Milestone 4 Deliverables

The dialogs and instructions in this document are using MS Excel from (Office 2013) but the idea is the same regardless of your Office version.

I Overview

A. Follow the steps in the "M4 Example Bootstrap Output"

See the other document for bootstrapping details before you read this document. The other document will walk you through the steps necessary to bootstrap and create the data warehousing environment needed for this milestone. All of this is necessary, but no deliverables are turned in for the Bootstrap part.

B. Deliverable Format

1. Zip up ALL the Word Doc, PDF & Excel files for all questions in this milestone into a single file named "Team_xx_M4_Final.zip" and post it to the assignment area on the Black Board.

I recommend you use **separate** Excel **FILES** for each question, and/or each chart/pivot table. This allows parallel work and also limits the chance of file corruption for one question accidentally damaging the answer to another question.

2. Create a separate PDF file for each report / query for all questions (In other words, you create a separate PDF for each pivot table, each pivot chart, each SQL query, and each SQL query result).

For each Pivot Table, Pivot Chart, SQL Query, or SQL Result in this Milestone, create a PDF file containing a READABLE AND USABLE version of the output. (You can simply perform print-formatting and layout as needed and then print things using the "PDF Creator Printer", which will save the output as separate PDF files). Make sure you include some sort of caption in the output and name each PDF file clearly to indicate which Question (or Part of a Question) it answers.

PLEASE LOOK AT PAGE BREAK PREVIEW AND MAKE REASONABLE FORMATTING CHANGES BEFORE PRINTING TO PDF FILE.

NB there is **NO HARDCOPY**, just submit the PDF (and excel, word, etc.) files.

C. Caveats about the sample charts and tables in this document

The examples in this document are MERELY a guide for the format; the data they contain is **NOT** correct / identical to your data and in some cases might not even contain the same restriction — merely the right "general shape". For example if a question asked for names starting with a certain letter, the format here might include values from incorrect names. If the question asked for particular states, regions, etc. the examples here MIGHT not be in the correct state, region, etc. In other words, it is merely intended to provide a vague picture.

If you have problems with the pivot tables in Excel, try restarting the computer or try using a different machine.

II Background Information

A. Browsing Data in SQL Server Management Studio

AFTER BOOTSTRAPPING, when you first open SQL Server Management Studio, change the Server Type to "Analysis Services" (AS), the instance name here should match what you used in the M4 Bootstrap (e.g. ".\GPSSQL") and you should use WINDOWS AUTHENTICATION to connect here (NB: you can also use windows authentication for the SQL queries in this Milestone if you wish).

You will see a list of AS Databases (yours is named "SEIS732_Team_xx_AS_Database") and within it there will be a list of DIMS and one Cube named "SEIS732 Team 00 Star Schema" (**they all say 00 not your team number**).

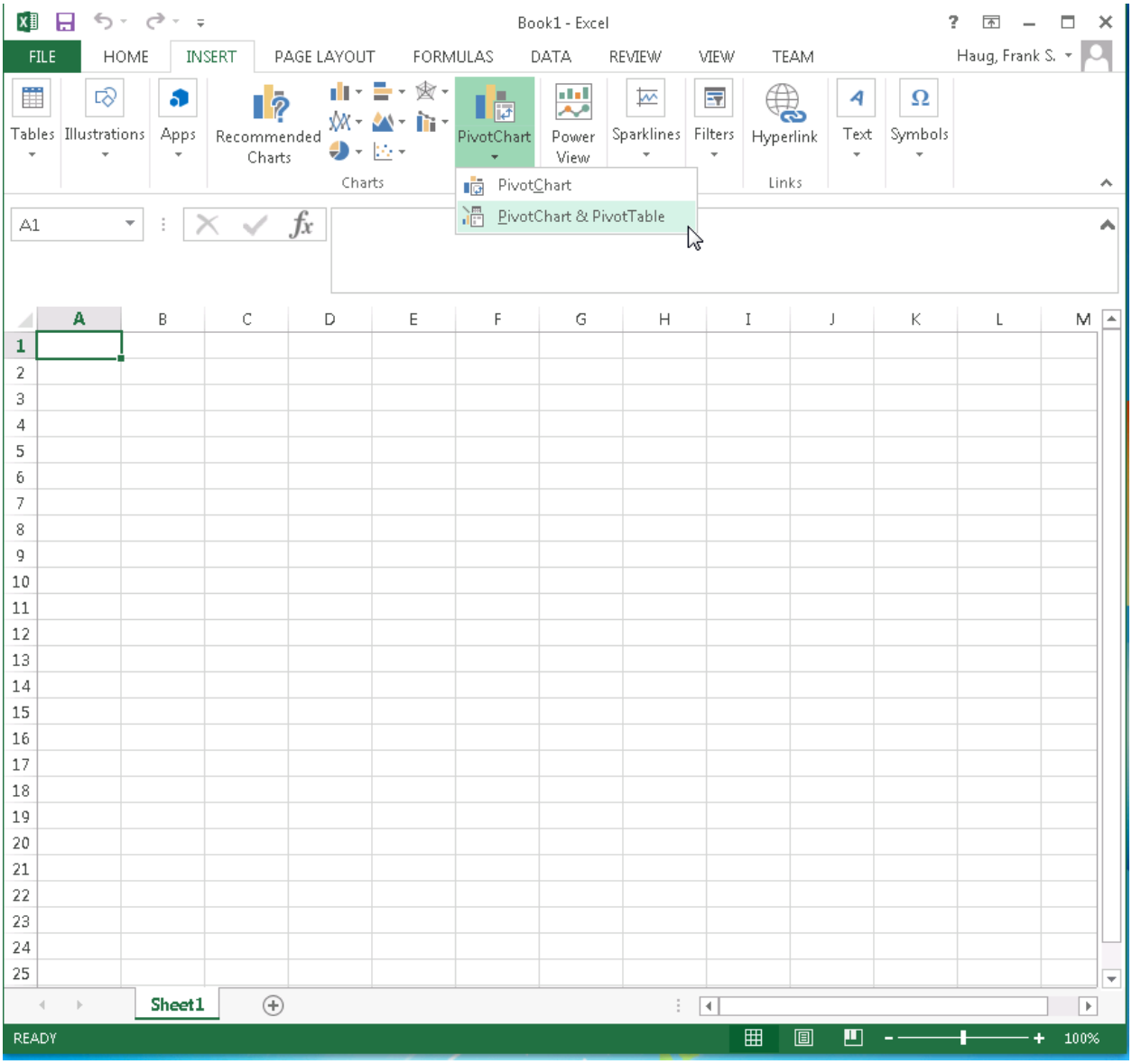
You can right click on the cube and select Browse Data. Experiment with the pivot table "browser". Try Dragging and Dropping "combo box labels" to different areas in the pivot table and try clicking inside the combo boxes and inside the pivot table. The Excel Pivot Table will work similarly but with slightly different features and restrictions.

