**Lab 6-01: Create a Power BI Dashboard**

**Pre-requisites**

* Download and install Power BI from the Microsoft Store
* The lab links to a localhost SQL Server instance. Download a free Developer copy of the install media.

https://www.microsoft.com/sql-server/sql-server-downloads?SilentAuth=1&f=255&MSPPError=-2147217396&rtc=1

* Install SQL Server from Installation Wizard (Setup)

<https://learn.microsoft.com/sql/database-engine/install-windows/install-sql-server-from-the-installation-wizard-setup>

* Install the latest version of Microsoft Edge to access Power BI service online
* Extract the ‘AllFiles’ folder to F:/ and rename it to ‘F:\Allfiles'

<https://github.com/MicrosoftLearning/PL-300-Microsoft-Power-BI-Data-Analyst/raw/Main/AllfilesDownload.zip>

**Introduction**

Power BI is a powerful business analytics and data visualization tool that enables organizations to transform data into actionable insights. By creating interactive dashboards, users can easily explore data, identify trends, and make informed decisions. This lab aims to equip you with the fundamental skills to design and build an effective Power BI dashboard.

**Problem**

Organizations often struggle with making sense of their vast amounts of data. Traditional reporting methods are often static, time-consuming, and lack the flexibility to explore data from different angles. This leads to delayed decision-making and missed opportunities.

**Solution**

Creating a Power BI dashboard offers a solution to these challenges. By effectively visualizing data, Power BI dashboards provide a clear and interactive overview of key performance indicators (KPIs) and underlying trends.

***Task 1: Publish the Report***

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| 1. In the Microsoft Edge browser window, in the Power BI service, navigate to **My Workspace**. Select **Upload > Browse**.      1. Navigate the **09-create-dashboard** folder. Select **09-Starter-Sales Analysis.pbix** file, and then click on **Open**. |

***Task 2: Create a Dashboard***

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| 1. In the Power BI service, open the **09-Starter-Sales Analysis** report. In the **Overview** page, set the **Year** slicer to **FY2020**.   Picture 4   1. Set **Region** slicer to **Select All**.      1. To generate a dashboard and pin a visual, hover the cursor over the **Sales and Profit Margin by Month** (column/line) visual and select pushpin.   Picture 43   1. In the **Pin to Dashboard** window, in the **Dashboard Name** box, enter **Sales Monitoring**, then select **Pin**.      1. Open **My Workspace** and open the **Sales Monitoring** dashboard.   Picture 45   1. To add a tile based on a question, at the top-left of the dashboard, click on **Ask a Question About Your Data**.   Picture 7   1. Select any one of the suggested questions under the Q&A box and review the response.      1. Remove all text from the Q&A box, and enter the following: **Sales YTD.** Notice the response of **(Blank)**.   Picture 14   1. Extend the question with: **in year FY2020**. Notice response is now **$33M**.   Picture 13   1. To pin response to the dashboard, at the top-right corner, select **Pin Visual**.      1. When prompted to pin the tile to the **Sales Monitoring** dashboard, click on **Pin**.      1. To return to the dashboard, at the top-left corner, select **Exit Q&A**.      1. To add the company logo, on the menu bar, select **Edit**, and then select **Add a Tile**.      1. In **Add a Tile** pane (located at the right), select **Image** tile, then click on **Next**.      1. In the **Add Image Tile** pane, in the **URL** box, enter the complete URL found inthe **09-create-dashboard\AdventureWorksLogo\_DataURL.txt** file, and then click on **Apply**.      1. To resize the logo tile, drag the bottom-right corner and resize the tile to become one unit wide and one unit high.      1. Organize tiles so that the logo appears at the top-left, with the **Sales YTD** tile beneath it and the **Sales, Profit Margin** tile at the right. |

***Task 3: Edit Tile Details***

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| 1. Hover the cursor over the **Sales YTD** tile, and then at the top-right of the tile, select ellipsis, and then select **Edit Details**.   Picture 50   1. In the **Tile Details** pane (located at the right), in the **Subtitle** box, enter **FY2020**, and then select **Apply**.      1. Notice that the **Sales YTD** tile displays a subtitle.      1. Edit tile details for **Sales, Profit Margin** tile. In the **Tile Details** pane, in the **Functionality** section, check **Display Last Refresh Time**, and then **Apply**.   Picture 22   1. Notice that the tile describes the last refresh time. |

