1. What are the essential applications of the Power BI? ↑

Power BI is mainly used by:

- PMO - Project Management Office
- Business & Data Analyst
- Developer & Database Administrator
- IT Team, IT Professional
- Consumer for End User Report
- Data Scientist

2. What are the different types of filters in Power BI Reports? ↑

Power BI provides variety of option to filter report, data and visualization.

The following are the list of Filter types.

- **Visual-level Filters:** These filters work on only an individual visualization, reducing the amount of data that the visualization can see. Moreover, visual-level filters can filter both data and calculations.
- **Page-level Filters**: These filters work at the report-page level. Different pages in the same report can have different page-level filters.
- **Report-level Filters**: There filters work on the entire report, filtering all pages and visualizations included in the report.

We know that Power BI visual have interactions feature, which makes filtering a report a breeze. Visual interactions are useful, but they come with some limitations:

- The filter is not saved as part of the report. Whenever you open a report, you can begin to play with visual filters but there is no way to store the filter in the saved report.

- The filter is always visible. Sometimes you want a filter for the entire report, but you do not want any visual indication of the filter being applied.

3. Name out three important Power BI tools? ↑

Three important power BI tool are:

- Power BI Desktop—It is used for desktop computers
- Power BI service—It is an online software as a service tool
- Mobile Power BI apps—They are used for iOS and Android devices.

4. What is the general business need for Power BI? ↑

You can take the data and create robust reporting very easily. This assists in attracting new clients toward servicing and monitoring the customers already present. It also becomes possible to track information and set goals. Therefore, completely building an extraction, transformation and loading solution ultimately assists the management so they are able to make better decisions in the process. The return on investment when it comes to Power BI is also very high. Lastly, it makes some of the unwanted data into information, which can be utilized progressively.

5. What are the important components of the Power BI toolkit, and what do they do? ↑

- Power Query: It allows you to discover, access, and consolidate information from different sources.
- Power Pivot: A modeling tool.
- Power View: It is a presentation tool for creating charts, tables, and more
- Power Map: Helps you to create geospatial representations of your data.

- Power Q&A: Allows you to use natural language to get answers to questions.

6. What is Power BI Desktop? ↑
Power BI Desktop is a free desktop application that can be installed right on your own computer. Power BI Desktop works cohesively with the Power BI service by providing advanced data exploration, shaping, modeling, and creating report with highly interactive visualizations. You can save your work to a file or publish your data and reports right to your Power BI site to share with others.

7. What are the drawbacks of using Power BI? ↑
Here, are the main drawbacks of Power BI:

- Dashboards and reports only shared with users having identical email domains.
- Power BI does not mix imported data, which is accessed from real-time connections.
- Power BI can't accept file size larger than 1 GB.
- Dashboard does not accept or pass user, account, or other entity parameters.

8. What is content packs? ↑
These are pre-built solutions build for popular services as a major part of the Power BI experience.

9. Why use selection pane in Power BI? ↑
Selection Pane helps you to take control over visuals which require to be displayed and which should not be displayed. It allows you to combine multiple visual pages in the group and is also used in bookmarking.

10. What is Power BI? ↑

Power BI is a cloud-based data sharing environment. Once you have developed reports using Power Query, Power Pivot and Power View, you can share your insights with your colleagues. This is where Power BI enters the equation. Power BI, which technically is an aspect of SharePoint online, lets you load Excel workbooks into the cloud and share them with a chosen group of co-workers. Not only that, but your colleagues can interact with your reports to apply filters and slicers to highlight data. They are completed by Power BI, a simple way of sharing your analysis and insights from the Microsoft cloud.

Power BI features allow you to:

- Share presentations and queries with your colleagues.
- Update your Excel file from data sources that can be on site or in the cloud.
- Display the output on multiple devices. This includes PCs, tablets, and HTML 5-enabled mobile devices that use the Power BI app.
- Query your data using natural language processing (or Q&A, as it is known).

11. What are the different views in Power BI Desktop? ↑

There are three different views in Power BI, each of which serves a different purpose.

Report View: Users can add visualizations and additional report pages and publish the same on the portal from here. Data View: Data shaping can be performed through Query Editor tools. Relationship View: Users can manage relationships between datasets in this view.

12. Why use Power BI? ↑

Here are four primary reasons for using Power BI tool:

- Pre-built dashboards and reports for SaaS Solutions.
- Power BI allows real-time dashboard updates.
- Offers Secure and reliable connection to your data sources in the cloud or on-premises
- Power BI offers fast deployment, hybrid configuration, and secure environment.
- Helps you in data exploration using natural language query

13. What is self-service business intelligence? ↑

- SSBI is an approach to data analytics that enables business users to filter, segment, and, analyze their data, without the in-depth technical knowledge in statistical analysis, business intelligence (BI).
- SSBI has made it easier for end users to access their data and create various visuals to get better business insights.
- Anybody who has a basic understanding of the data can create reports to build intuitive and shareable dashboards.

14. What data sources can Power BI connect to? ↑

The list of data sources for Power BI is extensive, but it can be grouped into the following:

- **Files**: Data can be imported from Excel (.xlsx, xlxm), Power BI Desktop files (.pbix) and Comma Separated Value (.csv).
- **Content Packs**: It is a collection of related documents or files that are stored as a group. In Power BI, there are two types of content packs, firstly those from services providers like Google Analytics, Marketo or Salesforce and secondly those created and shared by other users in your organization.

- **Connectors** to databases and other datasets such as Azure SQL, Databaseand SQL, Server Analysis Services tabular data, etc.

15. Where is data stored in Power BI? ↑

When data is ingested into Power BI, it is basically stored in Fact and Dimension tables.

Fact tables: The central table in a star schema of a data warehouse, a fact table stores quantitative information for analysis and is not normalized in most cases. Dimension tables: It is just another table in the star schema that is used to store attributes and dimensions that describe objects stored in a fact table.

16. What is Power BI embedded? ↑

PowerBI embedded is an Azure-based cloud Service which enabled Web developers to create and integrate PowerBI reports. Users/Developers can create their reports using PowerBI desktop, without the need to write any code. Then, the PowerBI desktop report can be published to a PowerBI embedded workspace and consumed by end users

17. What are the important features of Power BI dashboard? ↑

It allows you to drill through the page, bookmarks, and selection pane. It allows you to create various tiles like web content, images, textbox, and integrate URLs. Allows you to set report layout to mobile view.

18. What is Bookmark? ↑

Bookmark in Power BI helps you to capture the configured view of a report page in a specific time. This includes filter and state of visual which can use a short cut to come back to the report that you can add as a bookmark.

19. What is BI? ↑

Business intelligence is a technology-driven method. It helps you to analyze data and to provide actionable information which helps corporate executives, business managers, and other users to take decisive business decisions.

20. What are the parts of Microsoft self-service business intelligence solution? ↑

Microsoft has two parts for Self-Service BI:

- **Excel BI Toolkit**: It allows users to create an interactive report by importing data from different sources and model data according to report requirement.
- **Power BI**: It is the online solution that enables you to share the interactive reports and queries that you have created using the Excel BI Toolkit.

21. What is the purpose of the 'Get Data' icon in Power BI? ↑

When users click on the Get Data icon in Power BI, a drop-down menu appears and it shows all data sources from which data can be ingested. Data can actually be directly ingested from any source including files in Excel, CSV, XML, JSON, PDF, and SharePoint formats and databases such as SQL, Access, SQL Server Analysis Services, Oracle, IBM, MySQL, and much more. Also, Power BI datasets and Power BI data flows are compatible. Data can also be taken in from Azure and other online sources.

22. What data sources can Power BI connect to? ↑

The following data sources that support DirectQuery in Power BI are as follows:

- Amazon Redshift
- Azure Data Explorer

- AtScale (Beta)
- Azure SQL Database
- Azure HDInsight Spark
- Google BigQuery
- Azure SQL Data Warehouse
- HDInsight Interactive Query

23. What are Building Blocks in Power BI? ↑

The following are the Building Blocks (or) key components of Power BI:

- **Visualizations**: Visualization is a visual representation of data.Example: Pie Chart, Line Graph, Side by Side Bar Charts, Graphical Presentation of the source data on top of Geographical Map, Tree Map, etc.
- **Datasets**: Dataset is a collection of data that Power BI uses to create its visualizations.Example: Excel sheets, Oracle or SQL server tables.
- **Reports:** Report is a collection of visualizations that appear together on one or more pages.Example: Sales by Country, State, City Report, Logistic Performance report, Profit by Products report etc.
- **Dashboards**: Dashboard is single layer presentation of multiple visualizations, i.e we can integrate one or more visualizations into one page layer.Example: Sales dashboard can have pie charts, geographical maps and bar charts.
- **Tiles**: Tile is a single visualization in a report or on a dashboard.Example: Pie Chart in Dashboard or Report.

DAX

1. What does DATEDIFF function do? ↑

This function gives a difference between 2 dates based on the specified

Date part.

2. What are the data types of Dax? ↑

Data types of Dax are:

- Numeric
- Boolean
- DateTime
- String
- Decimal

3. What is the DATEPART function? ↑
It returns date function as an integer. However, DATENAME function does the same thing, except it returns the name of the part of the date.

4. State the difference between Count and CounD function. ↑
Count function returns to count, excluding NULL values whereas Countd returns distinct values which exclude NULL values.

5. What is the use of statewith function? ↑
This function returns the logical answers TRUE if the sub-string is the starting string for the superstring. If it is not, it will return false.

6. What is the use of INDEX Function in Power BI? ↑
INDEX function helps you to retrieve the index of the respective row.

7. What is DAX function? ↑
It is a formula expression language called (DAX) that can be used with various visualization tools like Power BI. It is also known as a functional language, where the full code is kept inside a function.

8. Explain DATEDD function in Power BI. ↑
DATEDD function helps you to convert any input to a date format. This input can number, string, or a data type input.

9. What is the main difference between LTRIM and RTRIM? ↑
LTRIM function helps you to remove the white space from the LEFT of the string. RTRIM helps you to remove it from the right the last index.

10. What is the common table function for grouping data? ↑
SUMMARIZE()

- Main groupby function in SSAS.
- Recommended practice is to specify table and group by columns but not metrics.You can use ADDCOLUMNS function.

SUMMARIZECOLUMNS

- New group by function for SSAS and Power BI Desktop; more efficient.
- Specify group by columns, table, and expressions.

11. Write a DAX for dynamic security? ↑
We can implement through the following DAX

USERNAME(), USERPRICIPALNAME()

12. What is the calulated column? ↑
It is a calculating expression of DAX which allows calculation on data stored in a new column.

13. What is DAX? ↑
To do basic calculation and data analysis on data in power pivot, we use Data Analysis Expression (DAX). It is formula language used to compute calculated column and calculated field.

- DAX works on column values.
- DAX can not modify or insert data.
- We can create calculated column and measures with DAX but we can not calculate rows using DAX.

Sample DAX formula syntax:

For the measure named Total Sales, calculate (=) the SUM of values in the [SalesAmount] column in the Sales table.

14. State the major differences between MAX and MAXA functions ↑
If you want to calculate numeric values, then use MAX. However, if it is for non numeric values, then you should use MAXA.

15. What is special or unique about the CALCULATE and CALCULATETABLE functions? ↑
These are the only functions that allow you modify filter context of measures or tables.

- Add to existing filter context of queries.
- Override filter context from queries.
- Remove existing filter context from queries.

Limitations:

- Filter parameters can only operate on a single column at a time.
- Filter parameters cannot reference a metric.

16. Difference between Sum & Sumx? ↑
Both SUM and SUMX are Aggreagate Functions where:

SUM works on a Single Column vs SUMX can take the Table as Input SUMX has row-context where as SUM doesn't have SUMX is an iterative Function where as SUM is not.

17. What is CORR function? When we use it? ↑

CORR is a correlation function. It gives a correlation between two variables. It mostly ranges from -1 to 1.

18. What are the different Excel BI add-in? ↑
Below are the most important BI add-in to Excel:

- **Power Query:** It helps in finding, editing and loading external data.
- **Power Pivot:** Its mainly used **for data modeling and analysis.
- **Power View:** It is used to design visual and interactively reports.
- **Power Map:** It helps to display insights on 3D Map.

19. How is the FILTER function used? ↑
The FILTER function returns a table with a filter condition applied for each of its source table rows. The FILTER function is rarely used in isolation, it's generally used as a parameter to other functions such as CALCULATE.

- FILTER is an iterator and thus can negatively impact performance over large source tables.
- Complex filtering logic can be applied such as referencing a measure in a filter expression. FILTER(MyTable,[SalesMetric] > 500)

20. What does STARTSWITH function do? ↑
STARTSWITH function returns the logical answers in a way, TRUE if the sub-string is the starting string for super-string. FALSE if not so.

21. How can you apply percentile function in Power BI? ↑
PERCENTILE function allows you to returns the data value of the specific percentile number.

22. How can you differ COVAR and COVARP? ↑

The main difference between the two is that: COVAR directly gives the same co-variance, whereas COVARP is the population covariance.

23. How to achieve Dynamic Top N Customers? ↑

Dynamic Top N will be achieved with RANKX Function and What-if Parameter.

24. State the main difference between District() and Values() in DAX? ↑

The only difference between two functions is that with District help you to calculate the null values.

25. In DAX we can do year to date and parallel period and such, which is great for financial reporting. What are some prerequisites for doing time intelligence? ↑

The main prerequisite is you need a date table, more specifically, a continuous date table with a whole range of dates (no breaks in the dates). That way you can calculate over that continuous line. You can build that date table using the M language in the Power Query Editor, use DAX or if you already have one in your model or data source you can bring it into Power BI.

The second element you need is to define the relationship with the date table and the other appropriate tables.

Remember all dates should be present without exception and you need a proper relationship for time intelligence to function the way you intend it to.

26. What is the difference between VAR and VARP? ↑

VAR is the variance formula for population(n). VARP is the function of variance for sample(n-1).

27. What is the SIGN function? ↑

Sign function returns the direction of the values. If it returns 1, if positive then 1, if 0 then 0.

28. What is IFNULL function? ↑

If the value is not NULL iFNULL function result is the first expression, if it is not, then it will return the second expression.

29. What are the most common DAX Functions used? ↑

Below are some of the most commonly used DAX function:

- 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

30. What is RUNNING_AVG function do? ↑

RUNNING_AVG function gives the average value to all the cells/pane/region processed for. It works to give the average by making all those inclusive values accordingly.

31. What does DATENAME function do? ↑

DATENAME function shows the name of the specific part of the date that is given.

32. What is the difference between Calculated Columns, Calculated Tables, and Measures? ↑

Calculated Columns

- Added to tables by applying DAX formula on the existing data.
- DAX formula defines values in new columns rather than querying data sources.
- Useful when data sources do not contain data presented in the desired format.

Calculated Tables

- Created using DAX formula to define values.
- Created in both Report and Data views.
- Work well for intermediate calculations and the data that users want to be stored in the model.

Measures

- Use other DAX functions to create complex calculations.
- Used for highlighting running totals, comparing sales, sales forecasting, and other purposes.
- Created in both Report and Data views.

33. Suppose there are two tables and I have to put them one below the other. Can we do in Power bi? If yes, then what is the query used? ↑
We need to use Append Queries option in Power Query Editor. If you want to append the 2 tables in Power BI Desktop we need to use DAX Function UNION by creating a new table by clicking New Table.