B. Creating Pivot Tables and Pivot Charts in Excel

Create a new Workbook in Excel.

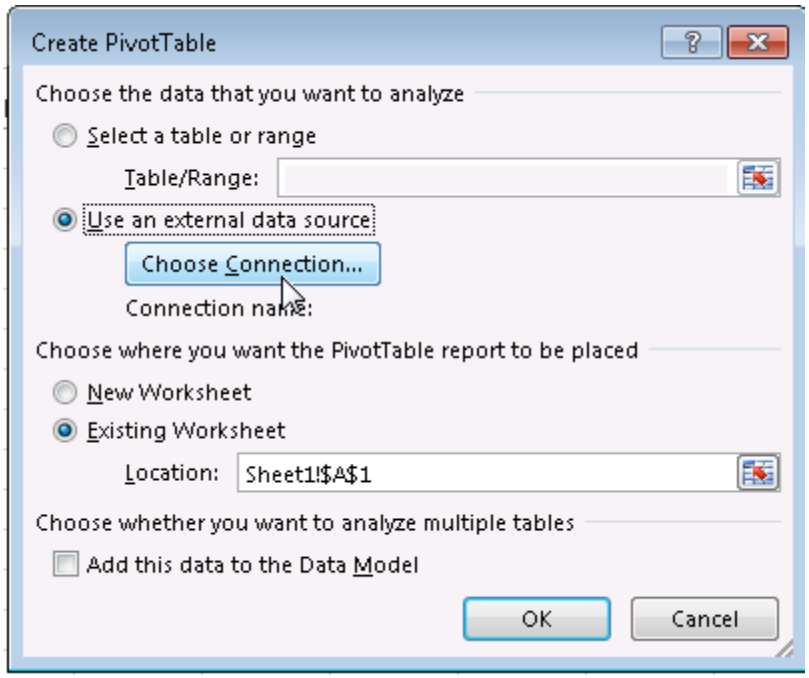
1. Use the Insert→Pivot Chart→PivotChart & PivotTable

Click on the Insert tab in the Ribbon and then click on the Drop-Down arrow and select Pivot Chart, and then click on PivotChart & PivotTable.



