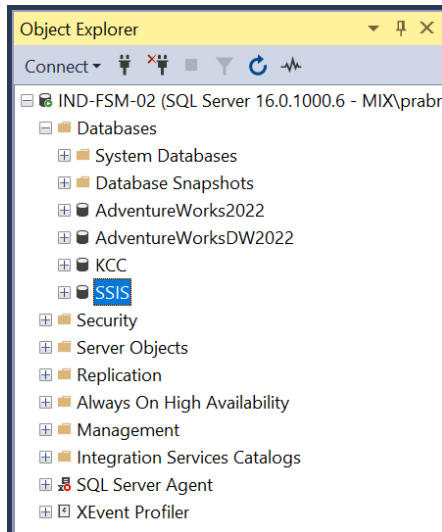


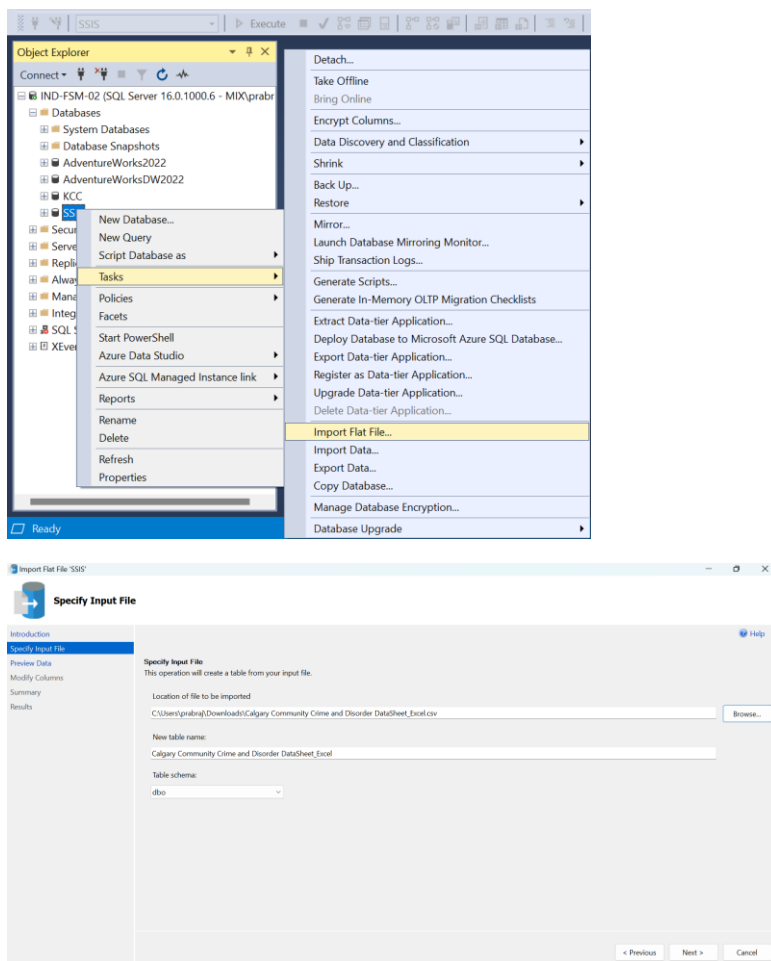
# Data 415 Final Assignment

## SSIS Integration process

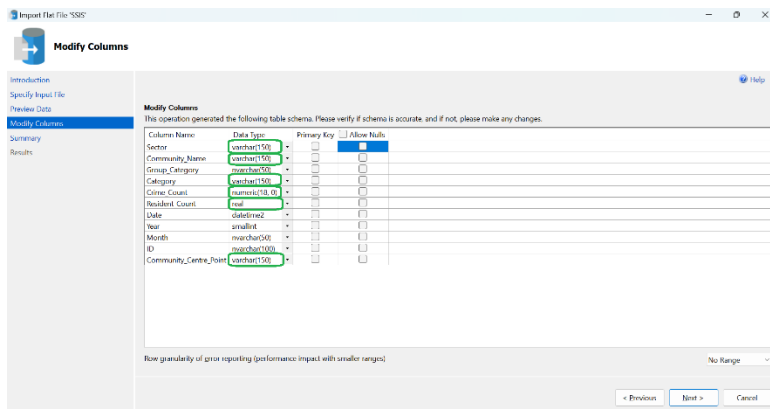
### I Created Separate Database for SSIS.



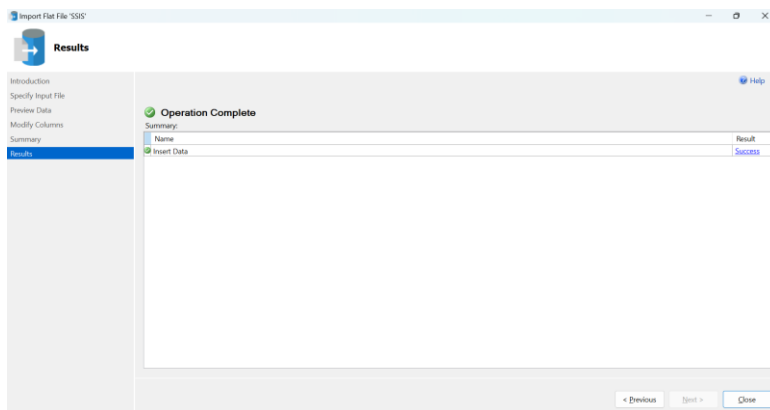
### 3. Upload to your SQL Server as CSV or Excel.



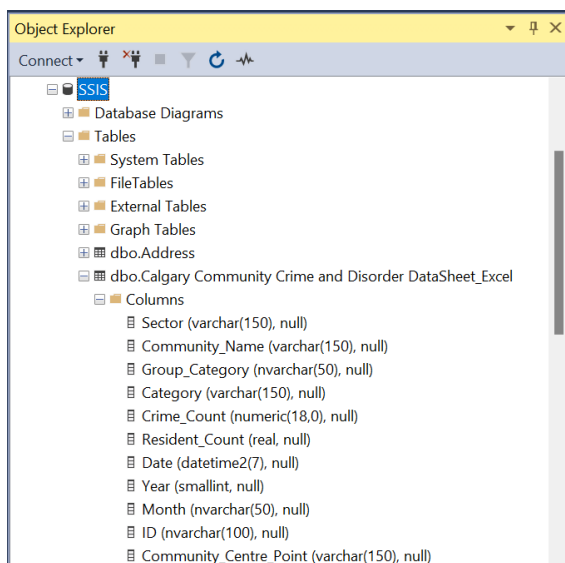
#### 4. If uploaded as CSV, ensure the datatypes for the columns have been assigned correctly.



