

POWER BI ASSIGNMENT-2 SOLUTIONS

1. Power BI provides Q&A feature, which lets us explore our data in our own word using Natural Language. It can give a one word answer or can even plot a visual to return appropriate results against the queries. It lets us travel through our data, refining or expanding our question, uncovering new information, zooming in on details, or zooming out for a broader view. The experience is interactive and fast, powered by an in memory storage. For Example: In the sales dataset if we simply ask the question "Product with highest revenue" returns the name of the product with highest revenue without requiring us to write complex queries.
2. The web front end cluster of Power BI service architecture 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 (AAD) stores user identities. Along with this, Azure Traffic Manager (ATM) 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. Once authenticated, the Back-End handles all subsequent user interactions.
3. The back end cluster of Power BI service architecture 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.
4. The asp.net component of Power BI service architecture provides a user interface in web front end cluster. It is where the user can input his credentials, view the reports & dashboards in his web browser, mobile apps etc.
5. Comparison of MS Excel and Power BI Desktop:

Features	MS Excel	Power BI
Data import	Import from limited sources	Import from different variety of sources
Data transformation	Limited capabilities	High graphic and data transformation capabilities
Modeling	Focused on keeping it simple while offering you a wide array of features	Focused on Data Ingestion along with the ability to build more complex structures on top of it
Reporting	Simple and less attractive	Beautiful, personalised, easy to create and interactive
Server Deployment	Limited scope to deploy	Easy to deploy and collaborative work
Convert Models	Difficut and time taking	Requires just a few clicks & easy
Cost	Paid Tool	Free as well as paid version

6. Data Sources supported by power BI Desktop:

- 1) Excel Workkook
- 2) Text/csv
- 3) JSON
- 4) xml
- 5) pdf
- 6) Oracle Database
- 7) MySQL Database

- 8) Access Database
- 9) Teradata Database
- 10) SAP HANA Database
- 11) Snowflake
- 12) Amazon Redshift
- 13) Amazon Athena
- 14) Google BigQuery
- 15) Azure SQL Database
- 16) Azure Blob Storage
- 17) Google Analytics
- 18) Github
- 19) R script
- 20) Python Script