**Power BI Assignment 2**

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

Answer: Natural queries allows people to ask questions of data within their analytics platform using everyday language as they would to another person to find the information they need to make business decisions. For examples: if we have sales data of different branches and I want to know the sales gained in specific branch. With natural query, we do not need to write a code. We can use natural query and with simple language, we can ask this question and Power Bi will give the answer on the basis of given data. It means , even non- tech person can also get some insights from raw data. Natural queries save time when we have big projects to complete.

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

Answer: Clients and the back end are connected by the front end, commonly known as the web front-end cluster. The front-end services handle the initial connection and Azure Active Directory client authentication. User IDs are kept in the Azure Active Directory. After authentication, user requests are routed through Azure Traffic Manager to the closest data center. The Azure Content Delivery Network (CDN) makes static Power BI content and files available to users when a client or user has been authorized.

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

Answer: The**Back-End** cluster determines 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 don't interact directly with any roles other than the **Gateway Role. Azure API Management** eventually handles the **Gateway Role.**

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

Answer: A WFE cluster consists of an ASP.NET website running in the [Azure App Service Environment](https://learn.microsoft.com/en-us/azure/app-service/environment/intro). 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) data center with a Power BI deployment. For more information about this process, see [Performance traffic-routing method for Azure Traffic Manager](https://learn.microsoft.com/en-us/azure/traffic-manager/traffic-manager-routing-methods#performance-traffic-routing-method).

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

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| --- | --- | --- |
| Feature | MS-Excel | Power-Bi |
| Data Import | Provides limited number of data source to import data | Provided large number of data source to import data |
| Data Transformation | Use Power query, but can only handle limited data | Use Power query too. Can handle large amount of data |
| Modelling | With MDX language . Ideal to work on simple and structured data models | With DAX language, Ideal for building the complex data model easily. |
| Reporting | Simpler and less appealing than power bi | More visually appealing and interactive |
| SERVER Deployment | No | Uses cloud environment |
| Cost | Excel is included with office 365 package which is commonplace in business. So there are no additional cost of use of the application for many users. | PowerBi is free to download and use for personal user and it takes little amount to publish the reports |

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

Answer: EXCEL, Power Bi datasets, PowerBi dataflows, SQL Server, Web, Text/CSV, Dataverse, Analysis Services, XML, Jason, PDF, Parquet, Oracle Database, Azure, Postgre SQL database, Snowflake, Python Script, Sharepoint list, Hive LLAP, R script, Access database.