**Power BI Assignment 2**

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1. Explain the advantages of Natural Queries in Power Bi with an example?

Answer:

Natural language queries (NLQ) is a feature in Power BI that allows users to interact with data using natural language. This means that users can ask questions in plain English, and Power BI will try to understand the question and return the appropriate results.

**Several advantages to using NLQ in Power BI**

Users don't need to know how to write complex queries in order to get the information they need.

NLQ can help users to discover new insights in their data. By asking questions in a natural way, users can explore their data in ways that they might not have thought of before

You could use NLQ to ask questions like:

What are my top selling products?"

What are my sales trends over time?"

Which customers are my most profitable?"

Here are some additional advantages of using NLQ in Power BI:

It is easy to use. Even if we are not familiar with data analysis, we can use NLQ to get the

information you need.

It is flexible. We can ask questions in a variety of ways, and Power BI will try to understand

our intent.

It is powerful. NLQ can be used to analyze large datasets and find patterns that would be

difficult to see with the naked eye.

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

The Web Front End (WFE) cluster is responsible for handling initial connections and authentication to the Power BI service. It also provides users with access to static content, such as images, CSS, and JavaScript files. The WFE cluster is made up of a number of web servers that are distributed across multiple Azure data centers. This ensures that users can always connect to the Power BI service, even if one data center is unavailable.

The WFE cluster uses Azure Active Directory (Azure AD) to authenticate users. When a user first tries to connect to the Power BI service, their browser sends a request to the WFE cluster. The WFE cluster then validates the user's credentials against Azure AD. If the user is authenticated, the WFE cluster provides them with a token that allows them to access the Power BI service.

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

The Back-End cluster in the Power BI Service Architecture is responsible for managing visualizations, user dashboards, datasets, reports, data storage, data connections, data refresh, and other aspects of interacting with the Power BI service. The Back-End cluster is made up of a number of different roles, including:

Gateway Role: The Gateway Role acts as a gateway between user requests and the

Power BI service. Users don't interact directly with any roles other than the Gateway Role.

Presentation Role: The Presentation Role handles all the visualization related queries like for dashboards and reports.

Data Role: The Data Role handles all the data related queries.

Data Movement Role: The Data Movement Role is responsible for moving data between different data sources.

Metadata Role: The Metadata Role is responsible for storing and managing metadata about the data in the Power BI service.

The Back-End cluster is a critical part of the Power BI Service Architecture and it plays a vital role in ensuring that users can interact with the service in a reliable and efficient manner.

The Back-End cluster is deployed on Azure, Microsoft's cloud computing infrastructure and platform.

The Back-End cluster is designed to be highly scalable and resilient, so that it can handle even the most demanding workloads.

The Back-End cluster is protected by a number of security measures, including encryption and authentication.

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

The ASP.NET component in the Power BI Service Architecture is responsible for rendering Power BI reports in a web browser. The ASP.NET component is a web application that is hosted on the Power BI Service. When a user requests a Power BI report, the ASP.NET component renders the report in the user's web browser.

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

Data import

Data transformation

Modeling

Reporting

Server Deployment

Convert Models

Cost

Answer: Comparison between Microsoft Excel and PowerBi Desktop

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| --- | --- | --- |
| On the basis of feature | Microsoft Excel | PowerBi Desktop |
| Data import | Excel can import data from a variety of sources, including text files, spreadsheets, databases, and other applications. | Power BI can import data from even more sources than Excel, including cloud-based applications, social media platforms, and IoT devices. |
| **Data transformation** | Excel offers a variety of data transformation tools, including filters, pivot tables, and macros. | Power BI offers even more data transformation tools than Excel, including DAX (Data Analysis Expressions), which is a powerful language for querying and manipulating data. |
| **Modelling** | Excel can be used to create simple data models, but it is not as powerful as Power BI for this purpose. | Power BI is a powerful data modelling tool that can be used to create complex models that can be used to analyse large amounts of data. |
| **Reporting** | Excel can be used to create simple reports. | Power BI is a powerful reporting tool that can be used to create interactive dashboards and reports that can be shared with others. |
| **Server Deployment** | Excel is a desktop application that cannot be deployed on a server. | Power BI can be deployed on a server, which makes it possible to share reports and dashboards with a wider audience. |
| **Convert Models** | Excel cannot convert models to other formats. | Power BI can convert models to a variety of formats, including Excel, PDF, and PowerPoint |
| **Cost** | Excel is less costly. | Power BI is available in a variety of pricing plans, including a free plan for personal use and a paid plan for business use. |
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Overall, Power BI is a more powerful and versatile tool than Excel for data analysis and reporting. However, Excel is a simpler and more affordable tool that may be sufficient for some users.

1. List 20 data sources supported by Power Bi desktop.

Answer

1. SQL Server
2. Azure SQL Database
3. Oracle
4. IBM Db2
5. IBM Informix
6. MySQL
7. PostgreSQL
8. Sybase
9. Teradata
10. SAP HANA
11. SAP Business Warehouse
12. Amazon Redshift
13. Impala
14. Google BigQuery
15. Vertica
16. Snowflake
17. Essbase
18. Actian
19. Amazon Athena
20. BI Connector