

# **Texas Hunger Initiative - Summer Meals Outreach**

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## System Overview

### Implementation Goals & Deliverables

This report provides an overview of the implementation phase of a database project and details three specific deliverables: a system overview, two script files used in the project, and an Excel workbook. During this phase, the team utilized Structured Query Language (SQL) code and queries to organize the data and retrieve information from the database. The team also created a view, which is a table comprising all relevant information, to ensure that the end-user has tailored access to the data. This will enable the end-user to draw conclusions from the data and make informed decisions relevant to their business function. Lastly, the team emphasizes the importance of timely debugging to ensure the system is error-free.

At the beginning of this phase of the project, the team created tables and indexes within SQL to store the data more efficiently. Secondly, the team created objects to grant tailored access to the end-user. This means that a manager will have a higher level of access to the data than a staff member. Also, this view will include valuable information regarding all game records displayed in an efficient way.

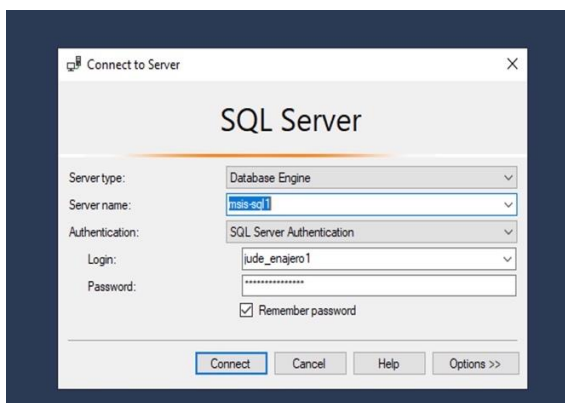
Queries were written to retrieve the data more efficiently. This will allow the user to address questions regarding the data and make critical decisions. Again, these queries were also created to analyze all game record data. Following the completion of these queries, the end-user will be able to utilize Excel to create graphs or PivotTables to analyze specific data points.

For this project, the team has created a data analysis dashboard within Excel. This dashboard includes a pivot table, a clustered bar chart, a pie chart, a 3D column chart, and a map. The pivot table is filtered to specifically highlight average total points scored within a game by weather conditions and by stadium roof type. The table emphasizes how external factors can have an impact on the outcome of games played. The clustered bar chart shows us the average attendance for all home team by season. The pie chart displays the percentage of games played in certain weather conditions and the 3D column chart illustrates the top five average point difference in games that are impacted by these conditions. Lastly, the team decided to produce a map chart that will graphically depict the states within the US where games have been played and the total number of games played. This dashboard provides a thorough understanding of all game records and would enable the end user to draw critical conclusions about the data.

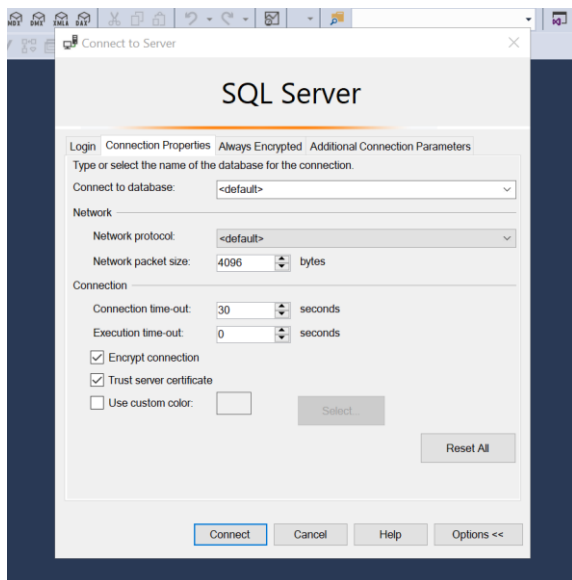
## Instructions on How to Execute Scripts

To access and execute the script within SQL, please follow the steps provided below:

1. Open **Microsoft SQL Server Management Studio** on your computer.
2. Log in as follows:  
Server type: Database Engine  
Server name: msis-sql1  
Authentication: SQL Server Authentication  
Login: Your login  
Password: Your password



