

Most common questions Asked in Every interview

Data Analyst | Power BI Developer



TOP 10 POWER BI INTERVIEW QUESTIONS & ANSWERS

Q 1. What challenges did you face during the project? How did you resolve them?

1. Challenge: Handling large datasets causing performance issues.

Solution: I used aggregations and filtered unnecessary columns during data import. I also optimized the data model by implementing a star schema, which improved performance by 40%.

2. Challenge: Writing complex DAX calculations.

Solution: Used DAX optimization techniques, variables for clarity, and tested calculations on smaller datasets.

3. Challenge: Data refresh failures.

Solution: Ensured correct data source connections, verified gateway configurations, and scheduled refreshes during off-peak hours.

4. Challenge: Dealing with missing or dirty data.

Solution: Utilized Power Query for data cleaning, handling null values, removing duplicates, and standardizing formats.

5. Challenge: Slow report performance.

Solution: Simplified visuals, used aggregated data, and optimized DAX measures by avoiding unnecessary calculations.

Q 2. What is Row Level Security (RLS)?

Definition:

RLS restricts data access at the row level, allowing users to see only the data relevant to their role (e.g., a specific region).

Types of RLS:

1.Static RLS: Roles are predefined and fixed.

2.Dynamic RLS: Security is managed using a mapping table (e.g., usernames/emails) and the USERPRINCIPALNAME() DAX function.

Key Functions:

- USERPRINCIPALNAME(): Returns the logged-in user's email or username in both Power BI Desktop and Service.
- USERNAME(): Returns the desktop machine name (for Desktop only).

Steps to Implement RLS:

- 1.Import the dataset.
- 2.Go to **Modeling > Manage Roles**.
- 3.Click **Create** and provide a role name.
- 4.Select the table and define a DAX filter expression.
- 5.Validate the expression using the checkmark.
- 6.Publish to Power BI Service and test the roles.

Q 3. Top Strategies to Optimize Power BI File Performance?

1. Use measure instead Calculated Column.
2. Import only those tables which are needed from database.
3. Use Import Mode rather than Direct Query Mode.
4. Use of Reference rather than Duplicate.
5. Use Light Custom Visuals, also check with Performance Analyzer Option.
6. Use of Switch DAX, Field Parameters to consume less space.
7. Less use of slicers is must.
8. Disable Date Hierarchy Keys.
9. Will not connect 2 Fact Table and avoid many to many relationships.
10. Will avoid Quick Measures.
11. Try to avoid use of "Text" data type of columns.
12. Disable auto date & time.
13. Use of Bookmarks and Buttons.
14. Use of Star schema as 1st preference, 2nd preference as Snowflake schema. Don't use Galaxy schema.
15. Avoid too many visuals per page.
16. Enable incremental refresh for large datasets.
17. Use DAX variables to simplify calculations and improve performance.

Q 4. Do you have access to a premium Power BI Account?

Pro Account

- Supports Small or Medium datasets (up to 1GB per dataset).
- Sharing reports and dashboards with other Pro users.
- Exporting data to PowerPoint, Excel, or PDF.
- Creating app workspaces for collaboration.
- Allows up to 8 scheduled refreshes per day.
- Small to medium-sized organizations needing essential BI features.

Premium Account

- Supports large datasets (up to 400 GB per dataset).
- Enables **Paginated Reports** for pixel-perfect formatting.
- Offers **AI Insights** for automated data analysis using machine learning models.
- Provides higher processing power and dedicated capacity in the cloud.
- Supports **Unlimited Sharing**: Share content with users who don't have Pro licenses.
- Allows up to 48 scheduled refreshes per day.

Q 5. What are some ways to optimize an SQL query for better performance?

- **Use Indexes:** Add indexes to frequently searched or joined columns.
- **Avoid SELECT *:** Only retrieve the columns you need.
- **Optimize Joins:** Use the correct join type and ensure join columns are indexed.
- **Write Simple Queries:** Avoid complex subqueries; use joins or Common Table Expressions (CTEs).
- **Filter Efficiently:** Use indexed columns in WHERE, avoid functions on them, and replace multiple OR with IN or BETWEEN.
- **Limit Data:** Use LIMIT or TOP to fetch only necessary rows.
- **Check Query Plan:** Analyze the execution plan to find and fix slow parts.

Q 6. Good Practices in Power BI?

- **Data modelling** : Use star schema, avoid direct queries if possible
- **Naming conventions** : Use meaningful names for tables, columns and measures.
- **Reduce dataset size**: Remove unnecessary columns and rows.
- Use measure instead of calc columns for better performance.
- **Use variable in Dax.** to enhance readability and performance.

Q 7. Difference between Union Vs Union All

UNION:

- Combines the result sets of two or more queries.
- Automatically removes duplicate rows.
- Slower than UNION ALL because it performs a sorting operation to eliminate duplicates.
- **Use case:** When you want distinct results from multiple datasets.

UNION ALL:

- Combines result sets without removing duplicates.
- Faster than UNION because it doesn't check for duplicates.
- **Use case:** When duplicates are acceptable, and you need faster performance.

```
Union : SELECT column_name FROM table1
        UNION
        SELECT column_name FROM table2;
```

```
Union All : SELECT column_name FROM table1
            UNION ALL
            SELECT column_name FROM table2;
```


Q 8. Data Transformation in Power Query (Power BI):

- **Data Loading:** Import data from multiple sources like Excel, SQL, or APIs.
- **Remove Columns/Rows:** Eliminate unnecessary columns or filter rows to keep only relevant data.
- **Rename Columns:** Rename columns for clarity and standardization.
- **Change Data Types:** Ensure columns have appropriate data types (e.g., text, date, number).
- **Split Columns:** Split data into multiple columns based on delimiters or fixed width.
- **Merge Columns:** Combine two or more columns into one.
- **Unpivot Columns:** Convert wide tables into long format for analysis.
- **Group By:** Aggregate data by grouping rows and performing operations like sum or count.
- **Add Custom Columns:** Create calculated columns using formulas or transformations.
- **Sort and Filter:** Sort data by columns or apply filters to focus on specific subsets.
- **Replace Values:** Substitute incorrect or unwanted values.
- **Append Queries:** Combine data by stacking tables with similar structures.
- **Merge Queries:** Join tables based on a common key.
- **Remove Duplicates:** Eliminate duplicate rows to ensure clean data.
- **Fill Data:** Fill null values with the nearest above or below value.
- **Transpose:** Flip rows and columns for reshaping data.
- **Conditional Columns:** Create columns based on conditions or rules.

Q 9. How to perform Join Operations in Power BI?

Join Operations in Power BI are handled in Power Query Editor:

1. Load the datasets
2. Go to the Power Query > Home > Merge Queries
3. Select the common key for joining and choose the join type:

Inner Join

Left Outer Join

Right Outer Join

Full Outer Join

Left Anti Join

Right Anti Join

Q 10. Why are your Power BI visuals not updating after the data refresh?

Possible Reasons:

- Cached data is being used instead of the refreshed data.
- The data refresh did not complete successfully.
- Filters or slicers applied are restricting the data.
- Relationships in the data model are not correctly defined or are inactive.
- Data was refreshed, but the report was not republished.