34. What is the use of ENDSWITH function? ↑
ENDSWITH function helps you to return the logical result to the given string. In case If the sub-string is available at the end of the sub string, then it returns TRUE.

35. How would you create trailing X month metrics via DAX against a non-standard calendar? ↑

The solution will involve:

- CALCULATE function to control (take over) filter context of measures.
- ALL to remove existing filters on the date dimension.
- FILTER to identify which rows of the date dimension to use.

Alternatively, CONTAINS may be used:

- CALCULATE(FILTER(ALL('DATE'),…….))

36. Describe the Gather function of the Power BI process? ↑

The Gather function in Power BI collects and transforms data. As with the case of Query Editor, the data is gathered using the Gather function from multiple sources and stored in a single location. This facilitates smooth and prompt data analysis.

Following the collection, the data is transformed, which necessarily entails the removal of errors and any inconsistency. The end product of this process is clean data, which is aligned with the rest of the data stores in Power BI.

37. What is the use of MID function? ↑

MID function returns the string character from the specified index position.

38. What are some benefits of using Variables in DAX ? ↑

Below are some of the benefits:

- By declaring and evaluating a variable, the variable can be reused multiple times in a DAX expression, thus avoiding additional queries of the source database.
- Variables can make DAX expressions more intuitive/logical to interpret.
- Variables are only scoped to their measure or query, they cannot be shared among measures, queries or be defined at the model level.

39. In DAX we can do year to date and parallel period and such, which is great for financial reporting. What are some prerequisites for doing time intelligence? ↑

The main prerequisite is you need a date table, more specifically, a continuous date table with a whole range of dates (no breaks in the dates). That way you can calculate over that continuous line. You can build that date table using the M language in the Power Query Editor, use DAX or if you already have one in your model or data source you can bring it into Power BI.

The second element you need is to define the relationship with the date table and the other appropriate tables.

Remember all dates should be present without exception and you need a proper relationship for time intelligence to function the way you intend it to.

40. How to Calculate MTD, WTD, and YTD in Power BI? ↑

We can use DAX Formulas to find MTD, YTD and WTD as given below:

YTD*Sales* = CALCULATE(Sum(Sales[Sales*Product]),YEAR(Sales[CreatedDate])=YEAR(TODAY())) , MTD*Sales* = CALCULATE(sum(Sales[Sales*Product]),MONTH(Sales[CreatedDate])=MONTH(TODAY())), WTD*Sales* =

*CALCULATE(sum(Sales[Sales*Product]),WEEKNUM(Sales[CreatedDate])=
WEEKNUM(TODAY()))*

41. Explain the collect function ↑
Collect function excludes null value. It does aggregate spatial values. You can't transform data to another format.

42. List out benefits of using Variables in DAX. ↑
Here, are benefits of using DAX function:

- By declaring and evaluating a variable, the variable can be reused multiple times in a DAX expression, which helps you to avoid additional queries of the source database.
- Variables can make DAX expressions more useful and logical.
- Variables is only scoped, which should be measure or query which can't be among measures.

43. What is the difference between Values() and Distinct() in DAX? ↑
Both are used to do the same function of calculating values; the only difference is DISTINCT () can calculate null values as well.

Power Pivot
1. What are the filter writes in Power BI? ↑
Filters are applicable in:

- Visualization level
- Page Level
- Report Level

2. What is Power Pivot Data Model? ↑
It is a model that is made up of data types, tables, columns, and table relations. These data tables are typically constructed for holding data for a business entity.

3. What is Power Pivot? ↑

Power Pivot is an add-in for Microsoft Excel 2010 that enables you to import millions of rows of data from multiple data sources into a single Excel workbook. It lets you create relationships between heterogeneous data, create calculated columns and measures using formulas, build PivotTables and PivotCharts. You can then further analyze the data so that you can make timely business decisions without requiring IT assistance.

4. Can we have more than one active relationship between two tables in data model of power pivot? ↑

No, we cannot have more than one active relationship between two tables. However, can have more than one relationship between two tables but there will be only one active relationship and many inactive relationship. The dotted lines are inactive and continuous line are active.

5. What is xVelocity in-memory analytics engine used in Power Pivot? ↑

The main engine behind power pivot is the xVelocity in-memory analytics engine. It can handle large amount of data because it stores data in columnar databases, and in memory analytics which results in faster processing of data as it loads all data to RAM memory.

6. What are some of differences in data modeling between Power BI Desktop and Power Pivot for Excel? ↑

Here are some of the differences:

- Power BI Desktop supports bi-directional cross filtering relationships, security, calculated tables, and Direct Query options.
- Power Pivot for Excel has single direction (one to many) relationships, calculated columns only, and supports import mode only. Security roles cannot be defined in Power Pivot for Excel.

1. What is query folding in Power Query? ↑

Query folding is when steps defined in Power Query/Query Editor are translated into SQL and executed by the source database rather than the client machine. It's important for processing performance and scalability, given limited resources on the client machine.

2. What are query parameters and Power BI templates? ↑

Query parameters can be used to provide users of a local Power BI Desktop report with a prompt, to specify the values they're interested in.

- The parameter selection can then be used by the query and calculations.
- PBIX files can be exported as Templates (PBIT files).
- Templates contain everything in the PBIX except the data itself.

Parameters and templates can make it possible to share/email smaller template files and limit the amount of data loaded into the local PBIX files, improving processing time and experience .

3. What are some common Power Query/Editor Transforms? ↑

Changing Data Types, Filtering Rows, Choosing/Removing Columns, Grouping, Splitting a column into multiple columns, Adding new Columns ,etc.

4. Why do we need Power Query when Power Pivot can import data from mostly used sources? ↑

Power Query is a self-service ETL (Extract, Transform, Load) tool which runs as an Excel add-in. It allows users to pull data from various sources, manipulate said data into a form that suits their needs and load it into Excel. It is most optimum to use Power Query over Power Pivot as it lets

you not only load the data but also manipulate it as per the users needs while loading.

5. What are the data destinations for Power Queries? ↑
There are two destinations for output we get from power query:

- Load to a table in a worksheet.
- Load to the Excel Data Model.

6. What is Power Query? ↑
Power query is a ETL Tool used to shape, clean and transform data using intuitive interfaces without having to use coding. It helps the user to:

- Import Data from wide range of sources from files, databases, big data, social media data, etc.
- Join and append data from multiple data sources.
- Shape data as per requirement by removing and adding data.

7. Which language is used in Power Query? ↑
A new programming language is used in power query called M-Code. It is easy to use and similar to other languages. M-code is case sensitive language.

8. Can SQL and Power Query/Query Editor be used together? ↑
Yes, a SQL statement can be defined as the source of a Power Query/M function for additional processing/logic. This would be a good practice to ensure that an efficient database query is passed to the source and avoid unnecessary processing and complexity by the client machine and M function.

Power Map

1. What are the primary requirement for a table to be used in Power Map? ↑

For a data to be consumed in power map there should be location data like:

- Latitude/Longitude pair
- Street, City, Country/Region, Zip Code/Postal Code, and State/Province, which can be geolocated by Bing

The primary requirement for the table is that it contains unique rows. It must also contain location data, which can be in the form of a Latitude/Longitude pair, although this is not a requirement. You can use address fields instead, such as Street, City, Country/Region, Zip Code/Postal Code, and State/Province, which can be geolocated by Bing.

2. What is Power Map? ↑

Power Map is an Excel add-in that provides you with a powerful set of tools to help you visualize and gain insight into large sets of data that have a geo-coded component. It can help you produce 3D visualizations by plotting upto a million data points in the form of column, heat, and bubble maps on top of a Bing map. If the data is time stamped, it can also produce interactive views that display, how the data changes over space and time.

3. What are the data hotspots when it comes to Power Map? ↑

The data can either be available in Excel or it can be available remotely. For simplicity of setting up your data make sure the majority of your data is inside an Excel table where each of the columns is setup to a unique record. The segment headings or the column headings ought to have a message as opposed to genuine data with the objective that Power Map is there to decipher it in an accurate manner especially when it plots the geographic directions. The utilization of some of the important names

makes the classification fields accessible in the Power Map Tour Editor Sheet. In order to utilize table structures, both time and geology within the Power Map have to incorporate the better part of the data within the table lines. In order to do this you might have to:

• You wish to stack the data from an outside source.

• In Excel click on the menu data > the association you need within the Get external data gathering.

• Take the means or results within the wizard that begins.

• On the last advance of the wizard, make certain Add this data to the Data Model is checked.

Additional Questions
1. Why is Top N not accessible by or for report level filter and page-level filter? ↑
Top N is not accessible for page-level filter and report level filter as they both are associated with different visuals.

2. What are the three Edit Interactions options of a visual tile in Power BI Desktop? ↑
The 3 edit interaction options are Filter, Highlight, and None.

Filter: It completely filter a visual/tile based on the filter selection of another visual/tile.

Highlight: It highlight only the related elements on the visual/tile, gray out the non-related items.

None: It ignore the filter selection from another tile/visual.

3. What are some of the differences in report authoring capabilities between using a live or direct query connection such as to an Analysis Services model, relative to working with a data model local to the Power BI Desktop file? ↑

With a data model local to the PBIX file (or Power Pivot workbook), the author has full control over the queries, the modeling/relationships, the metadata and the metrics.

With a live connection to an Analysis Services database (cube) the user cannot create new metrics, import new data, change the formatting of the metrics, etc – the user can only use the visualization, analytics, and formatting available on the report canvas.

With a direct query model in Power BI to SQL Server, for example, the author has access to the same features (and limitations) available to SSAS Direct Query mode.

- Only one data source (one database on one server) may be used, certain DAX functions are not optimized, and the user cannot use Query Editor functions that cannot be translated into SQL statements.

4. What are many-to-many relationships and how can they be addressed in Power BI ? ↑

Many to Many relationships involve a bridge or junction table reflecting the combinations of two dimensions (e.g. doctors and patients). Either all possible combinations or those combinations that have occurred.

- Bi-Directional Crossfiltering relationships can be used in PBIX.
- CROSSFILTER function can be used in Power Pivot for Excel.
- DAX can be used per metric to check and optionally modify the filter context.

5. How to apply information security in Power BI report? ↑
A DAX look can be valuable on a table sifting its lines at question time.
Dynamic security include the utilization of USERNAME works in security
job definition. Typically a table is made in the model that relates clients to
explicit measurements and a job.

6. Explain about Joins? ↑
We have Six types of Joins in Power BI which we use it in Power Query
Editor:

Inner Join Left Outer Join Right Outer Join Full Outer Join Left Anti Right
Anti Inner Join: If we want only the matching records from both the tables
then will use Inner join/Simple join

Left Outer Join: If we want all the records from left table and only matching
records from right table then will use left Outer join/left join.

Right Outer Join: If we want to display all the records from right table and
only matching records from left table then will Right Outer join/Right Join.

Full Outer Join: If we want display all the records from both the tables then
will use Full Outer Join

Left Anti: Displays only the mismatched records from Left Table

Right Anti: Displays only the mismatched records from the Right Table.

7. How do you bring data from SQL Server to Power BI? ↑
Step 1: Click on Get Data in Power BI Desktop Step 2: Select SQL Server
from the list Step 3: Fill the Details of the Server and Database Step 4:
Click on Import or Direct Query based on the Requirement.

8. What is a substance pack, and for what reason would you utilize one? ↑

A substance pack is an instant, predefined gathering of representations and reports utilizing your picked administration (for instance, Sales power). You'd utilize one when you need to get fully operational rapidly, rather than making a report without any preparation.

9. Why should General Formatting be applied to data in Power BI? ↑

By formatting data, users can help Power BI categorize and identify data, making it much easier to work with.

Enter a custom formula to create a new column, including calculations using values from the other columns To create a new column, click on Add Custom Column In the new column name box, type the name of the column and add the formula to the custom column formula box; for example, [ShipDate] – [OrderDate] Select a column from the available columns list and click on Insert or double-click to add it to the custom column formula text box. Then, click on OK The new column is appended to the table, and the formula is visible in the Formula Bar Custom Column Formula: = Table.AddColumn(#"Sorted Rows", "DaysOrderToShip", each [ShipDate] - [OrderDate]) The above code is the formula to create a custom column, which calculates the days from when an order was placed to when it got shipped.

10. What are the steps to go to Data Stories Gallery in Power Bi communities? ↑

Steps to go to Data Stories Gallery:

- First, open PowerBI.com in a favorite browser.
- By hovering on Learn
- Click on Community

- Scroll down little, and you will find Data Stories Gallery.
- Anyone can submit her or his Data Story as well.

11. If you click on a single data-point in one of the multiple visuals in a report, does it make any difference? ↑
Yes, it makes a difference. When we click on a single data-point, the data gets selected and copied to the dashboard. The copied data can be pasted then anywhere according to the requirement of the users.

12. How can you compare Target and Actual Value from a Power BI report? ↑
You need to use Gauge chart to compare two different measure.

13. Is on-premise access possible in Power BI? ↑
No, it is not possible to access Power BI services on private or internal service cloud. However, by using Power BI desktop, you can connect with the on-premises data sources.

14. What is the Power BI Publisher for Excel? ↑
You can use Power BI publisher for Excel to pin ranges, pivot tables and charts to Power BI.

- The user can manage the tiles – refresh them, remove them, in Excel.
- Pinned items must be removed from the dashboard in the service (removing in Excel only deletes the connection).
- The Power BI Publisher for Excel can also be used to connect from Excel to datasets that are hosted in the Power BI Service.
- An Excel pivot table is generated with a connection (ODC file) to the data in Azure.

The Publisher installs all necessary drivers on local machine to establish connectivity .

15. Which field composes can be added to the Field well of a Slicer visual? ↑
Computing segments should be made with a DAX articulation.

16. What context style is allowed by Power BI DAX? ↑
Power BI DAX content style is both Row and Filter.

17. How can u download excel files which has millions of records from a Power BI report? ↑
To download large extracts of data, we can host the excel file to a share point, which will generate a .xlsx link, which can be embedded to "Text" or "Button". On clicking on the Text link or Button. The excel file gets downloaded directly which is hosted in share point or some other base location.

18. Why might you have a table in the model without any relationships to other tables? ↑
There are mainly 2 reasons why we would have tables without relations in our model:

- A disconnected table might be used to present the user with parameter values to be exposed and selected in slicers (e.g. growth assumption.)
  - DAX metrics could retrieve this selection and use it with other calculations/metrics.
- A disconnected table may also be used as a placeholder for metrics in the user interface.
  - It may not contain any rows of data and its columns could be hidden but all metrics are visible.

19. What is the Embed Code? ↑

Power BI online contains an option for publishing on web that will generate a link address for the Power BI report. You can share these links to others, which is called embed code.

20. How do u hide and unhide a specific report in Power BI? ↑

We have to go to selection Pane in the menu bar and hide/unhide the report and the action can be passed to book mark.

21. How is data security implemented in Power BI ? ↑

Power BI can apply Row Level Security roles to models.

- A DAX expression is applied on a table filtering its rows at query time.
- Dynamic security involves the use of USERNAME functions in security role definitions.
- Typically a table is created in the model that relates users to specific dimensions and a role.