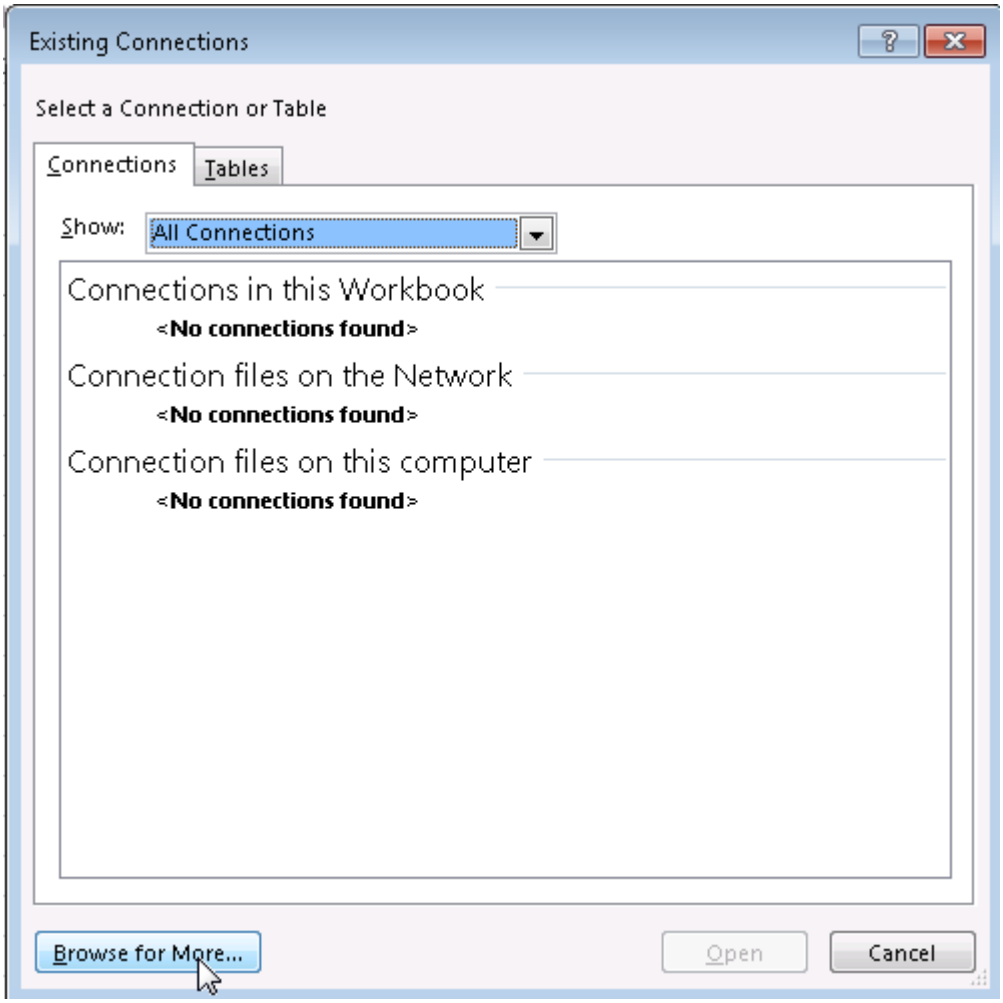
2. Use an External Data Source

When you see the following dialog, select the "External Data Source" radio button and then select the "Choose Connection" button.



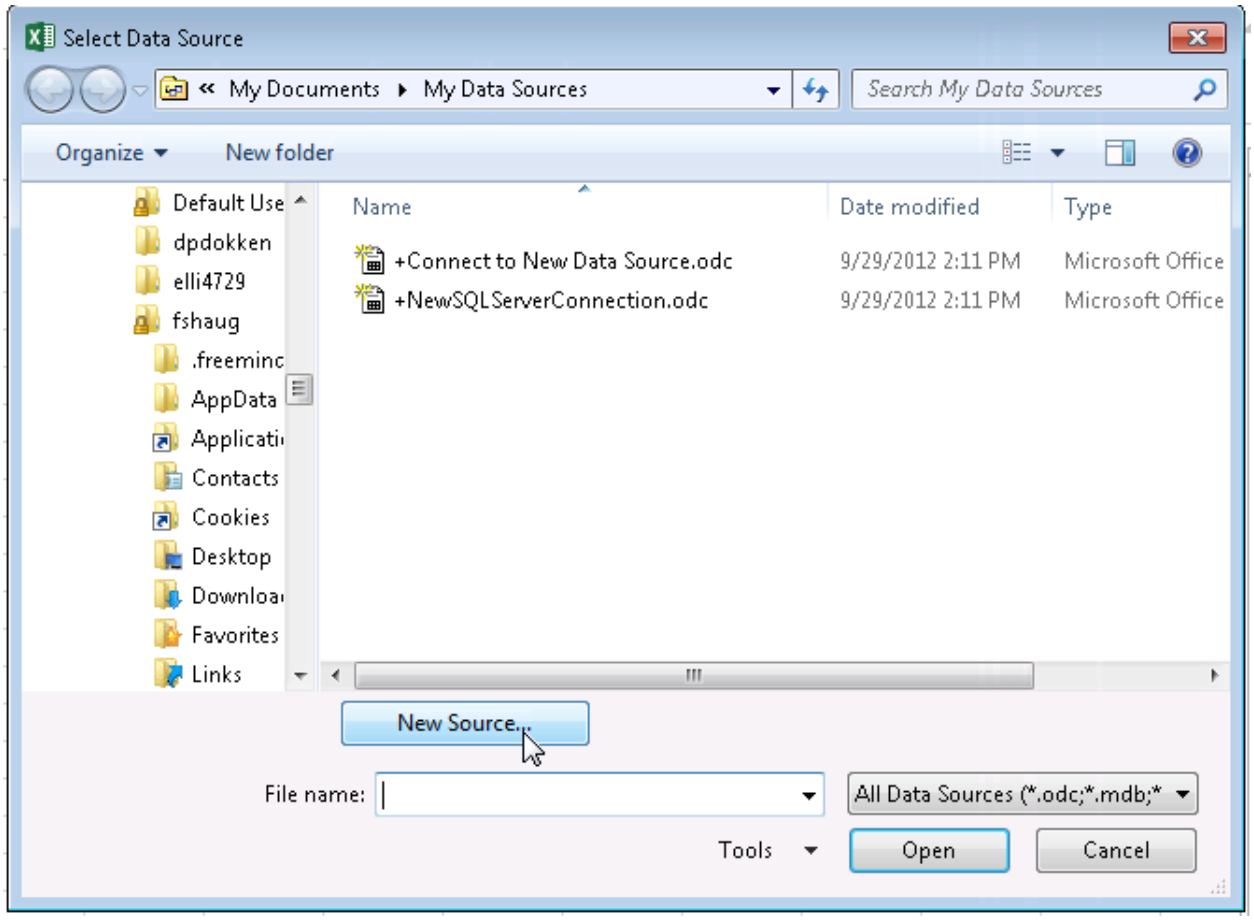
3. Selecting a Connection

You will then see a dialog that looks something like the following Dialog. It might have "All Connections" selected inside the Show Combo box instead of "Connections in this Workbook" and it might also include some connection names/details inside the "Select a Connection" list box (once these steps have been run at least once on the machine). Since we are creating a connection for the first time, we need to click on the "Browse for More" button at the bottom. Once you have created a source on a machine, you can simply select it here (rather than clicking on "Browse for More" and creating a new connection for each pivot table or pivot chart).



