The Common Questions and Answers for

Power BI

Microsoft released Power BI, a business intelligence tool, in 2013. It integrates various Excel add-ons to create a unique and entirely autonomous business intelligence solution. In recent years, there has been a rapid increase in the demand for people who are knowledgeable about this tool. This article on Power BI Interview Questions is intended to help you prepare for Power BI-related job jobs in prominent corporations that pay well.

This lesson is entirely focused on assisting aspiring Power BI experts in grasping the principles of Power BI and cracking real-time interviews. The tutorial is divided into three sections, which are shown below.

- Beginner Level Power BI Interview Questions
- Intermediate Level Power BI Interview Questions
- Advanced Level Power BI Interview Questions

Beginner Level Power BI Interview Questions

1. What is Power BI
Power BI is a data-sharing platform that is hosted in the cloud. You can share your findings with your colleagues once you've created reports with Power Query, Power Pivot, and Power View. This is where Power BI comes into play. You may upload Excel workbooks to the cloud and share them with a select set of coworkers using Power BI, which is a feature of SharePoint online. Not only that, but your colleagues can use filters and slicers to emphasize data in your reports. They're finished by Power BI, a straightforward way to share your Microsoft cloud-based analysis and insights.

Power BI features allow you:
- Collaborate with your colleagues on presentations and questions.
- Data sources on-site or in the cloud can be used to update your Excel file.
- Multiple devices should be used to display the output. PCs, iPads, and HTML are all included.
- Mobile devices that are 5-enabled and run the Power BI app
- Use natural language processing to query your data (or Q&A, as it is known).

2. What is self-service business intelligence?
Self-Service Business Intelligence (SSBI)
- SSBI is a data analytics approach that allows business users to filter, segment, and analyze their data without needing in-depth statistical analysis or business intelligence training (BI).
- End-users may now more easily access their data and develop multiple graphics to gain better business insights, thanks to SSBI.
- Anyone with a rudimentary understanding of data may develop reports that can be used to construct intuitive and shared dashboards.

3. Difference between Power Query and Power Pivot

Power Query
- The purpose of Power Query is to analyze data.
- Power Query is an ETL (Extract, Transform, and Load) service tool.

Power Pivot
- It's all about getting and transforming data with Power Pivot.
- Power Pivot is a data modelling component that runs in memory.

4. What is Power Query?

Microsoft's Power Query is a business intelligence tool for Excel. Power Query allows you to import data from a variety of sources and clean, modify, and restructure it to meet your specific needs. You can construct your query once and then run it with a simple refresh in Power Query.

5. What is Power Pivot?

Since 2010, Microsoft has offered Power Pivot as an Excel add-on. Power Pivot was created to enhance Microsoft Excel's analytical skills and services.

6. What is Power BI Desktop?

Power BI Desktop is a free desktop tool that you may download and install on your computer. By delivering advanced data exploration, shape, modelling, and creating reports with highly dynamic visuals, Power BI Desktop works in tandem with the Power BI service. You can save your work to a file or share your data and results with others by publishing them directly to your Power BI site.

7. What is DAX?

Data Analysis Expressions (DAX) is an acronym for Data Analysis Expressions. It's a set of functions, operators, and constants that are used to calculate and return values in formulas. In other words, it enables you to generate new information from existing data.

8. What are Filters in Power BI?

"Filter" is a self-explanatory term. Filters are mathematical and logical conditions applied to data to remove unnecessary information from rows and columns. The following are some of the filters that Power BI has to offer:
- Drillthrough filters
- Drillthrough filters
- Drill-down filters
- Cross Drill filters
- Manual filters
- Auto filters
- Include/Exclude filters
- URL filters–transient
- Pass-Through filters

We already know that Power BI visual offers an interactivity feature that makes filtering a report a snap. Visual interactions are beneficial, but they have several drawbacks:

- The filter isn't included in the report. You can start playing with visual filters whenever you open a report, but there is no method to save the filter in the saved report.
- The filter is displayed at all times. You may wish to apply a filter to the full report but not have any visual clue that it is being done.

9. What is GetData in Power BI?
On Power BI, the Get Data icon is used to import data from a source.

10. What are Custom Visuals in Power BI?
Custom Visuals are created in the same way as standard Power BI visuals. The main difference is that it uses a bespoke SDK to create custom visuals. In Power BI, unique graphics are created using languages like JQuery and JavaScript.

11. List some of the disadvantages and limits of utilizing Power BI.
- Power BI won't accept files larger than 1 GB, and it won't combine imported data with data accessed through real-time connections.
- Just a handful of data sources allow Power BI reports and dashboards to be connected in real-time.
- Users who are logged in with the same email address are the only ones who have access to the dashboards and reports.
- Dashboard does not take or pass parameters for users, accounts, or other entities.