22. Name the datasets that can be used with streaming data tiles to create dashboards. ↑

Hybrid datasets and Streaming datasets can be used with streaming data tiles to create dashboards.

23. What is query collapsing? ↑

The process of converting the steps in power query editor to SQL and executing it by the source database is called query collapsing.

24. How can we create a dashboard? ↑

First upload a dataset and then upload the same, create multiple reports and infuse everything together as an appealing dashboard.

25. What kind of data can you store in Power BI? ↑
In Power BI, you can store mainly two types of data.

Fact Tables:

The central table in a star schema of a data warehouse is a fact table that stores quantitative information for analysis, which is not normalized in most cases.

Dimension Tables:

It is a table in the star schema which helps you to store attributes and dimensions which describe objects that are stored in a fact table.

26. What are Tiles in Power BI? ↑
Tile is an important feature of power BI services and can be said as a picture of the data which can be pinned to the dashboard.

27. How to handle Many to Many relationships in Power BI? ↑
You can use Crossfiltering option in Power BI to address the Many to Many relationships.

28. What are the method to hide and unhide a specific report in Power BI? ↑
To hide and unhide specific report, you have to go to selection Pane in the menu bar, and press hides/unhide toggle button to bookmark.

29. What are the different connectivity modes in Power BI? ↑
Import Mode Direct Query Mode

30. How to represent different levels of hierarchy of data in one singe visualization? ↑

Step 1. Create a hierarchy by grouping the required data from the data tab and pull that into Axis Tab and Enable drill down option by clicking on down arrow on the chart. Step 2. Pull all the hierarchical columns separately in to the axis pane in the order of their hierarchy and enable the drill down action by clicking on down arrow on the chart. Note: Both Step 1 and Step 2 will serve the same purpose.

31. Name some commonly used tasks in the Query Editor? ↑

- Connect to data
- Shape and combine data
- Group rows
- Pivot columns
- Create custom columns
- Query formulas

32. How to perform joins in Power bi? ↑

Joins will be performed in Model Tab in Power BI Desktop.

33. Give examples of data sources which will refresh in real-time. ↑

PowerBI currently supports different types of streaming datasets. You can directly stream data using a push URL to PowerBI.com service. PowerBI also supports streaming data sources from PubNub, which is an Infrastructure as a Service provider. The third option is to Azure Stream Analytics which is built on top of Azure Service Bus and Event Hub. You can select the streaming data to go-to PowerBI as your destination. Here is a sample report with streaming data.

34. Does the gateway have to be installed on the same machine as its data source? ↑

No, the gateway connects to its data source by using the provided connection information. In this sense, think of the gateway as a client application. It just needs to connect to the server that has the provided name.

35. What is the difference between Power BI and Power BI Pro? ↑

Power BI: It provides different features for the users to get started with data search in a unique way. Power BI Pro: It holds some extra features added to the Power BI features like higher storage capacity, data refresh scheduling and interactive live data sources.

36. Explain the term Custom Visuals. ↑

Graphs or visual which are not included in Power BI desktop are imported for better visualization.

37. Define the term 'M language." ↑

It is a programming language used in Power Query. It's a functional, case-sensitive language which is similar to other programming languages and easy to use.

38. What are the different types of refreshing data for our published reports? ↑

There are four main types of refresh in Power BI. Package refresh, model or data refresh, tile refresh and visual container refresh.

- **Package refresh**

This synchronizes your Power BI Desktop, or Excel, file between the Power BI service and OneDrive, or SharePoint Online. However, this does not pull

data from the original data source. The dataset in Power BI will only be updated with what is in the file within OneDrive, or SharePoint Online.

- **Model/data refresh**

It referrs to refreshing the dataset, within the Power BI service, with data from the original data source. This is done by either using scheduled refresh, or refresh now. This requires a gateway for on-premises data sources.

- **Tile refresh**

Tile refresh updates the cache for tile visuals, on the dashboard, once data changes. This happens about every fifteen minutes. You can also force a tile refresh by selecting the **ellipsis (…)** in the upper right of a dashboard and selecting **Refresh dashboard tiles**.

- **Visual container refresh**

Refreshing the visual container updates the cached report visuals, within a report, once the data changes.

To know more about data refresh and understand how to implement data refresh, you can check the following link.

39. What is Advanced Editor in Power BI? ↑
Advanced Editor can be used to see the query that Power BI runs against data sources to import data.

The query is written in M-code, the Power Query Formula Language To view the query code from Power BI Desktop, choose Edit Queries from the Home tab From either the Home or the View tab, click on Advanced Editor to work on the query. The Advanced Editor window opens, displaying the code for the currently selected query When we make transformations to our data in Query Editor, the steps are saved to the Applied Steps in the Query Settings These steps are also applied to the code in the Advanced Editor

40. How can you perform Dynamic filtering in Power BI? ↑
Dynamic Filtering in Power BI is done using the following steps:

Once all the data are set up, publish a detail report to Power BI. Publish it to group workspace. Create a filter link Create a DAX calculated column. Public overview report

41. What happens by clicking on a single information point in one of the various visual in a report? ↑
When you click on single information point data gets select and copied to the clipboard. Moreover, the copied data can be pasted in any place according to your requirement.

42. What is Power BI Designer? ↑
It is a stand alone application where we can make Power BI reports and then upload it to Powerbi.com, it does not require Excel. Actually, it is a combination of Power Query, Power Pivot, and Power View.

43. What information is required to create a map in Power Map? ↑
Power Map can display visualizations which are geographical in nature. That's why some kind of location data is needed, for example, city, state, country or latitude and longitude.

44. Can you join two unique information source in the same Power BI dashboard? ↑

Yes, we can join two unique information source in the same Power Bi dashboard. We can also merge comparable reports in your Power Bi account into using single dashboard.

45. What are the different types of refresh in Power BI? ↑

Package Refresh Model/data Refresh Tile Refresh Visual Container Refresh

46. What is Bidirectional Cross-filtering in Power BI? ↑

Bidirectional cross-filtering in Power BI Desktop allows data modelers to determine how they want filters to flow for data using relationships between tables. With bidirectional cross-filtering, the filter context is propagated to a second related table on the other side of a table relationship. This can help data modelers solve the many-to-many problem without writing complicated DAX formulas. Thus, bidirectional cross-filtering simplifies the job for data modelers.

47. How can you analyze Power BI reports data in excel? ↑

You need to follow the below-given steps:

- Open Power BI Admin portal, go to tenant settings and select -> Analyze.
- Check that Power BI Administrator has enabled Excel option or not.
- Then at the upper right corner, click settings to download and install Excel updates.
- Next, go to the left-hand side navigation pane, go to the workspace, click on the dataset, click on Eclipses (three dots) and select Analyze in Excel.
- download ODC file, save, and double click on it.
- After that needs to provide power BI user id and password.

48. How to toggle between two options and make it interact with rest of the visualizations in report? ↑

Toggling Action can be achieved in Power BI reports, when in case there are two are more dimensions. This can be showcased using an "Enlighten Slicer" in Power BI which can be imported form Market Place.

49. What is Power BI Q&A? ↑

Power BI Q&A is a natural language tool which helps in querying your data and get the results you need from it. You do this by typing into a dialog box on your Dashboard, which the engine instantaneously generates an answer similar to Power View. Q&A interprets your questions and shows you a restated query of what it is looking from your data. Q&A was developed by Server and Tools, Microsoft Research and the Bing teams to give you a complete feeling of truly exploring your data.

50. Explain the process of dynamic filtering? ↑

The following are the steps of dynamic filtering:

Set all the data of a report ready to be published Publish it into group workspace Create a filter link Create a DAX calculated column Public overview report

51. What is the latency for running queries from the gateway to a data source? What is the best architecture? ↑

We recommend that you have the gateway as close to the data source as possible to avoid network latency. If you install the gateway on the actual data source, the introduced latency is minimized.

52. Name two types of connectivity modes in Power BI? ↑

Two types of connectivity modes used in Power BI are:

- Import

- Direct Query

53. Explain the term responsive slicers. ↑
On a report page, you can easily resize a responsive slicer to various sizes and shapes, and the data contained in it should be rearranged according to it. In case if the visual becomes too small to be useful, an icon representing the visual ability to take its place, thus saving the space on the report page.

54. Is the Power BI tool available for free? ↑
You can access Power BI for free. However, if you wish to use all the feature of Power BI, then you can use its pro subscription account. The subscription account offers an enhanced version of several features that are available with Power Bi free account.

55. What is grouping? How can you use it? ↑
Power BI Desktop allows you to group the data into small chunks. For grouping, you should use Ctrl + click to select multiple elements in the visual. Right-click one of those elements which appear in groups window.

56. What is data management gateway and Power BI personal gateway? ↑
Gateway acts a bridge between on-premises data sources and Azure cloud services.

Personal Gateway:

- Import Only, Power BI Service Only, No central monitoring/managing.
- Can only be used by one person (personal); can't allow others to use this gateway.

On-Premises Gateway:

- Import and Direct Query supported.
- Multiple users of the gateway for developing content.
- Central monitoring and control.

57. What is the only prerequisite for connecting to a database in Azure SQL Database? ↑

The only prerequisite for before connecting to a database is that the user need to configure firewall setting to allows remote connections.

58. Organization is owning Power BI workspace, has 10 members and wish to give access for few members Dashboard, for few reports, for few Datasets. Can we achieve this? ↑

To attain this need to create Content Pack,

Need to select Specific Group of people (User Email ids or Distribution lists) (OR) My Entire Organization in then we choose give access to Dashboards or Reports or Datasets.

59. Explain the term incremental refresh? ↑

Increment refresh is a newly added data so that there is no need to truncate or load the entire data.

60. What is Power Pivot Data Model? ↑

It is a model that contains data writes, tables, sections, and table relations. These data tables help you to develop for holding data for a business substance.

61. What are the differences between a Power BI Dataset, a Report, and a Dashboard? ↑

Dataset: The source used to create reports and visuals/tiles.

- A data model (local to PBIX or XLSX) or model in an Analysis Services Server
- Data could be inside of model (imported) or a Direct Query connection to a source.

Report: An individual Power BI Desktop file (PBIX) containing one or more report pages.

- Built for deep, interactive analysis experience for a given dataset (filters, formatting).
- Each Report is connected to atleast one dataset
- Each page containing one or more visuals or tiles.

Dashboard: a collection of visuals or tiles from different reports and, optionally, a pinned.

- Built to aggregate primary visuals and metrics from multiple datasets.

62. Why is TOP N not accessible for the Page and Report Level Filter? ↑
ToP N is not accessible for the Page and Report Level Filters because their channels are associated with different visuals.

63. Is Power BI available on-premises? ↑
No, Power BI is not available as a private, internal cloud service. However, with Power BI and Power BI Desktop, you can securely connect to your own on-premises data sources. With the On-premises Data Gateway, you can connect live to your on-premises SQL Server Analysis Services, and other data sources. You can also scheduled refresh with a centralized

gateway. If a gateway is not available, you can refresh data from on-premises data sources using the Power BI Gateway – Personal.

64. Name 4 types of roles-based usage of Power BI? ↑
Microsoft has categories Power BI users as below:

Consumers (also called as End-Users) of Power BI who gets insights of the data in the form of reports and used for decision making. Designers who Collect, Wangle, Explore, Transform, Model, and Evaluate Data and then design reports, publish reports to Power BI Web Service and create dashboards. Administrators who are responsible for User governance using Office 365 (like Provisioning of Power BI Access to workspaces Licenses) and Administering User Security (like assigning Power BI admin roles and assigning Premium capacity roles) Developers who helps Power BI consumers and designers to build integrating / embedding custom visuals in Power BI Reports and building streaming datasets.

65. What do you use as a consolidate inquiry in Power BI? ↑
Join Queries are used as a consolidate inquiries in Power BI

66. What is on-premise gateway? ↑
On-premise gateway acts as a bridge which helps you to transfer the data, which is on-premise (not on the cloud) safely and securely.

67. What is natural language search choice? ↑
The natural language search choice is language-based learning for communicating with information as a part of Power BI suite for Office 365 advertising.

68. Difference between Filter & Raw Filter? ↑
Raw Filter works only on Column where FILTER Function on Measure.

69. What are some ways that Excel experience can be leveraged with Power BI? ↑

Below are some of the ways through which we can leverage Power BI:

- The Power BI Publisher for Excel:
    - Can be used to pin Excel items (charts, ranges, pivot tables) to Power BI Service.
    - Can be used to connect to datasets and reports stored in Power BI Service.
- Excel workbooks can be uploaded to Power BI and viewed in the browser like Excel Services.
- Excel reports in the Power BI service can be shared via Content Packs like other reports.
- Excel workbooks (model and tables) can be exported to service for PBI report creation.
- Excel workbook Power Pivot models can be imported to Power BI Desktop models.

70. How can you identify which user has logged in to Power BI server or viewing the report from Power BI? ↑

The way to identify the user is to create a DAX column and embed

"username ()" or "principalusername ()", which will retrieve information on

the user has logged in.

71. Explain the term data alerts. ↑

Alert works on data that is refreshed, Power BI looks for an alert, and it

reaches the alert threshold or the limit then the alter will be triggered.

72. How do we disable the Default interactivity in Desktop? ↑

Highlight the Visual and go to edit interactions and Click on None on the

remaining visuals.

73. What is Power View? ↑

Power View is a data visualization technology that lets you create interactive charts, graphs, maps, and other visuals which bring your data to life. Power View is available in Excel, SharePoint, SQL Server, and Power BI.

The following pages provide details about different visualizations available in Power View:

- Charts
- Line charts
- Pie charts
- Maps
- Tiles
- Cards
- Images
- Tables
- Power View
- Multiples Visualizations
- Bubble and scatter charts
- Key performance indicators (KPIs)

74. What is the option to unpivot data in the question proofreader? ↑
Unpivot line is a choice to unpivot any data in the question proofreader.

75. Explain the difference between Power BI and Tableau? ↑
The following are the differences between Power BI and Tableau:

Power BI focusses only on modeling and reporting, while Tableau is the best tool according to data visualization. Power BI is less expensive, while Tableau is very expensive. Power BI is associated with Microsoft Azure, while Tableau uses python Machine learning. Power BI has a simple and easy to use interface while Tableau has a customized dashboard. Power BI

becomes slow while handling massive amounts of data, while Tableau easily handles any amount of data.

76. What is a calculated column in Power BI and why would you use them? ↑

Calculated Columns are DAX expressions that are computed during the model's processing/refresh process for each row of the given column and can be used like any other column in the model.

Calculated columns are not compressed and thus consume more memory and result in reduced query performance. They can also reduce processing/refresh performance if applied on large fact tables and can make a model more difficult to maintain/support giventhat the calculated column is not present in the source system.

77. What is Edit Interactions in Power Bi? ↑

Power Bi provides you to very cool features of visual Interaction, by default this feature is enable, that's means when you select any slicer value or click any visual by default all visuals get filtered on the basis of click or select value. And we can control this feature to using Edit Interactions.

78. Explain data source filter. ↑

It is a parameter to filter the data into machines.

79. Can you create multiple dynamic connections between two tables? ↑

No, we can't create more that one multiple dynamic connections.

80. What area do you go to change and reshape data in Power BI? ↑

Data Editing helps you to change and reshape data in Power BI.

