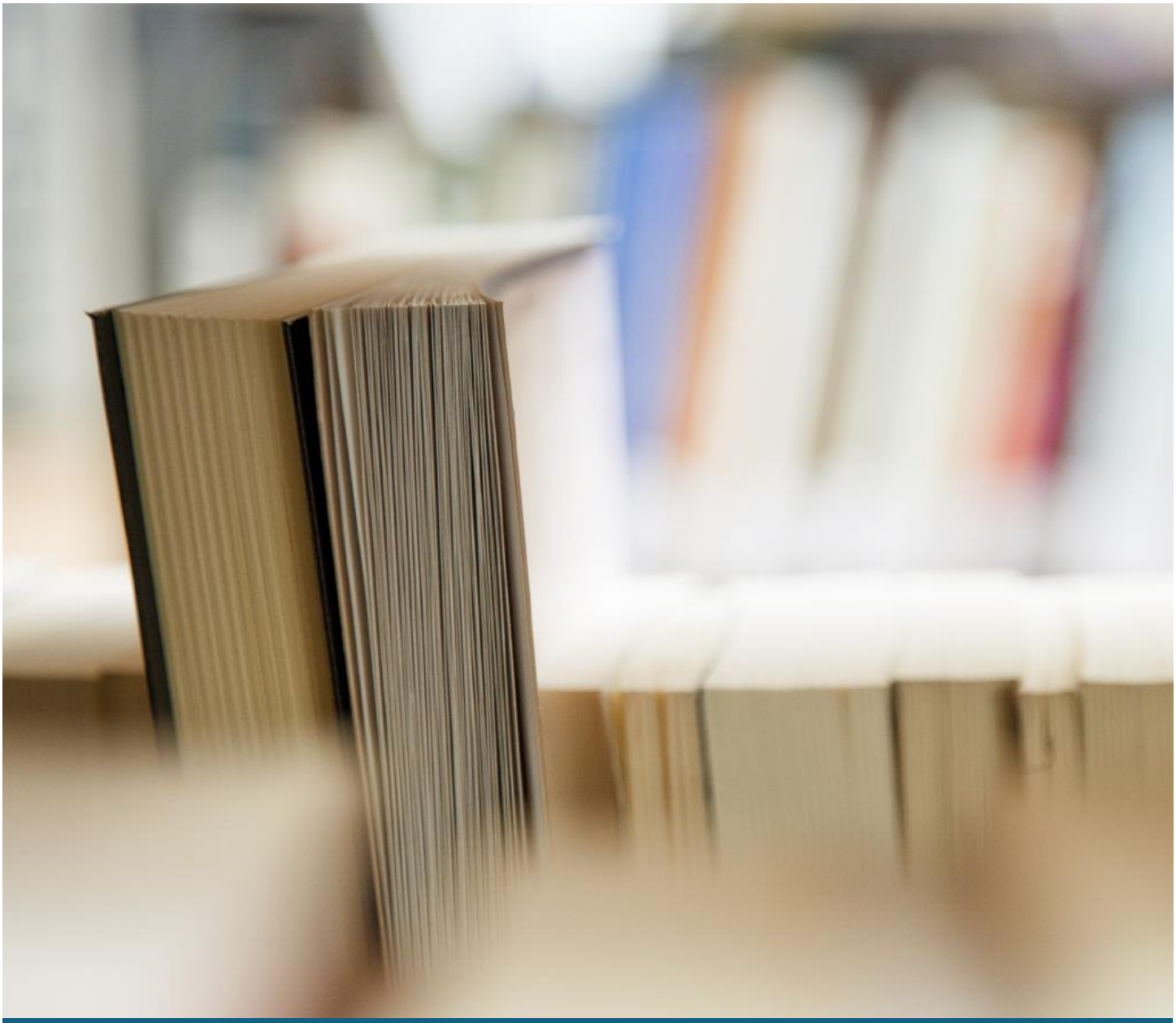


Demo-Reporting Automation

Ripesh Parekh

Purpose

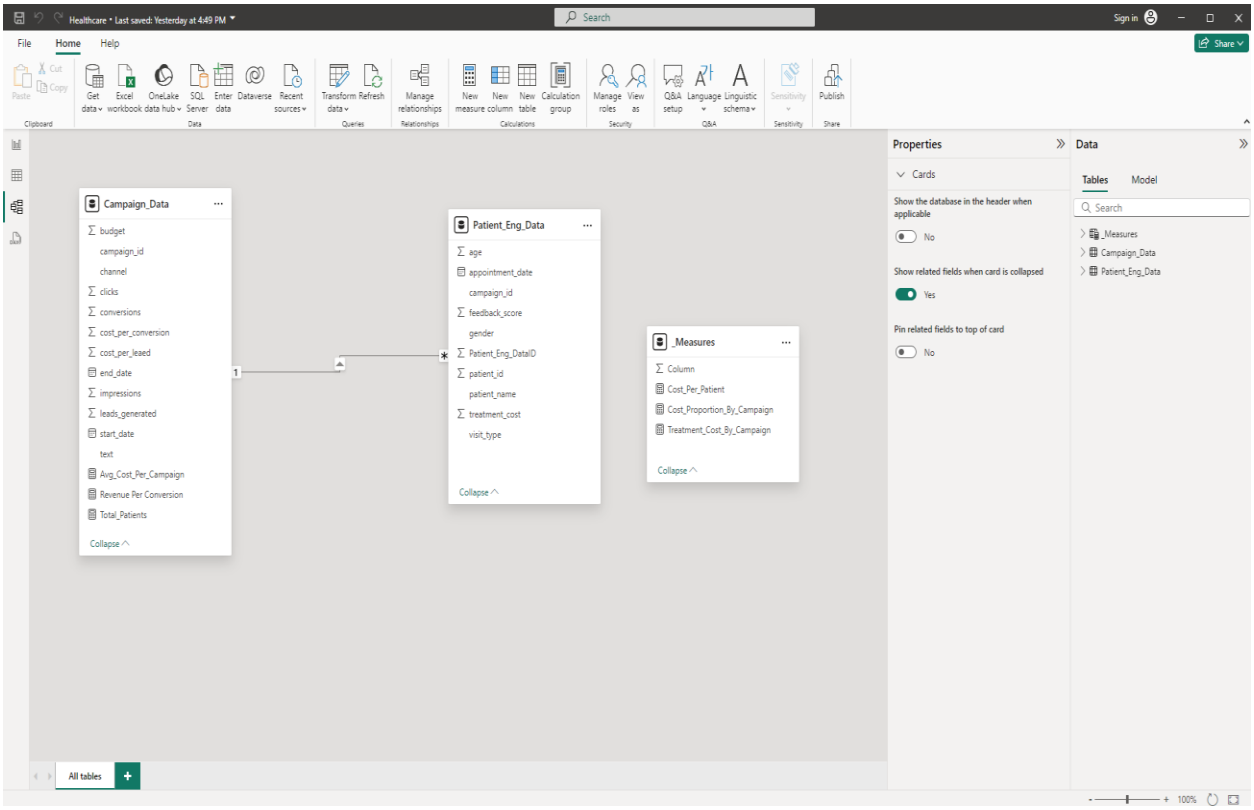
This project demonstrates how Power BI can be leveraged to streamline and automate manual reporting processes for a large team. The objective is to optimize workflows, ensure data integrity, and provide real-time, role-specific insights.

Scenario

In the interview, I was presented with a scenario where the reporting process for a large team is manual, time-consuming, and fragmented across different data sources. To address this, I simulated the process by creating synthetic data:

- **Campaign_Data** (CSV format) and **Patient_Eng_Data** (SQL database).
- **Data Integration & ETL**: I integrated these disparate data sources into Power BI and performed a comprehensive ETL process to ensure clean, validated data. I developed a semantic model that accurately reflects business logic and relationships between the datasets, allowing the extraction of actionable insights.