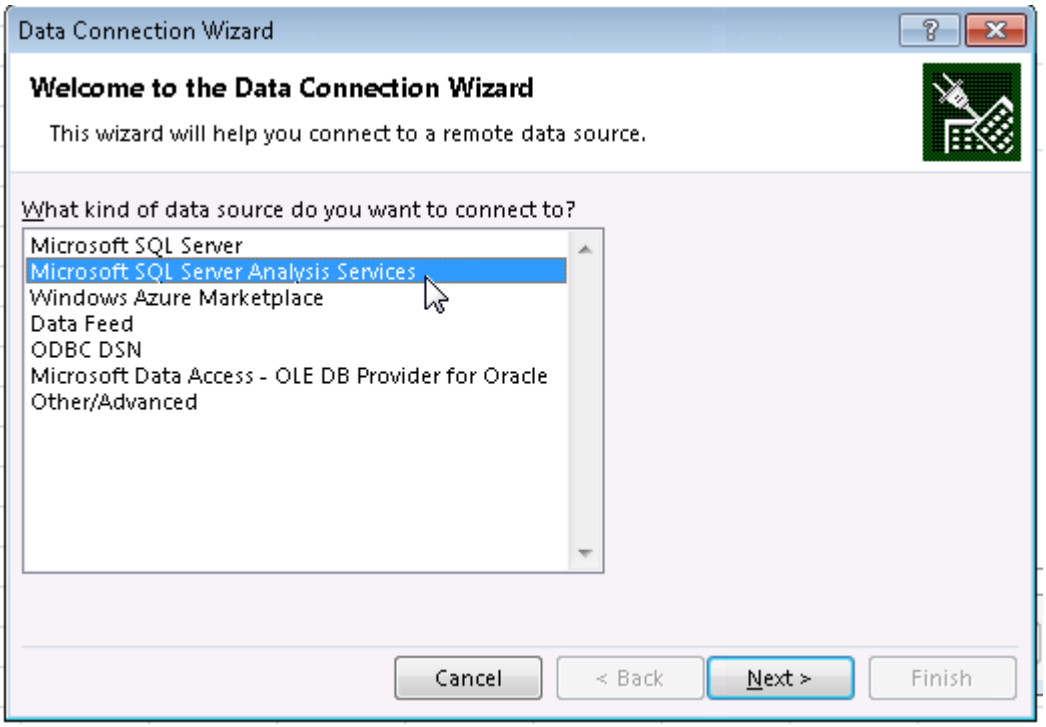
4. Selecting a Connection

This will open a "Select Data Source" dialog that looks something like this. Since we are creating a new data source, click on the "New Source" button.



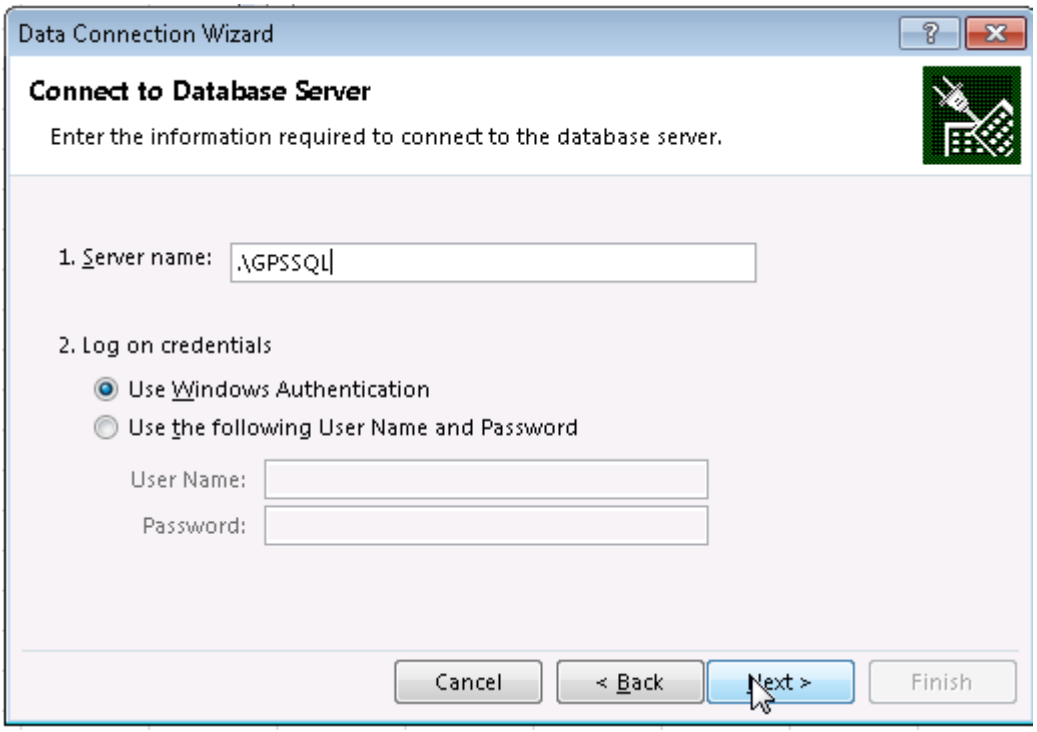
5. Data Connection Wizard - step 1

Select Microsoft SQL Server Analysis Services Click on Next.