***Task 4: Update Lab Database***

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| 1. In File Explorer, inside the Setup folder, right-click UpdateDatabase-2-AddSales.ps1 file, and then click on Run with PowerShell.   Picture 28   1. If prompted to change execution policy, press **A**. When asked to press any key to close, press **Enter** again. |

***Task 5: Refresh Power BI Desktop File***

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| 1. In the Power BI Desktop file, in the **Data** pane, right-click the **Sales** table and then select **Refresh Data**.   Picture 55   1. When refresh completes, save the Power BI Desktop file. 2. To publish the file to your workspace, on the **Home** ribbon tab, from inside the **Share** group, select **Publish** and then click on **Select** to publish.   Picture 59   1. When prompted to replace the semantic model, select **Replace**. Close Power BI Desktop. 2. In the Microsoft Edge browser window, open the Power BI service and then review the **Sales Monitoring** dashboard in **My Workspace**. 3. In **Sales, Profit Margin** tile, in line with subtitle, notice that data was **Refreshed: NOW**. 4. Notice also that there is now a column for **2020 Jun**.   Picture 33 |

**Lab 6-02: Enforce Row-Level Security**

**Pre-requisites**

* Download and install Power BI from the Microsoft Store
* The lab links to a localhost SQL Server instance. Download a free Developer copy of the install media.

https://www.microsoft.com/sql-server/sql-server-downloads?SilentAuth=1&f=255&MSPPError=-2147217396&rtc=1

* Install SQL Server from Installation Wizard (Setup)

<https://learn.microsoft.com/sql/database-engine/install-windows/install-sql-server-from-the-installation-wizard-setup>

* Install the latest version of Microsoft Edge to access Power BI service online
* Extract the ‘AllFiles’ folder to F:/ and rename it to ‘F:\Allfiles'

<https://github.com/MicrosoftLearning/PL-300-Microsoft-Power-BI-Data-Analyst/raw/Main/AllfilesDownload.zip>

**Introduction**

Row-Level Security (RLS) is a powerful feature in Power BI that allows you to control the data that users see based on their roles or attributes. This ensures data privacy and security by preventing unauthorized access to sensitive information. In this lab, we will explore how to implement RLS to protect sensitive data within a Power BI report.

**Problem**

Organizations often handle sensitive data that needs to be protected from unauthorized access. Without proper security measures, sensitive information can be exposed to unintended users, leading to data breaches and compliance issues. Traditional security methods like data masking or encryption might not be sufficient to protect data at a granular level.

**Solution**

Row-Level Security provides a robust solution to protect sensitive data by dynamically filtering data based on user context. By implementing RLS, organizations can ensure that only authorized users can view relevant data, safeguarding sensitive information. This lab will go through the steps of creating RLS rules, assigning roles to users, and testing the RLS implementation to verify its effectiveness.

Open the 10-Starter-Sales Analysis.pbix file.

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| 1. Switch to Table view.   Picture 5701   1. In the **Data** pane, select the **Salesperson (Performance)** table. 2. Review data, noticing that Michael Blythe has a UPN value of **michael-blythe@adventureworks.com**.      1. On the **Home** ribbon tab, from inside the **Security** group, select **Manage Roles**.   Picture 5700   1. In the **Manage security roles** window, in the **Roles** section, select **Create**.      1. In the box, replace the selected text with the name of the role, **Salespeople**, and then press **Enter**.      1. To assign a filter, click on the **Salesperson (Performance)** table and then select **Switch to DAX editor** in the **Filter data** section.      1. In the DAX editor box, enter the following expression: Select **Save** and **Close**.      1. To test the security role, on the **Home** ribbon tab, from inside the **Security** group, select **View As**.   Picture 5708   1. In the **View as Roles** window, check the **Other User** item, and then in the corresponding box, enter **michael-blythe@adventureworks.com**      1. Check **Salespeople** role, and then **OK**.      1. Notice the yellow banner above the report page describing the test security context.      1. In the table visual, notice that only salesperson **Michael Blythe** is listed.   Picture 5713   1. To stop testing, on the right side of the yellow banner, select **Stop Viewing**.   Picture 5712   1. To delete the **Salespeople** role, on the **Home** ribbon tab from inside the **Security** group, select **Manage Roles**.   Picture 16   1. In the **Manage security roles** window, select the ellipsis (…) on the **Salespeople** role, and select **Delete**. When prompted to confirm deletion, select **Yes, Delete**. |