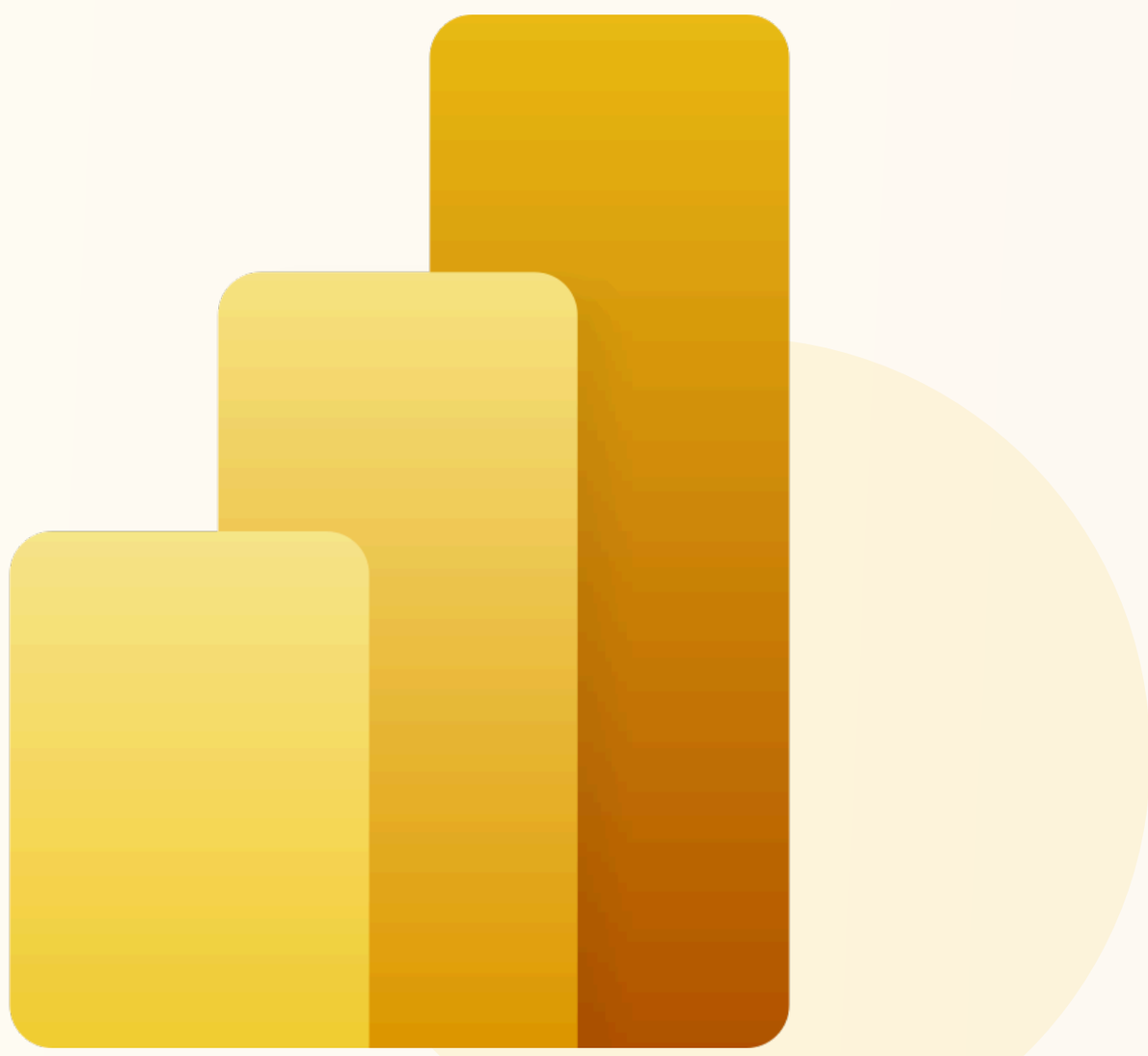
BOSSCODER ACADEMY

Learn

# PowerBi

# MAGIC



## IN 30 DAYS

# DAY 1

# Introduction to Power BI

## 🗂️ Resources for Learning

- Microsoft Learn: Introduction to Power BI
- YouTube Tutorial: Getting Started with Power BI

## 🎯 Practice Questions

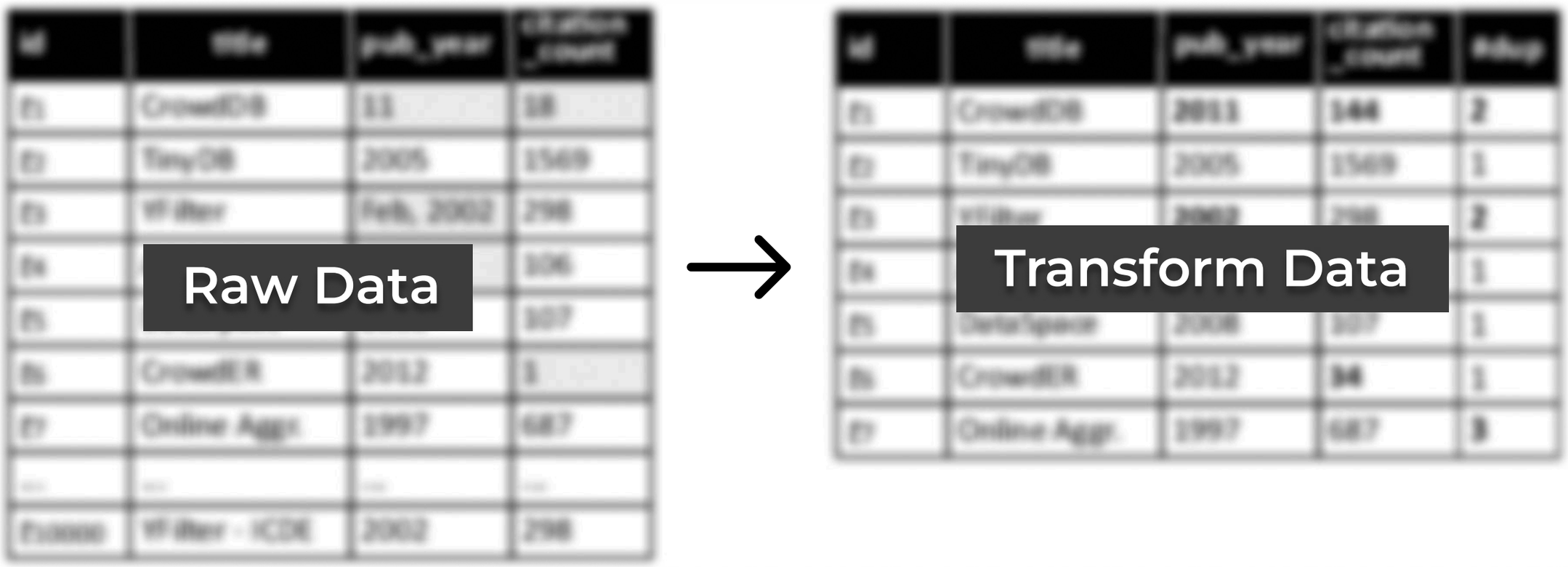
- Download and install Power BI Desktop on your computer.
- Create a new Power BI report.
- Import a simple Excel dataset (e.g., sales data) into Power BI.

## 🗓️ Project for the Day

- Create a basic sales report using the imported Excel dataset.
- Add a bar chart to visualize total sales by product category.
- Format the visuals and explore the options in Power BI Desktop.

DAY 2

# Data Transformation and Cleaning




## 🗂️ Resources for Learning

- Microsoft Learn: Transform data with Power Query
- YouTube Tutorial: Data Transformation in Power BI

## 🎯 Practice Questions

- Load a CSV dataset (e.g., customer data) into Power BI.
- Use Power Query to filter and clean the data (remove duplicates, null values, etc.).

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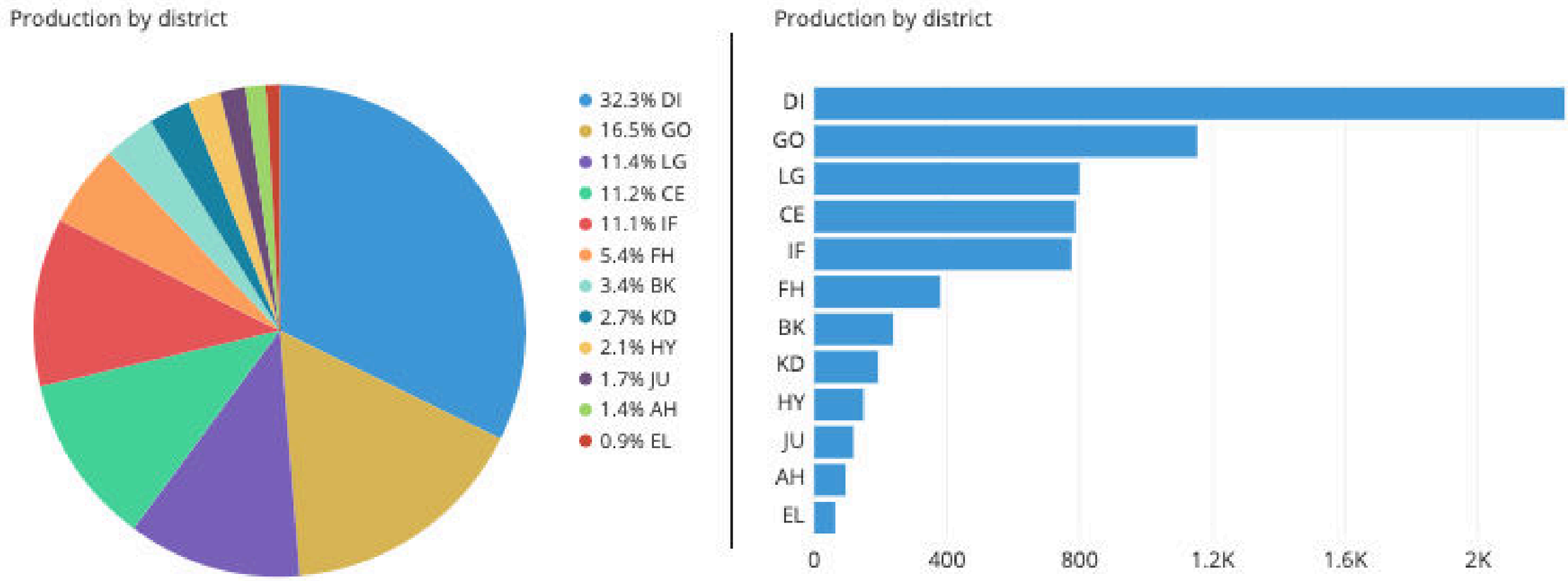
## 🗓️ Project for the Day

- Import a CSV dataset with customer information.
- Clean the data using Power Query by removing duplicates and null values.
- Create a new column to calculate the age of customers based on their birthdates.

# DAY 3

# Basic Data Visualization




## 🗂️ Resources for Learning

- Microsoft Learn: Create your first Power BI report
- YouTube Tutorial: Basic Data Visualization in Power BI

## 🎯 Practice Questions

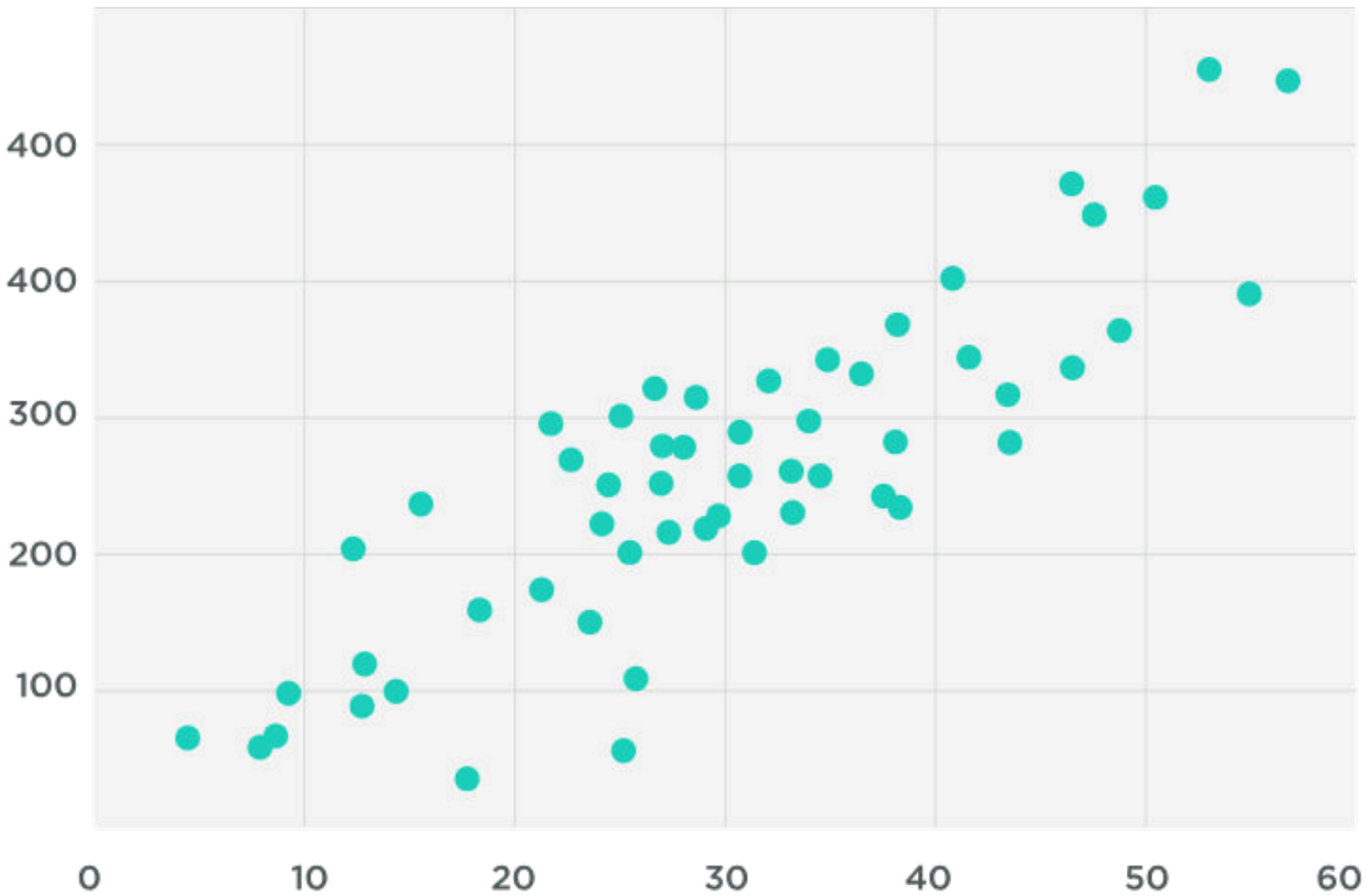
- Create a column chart to display product-wise sales.
- Add a pie chart to visualize the distribution of sales by region.

