

Power BI Interview Questions

1. What is the difference between calculated columns and measures in Power BI?

- Calculated columns are calculated at the row level of a table and are stored in the model, while measures are calculated on the fly based on the selected context and are not stored in the model.
- Calculated columns can be used in any visual or calculation, while measures can only be used in visualizations that support aggregation.

2. How would you optimize the performance of a slow-loading Power BI report?

- Reduce the size of the data model by removing unnecessary columns and tables.
- Use DirectQuery or Live Connection instead of importing data to reduce data model size.
- Use Power Query to optimize the data transformation process and reduce the amount of data loaded into the model.
- Use query folding to push as much of the query processing back to the data source as possible.
- Optimize the DAX formulas used in the report, avoiding heavy calculations or iterating over large tables.

3. What is the difference between Power BI and Excel?

- Power BI is a business intelligence and data visualization tool, while Excel is a spreadsheet software.
- Power BI is designed to work with large and complex data sets, while Excel is better suited for smaller and simpler data sets.
- Power BI is a cloud-based tool that allows for easy sharing and collaboration, while Excel is traditionally installed on a single computer.
- Power BI offers more advanced data visualization and exploration features, while Excel offers more traditional spreadsheet functionality.

4. Can you explain the difference between a calculated column and a measure in DAX?

- A calculated column is a column added to a table that is calculated row by row using a DAX formula. The result of the calculation is stored in the table and can be used in other calculations and visualizations.
- A measure is a calculation that is performed on the fly based on the selected context. Measures are not stored in the data model, but are instead calculated in real time as needed.

5. How would you handle a scenario where you need to merge two tables in Power BI but the columns have different data types?

- Convert the columns to a common data type before merging the tables using the "Change Type" or "Data Type" transformation in Power Query.
- If the columns cannot be converted to a common data type, consider creating a new column in each table that is compatible with the other, and then merging on those new columns.
- If the columns cannot be converted and no compatible columns can be created, consider creating a relationship between the tables based on a different column that is compatible.

6. Can you explain the difference between a stacked bar chart and a clustered bar chart in Power BI?

- A stacked bar chart shows multiple categories on the x-axis and the total value of each category is represented by a bar divided into segments, where each segment represents a subcategory or a part of the total.
- A clustered bar chart shows multiple categories on the x-axis and each category has its own bar. Each bar can be divided into segments to show subcategories or parts of the total, but the bars are not stacked on top of each other like in a stacked bar chart.

7. How would you create a stacked column chart in Power BI?

- Create a column chart with the category column on the x-axis and the value column(s) on the y-axis.
- Add the subcategory column to the "Legend" field well to break down the values into segments.
- In the "Visualizations" pane, select the "Format" tab and navigate to the "Column chart" section.
- Toggle the "Stacked" switch to "On" to stack the columns on top of each other.

8. Can you explain how to drill down into a stacked bar chart in Power BI?

- Add a hierarchy to the category column by selecting it in the "Fields" pane and then clicking on the "New Hierarchy" button in the "Modeling" tab.
- Add the hierarchy to the x-axis of the stacked bar chart.
- Click on a segment of the stacked bar chart to drill down into the next level of the hierarchy.
- To drill back up, click on the "Back" button in the upper left corner of the chart or right-click on the chart and select "Drill Up".

9. How would you create a stacked bar chart that shows the percentage of each subcategory within each category in Power BI?

- Create a stacked bar chart with the category column on the x-axis and the value column(s) on the y-axis.
- Add the subcategory column to the "Legend" field well to break down the values into segments.
- In the "Visualizations" pane, select the "Analytics" tab and add a "Percent of total" line to the chart.
- Adjust the formatting of the chart as needed.

10. How would you create a stacked column chart that shows the running total of each category in Power BI?

- Create a stacked column chart with the category column on the x-axis and the value column(s) on the y-axis.
- In the "Visualizations" pane, select the "Analytics" tab and add a "Running total" line to the chart.
- Adjust the formatting of the chart as needed.

11. What is the difference between a pie chart and a donut chart in Power BI?

- A pie chart shows the proportion of each category to the total value by dividing a circle into segments, where each segment represents a category.
- A donut chart is similar to a pie chart, but with a hole in the center. The center can be used to show additional information, such as a total or a summary value.

12. How would you create a pie chart in Power BI?

- Create a table with the category column and the value column.
- In the "Visualizations" pane, select the "Pie chart" icon.
- Drag the category column to the "Legend" field well and the value column to the "Values" field well.

13. How would you create a donut chart in Power BI?

- Create a table with the category column and the value column.
- In the "Visualizations" pane, select the "Donut chart" icon.
- Drag the category column to the "Legend" field well and the value column to the "Values" field well.

14. Can you explain how to drill down into a pie chart in Power BI?

- Add a hierarchy to the category column by selecting it in the "Fields" pane and then clicking on the "New Hierarchy" button in the "Modeling" tab.
- Add the hierarchy to the "Group" field well in the "Visualizations" pane.
- Click on a segment of the pie chart to drill down into the next level of the hierarchy.
- To drill back up, click on the "Back" button in the upper left corner of the chart or right-click on the chart and select "Drill Up".

15. How would you create a funnel chart in Power BI?

- Create a table with the stage column and the value column.
- In the "Visualizations" pane, select the "Funnel chart" icon.
- Drag the stage column to the "Legend" field well and the value column to the "Values" field well.
- Optionally, adjust the formatting of the chart to show labels or percentages.

