Getting Up and Running with the Power BI Service

Setup Time: 60 minutes

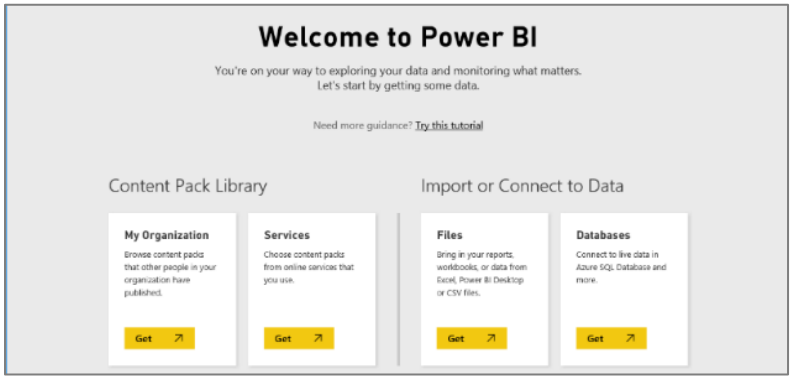
Lab Folder: C:\Student\Modules\01_IntroToPowerBI\Lab

Overview: This lab covers how to get up and running with Power BI by uploading data from inside an Excel workbook to create a new dataset. That will give you the ability to begin creating reports and dashboards.

Exercise 1: Use the Power BI Service to Import a New Dataset

In this exercise you will begin by importing data from an Excel workbook to create a new Power BI dataset. In the exercise steps that follow, you will create a report and a dashboard.

1. Log into the Power BI Service using the student login information.
   a) In the browser, navigate to the Power BI service at https://app.powerbi.com.
   b) When prompted, login using the user name and password that was supplied to you for this class.
   c) At this point, you should be at the Welcome to Power BI page as seen in the following screenshot.



What usually happens when you navigate to the Power BI Service is that you are shown a view with the dashboards, reports and datasets in your personal workspace. However, your personal workspace is initially empty so it doesn't contain any dashboards, reports or datasets yet. Therefore, the Power BI service displays a special welcome page that allows you to get started by linking to or importing data.

2. Use Microsoft Excel to inspect the Excel workbook named **WingtipSalesData.xlsx**.
   a) Ensure you have downloaded and extracted the **Student.zip** file to create the Student folder at **C:\Student**.
   b) Locate the sample Excel workbook file at the following path.

```
C:\Student\Data\WingtipSalesData.xlsx
```

   c) Open this worksheet with Microsoft Excel and examine the worksheet and the table inside.

	A	B	C	D	E	F	G
1	Fiscal Year	Sales Region	State	Category	Subcategory	Product	Sales Revenue
2	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Black Power Ranger Action Figure	$52.50
3	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Green Angry Bird Action Figure	$158.40
4	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Perry the Platypus Action Figure	$1,777.95
5	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Phineas and Ferb Action Figure Set	$937.65
6	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Twitter Follower Action Figure	$660.00
7	FY 2012	Western Region	AZ	Action Figures	Cute and Huggable	Woody Action Figure	$467.65
8	FY 2012	Western Region	AZ	Action Figures	Tough Guys	Batman Action Figure	$1,375.40
9	FY 2012	Western Region	AZ	Action Figures	Tough Guys	Captain America Action Figure	$3,354.05
10	FY 2012	Western Region	AZ	Action Figures	Tough Guys	GI Joe Action Figure	$1,031.55

Wingtip Sales Data

If Microsoft Excel is not installed on your PC, that is not a problem. The previous screenshot shows you that the workbook contains a single worksheet named **Wingtip Sales Data** that contains a table of sales data.

   d) Once you have inspected the data, close Microsoft Excel without saving any changes to **WingtipSalesData.xlsx**.

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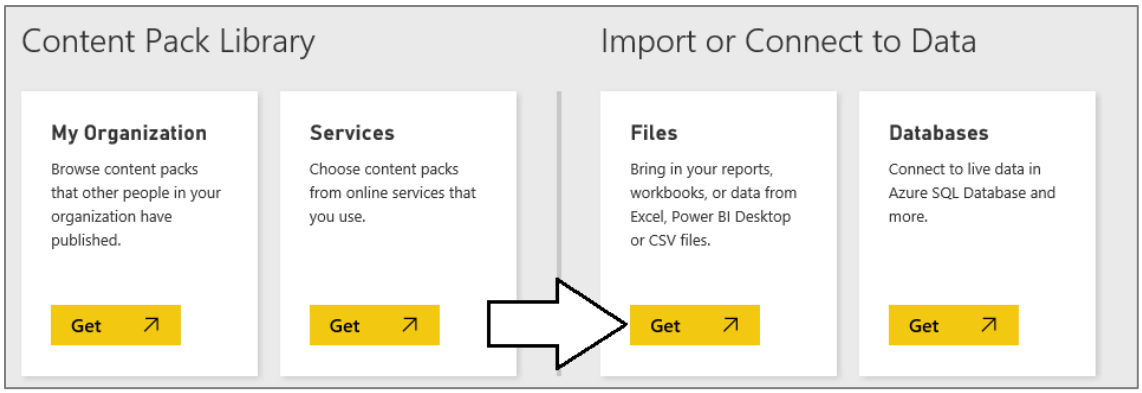
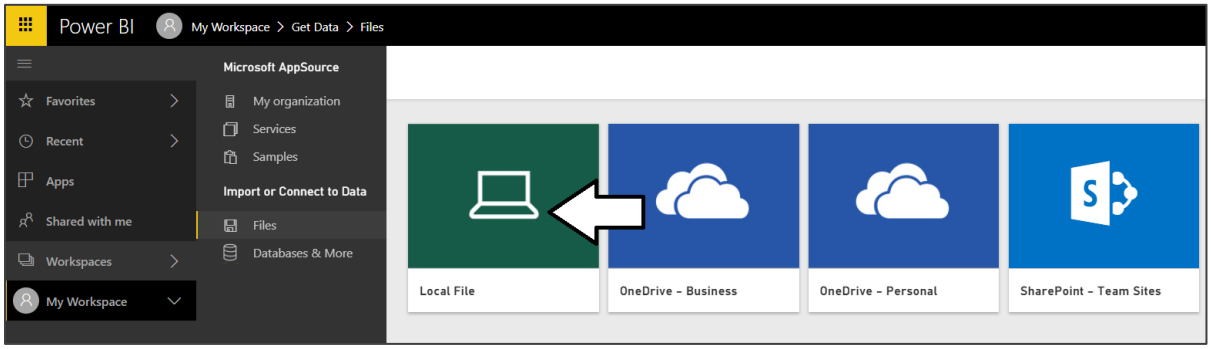
3. Import data from an Excel workbook file.

a) Click in the **Get** button in the **Files** tile under the **Import or Connect to Data** section header.



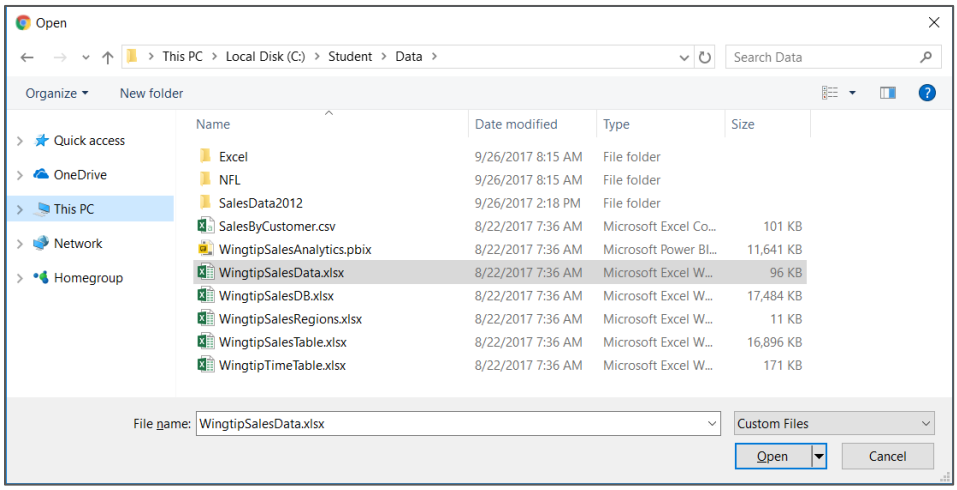
b) On the next page you should see several tiles which indicate your choices for the location of the file you would like to connect to or import. Click on the tile with the caption **OneDrive – Business** so you can import data from the Excel workbook you uploaded to your OneDrive site in a previous exercise.



c) In the File Open dialog, select the Excel workbook named **WingtipSalesData.xlsx** at the following path.

```
C:\Student\Data\WingtipSalesData.xlsx
```

d) Once you have selected the workbook file named **WingtipSalesData.xlsx** in the open dialog, click the **Open** button to begin the process of importing the data to create a new dataset.