Data Integration Overview

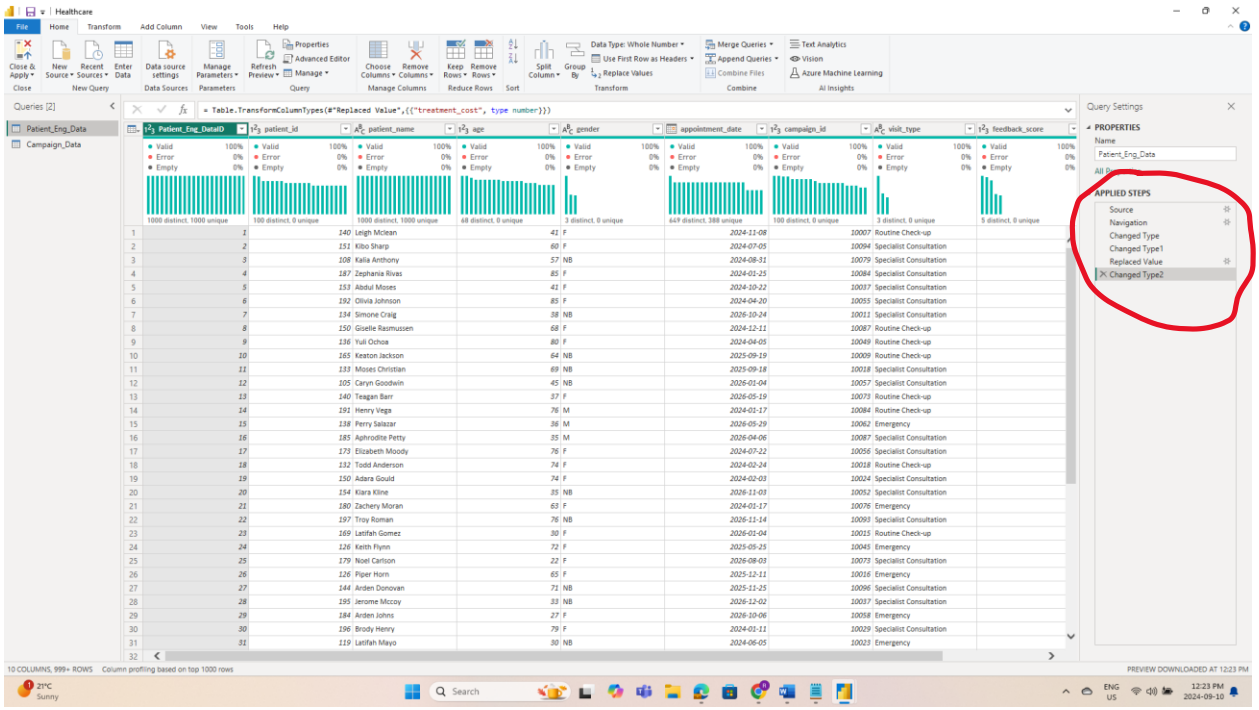


While real-world scenarios often involve multiple data sources, I used only two for simplicity to focus on demonstrating the core principles of automation and integration.

Benefits

1. **Enhanced Data Integrity and Accuracy**
   Power BI's automated refreshes ensure that ETL steps are consistently applied, eliminating human error and ensuring data remains accurate across all reports. This leads to more reliable decision-making at all organizational levels.

ETL Process



2. **Streamlined Data Validation**
   By incorporating validation checks during the ETL process, I ensured that only clean, validated data enters the reporting environment. This reduces ambiguity and ensures the quality of insights, addressing one of the critical pain points in manual reporting processes.

3. **Increased Operational Efficiency**
   Automating the reporting process allows the organization to eliminate manual tasks, leading to significant time savings for the team. Additionally, it enables real-time reporting, allowing decision-makers to act on up-to-date information without delay.

4. **Scalable, Wide-Reach Reporting**
   Once the reports and dashboards are generated, they can be easily published and accessed by a large number of users across the organization, regardless of their

location or device. This ensures consistent, live data access, enabling more agile decision-making.

5. **Role-Based Access and Data Security**
   Role-Based Access (RBA) and Row-Level Security (RLS) mechanisms were implemented to ensure that each user only sees the data relevant to their role. This not only enhances data security but also ensures compliance with internal policies and external regulatory requirements.

Live Dashboard

You can explore the live dashboard here: **View Dashboard**. This link provides interactive access to the solution, allowing you to see firsthand how the automation and integration are applied.

Conclusion

This project illustrates how a large-scale reporting process can be transformed through automation and integration in Power BI. By shifting from manual reporting to an automated, secure, and scalable reporting system, the organization can reduce inefficiencies, enhance data quality, and empower teams to make data-driven decisions in real time. While real-world implementations may introduce additional complexities, this project highlights the strategic steps necessary for successful data transformation at scale.