Designing Interactive Reports in Power BI Desktop

Lab Time: 60 minutes

Lab Folder: C:\Student\Modules\05_Reports\Lab

Lab Overview: In this module you will begin by publishing and certifying the **Wingtip Sales Model** dataset in the Power BI Service. After that you will create a new project in Power BI Desktop named Wingtip Sales Report that connects to the Wingtip Sales Model dataset running in the Microsoft cloud.

Lab Dependency: This lab assumes you have completed the previous lab titled **Writing Advanced DAX Expressions** in which you extended the dataset in **Wingtip Sales Model.pbix** with new measures, dimensional hierarchies and a calendar table. If you would like to begin work on this lab without completing the earlier lab, copy the lab solution file named **Wingtip Sales Model.pbix** which is located in the student folder at **C:\Student\Modules\04_AdvancedDAX\Lab\Solution** into the folder at **C:\Student\Projects**.

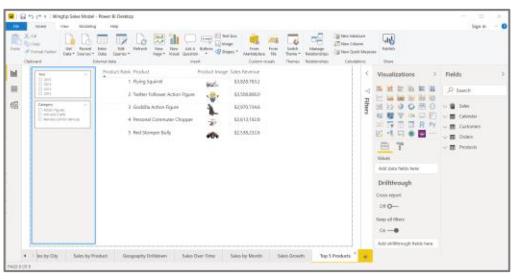
Exercise 1: Publish, Promote and Certify the Wingtip Sales Model Dataset

In this exercise, you will publish and certify the Wingtip Sales Model dataset to make it available to other report authors.

1. Open the Power BI Desktop project named **Wingtip Sales Model.pbix**
   a) Launch Power BI Desktop.
   b) Open the Power BI Desktop project named **Wingtip Sales Model.pbix** from the previous lab located at the following path.

```
C:\Student\Projects\Wingtip Sales Model.pbix
```

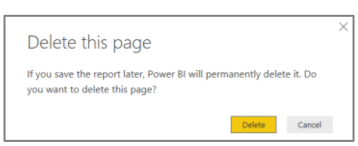
   c) When the project opens, click the report icon on the top of the sidebar to enter report view mode.
   d) You should see all the report pages you created in the previous lab.



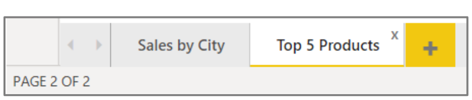
Many of the report pages you created in the previous lab allowed you to test your data modeling work, but he pages themselves are not that interesting. In the next step you will delete every report page except for the page named **Sales by Geography**.and **Top 5 Products**

2. Remove all the report pages except for the **Sales by City** page and the **Top 5 Products** page.
   a) Remove the Sales by State page by clicking the X in the top right corner of its page tab.

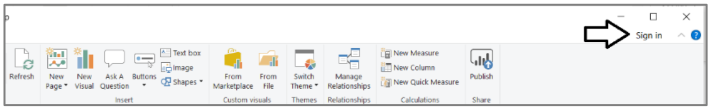
   b) When prompted with the Delete this page dialog, click the Delete button to confirm



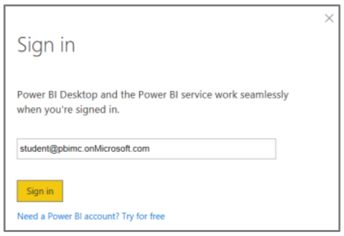
   c) Repeat the same steps to delete all pages in the report except for **Sales by City** and **Top 5 Products**.



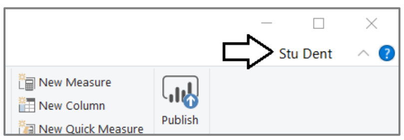
1. Publish the **Wingtip Sales Model.pbix** project to the Power BI Service.
   a) Save your changes to the **Wingtip Sales Model.pbix** project.
   b) Navigate to the **Home** tab in the ribbon and click the **Publish** button on the far right-hand side.



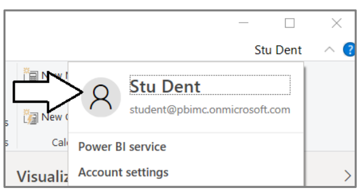
   c) When promoted with the **Sign in to Power BI** dialog, click the **Sign In** button



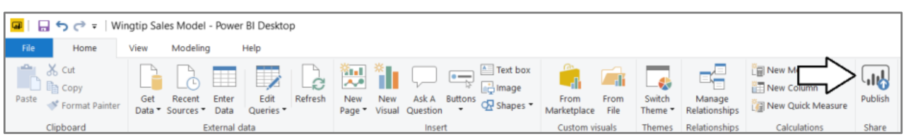
   d) When prompted for your password, sign into the Power BI service.
   e) Once you have logged in, click on the logged-in user name in the upper right corner of the main Power BI Desktop window.



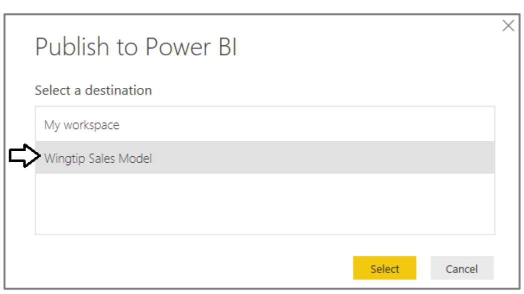
   f) Verify that you are logged in using the same organizational account that you created for these lab exercises.



2. Publish the
   a) Click Publish



   b) When Power BI Desktop prompts you with the **Publish to Power BI** dialog, select **My workspace** and then click **Select**.



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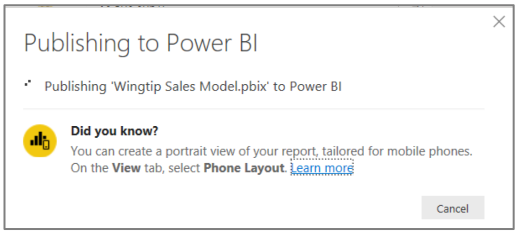
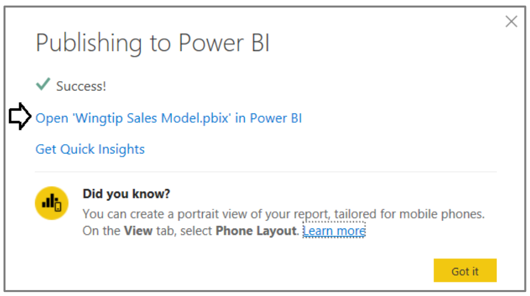
c) Power BI Desktop will display the **Publishing to Power BI** dialog as the publishing process begins.

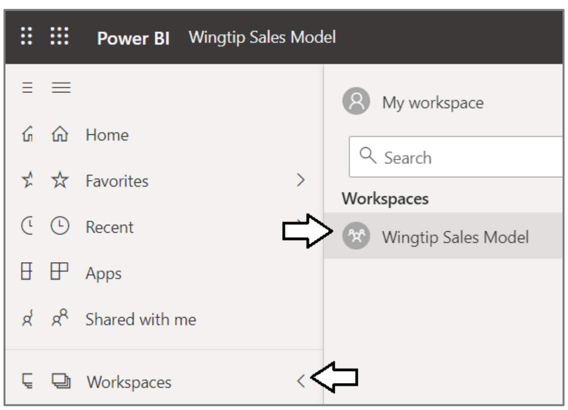


d) Once the publishing process has completed, the **Publishing to Power BI** dialog will display a success message and provide you with a link to **Open Wingtip Sales Model.pbix in Power BI**. Click on that link to navigate to the Power BI service using the browser.

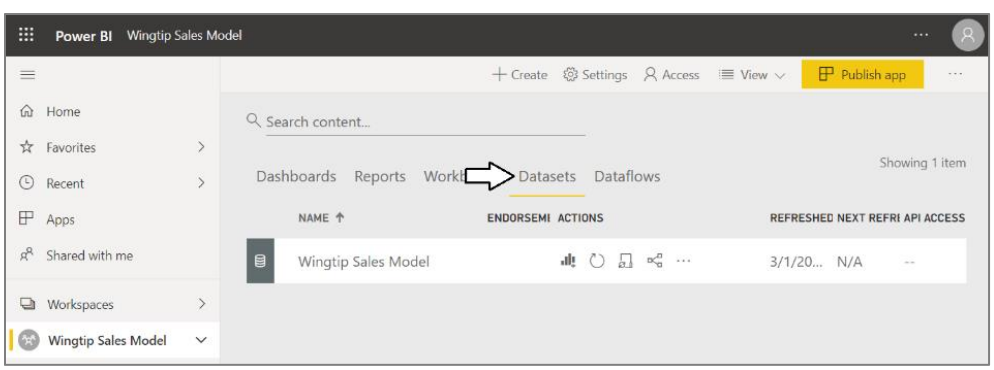


3. Navigae to the Wingtip Sales Model workspace..

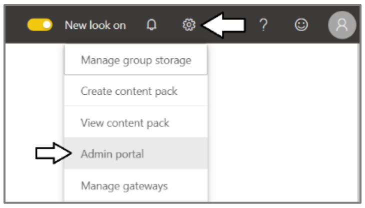
a) Sssss



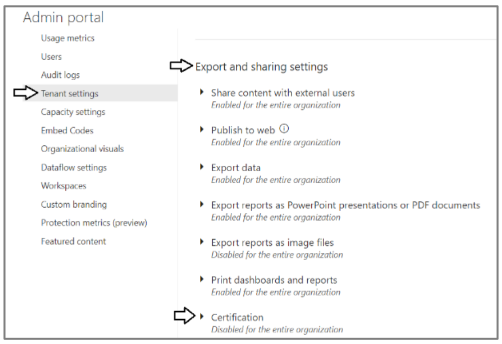
b) x



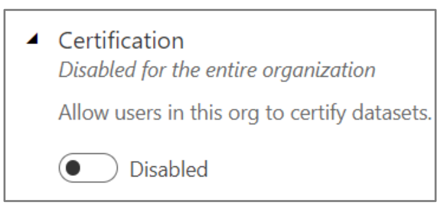
4. Configure the tenant-level setting to allow for dataset certification.
   a) sssss



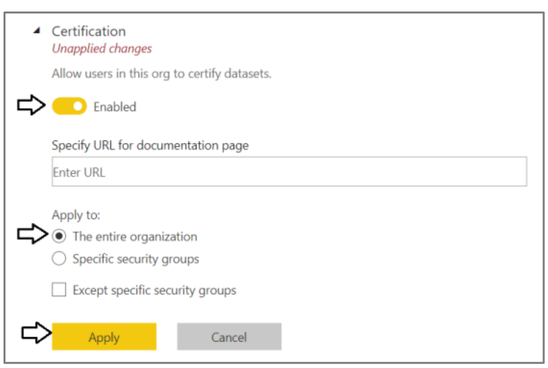
   b) cccc



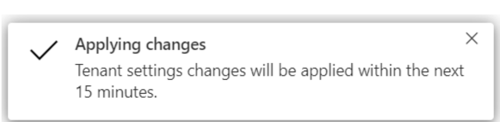
   c) fff



   d)



   e) xxx



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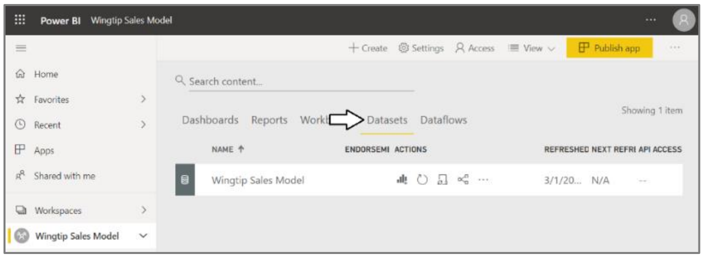
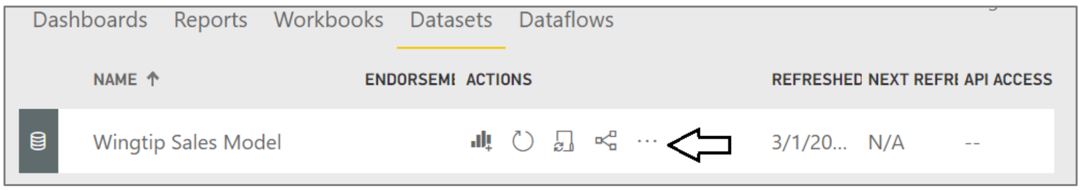
5. Configure datasource credentials for the Wingtip Sales Model dataset.

a) sssss

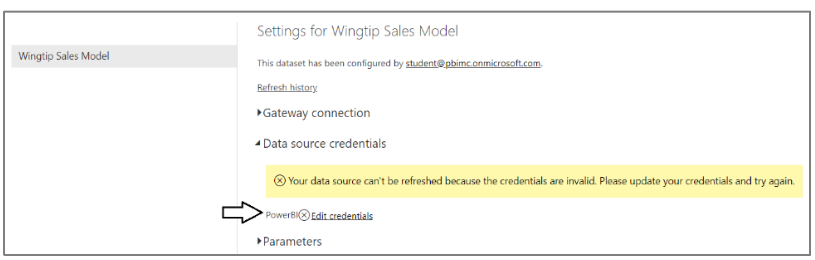


b) xxx

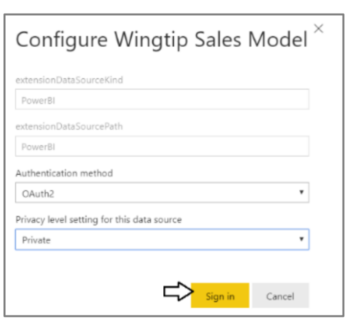


c) xxxx

d) xxxx



e) xxx



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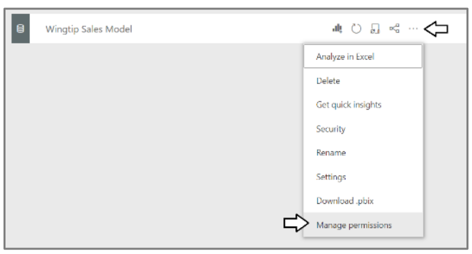
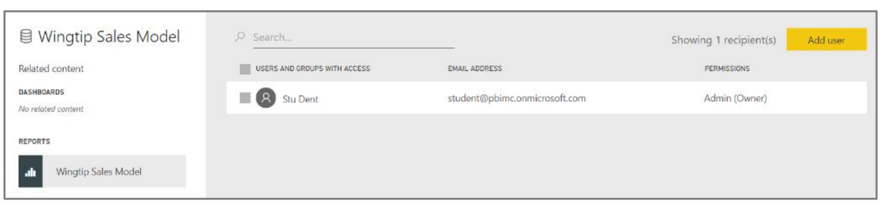
f) xx

At his point you should be able to perform a dataset refresh. You can test it if you want to ensure that this dataset can be refreshed from the data in the dataflow named Wingtip Sales Data. Of course, the refresh will have not real effect as the data in the underlying dataflow has not been updated. And even if you update the dataflow, the data in the underlying Azure SQL database is a read-only sample database that is never updated.