81. Can we refresh our Power BI reports once uploaded to cloud (Share point or Powebi.com)? ↑

Yes we can refresh our reports through Data Management gateway(for sharepoint), and Power BI Personal gateway(for Powerbi.com)

82. State the main difference between Filter and Slicer. ↑

If you are using the normal filter user cannot interact with the dashboard. On the other hand, slicer allows users to have an interaction with Reports as well as Dashboards.

83. What is the major difference between the old version and a new version of Power BI tool? ↑

The latest version has more robust features, and it is famous with the name Power BI Desktop. This is an all in one solution for Power View, Power Pivot, and Power Query in the backend. Power BI offers many add-ins for Excel, which is useful for better visualizations.

84. Where incremental licensing refresh feature is accessible? ↑

Incremental refresh feature mainly used for high-end scalability of data by publishing only on that workspace in Power BI Service where Premium capacity is needed.

85. Explain z-order in Power BI? ↑

Z-order is a design strategy which is used for arranging visual over shapes. It can be defined as an implementation method which can be applied whenever reports have multiple elements.

86. Explain x-velocity in memory. ↑

It is the main engine which is used in power pivot. It allows you to load the large set of data into Power BI data.

87. What are Data alarms ↑

Ready work on information that is revived ,when information is invigorated BI searches for a caution and on the off chance that it achieves the ready edge or the utmost, at that point the alarm will be activated.

88. What are some of the unique data invigorations used for generating the distributed reports within Power BI? ↑

There are four main types of invigorating steps when it comes to Power BI. Bundle invigorate can model or revive your data.

• Visual compartment - This type of invigorating is a visual compartment refresh stored in a report type within a report once the data starts to change. In order to find out if the data invigorate worked and view how to actualize the data, you can check on the accompanying connections.

• Tile Invigorate - Tile invigorate refreshes the stores for the tile visuals on the dashboard once the data begins to change. This happens at regular type intervals. You may also constrain a tile for invigorating through the option of the ellipsis (which is three dots like this ...)on the upper right of the dashboard and choosing Refresh Dashboard Tiles.

• Bundle Invigorate – This would then synchronize the Power BI Desktop or Excel document between the Power BI benefit and OneDrive, or SharePoint Online. This does not pull the data from the first data source though. When the data comes to Power BI it can refresh it once it is inside the OneDrive record.

• Display/data revive – This refers to the type of revising to the dataset inside the Power BI benefit with data from the initial data source. This would either be finished by utilizing booked revive or invigorate now. That usually requires an entry point for the for the on-premises data sources, in the form of access tokens or login credentials.

89. State the differences between Power BI and SSRS. ↑

Power BI:

- Power BI gives strong data manipulation feature in its backend but provides access only to simple visualizations.
- In free version, Power BI limits the use 1 GB data.
- Power BI allows several data sources supported by Tableau. With the integration of Office 365 suite, it allows connection with Share point. Power BI also allows online support to the user for direct visualization through Search Engines but is limited to Bling search.
- There is a free version available in Power BI which allows the user to 1GB data set limit. Pro Software is paid but is cheaper in the market while compared to other BI tools.
- Power BI is free version and Power Pro is paid. Pro is available to the user at a cost of 9.99USD/month with 10 GB data limit and 1 million rows/hour data streaming.
- Implementation process in Power BI is quite simple. It uses cloud storage.

SQL Server Reporting Services:

- SQL server Reporting Services is generally used to make pixel perfect reports and provides limited dash board options.
- SSRS does not have any limit. Also, it allows users to connect larger data sets, which is not possible in Power BI.
- SSRS also allows various data sources for connections to make business intelligence reports.
- Upon request, the cost details are exposed to the user.
- This software license is available on request and is available on cloud platforms such as Azure, AWS and some other major platforms.
- Compared to Power BI, SSRS contains complex implementation process.

90. Is it possible to have created multiple active relationships in Power BI? ↑

No, we can't set multiple active relationships in Power BI.

91. How does SSRS integrate with Power BI? ↑

Below are some of the way through which SSRS can be integrated with

Power BI:

- Certain SSRS Report items such as charts can be pinned to Power BI dashboards.
- Clicking the tile in Power BI dashboards will bring the user to the SSRS report.
- A subscription is created to keep the dashboard tile refreshed.
- Power BI reports will soon be able to be published to SSRS portal

Quiz

1. You've imported a spreadsheet, but Power BI Desktop hasn't realised that the first row should be used as column titles. What tool should you click on? ↑

A) Enable column titles

B) Move titles above data

C) Use first row as headers

D) Promote top row

Answer: C

2. Data can be refreshed in Power BI service by using ↑

A) Gateway

B) Power BI Desktop

C) Apps

D) Refresh service

Answer: A

3. As part of a large HR project you are working with a dataset of company employees, both past and present. The data includes columns for EthnicGroup, PayTypeID, HireDate (the date they started work), TermDate (the date they left) and several other columns. You want to create a new Calculated Column that determines if the person was a bad hire based on a set of rules. If they were a bad hire then the result is 1, otherwise the Calculated Column displays a zero. The bad hire rule is: BadHire = If the person stayed at the company less than 61 days Example: If a person joined the company on 27th June 2013 and left on 21st August 2013, then they would be a bad hire. Which DAX expression would you use for this Calculated Column? ↑
A) Slicer

B) IF(OR((([HireDate]-[TermDate])) >= 61,ISBLANK([TermDate])),0,1)

C) IF(((([HireDate]-[TermDate])*-1) < 61),1,0)

D) IF((([TermDate]-[HireDate])*-1) >= 61,0,1)

Answer: A

4. You want to create a DAX formula that automatically calculates the previous month number. So if the month was June then the formula would return 5. You have already created the DAX formula below: Today Month = MONTH (Sales[Todays Date]) Which of the DAX formulas below would be the right choice next? ↑
A) Previous Month = Sales[Today Month]-1

B) Previous Month = PREVIOUSMONTH(Sales[Today Month])

C) Previous Month = STARTOFMONTH(Sales[Today Month])-1

D) Previous Month = IF (Sales[Today Month] =1, 12,Sales[Today Month]-1)

Answer: D

5. Which is a single page, often called a canvas, that uses visualizations to tell a story? ↑
A) Power BI Service dashboard

B) Power Bi Desktop Dashboard

C) Power Bi Desktop Sheet

D) Power BI Service Multiple sheet

Answer: A

6. Read the following paragraph carefully and decide whether the entire paragraph is TRUE or FALSE? You need a Power BI Pro license to share your dashboard but those you share it with do not need a license. When you share a dashboard, they can view it and interact with it, but can't edit it. They see the same data that you see in the dashboard and reports unless row-level security (RLS) is applied to the underlying dataset. The colleagues you share it with can share the dashboard with their colleagues, if you allow them to. ↑
A) TRUE

B) FALSE

Answer: B

7. Which of the accompanying field composes can be added to the Field well of a Slicer visual? ↑
A) Local sections returned by a question.

B) Computed segments made with a DAX articulation.

C) Measures made by a DAX articulation.

D) Gatherings made inside a table utilizing the "New Group" Command in Power BI Desktop.

Answer: B

8. You have created a table with a column 'population' with numbers 53222122, 5322122, 33333. You want to display the 'population' column with comma signs. How should you do this? ↑
A) Right-click on the POPULATION column and choose FORMAT...

B) Go to the FIELD FORMATTING category of the table's properties, choose the POPULATION field and tick the THOUSANDS SEPARATOR box

C) You can't.

D) Go to the underlying table in DATA view, select the POPULATION column, and on the MODELING tab of the ribbon tick the THOUSANDS SEPARATOR icon.

Answer: D

9. Data has been scraped from a table on a popular retirement website. However, the Health care quality column's scores were not automatically transformed from text to numbers when Query Editor loaded the table. You thus right-clicked the column header, and selected Change Type > Whole Number to change them. Unfortunately, the, Health care quality column contains a few ties in states' rankings, which was noted on the website by the word (tie) after their numbers. Query Editor thus reports a few errors. What is the consequence of using the Remove Errors option (ribbon or the right-click menu option) to resolve this? ↑
A) Removes the applied step that has errors.

B) Removes the error warnings but keeps all data intact.

C) Blanks the cell values which have errors.

D) Removes any rows with errors.

Answer: D

10. Which type of visualisation would you choose if you wanted to show relationships between 3 numerical values and turn the horizontal axis into a logarithmic scale? The worksheet data would include grouped sets of values and you wanted to show patterns in large sets of data, for example by showing linear or non-linear trends, clusters, and outliers? ↑
A) Scatter Chart

B) Bubble Chart

C) Treemap

D) Pie Chart

Answer: B

11. You are viewing a Power BI dashboard in a browser window. What happens when you click the Infocus mode of a tile? ↑
A) The Power BI desktop file opens.

B) The report from which the tile was pinned opens.

C) The Power BI desktop file gets downloaded.

D) The tile you selected expands and takes the full space.

Answer: D

12. How would you include different terms into Q&A? ↑
A) In Power BI Desktop, go into the Relationships see, select the table, and select Modeling and Synonyms.

B) In the Power BI benefit, go into the Relationships see, select the table, and select Modeling and Synonyms.

C) In Power BI Desktop go to the report - > select the visual, modelling, Q and A Terms.

D) None of these

Answer: A

13. You want to extract from a balances table the balance for the last period for which a figure has been entered, and your friend suggests you use one of these functions: (which one is correct?) ↑
A) FINALBALANCE

B) LASTNONBLANK

C) BALANCE

D) LATESTVALID

Answer: B

14. Some of the most powerful data analysis solutions in Power BI Desktop can be created by using measures. Measures help us by performing calculations on our data as we interact with our reports. Understanding aggregations is fundamental to understanding measures, because every measure will perform some type of aggregation. Which of the below is TRUE regarding measures in Power BI? ↑
A) IF(OR((([HireDate]-[TermDate])*-1) >= 61,ISBLANK([TermDate])),0,1).

B) You can reference another measure in a DAX expression by just typing an opening bracket ([).

C) Every time you interact with your report, you are changing the context in which a measure calculates and displays its results.

D) You can create a new measure by clicking on the New Measure button in the ribbon on Power BI Desktop's Home tab.

Answer: A

15. Which of the accompanying articulations are valid regarding outlining a Power BI Desktop venture in DirectQuery mode? ↑
A) You can not change over section information composes when altering an inquiry.

B) You can not add computed segments to the information show.

C) All inquiries inside the venture must be founded on a solitary source database.

D) You can not add measures to the information demonstrate.

Answer: A

16. Which of the accompanying in not a legitimate variable compose when programming in the M dialect? ↑
A) Capacity

B) Dataframe

C) Rundown

D) Record

Answer: B

17. You are creating a custom column with Column name as "Metres per unit" and Custom column formula as "=[SquareMetres] / [NumberUnits]". Which language is custom formula written in? ↑
A) C

B) C++

C) Q

D) M

Answer: D

18. When creating a waterfall chart, which two field options that you need to define? ↑
A)Category

B)X Axis

C)Y Axis

D)Size

Answer: A & C

19. When you share with people outside your organization, they get an email with a link to the shared dashboard. They need a Power BI Pro license, and they have to sign in to Power BI to see the dashboard. After they sign in, they see the shared dashboard in its own browser window without the left navigation pane, not in their usual Power BI portal. They have to bookmark the link to access this dashboard in the future. Which of the following statements is FALSE when sharing visualizations outside of your organisation? ↑
A) They can't edit any content in this dashboard or report.

B) They can change any filters/slicers available on the reports connected to the dashboard and save their changes.

C) People outside your organization can't see any data if role- or row-level security is implemented on on-premises Analysis Services tabular models.

Answer: B

20. A CurrentSales dataset contains a large number of product codes for items that the company have sold in the last 12 months. Due to the nature of the business and the wide variety of suppliers, the product codes come in a variety of formats, including mixed case characters. You want to write a DAX expression that checks if the product code contains the letters "ex". Which DAX function below is the right one to use? ↑
A) SEARCH("ex", [ProductCode])

B) FIND("ex", [ProductCode])

Answer: A

21. Where do you discover the Q&A highlight? ↑
A) At the highest point of a dashboard in the Power BI benefit.

B) By tapping on Modeling and Synonyms in Power BI work area.

C) At the highest point of a report in the Power BI benefit.

D) None of these.

Answer: C

22. When you enable Snap objects to grid, all visuals on the Power BI Desktop canvas that you move (or resize) are automatically aligned to the nearest grid axis, making it much easier to ensure two or more visuals align to the same horizontal or vertical location or size. You

can also manage the overlap of each element on the design surface, often referred to as? ↑

A) Vertical stacking

B) Stack-order

C) a-order

D) z-order

Answer: D

23. With Power BI Publish to web, you can easily embed interactive Power BI visualizations online, such as in blog posts, websites, through emails or social media, on any device. You have published a visualization but unfortunately changes to the underlying data are not immediately visible to users. What might be wrong? ↑

A) You must refresh the data manually after publishing to the web.

B) You cannot refresh data after publishing to the web, the visuals are

static.

C) The user does not have the appropriate row level security permissions.

D) It takes up to an hour for data to refresh.

Answer: D

24. Which level of filter behaves the same as a slicer in a report in Power BI Desktop? ↑

A) Visual Level Filter

B) Page Level Filter

C) Report Level Filter

D) Query Level Filter

Answer: B

25. Department table has unique departments and employee table can have many employees in each department and both entities can be linked in relationship view from department to Employee table using ↑
A) 1 to 1 relationship

B) One to many Relationship

C) Many to Many Relationships

D) Many to one Relationship

Answer: B

26. Which three views are available in Power BI Desktop? 1) Dashboard 2) Report 3) Data 4) Relationships ↑
A) 1,2, and 3.

B) 1,2, and 4.

C) 2,3, and 4.

D) 1,2,3, and 4.

Answer: C

27. Which chart is used to compare data side by side? ↑
A) Line

B) Combo

C) Bullet

D) WaterFall

Answer: D

28. Which chart will show correlation between 2 variables? ↑
A) Pie Chart

B) Scatter

C) Bar Chart

D) Line Chart

Answer: B

29. You're importing a list of top films from web using a URL. If you type in a valid URL like this and choose to continue, what will Power BI Desktop let you import? ↑
A) The inner or outer text for any valid HTML tag.

B) The HTML for the page.

C) Any parts of the HTML page rendered with the DATA_PACKET tab.

D) One or more of the valid HTML tables on the web page.

Answer: D

30. Which of the following is crosstable chart? ↑
A) Cross Table

B) Matrix

C) Line

D) Guage

Answer: B

31. When planning an information display with Power BI Desktop, which of the accompanying proclamations are genuine in regards to the tenets for making table connections? ↑

A) A connection between two tables must be characterized utilizing a solitary field from each table.

B) No less than one section characterized in a table relationship must contain interesting qualities.

C) You can characterize different connections between two tables in an information demonstrate however just a single of the connections can be set apart as dynamic.

