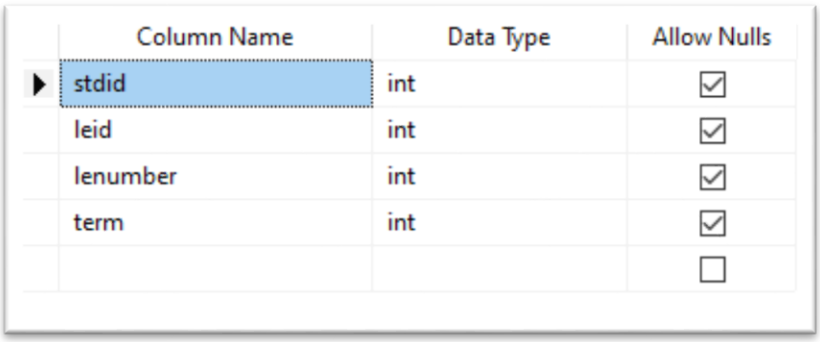
How use Pivot Query in SQL server

1-create table student

Create sudent code

```
CREATE TABLE [dbo].[st1](
	[stdid] [int] NULL ,
	[leid] [int] NULL,
	[lenumber] [int] NULL,
	[term] [int] NULL)
```



Column Name	Data Type	Allow Nulls
stdid	int	☑
leid	int	☑
lenumber	int	☑
term	int	☑
		☐