1. Manage permissions
   a) vvvv

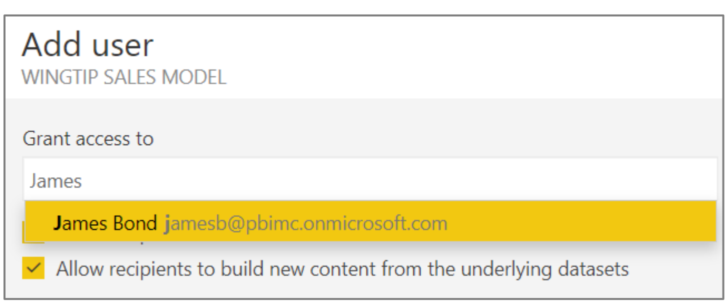


   b) cccc



   c) cccc

   d) ddd



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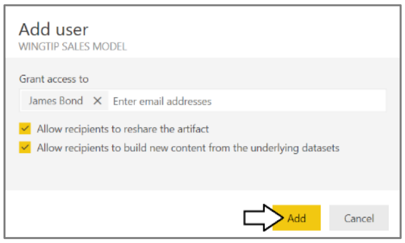
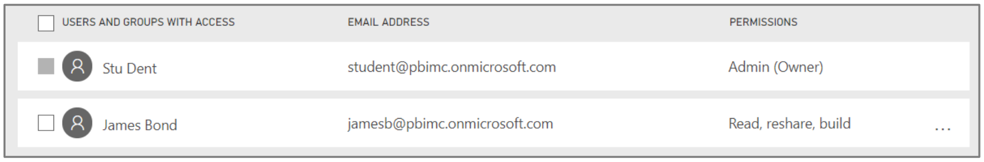
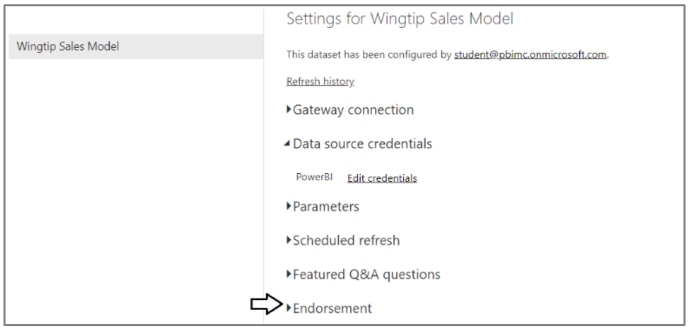
e) ccc



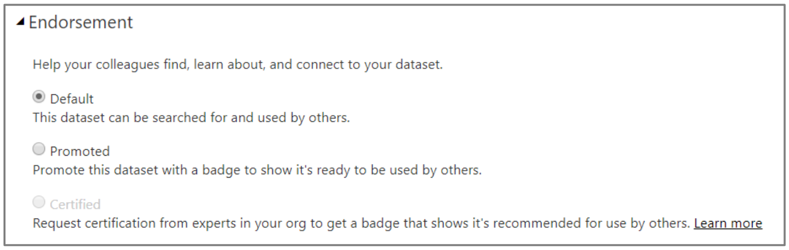
f) cccc



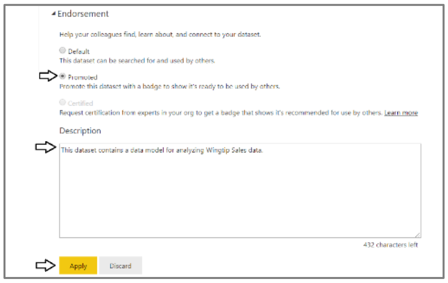
2. xxx
   a) dddd



   b) xxxx



3. sssss



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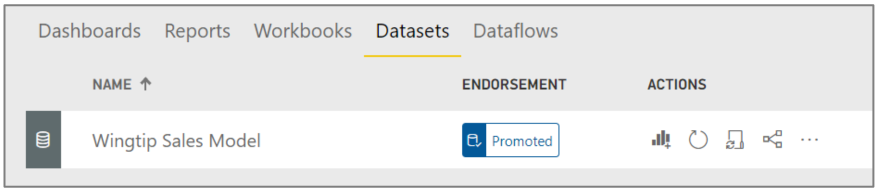
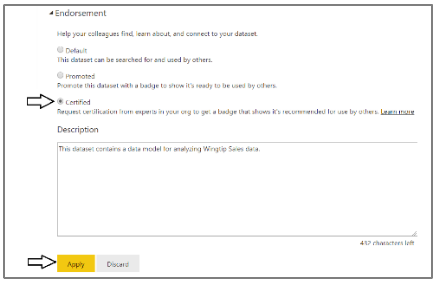
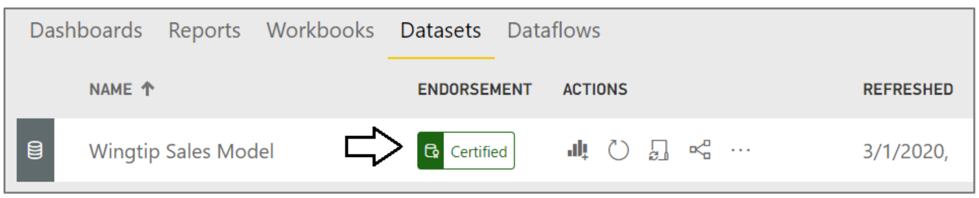
a) ffff



b) ccccddd



c) ddddd



dddd

Exercise 2: Create a Report on a Published Dataset

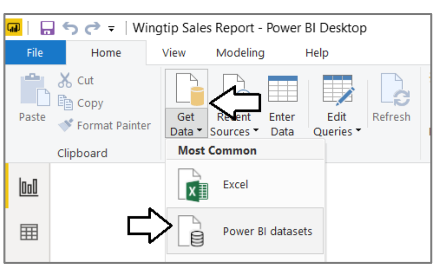
In this exercise you will download a cu.

1. Launch a new instance of Power BI Desktop to start a new project.
2. Save the new project as **Wingtip Sales Report.pbix** using the following path.

```
C:\Student\Projects\Wingtip Sales Report.pbix
```

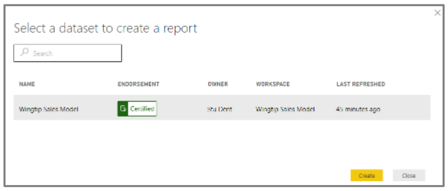
3. Create connection to the Wingtip sales Model dataset.

a)

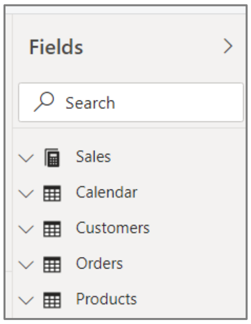


.

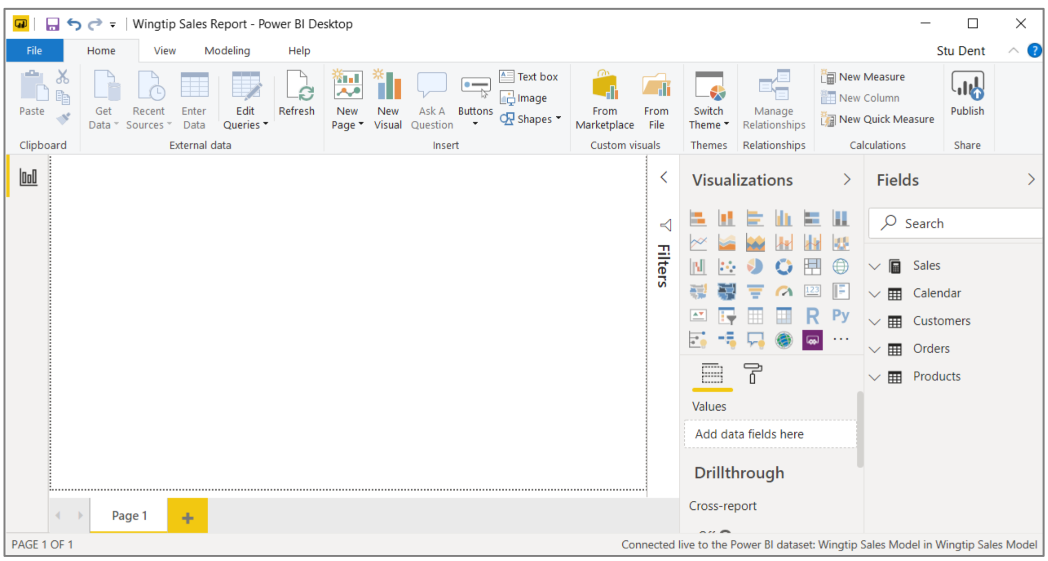
b) ccc



c) xxxx



d) ccc



e) gre

4. Add a new visual to the report to show sales revenue broken down by product category.
   a) Make sure the **Home** tab is active on the ribbon.
   b) Click on the **New Visual** button to add a new visual to the page.
   c) Click the **100% Stacked column chart** button in the **Visualizations** list to change the visualization type.

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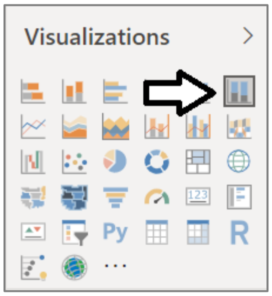
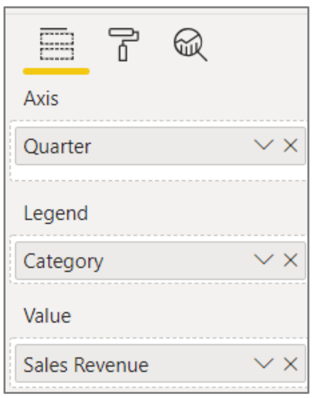


d) Drag the **Quarter** column from the **Calendar** table in the **Fields** list and drop it into the **Axis** well in the **Visualizations** pane.

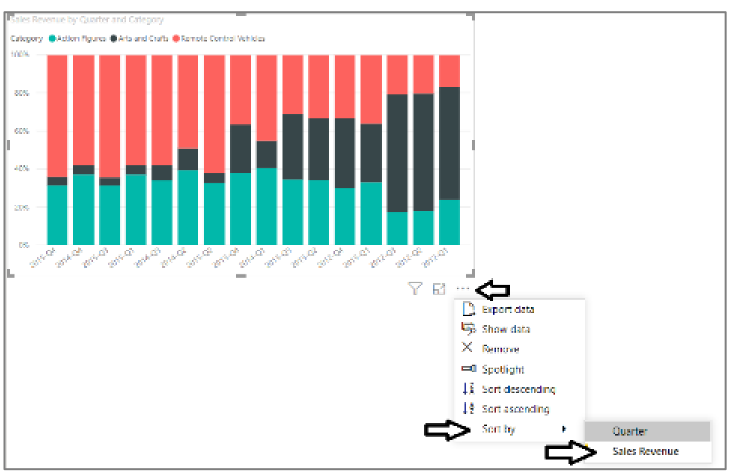
e) Drag the **Category** column from the **Products** table and drop it into the **Legend** well in the **Visualizations** pane.

f) Drag the **Sales Revenue** measure from the **Sales** table and drop it into the **Value** well in the **Visualizations** pane.



g) Using the mouse, resize the visual to take up the entire top, left corner of the page.

h) Change the visual sorting by dropping down the visual flyout menu (**...**) and selecting **Sort by > Quarter**.



The visual flyout menu (**...**) menu can be confusing because it is usually displayed at the top of a visual. However, when a visual is positioned at the top of the page or near the top of the page, flyout ellipse menu (**...**) menu is moved to the bottom right corner.

i) Drop down the visual ellipse menu (**...**) again and select **Sort Ascending**.

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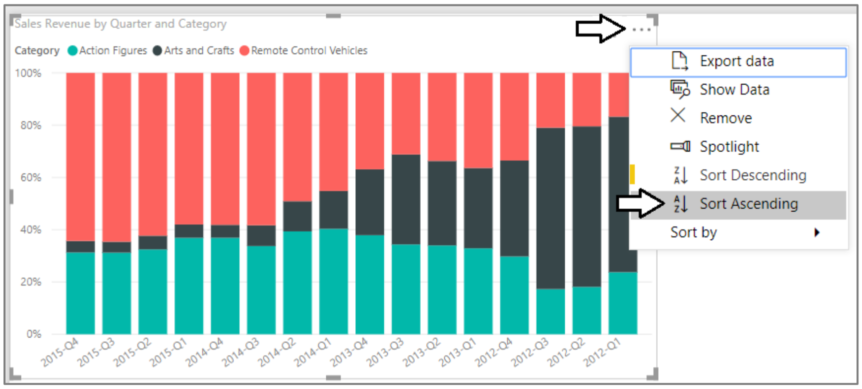
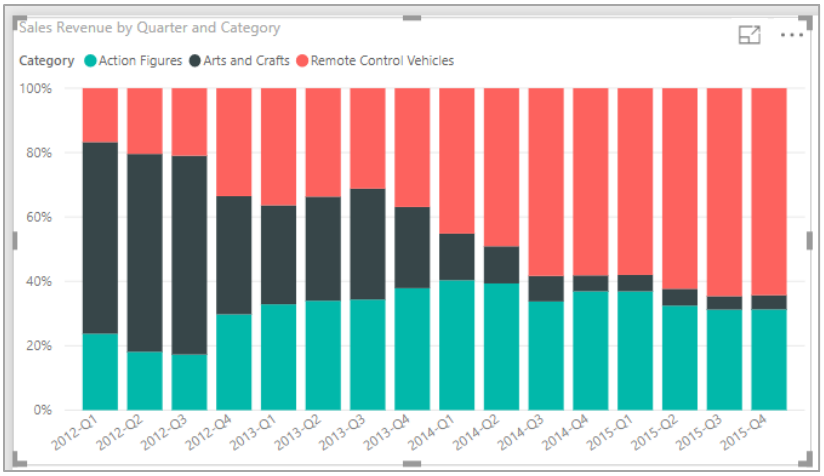
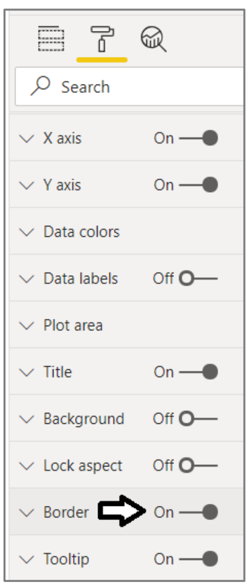


j) Now you should see that the months on the X axis are displayed chronologically from left to right.



k) With the visual selected, navigate to the **Format** pane to view the properties for the visual.

l) Locate the **Border** property and change its value to **On** as shown in the following screenshot.



m) Now the visual should display with a solid border.

