



Lab 03A

Creating and Exploring a Power BI Dashboard

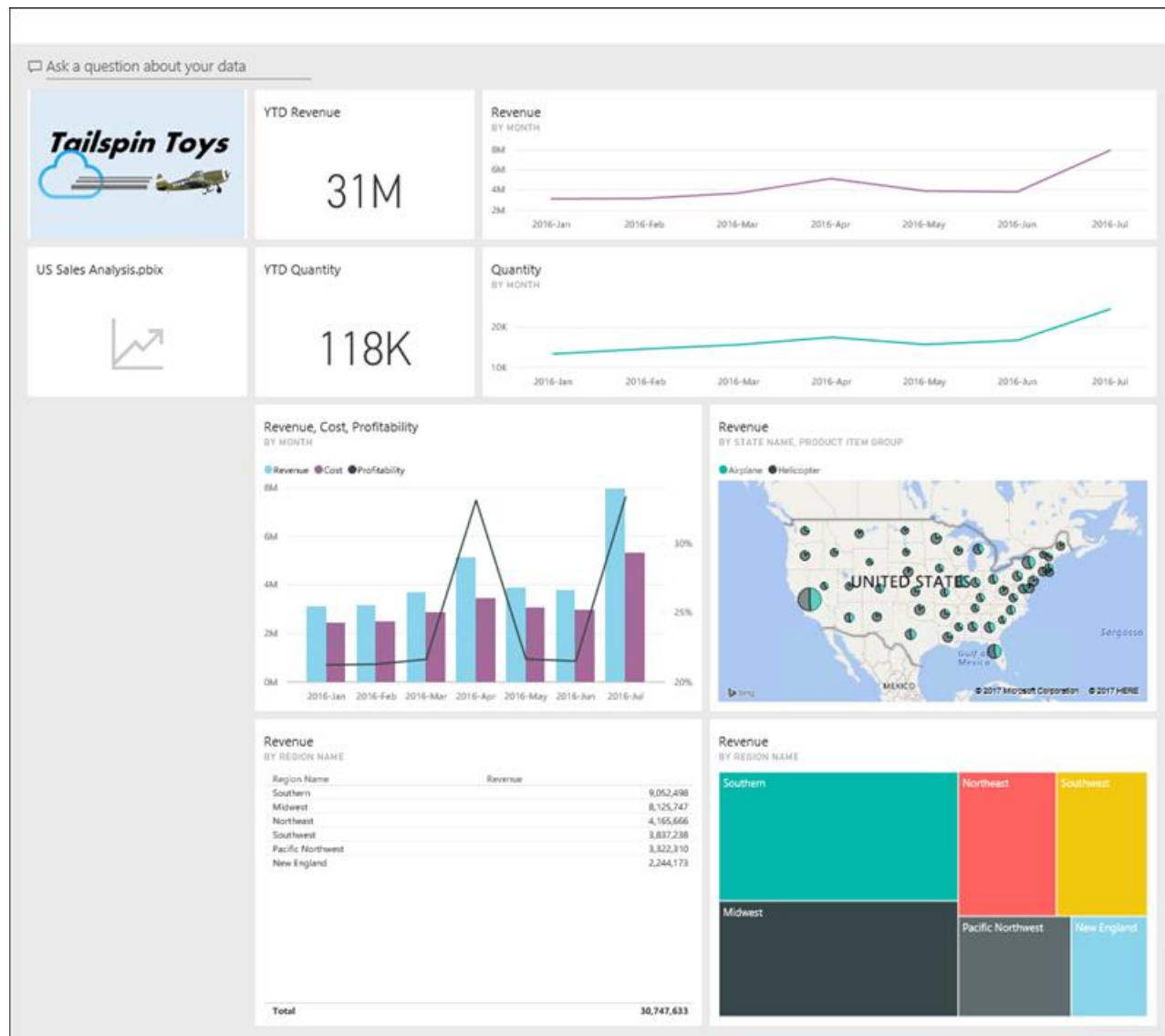
Overview

The estimated time to complete the lab is 40 minutes

In this lab, you will create a Microsoft Power BI dashboard to report on the US sales activities. This will involve uploading the **US Sales Analysis.pbix** file created with Power BI Desktop.

You will then assemble the dashboard layout with tiles sourced from Q&A questions, and new and existing report visualizations.

The final dashboard will look like the following.



You will learn how to:

- Create a dataset by uploading a Power BI Desktop file
- Assemble a dashboard consisting of tiles
- Use Q&A questions to create dashboard tiles
- Use existing report visualizations to create dashboard tiles
- Use new report visualizations to create dashboard tiles

Signing In to the Power BI Service

In this exercise, you will sign in to the Power BI service.

You only need to complete this exercise once. Do not do this exercise if you have already signed in to Power BI within the same virtual machine session.

Signing In to the Power BI Service

In this task, you will sign in to the Power BI service.

A personal trial account has been created for you, and it is recommended that you use this account to complete all Power BI labs within this virtual machine session. If you plan to complete several labs within the same virtual machine session (i.e. classroom training), you should use the same account for all labs.

1. To open Internet Explorer, on the taskbar, click the **Internet Explorer** program shortcut.



2. In Internet Explorer, navigate to <http://powerbi.com>.

*Tip: You can also use the **Power BI Site** Internet Explorer favorite.*

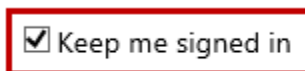
3. Click **Sign In** (located at the top-right corner).



4. Enter the account details provided within the virtual machine environment (located at the right, in the **Content** tab).

This is a personal trial account made available to you to complete the labs. It will provide at least 30 days of access to the Power BI service.

5. Check the **Keep Me Signed In** checkbox.



6. Click **Sign In**.



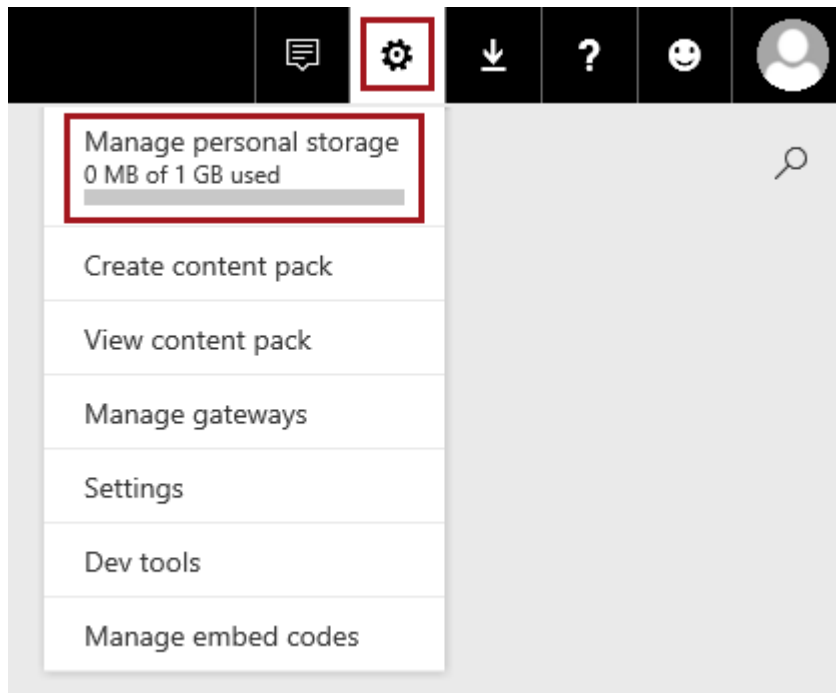
- When prompted to update the password, reenter the provided password, and then enter and confirm a new password.

*It is important that you remember the new password, as you may be required to authenticate with the Power BI service in other labs. Consider using the generic classroom password **Pass@word1**.*

- Click **Update Password and Sign In**.

Update password and sign in

- To upgrade the trial account to the **Power BI Pro** trial license, at the top right corner, click the **Settings** command (cog), and then select **Manage Personal Storage**.



- At the top-right corner, click **Try Pro for Free**.

Try Pro for free

- In the dialog window, if you agree to the terms, click **Start Trial**.



- When the trial extension has been confirmed, click **Close**.

13. To navigate to your workspace, click the Power BI banner.



14. Leave the Internet Explorer window open.

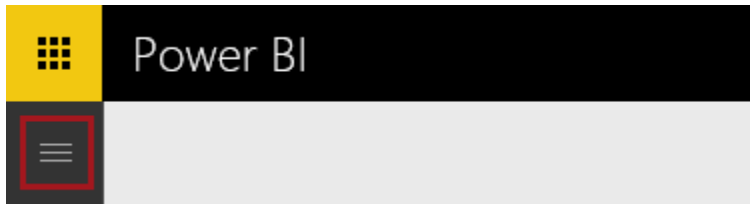
Exploring the Power BI Dashboard Interface

In this exercise, you will explore the Power BI dashboard interface, create a dashboard, and then upload a dataset and report by connect to the **US Sales Analysis** Power BI Desktop file. You will also define a featured question for the dataset.

