**Power BI Assignment 2**

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

**Solution:** <https://www.youtube.com/watch?v=8_3HdL0dRgI&t=302s>

**Reference:** <https://blog.enterprisedna.co/how-to-use-natural-language-query-qa-in-power-bi/>

It’s a feature within the Power BI online service and embedded in the Power BI desktop as well. For example, you’re in a meeting and you have your report, dashboard, and app ready, but you don’t have the specific information you need. With the Natural Language Query and Q/A feature, you can query your reports and get answers. This is helpful for users who aren’t technically inclined since they can access insights easily with this feature.

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

**Solution:** <https://www.youtube.com/watch?v=iG3EPKZTG6U>

The Power BI service is built on Azure, which is Microsoft’s cloud computing infrastructure and platform.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.

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

**Solution:** <https://www.youtube.com/watch?v=iG3EPKZTG6U>

Back-End cluster is how authenticated clients interact with Power BI service. Back-End cluster manages visualizations, user dashboards, datasets, reports, data storage, data connections, data refresh, and other aspects of interacting with Power BI service. Gateway Role acts as a gateway between user requests and Power BI service. Users do not interact directly with any roles other than Gateway Role. Azure API Management will eventually handle Gateway Role.

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

**Solution:** <https://www.youtube.com/watch?v=iG3EPKZTG6U>

**References:** <https://docs.microsoft.com/en-us/power-bi/guidance/whitepaper-powerbi-security>

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.

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

|  |  |  |
| --- | --- | --- |
| Features | Excel | PowerBi |
| Data Import | Focuses on simple and structured data model | Focuses on Data ingest and building potentially complex data model |
| Data Transformation | Go to Data tab -> Select transform data by example | Home tab-> Transform data |
| Modelling | Data Feature Model to analyse mountains of data and build relationships between data sets of different tables | Relationship between tables is used to connect multiples tables during transformation process |
| Reporting | Less charts and slower processing | More visually appearing, interactive |
| Server Deployment | Using Deploying Fusion Web Applications | Deployment pipelines REST APIs |
| Cost | $70 to $100 per year | $9.99 per user per month |

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

**Solution:** <https://docs.microsoft.com/en-us/power-bi/connect-data/power-bi-data-sources>

* Azure Databricks
* Excel
* GitHub
* Hadoop File
* MySQL
* Oracle
* SharePoint Folder
* Spark
* Teradata
* XML