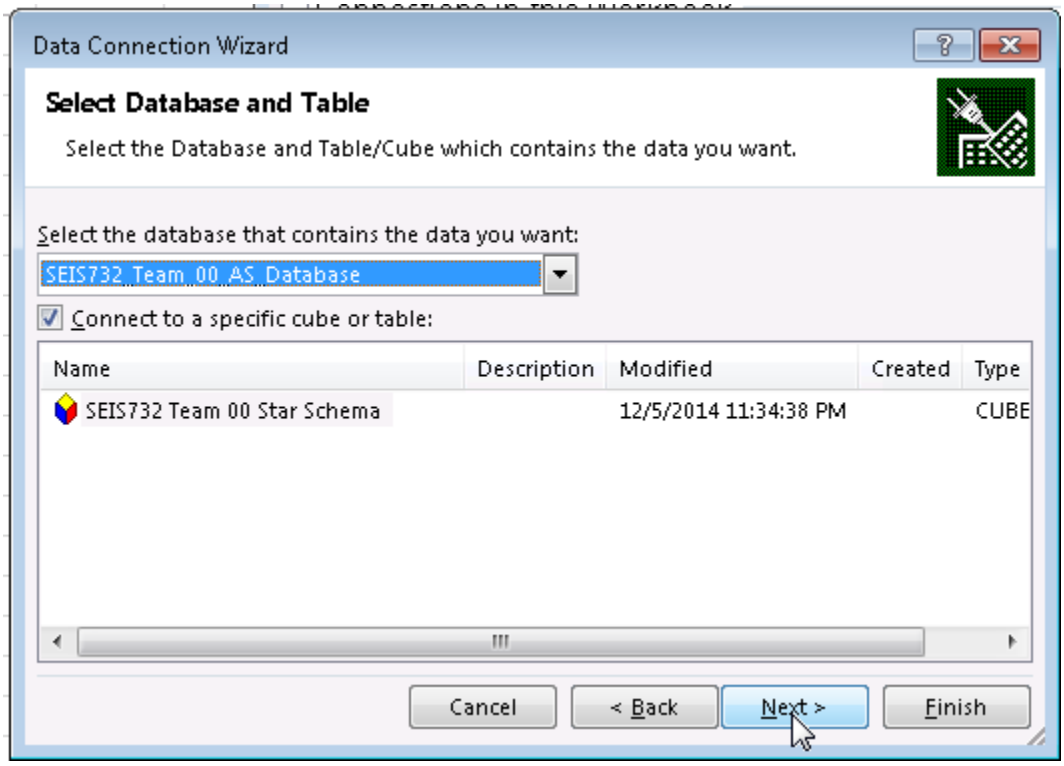
6. Data Connection Wizard - step 2

Now, in the next dialog, enter the Server Name (".\GPSSQL" without the quotes) and use Windows Authentication. Then click on the "Next" button.