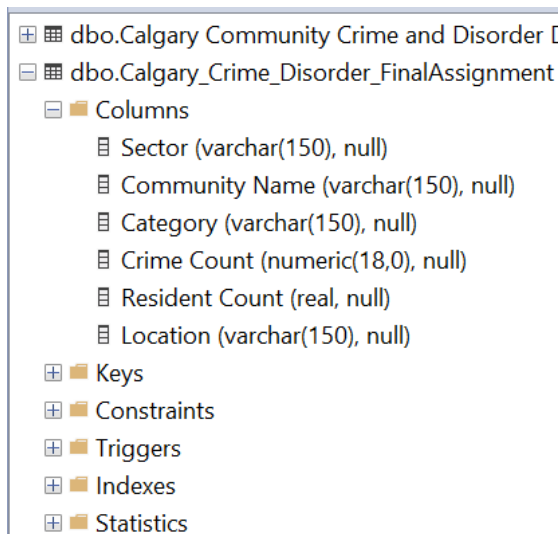
#### 5. You can save the CSV as Excel and upload it to SQL Server



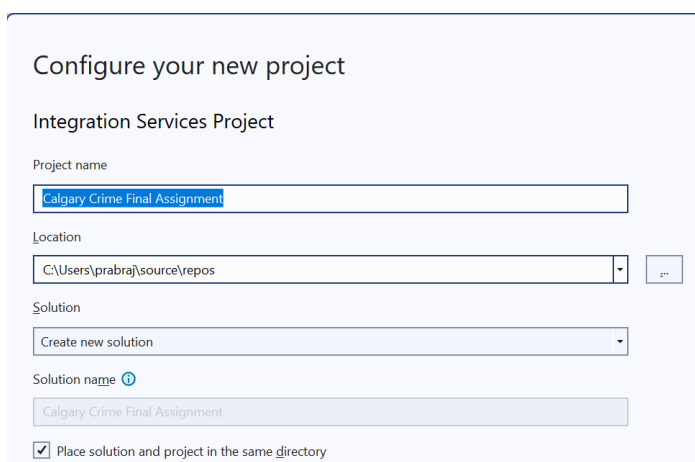
#### 6. Choose your data file from SQL.



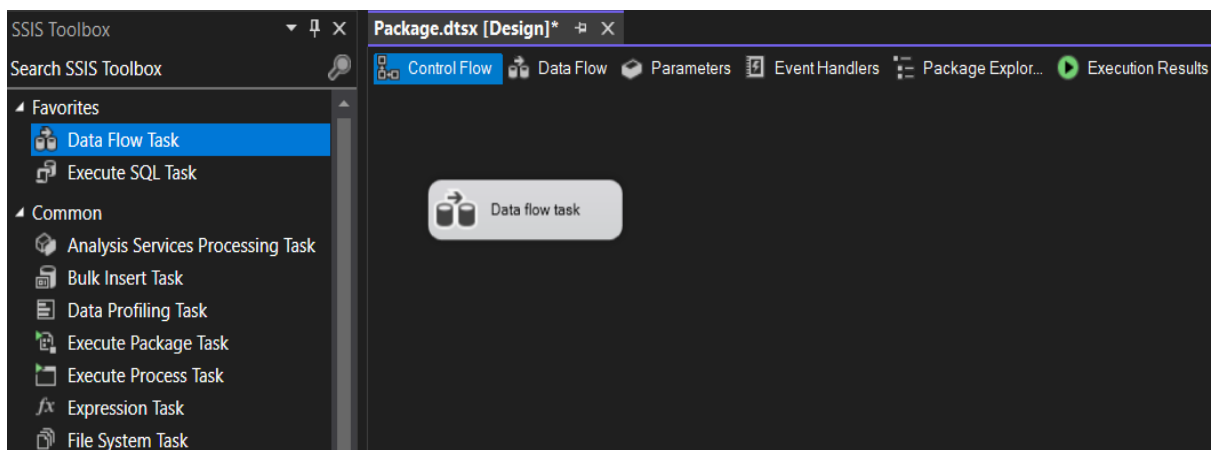
**7. Create a new Table called Calgary\_Crime\_Disorder\_FinalAssignment with columns [Sector] [Community Name] [Category] [Crime Count] [Resident Count] and [Location]. Ensure the datatypes are correct.**