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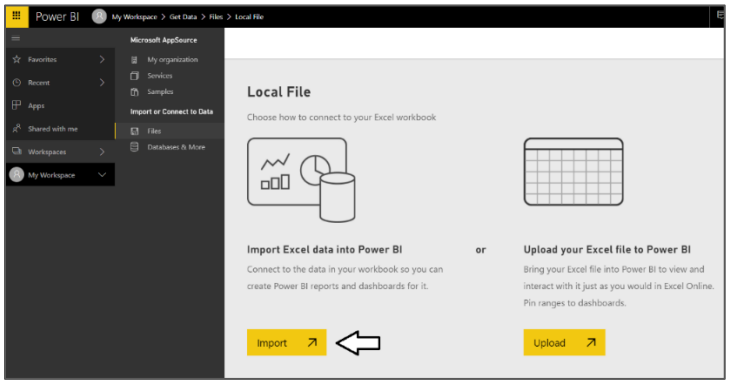
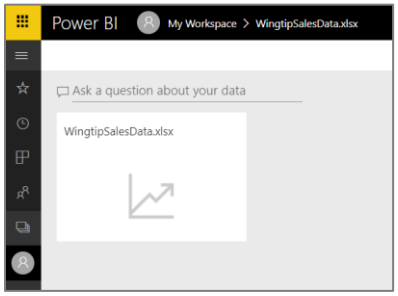
e) After clicking the **Open** button in the previous step, you are taken to a page which prompts you to **Choose how to connect to your Excel workbook**. Click the **Import** button on the bottom left-hand side of the page to import data from the Excel workbook into the Power BI service to create a new dataset.

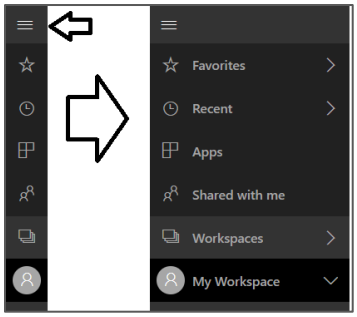


f) After the import process has completed, the Power BI service will display a dashboard that was created during the import of the file **WingtipSalesData.xlsx**.

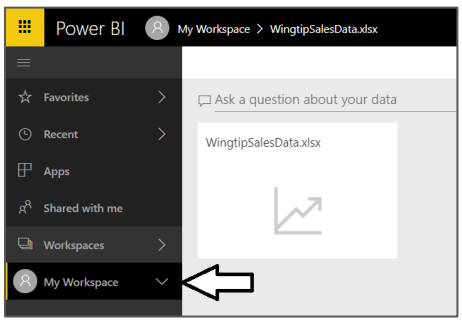


4. Expand the **My Workspace** menu at the bottom of the left navigation menu.

a) Make sure left navigation is in an expanded state.



b) Click the **My Workspace** drop down menu at the bottom of the left navigation menu to see the workspace contents.



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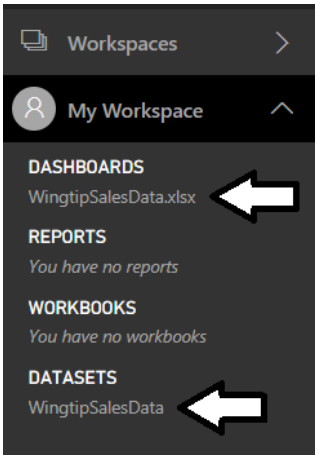
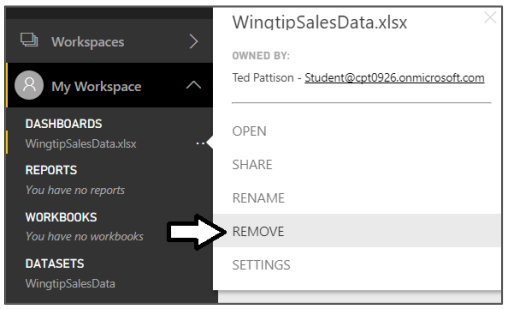
c) You should see there is a dashboard named **WingtipSalesData.xlsx** and a dataset named **WingtipSalesData**.



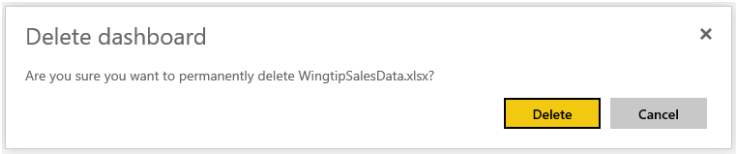
Note that when importing data from an Excel workbook that the Power BI service creates both a new dataset and a new dashboard. However, you might want just the dataset but not the dashboard. You should delete the dashboard if you do not plan to use it.

5. Delete the dashboard named **WingtipSalesData.xslx**.

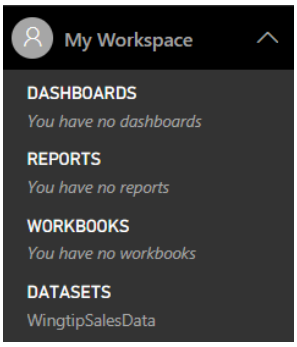
a) Expand the ellipse menu to the right of the **WingtipSalesData.xlsx** dashboard and selecting the **REMOVE** command.



b) When prompted, confirm you want to delete this dashboard.



c) Your personal workspace now contains the **WingtipSalesData** dataset but there should not be any dashboards or reports.



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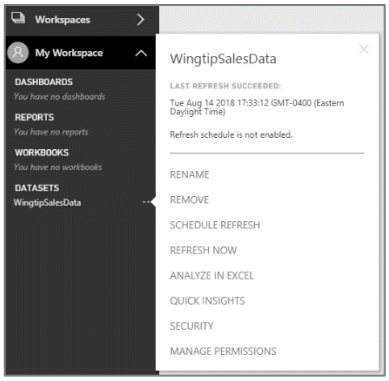
6. Expand the ellipse flyout menu (**…**) to the right of the **WingtipSalesData** dataset link just to see what menu commands are available from you to run on the new dataset you have just created.

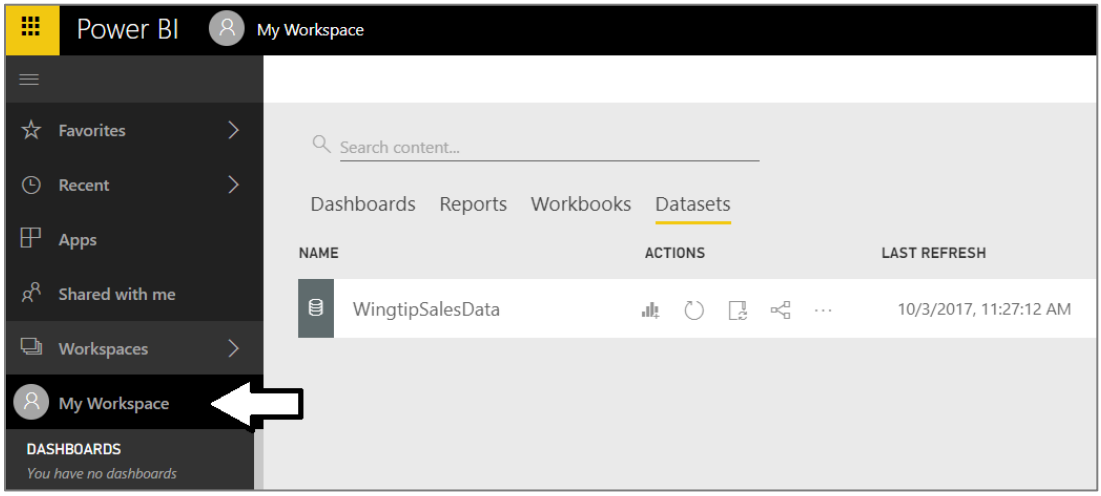


There is no need at this time to execute any of the commands in the dataset flyout menu. You should just observe the commands that you can execute on a dataset that's been created by importing data from an excel workbook. You can see the menu commands such as **RENAME**, **REMOVE**, **SCHEDULE REFRESH**, **REFRESH NOW**, **ANALYZE IN EXCEL**, **QUICK INSIGHTS** and **SECURITY**.

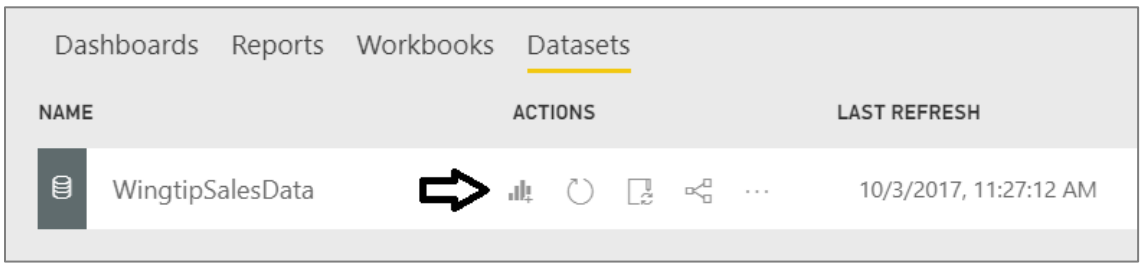
Exercise 2: Create a New Power BI Report with Multiple Pages

Now that you have created a dataset, the next setup step involves creating a new report with two pages of visualizations.

1. Create a new report using the **WingtipSalesData** dataset.
   a) Click the **My Workspace** menu link in the left navigation to display the summary page for your personal workspace. After you do this, your screen should match the following screenshot.



   b) Locate the dataset named **WingtipSalesData** and click the **Create Report** button to the right.