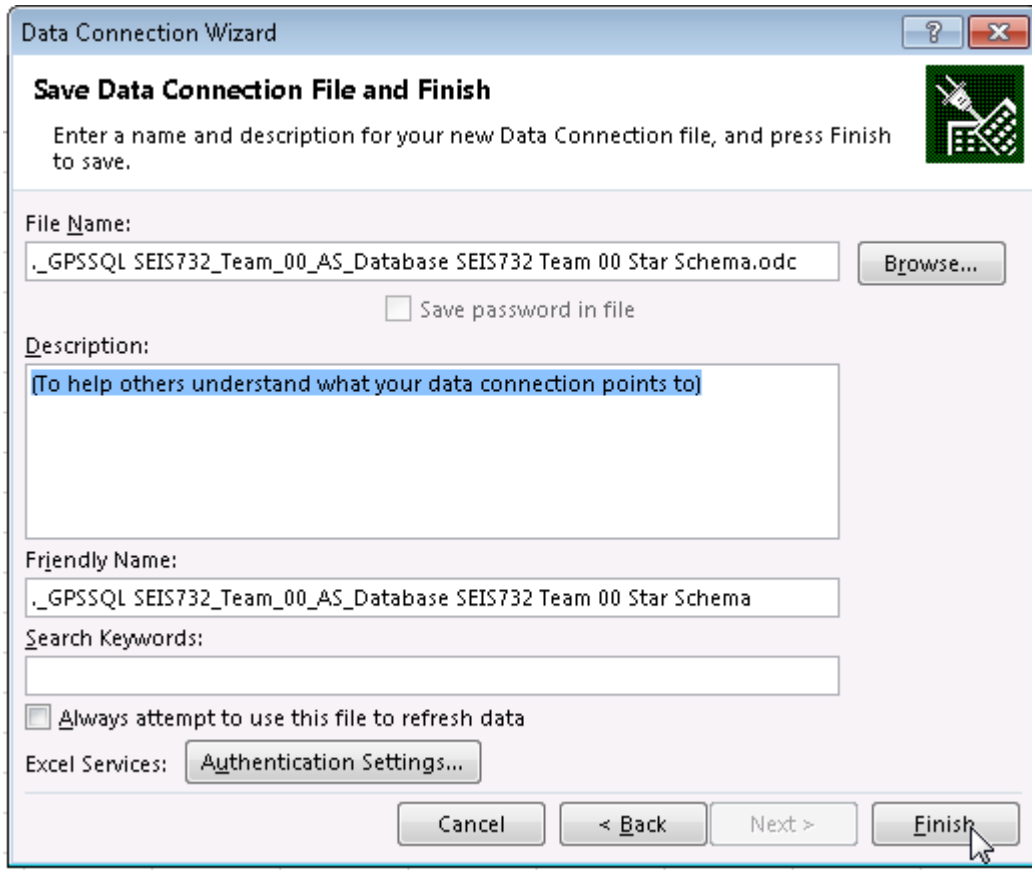
7. Data Connection Wizard - step 3

In the next dialog, select the OLAP database (SEIS732_Team_xx_AS_Database) and Cube (SEIS732 Team 00 Star Schema) for your team. Most likely there is only one team database and only one cube on the Server (like this dialog shows), but if there is more than one, make sure you have **your team's database selected**. Then click on the "Next" button.



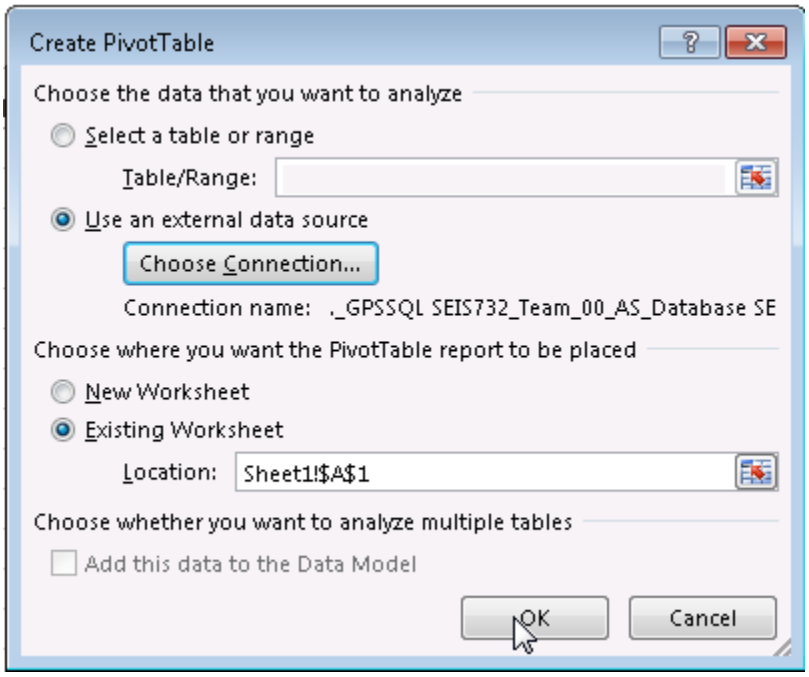
8. Data Connection Wizard - step 4

The default values in the next dialog should be fine, but if you like you can change the "Description" or the "friendly name" / "filename". Do **not** change the "Always attempt" checkbox or the "Authentication Settings". Once you are done, simply click on the "Finish" button.