## 🗓️ Project for the Day

- Use the cleaned customer dataset from Day 2.
- Create a column chart to display the distribution of customers by age groups.
- Add a pie chart to show the distribution of customers by gender.

# DAY 4

# Exploratory Data Analysis




## 🗂️ Resources for Learning

- Microsoft Learn: Explore your data with Power BI
- YouTube Tutorial: Exploratory Data Analysis in Power BI

## 🎯 Practice Questions

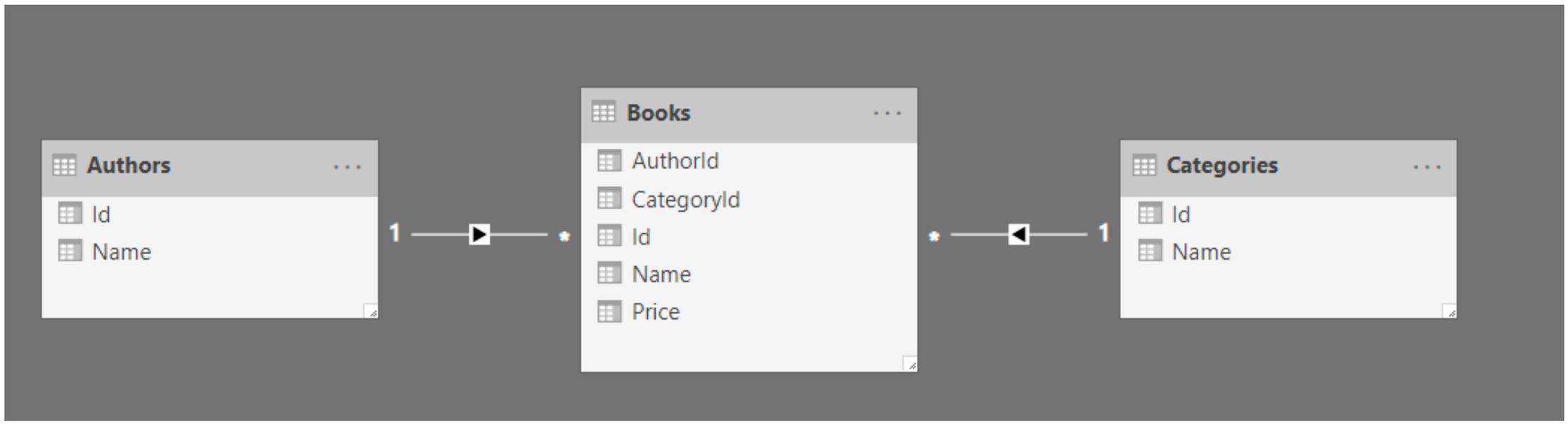
- Create a scatter plot to visualize the relationship between price and sales.
- Build a line chart to show the trend of monthly sales over time.

## 🗓️ Project for the Day

- Use the sales data from Day 1 or Day 3.
- Create a scatter plot to explore the relationship between price and sales volume.
- Build a line chart to visualize the monthly sales trends over the past year.

# DAY 5

# Data Modeling & Relationships




## 🗂️ Resources for Learning

- Microsoft Learn: Create relationships in Power BI Desktop
- YouTube Tutorial: Data Modeling and Relationships in Power BI

## 🎯 Practice Questions

- Import a new dataset (e.g., orders data) and create relationships with existing tables.
- Use RELATED and RELATEDTABLE functions in DAX to retrieve related data.

## 🗓️ Project for the Day

- Import an orders dataset with information about customer orders.
- Create a relationship between the sales and orders tables based on a common field (e.g., customer ID).
- Build a report that combines sales and orders data, and visualize customer-related insights.

# DAY 6

# Advanced Data Visualization

| Region | Central | | East | | West | | **Total** | |
|---|---|---|---|---|---|---|---|---|
| Sales Stage | Opportunity Count | Revenue | Opportunity Count | Revenue | Opportunity Count | Revenue | **Opportunity Count** | **Revenue** |
| **Lead** | | | | | | | | |
| Small | 26 | $22,907,676 | 38 | $47,428,906 | 11 | $11,889,018 | **75** | **$82,225,600** |
| Medium | 25 | $96,249,147 | 30 | $116,539,256 | 18 | $72,871,697 | **73** | **$285,660,100** |
| Large | 40 | $321,876,492 | 33 | $255,568,275 | 18 | $149,636,713 | **91** | **$727,081,480** |
| **Total** | **91** | **$441,033,315** | **101** | **$419,536,437** | **47** | **$234,397,428** | **239** | **$1,094,967,180** |
| **Qualify** | | | | | | | | |
| Small | 10 | $11,550,016 | 19 | $23,925,214 | 5 | $5,695,989 | **34** | **$41,171,219** |
| Medium | 12 | $48,820,525 | 19 | $71,617,016 | 8 | $33,018,968 | **39** | **$153,456,509** |
| Large | 7 | $51,344,920 | 12 | $100,149,924 | 2 | $13,727,406 | **21** | **$165,222,250** |
| **Total** | **29** | **$111,715,461** | **50** | **$195,692,154** | **15** | **$52,442,363** | **94** | **$359,849,978** |
| **Solution** | | | | | | | | |
| Small | 13 | $13,771,741 | 8 | $10,283,935 | 7 | $7,155,493 | **28** | **$31,211,169** |
| Medium | 9 | $38,048,946 | 13 | $54,729,272 | 4 | $16,363,417 | **26** | **$109,141,635** |
| Large | 7 | $48,923,102 | 9 | $69,333,963 | 4 | $29,922,591 | **20** | **$148,179,656** |
| **Total** | **29** | **$100,743,789** | **30** | **$134,347,170** | **15** | **$53,441,501** | **74** | **$288,532,460** |
| **Proposal** | | | | | | | | |
| Small | 8 | $13,095,186 | 3 | $4,770,862 | 3 | $3,720,287 | **14** | **$21,586,335** |
| Medium | 4 | $15,283,161 | 6 | $25,607,581 | 5 | $21,456,937 | **15** | **$62,347,679** |
| Large | 2 | $18,344,522 | 4 | $29,592,481 | 2 | $17,855,445 | **8** | **$65,792,448** |
| **Total** | **14** | **$46,722,869** | **13** | **$59,970,924** | **10** | **$43,032,669** | **37** | **$149,726,462** |
| **Finalize** | | | | | | | | |
| Small | 1 | $1,788,307 | 1 | $1,693,585 | | | **2** | **$3,481,892** |
| Medium | 2 | $8,974,009 | | | 2 | $7,926,517 | **4** | **$16,900,526** |
| Large | 2 | $12,539,930 | 4 | $29,002,843 | 2 | $13,249,668 | **8** | **$54,792,441** |
| **Total** | **5** | **$23,302,246** | **5** | **$30,696,428** | **4** | **$21,176,185** | **14** | **$75,174,859** |
| **Total** | **168** | **$723,517,680** | **199** | **$840,243,113** | **91** | **$404,490,146** | **458** | **$1,968,250,939** |

## 📁 Resources for Learning

- Microsoft Learn: Enhance your report with Power BI visuals
- YouTube Tutorial: Advanced Data Visualization in Power BI

## 🎯 Practice Questions

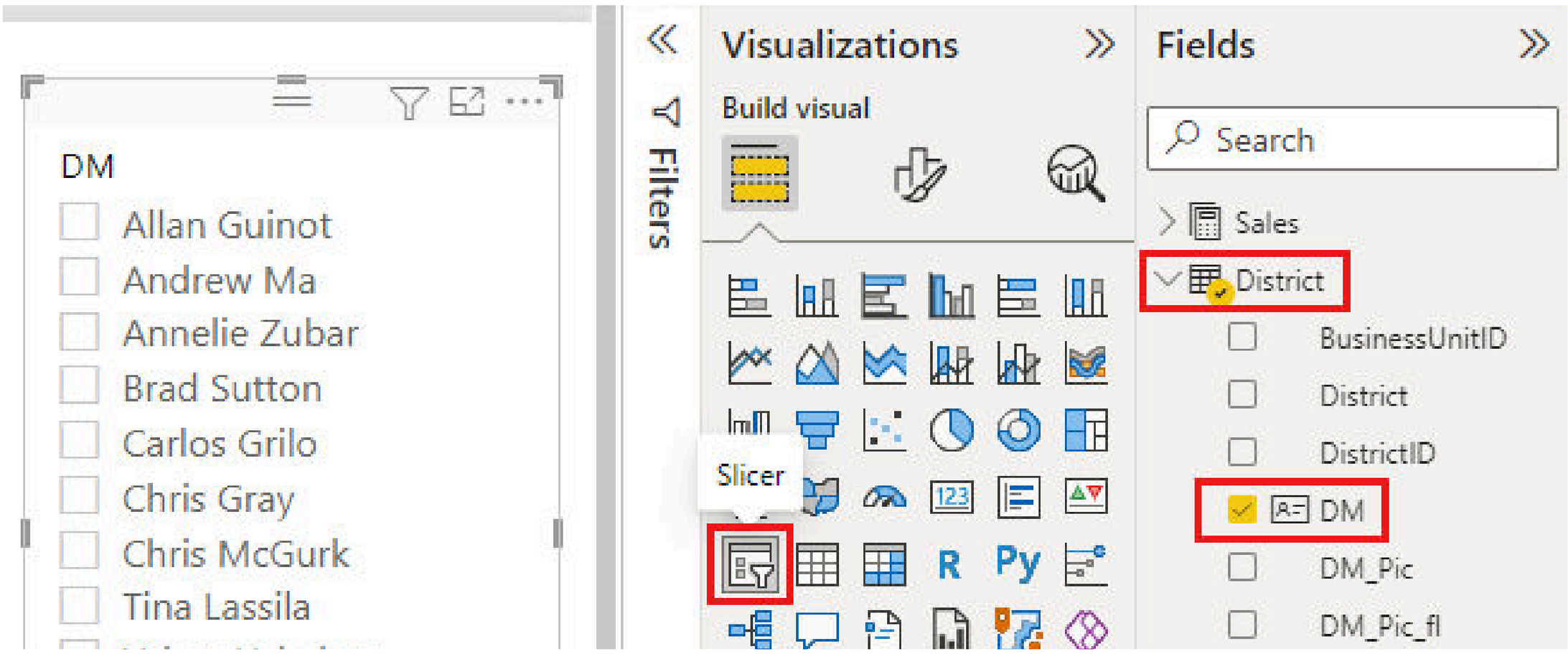
- Use a matrix visualization to show cross-tabulated data.
- Create a card visualization to display the total sales for a specific category.

## 🗓️ Project for the Day

- Use the combined sales and orders data from Day 5.
- Create a matrix visualization to display the relationship between customers and their orders.
- Add a card visualization to show the total revenue for a specific customer.

# DAY 7

# Data Insights & Storytelling




## 📁 Resources for Learning

- Microsoft Learn: Create a data-driven story with Power BI
- YouTube Tutorial: Data Storytelling in Power BI

## 🎯 Practice Questions

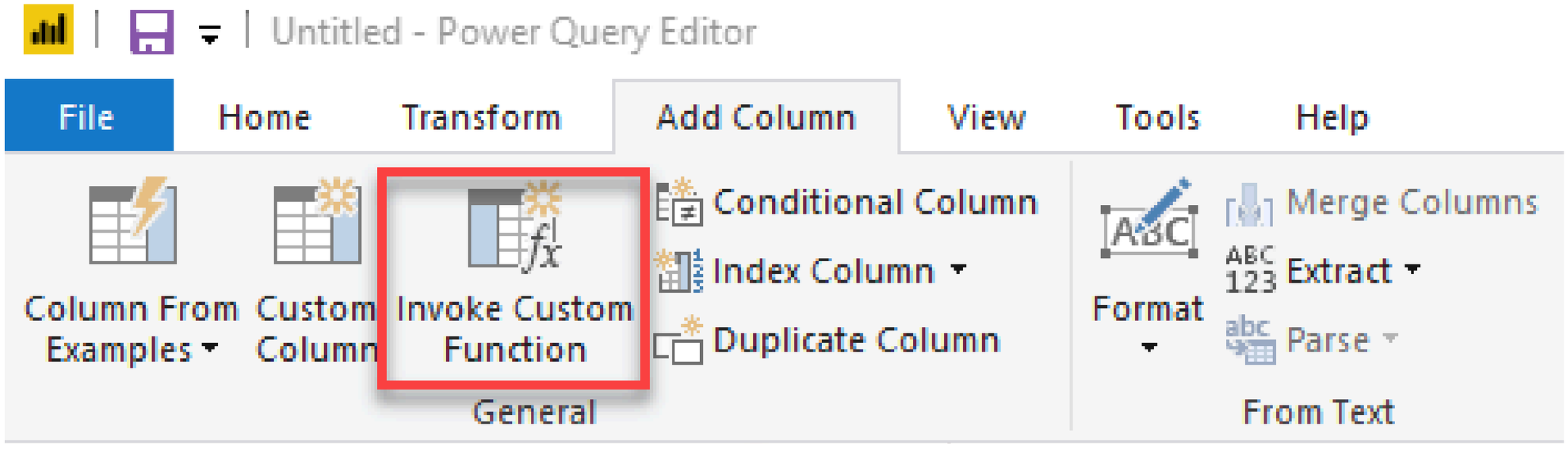
- Create a slicer to filter data and highlight insights.
- Use bookmarks to create interactive presentations.

## 🗓️ Project for the Day

- Use the sales and orders dataset from Day 5.
- Create a slicer to allow users to filter data by specific time periods.
- Build a series of visuals to showcase the impact of promotions on sales over time.
- Use bookmarks to create an interactive presentation that tells a data-driven story.

