Microsoft Power Platform

Modern Excel Analyst in a Day

Lab 03B

Excel & Power BI service – better together

© 2023 Microsoft. All rights reserved.

Overview

The estimated time to complete this lab is 30 minutes.

In this lab, you will complete the following tasks:

1. Use Excel to create a pivot table from a Dataset published in the Power BI service
2. Add Sparkline Charts
3. Connect to Organizational Data Types

NOTE: This lab has been created based on the sales activities of the *fictitious* Wi-Fi company called SureWi which has been provided by P3 Adaptive https://p3adaptive.com/. The data is property of P3 Adaptive and has been shared with the purpose of demonstrating Excel and Power BI functionality with industry sample data. Any use of this data must include this attribution to P3 Adaptive.

© 2023 Microsoft. All rights reserved.

Exercise 1: Use Excel to create a Pivot Table from a Data Set in the Power BI service

In this exercise, you will use Excel to connect to a published Data Set in the Power BI service.

> **Note:** To create a PivotTable connected to Power BI, you can use Excel on a Windows PC or web browser and have built permission to the dataset. This feature is now also available to Power BI free license users.

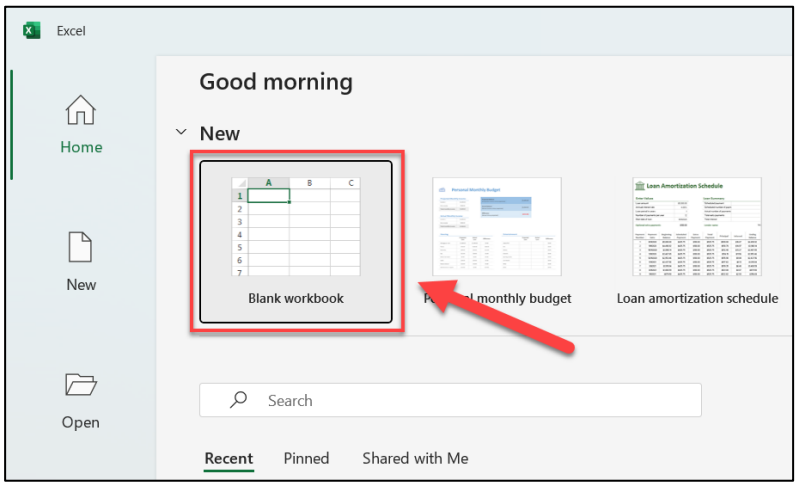
Task 1: Launch Excel

In this task, you will launch a new blank worksheet to get started.

1. Launch **Excel**.

> **Note:** If you have not already signed in to your O365 account, you may be prompted to sign in – use your work email address and password to sign into your account.

2. Create a new **blank workbook**.



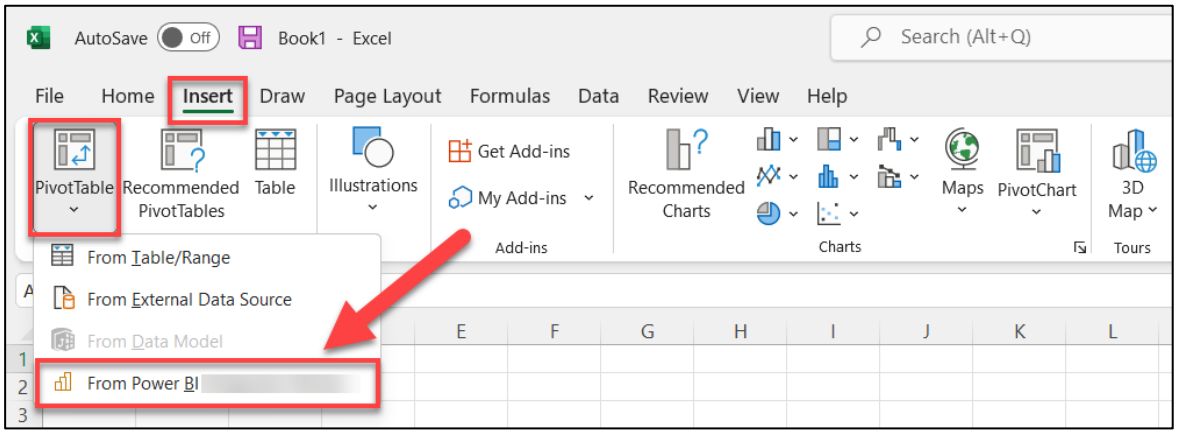
© 2023 Microsoft. All rights reserved.

Task 2: Use Insert new Pivot Table from Power BI

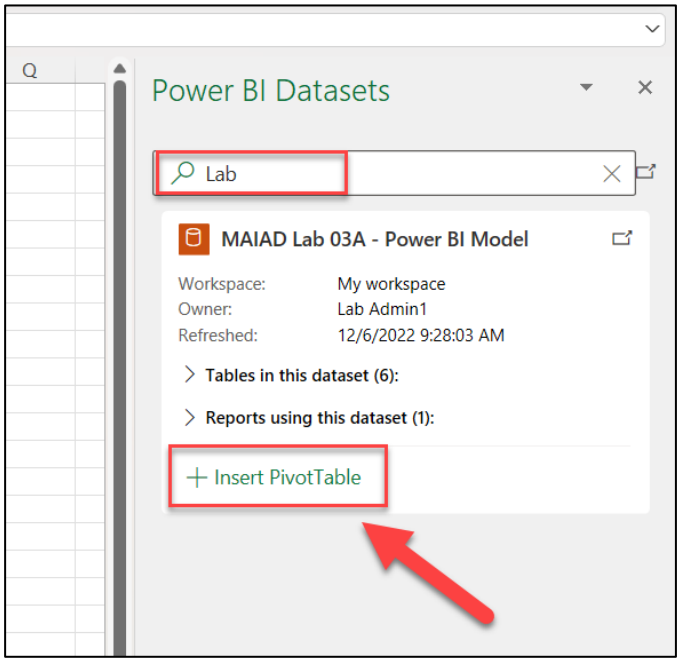
In this task, you will create a new Pivot Table workspace connected to a published data set in the Power BI service.

3. Select the **Insert** tab from the ribbon at the top of the screen.

4. From the Insert tab menu, select the **PivotTable** drop-down. Then, select **From Power BI**.



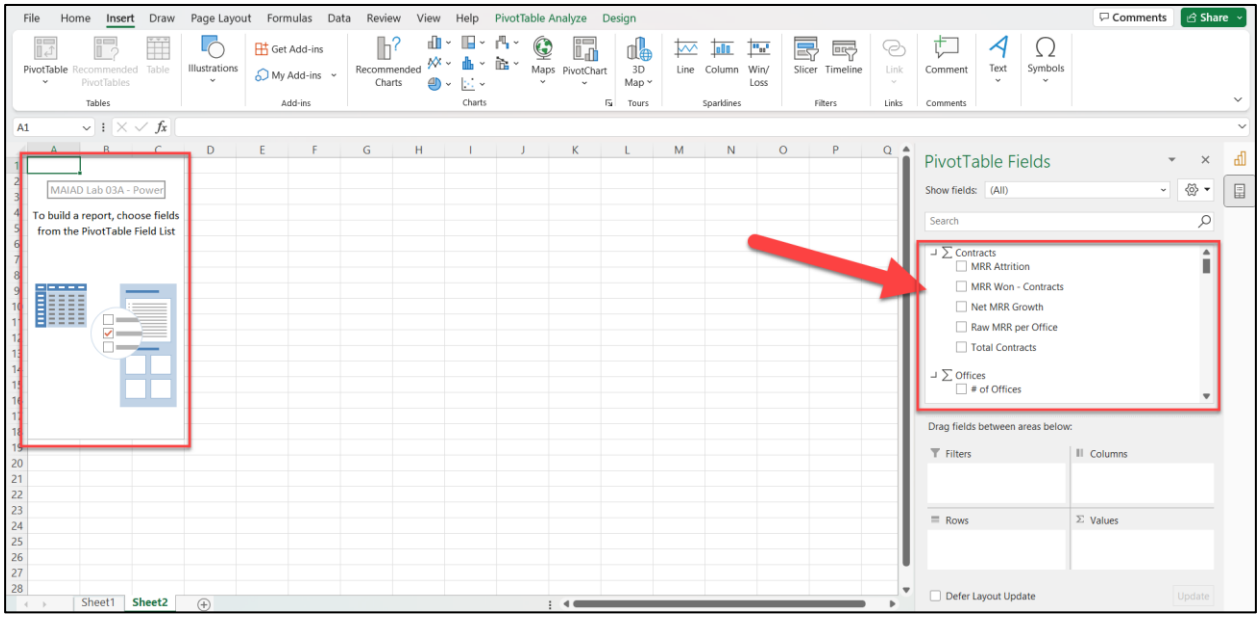
5. If you already have published Data Sets, you can use the **Search** option and type in **Lab**. Then, select the **MAIAD Lab 03 - Power BI Model** data set from the available data set options by selecting **+ Insert PivotTable**.



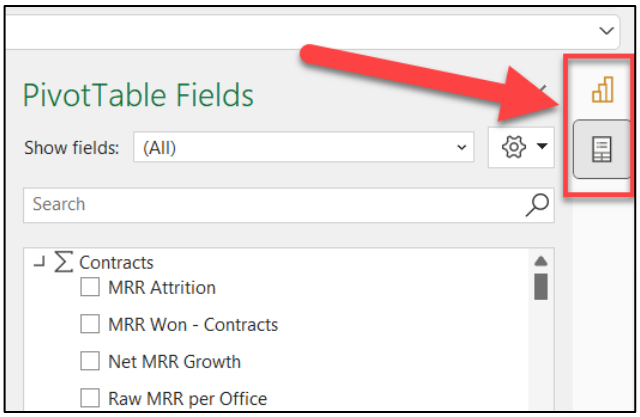
© 2023 Microsoft. All rights reserved.

6. Notice you have a new PivotTable workspace and the PivotTable Fields with Measure and Field tables.

> **Note:** Measure tables are identified by the summation icon. This behavior occurs when Excel connects to a Power BI data set. All Measures that can ONLY go into the Values of the PivotTable Fields will be in located in the summation icon table name. Also, any of the columns or calculated columns that are used for Filters, Columns, or Rows are located within a table icon of the same name.



> **Note:** On the right-hand side of the PivotTable Fields window, notice the icons that allow you to navigate the window between Power BI Datasets or PivotTable Fields.

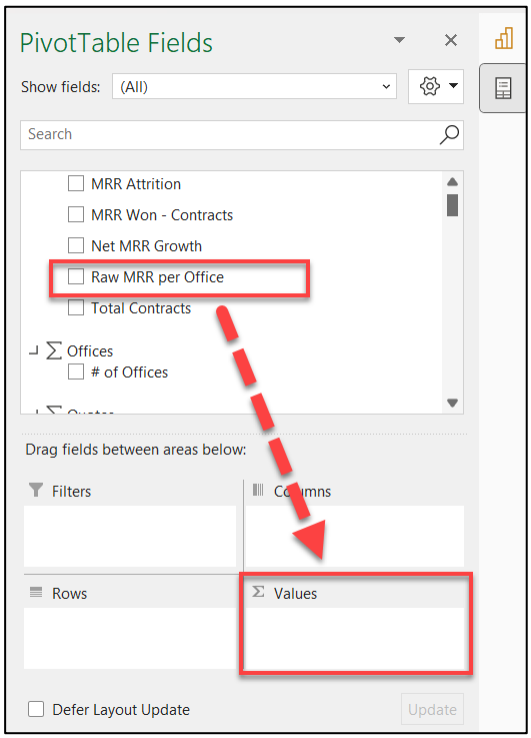


© 2023 Microsoft. All rights reserved.

Task 3: Add Measures to the PivotTable Fields Values

In this task, you will populate the PivotTable with Measure fields from the Power BI Dataset connection.

7. Within the **PivotTable Fields** pane, within the **Contracts** measure table, drag the **Raw MRR per Office** measure to the **Values** field.



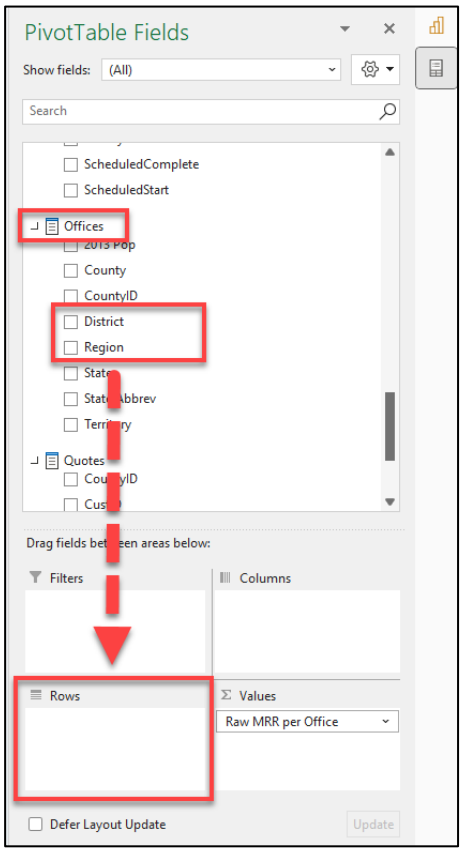
© 2023 Microsoft. All rights reserved.