Exploring the Navigation Pane

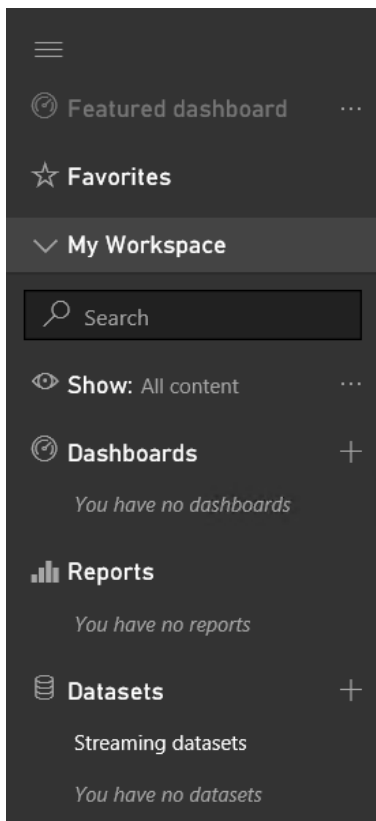
In this task, you will explore the workspace with the **Navigation Pane**.

1. In the Internet Explorer window, to open the **Navigation Pane**, click the following icon.



*To maximize screen space, the **Navigation Pane** will often automatically collapse. Click this icon whenever you need to re-open the pane.*

2. Review the layout of the **Navigation Pane** (located at the left).



The **Navigation Pane** is used to move between the Power BI building blocks, consisting of Dashboards, Reports, and Datasets.

A **Dashboard** is a single canvas that contains one or more tiles, and each tile displays a single visualization that was created from the data in the underlying datasets. Dashboards can be shared with other users.

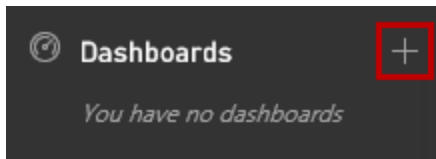
A **Report** consists of one or more pages of visualizations (charts, graphics, etc.). Reports can be created from scratch or can be imported from Power BI Desktop files.

A **Dataset** is a resource that can be connected to, and that is used to create reports.

Creating a Dashboard

In this task, you will create a dashboard.

1. To create a dashboard, in the **Navigation Pane**, to the right of the **Dashboards** group, click the plus (+) symbol.



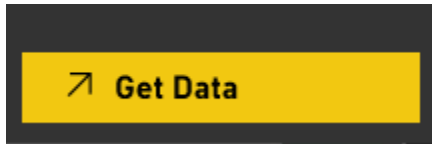
2. In the box, enter **Tailspin Toys CY2016**, and then press **Enter**.
3. Notice that the dashboard opens, and that the name of the currently selected dashboard is presented in the page banner.



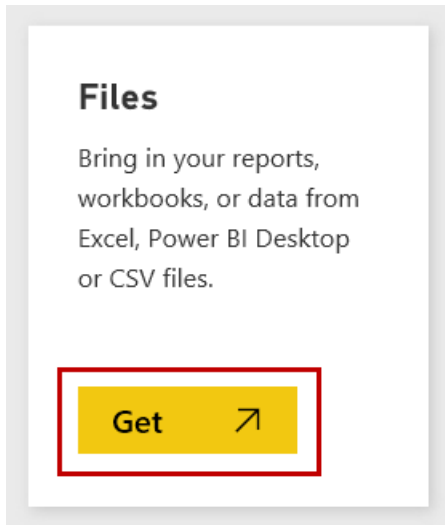
Connecting to a Power BI Desktop File

In this task, you will upload a Power BI Desktop file.

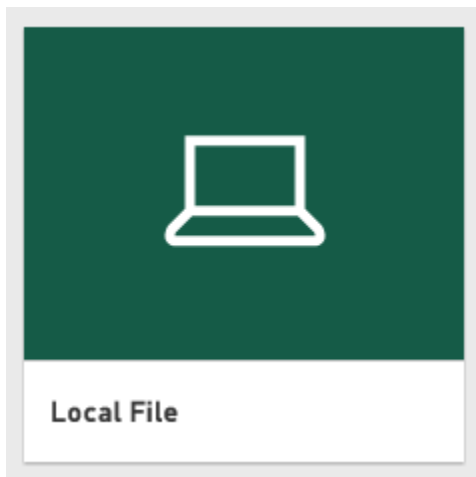
1. In the **Navigation Pane**, click **Get Data** (located at the bottom of the pane).



2. In the **Get Data** page, inside the **Files** tile, click **Get**.



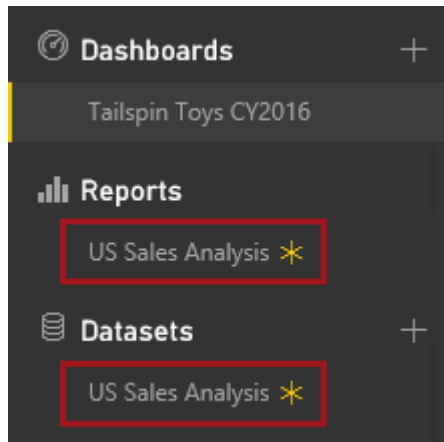
3. Click the **Local File** tile.



4. In the **Choose File to Upload** window, navigate to the **D:\PowerBI\Lab01\Assets** folder.
5. Select the **US Sales Analysis.pbix** file, and then click **Open**.

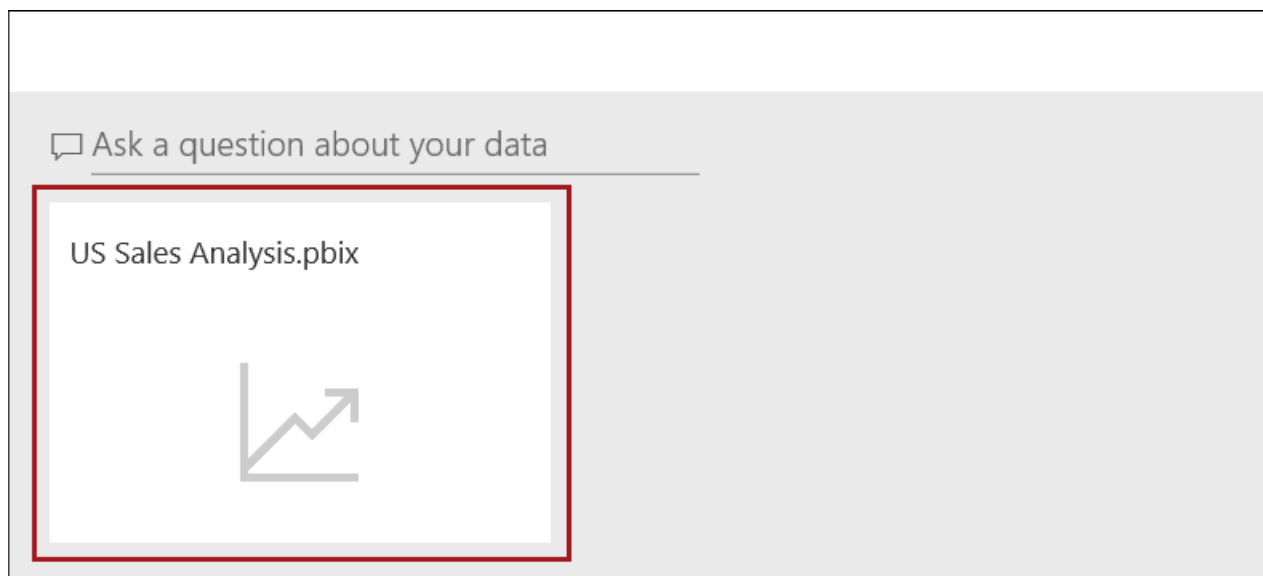
*This is the Power BI Desktop file that is created in the lab titled **Creating a Microsoft Power BI Desktop Solution**.*

6. When the file has uploaded, in the **Navigation Pane**, notice the addition of the **US Sales Analysis** report and **US Sales Analysis** dataset.



The Power BI Desktop file contains both a model and a report. In Power BI, the model is now expressed as a dataset.