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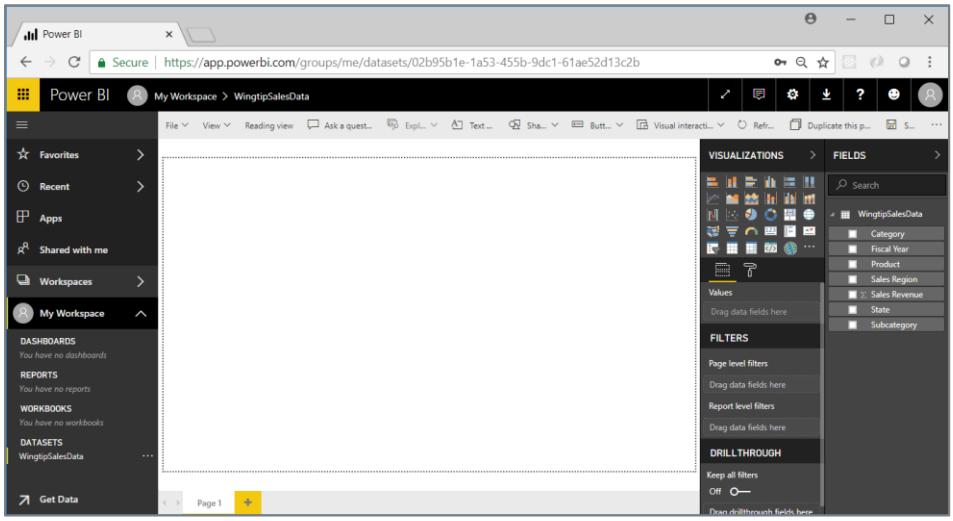
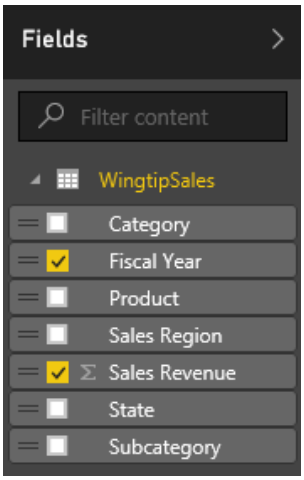
c) You should now see a new report in edit view which displays the **Fields** list for the dataset on the right-hand side of the page.

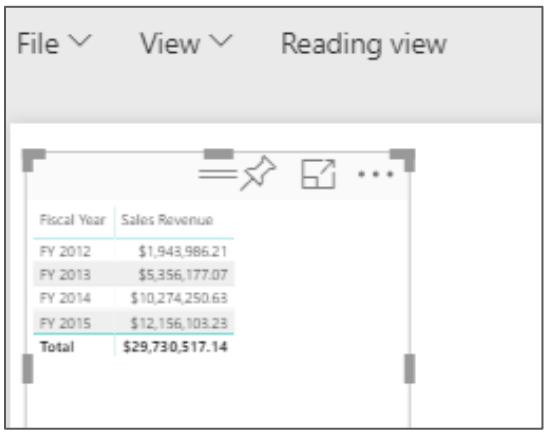


2. Add a new visual to the report to create a line chart.

a) In the **Fields** list on the right-hand side of the page, click the checkbox beside **Fiscal Year** and then select the checkbox beside **Sales Revenue**.



b) This should create a table visual in the new report as shown in the following screenshot.



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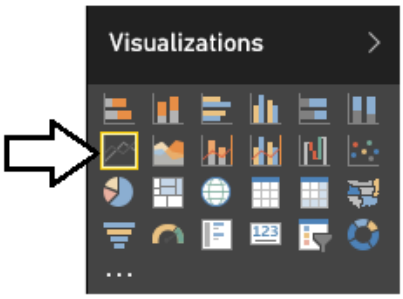
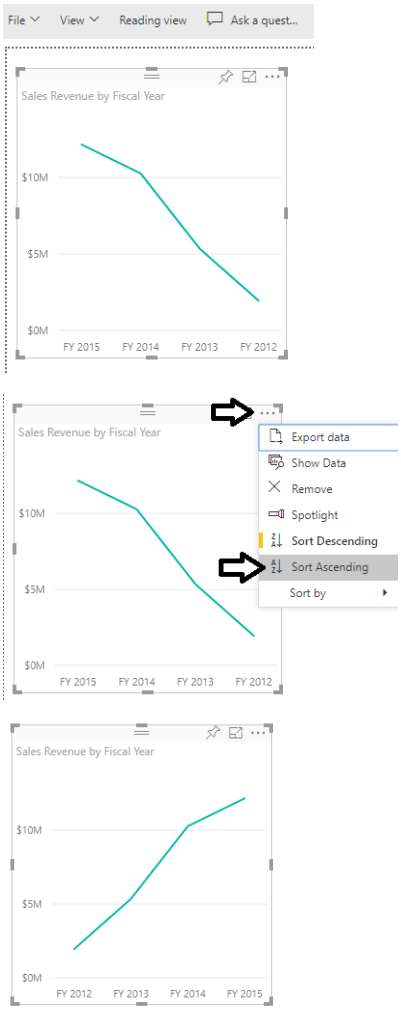
c) Change the visual type from a table to a line chart by clicking the **Line chart** button in the **Visualizations** list.



d) At this point, you should see that the visual on the report now displays a line chart.



3. Next, you will add a new dimension to your visual to show how sales revenue is distributed across product categories. First, make sure the visual with the line chart is selected and then drag-and-drop the **Category** field from the **Fields** list into the **Legend** well in the **Visualizations** pane as shown in the following screenshot.

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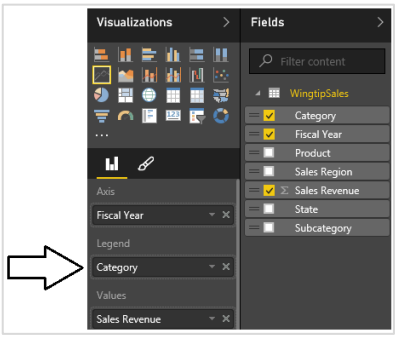
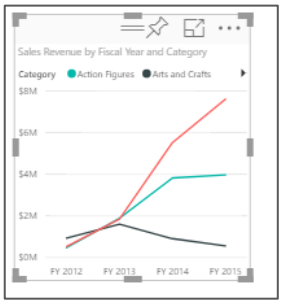
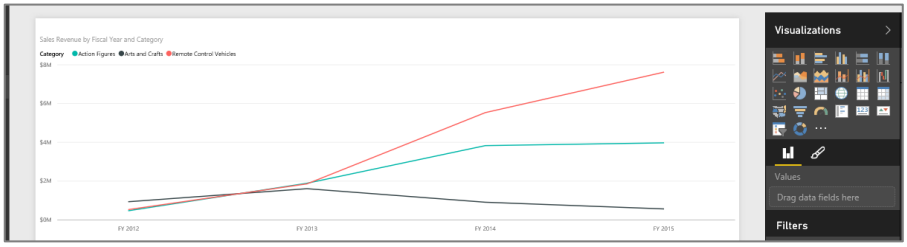


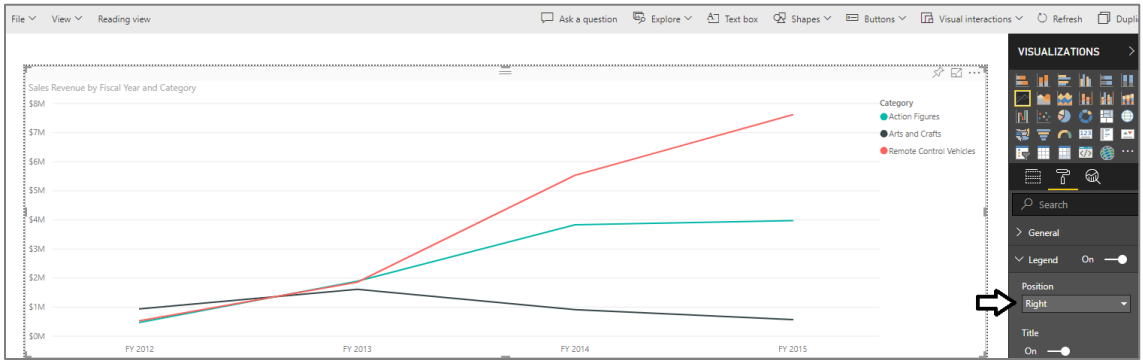
4. At this point, your visual should match the line chart shown in the following screenshot. However, the visual is not yet wide enough to display correctly.



5. Select the handle at the bottom-right corner of the visualization and resize it so it takes up the width of the current report page.



6. Reposition the Line chart's legend.
   a) Make sure the visual with the Line chart is selected.
   b) In the **Visualizations** pane, click the pen icon to activate the **Format** properties pane.
   c) In the **Legend** section, locate the **Position** property and update it to **Right**.
   d) The legend should now be displayed in the upper right corner of the line chart visual.



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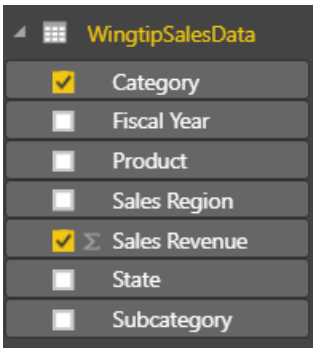
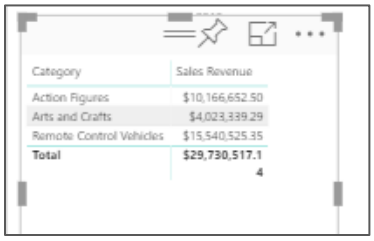
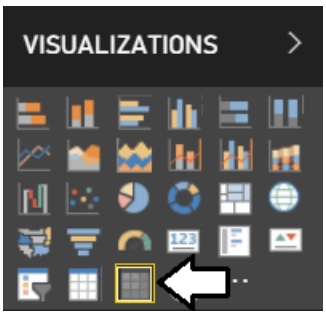
7. Add a second visualization to the current report page.
   a) Begin by clicking the white space under the line chart visualization so that the visualization is no longer selected.
   b) Return to the **Fields** list.
   c) Select the checkbox beside the **Category** field.
   d) Select the checkbox beside the **Sales Revenue** field.