Image of student table

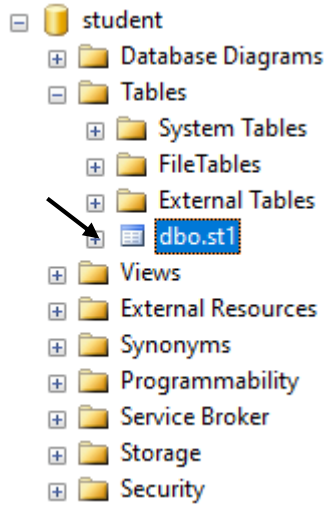


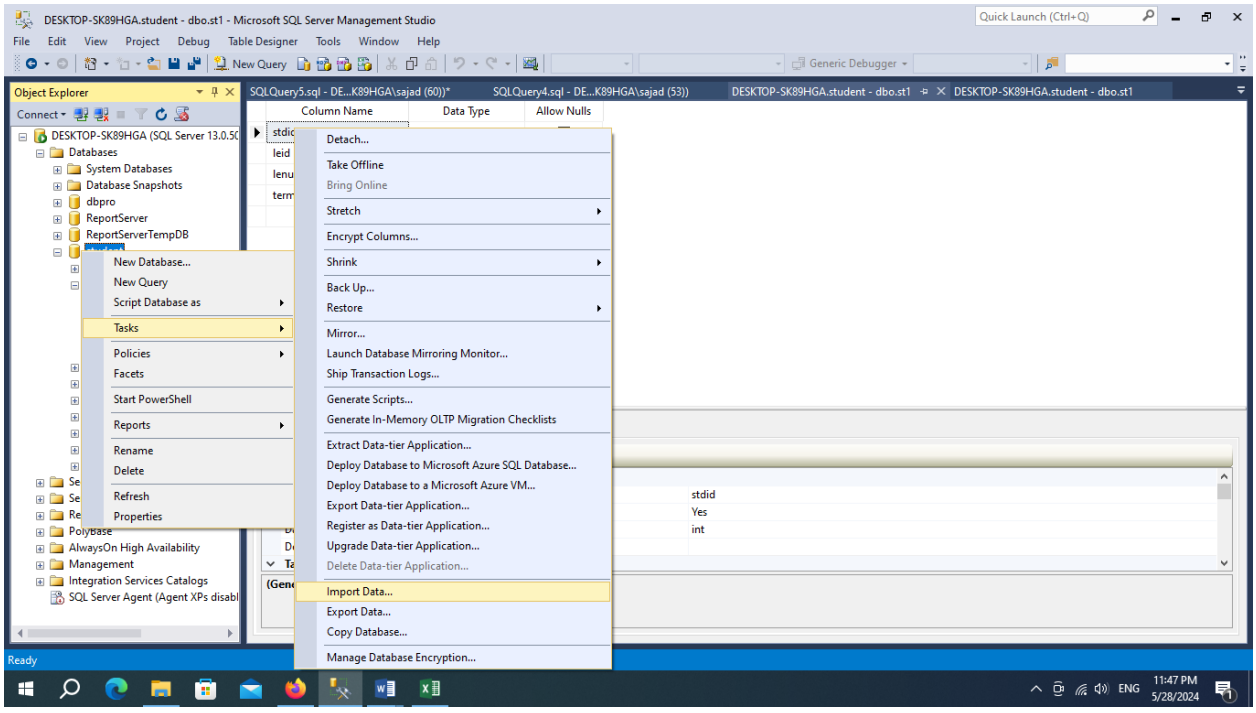
Table icon

2- Pouring data into the table using Excel software

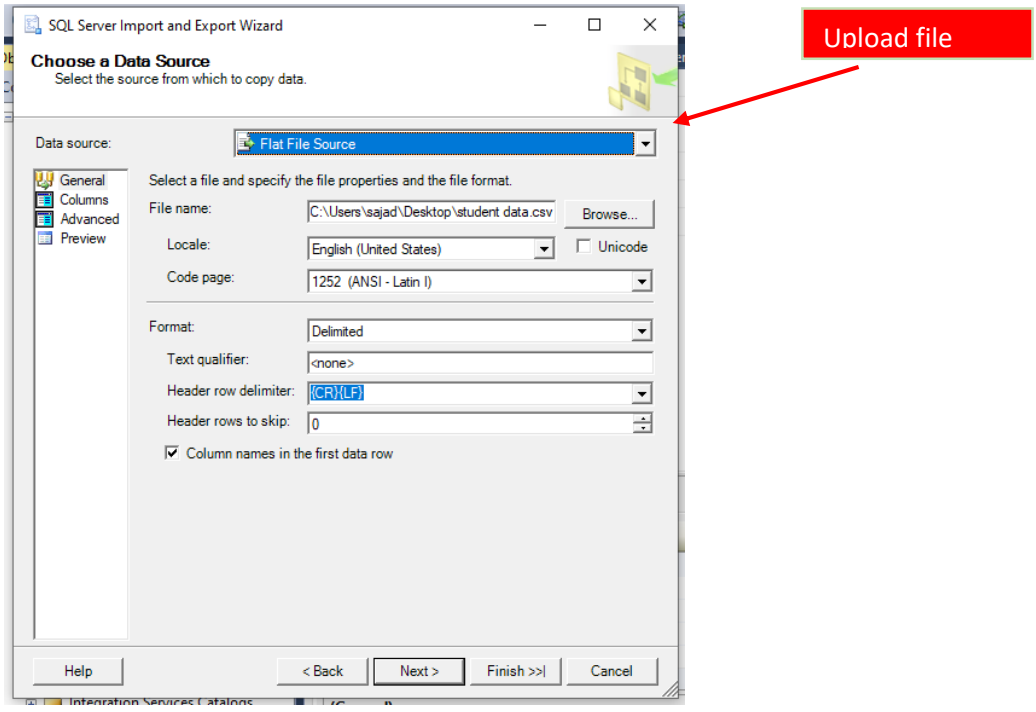
a) Create four data columns and save in csv format