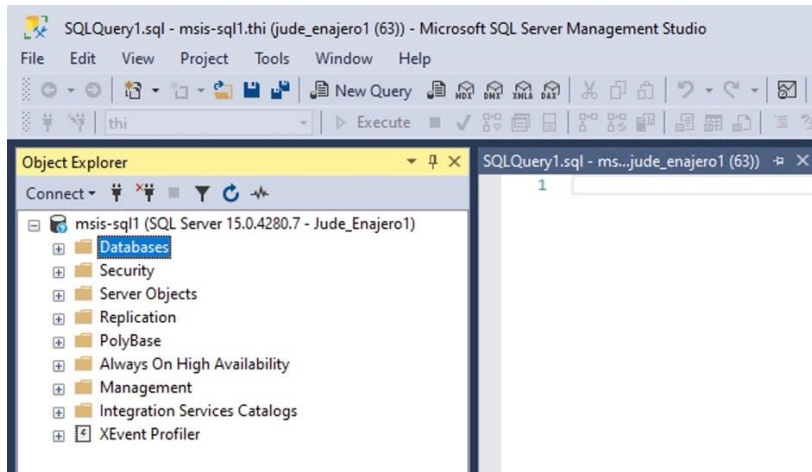
Do not click on 'Connect' yet. Click on 'Options'. Make sure to tick 'Encrypt connection' and 'Trust server certificate'. Click 'Options' to return to the login. Then click "Connect".



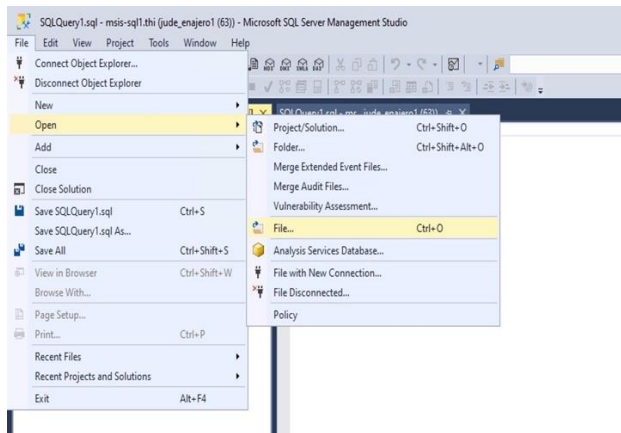
3. If logged in successfully, you should see this screen.

Click on 'New Query'.

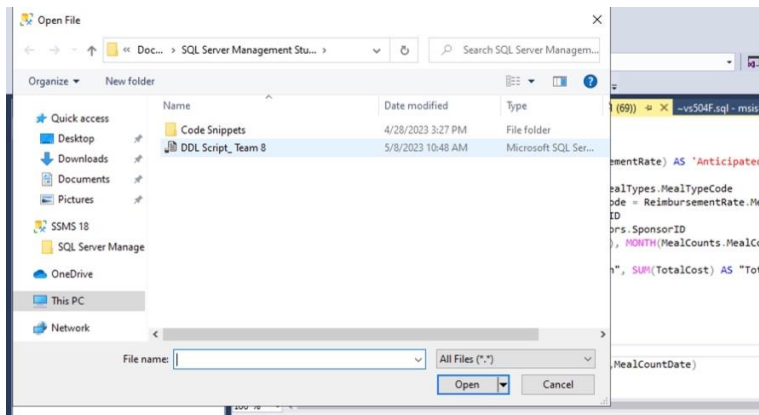
4. Click on the drop down and change 'master' to 'thi' which is the database where we stored all our game data.



