Power Bi Assignment 2 (Ineuron.ai)

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

Ans

A natural language query is input that consists solely of terms or phrases spoken normally or entered as they might be spoken, without any non-language characters, such as the plus symbol or the asterisk, and without any special format or alteration of syntax.

Advantages of NLQ

1 – Guided NLQ is a unique self-service BI experience

2 – Every question is understood by Guided NLQ

3 – Guided NLQ makes it simple to ask complex questions

4 – Guided NLQ is integrated throughout Yellowfin

5 – It's easy to embed Guided NLQ into your applications

Example

Power BI gives us the ability to write our questions in English language. Yes!! we type our question in English and power bi gives us charts and graphs closest to our query. You could simply write

Country and sales. And power BI will give you a graph

Sales by Country

2.Sales by country and year
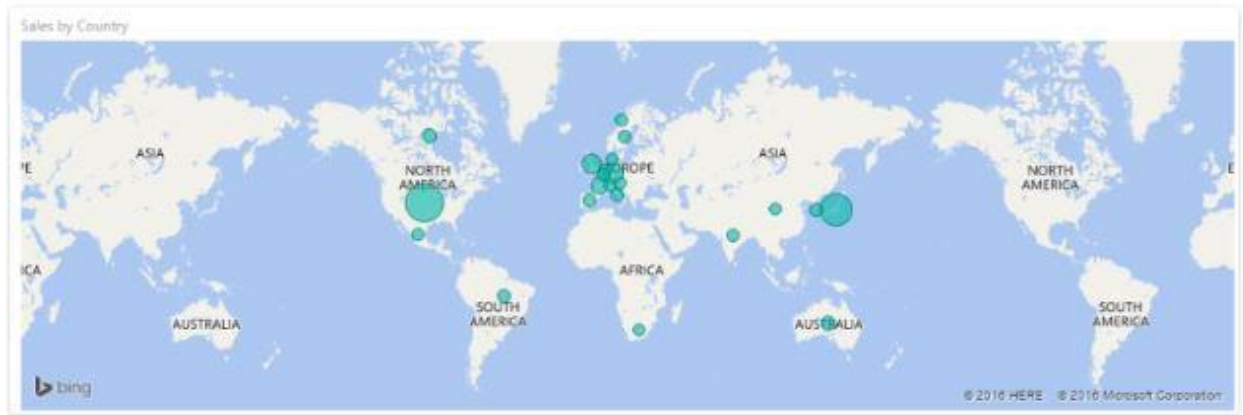
Sales by Country and Year
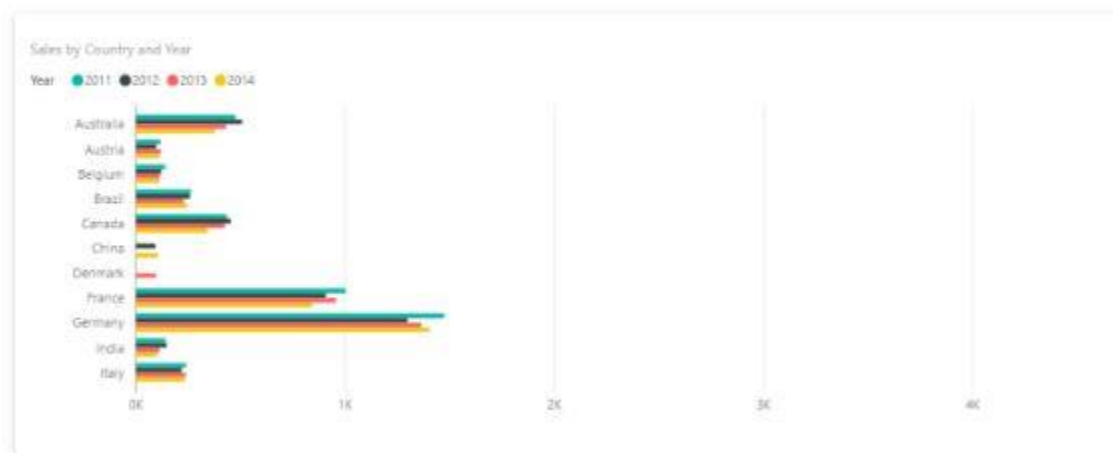
2) Explain Web Front End(WFE) cluster from Power BI Service Architecture?

Ans

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.

The WFE cluster provides the user's browser with the initial HTML page contents on site load, as well as pointers to CDN content used to render the site in the browser.