# DAY 8

# Introduction to Power Query Functions




## 🗂️ Resources for Learning

- Microsoft Learn: Get started with Power Query functions
- YouTube Tutorial: Introduction to Power Query Functions

## 🎯 Practice Questions

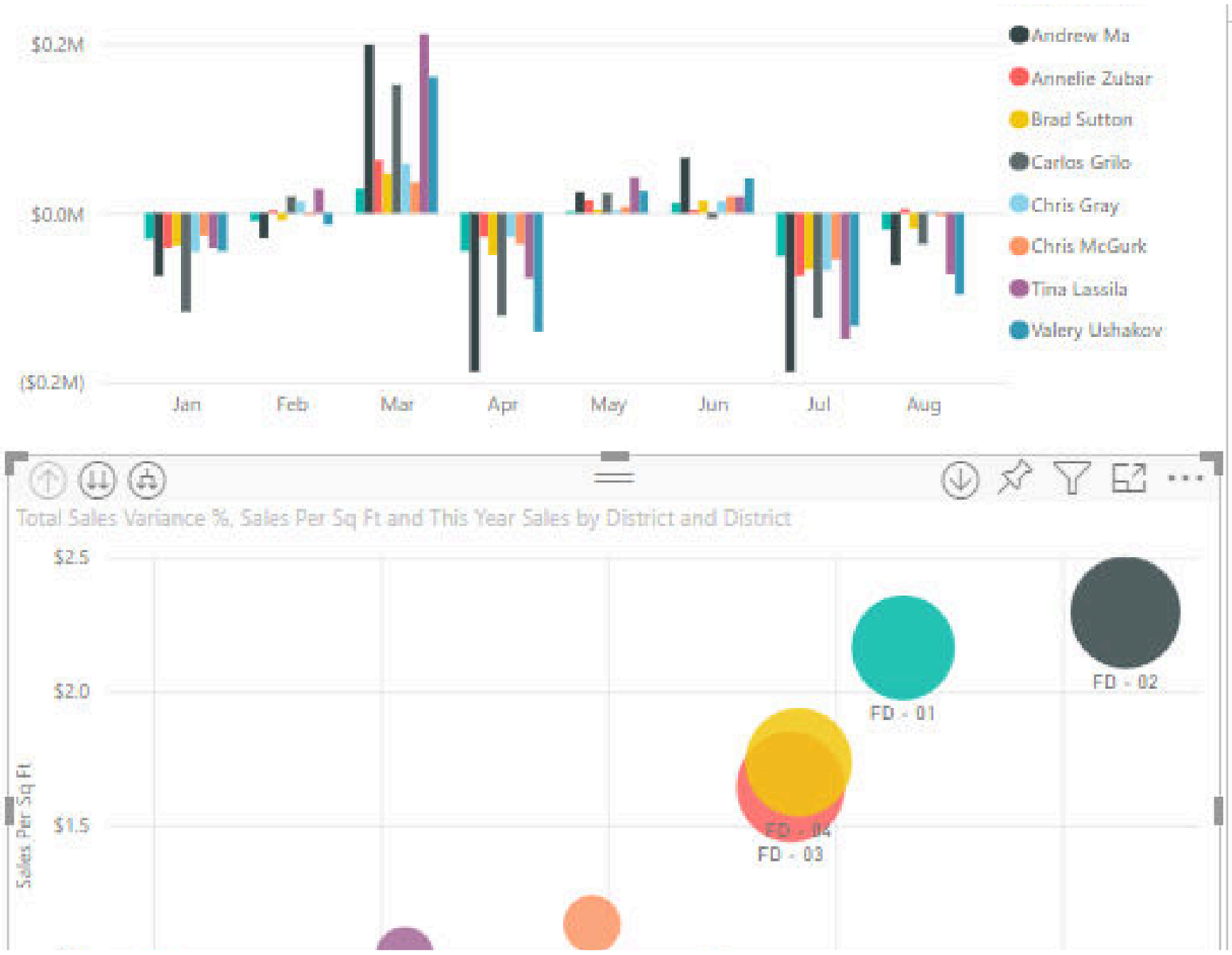
- Create a custom column using a simple Power Query function.
- Use a built-in Power Query function to transform text data.

## 🗓️ Project for the Day

- Use the sales dataset from Day 1 or Day 3.
- Create a custom column that calculates the total revenue for each product based on price and quantity sold.
- Use the UPPER function to transform the product names to uppercase.

# DAY 9

# Power Query Parameters & Advanced Transformations




## 📁 Resources for Learning

- Microsoft Learn: Use parameters in Power BI Desktop
- YouTube Tutorial: Power Query Parameters and Advanced Transformations

## 🎯 Practice Questions

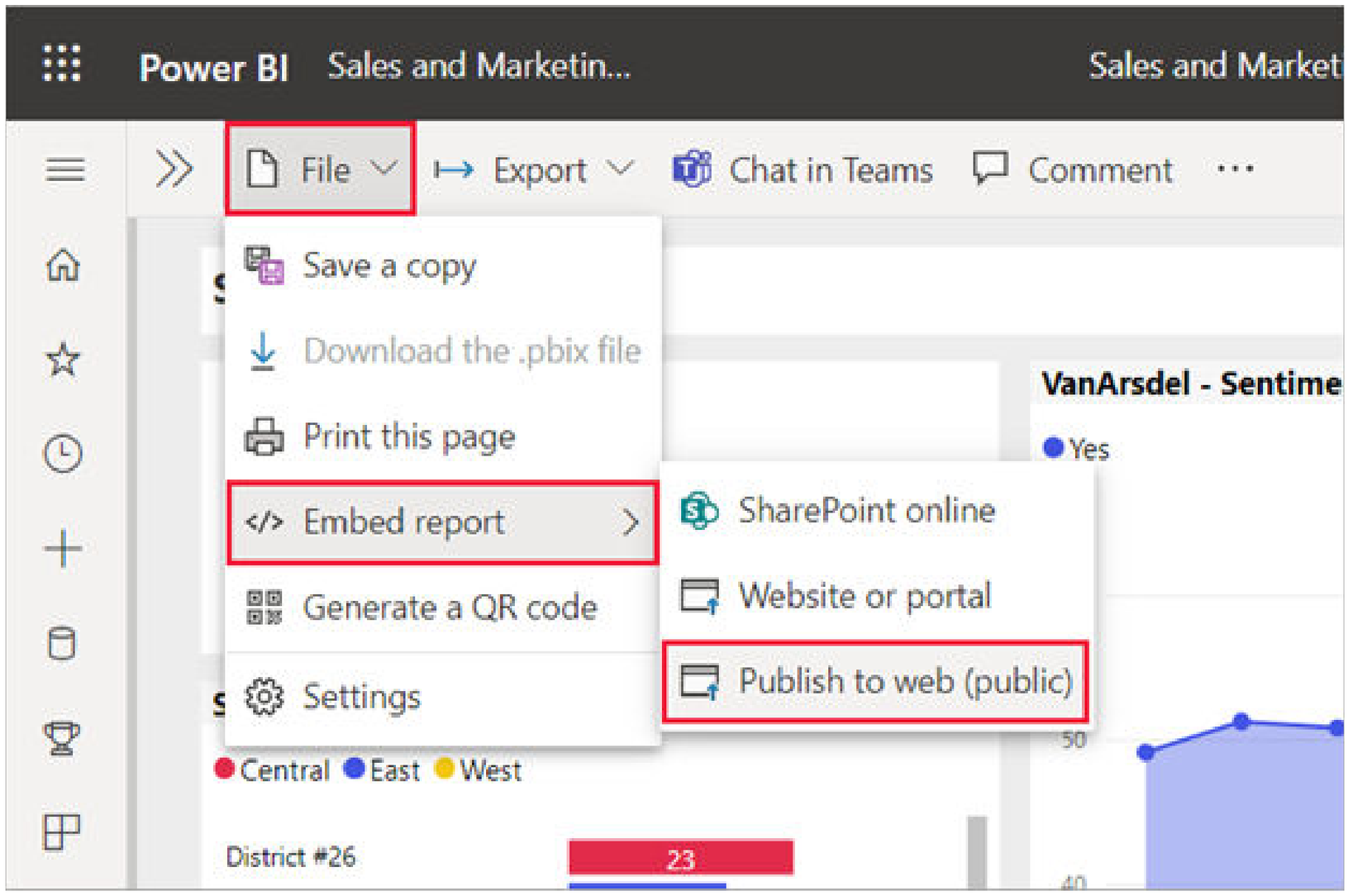
- Use a parameter to filter data based on a specific product category.
- Create a parameterized query to load data dynamically.

## 🗓️ Project for the Day

- Import a new dataset containing product categories and subcategories.
- Use a parameter to allow users to select a specific category and filter the data accordingly.
- Create a parameterized query to load sales data based on user input for a particular year.

DAY 10

# Publishing and Sharing Power BI Reports




## 📁 Resources for Learning

- Microsoft Learn: Publish a Power BI Desktop file
- YouTube Tutorial: Publishing and Sharing Power BI Reports

## 🎯 Practice Questions

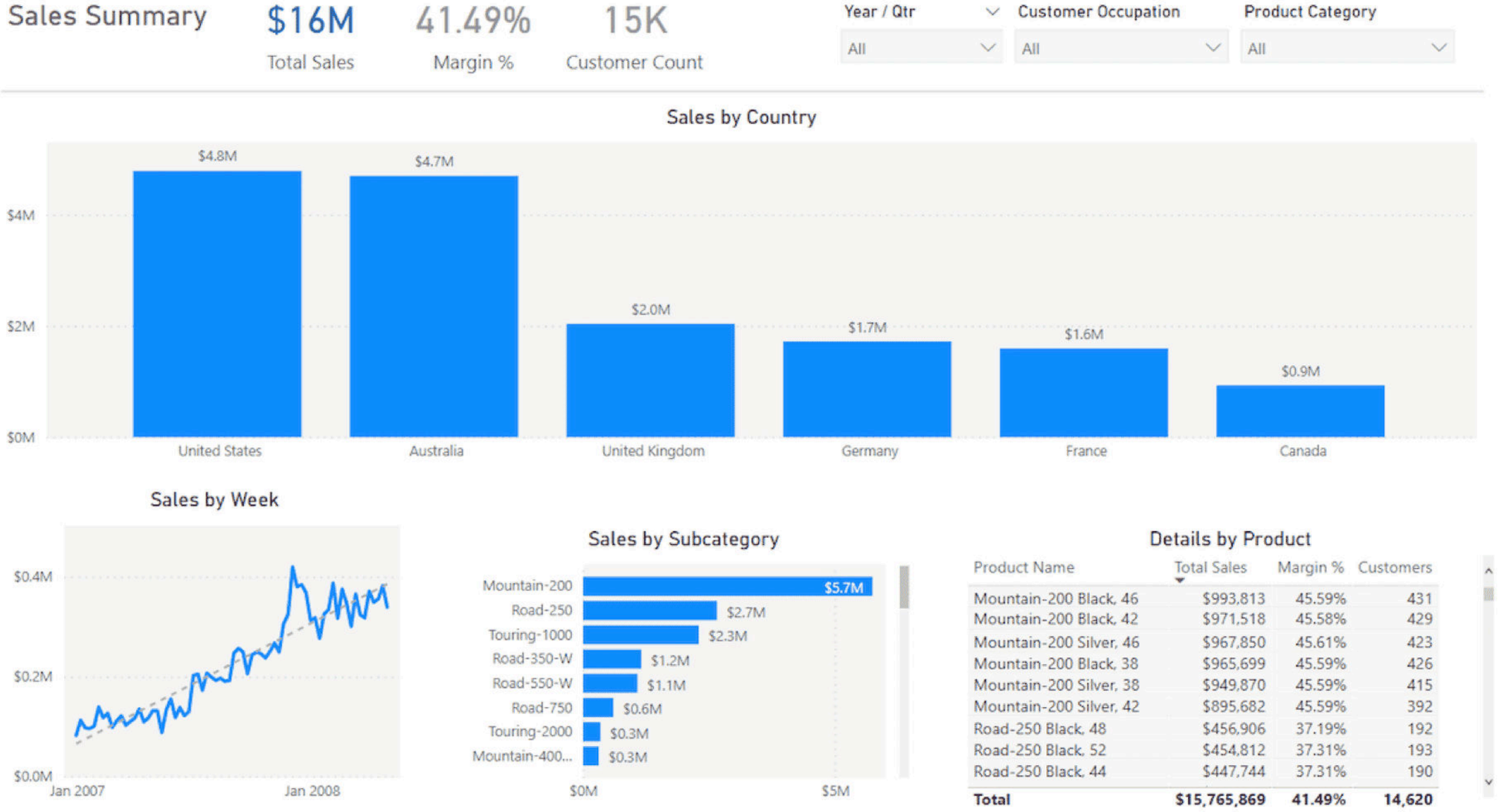
- Publish a report to the Power BI service.
- Share a report with a colleague and assign them specific access permissions.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Publish your report to the Power BI service.
- Share the published report with a colleague and grant them view access.
- Explore the sharing options, including embedding and sharing links.