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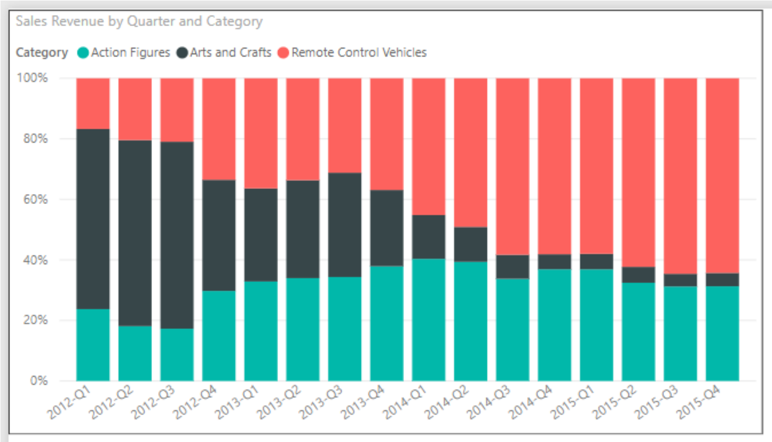
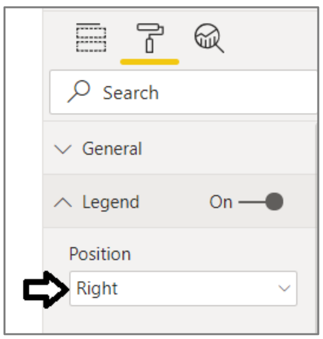
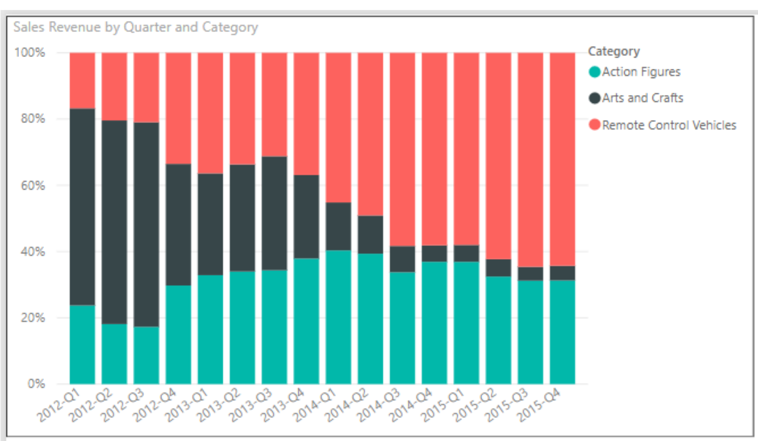


n) Modify the legend settings for the visual



o) Now it should look like this.



p) Reposition the visual so it takes up the entire upper, left-hand corner of the page.

5. Create a second visual to display a breakdown of sales revenue by customer type.
   a) Select the existing visual and copy it to the Windows clipboard.
   b) Perform a paste operation to add a second copy of the visual to the report page.
   c) Reposition the visual so it takes up the entire lower, left-hand corner of the page.
   d) Make sure the second visual is selected and examine its properties in the **Visualizations** pane.
   e) Remove the **Categories** column from the **Legend** well.

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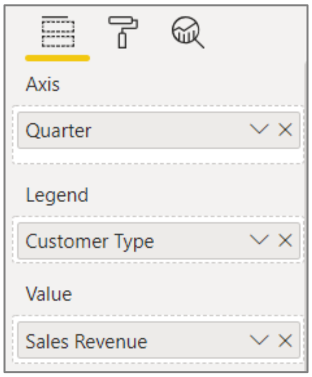
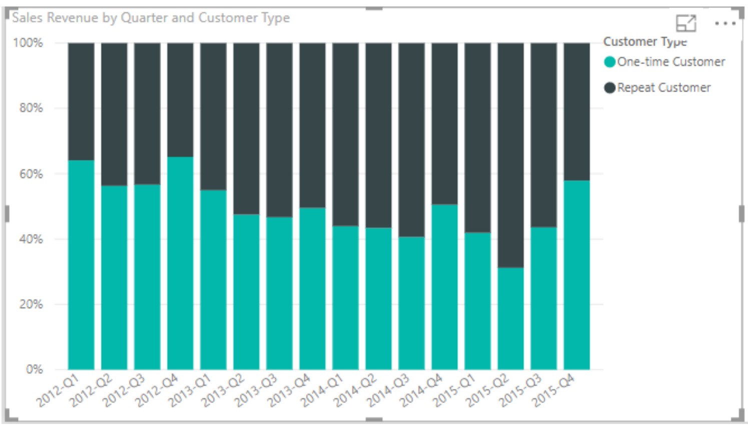
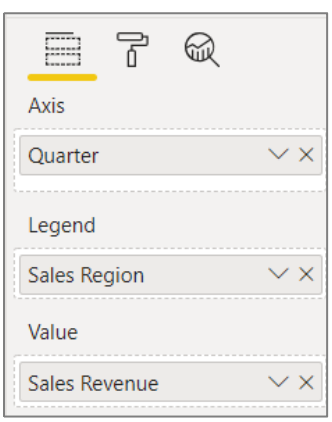
f) Drag the **Customer Type** column from the **Customers** table and drop it into the **Legend** well in the **Visualizations** pane.



g) The new visual should now match the that is visual shown in the following screenshot.



6. Create a third visual to display a breakdown of sales revenue by sales region.
   a) Select the first visual on the top, left of the page and copy it to the Windows clipboard.
   b) Perform a paste operation to add a new copy of the visual to the report page.
   c) Reposition the visual so it takes up the entire upper, right-hand corner of the page.
   d) Make sure the third visual is selected and examine its properties in the **Visualizations** pane.
   e) Remove the **Categories** column from the **Legend** well.
   f) Drag the **Sales Region** column from the **Customers** table and drop it into the **Legend** well in the **Visualizations** pane.



   g) The new visual should now match the visual shown in the following screenshot.

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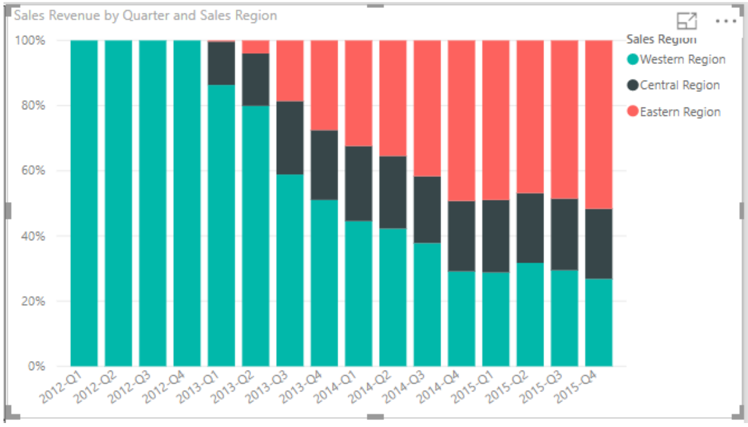
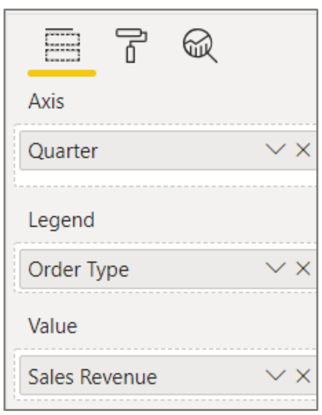
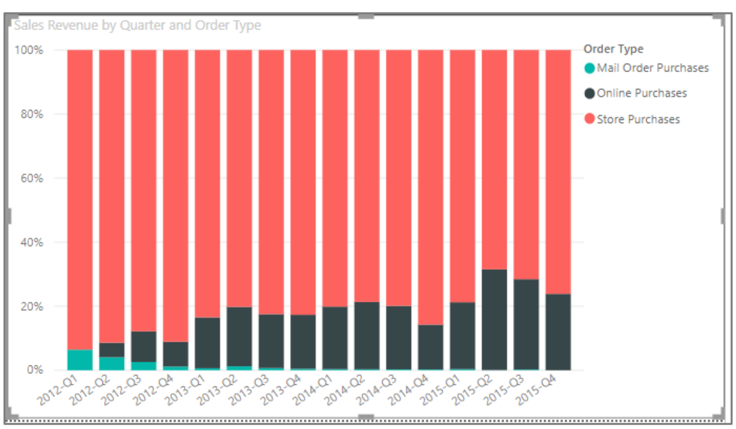


7. Create a fourth visual to display a breakdown of sales revenue by purchase type.
   a) Select the first visual on the top, left of the page and copy it to the Windows clipboard.
   b) Perform a paste operation to add a new copy of the visual to the report page.
   c) Reposition the visual so it takes up the entire lower, right-hand corner of the page.
   d) Make sure the new visual is selected and examine its properties in the **Visualizations** pane.
   e) Remove the **Categories** column from the **Legend** well.
   f) Drag the **Order Type** column from the **Orders** table and drop it into the **Legend** well in the **Visualizations** pane.



   g) The new visual should now match the visual shown in the following screenshot.



   h) Make sure that the four visuals are laid out on the page as shown in the following screenshot.

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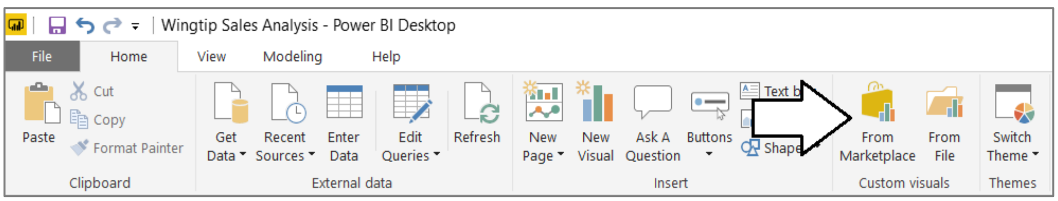
8. Save the work you have done by clicking the **Save** button in the upper left corner of the Power BI Desktop window.

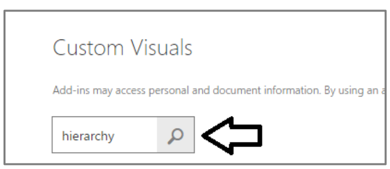
Exercise 3: Import a Custom Visual for Use in a Power BI Report

In this exercise you will download a custom visual from the Power BI custom visuals gallery and then you will import it into Power BI Desktop so you can use it in the report you have been designing. In particular, you will leverage the **Hierarchy Slicer** custom visual which provides the ability to drill down into a dimensional hierarchy such as **Product Category**.

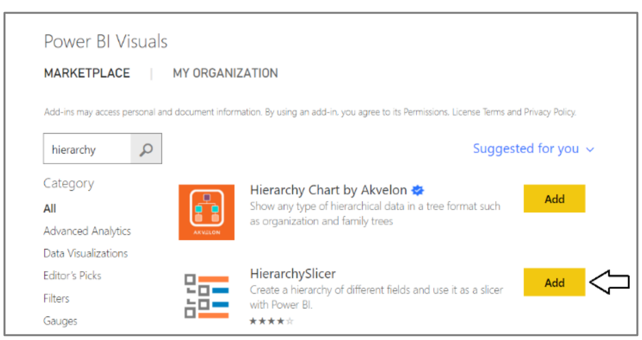
9. Download the custom visual from the custom visuals store.
   a) On the Home tab of the ribbon, locate and click the **From Marketplace** button in the **Custom visuals** group.



   b) In the Custom Visual dialog, type hierarchy into the search box and click the search button.



   c) Locate the custom visual named **Hierarchy Slicer** and click **Add**.



   d) You will prompted with a dialog that informs you the visual has been imported successfully. Click **OK** to dismiss the dialog.

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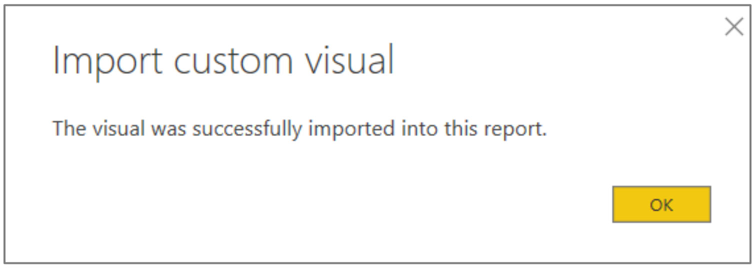
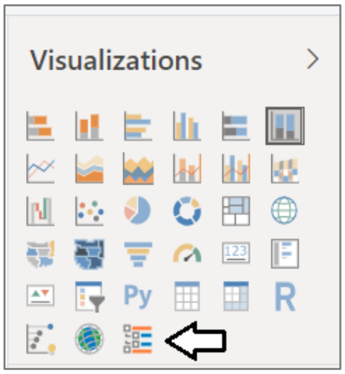
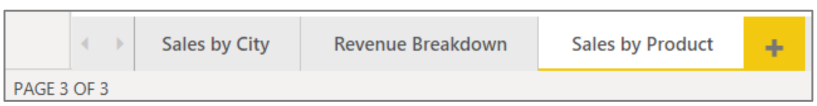


e) Once the custom visual has been imported, you should be able to see a new button for it in the **Visualizations** list.



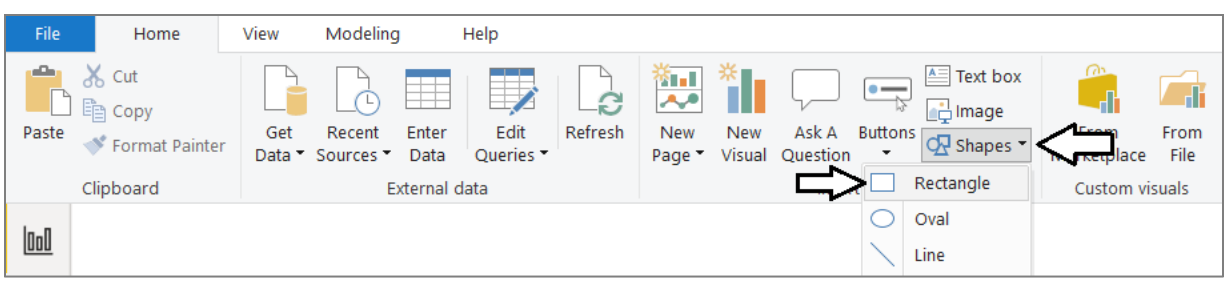
Now that you have imported the **Hierarchy Slicer** into the current project, the next step is to add this custom visual to a report.

10. Create a new report page and rename it to **Sales by Product**.
    a) On the page navigation menu, click the (**+**) button to create a new report page.
    b) Rename the page to **Sales by Product**.



    c) Using the mouse, drag and drop the tab for the **Sales by Product** page so it appears as the first page in the report.

11. Create a rectangle shape to provide background formatting for the report page.
    a) Drop down the **Shapes** menu and select the **Rectangle** command to add a new shape to the report.



    b) Using the mouse, resize the rectangle shape to take up the full height of the report page and about 20% of the width.

