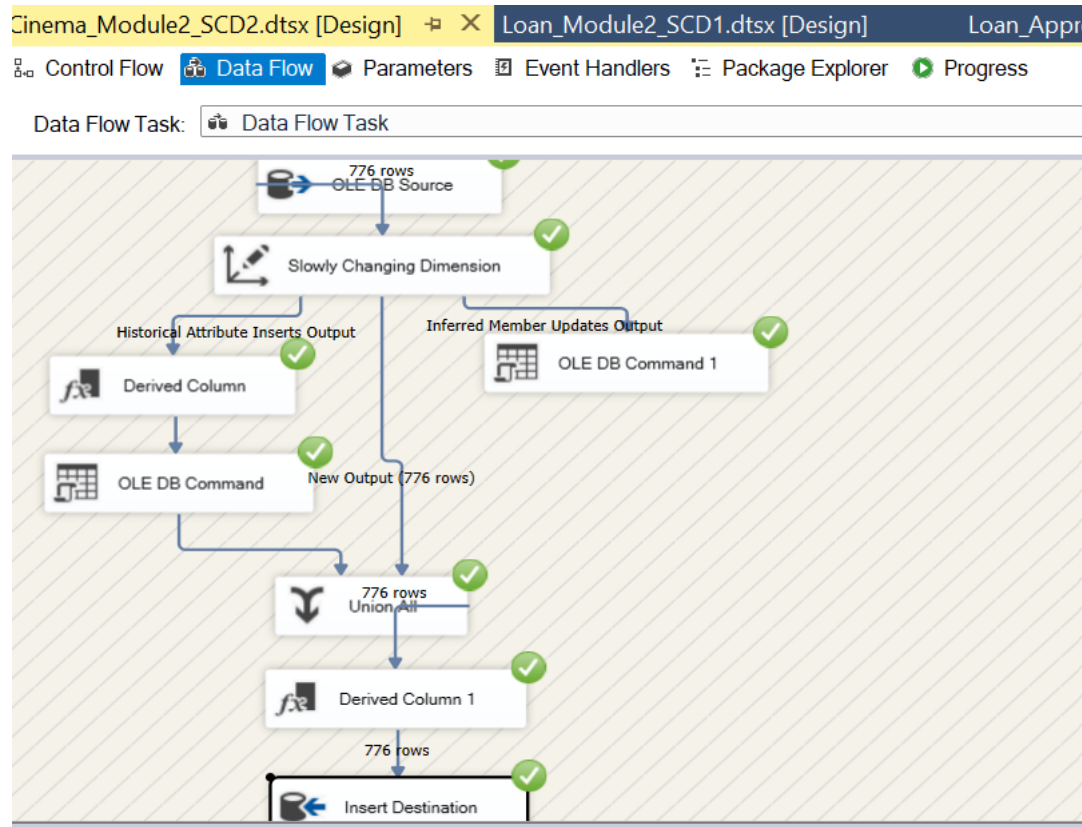
☒ Use start and end dates to identify current and expired records

Start date column:

End date column:

Variable to set date values:

Execution of SCD2



Updated Destination table with start date

```
date float,
month float,
quarter float,
day float,
strat_date datetime,
end_date datetime,
status nvarchar(255)
);

SELECT * FROM Cinema_Module2_SCD2 ;
```

Results 1 x

SELECT * FROM Cinema_Module2_SCD2

	ticket_price	ticket_use	capacity	date	month	quarter	day	strat_date	end_date	status
1	150,000	26	610	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
2	80,000	42	520	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
3	80,000	32	160	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
4	100,000	12	109	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
5	80,000	15	90	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
6	150,000	7	714	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
7	102,000	10	130	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
8	150,000	5	318	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
9	68,181.81818	11	1,158	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
10	150,000	4	258	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]

Price is Updated in Source Table

SQL Script Editor showing the following code:

```
CREATE TABLE Cinema_Entertainment (
    ticket_use float,
    capacity float,
    date float,
    month float,
    quarter float,
    day float,
    strat_date datetime,
    end_date datetime,
    status nvarchar(255)
);

SELECT * FROM Cinema_Module2_SCD2 ;
SELECT * FROM Cinema_Entertainment ce ;
UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =304;
```

Results 1 x

SELECT * FROM Cinema_Entertainment ce

	sales	tickets_sold	tickets_out	show_time	occu_perc	ticket_price	ticket_use	capacity	date	month
1	900,000	26	0	4	4.26	200,000	26	610	43,225	5
2	360,000	42	0	5	8.08	80,000	42	520	43,225	5
3	560,000	32	0	4	20	80,000	32	160	43,225	5
4	200,000	12	0	1	11.01	100,000	12	109	43,225	5
5	200,000	15	0	3	16.67	80,000	15	90	43,225	5
6	050,000	7	0	3	0.98	150,000	7	714	43,225	5
7	020,000	10	0	3	7.69	102,000	10	130	43,225	5
8	750,000	5	0	3	1.57	150,000	5	318	43,225	5
9	750,000	11	0	2	0.95	68,181.81818	11	1,158	43,225	5
10	600,000	4	0	3	1.55	150,000	4	258	43,225	5

End Date is Updated

SQL Script Editor showing the following code:

```
CREATE TABLE Cinema_Entertainment (
    ticket_use float,
    capacity float,
    date float,
    month float,
    quarter float,
    day float,
    strat_date datetime,
    end_date datetime,
    status nvarchar(255)
);

SELECT * FROM Cinema_Module2_SCD2 ;
SELECT * FROM Cinema_Entertainment ce ;
UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =304;
```

Results 1 x

SELECT * FROM Cinema_Module2_SCD2

	ticket_use	capacity	date	month	quarter	day	strat_date	end_date	status
1	000	26	43,225	5	2	5	2022-10-06 11:50:58.000	2022-10-06 11:50:58.000	[NULL]
2	000	42	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
3	000	32	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
4	000	12	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
5	000	15	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
6	000	7	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
7	000	10	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
8	000	5	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
9	818	11	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]
10	000	4	43,225	5	2	5	2022-10-06 11:50:58.000	[NULL]	[NULL]

Save Cancel Script 200 Rows: 1 200 row(s) fetched - 480ms (150ms fetch), on 2022-

Selecting status as the Historical option

Slowly Changing Dimension Wizard

Historical Attribute Options

You can record historical attributes using a single column or start and end date columns.

☒ Use a single column to show current and expired records

Column to indicate current record:

Value when current:

Expiration value:

☐ Use start and end dates to identify current and expired records

Start date column:

End date column:

Variable to set date values:

Status is Updated as Current

```
ticket_use float,
capacity float,
date float,
month float,
quarter float,
day float,
strat_date datetime,
end_date datetime,
status nvarchar(255)
);

SELECT * FROM Cinema_Module2_SCD2 ;
SELECT * FROM Cinema_Entertainment ce ;
UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =304;
```

Results 1 x

Enter a SQL expression to filter results (use Ctrl+Space)

Grid	ticket_use	capacity	date	month	quarter	day	strat_date	end_date	status	
1539	00	59	43,193	4	2	3	[NULL]	[NULL]	Current	
1540	00	29	730	43,193	4	2	3	[NULL]	[NULL]	Current
1541	00	31	136	43,193	4	2	3	[NULL]	[NULL]	Current
1542	00	46	117	43,193	4	2	3	[NULL]	[NULL]	Current
1543	00	63	873	43,193	4	2	3	[NULL]	[NULL]	Current
1544	00	19	47	43,193	4	2	3	[NULL]	[NULL]	Current
1545	00	21	1,603	43,193	4	2	3	[NULL]	[NULL]	Current
1546	00	21	1,000	43,193	4	2	3	[NULL]	[NULL]	Current
1547	00	19	88	43,193	4	2	3	[NULL]	[NULL]	Current
1548	00	17	182	43,193	4	2	3	[NULL]	[NULL]	Current

Record is Updated in Source Table

```

capacity float,
date float,
month float,
quarter float,
day float,
strat_date datetime,
end_date datetime,
status nvarchar(255)
);

SELECT * FROM Cinema_Module2_SCD2 ;
SELECT * FROM Cinema_Entertainment ce ;
UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =304;

UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =529;

```

Results 1 x

SELECT * FROM Cinema_Entertainment ce

id	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket_price	ticket_use	capac
762	481	165	2,360,000	59	0	1	98.33	40,000	59
763	481	277	2,320,000	29	0	2	3.97	80,000	29
764	481	450	2,170,000	31	0	1	22.79	70,000	31
765	481	516	2,160,000	54	8	1	46.15	40,000	46
766	481	321	1,575,000	63	0	2	7.22	25,000	63
767	481	529	1,140,000	19	0	1	40.43	200,000	19
768	481	64	1,050,000	21	0	5	1.31	50,000	21
769	481	221	840,000	21	0	2	2.1	40,000	21
770	481	164	760,000	19	0	2	21.59	40,000	19
771	481	507	425,000	17	0	1	9.34	25,000	17

Record is Updated as Expired

```

SELECT * FROM Cinema_Module2_SCD2 ;
SELECT * FROM Cinema_Entertainment ce ;
UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =304;

UPDATE Cinema_Entertainment SET ticket_price = 200000 WHERE cinema_code =529;

