Module 2: Introducing Power BI

Note: Lab Solution is present in `D:\Labfiles\Lab02\Solution` folder:

Lab: Creating Power BI Charts

Exercise 1: Connecting to Power BI Data

Task 1: Prepare the Lab Environment

1. Ensure that you have copied all folders from `Desktop/power-bi-quickstart` folder into *D:* drive before starting the lab.

2. In the **D:\Labfiles\Lab02\Starter** folder, right-click **Setup.cmd**, and then click **Run as administrator**.

3. When the script completes, press any key to close the window.

Task 2: Connect to SQL Server from the Power BI Desktop

1. On the Taskbar, click **Power BI Desktop**.

2. To close the getting started window, at the top-right of the window, click **X**.

3. On the **Power BI Desktop** window, in the left-hand pane, click **Get data**.

4. In the **Get Data** dialog box, click **SQL Server**, and then click **Connect**.
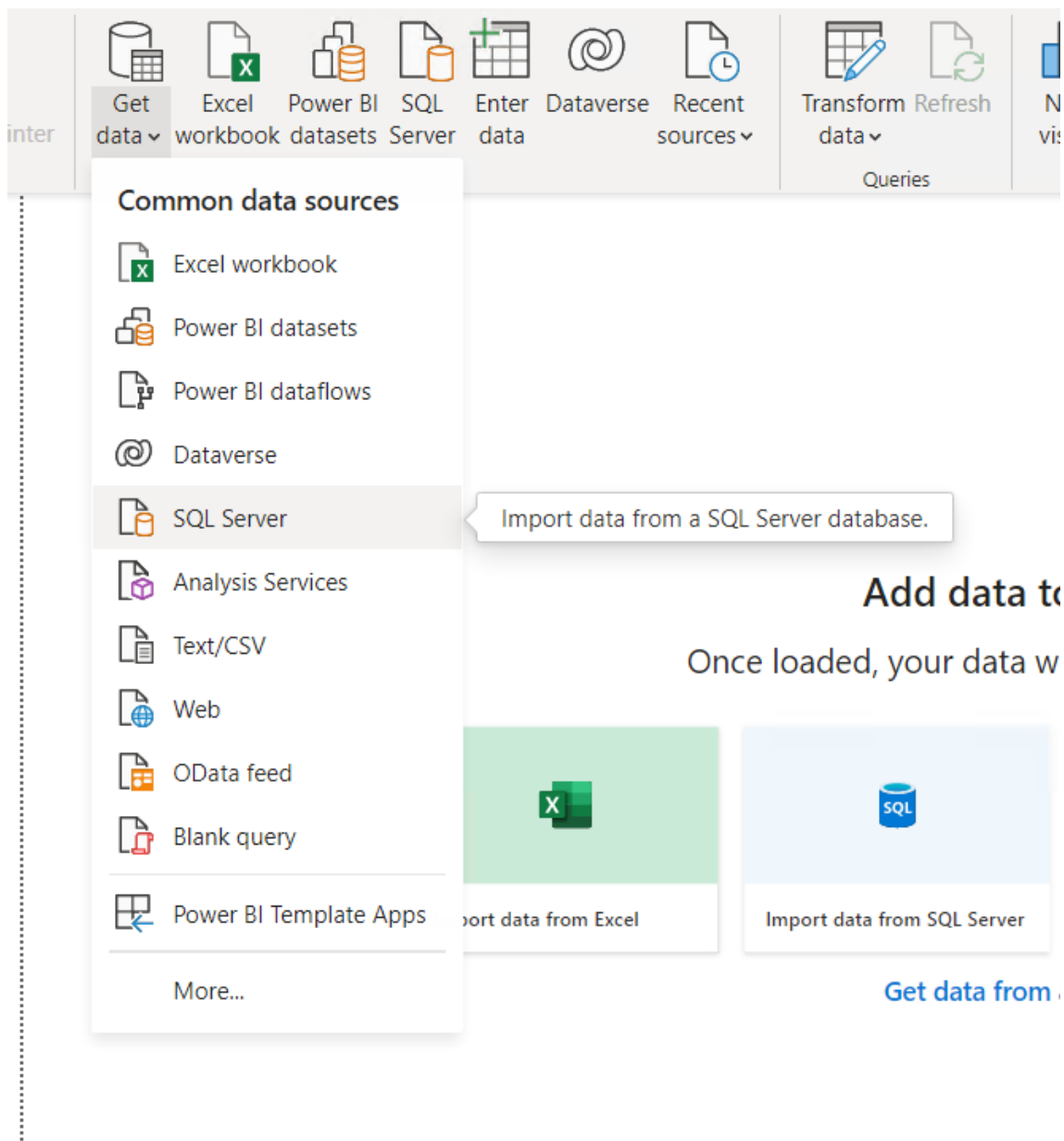
5. In the **SQL Server database** dialog box, in the **Server** box, type **localhost**, in the **Database (optional)** box, type **AdventureWorks**, and then click **OK**.