Task 4: Add Fields to the PivotTable Fields Rows

In this task, you will populate the PivotTable with Lookup fields from the Power BI Dataset connection.

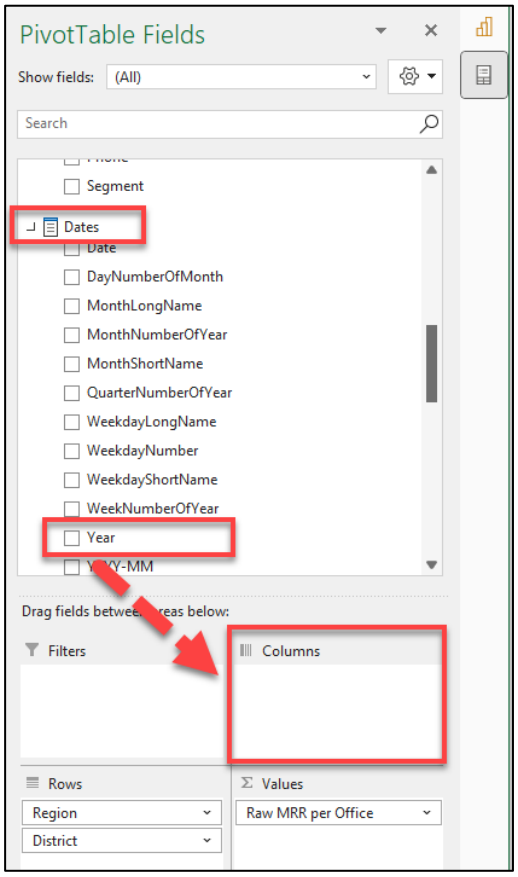
8. Within the **PivotTable Fields** pane, within the **Offices** field table, drag the **Region** and **District** measures to the **Rows** field. Ensure that Region is placed **first/above** the District field within the Rows section.

> **Note:** Lookup field tables are identified by the table with fields icon.



© 2023 Microsoft. All rights reserved.

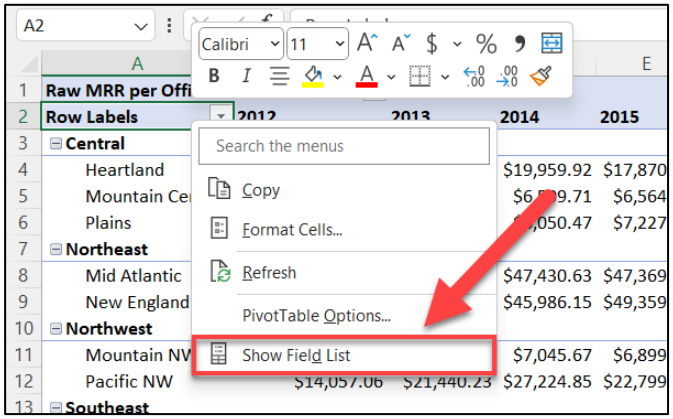
9. From the **Dates** field table, drag the **Year** measure to the **Columns** field in the **PivotTable Fields** pane.



Task 5: Add Slicers

In this task, you will Add Slicers connected to the Pivot Table.

10. If the **PivotTable Fields** pane is *not* displayed, select the **Pivot Table** to make it *active* and then use a right-click and choose **Show Field List**.

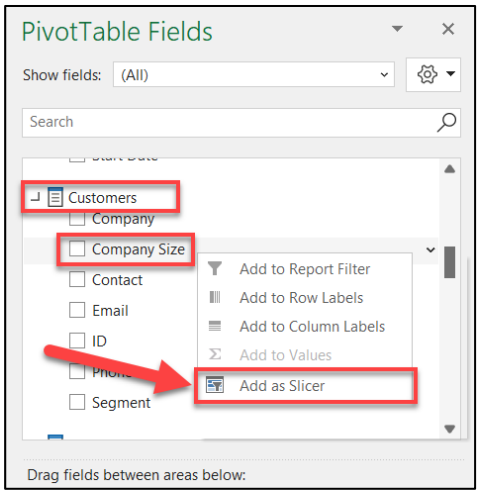


© 2023 Microsoft. All rights reserved.

11. In the **PivotTable Fields** pane, locate the **Customers** Lookup fields table, right-click on the **Company Size** measure.

12. Select the **Add as Slicer** option.

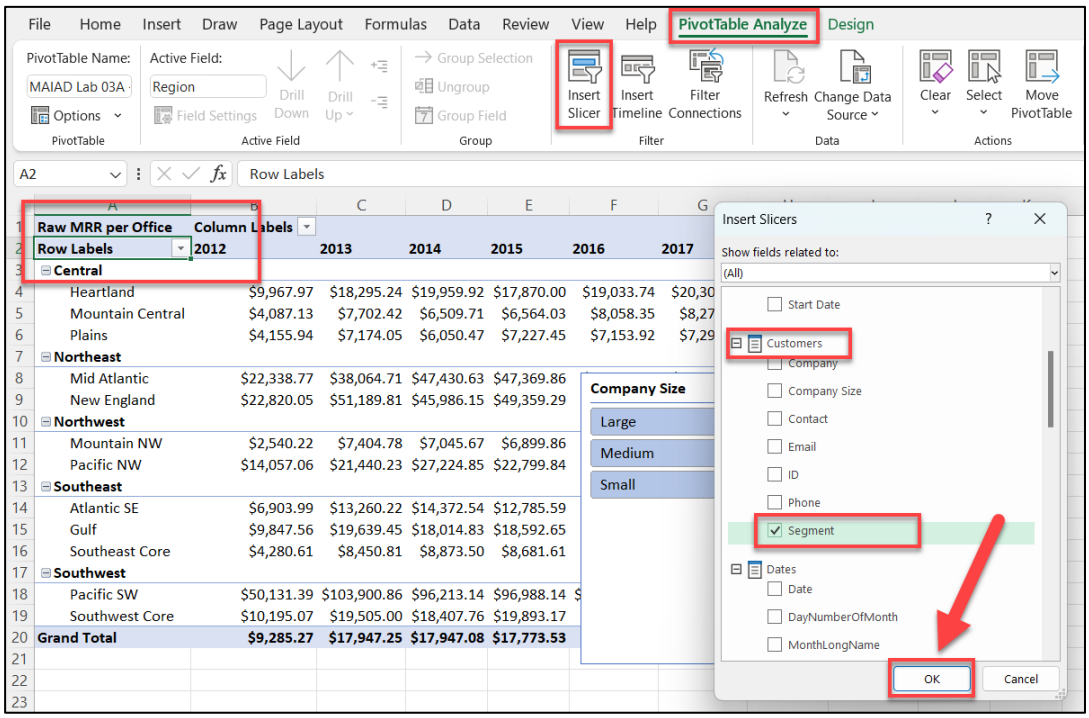
> **Note:** The Slicer will just appear in a random location the worksheet – we will reposition the Slicer in the next task.



13. Add another Slicer. Select the **PivotTable** to make it *active* and then select the **PivotTable Analyze** tab from the ribbon.

14. Select the **Insert Slicer** button.

15. Within the **Insert Slicers dialog** window, under the **Customers** Lookup fields table, select the checkbox next to the **Segment** measure. Then, select **OK**.

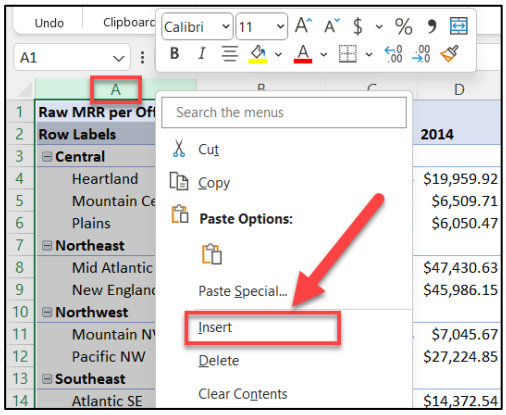


© 2023 Microsoft. All rights reserved.

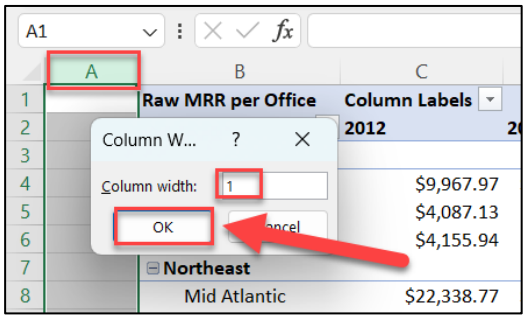
Task 6: Move & Format Slicers

In this task, you will insert blank Rows and Columns to make space for the Slicers to create a mindful report design for the end users.

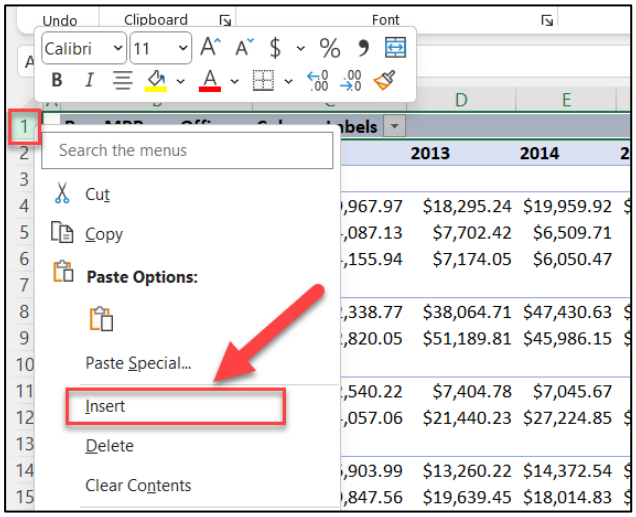
16. Right-click on **Column A** and select **Insert** to insert a blank column to the **left** of the **PivotTable**.



17. Right-click on **Column A** again and select **Column Width...** to set the **Column Width** to **1**.

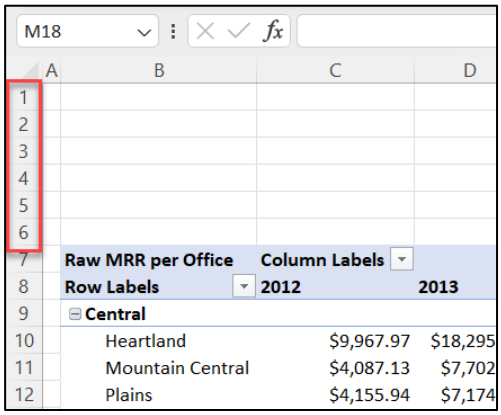


18. Right-click in **Row 1** and select **Insert.** This will insert a new blank row above the Pivot Table.



© 2023 Microsoft. All rights reserved.

19. Select **CTRL+Y** on your keyboard to repeat the previous step and enter another blank row. Repeat this **5 times** to create a total of **6 blank rows** above the **PivotTable**. This will provide space for our Slicers above the PivotTable.