Answer: C

32. Having created a new blank model you want to load in data from a SQL Server database which is hosted on the same PC as the Power BI Desktop application. You click the Get Date ribbon option and select SQL Server from the drop down list. What should you enter in the Server textbox? ↑

A) local

B) [blank]

C) host

D) localhost

Answer: D

33. Report Level filter applies to ↑
A) One Page

B) All Pages

C) One Visualization

D) Multiple Visualizations in same page

Answer: B

34. Which chart is suitable for comparing two sets of measure values that are usually hard to compare because of the differences in scale? ↑
A) KPI Chart

B) Guage Chart

C) Combo Chart

D) Stacked Bar Chart

Answer: C

Behavorial Questions
1. Tell me about your educational background and the business intelligence analysis field you're experienced in. ↑
How to Answer

A business intelligence analyst can concentrate on various industries, such as finance, economics, IT, statistics, manufacturing, and more. Share with the interviewer which area you specialized in while obtaining your university degree, and briefly outline where your career journey has taken you so far. Make sure to demonstrate a keen interest in the company's industry or business sphere.

Answer Example

"I'm a Finance Graduate specialized in Business Administration. My education has helped me greatly on my business intelligence career path, as my interest and expertise evolved in fields such as business law, microeconomics, and financial accounting."

2. Specify two important chart types in your BI analyst arsenal. Why do you find them important? ↑
The hiring authority wants to see that you have basic knowledge when it comes to the diagrams and charts that you will be using during your business analyst career. Some examples include:

The interviewer wants to check your basic knowledge of charts you'll be using in your BI analyst's tasks. Some examples include:

area charts; bar charts; clustered column charts; combo charts; doughnut charts; funnel charts; gauge charts; line charts; pie charts; scatter plots; waterfall charts. You are probably familiar with most of these, so just choose two options which you have experience with and can easily talk about.

Answer Example

"The two types of charts I use most often are area charts and bar charts. In my role as BI analyst, area charts have helped me display where a specific trend is headed in the future, which, in turn, makes planning easier. Bar charts, on the other hand, can show clearly which products are most popular among customers or display the number of unique visitors on a landing page based on various criteria."

3. What is your opinion about Agile software development for BI projects? do you support employing Agile methodologies with your company's clients? ↑

How to Answer

Agile software development has received a warm welcome from companies worldwide since its onset. Agile stimulates collaboration with a team's clients and the end-users, enabling more cross-functional projects to run smoothly. However, there are still some who strongly prefer the structured development methodology of Waterfall, for example. So, before sharing your thoughts on Agile with the interviewer, make sure you know where the company stands on Agile.

Answer Example

"As far as I know, Agile software development is much more collaborative in comparison to other software development models. I believe Agile can be the best solution in many projects. However, maybe that's not always the case. That said, I'd love to get familiar with the methodologies employed here. At the end of the day, it's the end results that matter most, and not the methodologies behind the projects."

4. What specific technical skills do you have as a BI analyst? ↑

How to Answer

Your BI analyst experience and skillset are closely related to the focus of your career. Depending on whether you are a data BI analyst, an IT BI analyst, or a strategic BI analyst, your answer to this question will be different.

If you're applying for a data-focused role, your technical skillset may include proficiency in data analysis software and visual presentation tools,

such as Power BI. A BI analyst in the IT field would probably have exposure to some software development programs. While a strategic BI analyst would be well-familiar with business case analysis software and applications. Taking that into consideration, share with the interviewer the technical skills you will bring to the company.

Answer Example

"As a data BI analyst, I've been exposed to data mining and big data software, such as LIONsolver and Oracle. I'm highly skilled in Microsoft Excel which I use for data modeling and Power BI where I create rich visuals and client presentations."

Scenario Based
1. We are using Power BI Desktop Currently. In next 5-6 months, we are planning to have Azure Analysis Services. We have Oracle Servers in our Company. We have to create data model in Power BI Desktop so that once we have AAS in place we can resuse whatever developement we do. We have huge volume of data in many tables. Answer the following questions: ↑
Question: Shall we use Import method or Direct Query Method for our developement if we have all the tables in Oracle Server?

- Depends on what "Huge Volume" means. Import will be faster, and give you the most flexibility in utilizing any ETL actions in the Query Editor in PBI. Direct Query is going to be slower and much of your ETL will need to be done on the DB side. You may have to do this if either the processing of the Power BI file takes to long, or gets to large.

Question: What should we do share our report with the users within our organization? If we use import method, the secured data would be pushed to cloud which we don't want currently as we don't have license yet.

- If you can't push data to the cloud, then you are stuck using Direct Query which will keep your data on premises. Any sort of sharing in Power BI will require a Pro license.

Question: If we use Direct Query method, we need to create Personal Gateway to connect to database so that we can see data in the reports.

- I would install the "normal" gateway (Enterprise) instead of personal. Personal is tied directly to one account, the Enterprise one is what you want to set up.

Question: There are some limitations in the Direct Query Method e.g. Merge Two columns not supported in Direct Query. If have many limitations in Direct Query approach, is it worth doing the development using this approach?

- It wouldn't be wasted development as the source for your AAS model in the future could use the same source information instead of doing that in Power Query

Question: Is it safe if we publish the datamodel to the service and have on premise personal gateway to connect to db? Because I am putting tns entry of my database on services.

- Both gateways are secure... I'd still recommend not using the personal gateway. the other option allows more than one person to manage the gateway.

1. List out some drawbacks/limitations of using Power BI.

Here are some limitations of using Power BI:

- It does not accept file sizes larger than 1 GB and also doesn't mix imported data, which is accessed from real-time connections
- There are very few data sources that allow real-time connections to Power BI reports and dashboard
- Dashboards and reports are only shared with users logged in with the same email address
- Dashboard doesn't accept or pass user, account, or other entity parameters

2. What are some of the differences in data modeling between Power BI Desktop and Power Pivot for Excel?

Power Pivot for Excel supports only single directional relationships (one to many), calculated columns, and one import mode. Power BI Desktop supports bi-directional cross filtering relationships, security, calculated tables, and multiple import options.

3. Name the different connectivity modes available in Power BI?

There are three main connectivity modes used in Power BI are.

SQL Server Import

An SQL Server Import is the default and most common connectivity type used in Power BI. It allows you to use the full capabilities of the Power BI Desktop.

Direct Query

The Direct Query connection type is only available when you connect to certain data sources. In this connectivity type, Power BI will only store the metadata of the underlying data and not the actual data.

Live Connection

In this connectivity type, data is not stored in the Power BI model. All interaction with a report using a Live Connection will directly query the existing Analysis Services model. There are only 3 data sources that support the live connection method - SQL Server Analysis Services (Tabular models and Multidimensional Cubes), Azure Analysis Services (Tabular Models), and Power BI Datasets hosted in the Power BI Service

4. What are the different types of refresh options available in Power BI?

There are four main types of refresh options available in Power BI -

- Package refresh - This synchronizes your Power BI Desktop or Excel, file between the Power BI service and OneDrive, or SharePoint Online.
- Model or data refresh - This refreshes the dataset within the Power BI service with data from the original data source.
- Tile refresh - This updates the cache for tile visuals every 15 minutes on the dashboard once data changes.
- Visual container refresh - This refreshes the visual container and updates the cached report visuals within a report once the data changes.

5. Name the data sources can Power BI connect to?

There are a number of data sources that can be connected to Power BI, which are grouped into three main types:

Files

Data can be imported from Excel (.xlsx, .xlxm), Power BI Desktop files (.pbix) and Comma Separated Values (.csv).

Content Packs

These are a collection of related documents or files stored as a group. There are two types of content packs in Power BI:

- Content packs from services providers like Google Analytics, Marketo or Salesforce and
- Content packs are created and shared by other users in your organization.

Connectors

Connectors help you connect your databases and datasets with apps, services, and data in the cloud.

6. What is a dashboard in Power BI?

A dashboard is a single layer presentation sheet of multiple visualizations reports. The main features of the Power BI dashboard are:

- It allows you to drill through the page, bookmarks, and selection pane and also lets you create various tiles and integrate URLs
- A dashboard can also help you set report layout to mobile view

7. Explain how relationships are defined in Power BI Desktop?

Relationships between tables are defined in two ways:

- Manually - Relationships between tables are manually defined using primary and foreign keys
- Automatic - When enabled, this automated feature of Power BI detects relationships between tables and creates them automatically

8. Can you have more than one active relationship between two tables in a Power Pivot data model?

No. There can be multiple inactive relationships, but only one active relationship between two tables in a Power Pivot data model. Dotted lines represent inactive relationships and continuous lines represent active relationships.

9. Can you have a table in the model which does not have any relationship with other tables?

Yes. There are two main reasons why you can have disconnected tables:

- The table is used to present the user with parameter values to be exposed and selected in slicers
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10. What is the CALCULATE function in DAX?

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13. What is the format available in Power BI?

- Power BI Desktop—for desktop computers
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All of these can be used in conjunction. For example, you might create a report on your desktop, and then publish and share it online so that colleagues on mobile devices can read it.

14. Describe the building blocks of Power BI.

- Visualizations
  Visualization is a chart, graph, or similar visual representation of data.
- Datasets
  A dataset is the group of data used to create a visualization, such as a column of sales figures. Datasets can be combined and filtered from different sources using built-in connectors.
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15. What are the main components of the Power BI toolkit, and what do they do?

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- Power Pivot: a modeling tool
- Power View: a presentation tool for creating charts, tables, and more
- Power Map: lets you create geospatial representations of your data
- Power Q&A: lets you use natural language to get answers to questions; for example, "What were the total sales last week?"

16. What is a content pack, and why would you use one?

A content pack is a ready-made, predefined collection of visualizations and reports using your chosen service (for example, Salesforce). You'd use one when you want to get up and running quickly, instead of creating a report from scratch.

17. Describe DAX.

DAX stands for Data Analysis Expressions. It's a collection of functions, operators, and constants used in formulas to calculate and return values. In other words, it helps you create new info from the data you already have.

18. What are the three fundamental concepts of DAX?

- Syntax
  This is how the formula is written—that is, the elements that comprise it. The Syntax includes functions such as SUM (used when you want to add figures). If the syntax isn't correct, you'll get an error message.
- Functions
  These are formulas that use specific values (also known as arguments) in a certain order to perform a calculation, similar to the functions in Excel. The categories of functions are date/time, time intelligence, information, logical, mathematical, statistical, text, parent/child, and others.
- Context
  There are two types: row context and filter context. Whenever a formula has a function that applies filters to identify a single row in a table, row context comes into play. When one or more filters are applied in a calculation that determines a result or value, the filter context comes into play.

Top 30+ Power BI Interview Questions and Answers in 2021

By Shivam Arora

Last updated on Jul 5, 202171978

Microsoft Power BI is popular for a reason. This self-service business intelligence cloud service not only is highly rated—it's free. PCMag reviewer Pam Baker says Power BI "does a fantastic job of combining power analytics with a user-friendly user interface (UI) and remarkable data visualization capabilities," and adds, "It's one of the best BI tools on the market and is one of our three Editors' Choice recipients."

Industries, where Power BI training comes in handy, include retail, manufacturing, telecommunications, and professional services. The service is a game-changer because it allows non-technical people to easily create graphical reports of data, filter data, share it with others, and much more—no IT department required, meaning even small companies can use it successfully.

Whether you've already begun a career in business intelligence, data analysis, ETL (extract, transform, load) and data warehousing or another data-driven area, or you just want to add to your job skills and marketability in the business world, getting a Power BI certification is a smart move. And when you're preparing for a job interview, make sure you consider these answers to Top Power BI interview questions. This article covers Power BI interview questions and answers for experienced and beginners. While this isn't a full Power BI tutorial, it will help you get started understanding the basics.

Power BI Certification Training Course

Learn data visualization and features in Power BI VIEW COURSE 🎓

Power BI Interview Questions

Let's start with Power BI interview questions and answers for experienced and beginners.

1. What is Power BI?

Power BI is a business analytics tool developed by Microsoft that helps you turn multiple unrelated sources of data into valuable and interactive insights. These data may be in the form of an Excel spreadsheet or cloud-based/on-premises hybrid data warehouses. You can easily connect to all your data sources and share the insights with anyone.

2. List out some benefits of using Power BI.

Here are some benefits of using Power BI:

- It helps build interactable data visualization in data centres
- It allows users to transform data into visuals and share them with anyone
- It establishes a connection for Excel queries and dashboards for fast analysis
- It provides quick and accurate solutions
- It enables users to perform queries on reports using simple English words

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- Context
  There are two types: row context and filter context. Whenever a formula has a function that applies filters to identify a single row in a table, row context comes into play. When one or more filters are applied in a calculation that determines a result or value, the filter context comes into play.

21. Why and how would you use a custom visual file?

You'd use a custom visual file if the prepackaged files don't fit the needs of your business. Custom visual files are created by developers, and you can import them and use them in the same way as you would the pre-packaged files.

22. What are some of the most common sources for data in the Get Data menu?

Excel, Power BI datasets, web, text, SQL server, and analysis services.

23. What are the categories of data types?

- All
- File
- Database
- Power BI
- Azure
- Online Services
- Other

24. Name some commonly used tasks in the Query Editor.

- Connect to data
- Shape and combine data
- Group rows
- Pivot columns
- Create custom columns
- Query formulas

25. What is grouping, and how would you use it?

Power BI Desktop groups the data in your visuals into chunks. You can, however, define your own groups and bins. For grouping, use Ctrl + click to select multiple elements in the visual. Right-click one of those elements and, from the menu that appears, choose Group. In the Groups window, you can create new groups or modify existing ones.

26. Describe responsive slicers.

On a report page, you can resize a responsive slicer to different sizes and shapes, and the data contained in it will be rearranged to match. If a visual becomes too small to be useful, an icon representing the visual takes its place, saving space on the report page.

27. In Power Query, what is query folding?

This is when steps defined in the Query Editor are translated into SQL and executed by the source database, instead of by your own device. It helps with scalability and efficient processing.

28. Explain the term "M language".

This is the programming language used in Power Query. It's a functional, case-sensitive language that's similar to other programming languages and easy to use.

29. What are the differences between visual-level filters, page-level filters, and report-level filters?

Visual-level filters filter data within a single visualization. Page-level filters work on an entire page in a report, and different pages can have different filters. Report-level filters filter all the visualizations and pages in the report.

30. How does the Schedule Refresh feature work?

You can configure an automatic refreshing of data daily or weekly, and at different times. You can schedule only one refresh maximum daily unless you have Power BI

Pro. In the Schedule Refresh section, simply use the pulldown menu choices to select a frequency, time zone, and time of day.

31. What information is needed to create a map in Power Map?

Power Map can display visualizations that are geographical in nature. Therefore, some kind of location data is needed—for example, city, state, country or latitude and longitude.

32. Explain Power BI vs. Tableau

Microsoft Power BI and Tableau are both data analytics tools. Power BI has an extensive free version as well as a premium paid version, while Tableau's free version has limited capabilities. Power BI is considered more intuitive to use than Tableau, as some features in Tableau are hidden behind menus, which makes it harder to learn and use. Power BI has a natural-language query tool, which Tableau doesn't. Overall, however, Tableau may offer more capabilities for those who are experienced in data analytics. So for the question of Power BI vs. Tableau, Microsoft Power BI is generally considered better for those new to data analytics, especially if they already have experience in Microsoft products such as Excel, Azure, and Office 365.