6. In the **SQL Server database** dialog box, accept the default values, and then click **Connect**.

7. If an **Encryption Support** message is displayed, click **OK**.

8. In the **Navigator** dialog box, select the **Sales.vSalesPerson** check box, and then click **Load**.

9. In the **FIELDS** pane, expand **Sales vSalesPerson** to view all the columns.
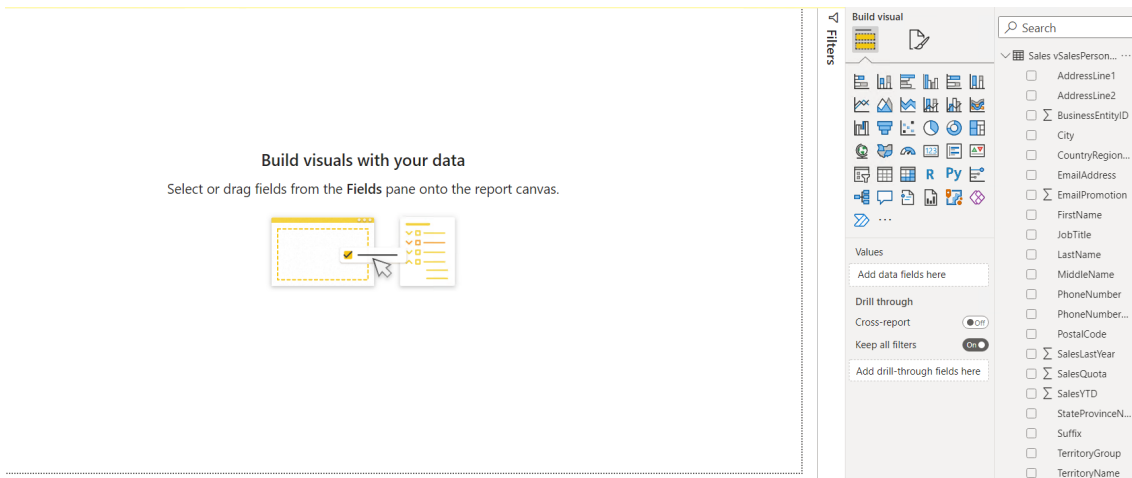
10. On the **Home** tab, click **Recent Sources**, and then click **localhost: AdventureWorks**.
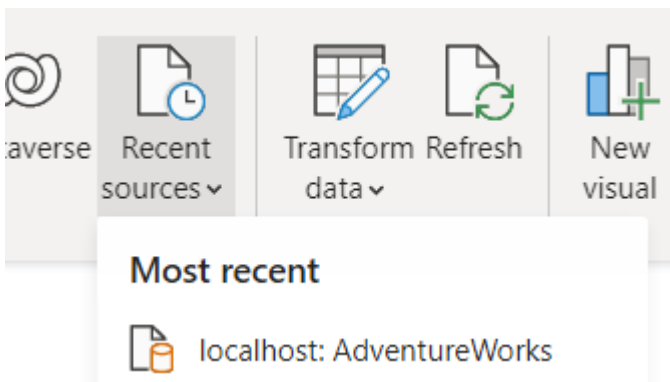
11. In the **Navigator** dialog box, select the **Sales.vStoreWithDemographics** check box, and then click **Load**.

