

IBM Power BI Interview Questions

IBM Power BI interview questions, tailored to help you stand out confidently in professional interviews.

1. How can you create and configure a data gateway in Power BI?

To create and configure a data gateway, I install the on-premises data gateway on a server within my network. After signing in with my organizational account, I choose between standard and personal mode. Once installed, I go to the Power BI Service, navigate to “Manage gateways,” and add the data source with the necessary credentials. This enables secure connectivity between on-premises data and Power BI reports in the cloud.

2. Explain the process of creating a dynamic tooltip in Power BI.

Dynamic tooltips are created by designing a separate report page specifically for the tooltip, setting its page size to “Tooltip” under page information. I then add visualizations to this page and use fields that reflect the context of the main report visuals. Finally, in the main report, I assign this tooltip page to relevant visuals under the “Tooltip” option in the formatting pane, enabling an interactive experience.

3. How does Power BI handle real-time data streaming, and what are its use cases?

Power BI supports real-time streaming via three methods: streaming datasets, push datasets, and PubNub streams. These enable dashboards to display data as it arrives. Typical use cases include IoT monitoring, live sales dashboards, and social media sentiment tracking. By pushing data using APIs or Azure Stream Analytics, users can visualize live insights in tiles and dashboards.

4. What are the different types of data relationships in Power BI?

Power BI supports one-to-many (default), many-to-one, and many-to-many relationships. Relationships can be single-directional or bi-directional in terms of filter propagation. Understanding and correctly modeling relationships is crucial to ensure accurate aggregation and filtering of data across tables in a data model.

5. Describe the purpose and usage of Power BI Premium.

Power BI Premium provides dedicated cloud capacity, larger data models (up to 400GB), paginated reports, and advanced AI features. It enables broader distribution of content without requiring Pro licenses for viewers and supports on-premises reporting via Power BI Report Server. It's suitable for organizations needing enterprise-grade analytics capabilities.

6. How do you create a sunburst chart in Power BI?

Power BI does not support sunburst charts natively, but I use custom visuals from the AppSource marketplace. After importing the sunburst visual, I structure hierarchical data fields accordingly and drag them into the chart to show multi-level categorical data. This is useful for visualizing part-to-whole relationships with depth.

7. What are the differences between a line chart and an area chart in Power BI?

A line chart emphasizes trends over time using lines, while an area chart fills the space below the line, adding a visual emphasis on volume. Area charts are better for showing part-to-whole relationships across time when stacked. Line charts are preferred for clean trend comparison without volume influence.

8. Explain the concept of Data Analysis Expressions (DAX) in Power BI.

DAX is a formula language used in Power BI for creating calculated columns, measures, and tables. It enables advanced data manipulation and aggregation. Key DAX functions include CALCULATE, FILTER, SUMX, and time intelligence functions like TOTALYTD. DAX is essential for dynamic, context-aware calculations in reports.

9. What is the significance of the "Drillthrough" feature in Power BI?

Drillthrough allows users to navigate from a summary page to a detailed report page filtered to a specific data point, enhancing report interactivity. I create a dedicated page with a Drillthrough filter, and users can right-click a value in a visual to view more granular insights. It's valuable for deep-dive analysis.

Capgemini Power BI interview questions

1. How do you implement row-level security (RLS) in Power BI?

To implement RLS, I define roles within Power BI Desktop by using DAX filters in the "Manage Roles" section. For example, filtering Region = "East" limits data for users in that role. Once published to Power BI Service, I assign users to these roles under dataset security. This ensures that each user only sees the data they are authorized to access, maintaining data confidentiality.

2. What are the best practices for designing a Power BI dashboard?

I follow a few key practices:

Keep it simple and focused on KPIs.

Use consistent color schemes and align visuals properly.

Apply slicers and filters for interactivity.

Optimize visuals to reduce clutter and improve performance.

Design with the target audience in mind, ensuring the layout answers relevant business questions quickly.

3. Can you explain the Power BI report lifecycle?

The report lifecycle includes:

1. Data acquisition – connect and load data from various sources.
2. Data transformation – clean and shape data in Power Query.
3. Modeling – define relationships, DAX measures, and hierarchies.

4. Visualization – build interactive dashboards.
5. Publishing – deploy to Power BI Service.
6. Sharing and collaboration – distribute reports and manage permissions.
7. Maintenance – monitor performance, refresh schedules, and user feedback.

4. How does Power BI handle data refresh and scheduling?

In Power BI Service, I set up scheduled refreshes under dataset settings. This requires a gateway if connecting to on-premises data. I specify refresh frequency (daily, hourly) and credentials. Notifications can also be configured in case of refresh failures. This ensures reports reflect up-to-date data without manual intervention.

