MODULE-2 SSIS

Make connection to different data source Flatfile, SQL Server)

Extract, Transform and Load to new target system - SQL Server

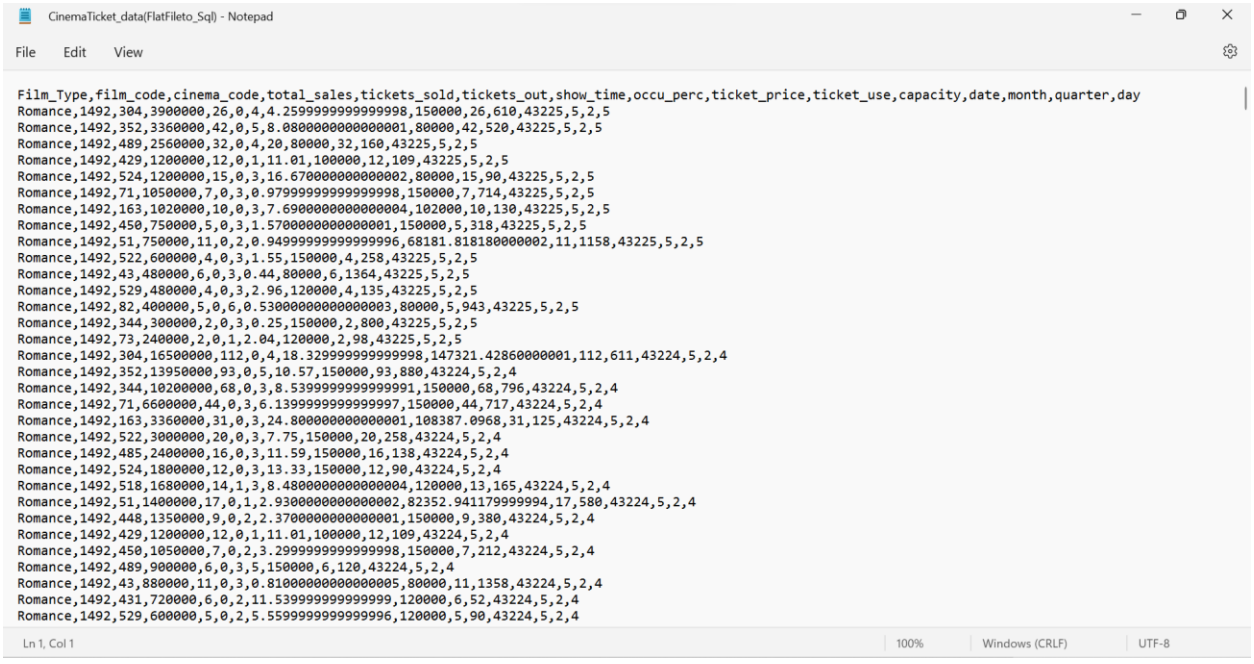
Data source used : CinemaTicket_Ref_Entertainment

1.FlatFile to SQL Server

Step1: Create the table DFA_CINEMATICKET_DATA in database.

```
CREATE TABLE DFA_CINEMATICKET_DATA
(
Film_Type    VARCHAR(100),
film_code    VARCHAR(100),
cinema_code VARCHAR(100),
total_sales VARCHAR(100),
tickets_sold VARCHAR(100),
tickets_out VARCHAR(100),
show_time    VARCHAR(100),
occu_perc    VARCHAR(100),
ticket_price VARCHAR(100),
ticket_use VARCHAR(100),
capacity     VARCHAR(100),
t_date  VARCHAR(100),
t_month VARCHAR(100),
t_quarter VARCHAR(100),
t_day VARCHAR(100),
);
```

This is the Flat File from which data is extracted to SQL database.



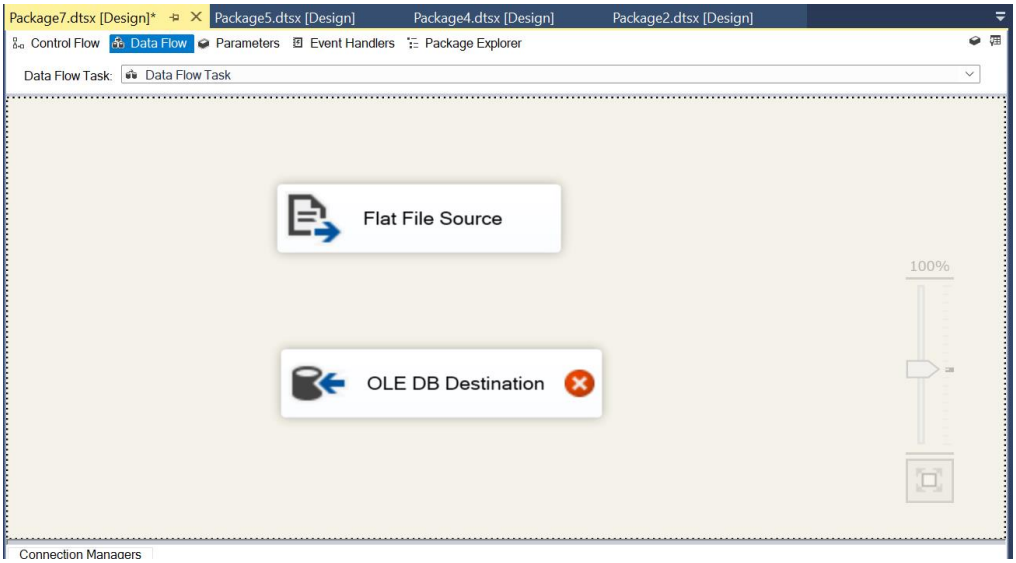
CinemaTicket_data(FlatFileto_Sql) - Notepad

File Edit View

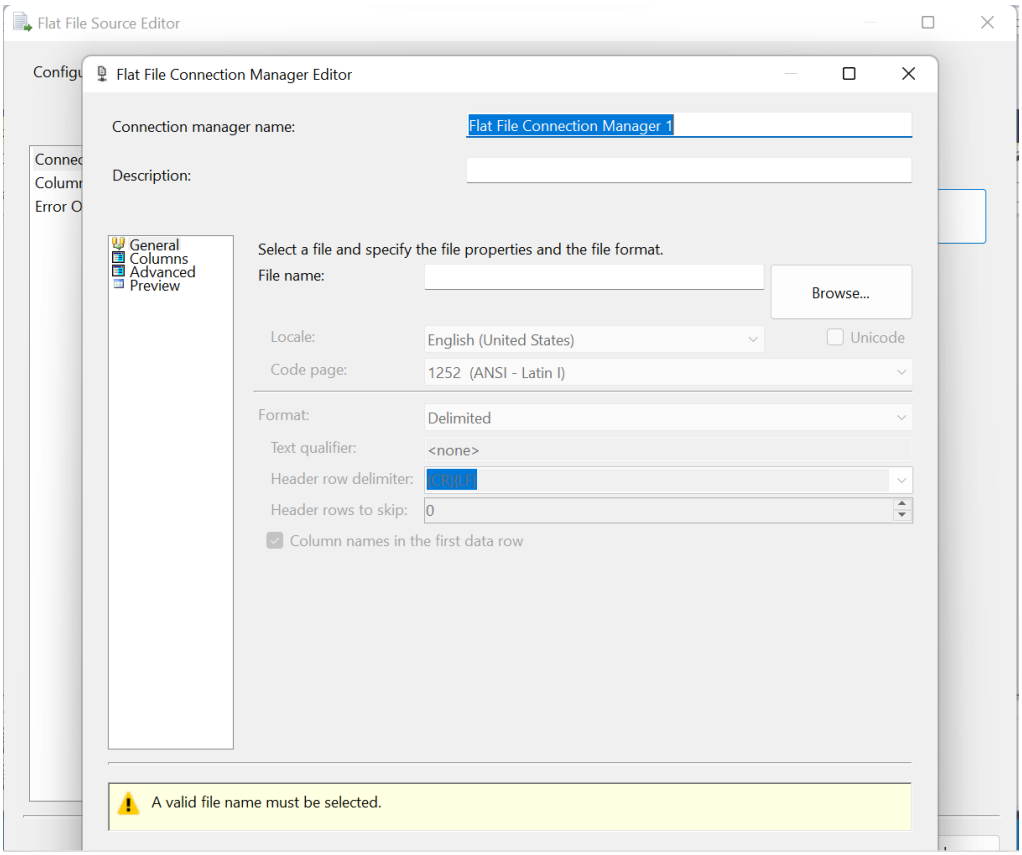
```
Film_Type,film_code,cinema_code,total_sales,tickets_sold,tickets_out,show_time,occu_perc,ticket_price,ticket_use,capacity,date,month,quarter,day
Romance,1492,304,3900000,26,0,4,4.2599999999999998,150000,26,610,43225,5,2,5
Romance,1492,352,3360000,42,0,5,8.0800000000000001,80000,42,520,43225,5,2,5
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,1492,524,1200000,15,0,3,16.670000000000002,80000,15,90,43225,5,2,5
Romance,1492,71,1050000,7,0,3,0.97999999999999998,150000,7,714,43225,5,2,5
Romance,1492,163,1020000,10,0,3,7.6900000000000004,102000,10,130,43225,5,2,5
Romance,1492,450,750000,5,0,3,1.5700000000000001,150000,5,318,43225,5,2,5
Romance,1492,51,750000,11,0,2,0.94999999999999996,68181.818180000002,11,1158,43225,5,2,5
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,1492,529,480000,4,0,3,2.96,120000,4,135,43225,5,2,5
Romance,1492,82,400000,5,0,6,0.53000000000000003,80000,5,943,43225,5,2,5
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,1492,304,16500000,112,0,4,18.329999999999998,147321.42860000001,112,611,43224,5,2,4
Romance,1492,352,13950000,93,0,5,10.57,150000,93,880,43224,5,2,4
Romance,1492,344,10200000,68,0,3,8.5399999999999991,150000,68,796,43224,5,2,4
Romance,1492,71,6600000,44,0,3,6.1399999999999997,150000,44,717,43224,5,2,4
Romance,1492,163,3360000,31,0,3,24.800000000000001,108387.0968,31,125,43224,5,2,4
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,1492,518,1680000,14,1,3,8.4800000000000004,120000,13,165,43224,5,2,4
Romance,1492,51,1400000,17,0,1,2.9300000000000002,82352.941179999994,17,580,43224,5,2,4
Romance,1492,448,1350000,9,0,2,2.3700000000000001,150000,9,380,43224,5,2,4
Romance,1492,429,1200000,12,0,1,11.01,100000,12,109,43224,5,2,4
Romance,1492,450,1050000,7,0,2,3.2999999999999998,150000,7,212,43224,5,2,4
Romance,1492,489,900000,6,0,3,5,150000,6,120,43224,5,2,4
Romance,1492,43,880000,11,0,3,0.81000000000000005,80000,11,1358,43224,5,2,4
Romance,1492,431,720000,6,0,2,11.539999999999999,120000,6,52,43224,5,2,4
Romance,1492,529,600000,5,0,2,5.5599999999999996,120000,5,90,43224,5,2,4
```

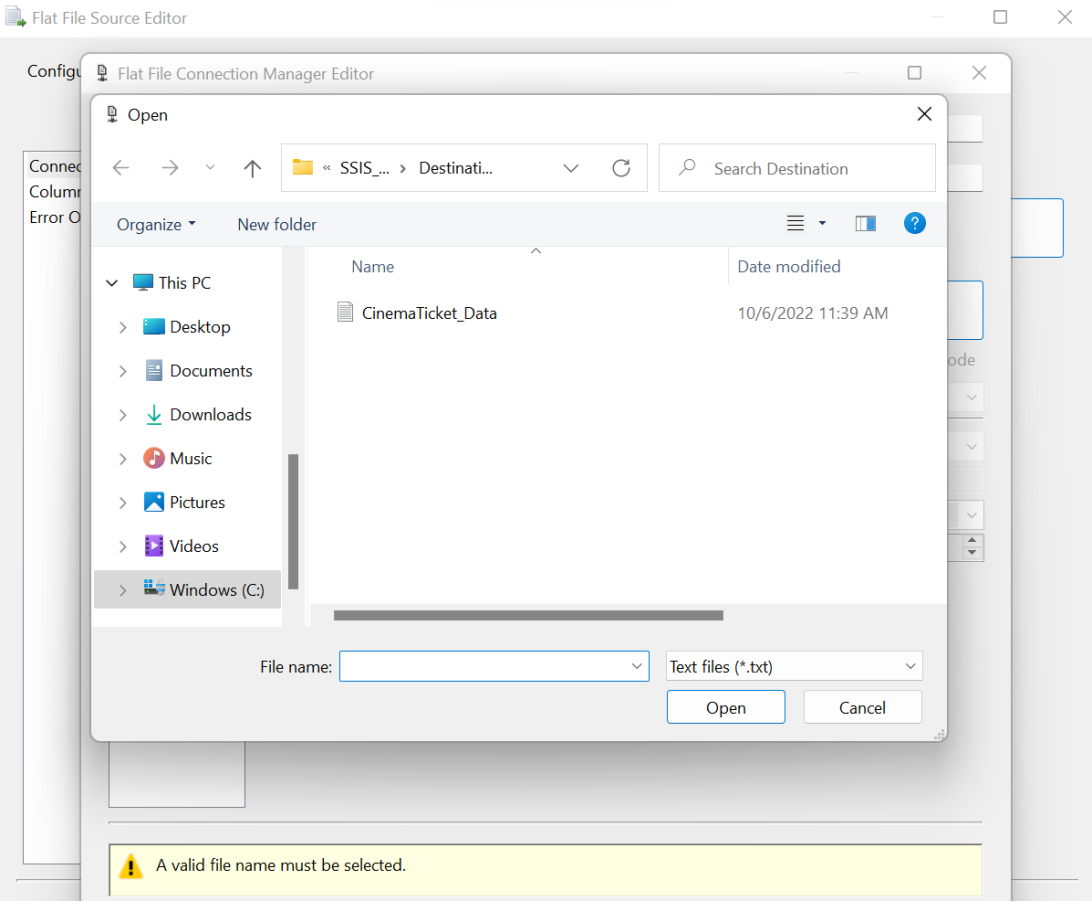
Ln 1, Col 1 100% Windows (CRLF) UTF-8

Step2: Open SSIS drag and drop the Flat File Source for Source connection and the OLE DB Destination where the data to be loaded from the Flat File .

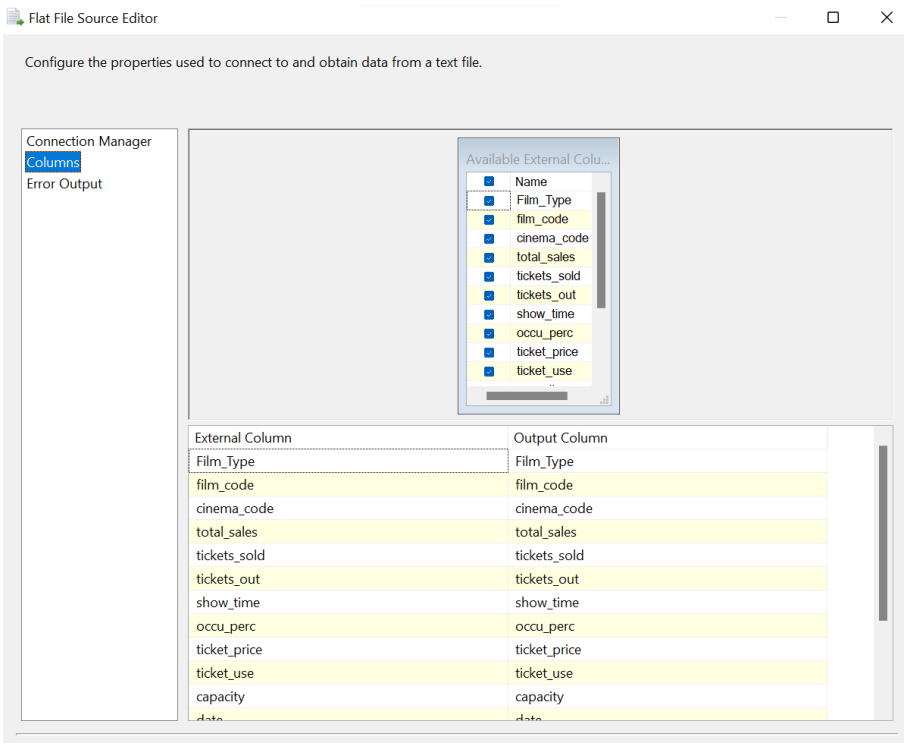


Step3: Double Click on the Flat File Source and Go to browse to select the source to select the source Flat File .