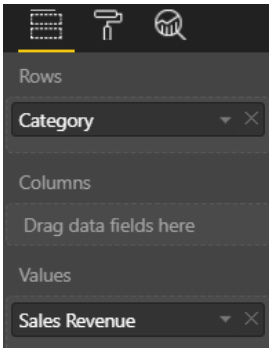
   e) You should see that a new table visual has been created like the table visual shown in the following screenshot.



   f) Change the type of visualization from table to matrix by clicking the **Matrix** button in the **Visualizations** list.



   g) If you examine the **Fields** pane under the **Visualizations** list, you should see that the **Rows** well contains the **Category** field while the **Values** well contains the **Sales Revenue** field.



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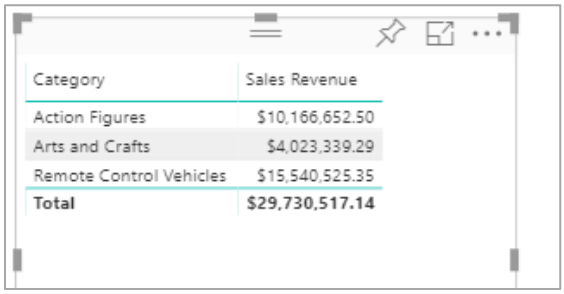
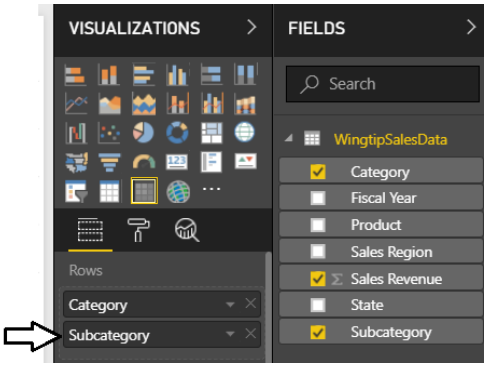
h) At this point your matrix visual should look like the following screenshot.

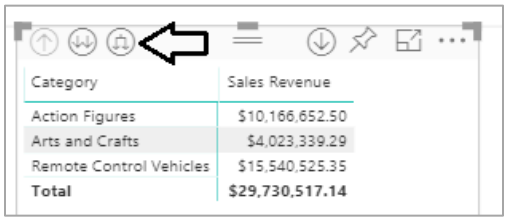


i) Drag and drop the **Subcategory** field from the **Fields** list into the **Rows** well below the **Category** field.

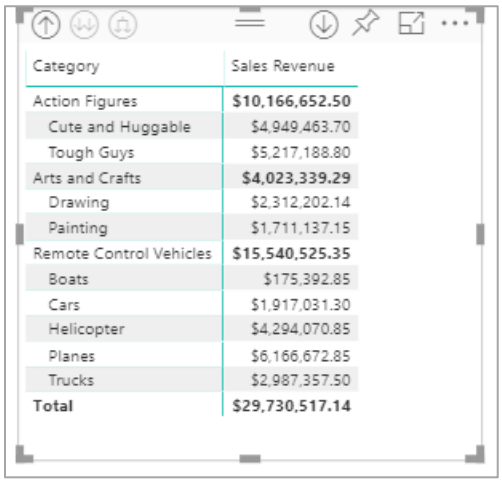


Once you have two or more fields to the **Rows** well of a matrix visual, a new set of button appear at the top of the visual which makes it possible to expand the levels of rows shown.

j) Click on the **Expand All One Level** button so the matrix shows subcategories in addition to categories.



k) The matrix in your report should now appear like the matrix shown in the following screenshot.



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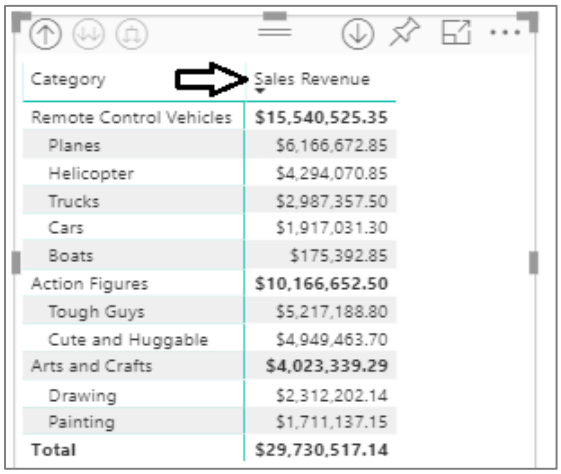
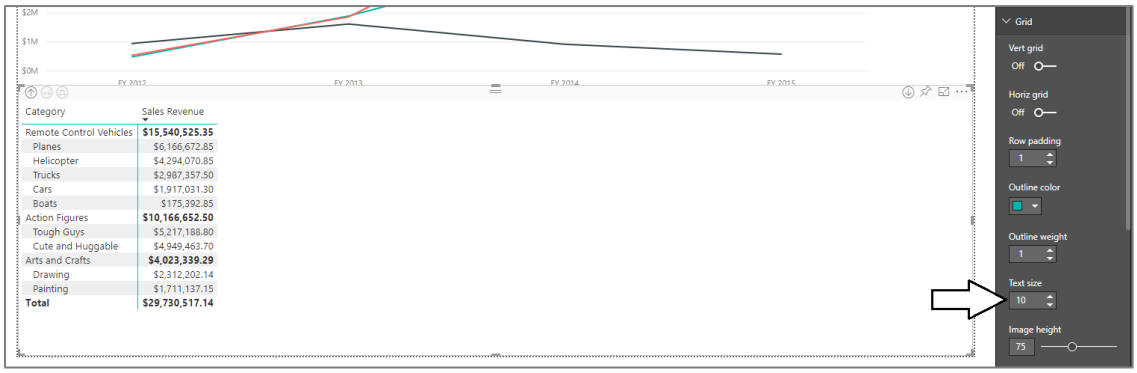
l) Inside the matrix, click on the **Sales Revenue** column header to resort the data in the matrix so that the product categories and subcategories with the highest amounts of sales revenue are sorted to the top of the matrix.

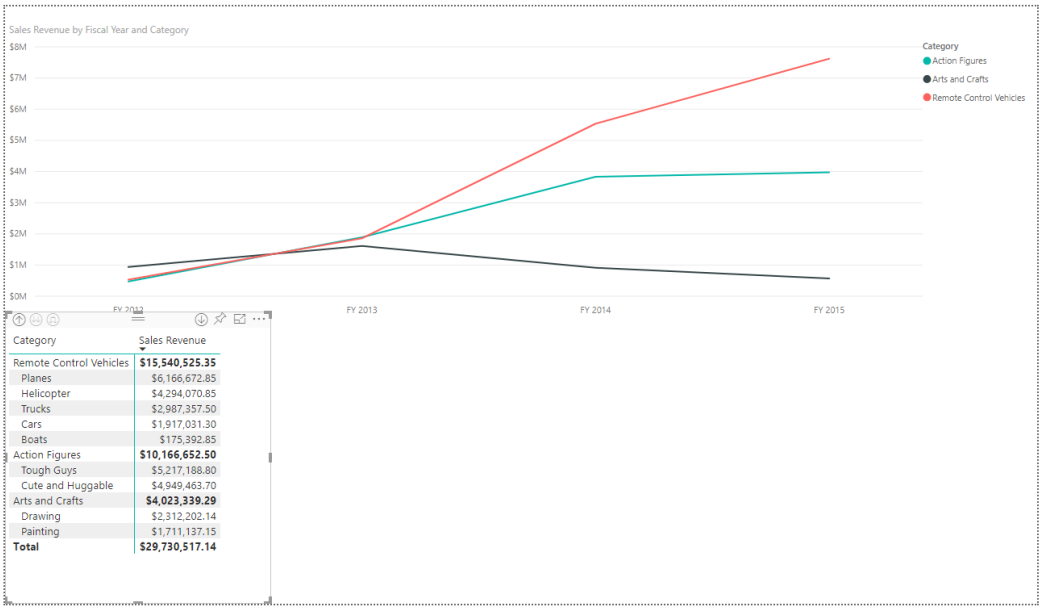


Category	Sales Revenue
Remote Control Vehicles	$15,540,525.35
Planes	$6,166,672.85
Helicopter	$4,294,070.85
Trucks	$2,987,357.50
Cars	$1,917,031.30
Boats	$175,392.85
Action Figures	$10,166,652.50
Tough Guys	$5,217,188.80
Cute and Huggable	$4,949,463.70
Arts and Crafts	$4,023,339.29
Drawing	$2,312,202.14
Painting	$1,711,137.15
Total	$29,730,517.14

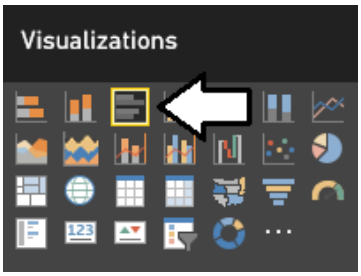
m) Increate the font size of the matrix visual by locating the **Text Size** property in the **Grid** section of the **Format** properties pane and setting the **Text Size** property value to **10pt**.



