**Power BI Assignment 2**

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

Ans - Natural Language query is an easy way to interact with your data. This can be done by querying your reports ang get answers from reports. This can be more useful for those who are not technically inclined towards data and usage of power BI.

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

Ans - The WFE cluster manages the initial connection and authentication to the Power BI service.

The front end also called the web front-end cluster acts as an intermediary between clients and the back end. The front-end services are used for establishing an initial connection and authenticating clients using Azure Active Directory. The Azure Active Directory stores user identities.

Along with this, Azure Traffic Manager is used to direct user requests to the nearest data centre after authentication. Once a client/user is authenticated, the **Azure Content Delivery Network (CDN)** distributes static Power BI content/files to users.

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

Ans - The Back-End cluster. Once authenticated, the Back-End handles all subsequent user interactions.

The Power BI services at the back end take care of*visualizations, datasets, storage, reports, data connections, data refreshing, and other interactions* with Power BI. At the back-end, a web client has only two direct points of interaction, **Azure API Management**, and **Gateway Role**. These two components are responsible for *load balancing, authentication, authorization, routing,* etc.

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

Ans – It is used to embed visuals into custom applications.

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

Data import

Data transformation

Modelling

Reporting

Server Deployment

Convert Models

Cost

|  |  |  |
| --- | --- | --- |
|  | MS EXCEL | POWER BI |
| Data import | Excel struggles to handle a large amount of data and often says “Not Responding” error with a large quantity of data.  Excel capacity to import data from different sources is limited. | Power BI can handle large amount of data.  b) Power BI can connect to different types of data source to import data. |
| Data transformation | Excel is used to organize data, transform it and perform mathematical operations and calculations | Power BI was conceived as a business intelligence and data visualization tool for businesses |
| Modelling | Excel focused on simple and structured data models with wide range of features. | Power BI focus on data ingest and building potentially complex data models easily. |
| Reporting | Reports created by excel are normal and ordinary | Reports created by Power BI are visually better and with better graphical representation as compared to excel. |
| Server Deployment | Final integrated Excel workbook can be made available to end users by deploying the resulting Fusion web application to an application server. | Power BI report server cannot be analysed in excel.  Power BI Report Server is an on-premises report server with a web portal in which you display and manage reports. |
| Convert Models | Excel uses MDX language, for simple and structured data.  Best suitable for tabular models. | Power BI uses DAX language,  for complex data. |
| Cost | Microsoft Excel, it costs $140. But, as part of the Office 365 Suite, it is $7/month | Power BI Pro is available for $10 per month per client |

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

Ans –

1. Excel Workbook
2. Text/CSV
3. XML
4. JSON
5. Folder
6. PDF
7. Parquet
8. SharePoint folder
9. SQL Server database
10. Access database
11. SQL Server Analysis Services database
12. Oracle database
13. IBM Db2 database
14. IBM Informix database (Beta)
15. IBM Netezza
16. MySQL database
17. PostgreSQL database
18. Sybase database
19. Teradata database
20. SAP HANA database