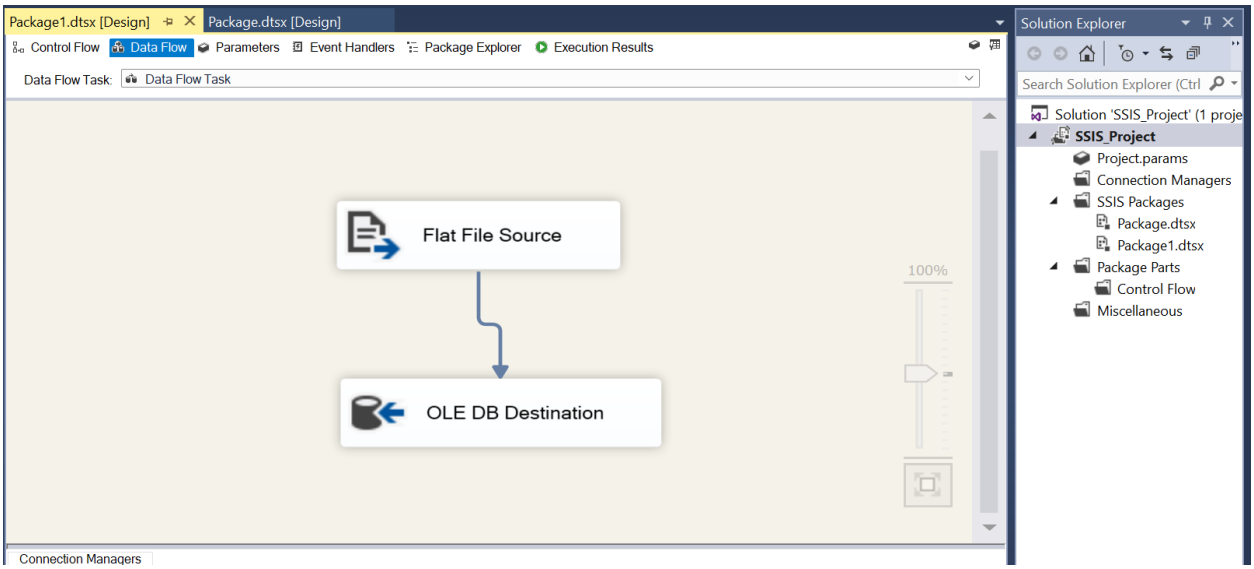




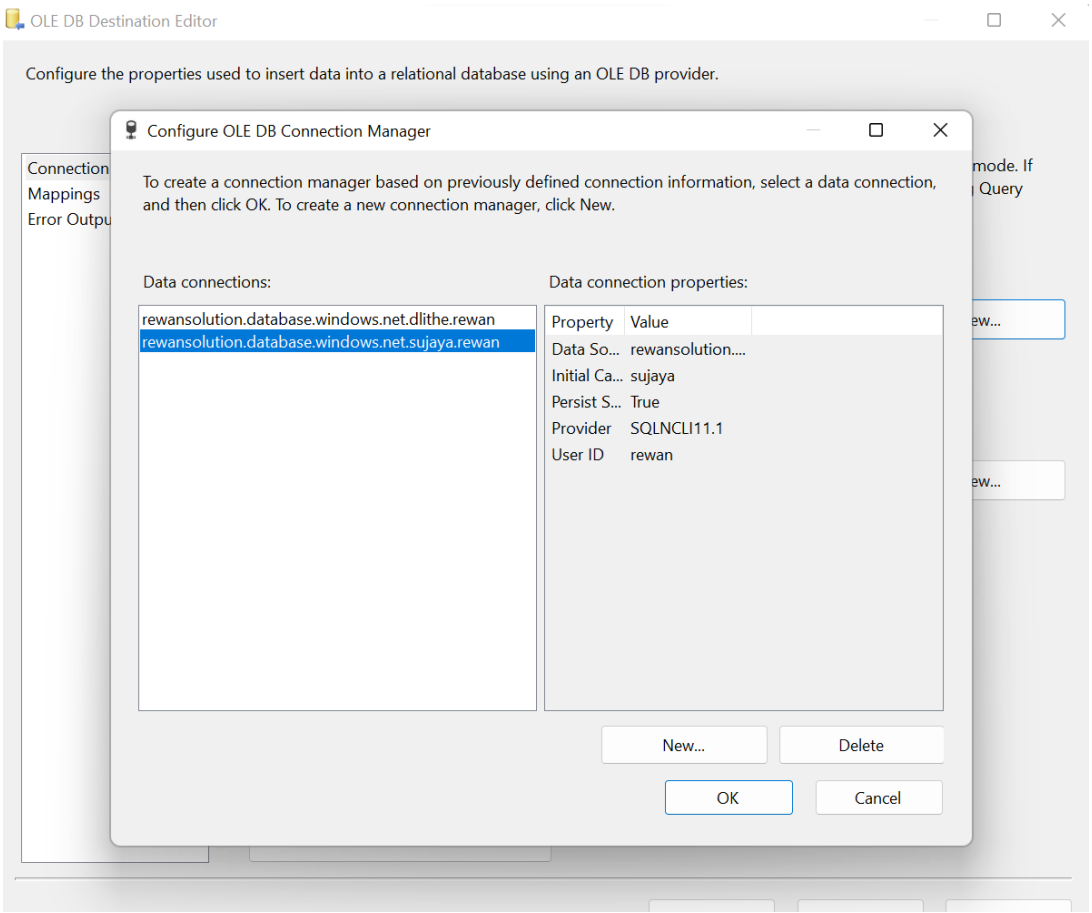
Step4:Select on Columns check the columns are present or not.



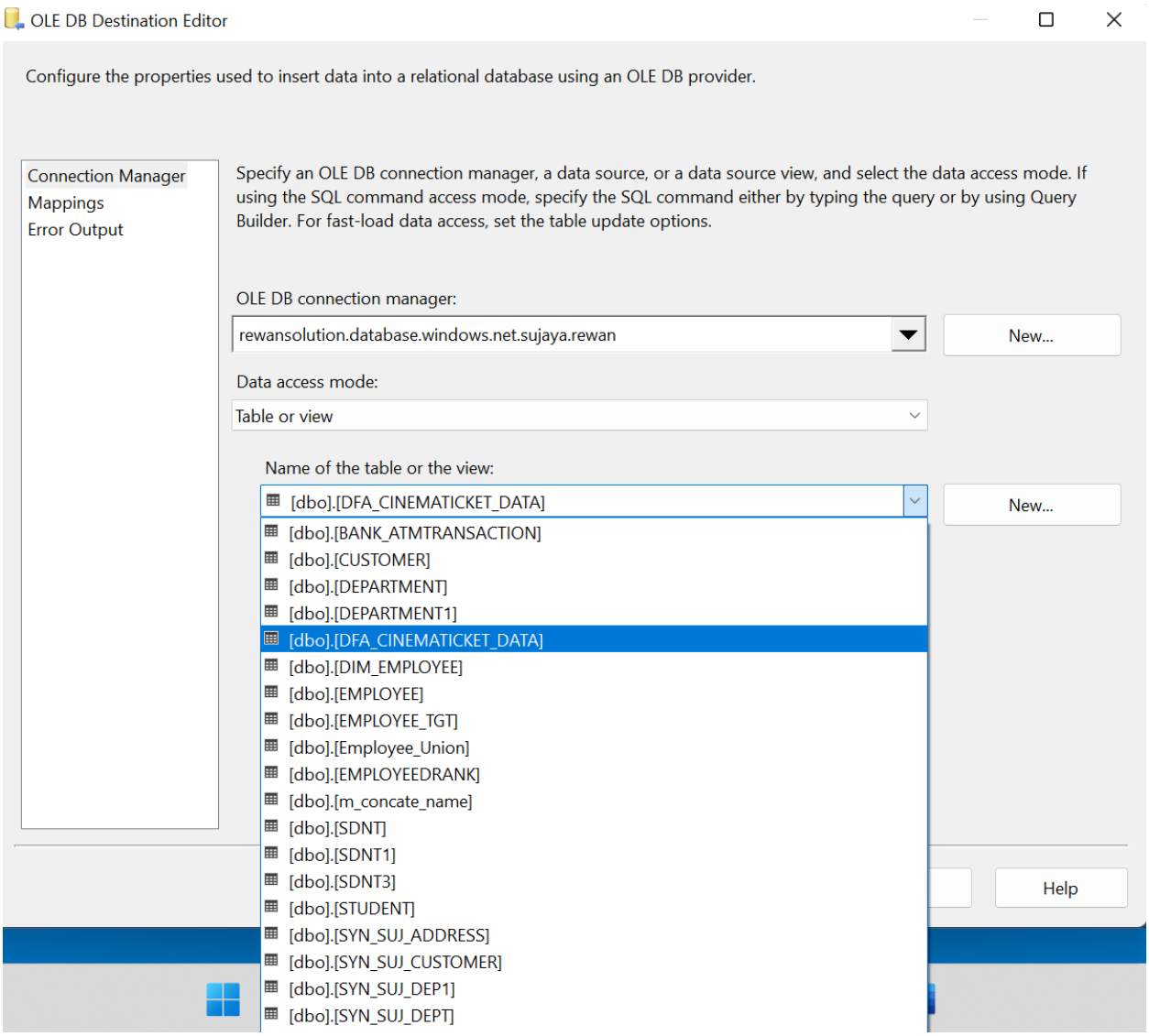
Step5:After connect the blue arrow head to OLE DB destination.



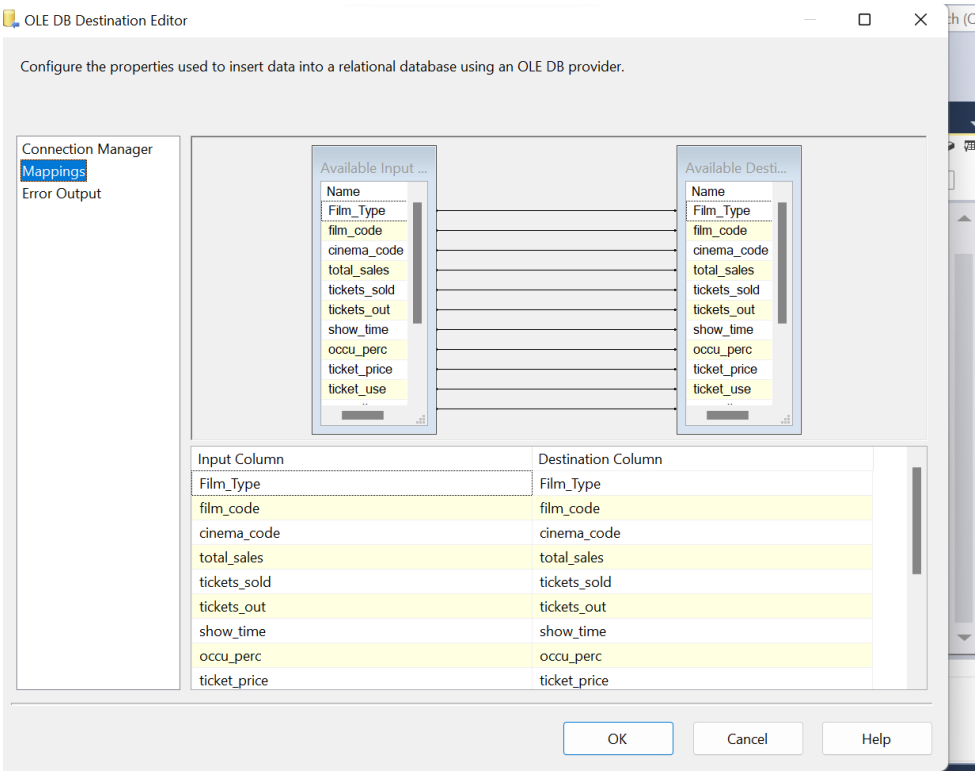
Step6: Double Click on OLE DB Destination and Go to connection manager and select the database connection and give OK.



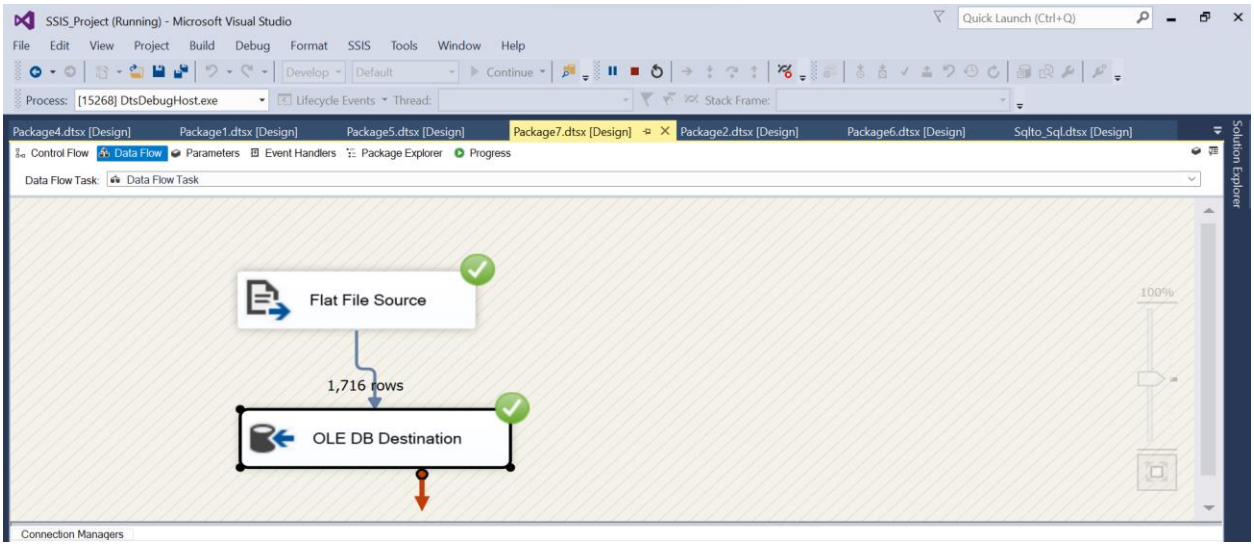
Step7:Go to name of the table and select the table from your database.



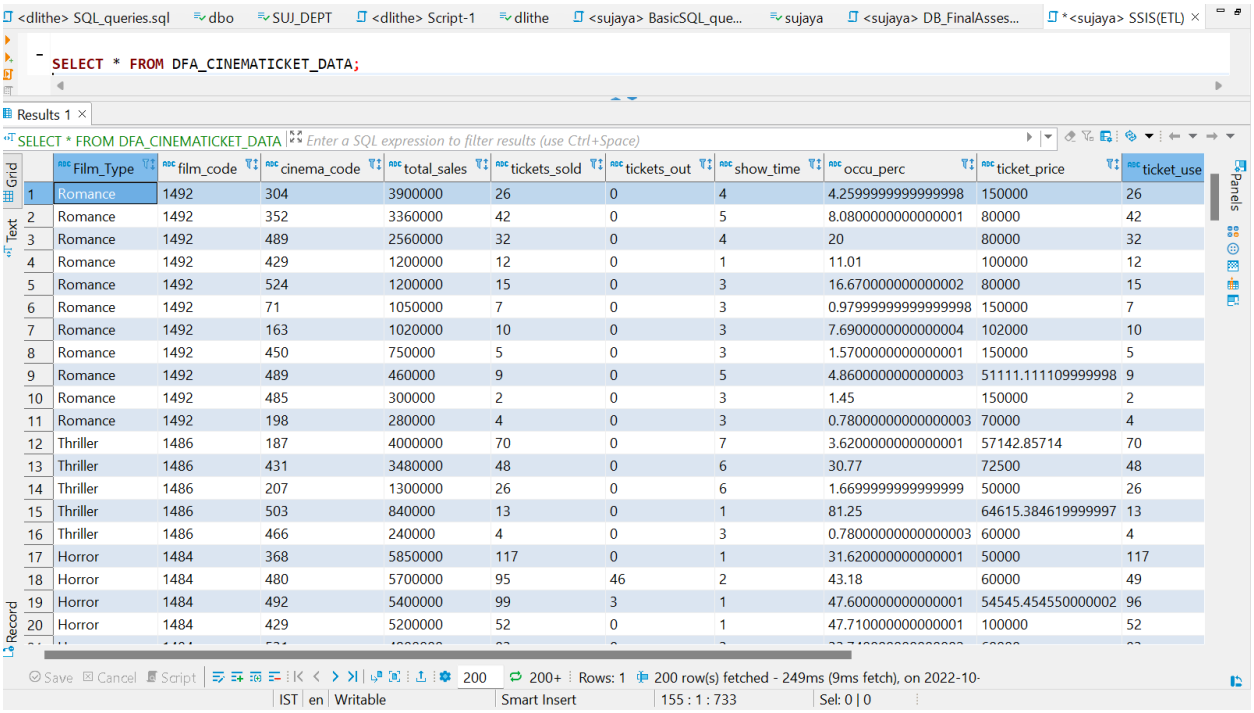
Step8:Go to mapping and check whether the column mapping is correct or not and give OK.



Step9: Save the Package and Click on Start. The Package runs successfully. And the data has been extracted and Loaded to OLE DB Destination.



Step10:Check in database whether the data has been loaded to database Table.

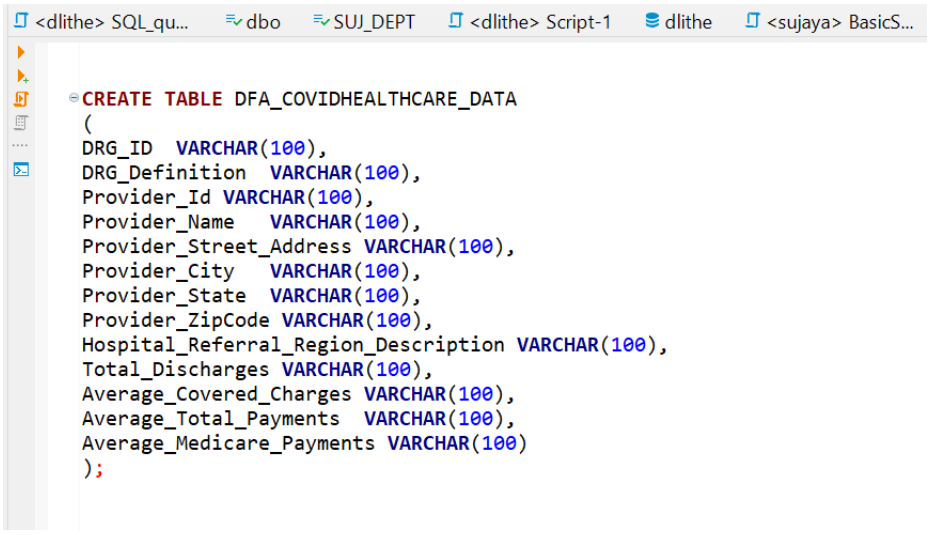


	Film_Type	film_code	cinema_code	total_sales	tickets_sold	tickets_out	show_time	occu_perc	ticket_price	ticket_use
1	Romance	1492	304	3900000	26	0	4	4.2599999999999998	150000	26
2	Romance	1492	352	3360000	42	0	5	8.0800000000000001	80000	42
3	Romance	1492	489	2560000	32	0	4	20	80000	32
4	Romance	1492	429	1200000	12	0	1	11.01	100000	12
5	Romance	1492	524	1200000	15	0	3	16.670000000000002	80000	15
6	Romance	1492	71	1050000	7	0	3	0.97999999999999998	150000	7
7	Romance	1492	163	1020000	10	0	3	7.6900000000000004	102000	10
8	Romance	1492	450	750000	5	0	3	1.5700000000000001	150000	5
9	Romance	1492	489	460000	9	0	5	4.8600000000000003	51111.111109999998	9
10	Romance	1492	485	300000	2	0	3	1.45	150000	2
11	Romance	1492	198	280000	4	0	3	0.78000000000000003	70000	4
12	Thriller	1486	187	4000000	70	0	7	3.6200000000000001	57142.85714	70
13	Thriller	1486	431	3480000	48	0	6	30.77	72500	48
14	Thriller	1486	207	1300000	26	0	6	1.6699999999999999	50000	26
15	Thriller	1486	503	840000	13	0	1	81.25	64615.384619999997	13
16	Thriller	1486	466	240000	4	0	3	0.78000000000000003	60000	4
17	Horror	1484	368	5850000	117	0	1	31.620000000000001	50000	117
18	Horror	1484	480	5700000	95	46	2	43.18	60000	49
19	Horror	1484	492	5400000	99	3	1	47.600000000000001	54545.454550000002	96
20	Horror	1484	429	5200000	52	0	1	47.710000000000001	100000	52

2.SQL to SQL Server

Datasource used **:Inpatient_provdr_Covid_Healthcare**

Step1: Create the source table DFA_COVIDHEALTHCARE_DATA in database and Insert the data to table.