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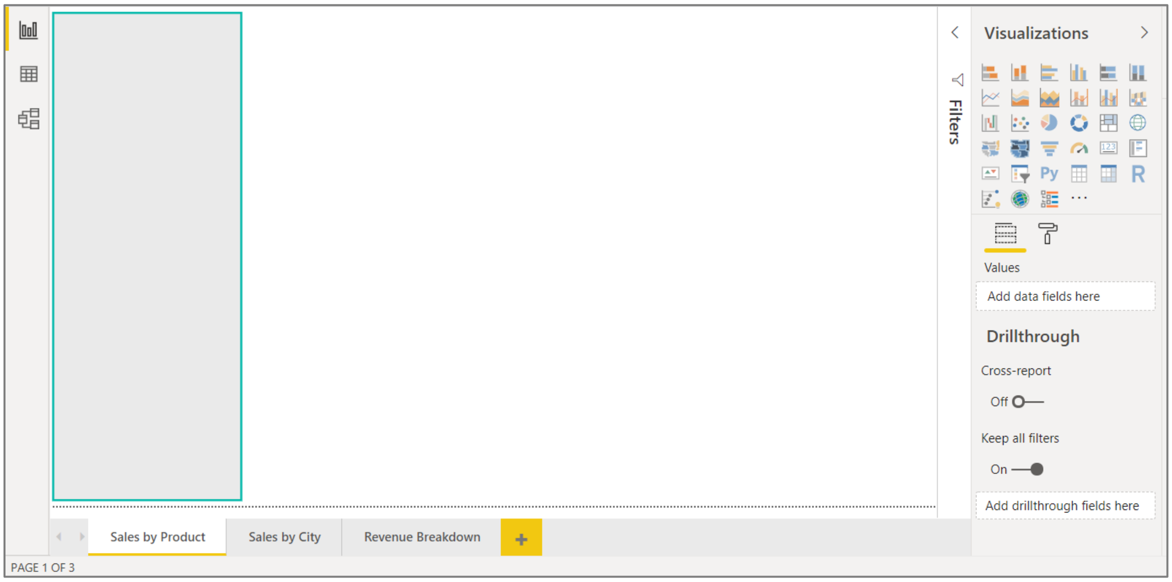
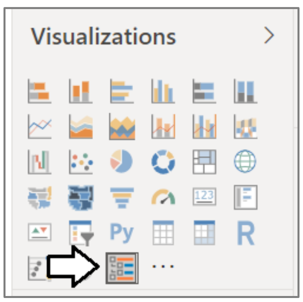
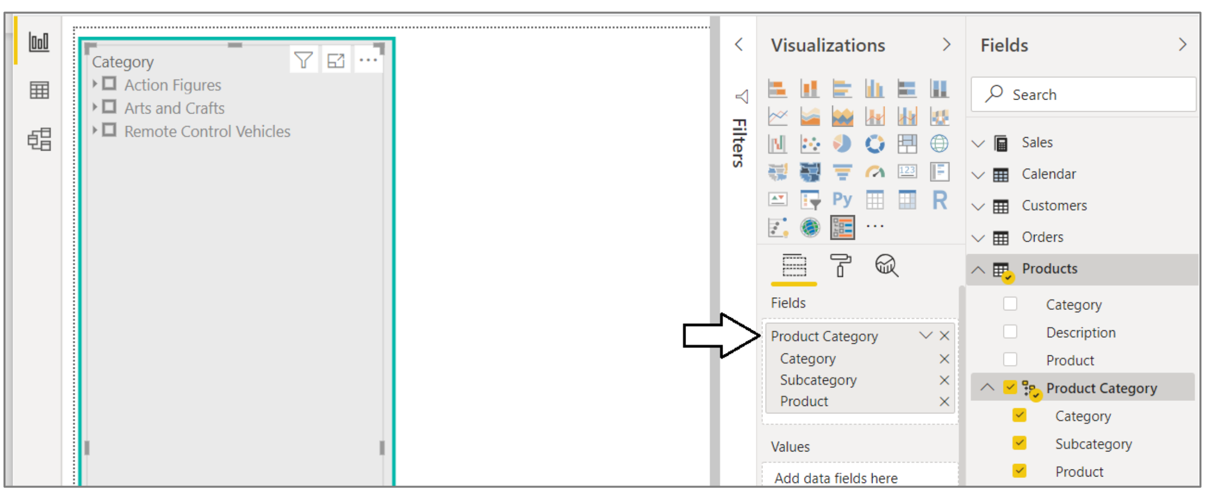


12. Create a new instance of the **Hierarchy Slicer** visual.
    a) Click the new button for the **Hierarchy Slicer** in the **Visualizations** list to create a new instance.



    b) Reposition the hierarchy slicer visual inside the rectangle shape on the left side of the page.
    c) Click on the checkbox for the **Product Category** hierarchy to add it to the **Fields** well.
    d) You should now see the top-level product categories displayed in the hierarchy slicer visual.



13. Create a new line chart visual to display sales revenue by sales region.

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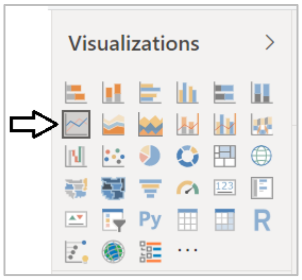
a) Make sure the hierarchy slicer is not selected.

b) Click on the Line chart button in the ribbon to create a new Line chart visual.

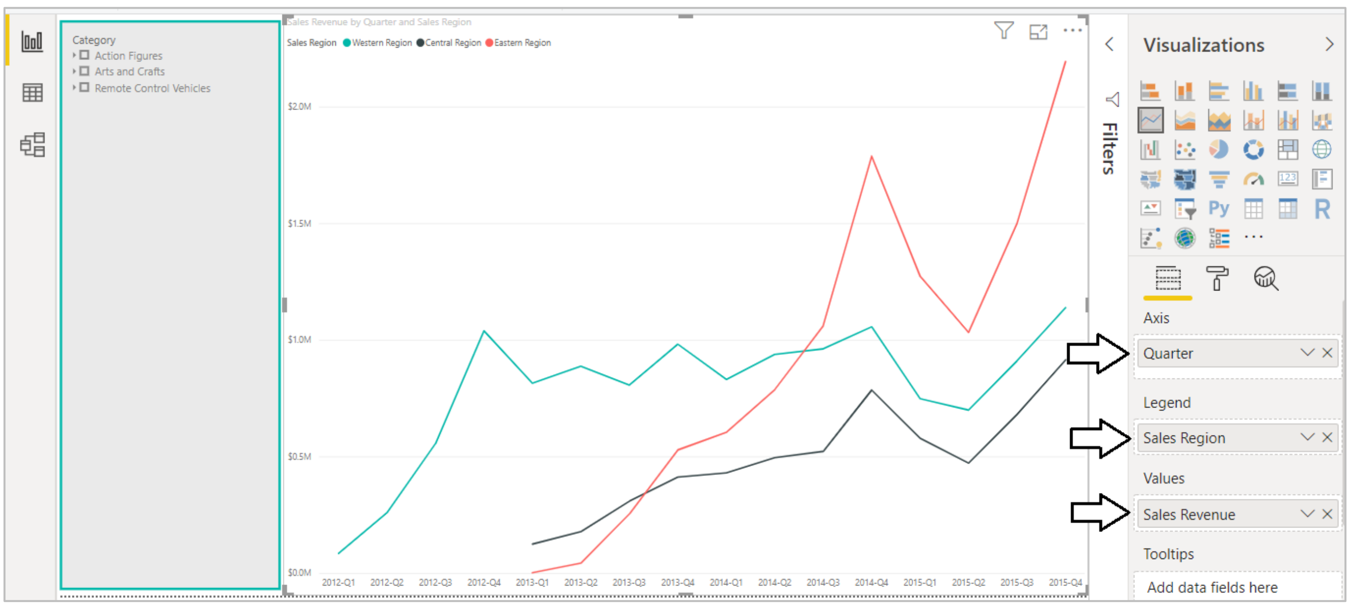


c) Drag and drop the **Quarter** field from the **Calendar** table into the **Axis** well.

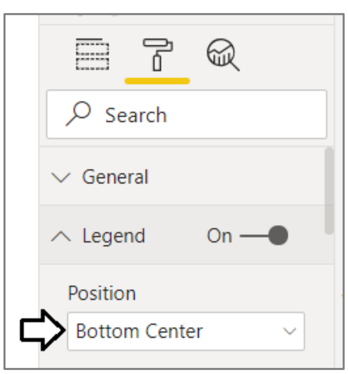
d) Drag and drop the **Sales Revenue** field from the **Sales** table into the **Values** well

e) Drag and drop the **Sales Region** field from the **Customers** table into **Legend** well

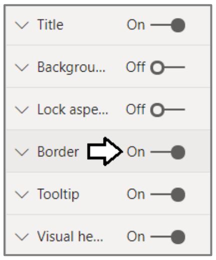
f) Reposition the visual to so it takes up all the space in the page that is not already occupied by the hierarchy slicer visual.



g) With the Line chart visual selected, navigate to the **Legend** section in the **Format** properties pane. Update the value of the **Position** property for the legend to **Bottom Centered**.

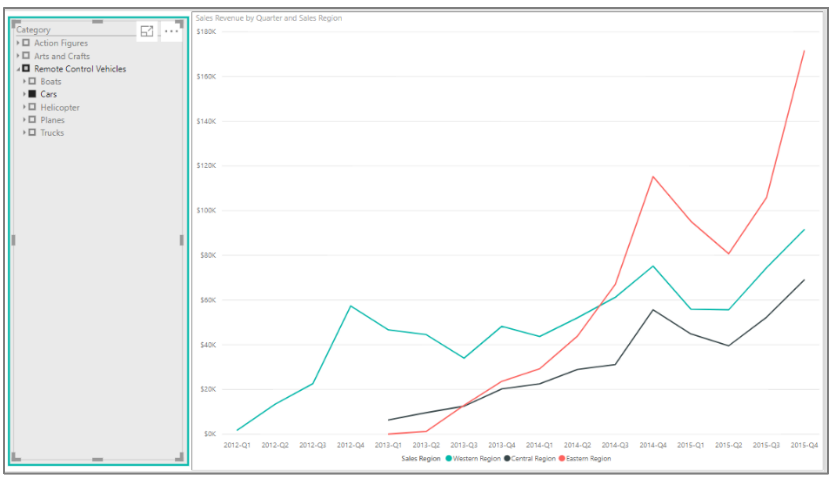


h) Locate the **Border** property at the bottom of the Format properties pane and set its value to **On**.

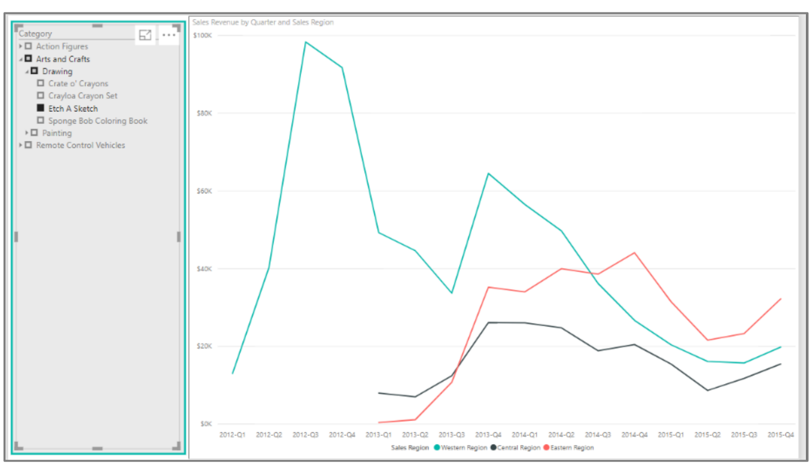


Now you have done all the work to create an interactive report page. Now it's time to test it out and see how it helps to analyze data.

14. Use the hierarchy slicer to analyze and drill down into sales data.
    a) Experiment by selecting nodes within the hierarchy slicer.
    b) For example, select the node at **Remote Control Vehicles > Cars**.



    c) Inspect how sales compare between the categories of **Action Figures**, **Arts and Crafts** and **Remote Control Vehicles**.
    d) Drill down to the product level to inspect the month-to-month sales of individual products.
    e) Determine which products have been trending downwards in sales revenue over the last two years.



15. Save the work you have done by clicking the **Save** button in the upper left corner of the Power BI Desktop window.

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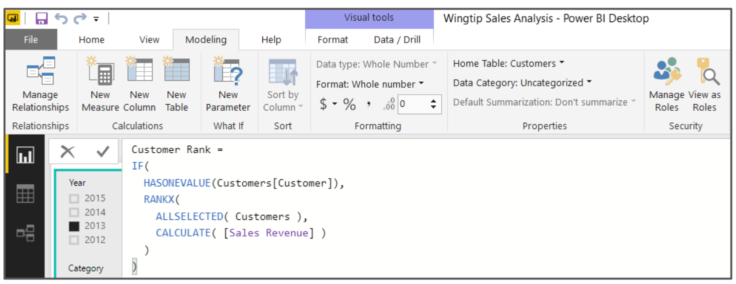
Exercise 4: Create the Top 10 Customers Report

In this exercise you will create a measure named **Customer Rank** that ranks customers according to their sales revenue. You will then work to create a report that displays the top 10 customers. You will also design this report to be interactive allowing the user to filter on a specific year or a specific sales region to see what products are the best sellers.

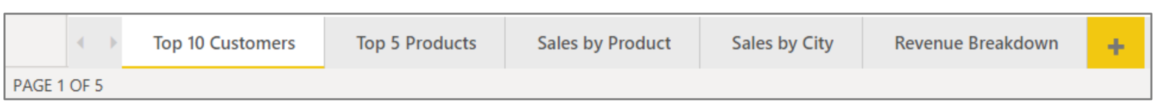
1. Create a new measure named **Customer Rank** to determine the top ranked customers with respect to sales revenue.
   a) Navigate to data view if you are not already there.
   b) Select the **Sales** table from the **Fields** list.
   c) Create a new measure by clicking the **New Measure** button in the ribbon.
   d) Enter to following DAX expression into the formula bar to create the measure named **Customer Rank**.

```
Customer Rank =
IF(
  HASONEVALUE(Customers[Customer]),
  RANKX(
    ALLSELECTED( Customers ),
    CALCULATE( [Sales Revenue] )
  )
)
```

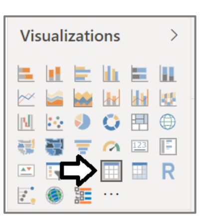
   e) Press the **ENTER** key to add the measure to the data model.
   f) Ensure the formatting for this measure is set to **Whole Number** as shown in the following screenshot.



2. Create a new report page named .
   a) Navigate to **Report** view.
   b) Create a new report page and rename it to **Top 10 Customers**.
   c) Using the mouse, drag the new page tab all the way to the left so it appears first in the page navigation menu.



3. Add a new table visual to display the top 10 customers.
   a) Click the **New Visual** button on the ribbon to add a new visual to the page.
   b) Change the visual to a table by clicking the **Table** button in the **Visualizations** list.



   c) Drag and drop the **Customer Rank** measure from the **Customers** table into the **Values** well.
   d) Drag and drop the **Customer** column from the **Customers** table into the **Values** well.

e) Drag and drop the **Age** column from the **Customers** table into the **Values** well.

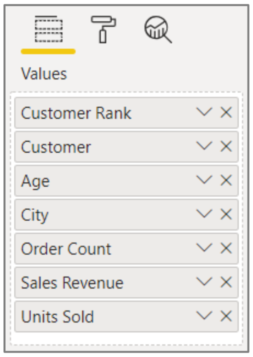
f) Drag and drop the **City** column from the **Customers** table into the **Values** well.

g) Drag and drop the **Order Count** measure from the **Sales** table into the **Values** well.

h) Drag and drop the **Sales Revenue** measure from the **Sales** table into the **Values** well.

i) Drag and drop the **Units Sold** measure from the **Sales** table into the **Values** well.

j) The **Values** well for your visual should match the following screenshot.



k) The new table visual should now display as the visual shown in the following screenshot.