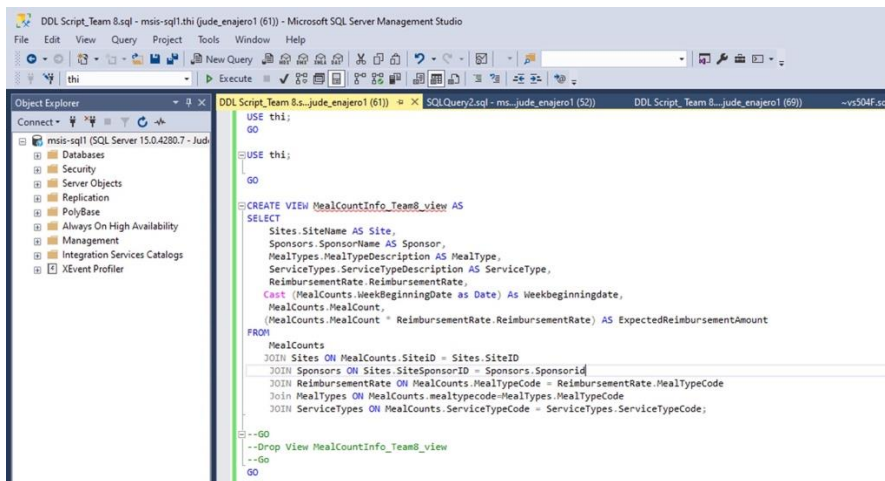
5. Click on 'File', then 'Open', 'File' and select the DDL Script\_Team 5.sql file you received from wherever you saved the file.



When you click 'Open', you should see this:



You have successfully opened the DDL Script\_Team 5 file. To run it, click 'Execute'.



If successful, you should see the picture below at the bottom of the page.

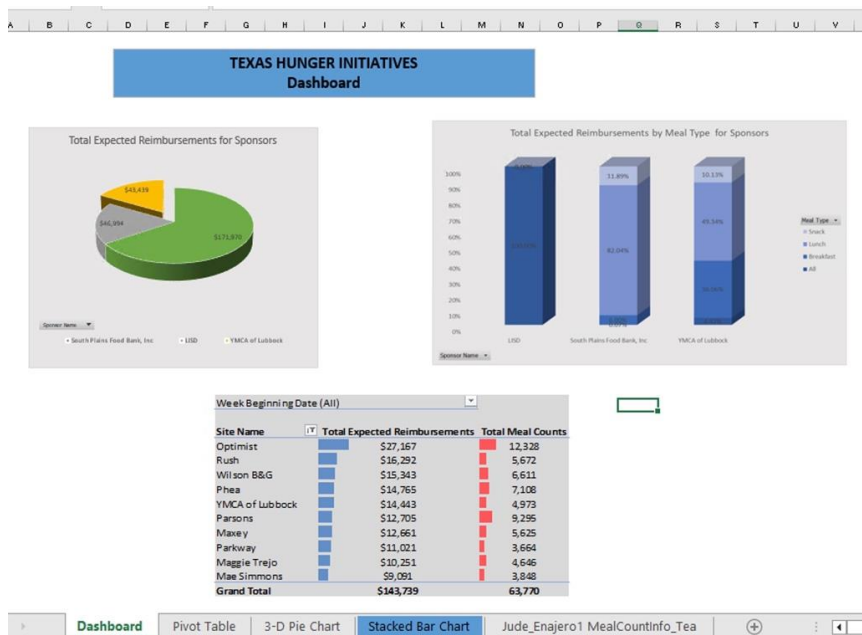


Repeat step 5 to open and run the Query Script\_Team5.sql file.

## Instructions on How to Access & Utilize Excel Workbook

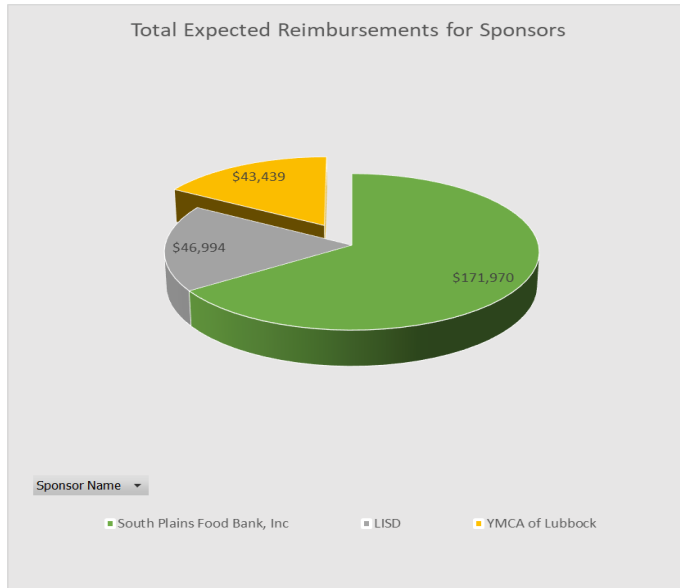
To access and use the Excel workbook, please follow the steps provided below:

1. Double click on the Excel workbook Team05Part2.xlsx that you received. This will open the workbook in Microsoft Excel. The file opens to the first sheet that is a dashboard that contains the produced charts in the following sheets.