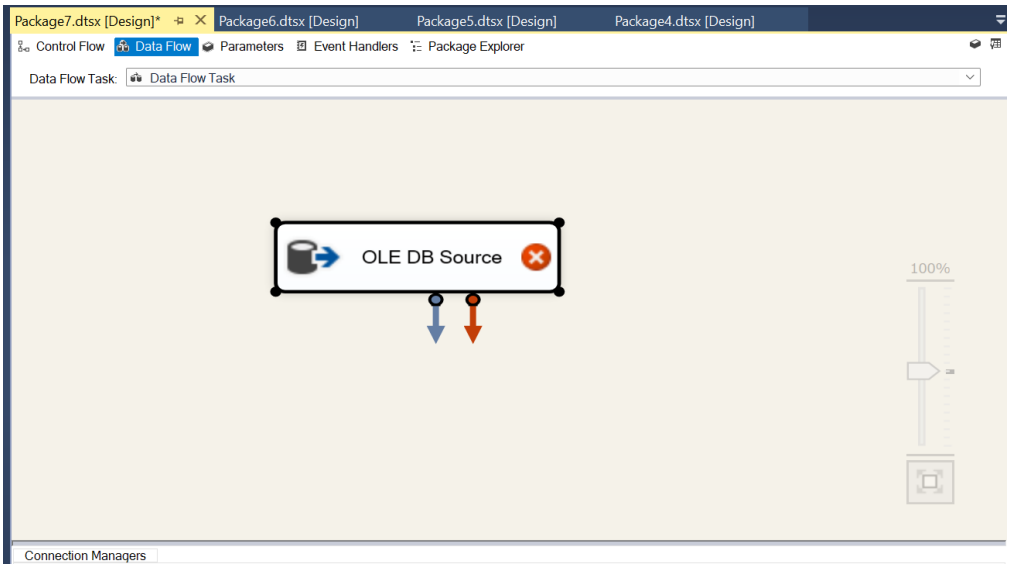
```
CREATE TABLE DFA_COVIDHEALTHCARE_DATA
(
DRG_ID  VARCHAR(100),
DRG_Definition  VARCHAR(100),
Provider_Id VARCHAR(100),
Provider_Name   VARCHAR(100),
Provider_Street_Address VARCHAR(100),
Provider_City   VARCHAR(100),
Provider_State  VARCHAR(100),
Provider_ZipCode VARCHAR(100),
Hospital_Referral_Region_Description VARCHAR(100),
Total_Discharges VARCHAR(100),
Average_Covered_Charges VARCHAR(100),
Average_Total_Payments  VARCHAR(100),
Average_Medicare_Payments VARCHAR(100)
);
```

Create the destination table in database.

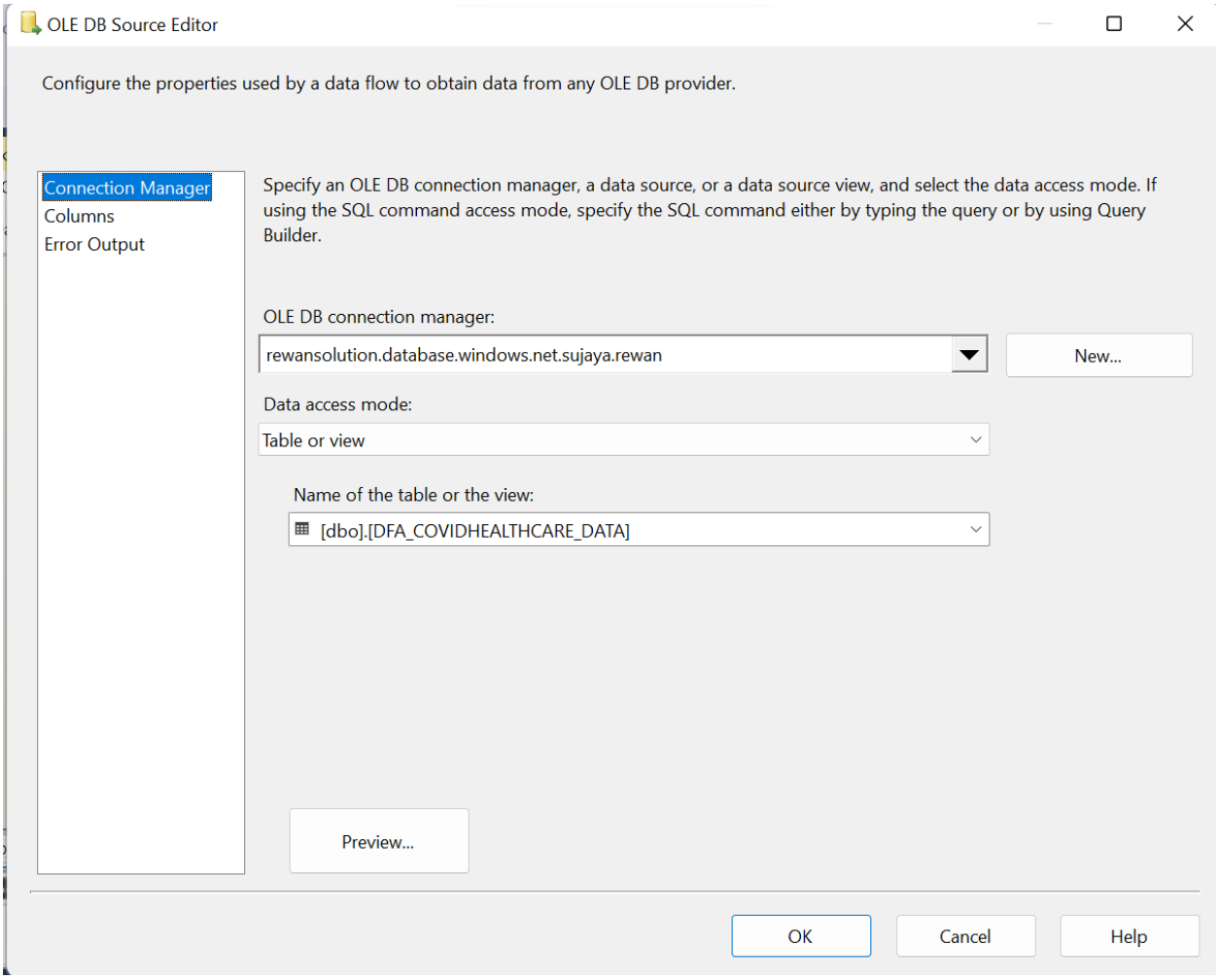
<dlithe> SQL_qu... dbo SUJ_DEPT <dlithe> Script-1 dlithe <sujaya> BasicS...

```
CREATE TABLE DFA_COVIDHEALTHCARE_DATA1
(
DRG_ID  VARCHAR(100),
DRG_Definition  VARCHAR(100),
Provider_Id VARCHAR(100),
Provider_Name   VARCHAR(100),
Provider_Street_Address VARCHAR(100),
Provider_City   VARCHAR(100),
Provider_State  VARCHAR(100),
Provider_ZipCode VARCHAR(100),
Hospital_Referral_Region_Description VARCHAR(100),
Total_Discharges VARCHAR(100),
Average_Covered_Charges VARCHAR(100),
Average_Total_Payments  VARCHAR(100),
Average_Medicare_Payments VARCHAR(100)
);
```

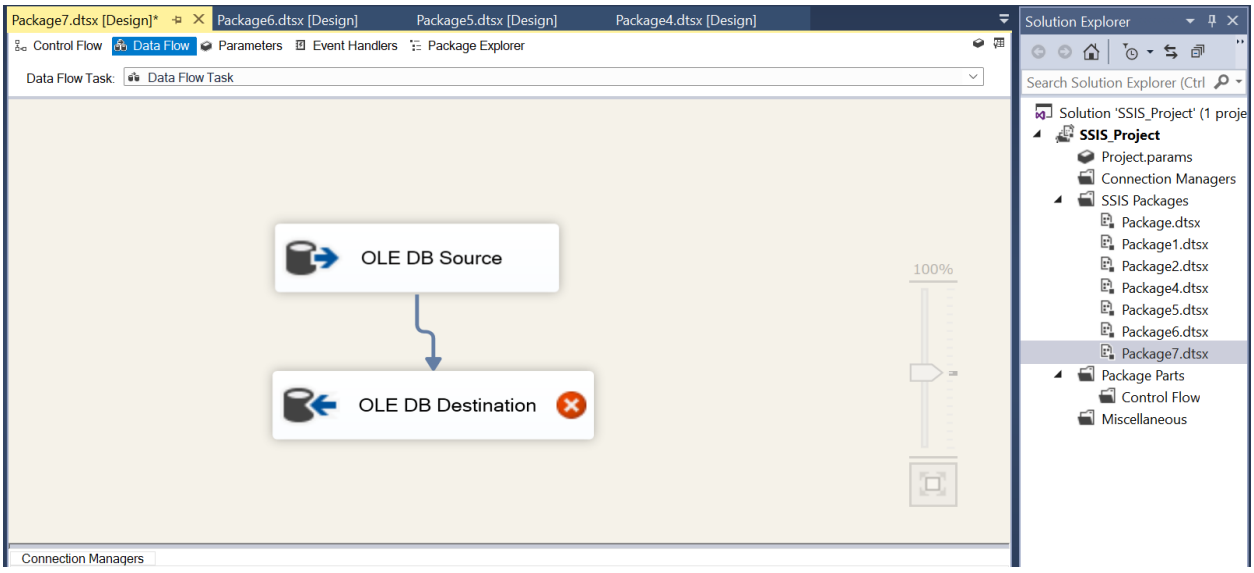
Step2: Drag and Drop the OLE DB source from SSIS Tool Box.



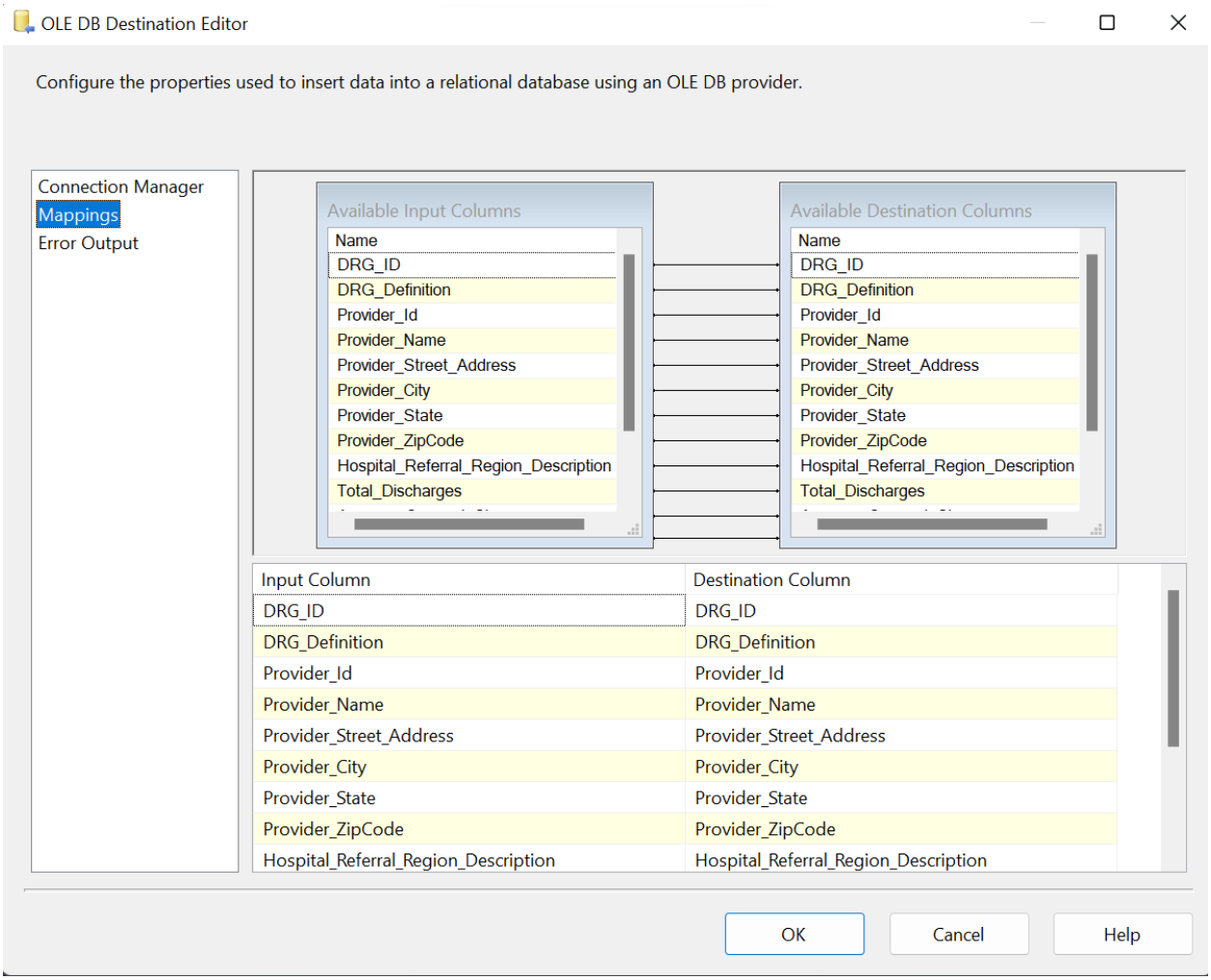
Step3: Double Click on OLE DB Destination and Go to connection manager and select the database connection and give OK. And Select the database table.



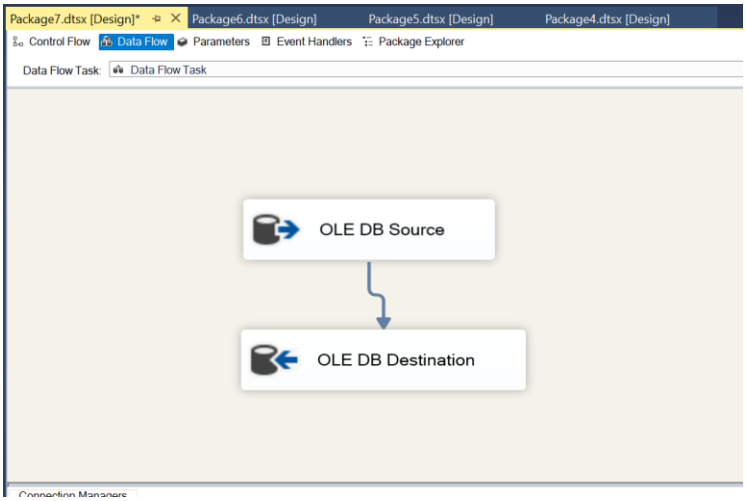
Step4: Connect the OLE DB source to OLE DB destination.

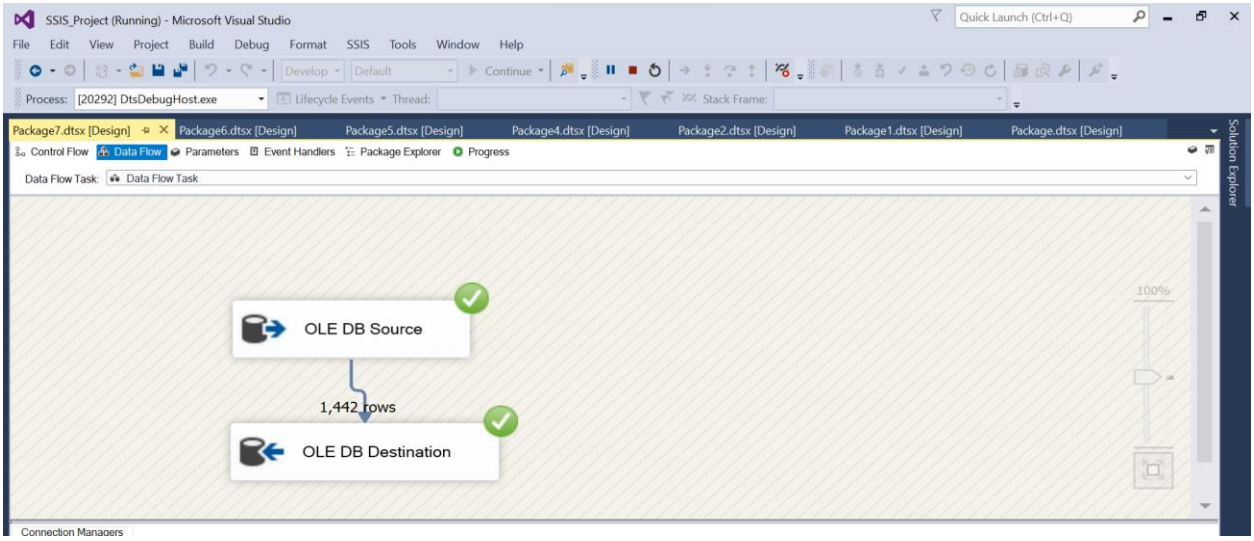


Step5:Repeat the same steps for connection and selecting the database file for OLE DB Destination . And Check the column mappings and give OK.

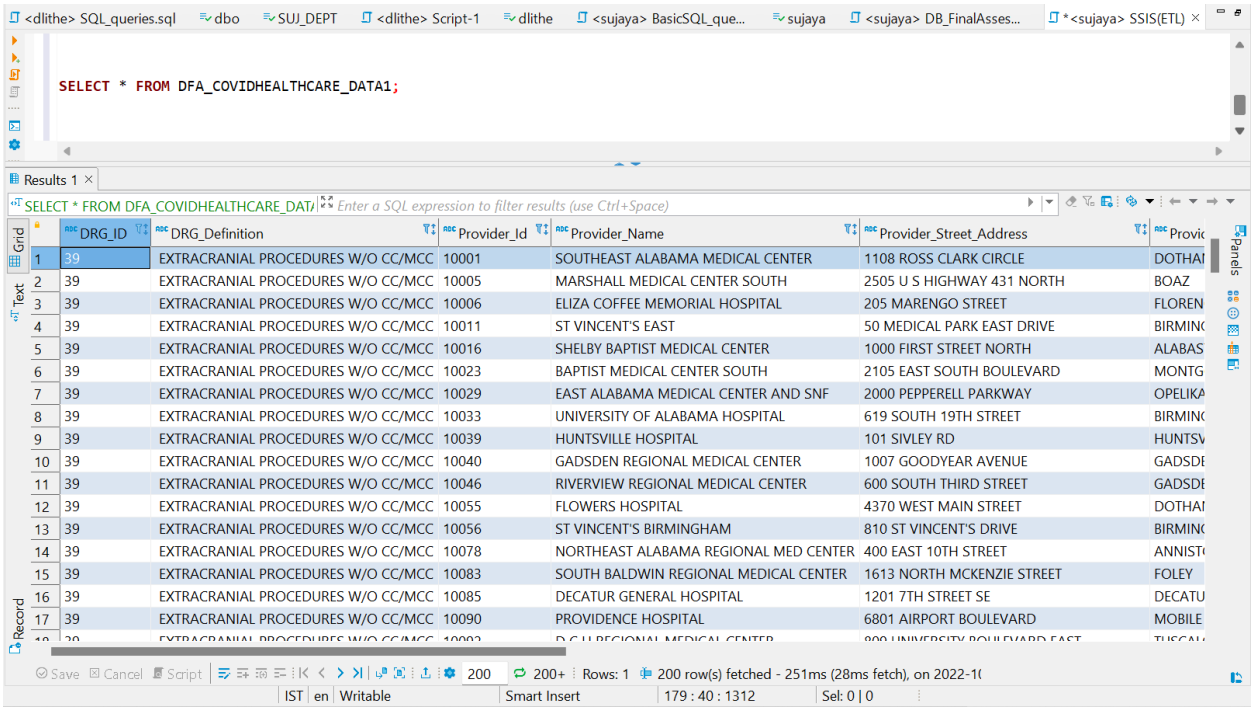


Step6: Then save the package and Click on Start to run the package. The package executed successfully and the data is loaded into Destination table.



