PASS Data Community Summit

Host redgate

Automate, Optimize, Validate PowerShell for Power BI & SSAS Success

Russel Loski

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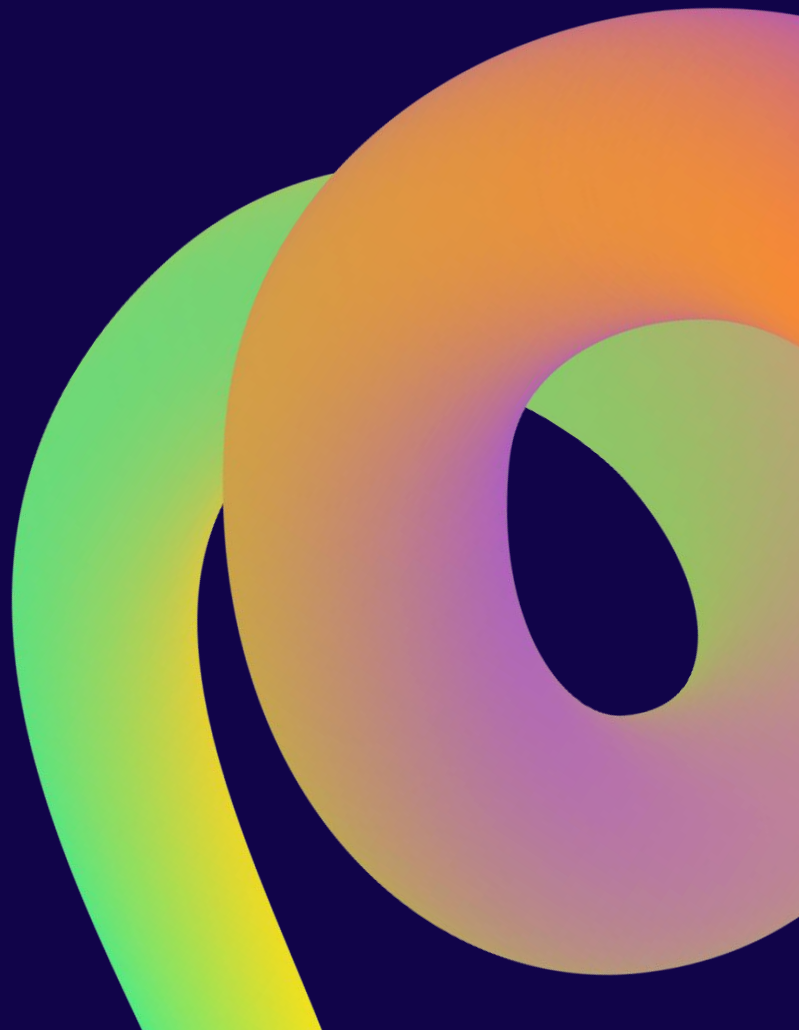

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- North Texas SQL Server UG Board
- Husband – Father – Grandfather
- Worked with SQL Server since 6.5