12. List some of the advantages of Power BI
- It aids in the creation of interactive data visualization in data centres.
- It connects Excel queries and dashboards for quick analysis and lets users transform data into visualizations and share them with anybody.
- It gives quick and precise answers.
- It allows users to run reporting queries using simple English terms.

13. Differences in data modeling between Power BI Desktop and Power Pivot for Excel
Only single directional relationships (one to many), computed columns, and one import mode are supported by Power Pivot for Excel. Bidirectional cross-filtering connections, security, calculated tables, and numerous import choices are all supported by Power BI Desktop.

14. What data Sources can Power BI connect to?
- **Files**: Data can be imported from Excel (.xlsx,.xlxm), Power BI Desktop (.pbix), and Comma Separated Values (.csv) files (.csv).
- **Content Pack**: It's a set of related papers or files that are kept together. Power BI has two sorts of content packs: those developed and shared by other people in your business and those created and shared by service providers like Google Analytics, Marketo, or Salesforce.
- **Connectors** to databases and other datasets, such as Azure SQL, Database and SQL, Server Analysis Services tabular data, and so on.

The three main connectivity modes:

SQL Server Import
- The default and most popular connectivity type in Power BI is a SQL Server Import. It enables you to access all of the Power BI Desktop's features.

Direct Query
- When connecting to specific data sources, the Direct Query connection type is only accessible. Power BI will only keep the metadata of the underlying data in this connection type, not the actual data.

Live Connection
- The data is not stored in the Power BI model when using this connectivity type. When you use a Live Connection to engage with a report, it will immediately query the Analysis Services model. SQL Server Analysis Services (Tabular models and Multidimensional Cubes), Azure Analysis Services (Tabular Models), and Power BI Datasets hosted in the Power BI Service are the only data sources that support the live connection approach.

15. What are the various types of data that we can use to update our published reports?
- **Package refresh:** This synchronizes your Power BI Desktop or Excel file with OneDrive or SharePoint Online. However, data from the original data source is not retrieved. Power BI will only update the dataset with the contents of the OneDrive or SharePoint Online file.
- **Model/data refresh:** It refers to updating the dataset with data from the original data source within the Power BI service. This can be accomplished using either scheduled refresh or refresh immediately. This necessitates the use of an on-premises data source gateway.
- **Tile refresh:** When data changes, tile refresh updates the cache for tile visuals on the dashboard. This occurs every fifteen minutes or so. You may also force a tile refresh by selecting Refresh dashboard tiles from the ellipsis (...) in the upper right corner of a dashboard.
- **Visual container refresh:** When the data in a report changes, this refreshes the visible container and updates the cached report visuals.

16. What is a dashboard in Power BI?
A dashboard is a single-layer display sheet that contains several reports and graphics. The following are the major elements of the Power BI dashboard:
- You can drill down into the page, bookmarks, and selection pane and create different tiles and incorporate URLs.
- A dashboard can also assist you in adjusting the report layout for mobile viewing.

17. How relationships are defined in Power BI Desktop?
- **Manually** - Primary and foreign keys are used to define relationships between tables.
- **Automatic** - When this option is turned on, Power BI automatically finds and establishes associations between tables.

18. What are many-to-many relationships, and how might Power BI help with them?

A bridge or junction table that reflects the combinations of two dimensions is used in many to many relationships (e.g. doctors and patients). Either all potential combinations or those that have already happened.

- PBIX supports bi-directional crossfiltering relationships.
- In Power Pivot for Excel, the CROSSFILTER function can be used.
- The filter context can be checked and optionally modified using DAX per metric.

19. Why might you have a table in the model without any relationships to other tables?

There are two main reasons why we might have tables in our model without relations:

To present the user with parameter values to be disclosed and selected in slicers, a disconnected table could be utilized (e.g. growth assumption.)

- This option might be retrieved and used with additional calculations/measures using DAX metrics.

In the user interface, a disconnected table can also be used as a placeholder for metrics.

- It may or may not have any rows of data, and its columns may or may not be visible, but all metrics are visible.

20. What is the CALCULATE function in DAX?

In a changed filter context, the CALCULATE function calculates the total of the Sales table's Sales Amount column. It's also the only way for users to change the context of a measure or table's filter.

Intermediate Level Power BI Interview Questions

21. In Power BI, where is data stored?

When it comes to storing data, Power BI is frequently supported by the cloud. Power BI can use a desktop service. The data is stored on Microsoft Azure, which is the principal cloud service.