A WFE cluster consists of an ASP.NET website running in the Azure App Service Environment. When users attempt to connect to the Power BI service, the client's DNS service may communicate with the Azure Traffic Manager to find the most appropriate (usually nearest) datacenter with a Power BI deployment. For more information about this process, see Performance traffic-routing method for Azure Traffic Manager.

Static resources such as *.is, *.CSS, and image files are mostly stored on Azure Content Delivery Network (CDN) and retrieved directly by the browser. Note that Sovereign Government cluster deployments are an exception to this rule, and for compliance reasons will omit the CDN and instead use a WFE cluster from a compliant region for hosting static content.

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

Ans The back-end cluster is the backbone of all the functionality available in Power BI. It consists of several service endpoints consumed by Web Front End and API clients as well as background working services, databases, caches, and various other components.

The back end is available in most Azure regions, and is being deployed in new regions as they become available. A single Azure region hosts one or more back-end clusters that allow unlimited horizontal scaling of the Power BI service once the vertical and horizontal scaling limits of a single cluster are exhausted.

Each back-end cluster is stateful and hosts all the data of all the tenants assigned to that cluster. A cluster that contains the data of a specific tenant is referred to as the tenant's home cluster. An authenticated user's home cluster information is provided by Global Service and used by the Web Front End to route requests to the tenant's home cluster.

Each back-end cluster consists of multiple virtual machines combined into multiple resizable-scale sets tuned for performing specific tasks, stateful resources such as SQL databases, storage accounts, service buses, caches, and other necessary cloud components.

Tenant metadata and data are stored within cluster limits except for data replication to a secondary back-end cluster in a paired Azure region in the same Azure geography. The secondary back-end cluster serves as a failover cluster in case of regional outage, and is passive at any other time.

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

Power BI is a business suite that includes several technologies that work together. To deliver outstanding business intelligence solutions, Microsoft Power BI technology consists of a group of components such as:

Power Query (for data mash-up and transformation)

Power BI Desktop (a companion development tool)

Power BI Mobile (for Android, iOS, Windows phones)

Power Pivot (for in-memory tabular data modeling)

Power View (for viewing data visualizations)

Power Map (for visualizing 3D geo-spatial data)

Power Q&A (for natural language Q&A)

In simple terms, a Power BI user takes data from various data sources such as files, Azure source, online services, Direct Query or gateway sources. Then, they work with that data on a client development tool such as Power BI Desktop. Here, the imported data is cleaned and transformed according to the user's needs.

Once the data is transformed and formatted, it is ready to use in making visualizations in a report. A report is a collection of visualizations like graphs, charts, tables, filters, and slicers.

Moving on to the chain of processes, you can publish the reports created in Power BI desktop on two kinds of platforms; Power BI Service and Power BI Report Server.

Power BI Service is a cloud-based public platform whereas Power BI Report Server is an on-premise platform protected by firewall security.

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

Ans

Modeling

 Excel is totally focused on structured and simple data models with a wide range of features.

Power BI is really focused on data ingest and building potentially complex data models easily.

Data Import

Excel can import data from external data sources including other files, databases, or web pages.

Power bi can import data from 20 different sources such as excel ,SQL, snowflake, oracle data base etc.

Data transformation

Both excel and power bi have data transformation feature but the power query editor in power bi is much more powerful than excel .

Reporting

Excel is also great because you have the **ability to cut and paste into reports**. Most people write reports in Word, so it's easy to cut and paste data or charts from Excel into Word.

Disadvantages of excel in reporting

Excel requires a **significant amount of manual effort to compile data**

With all that manual entry comes **the risk of human error**

Another downfall of Excel reporting is that it **doesn't show data in real time**

Finally, one big problem with Excel is **its lack of security**.

Advantages of power bi for reporting

Key Functionality. The drag and drop function can generate reports quickly. ...

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

Existing App Integration. ...

Cloud Integration. ...

Personalized Dashboards.

Cost

In terms of cost clearly power bi is costly because it comes with many extra and powerful features.

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

Ans

Excel Workbook

Text/CSV

XML

JSON

Folder

PDF

Parquet

SharePoint folder

SQL Server database

Access database

SQL Server Analysis Services database

Oracle database

IBM Db2 database

IBM Informix database (Beta)

IBM Netezza

MySQL database

PostgreSQL database

Sybase database

Azure SQL Database

Azure Synapse Analytics SQL

Azure Analysis Services database

Azure Database for PostgreSQL

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

Ans