DAY 11

# Understanding Power BI's Mobile Reports




## 📁 Resources for Learning

- Microsoft Learn: Create reports optimized for mobile devices
- Power BI Blog: Power BI Mobile App Features

## 🎯 Practice Questions

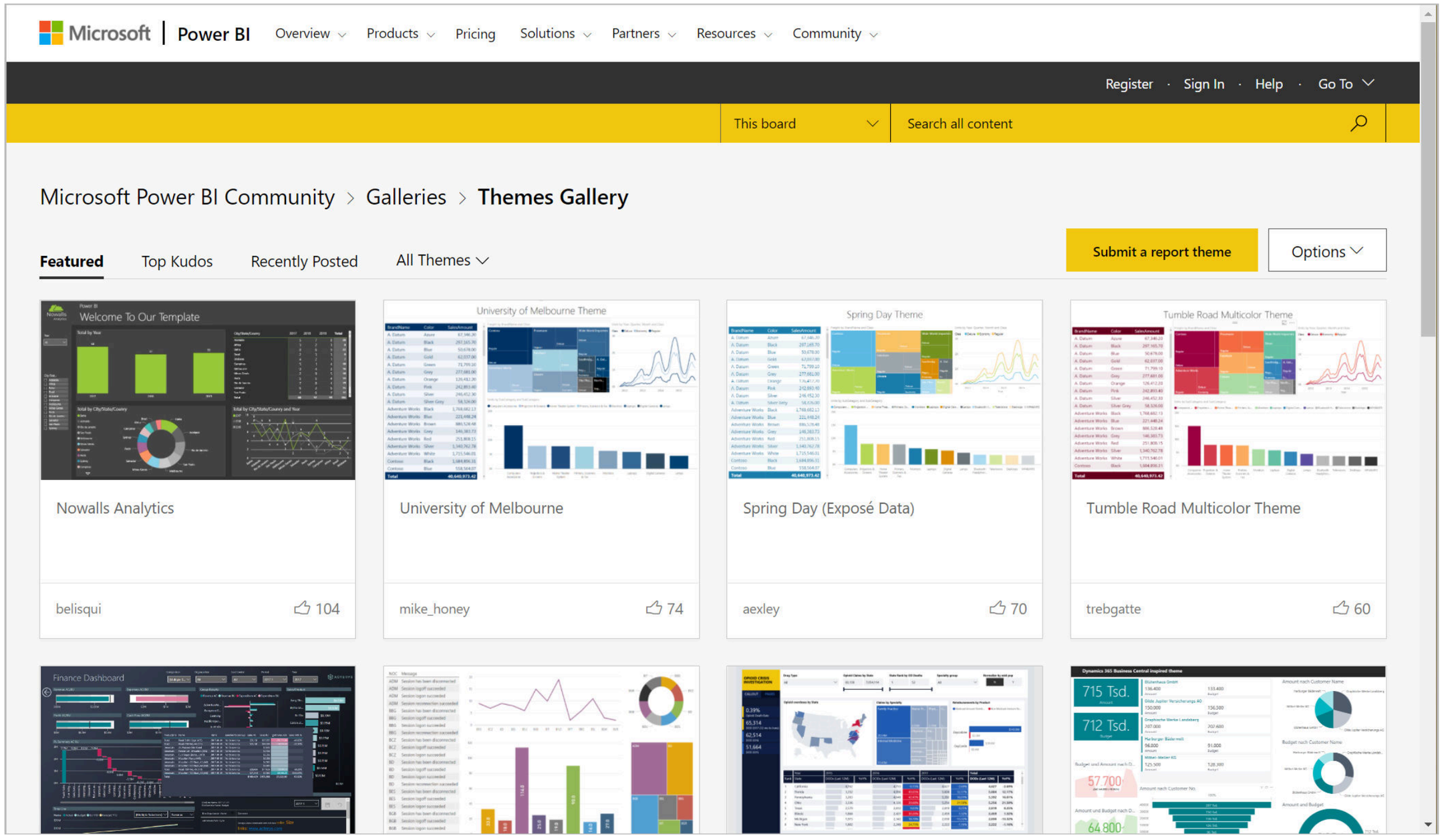
- Design a report layout optimized for mobile devices, considering responsive design principles.
- Test the report layout using Power BI's mobile app.

## 🗓️ Project for the Day

- Use the sales and orders dataset from Day 5.
- Create a mobile-optimized version of your dashboard, focusing on key insights and visualizations.
- Test the mobile layout on your smartphone to ensure it's responsive and user-friendly.

DAY 12

# Exploring Power BI's Report Themes




## 🗂️ Resources for Learning

- Microsoft Learn: Customize the look of a report with themes
- Power BI Community Blog: Creating and Using Custom Themes

## 🎯 Practice Questions

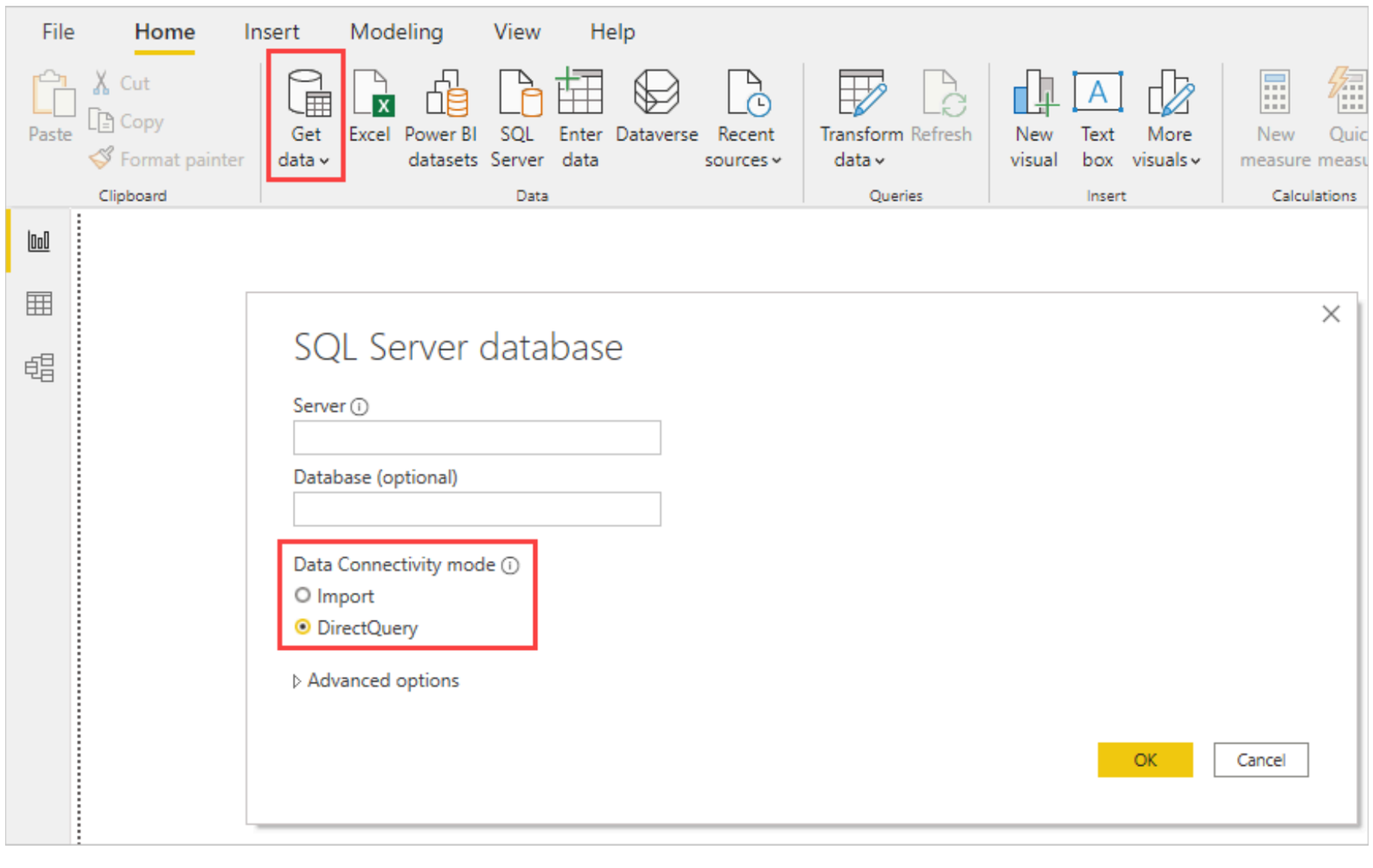
- Apply a custom theme to your dashboard and adjust colors, fonts, and other styling elements.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Apply a custom theme to your dashboard to give it a unique and professional look.
- Experiment with different color schemes, fonts, and styles to match your branding.

DAY 13

# Learning about Power BI's DirectQuery and Live Connection




## 📁 Resources for Learning

- Microsoft Learn: Use DirectQuery in Power BI
- Microsoft Learn: Use a live connection to Power BI data

## 🎯 Practice Questions

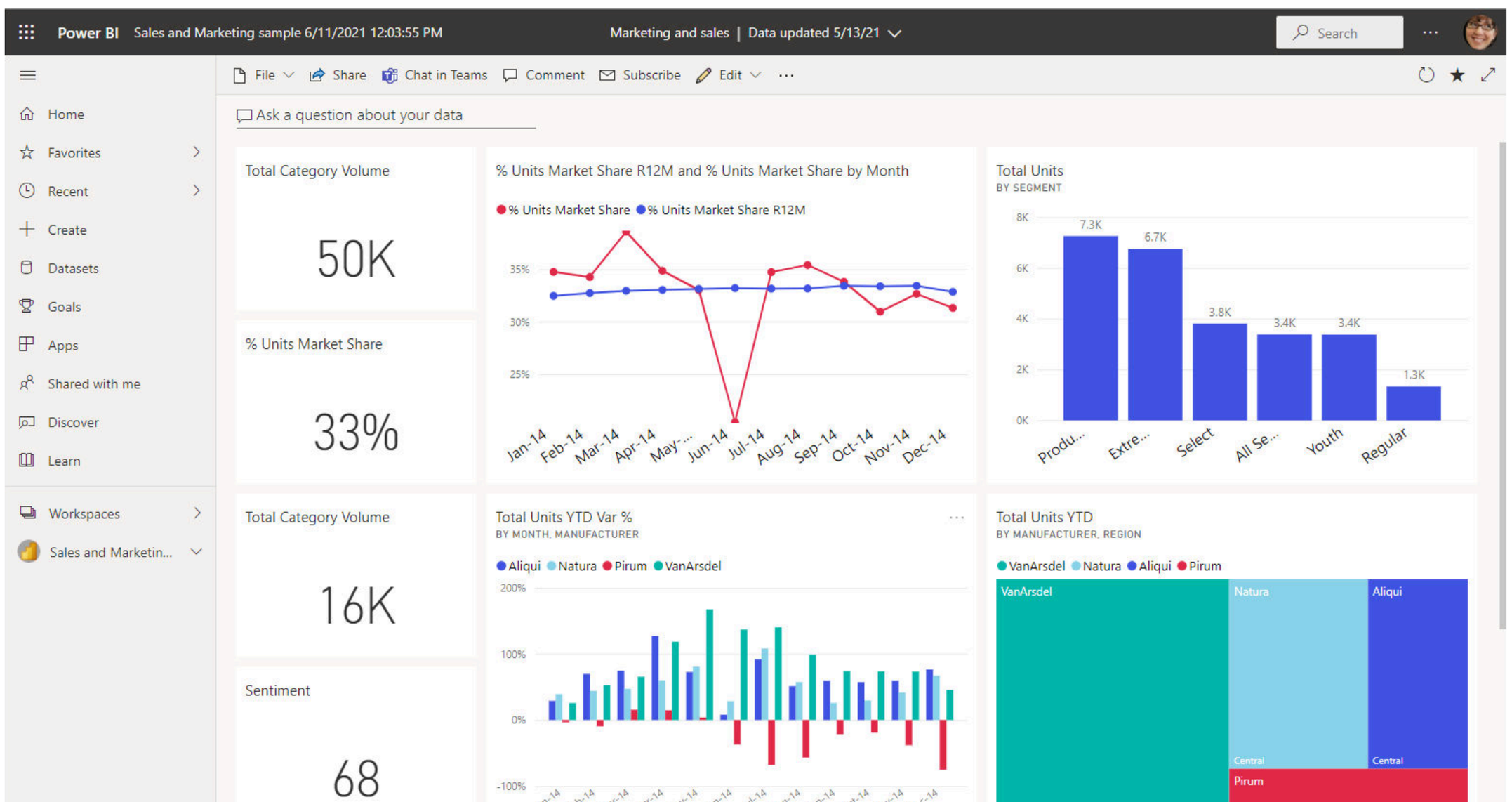
- Connect your dashboard to a data source using DirectQuery or a live connection.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Create a connection to a live data source (e.g., a SQL database) and build visualizations that update in real time.
- Test the real-time data interaction by making changes to the source data and observing the impact on your visuals.

# DAY 14

# Understanding Power BI's R Integration




## 📁 Resources for Learning

- Microsoft Learn: Use R scripts in Power BI Desktop
- R Documentation: Introduction to R

## 🎯 Practice Questions

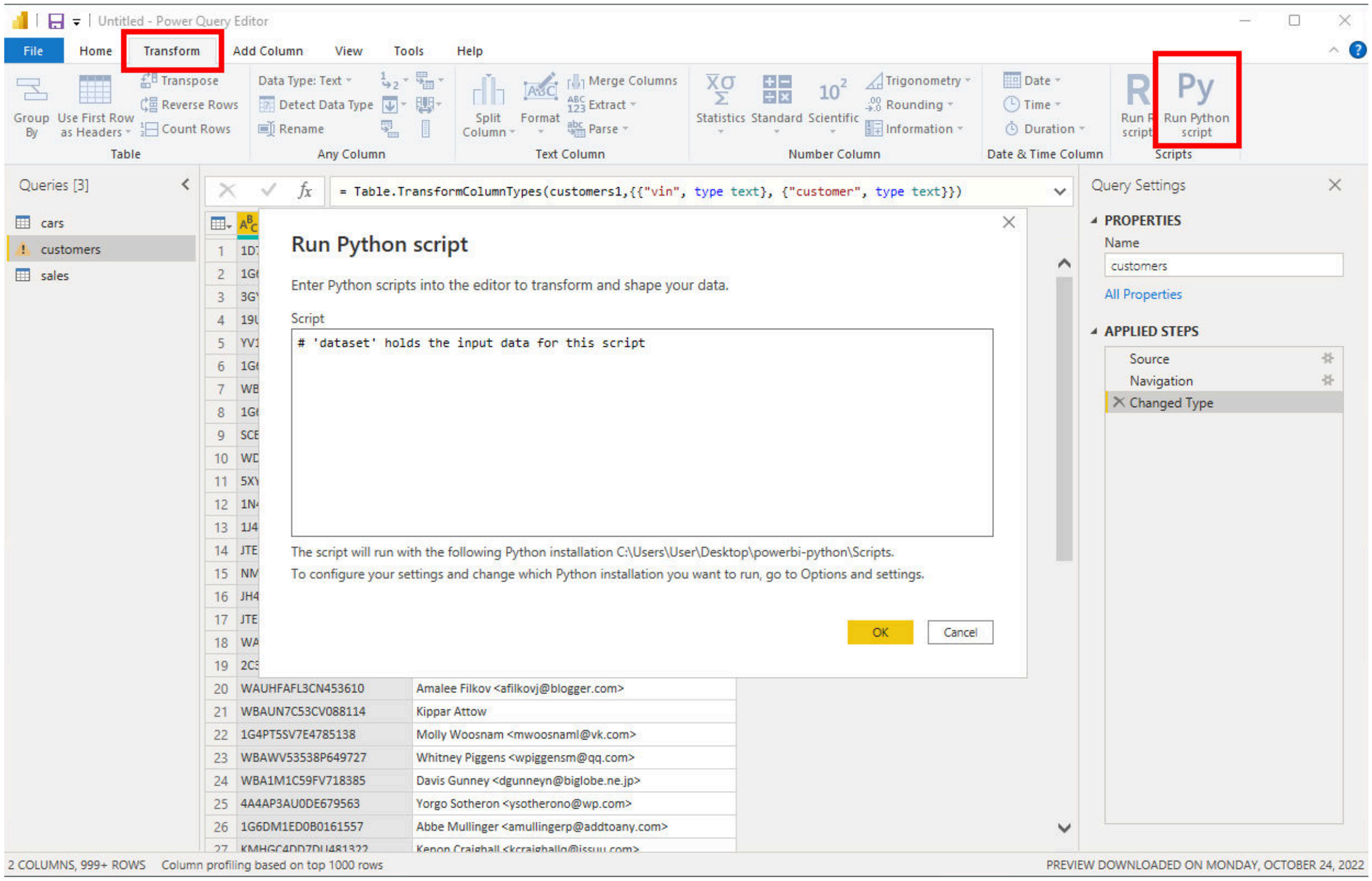
- Write a simple R script to perform data analysis or visualization within Power BI.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Integrate an R script into your dashboard to perform a specific data analysis task.
- For example, you could use R to create a custom visualization or calculate advanced statistical measures.