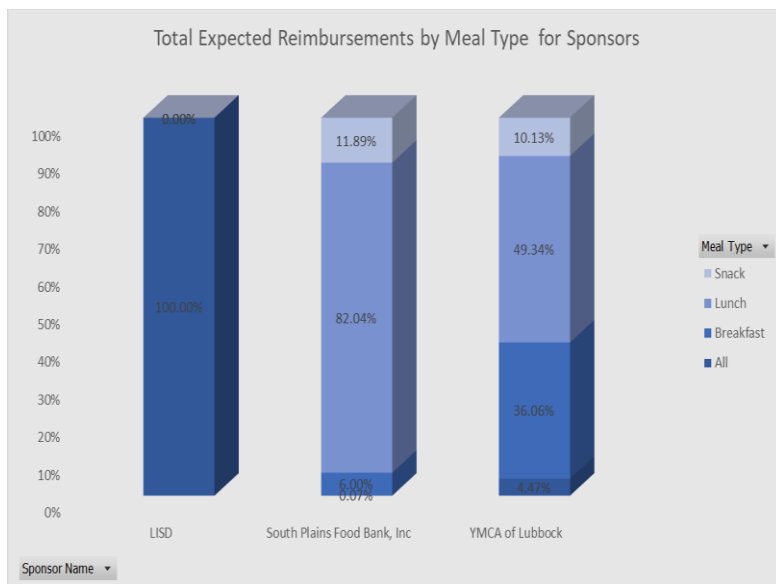


The dashboard contains all the charts created below:

- I. The total expected reimbursements of all sponsors are represented by the "Grand Total" pie chart below. The three outer pie charts represent each sponsor's expected reimbursement. The South Plains Food Bank, Inc. is represented by the green pie chart and has an expected reimbursement of \$171,970, which represents 66% of the total expected reimbursements. The LISD is represented by the orange pie chart and has an expected reimbursement of \$46,994, which represents 18% of the total expected reimbursements. Finally, the YMCA of Lubbock is represented by the gray pie chart and has an expected reimbursement of \$43,439, which represents 17% of the total expected reimbursements.























- II. The chart shows below the total expected reimbursements by meal type for each sponsor and the overall totals in a stacked bar format. Each sponsor is represented by a different colored section of the bar. The height of each section represents the sponsor's total expected reimbursement. The different colors within each section represent the proportion of the expected reimbursements for each meal type (breakfast, lunch, and snack).





- III. The pivot table below provides valuable insights into the meal program, with the Optimist site having the highest total expected reimbursements at \$27,167 and the highest meal count at 12,328, indicating that it serves many meals eligible for reimbursement. In contrast, the Mae Simmons site has the lowest total expected reimbursements at \$9,091 and a lower meal count of 3,848, suggesting that fewer meals are being served at this site or that the meals served are less expensive. Overall, the program is serving a substantial number of meals (63,770) and has a total expected reimbursement of \$143,739.

	A	B	C	D	E	F	G	H	I
1									
2	Week Beginning Date (All) <span>▼</span>								
3									
4	Site Name	<span>▼</span>	Total Expected Reimbursements			Total Meal Counts			
5	Optimist		\$27,167				12,328		
6	Rush		\$16,292				5,672		
7	Wilson B&G		\$15,343				6,611		
8	Phea		\$14,765				7,108		
9	YMCA of Lubbock		\$14,443				4,973		
10	Parsons		\$12,705				9,295		
11	Maxey		\$12,661				5,625		
12	Parkway		\$11,021				3,664		
13	Maggie Trejo		\$10,251				4,646		
14	Mae Simmons		\$9,091				3,848		
15	Grand Total		\$143,739				63,770		
16									
17									
18									