12. If the **Connection settings dialog box** appears, ensure **Import** is selected, and then click **OK**.

13. In the **FIELDS** pane, expand **Sales.vStoreWithDemographics** to view all the columns.

14. On the **Home** tab, click the **Get Data** arrow, and then click **SQL Server**.

15. In the **SQL Server database** dialog box, in the **Server** box, type **localhost**, and then in the **Database (optional)** box, type **AdventureWorks**.

16. Expand **Advanced options**, in the **SQL statement (optional, required database)** box, type the following code, and then click **OK**:

```
SELECT TOP 10 P.ProductID, P.Name AS Product, SUM(CAST(LineTotal AS
decimal(18,2))) AS LineTotal
FROM Purchasing.PurchaseOrderDetail AS POD
INNER JOIN Production.Product AS P
ON POD.ProductID = P.ProductID
GROUP BY P.ProductID, P.Name
ORDER BY LineTotal DESC
```

SQL Server database

Server ⓘ

```
localhost
```

Database (optional)

```
AdventureWorks
```

Data Connectivity mode ⓘ

⦿ Import
◯ DirectQuery

▲ Advanced options

Command timeout in minutes (optional)

```

```

SQL statement (optional, requires database)

```
FROM Purchasing.PurchaseOrderDetail AS POD
INNER JOIN Production.Product AS P
ON POD.ProductID = P.ProductID
GROUP BY P.ProductID, P.Name
ORDER BY LineTotal DESC
```

☑ Include relationship columns

☐ Navigate using full hierarchy

☐ Enable SQL Server Failover support

[OK] [Cancel]

17. If the **Connection settings dialog box** appears, ensure **Import** is selected, and then click **OK**.

18. In the **localhost: AdventureWorks** dialog box, click **Load**.

localhost: AdventureWorks

| ProductID	Product	LineTotal
319	HL Crankarm	3358798.4
936	ML Mountain Pedal	2709041.46
939	ML Road Pedal	2390330.7
948	Front Brakes	2277949
907	Rear Brakes	2277949
930	HL Mountain Tire	2092346.47
932	ML Road Tire	1866376.48
513	Touring Rim	1823936.08
512	HL Road Rim	1809723.5
929	ML Mountain Tire	1800922.2

