ChatGPT

Power BI and SQL Interview Questions & Answers

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1. Tell me about yourself?

I'm a Data Analyst with over 2 years of experience in Power BI development. I've worked on building end-to-end BI solutions including data cleaning, modeling, DAX measures, and visualizations. I've worked with Excel, SQL Server, and web data sources, and I've created dashboards for sales, finance, and inventory analysis.

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2. Can you tell me the full life cycle of Power BI?

- **Data Sourcing**: Connecting to different sources like Excel, SQL, Web.
- **Data Preparation**: Using Power Query to transform data.
- **Data Modeling**: Building relationships and calculated columns/measures using DAX.
- **Visualization**: Creating charts, KPIs, slicers.
- **Publishing**: Uploading to Power BI Service.
- **Sharing & Security**: RLS, App workspaces.
- **Refreshing**: Scheduled via Power BI Gateway.

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3. Can you tell me different tools of Power BI?

- **Power BI Desktop**: Development tool.
- **Power BI Service**: Online platform for sharing dashboards.
- **Power BI Gateway**: Bridge to on-prem data.
- **Power BI Mobile**: Mobile view.
- **Power BI Report Server**: For on-premise report hosting.

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4. What are different connection types?

- **Import**: Data is imported into model.
- **DirectQuery**: Queries live data source.
- **Live Connection**: For SSAS.

Used: Import for Excel & SQL in most projects.

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5. As a Power BI developer, what are important skills?

- Power Query
- Data Modeling

• DAX
• Report Design
• SQL knowledge
• Business understanding

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6. Where do we clean data in Power BI?

Data is cleaned in **Power Query Editor** using steps like:

• Remove columns
• Replace values
• Change data types
• Remove nulls

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7. How to connect to website data?

• Use **Get Data > Web**
• Paste URL
• Use Table preview
• Load or transform

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8. How to connect Excel file to Power BI Desktop?

• Home > Get Data > Excel > Select file
• Choose sheet
• Load or transform

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9. How did you connect data in your project?

Used **SQL Server** and **Excel** files. Cleaned in Power Query, created relationships, calculated sales & profit KPIs using DAX, and published to Power BI Service.

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10. What type of project? Support or Development?

Worked in **development**. Created dashboards from scratch, modeled data, applied RLS.

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11. KPIs in your project?

• Total Sales
• Target Achievement %

• YoY Growth
• Inventory Turnover

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12. Month-wise sales data: which visual?

Line Chart – best for time series and trend analysis.

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13. Types of joins in Power BI?

• Left Outer
• Right Outer
• Inner
• Full Outer
• Cross Join (via DAX or custom)

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14. How to publish dashboard to Power BI Service?

• File > Publish > My Workspace (or target workspace)

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15. Difference between page/report/visual filter?

• **Visual**: Only on 1 visual.
• **Page**: All visuals on one page.
• **Report**: Entire report pages.

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16. Data mismatch in visual – how to solve?

• Check filters applied
• Validate relationships
• Review DAX logic
• Check data source

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17. Data duplication in dashboard – how to solve?

• Check for duplicate rows
• Validate data model joins
• Use DISTINCT in DAX if needed

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18. Why use Line Chart?

For time-series trends like sales over months or years.

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19. What dashboards you developed?

- Sales Analysis
- HR Attrition
- Inventory
- Finance KPIs

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20. First step to get data in Power BI?

Use **Get Data** to connect, then **Power Query** for cleaning.

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21. Power Query – what operations can we perform?

- Remove columns/rows
- Merge tables
- Group By
- Pivot/Unpivot
- Change types

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22. How to add dropdown in Power BI?

Use **Slicer visual**, bind to column (like Category).

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23. What is cardinality?

Defines relationship type:

- One-to-One
- One-to-Many
- Many-to-One
- Many-to-Many

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24. Cardinality between Dimension & Fact?

Usually: **One (Dimension) to Many (Fact)**

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25. What is active filter relationship?

A relationship marked active is used by default in visuals. Only one active between two tables.

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26. Chart for Month, Sales Amount?

Line Chart – good for trend. Optionally area/column if comparison needed.

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27. What are KPIs?

Key indicators that reflect business performance. E.g., Sales Target %, Customer Retention, Revenue Growth.

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28. How was your day?

Started with checking refresh status, worked on refining sales dashboard with new KPIs, had a call with stakeholder to gather feedback.

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29. Measure vs Calculated Column?

- **Measure**: Dynamic, used in visuals (e.g., Total Sales).
- **Calculated Column**: Row-based, used in modeling.

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30. DAX Formula Example?

```
Profit Margin = DIVIDE([Profit], [Revenue], 0)
```

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31. What is Power BI Gateway?

Bridge to refresh or access on-prem data from Power BI Service.

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32. What is Row Level Security?

Restricts data access based on roles. E.g., Region Manager sees only their region's data.

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33. What is Primary Key & Foreign Key?

- **Primary Key**: Unique identifier in a table.

• **Foreign Key**: References PK from another table.

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34. What is Surrogate Key?

Artificial key (like ID) used when no natural key is available.

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35. What is DDL?

Data Definition Language – Create, Alter, Drop tables.

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36. Types of SQL Statements?

- DDL
- DML
- DCL
- TCL

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37. DDL Statement Types?

- CREATE
- ALTER
- DROP
- TRUNCATE

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38. What is DML?

Data Manipulation Language – INSERT, UPDATE, DELETE

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39. What is DCL?

Data Control Language – GRANT, REVOKE

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40. What is GROUP BY?

Used to aggregate data by column(s).

```sql
SELECT Region, SUM(Sales) FROM SalesData GROUP BY Region;
```

41. What is aggregation in SQL?

Functions like SUM, AVG, COUNT, MIN, MAX.

42. What is ORDER BY?

Sort results.

```
SELECT * FROM Sales ORDER BY Date DESC;
```

43. How to sort data in table?

Use ORDER BY.

44. Filter data from table – which clause?

Use WHERE.

```
SELECT * FROM Sales WHERE Region = 'East';
```

45. Difference: GROUP BY vs GROUP BY HAVING?

- `GROUP BY` : Groups rows.
- `HAVING` : Filters after grouping.

46. What are Window Functions?

Functions like RANK(), ROW_NUMBER() that operate over a set of rows.

```
SELECT *, RANK() OVER (PARTITION BY Region ORDER BY Sales DESC) FROM Sales;
```

47. What is CTE?

Common Table Expression – a temporary named result set.

```sql
WITH RegionalSales AS (
  SELECT Region, SUM(Sales) AS Total FROM Sales GROUP BY Region
)
SELECT * FROM RegionalSales;
```

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