- Azure SQL Database
- Azure Blob Storage

22. What are the different views that Power BI Desktop has to offer?

- **Report View:** Users can add visualizations and additional report pages to this view, then publish them on the site.
- **Data View:** Query Editor tools can be used to shape data in this view.
- **Model View:** Users can handle relationships between complicated datasets in the Model View.

23. What's the building blocks in Microsoft Power BI?

- **Visualization:** The practice of creating charts and graphs to express insights on corporate data is known as visualization.

- **Datasets:** A dataset is a collection of data, such as a column of sales figures, used to build a display. Built-in data plugins allow you to integrate and filter data from a variety of sources.
- **Reports:** The report stage is the final stage. On one or more pages, there is a collection of visualizations. Charts and maps, for example, are integrated to create a final report.
- **Dashboards:** To view your finished dashboard, you may use a Power BI dashboard to share a single visualization with colleagues and clients.
- **Tiles:** A tile is a single visualization on your final dashboard or one of your final report's charts.

24. What are the essential tools in the Power BI toolkit?
- Power Query
- Power Pivot
- Power View
- Power Map
- Power Q&A

25. What are content packs in Power BI?
As part of the Power BI experience, content packs for services are pre-built solutions for popular services. A Power BI user who is a subscriber to a supported service can instantly connect to their account and view their data through pre-built live dashboards and interactive reports. Salesforce.com, Marketo, Adobe Analytics, Azure Mobile Engagement, CircuitID, comScore Digital Analytix, Quickbooks Online, SQL Sentry, and tyGraph have all received content packs from Microsoft.

Users, BI specialists, and system integrators can utilize organizational content packs to create their content packs to share purpose-built dashboards, reports, and datasets across their business.

26. What are the fundamental concepts of DAX?
- **Syntax:** This is how the formula—that is, the pieces that make it up—are written. SUM is one of the functions included in the Syntax (used when you want to add figures). You'll get an error message if the syntax is incorrect.
- **Functions:** These are formulae that, like Excel's functions, employ certain values (also known as arguments) precisely to accomplish a calculation. Date/time, time intelligence, information, logical, mathematical, statistical, text, parent/child, and other functions are among the types of functions.
- **Context:** Row context and filter context are the two categories. When a formula has a function that applies filters to identify a single row in a table, row context comes into play. The filter context is used when one or more filters are used in a calculation to determine a result or value.

27. Why would you want to utilize a custom visual file, and how would you use it?

If the prepackaged files don't meet your demands, you'll create a bespoke visual file. Developers generate custom visual files, which you may import and utilize in the same manner that prepackaged files are used.

28. Is it possible to combine SQL and Power Query/Query Editor?

Yes, for further processing/logic, a SQL statement can be defined as a Power Query/M function source. This is a good practice to ensure that an efficient database query is provided to the source, and the client machine and M function do not have to perform additional processing and complexity.

29. What are query parameters and Power BI templates?

Users of a local Power BI Desktop report can be prompted to specify the values they're interested in using query parameters.
- The query and calculations can then use parameter selection.
- Templates can be created from PBIX files (PBIT files).
- Except for the data, templates contain everything in the PBIX.

Smaller template files can be shared/emailed, and the quantity of data loaded into local PBIX files can be limited, reducing processing time and improving the user experience.

30. Explain responsive slicers in Power BI.

A developer can scale a responsive slicer to various widths and shapes on a Power BI final report page, and the data collected in the container will be reorganized to find a match. If a visual report grows too small to be effective, an icon representing the visual replaces it on the report page, conserving space.

31. In Power BI, what is query folding?

When steps defined in the Query Editor are converted into SQL and executed by the source database instead of your device, this is known as query folding. It aids scalability and processing efficiency.

32. What is "M Language"?

M is a programming language that is used in Power Query and is similar to other programming languages in that it is functional, case-sensitive, and simple to use.

Advanced Level Power BI Interview Questions

33. What are the main distinctions between Power BI's visual, page, and report-level filters?

Within a single visualization, visual-level filters are used to filter data. Page-level filters are used to filter a report's full-page, and individual pages can have different filters.

Filters at the report level are used to filter all of the report's visuals and pages.

34. What is the operation of the Schedule Refresh feature?

Users can schedule an automated refresh of their data on a daily or weekly basis. Unless they have Power BI Pro, users can only schedule one refresh per day. The pull-down menu options in the Schedule Refresh section are used to select a frequency, time zone, and time of day.

35. What data is required to make a map in Power Map?

Geographic visualizations can be displayed with Power Map. As a result, some location information is required, such as city, state, nation, or latitude and longitude.