DAY 15

# Learning about Power BI's Python Integration




## 📁 Resources for Learning

- Microsoft Learn: Use Python scripts in Power BI Desktop
- Python Documentation: Python Tutorial

## 🎯 Practice Questions

- Write a Python script to perform data analysis or visualization within Power BI.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Integrate a Python script into your dashboard to perform a specific data analysis task.
- For example, you could use Python to create interactive visualizations using libraries like Matplotlib or Seaborn.

# DAY 16

# Understanding Power BI's Row-Level Security


## 🗂️ Resources for Learning

- Microsoft Learn: Implement row-level security in Power BI
- Power BI Blog: Dynamic Row-Level Security

## 🎯 Practice Questions

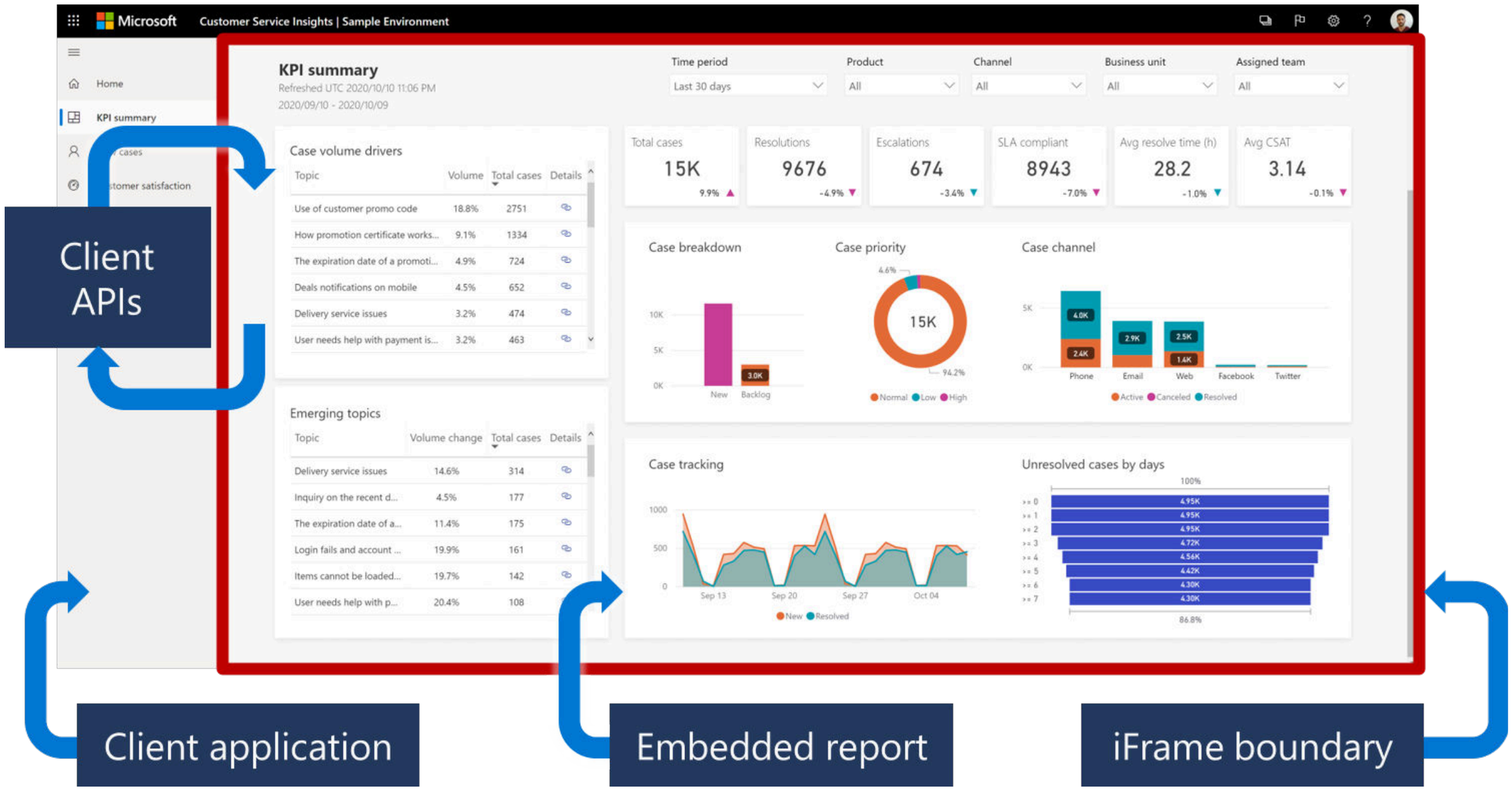
- Implement row-level security for different user roles in your dashboard.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Implement row-level security in your dashboard to restrict data access based on user roles.
- Create multiple user roles (e.g., manager, employee) and define the data they should be able to access.

DAY 17

# Exploring Power BI's API and Automation




## 🗂️ Resources for Learning

- Microsoft Learn: Automate Power BI REST API
- Power BI REST API documentation: Power BI REST API

## 🎯 Practice Questions

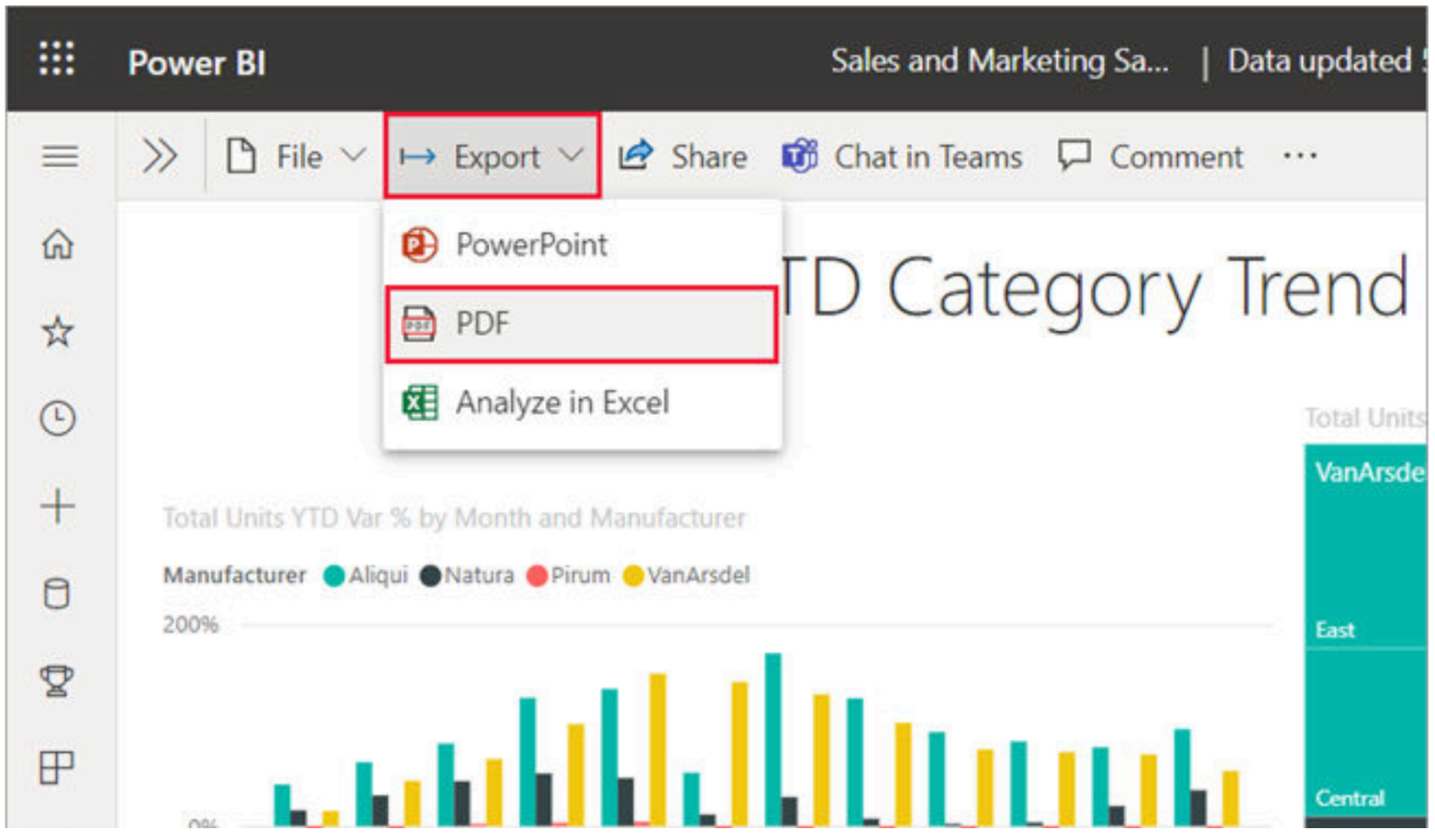
- Use Power BI API to automate a task, such as publishing a report or refreshing data.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Explore Power BI's API and create a simple script to automate a specific task related to report management.
- For example, you could write a script to schedule a report refresh using the API.

DAY 18

# Learning about Power BI's Paginated Reports




## 📁 Resources for Learning

- Microsoft Learn: Create paginated reports in Power BI
- Power BI Blog: Introduction to Paginated Reports

## 🎯 Practice Questions

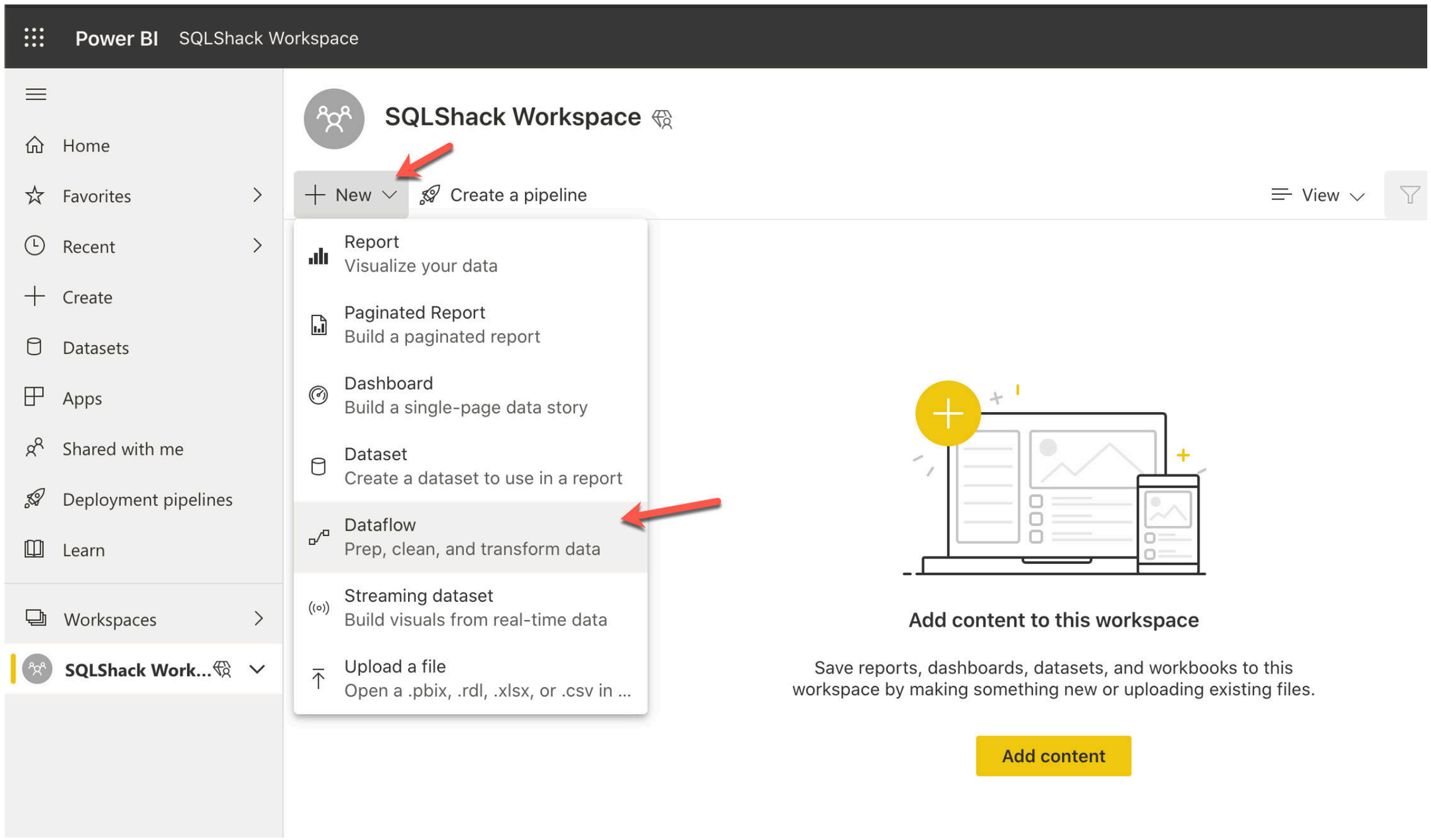
- Design a paginated report layout and export it to PDF or another format.