```

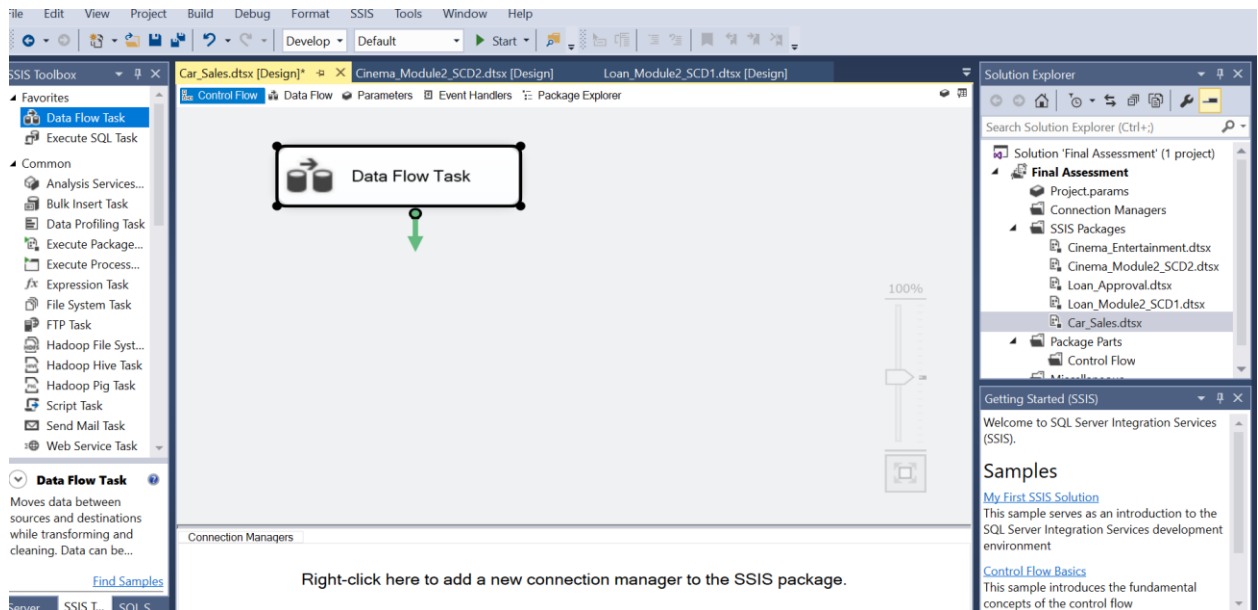
Results 1 x

SELECT * FROM Cinema_Module2_SCD2

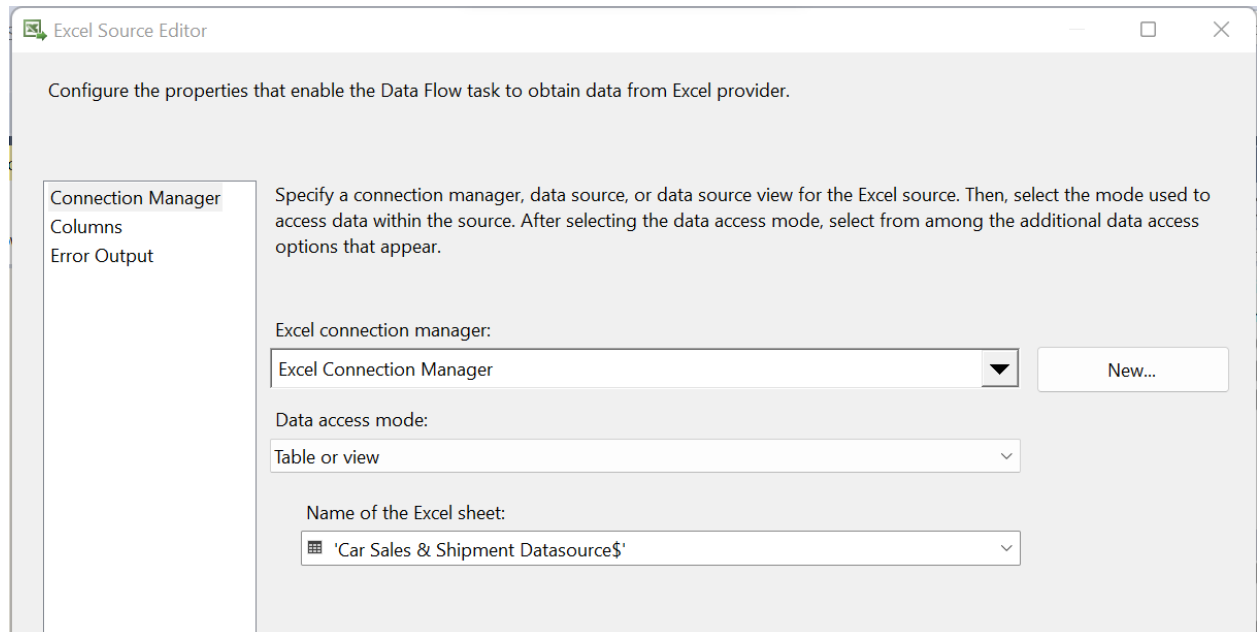
id	cinema_code	ticket_use	capacity	date	month	quarter	day	strat_date	end_date	status
1138	000	369	640	43,196	4	2	6	[NULL]	[NULL]	Current
1139	000	365	442	43,196	4	2	6	[NULL]	[NULL]	Current
1140	922	358	452	43,196	4	2	6	[NULL]	[NULL]	Current
1141	000	227	576	43,196	4	2	6	[NULL]	[NULL]	Expired
1142	000	386	1,572	43,196	4	2	6	[NULL]	[NULL]	Current
1143	000	321	1,820	43,196	4	2	6	[NULL]	[NULL]	Current
1144	659	261	2,639	43,196	4	2	6	[NULL]	[NULL]	Current
1145	577	213	1,246	43,196	4	2	6	[NULL]	[NULL]	Current
1146	421	259	621	43,196	4	2	6	[NULL]	[NULL]	Current
1147	000	697	743	43,221	5	2	1	[NULL]	[NULL]	Current