Load Transform Data Cancel

19. In the **FIELDS** pane, expand **Query1** to view all columns.

20. Right-click **Query1**, click **Rename**, type **Top 10 Selling Products**, and then press Enter.

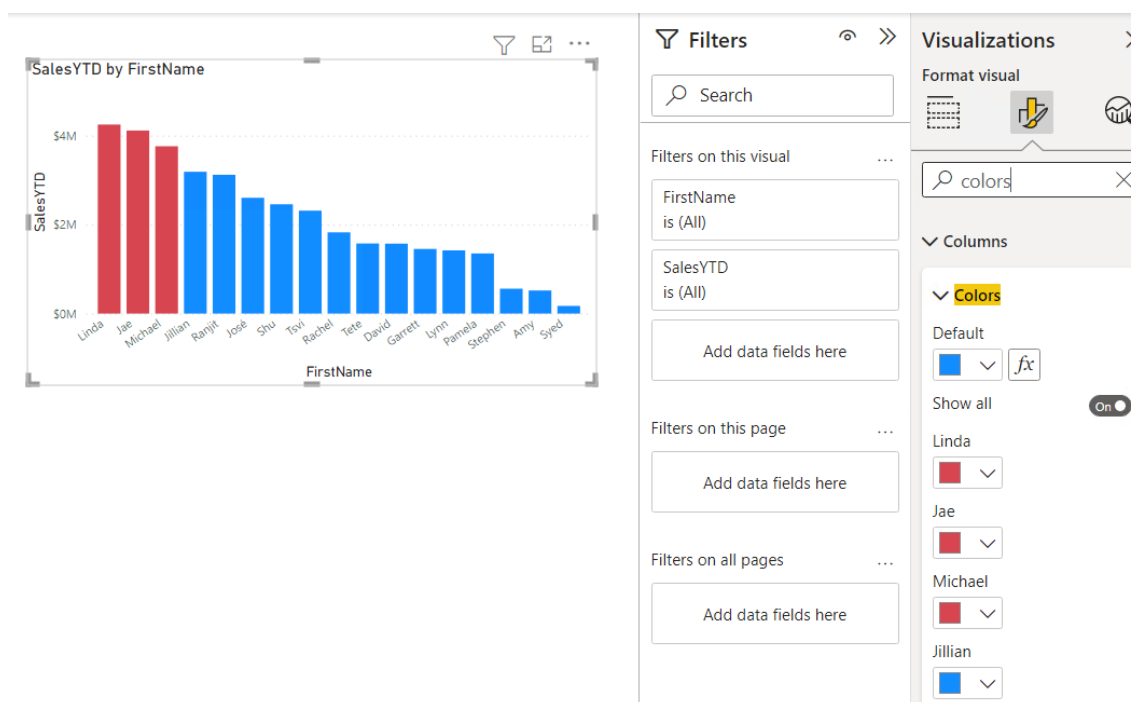**Task 3: Add Charts to the Report**