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Contact Info

- https://github.com/rloski-public/SSASCompare
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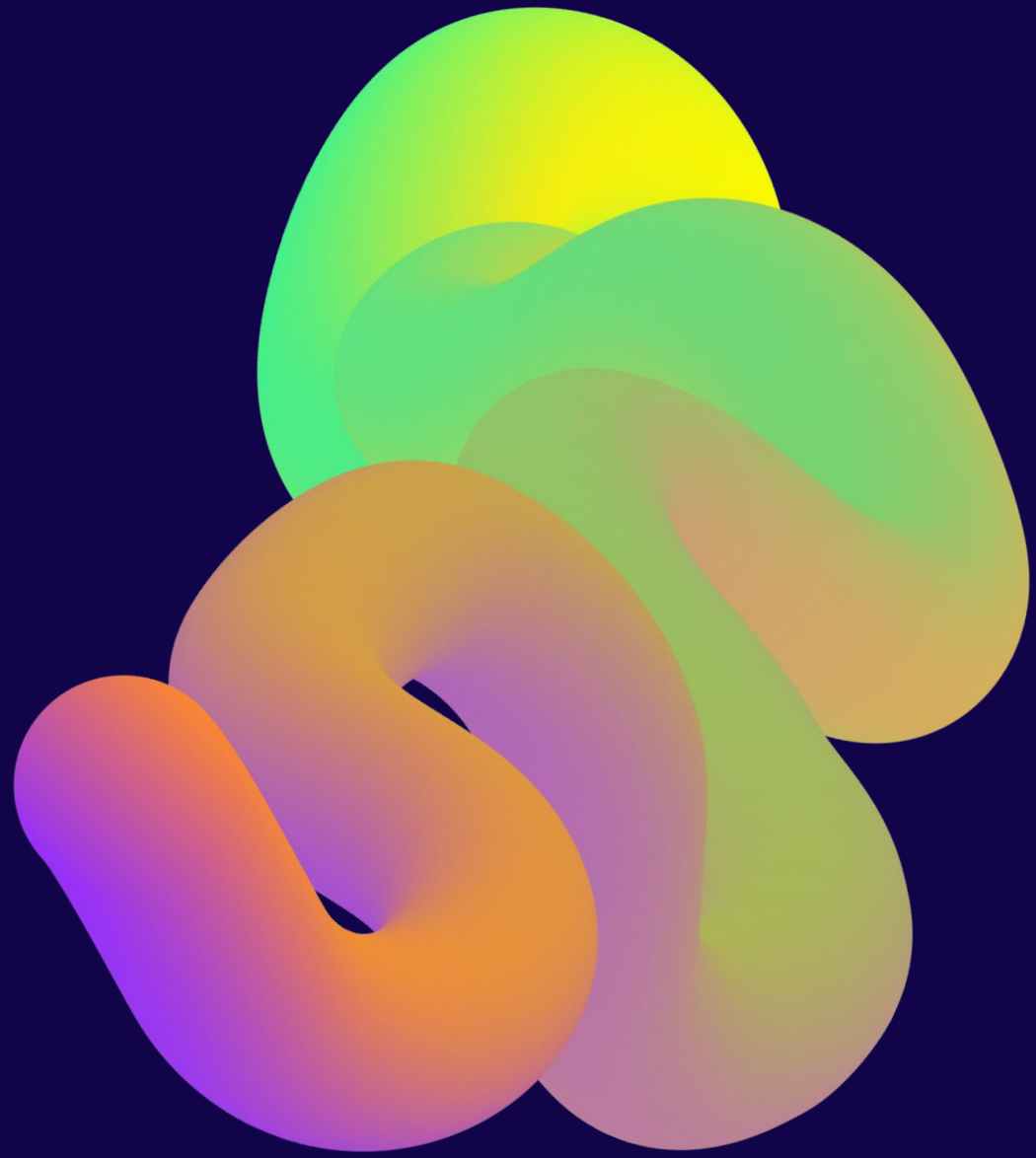
Agenda

- The Problem
- Approach
- Setup
- Comparing files
- Exporting data



The problem

Change causes unexpected changes

- How do you prove that a change doesn’t cause something to break?
- Changes
  - Change to the data being loaded
  - Change to the measures
  - Change to the Relationships

Approach

Approach

- Run DAX Queries using PowerShell
- Get DataTables from two models
- Compare the DataTables
  - Rows
  - Columns
  - Values
- Join on key columns