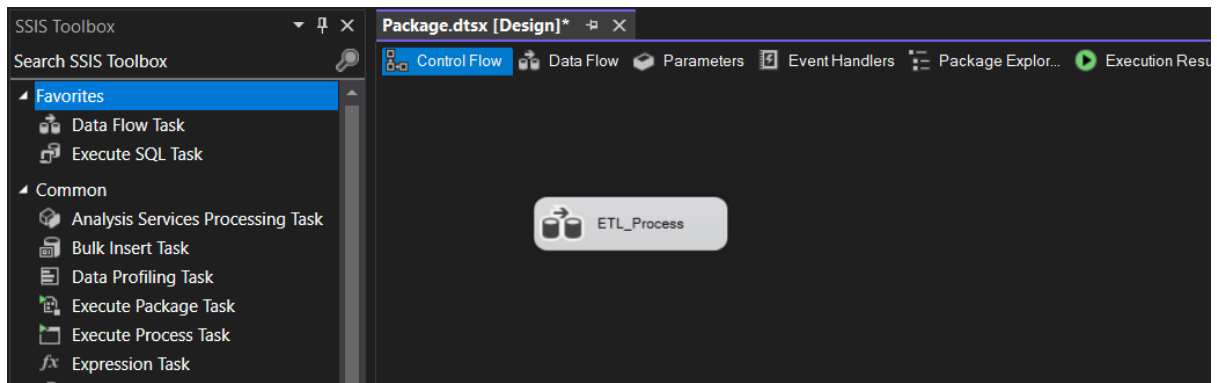


**8. Create an Integrated Project**

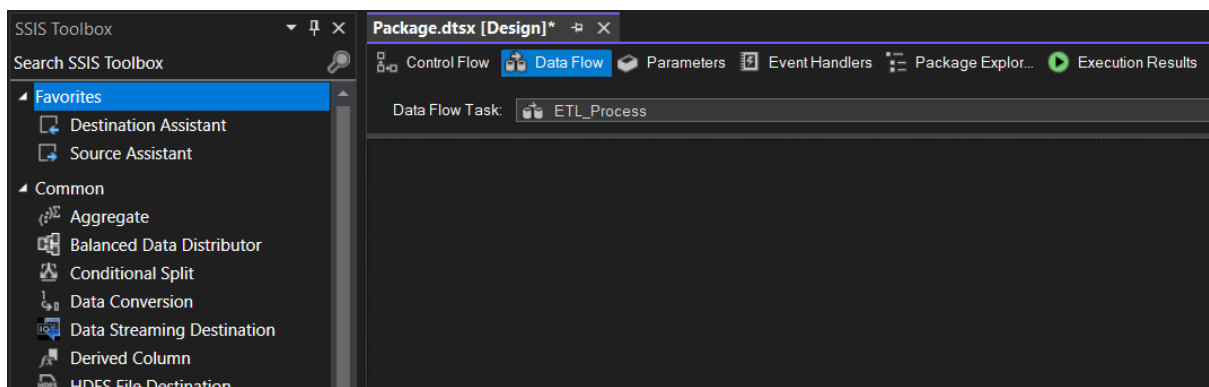


**Drag the data flow task and rename it, <ELT\_Process>**

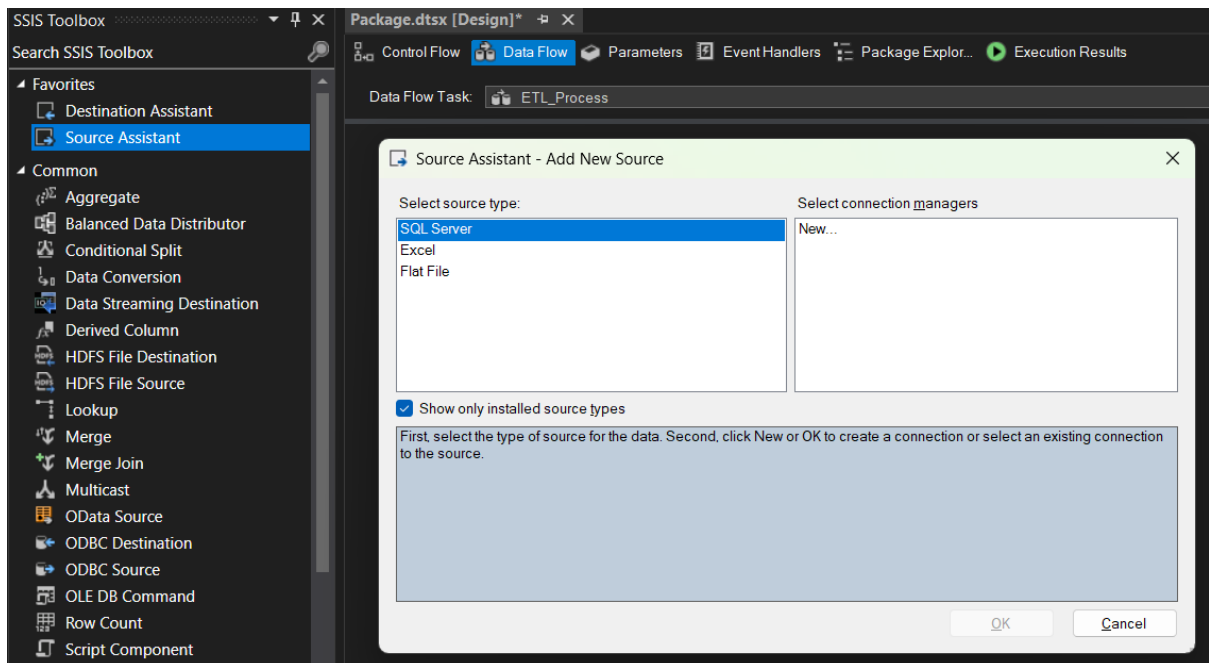




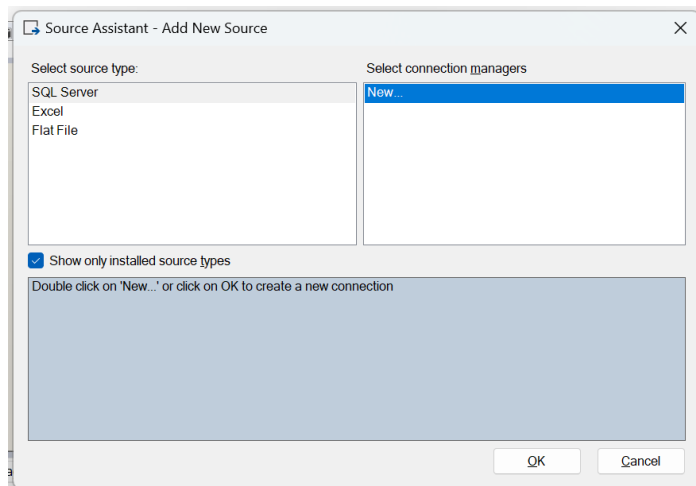
**Double-click on task ETL\_Process ... And open dataflow task.**



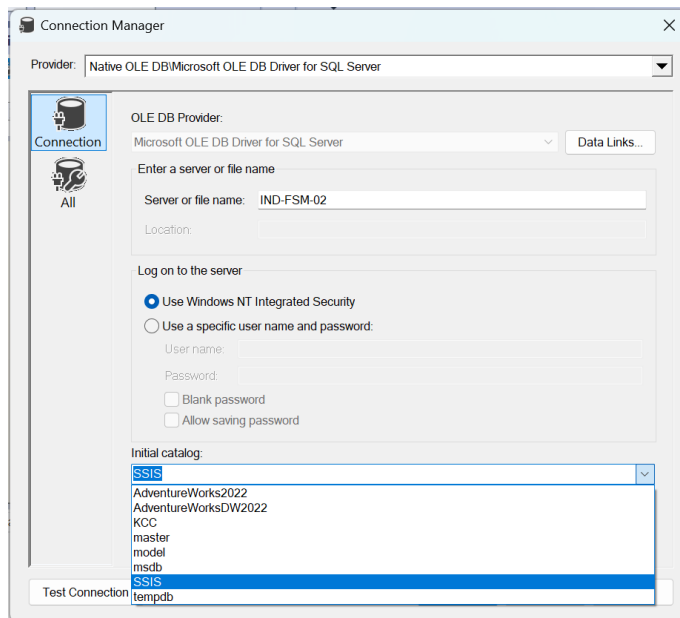
**Drag Source Assistant to the work area.**