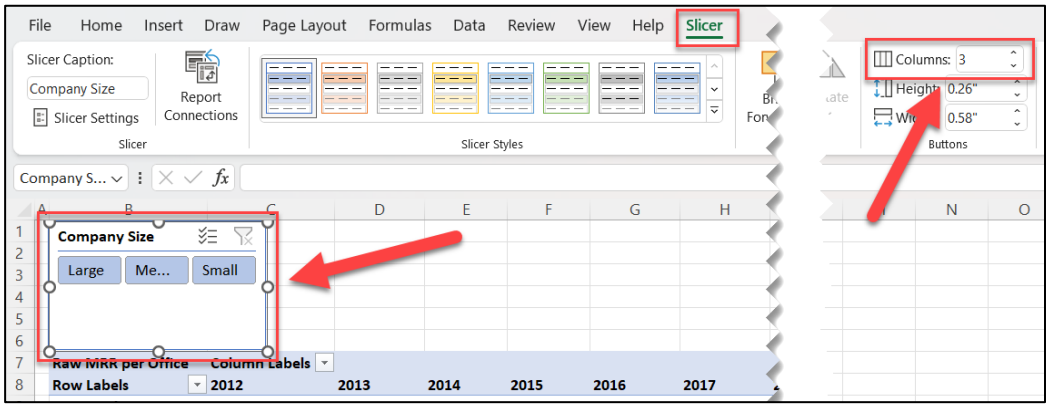


20. Drag and drop the **Company Size** slicer above the **PivotTable**.

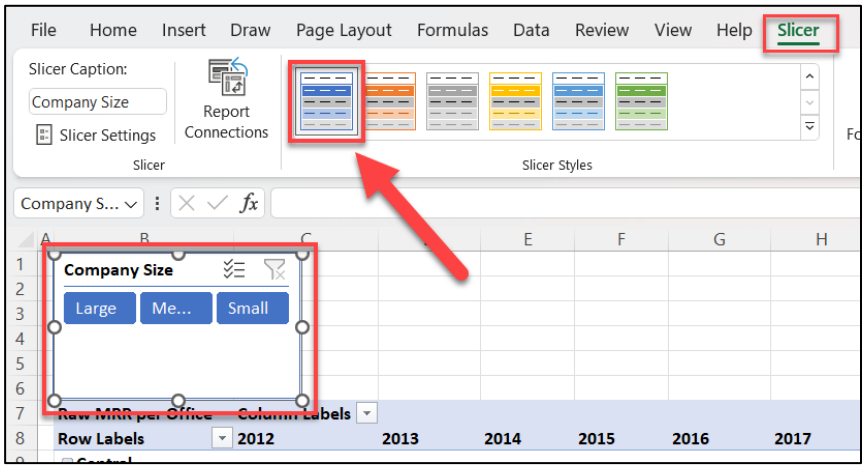
21. With the **Company Size** slicer selected, choose the **Slicer** tab from ribbon.

22. Change the **Slicer Buttons** number of **Columns** to **3**.

23. Use the slicer's border markers to **resize** the visual so that it does not overlap the PivotTable.



24. Change the **Slicer Style** color to **Light Blue, Slicer Style Dark 1**.



© 2023 Microsoft. All rights reserved.

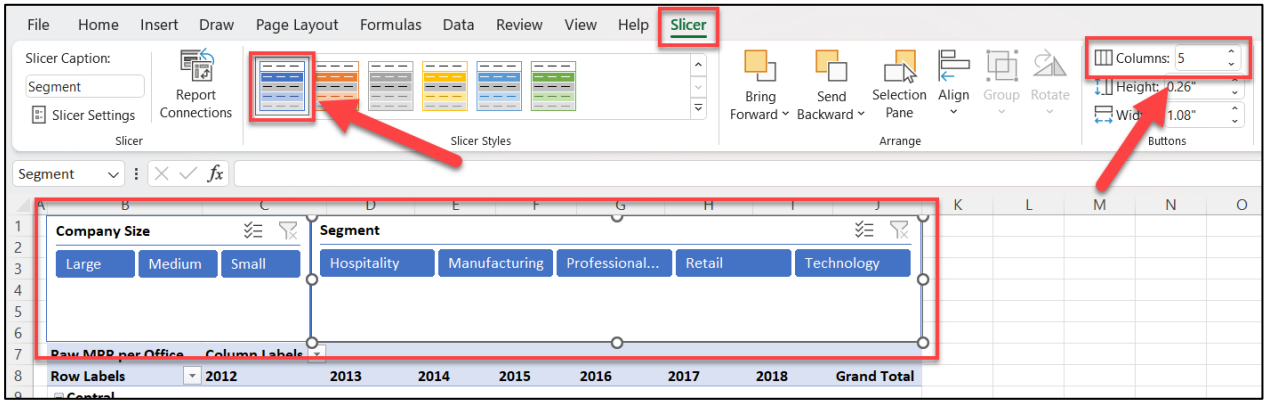
25. Drag and drop the **Segment** slicer **above** the **PivotTable** and to the **right** of the **Company Size** slicer.

26. With the **Segment** slicer selected, choose the **Slicer** tab from the ribbon.

27. Change the **Slicer Buttons** number of **Columns** to **5**.

28. Change the **Slicer Style Color** to **Light Blue, Slicer Style Dark 1**.

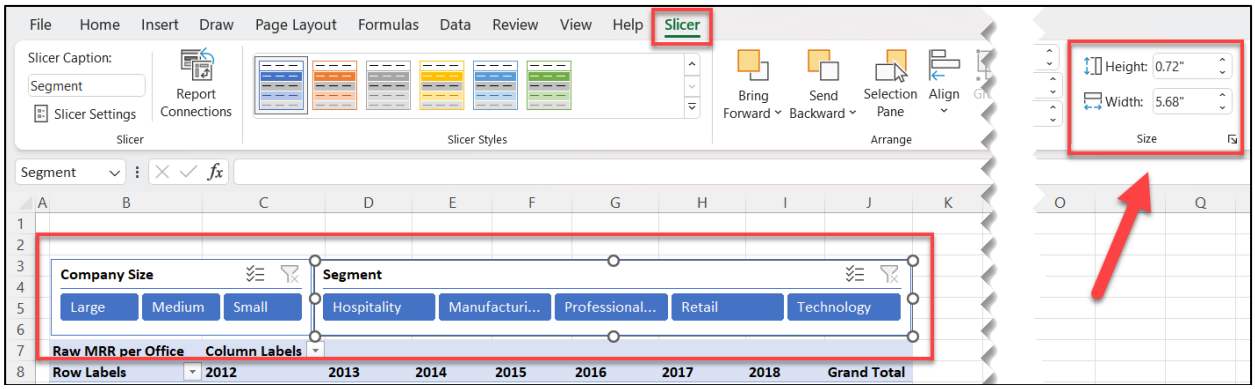
29. **Resize** the slicer using the border markers so that it does not overlap the PivotTable. Make additional changes in the size of both slicers were needed so that all the text in both slicers are more legible.



30. Using the **Size** group from the **Slicer** tab, change both the **height** and **width** of the Slicers.

<u>Company Size slicer:</u>
Height – **0.72"**
Width- **2.48"**

<u>Segment slicer:</u>
Height – **0.72"**
Width – **5.68"**

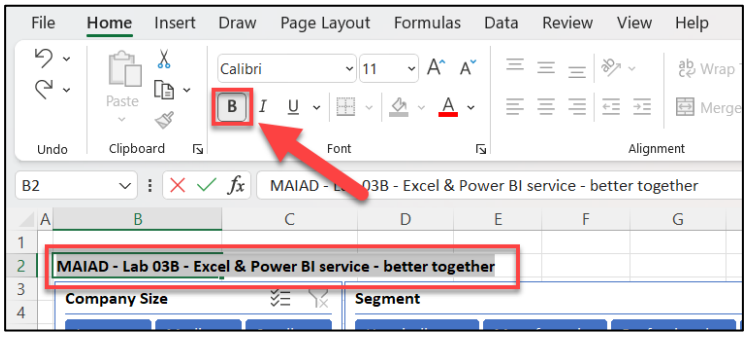


© 2023 Microsoft. All rights reserved.

Task 7: Add Report Title & Format Pivot Table

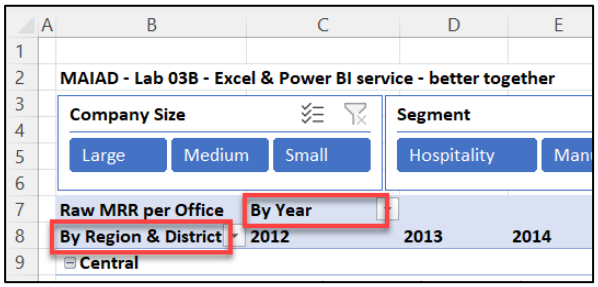
In this task, you will add a title for the Report and apply final formatting to the Pivot Table.

31. In cell **B2**, enter the Report title **MAIAD – Lab 03B – Excel & Power BI service – better together** and use **CTRL + B** on your keyboard to make the font bold.



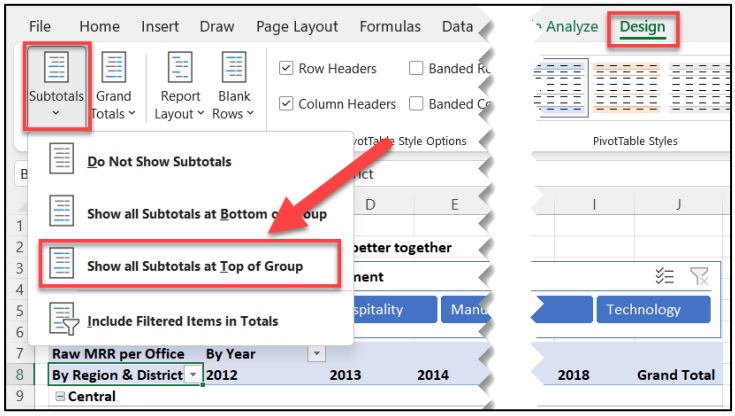
32. In cell **B8**, enter the Pivot Table row title **By Region & District**.

33. In cell **C7**, enter the Pivot Table column title **By Year**.



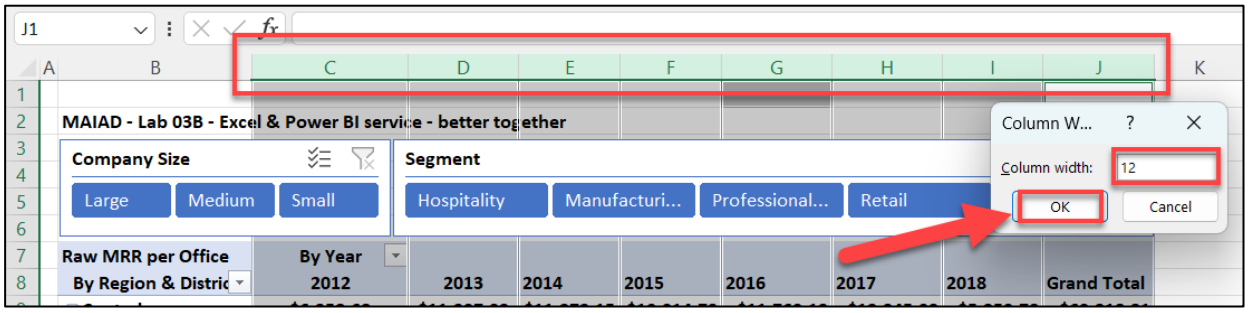
34. Select the **PivotTable** to make it *active*.

35. Select **Design** from the ribbon at the top of the screen. Then, select the **Subtotals** button and choose the **Show all Subtotals at Top of Group** option. This will create Subtotals for each Region in the PivotTable.

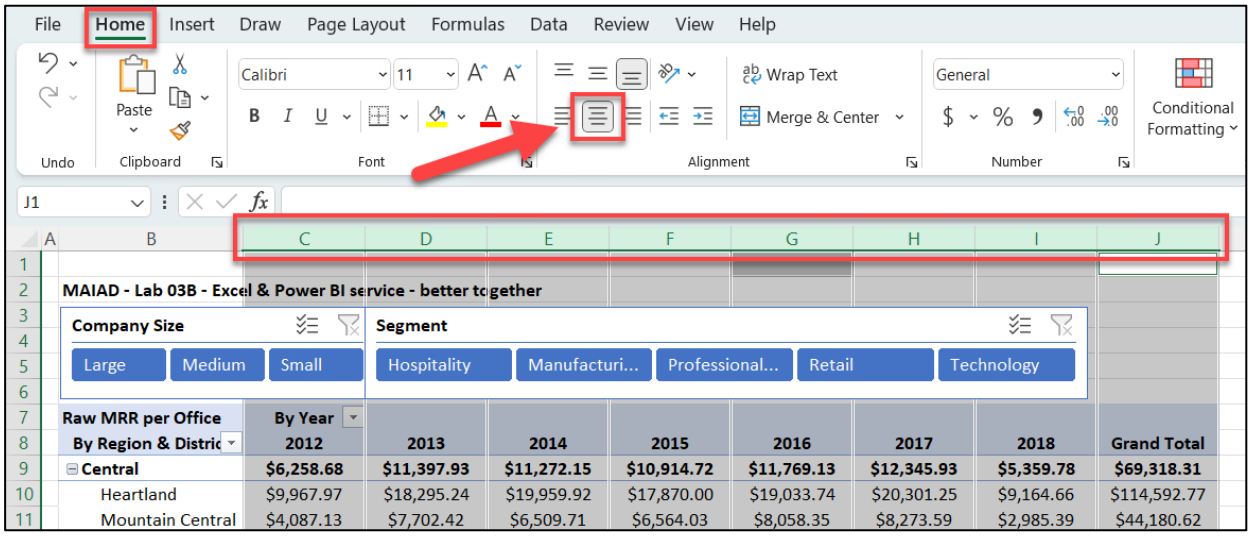


© 2023 Microsoft. All rights reserved.