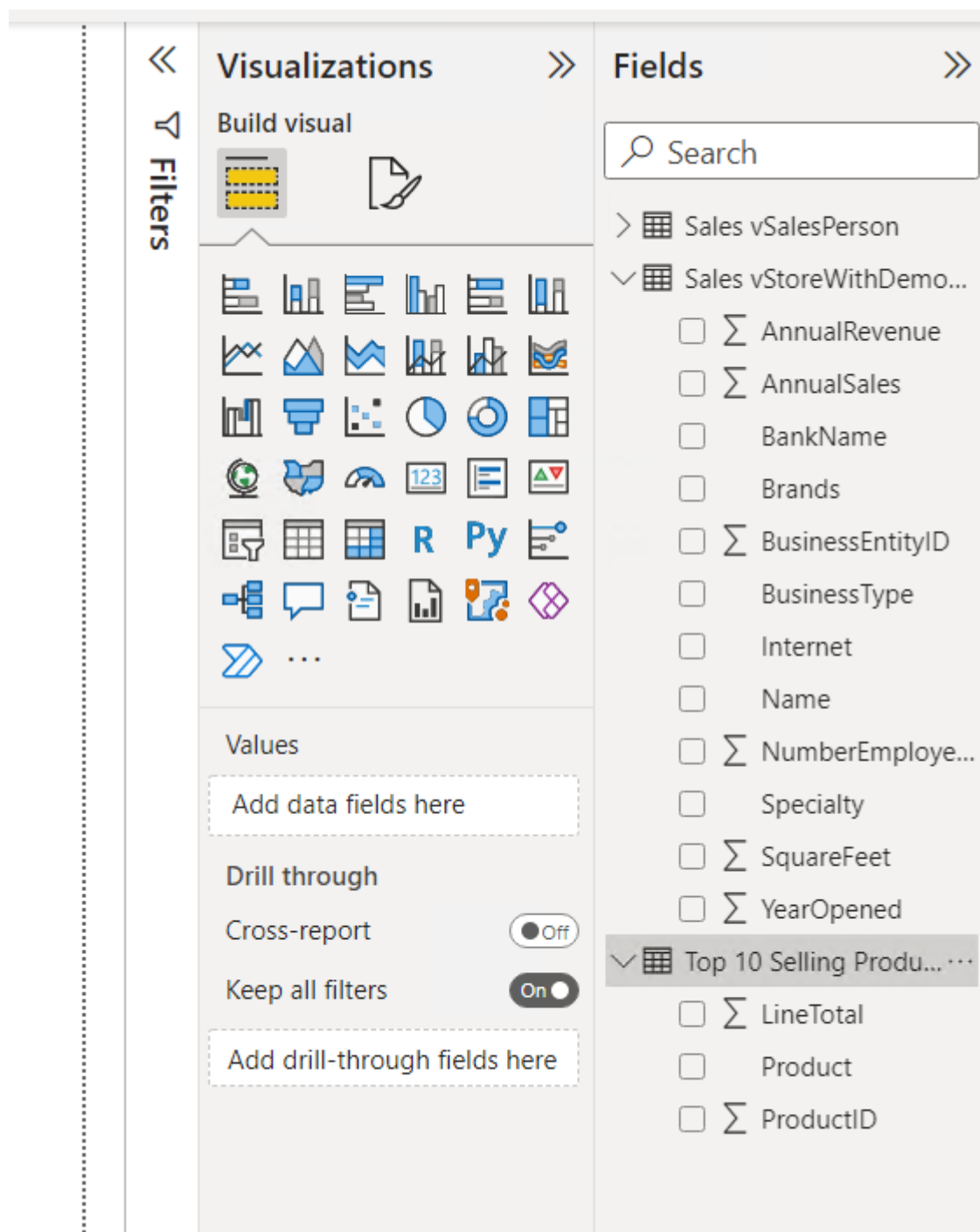
1. In the **VISUALIZATIONS** pane, click **Stacked column chart** to add it to the report.
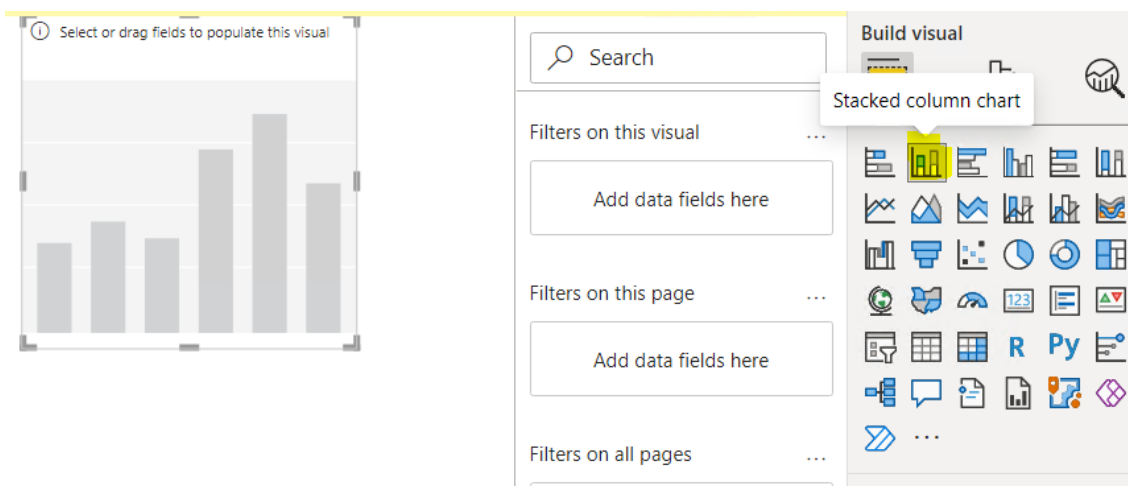
2. In the **FIELDS** pane, under **Sales vSalesPerson**, drag the **FirstName** field to the **Axis** box in the **VISUALIZATIONS** pane.

