1) **Explain the advantages of Natural Queries in PowerBi with an example?**

Many analytics vendors today offer [search-based NLQ tools](). To explore data and find insights, you must use free text, but you also have to know what, or how to pose a query. The search-based approach, more often than not, results in blank search field syndrome. You may not know what to type in, or are left wondering what to do next, leading to frustrating attempts and failures, and disillusionment in natural language altogether. The search-based approach, more often than not, results in blank search field syndrome. You may not know what to type in, or are left wondering what to do next, leading to frustrating attempts and failures, and disillusionment in natural language altogether. These add-on elements can help build your query, and lead toward a more relevant result than traditional free text search. You're actively shown a list of options in simple drop-down menus, and prompted with suggestions that can help correctly state the question you mean to ask, such as 'compare', or 'list', using familiar terms, not technical jargon.

Once your query is built, Guided NLQ presents the ideal level of data you need to uncover the answer, delivered as a [best practice data visualization]() (chart), which can also be viewed in tabular form. These answers highlight hidden patterns, trends and outliers or shifts in behavior that can reveal deep insights otherwise not seen in traditional analysis.

From here, you can do a number of things:

- You can go back at any time to rearrange the question

- Change your data view to find more answers from other datasets

- Save your question for later

- Add the answer to existing content in Yellowfin, such as Dashboards, Stories, or Presentations

2) **Explain Web Front End(WFE) cluster from Power BI Service Architecture?**

The Power BI service architecture is based on two clusters – the Web Front End (WFE) cluster and the Back-End cluster. The WFE cluster manages the initial connection and authentication to the Power BI service, and once authenticated, the Back-End handles all subsequent user interactions. The **WFE** cluster manages the initial connection and authentication process for Power BI, using AAD to authenticate clients and provide tokens for subsequent client connections to the Power BI service. Power BI also uses the **Azure Traffic Manager** (ATM) to direct user traffic to the nearest datacenter, determined by the DNS record of the client attempting to connect, for the authentication process and to download static content and files. Power BI uses the **Azure Content Delivery Network** (CDN) to efficiently distribute the necessary static content and files to users based on geographical locale.

3) **Explain Back End cluster from Power BI Service Architecture?**

The Back-End cluster is how authenticated clients interact with the Power BI service. The Back-End cluster manages visualizations, user dashboards, datasets, reports, data storage, data connections, data

refresh, and other aspects of interacting with the Power BI service. The Gateway Role acts as a gateway between user requests and the Power BI service. Users do not interact directly with any roles other than the Gateway Role. Azure API Management will eventually handle the Gateway Role.

**4) What ASP.NET component does in Power BI Service Architecture?**

Web front-end cluster (WFE):

The WFE cluster provides the user's browser with the initial HTML page contents on site load, as well as pointers to CDN content used to render the site in the browser.

The WEF Cluster

A WFE cluster consists of an ASP.NET website running in the Azure App Service Environment. When users attempt to connect to the Power BI service, the client's DNS service may communicate with the Azure Traffic Manager to find the most appropriate (usually nearest) datacenter with a Power BI deployment. For more information about this process, see Performance traffic-routing method for Azure Traffic Manager.

Static resources such as *.js, *.css, and image files are mostly stored on Azure Content Delivery Network (CDN) and retrieved directly by the browser. Note that Sovereign Government cluster deployments are an exception to this rule, and for compliance reasons will omit the CDN and instead use a WFE cluster from a compliant region for hosting static content.

**5) Compare Microsoft Excel and PowerBi Desktop on the following features:**

-Data import

-Data transformation

-Modeling

-Reporting

-Server Deployment

-Convert Models

-Cost

|  | Excel | Power BI |
|---|---|---|
| Data import | You can import data from a text file into an existing worksheet. Click the cell where you want to put the data from the text file. On the Data tab, in the Get External Data group, click From | To import an Excel workbook into Power BI Desktop, select File > Import > Power Query, Power Pivot. From the Open window, select an Excel workbook to import. ... |