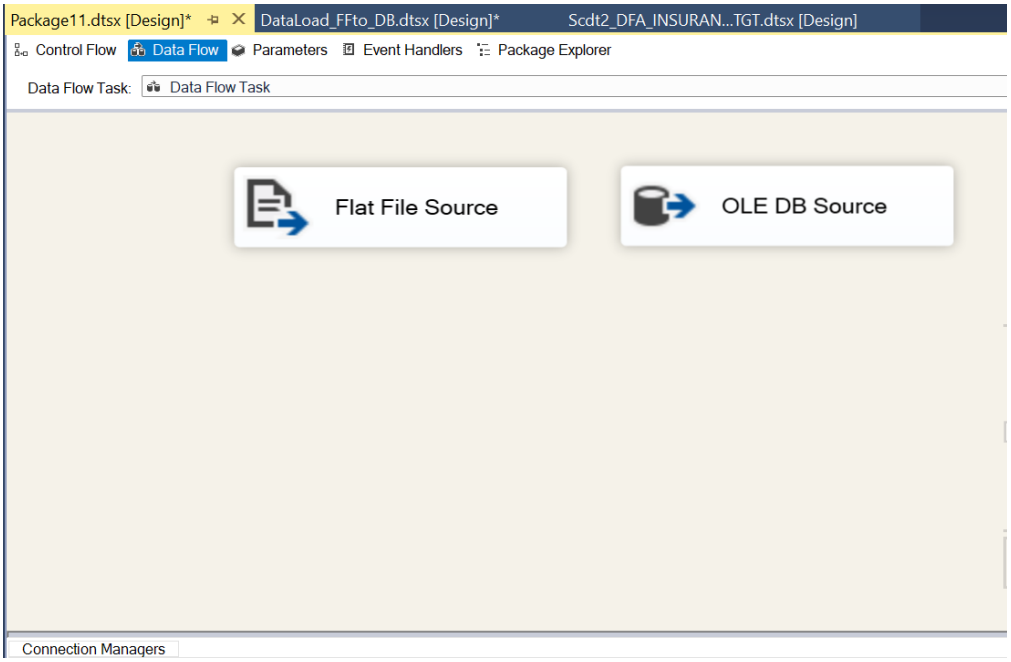


Step 7: Check in database whether the data has loaded to destination table.

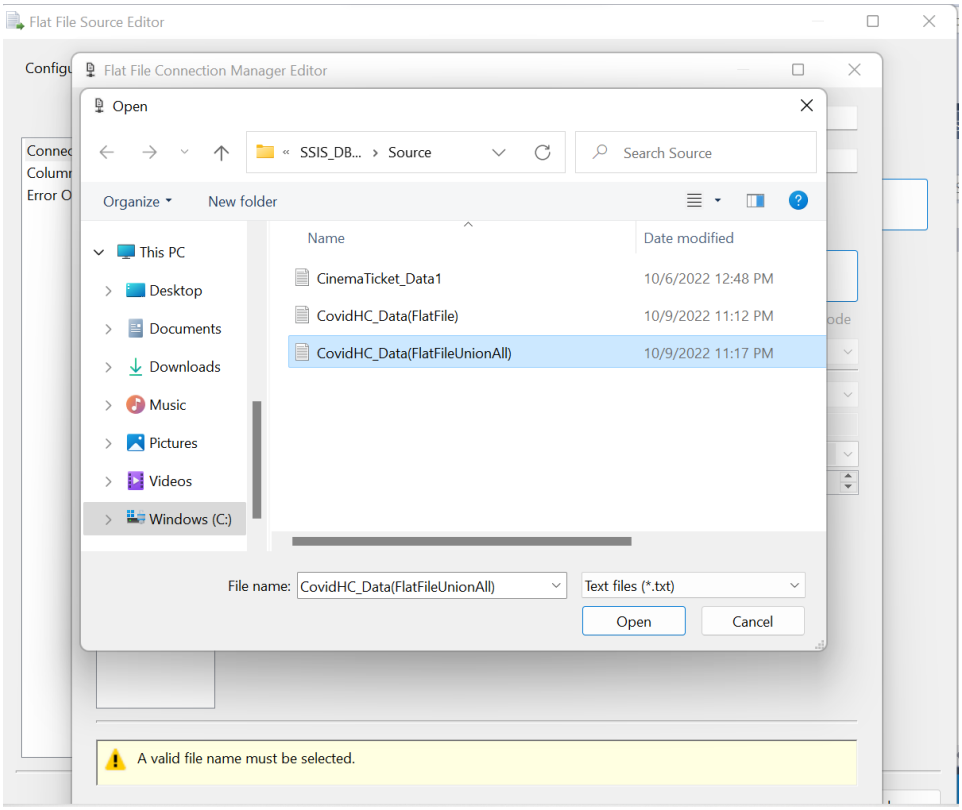


Transform

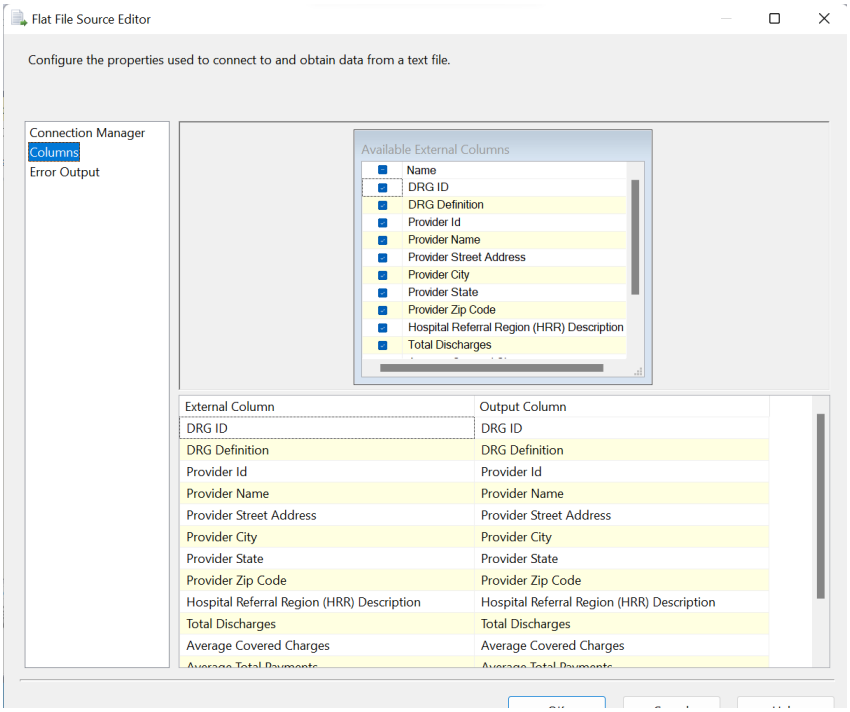
Step1:Drag and Drop two sources Flat File and OLE DB Destination.



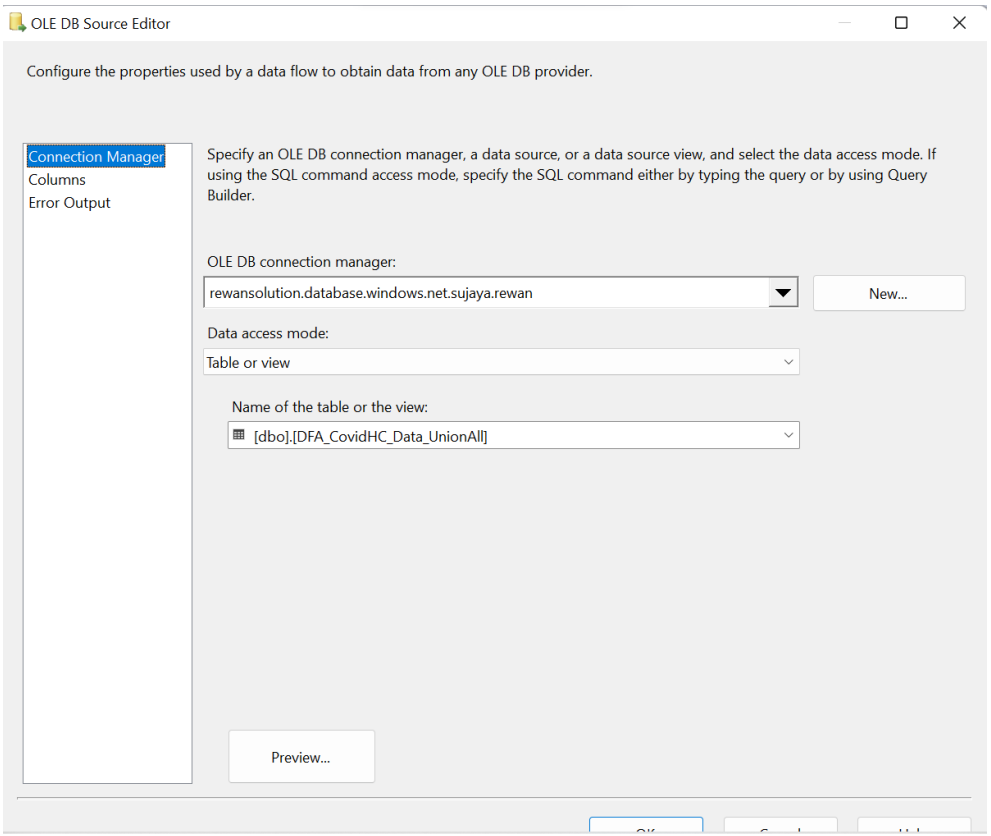
Step2: Double click on Flat File and Select the Flat File.



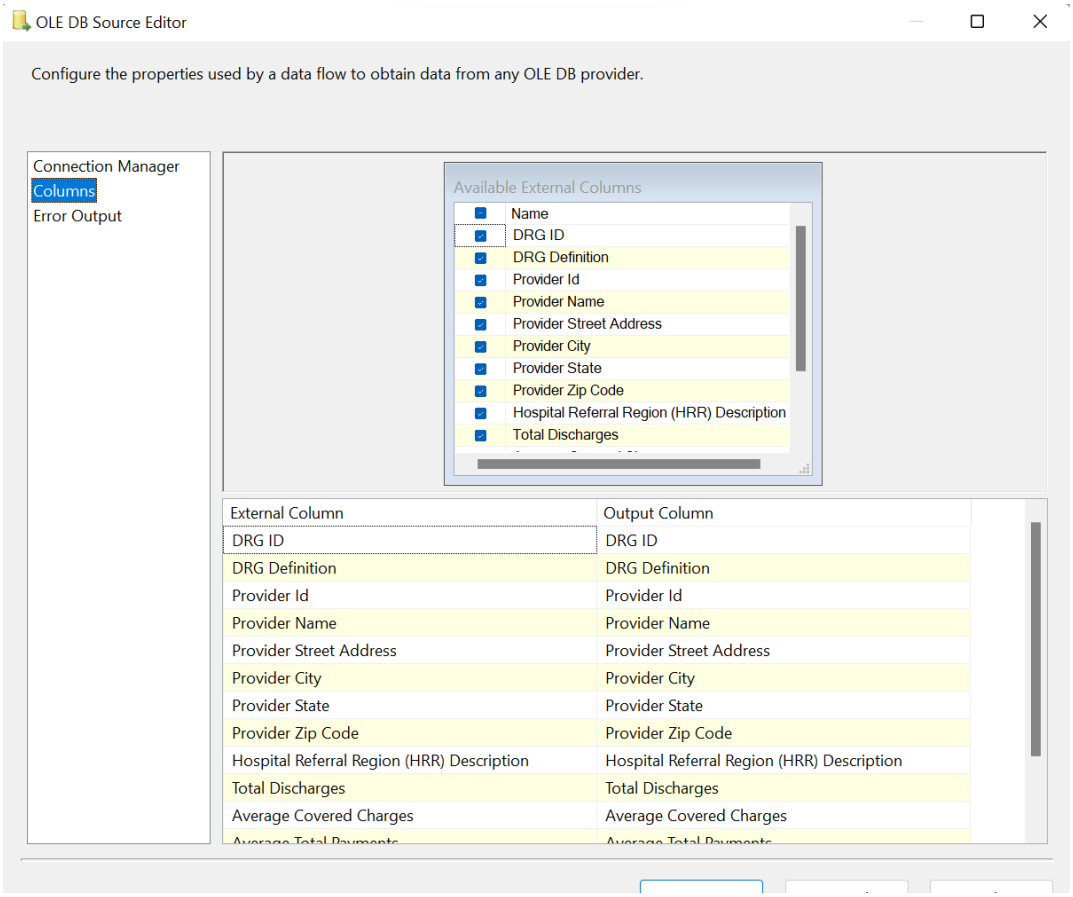
Step3: Check the column mappings.



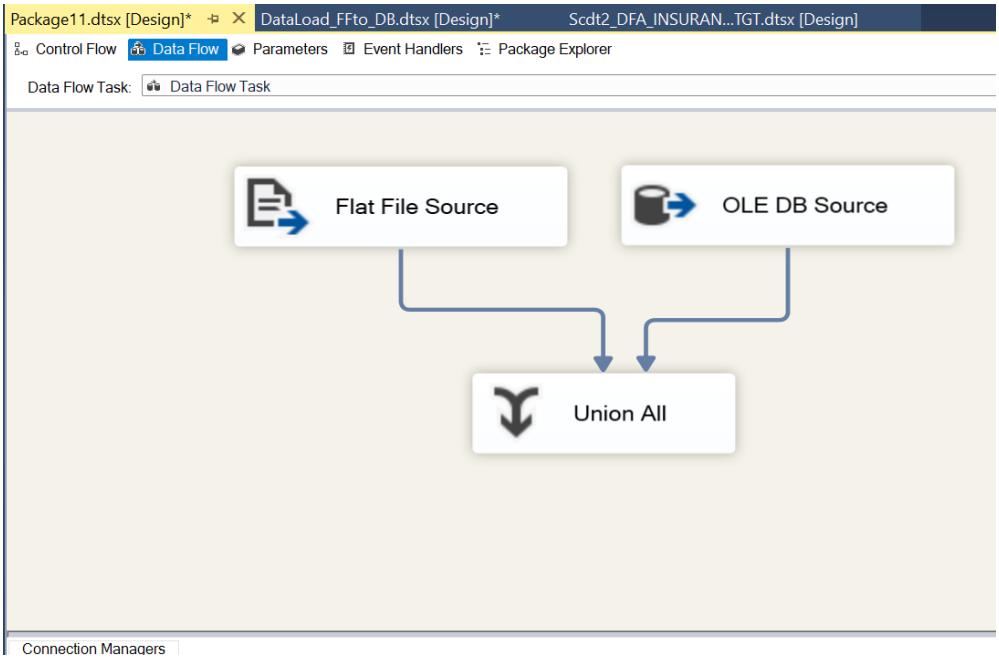
Step4: Double Click on OLE DB destination make the connection and select the table in database.



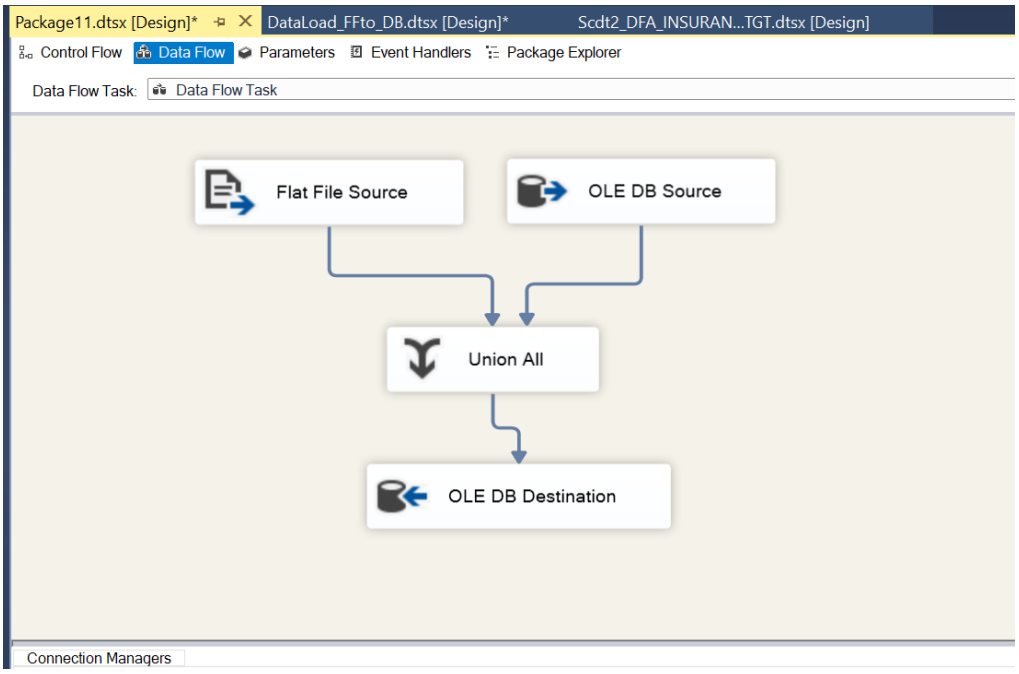
Step5:Check the column mappings.