7. In the **Tailspin Toys CY2016** dashboard, notice the **US Sales Analysis.pbix** tile.

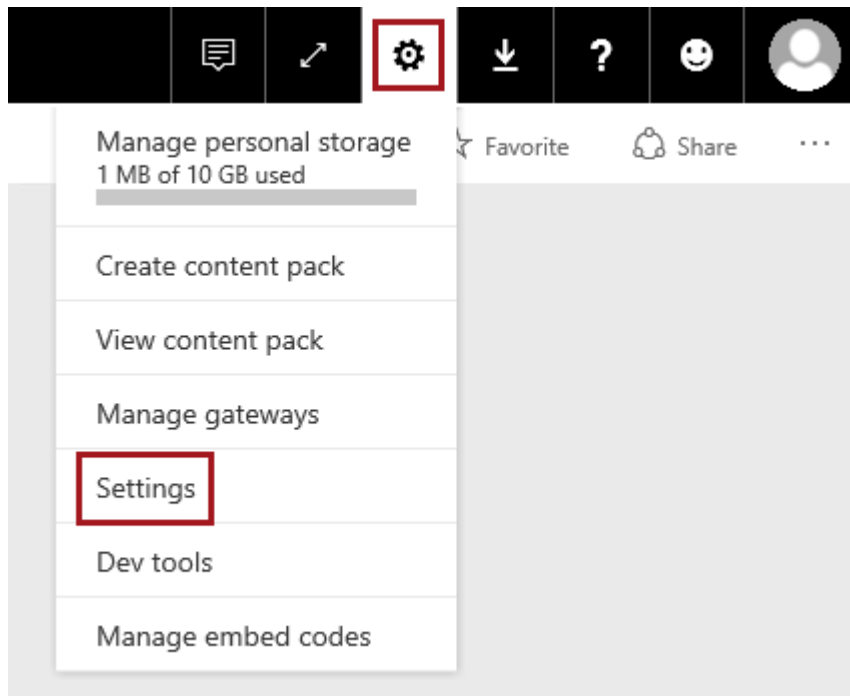


The tile defines a relationship between the dashboard and the dataset, and will be the resource queried when asking Q&A questions. Additionally, clicking the tile can quickly enable browsing the report based on the dataset.

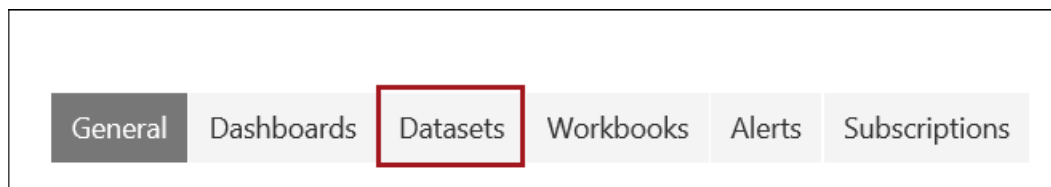
Creating a Featured Question

In this task, you will create a featured question to assist users when using Q&A with the **US Sales Analysis** dataset.

1. At the top-right corner, click the **Settings** command (cog), and then select **Settings**.



2. Select the **Datasets** tab.



3. At the left, ensure that the **US Sales Analysis** dataset is selected.

*You can ignore the warning about the offline gateway. This lab will not install a gateway to enable data refresh of the **US Sales Analysis** dataset.*

4. Expand the **Featured Q&A Questions**.
5. Click the **Add a Question** link.

Featured Q&A Questions

Featured questions are shown as suggestions for this dataset in Q&A.

[Add a question](#)

6. In the box, enter **Show total revenue**.
7. Click **Apply**.



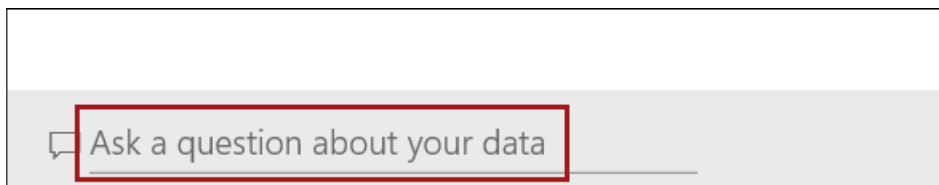
Assembling a Power BI Dashboard

In this exercise, you will assemble a dashboard by creating tiles sourced from Q&A questions, and also from new and existing report visualizations.

Creating Dashboard Tiles from Q&A Responses

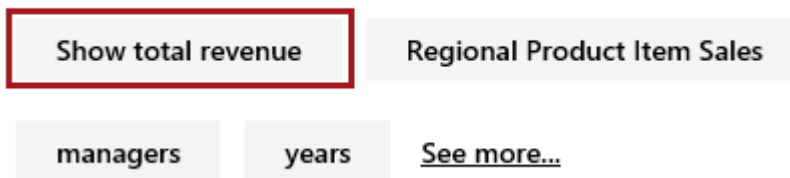
In this task, you will create dashboard tiles by using Q&A.

1. In the **Navigation Pane**, select the **Tailspin Toys CY2016** dashboard.
2. At the top-left corner click the **Ask a Question About Your Data** text.



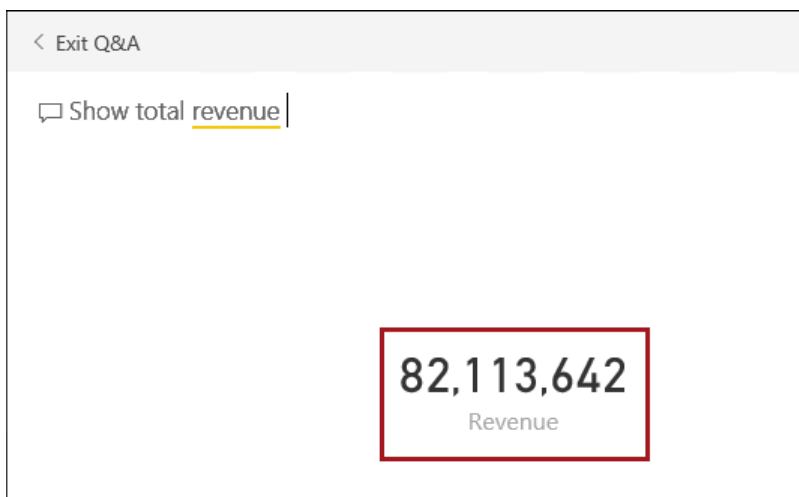
3. Select the **Show total revenue** suggestion.

US SALES ANALYSIS:

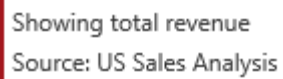


Featured questions not only provide suggestions, but can also fast track entering common questions.

4. Review the Q&A response.



5. Beneath the response, notice the data source, which is the **US Sales Analysis** dataset.



Showing total revenue
Source: US Sales Analysis

6. In the Q&A box, modify the question to **Show total revenue in CY2016**.
7. Verify that the response updates to **30,747,633**.
8. To create a dashboard tile for this response, at the top-right corner, click **Pin Visual**.



9. In the **Pin to Dashboard** dialog window, notice the ability to pin the visual to a new, or existing dashboard, and then click **Pin** to add a tile to the existing dashboard.



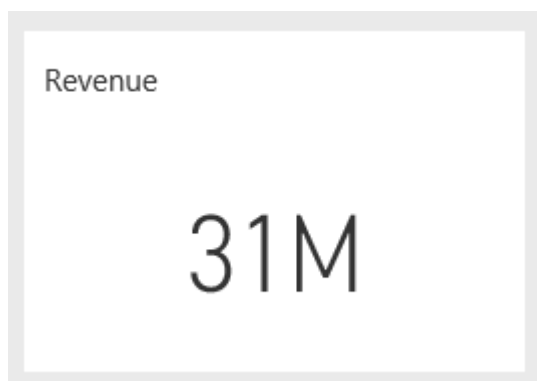
In this lab, you will work with only a single dashboard.

10. To return to the dashboard page, click **Exit Q&A**.

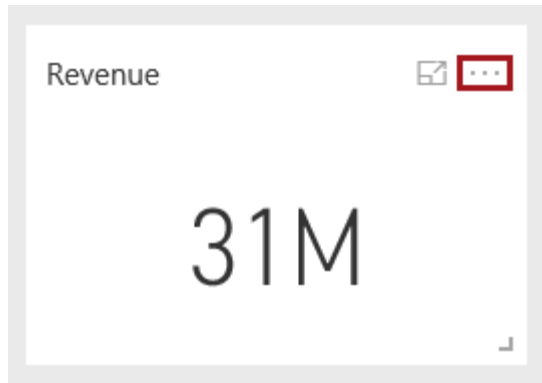


< Exit Q&A

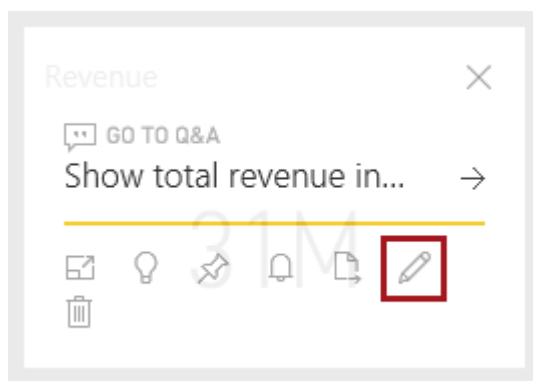
11. On the dashboard page, notice the **Revenue** tile.