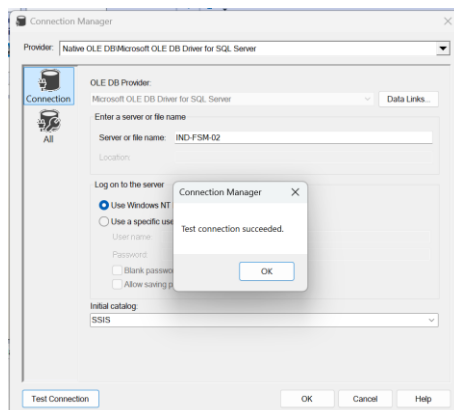
## Source Assistant Connection Box:



## Selecting the Main Table.



## Testing the connection,



Previewing the table for the source Assistant.

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

Preview Query Results

Query result (up to the first 200 rows):

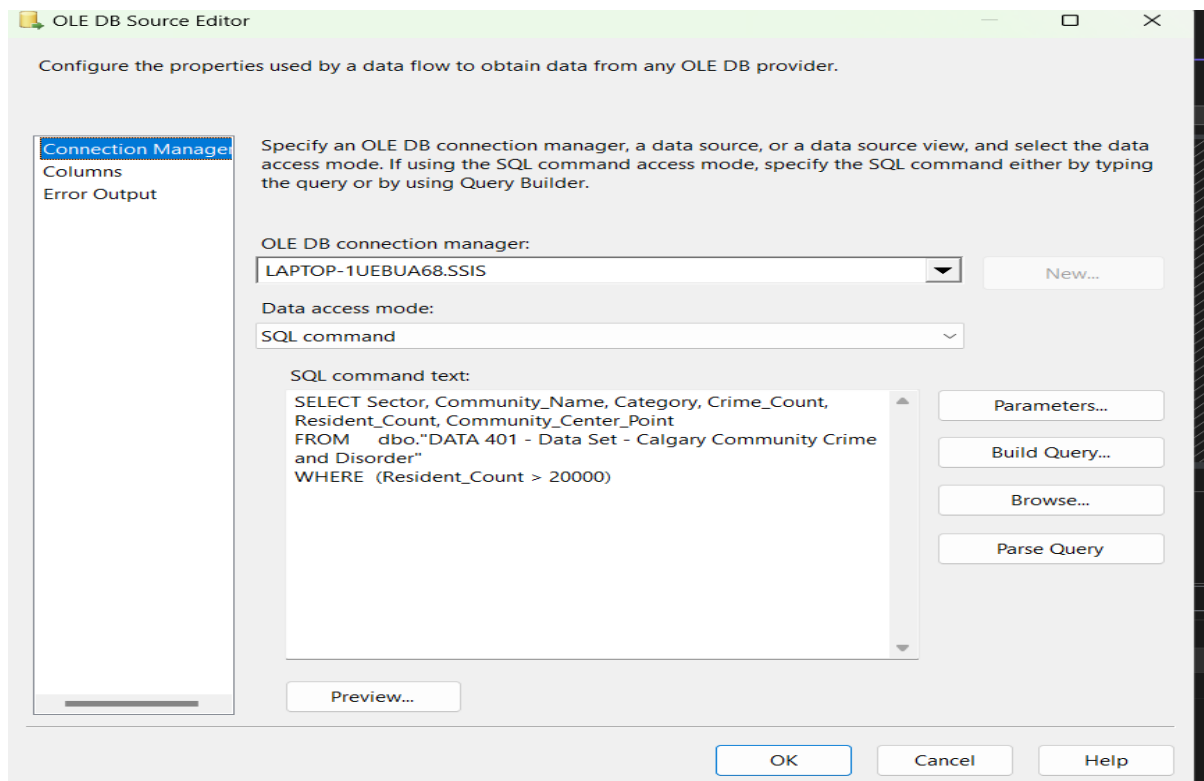
Sector	Comm...	Group...	Categ...	Crime...	Reside...	Date	Year
CENTRE	ELBOYA	Crime	Street...	1	1754	2019-...	2019
CENTRE	POIN...	Crime	Resid...	1	1343	2019-...	2019
SOUTH	FAIR...	Disor...	Social...	22	0	2019-...	2019
NORT...	COLLI...	Crime	Violen...	1	2249	2019-...	2019
CENTRE	ERLT...	Crime	Theft ...	8	1270	2019-...	2019
NORT...	HAW...	Crime	Theft ...	2	9248	2019-...	2019
NORTH	AURO...	Crime	Theft ...	2	0	2019-...	2019
CENTRE	PARK...	Crime	Com...	1	1691	2019-...	2019
NORT...	VARS...	Crime	Theft ...	3	12691	2018-...	2018
SOUTH	MAPL...	Disor...	Social...	9	1916	2019-...	2019
NORT...	WHIT...	Crime	Street...	2	12019	2019-...	2019
NORT...	MON...	Crime	Violen...	2	4515	2019-...	2019
NORT...	SILVE...	Crime	Theft ...	4	8679	2019-...	2019
CENTRE	DOW...	Disor...	Physic...	1	2785	2019-...	2019
NORT...	EDGE...	Crime	Theft ...	8	15395	2019-...	2019
NORT...	MART...	Crime	Street...	2	14245	2019-...	2019
CENTRE	CHIM	Crime	Theft ...	1	2471	2019-...	2019