## DDL Scripts

```
/* *****  
  
Query 1:  Display all menus and the number of times the menu has been  
          distributed.  Display the results in order of the meal types  
          and then listing menus with the most distributions first.  
          All menus should appear in the results, even if they have not  
          been distributed.  
  
***** */  
  
SELECT Menus.MenuID, MealName, MealTypeCode,  
COUNT(SiteDistributions.MenuID) AS "Number of Times Distributed"  
FROM Menus LEFT JOIN SiteDistributions  
ON Menus.MenuID = SiteDistributions.MenuID  
GROUP BY MealTypeCode, Menus.MenuID, MealName  
ORDER BY MealTypeCode, COUNT(SiteDistributions.MenuID) DESC;
```

```
/* *****
```

Query 2: For each sponsor display total purchase-related costs to-date.

A cost is purchase-related if the cost description has the word “purchase” in it.

```
***** */
```

```
SELECT
    s.SponsorName AS 'Sponsor Name',
    SUM(c.TotalCost) AS 'Total Purchase-related Costs To-date'
FROM
    Sponsors s
    INNER JOIN (
        SELECT
            SponsorID, TotalCost
        FROM Costs
        WHERE
            CostTypeID IN (
                SELECT CostTypeID
                FROM CostTypes
                WHERE CostTypeDescription LIKE '%purchase%')) c
        ON s.SponsorID = c.SponsorID
GROUP BY
    s.SponsorName;
```

```

/* *****
Query 3:  Display the 5 sites serving the most meals within the past 12
years. Also display the total number of meals served by those sites.
***** */

SELECT TOP 5
    s.SiteName AS Site, SUM(m.MealCount) AS 'Total Meals'
FROM
    thi.dbo.Sites AS s, thi.dbo.MealCounts AS m,
    thi.dbo.SiteDistributions AS d
WHERE
    s.SiteID = m.SiteID AND
    s.SiteID = d.SiteID AND
    YEAR(GETDATE()) - YEAR(m.MealCountDate) <= 12
GROUP BY s.SiteName
ORDER BY SUM(m.MealCount) DESC;

```

```

/* *****
Query 4:  Display total number of meals served and anticipated total
reimbursement by sponsor, year, month, and meal type, in this order. The
reimbursement rate for each meal type is in the ReimbursementRate table. The
current reimbursement rate has an EndDate of NULL.
***** */

```

```

SELECT Sponsors.SponsorID AS 'Sponsor ID',
YEAR(MealCounts.MealCountDate) AS 'Date in Year',
MONTH(MealCounts.MealCountDate) AS 'Date in Month',
MealTypes.MealTypeCode AS 'Meal Type Code',
SUM(MealCounts.MealCount) AS 'Number of Meals Served',
SUM(MealCounts.MealCount) * AVG(ReimbursementRate.ReimbursementRate)
AS 'Anticipated Total Reimbursement'
FROM thi.dbo.MealCounts
LEFT JOIN thi.dbo.MealTypes ON MealCounts.MealTypeCode =
MealTypes.MealTypeCode
LEFT JOIN thi.dbo.ReimbursementRate ON MealTypes.MealTypeCode =
ReimbursementRate.MealTypeCode AND ReimbursementRate.EndDate IS NULL
INNER JOIN thi.dbo.sites ON MealCounts.SiteID = sites.SiteID
INNER JOIN thi.dbo.Sponsors ON sites.SiteSponsorID =
Sponsors.SponsorID
GROUP BY Sponsors.SponsorID, YEAR(MealCounts.MealCountDate),
MONTH(MealCounts.MealCountDate), MealTypes.MealTypeCode;