12. To modify the tile title, hover the cursor over the tile, and then click the ellipsis when it appears.



13. Click the **Edit Details** icon.



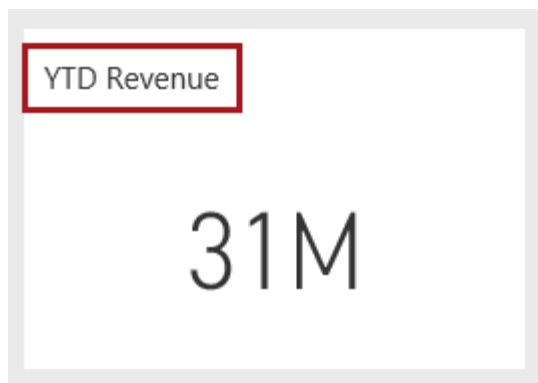
14. In the **Tile Details** pane (located at the right), in the **Title** box, modify the text to YTD Revenue.



15. Click **Apply**.



16. Verify that the title of the tile has updated.



17. To return to the source question for the tile, simply click the tile.

18. To produce a variation of the question, in the Q&A box, modify the question as follows.

A screenshot of a Q&A input box. The text 'Show total revenue in CY2016 by month' is displayed. The words 'revenue', 'CY2016', and 'month' are underlined in yellow. The entire phrase 'by month' is enclosed in a red rectangular box.

19. In the bar chart response, notice that the months are sorted in descending revenue order.

20. To sort by month, modify the question again, as follows.

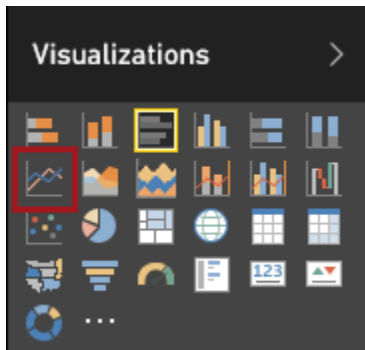
A screenshot of a Q&A input box. The text 'Show total revenue in CY2016 by month sorted by month' is displayed. The words 'revenue', 'CY2016', 'month', and 'sorted by month' are underlined in yellow. The entire phrase 'sorted by month' is enclosed in a red rectangular box.

21. To further customize the response, expand the **Visualizations** pane (located at the right).



22. To change the visualization type, select **Line Chart**.

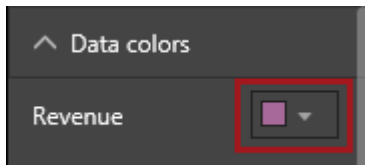
Tip: Hovering over a visualization type icon will reveal a tooltip that describes the visualization type.



23. To modify the chart format, switch to the Format view.



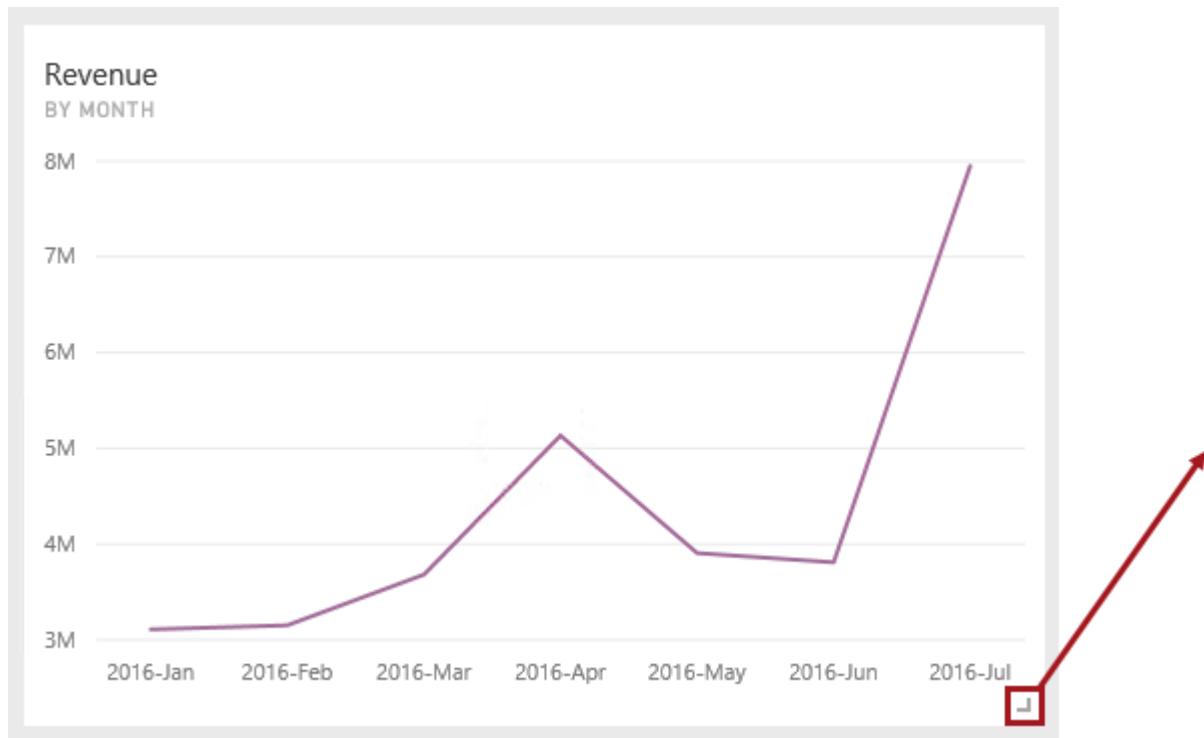
24. Expand the **Data Colors** section, and then in the **Revenue** dropdown list, select **Purple**.



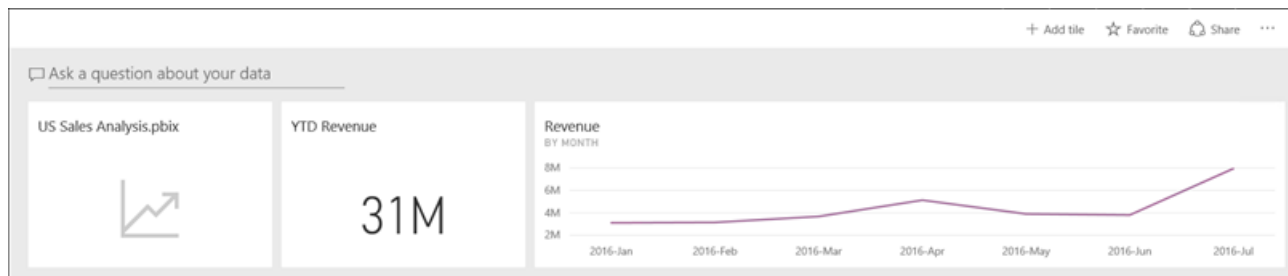
25. Pin the visualization to the existing dashboard, and then return to the dashboard.

26. To resize the new tile, hover the cursor over the tile, and then drag the bottom right corner toward the top left corner, and then release when the tile size matches the height of the other tiles, and is also three times wider than them (i.e. 1x3).

Tip: While resizing, notice the background shadow. The shadow area indicates the tile size should you release the drag action.



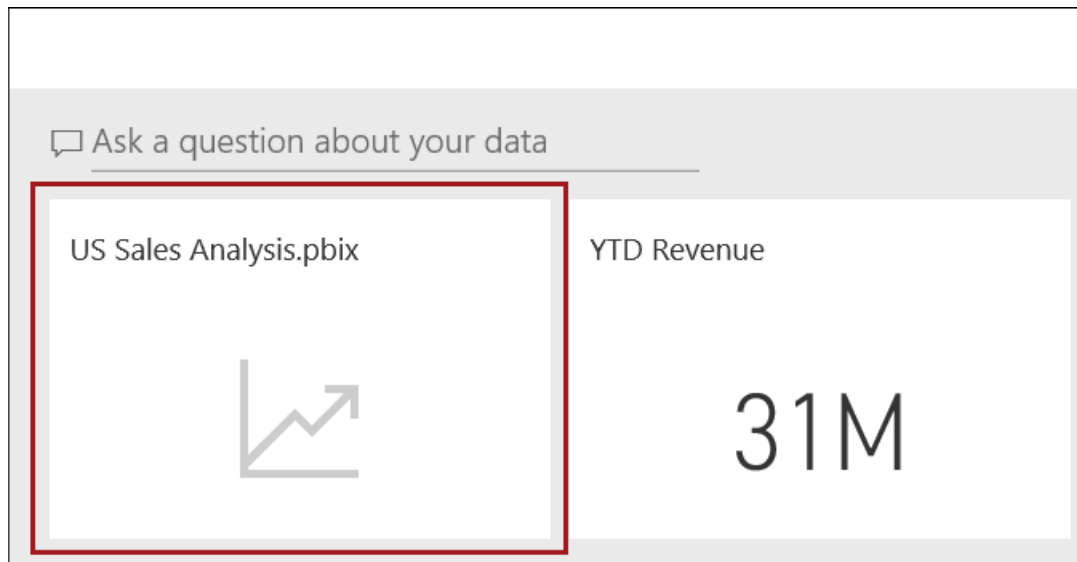
27. Verify that the dashboard layout looks like the following.