3. Extracting Data from Excel Source

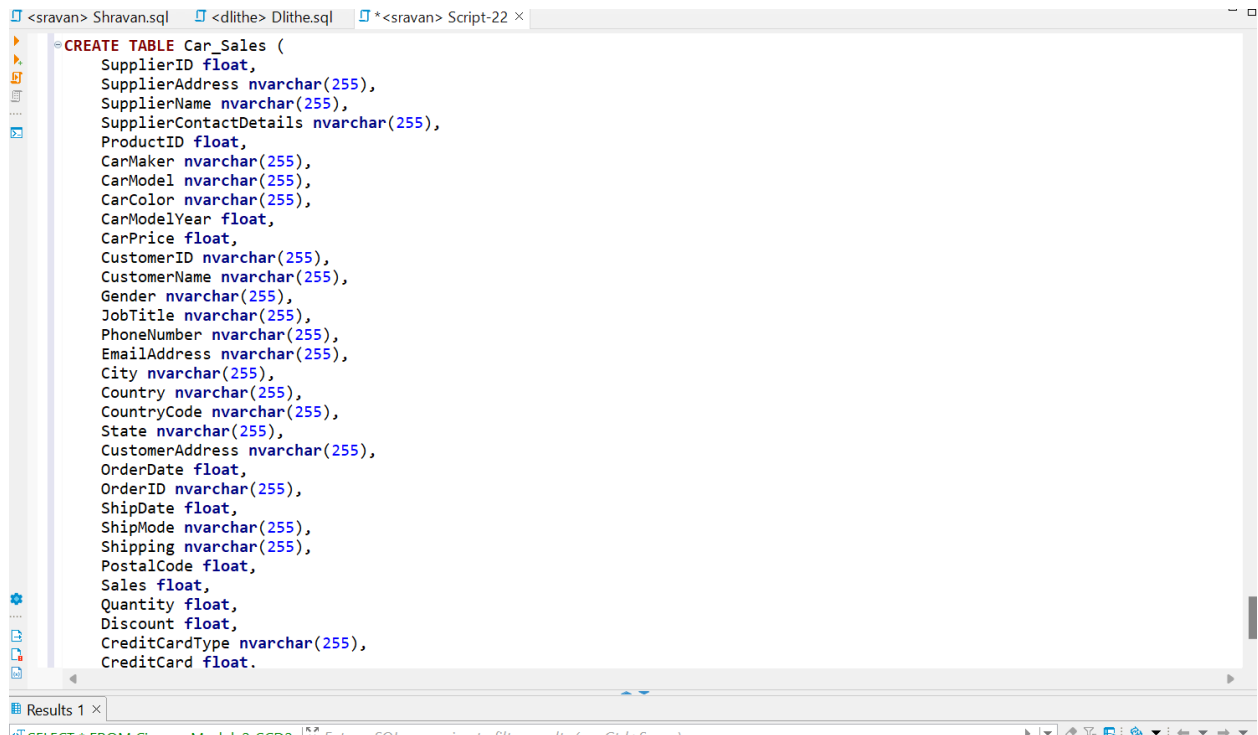
Data Flow Task for Car_Sales Package



Creating Excel Connection

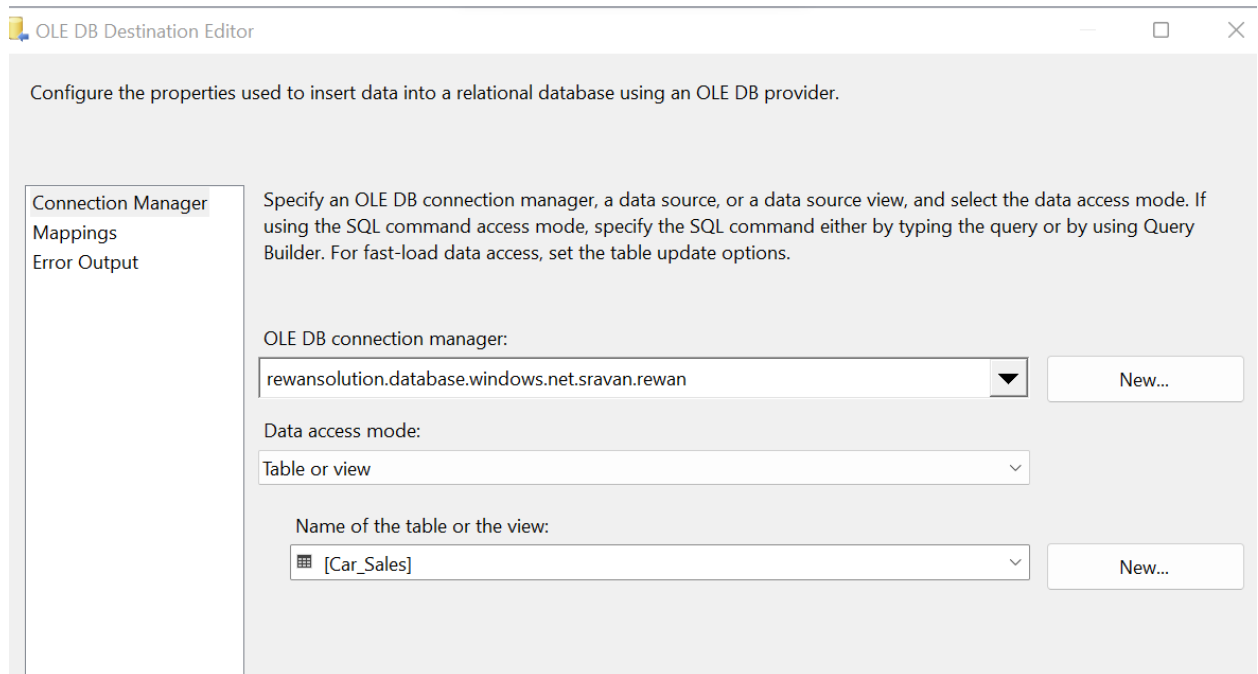


Creating Destination table



```
CREATE TABLE Car_Sales (  
  SupplierID float,  
  SupplierAddress nvarchar(255),  
  SupplierName nvarchar(255),  
  SupplierContactDetails nvarchar(255),  
  ProductID float,  
  CarMaker nvarchar(255),  
  CarModel nvarchar(255),  
  CarColor nvarchar(255),  
  CarModelYear float,  
  CarPrice float,  
  CustomerID nvarchar(255),  
  CustomerName nvarchar(255),  
  Gender nvarchar(255),  
  JobTitle nvarchar(255),  
  PhoneNumber nvarchar(255),  
  EmailAddress nvarchar(255),  
  City nvarchar(255),  
  Country nvarchar(255),  
  CountryCode nvarchar(255),  
  State nvarchar(255),  
  CustomerAddress nvarchar(255),  
  OrderDate float,  
  OrderID nvarchar(255),  
  ShipDate float,  
  ShipMode nvarchar(255),  
  Shipping nvarchar(255),  
  PostalCode float,  
  Sales float,  
  Quantity float,  
  Discount float,  
  CreditCardType nvarchar(255),  
  CreditCard float.
```

Creating SQL Server Connection



OLE DB Destination Editor

Configure the properties used to insert data into a relational database using an OLE DB provider.

Connection Manager
Mappings
Error Output

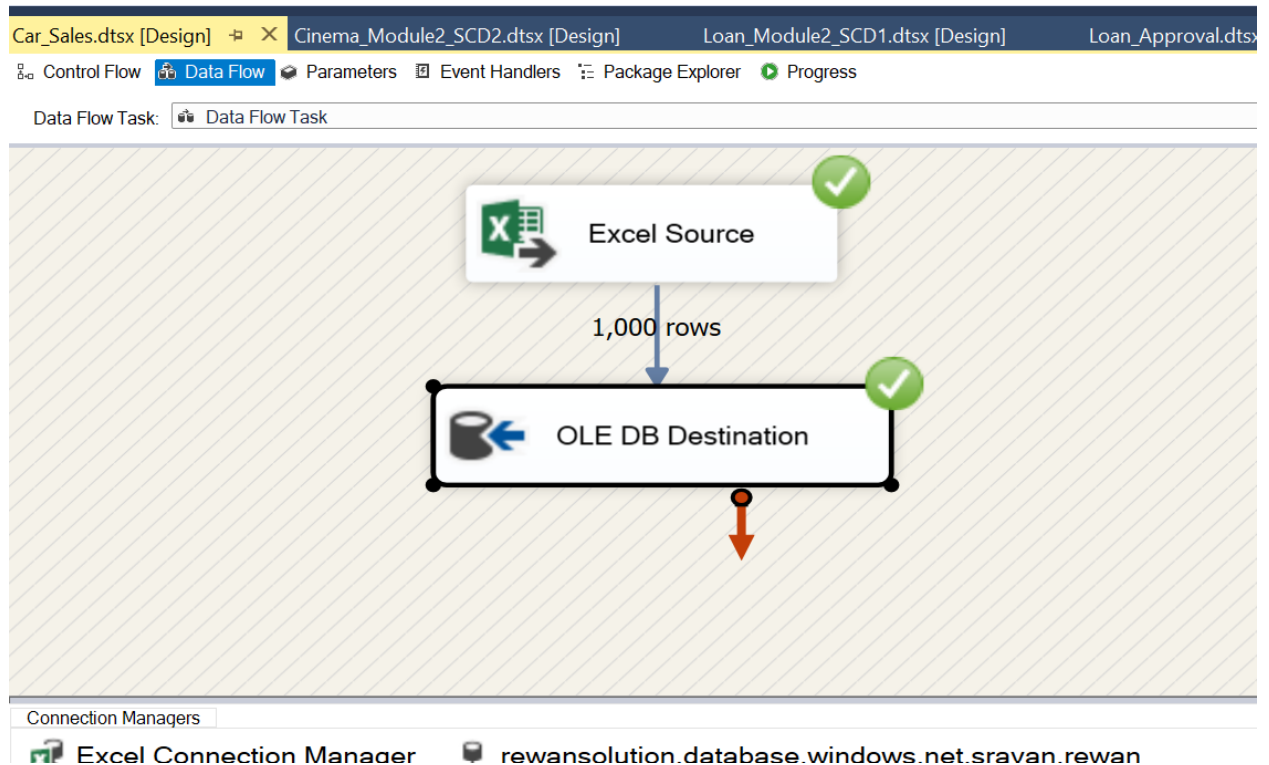
Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder. For fast-load data access, set the table update options.

OLE DB connection manager:
rewansolution.database.windows.net.sravan.rewan New...

Data access mode:
Table or view

Name of the table or the view:
[Car_Sales] New...

Execution of Car_Shipment Package



Data Inserted in Destination

<sravan> Shravan.sql <dlithe> Dlithe.sql <sravan> Script-22 x

```
OrderDate float,  
OrderID nvarchar(255),  
ShipDate float,  
ShipMode nvarchar(255),  
Shipping nvarchar(255),  
PostalCode float,  
Sales float,  
Quantity float,  
Discount float,  
CreditCardType nvarchar(255),  
CreditCard float,  
CustomerFeedback nvarchar(255)  
);  
  
SELECT * FROM Car_Sales;
```

Results 1 x

SELECT * FROM Car_Sales

Grid	SupplierID	SupplierAddress	SupplierName	SupplierContactDetails	ProductID	CarMaker	CarModel	CarColor
1	1	542 Dayton Center	Bubbletube	871-57-6028	8,893	Dodge	Ram 2500	Goldenrod
2	2	0674 Springview Circle	Tagopia	337-64-4060	9,444	Toyota	Tundra	Crimson
3	3	70 Autumn Leaf Center	Zoomdog	218-19-1802	253	GMC	Savana 1500	Crimson
4	4	649 Corben Lane	Oozz	635-15-3112	1,283	Volkswagen	Cabriolet	Fuscia
5	5	94 Namekagon Point	Kare	849-23-6788	8,905	Mercury	Mariner	Teal
6	6	46347 Dunning Drive	Rhynyx	378-57-0118	8,877	Toyota	Land Cruiser	Crimson
7	7	85 Coleman Parkway	Roombo	479-97-2408	101	Subaru	Impreza	Indigo
8	8	30230 Westerfield Pass	Wordify	371-69-6870	8,854	BMW	X6	Purple
9	9	4 Coleman Street	Shaw	717-10-7839	9,043	Mitsubishi	Galant	Orange

Save Cancel Script 200 200+ Rows: 1 200 row(s) fetched - 848ms (466ms fetch). on 2022-

4. Aggregate Transformation

Aggregate Transformation

Advanced ▼

Available Input Columns

☒ Name
☐ PostalCode
☒ Sales
☒ Quantity
☒ Discount
☐ CreditCardType
☐ CreditCard
☐ CustomerFeedback

Input Column	Output Alias	Operation	C
CarPrice	CarPrice	Sum	
ShipMode	ShipMode	Group by	
Quantity	Quantity	Count	
Sales	Sales	Average	
Discount	Discount	Minimum	

Connecting SQL Server for Source

OLE DB Source Editor

Configure the properties used by a data flow to obtain data from any OLE DB provider.