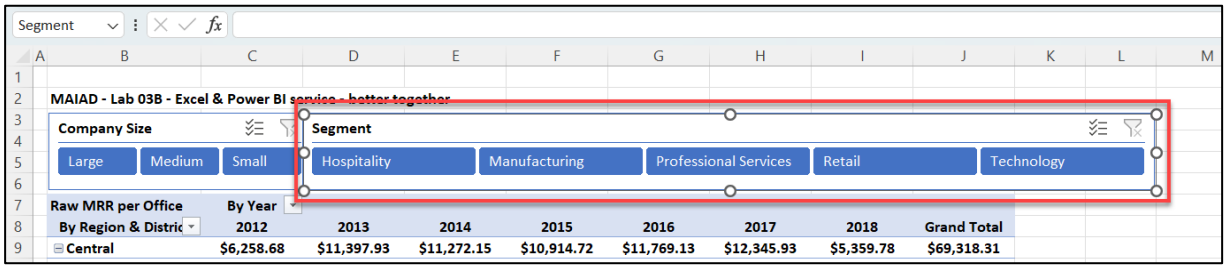
36. While holding down the **Ctrl** key on your keyboard and selecting the different columns, highlight **Columns C to J** and with a right-click, change the **Column Width** to **12**.



37. With **Columns C to J** still highlighted, select the **Align Center** button, within the **Alignment** group, from the **Home** tab of the ribbon.

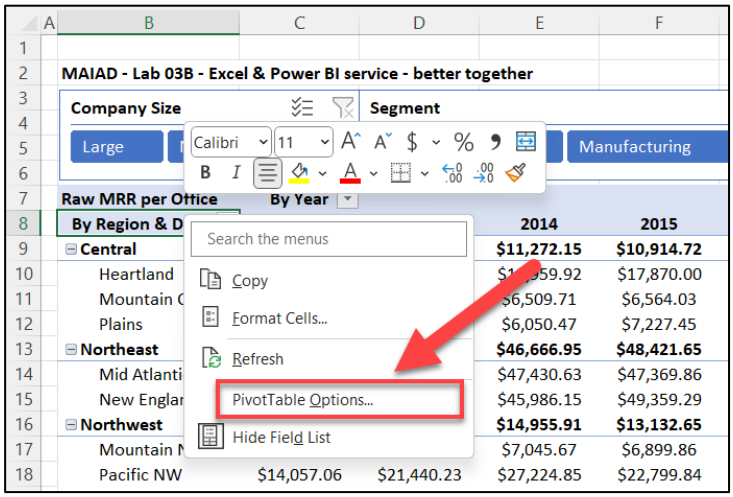


38. Expand the **Segment** Slicer using the boarder markers so that each of the values and text are *fully* visible.

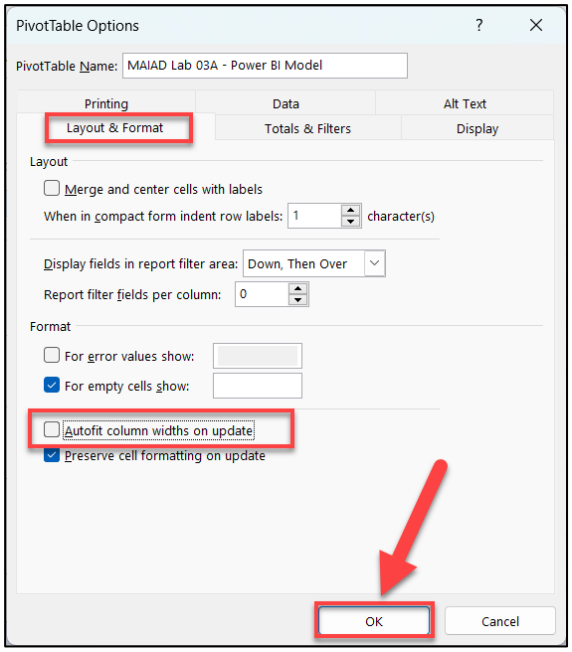


© 2023 Microsoft. All rights reserved.

39. Right-click on the **PivotTable** and select **PivotTable Options...** from the menu.



40. Within the **PivotTable Options** dialog window, select the **Layout & Format** tab from the menu. **De-select** the **Autofit column widths on update** checkbox. Then, select **OK**.



© 2023 Microsoft. All rights reserved.

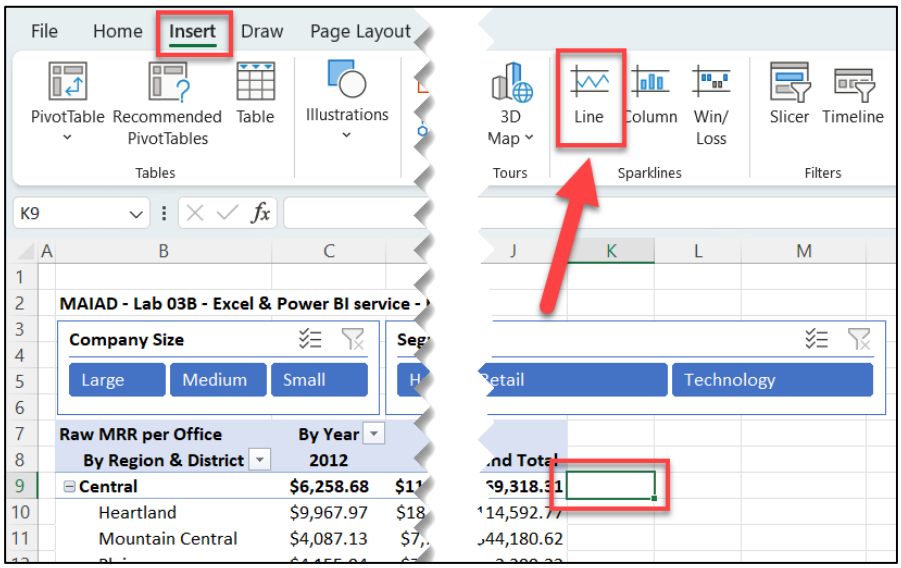
Exercise 2: Add Sparklines

In this exercise, you will create Sparkline charts to display the Year trend next to the Pivot Table.

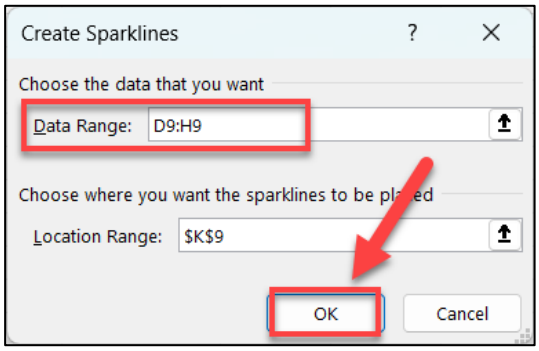
Task 1: Create Sparkline chart

In this task, you will create a Sparkline chart – combining features in Excel with a Data Model published to the Power BI service.

41. Select **cell K9** to the right of the **PivotTable**, then choose the **Insert** tab from the ribbon at the top of the screen. Select the **Line** button within the **Sparklines** group.

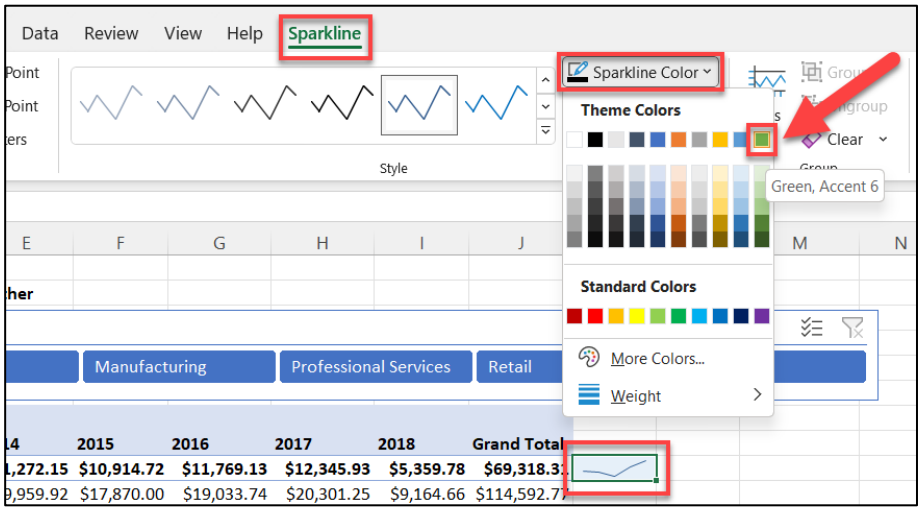


42. Within the **Create Sparklines** dialog box, in the **Data Range** textbox, enter the range **D9:H9**. This will give us a Sparkline for the **Central Region** and the **Years 2013 to 2017** (range D9:H9). Then, select the **OK** button.

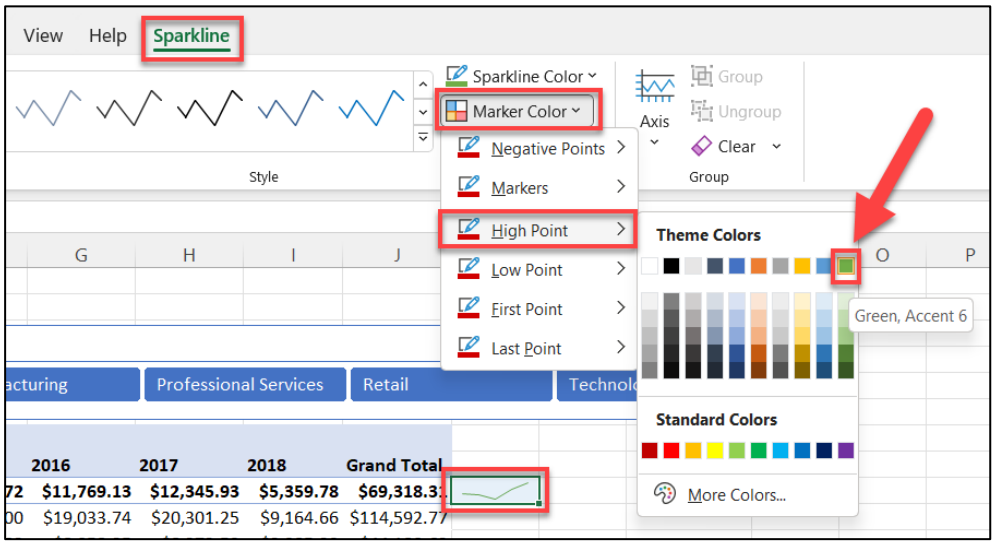


© 2023 Microsoft. All rights reserved.

43. While the new Sparkline is still selected, from the **Sparkline** menu options under the **Sparkline** tab, select the **Sparkline Color** drop-down. From the **Theme Colors** section, select **Green, Accent 6**.

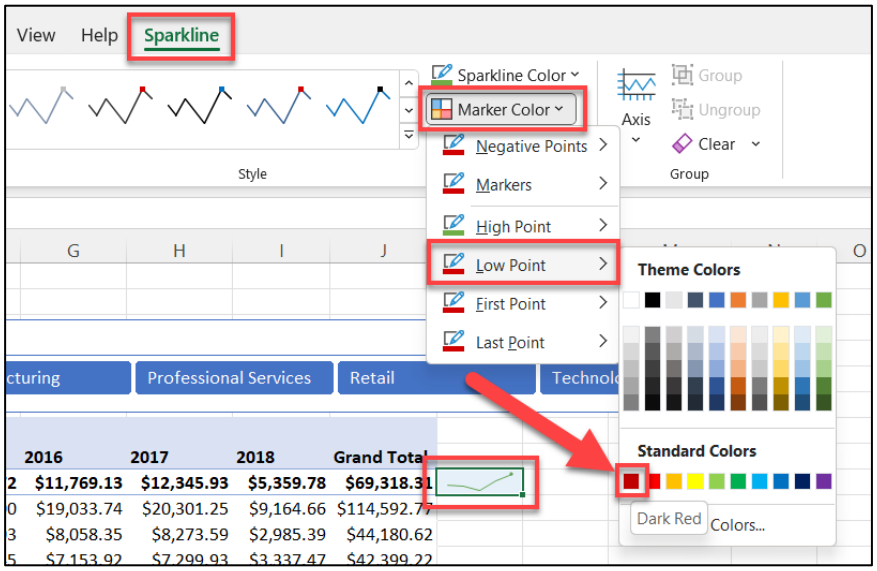


44. From the **Sparkline** menu options, select the **Marker Color** drop-down. Then, from the drop-down menu, select **High Point** and set the color to **Green, Accent 6** from the **Theme Colors** section.