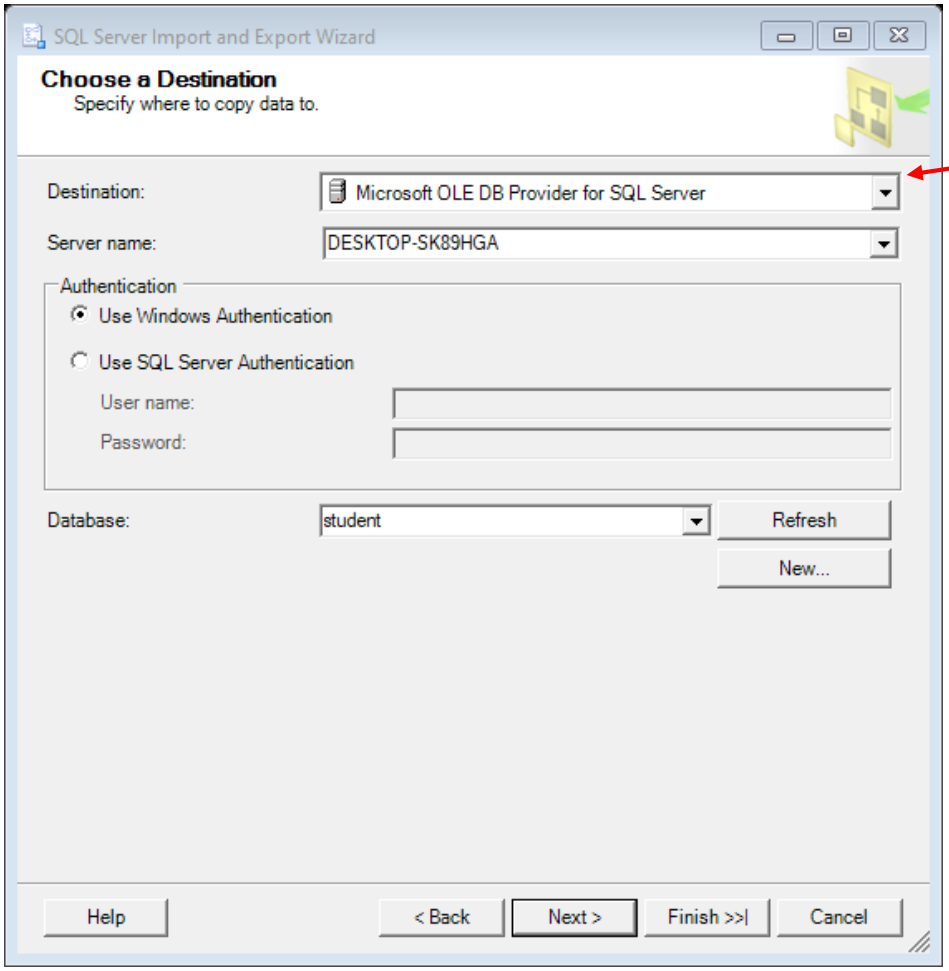
	A	B	C	D	E	F	G
1	1	2	3	4			
2	3	3	3	4001			
3	4	4	0	4022			
4	2	3	9	4021			
5	5	1	14	4002			
6	1	2	11	4022			
7	4	5	3	4012			
8	6	1	20	4012			
9	5	5	4	4022			
10	2	4	8	4022			
11	4	3	18	4012			
12	6	1	6	4012			
13	4	3	2	4001			