Close

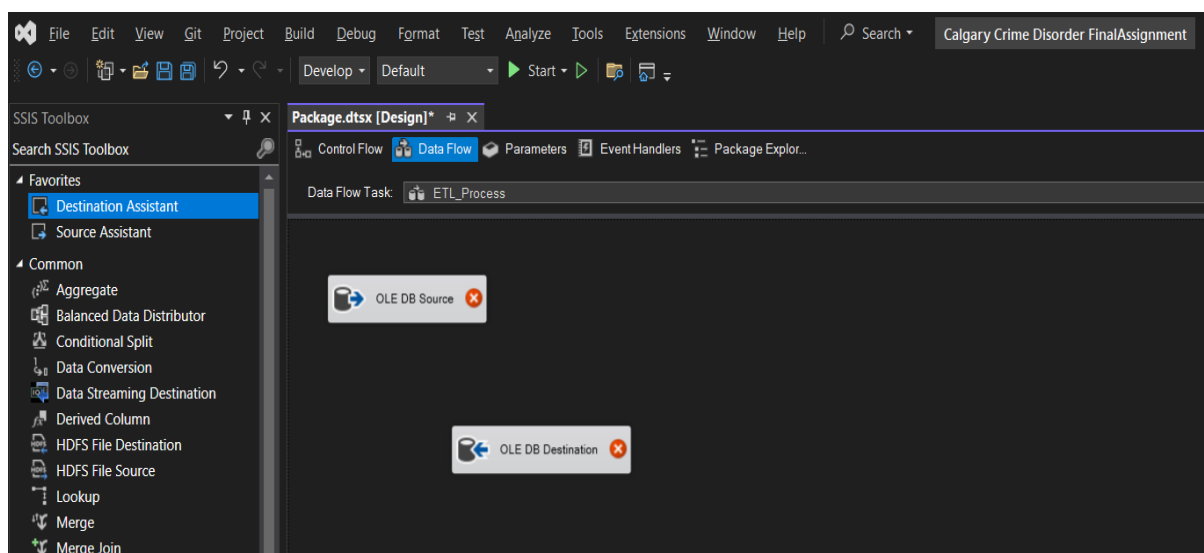
Preview...

New...

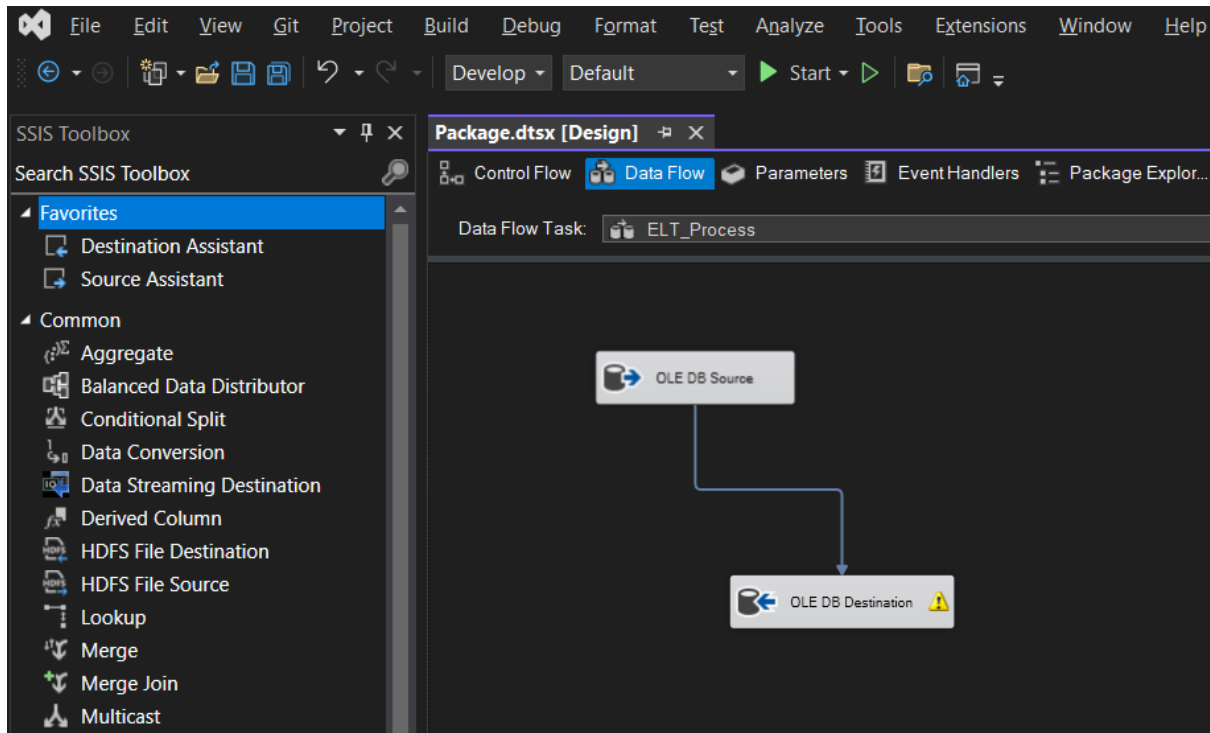
16. Click on data access mode, select SQL command, and write the following SQL query.  
**SELECT [Sector], [Community Name], [Category], [Crime Count], [Resident Count], [Community Centre Point] FROM [dbo].[YYC\_Calgary\_Crime\_and\_Disorder\_Exercise] WHERE [Resident Count] > 20000**