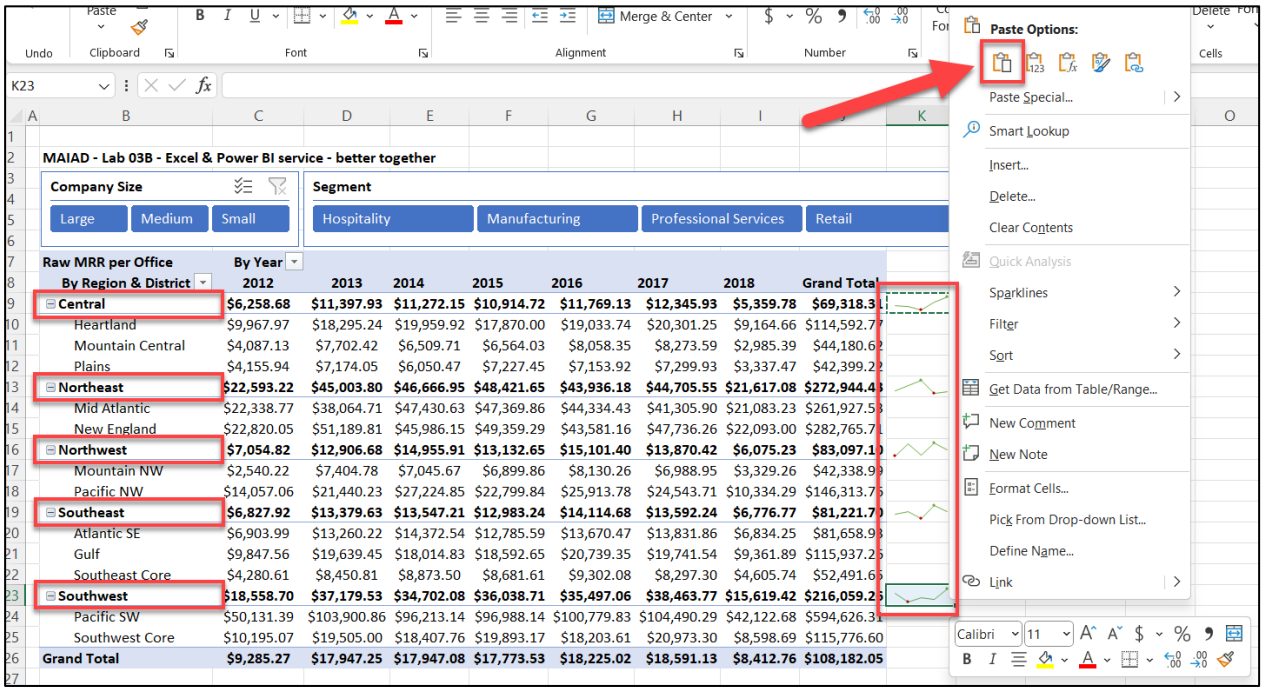


© 2023 Microsoft. All rights reserved.

45. Then, from the **Marker Color** drop-down again, select **Low Point** and set the color to **Dark Red** from the **Standard Colors** section.

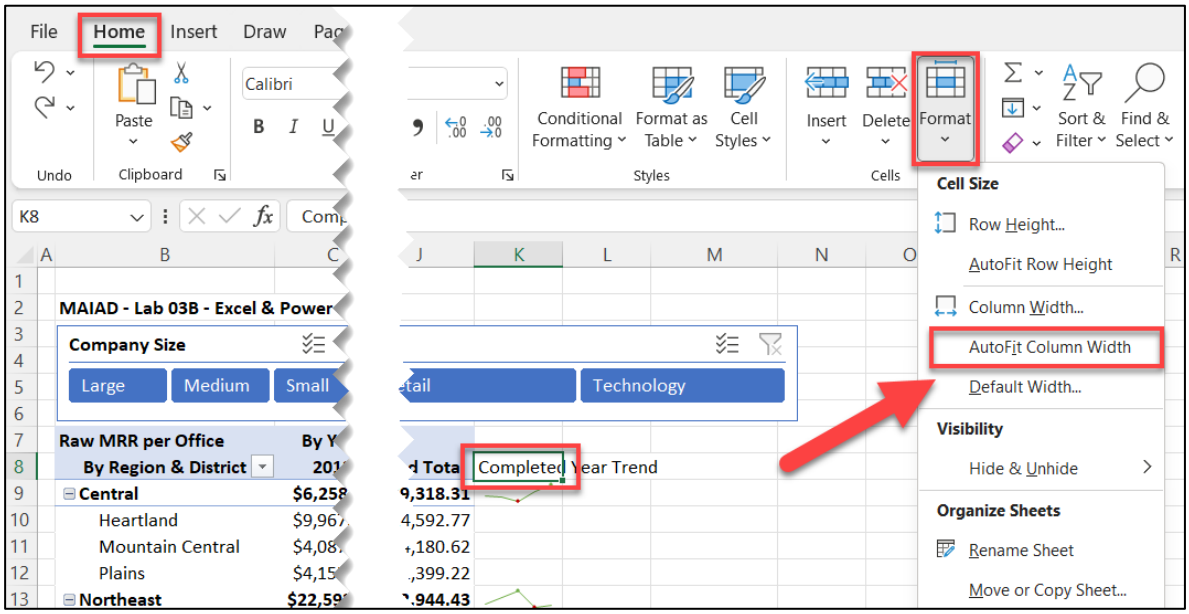


46. Right-click on the **Sparkline** in cell **K9** and select **Copy** from the options menu. Then, within each **Region** cell in column **K**, **Paste** the copied Sparkline. Notice that the Sparkline changes based on each Region cell.

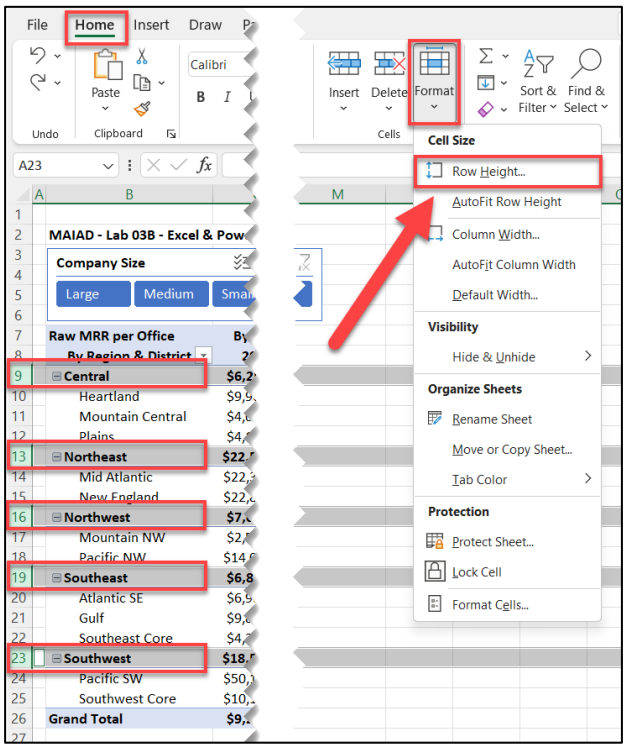


© 2023 Microsoft. All rights reserved.

47. In cell **K8**, enter the title **Completed Year Trend**. Then, from the **Cells** section of the **Home** tab menu, select the **Format** drop-down, and choose **AutoFit Column Width**. Now the text within cell **K8** will be fully visible.

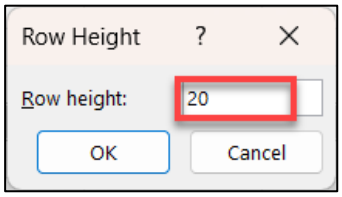


48. While holding down the **Ctrl** key on your keyboard, select and highlight each of the **Region** rows (**9**, **13**, **16**, **19**, and **23**). Then, under the **Home** tab and within the **Cells** group, select the **Format** drop-down. Choose the **Row Height...** option from the menu.



© 2023 Microsoft. All rights reserved.

49. Within the **Row Height** dialog box, set the **Row Height** to **20**. Then, select **OK**.

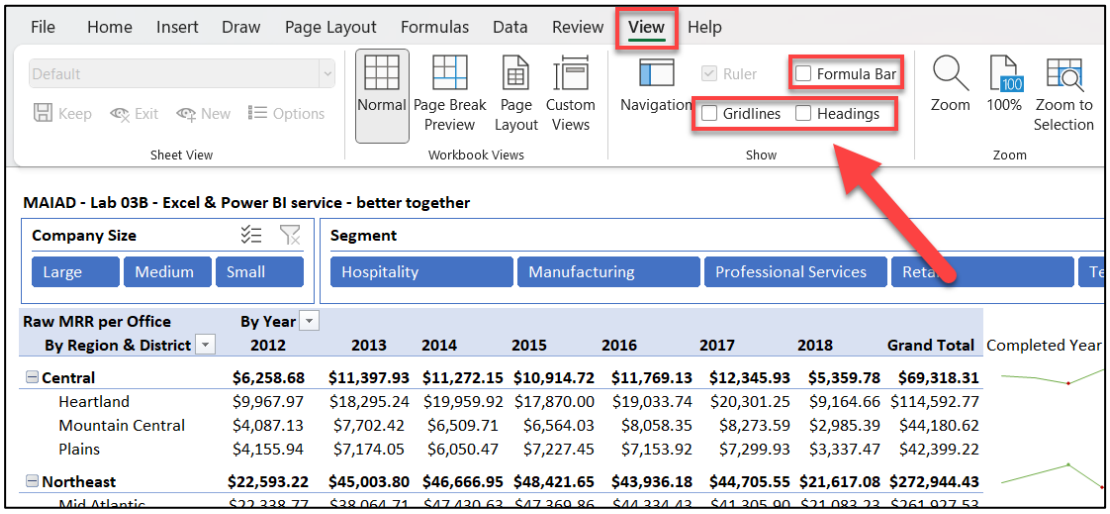


Task 2: Final Formatting

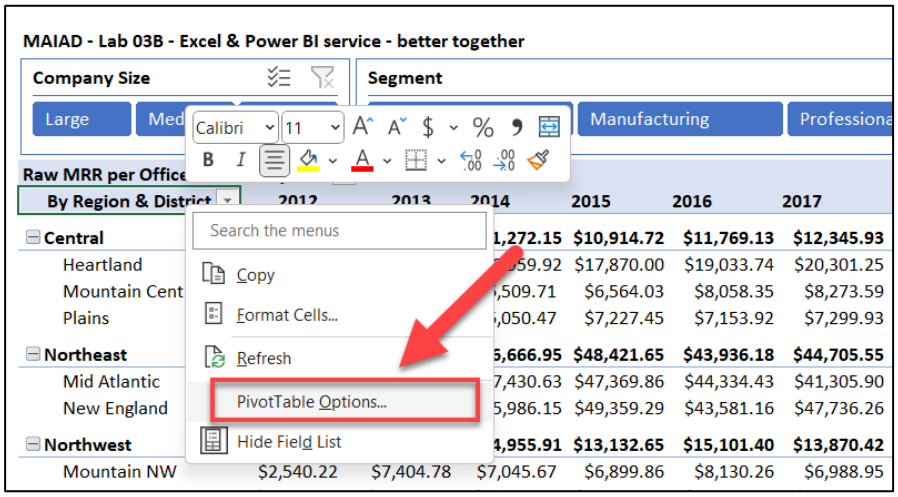
In this task, you will create a final polished report by removing the Excel Headings and Gridlines.

50. From the ribbon at the top of the screen, select the **View** tab.

51. **De-select** the **Formula Bar**, **Headings**, and **Gridlines** checkboxes.

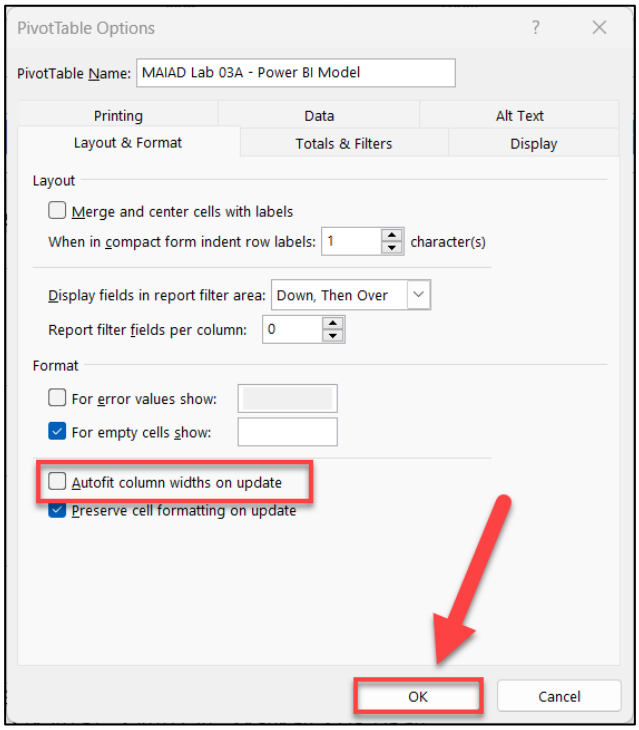


52. Select anywhere within the **PivotTable** to make it *active*. Then, by **right-clicking**, select **PivotTable Options...** from the menu.