Creating Dashboard Tiles from Existing Visualizations

In this task, you will create dashboard tiles by using existing visualizations from the **US Sales Analysis** report.

1. In the dashboard, click the **US Sales Analysis.pbix** tile.

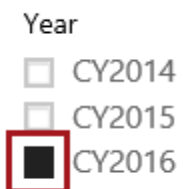


The report consists of two pages, and was created in Power BI Desktop.

2. In the report, hover the cursor over the Tailspin Toys logo, and then click the **Pin Visual** icon.



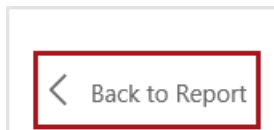
3. In the **Pin to Dashboard** dialog window, click **Pin**.
4. In the **Year** slicer (located at the left), ensure that the report page is filtered by **CY2016**.




5. To zoom into the **Revenue, Cost and Profitability by Month** visualization, hover the cursor over the chart, and then click the **Focus Mode** icon.



6. Pin the **Revenue, Cost and Profitability by Month** visualization to the dashboard.
7. To revert the chart to normal size, click **Back to Report**.



8. Pin also the first table (the one located at the left) to the dashboard.

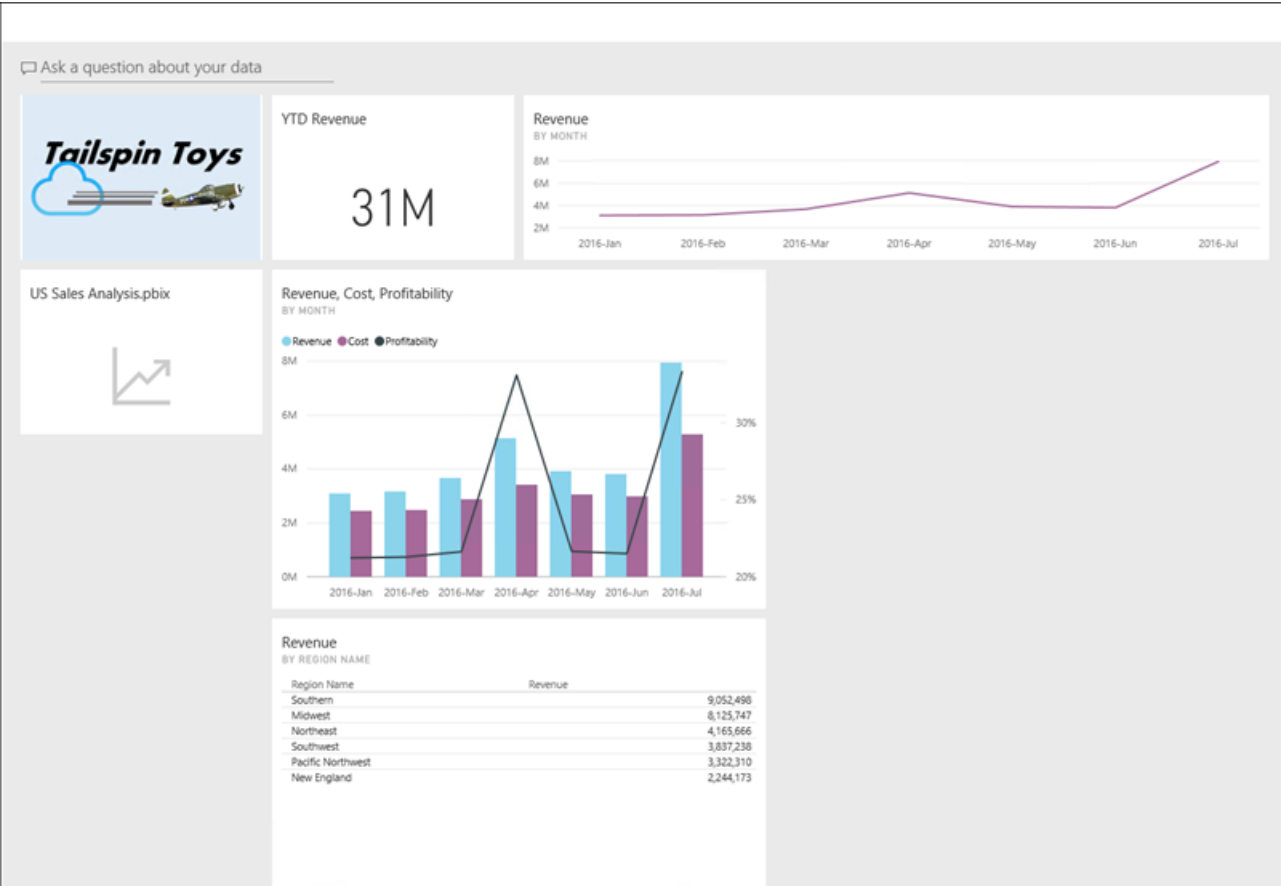


Region Name	Revenue
Southern	9,052,498
Midwest	8,125,747
Northeast	4,165,666
Southwest	3,837,238
Pacific Northwest	3,322,310
New England	2,244,173
Total	30,747,633

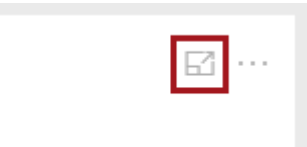
Manager Name	Revenue
Ananya Kumar	17,178,245
Ted Baker	8,125,747
Ty Johnston	6,081,411
Jane Campbell	4,165,666
Carmen Carrington	3,837,238
Haruto Suzuki	3,322,310
John Bishop	2,244,173
Total	30,747,633

9. To return to the dashboard, in the **Navigation Pane**, select the **Tailspin Toys CY2016** dashboard.
10. In the dashboard page, resize the Tailspin Toys logo tile to the smallest possible size (i.e. 1x1).

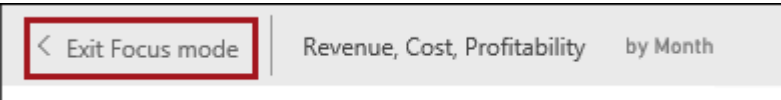
11. Reposition the tiles to produce the following dashboard layout.



12. To zoom into a tile, hover over the **Revenue, Cost, Profitability** tile, and then click the **Focus Mode** icon.



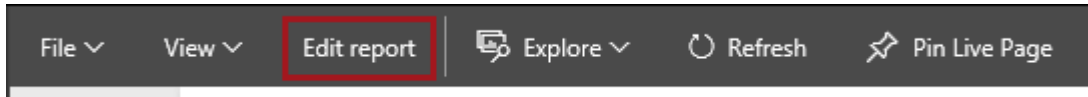
13. To return to the dashboard, at the top-left corner, click **Exit Focus Mode**.



Creating a Report Page

In this task, you will create a report page consisting of new visualizations that you will also pin to the dashboard.

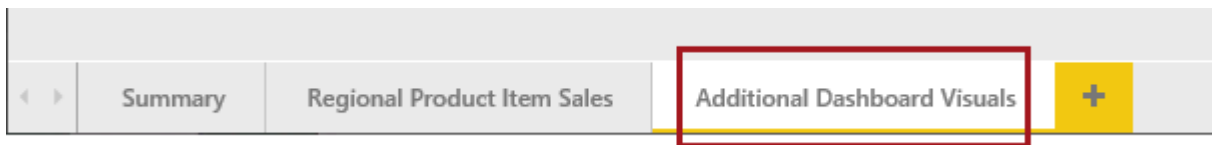
1. To add a new page to the report, navigate to the report again by clicking the **US Sales Analysis.pbix** tile.
2. To edit the report, on the report menu, click **Edit Report**.



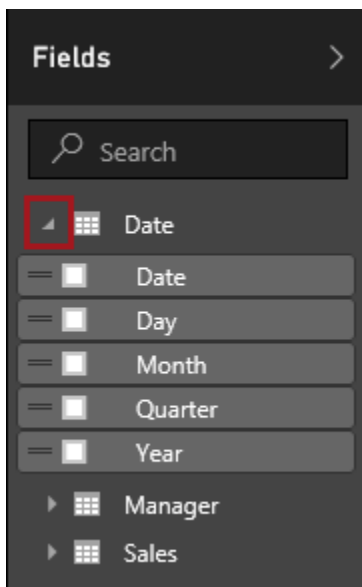
3. To insert a new report page, at the bottom left corner, click **Add Page**.