Customer Rank	Customer	Age	City	Order Count	Sales Revenue	Units Sold
57103	Aaron Beasley	89.00	Miami, FL	1	$60	3
35049	Aaron Best	39.00	Princeton, NJ	1	$234	33
50982	Aaron Blackwell	31.00	Austin, TX	1	$104	8
35718	Aaron Boyle	68.00	Lafayette, LA	1	$225	201
10970	Aaron Cannon	74.00	Fort Collins, CO	3	$807	31
26816	Aaron Carver	39.00	Charlotte, NC	1	$324	18
61719	Aaron Cobb	70.00	Houston, TX	1	$22	1
32272	Aaron French	31.00	Asheville, NC	1	$259	11
10694	Aaron Gould	73.00	Dorchester, MA	2	$827	16
47950	Aaron Grant	76.00	Sacramento, CA	1	$125	5
35985	Aaron Harris	64.00	San Antonio, TX	1	$224	8
38362	Aaron Hodges	72.00	Miami, FL	1	$200	2
26033	Aaron Knight	76.00	Houston, TX	1	$335	14
63224	Aaron Lowe	69.00	Dallas, TX	1	$10	10
52118	Aaron McClain	48.00	Syracuse, NY	1	$100	5

l) Click on the **Customer Rank** column header twice to sort the visual so the customers with the lowest rank and the greatest amount of sales revenue are sorted to the top.

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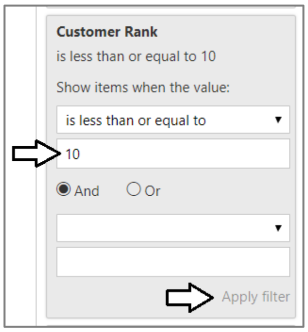
Customer Rank	r	Age	City	Order Count	Sales Revenue	Units Sold
1	Erasmo Dunlap	50.00	Issaquah, WA	25	$6,794	257
2	Salvatore Blake	53.00	Portland, OR	23	$6,736	263
3	Ethel Hickman	45.00	Seattle, WA	16	$6,515	205
4	Tonya McMillan	34.00	Seattle, WA	32	$6,166	278
5	Roman Justice	71.00	San Jose, CA	21	$5,813	221
6	Janie Deleon	29.00	Spokane, WA	23	$5,610	237
7	Phoebe Molina	69.00	Salem, OR	30	$5,584	302
8	Reyes Bass	56.00	Salt Lake City, UT	14	$5,546	198
9	Courtney Hatfield	57.00	Napa, CA	14	$5,414	188
10	Alonzo Knight	47.00	San Jose, CA	16	$5,362	203
11	Faith Wheeler	82.00	El Paso, TX	11	$5,346	132
12	Nell Daugherty	75.00	Vancouver, WA	16	$5,325	186
13	Earl Mason	75.00	Seattle, WA	14	$5,262	183
14	Milford Ewing	31.00	Portland, OR	14	$5,247	146
15	Celia Lambert	29.00	Napa, CA	19	$5,228	238

m) In the Field properties pane, locate the **Customer Rank** measure in **Visual level filters** well of the **Filters** section.

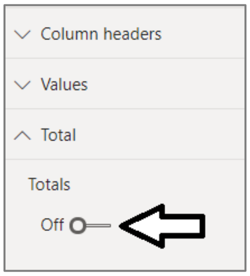
n) Configure the **Customer Rank** filter to only display customers with a rank of 10 or lower as shown in the following screenshot and then click the **Apply Filter** link to apply the filter to the visual.



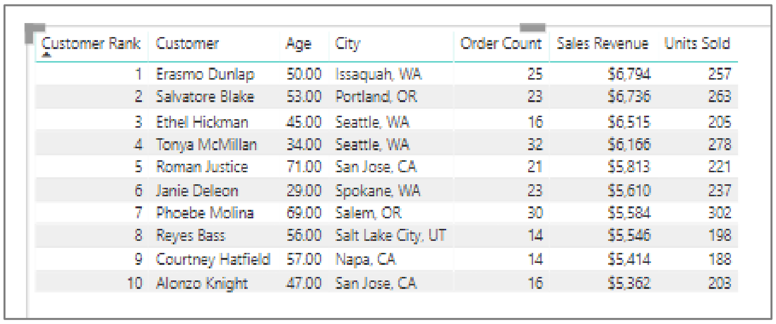
o) Your visual should now display the top 10 customers as shown in the following screenshot. Note that the visual is still showing the **Totals** row at the bottom which needs to be removed.

Customer Rank	Customer	Age	City	Order Count	Sales Revenue	Units Sold
1	Erasmo Dunlap	50.00	Issaquah, WA	25	$6,794	257
2	Salvatore Blake	53.00	Portland, OR	23	$6,736	263
3	Ethel Hickman	45.00	Seattle, WA	16	$6,515	205
4	Tonya McMillan	34.00	Seattle, WA	32	$6,166	278
5	Roman Justice	71.00	San Jose, CA	21	$5,813	221
6	Janie Deleon	29.00	Spokane, WA	23	$5,610	237
7	Phoebe Molina	69.00	Salem, OR	30	$5,584	302
8	Reyes Bass	56.00	Salt Lake City, UT	14	$5,546	198
9	Courtney Hatfield	57.00	Napa, CA	14	$5,414	188
10	Alonzo Knight	47.00	San Jose, CA	16	$5,362	203
		51.10		**214**	**$59,540**	**2,352**

p) Locate the **Totals** property in the **Total** section of the property sheet for the table visual and set it to a value of **Off**.

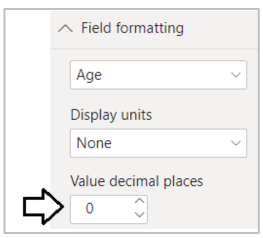


q) You visual should now look better when it is displayed without the **Totals** row.

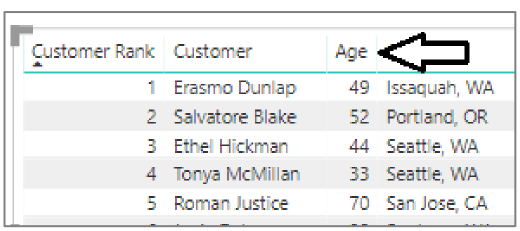


Customer Rank	Customer	Age	City	Order Count	Sales Revenue	Units Sold
1	Erasmo Dunlap	50.00	Issaquah, WA	25	$6,794	257
2	Salvatore Blake	53.00	Portland, OR	23	$6,736	263
3	Ethel Hickman	45.00	Seattle, WA	16	$6,515	205
4	Tonya McMillan	34.00	Seattle, WA	32	$6,166	278
5	Roman Justice	71.00	San Jose, CA	21	$5,813	221
6	Janie Deleon	29.00	Spokane, WA	23	$5,610	237
7	Phoebe Molina	69.00	Salem, OR	30	$5,584	302
8	Reyes Bass	56.00	Salt Lake City, UT	14	$5,546	198
9	Courtney Hatfield	57.00	Napa, CA	14	$5,414	188
10	Alonzo Knight	47.00	San Jose, CA	16	$5,362	203

r) Configure the **Field Formatting** of the **Age** field so it displays as a whole number by assigning the Value decimal pleces property with a value of **0**.



s) The **Age** values should now display as whole numbers with no significant digits after the decimal point.



Customer Rank	Customer	Age	
1	Erasmo Dunlap	49	Issaquah, WA
2	Salvatore Blake	52	Portland, OR
3	Ethel Hickman	44	Seattle, WA
4	Tonya McMillan	33	Seattle, WA
5	Roman Justice	70	San Jose, CA

4. Create a rectangle shape to provide background formatting for the report page.
   a) Drop down the **Shapes** menu and select the **Rectangle** command to add a new shape to the report.
   b) Using the mouse, resize the rectangle share to take up the full height of the report page and about 20% of the width.

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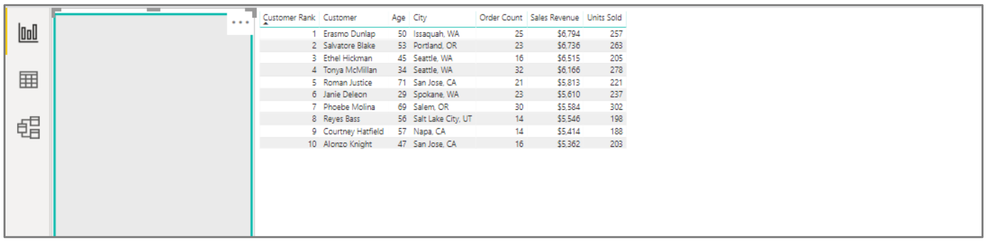
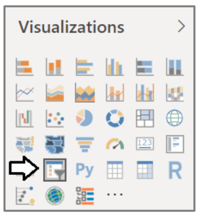


5. Add a new slicer visual to the page to filter the top 10 customers visual by **Year**.
   a) Click the **New Visual** button on the ribbon to add a new visual to the page.
   b) Change the visual to a slicer by clicking the Slicer button in the **Visualizations** list.



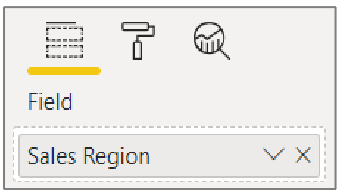
   c) Position the slicer on top of the rectangle.
   d) Drag and drop the **Year** column from the **Sales** table into the **Values** well.

The slicer should be initialized with a slider because the **Year** field is a whole number.

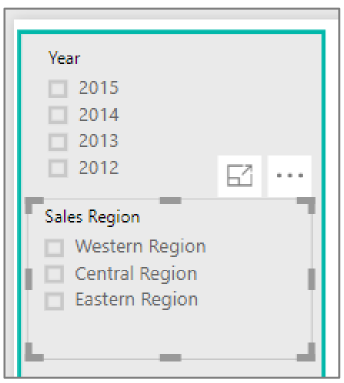
   e) Go through the same set of steps that you did with the **Year** slider on the **Top 5 Products** page so that it displays as a list slicer with the more recent years on top as shown in the following screenshot.

   f) Try using the slicer by selecting individual years. You should see that the visual with the top 10 customers list changes when you select a different year.

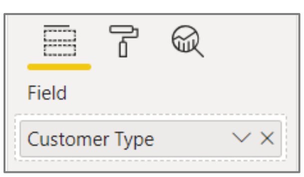
6. Add a second slicer visual to filter the top 10 customers visual by **Sales Region**.
   a) Click the **New Visual** button on the ribbon to add a new visual to the page.
   b) Change the visual to a slicer by clicking the Slicer button in the **Visualizations** list.
   c) Drag and drop the **Sales Regions** column from the **Customers** table into the **Values** well.



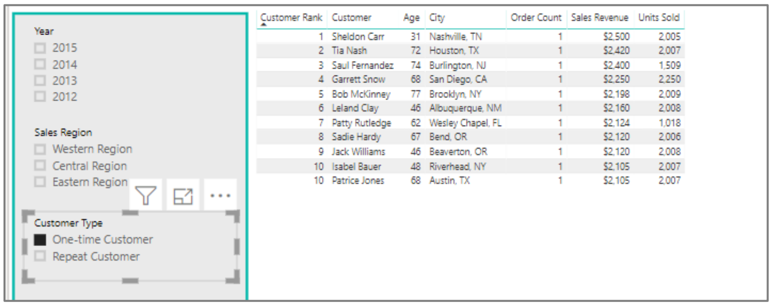
   d) Reposition the new visual to match the page layout shown in the following screenshot.



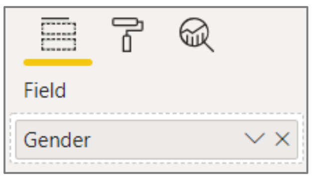
7. Add a third slicer visual to filter the top 10 customers visual by **Customer Type**.
   a) Click the **New Visual** button on the ribbon to add a new visual to the page.
   b) Change the visual to a slicer by clicking the Slicer button in the **Visualizations** list.
   c) Drag and drop the **Customer Type** column from the **Customers** table into the **Values** well.



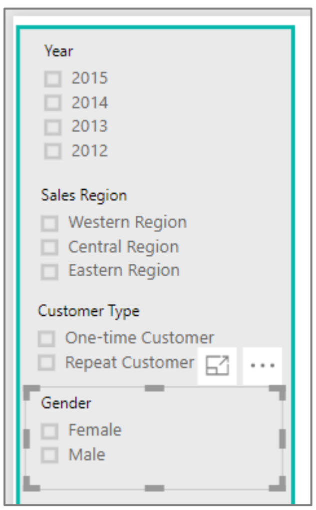
   d) Reposition the new visual to match the page layout shown in the following screenshot.



8. Add a fourth slicer visual to filter the top 10 customers visual by **Gender**.
   a) Click the **New Visual** button on the ribbon to add a new visual to the page.
   b) Change the visual to a slicer by clicking the Slicer button in the **Visualizations** list.
   c) Drag and drop the **Gender** column from the **Customers** table into the **Values** well.



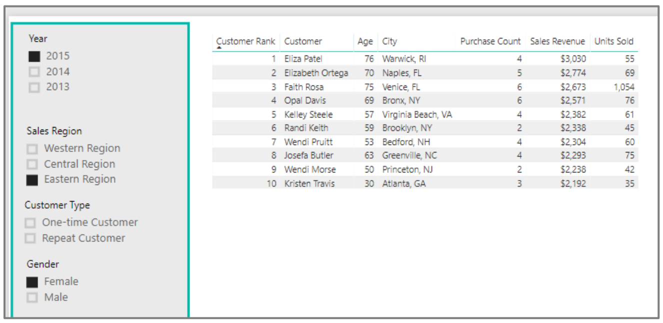
   d) Reposition the new visual to match the page layout shown in the following screenshot.



9. Now interact with the slicers on the page to answer the following questions.
   a) Who were the top 10 customers in 2013 who were repeat male customers living in the Central Region?

Customer Rank	Customer	Age	City	Purchase Count	Sales Revenue	Units Sold
1	Efren Berger	65	El Paso, TX	2	$2,414	2,012
2	Bob Coffey	65	Dallas, TX	8	$2,408	80
3	Russell Freeman	37	Lake Charles, LA	3	$1,931	60
4	Booker Snow	40	Austin, TX	5	$1,828	47
5	Harris Chen	66	Fort Worth, TX	3	$1,810	1,034
6	Thad Juarez	50	El Paso, TX	9	$1,667	75
7	Bob Hansen	65	Austin, TX	6	$1,632	63
8	Theron Nguyen	53	Fort Worth, TX	3	$1,519	1,039
9	Stacey Diaz	31	Austin, TX	5	$1,500	67
10	Winston Washington	46	Columbus, OH	3	$1,495	37

b) Who were the top 10 Female customers from the Eastern Region in 2015?



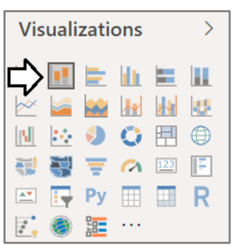
Customer Rank	Customer	Age	City	Purchase Count	Sales Revenue	Units Sold
1	Eliza Patel	76	Warwick, RI	4	$3,030	55
2	Elizabeth Ortega	70	Naples, FL	5	$2,774	69
3	Faith Rosa	75	Venice, FL	6	$2,673	1,054
4	Opal Davis	69	Bronx, NY	6	$2,571	76
5	Kelley Steele	57	Virginia Beach, VA	4	$2,382	61
6	Randi Keith	59	Brooklyn, NY	2	$2,338	45
7	Wendi Pruitt	53	Bedford, NH	4	$2,304	60
8	Josefa Butler	63	Greenville, NC	4	$2,293	75
9	Wendi Morse	50	Princeton, NJ	2	$2,238	42
10	Kristen Travis	30	Atlanta, GA	3	$2,192	35

c) Clear the filter on all the slicers on the page so the table shows results for all sales.