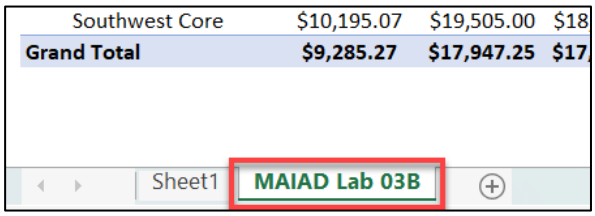


© 2023 Microsoft. All rights reserved.

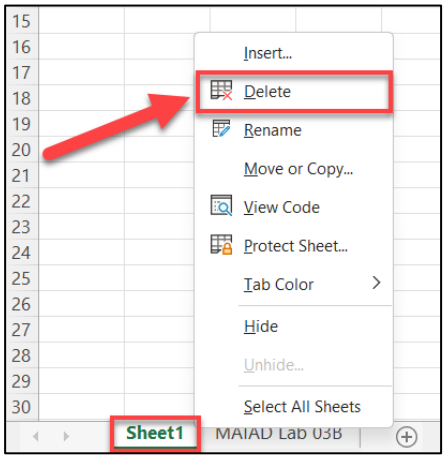
53. Within the **PivotTable Options** dialog window, ensure that the **Autofit column widths on update** checkbox is **un-selected**. This will keep the PivotTable column widths when slicers are selected. Then, select **OK**.



54. Within the bottom ribbon of the screen, **double left-click** on the current sheet (**Sheet 2**). **Rename** the Sheet to **MAIAD Lab 03B**.



55. Select **Sheet 1** from the ribbon at the bottom of the screen, and then **right-click** on the sheet title. From the options menu, select **Delete** to remove this sheet. This sheet is not needed any longer.

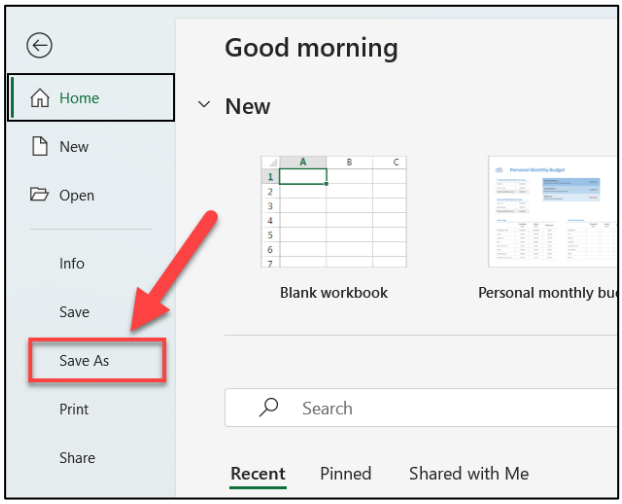


© 2023 Microsoft. All rights reserved.

Task 3: Save the Excel file

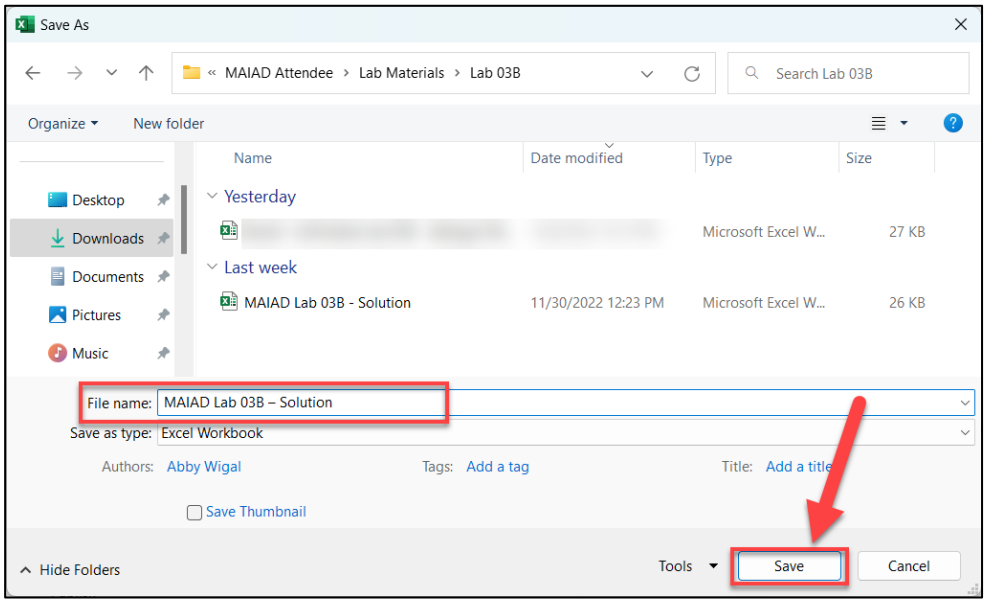
In this task, you will save the Excel file.

56. From the ribbon at the top of the screen, select the **File** tab. Then, from the options menu to the left of the screen, select the **Save As** option.



57. Navigate to the file **<CourseFolder>\MAIAD Attendee\Lab Materials\Lab 03B**\ folder.

58. Save the file as **MAIAD Lab 03B – Solution.xlsx**.



Note: Connecting a Power BI dataset from Excel on your web browser enables the ability for refresh the report without leaving Excel.

© 2023 Microsoft. All rights reserved.

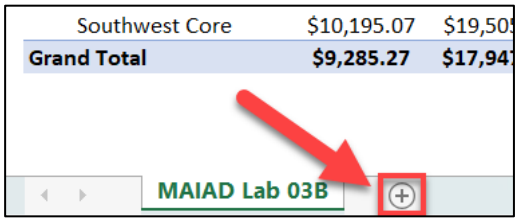
Exercise 3: Organizational Data Types

In this exercise, you will access the organizational data type from the featured table set up in Lab 03A to find details of specific

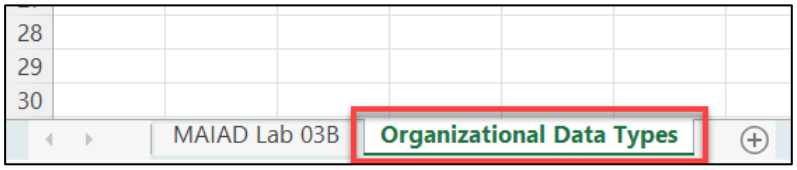
Task 1: Create a table

In this task, you will create an Excel table of 2 Counties.

59. Add a **new sheet** to your Excel file selecting the icon within the bottom ribbon.



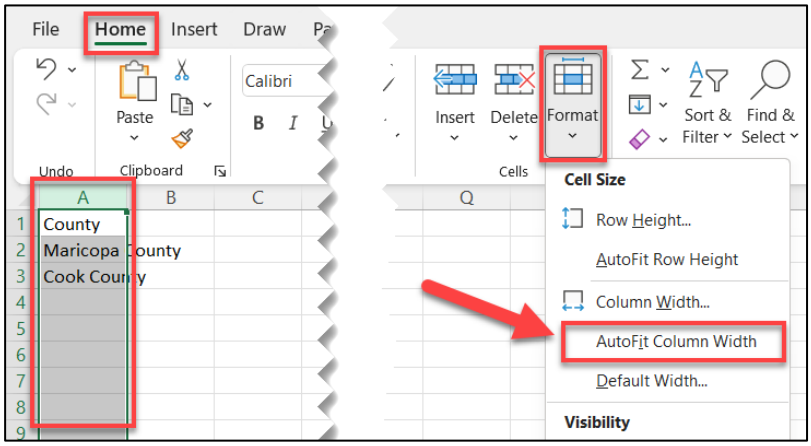
60. Double left-click on the new sheet within the bottom ribbon and **rename** the new sheet to **Organizational Data Types**.



61. In cells **A1:A3**, enter in the following text:

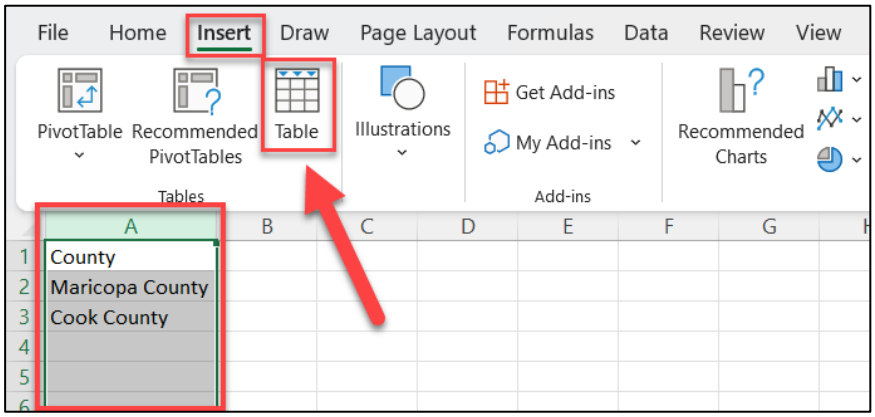
    - A1: **County**
    - A2: **Maricopa County**
    - A3: **Cook County**

62. Then, select the **column A header** at the top of the screen to highlight the entire column. Under the **Home** tab of the ribbon, within the **Cells** group, select the **Format** drop-down. Choose the **AutoFit Column Width** option.



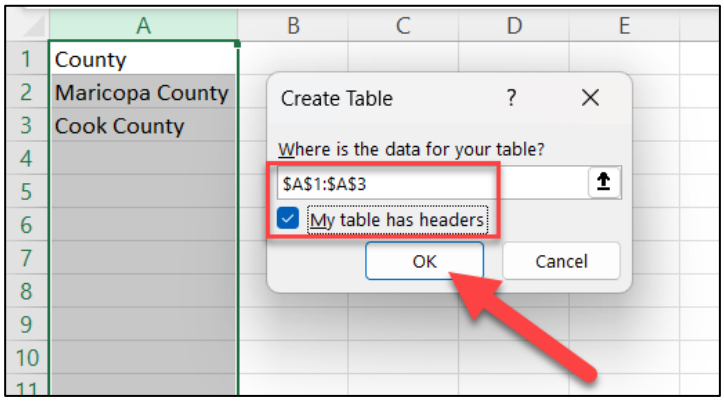
© 2023 Microsoft. All rights reserved.

63. With **Column A** still selected, select the **Insert** tab from the ribbon at the top of the screen. Then, within the **Tables** group, choose the **Table** button.



64. The **Create Table** dialog box will appear. Within the textbox, enter the range **$A$1:$A$3**. This will format the table for this range specifically. Then, select the **checkbox** next to **My table has headers**.

65. Select **OK**.

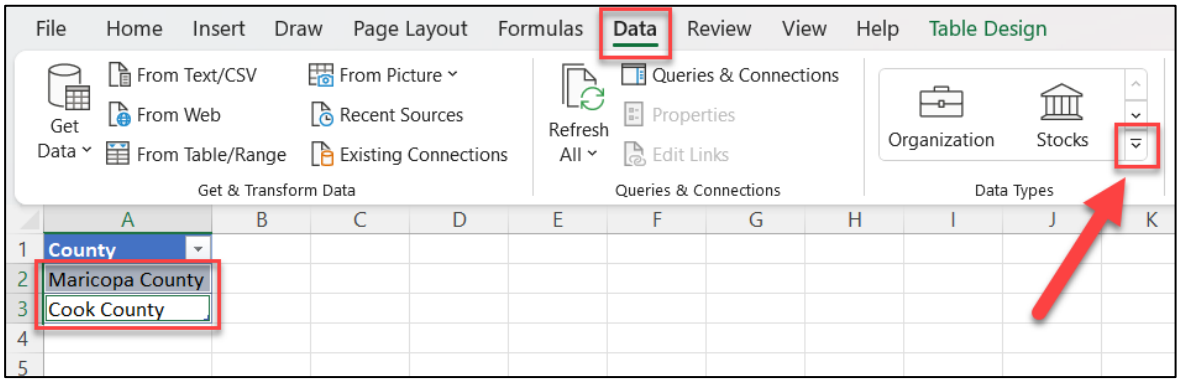


© 2023 Microsoft. All rights reserved.