Connection Manager
Columns
Error Output

Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder.

OLE DB connection manager:
rewansolution.database.windows.net.sravan.rewan ▼ New...

Data access mode:
Table or view ▼

Name of the table or the view:
[dbo].[Car_Sales] ▼

Creating Table for Aggregate

```
<sravan> Shravan.sql  <dlithe> Dlithe.sql  * <sravan> Script-22 x
EmailAddress nvarchar(255),
City nvarchar(255),
Country nvarchar(255),
CountryCode nvarchar(255),
State nvarchar(255),
CustomerAddress nvarchar(255),
OrderDate float,
OrderID nvarchar(255),
ShipDate float,
ShipMode nvarchar(255),
Shipping nvarchar(255),
PostalCode float,
Sales float,
Quantity float,
Discount float,
CreditCardType nvarchar(255),
CreditCard float,
CustomerFeedback nvarchar(255)
);

SELECT * FROM Car_Sales;

--Creating Destination Table for Aggregate Transformation

CREATE TABLE Car_Shipment_Aggregate (
    CarPrice float,
    ShipMode nvarchar(255),
    Quantity numeric(20,0),
    Sales float,
    Discount float
);
```

Connecting SQL Server for Destination

Connection Manager
Mappings
Error Output

Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder. For fast-load data access, set the table update options.

OLE DB connection manager:
rewansolution.database.windows.net.sravan.rewan New...

Data access mode:
Table or view - fast load

Name of the table or the view:
[Car_Shipment_Aggregate] New...

☐ Keep identity

☒ Table lock

☐ Keep nulls

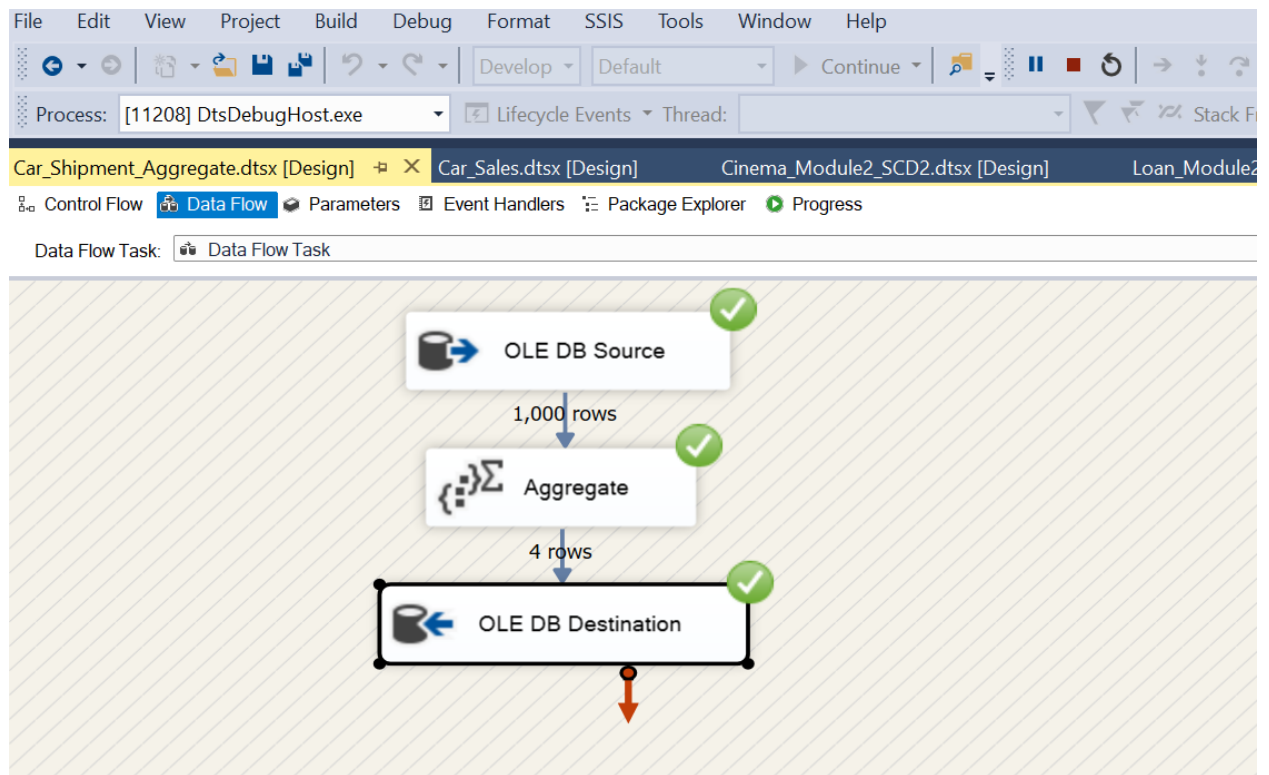
☒ Check constraints

Rows per batch:

Maximum insert commit size:

View Existing Data...

Execution of Aggregate Transformation



Destination Table with Aggregate Results

SQL Script:

```
<sravan> Shravan.sql | <dlithe> Dlithe.sql | * <sravan> Script-22 x
Discount float,
CreditCardType nvarchar(255),
CreditCard float,
CustomerFeedback nvarchar(255)
);

SELECT * FROM Car_Sales;

--Creating Destination Table for Aggregate Transformation
CREATE TABLE Car_Shipment_Aggregate (
    CarPrice float,
    ShipMode nvarchar(255),
    Quantity numeric(20,0),
    Sales float,
    Discount float
);

SELECT * FROM Car_Shipment_Aggregate;
```

Results 1 x

SELECT * FROM Car_Shipment_Aggregate

	CarPrice	ShipMode	Quantity	Sales	Discount
1	158,687,263.01000002	Same Day	243	856,735.9792181072	0.25
2	164,486,366.70999998	Standard Class	253	852,909.2138339923	0.25
3	164,794,198.11000007	Second Class	254	848,152.2610236218	0.25
4	161,124,365.63	First Class	250	854,780.6586800003	0.25

5. Slowly Changing Dimension Type 1(Cinema Entertainment)

Connecting Source Table

OLE DB Source Editor

Configure the properties used by a data flow to obtain data from any OLE DB provider.

Connection Manager
Columns
Error Output

Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder.

OLE DB connection manager:
rewansolution.database.windows.net.sravan.rewan

New...

Data access mode:
Table or view

Name of the table or the view:
[dbo].[Cinema_Entertainment]

Creating Destination Table for SCD1 of Cinema Table

SQL Editor

```
CREATE TABLE Cinema_Entertainment_SCD1(  
    Film_Type nvarchar(255),  
    film_code float,  
    cinema_code float,  
    total_sales float,  
    tickets_sold float,  
    tickets_out float,  
    show_time float,  
    occu_perc float,  
    ticket_price float,  
    ticket_use float,  
    capacity float,  
    date float,  
    month float,  
    quarter float,  
    day float  
);
```

Statistics 1

Name	Value
Updated Rows	0
Query	CREATE TABLE Cinema_Entertainment_SCD1(Film_Type nvarchar(255), film_code float, cinema_code float, total_sales float, tickets_sold float,

Connecting Destination and Selecting Business Key

Select a Dimension Table and Keys

Select a dimension table to load and map columns in the transformation input to columns in the dimension table.



Connection manager:
rewansolution.database.windows.net.sravan.rewan

Table or view:
IdholiCinema_Entertainment_SCD11

Input Columns	Dimension Columns	Key Type
capacity	capacity	Not a key column
cinema_code	cinema_code	Business key
date	date	Not a key column
day	day	Not a key column
film_code	film_code	Business key
Film_Type	Film_Type	Not a key column
month	month	Not a key column
occu_perc	occu_perc	Not a key column
quarter	quarter	Not a key column
show_time	show_time	Not a key column
ticket_price	ticket_price	Not a key column
ticket_use	ticket_use	Not a key column

Setting Changing Attributes

Slowly Changing Dimension Columns

Manage the changes to column data in your slowly changing dimensions by setting the change type for dimension columns.



Fixed Attribute
Select this type when the value in a column should not change. Changes are treated as errors.

Changing Attribute
Select this type when changed values should overwrite existing values. This is a Type 1 change.