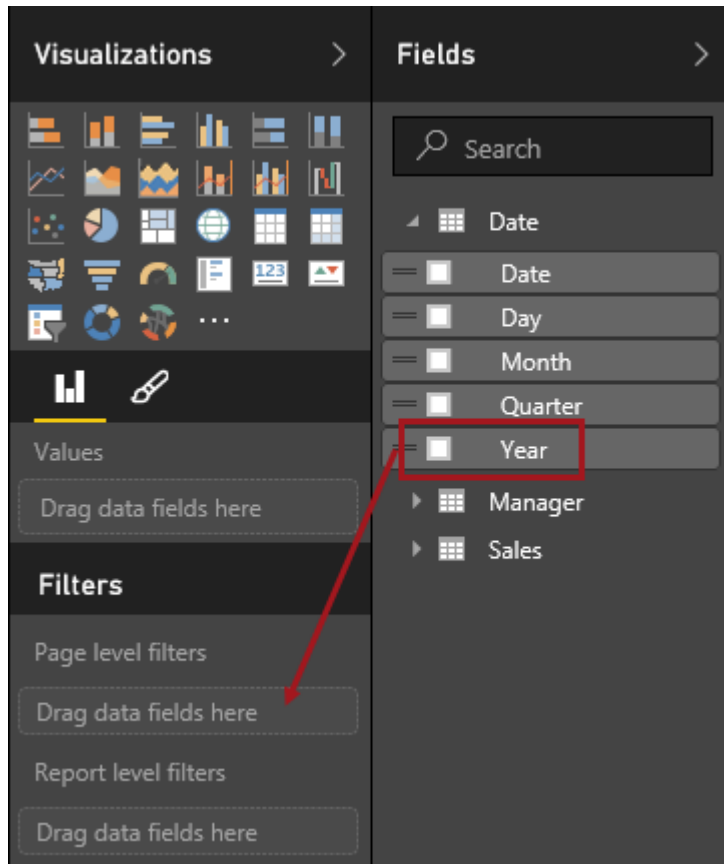
4. To name the page, double-click **Page 1**.
5. Replace the text with **Additional Dashboard Visuals**, and then press **Enter**.



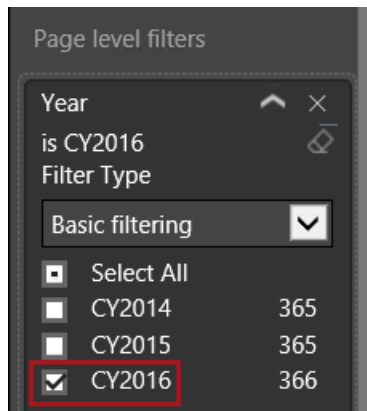
6. To filter the report page, in the **Fields** pane, expand the **Date** table.



- From inside the **Date** table, drag the **Year** field, and drop it into the **Page Level Filters** well.

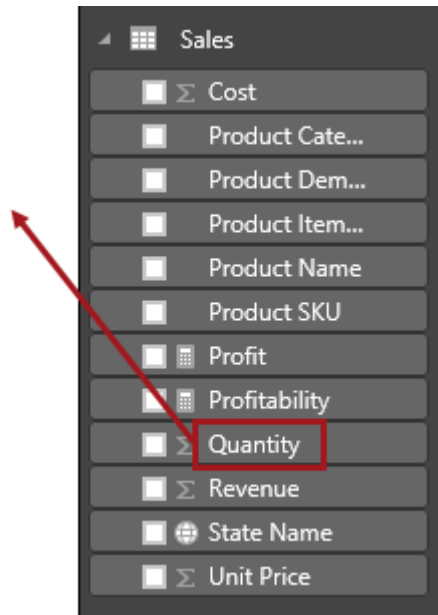


- Check **CY2016**.

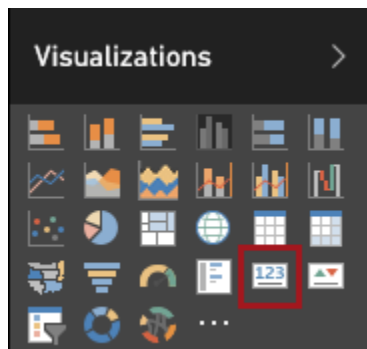


*All data expressed on the report page will now be filtered by **CY2016**.*

9. In the **Fields** pane, expand the **Sales** table, and then drag the **Quantity** field and drop it at the top-left corner of the canvas.



10. Change the visualization type to **Card**.



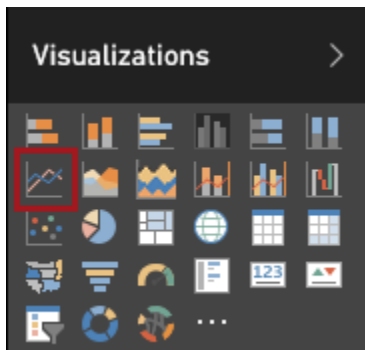
11. Resize and reposition the visualization as follows.



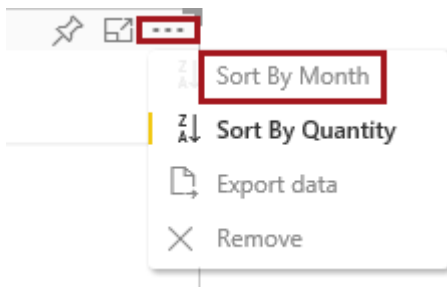
12. Verify that the visualization looks like the following.

118K
Quantity

13. To create a new visualization, drag the **Sales | Quantity** field (**Quantity** field from the **Sales** table) and drop it to the right of the card visualization.
14. Drag the **Date | Month** field and drop it inside the new visualization.
15. Change the visualization to **Line Chart**.

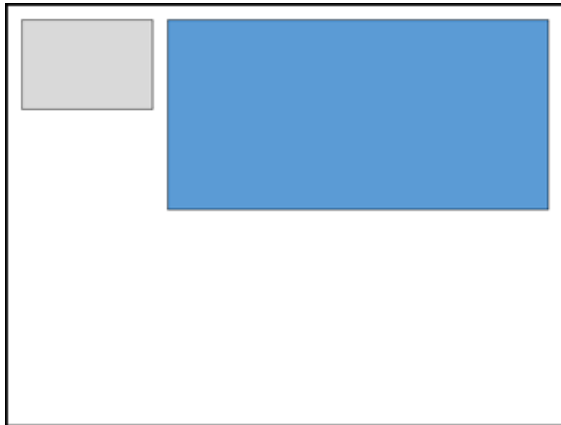


16. To modify the sort order, click the ellipsis located at the top-right corner, and then select **Sort by Month**.

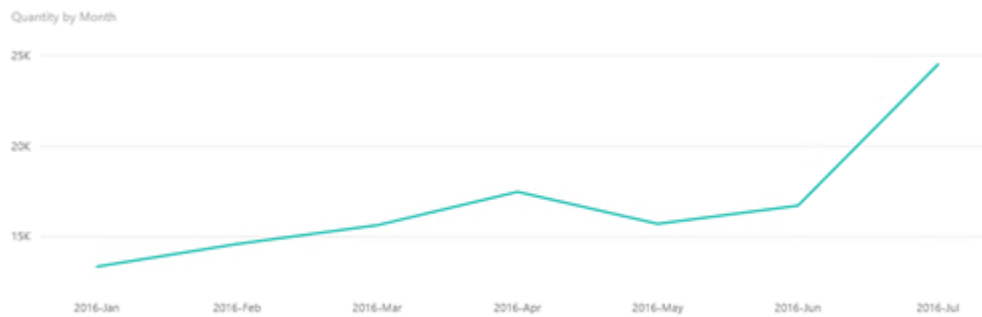


17. To sort by month ascending, click the ellipsis again, and then select **Sort by Month** again.

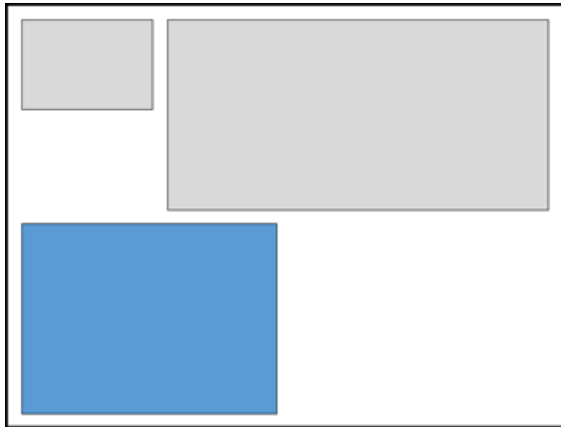
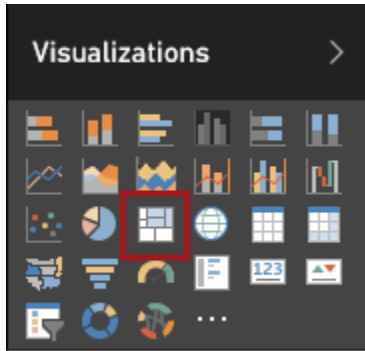
18. Resize and reposition the visualization as follows.