Few Frequently Asked Power BI Interview Questions

1. What skills are needed for Power BI?

Required Skills for Power BI Developer:

- First and foremost, a Power BI Developer should be familiar with business intelligence, data analytics, and data science.
- Should have good knowledge of data visualization, charts, and graphs.
- Knowledge of mathematical expressions
- Comprehensive knowledge of data design, data modelling, and data management.
- Ability to build dashboards

2. What language does Power BI use?

- DAX and M are the two languages supported by Power BI to filter, handle and visualize data.
- DAX is an analytical data calculation language used for analyzing data in the Data View phase.

- n the flip side, M is a query formula language used in Power BI Query Editor to prepare data before loading in the Power BI model.

3. Is Power BI enough to get a job?

Power BI works with the advanced version of excel, so one needs to have an excellent knowledge of MS Excel and to build interactive dashboards to get hired.

4. What is Q&A in Power BI?

Q&A in Power BI allows you to explore data using natural language capabilities and obtain answers in the form of graphs and charts. You'll find Q&A on dashboards in the Power BI service.

Power BI Interview Questions Based on your Skill Level

Power BI Interview Questions - Beginner Level

Let's start with some commonly asked Power BI interview questions and answers for beginners.

1. What is Power BI? And why is it used for?

Power BI is a Business Analytics solution by Microsoft used to visualize business data from hundreds of data sources and share insights across your organization. It is a cloud-based Self-Service BI tool that collects applications, connectors, and software services used to organize raw data into informative content.

The most prominent uses of Power BI are:

- Allows real-time dashboard updates.
- Prebuilt dashboards and reports for Saas solutions
- Provides a secure and reliable connection to your data in the cloud or on-premises
- Offers hybrid configuration, quick deployment, and a secure environment.
- Explore data using natural language queries.

2. What are the main differences between self-service BI and Managed Enterprise BI?

Managed Enterprise BI	Self-Service BI

Here, data flows from many sources, and there is no order for companies to ingest and manage data sources.	Enables companies to ingest data seamlessly from any data source.
There are time constraints and a lack of proper information when it comes to analyzing data.	Analyzing data is easy.
Complex programming skills are required to generate reports.	Users could generate actionable and intuitive dashboards almost instantaneously without executing complex programming codes.
Companies are unable to run business operations effectively, as they cannot report and analyze data and collaborate valuable insights from it.	With data ingestion falling into order, companies can process data and conduct business operations with ease.

3. How does Power BI work?

The primary purpose of Power BI is to scale business growth by putting information together in a more efficient way. It brings your company data forward in a seamless, comprehensive interface. Employees and team members come forward in a streamlined fashion with access to identical information that has been translated into simplified reports, charts, diagrams, and more. Power BI Works more efficiently by improving your operational efficiency.

4. In what formats does Power BI available?

- Power BI Desktop: for desktop computers.
- Power BI service: an online SaaS (Software as a Service)
- Mobile Power BI apps: for iOS and Android devices

5. Describe the building blocks of Power BI

The building blocks of Power BI are:

- Visualizations - A visual representation of data like a chart or map.

- Data Sets - A collection of data that Power BI uses to create visualizations.

- Reports - A collection of visualizations that appear together on one or more pages.

- Dashboard - A Power BI dashboard collects visuals from a single page that you can share with others. Often, it's a selected group of visuals that provide quick insight into the data or story that you're trying to present.
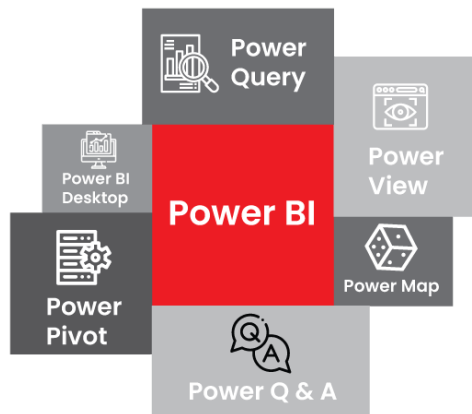
- Tiles - It's a single visualization on a report or a dashboard. It's a rectangular box that holds an individual visual.

6. What are the major components of Power BI? And what do they do?

These are various Power BI components.

- Power Query - Data mash-up and transformation tool.
- Power Pivot - In-memory tabular data-modeling tool.
- Power View - Data visualization tool.
- Power Map - 3D Geo-Spatial data visualization tool.
- Power BI Q&A - Natural Language Question and Answering Engine
- Power BI Desktop - A powerful companion development tool for Power BI.

7. What is the current version of Power BI?

Power BI Desktop is supported on Windows 8 or newer versions of Windows. Download the Power BI Desktop version that matches the architecture (x86 or x64) of your Windows OS.

8. Is Power BI free to use?

Power BI is available in two versions: Power BI Free and Power BI Pro.

Users can use Power BI for free. However, the Power BI Pro subscription avails more from Microsoft Store. The subscription offers an enhanced version of various features available with the free Power BI account. Most business users use the subscribed account as it provides more data refreshers per day and other features than the free version.

9. Name some top features of Power BI

- Quick Insights
- Acquiring data
- Real-time information
- Natural language questions
- Content the way you want
- Quick decisions
- View reports on the Go
- Freedom for Integration
- Sharing

10. Differentiate Power BI vs Excel

Parameter	Power BI	Excel
Tabular reports	Power BI is not so handy for tabular style reports	Excel is better at handling tabular-style reports.
Duplicate Table	Cannot display duplicated tables	Allows to display duplicated tables
Reports	Offers beautiful, personalized, and interactive reports	Doesn't offer advanced cross-filtering between charts.
Cross filtering	Offers advanced features in cross-filtering between charts.	Doesn't offer advanced cross-filtering between charts.
Analytics	Offers simple analytics	Offers high-level analytics
Applications	Ideal for dashboards, KPIs, alerts, and visualizations, including analysing your data visually.	Excel does have some new charts now, and they can't connect to the data model.

11. Name some important tools of Power BI

- Power BI Desktop
- Power BI Service
- Power BI Data Gateway
- Power BI Report Server
- Power BI Mobile Apps

12. What are content packs in Power BI? And why would you use one?

In Power BI, content packs are used to share objects, such as reports, dashboards, or datasets with individuals within your organization. The sharing takes place over the Power BI website and can be shared with multiple users. No one can change the original content in the content pack. Also, users have "read-only" access to the Power BI content shared with them.

13. Explain DAX

DAX stands for Data Analysis Expressions. It is a collection of operators, functions, and constants used to calculate formulas and return values. In other words, it helps you create new info from data you already have.

14. SUM() vs SUMX(): What is the difference between the two DAX functions?

The sum function (Sum()) takes the data columns and aggregates them totally but the SumX function (SumX()) lets you filter the data which you are adding.

SUMX(Table, Expression), where the table contains the rows for calculation. Expression is a calculation that will be evaluated on each row of the table.

15. List the benefits of using variables in DAX.

- Improve performance
- Improve readability
- Reduce complexity
- Simplify debugging

16. What is the Power Map?

Power BI is a business intelligence and Analytics tool for non-technical and technical users to manage, analyze, visualize and share data with others. One of its key features is visualization - that is, present data and insights using appealing visuals. Among the visuals available in power BI are maps.

17. How to create and use Maps in Power BI?

There are 4 types of core or built-in map visuals:

- Map (Basic)
- Filled Map
- Shape Map
- ArcGIS Maps

18. Explain the filled map in Power BI?

Power BI utilizes two built-in map charts map and a filled map. A filled map shows data points with geospatial areas rather than points on a map. Areas can be continent, country, state, city. Working with a filled map, however, is not as easy and convenient as the map chart is

19. What data sources can you connect to Power BI?

The Power BI data sources are extensive, which are divided as follows:

Files: Data can be imported from Power BI Desktop files (.pbix), Excel (.xlsx, xlxm), and Comma Separated Value (.csv).

Content Packs: It refers to the collection of related files or documents that are stored as a group. There are two types of content packs in Power BI: those from service providers including Google Analytics, Salesforce, or Marketo, and those created and shared by other users in the organization.

Connectors: To connect databases and other datasets, including Database, Azure SQL, and SQL Server Analysis Services tabular data, etc.

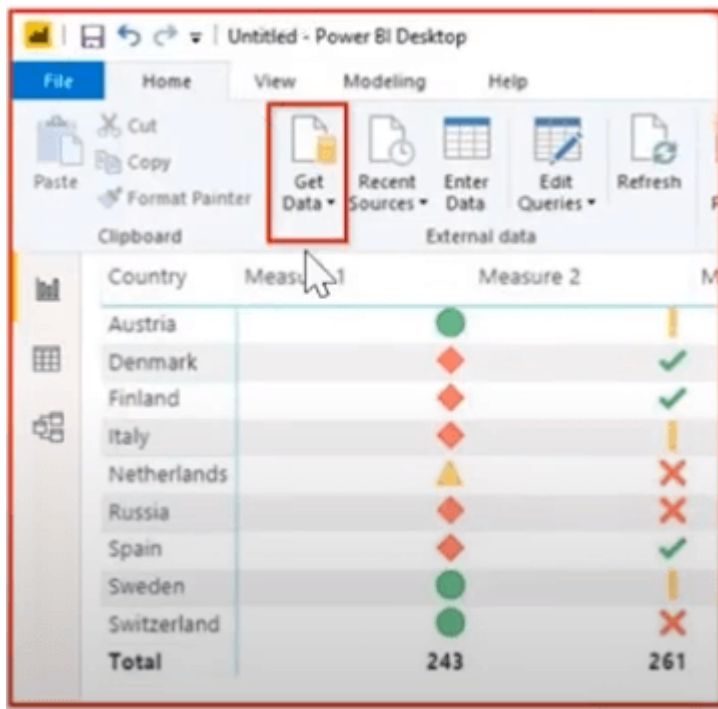## 20. Explain about Power BI Desktop

Power BI Desktop is a free desktop application that can be installed on your computer. It cohesively works with the Power BI service by providing advanced data modeling, shaping, exploration, and creating reports with highly interactive visualizations. It enables users to save the work to a file or publish their reports and data right to your Power BI site to share with others.

Below are the distinct Excel BI add-ons.

- Power Query to find, edit and load external data
- Power View for designing interactive and visual reports
- PowerPivot to analyze data modeling
- Power Map for displaying insights in 3D Map

21. What is the use of the "Get Data" icon in Power BI?

When users in Power BI click on the icon "Get Data", a drop-down menu displays all data sources from which data can be ingested. Data can directly get ingests from sources such as Excel, XML, PDF, JSON, CSV, and SharePoint folder databases and formats such as SQL, SQL Server Analysis Services, IBM, Access, Oracle, MySQL, and much more.

22. How to perform query tasks in Power BI Desktop?

Power Query is available in Power BI Desktop through the power query editor. To open the power query editor, select Edit Queries from the Power BI Desktop home tab.

The ribbon in Power Query Editor consists of five tabs - home, transform, add column, view, and help.

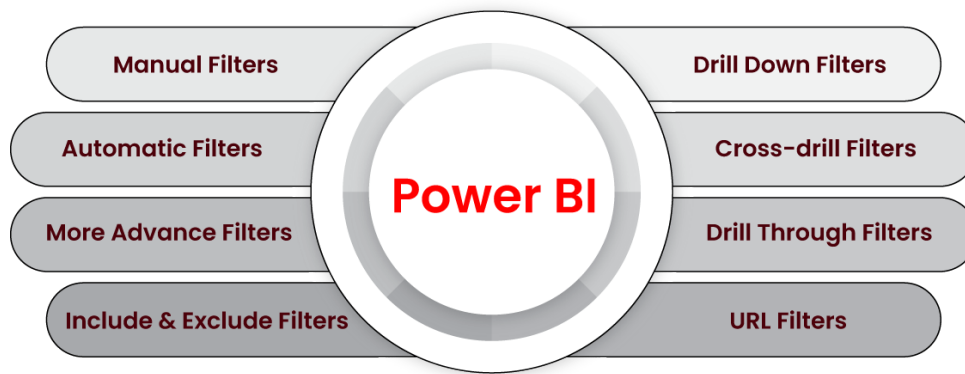## 23. Can we store data in Power BI? If so, where does it get stored?

Power BI stores data in a few different locations. All the data stays secure through measures such as encryption and password protection. It mainly depends on the channel that you used to import the data. Data is stored in a few places, but it all boils down to one of the main two locations: the cloud and your desktop.

24. How do you create a group in Power BI?

To perform grouping in power bi, please select the fields you want to group, and right-click on it will open the context menu. Please select the Group option from the menu.

Once you click on the group option, Power BI will automatically group those items, as shown below. That's it; we did the grouping. If you observe closely, the legend section is replaced by group, and colour is placed in the details section.

25. Name some of the popular types of filters available in Power BI?

26. Explain what M language is in Power BI?

M is a query formula language used in Power BI Query Editor to prepare data before loading in the Power BI model.

Power Query works with Excel, Analysis Services, and Power BI workbooks. Its core functionality is to filter and combine, i.e., to mash up data from one or more rich collections of supported data sources. Any such data mashup is expressed using Power Query M Formula Language.

27. Can you explain a few ways of how a Power Query can transform the data?

Power Query is available through getting & Transform in Excel 2016 or Power Pivot.

28. Which data sets can be used to create dashboards with streaming data tiles?

- Streaming datasets
- Hybrid Datasets

29. What are the different views that Power BI Desktop contains?

- Report View
- Data View
- Relationship View

30. What do you know about Row Level Security? And how do you implement it?

Row-level security restricts the data that users view and access based on filters. To configure row-level security, users can define rules and roles within Power BI Desktop and publish them to Power BI Service. Also, the username() function can restrict data in the table to the current user.

However, to enable row-level security, a Power BI Pro subscription account is essential, and Excel sheets can be used when converted to the .pbix file format.

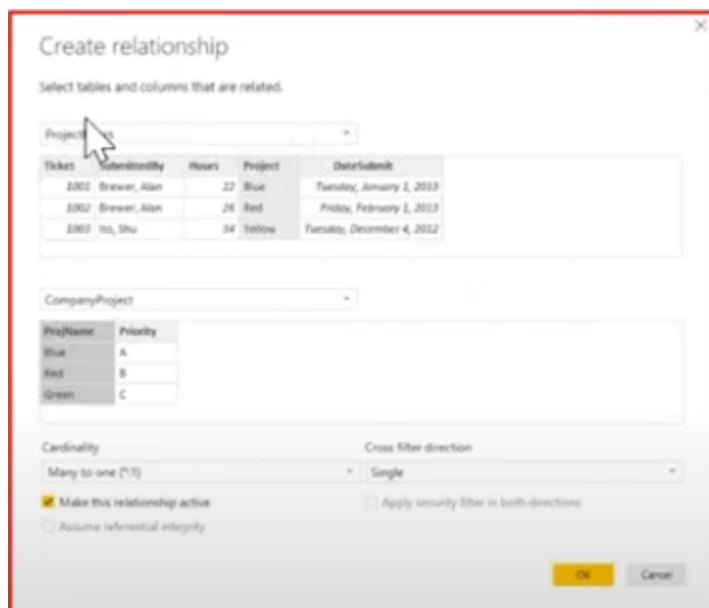Following are the ways to implement Row Level Security in Power BI:

- Define roles and rules in Power BI Desktop
- Validate the roles within Power BI Desktop
- Manage security on your model
- Validating the role within the Power BI service

31. Explain about Bidirectional Cross-Filtering in Power BI?

One of the most important features of Power BI is Bidirectional cross-filtering. This feature allows you to apply filters on both sides of a table relationship, using right-to-left and left-to-right options for their calculations. Through this, modelers can know how exactly particular relationships can work in multiple contexts.