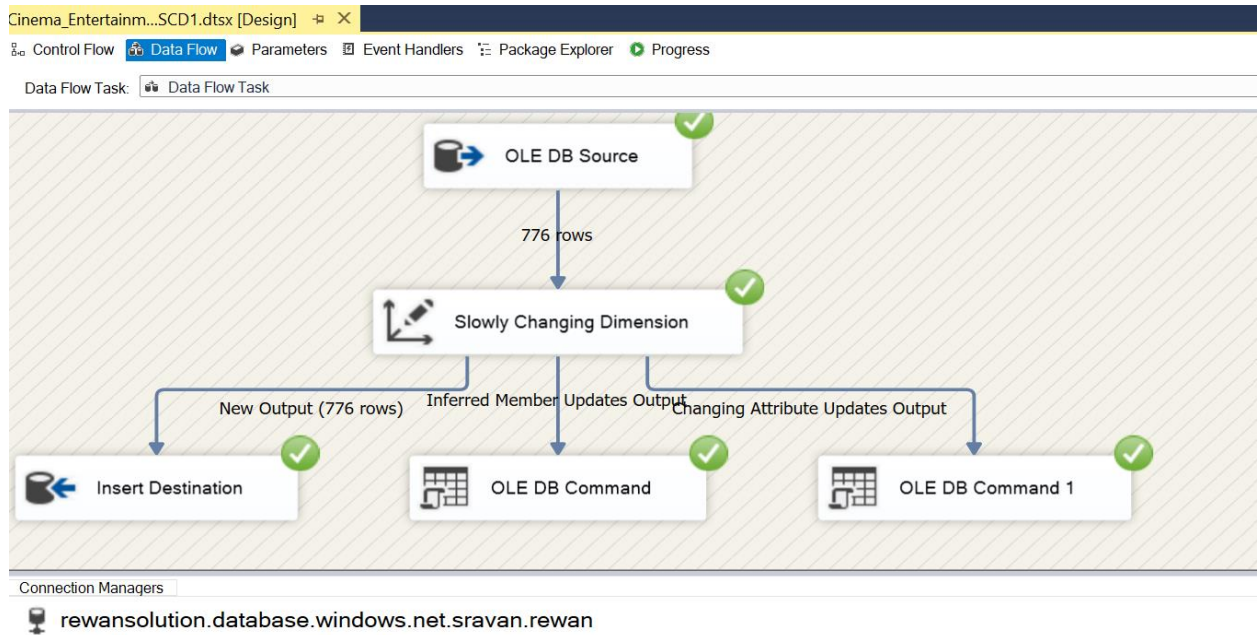
Historical Attribute
Select this type when changes in column values are saved in new records. Previous values are saved in records marked as outdated. This is a Type 2 change.

Select a change type for slowly changing dimension columns:

Dimension Columns	Change Type
capacity	Fixed attribute
date	Fixed attribute
day	Changing at...
Film_Type	Changing at...
month	Fixed attribute
occu_perc	Fixed attribute
quarter	Fixed attribute
show_time	Changing at...
ticket_price	Changing at...
ticket_use	Fixed attribute
tickets_out	Fixed attribute
tickets_sold	Fixed attribute
total_sales	Fixed attribute

Remove

All rows are passed at first



12 Rows are Updated

<sravan> Shravan.sql <dlithe> Dlithe.sql * <sravan> Script-22 X

```
film_type nvarchar(255),
film_code float,
cinema_code float,
total_sales float,
tickets_sold float,
tickets_out float,
show_time float,
occu_perc float,
ticket_price float,
ticket_use float,
capacity float,
date float,
month float,
quarter float,
day float
);

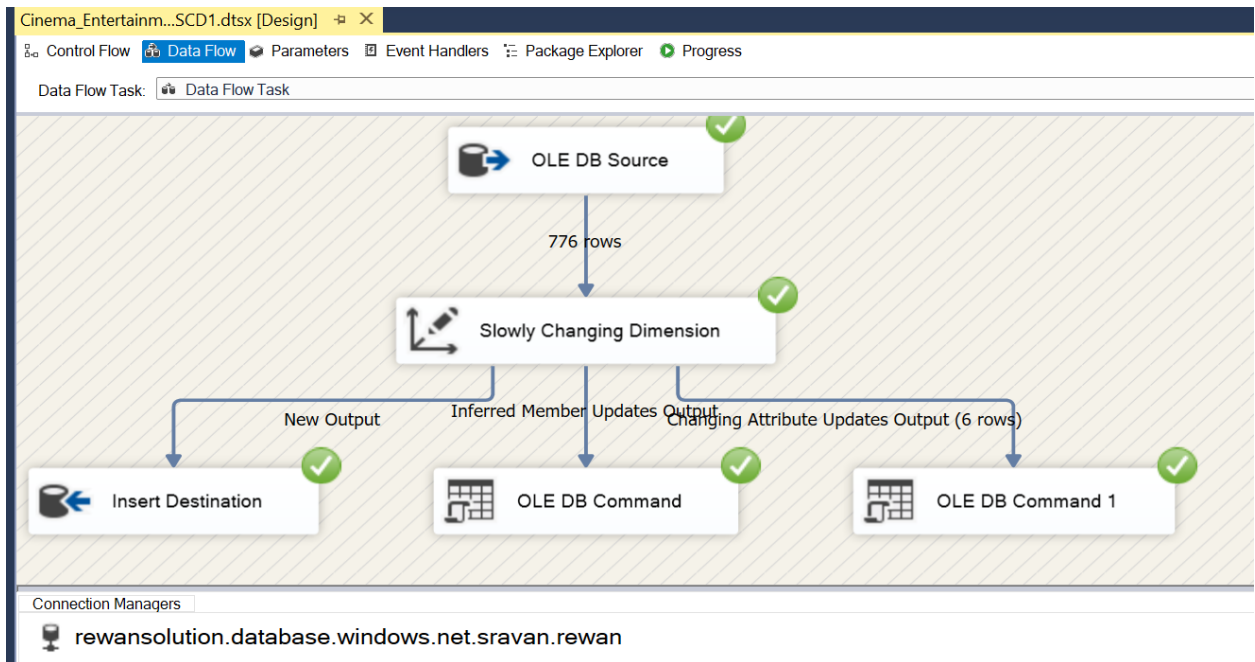
UPDATE Cinema_Entertainment SET ticket_price = 1000000 WHERE cinema_code =304;
SELECT * FROM Cinema_Entertainment ce ;
```

Results 1 X

SELECT * FROM Cinema_Entertainment ce Enter a SQL expression to filter results (use Ctrl+Space)

	Film_Type	film_code	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket_price
1	Romance	1,492	304	3,900,000	26	0	4	4.26	1,000,000
2	Romance	1,492	352	3,360,000	42	0	5	8.08	80,000
3	Romance	1,492	489	2,560,000	32	0	4	20	80,000
4	Romance	1,492	429	1,200,000	12	0	1	11.01	100,000
5	Romance	1,492	524	1,200,000	15	0	3	16.67	80,000
6	Romance	1,492	71	1,050,000	7	0	3	0.98	150,000
7	Romance	1,492	163	1,020,000	10	0	3	7.69	102,000

Only updated rows are passed



Updated Result

```
total_sales float,
tickets_sold float,
tickets_out float,
show_time float,
occu_perc float,
ticket_price float,
ticket_use float,
capacity float,
date float,
month float,
quarter float,
day float
);

UPDATE Cinema_Entertainment SET ticket_price = 1000000 WHERE cinema_code =304;
SELECT * FROM Cinema_Entertainment ce ;

SELECT * FROM Cinema_Entertainment_SCD1;
```

Results 1 x

SELECT * FROM Cinema_Entertainment_SCD1

	_code	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket_price	ticket_use
1	1,492	304	3,900,000	26	0	4	4.26	1,000,000	26
2	1,492	352	3,360,000	42	0	5	8.08	80,000	42
3	1,492	489	2,560,000	32	0	4	20	80,000	32
4	1,492	429	1,200,000	12	0	1	11.01	100,000	12
5	1,492	524	1,200,000	15	0	3	16.67	80,000	15
6	1,492	71	1,050,000	7	0	3	0.98	150,000	7
7	1,492	163	1,020,000	10	0	3	7.69	102,000	10

6. Slowly Changing Dimension Type 2(Loan Approval)

Destination table for SCD2 Loan Approval

The screenshot shows a SQL Server Enterprise Manager interface. The top pane displays the table definition for 'Loan_Aproval_SCD2' with the following columns:

- [ApprovalFY] float,
- [Term] float,
- [NoEmp] float,
- [NewExist] float,
- [CreateJob] float,
- [RetainedJob] float,
- [FranchiseCode] float,
- [UrbanRural] float,
- [RevLineCr] nvarchar(255),
- [LowDoc] nvarchar(255),
- [ChgOffDate] datetime,
- [DisbursementDate] datetime,
- [DisbursementGross] nvarchar(255),
- [BalanceGross] nvarchar(255),
- [MIS_Status] nvarchar(255),
- [ChgOffPrinGr] nvarchar(255),
- [GrAppv] nvarchar(255),
- [SBA_Appv] nvarchar(255),
- [start_date] date,
- [end_date] date,
- [status] varchar

The bottom pane shows a 'Statistics 1' window with the following data:

Name	Value
Updated Rows	0
Query	CREATE TABLE Loan_Aproval_SCD2 ([LoanNr_ChkDgt] float, [Name] nvarchar(255), [ApprovalFY] float, [Term] float, [NoEmp] float, [NewExist] float, [CreateJob] float, [RetainedJob] float, [FranchiseCode] float, [UrbanRural] float, [RevLineCr] nvarchar(255), [LowDoc] nvarchar(255), [ChgOffDate] datetime, [DisbursementDate] datetime, [DisbursementGross] nvarchar(255), [BalanceGross] nvarchar(255), [MIS_Status] nvarchar(255), [ChgOffPrinGr] nvarchar(255), [GrAppv] nvarchar(255), [SBA_Appv] nvarchar(255), [start_date] date, [end_date] date, [status] varchar

Connecting Source SQL Table

The screenshot shows the 'OLE DB Source Editor' window. The 'Connection Manager' tab is selected, showing the following configuration:

- OLE DB connection manager:
- Data access mode:
- Name of the table or the view:

Selecting Destination and Business key

Select a Dimension Table and Keys
Select a dimension table to load and map columns in the transformation input to columns in the dimension table.