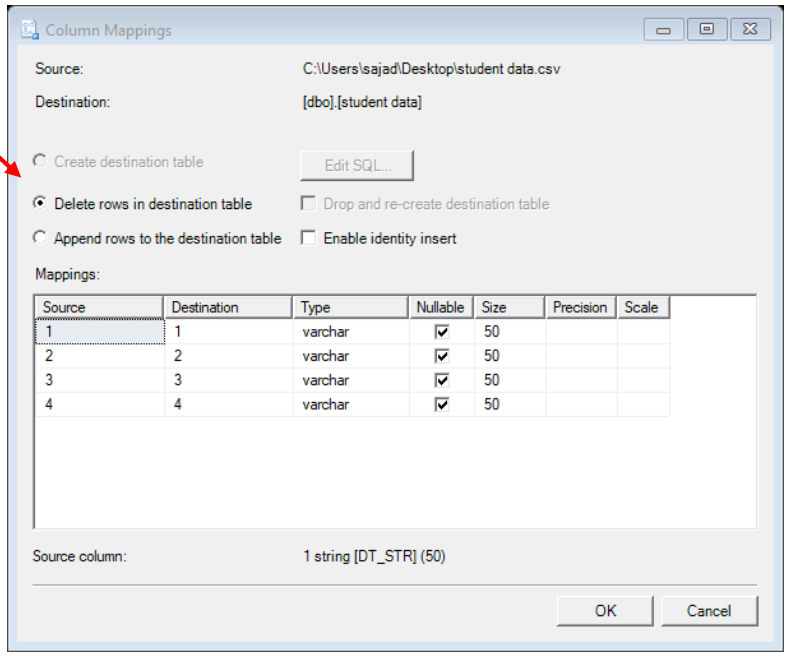
b) Dumping data into the student table

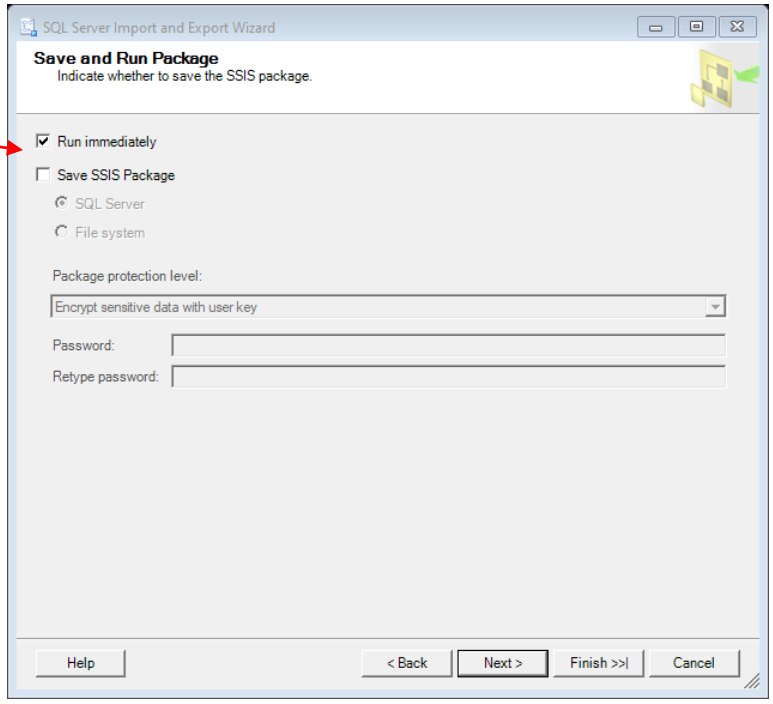


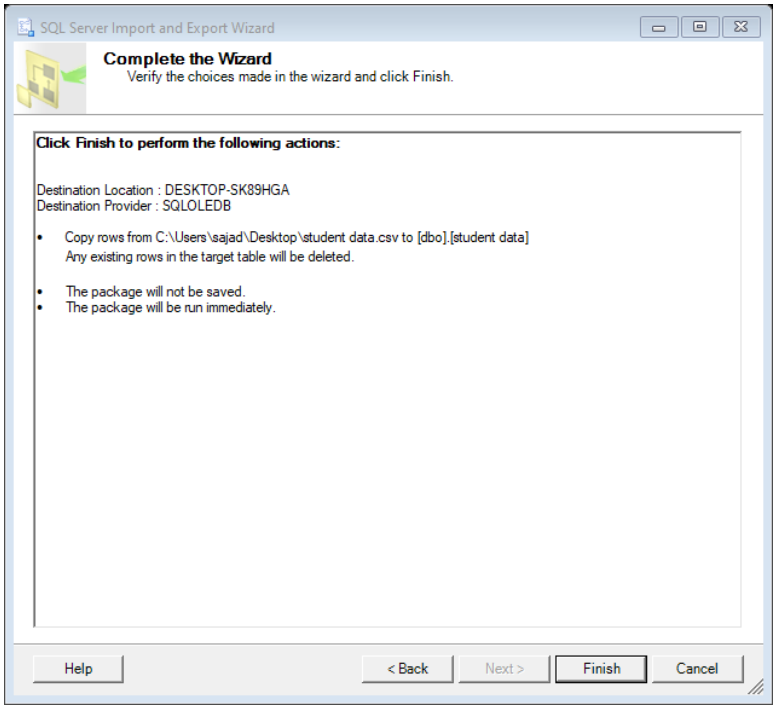

SQL Server Import and Export Wizard
Welcome to SQL Server Import and Export Wizard
This wizard helps you to create simple packages that import and export data between many popular data formats including databases, spreadsheets, and text files. The wizard can also create the destination database and the tables into which the data is inserted.
To move or copy databases and their objects from one server instance to another, cancel this wizard and use the Copy Database Wizard instead. The Copy Database Wizard is available in SQL Server Management Studio.
Do not show this starting page again.
Help
< Back
Next >
Finish >>|
Cancel

