

## DATA MODELING

- Define the data model structure. it's crucial to have a clear understanding of the structure before proceeding with other steps.
- Create and manage the relationships. Establish relationships between tables based on common fields to enable accurate data analysis and visualization.
- Avoid many-to-many relationships whenever possible.
- Use of inactive relationship.
- Check the fact and dimension table to create the schema. Organize your data into fact tables (Containing measurable, numeric data) and dimension tables (containing descriptive attributes), following a star or snowflake schema for optimal performance.
- Check relationship direction. Ensure that relationships between tables are correctly defined, considering the direction of filtering and aggregation to avoid data inaccuracies.
- Keys (Primary Key or Business Key) of the table – make it hidden so it will not be part of Q&A e.g., Customer Key
- Define data categories and specify a data category e.g., Location
- Check the data model for Default summarization. Set default summarization methods for a numeric field.
- Check the data model for formatting, and apply appropriate formatting to enhance data presentation.
- Apply sorting to the columns. Example Weekdays.
- Create a separate measure table to store measures.
- Create calculated columns (based on existing data) and measures (aggregations or calculations) to derive insights, perform complex analyses, and enhance your data model's analytical capabilities.
- Create a Separate Date table for YTD, MTD, and WTD. And Mark it as a Date Table.



- Split the Date Time to Date and Time separately (Recommended for Performance)
- Use Error Messaging in DAX – Error() function provides a description.
- Use DAX Formatter from Dax Studio or SQL BI Dax Formatter to format DAX queries and use proper comments.
- Consider using the Divide() function for calculation which will eliminate null and divide by zero.
- If you dealing with international financial data. Implement measures and calculations to support currency conversion and reporting in different currencies using field parameters or calculation groups.
- Create Synonyms to Improve the Q&A Experience. Define synonyms for fields or items in your data model to improve the natural language querying experience in Power BI's Q&A feature.
- Optimize data model and performance, considering factors such as data volume, query complexity, and user requirements.
- Define Row-Level Security. (RLS)
- Use a Performance analyzer to check DAX query performance.
- Optimize a data model by using a Best Practice Analyzer (BPA) provided by a Tabular editor.