Connection manager:
rewansolution.database.windows.net.sravan.rewan

New...

Table or view:
IdhoII oan Approval SC.D21

Input Columns	Dimension Columns	Key Type
Name	Name	Not a key column
NewExist	NewExist	Not a key column
NoEmp	NoEmp	Not a key column
RetainedJob	RetainedJob	Not a key column
RevLineCr	RevLineCr	Not a key column
SBA_Appv	SBA_Appv	Not a key column
start_date	start_date	Not a key column
State	State	Not a key column
status	status	Not a key column
Term	Term	Not a key column
UrbanRural	UrbanRural	Not a key column
Zip	Zip	Business key

Setting Historical Attribute

Slowly Changing Dimension Wizard

Slowly Changing Dimension Columns
Manage the changes to column data in your slowly changing dimensions by setting the change type for dimension columns.

Fixed Attribute
Select this type when the value in a column should not change. Changes are treated as errors.

Changing Attribute
Select this type when changed values should overwrite existing values. This is a Type 1 change.

Historical Attribute
Select this type when changes in column values are saved in new records. Previous values are saved in records marked as outdated. This is a Type 2 change.

Select a change type for slowly changing dimension columns:

Dimension Columns	Change Type
ApprovalDate	Fixed attribute
ApprovalFY	Fixed attribute
BalanceGross	Fixed attribute
Bank	Historical att...
BankState	Fixed attribute
ChgOffDate	Fixed attribute
ChgOffPrinGr	Fixed attribute
City	Fixed attribute
CreateJob	Fixed attribute
DisbursementDate	Fixed attribute
DisbursementGross	Fixed attribute
FranchiseCode	Fixed attribute
GrAppv	Fixed attribute

Remove

Identification of Historical Data by Date

Historical Attribute Options

You can record historical attributes using a single column or start and end date columns.



☐ Use a single column to show current and expired records

Column to indicate current record:

Value when current:

Expiration value:

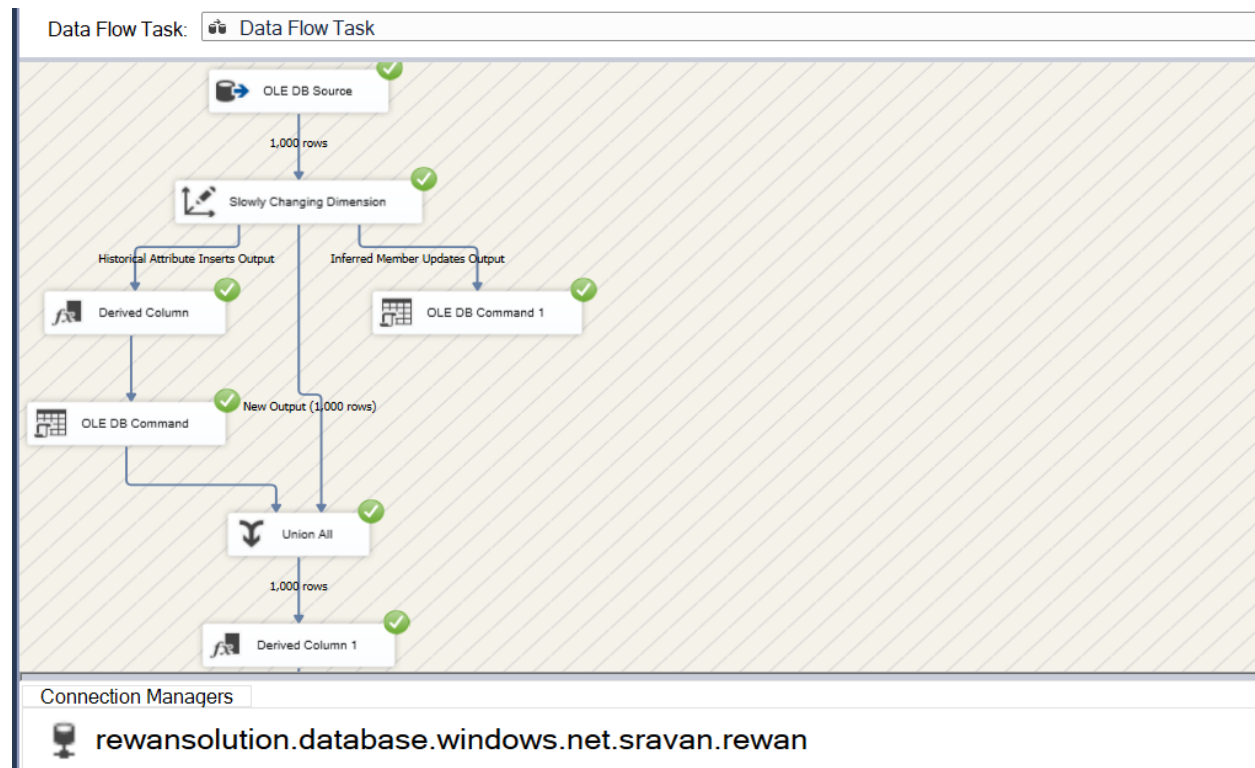
☒ Use start and end dates to identify current and expired records

Start date column:

End date column:

Variable to set date values:

All rows are passed



Rows are inserted with Start date

Results 1 x

SELECT * FROM Loan_Aproval_SCD2

	DisbursementGross	BalanceGross	MIS_Status	ChgOffPrinGr	GrAppv	SBA_Appv	start_date	end_date	status
1	00	\$0.00	P I F	\$0.00	\$60,000.00	\$48,000.00	2022-10-09	[NULL]	[NULL]
2	00	\$0.00	P I F	\$0.00	\$40,000.00	\$32,000.00	2022-10-09	[NULL]	[NULL]
3	00	\$0.00	P I F	\$0.00	\$287,000.00	\$215,250.00	2022-10-09	[NULL]	[NULL]
4	00	\$0.00	P I F	\$0.00	\$35,000.00	\$28,000.00	2022-10-09	[NULL]	[NULL]
5	00	\$0.00	P I F	\$0.00	\$229,000.00	\$229,000.00	2022-10-09	[NULL]	[NULL]
6	00	\$0.00	P I F	\$0.00	\$517,000.00	\$387,750.00	2022-10-09	[NULL]	[NULL]
7	00	\$0.00	CHGOFF	\$208,959.00	\$600,000.00	\$499,998.00	2022-10-09	[NULL]	[NULL]
8	00	\$0.00	P I F	\$0.00	\$45,000.00	\$36,000.00	2022-10-09	[NULL]	[NULL]
9	00	\$0.00	P I F	\$0.00	\$305,000.00	\$228,750.00	2022-10-09	[NULL]	[NULL]
10	00	\$0.00	P I F	\$0.00	\$70,000.00	\$56,000.00	2022-10-09	[NULL]	[NULL]
11	00	\$0.00	P I F	\$0.00	\$70,000.00	\$56,000.00	2022-10-09	[NULL]	[NULL]
12	00	\$0.00	P I F	\$0.00	\$300,000.00	\$225,000.00	2022-10-09	[NULL]	[NULL]
13	00	\$0.00	P I F	\$0.00	\$253,400.00	\$190,050.00	2022-10-09	[NULL]	[NULL]
14	00	\$0.00	P I F	\$0.00	\$370,000.00	\$277,500.00	2022-10-09	[NULL]	[NULL]
15	00	\$0.00	P I F	\$0.00	\$225,000.00	\$225,000.00	2022-10-09	[NULL]	[NULL]