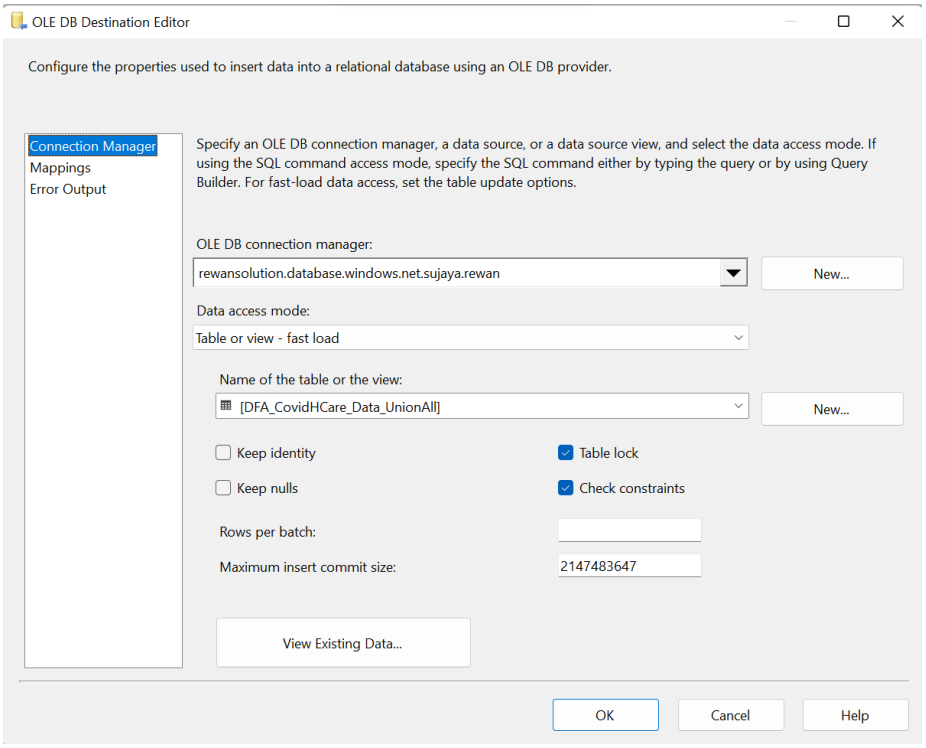
Step6: Drag and Drop the Union all transformation and connect the Flat File and OLE DB to Union all transformation.



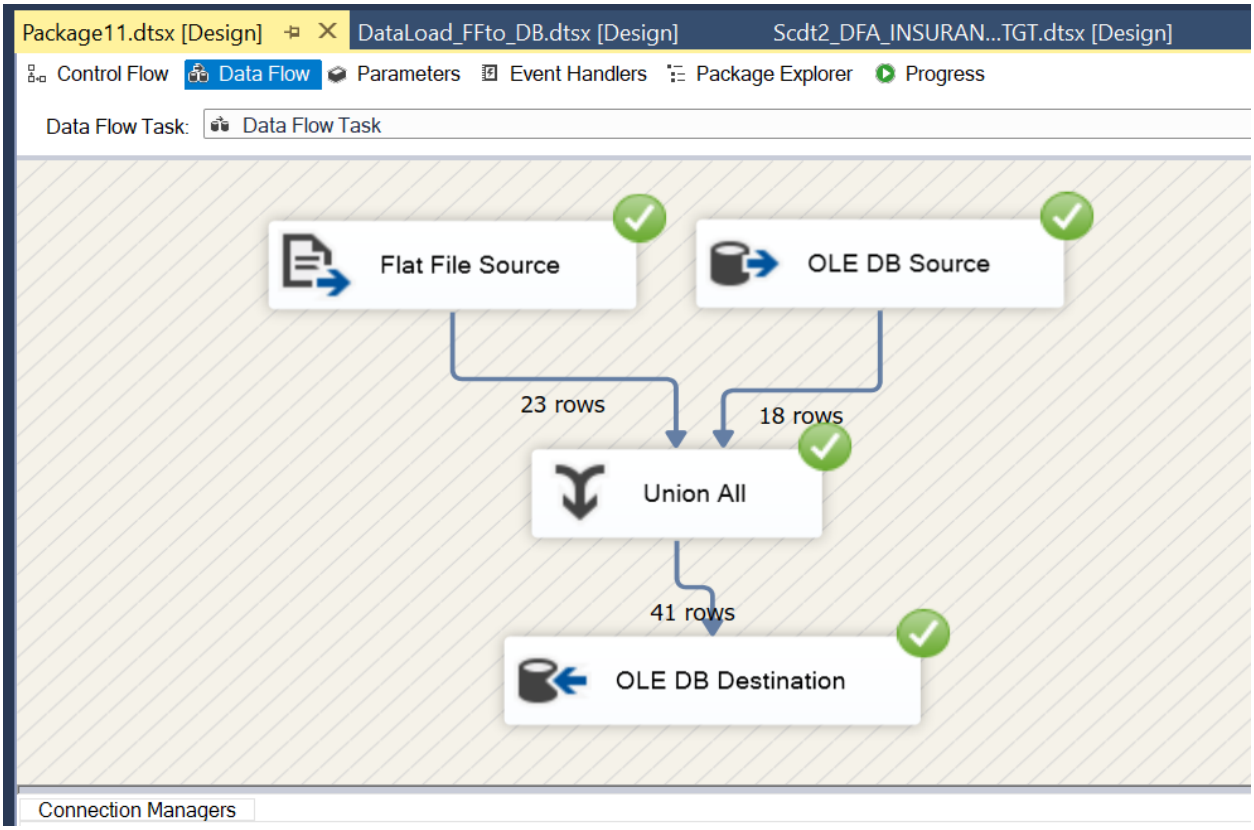
Step7: Drag and Drop the OLE DB destination. And Connect the Union all transformation to OLE DB destination.



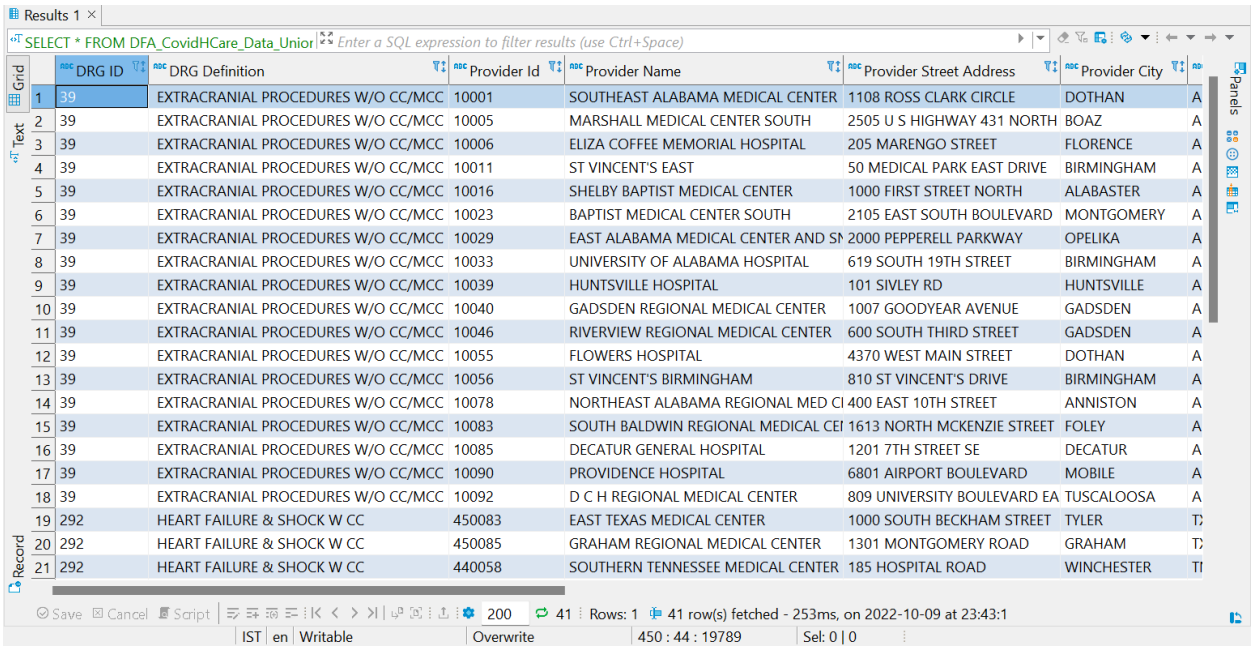
Step8: Double Click on OLE DB destination make the connection and select the table in database.



Step9: Save and Run the package.



Step10: Check in database to view the loaded data from Flat File and OLE DB.



Results 1

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

	DRG ID	DRG Definition	Provider Id	Provider Name	Provider Street Address	Provider City	
1	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10001	SOUTHEAST ALABAMA MEDICAL CENTER	1108 ROSS CLARK CIRCLE	DOTHAN	A
2	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10005	MARSHALL MEDICAL CENTER SOUTH	2505 U S HIGHWAY 431 NORTH	BOAZ	A
3	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10006	ELIZA COFFEE MEMORIAL HOSPITAL	205 MARENGO STREET	FLORENCE	A
4	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10011	ST VINCENT'S EAST	50 MEDICAL PARK EAST DRIVE	BIRMINGHAM	A
5	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10016	SHELBY BAPTIST MEDICAL CENTER	1000 FIRST STREET NORTH	ALABASTER	A
6	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10023	BAPTIST MEDICAL CENTER SOUTH	2105 EAST SOUTH BOULEVARD	MONTGOMERY	A
7	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10029	EAST ALABAMA MEDICAL CENTER AND SI	2000 PEPPERELL PARKWAY	OPELIKA	A
8	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10033	UNIVERSITY OF ALABAMA HOSPITAL	619 SOUTH 19TH STREET	BIRMINGHAM	A
9	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10039	HUNTSVILLE HOSPITAL	101 SIVLEY RD	HUNTSVILLE	A
10	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10040	GADSDEN REGIONAL MEDICAL CENTER	1007 GOODYEAR AVENUE	GADSDEN	A
11	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10046	RIVERVIEW REGIONAL MEDICAL CENTER	600 SOUTH THIRD STREET	GADSDEN	A
12	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10055	FLOWERS HOSPITAL	4370 WEST MAIN STREET	DOTHAN	A
13	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10056	ST VINCENT'S BIRMINGHAM	810 ST VINCENT'S DRIVE	BIRMINGHAM	A
14	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10078	NORTHEAST ALABAMA REGIONAL MED CI	400 EAST 10TH STREET	ANNISTON	A
15	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10083	SOUTH BALDWIN REGIONAL MEDICAL CEI	1613 NORTH MCKENZIE STREET	FOLEY	A
16	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10085	DECATUR GENERAL HOSPITAL	1201 7TH STREET SE	DECATUR	A
17	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10090	PROVIDENCE HOSPITAL	6801 AIRPORT BOULEVARD	MOBILE	A
18	39	EXTRACRANIAL PROCEDURES W/O CC/MCC	10092	D C H REGIONAL MEDICAL CENTER	809 UNIVERSITY BOULEVARD EA	TUSCALOOSA	A
19	292	HEART FAILURE & SHOCK W CC	450083	EAST TEXAS MEDICAL CENTER	1000 SOUTH BECKHAM STREET	TYLER	T
20	292	HEART FAILURE & SHOCK W CC	450085	GRAHAM REGIONAL MEDICAL CENTER	1301 MONTGOMERY ROAD	GRAHAM	T
21	292	HEART FAILURE & SHOCK W CC	440058	SOUTHERN TENNESSEE MEDICAL CENTER	185 HOSPITAL ROAD	WINCHESTER	TI

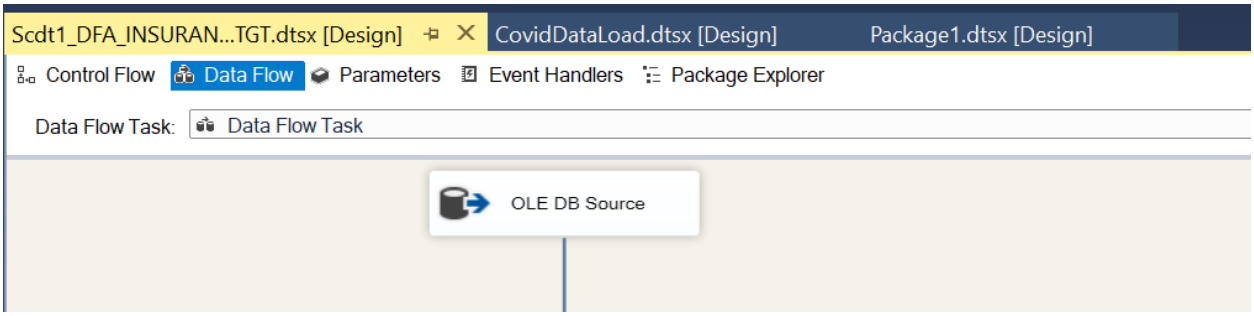
Save | Cancel | Script | 200 | 41 | Rows: 1 | 41 row(s) fetched - 253ms, on 2022-10-09 at 23:43:1

IST | en | Writable | Overwrite | 450 : 44 : 19789 | Sel: 0 | 0

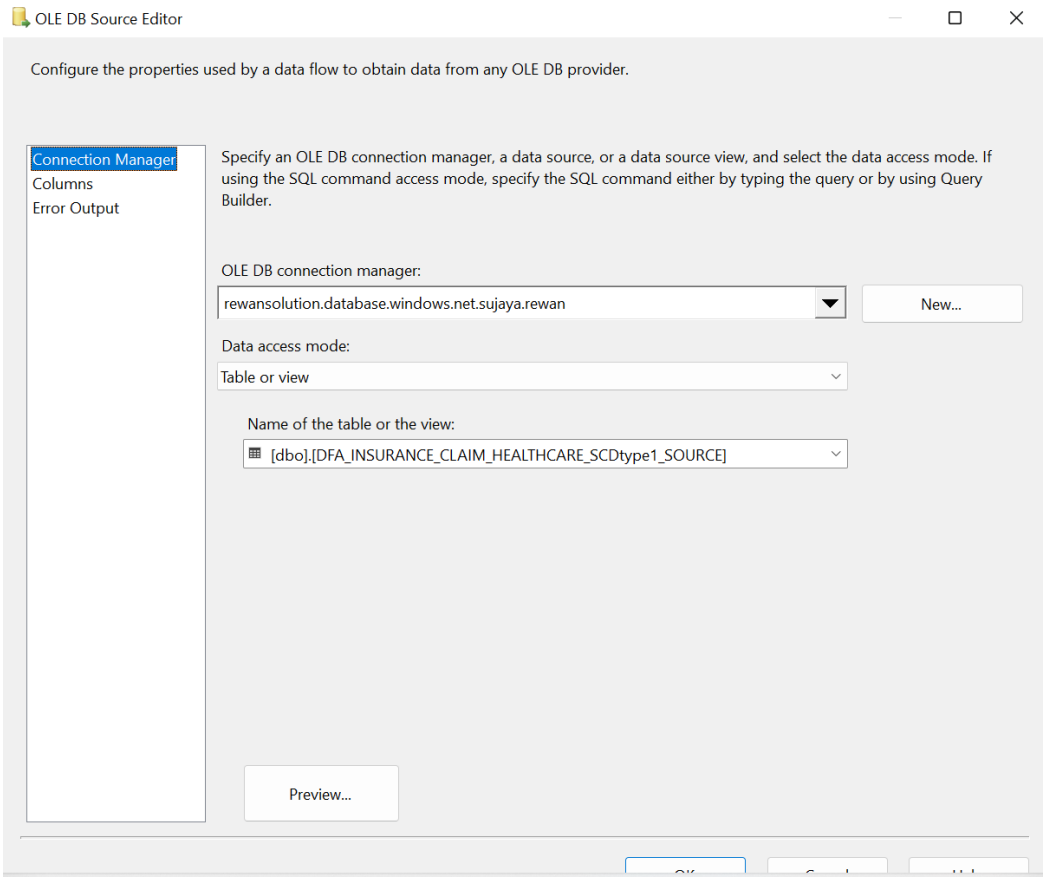
Perform SCD 1 & SCD2 dimension table modelling

SCD-1

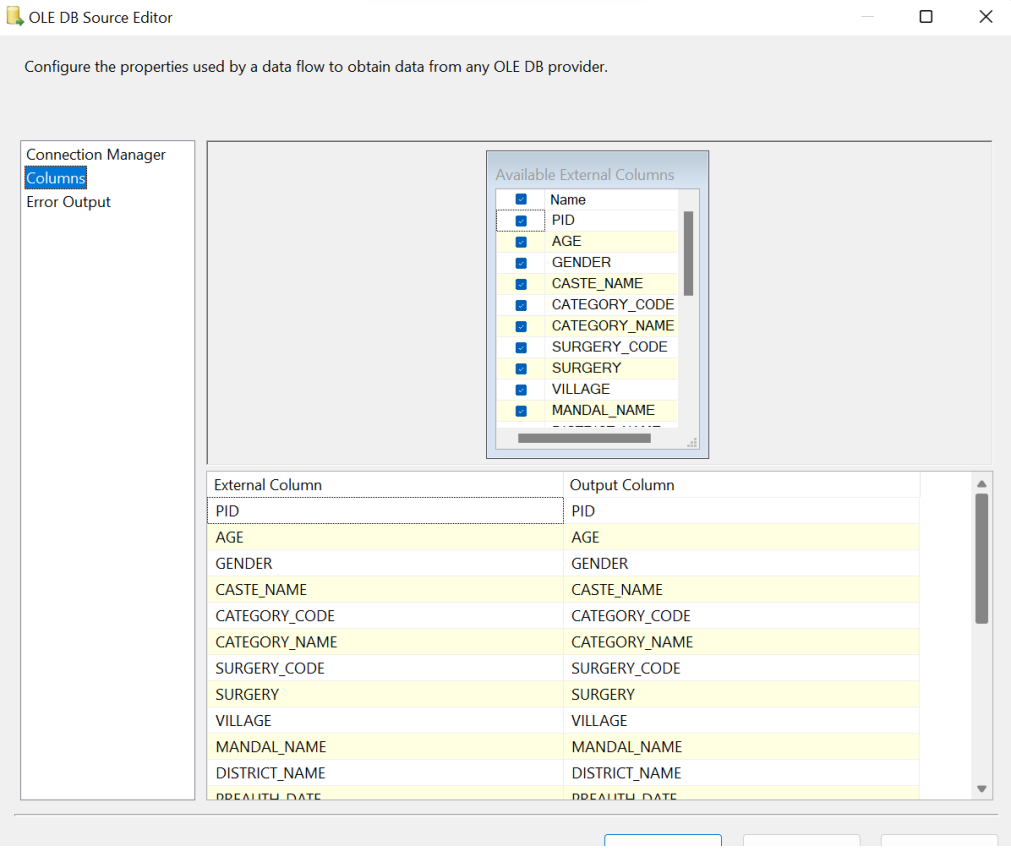
Step1: Drag and Drop the OLE DB source.