10. Add a new bar chart to show the sales revenue breakdown for the top 10 customers.

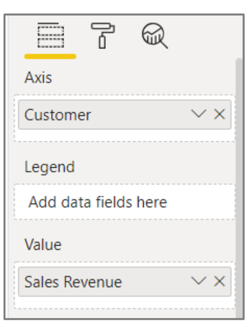
a) Click the **New Visual** button on the **Home** tab of the ribbon to add a new visual to the **Top 10 Customers** page.

b) Change the visual type to a **Stacked column chart** by clicking the second button in the **Visualizations** list.



c) Drag and drop the **Customer** column from the **Customers** table into the **Axis** well.

d) Drag and drop the **Sales Revenue** measure from the **Sales** table into the **Values** well.



e) At this point, your column chart visual should match the one shown in the following screenshot.

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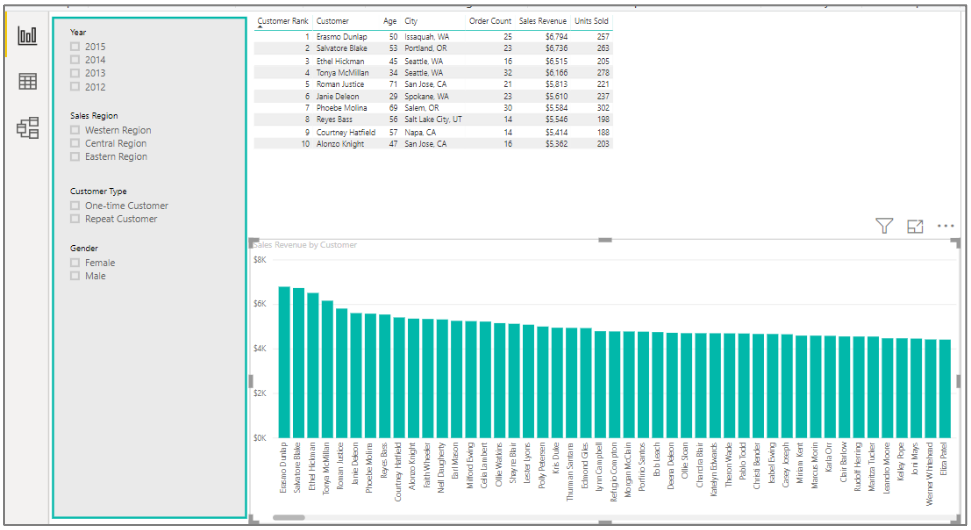
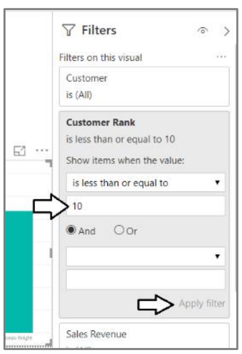
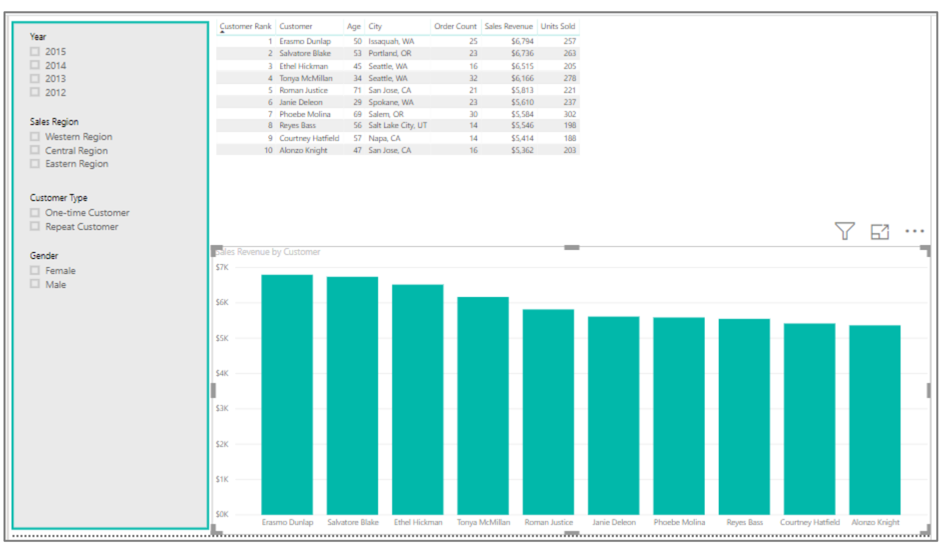


f) Drag and drop the **Customer Rank** measure from the **Customers** table into **Visual level filters** well of the **Filters** section.

g) Configure the **Customer Rank** filter to only display customers with a rank of 10 or lower as shown in the following screenshot and then click the **Apply Filter** link to apply the filter to the visual.



h) Resize the column chart visual so it takes up the remaining width of the report page so it matches the following screenshot.



i) Add a small bit of formatting by selecting the bar chart and then changing the **Data labels** property setting from **Off** to **On**.

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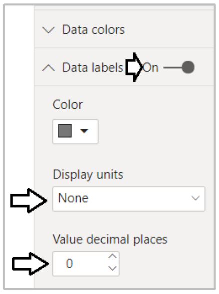
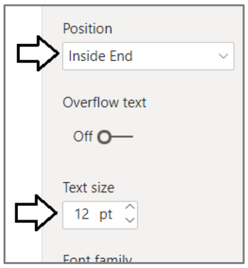
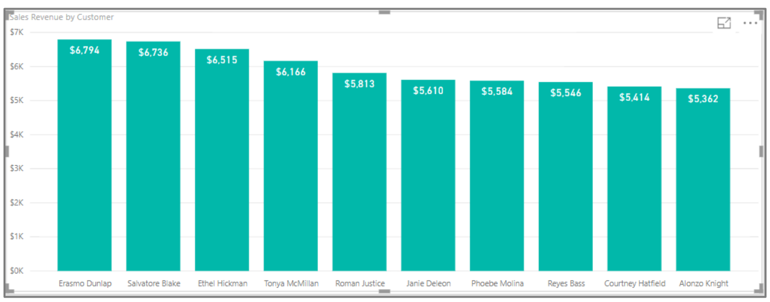


j) Update the **Position** property to **Inside End** and the **Text size** property to **12**.

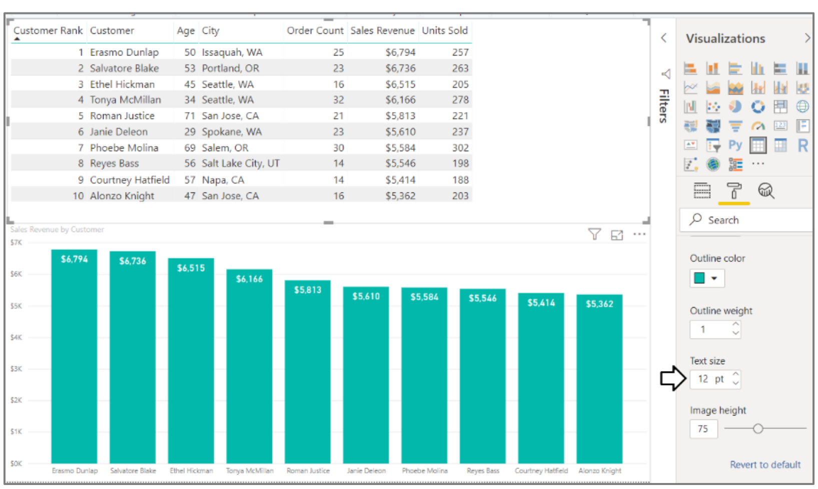


k) Now the visual should display an individual sales revenue total for each of the top 10 customers.



11. Make two more changes to the formatting of the **Top 10 Customers** page.

a) Increase the font size of the table visual by modifying the **Text size** property in the **Grid** section to a value of **12**.



b) Set the **Border** property to **On** for both the table visual and the column chart visual to match the following screenshot.

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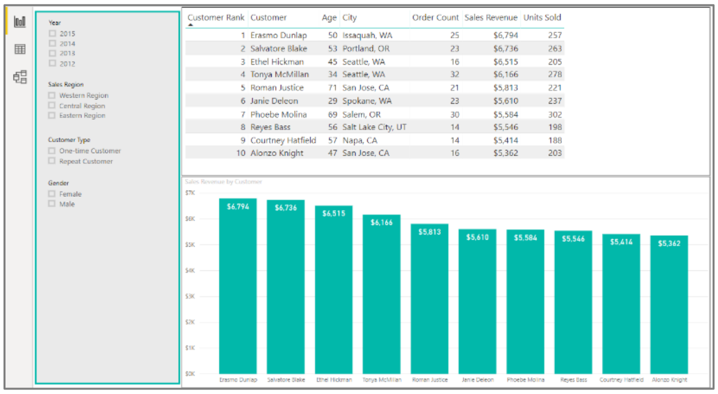
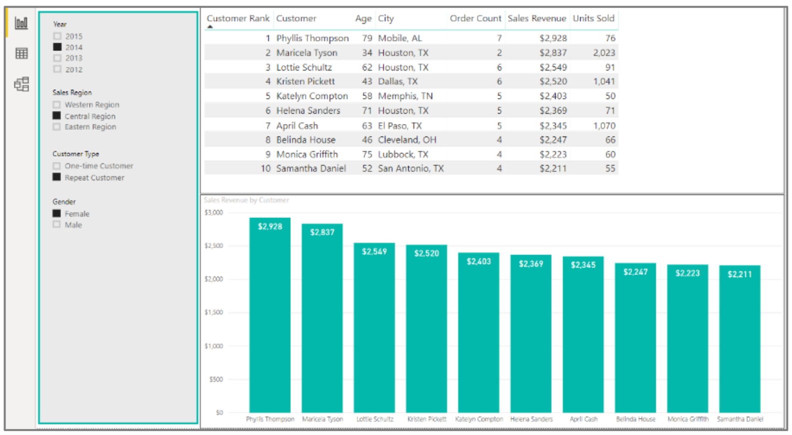


12. Test you work by using the four slicers to select different combinations of years, sales region, customer type and gender. Both the table and the bar chart with the top 10 customers should update together and stay in sync as you change the filter selection.



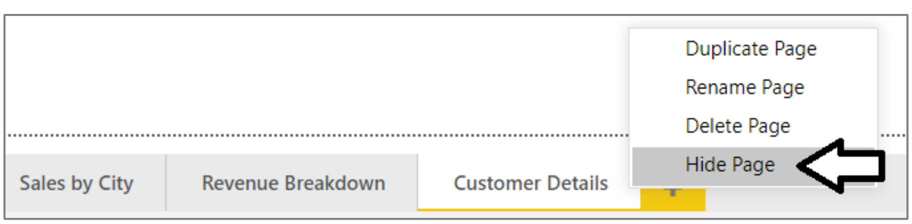
13. Save the work you have done by clicking the **Save** button in the upper left corner of the Power BI Desktop window.

Exercise 5: Create a Drillthrough Page to Display Customer Details

In this exercise you will create and configure a drillthrough page to show the details of a single customer at a time.

1. Create a new hidden report page named **Customer Details**.to serve as a drillthrough page.
   a) Navigate to report view.
   b) Create a new report page and rename it to **Customer Details**.

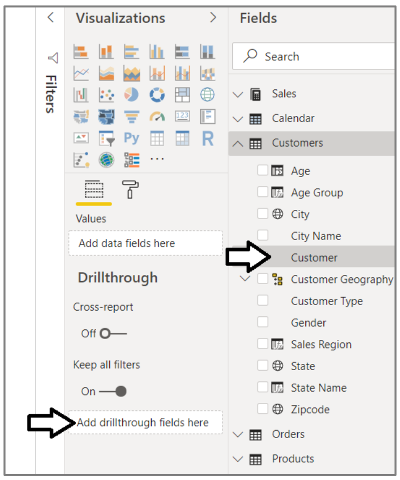
   c) Right-click on the **Customer Details** page tab and select the **Hide Page** menu command.



   d) The page tab for the Customer Details pages should be dimmed indicating that it is a hidden page.

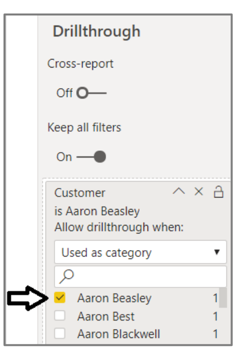
Remember that reports are always in edit mode when you're are working in Power BI Desktop. Therefore, a hidden page is not totally hidden. However, when the report is accessed through browser in the default read-only view, the page will be completely hidden.

2. Configure the **Customer Details** page to be a drillthrough page.
   a) Before you add any visuals, inspect the **Properties** pane for the **Customer Details** page.
   b) Locate the **DRILLTHROUGH** section underneath the **FILTERS** section.
   c) Drag and drop the **Customer** field from the **Customers** table into the well inside the **DRILLTHROUGH** section.



   d) When you configured the page as a drillthrough page, you should be able to see that Power BI Desktop has automatically added a back button to the top, left corner of the page.

   e) Click the page to deselect the back button. This will make it so you can see the page drillthrough settings.
   f) Select a drillthrough filter setting by checking the checkbox for the first customer named **Aaron Beasley**.



3. Add a card visual to the **Customer Details** drillthrough page to display the customer name.

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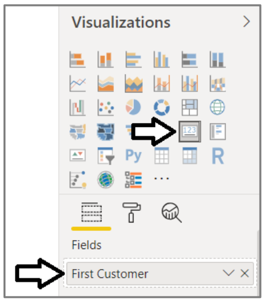
a) Add a new **Card** visual to the page.

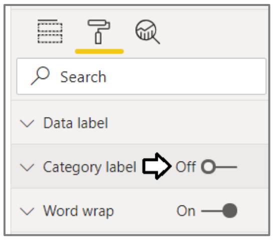
b) Drag the **Customer** field from the **Customers** table inside the **Fields** well.

c) The **Fields** well should now show **First Customer**.

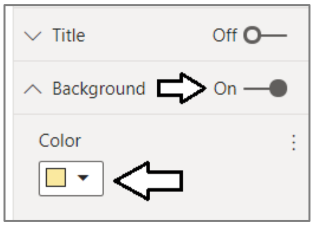


d) The Card visual should now display the customer name and the field name below.

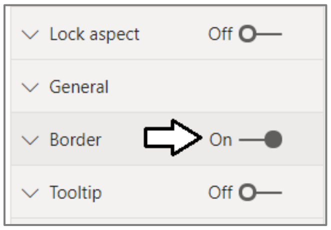
e) In the **Format** properties pane, set **Category label** property to Off.



f) Set the **Color** property in the **Background** section to light yellow.



g) Set the **Border** property to **On**.



h) Reposition the Card visual to the top of the page and make it wide as shown in the following screenshot.