```

```
/* *****
```

Query 5: For each sponsor by month, display their total Operational costs to-date, total Meals Served to-date, and total Operational costs per meal to-date. Calculate the latter number based on the first two numbers.

```
***** */
```

```
SELECT SponsorName, DATENAME(month,MealCountDate) AS "Month",  
SUM(TotalCost) AS "Total Operational Costs", SUM(mealcount) AS "Meals  
Served To-Date", SUM(totalcost)/SUM(mealcount) AS "Total Operational  
Costs per Meal To-Date"
```

```
FROM Sponsors, Costs, CostTypes, sites, mealcounts
```

```
WHERE Sponsors.sponsorid = costs.sponsorid
```

```
AND costs.costtypeid = costtypes.costtypeid
```

```
AND Sponsors.sponsorid = sites.SiteSponsorID
```

```
AND sites.siteID = MealCounts.SiteID
```

```
AND CostTypeCategory = 'Operational'
```

```
GROUP BY SponsorName, MONTH(MealCountDate),  
DATENAME(month,MealCountDate)
```

```
ORDER BY SponsorName, MONTH(MealCountDate);
```

## Query Script output

MenuID MealName  
MealTypeCode Number of Times Distributed

```
-----  
-----  
3      Cold Breakfast Cereal  
B      5  
  
1      Cold Breakfast Doughnuts  
B      3  
  
5      Hot Breakfast Traditional  
B      3  
  
7      Hot Breakfast Oatmeal  
B      3  
  
6      Hot Lunch Chicken Nuggets  
L      5  
  
4      Coldcut Lunch Turkey  
L      4  
  
8      Hot Lunch Veggie  
L      4  
  
2      Coldcut Lunch Bologna  
L      1  
  
9      Snack Sack 1  
SN     1  
  
10     Snack Sack 2  
SN     1  
  
11     Snack Sack 3  
SN     0  
  
12     Snack Sack 4  
SN     0  
  
13     Supper- Chicken Noodle Soup  
SU     0
```

14	Supper- Sandwich
SU	0
15	Supper- Pasta
SU	0
16	Supper- Traditional
SU	0

(16 rows affected)

Sponsor Name related Costs To-date	Total Purchase-
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-----

South Plains Food Bank, Inc	1111.00
YMCA of Lubbock	1620.00

(2 rows affected)

Site	Total Meals
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-----

Parsons	27885
YMCA of Lubbock	9946
Rush	5672
Asbury	3960
Copper Rawlings	3273

(5 rows affected)

Sponsor ID	Date in Year	Date in Month	Meal Type	Code	Number of Meals Served	Anticipated Total Reimbursement
------------	--------------	---------------	-----------	------	------------------------	------------------------------------

-----

1	2013	6	ALL	11641	24862.847800	
---	------	---	-----	-------	--------------	--



1	2013	7	ALL	8603	18374.287400
1	2013	8	ALL	1740	3716.292000
1	2014	6	ALL	19	40.580200
2	2012	6	SN	24	20.160000
2	2013	6	B	2255	4560.737500
2	2013	6	L	16548	58662.660000
2	2013	6	SN	8883	7461.720000
2	2013	7	B	2129	4305.902500
2	2013	7	L	15986	56670.370000
2	2013	7	SN	10040	8433.600000
2	2013	8	ALL	60	128.148000
2	2013	8	B	686	1387.435000
2	2013	8	L	7145	25329.025000
2	2013	8	SN	5398	4534.320000
2	2014	7	B	30	60.675000
2	2014	7	L	45	159.525000
2	2024	7	L	72	255.240000
3	2013	6	B	4189	8472.252500
3	2013	6	L	2955	10475.475000
3	2013	6	SN	3000	2520.000000
3	2013	7	ALL	894	1909.405200
3	2013	7	B	3555	7189.987500
3	2013	7	L	3091	10957.595000
3	2013	7	SN	2241	1882.440000
3	2013	8	ALL	15	32.037000

Warning: Null value is eliminated by an aggregate or other SET operation.

(26 rows affected)

SponsorName			Month
Total Operational Costs	Meals Served To-Date	Total Operational Costs per Meal To-Date	
-----			
-----			
-			
South Plains Food Bank, Inc			June
1999648.00	332520	6.013617	
South Plains Food Bank, Inc			July
1876252.00	339624	5.524497	
South Plains Food Bank, Inc			August
1056776.00	159468	6.626884	
YMCA of Lubbock			June
658374.00	111584	5.900254	
YMCA of Lubbock			July
792054.00	107591	7.361712	
YMCA of Lubbock			August
3342.00	165	20.254545	

(6 rows affected)

Completion time: 2023-05-07T22:06:11.1114527-05:00