32. How to create and manage relationships in Power BI Desktop?

As the name suggests, relationships in Power BI are used to define connections or the relation between two or more tables. To perform analysis on multiple tables, relationships are used.

To create and manage relationships in Power BI Desktop:

- On the Home tab, select Manage Relationships > New.
- In the Create relationship dialog box, in the first table drop-down list, select a table. Select the column you want to use in the relationship.
- In the second table drop-down list, select the other table you want in the relationship. Select the other column you want to use, and then choose OK.

33. Explain Power BI Query Editor

Power BI Query Editor is used to transform or edit data files before they are loaded. The Query Editor plays the role of an intermediate data container where you can transform data by selecting rows and columns, splitting rows and columns, pivoting and unpivoting columns, etc.

The modifications done by the Query Editor are not reflected in the actual datasheet.

34. Describe Power BI Designer

Power BI is a stand-alone application to make Power BI reports and upload them to Powerbi.com; it does not require excel. It is the combination of Power Pivot, Power View, and Power Query.

35. What are the different types of gateways available in Power BI? Why would you use them?

The Gateway acts as an extension between azure cloud administration and on-premise data sources. There are three major types of Gateways listed as follows:

On-premises data gateway

Allows multiple users to connect to various on-premises data sources. You can use an on-premises data gateway with all supported services with a single gateway installation. For complex scenarios, this gateway is best suited.

On-premises data gateway (personal mode)

This data gateway allows one user to connect to sources and can't be shared with others. This gateway is best suited to scenarios in which you only create reports and don't need to share any data sources with others.

The virtual network data gateway

This data gateway allows multiple users to connect various data sources that are secured by virtual networks. For complex scenarios in which multiple people access multiple data sources, this data gateway is highly preferred.

36. Can we create geographic maps using Power BI?

Yes, Power BI can display geographical visualizations. That's why some kind of location data is needed.

For example, state, country, or latitude and longitude.

37. Explain z-order in Power BI?

Z-order is a design strategy used to arrange visuals over shapes. It can also be defined as a method applied to implement when reports consist of multiple elements. Moreover, this can also be used to refresh the display when items in a report are changed.

38. What is the primary requirement for a table to be used in Power BI?

In Power BI, the primary requirement for the table is that it contains unique rows. It must also contain location data, which can be in a Latitude/Longitude pair.

You can use address fields instead, such as street, city, etc., which Bing can geolocate.

39. What is the difference between Power BI, Power Query, and Power Pivot?

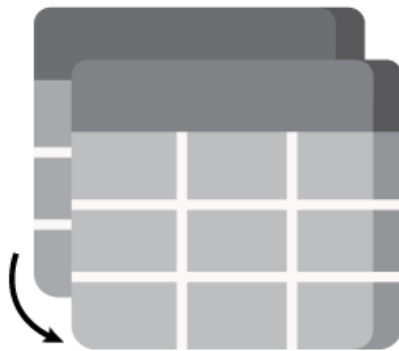| Power BI	Power Query	Power Pivot
Business Intelligence tool	Import and shape data	Data modeling and calculations
M and DAX languages supported	M language supported	DAX language supported
Incredible visualization options	Easy to use interface	Handles millions of rows of data.
Simple built-in interactive options	Powerful tools to import and clean data	Modeling tools for efficient data storage and analysis
Powerful DAX calculations	All Excel users can benefit from this tool	Powerful DAX calculations going beyond standard Excel

40. Are Power View and Power Query the same?

Power View can be used to download data to Excel as well as make nice transformations.

Example: Filter, merge multiple sources, calculate, etc.

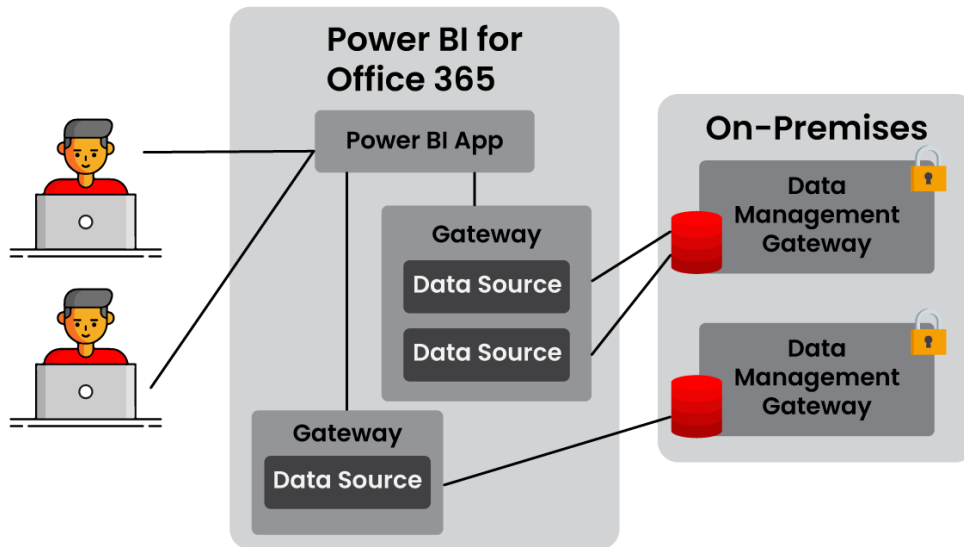Power View enables you to present the data in reports

Power View   Power Query

41. Is there any process for refreshing Power BI reports uploaded to the cloud?

Of course, Power Bi reports can be refreshed with Data Management Gateway and Power BI Personal Gateway.

42. Can you tell me what the difference between Power BI personal Gateway and Data Management Gateway is?

Power BI Personal Gateway is used for reports that are deployed in Powerbi.com. On the other hand, data management is an app that installs the gateway on source data machines to deploy reports on Sharepoint and schedule to refresh automatically.

43. How is data security implemented in Power BI?

- Power BI applies models with Row Level Security.
- Dynamix security involves using USERNAME functions in definitions.
- A DAX expression can be applied to tables filtering their rows at query time.
- A table is typically created in the model that relates to specific dimensions and roles.

44. What do you know about many-to-many relationships in Power BI?

Many-to-many relationships involve a bridge or junction table that reflects the combinations of two dimensions. Either all possible combinations or those combinations that have occurred.

A relationship with many-to-many cardinality in Power BI is composed of three features:

- Composite models: Allows a report to have two or more data connections, including DirectQuery connections or Import. With composite models, you can establish relationships with a many-many cardinality between tables.
- Relationships with a many-many cardinality: This approach removes unique values in tables.
- Storage mode: You can specify which visuals require a query to back-end data sources. This feature improves performance and reduces back-end load.

45. What are the key differences between a Power BI dataset, a report, and a dashboard?

Dataset	Report	Dashboard
A series of Power Query queries that have been shaped in a DAX model.	A series of visualizations, filters, and static elements on a canvas.	A way of pulling visualizations together from several reports.
A Power BI dataset can have many data sources.	Each report can have multiple sheets.	A Power BI dashboard is a single page, often called a canvas, that uses visualizations to tell a story.
A data set can have one report, and a report can have one data set.	The data set and your report are going to have a one-to-one relationship.	A dashboard is a tool for pinning visuals from different reports and other sources of data.

46. List some Edit interactions options in Power BI.

- Filter: It thoroughly filters the visual/tile based on the filter selection of another variable.
- Highlight: Highlights only the related elements on the visual
- None: Ignores the filter selection from another tile/visual.

47. How can you convert SSRS to Power BI?

Following are the ways to integrate SSRS with Power BI:

- SSRS report items such as charts can be pinned to Power BI dashboards.
- By clicking the tile option in Power BI dashboards will bring users to SSRS reports
- To keep the dashboard tile refreshed, a subscription is created.
- Power BI reports will be published to the SSRS portal.

48. What is the Time Intelligence function?

It is a function that allows manipulating data using periods.

49. How do I prepare for Power BI certification?

Mindmajix instructor-led training completely prepares you for the certification. We provide two industry-specific projects in the course, which helps you have hands-on experience on all possible scenarios that are part of certification.

50. Is Power BI a good career?

Five major reasons why Power BI will create a good career path for you:

- Gartner's framework for the Analytics and BI Magic Quadrant 2021.
- There is a big market for Microsoft Power BI Consultants in almost every industry.
- In perspective, Qlik and Tableau (both high in Gartner ranking) have a market cap close to 1% of Microsoft.
- Top companies offering lucrative Power BI career opportunities.

Variety of job roles available:

- Power BI Analyst/Developer
- Data Analyst
- Business Analyst
- Business Intelligence Analyst
- Business Intelligence Developer
- Business Intelligence Manager

Power BI Interview Questions - Intermediate Level

51. What are the Parts of Microsoft's Self-Service Business Intelligence Solutions?

Microsoft Self-Service BI has two parts:

- Excel BI Toolkit: Allows users to create reports interactively through data importing from distinct data sources as well as model data according to the requirement.
- Power BI: It is an online solution that empowers users for sharing interactive reports and queries that you have created with Excel BI Toolkit.

52. What is the Differentiate between Power BI and Power BI Pro?

Power BI offers distinct kinds of features to help you get started in searching for data in a completely new way. Power BI Pro, on the other hand, caters to some additional features like scheduling data, live data sources, storage capacity, complete interactivity, and much more.

53. Define Excel BI Toolkit?

Excel BI Toolkit allows users for creating an interactive report by importing data from a distinct range of sources and model data according to requirements.

54. What is the Cost of Power BI?

Both Power BI Desktop and Power BI are free of cost. For Power BI Pro, users have to pay $9.99 per month after a 60-day free trial.

55. What are the basics needed for using Power BI?

To use Power BI, you need to have a web browser and a work email address.

work email addresses finishing in .mil and .gov are not supported currently.

56. What is the need for signing up with a work email?

Power BI does not email addresses provided by telecommunications providers and consumer email services, thus there is a need of signing up with work email.

57. Name the work email addresses that are currently supported?

Work email addresses that are finishing with .org and .edu are currently supported.

58. Is there any support by Power BI available for mobile devices?

Yes, Power BI supports mobile devices. It consists of apps for iOS devices, Windows 10 devices, and Android smartphones. You can install Power BI apps from the below app stores:

- Google Play
- Apple Store
- Windows Store

59. What is Visualization?

Visualization is a process to represent data in pictorial form like tables, graphs, or charts based on the specific requirement.

60. What is a Report?

The report is a Power BI feature that is a result of visualized data from a single data set. A report can have multiple pages of visualization.

61. What is Power Pivot and what are the filter writes in Power BI?

Power Pivot is an in-memory component that enables storing compressed data. It is used to build data models, relationships, creating formulas, calculated columns from different resources.

Filters are applicable in:

- Visualization level
- Report Level
- Page-Level

62. What data sources can Power BI connect to?

The following data sources that support DirectQuery in Power BI are as follows:

- Amazon Redshift
- Azure Data Explorer
- AtScale (Beta)
- Azure SQL Database
- Azure HDInsight Spark
- Google BigQuery
- Azure SQL Data Warehouse
- HDInsight Interactive Query

63. Why do we need BI?

You can take data and create reports at the click of a button. You can take data and create reports with a button click. It helps in attracting new customers to service and monitor existing customers. You can keep track of information and set your goals accordingly. In general, building an ETL solution (Extraction, Transformation, and Loading) ultimately helps to make better decisions. The ROI is very high Helps to make unwanted data into progressive information.

64. Does Power BI store data?

Datasets are the data sources that are uploaded or connected to databases. These sources include Excel workbooks and Power BI Desktop files. The following are also included in your data capacity. Reporting Services on-premises visualizations are pinned to a Power BI dashboard.

65. What must be installed to use Power BI?

To use the Power BI service for free, you need a work email and a web browser. With this, you can explore data as well as create reports in Power BI Desktop. The mobile app can be downloaded from the following stores:

Google Play, App Store, and Windows Store.

66. How one can get started with Power BI?

There are some resources to get assistance and get started with Power BI. They are as follows:

- Webinars
- Power BI Blog
- You can get started with an article on Power BI
- You can get started with a video on YouTube
- Last but not least, joining a related community and get answered

67. What is SSBI?

SSBI stands for Self-Service Business Intelligence. It can also be termed as accessing data analytics to empower business users to divide, clean, and interpret data. SSBI has made it easy for end-users to access their data and create various kinds of visuals to acquire useful business insights. Anyone who has basic data knowledge can build reports for creating spontaneous and shareable dashboards.

68. What is a Dashboard?

The dashboard is used to visualize the strategic data of one or multiple reports at a glance.

69. What is the CORR function and when is it used?

CORR is a correlation function that provides a correlation between two distinct variables ranging from -1 to 1.

70. What are the advantages of Power BI?

Here are the top advantages of Power BI

- Power BI integrates well with the existing application
- It contains rich and personalized Dashboards.
- publishing reports in a secure way
- Quick accessibility to data means there is no speed and memory issue

71. What are the data destinations for Power Queries?

There are two destinations for output we get from power query:

- Load to a table in a worksheet
- Load to the Excel Data Model

72. What are the different connectivity modes in Power BI?

- Import
- Direct Query

73. What is the data source filter?

A data source filter is a parameter of data filtering before loading into machines.

74. What are the Different Products in the PowerBI family?

Below are different Power BI services/products:

- Power BI Desktop
- Power BI Services
- Power BI Mobile

- Power BI Gateway
- Power BI Premium
- Power BI Report Server
- Power BI Embedded

75. What is Power View?

Power View is a data visualization technology, which lets you create interactive graphs, charts, maps, and other visuals to bring life to your data. It is available in Excel, SQL Server, SharePoint, and Power BI.

76. Which language is used in Power Query?

A new programming language is used in a power query called M-Code. It is easy to use and similar to other languages. M-code is a case-sensitive language.

77. How to import the data on the Power BI desktop?

Go to getting data Sources and click on your required sources (Excel, SQL, CSV) then Load it. Click on the Data view to view that data.

To choose the table click on the fields and you can pick a visualization to generate a report.

78. Which datasets are used to create a dashboard with streaming data tiles?

Streaming datasets (we need to have data that is cached in memory before we use streaming data sets)

Hybrid Datasets

79. How Dynamic filtering in Power BI is performed?

Dynamic Filtering in Power BI is done by the following steps:

- Once all the data are set up publish the detailed report to Power BI
- Publish it to Group Work Space
- Create Filter Link
- Create a DAX calculated Column
- Public Overview Report

80. What is the procedure to buy Power BI Pro?

Power BI license can be purchased at powerbi.com. However, you can also get assistance from Microsoft partners to aid using Power BI implementation.

81. Is the Power BI service accessible on-premises?\

The user cannot avail of the service as an internal or private cloud service. However, with Power BI and Power BI Desktop, the user can connect to their on-premise data sources securely.

82. Which is the language used to calculate column/calculated field in Power Pivot?

Data Analysis Expression (DAX) is used to calculate column fields in Power Pivot.

83. What are the column values that DAX supports?

- It is not capable of inserting or modifying data
- It cannot be used to calculate rows, though you can calculate measures and calculated columns

84. Explain the Power Pivot Data Model?

It is a model that is made up of data types, tables, columns, and table relations. The data tables are generally constructed to hold data for a business entity.