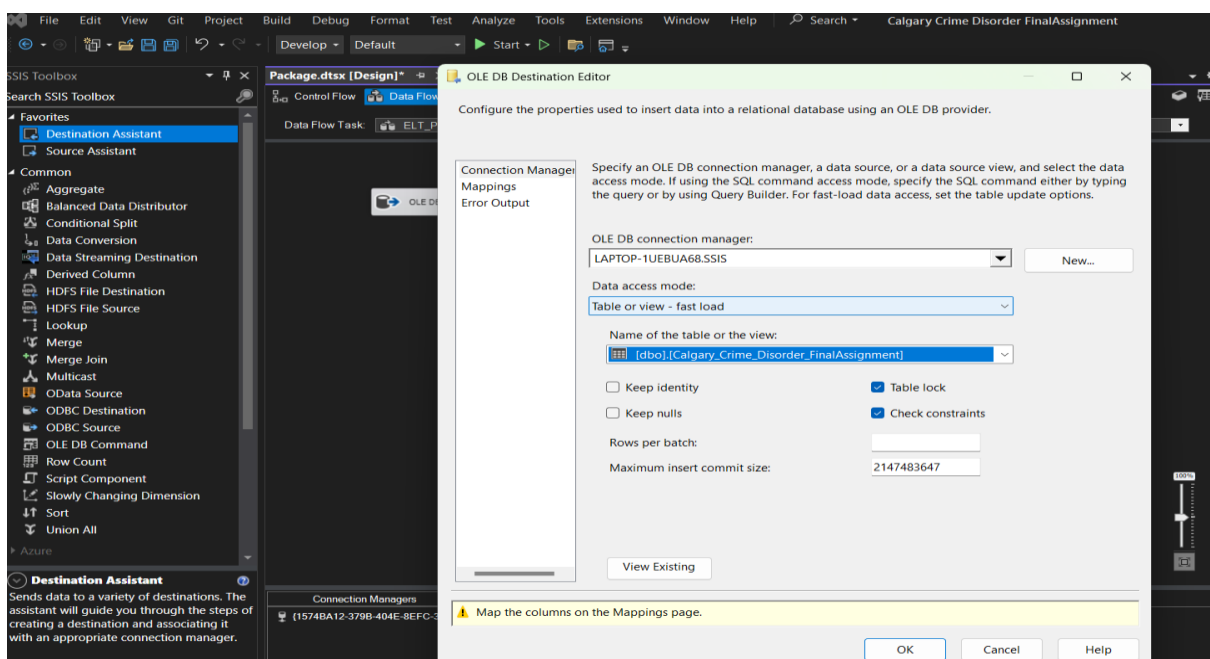
17. Drag Destination Assistant to the work area.



## Connecting Source to Destination.



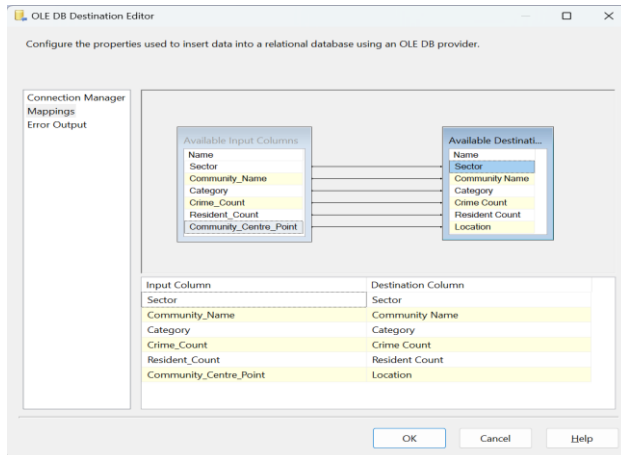
### 18. Double click on OLE DB Destination and select the destination table, Calgary\_Crime\_Disorder\_FinalAssignment.





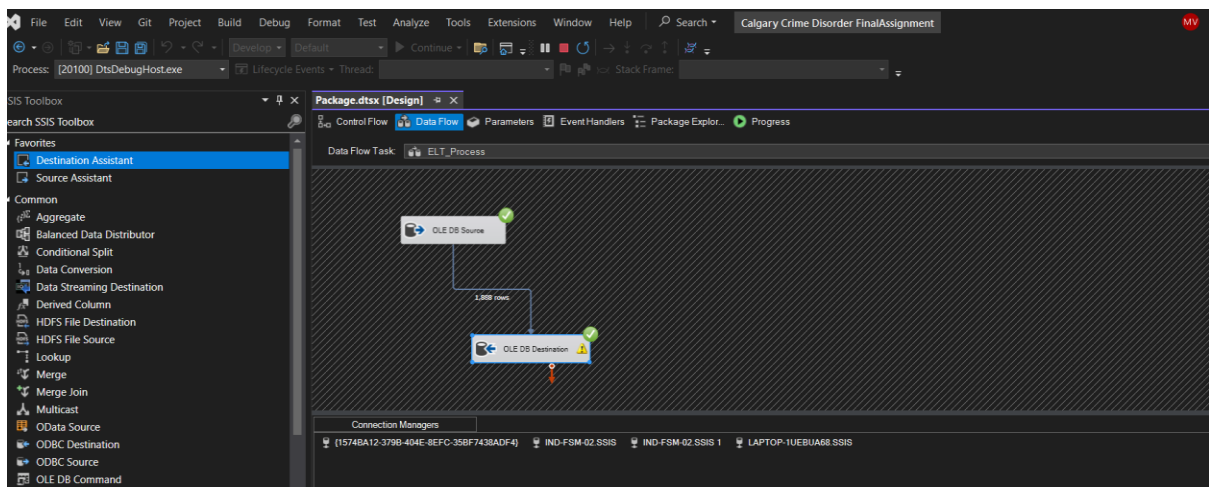
**19. Click on Mapping and map the input column to the output column.**