Task 2: Connect a table to an Organizational Data Type

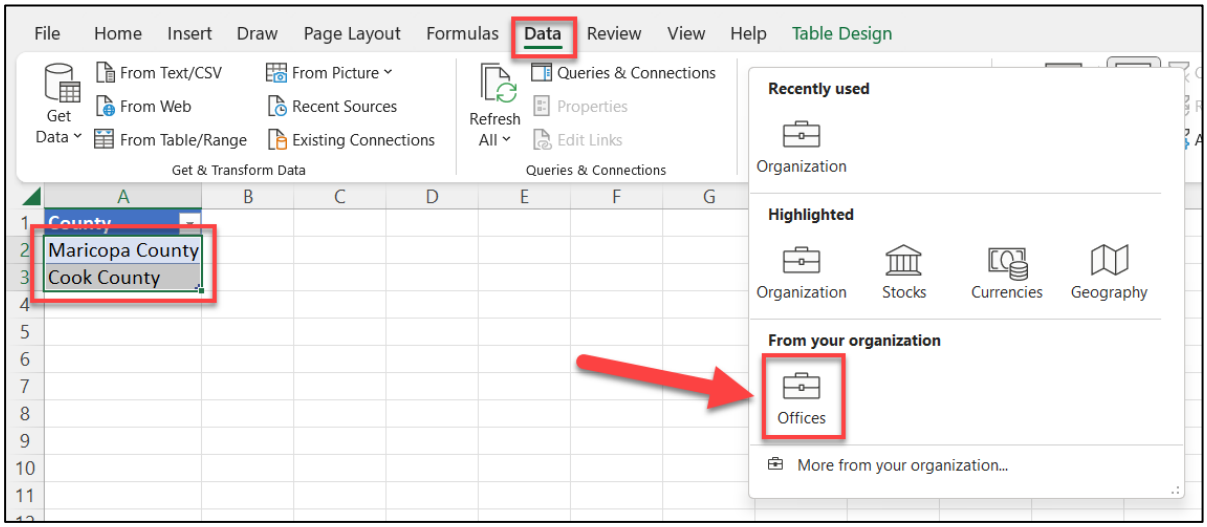
In this task, you will connect an Excel Table to an organizational Data Type previously generated from a featured table in a Data Model published to the Power BI service and add a column of related information.

66. **Highlight** cells **A2:A3** and then choose the **Data** tab from the ribbon at the top of the screen. Within the **Data Types** group, select the **More** drop-down arrow to view more Data Type choices.



67. With the **Data Types** menu expanded, under the **From your Organization** section, select **Offices**.

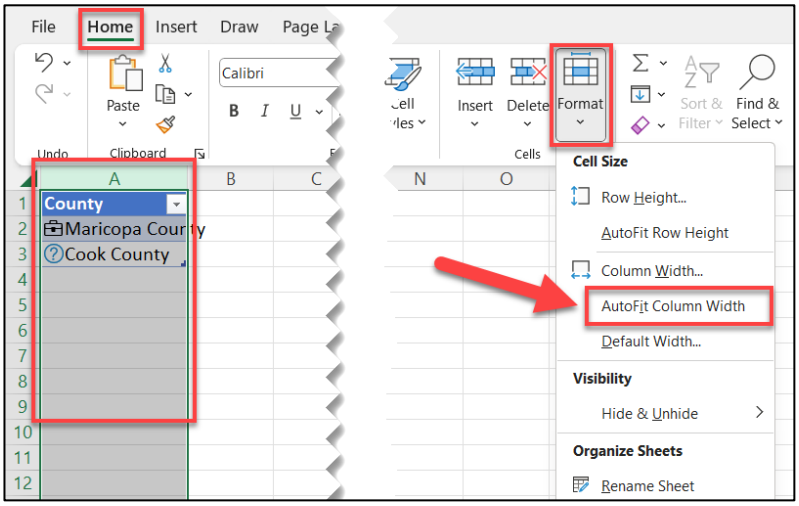
> **Reminder:** This is the result of Lab 03A toggling "Is Featured table" > "ON" for the "Offices" table in Power BI before publishing
>
> Also, for this step to work, you must have a paid Power BI Subscription or Trial.



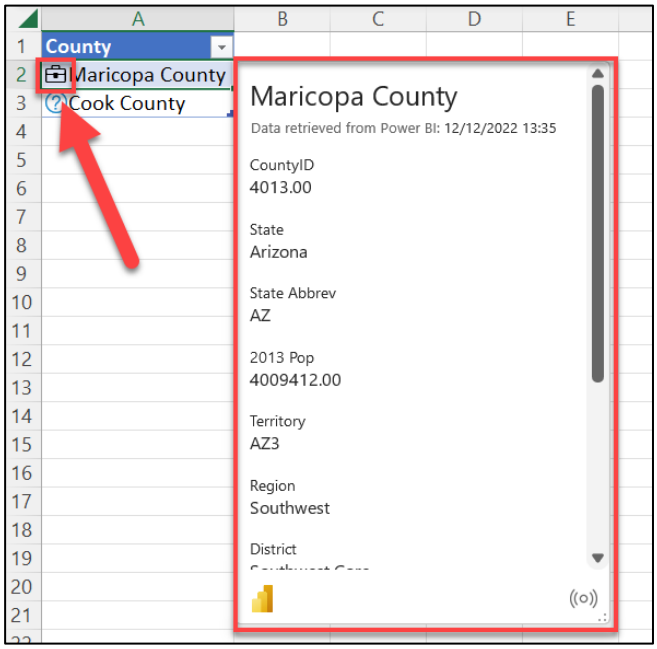
© 2023 Microsoft. All rights reserved.

68. Both **Maricopa County** and **Cook County** now have icons adjacent to the text in the cells within the table.

Note: You may need to *AutoFit Column Width* for column *A* so that the text within the cells are visible once the icons have been added.

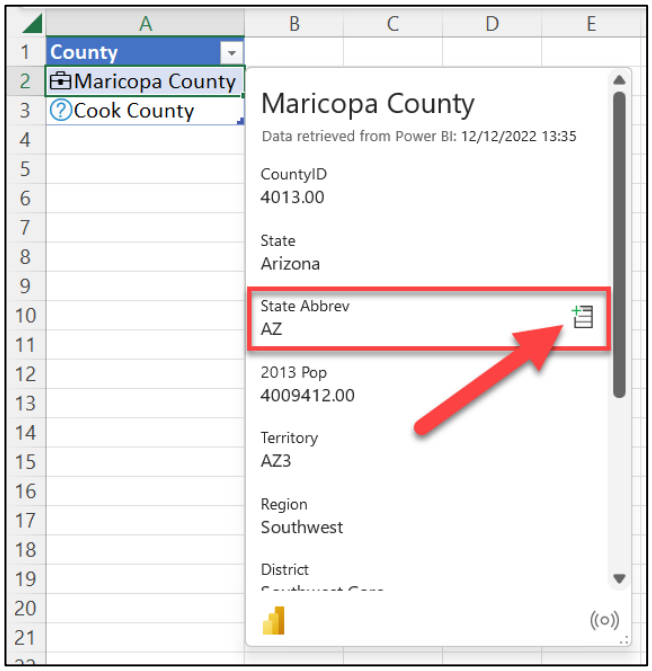


69. Select the icon to the right of **Maricopa County** to expand the **detail card**.



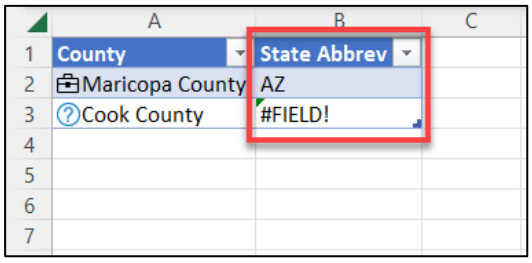
© 2023 Microsoft. All rights reserved.

70. Hover over **State Abbrev** to reveal the **Add Column** icon. Select the icon to add a new **State Abbrev** column to your table.



Note: You may have to adjust the column width of the Abbrev column using the format drop-down and the AutoFit Column Width option. Also, ensure that the text is Aligned Left using the alignment tools.

71. **State Abbrev** for **Maricopa County** will return **AZ**.
State Abbrev for **Cook County** will return **#FIELD!** (error).

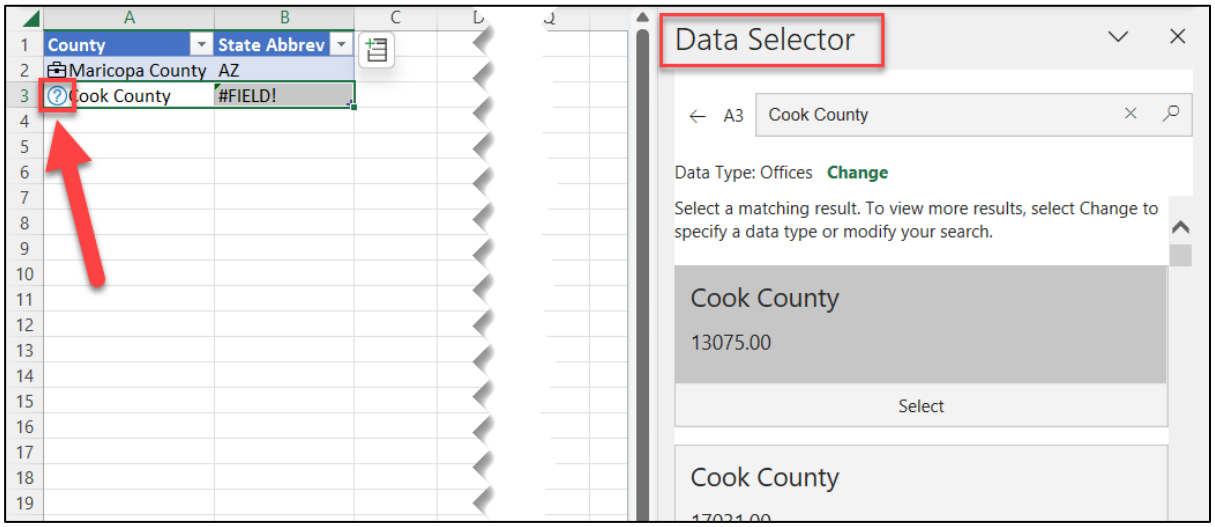


© 2023 Microsoft. All rights reserved.

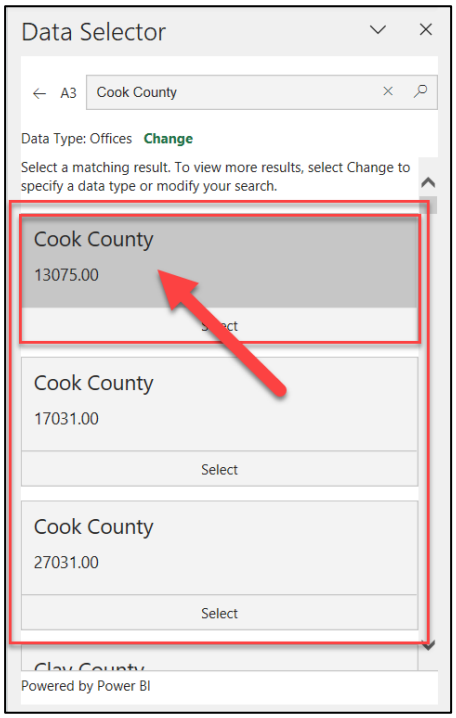
Task 3: Identify a specific entry between multiple with the same name

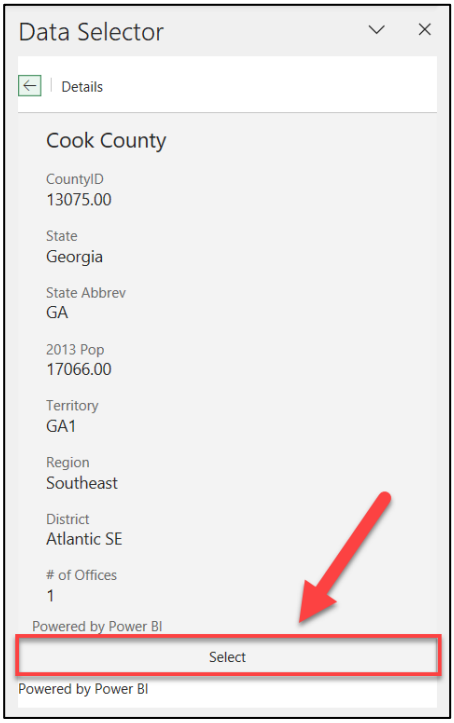
In this task, you will identify for Excel which specific county to reference when there is more than one county with the same name.

72. The icon adjacent to **Cook County** indicates multiple entries in the data that match that particular name. Select the **icon** to launch the **Data Selector** pane to the right of the screen.



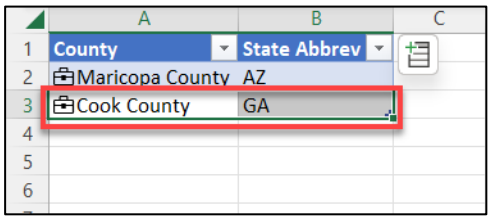
73. The **Data Selector** pane indicates three different **Cook County** entries. Select the **first** entry to inspect the details, then choose **Select** from the bottom of the detail.





© 2023 Microsoft. All rights reserved.