3. Drag the **SalesYTD** field to the **Value** box. The chart will populate with the data.

4. On the chart in the report, click and drag the sizer on the right-hand side of the chart to widen the chart and display all the salespeople.

5. Ensure the chart has focus, and then in the **VISUALIZATIONS** pane, click **Format**.

6. Expand **Colors**, then toggle **Show all** to **On**.

7. Change the color for **Linda**, **Jae**, and **Michael** to red.

8. Click the report canvas then in the **VISUALIZATIONS** pane, click **Pie chart**. Drag the pie chart to the right of the bar chart, or below if there is not enough space.

9. In the **FIELDS** pane, under **Sales vStoreWithDemographics**, drag the **Specialty** field to the **Legend** box in the **VISUALIZATIONS** pane.

10. Drag the **NumberEmployees** field to the **Values** box. The chart will populate with the data and should display three pie sections.
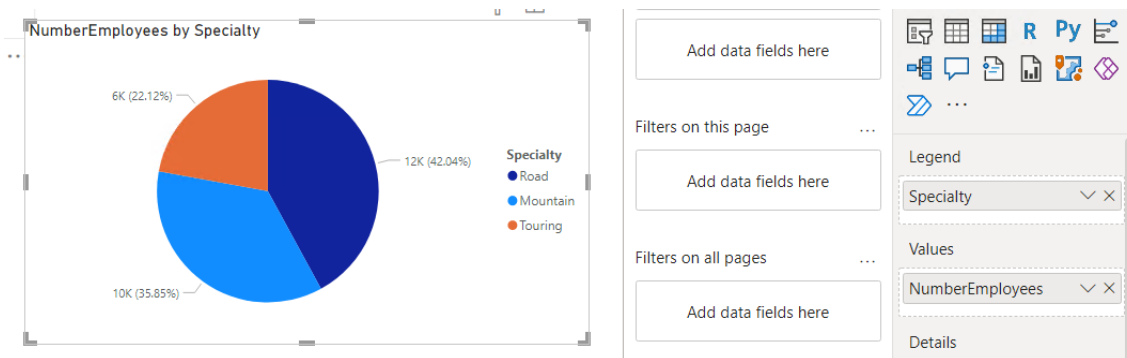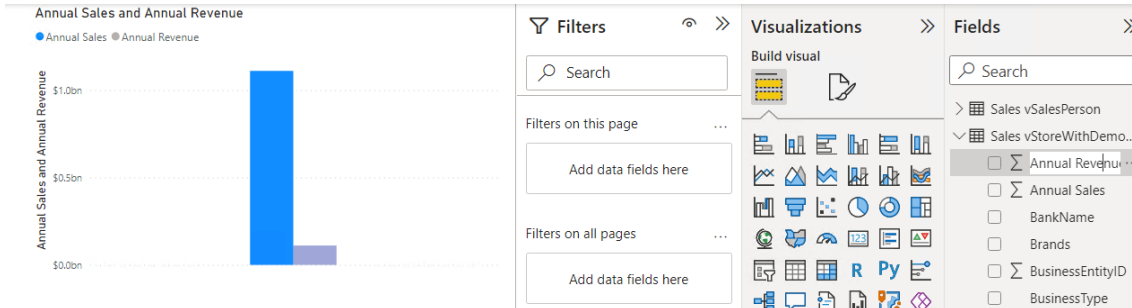

11. Click the report canvas, then in the **VISUALIZATIONS** pane, click **Stacked column chart** to add it to the report. The chart should be located under the previous charts.

12. In the **FIELDS** pane, expand **Top 10 Selling Products**, drag the **Product** field to the **Axis** box in the **VISUALIZATIONS** pane.