**20. Connect the Columns, Community Centre Point to the Location.**

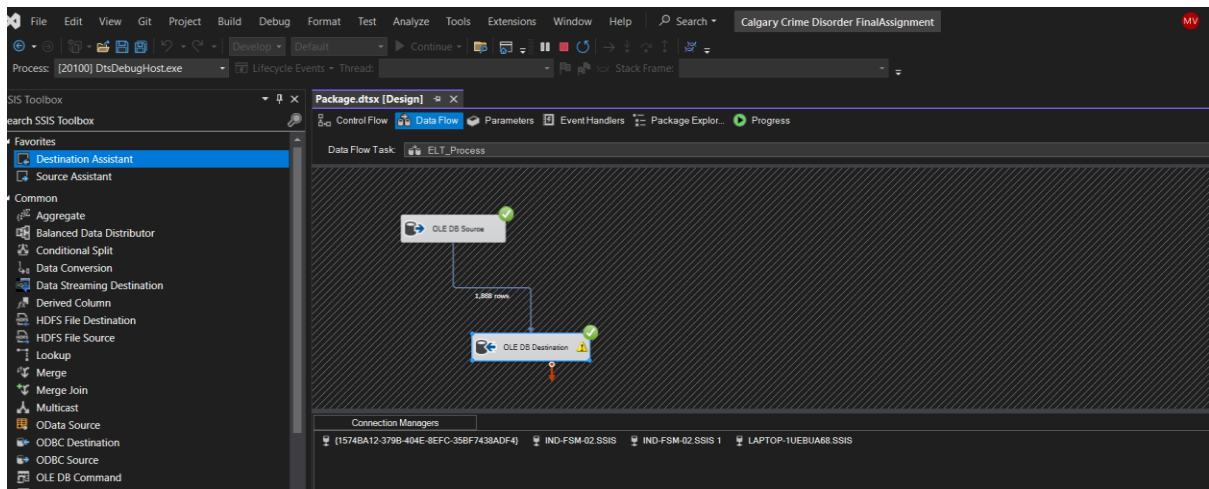


**The X mark goes off in the destination folder,**

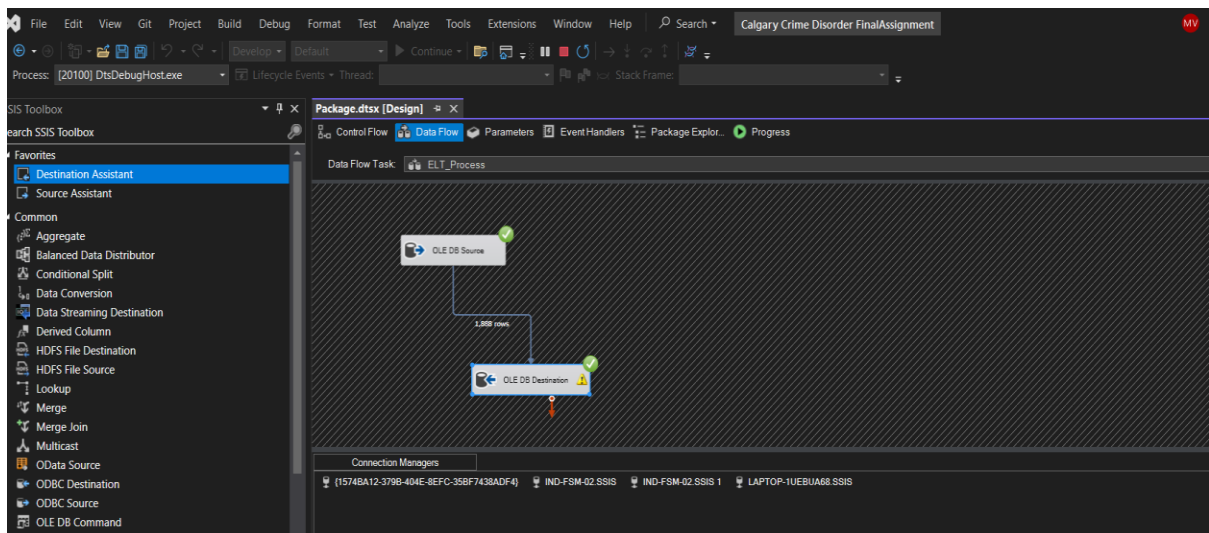
**21. Click on Start and execute the project**



**22. You should get the green check mark for executing the project successfully.**



### 23. Package execution completed with success.



### 24. Now you can see the queried data should be in your SQL server in the new Calgary\_Crime\_Disorder\_FinalAssignment Table.

SQLQuery6.sql - L...UEBUA68\KEAR (63)) SQLQuery5.sql - L...UEBUA68\KEAR (55)) SQLQuery4.sql - L...UEBUA68\KEAR (52))

```

SELECT TOP (1000) [Sector]
, [Community Name]
, [Category]
, [Crime Count]
, [Resident Count]
, [Location]
FROM [SSIS].[dbo].[Calgary_Crime_Disorder_FinalAssignment]

```

100 %

Results Messages

	Sector	Community Name	Category	Crime Count	Resident Count	Location
1	NORTHEAST	SADDLE RIDGE	Residential Break & Enter	3	22321	(51.13057324213389, -113.94562252266931)
2	NORTH	PANORAMA HILLS	Social Disorder	38	25710	(51.15971101107547, -114.08806340626336)
3	SOUTH	EVERGREEN	Theft OF Vehicle	3	21500	(50.91871439337275, -114.11532492862042)
4	CENTRE	BELTLINE	Commercial Robbery	3	25129	(51.03743792621707, -114.05518879725622)
5	CENTRE	BELTLINE	Theft FROM Vehicle	87	25129	(51.03743792621707, -114.05518879725622)
6	SOUTH	EVERGREEN	Theft FROM Vehicle	5	21500	(50.91871439337275, -114.11532492862042)
7	SOUTH	EVERGREEN	Commercial Break & Enter	1	21500	(50.91871439337275, -114.11532492862042)
8	CENTRE	BELTLINE	Physical Disorder	52	25129	(51.03743792621707, -114.05518879725622)
9	NORTHEAST	SADDLE RIDGE	Assault (Non-domestic)	4	22321	(51.13057324213389, -113.94562252266931)
10	NORTHEAST	SADDLE RIDGE	Theft FROM Vehicle	7	22321	(51.13057324213389, -113.94562252266931)
11	NORTH	PANORAMA HILLS	Theft FROM Vehicle	5	25710	(51.15971101107547, -114.08806340626336)
12	NORTHEAST	SADDLE RIDGE	Theft OF Vehicle	4	22321	(51.13057324213389, -113.94562252266931)
13	CENTRE	BELTLINE	Street Robbery	4	25129	(51.03743792621707, -114.05518879725622)
14	NORTHEAST	SADDLE RIDGE	Street Robbery	1	22321	(51.13057324213389, -113.94562252266931)
15	SOUTH	EVERGREEN	Physical Disorder	5	21500	(50.91871439337275, -114.11532492862042)
16	NORTH	PANORAMA HILLS	Theft OF Vehicle	2	25710	(51.15971101107547, -114.08806340626336)

**25. What was the total number of monthly reported records for these communities with resident counts greater than 20,000?**

SQLQuery7.sql - L...UEBUA68\KEAR (55))\* SQLQuery6.sql - L...UEBUA68\KEAR (63))

```

SELECT COUNT(*) AS [Total Montly Reported Records]
FROM [SSIS].[dbo].[Calgary_Crime_Disorder_FinalAssignment];

```

100 %

Results Messages

	Total Montly Reported Records
1	1888

26. What is the total crime count from all reported monthly records in this query from Section 25?

SQLQuery8.sql - L...\UEBUA68\KEAR (66))\* SQLQuery7.sql - L...\UEBUA68\KEAR (55))\*

```

SELECT SUM([Crime Count]) AS Total_Crime_Count
FROM [Calgary_Crime_Disorder_FinalAssignment]