74. The icon to the left of **Cook County** has changed to match **Maricopa County** and **State Abbrev** has changed from #FIELD! to **GA**.

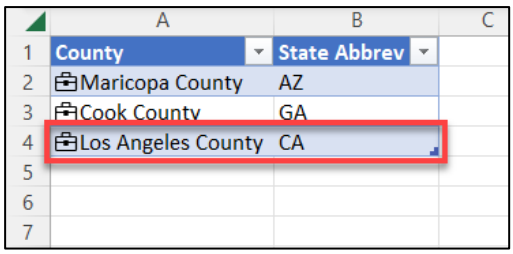


Task 4: Add additional rows

In this task, you will add an additional county that will automatically be detected by the data type.

75. In cell **A4**, type **Los Angeles County**, then select **Enter** on your keyboard. Both the icon and **State Abbrev** automatically populate.

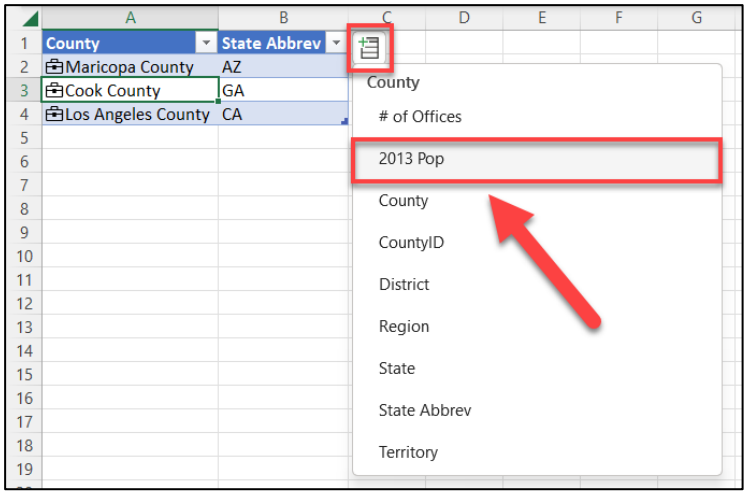
> **Note:** You may need to format the County column to AutoFit Column Width using the Format drop-down.



Task 5: Add additional rows

This task explores different options for adding additional columns of county data.

76. Select any cell in the table (**A1:B4**). The **Add Column** icon appears in the top-right corner of the table. Select the **Add Column icon** and choose **2013 Pop** to include an additional column of data.

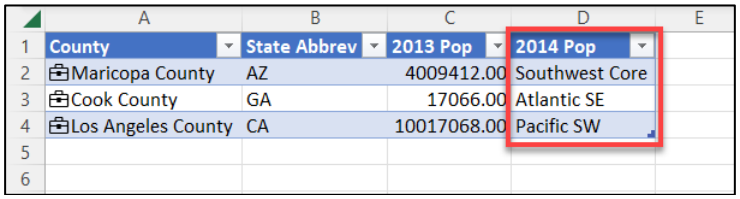


© 2023 Microsoft. All rights reserved.

> **Note:** You may need to format the newly added column to AutoFit Column Width using the Format drop-down.

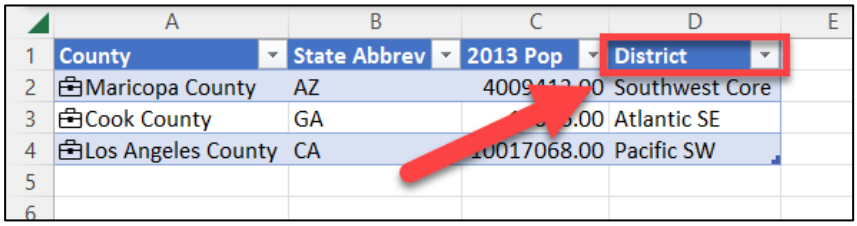
77. In cell **D2**, enter the formula : **=[@County].District** and then hit **Enter** on your keyboard. The formula will auto-populate down the rows of the table.

> **Note:** You may need to format the newly added column to AutoFit Column Width using the Format drop-down.



County	State Abbrev	2013 Pop	2014 Pop
Maricopa County	AZ	4009412.00	Southwest Core
Cook County	GA	17066.00	Atlantic SE
Los Angeles County	CA	10017068.00	Pacific SW

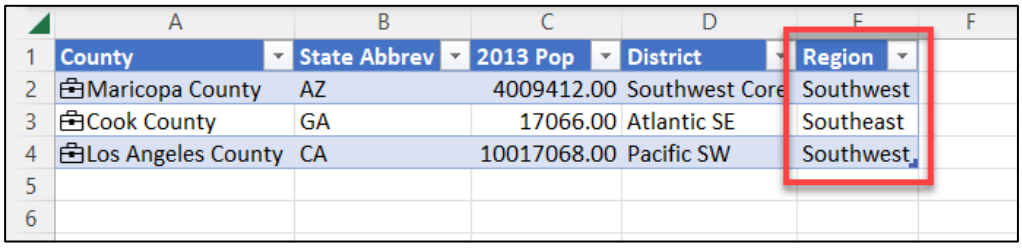
78. **Rename** the column header in cell **D1** to **District**.



County	State Abbrev	2013 Pop	District
Maricopa County	AZ	4009412.00	Southwest Core
Cook County	GA	17066.00	Atlantic SE
Los Angeles County	CA	10017068.00	Pacific SW

79. In cell **E1**, type **Region** and then hit **Enter** on your keyboard. Each row will auto-populate with the corresponding **Region** data.

> **Note:** You may need to format the newly added column to AutoFit Column Width using the Format drop-down.



County	State Abbrev	2013 Pop	District	Region
Maricopa County	AZ	4009412.00	Southwest Core	Southwest
Cook County	GA	17066.00	Atlantic SE	Southeast
Los Angeles County	CA	10017068.00	Pacific SW	Southwest

80. From the ribbon at the top of the screen, select the **File** tab and then select the **Save** button.

Congratulations! You have now completed this lab!

© 2023 Microsoft. All rights reserved.

Summary

In this lab, you started in the Excel application and connected to a published data set in the Power BI service to create a Pivot Table with Slicers and Sparkline charts, then connected to an organizational data type – demonstrating how Excel + Power BI are used better together!

MAIAD - Lab 03B - Excel & Power BI service - better together

Company Size: Large | Medium | Small

Segment: Hospitality | Manufacturing | Professional Services | Retail | Technology

Raw MRR per Office / By Region & District	By Year 2012	2013	2014	2015	2016	2017	2018	Grand Total	Completed Year Trend
Central	**$6,258.68**	**$11,397.93**	**$11,272.15**	**$10,914.72**	**$11,769.13**	**$12,345.93**	**$5,359.78**	**$69,318.31**	
Heartland	$9,967.97	$18,295.24	$19,959.92	$17,870.00	$19,033.74	$20,301.25	$9,164.66	$114,592.77	
Mountain Central	$4,087.13	$7,702.42	$6,509.71	$6,564.03	$8,058.35	$8,273.59	$2,985.39	$44,180.62	
Plains	$4,155.94	$7,174.05	$6,050.47	$7,227.45	$7,153.92	$7,299.93	$3,337.47	$42,399.22	
Northeast	**$22,593.22**	**$45,003.80**	**$46,666.95**	**$48,421.65**	**$43,936.18**	**$44,705.55**	**$21,617.08**	**$272,944.43**	
Mid Atlantic	$22,338.77	$38,064.71	$47,430.63	$47,369.86	$44,334.43	$41,305.90	$21,083.23	$261,927.53	
New England	$22,820.05	$51,189.81	$45,986.15	$49,359.29	$43,581.16	$47,736.26	$22,093.00	$282,765.71	
Northwest	**$7,054.82**	**$12,906.68**	**$14,955.91**	**$13,132.65**	**$15,101.40**	**$13,870.42**	**$6,075.23**	**$83,097.10**	
Mountain NW	$2,540.22	$7,404.78	$7,045.67	$6,899.86	$8,130.26	$6,988.95	$3,329.26	$42,338.99	
Pacific NW	$14,057.06	$21,440.23	$27,224.85	$22,799.84	$25,913.78	$24,543.71	$10,334.29	$146,313.76	
Southeast	**$6,827.92**	**$13,379.63**	**$13,547.21**	**$12,983.24**	**$14,114.68**	**$13,592.24**	**$6,776.77**	**$81,221.70**	
Atlantic SE	$6,903.99	$13,260.22	$14,372.54	$12,785.59	$13,670.47	$13,831.86	$6,834.25	$81,658.93	
Gulf	$9,847.56	$19,639.45	$18,014.83	$18,592.65	$20,739.35	$19,741.54	$9,361.89	$115,937.26	
Southeast Core	$4,280.61	$8,450.81	$8,873.50	$8,681.61	$9,302.08	$8,297.30	$4,605.74	$52,491.65	
Southwest	**$18,558.70**	**$37,179.53**	**$34,702.08**	**$36,038.71**	**$35,497.06**	**$38,463.77**	**$15,619.42**	**$216,059.26**	
Pacific SW	$50,131.39	$103,900.86	$96,213.14	$96,988.14	$100,779.83	$104,490.29	$42,122.68	$594,626.31	
Southwest Core	$10,195.07	$19,505.00	$18,407.76	$19,893.17	$18,203.61	$20,973.30	$8,598.69	$115,776.60	
Grand Total	**$9,285.27**	**$17,947.25**	**$17,947.08**	**$17,773.53**	**$18,225.02**	**$18,591.13**	**$8,412.76**	**$108,182.05**	

County	State Abbrev	2013 Pop	District	Region
Maricopa County	AZ	4009412.00	Southwest Core	Southwest
Cook County	GA	17066.00	Atlantic SE	Southeast
Los Angeles County	CA	10017068.00	Pacific SW	Southwest

© 2023 Microsoft. All rights reserved.

Terms of Use

© 2023 Microsoft. All rights reserved.

By using this hands-on lab, you agree to the following terms:

The technology/functionality described in this hands-on lab is provided by Microsoft Corporation in a "sandbox" testing environment for purposes of obtaining your feedback and to provide you with a learning experience. You may only use the hands-on lab to evaluate such technology features and functionality and provide feedback to Microsoft. You may not use it for any other purpose. Without written permission, you may not modify, copy, distribute, transmit, display, perform, reproduce, publish, license, create derivative works from, transfer, or sell this hands-on lab or any portion thereof.

COPYING OR REPRODUCTION OF THE HANDS-ON LAB (OR ANY PORTION OF IT) TO ANY OTHER SERVER OR LOCATION FOR FURTHER REPRODUCTION OR REDISTRIBUTION WITHOUT WRITTEN PERMISSION IS EXPRESSLY PROHIBITED.

THIS HANDS-ON LAB PROVIDES CERTAIN SOFTWARE TECHNOLOGY/PRODUCT FEATURES AND FUNCTIONALITY, INCLUDING POTENTIAL NEW FEATURES AND CONCEPTS, IN A SIMULATED ENVIRONMENT WITHOUT COMPLEX SET-UP OR INSTALLATION FOR THE PURPOSE DESCRIBED ABOVE. THE TECHNOLOGY/CONCEPTS REPRESENTED IN THIS HANDS-ON LAB MAY NOT REPRESENT FULL FEATURE FUNCTIONALITY AND MAY NOT WORK THE WAY A FINAL VERSION MAY WORK. WE ALSO MAY NOT RELEASE A FINAL VERSION OF SUCH FEATURES OR CONCEPTS. YOUR EXPERIENCE WITH USING SUCH FEATURES AND FUNCITONALITY IN A PHYSICAL ENVIRONMENT MAY ALSO BE DIFFERENT.

FEEDBACK If you give feedback about the technology features, functionality and/or concepts described in this hands-on lab to Microsoft, you give to Microsoft, without charge, the right to use, share and commercialize your feedback in any way and for any purpose. You also give to third parties, without charge, any patent rights needed for their products, technologies and services to use or interface with any specific parts of a Microsoft software or service that includes the feedback. You will not give feedback that is subject to a license that requires Microsoft to license its software or documentation to third parties because we include your feedback in them. These rights survive this agreement.

MICROSOFT CORPORATION HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH REGARD TO THE HANDS-ON LAB, INCLUDING ALL WARRANTIES AND CONDITIONS OF MERCHANTABILITY, WHETHER EXPRESS, IMPLIED OR STATUTORY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. MICROSOFT DOES NOT MAKE ANY ASSURANCES OR REPRESENTATIONS WITH REGARD TO THE ACCURACY OF THE RESULTS, OUTPUT THAT DERIVES FROM USE OF THE VIRTUAL LAB, OR SUITABILITY OF THE INFORMATION CONTAINED IN THE VIRTUAL LAB FOR ANY PURPOSE.

DISCLAIMER This lab contains only a portion of new features and enhancements in Microsoft Power BI. Some of the features might change in future releases of the product.