## 🗓️ Project for the Day

- Use any of the completed reports from the previous days.
- Create a paginated report that presents your data in a traditional, printable format.
- Add elements like tables, matrices, and charts to convey information effectively.

DAY 19

# Learning about Power BI's Dataflows




## 🗂️ Resources for Learning

- Microsoft Learn: Introduction to Power BI dataflows
- Power BI Blog: Introduction to Dataflows

## 🎯 Practice Questions

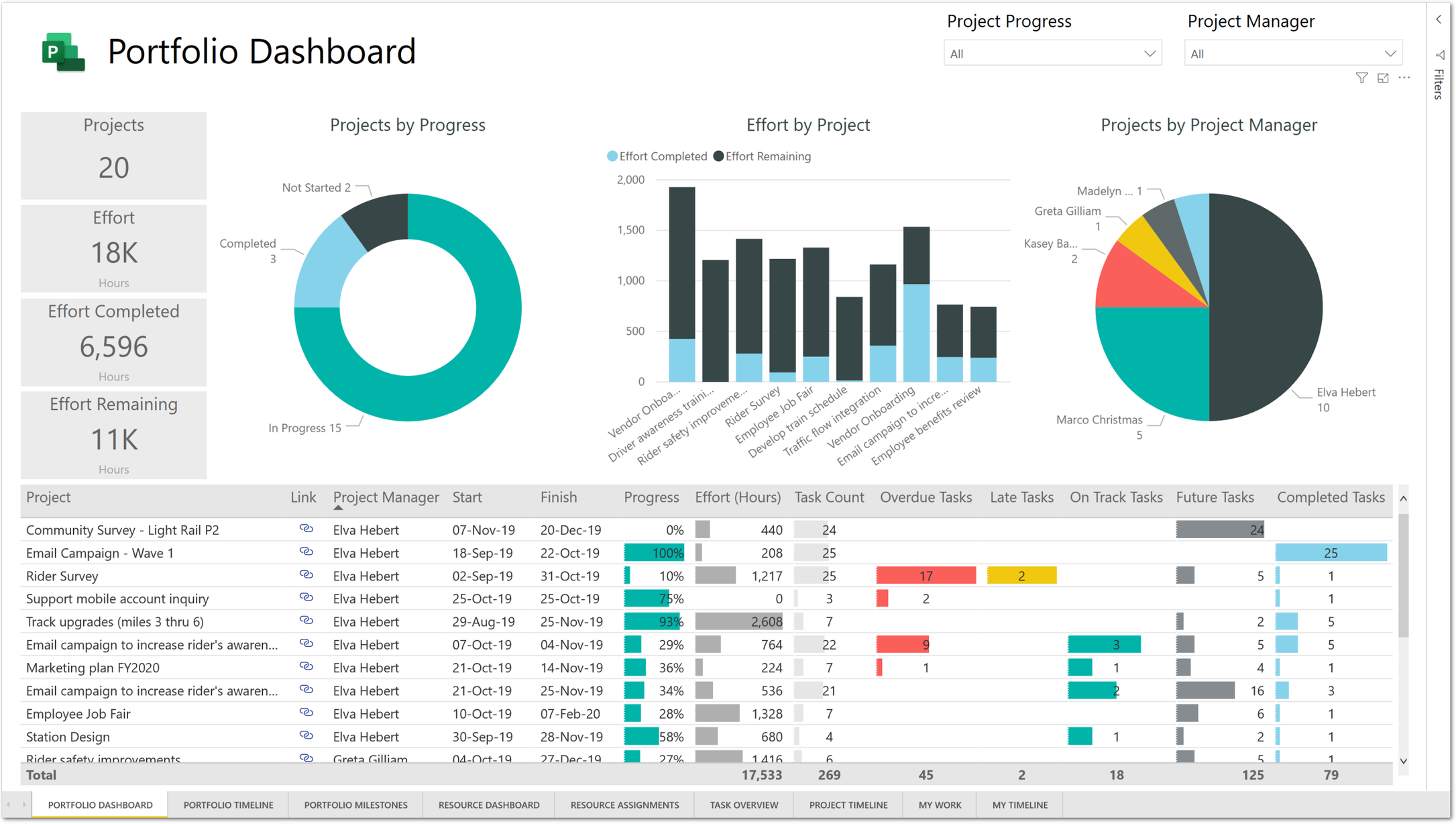
- Create a dataflow to extract, transform, and load data.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Build a dataflow to extract data from a source, apply transformations, and load it into Power BI.
- Use the dataflow as a source for your report and explore the benefits of using dataflows.

# DAY 20

# Developing a Comprehensive Power BI Project




| Project | Link | Project Manager | Start | Finish | Progress | Effort (Hours) | Task Count | Overdue Tasks | Late Tasks | On Track Tasks | Future Tasks | Completed Tasks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Community Survey - Light Rail P2 | | Elva Hebert | 07-Nov-19 | 20-Dec-19 | 0% | 440 | 24 | | | | 24 | |
| Email Campaign - Wave 1 | | Elva Hebert | 18-Sep-19 | 22-Oct-19 | 100% | 208 | 25 | | | | | 25 |
| Rider Survey | | Elva Hebert | 02-Sep-19 | 31-Oct-19 | 10% | 1,217 | 25 | 17 | 2 | | 5 | 1 |
| Support mobile account inquiry | | Elva Hebert | 25-Oct-19 | 25-Oct-19 | 75% | 0 | 3 | 2 | | | | 1 |
| Track upgrades (miles 3 thru 6) | | Elva Hebert | 29-Aug-19 | 25-Nov-19 | 93% | 2,608 | 7 | | | | 2 | 5 |
| Email campaign to increase rider's awaren... | | Elva Hebert | 07-Oct-19 | 04-Nov-19 | 29% | 764 | 22 | 9 | | 3 | 5 | 5 |
| Marketing plan FY2020 | | Elva Hebert | 21-Oct-19 | 14-Nov-19 | 36% | 224 | 7 | 1 | | 1 | 4 | 1 |
| Email campaign to increase rider's awaren... | | Elva Hebert | 21-Oct-19 | 25-Nov-19 | 34% | 536 | 21 | | | 2 | 16 | 3 |
| Employee Job Fair | | Elva Hebert | 10-Oct-19 | 07-Feb-20 | 28% | 1,328 | 7 | | | | 6 | 1 |
| Station Design | | Elva Hebert | 30-Sep-19 | 28-Nov-19 | 58% | 680 | 4 | | | 1 | 2 | 1 |
| Rider safety improvements | | Greta Gilliam | 04-Oct-19 | 27-Dec-19 | 27% | 1,416 | 6 | | | | 5 | 1 |
| **Total** | | | | | | **17,533** | **269** | **45** | **2** | **18** | **125** | **79** |

## 📁 Resources for Learning

- Microsoft Learn: Common Business Scenarios for Power BI
- Power BI Showcase: Power BI Showcase

## 🎯 Practice Questions

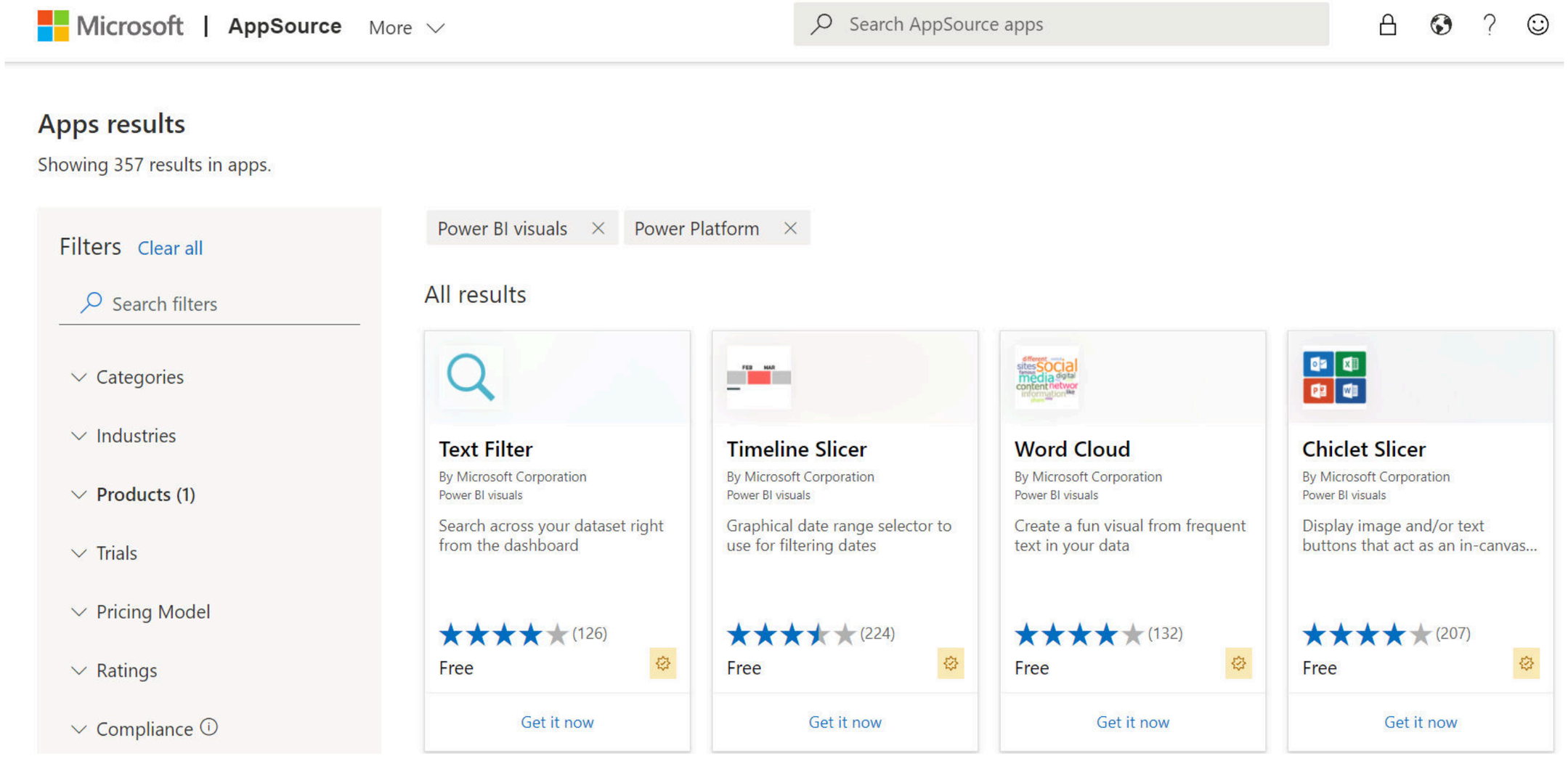
- Review and summarize the skills you've acquired throughout the previous days.
- Design a comprehensive Power BI project that showcases your abilities.

## 🗓️ Project for the Day

- Combine your knowledge from the previous projects to create a comprehensive Power BI report.
- Select a relevant business scenario (e.g., sales analysis, financial reporting) and design a complete dashboard.
- Clean, transform, and model the data to support your chosen scenario.

DAY 21

# Advanced Visualization Techniques




## 🗂️ Resources for Learning

- Microsoft Learn: Advanced visualization techniques
- Power BI Blog: Custom Visuals Gallery

## 🎯 Practice Questions

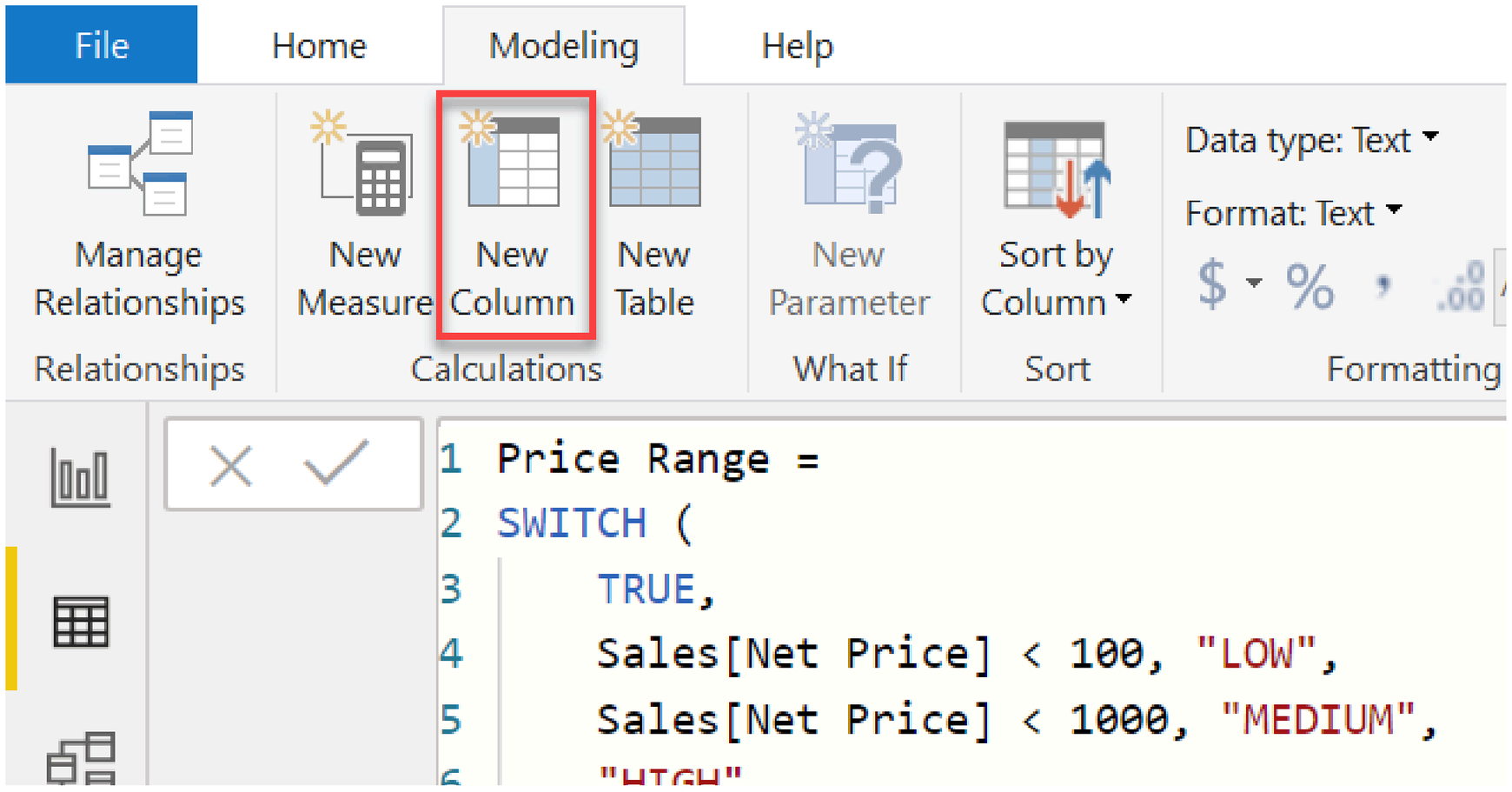
- Experiment with custom visuals from the Power BI marketplace.
- Use advanced visualization techniques like drill-through actions, custom tooltips, etc.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Enhance your report with advanced visualizations, such as custom visuals, drill-through actions, and slicers.
- Explore the Power BI marketplace to find and incorporate custom visuals that suit your project.