One row is updated in source

```

[DisbursementDate] datetime,
[DisbursementGross] nvarchar(255),
[BalanceGross] nvarchar(255),
[MIS_Status] nvarchar(255),
[ChgOffPrinGr] nvarchar(255),
[GrAppv] nvarchar(255),
[SBA_Appv] nvarchar(255),
[start_date] date,
[end_date] date,
[status] varchar
);

SELECT * FROM Loan_Aproval_SCD2;

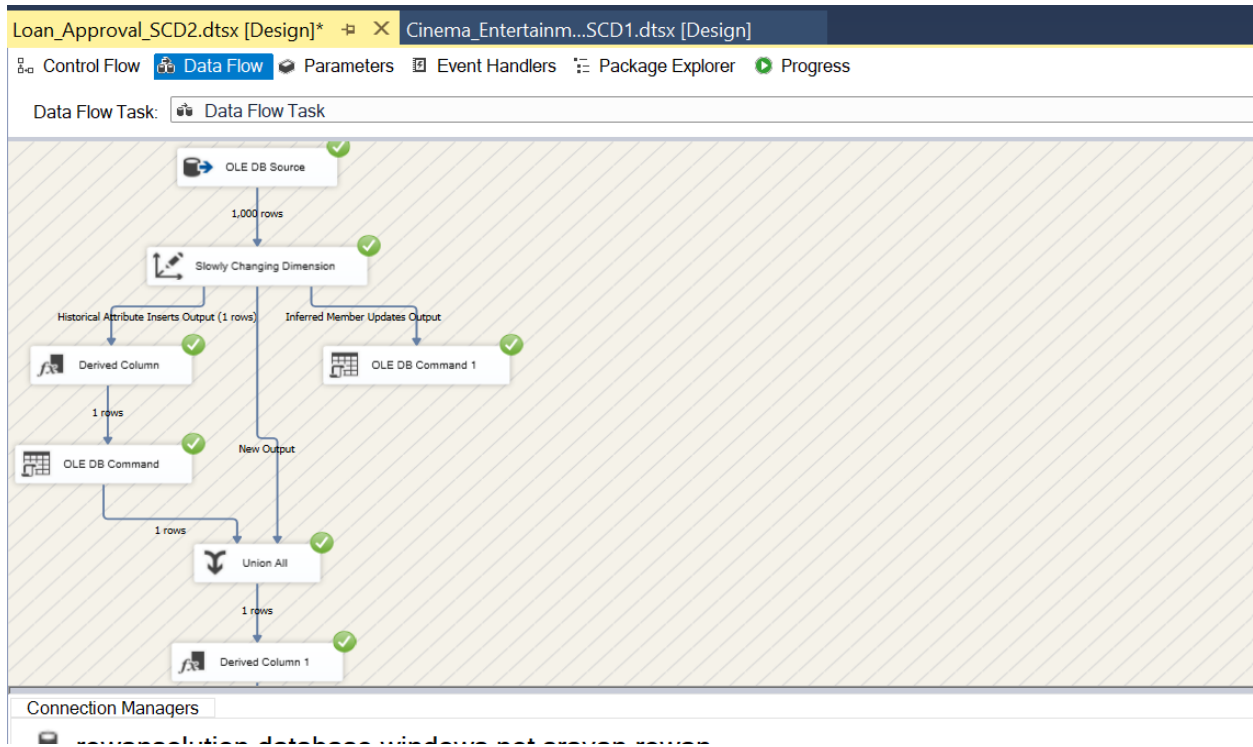
UPDATE Loan_Aproval SET Bank='ICICI Bank' WHERE Zip = 47711;

```

Statistics 1 x

Name	Value
Updated Rows	1
Query	UPDATE Loan_Aproval SET Bank='ICICI Bank' WHERE Zip = 47711
Finish time	Sun Oct 09 08:09:27 IST 2022

One row is passed



One row is inserted with end date

SQL Script:

```
USE [Loan_Aproval_SCD2];
GO
[DisbursementDate] datetime,
[DisbursementGross] nvarchar(255),
[BalanceGross] nvarchar(255),
[MIS_Status] nvarchar(255),
[ChgOffPrinGr] nvarchar(255),
[GrAppv] nvarchar(255),
[SBA_Appv] nvarchar(255),
[start_date] date,
[end_date] date,
[status] varchar
);
SELECT * FROM Loan_Aproval_SCD2;
UPDATE Loan_Aproval SET Bank='ICICI Bank' WHERE Zip = 47711;
```

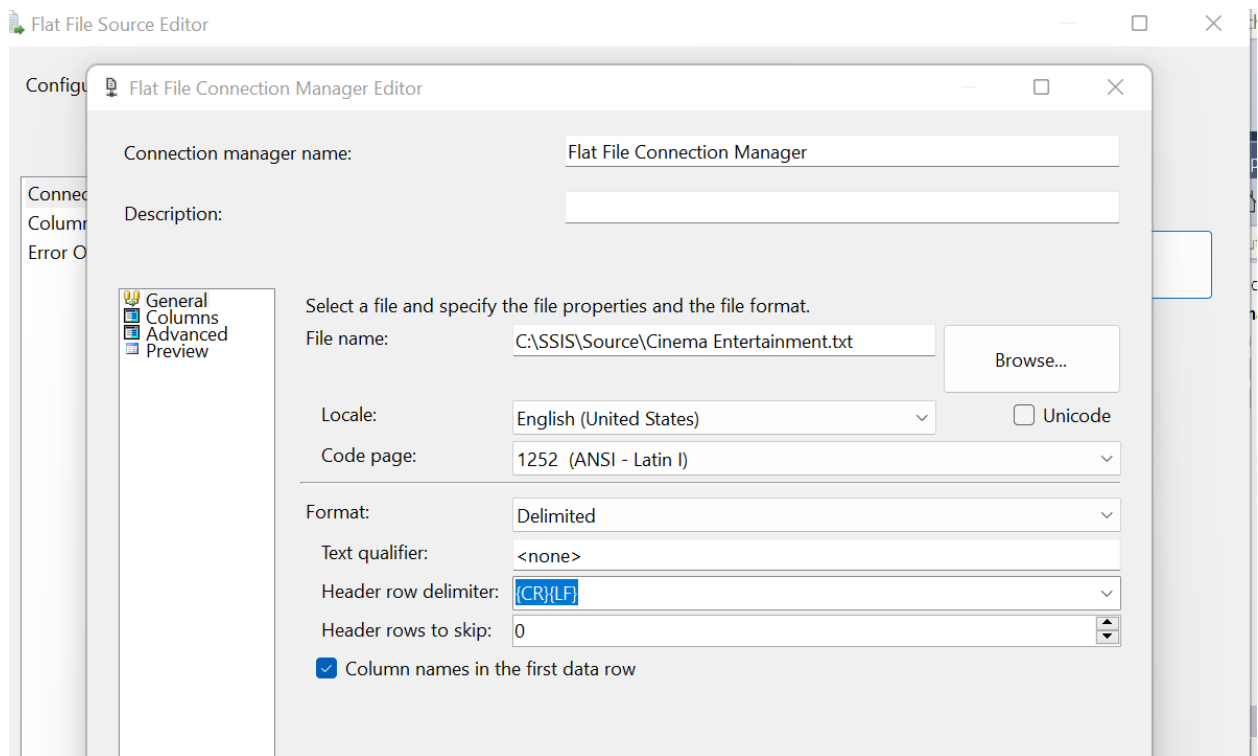
Results 1 x

Enter a SQL expression to filter results (use Ctrl+Space)

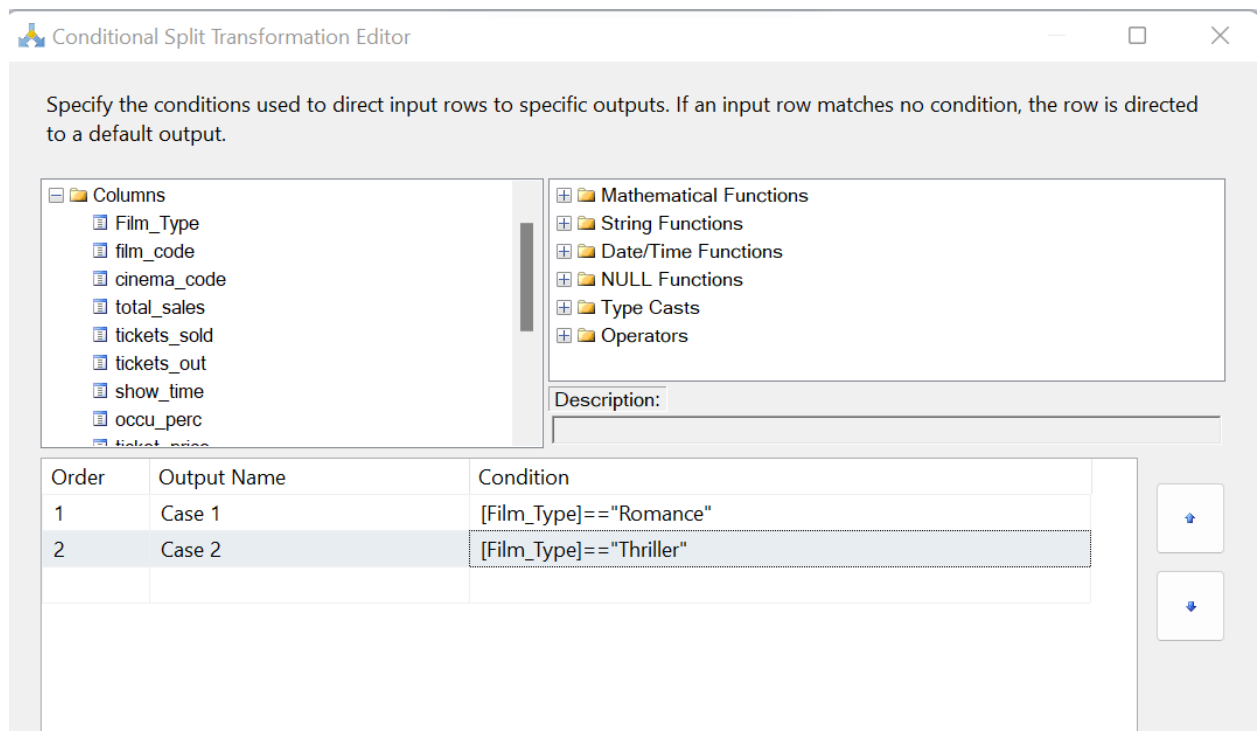
Grid	DisbursementGross	BalanceGross	MIS_Status	ChgOffPrinGr	GrAppv	SBA_Appv	start_date	end_date	Valu
993	.000	\$153,862.00	\$0.00	P I F	\$0.00	\$100,000.00	\$50,000.00	2022-10-09	[NULL]
994	.000	\$12,000.00	\$0.00	P I F	\$0.00	\$12,000.00	\$6,000.00	2022-10-09	[NULL]
995	.000	\$19,000.00	\$0.00	P I F	\$0.00	\$40,000.00	\$20,000.00	2022-10-09	[NULL]
996	.000	\$10,000.00	\$0.00	P I F	\$0.00	\$10,000.00	\$5,000.00	2022-10-09	[NULL]
997	.000	\$18,881.00	\$0.00	P I F	\$0.00	\$35,000.00	\$17,500.00	2022-10-09	[NULL]
998	.000	\$27,949.00	\$0.00	P I F	\$0.00	\$30,000.00	\$15,000.00	2022-10-09	[NULL]
999	.000	\$29,005.00	\$0.00	P I F	\$0.00	\$25,000.00	\$12,500.00	2022-10-09	[NULL]
1000	.000	\$23,500.00	\$0.00	P I F	\$0.00	\$23,500.00	\$11,750.00	2022-10-09	[NULL]
1001	.000	\$60,000.00	\$0.00	P I F	\$0.00	\$60,000.00	\$48,000.00	2022-10-09	2022-10-09