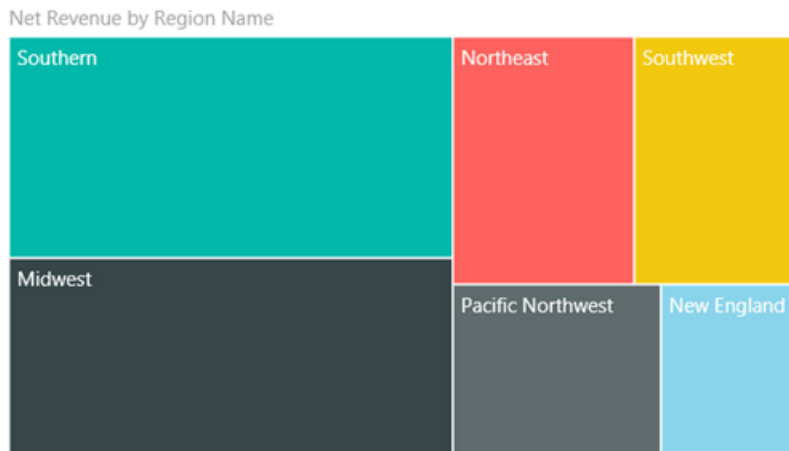
19. Verify that the visualization looks like the following.



20. Create a treemap visualization by using the **Manager | Region Name** and the **Sales | Revenue** fields, and the resize and reposition the visualization as follows.

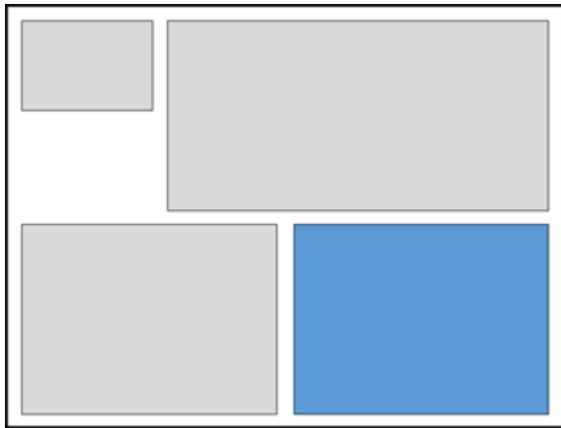


21. Verify that the visualization looks like the following.

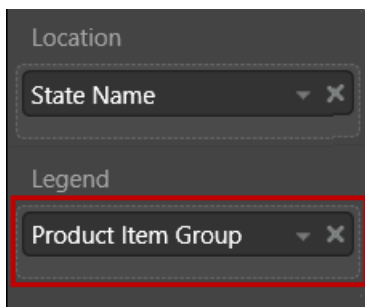


22. Create a map visualization by using the **Sales | State Name** and the **Sales | Revenue** fields, and then resize and reposition the visualization as follows.

*There is no need to change the visualization type, as map is the default type used when a spatial field like **State Name** is used.*



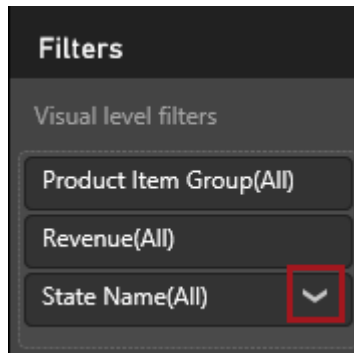
23. To display pie charts, drag the **Sales | Product Item Group** field and drop it inside the **Legend** well.



24. Notice the addition of a legend.



25. To display only the contiguous US states, in the **Filters** section (in the **Visualizations** pane, you may need to scroll down to locate the section), click **State Name (All)** to expand the filter list.



26. Check **(Select All)**, and then uncheck **Alaska** and **Hawaii**.
27. If necessary, hover over the map, and then use the mouse wheel to adjust the zoom to fill the available visual space.
28. Verify that the visualization looks like the following.



29. To save the report, at the top-right corner, click **Save**.

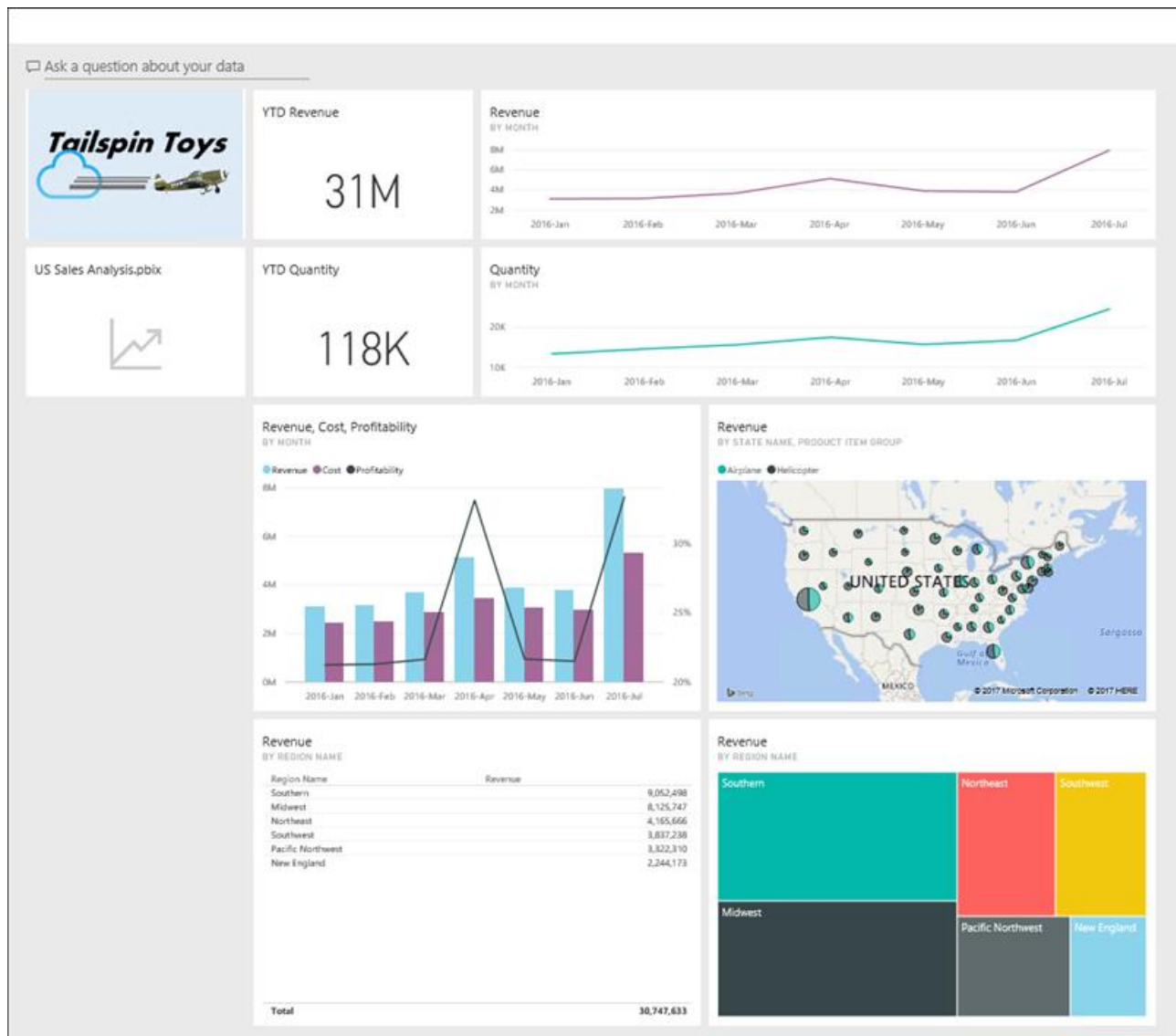


30. Pin each of the four visualizations to the dashboard.

Completing the Dashboard Layout

In this task, you will finalize the dashboard layout.

1. Return to the dashboard.
2. Modify the **Quantity** tile title to **YTD Quantity**.
3. Click on the **YTD Quantity** title, and notice that it navigates to the source report page.
4. Return to the dashboard again.
5. Resize the **Quantity BY MONTH** tile to a size 1x3 (like the **Revenue BY MONTH** tile).
6. Reposition the tiles to produce the following dashboard layout.