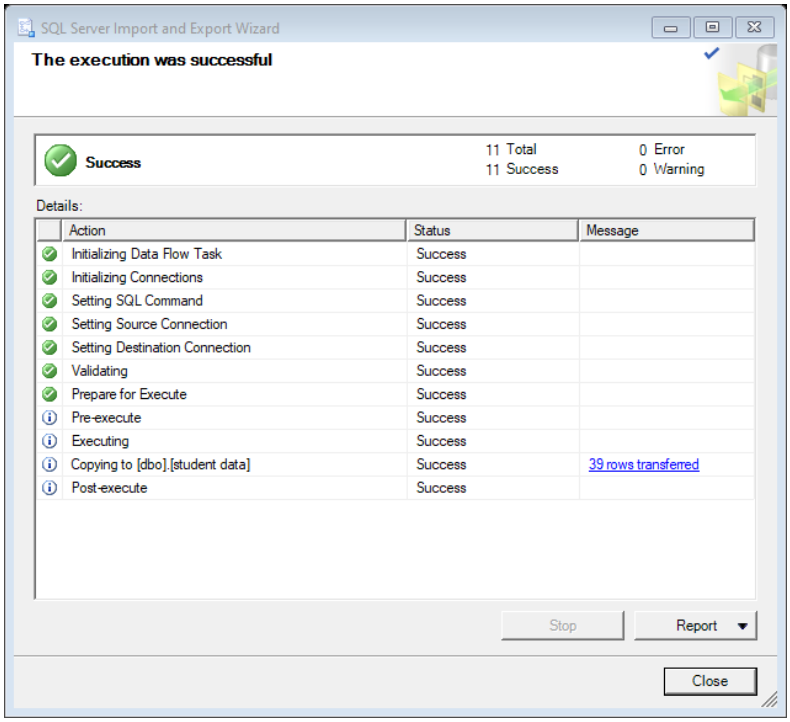

SQL Server Import and Export Wizard
Choose a Data Source
Select the source from which to copy data.
Upload file
Data source:
Flat File Source
General
Columns
Advanced
Preview
Select a file and specify the file properties and the file format.
File name:
C:\Users\sajad\Desktop\student data.csv
Browse...
Locale:
English (United States)
Unicode
Code page:
1252 (ANSI - Latin I)
Format:
Delimited
Text qualifier:
<none>
Header row delimiter:
{CR}{LF}
Header rows to skip:
0
Column names in the first data row
Help
< Back
Next >
Finish >>|
Cancel


SQL Server Import and Export Wizard
Choose a Destination
Specify where to copy data to.
Destination:
Microsoft OLE DB Provider for SQL Server
Server name:
DESKTOP-SK89HGA
Authentication
Use Windows Authentication
Use SQL Server Authentication
User name:
Password:
Database:
student
Refresh
New...
Help
< Back
Next >
Finish >>|
Cancel


Column Mappings
Source:
C:\Users\sajad\Desktop\student data.csv
Destination:
[dbo].[student data]
Create destination table
Edit SQL...
Delete rows in destination table
Drop and re-create destination table
Append rows to the destination table
Enable identity insert
Mappings:
Source
Destination
Type
Nullable
Size
Precision
Scale
1
1
varchar
50
2
2
varchar
50
3
3
varchar
50
4
4
varchar
50
Source column:
1 string [DT_STR] (50)
OK
Cancel


SQL Server Import and Export Wizard
Save and Run Package
Indicate whether to save the SSIS package.
Run immediately
Save SSIS Package
SQL Server
File system
Package protection level:
Encrypt sensitive data with user key
Password:
Retype password:
Help
< Back
Next >
Finish >>|
Cancel


SQL Server Import and Export Wizard
Complete the Wizard
Verify the choices made in the wizard and click Finish.
Click Finish to perform the following actions:
Destination Location : DESKTOP-SK89HGA
Destination Provider : SQLOLEDB
Copy rows from C:\Users\sajad\Desktop\student data.csv to [dbo].[student data]
Any existing rows in the target table will be deleted.
The package will not be saved.
The package will be run immediately.
Help
< Back
Next >
Finish
Cancel



Data were interpolated

3-Query to display data

```
/****** Script for SelectTopNRows command from SSMS  ****
SELECT TOP (1000) [stdid]
      ,[leid]
      ,[lenumber]
      ,[term]
  FROM [student].[dbo].[st1]
```