# DAY 22

# Advanced Data Analysis with DAX




## 📁 Resources for Learning

- Microsoft Learn: Advanced data analysis with DAX
- Power BI Community Blog: Advanced DAX Techniques

## 🎯 Practice Questions

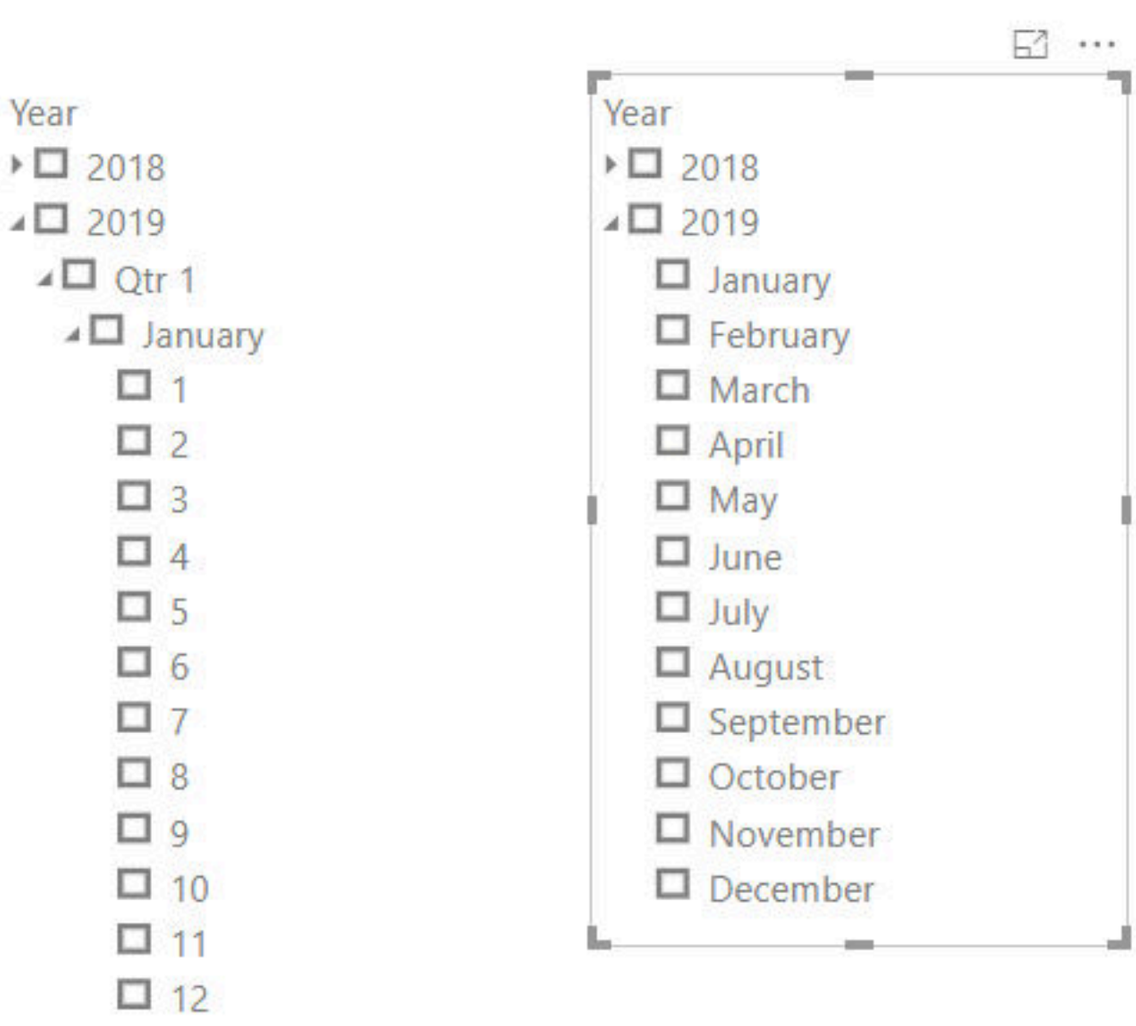
- Write complex DAX calculations involving time intelligence, advanced filtering, etc.
- Use functions like CALCULATE, FILTER, and ALL to create advanced measures.

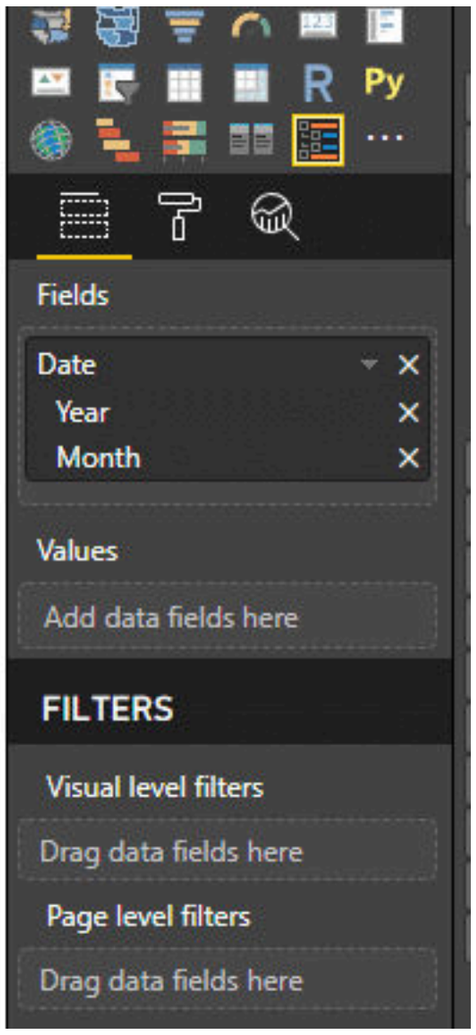
## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Enhance your report with advanced DAX calculations, such as calculating growth rates, moving averages, etc.
- Implement advanced filtering and time intelligence functions to gain deeper insights.

DAY 23

# Advanced Data Modeling and Relationships




## 📁 Resources for Learning

- Microsoft Learn: Advanced data modeling in Power BI
- DAX Patterns: Advanced Data Modeling Patterns

## 🎯 Practice Questions

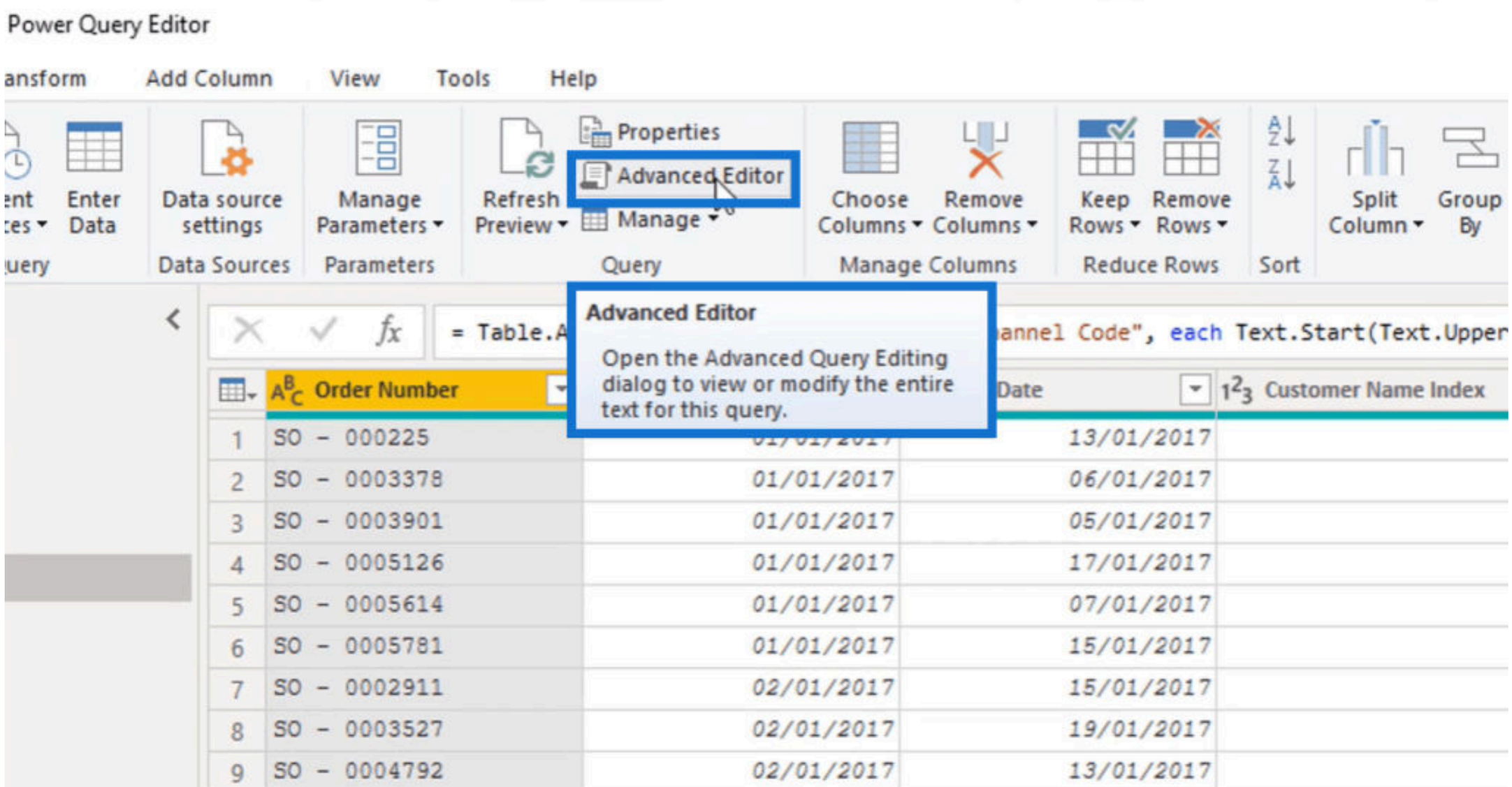
- Implement advanced relationships like bidirectional relationships and complex hierarchies.
- Create complex calculated tables using DAX.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Implement advanced data modeling techniques, such as bidirectional relationships or complex hierarchies.
- Create calculated tables using DAX to support your project's analytical requirements.

# DAY 24

# Advanced Data Transformation with Power Query




## 🗂️ Resources for Learning

- Microsoft Learn: Advanced Power Query M formulas
- Power Query M Function Reference: M Function Reference

## 🎯 Practice Questions

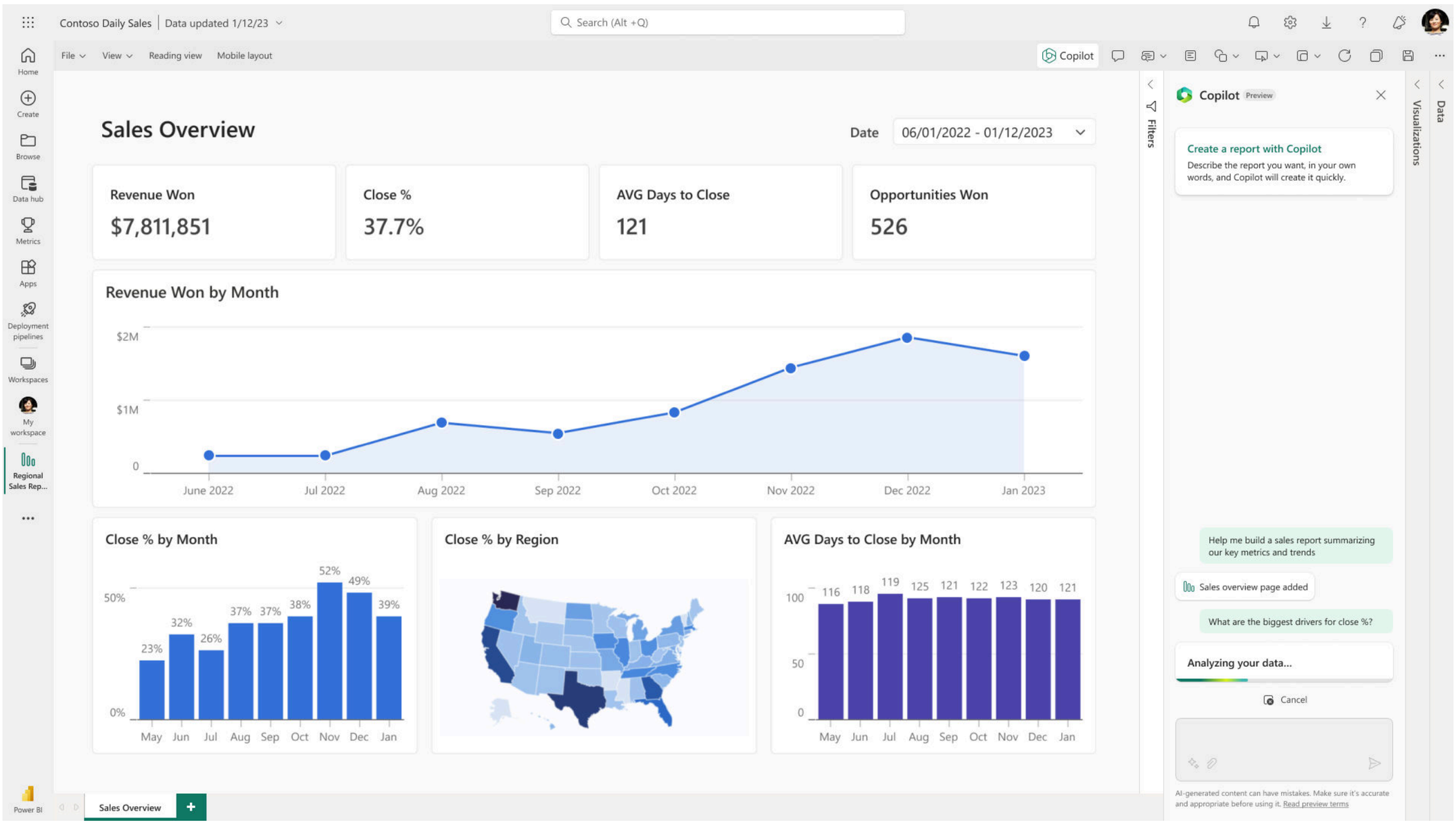
- Write complex Power Query M formulas to perform advanced data transformations.
- Combine multiple queries using advanced merging techniques.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Apply advanced data transformation techniques using Power Query M.
- Combine multiple queries using advanced merging techniques like merging queries based on multiple columns.