7. Conditional Split Using Flat File

Flat File Connection



Condition for two groups



Connecting to target SQL Table

OLE DB Destination Editor

Configure the properties used to insert data into a relational database using an OLE DB provider.

Connection Manager
Mappings
Error Output

Specify an OLE DB connection manager, a data source, or a data source view, and select the data access mode. If using the SQL command access mode, specify the SQL command either by typing the query or by using Query Builder. For fast-load data access, set the table update options.

OLE DB connection manager:
rewansolution.database.windows.net.sravan.rewan

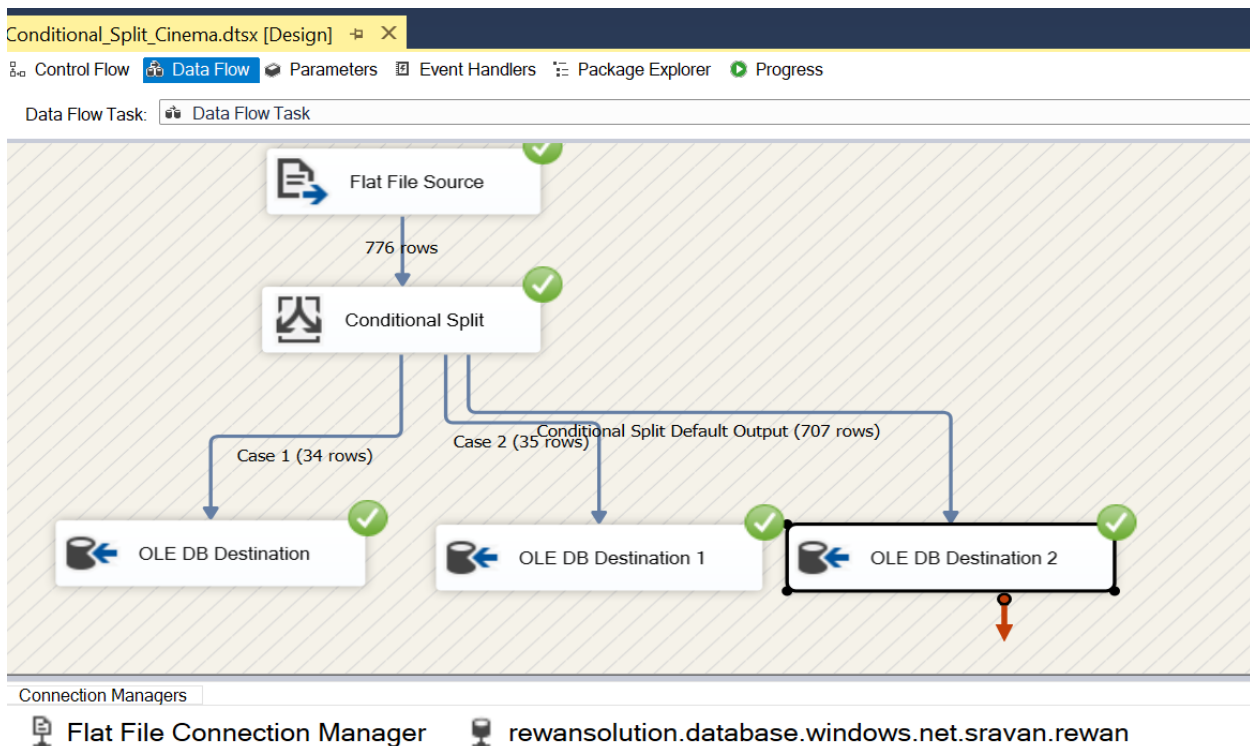
Data access mode:
Table or view - fast load

Name of the table or the view:
[Cinema_Default]

☐ Keep identity ☒ Table lock
☐ Keep nulls ☒ Check constraints

Rows per batch:

Records are Inserted to Respective Table



Cinema_Romance_Table

```
);
SELECT * FROM iics_Health_Care_tgt_scd2 ;
--Updating in Source table
UPDATE iics_Health_Care SET DISTRICT_NAME='Bangalore' WHERE PID=1;
--Replicatin Task
SELECT * FROM SF_CAR_SALES ;
SELECT * FROM Car_Shipmnt_Aggregate;
SELECT * FROM Cinema_Entertainment_Rank cer ;
SELECT * FROM Cinema_Case1 cc;
```

Results 1 x

SELECT * FROM Cinema_Case1 cc

	Film_Type	film_code	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket
12	Romance	1492	529	480000	4	0	3	2.96	200000
13	Romance	1492	82	400000	5	0	6	0.53000000000000003	80000
14	Romance	1492	344	300000	2	0	3	0.25	150000
15	Romance	1492	73	240000	2	0	1	2.04	120000
16	Romance	1492	304	16500000	112	0	4	18.329999999999998	200000
17	Romance	1492	352	13950000	93	0	5	10.57	150000
18	Romance	1492	344	10200000	68	0	3	8.5399999999999991	150000

Save Cancel Script 200 34 Rows: 1 34 row(s) fetched - 434ms (4ms fetch), on 2022-10-C

Cinema_Thriller_Table

```
UPDATE iics_Health_Care SET DISTRICT_NAME='Bangalore' WHERE PID=1;
--Replicatin Task
SELECT * FROM SF_CAR_SALES ;
SELECT * FROM Car_Shipmnt_Aggregate;
SELECT * FROM Cinema_Entertainment_Rank cer ;
SELECT * FROM Cinema_Case1 cc;
SELECT * FROM Cinema_Case2 cc ;
```

Results 1 x

SELECT * FROM Cinema_Case2 cc

	Film_Type	film_code	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket
22	Thriller	1486	417	2585000	29	0	4	2.1400000000000001	89137.9
23	Thriller	1486	396	1760000	22	0	3	4.9900000000000002	80000
24	Thriller	1486	414	1610000	23	0	3	5.3200000000000003	70000
25	Thriller	1486	61	1550000	20	2	8	0.7800000000000003	77500
26	Thriller	1486	88	1100000	11	0	7	2.46	100000
27	Thriller	1486	43	1050000	15	0	12	2.21	70000
28	Thriller	1486	82	880000	11	0	6	0.62	80000

Save Cancel Script 200 35 Rows: 1 35 row(s) fetched - 360ms (2ms fetch), on 2022-10-C

Cinema_Default_Table

--Updating in Source table									
UPDATE iics_Health_Care SET DISTRICT_NAME='Bangalore' WHERE PID=1;									
--Replicatin Task									
SELECT * FROM SF_CAR_SALES ;									
SELECT * FROM Car_Shipmnt_Aggregate;									
SELECT * FROM Cinema_Entertainment_Rank cer ;									
SELECT * FROM Cinema_Case1 cc;									
SELECT * FROM Cinema_Case2 cc ;									
SELECT * FROM Cinema_Default cd ;									
Results 1 x									
SELECT * FROM Cinema_Default cd Enter a SQL expression to filter results (use Ctrl+Space)									
Grid	asc Film_Type	asc film_code	asc cinema_code	asc total_sales	asc tickets_sold	asc tickets_out	asc show_time	asc occu_perc	asc ticke
52	Drama	1471	304	6320000	79	0	1	53.740000000000002	200000
53	Comedy	1480	155	2520000	44	0	6	3.7400000000000002	57272.
54	Comedy	1480	225	1820000	52	0	6	3.8199999999999998	35000
55	Comedy	1480	477	450000	18	0	1	9.0899999999999999	25000
56	Comedy	1480	466	90000	3	0	1	1.75	30000
57	Comedy	1480	155	1720000	30	0	6	2.5499999999999998	57333.
58	Comedy	1480	225	1470000	42	0	6	3.0800000000000001	35000
59	Comedy	1480	477	200000	4	0	1	2.02	50000