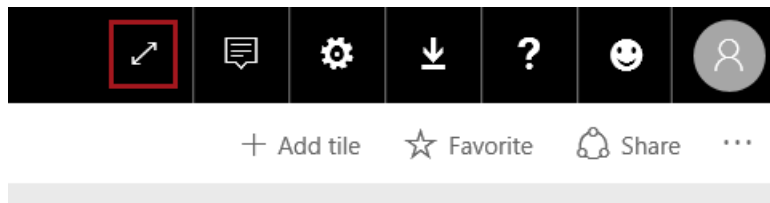


The dashboard enables viewing data with a variety of different visualization types in a single pane of glass. Users can interact by entering new questions in the Q&A box, or by clicking on any tile to drill through to the tile source, which can be either a Q&A question, or a visualization saved within a report. Finally, dashboard pages can be shared with other registered Power BI users.

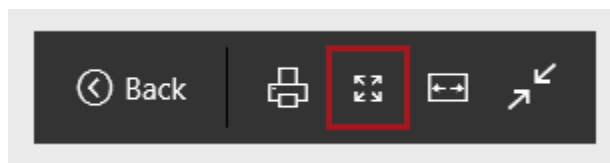
Exploring the Dashboard View

In this task, you will explore dashboard full screen mode, and set the dashboard to become the featured dashboard.

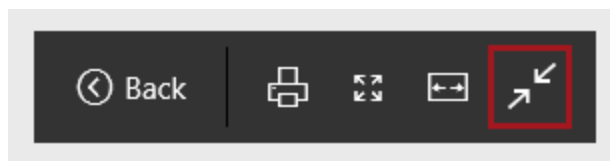
1. To view the dashboard in full screen mode, at the top-right corner, click **Enter Full Screen Mode**.



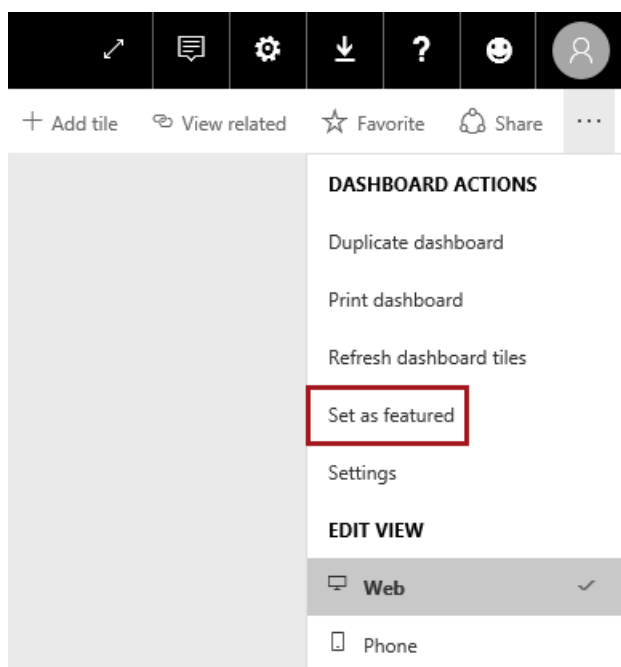
2. If all tiles are still not visible, move the cursor toward the bottom-right corner, and when the pane appears, click **Fit to Screen**.



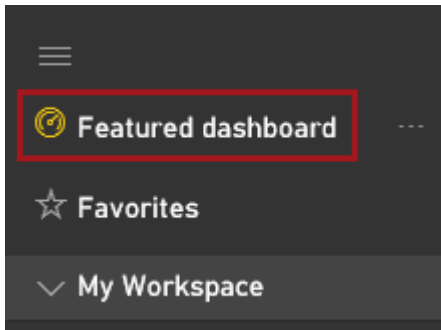
3. To exit full screen mode, click **Exit Full Screen Mode**.



4. To set the dashboard as the featured dashboard, at the top-right corner, click the ellipsis, and then select **Select as Featured**.



5. When prompted to confirm, click **Set as Featured**.
6. In the **Navigation Pane**, notice that **Featured Dashboard** is enabled.

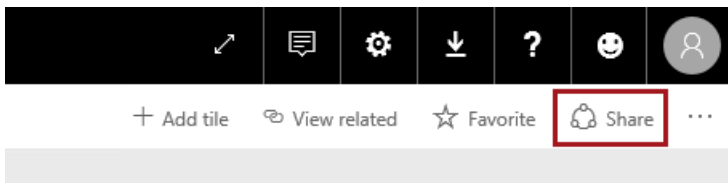


When signing in to Power BI, this dashboard will now always be loaded in the canvas area.

Sharing the Dashboard

In this task, you will explore how to share the dashboard.

1. At the top-right corner, click **Share**.



2. In the **Share Dashboard** pane, notice that, as the dashboard owner, you can manage sharing this dashboard to other users.

Sharing provides access to the dashboard and reports in reading view, which means they can interact, but not change the layout of the dashboard or reports.

*Users will find the dashboard in their **Navigation Pane**, annotated with the sharing icon. They will not see the dataset that it uses.*

*The Power BI assets created in this lab will be shared in lab titled **Sharing Power BI Content**.*

3. Click **Cancel**.

Finishing Up

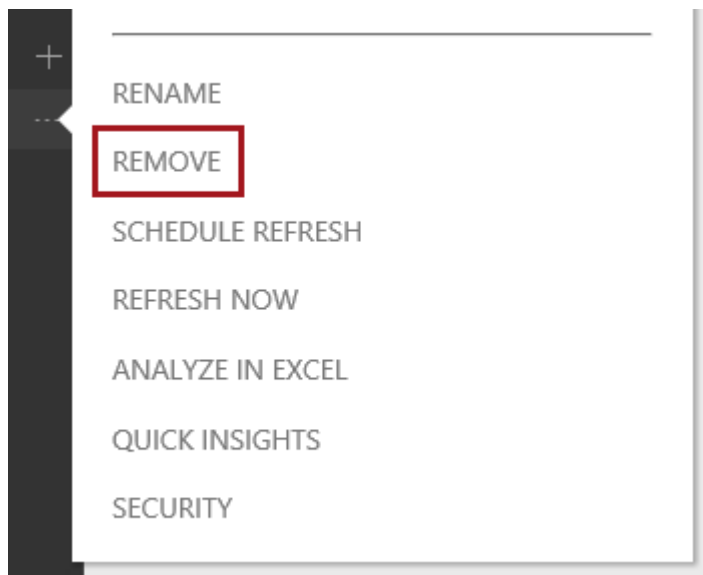
In this exercise, you will finish up by undoing the configurations made in this lab.

*If you intend to complete the lab titled **Sharing Power BI Content**, do not complete this task.*

Finishing Up

In this task, you will finish up by undoing the configurations made in this lab.

1. To remove the dataset, in the **Navigation Pane**, right-click the **US Sales Analysis** dataset.
2. In the pop out menu, click **Remove**.



3. When prompted to confirm the deletion, click **Delete**.
4. Notice that the report is automatically removed as a consequence.
5. Remove the **Tailspin Toys CY2016** dashboard also.
6. Leave the Internet Explorer window open.

Summary

In this lab, you created a Microsoft Power BI dashboard to report on the US sales activities. This involved uploading the **US Sales Analysis.pbix** file created with Power BI Desktop.

You have assembled the dashboard layout with tiles sourced from Q&A questions, and new and existing report visualizations.

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

Document Version

#	Date	Author	Comments
0	14-APR-2015	Peter Myers	Initial release
1	29-APR-2015	Peter Myers	Reformat as PowerBI lab
2	04-MAY-2015	Peter Myers	Reflect Power BI service updates
3	06-JUN-2015	Peter Myers	Added Windows app v1.2.50602.1352 exercise
4	16-JUN-2015	Peter Myers	Reflect Power BI service updates
5	24-JUL-2015	Peter Myers	Reflect Power BI service (GA) Remove Power BI app exercises
6	06-AUG-2015	Peter Myers	Improvements made based on feedback
7	28-AUG-2015	Peter Myers	Migrate to new document template Update lab steps to Power BI service v11.0.9167.752
8	26-SEP-2015	Peter Myers	Power BI service v11.0.9168.106
9	24-OCT-2015	Peter Myers	Power BI service v11.0.9168.431
10	30-NOV-2015	Peter Myers	Power BI service v11.0.9168.864
11	15-DEC-2015	Peter Myers	Power BI service v11.0.9168.969
12	30-DEC-2015	Peter Myers	Power BI service v11.0.9169.163
13	28-JAN-2016	Peter Myers	Power BI service v11.0.127.195746
14	31-MAR-2016	Peter Myers	Power BI service v13.0.1100.266
15	20-JUL-2016	Peter Myers	Updated Power BI logo Updated to new powerbi v1.00 VM set Power BI service v13.0.1500.429
16	22-AUG-2016	Peter Myers	Power BI service v13.0.1605.328
17	01-SEP-2016	Peter Myers	Power BI service v13.0.1605.427
18	31-DEC-2016	Peter Myers	WIP
19	01-FEB-2017	Peter Myers	Power BI service v13.0.1700.1082
20	14-APR-2017	Peter Myers	Power BI service v13.0.1700.1783