**Power BI Assignment 2**

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

Ans.

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

**Ans**. 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.

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

**Ans**. 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

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

**Ans**. The ASP.NET component within the WFE cluster parses the token to determine which organization the user belongs to, and then consults the Power BI Global Service. The WFE specifies to the browser which back-end cluster houses the organization's tenant

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

**Ans**.

* 1. Data import – In Excel we import the data from DATA tab and select the particular file from the accessed folder. While in Power BI e get the data from Get Data and then load the data and transform the data through power query.
  2. Data transformation - A list of transformations from the search will be returned in DATA tab while in Power BI , data transformation can be done in transformation tab through power query editor.
  3. Modeling- Data modelling in Excel can be done by Excel's Data Model and in Power BI it can be done in Model tab , mostly its automated but we can create manual relationship model too.
  4. Reporting – In excel,Data reporting can be done through Pivot Table, while in Power BI its done in Visual page using various cgarts.
  5. Server Deployment –

*In Excel* : Set up ADF Desktop Integration on their systems. If required, configure the security settings for their Excel application.

*In Power BI* : Create Deployment pipeline, Assign a workspace, Deploy to an empty stage, Create Deployment rules, Deploy content

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. File
10. Database
11. Power Platform
12. Azure
13. Online Services
14. SQL Server database
15. Access database
16. SQL Server Analysis Services database
17. Oracle database
18. IBM Db2 database
19. MySQL database
20. PostgreSQL database