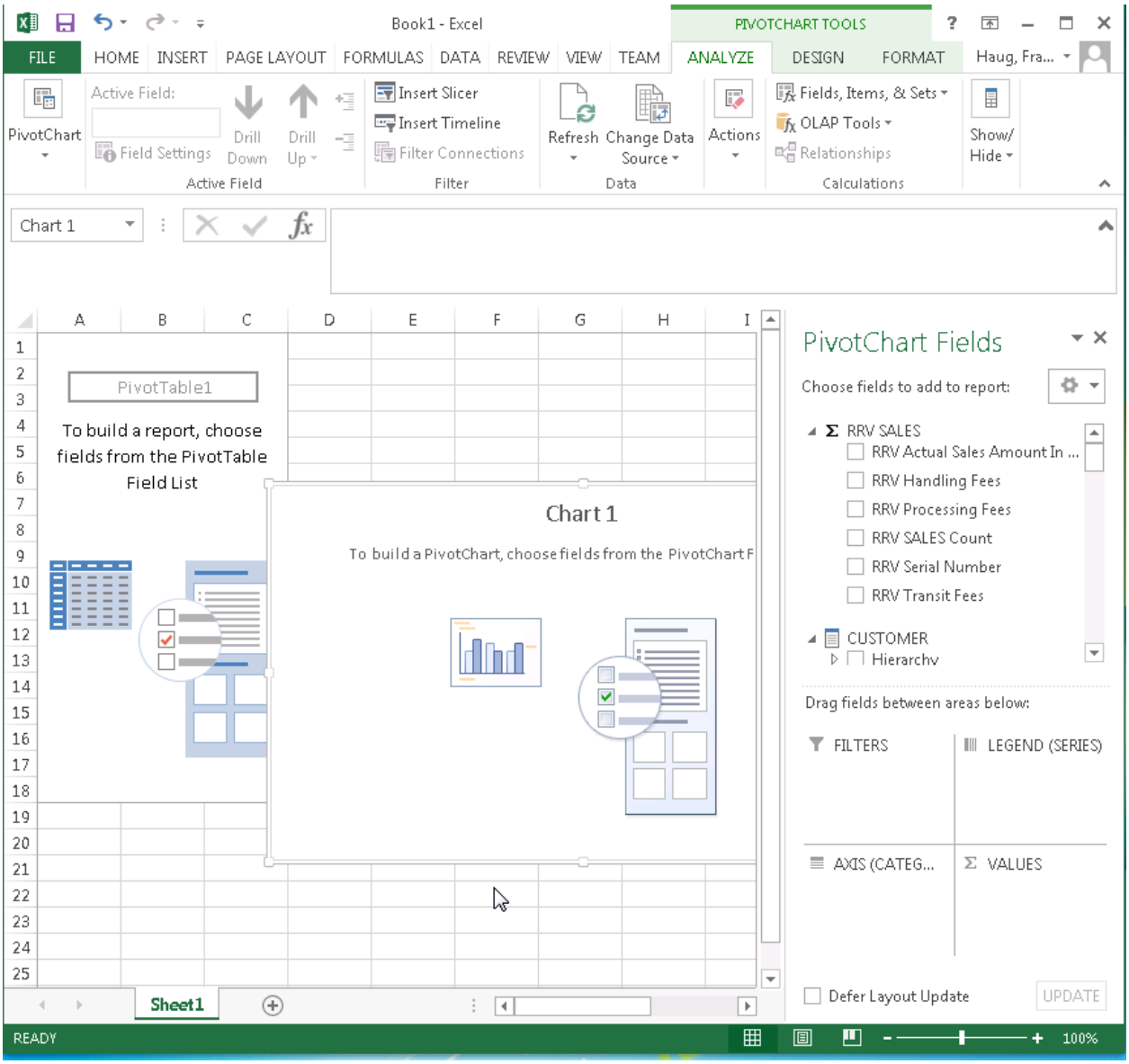
9. Choose the location to insert

You can modify the "New Worksheet" or "Existing Worksheet" and "location" details, if you wish. Once you are done, click on the "OK" button.



10. Choose the location to insert

You can now drag and drop the chart and the table if you wish. You can also click on pivot table field list or drag and drop the FACTs and DIM details to setup the headers (page, row, column, etc.) filters, and data areas as needed. My last piece of advice is to "save the Excel file early and backup Excel file often".



III Requirements (Do A, B, and C)

A. Report One

1. Requirements

Create Three **Pivot Charts:**

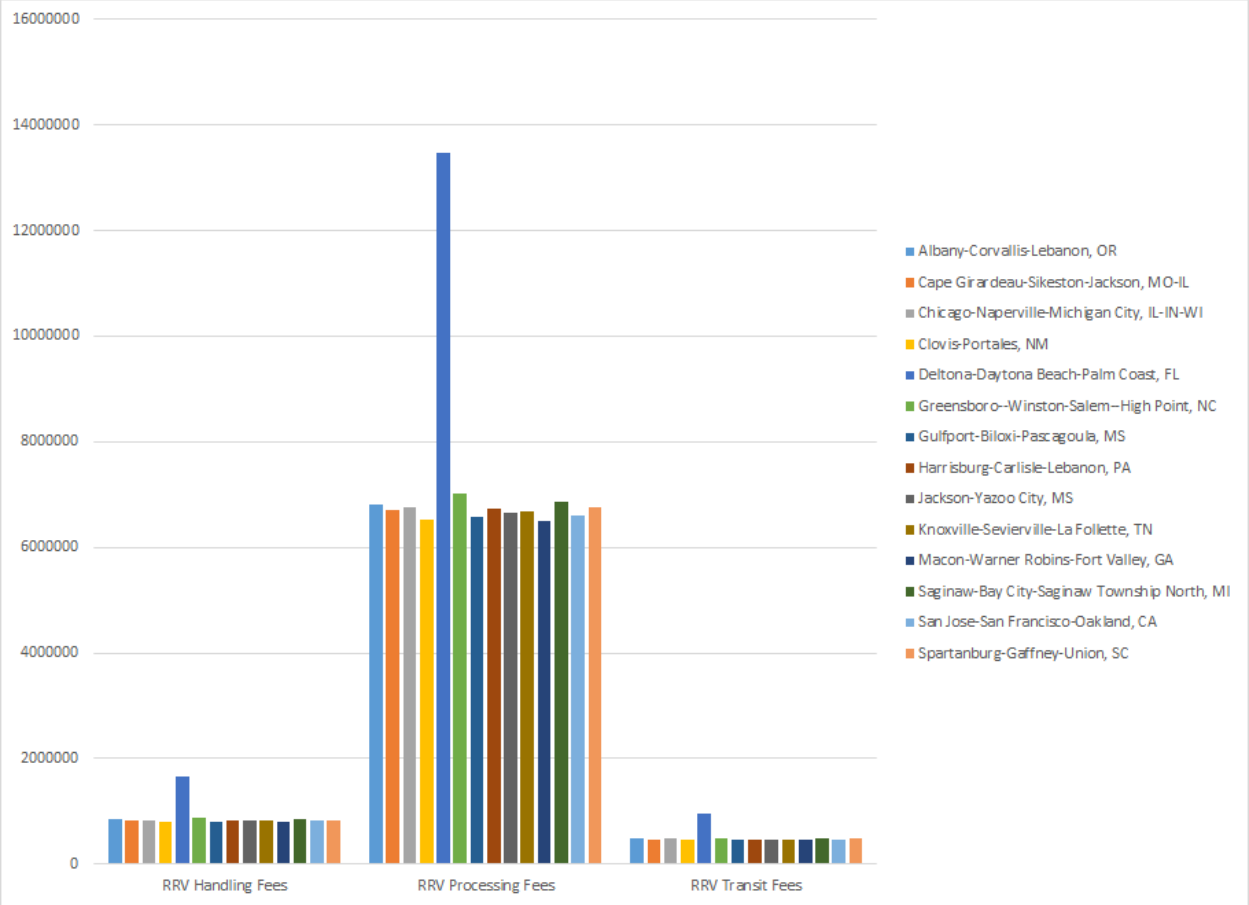
- one **Pivot Chart** for All Makes
- one **Pivot Chart** for Pack Rat only
- one **Pivot Chart** for Behemoth only