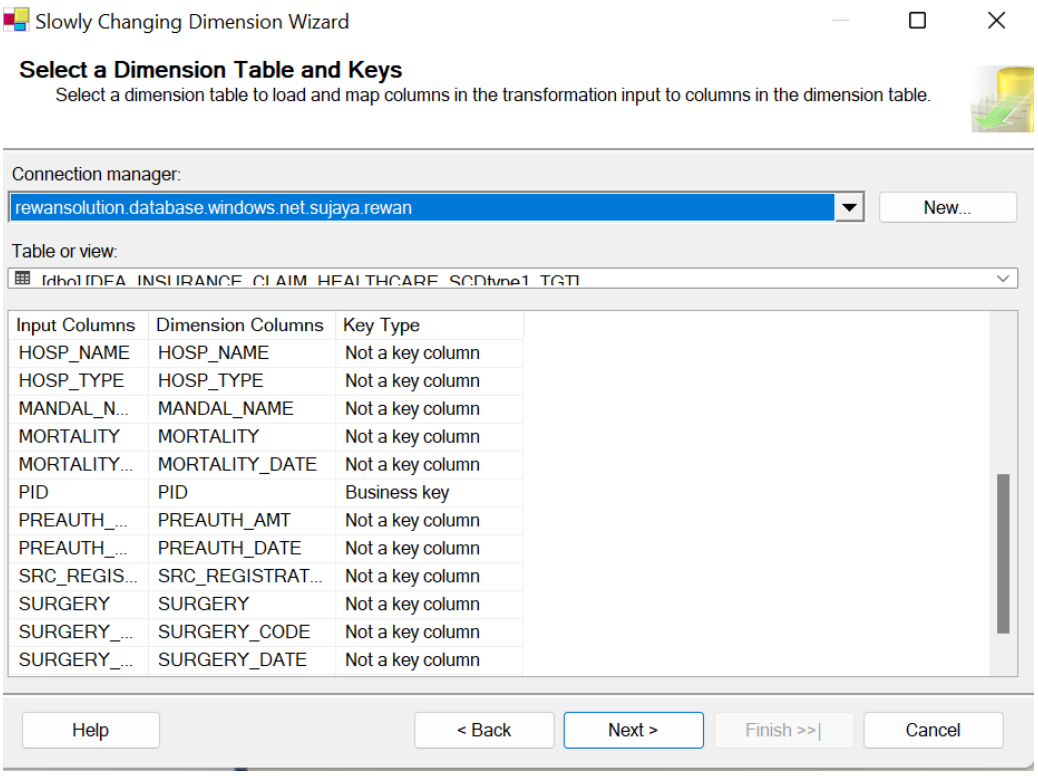
Step2: Click on the OLE DB source and select the source table.



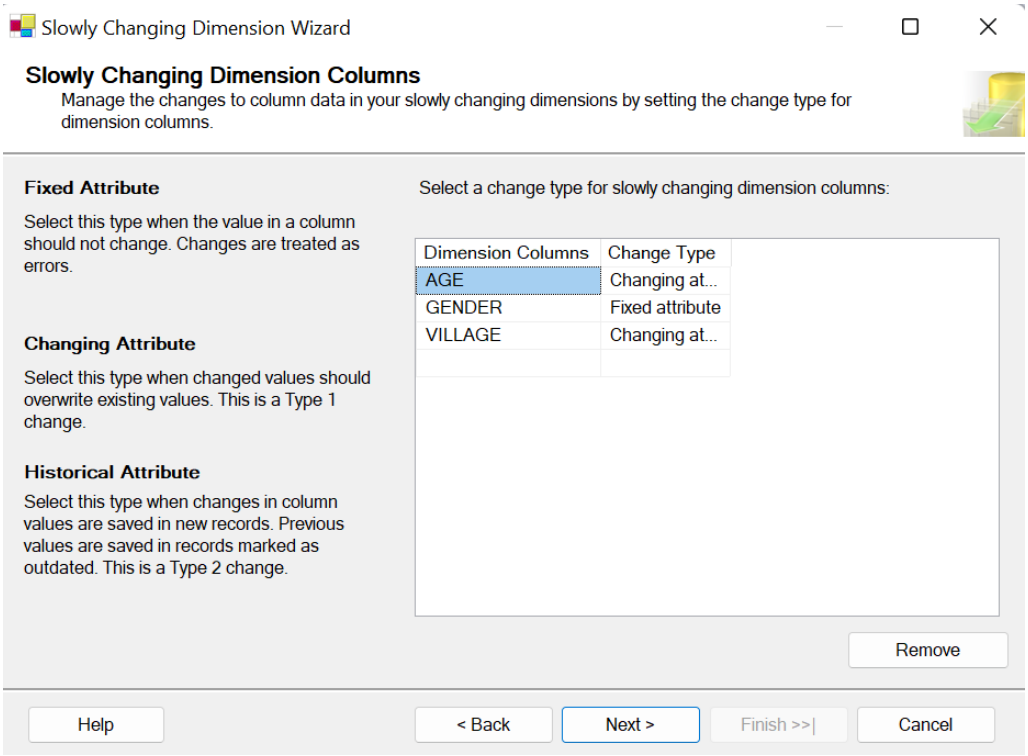
Step3: check the column and preview the data.



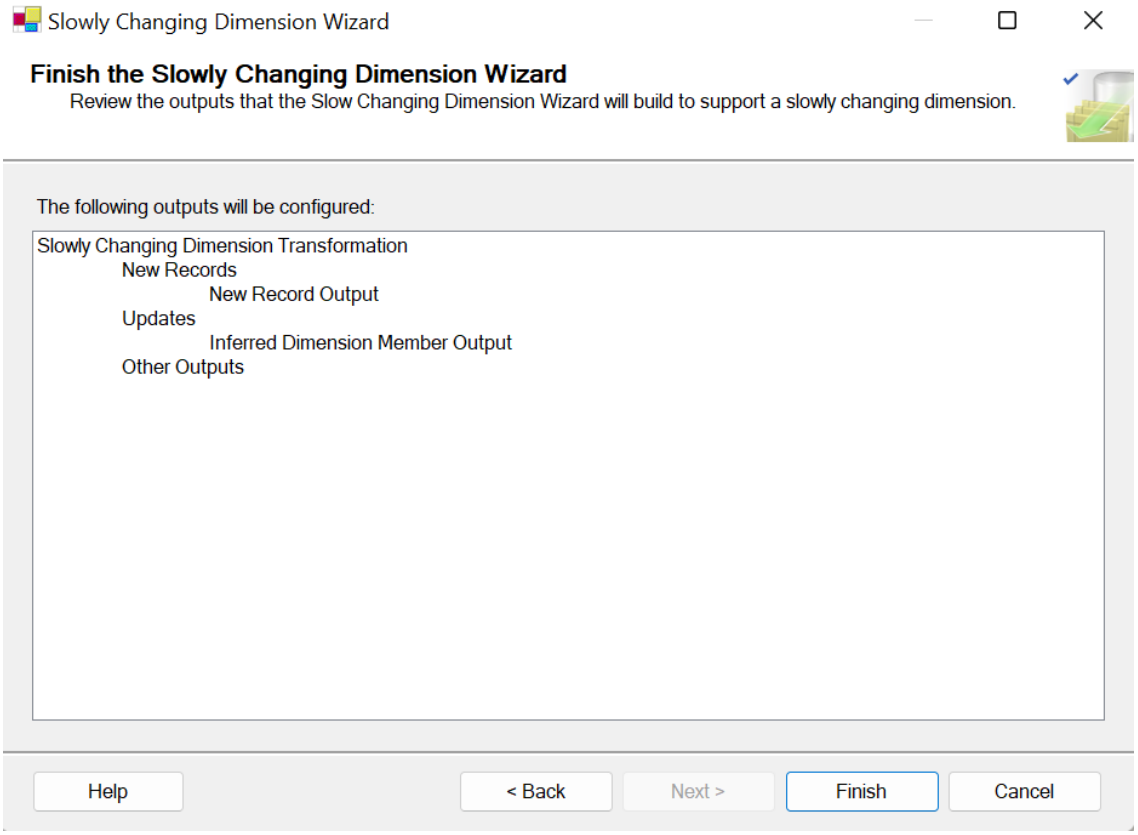
Step4: Drag and Drop the and Double click on the slowly changing Dimension and choose the target table. And choose the business key from available column and click on next.



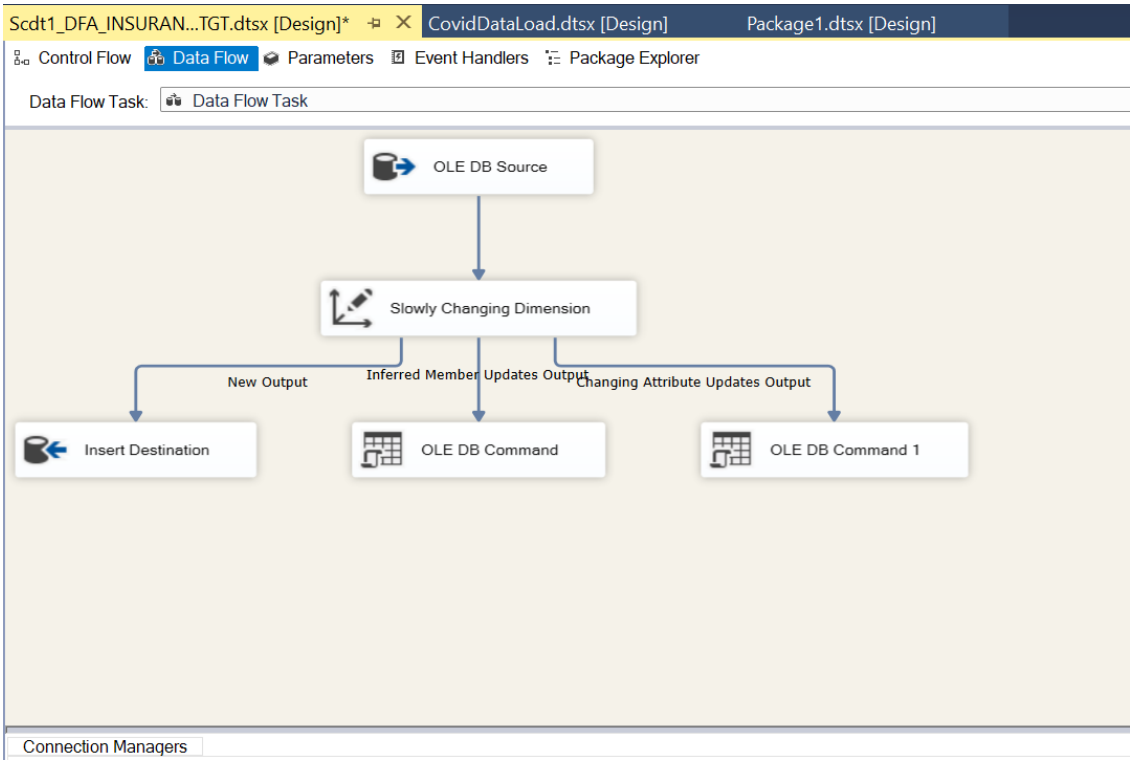
Step5: choose the changing attribute fixed attribute click on next.



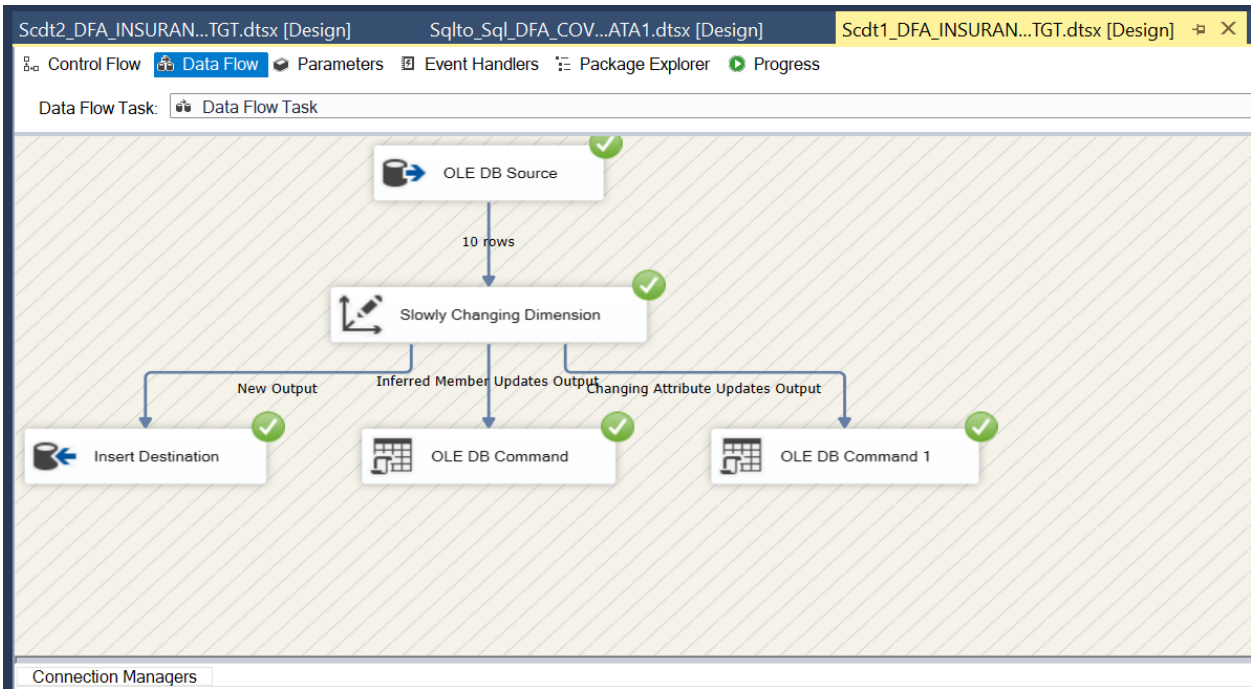
Step 7: click on Finish.



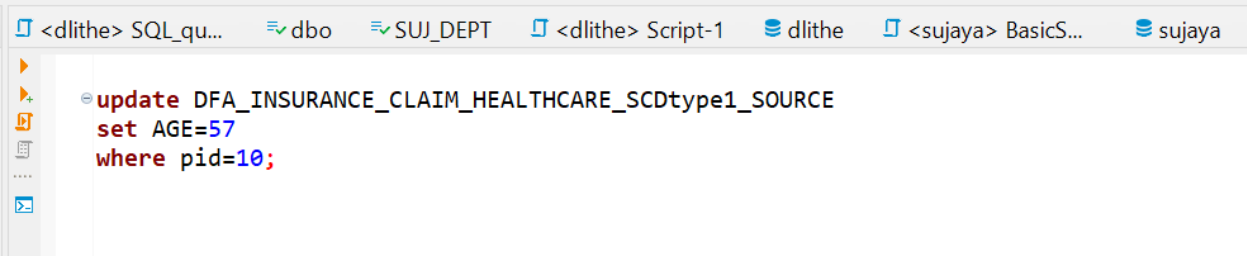
After performing these steps you will get connection as shown in the below snapshot



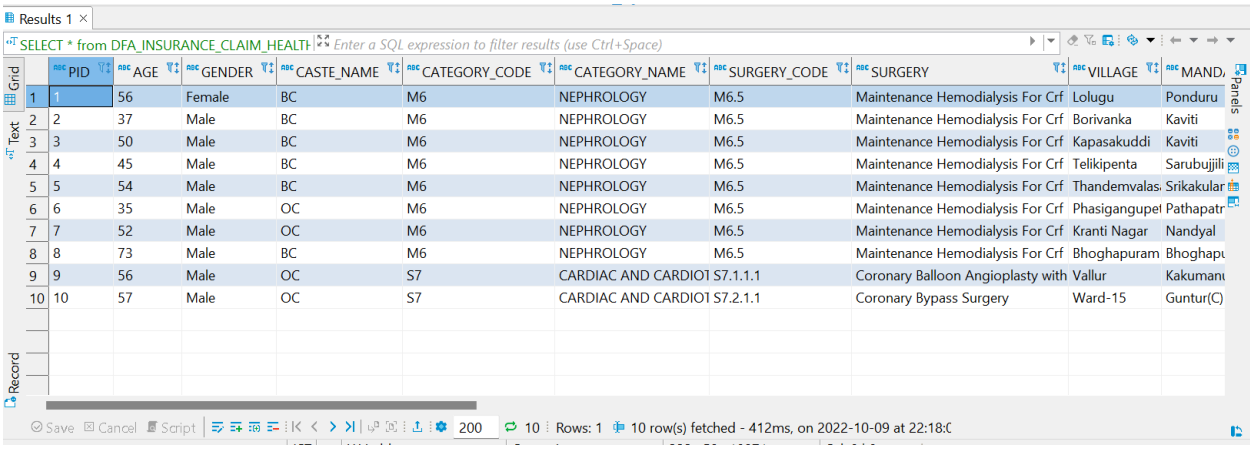
Step 8: Save and Run the package .



Step 10: after execution update the source column

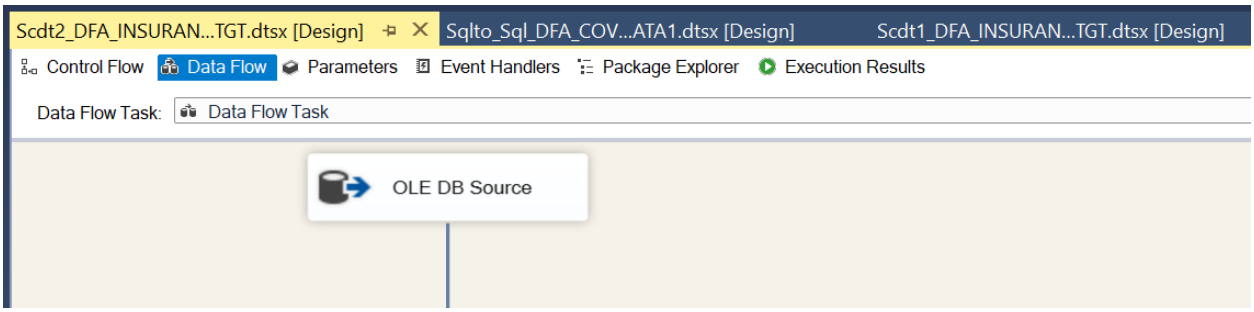


Step12: check the target table to view the updated record in target table.