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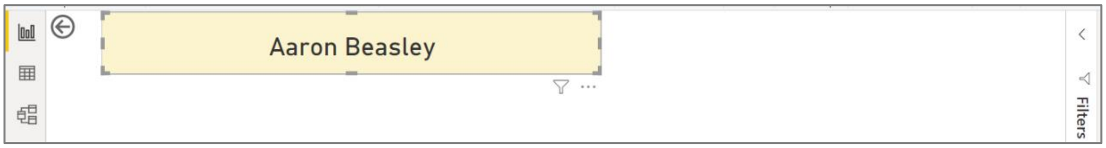
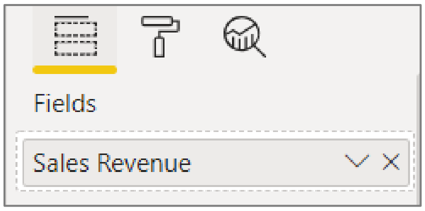
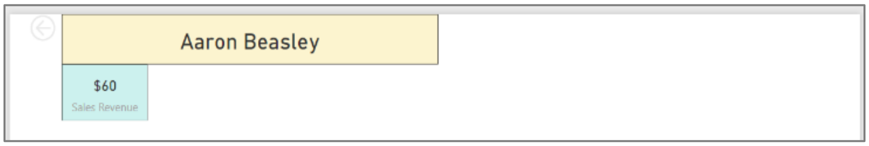


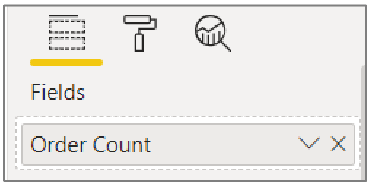
4. Add a few more card visuals to show more customer details.
   a) Add a second card visual based on the **Sales Revenue** field.



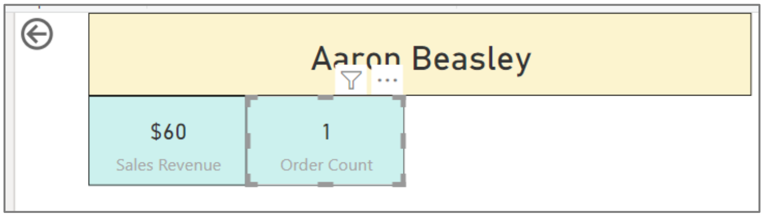
   b) Reduce the font size of the new Card to **18** and make the background color light green.
   c) Enable the **Border** property.
   d) Reposition the new Card visual underneath the Card with the customer name as shown in the following screenshot.



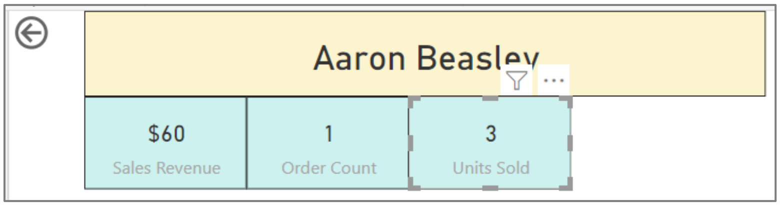
   e) Copy and paste the **Sales Revenue** card and change the field used by the new Card to **Order Count**.



   f) Reposition the **Purchase Count** card as shown in the following screenshot.



   g) Copy and paste the card again to create a new card based on **Units Sold** as shown in the following screenshot.



   h) Copy and paste the card again to create a new card based on **Age** as shown in the following screenshot..

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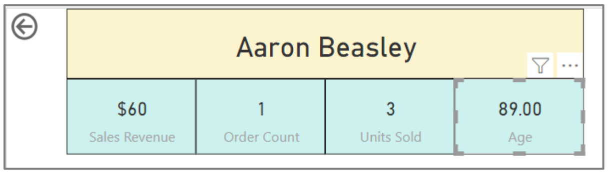
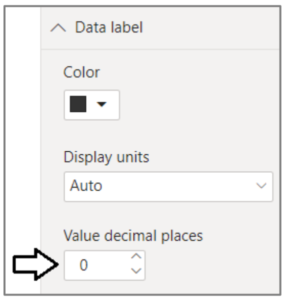
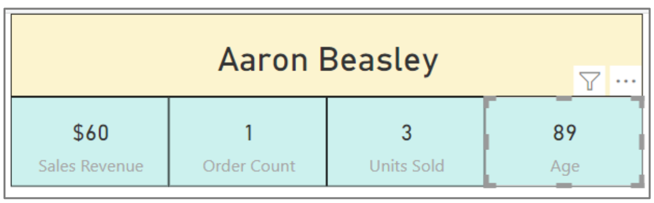


Note that **Age** value is being display with two significant digits after the decimal point. You will now configure the card showing the Age field to display as a whole number instead of as a floating point number..

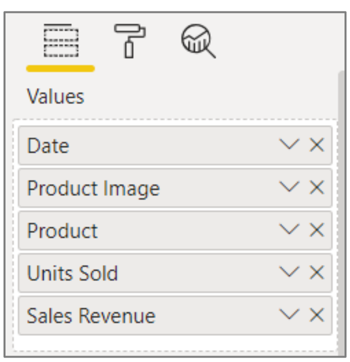
i) Modify the **Value decimal places** property of the Age card to remove any zeros after the decimal point.



j) **Age** should now be displayed as a whole number without any significant digit after the decimal point.



5. Add a new table visual to display the products that a customer has purchased.
   a) Add a new table visual to the report.
   b) Add the following fields to the **Values** well of the table visual.
      i) Date from the **Calendar** table
      ii) Product Image from the **Products** table
      iii) Product from the **Products** table
      iv) Units Sold from the **Sales** table
      v) Sales Revenue from the **Sales** table



   c) Your table visual should appear like the one shown in the following screenshot/

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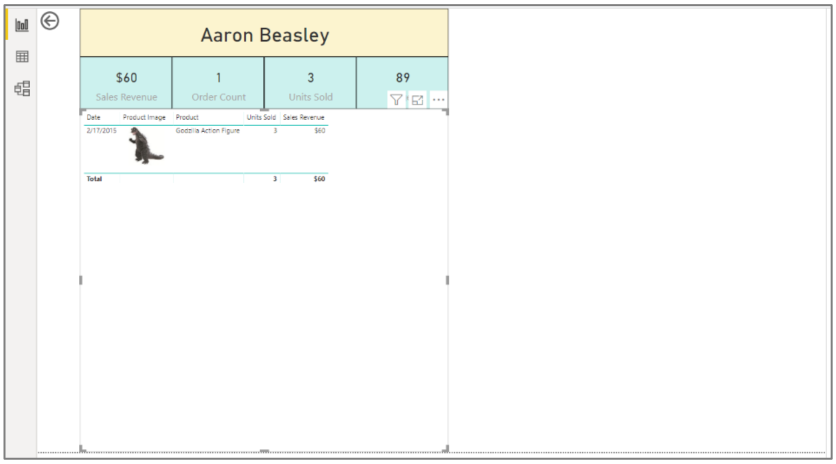
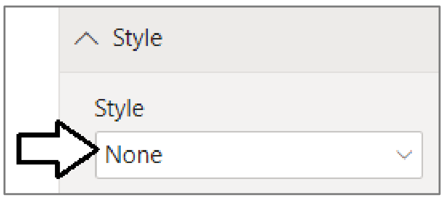
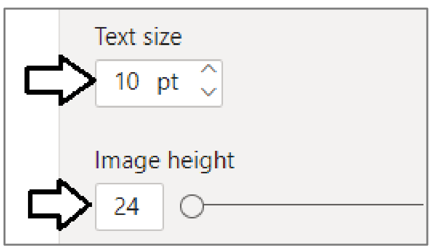


d) With the table visual selected, navigate to the **Grid** section for the **Format** properties pane.

e) zz



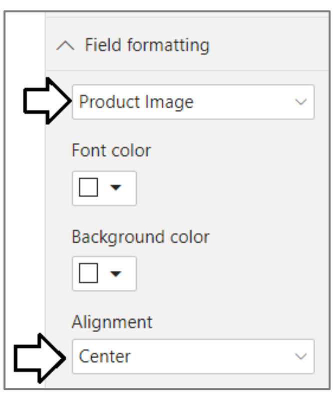
f) Modify the **Text size** property to a value of **10 pt** and modify the image height to a value of **24**.



g) Move down in the **Format** properties pane and locate the **Field formatting** section.

h) In the dropdown menu at the top of the **Field formatting** section, select the field named **Product Image**.

i) With **Product Image** field selected, set the **Alignment** property to **Center**.



j) The display of the product image should now be in the center of the column width.

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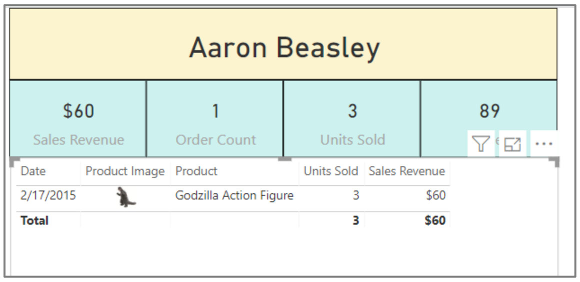
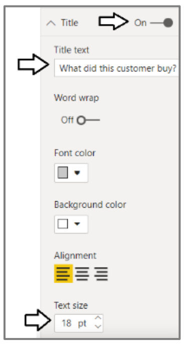


k) Move down in the **Format** properties pane and locate the **Title** section.

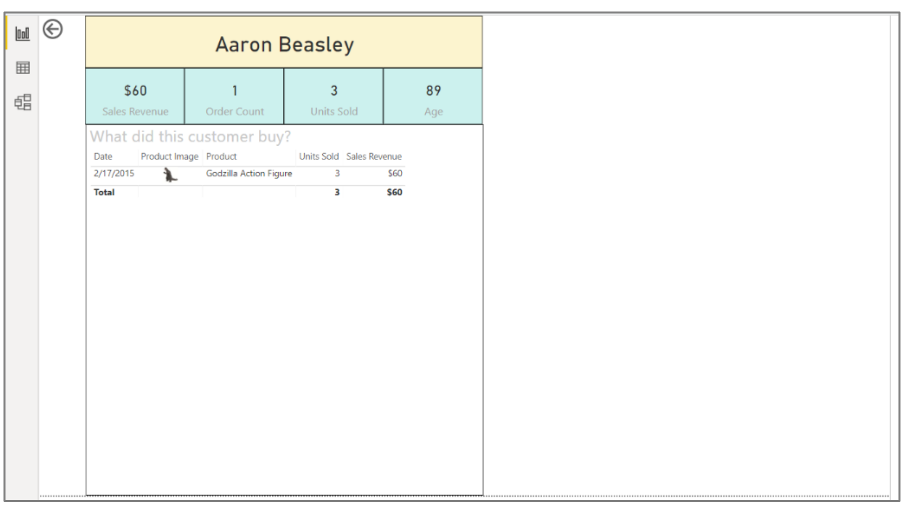
l) Modify the **Title text** property to **What did this customer buy?**

m) Change the **Text size** property of the title to **18**.



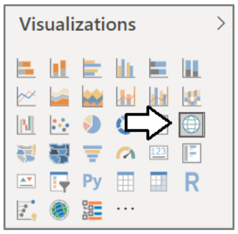
n) Enable the border for the table visual.

o) Position the table to underneath the card visuals as shown in the following screenshot.



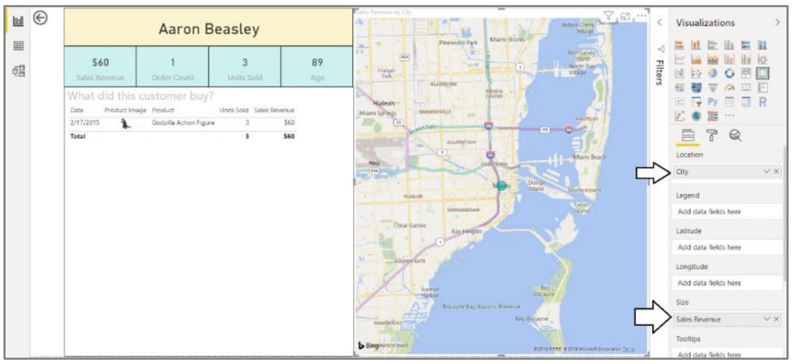
6. Add a new map visual to show where the customer lives.

a) Add a new map visual to the report page.

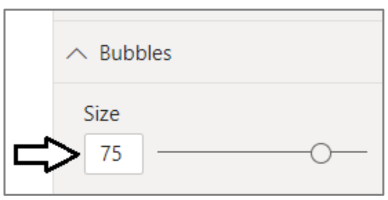


b) Add the **City** field from the **Customers** table into the **Location** well of the map.

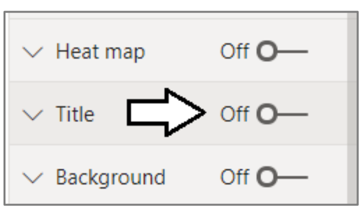
c) Add the **Sales Revenue** field from the **Sales** table into the **Size** well of the map visual.



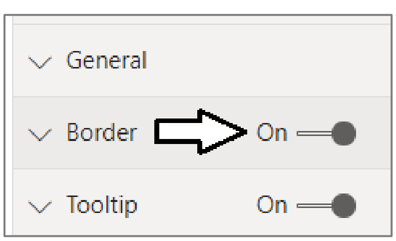
d) Inside the **Bubbles** section in the **Format** properties pane for the map visual, increase the **Size** property to **75%**.



e) Set the **Title** property of the map visual to **Off** to hide the visual title.



f) Set the **Border** property of the map visual to **On**.



g) Here what it should look like.