Show the handling, processing, and transit fees as vertical bars (Columns). The Vertical Axis shows Money for the data. This report will **only include information for one particular Sales Zone**, namely the Zone named "**Area_10**" (don't show for other zones and don't show the individual domains and regions) and should break these numbers down by **Metropolitan Area** (each MSA shows up as a separate "parallel bar of a different color"— Don't show the Micropolitan Areas though). **ONLY** show the data for the specified "Sales Zone".

2. Deliverables

- The Excel Files
- A PDF Printout of each of the three Charts
  (NB: ALTHOUGH IT SHOULD BE IN THE ELECTRONIC FILE, THERE IS NO PRINTOUT OF THE TABLE DATA!)

For example: the chart would look something like this (in the format only). Your actual chart content for each chart and table content for each table will be different— and of course your tables and charts will also display "pivot-chart / pivot-table controls" on the chart / table. The "MSA Names", etc. are placeholders for the ACTUAL Metropolitan Statistical Area Member Names/Keys (MSA Names will show up here), the number of MSA's in your data will (of course) be different than what is shown here, as will the actual size of the bars and range of numbers for dollars (this is just a mock-up of the chart). You can add a chart title if you like.



B. Report Two

1. Requirements

Create One Pivot Table (NO CHART).
Show the Totals for the **RRV Handling fees**, **RRV Processing fees**, and **RRV Sales Amounts** (but **no Transit fees**) for **Independent Minnesota Dealerships**, broken down by **Dealership City** for **Behemoths** that were sold to **Customers living in Minnesota**—but ONLY do this for **Customers living in a County whose name starts with "B" (as in Blue) or "P" (as in Purple) or "S" (as in Saturn)**.

Do NOT include or show **Corporate dealerships**.

Do NOT include or show **Dealers in other (not MN) states**.

Do NOT include or show **Customers from other (not MN) states**.

Do NOT include or show **Minnesota Customers from other counties (only B, P, and S counties)**.

So, for example, if there were independent dealerships in 12 cities in MN, for each city, we want the total handling fees, processing fees, and sales amounts listed (it is also OK if we have subtotals for other groupings, but the Dealership CITY totals are REQUIRED). These totals would be based upon (ONLY use) the sales to Customers who lived in the state of MN, and only those Customers who lived in a MN county with a COUNTY NAME like "Blue", "Purple", "Saturn", etc. (the Customer's COUNTY NAME must start with the letter "B" or the letter "P" or the letter "S").

2. Deliverables

- The Excel Files
- A PDF Printout of the Table

C. Report Three

1. Requirements

Suppose we are interested in the **total sales amount**, the **total number of RRV units sold**, and **the average sales amount per RRV Sold in the year 2012 and month of December**. Only include RRVs that were sold with packages have the team-specific seat material and bathroom facilities criteria listed below:

TEAM(s) 05, 06, 08, 23, and 26	**:**	**Stain Guarded Cloth and Full Bathroom**
TEAM(s) 01, 02, 07, and 21	**:**	**Stain Guarded Cloth and No Bathroom**
TEAM(s) 03, 04, 09, 22, 25, and 27	**:**	**Stain Guarded Cloth and Three Quarter Bathroom**
TEAM(s) 24	**:**	**Vinyl and Full Bathroom**

2. Questions

1. It is possible to answer this in SQL, using Microsoft SQL Server Management Studio. Using this tool, create **three (3) SQL queries**:
   - One Query showing the **number of RRV Instances** Sold matching the criteria
   - One Query showing the **total sales dollar amount** for all RRV Instances Sold matching the criteria
   - One Query showing the **average total dollar amount** per sale for all RRV Instances Sold matching the requirement
   - Create these three SQL queries and run them capturing the results in a PDF file.

2. Briefly discuss: (write up a short paragraph and print it to a PDF)
   Using the existing OLAP Cube **is it possible** to answer this question using **Excel tool's facilities including Pivot Tables / Charts** (and any of the **other facilities or functions in MS Excel and/or in MS Analysis Services**)?
   - If it is possible, how do you do it?
   - If it is not possible, are there any changes we could make to the Analysis Services and/or MDM that would make it possible to answer the requirement?
   - IF IT CAN BE DONE, THEN **TRY TO DO IT and include the attempt and its results in your deliverables!**

3. Deliverables

- Any actual files used (the queries, results, write-up document, spreadsheet, etc.)
- A PDF Printout of each SQL query and its results as returned from your ROLAP SQL Server Database.
  (NB: ALTHOUGH IT SHOULD BE IN THE ELECTRONIC FILE, THERE IS NO PRINTOUT OF THE TABLE DATA!)
- A brief write-up (as a PDF file) of your answer to using Excel Pivot Tables/Charts to answer the question, and also a capture of your successful result if you said it was possible and were able to do it.