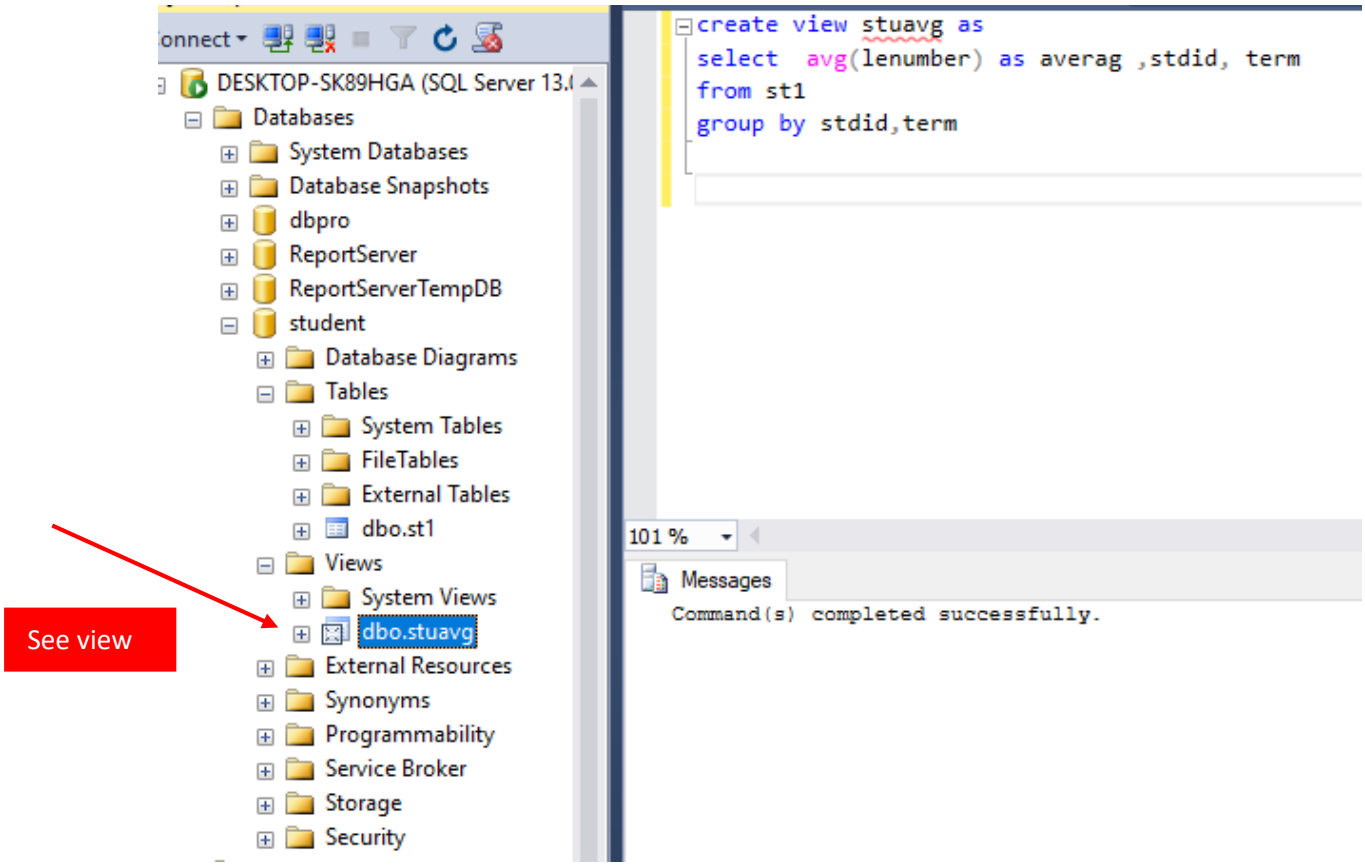
101 %

Results | Messages

	stdid	leid	lenumber	term
1	3	3	3	4001
2	4	4	0	4022
3	2	3	9	4021
4	5	1	14	4002
5	1	2	11	4022
6	4	5	3	4012
7	6	1	20	4012
8	5	5	4	4022
9	2	4	8	4022
10	4	3	18	4012
11	6	1	6	4012
12	4	3	2	4001
13	2	4	0	4022
14	3	1	9	4002
15	6	3	7	4001
16	1	1	12	4002
17	1	5	6	4021
18	2	5	2	4021

4-Taking the average from the table data and placing it in the view section to save this query

```
create view stuavg as
select  avg(lenumber) as averag ,stdid, term
from st1
group by stdid,term
```



5- Taking the average from the table data

```
select  avg(lenumber) as averag ,stdid, term
from st1
group by stdid,term
```

01 %

Results | Messages

	averag	stdid	term
1	8	1	4001
2	3	3	4001
3	2	4	4001
4	10	5	4001
5	7	6	4001
6	12	1	4002
7	16	2	4002

6-In order for our data to be organized and analyzable, we use Pivot Query, which has an organized appearance and is usable.