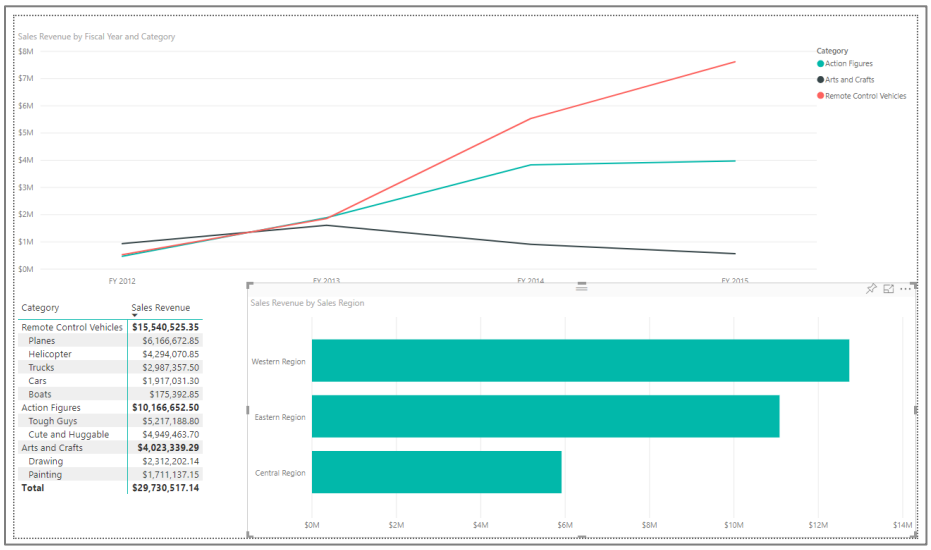
n) Using the mouse, decrease the width of the matrix visual show it is just wide enough to display its two columns.



8. Add a third visual to the current report page.
   a) Click the white space on the report page outside of the two existing visuals so that neither visual is selected.
   b) Return to the **Fields** list and select the checkbox beside the **Sales Region** field.
   c) Select the checkbox beside the **Sales Revenue** field.
   d) After creating the new visual, change the visualization type to a to a **Clustered bar chart** using the **Visualizations** list.

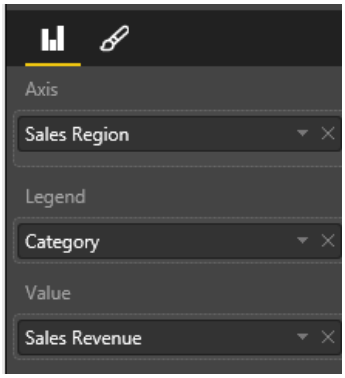


   e) The new visual should be created to take up the remaining lower, right-hand section of the page.



Next, you will add a legend to the Clustered bar chart to visualize how revenue breaks down across product categories.

   f) Make sure the Clustered bar chart visual is selected.
   g) Click on the chart icon in the **Visualizations** task pane so you can edit the **Field** properties of the new **Clustered bar chart**.
   h) Drag the **Category** field from the **Fields** list into the **Legend** well in the **Field** properties pane.



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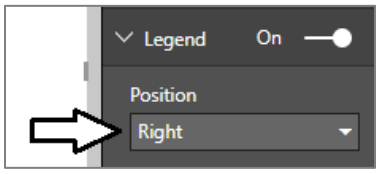
i) You should not see revenue for each sales region is further broken out by product category.

j) Modify the position of the legend for the Clustered bar chart to the right.



k) Your Clustered bar chart should now look like the one in the following screenshot.

If you have time, you might explore the other options available for editing the appearance of a visualization by examining the other options that are available on the **Visualizations** task pane when a visual is selected. Note that the set of available options change depending on what type of visual is selected.

9. Now it is time to save the report. Begin by changing the name of the current page. Locate the report page name section at the bottom left of the current page and observe that the page has been given an initial name of **Page 1**.

10. Double click on the page name of **Page 1** to enter edit mode and then update the page name to **Sales by Product Category**.

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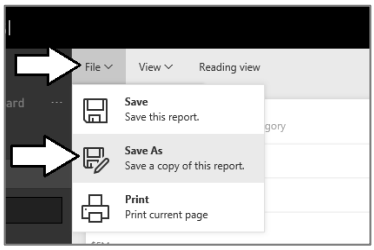
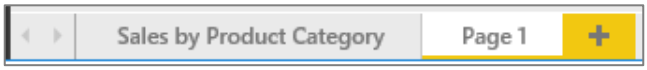
11. Save the report by dropping down the reports **File** menu and selecting the **Save As** menu command.

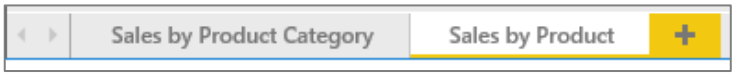


12. When prompted, enter a report name of **Product Sales** and click the **Save** button.

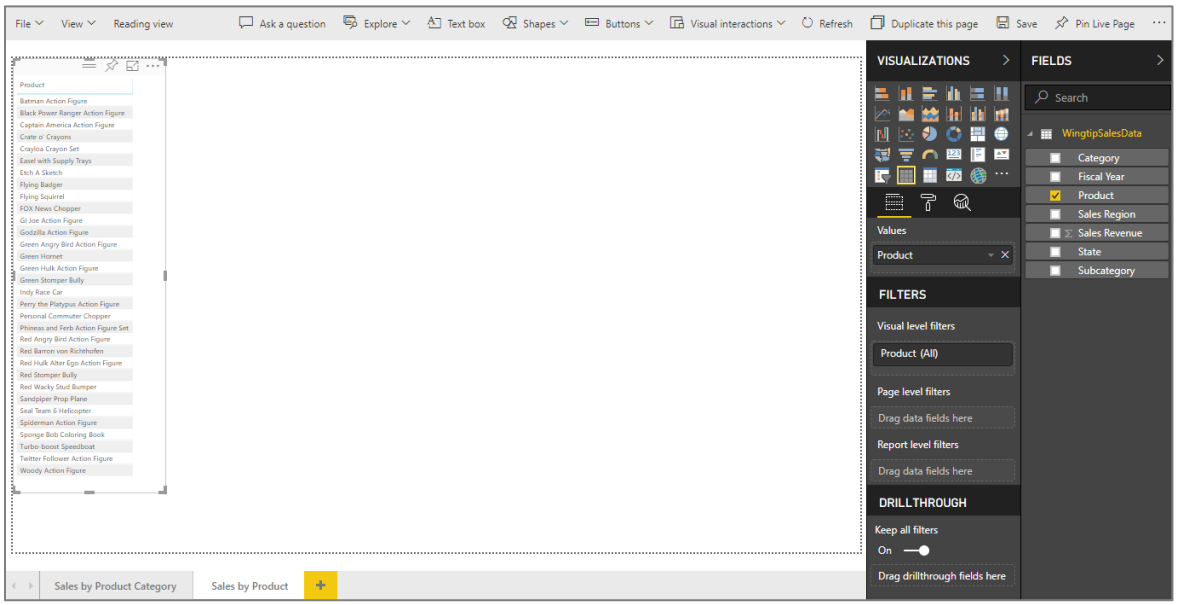
13. After saving the **Product Sales** report, you should be able to see a link for it in the **Reports** section of the left-hand navigation.
14. Now, add a second page to the **Product Sales** report. Accomplish this by clicking the button with the plus (+) sign to the right of the page name. The Power BI service will respond by creating a second page named **Page 1**.



15. Change the name of the second page from **Page 1** to **Sales by Product**.



16. On the new **Sales by Product** page, add a new slicer visual
    a) Add a new table visual by selecting the checkbox beside the **Product** field from the **Fields** list. Resize the height of the table visual to display all products at once without the need for a scrollbar.



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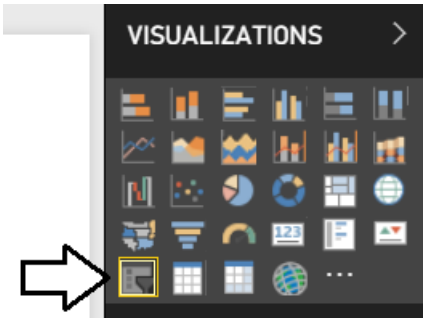
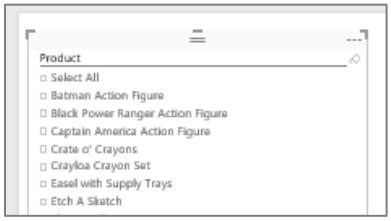
b) Change the type of visualization from a table to a slicer by clicking the **Slicer** button in the **Visualizations** list.



c) Now that the visualization has been changed to a slicer, you should see that each product has an associated checkbox.



Keep in mind that this slicer visual adds the ability for the current user to intact with this report by selecting one or more products using these checkboxes. When a user changes the selection of products, the Power BI service will automatically refresh the other visualizations on the page by filtering the results using the selected product or products. Learning how to make reports interactive is a key to creating effective BI solutions with Power BI.