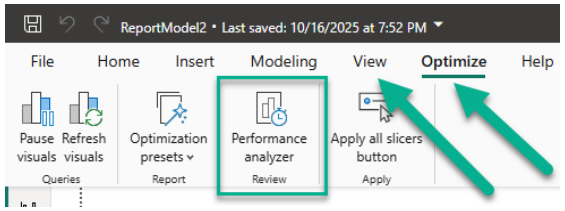
Getting Set Up

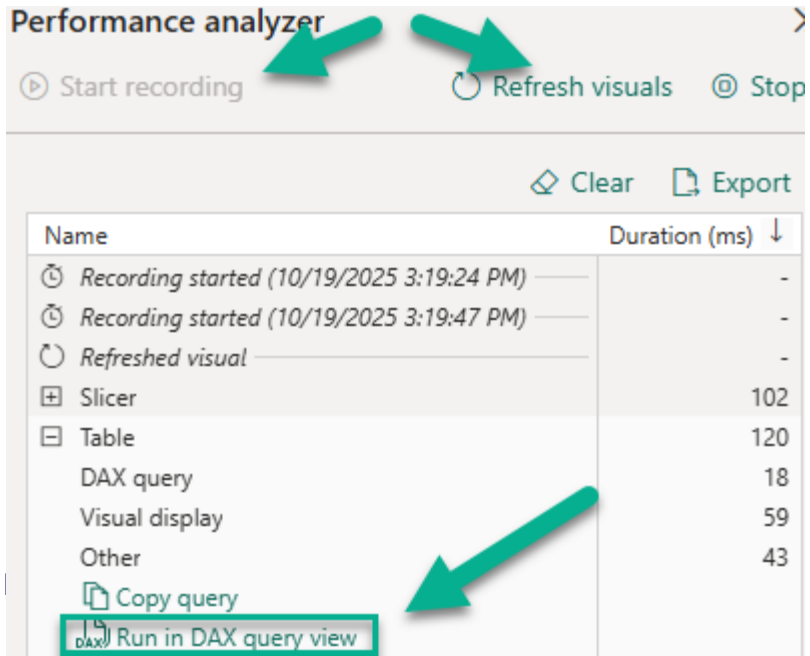
Prepare environment

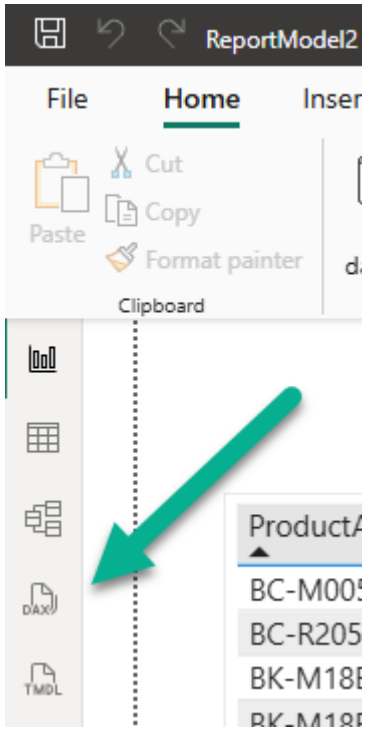
- Install Data Component
  - https://learn.microsoft.com/en-us/analysis-services/client-libraries
  - Install the MSOLAP provider
- Note the SQLBI recommendation
  - https://www.sqlbi.com/articles/execute-dax-queries-through-ole-db-and-adomd-net/

Prepare the DAX queries

- Use the DAX Query View







Set up the PowerShell functions

- Load cmdlets used
  - Invoke-DAXQuery.ps1
  - New-DAXQueryMetaData.ps1
  - Add-DAXQueryMetaData.ps1
  - Get-DAXQueryMetaData.ps1
  - Compare-DAXQuery.ps1
  - Compare-DAXQueryDataTable.ps1

Find the connection information

- Power BI Desktop model is in a Windows Service
- Script GetPBIPort.ps1 gets the port number
- Variables
  - Set the path where you put the scripts
  - Set the Server (localhost:<portnumber>)
  - Try to determine which port goes to which server
    - I added a table with version information

Identify the keys and filters

- Results have different keys based on filters
  - IsGrandTotalRowTotal is true: no keys
  - IsDM1Total: one column key, etc.
- TestGetMetadata.ps1
  - Makes first guess at keys and filters
  - Writes to a second file
- Edit to identify different combinations

Run a test comparison on one file

Comparing files

Running a test

- Create a loop through each file

Reading results

- Number of rows/columns in each set
- Columns with mismatches
- Missing rows

Exporting data

Closing

References

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Thank you

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Your feedback is important to us

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