**Power BI Assignment 2**

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

* Natural Language Queries in Power BI offer several advantages:
* Accessibility: Users can interact with data using everyday language, making it accessible to a wider audience, including those without technical expertise.
* Ease of Use: It simplifies the querying process, eliminating the need for users to have a deep understanding of database structures or complex query languages.
* Time Savings: Users can quickly get insights by asking questions in a natural language format, saving time compared to traditional methods of data exploration.

Example:

* Instead of writing a complex query, a user can type or speak, "Show me sales data for the last quarter," and Power BI will generate the relevant visualizations based on the natural language query.

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

* In the Power BI Service architecture, the Web Front End (WFE) cluster refers to the component responsible for handling user interface interactions. It manages tasks related to user authentication, authorization, and rendering of Power BI reports and dashboards in the web browser. The WFE cluster ensures a responsive and interactive user experience by handling requests from users, managing sessions, and coordinating with other components, such as the backend processing and data storage layers.
* In short, the WFE cluster is a critical part of the Power BI Service architecture that focuses on delivering a user-friendly and seamless web interface for interacting with Power BI content.

1. **Explain Back End cluster from Power BI Service Architecture?**

* In the Power BI Service architecture, the Back End cluster refers to the component responsible for handling background tasks, data processing, and managing the underlying infrastructure. It includes services for data refresh, data modeling, security, and other backend operations. The Back End cluster works in conjunction with the Web Front End (WFE) cluster to ensure the overall functionality and performance of the Power BI Service.
* In short, the Back End cluster in Power BI Service is the behind-the-scenes component that manages the processing and data-related operations, supporting the overall functionality of the platform.

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

* In the Power BI Service Architecture, ASP.NET is a key component that serves as the underlying web framework for building and hosting web applications. It handles web requests and responses, manages session state, and provides the infrastructure for developing and running web applications, including Power BI Service.
* In short, ASP.NET plays a crucial role in facilitating the web-based interactions within the Power BI Service, handling user requests, and managing the web application's functionality and performance.

1. **Compare Microsoft Excel and PowerBi Desktop on the following features:**

**Data import**

**Data transformation**

**Modeling**

**Reporting**

**Server Deployment**

**Convert Models**

**Cost**

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| --- | --- | --- |
| **Data import** | Supports importing data from various sources but may have limitations on handling large datasets efficiently. | Specialized for data analysis, supports seamless import from a wide range of data sources, and handles large datasets more effectively. |
| **Data transformation** | Offers basic data transformation features through functions and formulas. | Provides advanced data transformation capabilities with a dedicated Power Query Editor for shaping and cleaning data.  Modeling |
| **Modeling** | Supports data modeling, but may become complex for larger datasets. | Designed for robust data modeling with relationships, hierarchies, and measures, suitable for handling complex data models. |
| **Reporting** | Good for simple reports, charts, and tables. | Specialized for creating interactive and visually compelling reports and dashboards. |
| **Server Deployment** | Typically used on individual devices; sharing involves sending files. | Reports can be published to the Power BI Service, allowing for centralized sharing and collaboration. |
| **Convert Models** | Models may be limited in compatibility and scalability. | Offers better compatibility and scalability, and Power BI models can be used in the Power BI Service. |
| **Cost** | Part of the Microsoft Office suite; no additional cost for basic functionalities. | Free to download and use; additional costs may apply for Power BI Pro or Premium subscriptions, especially for collaboration and sharing features. |

1. **List 20 data sources supported by Power Bi desktop.**
2. Excel Workbook
3. SQL Server Database
4. Azure SQL Database
5. SharePoint Online List
6. SharePoint Folder
7. Web
8. OData Feed
9. Hadoop HDFS
10. Salesforce Objects
11. Google Analytics
12. Exchange
13. Dynamics 365
14. JSON
15. PDF
16. Folder
17. Power Query (M) Function
18. Active Directory
19. Facebook
20. MySQL Database
21. Oracle Database