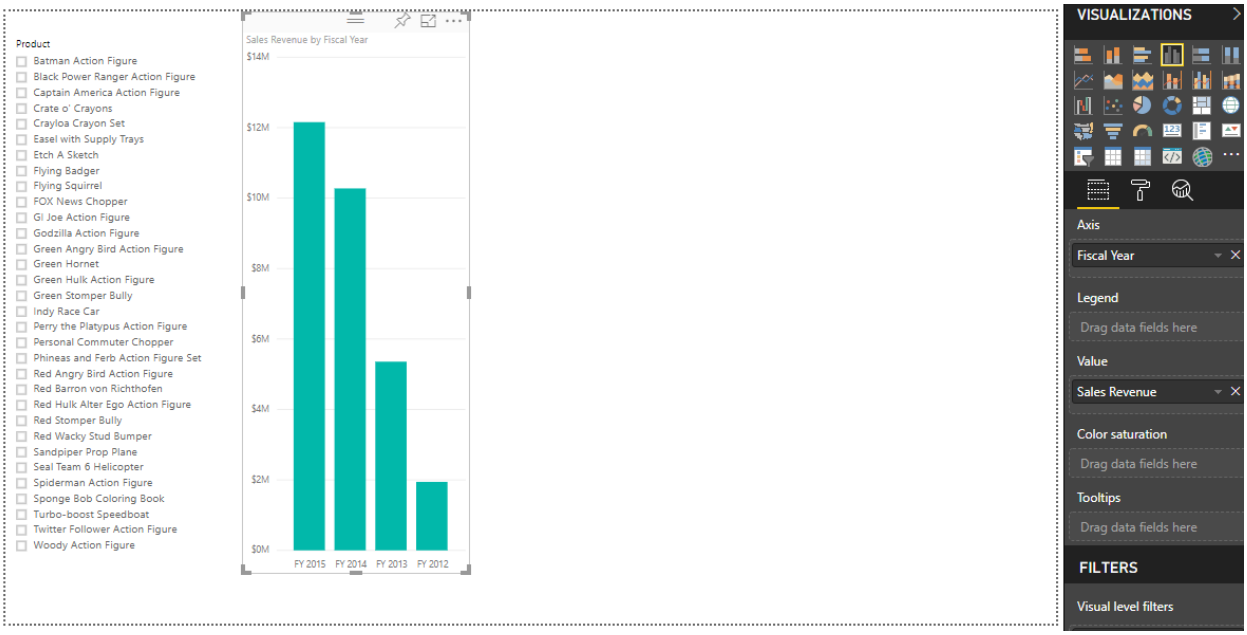
17. Add a second visualization to **Sales by Product** page.

a) Click whitespace in the report to ensure the first visualization is not selected.

b) Create a new visualization by selecting the checkbox for the **Sales Revenue** field and then selecting the checkbox for the **Fiscal Year** field.

c) Use the mouse to reposition the new visual so it takes up the top right corner of the page.

d) The new visual as a bar chart should now match the following screenshot.



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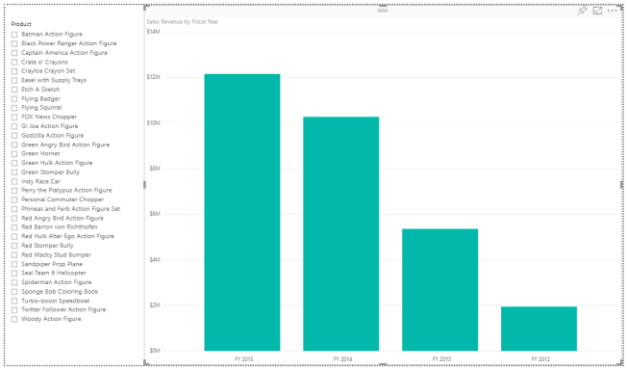
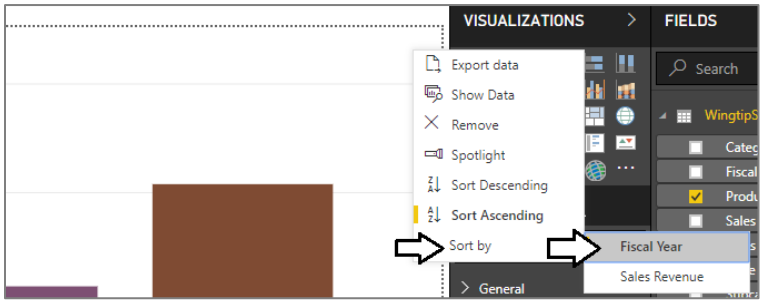
e) Resize the bar chart visual to take up the entire page height and the remaining width as shown in the following screenshot.

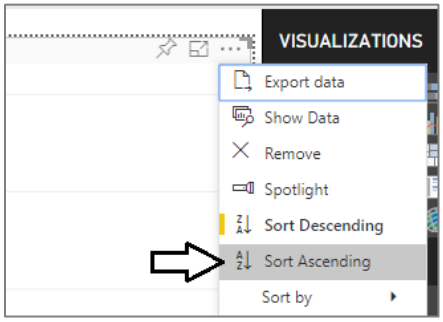


Note that the bar chart has been created with the fiscal years decreasing as it moves from left to right. In the next step you will reverse the order of the columns in this bar chart so that columns for earlier years are sorted to the right and that later years are sorted left.

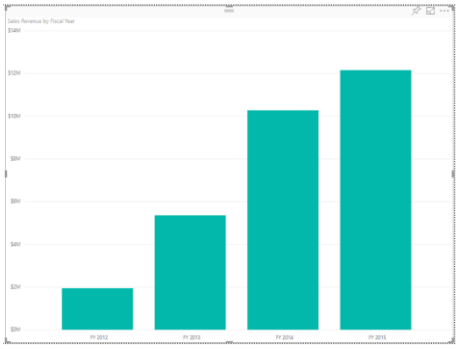
f) Click the flyout menu at the top-right corner of the bar chart visual and select the **Sort by > Fiscal Year** menu command.



g) Click the flyout menu at the top-right corner of the bar chart visual and select the **Sort Ascending** menu command.



h) The bar chart should now display its bars with fiscal year increasing as you move to the right.



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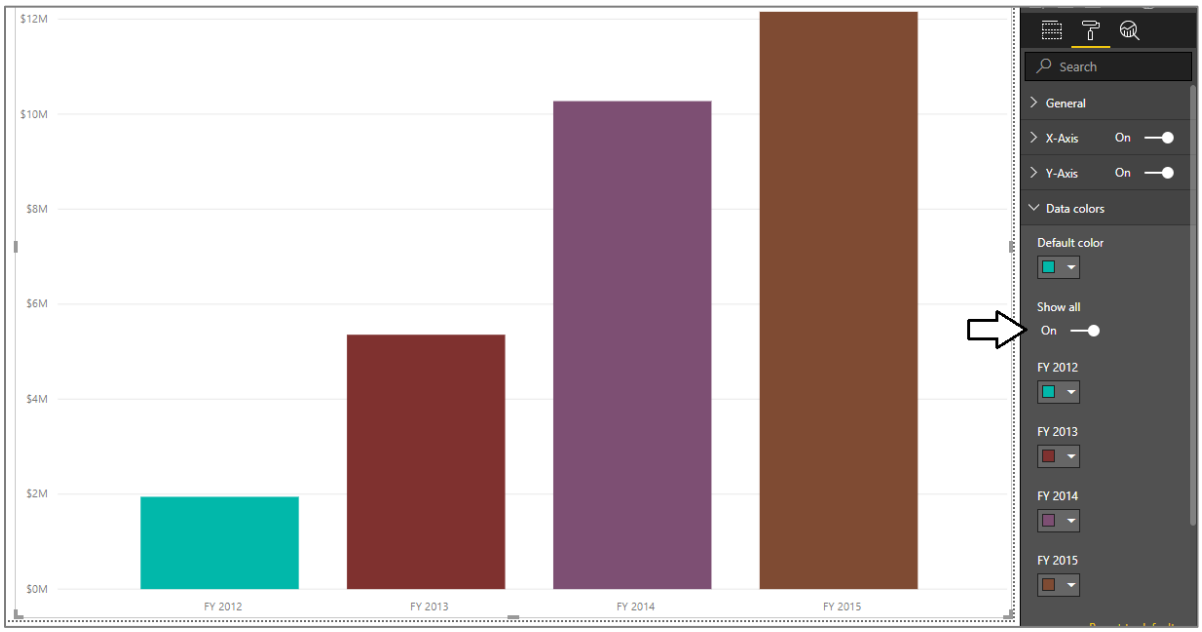
i) With the bar chart selected, look inside the **Format** properties pane and locate the **Data colors** section. Inside the **Data colors** section, you should see that the **Show all** property is set to **Off**.

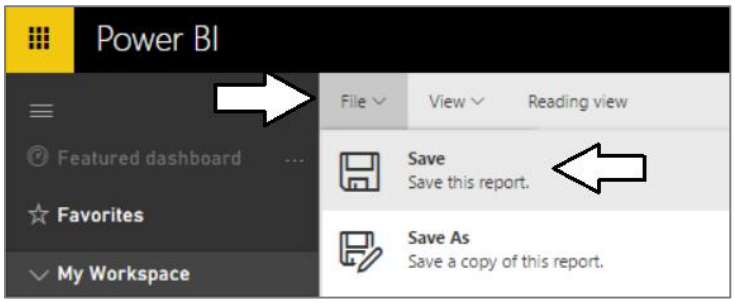
j) Change the **Show all** property to **On**.

k) Assign a different color to each of the 4 fiscal years.

l) Your bar chart should now display bars that have a different color for each year.