5. What is the role of the Query Editor in Power BI?

The Query Editor is used for data transformation. It allows me to clean, filter, merge, pivot/unpivot, and shape data before loading it into the model. Using M code behind the scenes, it enables repeatable, no-code ETL steps, ensuring data consistency and saving time on future loads.

6. How do you create a funnel chart in Power BI?

I add a Funnel chart visual, then drag the categorical field (e.g., Sales Stages) to the Group field and a numerical field (e.g., Revenue) to the Values field. The visual represents progression through stages, highlighting drop-offs. It's commonly used for sales pipelines or conversion metrics.

7. What is the difference between a measure and a KPI in Power BI?

A measure is a calculated value using DAX (e.g., SUM(Sales)) displayed in visuals. A KPI is a specialized visual that shows performance against a target, using measures for actual, target, and trend. Measures are building blocks, while KPIs are performance indicators designed for quick insights.

8. Explain the concept of hierarchical slicers in Power BI.

Hierarchical slicers allow users to drill through multiple levels of a hierarchy (e.g., Year → Quarter → Month) within a single slicer visual. I use a date or geography hierarchy to give end users an intuitive way to filter data at various granularity levels while keeping the report clean.

9. How do you use bookmarks in Power BI to enhance report interactivity?

Bookmarks capture the current state of a report page (filters, visuals, etc.). I use them to create navigation buttons, toggle visuals, or simulate drill-through. For example, a button linked to a bookmark can show/hide visuals or switch between views, enhancing storytelling and user experience in reports.

Deloitte Power BI interview questions

1. How can you configure and use custom visuals in Power BI?

To use custom visuals, I go to the Visualizations pane in Power BI Desktop and click on “Import a visual from a file” or from the marketplace. From there, I browse visuals available on AppSource and select those that fit my needs—like bullet charts, Gantt charts, or advanced KPI visuals. After importing, I configure them by mapping data fields and adjusting settings in the format pane to meet design and functionality requirements.

2. What techniques can be employed to improve query performance in Power BI?

To optimize performance:

I reduce columns and rows loaded by filtering data at the source.

Avoid complex DAX calculations and prefer calculated columns or measures when needed.

Use star schema for data modeling to simplify relationships.

Enable aggregations where appropriate.

Leverage query folding and avoid transformations that prevent it.

Use performance analyzer to identify slow visuals and queries.

3. Describe the integration capabilities of Power BI with other Microsoft services.

Power BI integrates seamlessly with:

Excel for importing pivot tables and models.

Azure (e.g., Synapse, Data Lake) for advanced analytics.

Power Platform (Power Apps, Power Automate) for building end-to-end workflows.

SharePoint and Teams to embed reports.

Microsoft 365 for real-time collaboration and sharing through OneDrive and Outlook.

This interoperability enhances productivity and enables unified data solutions.

4. What is the difference between Import mode and DirectQuery mode in Power BI?

Import mode stores data in Power BI's in-memory model, offering fast performance and full DAX functionality but requiring scheduled refresh.

DirectQuery mode leaves data at the source and queries it in real-time. It supports large datasets but has performance and DAX limitations. I choose based on factors like data size, latency requirements, and update frequency.

5. How do you create a Pareto chart in Power BI?

I create a Pareto chart by combining a bar chart and a line chart. I use a bar chart to show categories sorted in descending order of values. Then, I add a cumulative percentage line using a DAX measure. By using a combo chart (clustered column + line), I display both metrics, which helps identify key contributors (typically 80/20 rule).

6. What are the advantages of using Power BI templates?

Templates (.PBIT files) allow me to save report structure, visuals, and model logic without data. They're ideal for reusability, standardizing reports across teams, and sharing solutions while keeping source data confidential. When opened, users are prompted to input parameters or connect to their own data sources.

7. Explain the concept of dataflows in Power BI.

Dataflows enable cloud-based data transformation using Power Query in Power BI Service. I use them to centralize ETL logic, reuse across datasets, and manage large-scale data transformation workflows. Dataflows also support incremental refresh and are useful for building a consistent data layer before loading into datasets.

8. What is the purpose of the “Merge Queries” feature in Power BI, and how is it used?

“Merge Queries” allows me to join two queries based on a common key, similar to SQL joins. I choose the queries, select matching columns, and define the join type (e.g., inner, left outer). It’s useful when combining related data from different sources or tables before loading into the model.

9. How do you create and manage data alerts in Power BI?

Data alerts are set in Power BI Service on tiles pinned to dashboards (typically cards or gauges). I click the ellipsis on a visual, choose “Manage Alerts,” and define threshold conditions. When conditions are met, alerts trigger an email or Power Automate flow. I manage them under the settings of my workspace for proactive monitoring.