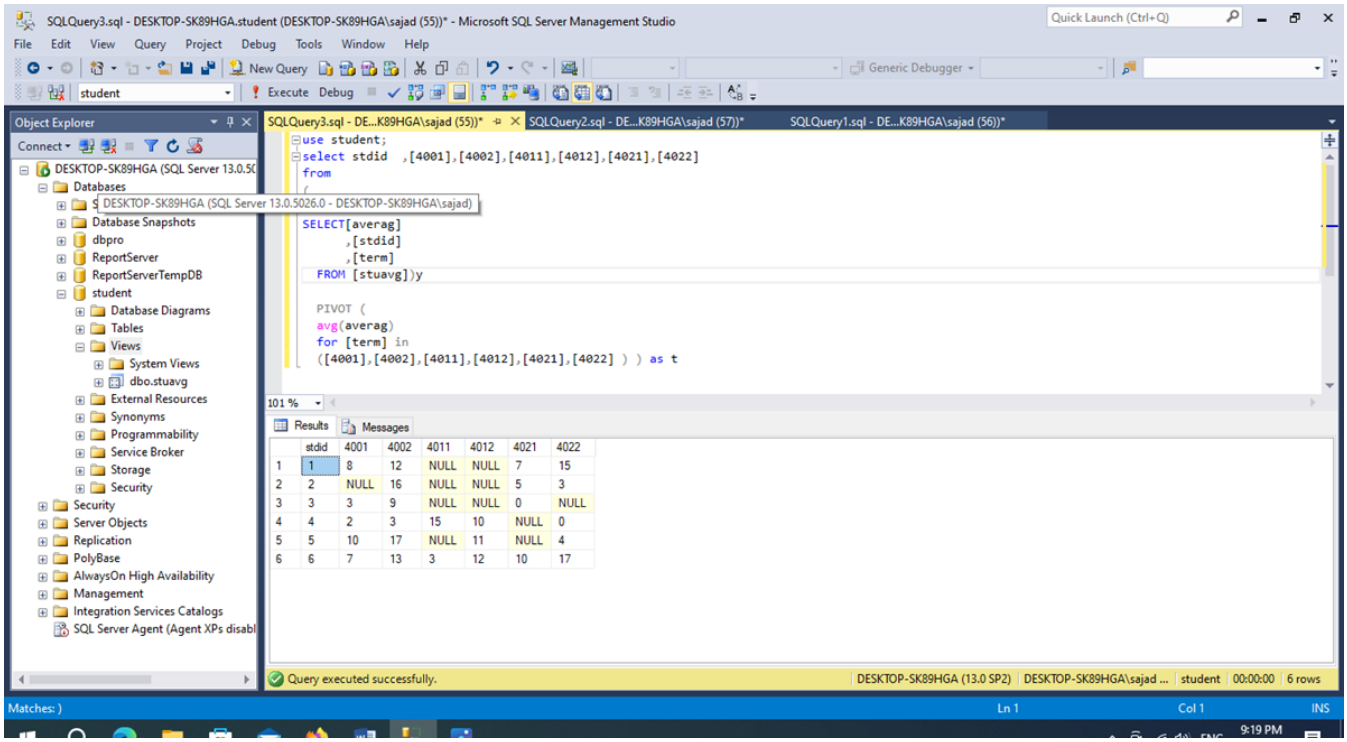
A) Query for pivot

```
use student;
select stdid  ,[4001],[4002],[4011],[4012],[4021],[4022]
from
(

SELECT[averag]
      ,[stdid]
      ,[term]
  FROM [stuavg]) y

  PIVOT(
  avg(averag)
  for [term] in
  ([4001],[4002],[4011],[4012],[4021],[4022] ) )as t
```

B) Result



	stdid	4001	4002	4011	4012	4021	4022
1	1	8	12	NULL	NULL	7	15
2	2	NULL	16	NULL	NULL	5	3
3	3	3	9	NULL	NULL	0	NULL
4	4	2	3	15	10	NULL	0
5	5	10	17	NULL	11	NULL	4
6	6	7	13	3	12	10	17

This is the result of the pivot query. I hope this tutorial was useful

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