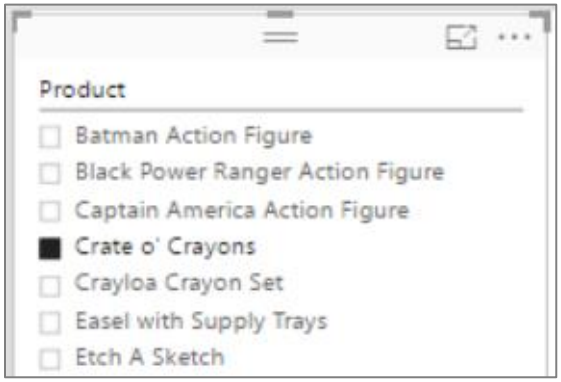


m) Save your work by executing the **Save** command from the **File** menu.



18. Test out the interactive effect of selecting products in the slicer.

a) Select one product at a time.



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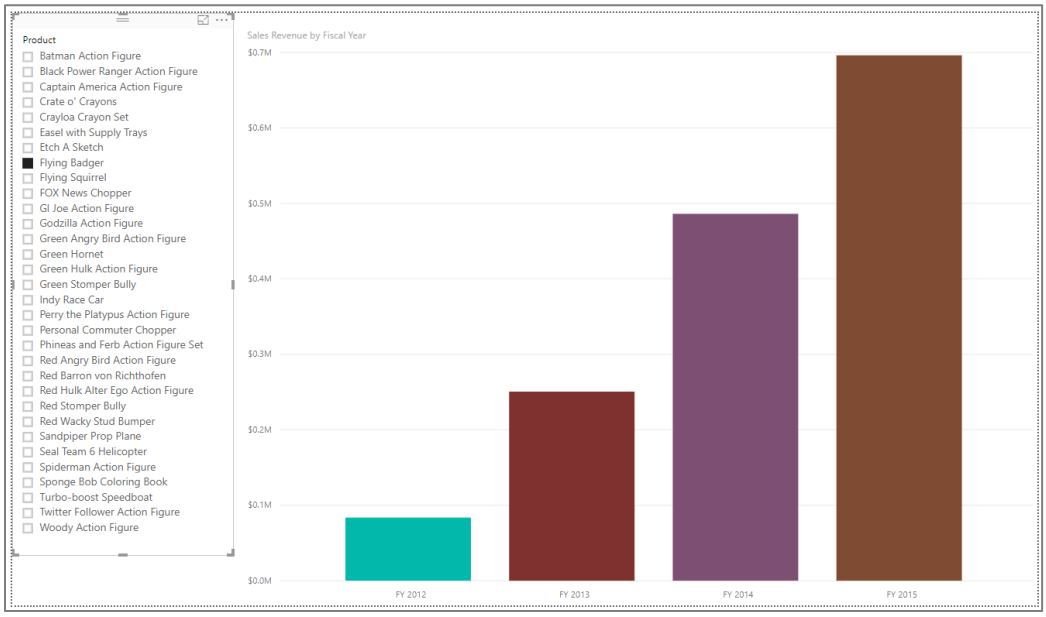
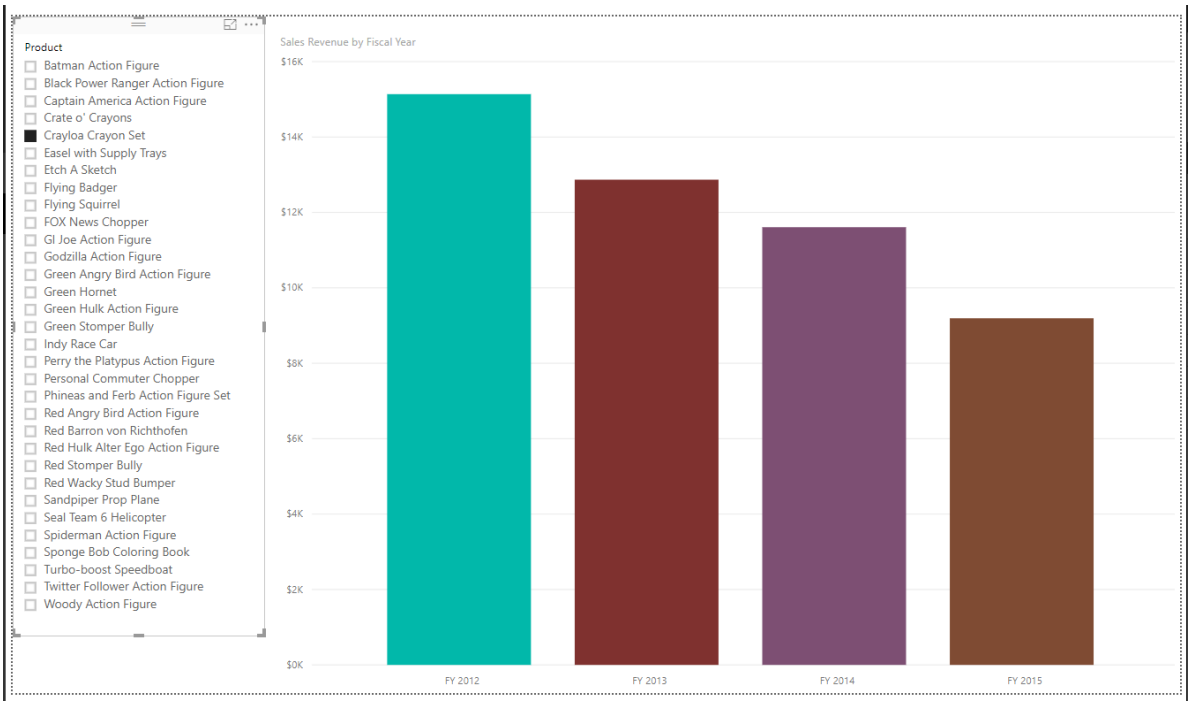
b) Observing how the two other visualizations on the page automatically refresh to show sales data for one product at a time.



c) Play the role of a business analyst and determine which products have the most positive increases in sales revenue from year to year. Also, find the products with downward trending sales. If you examine the sales data for the **Crate o' Cranyons**, you can sales revenue for this is trending in the wrong direction over the last four years. What other products are shows decreasing sales in this set of 32 products?



Now that you have created a report with multiple pages, it is time to move on to the next exercise where you will create a new dashboard and then you will test sharing this dashboard with another user in your Office 365 trial tenant.

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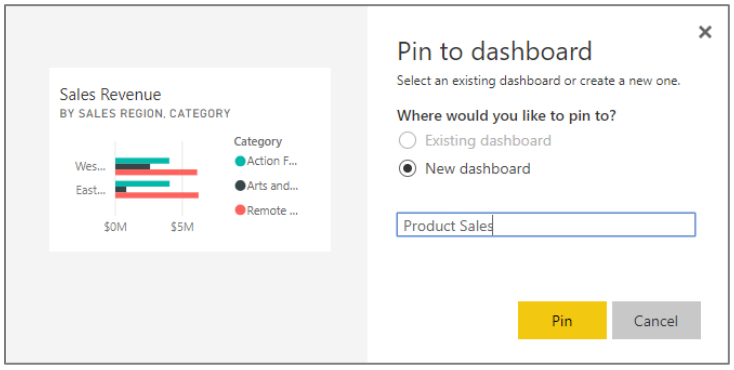
Exercise 3: Create a Power BI Dashboard

While you have already created a dataset and a report, you must create a dashboard to effectively share a customized BI solution with other users. This final setup task will walk you through the steps of creating and sharing a Power BI dashboard.

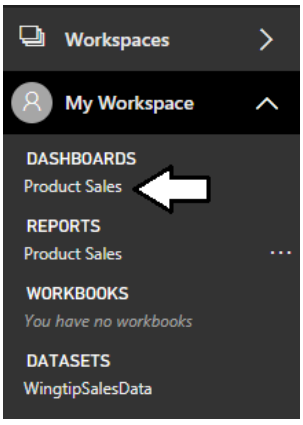
1. Create a new dashboard by pinning report visuals to create dashboard tiles.
   a) Navigate to the **Sales by Product Category** page of the **Product Sales** report.
   b) Inspect the Clustered bar chart with product categories.
   c) Locate and click the button with the thumbtack icon which is used to pin a report visualization to a dashboard.

When you click the thumbtack, you will be prompted with the **Pin to dashboard** dialog which asks where to pin the visualization.

   d) In the **Pin to dashboard** dialog, select the option to pin the visualization to a **New Dashboard**.
   e) Give the new dashboard a name of **Product Sales**.
   f) When the **Pin to Dashboard** form is filled out like the one shown in the following screenshot, click the **Pin** button.



   g) At this point, the new **Product Sales** dashboard should be created and a link to it should appear in the left navigation menu.