| | Text. In the Import Data dialog box, locate and double-click the text file that you want to import, and click Import. | From the import dialog box that appears, select Start. ... Select Close |
|---|---|---|
| Data transformation | Select the Date column, select Home > Transform > Data Type, and then select the Date option. You can convert other numeric types, such as percentage or currency. ... To return the transformed data to the Excel worksheet, Select Home > Close & Load. | Import Data. Changing Table Name. Remove First Row. Replace Null Value. Remove Unnecessary Rows. Rename Column Headings. Separating Columns. Merge Columns. |
| Modeling | Excel modeling is the process where an individual uses a spreadsheet to make quantitative predictions based on a series of underlying assumptions. | To create data model in Power BI, you need to add all data sources in Power BI new report option. To add a data source, go to the Get data option. Then, select the data source you want to connect and click the Connect button. Once you add a data source, it is presented on the right side bar. |
| Reporting | Create a report using charts: Select Insert > Recommended Charts, then choose the one you want to add to the report sheet. Create a report with pivot tables: Select Insert > PivotTable. Select the data range you want to analyze in the Table/Range field. Print: Go to File > Print, change the orientation to Landscape, scaling to Fit All Columns on One Page, and select Print Entire Workbook. | A Power BI report is a multi-perspective view into a dataset, with visuals that represent different findings and insights from that dataset. A report can have a single visual or pages full of visuals. Depending on your job role, you may be someone who designs reports. |
| Server Deployment | After you finish development of your integrated Excel workbook, you make the final integrated Excel workbook available to end users by deploying the resulting Fusion web application to an application server. Before you deploy a finalized Excel workbook that integrates with the Fusion web application, you | The deployment process lets you clone content from one stage in the pipeline to another, typically from development to test, and from test to production.<br><br>During deployment, Power BI copies the content from the current stage, into the target |

| | | |
|---|---|---|
| | must publish it as described in Section 14.3, "Publishing Your Integrated Excel Workbook." After you have published the Excel workbook, you can deploy it using one of the methods outlined in the "Deploying Fusion Web Applications" chapter of the Developing Fusion Web Applications with Oracle Application Development Framework. | one. The connections between the copied items are kept during the copy process. Power BI also applies the configured deployment rules to the updated content in the target stage. Deploying content may take a while, depending on the number of items being deployed. During this time, you can navigate to other pages in the Power BI portal, but you can't use the content in the target stage. |
| Convert Models | A Data Model allows you to integrate data from multiple tables, effectively building a relational data source inside an Excel workbook. Within Excel, Data Models are used transparently, providing tabular data used in PivotTables and PivotCharts. A Data Model is visualized as a collection of tables in a Field List, and most of the time, you'll never even know it's there. | Open the PBIX file in Power BI Desktop. Click on Transform Data. In Power Query Editor, delete all the queries. ... You should have 0 queries in the list. ... If there are additional tables in the Fields section back in the main Power BI Desktop window, delete those as well. |
| Cost | Microsoft Excel has 6 different plans: Microsoft 365 Business Basic (For Business) at $5.00 per user per month. Microsoft 365 Personal (For Home) at $5.83 per month. Microsoft 365 Apps for business at $8.25 per user per month. | Power BI Pro $13.70 Power BI Premium $27.50 |

**6) List 20 data sources supported by Power Bi desktop.**

*Data sources*

The Get Data dialog box organizes data types in the following categories:

- All
- File
- Database

- Power Platform
- Azure
- Online Services
- Other

The All category includes all data connection types from all categories.

### File data sources

The File category provides the following data connections:

- Excel Workbook
- Text/CSV
- XML
- JSON
- Folder
- PDF
- Parquet
- SharePoint folder

### Database data sources

The Database category provides the following data connections:

- SQL Server database
- Access database
- SQL Server Analysis Services database
- Oracle database
- IBM Db2 database
- IBM Informix database (Beta)
- IBM Netezza
- MySQL database
- PostgreSQL database
- Sybase database
- Teradata database
- SAP HANA database
- SAP Business Warehouse Application Server
- SAP Business Warehouse Message Server
- Amazon Redshift
- Impala
- Google BigQuery
- Vertica
- Snowflake
- Essbase
- Actian (Beta)
- Amazon Athena

- AtScale cubes
- BI Connector
- Data Virtuality LDW
- Denodo
- Dremio Software
- Dremio Cloud (Beta)
- Exasol
- Indexima
- InterSystems IRIS (Beta)
- Jethro (Beta)
- Kyligence
- Linkar PICK Style / MultiValue Databases (Beta)
- MariaDB
- MarkLogic
- TIBCO(R) Data Virtualization