36. Power BI formats

- **Power BI Desktop:** Open-Source version for Desktop users
- **Power BI Services:** For Online Services
- **Power BI Mobile Application:** Compatible with mobile devices

37. What are the various stages of Power BI's operation?

- **Data Integration:** Establishing a successful connection with the data source and integrating it to extract data for processing is the first stage in any business intelligence project.
- **Data Processing:** Data processing is the next stage in business intelligence. Most of the time, the raw data contains unexpectedly erroneous data, or a few data columns may be blank. In the data processing stage, the BI tool must interpret missing values and inaccurate data for processing.
- **Data Presentation:** The final step in business intelligence is to analyze the data obtained from the source and show the results in the form of visually appealing graphs and interactive dashboards.

38. Professionals that use Power BI the most

- **Business Analyst:** A business analyst is a specialist who analyses business data and visualizes the results in the form of graphs and dashboards.
- **Business Developers:** Firm developers are simply software developers who are employed to develop custom apps and dashboards to aid in the smooth operation of a business.
- **Business Owners:** Power BI is used by business owners, decision-makers, and organizations to analyze insights and comprehend predictions in order to make a business decision.

39. Applications of Power BI

- Business Analysis
- Data Analysis
- Database Administration
- IT Professional
- Data Science

40. What are the most frequently applied DAX functions?
- SUM, MIN, MAX, AVG, COUNTROWS, DISTINCTCOUNT
- IF, AND, OR, SWITCH
- ISBLANK, ISFILTERED, ISCROSSFILTERED
- VALUES, ALL, FILTER, CALCULATE,
- UNION, INTERSECT, EXCEPT, NATURALINNERJOIN, NATURALLEFTEROUTERJOIN,
- SUMMARIZECOLUMNS, ISEMPTY,
- VAR (Variables)
- GEOMEAN, MEDIAN, DATEDIFF

41. What are some of the advantages of DAX variables?
- By declaring and evaluating a variable, you can reuse it in a DAX expression numerous times without having to query the source database again.
- Variables can make DAX formulations more logical and intuitive to understand.
- Variables can only be shared between measurements or queries, and they can't be defined at the model level.

42. What are the differences between a Power BI Dataset, a Report, and a Dashboard?
Dataset: The data source for reports and visuals/tiles.
- An Analysis Services Server data model or model (local to PBIX or XLSX).
- Data might be stored in the model (imported) or connected to a source via a Direct Query connection.

Report: One or more report pages are contained in a single Power BI Desktop file (PBIX).
- Designed to provide a deep, interactive analysis experience for a specific dataset (filters, formatting).
- At least one dataset is linked to each Report.
- There are one or more graphics or tiles on each page.

Dashboard: A collection of visuals or tiles from various reports, as well as, if desired, a pinned.
- Designed to bring together primary images and metrics from a variety of datasets.

43. What are some of the variations in report writing capabilities between working with a data model local to the Power BI Desktop file and using a live or direct query connection, such as to an Analysis Services model?
The author has complete control over the queries, modeling/relationships, metadata, and metrics when using a data model that is native to the PBIX file (or Power Pivot workbook).

The user cannot add new metrics, import new data, change the formatting of the metrics, or do anything else with a live connection to an Analysis Services database (cube) - they can only use the visualization, analytics, and formatting offered on the report canvas.

The creator of a Power BI to SQL Server direct query model, for example, has access to the same features (and limits) as SSAS Direct Query mode.

- Only one data source (one database on one server) is allowed, certain DAX functions aren't optimized, and Query Editor functions that can't be turned into SQL queries aren't available.

44. What is the relationship between SSRS and Power BI?
- Charts and other SSRS Report elements can be pinned to Power BI dashboards.
- The SSRS report can be accessed by clicking the tile in Power BI dashboards.
- To keep the dashboard tile updated, a subscription is created.
- Power BI reports will be able to be uploaded to the SSRS site in the near future.

If you want to learn Power BI and pursue a career in data visualization or business intelligence, either virtual instructor-led training (VILT) or instructor-led training (ILT), please check out our website. This course will help you grasp Power BI by giving you a thorough understanding of the software.

The list of related training Power BI that we are offering:
- An Analytical Journey with Microsoft Power BI
- Conquering DAX 2019
- Microsoft Power Platform End-To-End Discovery Workshop
- Intensive Data Modeling For Microsoft Power BI Creators
- Microsoft Power BI Advanced Dashboard Design Concepts And Strategies
- Microsoft Power Apps And Power Automate Fundamental Track
- Microsoft Power BI Data Preparation And Visualization Workshop

Do you have a question for us? You may email us at enquiry@gemrain.net, and we'll get back to you as soon as possible.