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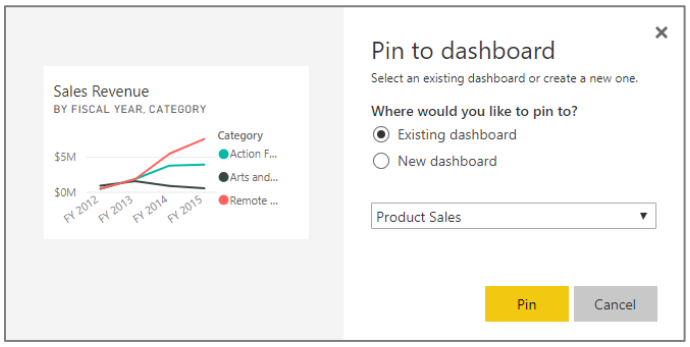
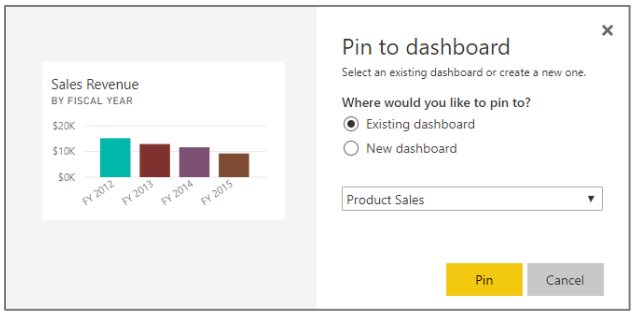
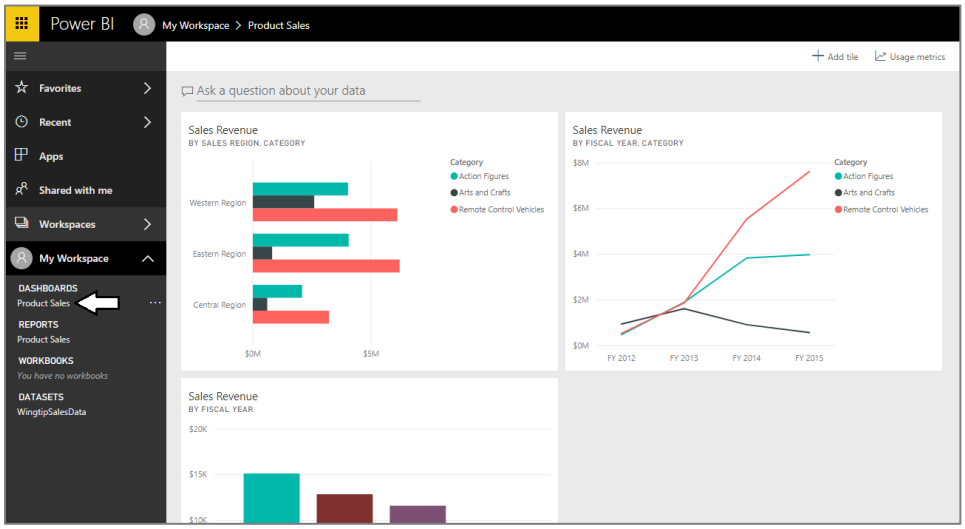
2. Pin another report visual to create a second dashboard tile.
   a) Make sure you are still on the **Sales by Product Category** page of the **Product Sales** report.
   b) Click the thumbtack button on the line chart visual to create a second dashboard tile in the Product Sales dashboard.



3. Pin another report visual to create a second dashboard tile.
   a) Navigate to the **Sales by Product** page of **Product Sales** report.
   b) Click the thumbtack button on the line chart visual to create a second dashboard tile in the Product Sales dashboard.



4. Inspect the new Product Sales dashboard.
   a) Click on the **Product Sales** link in the **Dashboards** section of the left navigation to display the **Product Sales** dashboard.
   b) You should see that there are three tiles that have been created from the three report visualizations that you pinned.



Note that you can move or resize the tiles inside the dashboard. This is due to the fact that you are the dashboard author and you are in dashboard edit mode.

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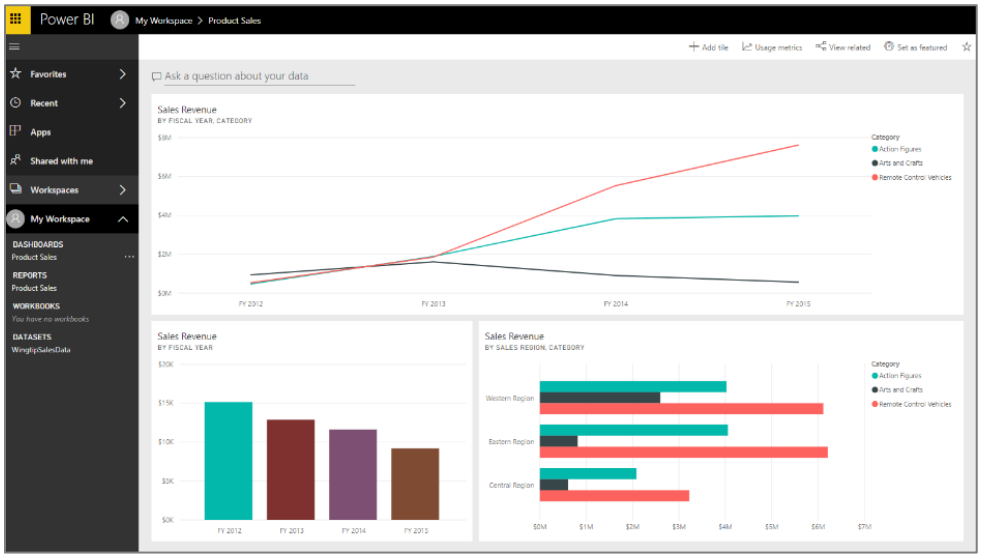
c) Use your mouse to rearrange the tiles in the dashboard to match the screenshot below.

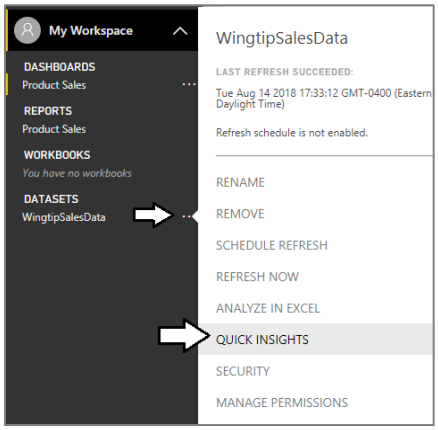


5. Experiment by clicking on the tiles in the dashboard.
   a) You will find that clicking a tile will navigate the user to the report and page that contains the visualization that was pinned.

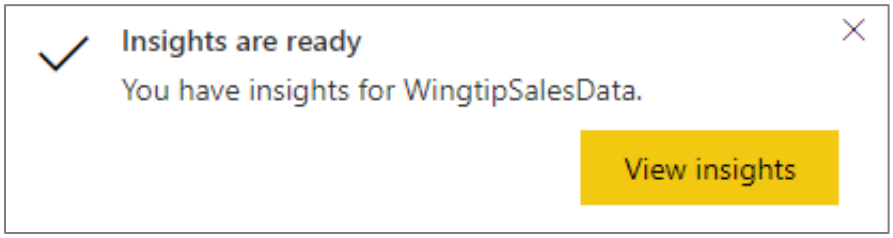
Exercise 4: Get Quick Insights on a Power BI Dataset

In this exercise, you will run a Power BI command to generate quick insights for the WingtipSalesData dataset.

1. Get Quick Insights for the **WingtipSaleData** dataset.
   a) Drop down the fly out menu for the **WingtipSaleData** dataset and click the **QUICK INSIGHTS** menu command.



   b) After a few seconds you should see a Insights are ready notification.
   c) Click on the View insights button.



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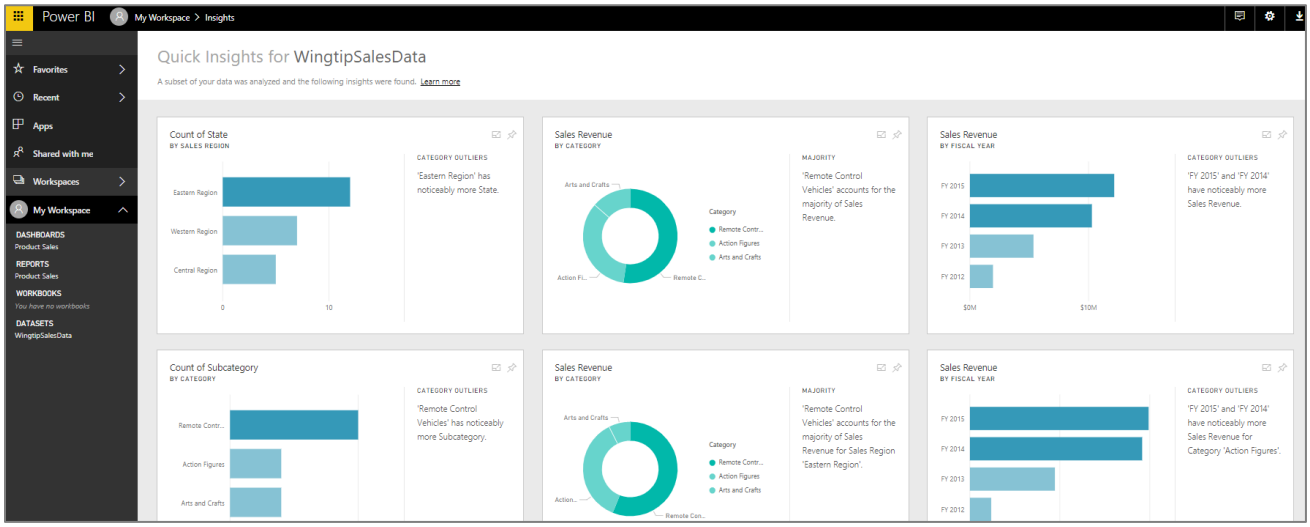
d) Inspect the page with the title **Quick Insights for WingtipSalesData** and review the quick insights that have been generated.



Congratulations. You have made it to the end of this setup guide and you have now created and configured a test environment in which you can begin to create and implement custom BI solutions using the Power BI platform.

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