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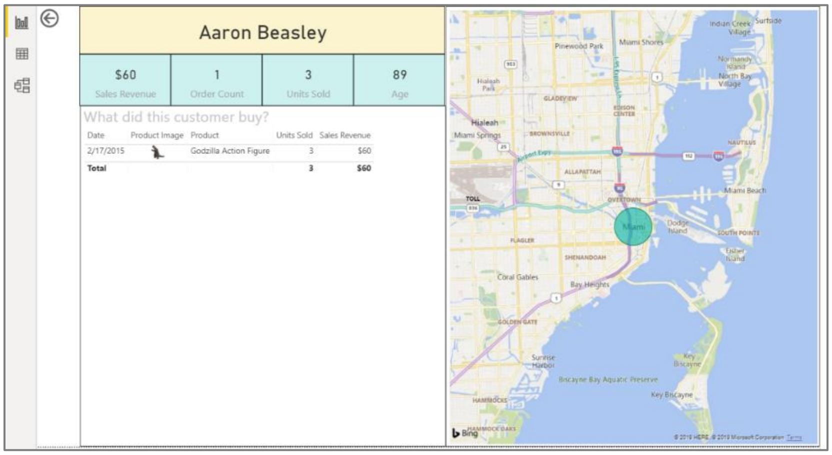
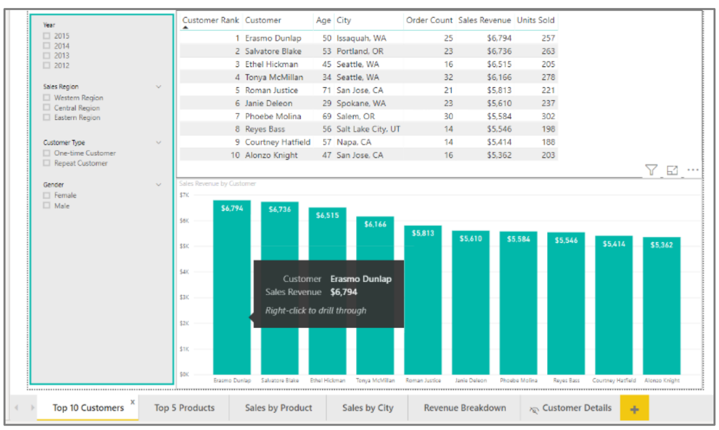
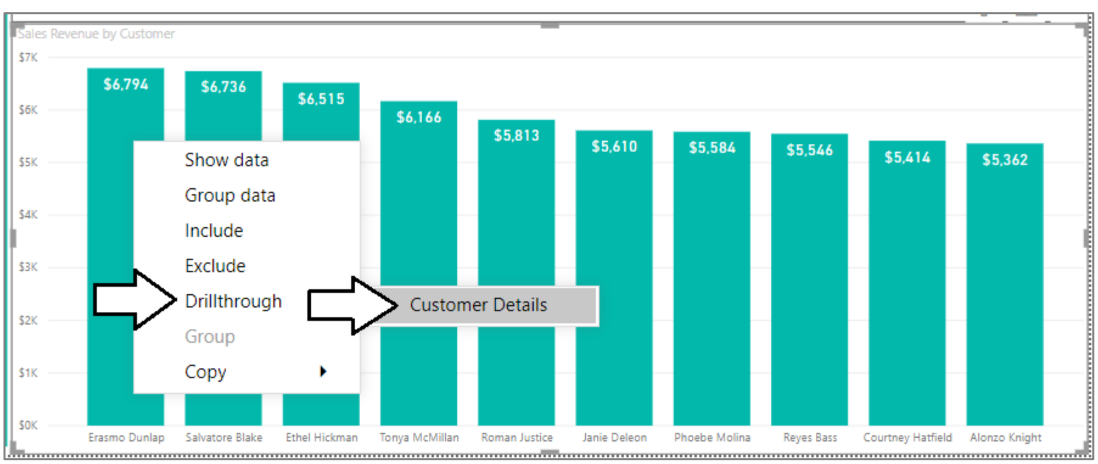


7. Save your work by clicking the **Save** button in the top-left corner of the Power BI Desktop window.
8. Test it out the drillthrough.
    a) Navigate to the **Top 10 Customers** page.
    b) Hover you mouse over the column on the left for the customer **Erasmo Dunlap**.



    c) Right-click the column for the customer **Erasmo Dunlap** and then select **Drillthrough > Customer Details**.



    d) You should be redirected to the **Customer Details** page and the filter should be automatically set to **Erasmo Dunlap**.

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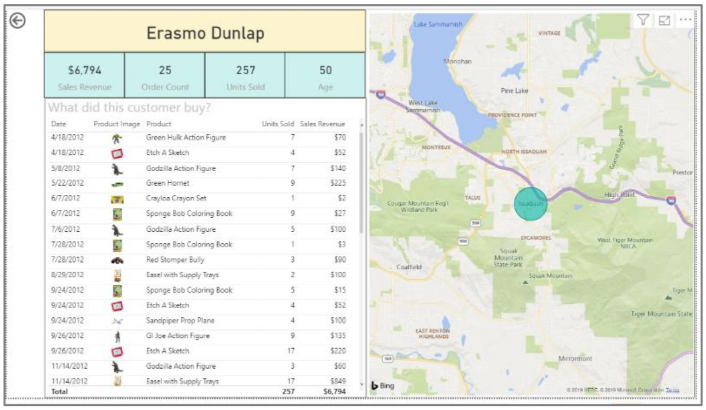
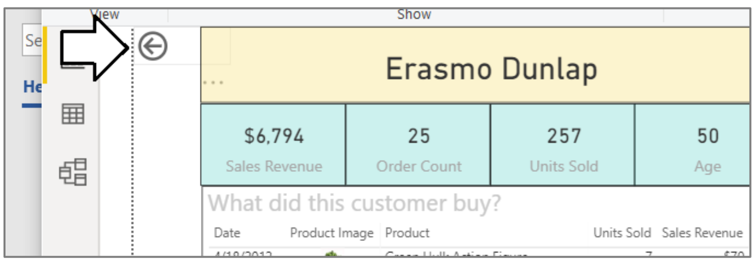
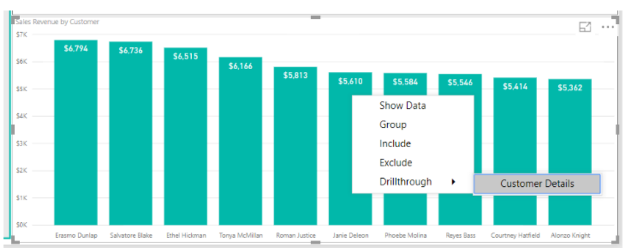


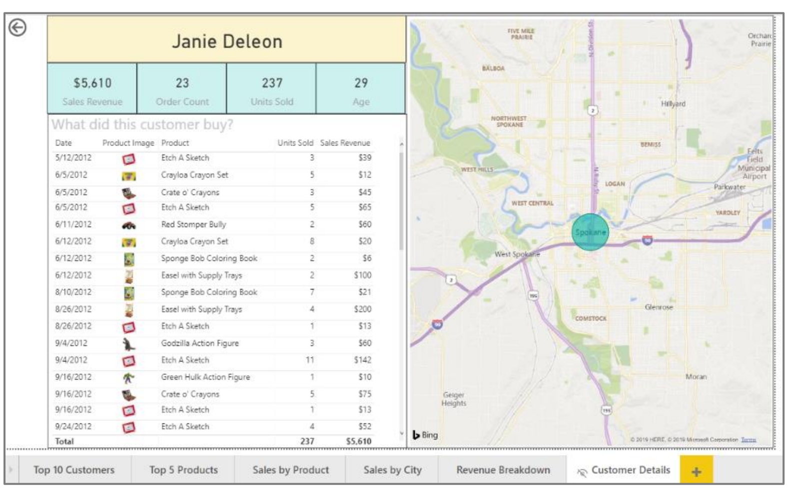
e) Hold down the **Ctrl** key and click the back button to return to **Top 10 Customers** page.



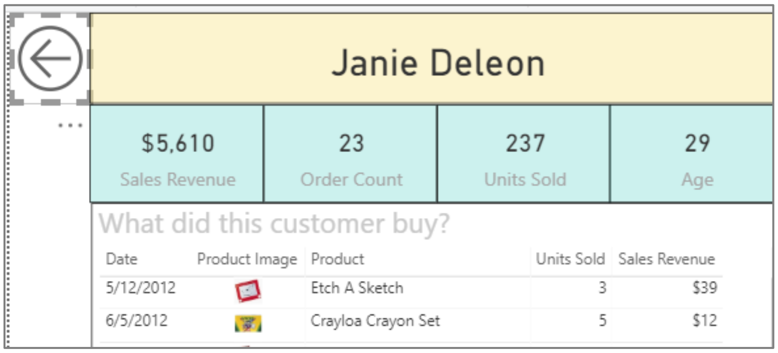
f) Now drillthrough to another customer such as **Janie Deleon**.



g) You should be redirected to the **Customer Details** page and the filter should be automatically set to **Erasmo Dunlap**.



9. Make the back button a little bigger.

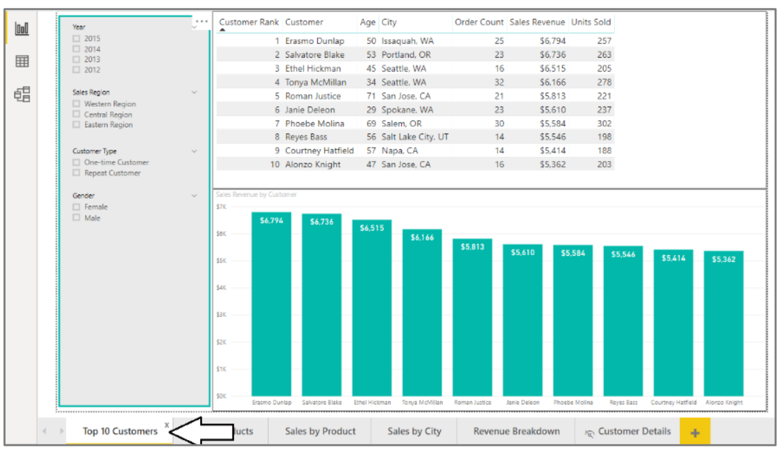


At this point, you are done testing the functionality of your drillthrough page

Exercise 6: Publish Your Project and Its Reports to the Power BI Service

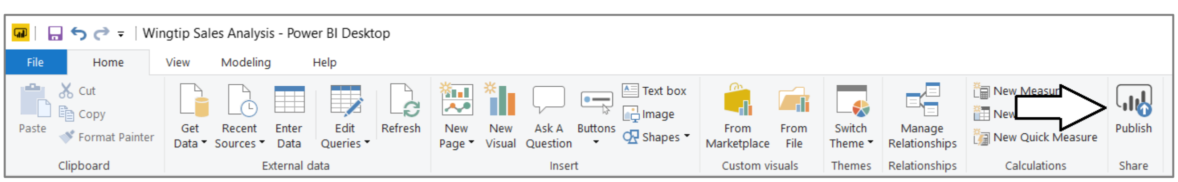
In this exercise you will complete your work by publishing the PBIX file to your personal workspace in the Power BI service.

1. Make sure you still have the **Wingtip Sales Report.pbix** project file open that you created in the previous exercise.
2. Prepare the report for publishing.
   a) Navigate to report view.
   b) Click the **Top 10 Customers** page in the page navigation menu to make that the active report page.

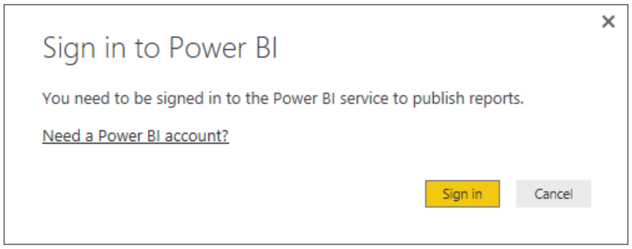


This step is important because the page which is active when you last save will be the default page which is open when a user opens the report.

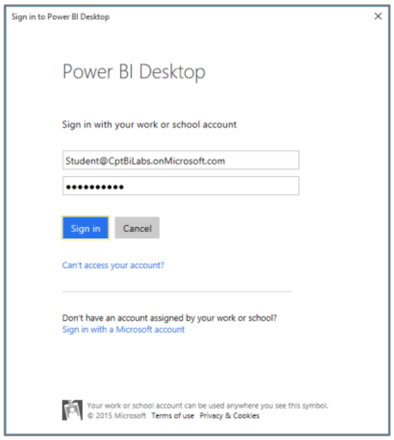
   c) Click **Save** to save the project.
3. Publish the project to the Power BI service.
   a) Navigate to **Home** tab in ribbon
   b) Click the **Publish** button on the far right-hand side of the ribbon.



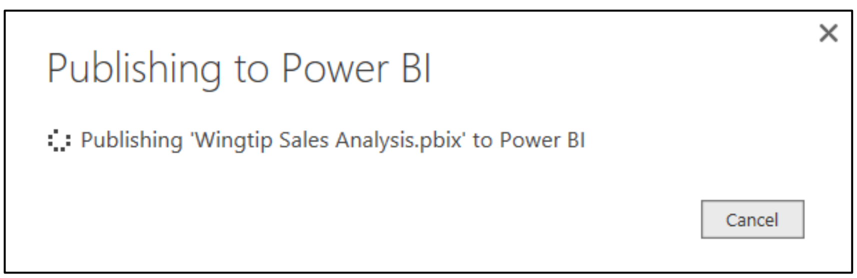
4. If promoted with the **Sign in to Power BI** dialog, click the **Sign In** button



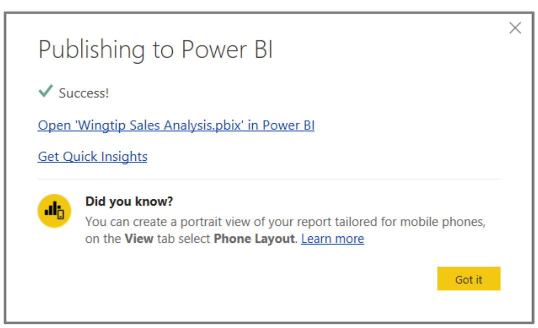
5. Sign into the Power BI service using your primary Office 365 account to give Power BI Desktop the access to publish the PBIX file.



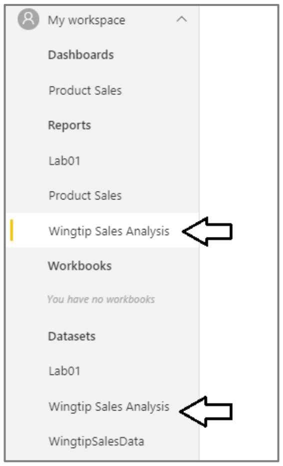
6. After you have signed in, Power BI Desktop will display the **Publishing to Power BI** dialog showing you that the publishing process is underway.



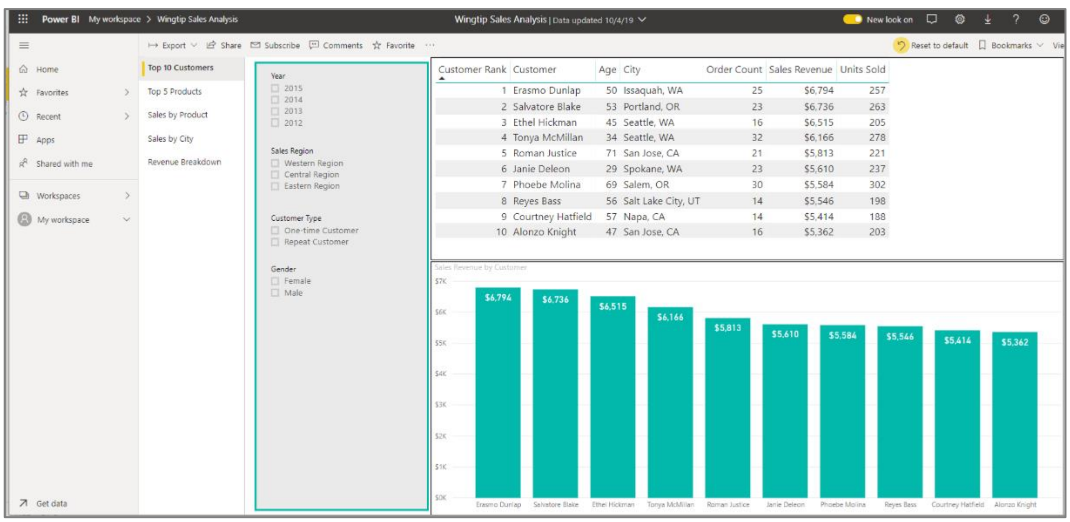
7. Once the publishing process has completed, the **Publishing to Power BI** dialog will display a success message and provide you with a link to **Open 'Wingtip Sales Report.pbix' in Power BI**. Click on that link to navigate to the Power BI service using the browser.



8. Once you navigate to the Power BI service in the browser, you should be able to see that the publishing process added a dataset and a report named **Wingtip Sales Analysis** that appear in the left navigation along with any other datasets and reports that were already part of your personal workspace.



9. Inspect the various report pages that you created over the last few labs.



You have now successfully created and published your **Wingtip Sales Analysis.pbix** project using Power BI Desktop. In the next lab you will begin to consolidate the visuals you have created in these report pages into dashboards and you will also learn the various techniques you can use to deploy dashboards and share them with other Office 365 users using group workspaces in Power BI.