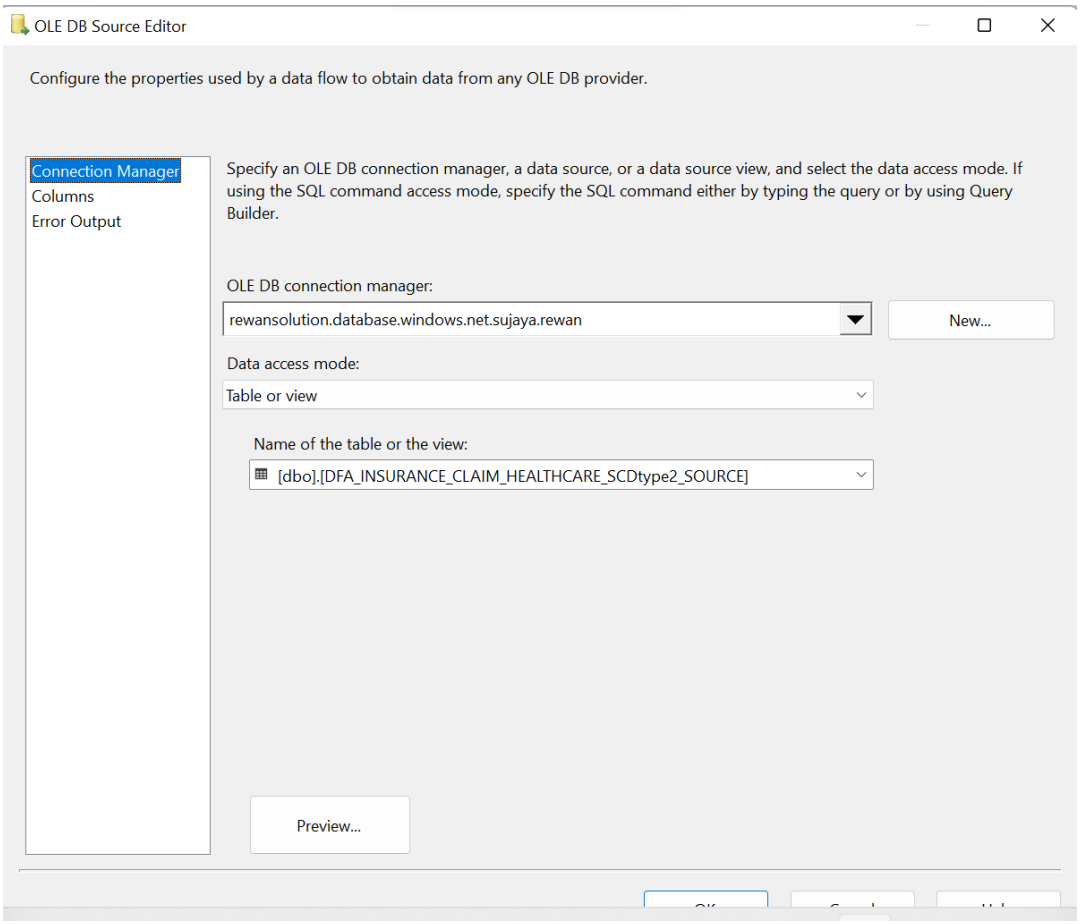


SCD-2

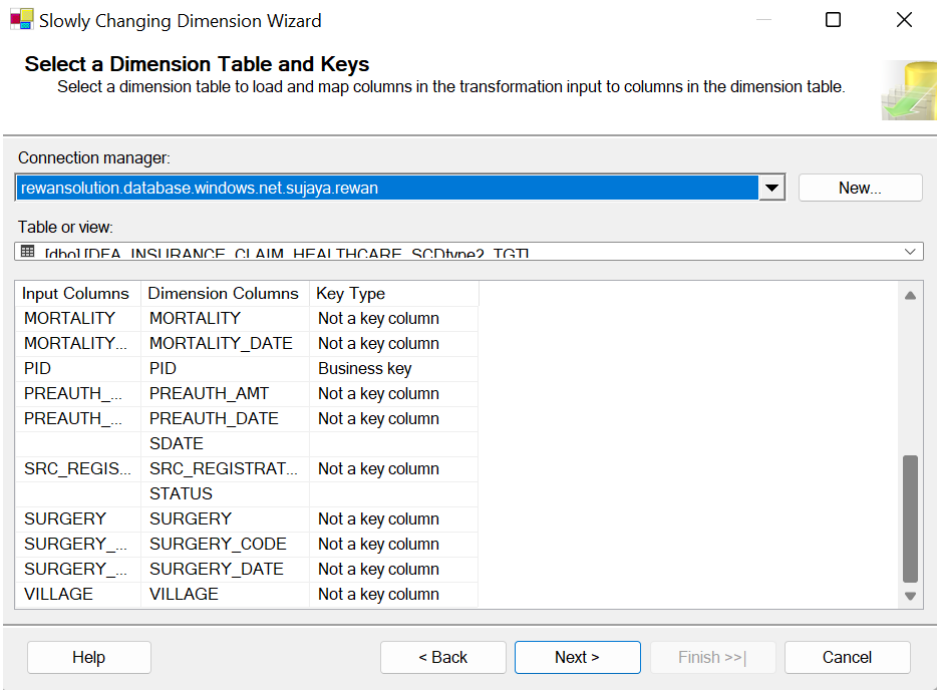
Step1:Drag and Drop the OLE DB source.



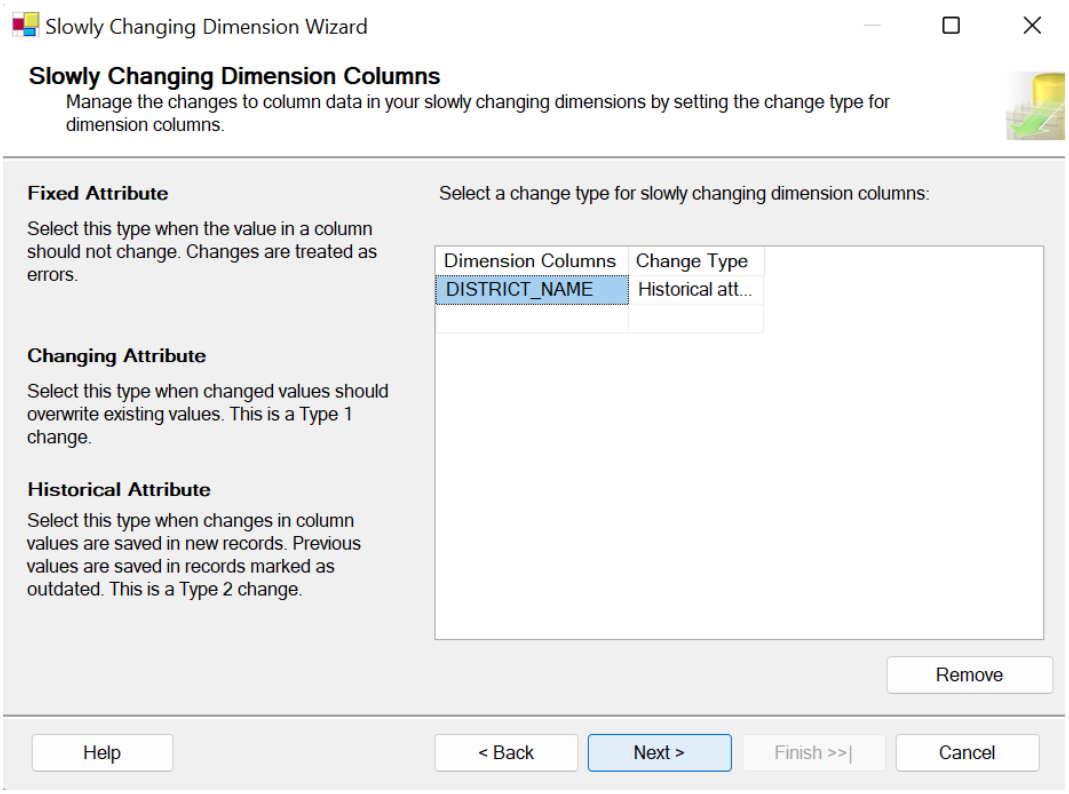
Step2:Double Click on OLB DB source and make the connection and select the source table in database.



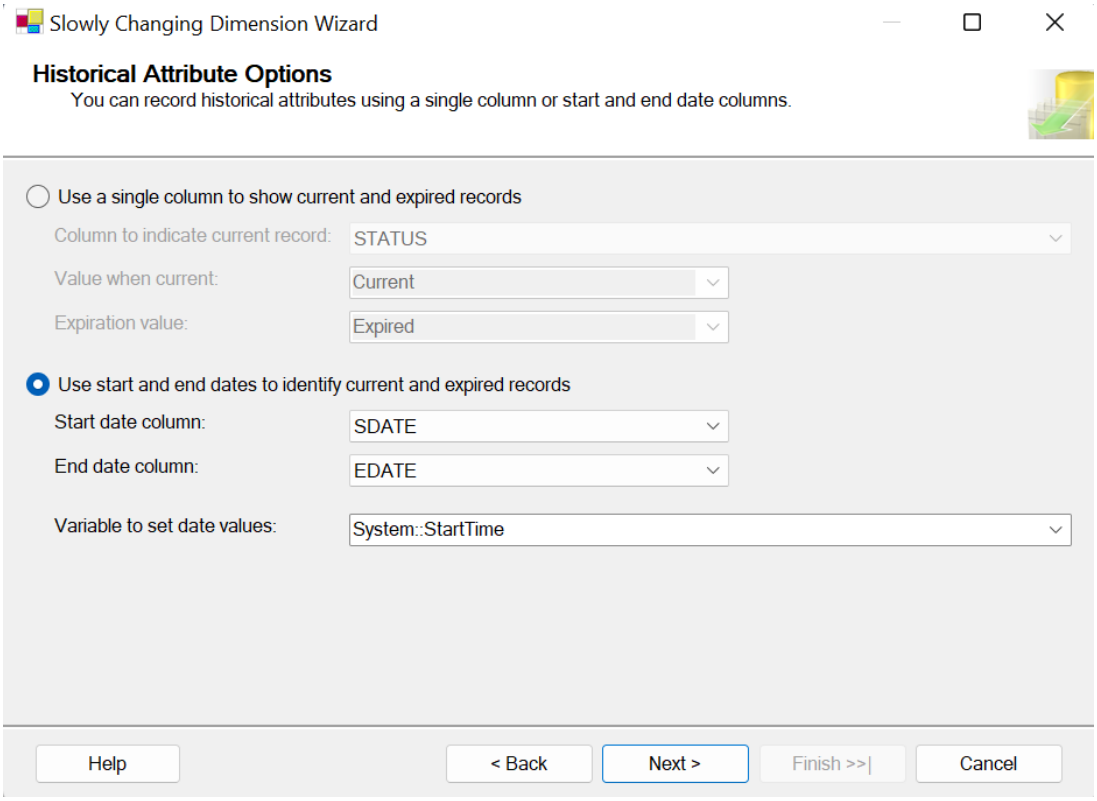
Step3: Drag and Drop the Slowly Changing Dimension and Connect the OLE DB to Scd and double click on Scd and Select the Target table and Business Key.



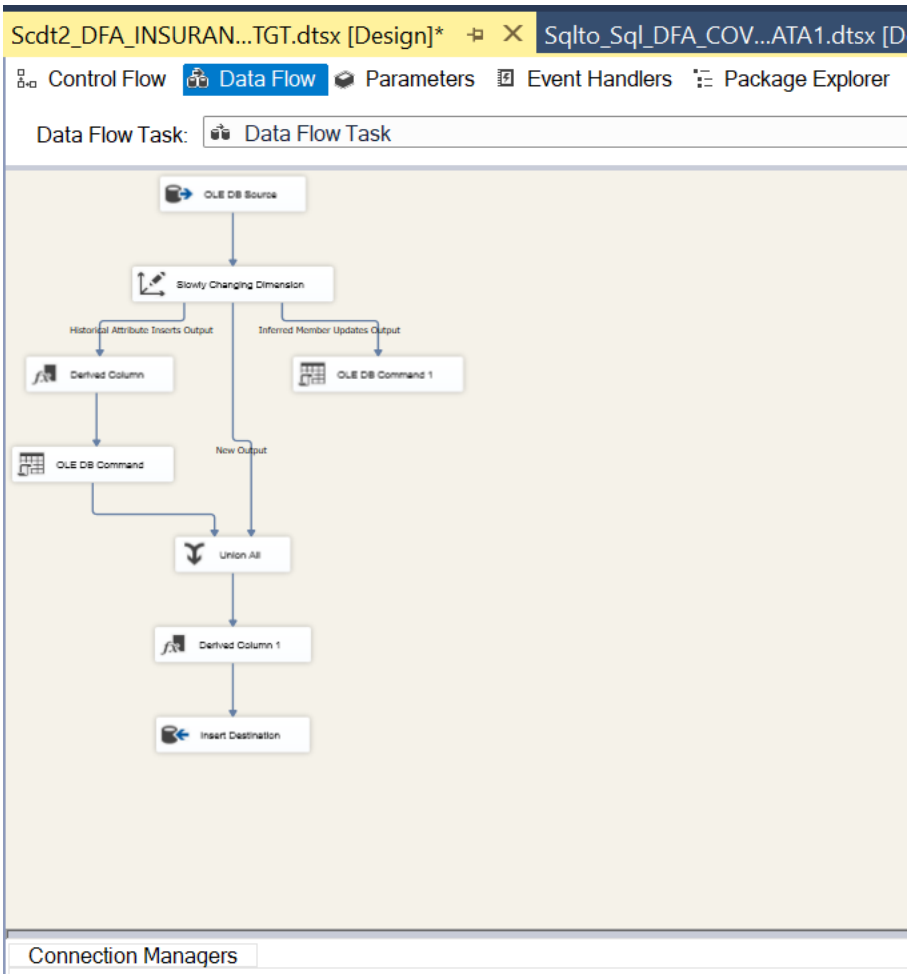
Step4:Select the Historical Attribute as change type for the column and give next.



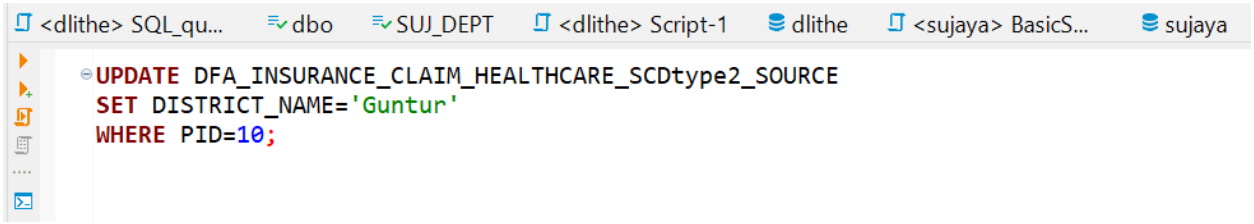
Step5:Select the Start Date and End Date column and set the date values and click Finish.

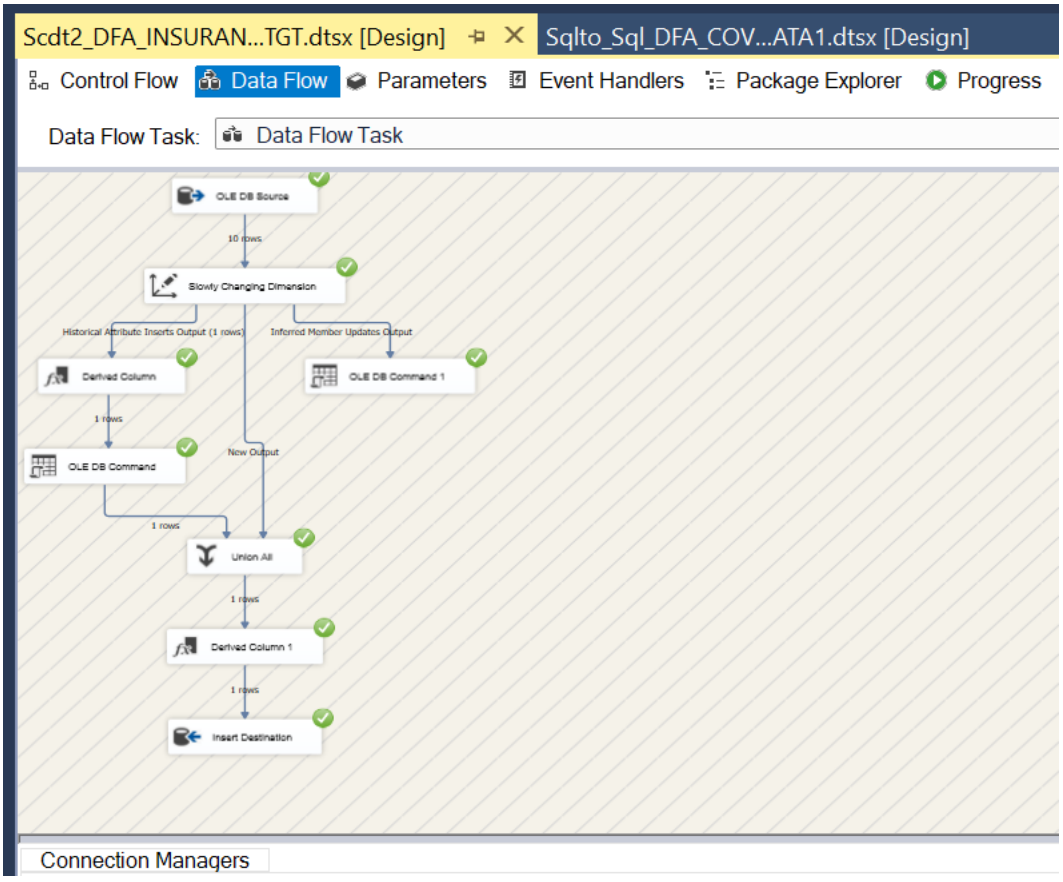


After performing these steps you will get connection as shown in the below snapshot. And save and run the package.

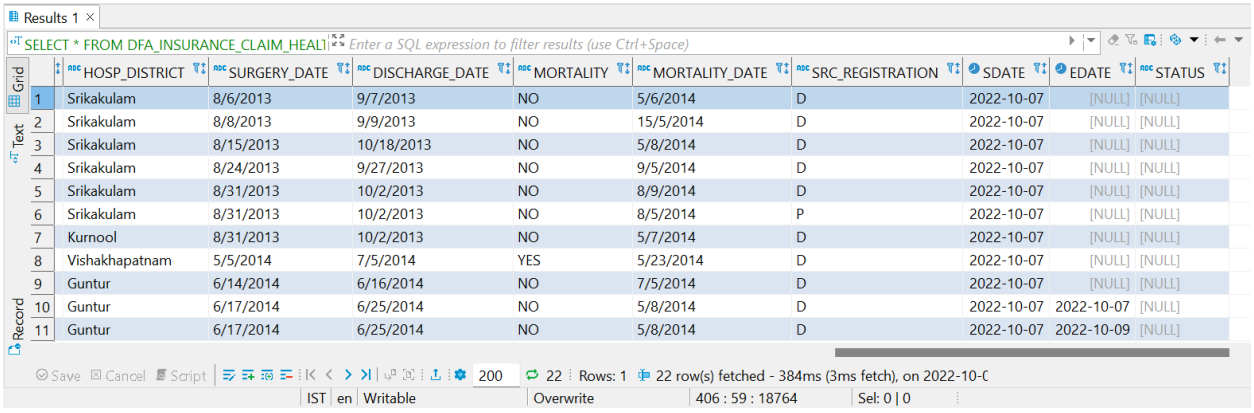


Step6: Go to database and update the source table and run the package again.