85. Define Power Query?

Power Query is an ETL tool to clean, shape, and transform data without any code using intuitive interfaces. With this:

- You can import data from various sources like databases from files
- Append and join data from a wide range of sources
- You can shape data as needed by adding and removing it

86. Name the language that is used in the power query?

M-code which is a new programming language is used in Power Query. This language is easy to use and is quite similar to other languages. Also, it is case-sensitive.

90. Name the data destinations for Power Query?

Two destinations are there for the output we receive from the power query. They are:

- Load to Excel Data Model
- Load to a table in a worksheet

91. Explain the Power BI Designer?

Power BI Designer, a standalone app that is used to create reports in Power BI and to upload them to Powerbi.com. It is a combination of Power View, Power Pivot, and Power Query.

92. What is the use of the split function?

The split function is used for splitting the string database on the given delimiter.

93. Name all the platforms for which the Power BI app is available?

Power BI app is available for:

- Android
- iPhone and iPad
- Windows tablets and Windows Desktops
- Coming for Windows phone soon

94. What is the difference between older and newer Power BI?

There is a new design tool that is used in the new Power BI called Power BI Desktop. It is a standalone designer, including Power Pivot, Power View, and Power Query in the back end. Whereas, Older Power BI consists of excel add-ins. In the newer Power BI version, there are several graphs available including treemap, line area chart, waterfall, combo chart, etc.

95. Is it possible in the power pivot data model to have more than one active relationship between two tables?

No, it is not possible. There cannot be more than one active relationship in the power pivot data model between two tables. It is possible to have only one active and many inactive relationships.

96. What are the general data shaping techniques?

The common data shaping techniques are:

Removing Columns and Rows

Adding Indexes

Applying for a Sort Order

97. What are the KPIs in Power BI?

KPIs are Key Performance Indicators, which evaluate the organization's performance in distinct areas by evaluating measurable goals and values. A KPI has a measure or base value that is evaluated against target values. It includes a comparison of the performance with the target. The KPI also helps you evaluate the analysis performances

with their graphical representation. Thus, KPIs will show whether your goals have been met or not.

98. What could be the difference between Distinct() and Values() in DAX?

We can use both Distinct() and Values() functions to return the values into a column or cell on the worksheet. The difference between them is that the Values() function returns blank values along with unique values, whereas the Distinct() function returns only unique values.

99. State the advantages of the Direct query method?

The advantages of the Direct query method are listed as follows:

Users can build huge data sets of data visualizations using the Direct Query Method, but the Power BI desktop supports data visualizations on smaller sets alone. There is no limit to the dataset for the direct query method and a 1GB dataset limit is not applicable in this method.

100. What is the parameter in power bi?

If you want to put a scenario and based on that if you want to see the visuals, the best is the What-if parameter. It helps you to forecast data and perform advanced analytics. For example, if you have set up the product discount from the what-if parameter from 1 to 10. And users can change the values and see the changes in profit, sales, revenue, margin, etc. that help in detailed analysis.

Power BI Interview Questions for Experienced Professionals

101. What is the incremental refresh?

Incremental refresh is used to refresh the newly added data to avoid truncating and loading data.

102. What are the three main tabs in the Reports development Window?

The major tabs in the Reports development Window are as follows:

- Relationship tab
- Data Modeling Tab
- Report Tab

103. How many types of default Graphs (Visualizations) available in Power BI?

Around 26 Views

104. What are Slicers in Power BI?

- Slicers are the visual filters, which are present in the report page of Power BI. It helps us to sort and filter information on a packed report
- Slicers unlike filters present as a report visual and you can select values on it while analyzing the report data

105. What is the major difference between a Filter and a Slicer?

Using Normal filters users were not allowed to interact with dashboards or reports, but using slicers we can interact with dashboards and reports.

106. What is a parameter in Power BI?

A Parameter in Power BI is a dynamic filter that is used in the calculation fields. It is based on the parameter value result that can vary.

107. Difference Between New Measure and New column?

A new column is an area in Power Bi where the physical data is stored when logic is applied, whereas, the measure is where the calculations are performed on the fly based on dimensions. Measure, unlike Column, won't store any physical data.

108. What are the different joins in Power BI?

- Horizontal Joins to append data from multiple tables
- Vertical Joins to merge the data from multiple tables

109. What is the Embed Code?

There is an option in the Power BI service, which publishes to the web to generate a link address for the Power BI report and can be shared across clients.

110. How do you Hide and Unhide a Specific Report in Power BI?

In the menu bar, choose the Selection pane and hide/unhide the report and the action to pass to the bookmark.

111. How do you compare Target and Actual Values from a Power BI report?

A gauge chart is used to compare two different measures where the Target and Actuals are inferred.

112. What are Power Query's major Data Destinations?

There are two destinations for output we get from power query:

- Load to a table in a worksheet
- Load to the Excel Data Model

113. Can we Refresh Data Reports that are uploaded to the Cloud?

Yes, you can refresh the data reports which are uploaded to the cloud. Power BI personal gateway and Data management gateway helps you acquire the same.

114. How are a Power BI Dashboard and Report different from each other?

To understand the difference between Power BI Dashboard and Report, let's run through some quick points.

Capability	Report	Dashboard
Pages	Can be of one or more pages.	Consists of one page only
Data sources	It has a single dataset per report.	Can have data tiles from one or more datasets or reports.
Filtering	Can perform slicing, filtering, and highlighting.	Cannot filter or slice reports.
Set alerts	No option for setting alerts.	Enable setting email alerts
Featured reports	No option for creating a featured dashboard.	Enables to set only one dashboard as a featured dashboard.
Accessing tables and fields in datasets	Provides options to view dataset tables, values, and fields.	Cannot view or access underlying datasets tables and fields.

115. How to Toggle Between Two Option and Make it Interact with the rest of the Visualizations in a Report?

Toggling is an action that is achieved in Power BI reports when there exist two or more dimensions. With "Enlighten Slicer", you can show this in Power BI and can be imported from Marketplace.

116. What does rank() do?

Rank() calculates regular competition rank thus returning identical values. You can ask for ascending or descending values in the second argument accordingly.

117. How do I Prepare for a Power BI Interview?

The main aspect to learn before attending any PowerBi interview is "how the data representation and general business intelligence is going to work!"

118. Is Business Intelligence a Good Career?

One of the great reasons for choosing a career in BI is the on-demand outlook. According to a report from the US Bureau of Labor Statistics, the demand for expert BI managers and analysts is expected to soar to 14% by 2026, with the overall need for data professionals to climb to 28% by 2020.

119. Is Power BI better than Tableau?

Both Tableau and Power BI allow the user to connect to distinct data sources. However, Tableau provides better support to connect to a different data warehouse, and Power BI is heavily integrated with Microsoft's portfolio like the Azure cloud platform.

120. Is Power BI hard to Learn?

Any data analyst can quickly connect with any data source, summarizing the findings into simple reports without any programming experience. With Power Pivot built into the Power BI, analytics measures were developed using DAX query language from Microsoft.

121. Is Power BI hard to use?

Power BI doesn't require users to write SQL code like BI tools but requires MS Excel knowledge.

122. Is Data Analyst a Good Career?

Data is useless without proper analytics. Any professional with analytical skills can easily master the ocean of Big Data and become a crucial asset to the organization, boosting

the business as well as career. There are several on-demand job opportunities in Big Data management and Analytics and are constantly growing.

123. What are the essential applications of the Power BI?

Power BI is mainly used by:

- PMO - Project Management Office
- Developer & Database Administrator
- Business & Data Analyst
- IT Team, IT Professional
- Data Scientist
- Consumer for End User Report

124. Is Power BI better than Excel?

Power BI is a more powerful tool compared to Microsoft Excel. Power BI is easy to use and is much more flexible while Microsoft Excel is not so handy to use. Power BI is mostly used for data visualization and dashboard sharing to a large number of users while Microsoft Excel is mostly used for in-depth driver analysis.

125. How do I export from power BI to excel?

In Power BI, a user can export any dashboard or visual. To export your data, choose the ellipses (3 dots) on the top-right side of any visualization and choose the icon: Export data. Your data is exported as an a.CSV file. You can even save and open the file in Excel.

126. How do you manage a role in Power BI?

Follow these steps to manage a role in Power BI

- Step 1: Import data into the Power BI Desktop report
- Step 2: connection
- Step 3: Select the Modeling tab
- Step 4: Select Manage Roles
- Step 5: Select Create
- Step 6: Provide a name for the role
- Step 7: Select the table that you want to apply a DAX rule
- Step 8: Enter the DAX expressions
- Step 9: After creating a DAX expression, select the checkbox placed above the expression and validate the expression
- Step 10: Select Save

127. How do you answer behavioral interview questions?

These can be answered in four simple steps as follows:

- Step 1: Situation. Describe the situation or set the scene
- Step 2: Task. Describe the issue or problem you were confronted with
- Step 3: Action
- Step 4: Results

128. What is the difference between Power BI vs Tableau?

Here are key differences between Power BI vs Tableau

Feature	Power BI	Tableau
Data visualization	Focuses only on modeling and reporting	Best tool
Cost	Less expensive	Very expensive since it uses data warehousing
Machine Learning	It is associated with Microsoft Azure.	It has python Machine learning.
User Interface	Simple and easy to use	Use a customized dashboard
Data handling	It drags down slow when handling huge data	Handles bulk data

TCS Power BI Interview Questions

129. What is the Power BI Service?

Power BI Service is a cloud-based analytics solution that helps you to create dashboards and publish, design reports, collaborate and share the reports with internal and external stakeholders.

130. What is a summarize function in DAX?

Summarize is a DAX function that gives an aggregated result from a table.

This is how you can use summarize function:

- Summarize(<table>,<grouping column>,[<name>,<expression>])
- Table - a DAX expression that returns a table
- grouping column - the column name you want to use for grouping
- name - the name of the new aggregated column

- expression - generates the aggregated column.

131. Can you export Power BI report data into any other format like SSRS?

Yes, you can export a Power BI report data to another file format, such as PowerPoint, PDF, Image, Microsoft Word, or Microsoft Excel or export the report by generating an Atom service document, listing the Atom-compliant data feeds available from the report.

132. What is the difference between the measure and the calculated column?

The difference is the context of evaluation. A measure is evaluated in the context of the cell evaluated in a report or in a DAX query. While the calculated column is computed at the row level within the table it belongs to.

133. Have you faced any performance issues in your project?

This is one of the important Power BI questions. As a developer, while developing projects, you may face one or two performance issues based on the type of data you use. Explain about how you overcome those issues.

Cognizant Power BI Interview Questions

134. Describe a time when Power BI limited or enhanced your success on a project?

There is a limitation to export data for large data sets in Power BI

135. What is your go-to DAX function for time intelligence?

DATEDADD is the most versatile function used for time intelligence. However, pretty much of the time intelligence can be recreated with DATEDADD.

136. How do you improve the performance of your data models?

Following the tidy data philosophy, column usage should be limited. Also utilizing the star schema to limit joins will also improve the model.

Disabling unused tables from loading also helps. Also using lookups can also improve overall functionality.

137. How can You Change the Value Measure to Show Multiple Measures Dynamically?

You can dynamically change and switch functions to show multiple measures using harvesting measures.

138. How Important is Power BI?

Dashboards, datasets, and reports are the heart of Power BI, and they enable users to create personalized dashboards combining cloud-born and on-premises data in a single view. It allows monitoring the most important data enterprise-wide and from all their business apps.

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Power BI DAX Interview Questions

1. Why is DAX so important?

Importing data into Power BI Desktop is an easy task. You can even create reports that share valuable insights without using DAX formulas in it. But if you want to analyze the growth percentage of different date ranges and across product categories or calculate year growth compared to market trends? DAX formulas support this capability. DAX stands for Data Analysis Expression language. Knowing how to use DAX formulas helps you to get the most out of your data. DAX works on operators, functions, and constants to further extend your model.

2. How does Power BI DAX work?

The three fundamental concepts of Power BI DAX are Syntax, Context, and Functions.

Syntax:

It comprises various components that make up the formula. To understand the DAX formula, let's break down each of the elements into a language.

```
Total Sales = SUM(Sales[SalesAmount])
```

- Total Sales is the Measure name.
- The equals sign (=) indicates the start of the DAX formula.
- SUM is used to add the values of a given field.
- The parenthesis () is used to enclose and define arguments in an expression
- Sales are the table referenced
- The referenced column [SalesAmount] is an argument with which the SUM function identifies the column on which it has to aggregate a SUM.

Context:

- It is one of the essential concepts of DAX. There are two types of Contexts - Row Context and Filter Context.
- The Row-Context is applied whenever a formula has a function that filters to identify a single row in a table.
- Filter-Context is used when one or more filters are applied in a calculation.

Functions:

Functions are structured, predefined, and ordered formulae. They complete calculations using arguments passed on to them.

3. Explain DAX function

A DAX function is a predefined formula that performs calculations on values provided to its arguments. The arguments in a function should be in a specific order and can be a column reference, text, numbers, constants, etc. Every function performs a particular operation on the values enclosed in an argument. There can be more than one argument in a DAX formula.

Some of the most commonly used DAX functions:

Date and Time Functions

These functions carry out calculations on the date and time values.

Ex: DATE, CALENDER, HOUR, MINUTE

Time Intelligence Functions

These functions are used to evaluate values over a fixed period.

Ex: DATESBETWEEN, ENDOFQUARTER, CLOSINGBALANCEMONTH

Information Functions

These functions provide particular information on the data values included in rows and columns. It checks the given condition in a function for the given value and returns TRUE or FALSE.

Ex: ISERROR, CUSTOMDATA, ISNONTEXT

Logical Functions

These functions are used to evaluate an argument or expression logically.

Ex: AND, FALSE, IFERROR, IF

Mathematical and Trigonometric Functions

These functions are used to perform all sorts of mathematical functions on the reference values.

Ex: DIVIDE, FACT, ACOS

Statistical Functions

These functions carry out statistical and aggregation functions on data values in a DAX expression.

Ex: AVERAGE, COUNT, GENERATE

Text Functions

These are similar to the string functions of Excel.

Ex: FIND, LEFT, FIXED, FORMAT

Parent-Child functions

These are used for data values that are a part of a parent-child hierarchy.

Ex: PATH, PATHITEM

Table functions

In DAX formulas, these functions are used to apply operations and conditions on entire tables.

Ex: FILTER, VALUES, DISTINCT

Other functions

There are a bunch of functions that do not fit in any particular category.

Ex: GROUPBY, EXCEPT, GENERATESERIES

4. Tell something about DAX Calculation Types.

DAX formulas can also be called DAX Calculations as they calculate an input value and return a resultant value. The calculations that you can perform using DAX in Power BI are Calculated Measures and Calculated Columns.

Calculated Measures: They create a field having aggregated values such as a sum, percentages, ratios, averages, etc.

Calculated Columns: They create a new column in your existing table. The only thing is there should be at least one function in the calculated column. When you want to create a column with filtered or sorted information, calculated columns are used.

5. What's the main purpose of using the Calculate function?

Calculate functions allow you to modify the filter context of tables or measures. You can perform the following:

- Override filter context from queries
- Remove present filter context from queries
- Add to existing filter context of queries