16. Can you explain what a ribbon chart is in Power BI and when it is useful?

- A ribbon chart shows the flow or progression of data over time or other categories, with each "ribbon" representing a category or a series.
- Ribbon charts are useful for comparing the relative size or changes of different categories over time or other dimensions, especially when the data has a cyclical or repeating pattern.

17. How would you create a ribbon chart in Power BI?

- Create a table with the category column, the value column(s), and the time or other dimension column.
- In the "Visualizations" pane, select the "Ribbon chart" icon.
- Drag the category column to the "Legend" field well, the value column(s) to the "Values" field well, and the time or other dimension column to the "Axis" field well.

18. Can you explain the difference between a map and a filled map in Power BI?

- A map in Power BI shows the geographic distribution or location of data points, with each point representing a location or region.
- A filled map is similar to a map, but with the addition of color shading to show the intensity or density of data within each location or region.

19. How would you create a map in Power BI?

- Create a table with the location column and the value column(s).
- In the "Visualizations" pane, select the "Map" icon.
- Drag the location column to the "Location" field well and the value column(s) to the "Size" or "Color saturation" field well.

20. How would you create a filled map in Power BI?

- Create a table with the location column and the value column(s).
- In the "Visualizations" pane, select the "Filled map" icon.
- Drag the location column to the "Location" field well and the value column(s) to the "Color saturation" field well.
- Optionally, adjust the formatting of the map to show a legend or to change the color scheme.

21. Can you explain what a table visual is in Power BI and when it is useful?

- A table visual in Power BI shows a list of data records in a tabular format, with each row representing a record and each column representing a field or a measure.
- Table visuals are useful for displaying detailed data records and allowing users to filter, sort, or search the data easily.

22. How would you create a table visual in Power BI?

- Create a table or a query in the "Fields" pane.
- In the "Visualizations" pane, select the "Table" icon.
- Drag the fields to the "Values" field well and the "Column headers" or "Row headers" field wells to organize the data.

23. Can you explain what a matrix visual is in Power BI and when it is useful?

- A matrix visual in Power BI shows a summarized or aggregated view of data records in a tabular format, with rows and columns representing different categories or dimensions and cells representing the intersection of those categories.
- Matrix visuals are useful for analyzing hierarchical or multidimensional data and allowing users to drill down or expand the data easily.

24. How would you create a matrix visual in Power BI?

- Create a table or a query in the "Fields" pane.
- In the "Visualizations" pane, select the "Matrix" icon.
- Drag the fields to the "Values" field well, the "Columns" or "Rows" field wells, and the "Column headers" or "Row headers" field wells to organize the data.

25. How would you add a drill-down feature to a matrix visual in Power BI?

- Add a hierarchy to the "Columns" or "Rows" field well by selecting the field and then clicking on the "New Hierarchy" button in the "Modeling" tab.
- Click on a cell in the matrix to drill down into the next level of the hierarchy.
- To drill back up, click on the "Back" button in the upper left corner of the matrix or right-click on the matrix and select "Drill Up".

26. Can you explain what a line chart is in Power BI and when it is useful?

- A line chart in Power BI shows the trend or progression of data over time or other categories, with each point representing a value and each line connecting the points.
- Line charts are useful for analyzing the change or growth of a single metric or a few related metrics over time or other dimensions.

27. How would you create a line chart in Power BI?

- Create a table with the time or other dimension column and the value column(s).
- In the "Visualizations" pane, select the "Line chart" icon.
- Drag the time or other dimension column to the "Axis" field well and the value column(s) to the "Values" field well.

28. Can you explain what an area chart is in Power BI and when it is useful?

- An area chart in Power BI shows the trend or progression of data over time or other categories, with each point representing a value and the area between the points and the axis representing the magnitude of the values.
- Area charts are useful for comparing the relative size or changes of different metrics over time or other dimensions, especially when the data has a cumulative or additive pattern.

29. How would you create an area chart in Power BI?

- Create a table with the time or other dimension column and the value column(s).
- In the "Visualizations" pane, select the "Area chart" icon.
- Drag the time or other dimension column to the "Axis" field well and the value column(s) to the "Values" field well.

30. Can you explain what a line and clustered column chart is in Power BI and when it is useful?

- A line and clustered column chart in Power BI shows the combination of a line chart and a clustered column chart, with the line representing one metric and the columns representing other metrics, grouped by a common category or dimension.

- Line and clustered column charts are useful for comparing the trend or progression of a main metric with the variation or distribution of other metrics over a common category or dimension.

31. How would you create a line and clustered column chart in Power BI?

- Create a table with the category or dimension column, the time or other dimension column, and the value column(s).
- In the "Visualizations" pane, select the "Line and clustered column chart" icon.
- Drag the category or dimension column to the "Axis" field well, the time or other dimension column to the "Shared axis" field well, the main value column to the "Line values" field well, and the other value columns to the "Column values" field well.

32. Can you explain what a line and stacked column chart is in Power BI and when it is useful?

- A line and stacked column chart in Power BI shows the combination of a line chart and a stacked column chart, with the line representing one metric and the columns representing other metrics, stacked on top of each other and grouped by a common category or dimension.
- Line and stacked column charts are useful for comparing the trend or progression of a main metric with the composition or proportion of other metrics over a common category or dimension.

33. How would you create a line and stacked column chart in Power BI?

- Create a table with the category or dimension column, the time or other dimension column, and the value column(s).
- In the "Visualizations" pane, select the "Line and stacked column chart" icon.
- Drag the category or dimension column to the "Axis" field well, the time or other dimension column to the "Shared