Step7:Check the target table to check whether the records are updated in the table.



Results 1

SELECT * FROM DFA_INSURANCE_CLAIM_HEALT

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

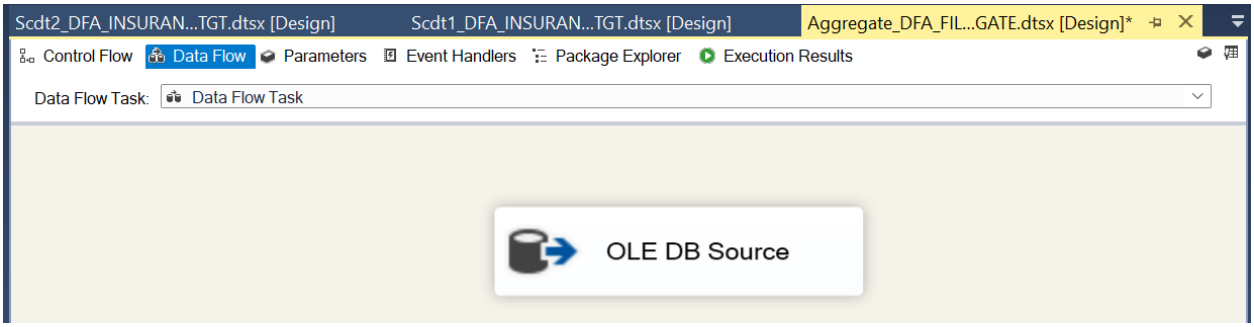
	HOSP_DISTRICT	SURGERY_DATE	DISCHARGE_DATE	MORTALITY	MORTALITY_DATE	SRC_REGISTRATION	SDATE	EDATE	STATUS
1	Srikakulam	8/6/2013	9/7/2013	NO	5/6/2014	D	2022-10-07	[NULL]	[NULL]
2	Srikakulam	8/8/2013	9/9/2013	NO	15/5/2014	D	2022-10-07	[NULL]	[NULL]
3	Srikakulam	8/15/2013	10/18/2013	NO	5/8/2014	D	2022-10-07	[NULL]	[NULL]
4	Srikakulam	8/24/2013	9/27/2013	NO	9/5/2014	D	2022-10-07	[NULL]	[NULL]
5	Srikakulam	8/31/2013	10/2/2013	NO	8/9/2014	D	2022-10-07	[NULL]	[NULL]
6	Srikakulam	8/31/2013	10/2/2013	NO	8/5/2014	P	2022-10-07	[NULL]	[NULL]
7	Kurnool	8/31/2013	10/2/2013	NO	5/7/2014	D	2022-10-07	[NULL]	[NULL]
8	Vishakhapatnam	5/5/2014	7/5/2014	YES	5/23/2014	D	2022-10-07	[NULL]	[NULL]
9	Guntur	6/14/2014	6/16/2014	NO	7/5/2014	D	2022-10-07	[NULL]	[NULL]
10	Guntur	6/17/2014	6/25/2014	NO	5/8/2014	D	2022-10-07	2022-10-07	[NULL]
11	Guntur	6/17/2014	6/25/2014	NO	5/8/2014	D	2022-10-07	2022-10-09	[NULL]

Save Cancel Script 200 22 Rows: 1 22 row(s) fetched - 384ms (3ms fetch), on 2022-10-(

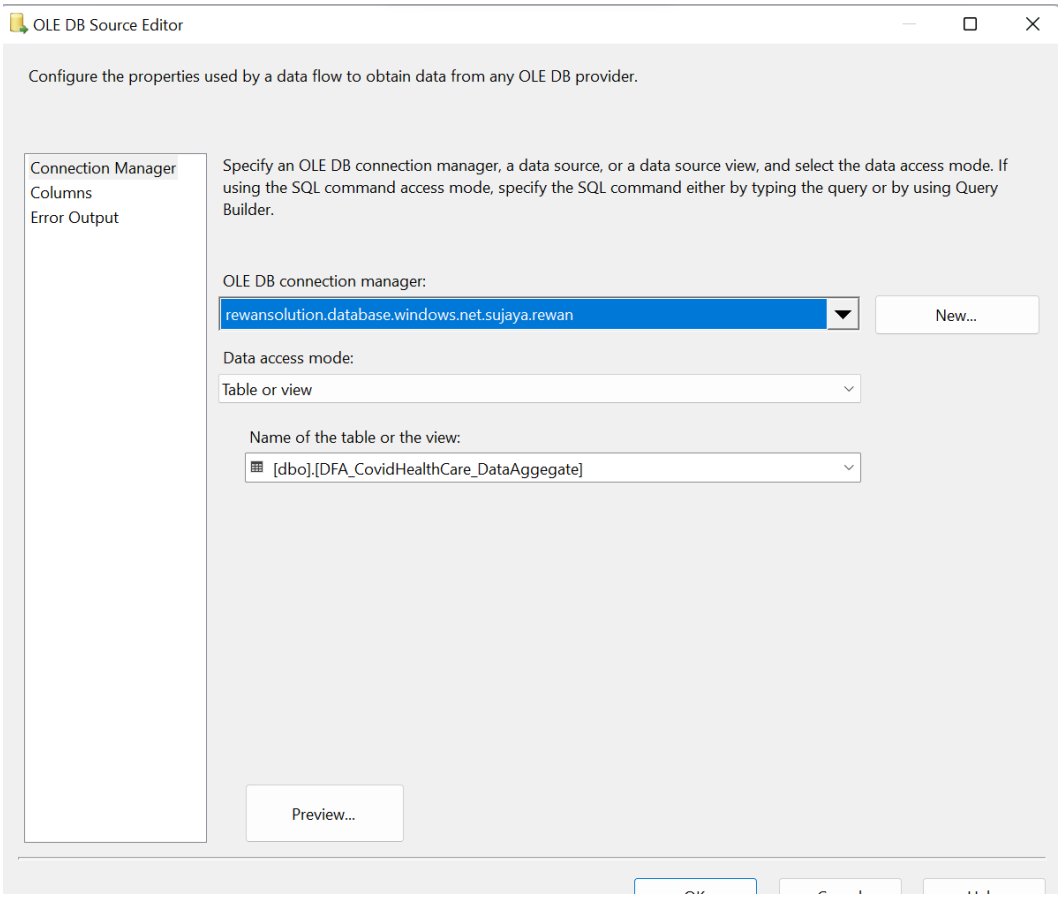
IST en Writable Overwrite 406 : 59 : 18764 Sel: 0 | 0

Create aggregate table based on the particular column(ex: Country code). Refer to the different data source from target system.

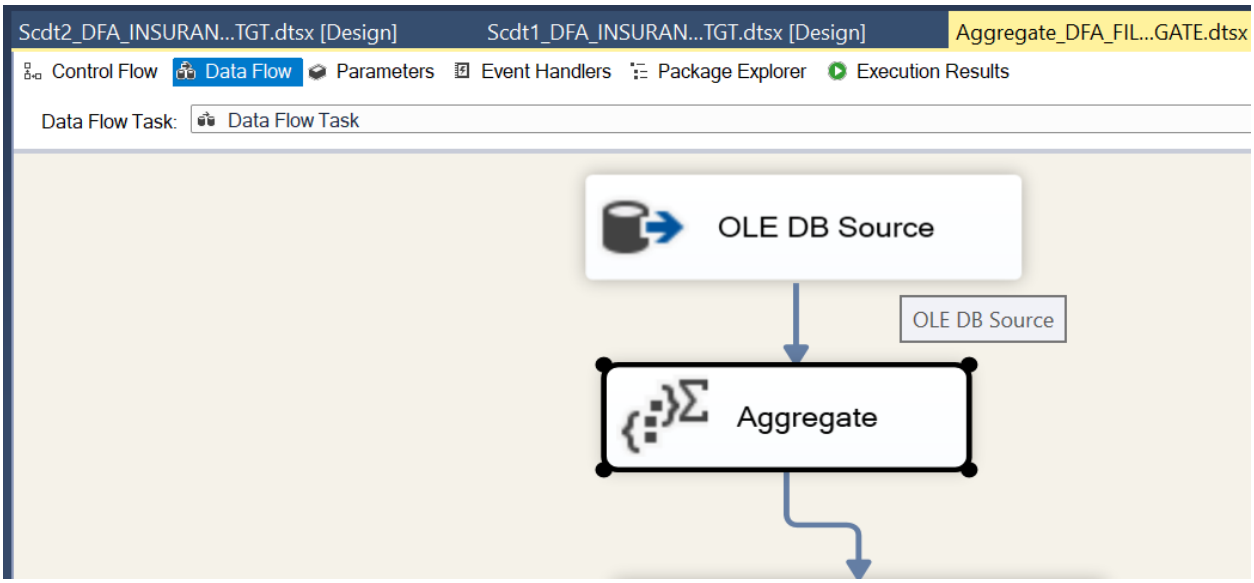
Step1: Drag and Drop the OLE DB source.



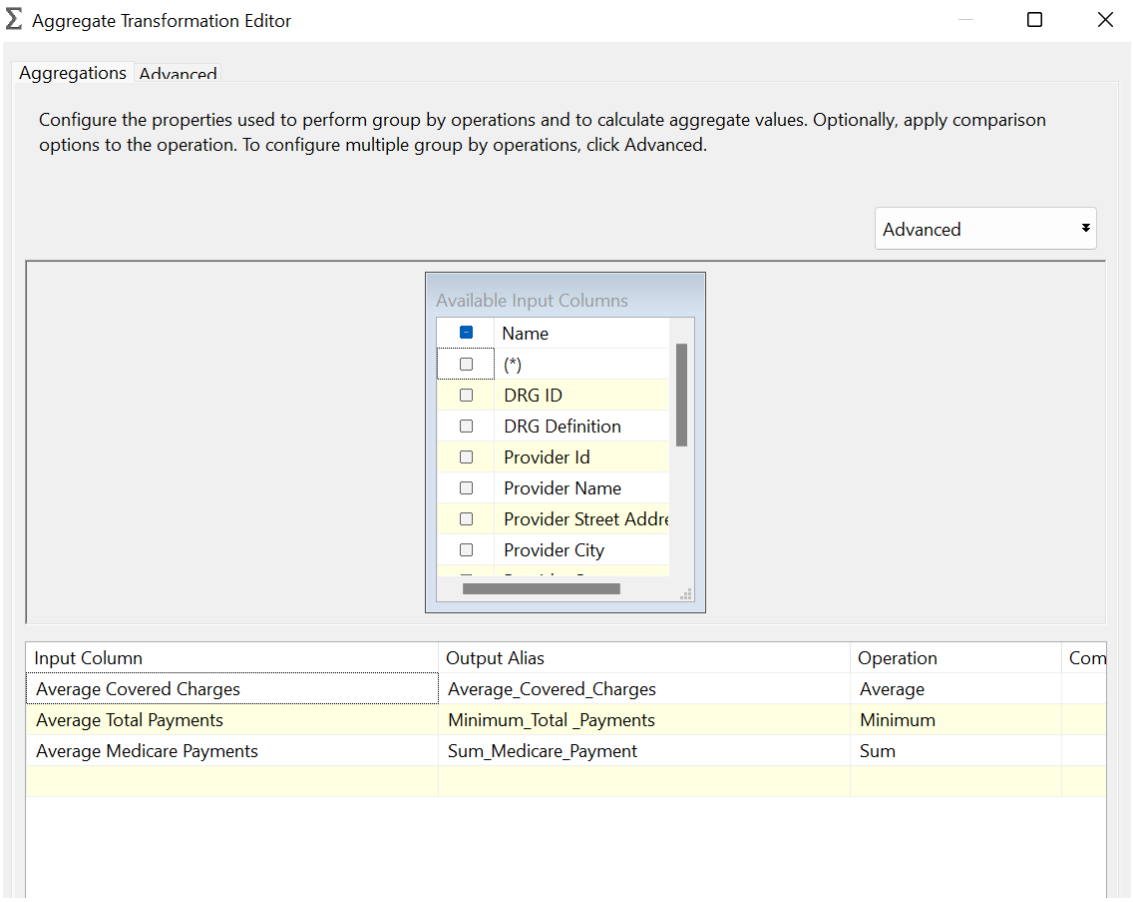
Step2:Double click on OLE DB and make the connection to database and select the table in database.



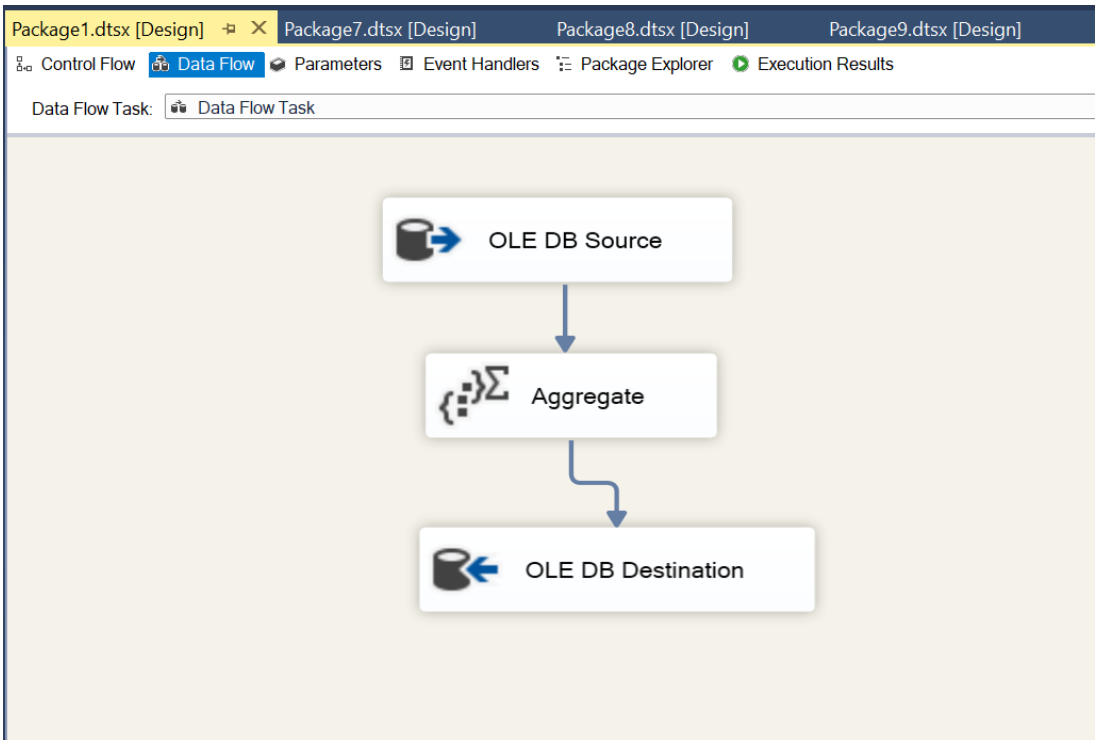
Step3:Drag and Drop the Aggregate from the SSIS toolbox and connect the OLE DB to Aggregate Function.



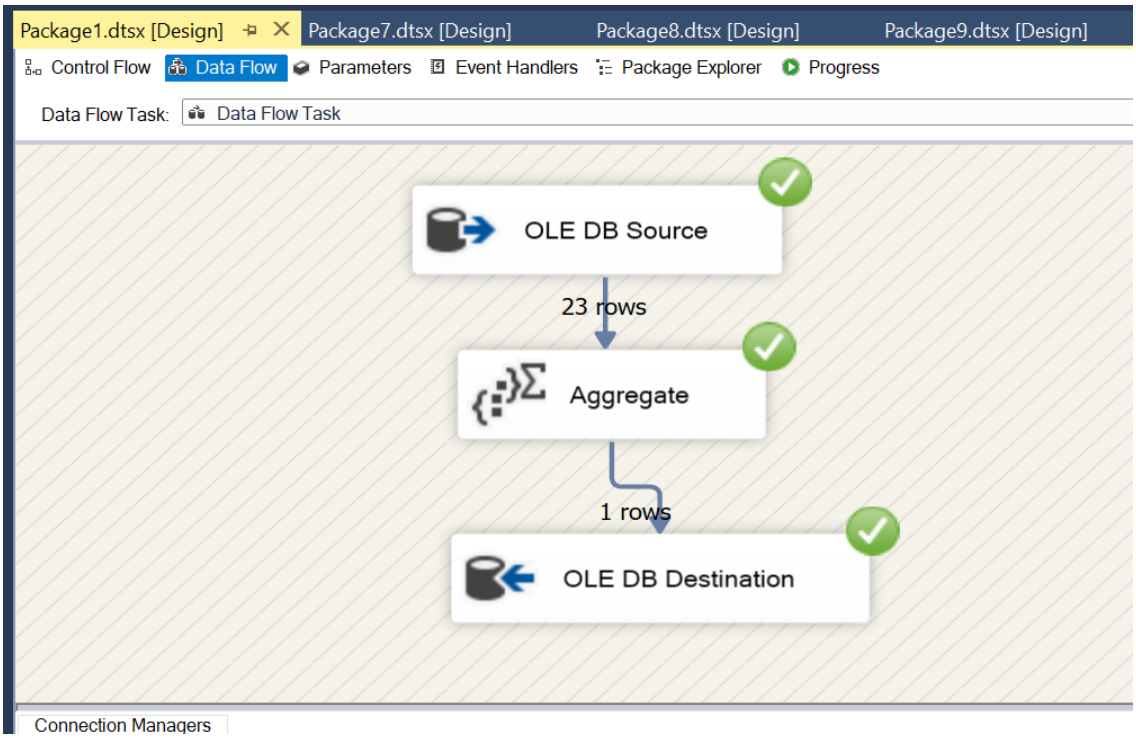
Step4: Double Click on Aggregate and Select the Column and Select the Aggregate operation.



Step5:Drag and Drop the OLE DB destination and make the connection to database and select the table in database.



Step6:Save and Run the Package.



Step7:Check the table in database .