Power BI Assignment 2

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

Answer: **1. Key Functionality**

- The drag and drop function can generate reports quickly.
- Power BI is used for natural Query languages to prevent the need for users to learn a complex Query language.

2. Highly Secure

- Power BI set up automatic data refresh and publish reports allowing all the users to avail the latest information.

3. Existing App Integration

- It integrates easily with the existing business environment allowing you to adopt analytics and reporting capabilities.

4. Cloud Integration

- Power BI can integrate seamlessly and easily with advanced cloud services like Cognitive Services, Cortana, or Bot framework.

5. Personalized Dashboards

- One of the key advantages of Power BI is the information dashboards. The dashboard can be customized and can easily embed in the applications to provide a unified user experience

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

Answer: 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 datacentre, 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.

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

Answer: 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**.

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

Answer: 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.

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

Data import
Data transformation
Modelling
Reporting
Server Deployment
Convert Models
Cost

Answer:

- **Data import**- Excel, being a flexible, easy-to-use spreadsheet, is often used to create datasets. It can pull data from external data sources into your spreadsheet with the help of data connection features. It can also obtain data from sources such as the Web, Microsoft Query, SharePoint List, OData Feed, Hadoop Files (HDFS) etc. Where as Power BI is very capable of connecting to a users' external sources including SAP HANA, JSON, MySQL, and more. It enables users to connect to Microsoft Azure databases, third-party databases, files and online services like Salesforce and Google Analytics.
- **Data transformation - Excel** is used to **organize data, transform it and perform mathematical operations** and calculations. On the other hand, **Power BI** was conceived as a **business intelligence and data visualization tool for businesses**. **Excel** has **limitations** in the **amount of data** it can work with. In contrast, **Power BI can handle much larger amounts of data**

- **Modelling** – Excel is totally focused of structured and simple data models with wide range of features where as Power Bi is really focused on data ingest and building potentially complex data model easily.
- **Reporting –** Excel reports are normal and ordinary. Where as Power bi offers beautiful branded reports comparing excel.

- **Server Deployment -** Form designs and data collection workflows can be downloaded, and the workflow can be re-deployed later using those same files, even on a different server. This functionality allows us to distribute samples, and for Survey CTO users to save and share their work. we'll learn how to deploy forms and data collection workflows from definition file. Whereas the deployment process lets you clone content from one stage in the pipeline to another, typically from development to test, and from test to production. during deployment, Power BI copies the content from the current stage, into the target one. The connections between the copied items are kept during the copy process.
- **Convert Models -** Start by selecting any cell within the data that you want to add to the model. ...

  Use one of these approaches to add your data:

  Click Power Pivot > Add to Data Model.

  Click Insert > PivotTable, and then check Add this data to the Data Model the

  Create PivotTable dialog box. Whereas Create relationships between your data sources.

  Create a new field with calculated columns.

  Optimize data by hiding fields and sorting visualization data.

  Create a measure to perform calculations on your data.

  Use a calculated table to create a relationship between two tables
- **Cost –** Since we already have excel with us, we need to spend any additional amount to procure this and build dashboards where as power bi desktop is free to download and use for personal use, but it takes 10 $ per month user to share reports with others.

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

Answer:

1.Excel

2.Text/Csv

3.XML

4.JSON

5.Folder

6.PDF

7.Parquet

8.Share point 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

15.IBM Netezza

16.MySQl database
17.O data feed
18.Spark
19.Python script
20.R script

END