13. Drag the **LineTotal** field to the **Value** box. The chart will populate with the data.

14. Click the **Top 10 Selling Products** chart to give it focus, then in the **VISUALIZATIONS** pane, click **Donut chart**. Note how easy it is to switch to a different chart type.
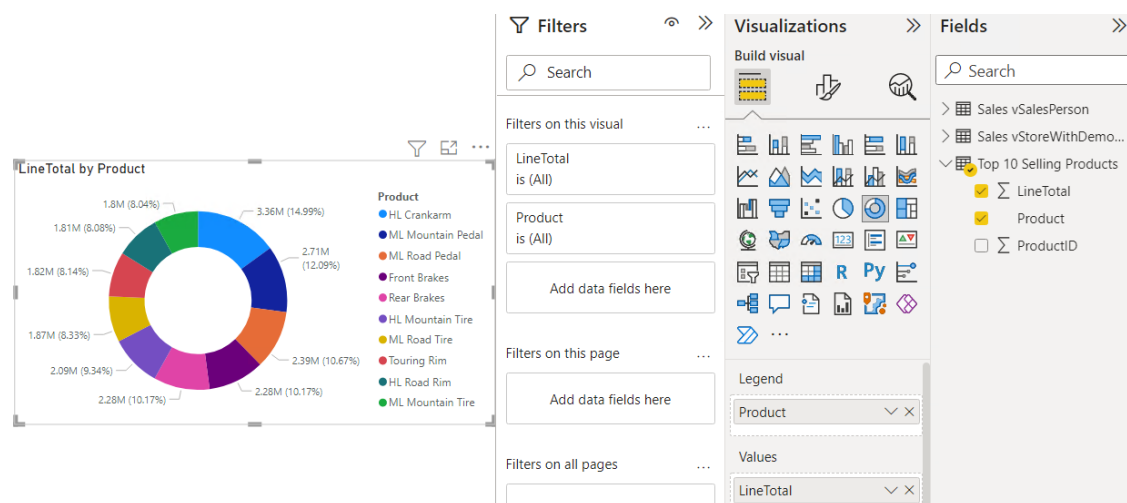

15. On the chart, grab the sizer on the right-hand side of the donut chart to widen the chart to display all the product names in full.

16. In the **FIELDS** pane, under **Sales vStoreWithDemographics**, click and drag the **AnnualSales** field directly onto the report canvas. See how this automatically creates a bar chart.

17. In the **FIELDS** pane, select the **AnnualRevenue** check box, and note that this adds the field to the bar chart.

18. In the **FIELDS** pane, next to the **AnnualRevenue**, click the ellipsis (**...**) , and click **Rename**. Type **Annual Revenue**, and then press Enter.

19. Repeat Step 18 to rename the **AnnualSales** field to **Annual Sales**. Note that the names in the title and legend of the bar chart update accordingly.

20. Click the report canvas, and then in the **VISUALIZATIONS** pane, click **Format**.

21. Right click **Page 1** and select **Rename Page**, and in the **Name** box, type **Sales**, and then press Enter. Note the name has changed in the tab at the bottom of the report.
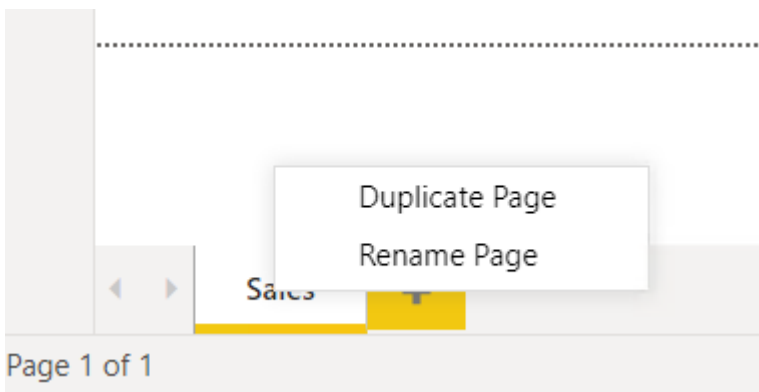
22. On the **File** menu, click **Save**.

23. In the **Save As** dialog box, navigate to **D:\Labfiles\Lab02**.

24. Click **New folder**, type **Power BI**, and then press Enter.

25. Navigate to **D:\Labfiles\Lab02\Power BI**, in the **File name** box, type **Adventure Works Sales 2**, and then click **Save**.