```

100 %

Results Messages

	Total_Crime_Count
1	65599

27. Build a Query from the table in Section 24 where the Crime count is greater than 100.

SQLQuery10.sql - ...UEBUA68\KEAR (58)) Q 27.sql - LAPTOP...EBUA68\KEAR (51)) Q 26.sql - LAPTOP...EB

```

select * from [Calgary_Crime_Disorder_FinalAssignment]
where [Crime Count] > 100

```

100 %

Results Messages

	Sector	Community Name	Category	Crime Count	Resident Count	Location
1	CENTRE	BELTLINE	Social Disorder	664	25129	(51.03743792621707, -114.05518879725622)
2	CENTRE	BELTLINE	Social Disorder	751	25129	(51.03743792621707, -114.05518879725622)
3	CENTRE	BELTLINE	Social Disorder	678	24887	(51.0374379262171, -114.055188797256)
4	CENTRE	BELTLINE	Social Disorder	624	24887	(51.0374379262171, -114.055188797256)
5	CENTRE	BELTLINE	Social Disorder	498	24887	(51.0374379262171, -114.055188797256)
6	CENTRE	BELTLINE	Social Disorder	396	24887	(51.037437926217, -114.055188797256)
7	CENTRE	BELTLINE	Social Disorder	581	24887	(51.037437926217, -114.055188797256)
8	CENTRE	BELTLINE	Social Disorder	618	24887	(51.037437926217, -114.055188797256)
9	CENTRE	BELTLINE	Social Disorder	520	24887	(51.037437926217, -114.055188797256)
10	CENTRE	BELTLINE	Social Disorder	646	24887	(51.037437926217, -114.055188797256)
11	CENTRE	BELTLINE	Social Disorder	576	24887	(51.037437926217, -114.055188797256)
12	CENTRE	BELTLINE	Social Disorder	594	24887	(51.037437926217, -114.055188797256)
13	CENTRE	BELTLINE	Social Disorder	764	24887	(51.037437926217, -114.055188797256)
14	CENTRE	BELTLINE	Social Disorder	675	24887	(51.037437926217, -114.055188797256)
15	CENTRE	BELTLINE	Social Disorder	644	23219	(51.037437926217, -114.055188797256)
16	CENTRE	BELTLINE	Social Disorder	598	23219	(51.037437926217, -114.055188797256)
17	CENTRE	BELTLINE	Social Disorder	516	23219	(51.037437926217, -114.055188797256)

28. What is the total number of monthly reported records for the crime count greater than 100 from Question 27?

Q 28.sql - LAPTOP...EBUA68\KEAR (58) X Q 27.sql - LAPTOP...EBUA68\KEAR (51)

```
SELECT COUNT(*) AS Total_Monthly_Reported_Records
FROM [Calgary_Crime_Disorder_FinalAssignment]
where [Crime Count] > 100
```

100 %

Results Messages

	Total_Monthly_Reported_Records
1	78

29. What is the total crime count for this query in question 28?

Q 29.sql - LAPTOP...EBUA68\KEAR (71) X Q 28.sql - LAPTOP...EBUA68\KEAR (58)

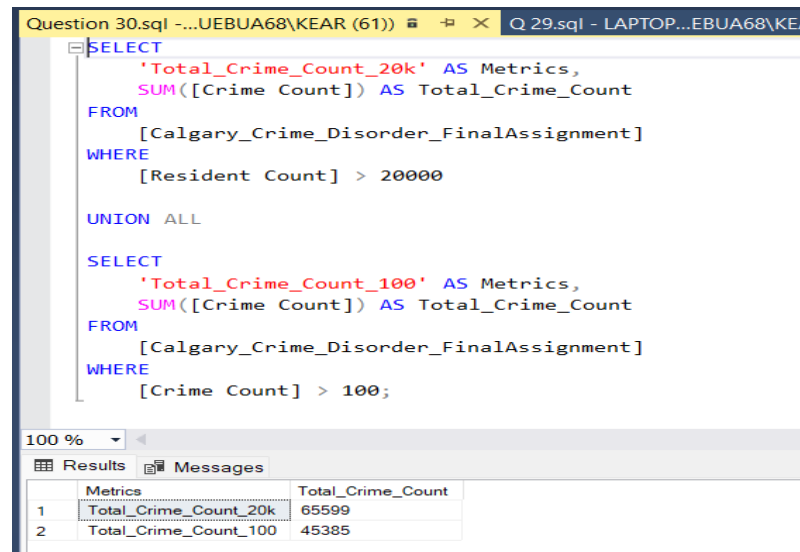
```
SELECT SUM([Crime Count]) AS Total_Crime_Count
FROM [Calgary_Crime_Disorder_FinalAssignment]
WHERE [Crime Count] > 100;
```

100 %

Results Messages

	Total_Crime_Count
1	45385

**30. How does the total crime count in question 29 for communities with a resident count greater than 20,000 compared to the total crime count for a query with the crime count greater than 100 from the whole Calgary dataset?**



```
SELECT
    'Total_Crime_Count_20k' AS Metrics,
    SUM([Crime Count]) AS Total_Crime_Count
FROM
    [Calgary_Crime_Disorder_FinalAssignment]
WHERE
    [Resident Count] > 20000

UNION ALL

SELECT
    'Total_Crime_Count_100' AS Metrics,
    SUM([Crime Count]) AS Total_Crime_Count
FROM
    [Calgary_Crime_Disorder_FinalAssignment]
WHERE
    [Crime Count] > 100;
```

	Metrics	Total_Crime_Count
1	Total_Crime_Count_20k	65599
2	Total_Crime_Count_100	45385

**Calculate the Percentage Difference:**

**Comparison of Total Crime Counts**

1. Total Crime Count for Communities with a Resident Count Greater Than 20,000: **65,599**
2. Total Crime Count for Records Where the Crime Count is Greater Than 100: **45,385**

**Percentage Difference Calculation**

**Percentage Difference=  $\{[(65,599-45,385)] / [45,385]\} \times 100 \approx 44.3\%$**

The total crime counts for communities with a resident count greater than 20,000 is approximately 44.3% higher compared to the total crime count for records where the crime count is greater than 100. The total crime count for these communities is about 1.44 times (or 44%) higher than the total crime count for the other dataset.