# DAY 25

# Data Visualization Best Practices




## 📁 Resources for Learning

- Microsoft Learn: Data visualization best practices
- Power BI Blog: Data Visualization Tips

## 🎯 Practice Questions

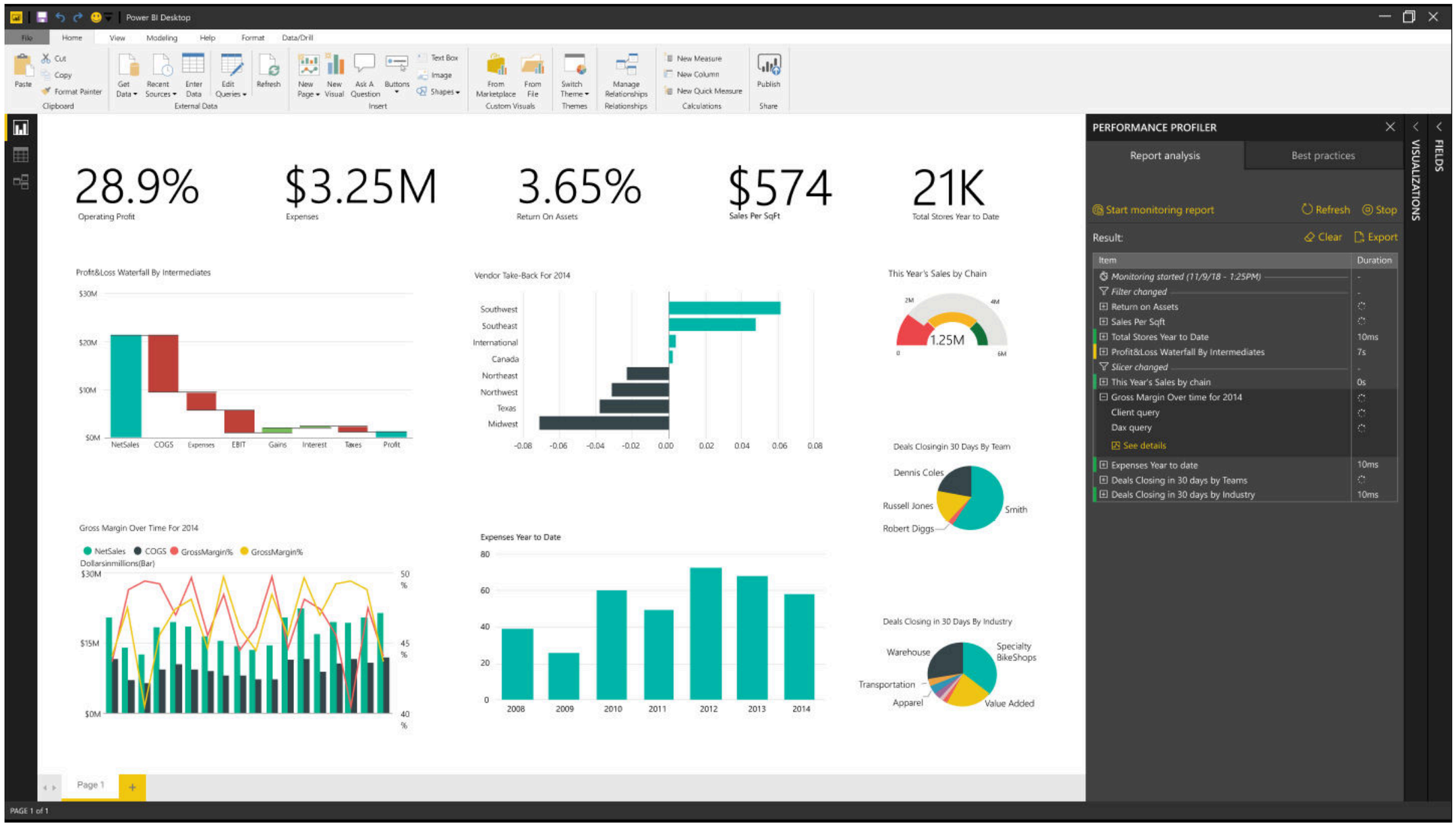
- Apply data visualization best practices, such as avoiding chart junk, choosing appropriate chart types, etc.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Review and refine your visualizations based on data visualization best practices.
- Ensure that your visualizations effectively convey insights without clutter or confusion.

# DAY 26

# Performance Optimization and Data Refresh




## 📁 Resources for Learning

- Microsoft Learn: Optimize Power BI report performance
- Microsoft Learn: Optimize data refresh in Power BI

## 🎯 Practice Questions

- Apply techniques to optimize report performance and minimize data refresh time

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Implement performance optimization techniques to ensure your report loads quickly and responds smoothly.
- Explore ways to optimize data refresh schedules and improve efficiency.

# DAY 27

# Creating Dynamic Reports with Power BI


## 📁 Resources for Learning

- Microsoft Learn: Create dynamic reports with Power BI
- YouTube Tutorial: Creating Dynamic Reports in Power BI

## 🎯 Practice Questions

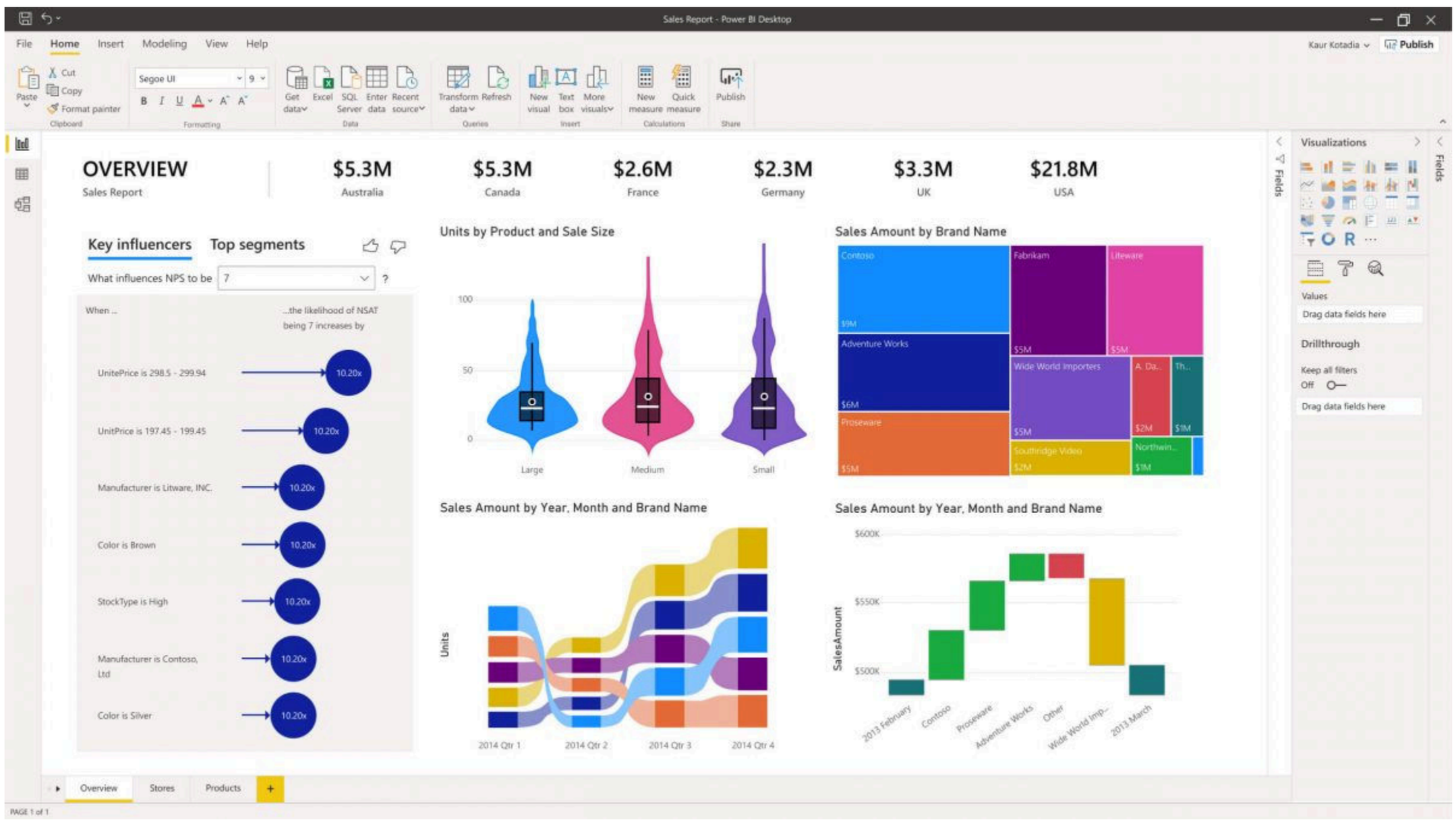
- Create dynamic report elements using features like bookmarks, buttons, and drill-through actions.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Create a dynamic report experience using bookmarks, buttons, and drill-through actions.
- Allow users to interactively explore the data and focus on specific insights.

# DAY 28

# Advanced Data Analysis with Python




## 🗂️ Resources for Learning

- Microsoft Learn: Python integration in Power BI
- Python for Data Analysis: Python for Data Analysis

## 🎯 Practice Questions

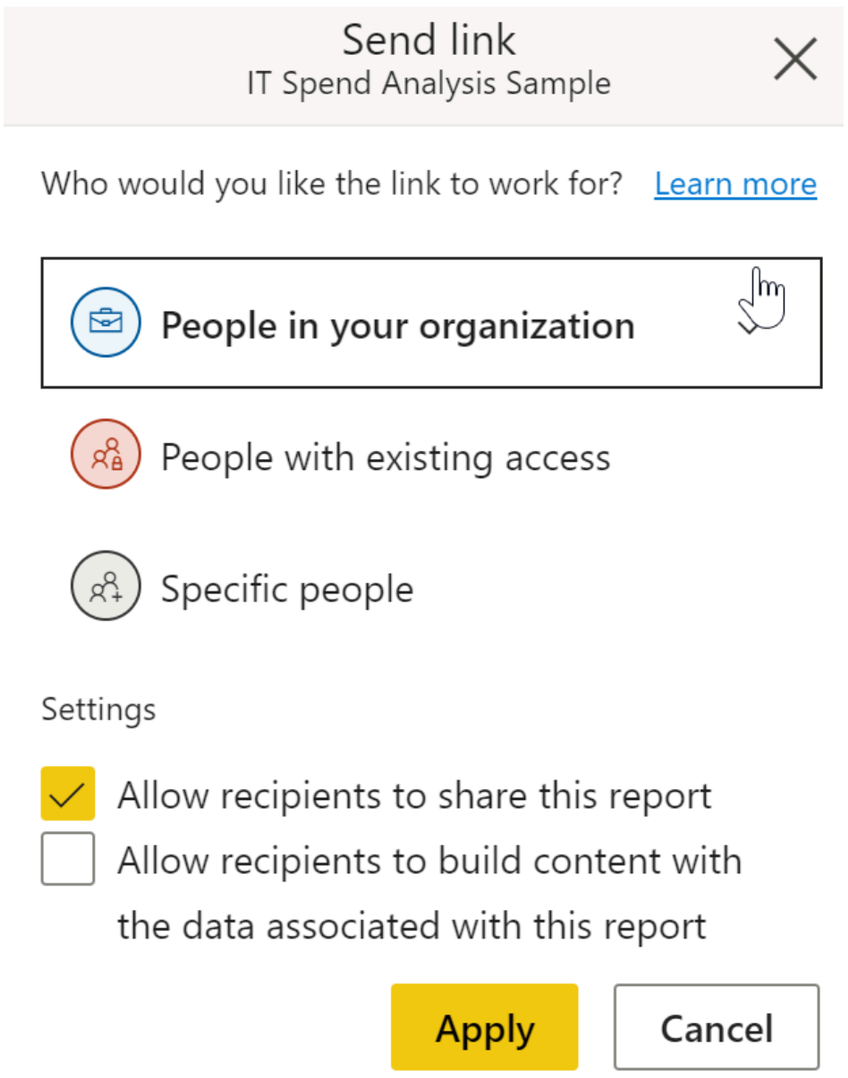
- Write advanced Python scripts to perform complex data analysis tasks within Power BI.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Incorporate advanced Python scripts into your report to perform complex data analysis tasks.
- Use libraries like Pandas, NumPy, or SciPy to enhance your analysis.

# DAY 29

# Report Distribution and Collaboration




## 🗂️ Resources for Learning

- Microsoft Learn: Distribute and collaborate on Power BI reports
- Power BI Blog: Collaboration Features in Power BI

## 🎯 Practice Questions

- Share your report with others and collaborate on a shared dashboard.

## 🗓️ Project for the Day

- Choose any of the completed reports from the previous days.
- Share your report with a colleague or team member, granting them appropriate access permissions.
- Collaborate on a shared dashboard, gather feedback, and iterate on improvements.

# DAY 30

# Final Project Showcase and Review

## 📁 Resources for Learning

- Power BI Community: Power BI Community
- Udemy: Power BI Courses

## 🎯 Practice Questions

- Review and summarize the skills you've developed over the past 30 days.
- Showcase your final Power BI project to peers, mentors, or online communities.

## 📅 Project for the Day

- Use any of the completed reports from the previous days.
- Polish and finalize your comprehensive Power BI project.
- Share your project with your network, mentor, or online Power BI community for feedback and recognition.

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