**Email Id – harshadkhedekar123@gmail.com**

**Power BI Assignment 2**

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

Ans.

Sometimes **the fastest way to get an answer from your data** is to perform a search over your data using natural language. The Q&A feature in Power BI lets you **explore your data in your own words** using natural language. Q&A is interactive, even fun. Often, **one question leads to others as the visualizations reveal interesting paths to pursue**. Asking the question is just the beginning. Travel through your data, **refining or expanding your question, uncovering new information, zeroing in on details, or zooming out for a broader view**. The experience is **interactive and fast**, powered by **an in-memory storage**.

Power BI Q&A is **free and available** to all users. In Power BI Desktop, report designers can use Q&A to **explore data and create visualizations**. In the Power BI service, everyone can **explore their data with Q&A**. Our **mobile apps support Q&A** too, with the Q&A virtual assistant in iOS and the Q&A visual on Android devices. If you have permission to edit a dashboard or report, you can also pin your Q&A results.

……….[More on](https://docs.microsoft.com/en-us/power-bi/natural-language/q-and-a-intro#:~:text=Sometimes%20the%20fastest%20way%20to,Q%26A%20is%20interactive%2C%20even%20fun.)

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

Ans.

* The Power BI service architecture is based on two clusters – the Web Front End (WFE) cluster and the Back-End cluster. The WFE cluster manages the initial connection and authentication to the Power BI service, and once authenticated, the Back-End handles all subsequent user interactions. Power BI uses Azure Active Directory (AAD) to store and manage user identities, and manages the storage of data and metadata using Azure BLOB and Azure SQL Database, respectively.
* Each Power BI deployment consists of two clusters – a Web Front End (WFE) cluster, and a Back-End cluster.
* 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 data center, 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.

Integrate the Power BI REST API into a web app using various programming languages. The Power BI web sample shows how to use ASP.NET to create a Power BI web app. The sample uses an ASP.NET Model-View-Controller (MVC). The MVC architectural pattern separates an application into three main components: the model, the view, and the controller.

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

Data import

Data transformation-

Modeling-

Reporting-

Server Deployment-

Convert Models-

Cost-

|  |  |  |
| --- | --- | --- |
| Feature | Microsoft Excel | Power BI |
| Cost | Payment tool. | It has a free version and a payment version. |
| Server Deployment | Sharing documents and working with others is complex. | Sharing data and reports is easy with Power BI. |
| Reporting | Simpler and less attractive reports than those of Power BI. | More beautiful, personalized, attractive and interactive reports. |
| Data Transformation | It has the most advanced and newest  charting features, but cannot be connected to the data models. | Optimal for dashboards, alerts and KPIS. Includes better visuals than Excel and allows data to be analyzed visually. |
| Modelling | MDX Language | DAX Language |
| Convert Models | Limited connectivity with other applications and systems. | You can extract data from virtually any  platform, sowftare and application. |
| Data Import | Ideal for creating reports in tabular format. Allows you to display duplicated tables. | Creating tabular reports is more limited.  Cannot display duplicated tables. |

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

Ans.

1. Excel
2. Text/CSV
3. XML
4. JSON
5. Oracle Database
6. IBM DB2 Database
7. MySQL Database
8. PostgreSQL Database
9. Sybase Database
10. Teradata Database
11. SAP HANA Database
12. SAP Business Warehouse server
13. Amazon Redshift
14. Impala
15. Google Big Query (Beta)
16. Azure SQL Database
17. Salesforce Reports
18. Google Analytics
19. Facebook
20. GitHub