Understanding Query Folding

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Dealing with BIG Data: A Case Study

Client's architecture
   ~70 million rows stored in SQL (adding ~1 million rows per week)
   Self service BI created in Excel and Power BI

The issue
   Retrieval and reshaping took hours to execute
   BI solution risked getting abandoned

By leveraging Query Folding
   Retrieval and reshaping now takes minutes
   The solution can actually be used

Would You Rather?

Connect to the data source and:

Retrieve 1 million rows to the client

Then, in the client application:

Remove all rows except Dept 500

Remove all but 3 columns

Group rows by Month End

Land the 2000 rows to a table

Summary:
- Pull <u>ALL</u> data from the server
- Process with local CPU and RAM

Connect to the data source and:

Select only rows for Dept 500

Select only 3 columns

Group the rows by Month End

Retrieve 2000 rows to the client

Then, in the client application:

Land the 2000 rows to a table

Summary:
- Push processing to the server
- Pull as little to client as possible

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What is Query Folding?

User interface driven

Query steps are "folded" into consolidated SQL statements

Example:

Connect to table

Remove all columns except MonthEnd, Dept & Amount
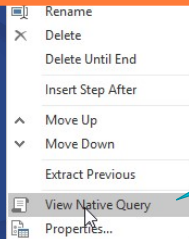
Filter to only Dept 500

Group by MonthEnd

SELECT MonthEnd, Dept, Amount
FROM tblTransactions
WHERE Dept='500'
Group By MonthEnd

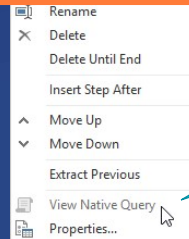© Skillwave Training

How to Tell if Query Folding is Active?

Right click a step in the query…

Query Folding is Active

Rename
Delete
Delete Until End
Insert Step After
Move Up
Move Down
Extract Previous
View Native Query
Properties…

View Native Query is available

Query Folding is Broken

Rename
Delete
Delete Until End
Insert Step After
Move Up
Move Down
Extract Previous
View Native Query
Properties…

View Native Query greyed out

Query folding only works on Databases, not files
(MS Access will be slow as it's on your PC too!)

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(Some) Items that (can) break Query Folding

ODBC Connectors
   Use dedicated connectors where possible

Buffer functions

Adding Index columns

Any command that cannot translate back to SQL
   Converting to "start of year"
   Remove top (bottom) x rows

As each database and connector supports different capabilities, there is no one list of things that do/don't break query folding

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