

Stop Refreshing Your Entire Giant Dataset



The Big Data Problem

- Large datasets can be slow and expensive to refresh
- A full refresh processes every single row every time
- This consumes significant computational power
- It can max out your data storage capacity
- Refresh times can become unbearably long
- It is often unnecessary to process historical data daily



What Is It?

- Incremental Refresh is a Power BI performance feature
- It only loads new or changed data during a refresh
- Historical data remains untouched in the dataset
- Only the latest data is queried from the source
- This dramatically reduces the refresh load
- Think of it as updating only the newest chapter, not the whole book



How It Works

- You define a range for historical data
- You define a range for incremental data (e.g., last 10 days)
- Power BI automatically partitions the data
- During refresh, it checks for new rows within the incremental range
- It only appends these new rows to the existing table
- Old partitions are not queried unless necessary



Key Requirements

- Your table must have a date/time column
- This column is used to filter the data ranges
- The data source must support query folding
- This ensures filters are applied at the source database
- Common supported sources: SQL Server, Azure SQL
- Power BI Premium, Premium Per User, or Embedded is required



Major Benefits

- Drastically faster refresh times
- Reduced load on the source system
- Lower consumption of memory and CPU
- More reliable and predictable refresh cycles
- Ability to handle much larger datasets
- Lower overall cost on Premium capacity



Setting It Up

- In Power BI Desktop, select the table
- Go to Table tools > Incremental Refresh
- Define the historical period (e.g., years)
- Define the incremental period (e.g., days)
- Publish the report to the Power BI Service
- Configure your scheduled refresh



Real-World Use Cases

- Daily sales transactions over multiple years
- IoT sensor data streaming in constantly
- Large fact tables in a data warehouse
- Log files that grow every day
- Any scenario with rapidly growing data
- When full refresh times exceed your available window



Pro Tips

- Always use a reliable date/time column
- Test your incremental refresh policy thoroughly
- Periodically process the full history to maintain accuracy
- Monitor refresh times in the Service to confirm performance gains
- Combine with DirectQuery for real-time latest data
- This feature is a game-changer for big data in Power BI



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